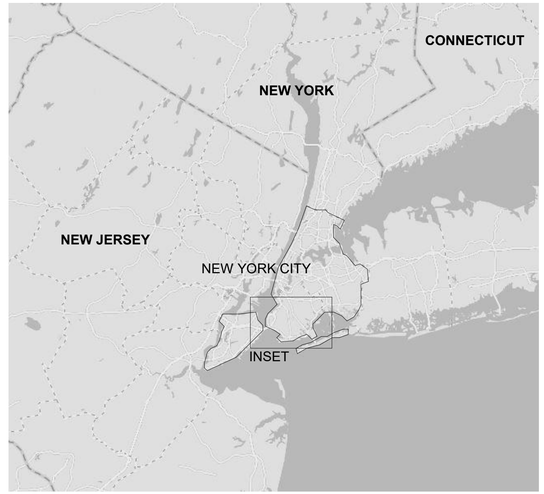
MAP SOURCE: https://propertyinformationportal.nyc.gov/

N.T.S.



VICINITY MAP N.T.S.

FLOYD BENNETT FIELD

HANGARS 3 & 4 REHABILITATION

FINAL CONSTRUCTION DOCUMENTS
DECEMBER 19, 2025

REGISTERED ARCHITECT ANN K. DILCHER 042287-01 STATE OF NEW YORK

STATE OF NEW YORK JOHN A. MATTEO 077005 LICENSED PROFESSIONAL ENGINEER

STATE OF NEW YORK RICHARD J. SNYDER No. 86242 LICENSED PROFESSIONAL ENGINEER
December 12, 2025

STATE OF NEW YORK JOHN J. DUFFY, JR. 071146 LICENSED PROFESSIONAL ENGINEER

STATE OF NEW YORK CHRISTOPHER DONATO 083709 LICENSED PROFESSIONAL ENGINEER

12/19/2025

A/E FIRM -	A/E 140P3020D0017
PRIME/ARCH:	QUINN EVANS WASHINGTON, DC
ENVIRONMENTAL / HAZMAT:	GHD CHANTILY, VA
MECHANICAL:	AFFILIATED ENGINEERS, INC. (AEI) ROCKVILLE, MD
ELECTRICAL:	AFFILIATED ENGINEERS, INC. (AEI) ROCKVILLE, MD

Mark	Sheet	Revision	Date	Initial

QUALITY DESIGN CERTIFICATION

- ☐ Prepared in Accordance with Design Development (Title I) — Drawing No.
  OR
- ☐ Variance from Design Development (Title I) Approved by Superintendent on — Date
  OR
- ☐ Construction Drawing not Preceded by Design Development (Title I)

Project Manager — Date

GATE 308504

UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

TITLE OF DRAWING
COVER SHEET

LOCATION WITHIN PARK
HANGARS 3 & 4

NAME OF PARK
GATEWAY NATIONAL RECREATION AREA

REGION: NE | UNIT: KINGS COUNTY | STATE: NEW YORK

DRAWING NO. 646 190066

PKG. NO. 308 504

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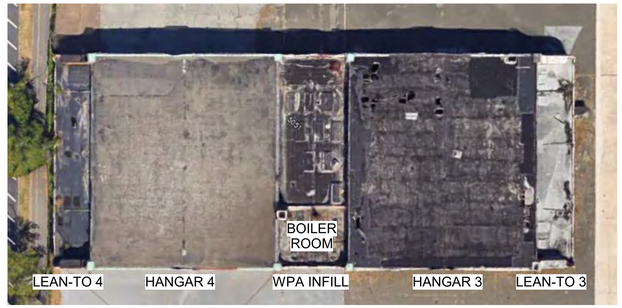

ROOF PLAN

NORTH ELEVATION

HANGAR 3 ELEVATION

1 / G1 EXISTING REFERENCE PHOTOS

SCALE: NTS

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PRIME/ARCH: QUINN EVANS WASHINGTON, DC	ENVIRONMENTAL / HAZMAT: GHD CHANTILY, VA	DRAWN: SW	G1	DRAWING INDEX & REFERENCE PHOTOS	PMIS/PKG NO. GATE 308504
MECHANICAL: AFFILIATED ENGINEERS, INC. (AEI) ROCKVILLE, MD	ELECTRICAL: AFFILIATED ENGINEERS, INC. (AEI) ROCKVILLE, MD	TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 2 OF 153
		DATE: 12/19/2025			

PROJECT ADDRESS

3159 FLATBUSH AVE, BROOKLYN, NY 11234

HISTORIC DESIGNATION

HANGARS 3 & 4 ARE CONTRIBUTING RESOURES TO FLOYD BENNET FIELD AND SHOULD BE TREATED AS LISTED ON THE NATIONAL AND STATE REGISTERS OF HISTORIC PLACES. ALL WORK MUST BE IN ACCORDANCE WITH THE SECRETARY OF INTERIOR'S STANDARDS FOR TREATMENT OF HISTORIC PROPERTIES (CODIFIED IN 1995 AND UPDATED IN 2017).

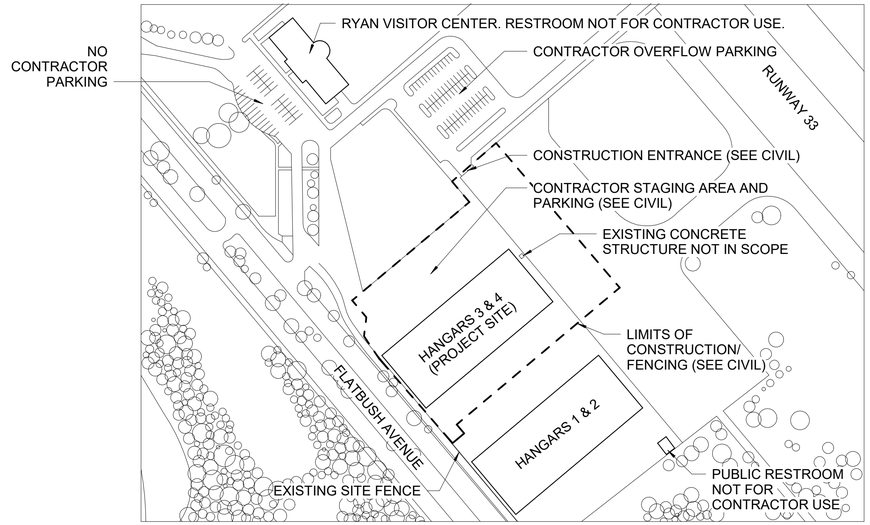
IT IS IMPERATIVE THAT WORKMANSHIP OF THE HIGHEST QUALITY BE UTILIZED IN THIS HISTORIC STRUCTURE. PRECAUTIONS MUST BE TAKEN AT ALL TIMES TO ENSURE SAFETY AND PRESERVATION OF THE STRUCTURE. NPS SHALL HAVE FULL DISCRETION TO SUSPEND WORK ON THE PART OF THE CONTRACTOR OR SUBCONTRACTOR WHICH IS LIKELY TO RESULT IN DAMAGE TO THE STRUCTURE.

THE PROJECT SHALL BE ORGANIZED TO FACILITATE THE WORK WITHOUT JEOPARDIZING THE PRESERVATION OF HISTORIC ARTIFACTS ON THE SITE. PROTECTION AND PRESERVATION ARE THE RESPONSIBILITY OF THE CONTRACTOR.

THE EXISTING BUILDING IS APPROXIMATELY 50,000 SQUARE FEET. THE BUILDING IS PRIMARILY A SHELL SPACE WITH UNCERTAIN FUTURE USE/OCCUPANCY. FOR THE PURPOSES OF THIS PROJECT, WE ARE DETERMINING THE BUILDING USE IS S-2, LOW-HAZARD STORAGE.

GENERAL NOTES

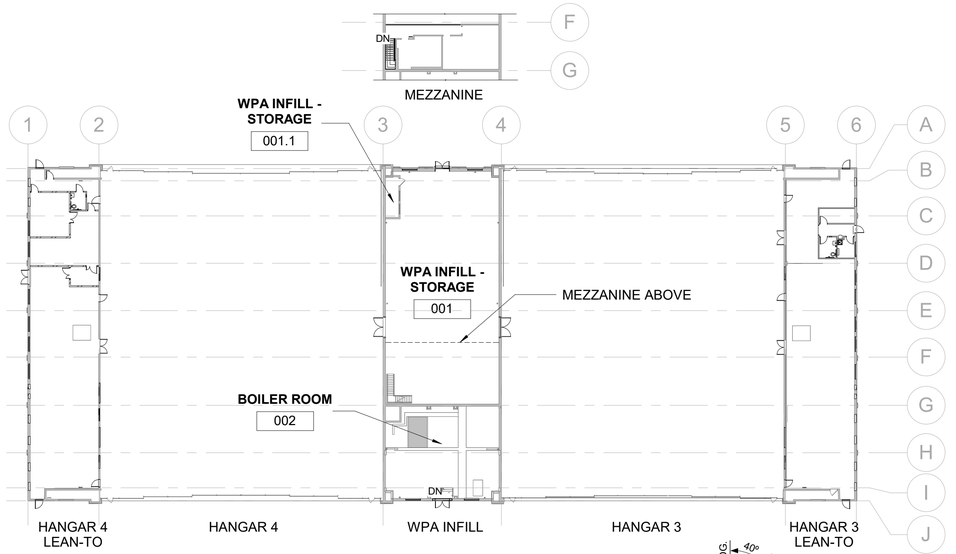
1. ALL ARCHITECTURAL & ENGINEERING WORK SHALL CONFORM TO THE CODES IDENTIFIED ON THIS SHEET, G2.
2. ALL NEW WORK SHALL COMPLY WITH ABA, THE ARCHITECTURAL BARRIERS ACT (ABA) ACCESSIBILITY GUIDELINES WHERE APPLICABLE.
3. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED DUE TO UNFORESEEN CONDITIONS IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
4. ALL WORK SHALL BE IN ACCORDANCE WITH STANDARD OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) GUIDELINES AND REGULATIONS.
5. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL CONSTRUCTION PERMITS. SEE SPECIFICATION SECTION 013100 PROJECT MANAGEMENT AND COORDINATION FOR LIST OF APPLICABLE PERMITS AND DOCUMENTATION.
6. THESE NOTES ARE TO BE READ IN CONJUNCTION WITH ANY WRITTEN SPECIFICATIONS AND THESE DRAWINGS. IN THE EVENT OF CONFLICT BETWEEN THE INFORMATION ON THE DRAWINGS AND THE SPECIFICATIONS, THE MOST STRINGENT SHALL GOVERN.
7. HANGARS 3 AND 4 ARE LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES AS A CONTRIBUTING STRUCTURE WITHIN THE FLOYD BENNETT FIELD HISTORIC DISTRICT. ALL WORK IS TO ADHERE TO THE SECRETARY OF THE INTERIOR'S STANDARDS FOR HISTORIC PROPERTIES. NO MATERIAL OR BUILDING ELEMENT SHALL BE REMOVED, DISMANTLED OR DAMAGED BEYOND THE EXISTING CONDITION UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS, SPECIFIED HEREIN, OR DIRECTED BY THE CO.
8. DEFINITIONS
   - A. EXISTING TO REMAIN: DESIGNATION FOR EXISTING ITEMS THAT ARE NOT TO BE REMOVED AND THAT ARE NOT OTHERWISE INDICATED TO BE SALVAGED OR REINSTALLED.
   - B. DEMOLITION: DISMANTLE, RAZE, DESTROY OR WRECK ANY BUILDING OR STRUCTURE OR ANY PART THEREOF.
   - C. DISMANTLE: TO DISASSEMBLE OR DETACH A HISTORIC ITEM FROM A SURFACE, OR A NONHISTORIC ITEM FROM A HISTORIC SURFACE, USING GENTLE METHODS AND EQUIPMENT TO PREVENT DAMAGE TO HISTORIC ITEMS AND SURFACES; DISPOSING OF ITEMS UNLESS INDICATED TO BE SALVAGED OR REINSTALLED.
   - D. REMOVE: TO TAKE DOWN OR DETACH A NON-HISTORIC ITEM LOCATED WITHIN A HISTORIC SPACE, AREA, OR ROOM, USING METHODS AND EQUIPMENT TO PREVENT DAMAGE TO HISTORIC ITEMS AND SURFACES; DISPOSING OF ITEMS UNLESS INDICATED TO BE SALVAGED AND RETURNED TO THE PARK OR REINSTALLED.
   - E. REMOVE AND SALVAGE: DETACH OR DISMANTLE ITEMS FROM EXISTING CONSTRUCTION IN A MANNER TO PREVENT DAMAGE. CLEAN, PACKAGE, LABEL AND DELIVER SALVAGED ITEMS TO PARK IN READY FOR-REUSE CONDITION.
   - F. REMOVE AND REINSTALL: DETACH OR DISMANTLE ITEMS FROM EXISTING CONSTRUCTION IN A MANNER TO PREVENT DAMAGE. CLEAN AND PREPARE FOR REUSE AND REINSTALL WHERE INDICATED.
   - G. RETAIN: TO KEEP EXISTING ITEMS THAT ARE NOT TO BE DEMOLISHED, REMOVED OR DISMANTLED.
   - H. COMPLETE/LY: 100% OF THE IDENTIFIED SURFACE PLANE: WALL TO WALL OR CORNER TO CORNER.
   - I. TYPICAL: THE IDENTIFIED TREATMENT IS TO BE APPLIED AT ADDITIONAL LOCATIONS THROUGHOUT THE DRAWINGS.
   - J. SIMILAR: THE REFERENCED DETAIL MUST BE MODIFIED TO MEET THE REQUIREMENTS OF THIS SPECIFIC LOCATION. CONTRACTOR IS TO SUBMIT MARKED DETAIL SKETCH FOR REVIEW BY THE CO.
   - K. CO: THE GOVERNMENT CONTRACTING OFFICER.
9. THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS PRIOR TO BEGINNING THE WORK. THE CONTRACTOR SHALL PROVIDE PROTECTION AND TAKE PRECAUTION TO AVOID DAMAGE TO ADJACENT ITEMS, MATERIALS AND FINISHESBEYOND THE ALREADY DETERIORATED STATE. ABATEMENT AND DEMOLITION SHALL PROCEED WITH CARE SO AS TO NOT DAMAGE HISTORIC FINISHES. ANY EXISTING ITEMS OR FINISHES DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER AT NO ADDITIONAL COST TO THE GOVERNMENT.
10. CONTRACTOR SHALL USE ALL REASONABLE AND CUSTOMARY CARE TO VERIFY ALL EXISTING CONDITIONS IN FIELD. CONTRACTOR SHALL NOTIFY CO IMMEDIATELY OF ANY INCONSISTENCIES BETWEEN THESE DRAWINGS AND ACTUAL CONDITIONS BEFORE PROCEEDING WITH ABATEMENT OR DEMOLITION. INFORMATION CONTAINED ON THESE DRAWINGS WITH REGARD TO EXISTING CONDITIONS OF CONSTRUCTION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR IN EXECUTING THE WORK. THESE DRAWINGS HAVE BEEN BASED ON DRAWINGS FROM THE HISTORIC STRUCTURE REPORT AND FURTHER SUPPLEMENTED BY FIELD MEASUREMENTS AND OBSERVATIONS.
11. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SEQUENCING ALL WORK AND FOR COORDINATION OF ALL SUBCONTRACTORS. REINSTALLATION OF ANY WORK INSTALLED THAT HAS NOT BEEN COORDINATED AND NEEDS TO BE REINSTALLED SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
12. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES TO ASSURE PROPER REMOVAL OF EXISTING CONSTRUCTION.
13. PARKING AREAS, DRIVEWAYS, SIDEWALKS, AND SURFACED STREETS SHALL BE MAINTAINED IN A CLEAN CONDITION. VEHICLES, INCLUDING TRUCKS AND OTHER EQUIPMENT ARE NOT TO BE CLEANED OFF ON NPS STREETS AND PARKING LOTS.
14. THE CONTRACTOR'S EQUIPMENT AND STAGING SHALL NOT BLOCK BUILDING EXITS NOR LIMIT ACCESS TO THE STRUCTURE BY THE FIRE DEPARTMENT IN THE EVENT OF AN EMERGENCY.
15. SITE AND STORMWATER SYSTEMS SHALL BE PROTECTED FROM DAMAGE OR CONTAMINATION DURING CONSTRUCTION.
16. ALL DIMENSIONS OF EXISTING CONSTRUCTION ARE TO FINISH FACE UNLESS OTHERWISE NOTED.
17. HAZMATS INCLUDING LEAD PAINT AND ASBESTOS WILL BE ENCOUNTERED IN THE WORK. ANY AREAS NOT ABATED PREVIOUSLY WILL BE REQUIRED TO BE ABATED AND/OR DISPOSED OF PROPERLY ACCORDING TO THE HAZMAT TESTING REPORT. LOCATIONS OF IDENTIFIED HAZMATS WILL BE NOTED ON DRAWINGS. HOWEVER, THE CONTRACTOR IS REQUIRED TO BE FULLY ACQUAINTED WITH THE HAZMAT REPORT PRIOR TO START OF CONSTRUCTION.
18. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL NATIONAL, REGIONAL AND LOCAL CODES RELEVANT TO WORKING WITH HAZARDOUS MATERIALS INCLUDING BUT NOT LIMITED TO ASBESTOS AND LEAD BASED PAINT.
19. ALL DEMOLITION WORK SHALL BE EXECUTED IN CONFORMANCE WITH ALL CODES AND REGULATIONS SET FORTH BY GOVERNING AUTHORITIES.
20. IF SUSPECT ACM MATERIAL IS FOUND AFTER THE PRIMARY REMOVAL, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THE SUBJECT AREA AND NOTIFY THE CO.
21. DEMOLITION, DISMANTLING, AND REMOVAL SHALL NOT BE LIMITED TO ITEMS THUS SHOWN ON THE CONTRACT DRAWINGS. DEMOLISH, DISMANTLE OR REMOVE ANY EXISTING CONSTRUCTION NEEDED TO ACCOMMODATE NEW CONSTRUCTION AS DESCRIBED IN THE CONTRACT DOCUMENTS.
22. LEGALLY DISPOSE OF ALL MATERIALS OFF-SITE. MATERIALS SHALL BE RECYCLED TO THE GREATEST EXTENT POSSIBLE.
23. PROTECT ALL ADJACENT SURFACES AND EXISTING ITEMS TO REMAIN DURING CONSTRUSTION.
24. IF EXISTING PIPING, DUCTWORK, OR ELECTRICAL CONDUIT (OTHER THAN THAT SCHEDULED FOR REMOVAL) IS ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY CO BEFORE PROCEEDING.
25. HOT WORK PERMIT REQUIRED FOR ALL CONSTRUCTION ACTIVITIES THAT INVOLVE ANY BURNING, WELDING, BRAZING, GRINDING, ROOFING OR OPEN FLAME. PERMITS COORDINATED WITH CO AND ISSUED BY PARK STRUCTURAL FIRE COORDINATOR. NOTIFY CO A MINIMUM OF 72 HOURS IN ADVANCE OF STARTING WORK REQUIRING HOT WORK PERMIT.
26. THIS BUILDING HAS BEEN UNOCCUPIED AND OPEN TO THE ELEMENTS DUE TO PREVIOUS FIRE DAMAGE FOR MANY YEARS. IF AT ANY TIME DURING CONSTRUCTION THE CONTRACTOR IS CONCERNED ABOUT THE STRUCTURAL STABILITY OF THE BUILDING WITHIN THE WORK AREA, IMMEDIATELY NOTIFY THE CO. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY MEASURE TO ENSURE THE BUILDING IS SAFE TO PERFORM THE NECESSARY CONTRACT WORK.
27. DUE TO THE DETERIORATING CONDITIONS OF THE BUILDING, THERE MAY BE EXPOSED LIVE WIRES THROUGHOUT. CONTRACTOR TO ENSURE ALL UTILITIES ARE SHUT OFF PRIOR TO COMMENCEMENT OF ABATEMENT AND DEMOLITION WORK.
28. IF ANY UNWELCOME WILDLIFE OR PERSONS ARE ENCOUNTERED, NOTIFY THE CO IMMEDIATELY.
29. IF TEMPORARY EXTERIOR LIGHTING IS PROPOSED, IT SHALL COMPLY WITH NPS AND PARK LIGHTING GUIDELINES TO REDUCE IMPACTS TO THE NIGHT SKY AND WILDLIFE. THIS WILL INCLUDE, BUT IS NOT LIMITED TO, ENERGY EFFICIENT LIGHT SOURCES IN WARM COLOR HUES SUCH AS AMBER OR YELLOW (2700K OR WARMER), SHIELDING TO DIRECT LIGHT DOWNWARD, UTILIZING THE LOWEST LEVEL OF LUMENS POSSIBLE, AND FIXTURES WITH ADAPTIVE TECHNOLOGY CONTROLS SUCH AS TIMERS, MOTION DETECTORS, HUE ADAPTERS, AND DIMMERS.
30. AVOID IMPACTS ON NESTING MIGRATORY BIRDS. IF WORK WILL BE IMPLEMENTED DURING THE PERIOD BETWEEN MARCH 15 - SEPTEMBER 1, THE CO MUST BE CONTACTED. IF NEST BUILDING BEGINS, BIRDS MUST NOT BE HARASSED IN ANY MANNER TO DETER NESTING ACTIVITY. PARK APPROVAL IS REQUIRED PRIOR TO PLACEMENT OF ANY STRUCTURES TO DETER NESTING AND ANY SUCH STRUCTURE MAY ONLY BE PUT IN PLACE DURING THE PERIOD BETWEEN SEPTEMBER 2 - MARCH 14.
31. CONTRACTOR TO COORDINATE WITH NPS-PROVIDED ARCHEOLOGICAL MONITORING FIRM DURING CONSTRUCTION ACTIVITIES THAT INVOLVE GROUND DISTURBANCE.



1 / G2 HANGARS 3 & 4 SITE AND STAGING PLAN

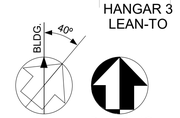
SCALE: NTS

NOTE: THIS STAGING PLAN IS FOR GENERAL GUIDANCE. CONTRACTOR TO SUBMIT STAGING PLAN PRIOR TO COMMENCEMENT OF WORK. EXISTING RESTROOMS AND WIFI ARE NOT AVAILABLE ON SITE. LIMITED POWER MAY BE AVAILABLE. CONFIRM WITH CO. SEE ADDITIONAL INFORMATION ON CIVIL DRAWINGS.



2 / G2 BUILDING KEY PLAN

SCALE (A)



SCALE (A) 32' 16' 0' 32'

SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. G2	TITLE OF SHEET: PROJECT INFORMATION GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 3 OF 153

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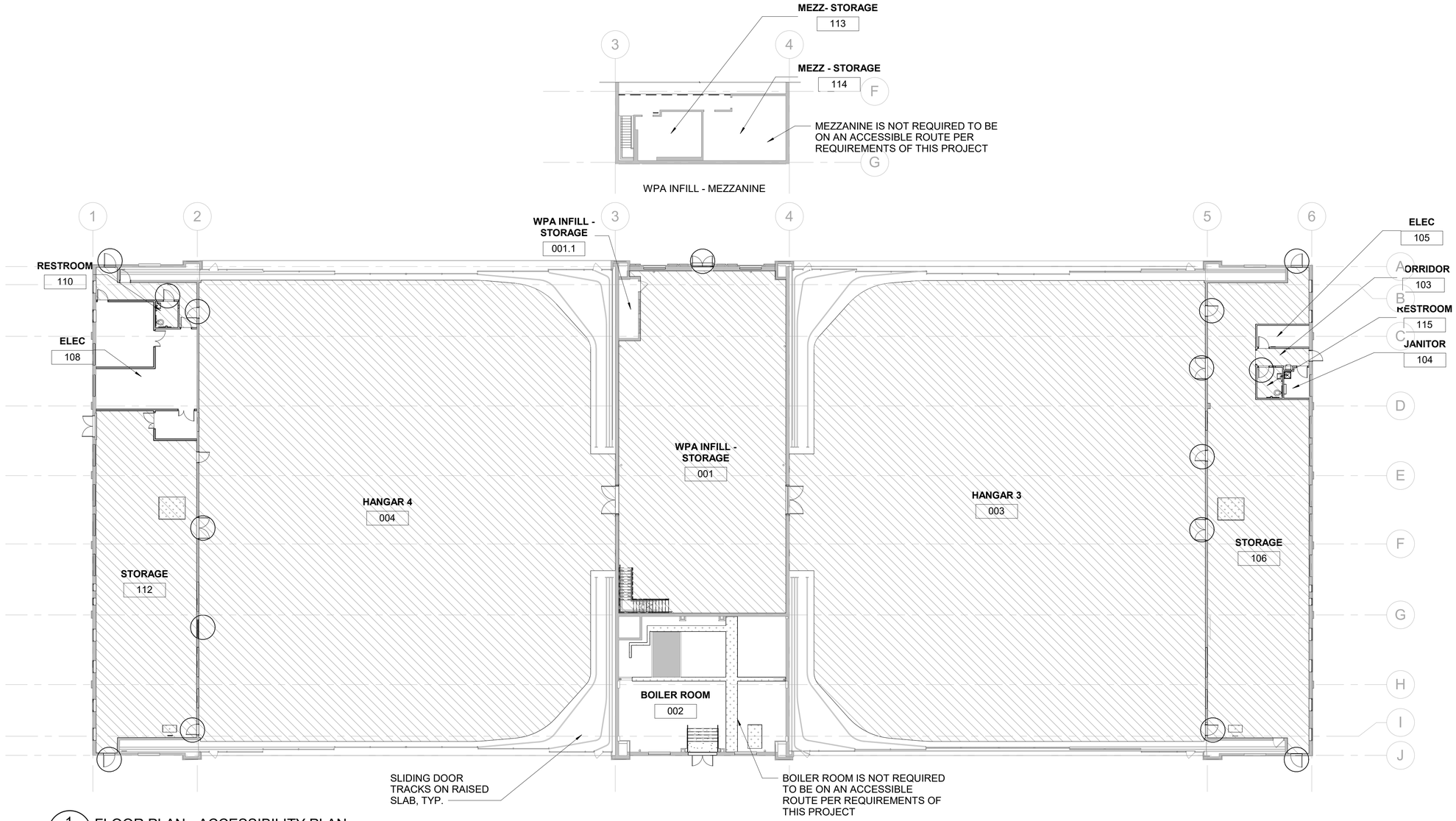

1 / G3 FLOOR PLAN - ACCESSIBILITY PLAN
SCALE Ⓐ

LEGEND

ROOM ON ACCESSIBLE ROUTE

ACCESSIBLE DOOR

SCALE Ⓐ 16' 8' 0' 16' 32'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. G3	TITLE OF SHEET ACCESSIBILITY PLAN HANGARS 3 & 4 HAZARDOUS MATERIALS REMEDIATION AND EARLY DEMOLITION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 4 OF 153

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CODE ANALYSIS

A AUTHORITIES HAVING JURISDICTION

1. National Park Service

B APPLICABLE CODES

Civil
Site & Transportation
- ABA (Architectural Barriers Act) Accessibility Standards
- DOT (Department of Transportation)

Water Systems / Wastewater Systems
- ACI (American Concrete Institute)
- ACPA (American Concrete Pipe Association)
- ANSI (American National Standards Institute)
- ASTM International
- DEP (Department of Environmental Protection) with Regulations
- EPA (Environmental Protection Agency) with Regulations
- IBC 2024 (International Building Code)
- IPC 2024 (International Plumbing Code)
- OSHA (Occupational Safety and Health Administration)

Hazardous Materials
- ANSI
- ASTM International
- EPA (Environmental Protection Agency)
- OSHA

Code of Federal Regulations (CFR)
36 CFR - Parks, Forests, and Public Property
- Part 1191: Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines

40 CFR - Protection of Environment
- Part 122: EPA Administered Permit Programs - The National Pollutant Discharge Elimination System
- Part 130: Water Quality Planning and Management
- Part 131: Water Quality Standards

Architectural
IBC 2024, with Appendices (International Building Code)
NFPA 101 Life Safety Code (National Fire Protection Association) - Use when IBC is silent.
IEBC 2024, with Appendices (International Existing Building Code)
ABAAS (Architectural Barriers Act Accessibility Standards)

Electrical
ASHRAE 90.1 2016 (American Society of Heating, Refrigerating and Air Conditioning Engineers)
EIA/TIA Standards 568 & 569 (Electronic Industries Alliance/Telecommunications Industry Association)
IEEE Standards
IES Lighting Handbook 10th Edition (Illuminating Engineering Society)
NESC 2017 (National Electrical Safety Code)
NFPA 70: NEC 2023 (National Electrical Code)
UL (Formerly Underwriters Laboratories)

Fire Protection
IBC 2024, with Appendices (International Building Code)
IFC 2024, with Appendices (International Fire Code)
IEBC 2024, with Appendices (International Existing Building Code)
NFPA 10 Standard for Portable Fire Extinguishers, 2024 Edition
NFPA 13 Standard for the Installation of Sprinkler Systems, 2022 Edition
NFPA 72 National Fire Alarm Code and Signaling Code, 2022 Edition

Heating, Ventilation, and Air Conditioning (HVAC)
IECC 2021 (International Energy Conservation Code)
IMC 2024 (International Mechanical Code)
ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers)
- ASHRAE Guideline 0-2013 The Commissioning Process
- ASHRAE Guideline 1.1-2007 HVAC&R (HVAC & Refrigeration) Technical Requirements for The Commissioning Process
- ASHRAE 52.2-2012 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size
- ASHRAE 55-2010 Thermal Environmental Conditions for Human Occupancy
- ASHRAE 62.1-2016 Ventilation for Acceptable IAQ (Indoor Air Quality)

ANSI (American National Standards Institute)/ASHRAE
- ANSI/ASHRAE 15-2016 Safety Standard for Refrigeration Systems

ANSI/ASHRAE/IES (Illuminating Engineering Society) 90.1-2013 Energy Standard for Buildings Except Low-Rise Residential Buildings
ANSI/SMACNA (Sheet Metal and Air Conditioning Contractors' National Association) 006-2006 HVAC Duct Construction Standards - Metal and Flexible
NFPA (National Fire Protection Association) Codes and Standards - see Fire Protection Engineering Standards

Plumbing
IPC 2024 (International Plumbing Code)
Barrier-Free Plumbing Fixtures: ABA (Architectural Barriers Act) Accessibility Standards

Fuel Systems
IFGC 2024 (International Fuel Gas Code)
NFPA Codes and Standards - see Fire Protection

Structural
IEBC 2024 (International Existing Building Code)

Sustainability
ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers)
- ASHRAE Guideline 0 2013 The Commissioning Process
- ASHRAE Guideline 1.1 2007 HVAC&R (Heating, Ventilation, Air Conditioning, and Refrigeration) Technical Requirements for The Commissioning Process
- ASHRAE 52.2-2012 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size
- ASHRAE Standard 55 2013 Thermal Environmental Conditions for Human Occupancy
- ASHRAE Standard 62.1 2013 Ventilation for Acceptable IAQ (Indoor Air Quality)
- ASHRAE Standard 90.1 2016 Energy Standard for Buildings Except Low-Rise Residential Buildings
- ASHRAE Standard 189.1 2014 Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings

IBC 2024 (International Building Code)
IEBC 2024 (International Existing Building Code)
IECC 2021 (International Energy Conservation Code)
IgCC 2021 (International Green Construction Code)
SMACNA IAQ (Sheet Metal and Air Conditioning Contractor's National Association)
- IAQ: A Systems Approach

Additional Requirements
https://www.nps.gov/dscw/dstandards.htm

NPS Reference Manual 58

C USE GROUP/OCCUPANCY AND CONSTRUCTION TYPE

1. CONSTRUCTION TYPE: TYPE VB
2. USE GROUP/OCCUPANCY: S-2 (LOW-HAZARD STORAGE)
3. NONSPRINKLERED

D FIRE PROTECTION AND LIFE SAFETY SYSTEMS

1. STORIES: ONE
2. BUILDING HEIGHT LIMITATION (NONSPRINKLERED): 40' (2024 IBC Chapter 5, TABLE 504.3)
   - ACTUAL HEIGHT: ±38'
3. BUILDING AREA LIMITATION (NONSPRINKLERED): 13,500 sf (2024 IBC Chapter 5, Section 506)
   - ACTUAL BUILDING AREA: ±50,000 sf
   - PER 2024 IBC SECTION 507.3, THIS BUILDING QUALIFIES AS AN UNLIMITED AREA BUILDING:
     1. 507.3: NONSPRINKLERED, ONE-STORY BUILDINGS. THE AREA OF A GROUP F-2 OR S-2 BUILDING OF ANY COSTRUCTION TYPE NOT MORE THAN ONE STORY ABOVE GRADE PLANE SHALL NOT BE LIMITED WHERE THE BUILDING IS SURROUNDED AND ADJOINED BY PUBLIC WAYS OR YARDS NOT LESS THAN 60ft IN WIDTH.

1. NO FIRE ALARM SYSTEM PROVIDED
   A. 2024 IBC SECTION 907.2.10: A FIRE ALARM SYSTEM SHALL ONLY BE INSTALLED FOR THE FOLLOWING STORAGE CONDITIONS:
      a. "907.2.10.1: PUBLIC AND SELF-STORAGE OCCUPANCIES"
      b. "907.2.10.2: STORAGE OF LITHIUM-ION OR LITHIUM METAL BATTERIES."

E FIRE RESISTANCE RATINGS FOR BUILDING ELEMENTS

1. IBC TABLE 601: TYPE VB CONSTRUCTION
   - 0 HR STRUCTURAL FRAME
   - 0 HR EXTERIOR BEARING WALLS
   - 0 HR EXTERIOR NON-BEARING WALLS
   - 0 HR INTERIOR BEARING WALLS
   - 0 HR INTERIOR NON-BEARING WALLS
   - 0 HR FLOOR CONSTRUCTION
   - 0 HR ROOF CONSTRUCTION

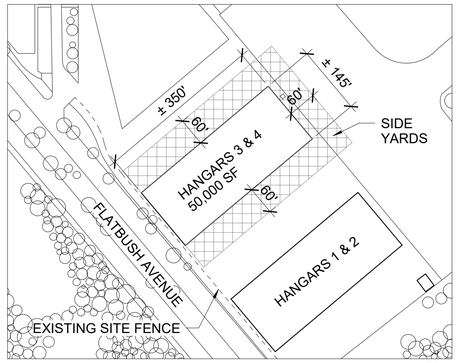
F MEANS OF EGRESS ANALYSIS

1. OCCUPANCY LOAD:
   A. PRIMARY: WAREHOUSES = 500 GROSS SF
   B. SECONDARY: ACCESSORY STORAGE AREAS MECH ROOMS = 300 GROSS SF
   C. **MAXIMUM ALLOWABLE OCCUPANT LOAD: 114 OCCUPANTS**
   D. ACTUAL OCCUPANT LOAD: 5 OCCUPANTS
2. NUMBER OF EXITS REQUIRED: 4
   - EXITS PROVIDED: 7
3. MAXIMUM OCCUPANT LOAD OF SPACE WITH ONE EXIT: 29 OCCUPANTS (TABLE 1006.2.1)
4. LENGTH OF TRAVEL MAXIMUM: 400FT (TABLE 1017.2)
5. MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE: 100FT (TABLE 1006.2.1)

G PLUMBING REQUIREMENTS

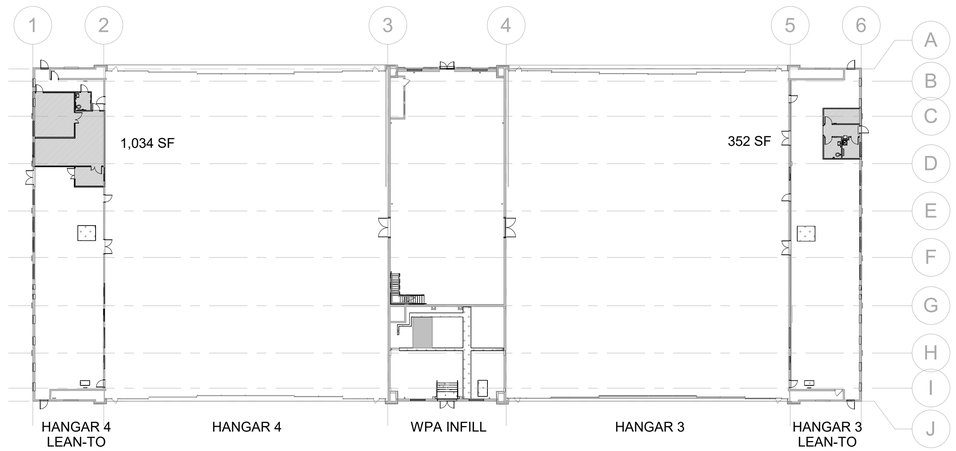
1. WATER CLOSETS: 1 PER 100 (MALE AND FEMALE COMBINED)
   A. REQUIRED: 1
2. LAVATORIES: 1 PER 100 (MALE AND FEMALE COMBINED)
   A. REQUIRED: 1
3. BATHTUBS/SHOWERS: NONE
4. DRINKING FOUNTAIN: 1 PER 1,000
   A. REQUIRED: 1
5. OTHER: 1 SERVICE SINK
   A. REQUIRED: 1

BUILDING AREA LIMITATION



SCALE: NTS

WORK AREA



3 / G4 FLOOR PLAN - WORK AREA PLAN
SCALE (A)

LEVEL OF ALTERATION

ALTERATION - LEVEL 2:

There is no change in use from Hangars 3&4 being deemed an NPS storage facility since 1998. All existing mechanical, electrical, and plumbing systems will be replaced with new systems. All lighting will be replaced in-kind. New MEP rooms will be added to existing spaces.

801.3 System Installations (2024 EBC Chapter 8) Requirements related to *work area* are not applicable where the Level 2 *alterations* are limited solely to one or more of the following:

1. Mechanical systems, electrical systems, fire protection systems and abatement of hazardous materials.
2. Windows, hardware, operating controls, electrical outlets and signs.
3. *Alterations* undertaken for the primary purpose of increasing the accessibility of a *facility*.

SCALE (A) 32' 16' 0' 32' SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO. G4	TITLE OF SHEET: CODE ANALYSIS	DRAWING NO. 646 190066
DRAWN: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 5 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

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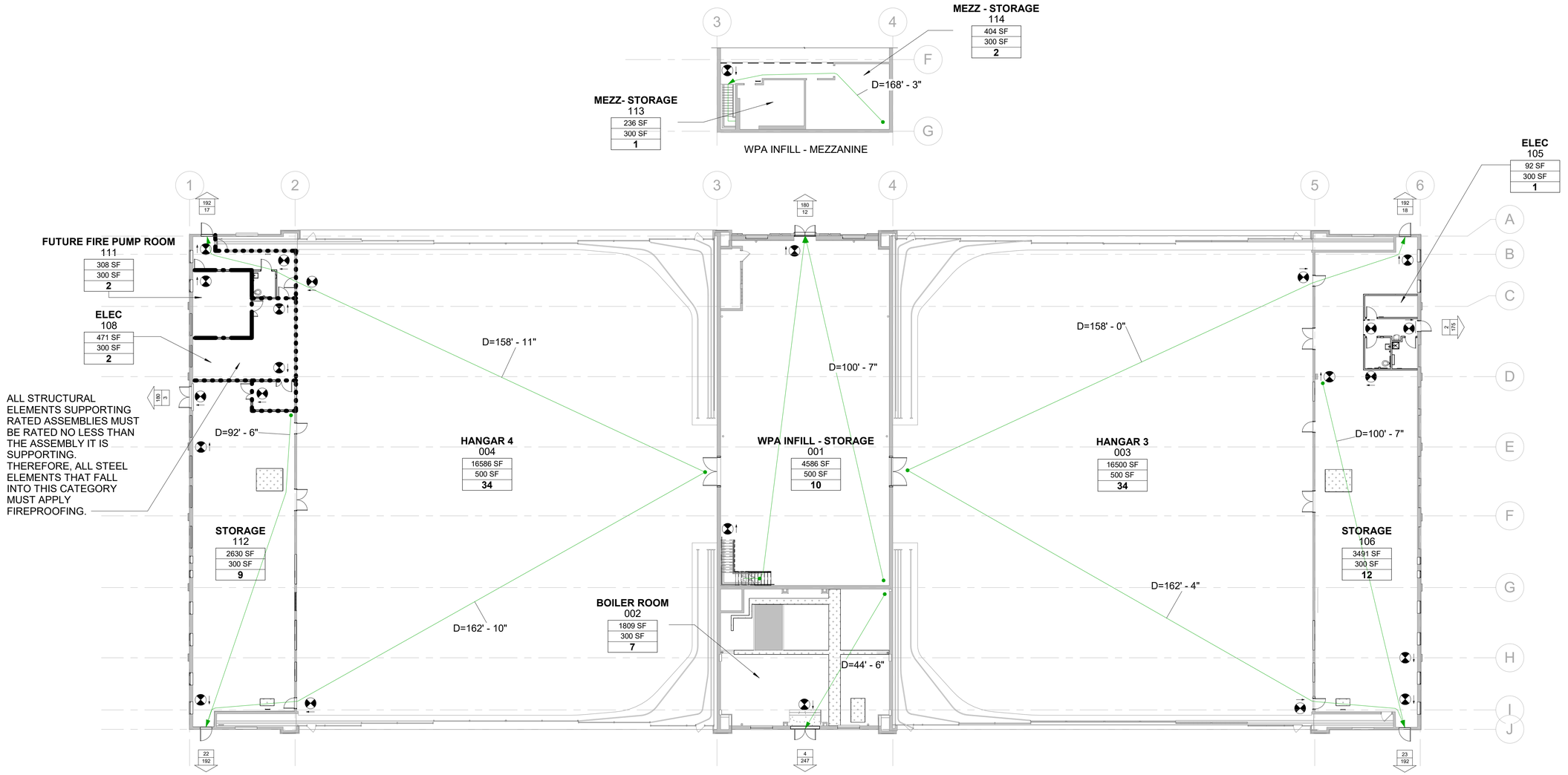

1 / G5 FLOOR PLAN - LIFE SAFETY PLAN

SCALE (A)

LEGEND

Room name
101 — ROOM NUMBER
15,000 SF — ROOM AREA
300 SF — MAX OCCUPANCY
50 — ROOM OCCUPANCY

20 — EXIT CAPACITY
150 — MAX EXIT CAPACITY

D=XX' — EGRESS PATH AND LENGTH

1 HR FIRE BARRIER

2 HR FIRE BARRIER

EXIT SIGN

WORK AREA

SCALE (A) 16' 8' 0' 16' 32'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO. G5	TITLE OF SHEET: LIFE SAFETY PLAN	DRAWING NO. 646 190066
DRAWN: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		HANGARS 3 & 4 HAZARDOUS MATERIALS REMEDIATION AND EARLY DEMOLITION	SHEET 6 OF 153
DATE: 12/19/2025			

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NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was New York Long Island State Plane FIPSZONE 3104. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3182
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the Department of Information Technology and Telecommunication, City of New York (DoITT). This information was derived from digital orthophotos produced at a scale of 1:1,200 with 2-foot pixel resolution from photography dated April 2008.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

The AE Zone category has been divided by a **Limit of Moderate Wave Action (LiMWA)**. The LiMWA represents the approximate landward limit of the 1.5- foot breaking wave. The effects of wave hazards between the VE Zone and the LiMWA (or between the shoreline and the LiMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) LEGEND

11-16-1991 Otherwise Protected Area (OPA)

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER NOVEMBER 16, 1991, IN DESIGNATED OPAs WITHIN THE CBRS.

Boundaries of the John H. Chafee Coastal Barrier Resources System (CBRS) shown on this FIRM were transferred from the official CBRS source map(s) for this area and are depicted on this FIRM for informational purposes only. The official CBRS maps are enacted by Congress via the Coastal Barrier Resources Act, as amended, and maintained by the U.S. Fish and Wildlife Service (FWS). The official CBRS maps used to determine whether or not an area is located within the CBRS are available for download at http://www.fws.gov. For an official determination of whether or not an area is located within the CBRS, or for any questions regarding the CBRS, please contact the FWS field office for this area at (631) 776-1401.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Limit of Moderate Wave Action

513 — Base Flood Elevation line and value; elevation in feet*

(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A Cross section line

23 - - - 23 Transect line

Culvert, Flume, Penstock or Aqueduct

Road or Railroad Bridge

Footbridge

87°07'45", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

$^{24}76^{000m}$N 1000-meter Universal Transverse Mercator grid values, zone 18

600000 FT 5000-foot grid values: New York State Plane coordinate system, Long Island zone (FIPSZONE 3104), Lambert Conformal Conic projection

DX5510 × Bench mark (see explanation in Notes to Users section of this FIRM panel)

● M1.5 River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

INITIAL NFIP MAP DATE
June 28, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS
June 11, 1976

FLOOD INSURANCE RATE MAP EFFECTIVE
November 16, 1983

FLOOD INSURANCE RATE MAP REVISIONS

For descriptions of revisions see Notice to Users page in the Flood Insurance Study report.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0359G

FIRM
FLOOD INSURANCE RATE MAP

CITY OF,
NEW YORK
NEW YORK
BRONX, RICHMOND, NEW YORK, QUEENS, AND KINGS COUNTIES

PANEL 359 OF 457

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
NEW YORK, CITY OF	360497	0359	G

\- NOTE -
THIS MAP INCLUDES BOUNDARIES OF THE COASTAL BARRIER RESOURCES SYSTEM ESTABLISHED UNDER THE COASTAL BARRIER RESOURCES ACT OF 1982 AND/OR SUBSEQUENT ENABLING LEGISLATION.

PRELIMINARY
DECEMBER 5, 2013

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
3604970359G

MAP REVISED

Federal Emergency Management Agency

DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
YL/MC	G6	FIRM MAP (PRELIMINARY 2013)	646 / 190066
CADD: YL			PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	7 OF 153

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Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was New York State Plane FIPSZONE 3104. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1929. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3182
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the Department of Information Technology and Telecommunication, City of New York. This information was derived from digital orthophotos produced at a scale of 1:1,200 with 2-foot pixel resolution from photography dated 2004.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels for this jurisdiction.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

COASTAL BARRIER LEGEND

11-16-1991 Otherwise Protected Area

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES – NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER NOVEMBER 16, 1991 – NOT USED IN A MANNER CONSISTENT WITH THE PURPOSE OF THE OTHERWISE PROTECTED AREAS.

Comments or concerns regarding the Coastal Barrier Resources System or Otherwise Protected Areas should be directed to the Coastal Barrier Coordinator at the U.S. Fish and Wildlife Service; (413) 253-8657.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** — No Base Flood Elevations determined.
- **ZONE AE** — Base Flood Elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- ~~~ 513 ~~~ — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the National Geodetic Vertical Datum of 1929

- (A)——(A) — Cross section line
- (23)- - - -(23) — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 2476000mN — 1000-meter Universal Transverse Mercator grid values, zone 18
- 600000 FT — 5000-foot grid ticks: New York State Plane coordinate system, Long Island zone (FIPSZONE 3104), Lambert Conformal Conic projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- ●M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

INITIAL NFIP MAP DATE
June 28, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS
June 11, 1976 - NP

FLOOD INSURANCE RATE MAP EFFECTIVE
November 16, 1983

FLOOD INSURANCE RATE MAP REVISIONS
September 5, 2007 - to update map format, to change Special Flood Hazard Areas, and to reflect updated topographic information
May 18, 1992 - to add otherwise protected areas

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

N

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0359F

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
**NEW YORK,
NEW YORK**
BRONX, RICHMOND, NEW YORK, QUEENS, AND KINGS COUNTIES

PANEL 359 OF 457

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
NEW YORK, CITY OF	360497	0359	F

- NOTE -
THIS MAP INCLUDES COASTAL BARRIER RESOURCES SYSTEM BOUNDARIES ESTABLISHED UNDER THE COASTAL BARRIER RESOURCES ACT OF 1982 AND/OR SUBSEQUENT LEGISLATION.

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER
3604970359F**

**MAP REVISED
SEPTEMBER 5, 2007**

Federal Emergency Management Agency

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 / 190066
CADD: YL	G7	FIRM MAP (EFFECTIVE 2007)	PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	8 OF 153

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Legend

Exist.	Prop.	
		BUILDING
	EN	BUILDING ENTRANCE
4	4	MINOR CONTOUR
20	20	MAJOR CONTOUR
27.35 TC×	27.35 TC×	TOP OF CURB ELEVATION
26.85 BC×	26.85 BC×	BOTTOM OF CURB ELEVATION
132.75 ×	132.75 ×	SPOT ELEVATION
45.0 TW 38.5 BW×	45.0 TW 38.5 BW×	TOP & BOTTOM OF WALL ELEVATION
W	W	WATER
		STORM
DRN	DRN	STORM
		SEWER
G	G	GAS
E	E	ELECTRIC
TEL	TEL	TELECOMMUNICATIONS
STM	STM	UNKNOWN UTILITY
UKN	UKN	UNKNOWN UTILITY
		ROUND CATCH BASIN
		CATCH BASIN
		DOUBLE CATCH BASIN
		DRAIN MANHOLE
		CLEANOUT
		STORMWATER QUALITY UNIT
		PLUG OR CAP
		SEWER MANHOLE
WV	WV	WATER VALVE & BOX
HYD	HYD	FIRE HYDRANT
WM	WM	WATER METER
	EMH	ELECTRIC MANHOLE
EM	EM	ELECTRIC METER
		LIGHT POLE
		UTILITY POLE
CEB	CEB	CON EDISON SERVICE BOX
		TELECOM JUNCTION BOX
		CHAIN LINK FENCE
E.P.	EOP	EDGE OF PAVEMENT
CONC. CURB		CONCRETE CURB
		SITE ITEM TO BE REMOVED
		UTILITY LINE TO BE ABANDONED
		FENCE, UTILITY TO BE REMOVED
		EXISTING PAVERS TO BE REMOVED AND REPLACED
		EXISTING NEWER PAVERS TO BE REMOVED AND SALVAGED
		EXISTING LANDSCAPE AREA TO BE RESTORED
		EXISTING ASPHALT SIDEWALK TO BE REMOVED AND RESTORED
		EXISTING LANDSCAPE AREA TO BE REMOVED
		EXISTING CONCRETE AREA TO BE REMOVED AND REPLACED
		ASPHALT PAVEMENT INSTALLATION AREA
		ASPHALT BLOCK PAVERS INSTALLATION AREA
		PEA GRAVEL INSTALLATION AREA
		CONCRETE INSTALLATION AREA
		SILT SOCK
		LIMIT OF PAVERS REMOVAL AND INSTALLATION
		CONSTRUCTION FENCE
		SILTSACK
		SAND AND STONE

Abbreviations

General	
ABAN	ABANDON
ADJ	ADJUST
APPROX	APPROXIMATE
BIT	BITUMINOUS
BS	BOTTOM OF SLOPE
CONC	CONCRETE
ELEV	ELEVATION
EX	EXISTING
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PERF	PERFORATED
PROP	PROPOSED
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
TYP	TYPICAL

Utility	
CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
DCB	DOUBLE CATCH BASIN
DMH	DRAIN MANHOLE
CIP	CAST IRON PIPE
COND	CONDUIT
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HYD	HYDRANT
INV	INVERT ELEVATION
LP	LIGHT POLE
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
R=	RIM ELEVATION
SMH	SEWER MANHOLE
UG	UNDERGROUND
UP	UTILITY POLE
DS	DOWNSPOUT
RD	ROOF DRAIN

Notes

General

1. CONTRACTOR SHALL NOTIFY NEW YORK 811 (CALL 811 OR 1-800-272-4480) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
3. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH DSC ACCESSIBLE ROUTE DESIGN STANDARDS.
4. WORK WITHIN THE LOCAL RIGHT-OF-WAY SHALL CONFORM TO THE LATEST VERSION OF THE NEW YORK CITY HIGHWAY RULES (TITLE 34, CHAPTER 2 OF THE RULES OF THE CITY OF NEW YORK), THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION (NYCDOT) STANDARD DETAILS OF CONSTRUCTION AND NYCDOT STANDARD HIGHWAY SPECIFICATIONS AND ALL OTHER APPLICABLE NYC RULES, DETAILS AND SPECIFICATIONS.
5. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
6. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
7. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE GOVERNMENT IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
8. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
9. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE GOVERNMENT.
10. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO THE GOVERNMENT.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PEDESTRIAN SIGNAGE.
12. CONTRACTOR SHALL SCHEDULE AND COORDINATE WITH REQUIRED ARCHEOLOGICAL MONITORING (PROVIDED BY GOVERNMENT) FOR ALL GROUND DISTURBANCES ACTIVITIES.

Utilities

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE GOVERMENT OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE GOVERNMENT'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES THE GOVERNMENT FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. RIM ELEVATIONS FOR ELECTRIC AND TELEPHONE PULL BOXES, MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
   A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
   B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
   C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.
4. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH THE GOVERMENT AND THE CONTRACTING OFFICER.
5. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITY COMPANY.
6. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITEWORK RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. SITE CONTRACTOR SHALL FURNISH CONCRETE ENCASEMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.

Layout and Materials

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURB RADII ARE THREE (3) FEET UNLESS OTHERWISE NOTED.
3. CURBING SHALL BE POURED IN PLACE CONCRETE CURB WITHIN THE SITE UNLESS OTHERWISE INDICATED ON THE PLANS.
4. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
5. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
6. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.

Demolition

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. ONLY AS INDICATED ON THE DRAWINGS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

4 THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION BEFORE SUBMITTING ITS BID/PROPOSAL TO PERFORM THE WORK AND SHALL MAKE NO CLAIMS AND SEEK NO ADDITIONAL COMPENSATION FOR CHANGED CONDITIONS OR UNFORESEEN OR LATENT SITE CONDITIONS RELATED TO ANY CONDITIONS DISCOVERED DURING EXECUTION OF THE WORK.

5. UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE CONTRACTING OFFICER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE CONTRACTING OFFICER SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIAL AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.

Erosion Control

1. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A WEEKLY BASIS (MINIMUM). THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN TWENTY-FOUR HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
2. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
3. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
4. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Existing Conditions Information

1. BASE PLAN IS BASED UPON AN ACTUAL FIELD SURVEY PERFORMED BY VHB, INC. IN MAY, 2024, AND SUPPLEMENTED WITH INFORMATION SHOWN ON AS-BUILT FOR HANGARS 1 & 2, TITLED RENOVATIONS TO HANGARS 1 & 2, VOLUME 1, PREPARED BY BL COMPANIES, DATED DECEMBER 17, 2015. ADDITIONAL SUPPLEMENTAL SURVEY WAS PERFORMED ON JULY 29, 2025 AND AUGUST 1, 2025
2. HORIZONTAL DATUM IS BASED ON NORTH AMERICAN DATUM OF 1983 (NAD83-2011), NEW YORK STATE PLANE COORDINATES, LONG ISLAND ZONE (3104). ELEVATIONS SHOWN REFER TO NORTH AMERICAN DATUM OF 1988 (NAVD88). UNITS ARE SURVEY FEET.

Document Use

1. IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.
2. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN FIELD.
3. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

DESIGNED: YL/MC CADD: YL TECH. REVIEW: TV DATE: 12/19/2025	SUB SHEET NO. C1.0	TITLE OF SHEET LEGEND AND GENERAL NOTES HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 9 OF 153

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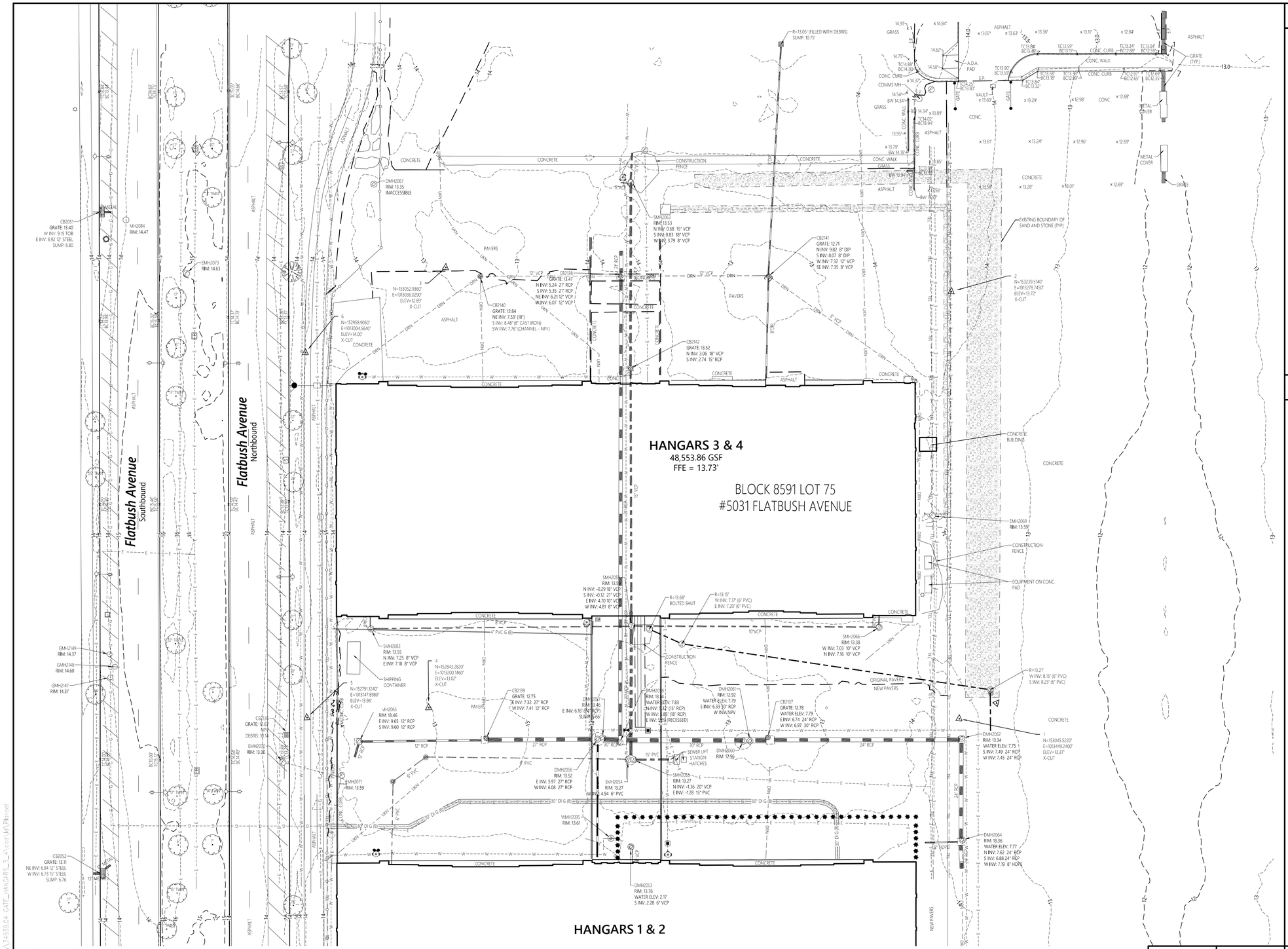

1 C-2.0 GATE - HANGARS 3 & 4 EXISTING CONDITION
SCALE A

GENERAL NOTES

1. THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL FIELD SURVEY PERFORMED BY VHB, INC. IN MAY, 2024, AND SUPPLEMENTED WITH INFORMATION SHOWN ON AS-BUILT FOR HANGARS 1 & 2, TITLED RENOVATIONS TO HANGARS 1 & 2, VOLUME 1, PREPARED BY BL COMPANIES, DATED DECEMBER 17, 2015.ADDITIONAL SUPPLEMENTAL SURVEY WAS PERFORMED ON JULY 29, 2025 AND AUGUST 1, 2025.
2. THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN WERE MAPPED PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD 38-22, QUALITY LEVEL(S) 'B'. UNDERGROUND UTILITY DESIGNATION PERFORMED BY OUR SUBCONSULTANT GPRS, INC. AND RESULTING MARK OUTS LOCATED BY VHB SURVEY CREWS. PLEASE NOTE THAT WHILE BEST PRACTICES WERE FOLLOWED, NOT ALL UTILITIES MAY BE SHOWN AND THE ACCURACY OF UTILITY LOCATIONS CANNOT BE GUARANTEED.
3. LIMITS OF EXISTING SAND AND STONE ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
4. HORIZONTAL DATUM IS BASED ON NORTH AMERICAN DATUM OF 1983 (NAD83-2011), NEW YORK STATE PLANE COORDINATES, LONG ISLAND ZONE (3104). ELEVATIONS SHOWN ON THIS PLAN REFER TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). UNITS ARE US SURVEY FEET.
5. THE LOT LIES ENTIRELY WITHIN ZONE X (UNSHADED) (AREAS TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR CITY OF NEW YORK, KINGS COUNTY, MAP NUMBER 3604970359F, EFFECTIVE DATE 09/05/2007.
6. THE TREE SYMBOL OUTLINE SHOWN ON THIS PLAN DOES NOT REPRESENT THE ACTUAL TREE CANOPY.

LEGEND

- DRAIN MANHOLE
- ROUND CATCH BASIN
- CATCH BASIN
- SEWER MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- MANHOLE
- WATER GATE
- FIRE HYDRANT
- BOLLARD w/LIGHT
- LIGHT POLE
- F.F.E.=13.73' FINISHED FLOOR ELEVATION
- CLEANOUT
- DECIDUOUS TREE WITH SIZE
- CONIFEROUS TREE WITH SIZE
- EDGE OF PAVEMENT
- CONCRETE CURB
- CHAIN LINK FENCE
- (P51) (C) DRAINAGE LINE w/PIPE NUMBER & ASCE SUE LEVEL CLASSIFICATION
- (P41) (C) SEWER LINE w/PIPE NUMBER & ASCE SUE LEVEL CLASSIFICATION
- UNDERGROUND STORM (MARK-OUT)
- UNDERGROUND ELECTRIC
- TELEPHONE LINE
- GAS LINE
- WATER LINE
- UNDERGROUND UNKNOWN UTILITY
- SAND AND STONE

30' 15' 0' 30' 60'
SCALE OF FEET

BUILDING NORTH

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: YL	C2.0	EXISTING CONDITION	646 190066
TECH. REVIEW: TV			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 10 OF 153

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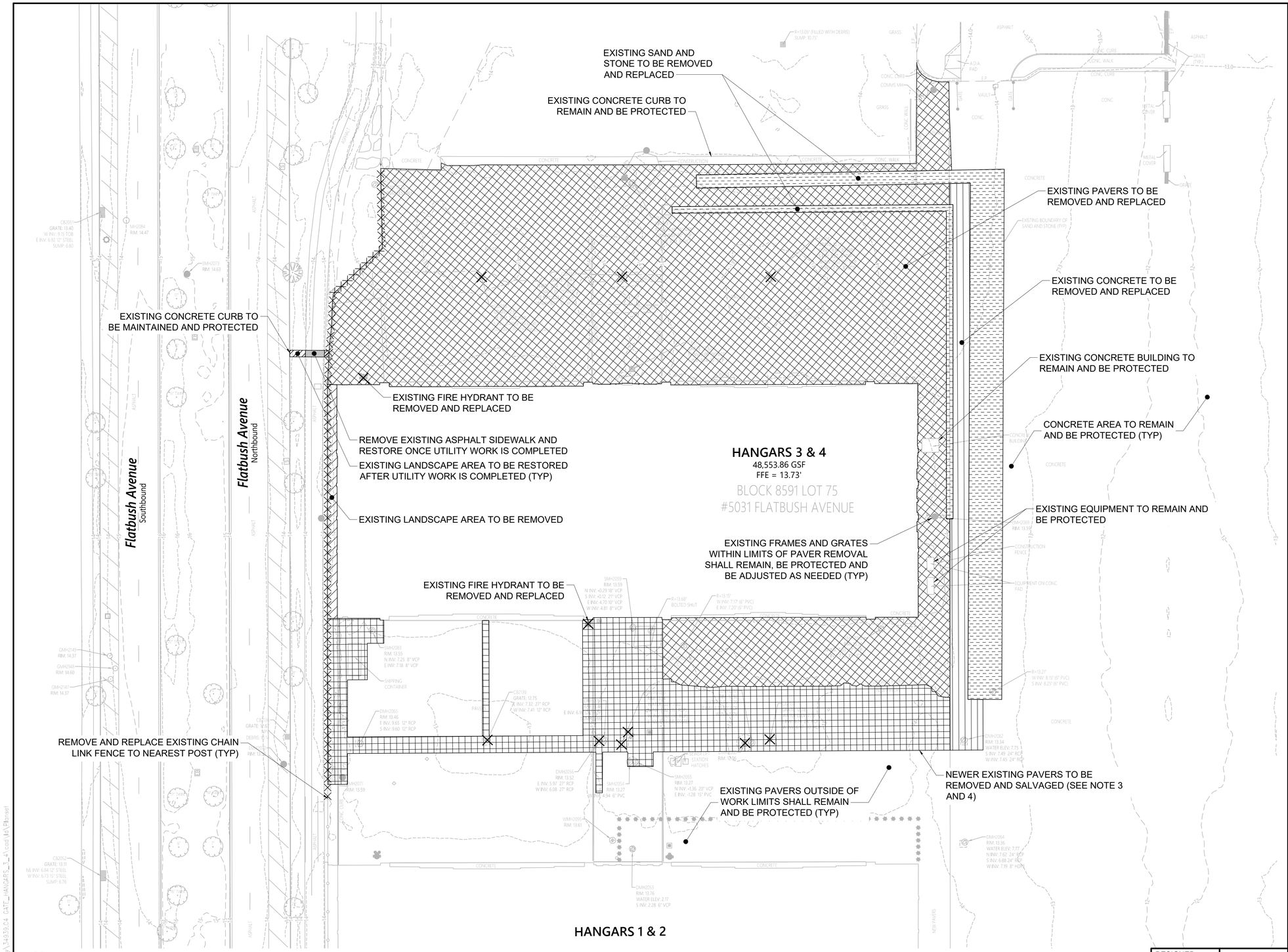


1 G-3.0 GATE - HANGARS 3 & 4 DEMOLITION PLAN
SCALE (A)

GENERAL NOTES

1. FOR INTERIOR BUILDING DEMOLITION, REFER TO ARCHITECTURAL PLANS.
2. EXISTING AT-GRADE FEATURES DISTURBED BY THE REMOVAL OF THE EXISTING PAVERS SHALL BE PROTECTED, RESET AND RESTORED AS NEEDED.
3. REMOVE AND SALVAGE NEWER EXISTING PAVERS TO THE GREATEST EXTENT POSSIBLE. RELAY AND SUPPLEMENT WITH NEW PAVERS PER PAVER DETAILS.
4. PAVER REMOVAL LIMITS ARE APPROXIMATE, AND SHALL BE ADJUSTED TO ACCOMMODATE UTILITY TRENCHES AS NECESSARY. ALL PAVERS TO BE SALVAGED SHALL BE REMOVED BY HAND. IN NO EVENT SHALL PAVERS TO BE SALVAGED OR PAVERS TO REMAIN BE SAWCUT.

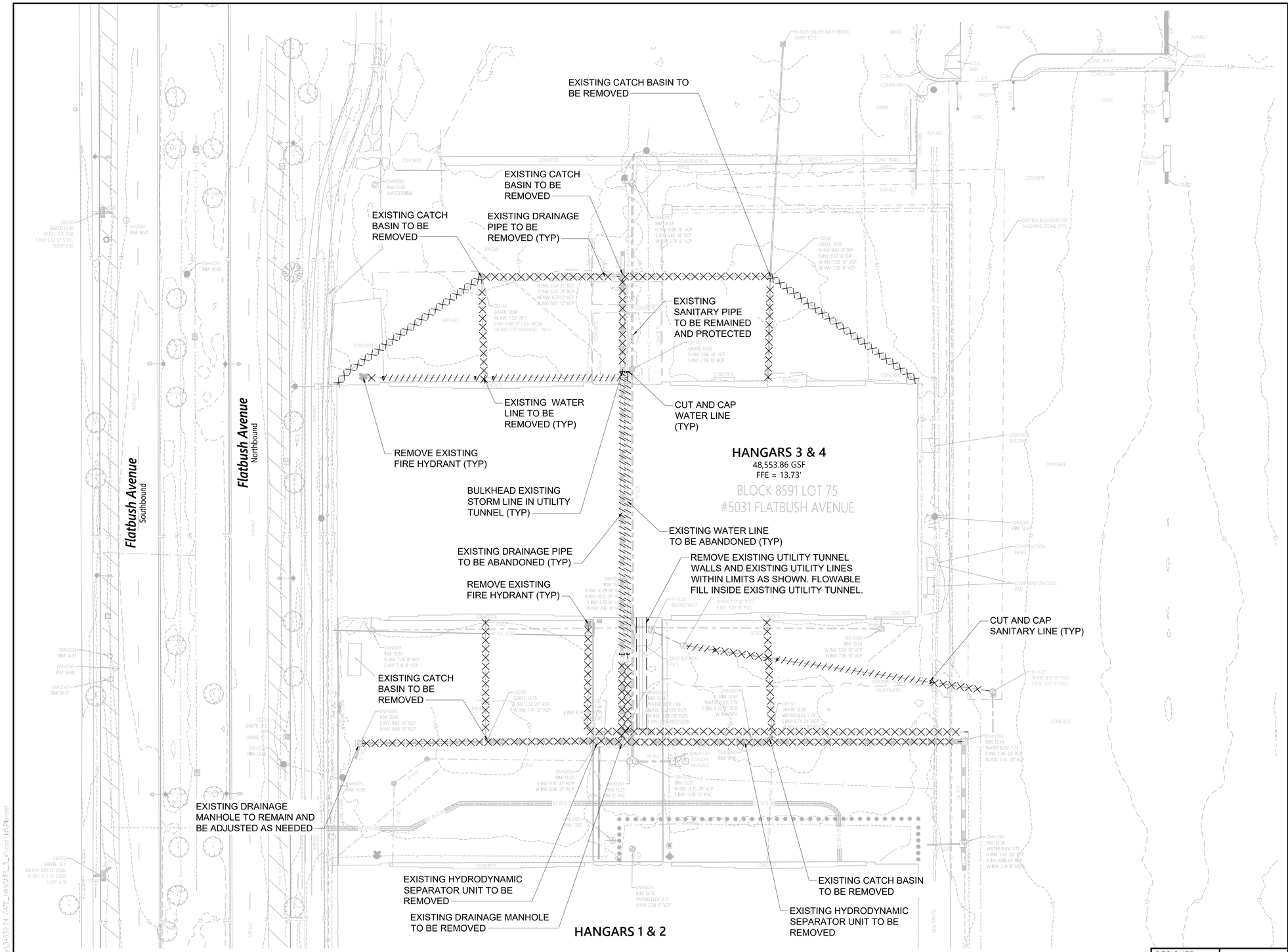
LEGEND

- SITE ITEM TO BE REMOVED
- EXISTING PAVERS TO BE REMOVED AND REPLACED
- NEWER EXISTING PAVERS TO BE REMOVED AND SALVAGED
- EXISTING LANDSCAPE AREA TO BE RESTORED
- EXISTING ASPHALT SIDEWALK TO BE REMOVED AND RESTORED
- EXISTING LANDSCAPE AREA TO BE REMOVED
- EXISTING CONCRETE AREA TO BE REMOVED AND REPLACED
- EXISTING SAND AND STONE TO BE REMOVED AND REPLACED

30' 15' 0' 30' 60'
SCALE OF FEET

BUILDING NORTH

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 190066
CADD: YL	C3.0	DEMOLITION PLAN	PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET 11 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	



1 G-3.0 GATE - HANGARS 3 & 4 UTILITY DEMOLITION PLAN

SCALE A

GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS FOR DEMOLITION AND ABANDONMENT OF EXISTING UTILITIES AND EXISTING UTILITY STRUCTURES INSIDE HANGARS.
2. EXISTING UTILITIES NOT MARKED FOR CAPPING OR REMOVAL SHALL REMAIN AND BE PROTECTED THROUGHOUT PROJECT DURATION.

LEGEND

- //////// - ABANDON EXISTING UTILITY PIPING IN-PLACE
- XXXXX - REMOVE EXISTING UTILITY PIPING
- BULKHEAD, CUT AND CAP UTILITY PIPING

30' 15' 0' 30' 60'

SCALE OF FEET

BUILDING NORTH

DESIGNED: YL/MC	SUB SHEET NO. C3.1	TITLE OF SHEET: UTILITY DEMOLITION PLAN	DRAWING NO. 646 190066
CADD: YL			PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET 12 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	

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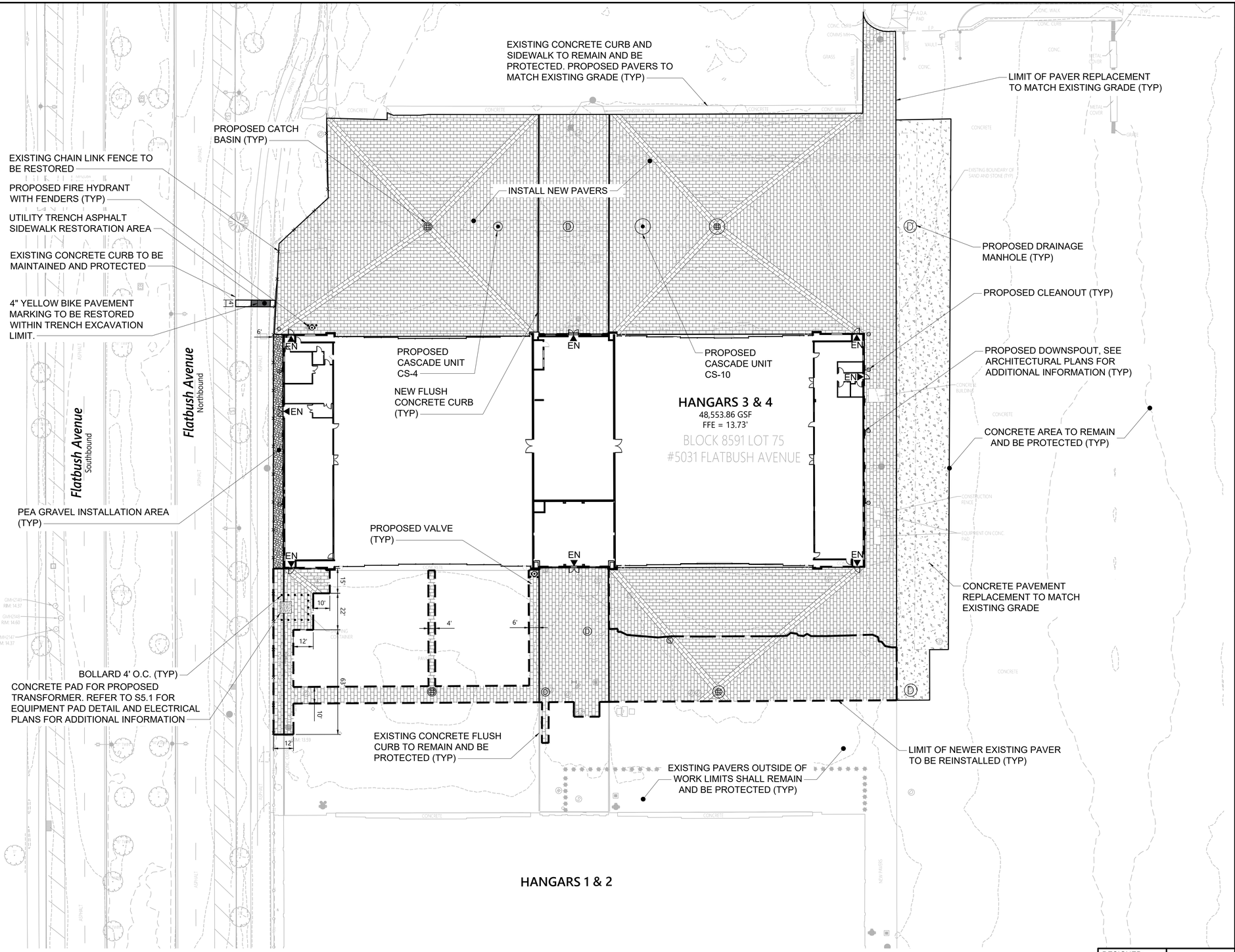

1 C-4.0 GATE - HANGARS 3 & 4 SITE PLAN
SCALE Ⓐ

GENERAL NOTES

1. PAVERS AND PAVEMENT RESTORATION AREAS SHALL COMPLY WITH NPS DSC ACCESSIBLE ROUTING DESIGN STANDARDS
2. LOCATION OF EXISTING ABOVE-GROUND AND UNDERGROUND UTILITIES AND STRUCTURES, INCLUDING FOUNDATIONS, SHOWN ON THE CONTRACT DOCUMENTS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF SUCH UTILITIES AND STRUCTURES BOTH VERTICALLY AND HORIZONTALLY. THE GOVERNMENT DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THIS INFORMATION. PERFORM ALL EXCAVATION BY HAND WHEN WORKING NEAR OR UNDER EXISTING UTILITY LINES. THE EXTENT OF THE HAND EXCAVATION SHALL BE 1 FOOT BELOW THE BOTTOM OF THE LOWEST UTILITY LINE IN THE AREA.
3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE CONTRACTING OFFICER FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES THE GOVERNMENT FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
4. EXISTING REMAINING SITE ELEMENTS SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION UNLESS OTHERWISE NOTED.
5. CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION OF EXISTING PAVEMENT AND ASPHALT PAVERS FOR THE INSTALLATION OF THE UTILITY TRENCH, AND FOR THE RESTORATION OF THE PAVERS, PAVEMENT AND CURB AT THESE LOCATIONS AFTER INSTALLATION IS FINALIZED.
6. CONTRACTOR SHALL COORDINATE PAVER COLOR WITH THE OWNER PRIOR TO INSTALLATION. PAVER LAYOUT PATTERNS AND COLOR SHALL BE APPROVED BY THE ENGINEER AND OWNER.
7. FOR HANGARS 3 & 4 RENOVATION, SEE ARCHITECTURAL PLANS

LEGEND

- ASPHALT PAVEMENT INSTALLATION AREA
- ASPHALT BLOCK PAVERS INSTALLATION AREA
- PEA GRAVEL INSTALLATION AREA
- CONCRETE INSTALLATION AREA
- EXISTING LANDSCAPE AREA TO BE RESTORED

30' 15' 0' 30' 60'
SCALE OF FEET

BUILDING NORTH

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET: SITE PLAN	DRAWING NO. 646 190066
CADD: YL	C4.0		PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET 13 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	

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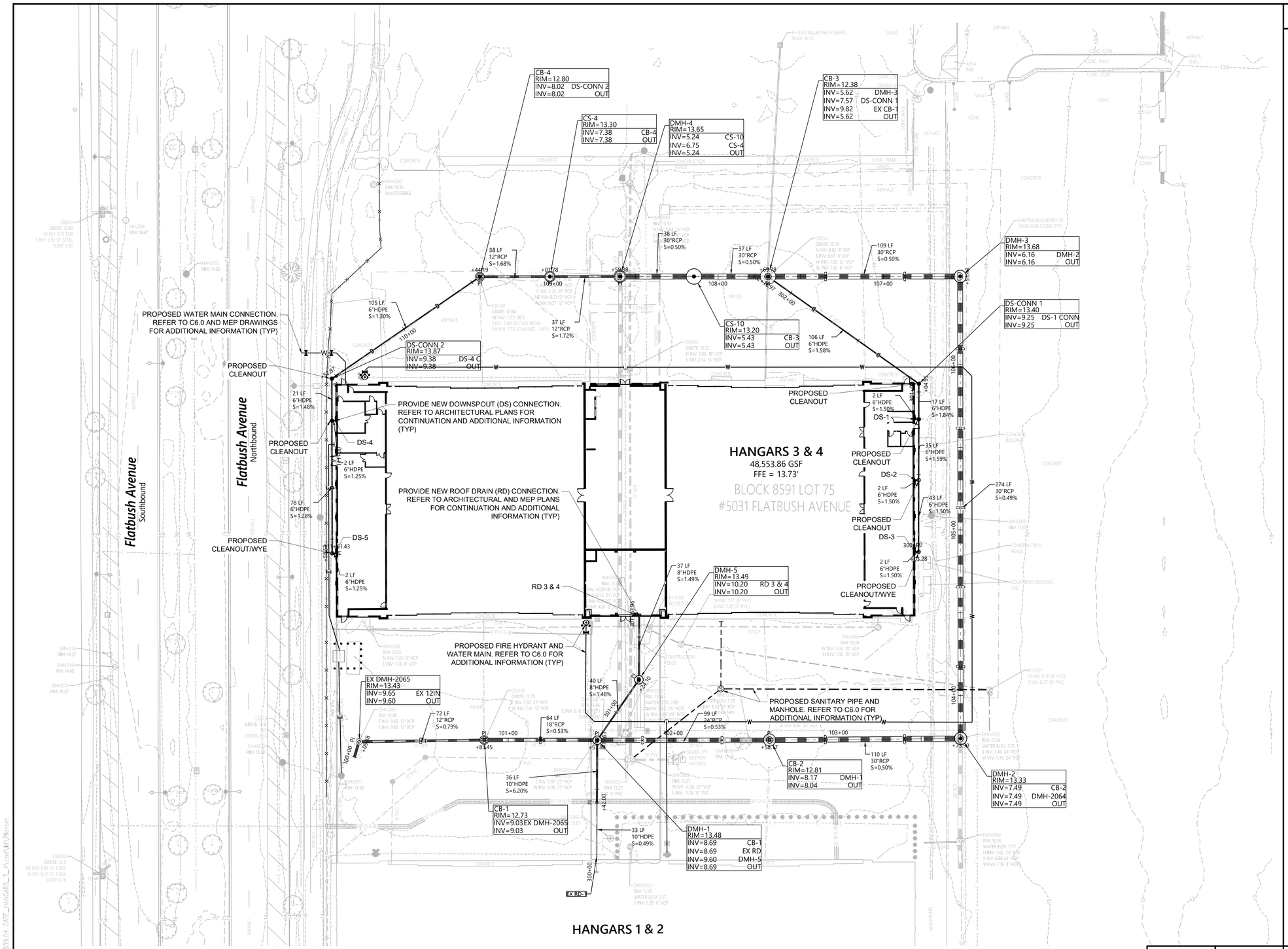

1 C-5.0 GATE - HANGARS 3 & 4 GRADING AND DRAINAGE PLAN

SCALE A

GENERAL NOTES

1. EXISTING REMAINING SITE ELEMENTS SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION UNLESS OTHERWISE NOTED.
2. FOR HANGARS 3 & 4 RENOVATION, SEE ARCHITECTURAL PLANS.
3. REFER TO MEP PLANS FOR ADDITIONAL DETAILS AND CONTINUATION OF SERVICE.
4. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE CONTRACTING OFFICER FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES THE GOVERNMENT FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.

30' 15' 0' 30' 60'
SCALE OF FEET

BUILDING NORTH

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: YL	C5.0	GRADING AND DRAINAGE PLAN	646 190066
TECH. REVIEW: TV			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 14 OF 153

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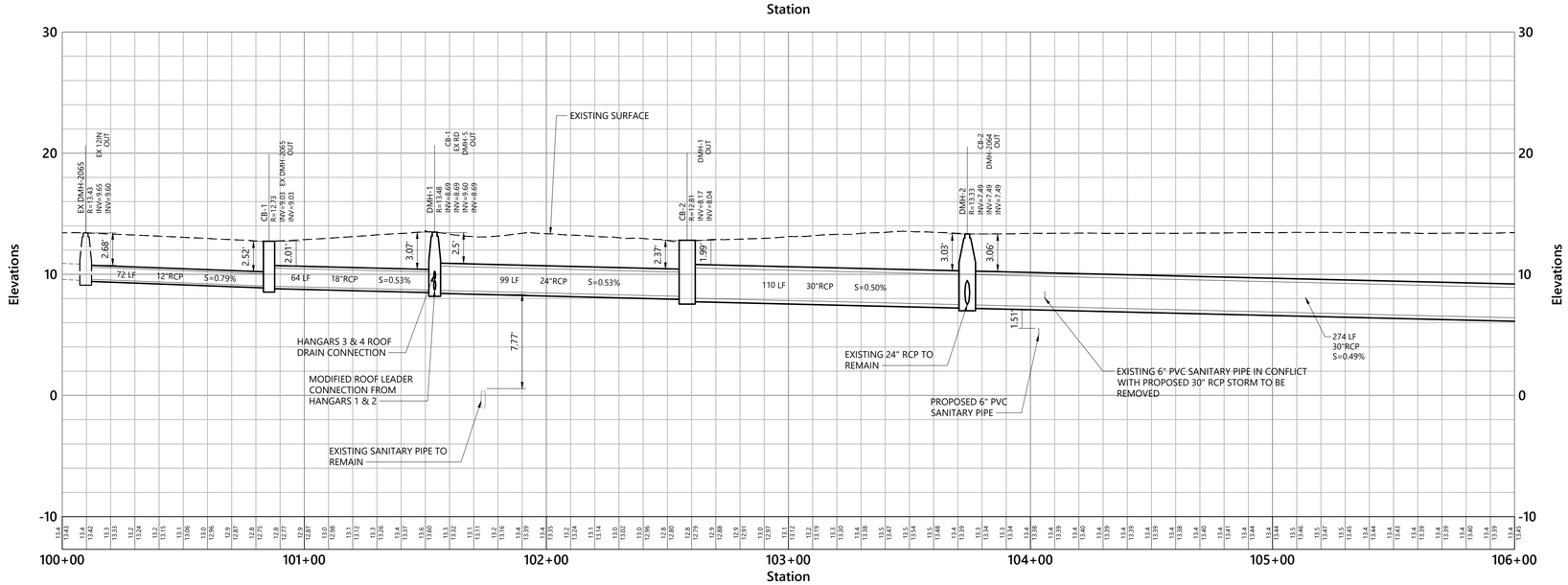
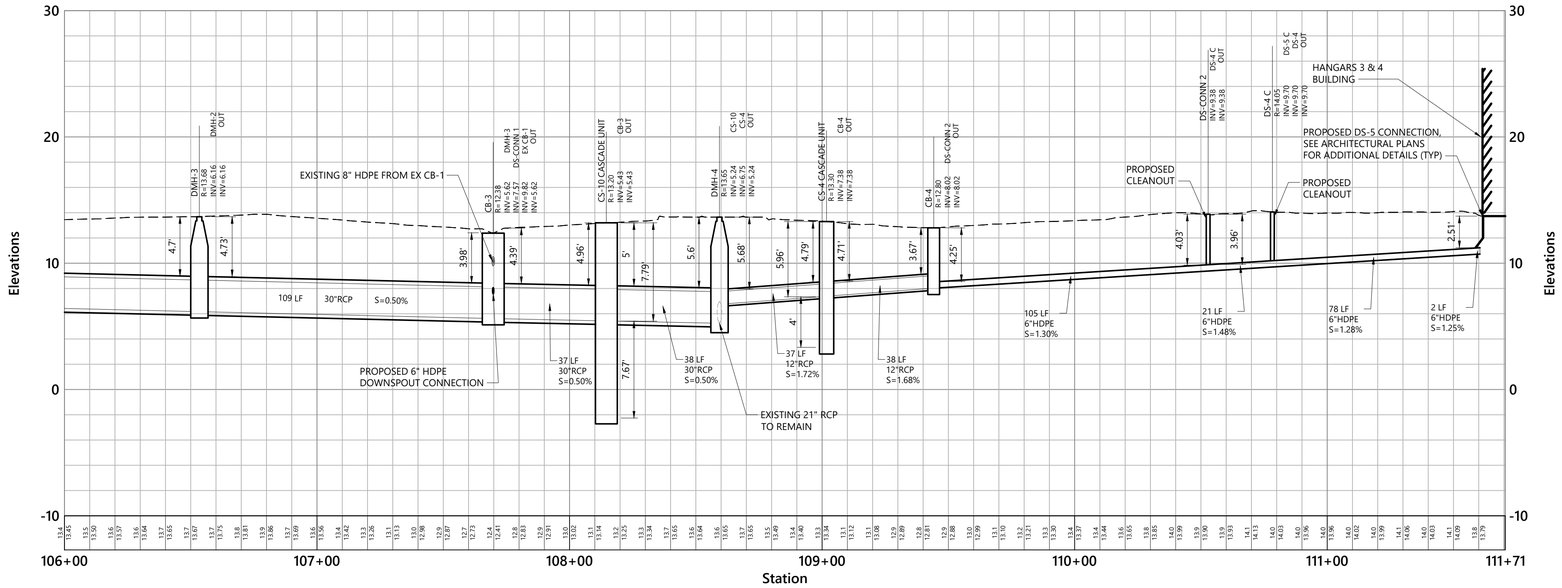


PROPOSED STORM ALIGNMENT



PROPOSED STORM ALIGNMENT

HORIZONTAL
1" = 30'

30' 15' 0' 30' 60'

5' 2.5' 0' 5' 10'

1" = 5'
VERTICAL

1 / C-5.1 GATE - HANGARS 3 & 4 DRAINAGE PROFILES 1
SCALE A

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: YL	C5.1	DRAINAGE PROFILES 1	646 / 190066
TECH. REVIEW: TV			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 15 OF 153

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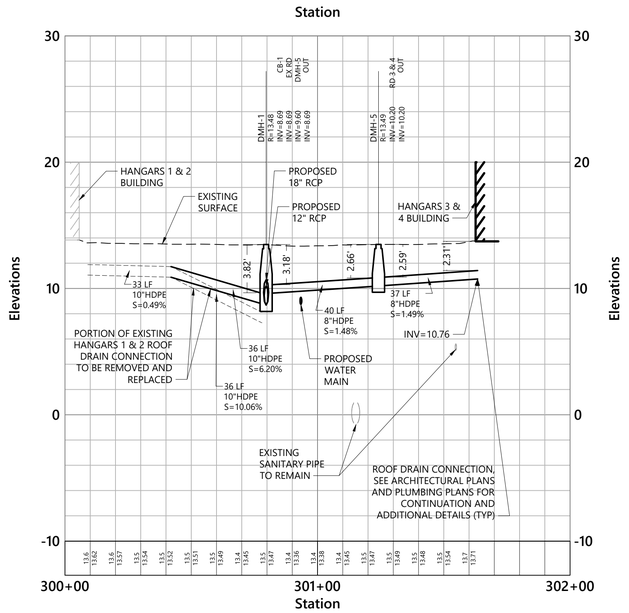
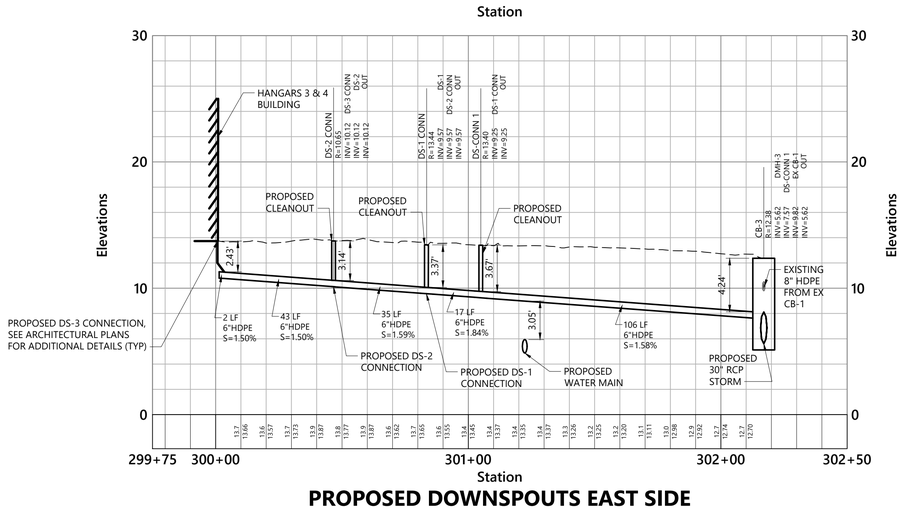


ROOF DRAIN CONNECTIONS ALIGNMENT



PROPOSED DOWNSPOUTS EAST SIDE

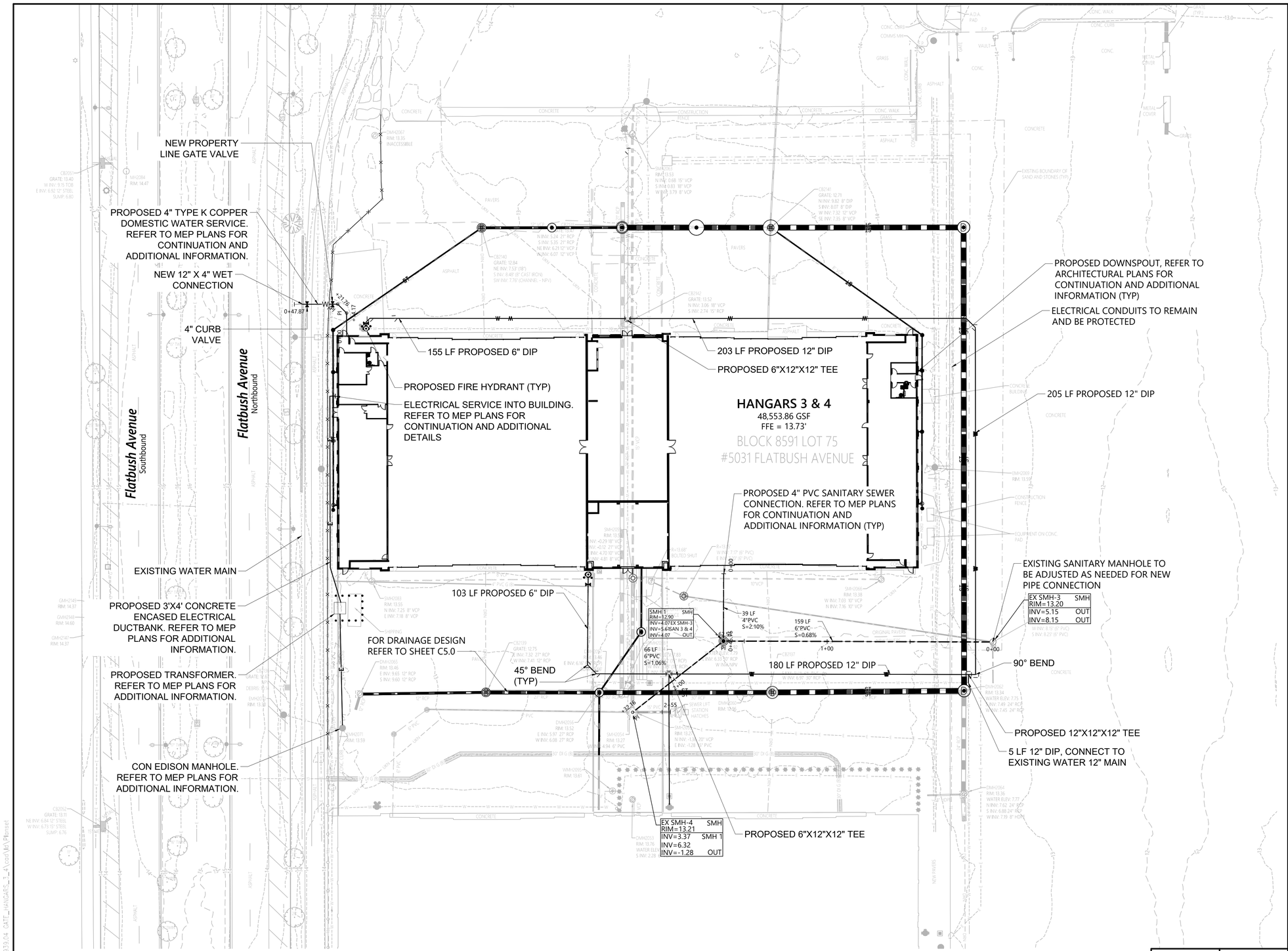
HORIZONTAL
1" = 30'

30' 15' 0' 30' 60'
5' 2.5' 0' 5' 10'

1" = 5'
VERTICAL

1 / C-5.2 GATE - HANGARS 3 & 4 DRAINAGE PROFILES 2
SCALE A

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 190066
CADD: YL	C5.2	STORM PROFILES 2	PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	16 OF 153



1 C6.0 GATE - HANGARS 3 & 4 UTILITY PLAN
SCALE (A)

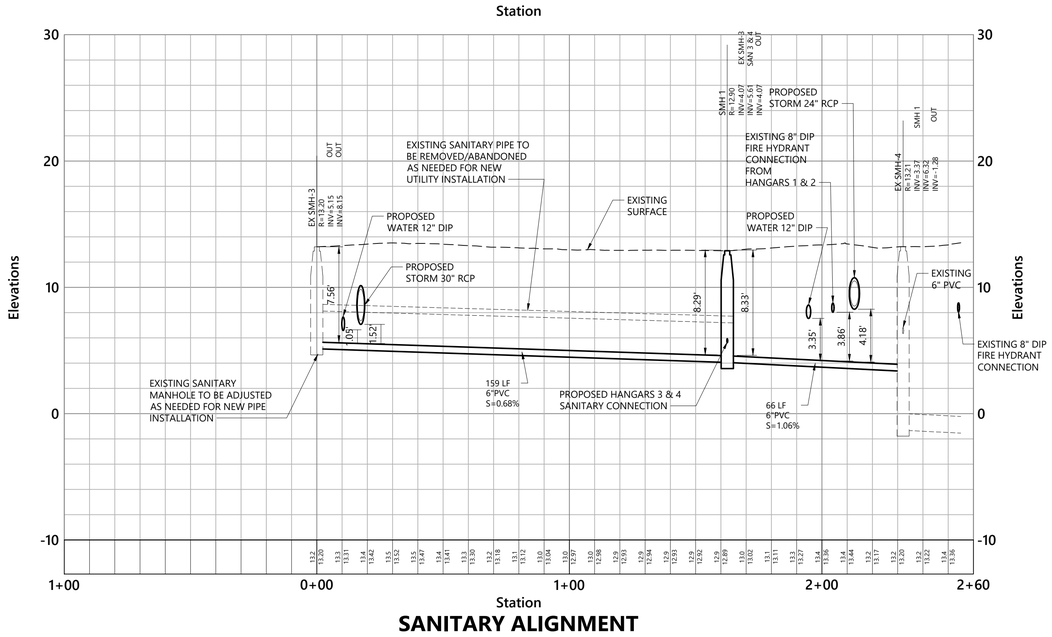
GENERAL NOTES

1. EXISTING REMAINING SITE ELEMENTS SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION UNLESS OTHERWISE NOTED.
2. FOR HANGARS 3 & 4 RENOVATION, SEE ARCHITECTURAL PLANS.
3. REFER TO MEP PLANS FOR ADDITIONAL DETAILS AND CONTINUATION OF SERVICE.
4. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING UTILITIES TO REMAIN.
5. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE CONTRACTING OFFICER FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES THE GOVERNMENT FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
6. CONTRACTOR SHALL COORDINATE SANITARY WORK WITH NPS AND FLOYD BENNETT FIELD LIFT STATION 30B PROJECT TO VERIFY SCOPE PRIOR TO ANY WORK STARTING.
7. ALL WATER MAIN WORK ASSOCIATED WITH THE CONNECTION BETWEEN THE NYC DEP WATER MAIN IN FLATBUSH AVENUE AND HANGARS 3 & 4 SHALL BE DONE AS PER NYC DEP RULES AND REGULATIONS.

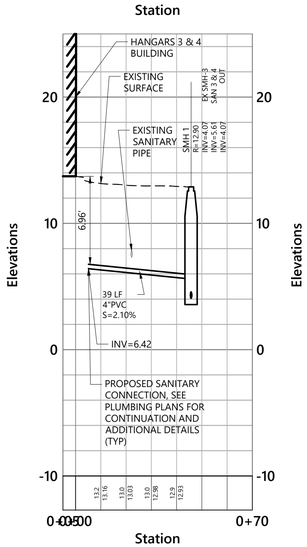
30' 15' 0' 30' 60'
SCALE OF FEET

BUILDING NORTH

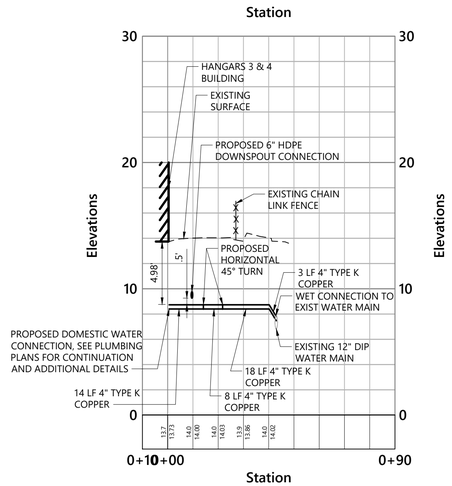
DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 190066
CADD: YL	C6.0	UTILITY PLAN	PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	17 OF 153



SANITARY ALIGNMENT



PROPOSED HANGARS 3 & 4 SANITARY CONNECTION



PROPOSED DOMESTIC WATER MAIN

HORIZONTAL
1" = 30'

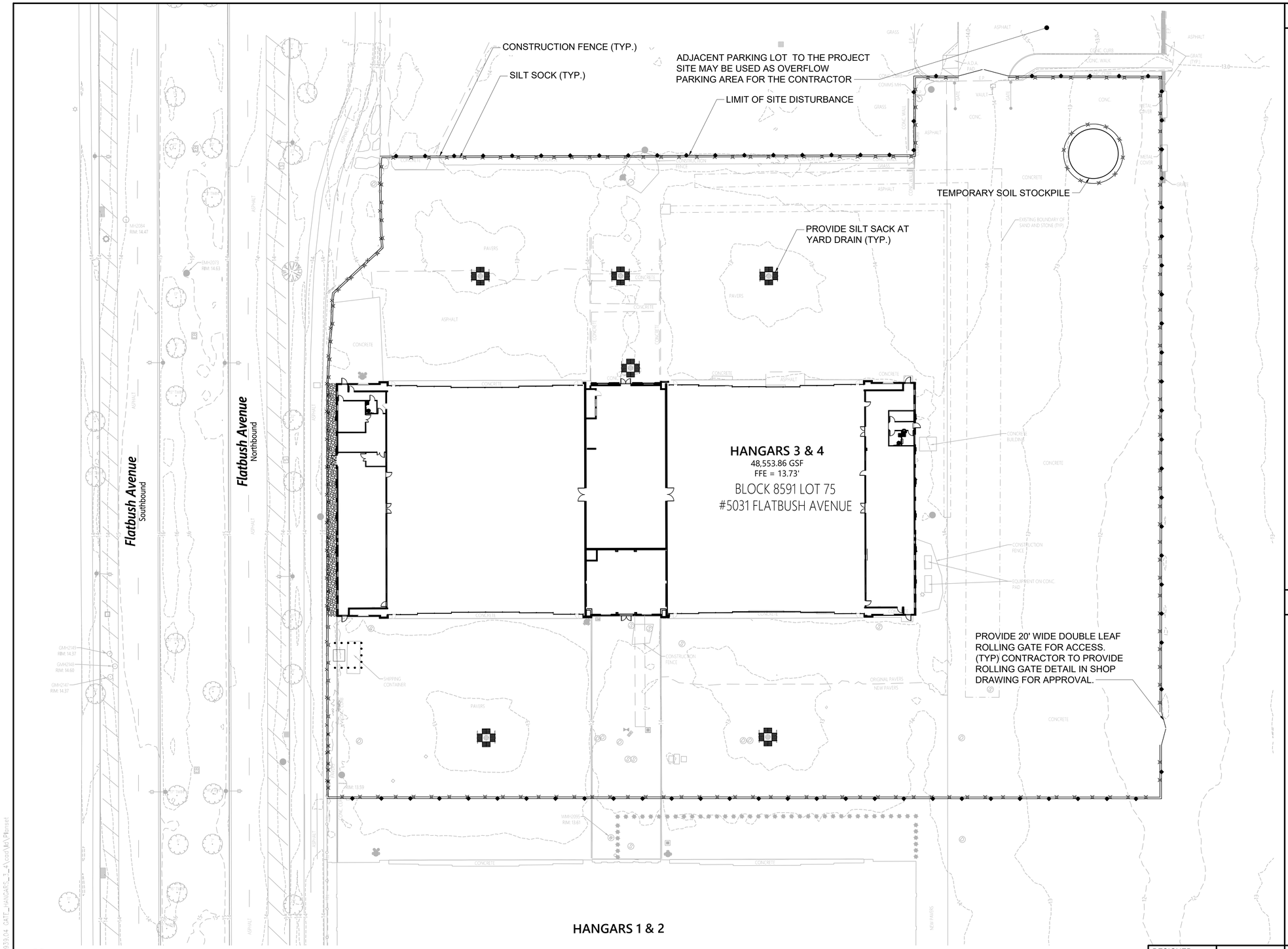
30' 15' 0' 30' 60'

5' 2.5' 0' 5' 10'

1" = 5'
VERTICAL

1 GATE - HANGARS 3 & 4 SANITARY PROFILE
C6.1 SCALE A

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 190066
CADD YL	C6.1	UTILITY PROFILES 1	PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	18 OF 153



1 C7.0 GATE - HANGARS 3 & 4 EROSION AND SEDIMENT CONTROL PLAN
SCALE (A)

GENERAL NOTES

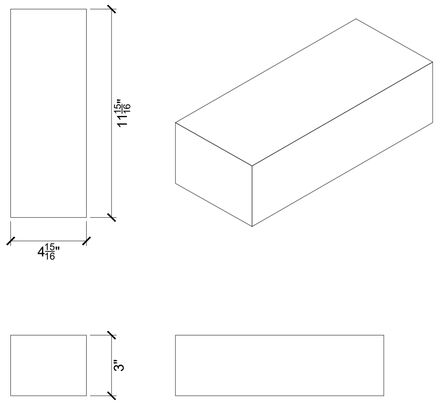
1. PAVERS AND PAVEMENT RESTORATION AREAS SHALL COMPLY WITH NPS DSC ACCESSIBLE ROUTING DESIGN STANDARDS
2. LOCATION OF EXISTING ABOVE-GROUND AND UNDERGROUND UTILITIES AND STRUCTURES, INCLUDING FOUNDATIONS, SHOWN ON THE CONTRACT DOCUMENTS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF SUCH UTILITIES AND STRUCTURES BOTH VERTICALLY AND HORIZONTALLY. THE GOVERNMENT DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THIS INFORMATION. PERFORM ALL EXCAVATION BY HAND WHEN WORKING NEAR OR UNDER EXISTING UTILITY LINES. THE EXTENT OF THE HAND EXCAVATION SHALL BE 1 FOOT BELOW THE BOTTOM OF THE LOWEST UTILITY LINE IN THE AREA.
3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE CONTRACTING OFFICER FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES THE GOVERNMENT FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
4. EXISTING REMAINING SITE ELEMENTS SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION UNLESS OTHERWISE NOTED.
5. CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION OF EXISTING PAVEMENT AND ASPHALT PAVERS FOR THE INSTALLATION OF THE UTILITY TRENCH, AND FOR THE RESTORATION OF THE PAVERS,PAVEMENT AND CURB AT THESE LOCATIONS AFTER INSTALLATION IS FINALIZED.
6. FOR HANGARS 3 & 4 RENOVATION, SEE ARCHITECTURAL PLANS.
7. ALL STAGING AREAS, INCLUDING BUT NOT LIMITED TO STORAGE OF MATERIALS, PARKING AND STOCKPILING SHALL BE WITHIN LIMITS OF CONSTRUCTION FENCE AND ON HARDENED SURFACES. FINAL LOCATION OF STAGING AREAS SHALL BE APPROVED BY THE CONTRACTING OFFICER.

LEGEND

SILT SOCK
CONSTRUCTION FENCE
SILTSACK

30' 15' 0' 30' 60'
SCALE OF FEET
BUILDING NORTH

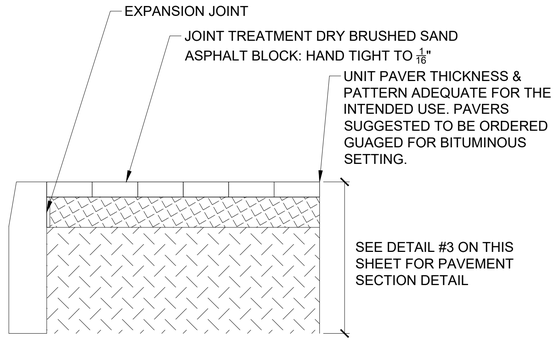
DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
YL/MC	C7.0	EROSION AND SEDIMENT CONTROL PLAN	646 / 190066
CADD: YL			PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET 19 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	



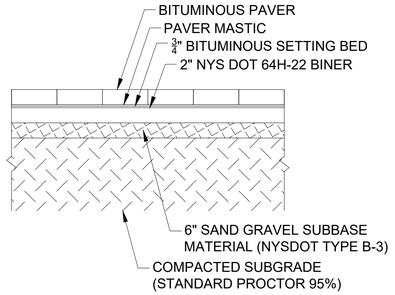
NOTES

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. INSTALLATION TO HANDLE H-20 LOADING.

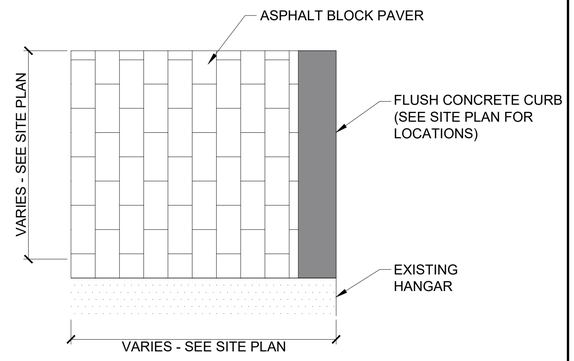
1 C8.0 ASPHALT BLOCK PAVER
N.T.S.



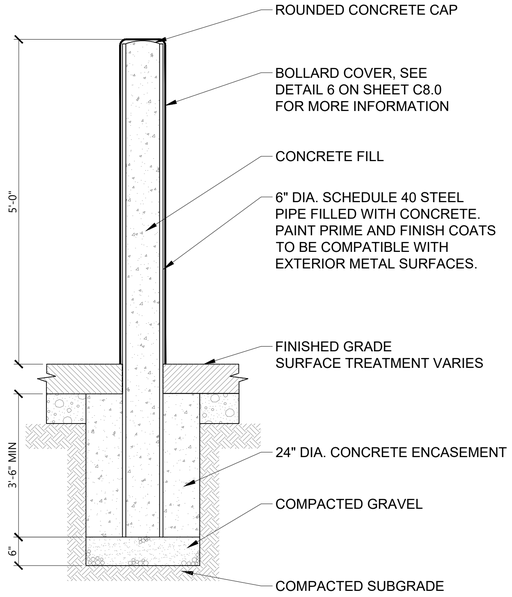
2 C8.0 BITUMINOUS PAVER SETTING BED CROSS SECTION
N.T.S.



3 C8.0 BITUMINOUS PAVER SECTION
N.T.S.



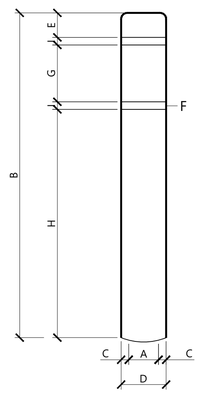
4 C8.0 TYPICAL PAVING PATTERN DETAIL
N.T.S.



NOTE

1. BOLLARD SHALL HAVE A BLACK COVER WITH WHITE STRIPES.

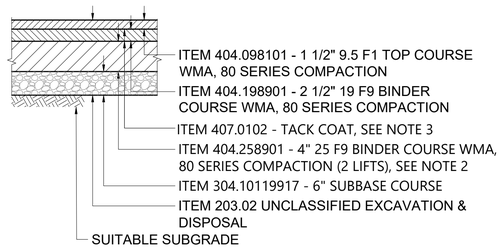
5 C8.0 BOLLARD
N.T.S.



DIMENSIONS

A	13"
B	60"
C	0.20" THICKNESS
D	13.4" OUTER DIAMETER
E	3.00"
F	0.875" RECESS
G	5.75"
H	49.50"
I	1.00" REFLECTIVE TAPE

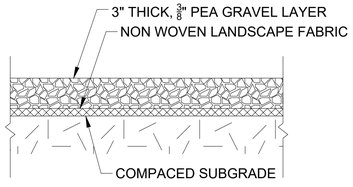
6 C8.0 12 $\frac{3}{4}$" POST GUARD TOP BOLLARD COVER WITH STRIPES: 60"
N.T.S.



PAVEMENT RESTORATION NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING EXISTING FLOWLINE GRADES AND RE-ESTABLISHING THESE GRADES IN THE PROPOSED CURB/FLOWLINE WORK.
2. VARY DEPTH OF ASPHALT BINDER TO ENSURE PROPOSED PAVEMENT DEPTH MATCHES ADJACENT EXISTING PAVEMENT DEPTH.
3. PLACE TACK COAT BETWEEN EVERY ASPHALT LIFT REGARDLESS OF WHEN PLACED AND AT THE JOINTS BETWEEN NEW AND EXISTING ASPHALT PAVEMENT EDGES.
4. ALL COLD JOINTS SHALL BE SEALED AS PER ITEM 633.13 - CLEANING, SEALING AND/OR FILLING JOINTS.
5. THE REMOVAL OF THE EXISTING CONCRETE CURB SHOULD BE DONE FROM THE BACK SIDE OF THE EXISTING CURB TO MINIMIZE ANY DAMAGE TO THE EXISTING PAVEMENT. CONSIDER "FACE FORMING" THE NEW CURB WHERE THE EXISTING CURB WILL BE REMOVED. THIS INVOLVES PULLING THE CURB OUT FROM THE BACK AND POURING NEW CURB UP AGAINST THE EXISTING PAVEMENT. IF ANY DAMAGE TO THE EXISTING PAVEMENT OCCURS, THE PERMITTEE SHALL REPLACE THE EXISTING PAVEMENT PER THE DETAILS SHOWN ON MD-1 OR PER NYSDOT STANDARD SHEETS.
6. SHOULD THE CONTRACTOR ENCOUNTER COMPOSITE PAVEMENT DURING CONSTRUCTION, THE CONTRACTOR SHALL REFER TO THE NYSDOT REGION 10 PAVEMENT REPAIR DETAILS INCLUDED AT THE BACK OF THIS PLAN SET.

7 C8.0 ASPHALT PAVEMENT REPLACEMENT
N.T.S.



NOTE

1. $\frac{3}{8}$" BANK RUN PEA GRAVEL

8 C8.0 PEA GRAVEL SECTION
N.T.S.

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET: CONSTRUCTION DETAILS 1	DRAWING NO. 646 190066
CADD: YL	C8.0		PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET 20 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	

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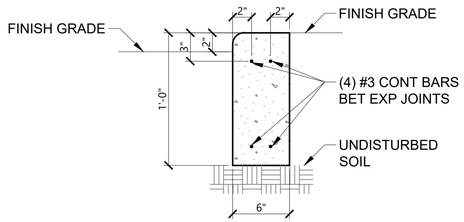
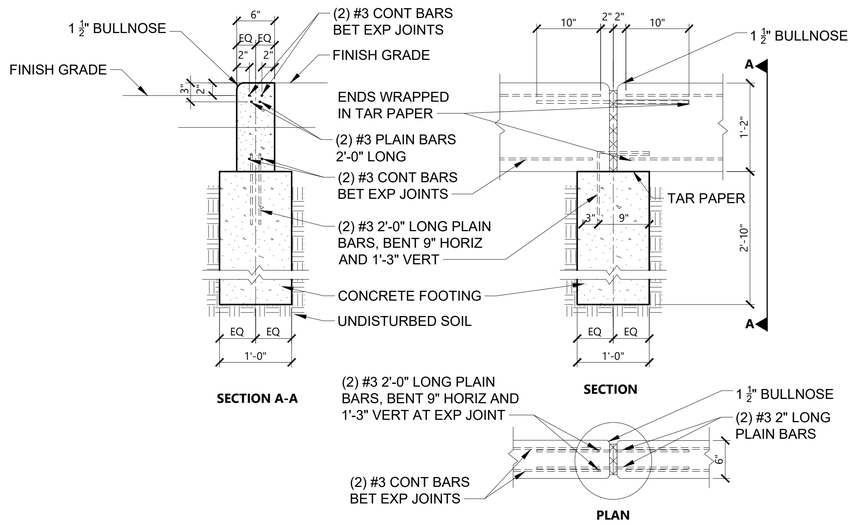


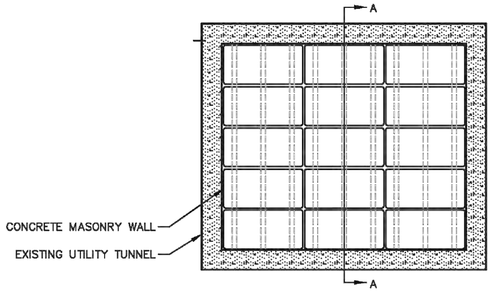
NOTES

1. FOR FLUSH CONDITIONS ELIMINATE 2" REVEAL. ALL OTHER DIMENSIONS SAME (6"X14").
2. EXP. JOINT SPACED MAX 20'-0" CENTER TO CENTER, SEE DETAIL 2 FOR EXPANSION JOINT IN CONCRETE CURB.

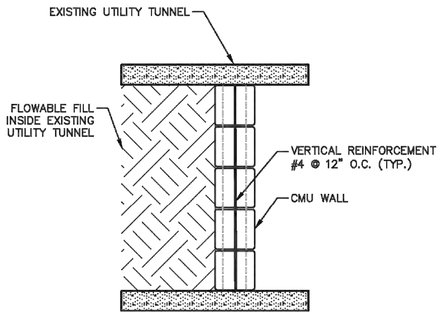
1 C8.1 CONCRETE CURB - 6"
N.T.S.



2 C8.1 EXPANSION JOINT IN CONCRETE CURB
N.T.S.

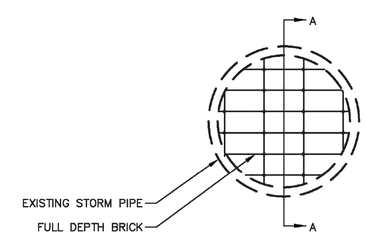


FRONT VIEW

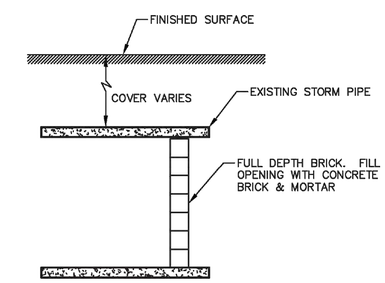


SECTION A–A

3 C8.1 TYPICAL CMU WALL
N.T.S.



FRONT VIEW



SECTION A–A

4 C8.1 TYPICAL BULKHEAD
N.T.S.

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 190066
CADD YL	C8.1	CONSTRUCTION DETAILS 2	PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV			SHEET
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	21 OF 153

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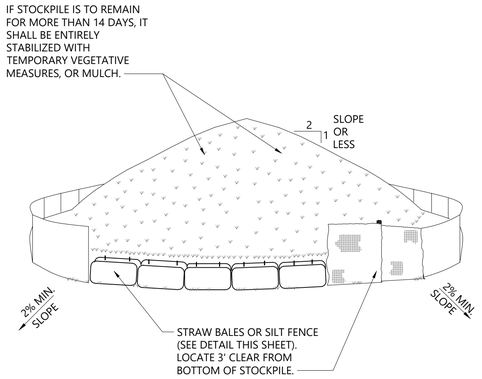
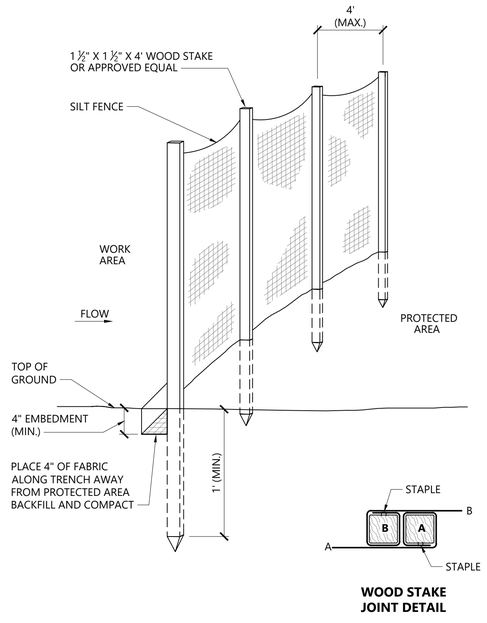


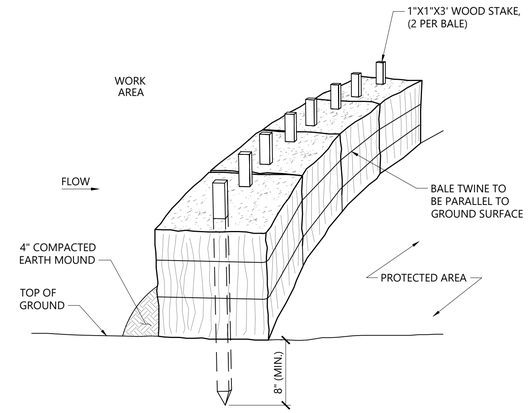
NOTES

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAW BALES.
4. CONTRACTOR SHALL INSPECT INSTALLATIONS EVERY 7 DAYS MINIMUM AND/OR AS REQUIRED AND AFTER ANY RAINFALL EVENT OF 1/2" OR GREATER AND MAKE NECESSARY REPAIRS AS NEEDED.

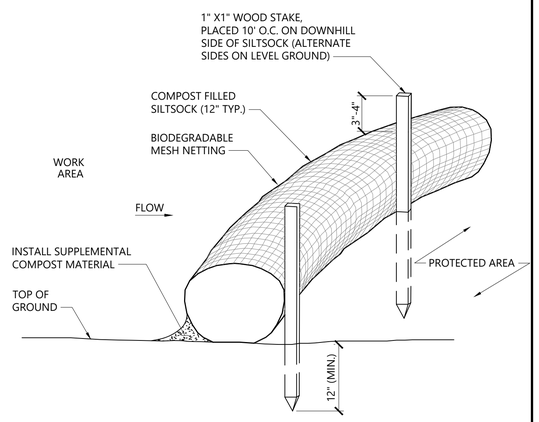
1 C8.2 MATERIAL STOCKPILE AREA DETAIL
N.T.S.



2 C8.2 SILT FENCE BARRIER
N.T.S.



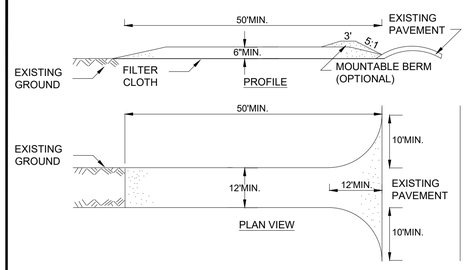
3 C8.2 STRAW BALE BARRIER
N.T.S.



NOTES

1. SILTSOCK SHALL BE FILTREXX SILTSOXX, OR APPROVED EQUAL.
2. SILTSOCKS SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. SILTSOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. UPON SITE STABILIZATION, COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.
5. IF NON BIODEGRADABLE NETTING IS USED THE NETTING SHALL BE COLLECTED AND DISPOSED OF OFFSITE.

4 C8.2 SILTSOCK - EROSION CONTROL BARRIER
N.T.S.

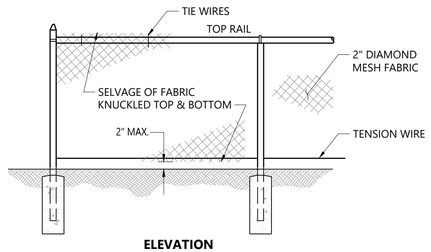


CONSTRUCTION SPECIFICATIONS

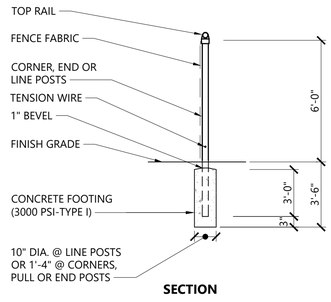
1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STABILIZED CONSTRUCTION ENTRANCE

4 C8.2 STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



ELEVATION

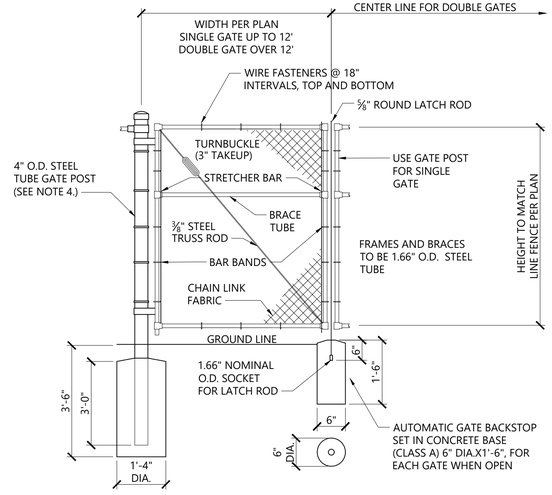


SECTION

NOTES

1. MATERIALS TO BE SUPPLIED AND INSTALLED IN CONFORMANCE WITH "CHAIN LINK MANUFACTURER'S INSTITUTE" PRODUCT MANUAL.

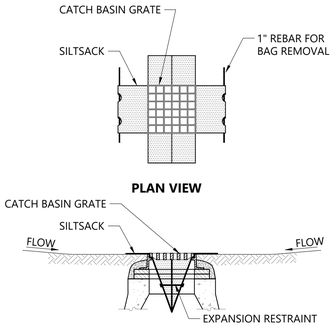
5 C8.2 6' CHAIN LINK FENCE
N.T.S.



NOTES

1. CHAIN LINK FABRIC FOR GATES TO BE THE SAME AS REQUIRED FOR FENCE.
2. GATE POST BASE-PORTLAND CEMENT CONCRETE (3000 PSI).
3. FENCE FABRIC, POSTS, FRAMEWORKS, AND HARDWARE SHALL BE GALVANIZED STEEL PER SPECIFICATIONS.
4. GATE POSTS TO BE USED ON EACH SIDE OF SINGLE AND DOUBLE GATE OPENINGS.

6 C8.2 CHAIN LINK FENCE GATE
N.T.S.



PLAN VIEW

SECTION VIEW

NOTES

1. INSTALL SILTSACK IN CATCH BASINS WHERE INDICATED ON PLANS BEFORE COMMENCING WORK, OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND ANY PREVIOUS INLET PROTECTION HAS BEEN REMOVED, IF ANY.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS. CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED

7 C8.2 SILT SACK
N.T.S.

DESIGNED: YL/MC CADD: YL TECH. REVIEW: TV DATE: 12/19/2025	SUB SHEET NO. C8.2	TITLE OF SHEET CONSTRUCTION DETAILS 3 HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 22 OF 153

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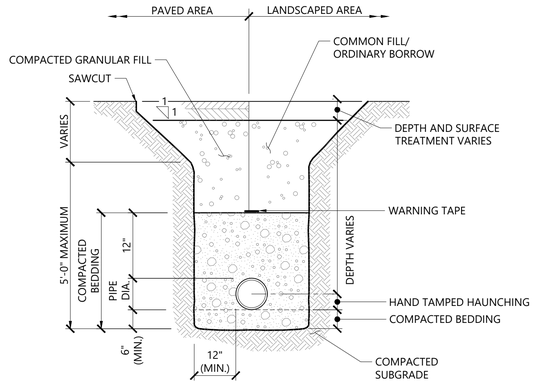
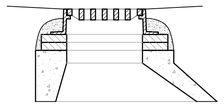


NOTES

1. USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.
2. COMPACTED GRANULAR FILL MAY CONSIST OF GRAVEL, CRUSHED STONE, SAND, OR OTHER MATERIAL AS APPROVED BY ENGINEER.

1 C8.3 UTILITY TRENCH
N.T.S.



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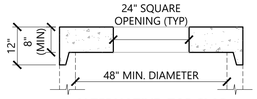
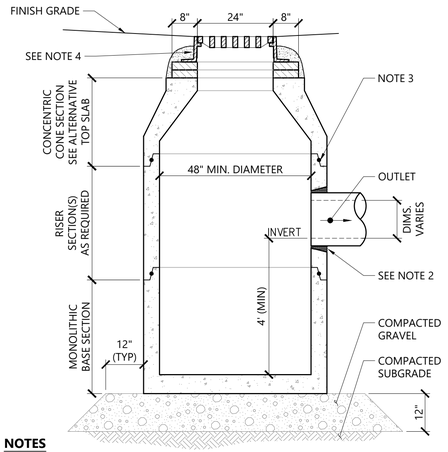


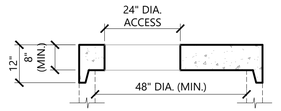
ALTERNATIVE TOP SLAB



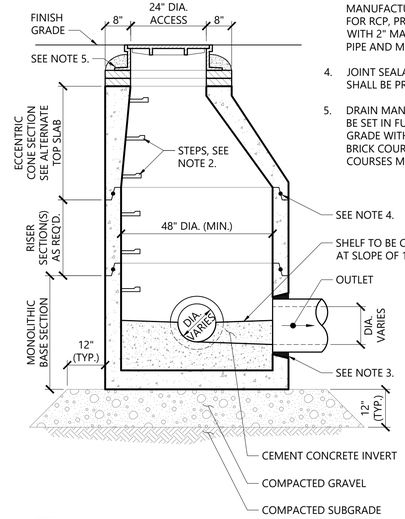
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. FOR HDPE, PVC, AND DI PIPE, PROVIDE FLEXIBLE BOOT CONNECTION INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. FOR RCP, PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE AND MORTAR CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

2 C8.3 CATCH BASIN (CB)
N.T.S.



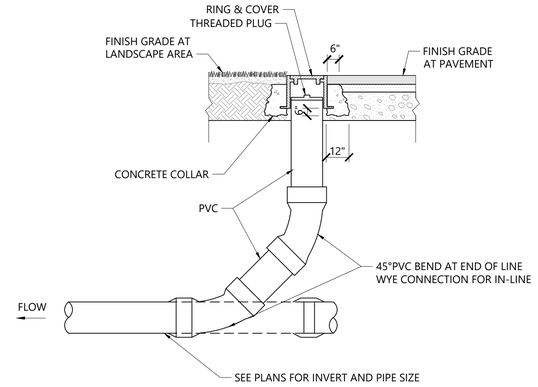
ALTERNATE TOP SLAB



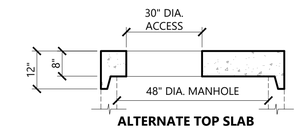
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING. DIAMETER OF STRUCTURES SHALL BE COORDINATED WITH PIPE CONFIGURATIONS.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. FOR HDPE, PVC, AND DI PIPE, PROVIDE FLEXIBLE BOOT CONNECTION INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. FOR RCP, PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE AND MORTAR CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

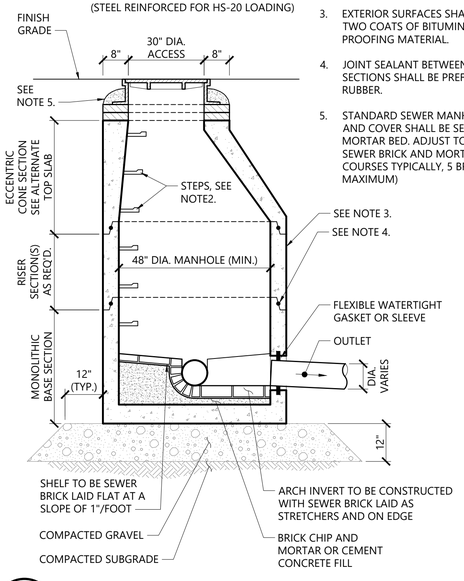
3 C8.3 DRAIN MANHOLE (DMH)
N.T.S.



4 C8.3 CLEANOUT
N.T.S.



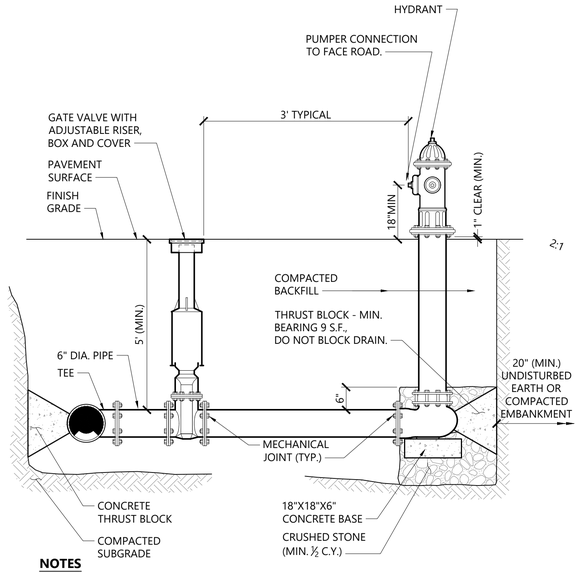
ALTERNATE TOP SLAB
(STEEL REINFORCED FOR HS-20 LOADING)



NOTES

1. STRUCTURES SHALL BE PRECAST CONCRETE, DESIGNED FOR HS-20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH SEWER BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

5 C8.3 SANITARY SEWER MANHOLE
N.T.S.



NOTES

1. CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH AS SHOWN. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHOD OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.
2. A 36-INCH CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT.

6 C8.3 HYDRANT CONSTRUCTION
N.T.S.

DESIGNED: YL/MC CADD: YL TECH. REVIEW: TV DATE: 12/19/2025	SUB SHEET NO. C8.3	TITLE OF SHEET CONSTRUCTION DETAILS 4 HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 23 OF 153

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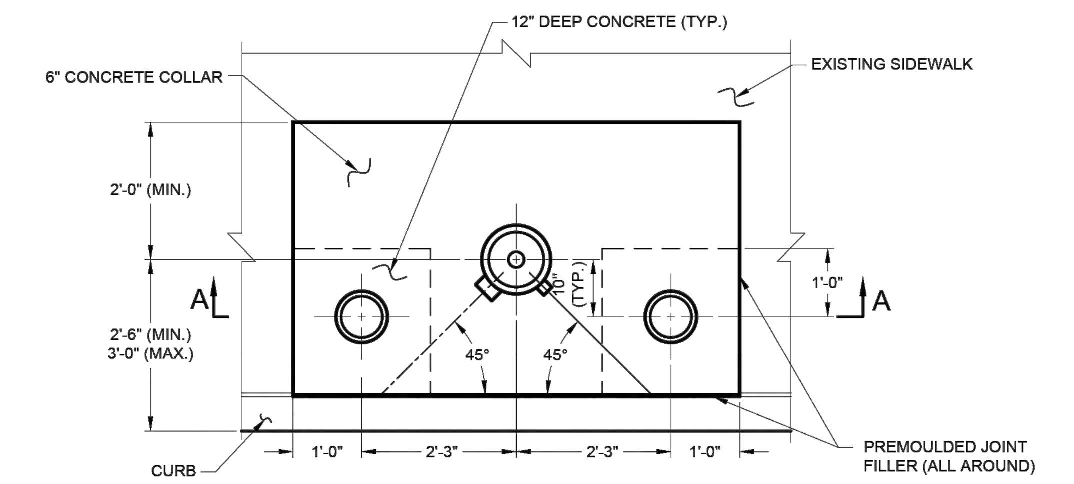
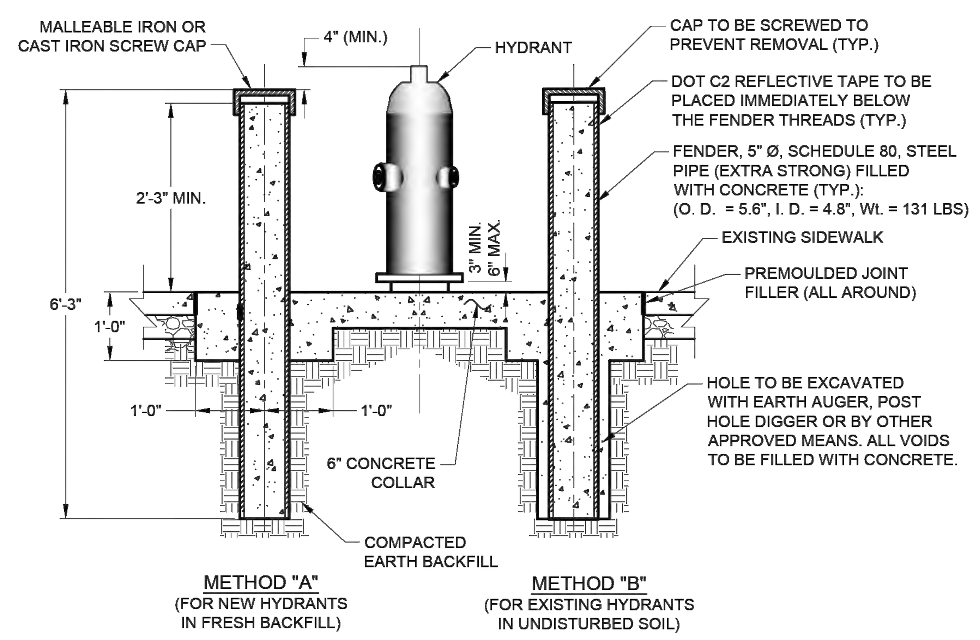


HYDRANT LAYOUT WITH TWO FENDERS



SECTION A-A

NOTES:

1. CONCRETE COLLARS MUST BE SQUARED AND MADE FLUSH WITH EXISTING SIDEWALK, PAVEMENT, AND CURB.
2. ALL PARTS OF HYDRANT FENDERS MUST BE CLEANED OF SCALE, RUST, AND DIRT AND BE COATED ON THE OUTSIDE WITH A COAT OF RED PRIMER AND ONE COAT OF BLACK ASPHALT PAINT BELOW THE GROUND AND ONE COAT OF INDUSTRIAL GRADE ALUMINUM PAINT ABOVE THE GROUND.
3. THE NUMBER OF HYDRANT FENDERS INSTALLED, AT ANY LOCATION, WILL BE AT THE DISCRETION OF THE ENGINEER.

   TYPICALLY, HYDRANT LAYOUT WITH TWO FENDERS IS USED AT MID BLOCK LOCATIONS AND HYDRANT LAYOUTS WITH THREE OR FOUR FENDERS ARE USED IN ISLANDS/MEDIANS OR COMMERCIAL DRIVEWAY AREAS.
4. ALL FIELD PAINT MUST BE APPLIED WITH A MINIMUM OF TWO (2) COATS BY BRUSH AS PER THE MANUFACTURER'S INSTRUCTIONS.
5. EXISTING HYDRANTS TO BE CLEANED OF SCALE, RUST AND DIRT PRIOR TO RECEIVING FINISH COATING. .
6. ALL HYDRANTS MUST HAVE ONE FINISH COAT OF HEAVY DUTY / INDUSTRIAL EXTERIOR GRADE ENAMEL PAINT

   TOP = BRIGHT ALUMINUM
   UPPER SECTION = BLACK < 24" PIPE DIA.
   RED ≥ 24" PIPE DIA.
7. SIZE OF WATER MAIN TO BE STENCILED ON STREET SIDE OF HYDRANT IN HEAVY DUTY / EXTERIOR ENAMEL PAINT.
   COLOR = HIGH GLOSS WHITE
   MIN. HEIGHT = 4"
   MAX. HEIGHT= 6"
8. UNITED STATES DEPARTMENT OF TRANSPORTATION CERTIFIED 2" WIDE (DOT C2) REFLECTIVE TAPE MUST BE PLACED IMMEDIATELY BELOW THE THREADS OF THE HYDRANT FENDERS AND MUST ENCIRCLE THE HYDRANT FENDER'S CIRCUMFERENCE. THE TYPE OF DOT C2 TAPE MUST BE 6" RED/6" WHITE.

1 HYDRANT FENDERS
C8.4 N.T.S.

STANDARD SHEETS , January 01, 2024

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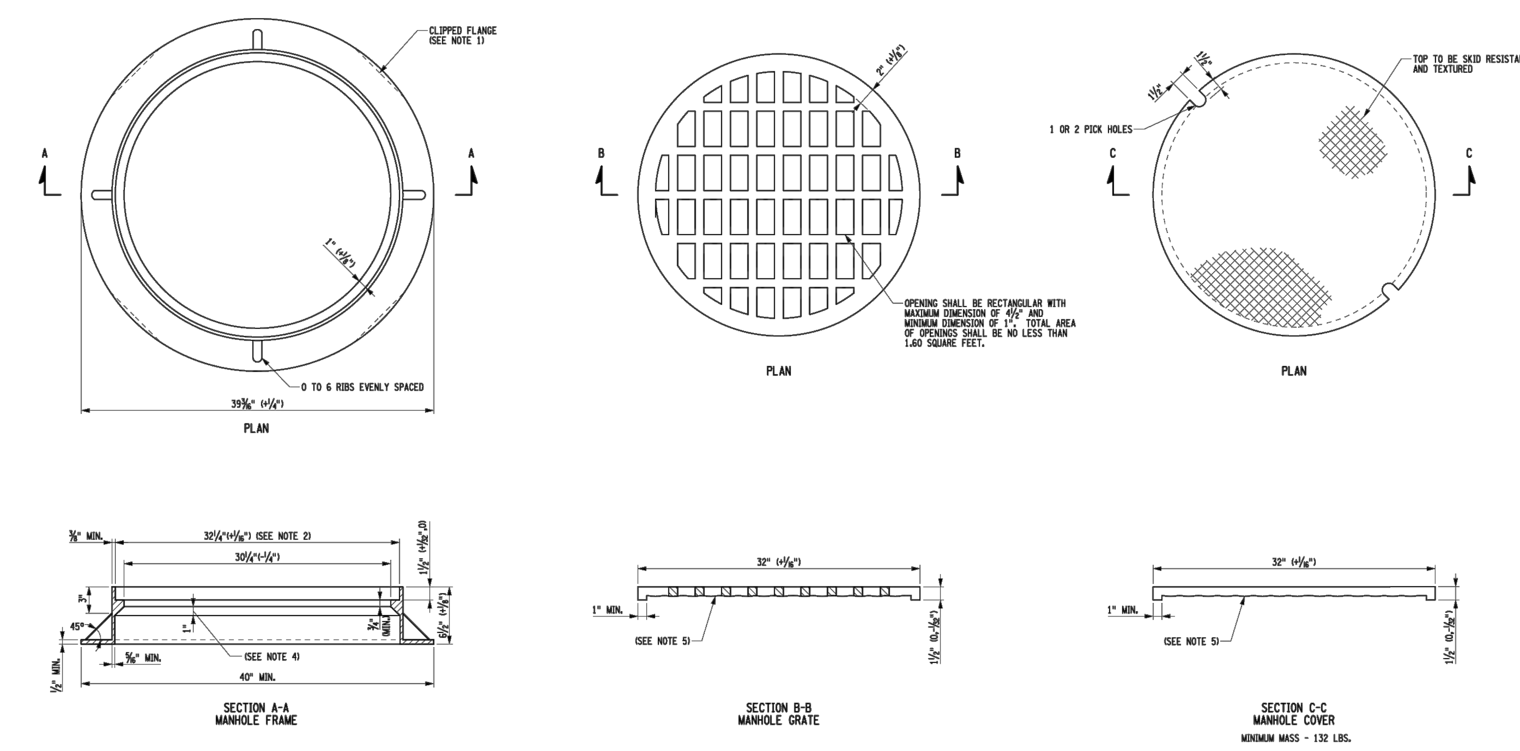
DATE/TIME = 06-AUG-2014 14:09
USER = jhurley



NOTES:
1. FRAMES MAY BE DESIGNATED WITH TWO OR FOUR OPPOSITE CLIPPED FLANGES.
2. GAP BETWEEN COVER/GRATE AND FRAME TO BE NO MORE THAN ⅛" ALL AROUND.
3. PATTERN DRAFTS SHALL BE NO GREATER THAN 5 DEGREES. THE PATTERN DRAFTS SHALL ONLY INCREASE THE SECTION THICKNESS FROM THE STATED MINIMUMS.
4. MAY BE A 45 DEGREE BEVEL OR ¾" RADIUS.
5. TOP SURFACE OF COVER\GRATE SHALL BE FLAT. BOTTOM SURFACE MAY OR MAY NOT BE FLAT. MINIMUM SECTION THICKNESS SHALL BE ½".

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
U.S. CUSTOMARY STANDARD SHEET
PROFF LOADED CAST STEEL OR IRON MANHOLE FRAMES, GRATES AND COVERS
APPROVED JULY 28, 2014 | ISSUED UNDER EB 08-036
/S/ RICHARD W. LEE, P.E.
DEPUTY CHIEF ENGINEER DESIGN
655-06
ERRATA 1 EFF. 09/04/2014
ISSUED WITH EB 14-025
EFFECTIVE DATE: 01/08/09

2 STANDARD MANHOLE FRAME, GRATE AND COVER DETAIL
C8.4 N.T.S.

STANDARD SHEETS, January 01, 2024

FILE NAME = 604-020I_050213.dgn
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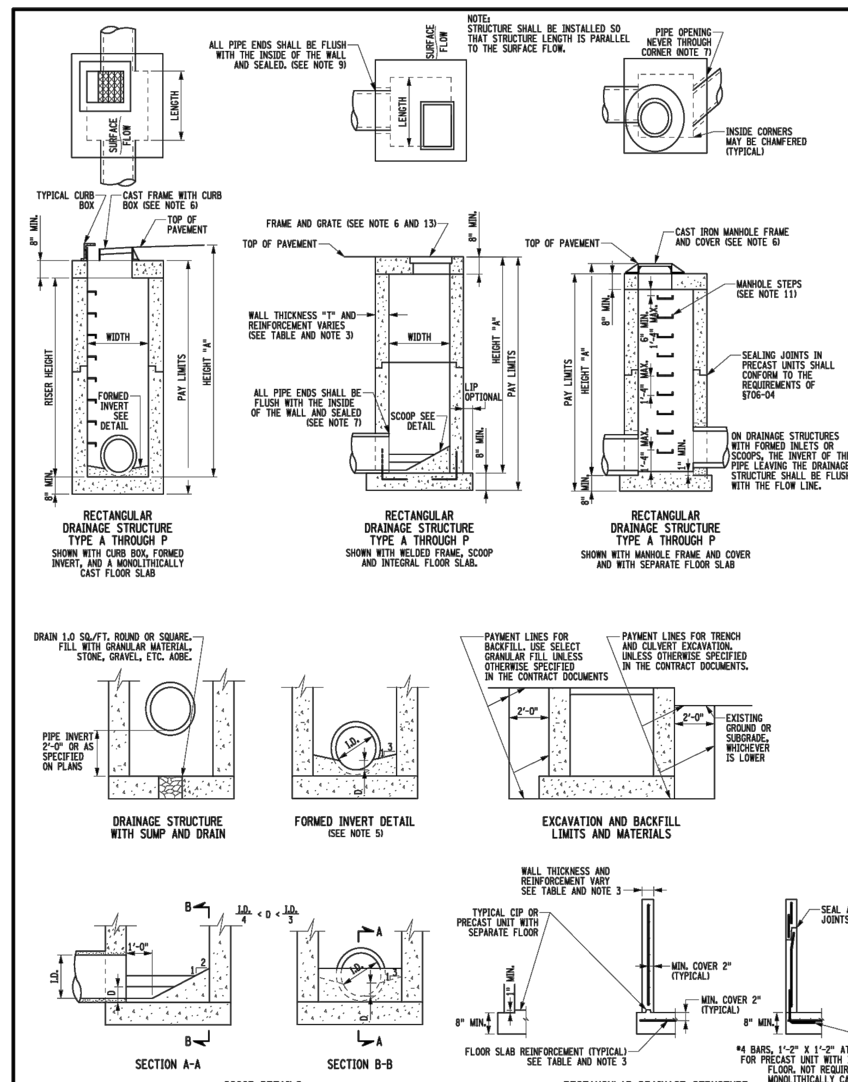
USER = rlohse



GENERAL NOTES:

1. DRAINAGE STRUCTURES SHALL BE CAST IN PLACE OR PRECAST UNITS. ROUND DRAINAGE STRUCTURES SHALL BE PRECAST ONLY. ALL CAST IN PLACE CONCRETE SHALL BE CLASS A. THE CONTRACTORS SHALL SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROVAL OF ANY CHANGES TO THE STRUCTURES SHOWN ON THE STANDARD SHEETS OR CONTACT PLANS, OTHER THAN MINOR CHANGES APPROVED BY THE ENGINEER. USE OF FLAT SLAB TOPS ON ROUND PRECAST UNITS SHALL REQUIRE SUBMISSION OF WORKING DRAWINGS.
2. SEE PLANS FOR ELEVATIONS, DRAINAGE STRUCTURE LOCATIONS, TYPE OF GRATE UTILIZED, LOCATION OF SCOOPS, FORMED INVERTS, SUMPS AND DRAINS.
3. REINFORCEMENT FOR RECTANGULAR DRAINAGE UNITS (CAST IN PLACE OR PRECAST) BAR REINFORCEMENT INDICATED FOR RECTANGULAR TOP SLABS, RISERS AND BASES SHALL BE GRADE 60. WIRE FABRIC FOR CONCRETE REINFORCEMENT SHALL MEET THE REQUIREMENTS OF §709-02. RISER REINFORCEMENT SHALL BE PLACED SO IT WILL HAVE A MINIMUM COVER OF 2" BUT NO MORE THAN 4" FROM THE INSIDE FACE. THE REINFORCEMENT SHALL EXTEND COMPLETELY AROUND THE DRAINAGE STRUCTURE RISER AND SHALL BE LAPPED AND TIED. BASE REINFORCEMENT SHALL BE PLACED ABOVE THE MIDPOINT OF SLAB AND SHALL HAVE A MINIMUM CONCRETE COVER OF 2".
4. ROUND ALTERNATIVE:
   WHEN SPECIFIED BY PAYMENT ITEM, THE CONTRACTOR MAY SUBSTITUTE ROUND, PRECAST DRAINAGE STRUCTURES IN PLACE OF RECTANGULAR STRUCTURES USING SIZES INDICATED IN THE "SELECTION TABLE FOR ALTERNATE ROUND DRAINAGE STRUCTURES" ON SHEET 4 OF 4. THE RISER, TOP SLAB, AND BOTTOM SLAB FOR THE ROUND ALTERNATE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE PROVISIONS OF §706-04 OF THE STANDARD SPECIFICATIONS. WORKING DRAWINGS FOR THE ROUND ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL, UNLESS THE ROUND ALTERNATE PROPOSED HAS BEEN PREVIOUSLY APPROVED. FOR PREVIOUSLY APPROVED ROUND UNITS THE CONTRACTOR SHALL SUBMIT A COPY OF THE APPROVED DRAWINGS TO THE ENGINEER.
5. FORMED INVERTS:
   FORMED INVERTS, SCOOP AND SUMPS SHALL BE PROVIDED AND INCLUDED IN THE PRICES BID FOR DRAINAGE STRUCTURES CALLED FOR IN THE CONTRACT DOCUMENTS. WHEN NON-CIRCULAR PIPES ARE USED, THE FORMED INVERT AND SUMP DETAILS SHALL BE MODIFIED TO FIT THE INVERTS.
6. GRATES:
   CAST FRAMES MAY HAVE EITHER RETICULINE OR PARALLEL BAR GRATES, AND WELDED FRAMES MAY HAVE EITHER RETICULINE OR RECTANGULAR GRATES. IF NO GRATE IS SPECIFIED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR MAY FURNISH EITHER TYPE. GRATES SHALL BE INSTALLED SO THAT THE LENGTH OF THE GRATE IS PARALLEL TO THE SURFACE FLOW.
7. WALL OPENINGS:
   RECTANGULAR DRAINAGE STRUCTURES SHOWN ON THESE STANDARD SHEETS SHOULD NEVER HAVE CORNER PIPE ENTRIES. IF PIPE ALIGNMENT WOULD REQUIRE A CORNER ENTRY, USE A ROUND DRAINAGE STRUCTURE OR USE A SPECIAL DRAINAGE STRUCTURE. ALL WALL OPENINGS SHALL BE FORMED COMPLETELY THROUGH THE WALL SECTION. CIRCULAR WALL OPENINGS SHALL BE FORMED FOR EACH CIRCULAR PIPE ENTERING PERPENDICULAR TO THE WALL. WHEN NON-CIRCULAR PIPES ARE SPECIFIED, OR ROUND PIPE ENTRIES ARE SKEWED, RECTANGULAR OPENINGS MAY BE USED. THE CLEARANCE BETWEEN THE OUTSIDE OF THE PIPE AND THE OPENING SHALL BE AT LEAST 2" BUT NO MORE THAN 3". THIS CLEARANCE SHALL BE MEASURED BETWEEN THE OUTSIDE OF THE PIPE AND NEAREST POINT ON THE RECTANGULAR OPENING. IF A CORNER HAS PIPE ENTRIES ON BOTH SIDES, AND THERE IS LESS THAN 2" BETWEEN EITHER OPENING AND THE CORNER. THEN THAT SECTION OF THE DRAINAGE STRUCTURE MUST HAVE 8" THICK WALLS.
8. MONOLITHIC AND INTEGRAL BASES MAY HAVE A MAXIMUM VERTICAL DRAFT OF ½" ON ALL INTERIOR DIMENSIONS, TO FACILITATE FORM REMOVAL. FOR WALL OPENINGS THAT EXTEND THE FULL WIDTH OR LENGTH OF THE STRUCTURE, THE MINIMUM CLEARANCE BETWEEN THE OUTSIDE OF THE PIPE AND THE WALL OPENING SHALL BE 1½".
9. FINISHING PIPE ENTRIES:
   THE BELLS OF CONCRETE PIPE SHALL BE CUT OFF AT EVERY PIPE ENTRY WHERE THE BELL ENTERS A STRUCTURE. CONNECTIONS BETWEEN THE STRUCTURE AND PIPE SHALL BE MADE BY EITHER USING A RESILIENT CONNECTOR MEETING THE REQUIREMENTS OF ASTM C1478 OR BY COMPLETELY FILLING THE SPACE AROUND EACH PIPE WITH CONCRETE GROUTING MATERIAL OR CONCRETE REPAIR MATERIAL. IN CASE OF LARGE SPACES AROUND PIPES, CONCRETE PAVERS, COMPLETELY BEDDED IN GROUT OR CONCRETE REPAIR MATERIAL, MAY BE USED.
10. TOP SLAB AND OR FRAME AND GRATE ADJUSTMENT
    A MINIMUM OF ½" OF BEDDING SHALL BE PLACED BETWEEN RISERS AND PRECAST TOP SLABS. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES OF UP TO 2½" SHALL BE MADE WITH BEDDING MATERIAL MEETING THE REQUIREMENTS OF CONCRETE GROUTING MATERIALS OR CONCRETE REPAIR MATERIAL. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES OF UP TO 6" SHALL BE MADE WITH A COMBINATION OF PRECAST CONCRETE PAVERS AND BEDDING MATERIALS. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES OF UP TO 1'-0" SHALL BE MADE WITH CAST-IN-PLACE CONCRETE OR A COMBINATION OF PRECAST CONCRETE ADJUSTMENT ELEMENTS AND BEDDING MATERIALS. ALTERNATELY, GRADE ADJUSTMENTS FOR FRAMES AND GRATES OF UP TO 2" MAY BE MADE WITH RECYCLED RUBBER ELEMENTS OR UP TO 3" WITH HDPE ELEMENTS. RECYCLED RUBBER AND HDPE ELEMENTS SHALL BE PRODUCTS APPROVED BY THE MATERIALS BUREAU AND SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
11. STEPS:
    MANHOLE STEPS SHALL BE REQUIRED IN ALL DRAINAGE STRUCTURES DEEPER THAN 4'-0".
12. CORBELED OR CONICAL RISER SECTIONS AND FLAT SLAB REDUCERS:
    ROUND PRECAST DRAINAGE STRUCTURES OR MANHOLES (WHEN ALLOWED OR SPECIFIED) MAY BE FITTED WITH CONCENTRIC OR ECCENTRIC CONICAL SECTIONS TO REDUCE THEIR DIAMETERS, PROVIDED THE USE OF SUCH DEVICES IS COMPATIBLE WITH THE DRAINAGE SYSTEM DESIGN. THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROVAL OF FLAT SLAB REDUCERS FOR ROUND OR RECTANGULAR STRUCTURES. A WALL SECTION WITH A HEIGHT LESS THAN 6" BETWEEN THE TOP OF THE HIGHEST PIPE ENTRY AND THE BOTTOM OF A CONICAL SECTION OR FLAT SLAB REDUCER SHALL NOT BE PERMITTED.
13. WHEN PIPE LOCATIONS PROVIDE FOR LESS THAN 8" BETWEEN THE TOP OF THE UPPERMOST PIPE AND THE TOP OF THE RISER AND THE STRUCTURE MAY BE SUBJECTED TO HIGHWAY LOADS, CONTACT STRUCTURES DIVISION FOR A SPECIAL DESIGN.
14. WHEN SITE CONDITIONS REQUIRE A DRAINAGE STRUCTURE TO BE INSTALLED TO A DEPTH GREATER THAN THAT SHOWN IN THE CONTRACT DOCUMENTS, AN INSTALLATION TOLERANCE OF 8" IS PERMITTED WITHOUT REQUIRING AN INCREASE IN WALL THICKNESS OR REINFORCING STEEL AS REQUIRED BY THE DRAINAGE STRUCTURE REINFORCEMENT TABLE.
15. THE PAY ITEMS FOR DRAINAGE STRUCTURES SPECIFY THE STRUCTURE AND FRAME. DRAINAGE STRUCTURE ITEM NUMBERS:
    RECTANGULAR DRAINAGE STRUCTURE ITEM 604.30XXYY
    RECTANGULAR DRAINAGE STRUCTURE WITH ROUND OPTION ITEM 604.31XXYY
    RECTANGULAR DRAINAGE STRUCTURE WITH CONCRETE CAP ITEM 604.32XXYY
    SEE TABLES BELOW FOR XX AND YY CODES.
    EXAMPLE: 604.300706 - RECTANGULAR STRUCTURE TYPE G WITH TYPE 6 WELDED FRAME (SEE SHEET 4 OF 4 FOR ITEM NUMBERS FOR STRUCTURE TYPE Q, R, S, T, AND U)

DRAINAGE STRUCTURE REINFORCEMENT

HEIGHT "A"	WALL THICKNESS	RISER REINFORCEMENT (SEE NOTE 3 AND 15)
UP TO 7'-0"	6"	6"X6"- W6 X W6 OR #3 BARS AT 10" BOTH HORIZ. AND VERT.
	8"	UNREINFORCED
7'-0" TO 14'-0"	8"	6"X6"- W8.5 X W8.5 OR #3 BARS AT 8" BOTH HORIZ. AND VERT.
14'-0" TO 21'-0"	8"	4"X4"- W8.5 X W8.5 OR #3 BARS AT 5" BOTH HORIZ. AND VERT.
		FLOOR SLAB REINFORCEMENT (SEE NOTE 3)
UP TO 7'-0"		6"X6"- W11 X W11 OR #3 BARS AT 6" IN BOTH DIRECTIONS
7'-0" TO 14'-0"		4"X4"- W11 X W11 OR #3 BARS AT 4" IN BOTH DIRECTIONS
14'-0" TO 21'-0"		4"X4"- W14 X W14 OR #3 BARS AT 3" IN BOTH DIRECTIONS

*T MAY BE 6" OR 8" FOR THE FIRST 7'-0". EXCEPTIONS ARE SIZE S, T, AND U WITH CURB, RECTANGULAR STRUCTURES WITH ROUND MANHOLE OPENING, OR IF THERE IS LESS THAN 2" ON EITHER SIDE OF A CORNER. (NOTE 7) WHICH MUST HAVE 8" THICK WALLS.

STRUCTURE SIZES AND PAY CODES

STRUCTURE TYPE	INSIDE DIMENSIONS WIDTH	INSIDE DIMENSIONS LENGTH	PAY ITEM XX CODE
A	3'-0"	3'-0"	01
B	4'-0"	3'-0"	02
C	5'-0"	3'-0"	03
D	6'-8"	3'-0"	04
E	3'-0"	4'-0"	05
F	4'-0"	4'-0"	06
G	5'-0"	4'-0"	07
H	6'-8"	4'-0"	08
I	3'-0"	5'-0"	09
J	4'-0"	5'-0"	10
K	5'-0"	5'-0"	11
L	6'-8"	5'-0"	12
M	3'-0"	6'-8"	13
N	4'-0"	6'-8"	14
O	5'-0"	6'-8"	15
P	6'-8"	6'-8"	16

FRAMES AND PAY CODES

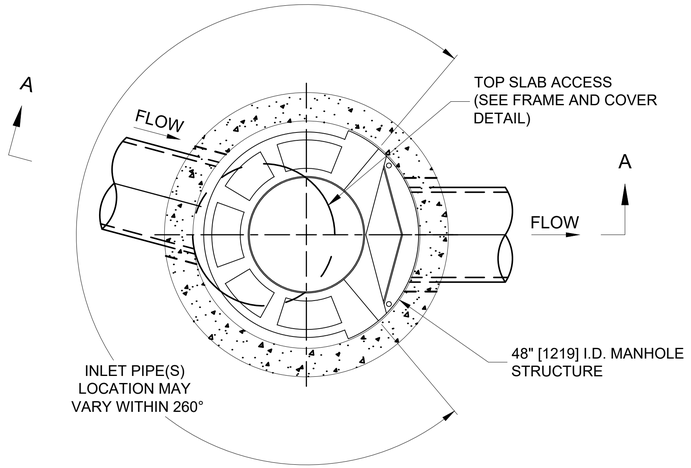
FRAME TYPE	PAY ITEM YY CODE
WELDED 3	03
WELDED 6	06
WELDED 11	11
WELDED 16	16
WELDED 22	22
MANHOLE 2'-8"	32
CAST F1	71
CAST F2	72
CAST F3	73
PARALLEL BAR 10PCB	90
PARALLEL BAR 11PCB	91
PARALLEL BAR 12PCB	92

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
U.S. CUSTOMARY STANDARD SHEET
DRAINAGE STRUCTURE DETAILS (SHEET 1 OF 4)
APPROVED: NOVEMBER 28, 2012 | ISSUED UNDER EB 12-044
/S/ RICHARD W. LEE, P.E.
DEPUTY CHIEF ENGINEER (DESIGN)
604-02
EFFECTIVE DATE: 05/02/13

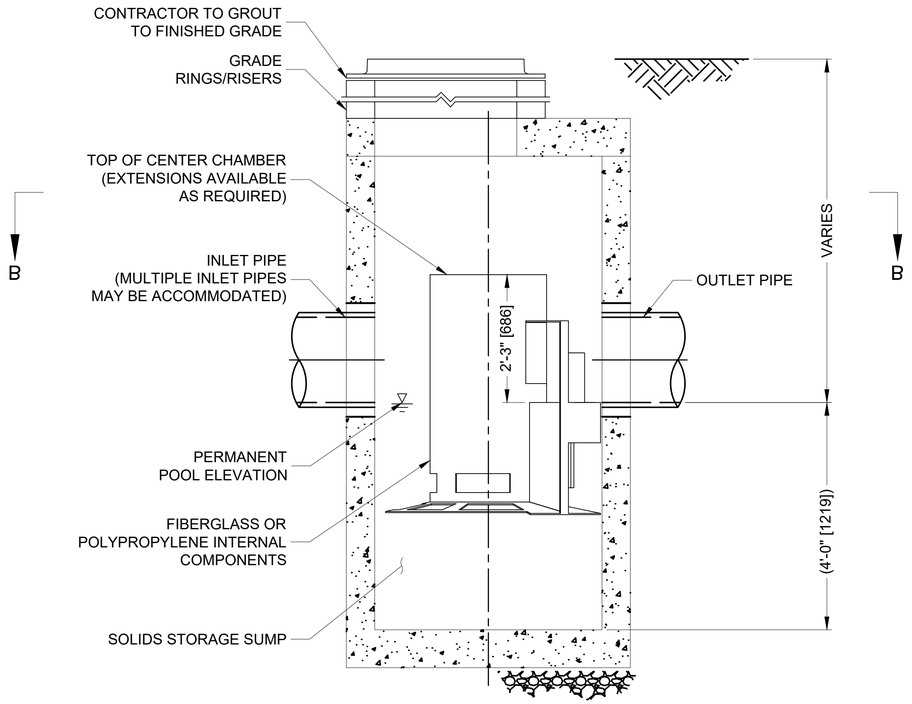
3 PRECAST STORM MANHOLE DETAIL
C8.4 N.T.S.

\\vhb.com\gbl\proj\NewYorkCity\34939.04 GATE_HANGARS_3_4\cad\ld\Planset

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 / 190066
CADD: YL	C8.4	CONSTRUCTION DETAILS 5	PMIS/PKG NO. GATE 308504
TECH. REVIEW: TV		HANGARS 3 & 4 REHABILITATION	SHEET 24 OF 153
DATE: 12/19/2025			



PLAN VIEW B-B
NOT TO SCALE

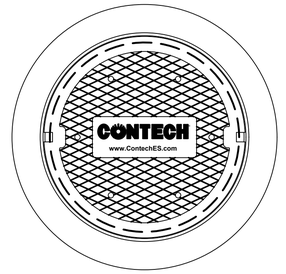


ELEVATION A-A
NOT TO SCALE

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			CS-4
WATER QUALITY FLOW RATE (cfs [L/s])			1.77
PEAK FLOW RATE (cfs [L/s])			7.28
RETURN PERIOD OF PEAK FLOW (yrs)			10
RIM ELEVATION			13.30
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1	7.38	RCP	12"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	7.38	RCP	12"

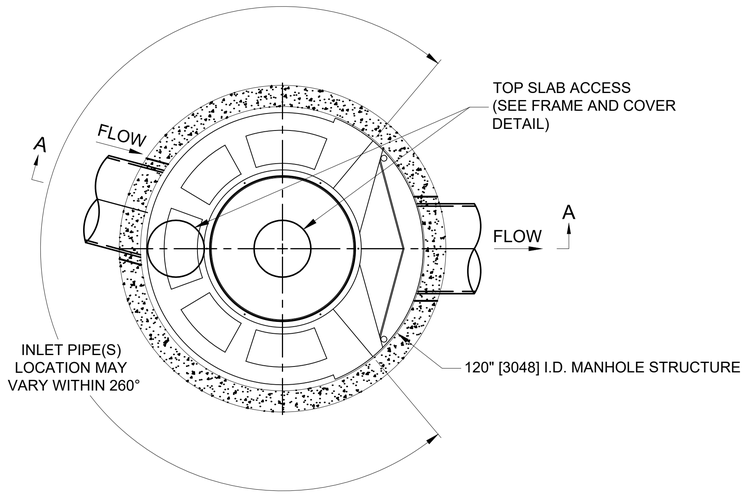
NOTES / SPECIAL REQUIREMENTS:

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

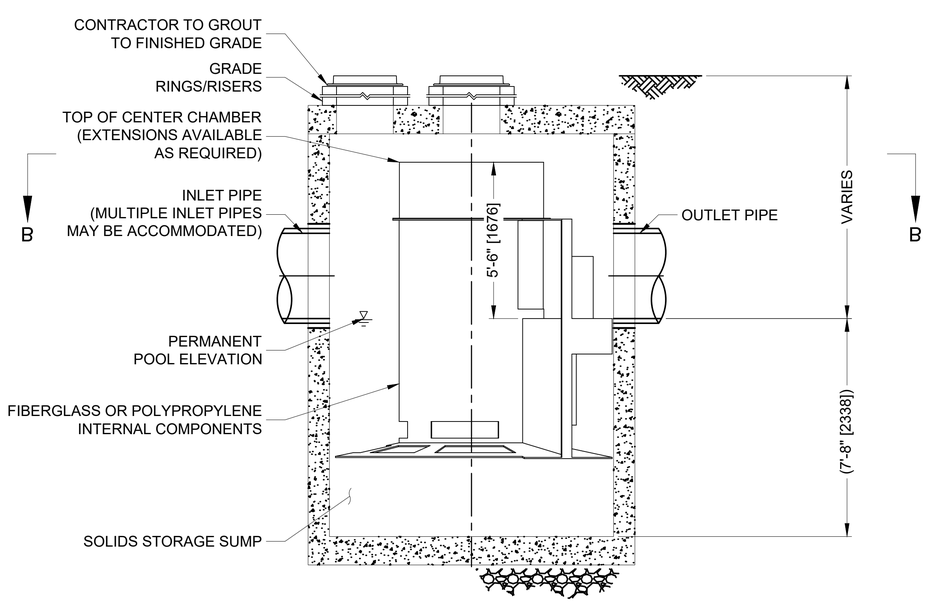
INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

1 / C8.5 GATE - HANGARS 3 & 4 CONSTRUCTION DETAILS 6 - CASCADE SEPARATOR (CS-4)
SCALE A

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: YL	C8.5	CONSTRUCTION DETAILS 6	646 190066
TECH. REVIEW: TV			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 25 OF 153



PLAN VIEW B-B
NOT TO SCALE

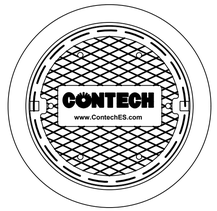


ELEVATION A-A
NOT TO SCALE

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-10 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			CS-10
WATER QUALITY FLOW RATE (cfs [L/s])			7.64
PEAK FLOW RATE (cfs [L/s])			14.26
RETURN PERIOD OF PEAK FLOW (yrs)			10
RIM ELEVATION			13.20
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1	5.43	RCP	30"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	5.43	RCP	30"

NOTES / SPECIAL REQUIREMENTS:

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

1 / C8.6 GATE - HANGARS 3 & 4 CONSTRUCTION DETAILS 7 - CASCADE SEPARATOR (CS-10)
SCALE A

DESIGNED: YL/MC	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: YL	C8.6	CONSTRUCTION DETAILS 7	646 190066
TECH. REVIEW: TV			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 26 OF 153

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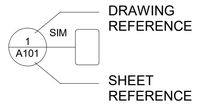
ABBREVIATIONS

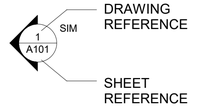
A/C	AIR CONDITIONING
A/E	ARCHITECT / ENGINEER
ABV	ABOVE
ACCESS	ACCESSIBLE
ACP	ACOUSTICAL CEILING PANEL
ACST	ACOUSTIC
AD	AREA DRAIN
ADA	AMERICANS WITH DISABILITIES ACT
ADD'L	ADDITIONAL
ADJ	ADJACENT/ADJUST
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGG	AGGREGATE
ALT	ALTERNATE
ALUM	ALUMINIUM
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECT(URAL, URE)
ASPH	ASPHALT(IC)
ASSOC	ASSOCIATED
AUTO	AUTOMATIC
AVG	AVERAGE
AWP	ACOUSTICAL WALL PANEL
BBT	BIO-BASED TILE
BC	BRICK COURSE
BD	BOARD
BIT	BITUMINOUS, BITUMEN
BLDG	BUILDING
BLKG	BLOCKING
BLKHD	BULKHEAD
BLW	BELOW
BM	BEAM OR BENJAMIN MOORE
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BR	BRASS OR BRONZE
BRG	BEARING
BTWN	BETWEEN
BUR	BUILT-UP ROOF
C-C	CENTER TO CENTER
CAB	CABINET
CEM	CEMENT
CFS	COLD FORMED STEEL
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLO	CLOSET
CLR	CLEAR(ANCE)
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COM	COMMUNICATIONS
CONC	CONCRETE
COND	CONDITION
CONFIG(S)	CONFIGURATION(S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET(ED)
CT	CERAMIC TILE
CTR	CENTER
D	DEEP/DEPTH
DBL	DOUBLE
DEG	DEGREE
DEMO	DEMOLISH, DEMOLITION
DETER	DETERIORATING, DETERIORATED
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGONAL
DIM(S)	DIMENSION(S)
DIV	DIVIDE
DN	DOWN
DR	DOOR, DRAIN
DS	DOWNSPOUT
DTL	DETAIL
DWG(S)	DRAWING(S)
DWR	DRAWER
E	EAST
E-P	EPOXY PAINT
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION (TOPO)
ELEC	ELECTRICAL
ELEV	ELEVATION (ARCH), ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOS(E,URE)
ENGR	ENGINEER
ENTR	ENTRANCE
EOS	EDGE OF SLAB
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EPS	EXPANDED POLYSTYRENE BOARD
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE(D)
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXHB	EXHIBIT
EXIST	EXISTING
EXP	EXPOSED, EXPANSION
EXT	EXTERIOR
FA	FIRE ALARM
FAS	FASTEN(ER)
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH(ED) FACE
FF&E	FURNITURE, FIXTURES & EQUIPMENT
FH	FIRE HOSE, FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIN(S)	FINISH(ES)
FIXT	FIXTURE
FL	FLOOR(ING)
FLAM	FLAMMABLE
FLUOR	FLUORESCENT
FO	FINISHED OPENING
FOS	FACE OF STUDS
FP	FIRE PROTECTION
FR	FRAME(D,ING), FIRE RATING, FIRE RESISTANT
FT	FEET
FTG	FOOTING
FUR	FURR(ED,ING)
FWC	FABRIC WALL COVERING
G	NATURAL GAS
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACT(OR)
GEN	GENERATOR
GF	GLASS FILM
GFRC	GLASS-FIBER-REINFORCED CONCRETE
GFRG	GLASS-FIBER-REINFORCED GYPSUM
GFRP	GLASS-FIBER-REINFORCED POLYESTER, GLASS-FIBER-REINFORCED PLASTIC
GL	GLASS, GLAZING
GLU LAM	GLUE LAMINATED WOOD
GOVT	GOVERNMENT
GT	GROUT
GWB	GYPSUM WALLBOARD
H	HIGH
HAZ MAT	HAZARDOUS MATERIAL
HB	HOSE BIBB
HC	HOLLOW CORE, HOSE CABINET
HCWD	HOLLOW CORE WOOD DOOR
HD	HEAVY DUTY
HDR	HEADER
HDWD	HARDWOOD
HDWR	HARDWARE
HID	HIGH INTENSITY DISCHARGE
HM	HOLLOW METAL
HORIZ	HORIZONTAL(LY)
HP	HIGH POINT
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT(S)
HT	HEIGHT
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HW	HOT WATER
ID	INSIDE DIAMETER
ILO	IN LIEU OF
IN	INCH(ES)
INCAN	INCANDESCENT
INCL	INCLUDE(S,D,ING)
INFO	INFORMATION
INSUL	INSULATION, INSULATED
INT	INTERIOR
INV	INVERT
IRMA	INVERTED ROOF MEMBRANE ASSEMBLY
J-BOX	JUNCTION BOX
JAN	JANITOR
JT(S)	JOINT(S)
KIT	KITCHEN
KO	KNOCK OUT
L	ANGLE
LAM	LAMINATE(D)
LAV	LAVATORY
LBL	LABEL
LH	LEFT HAND
LHR	LEFTHAND REVERSE
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LT GA	LIGHT GAUGE
LTG	LIGHTING
LV	LOW VOLTAGE
LVT	LUXURY VINYL TILE
LW	LIGHT WEIGHT
MAS	MASONRY
MATL	MATERIAL(S)
MAX	MAXIMUM
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MFR	MANUFACTURE(R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MOD BIT	MODIFIED BITUMEN
MR	MLISTURE RESISTANT
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
N	NORTH
NA	NOT APPLICABLE
NAT	NATURAL
NC	NOISE CRITERIA, NORMALLY CLOSED
NIC	NOT IN CONTRACT, NOISE ISOLATION CLASS
NO('S)	NUMBER(S), NORMALLY OPEN
NOM	NOMINAL
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
O-O	OUT TO OUT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF/CI	OWNER FURNISHED / CONTRACTOR INSTALLED
OFC	OFFICE
OH	OPPOSITE HAND, OVERHEAD
OPNG	OPENING(S)
ORIG	ORIGINAL
PA	PUBLIC ADDRESS
PAR	PARALLEL
PART	PARTITION(S), PARTIAL
PC	PRECAST
PERF	PERFORATE(D)
PL	PLATE, PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLWD	PLYWOOD
PNL	PANEL(ED)
POL	POLISHED
POLY	POLYETHYLENE
PR	PAIR
PREP	PREPARE (SURFACE)
PROV	PROVIDE(D)
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PAINT, POST-TENSIONED, PRESSURE TREATED
PTD	PAINTED
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWR	POWER
QT	QUARRY TILE
QTY	QUANTITY
QUAD	QUADRANT
QZ	QUARTZ
QZT	QUARTZ TILE
R	RADIUS, RISER, THERMAL RESISTANCE
RB	RUBBER BASE
RBR	RUBBER
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REBAR	REINFORCING BAR
REF	REFERENCE
REG	REGISTER, REGULATION
REINF	REINFORCED
REPL	REPLACE
REQ	REQUIRED
RES	RESILIENT
RET	RETAINING, RETURN
REV	REVISION(S) / REVISE(D)
RFG	ROOFING
RFG	ROOFING
RH	RIGHT HAND, RELATIVE HUMIDITY
RHR	RIGHT HAND REVERSE
RL	RAIN LEADER
RM	ROOM
RO	ROUGH OPENING
RS	RESILIENT SHEET
RTF	RUBBER TILE FLOOR
RTU	ROOF TOP UNIT
RV	ROOF VENTILATOR
S	SOUTH, SEAL
SAB	SOUND ATTENUATION BATT
SALV	SALVAGE
SAN	SANITARY
SB	SPLASH BLOCK
SC	SOLID CORE
SCHED	SCHEDULE
SCT	STRUCTURAL CLAY TILE
SCWD	SOLID CORE WOOD DOOR
SDT	STANDARD DISSIPATIVE TILE
SEC	SECURE, SECURITY
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SLD	SEALED
SLL	SOUND / LIGHT LOCK
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
SSM	SOLID SURFACE MATERIAL
ST	STONE
STD	STANDARD
STL	STEEL
STN	STAIN
STO	STORAGE
STRUC	STRUCTURAL
SUB	SUBSTITUTION
SUSP	SUSPENDED
SYS	SYSTEM
T	THICK, TREAD, TOILET
T&G	TONGUE AND GROOVE
T.O.	TOP OF
TBB	TILE BACKER BOARD
TECH	TECHNOLOGY
TEL	TELEPHONE
TEMP	TEMPORARY, TEMPERED
THRS	THRESHOLD
THRU	THROUGH
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSPARENT
TRZ	TERAZZO
TV	TELEVISION
TYP	TYPICAL
UC	UNDERCUT
UH	UNIT HEATER
UIO	UNLESS INDICATED OTHERWISE
UL	UNDERWRITER'S LABORATORY
UNFIN	UNFINISHED
UR	URINAL
VAR	VARIES
VAT	VINYL ASBESTOS TILE
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VTR	VENT THROUHG ROOF
VU	VENTILATION UNIT
VWC	VINYL WALLCOVERING
W	WEST, WIDE, WIDE FLANGE
W-W	WALL TO WALL
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WH	WALL HEATER
WP	WATERPROOFING, WORK POINT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
X BRACE	CROSS BRACING
XFER	TRANSFER
YD	YARD, YARD DRAIN
#	NUMBER, POUND
&	AND
@	AT
±	PLUS / MINUS

GRAPHIC SYMBOLS

DETAIL / PLAN / PHOTO REFERENCE



ELEVATION / PHOTO REFERENCE



MATERIAL DESIGNATIONS

- EXISTING CAST STONE
- EXISTING CONCRETE
- EXISTING BRICK
- EXISTING MORTAR
- EXTENTS OF MATERIAL REMOVAL
- NEW CAST STONE
- NEW CONCRETE
- NEW BRICK
- ALUMINIUM
- STEEL
- A SELECT GRADE WOOD
- B OR C SELECT GRADE WOOD
- PLYWOOD
- NEW MORTAR
- ROOF COVERBOARD
- GLAZING (SECTION)
- PRINTED CHICKENWIRE GLAZING (DETAIL ELEVATION)

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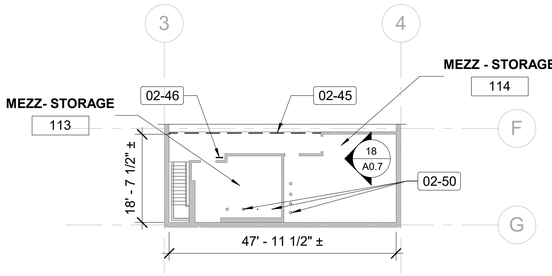
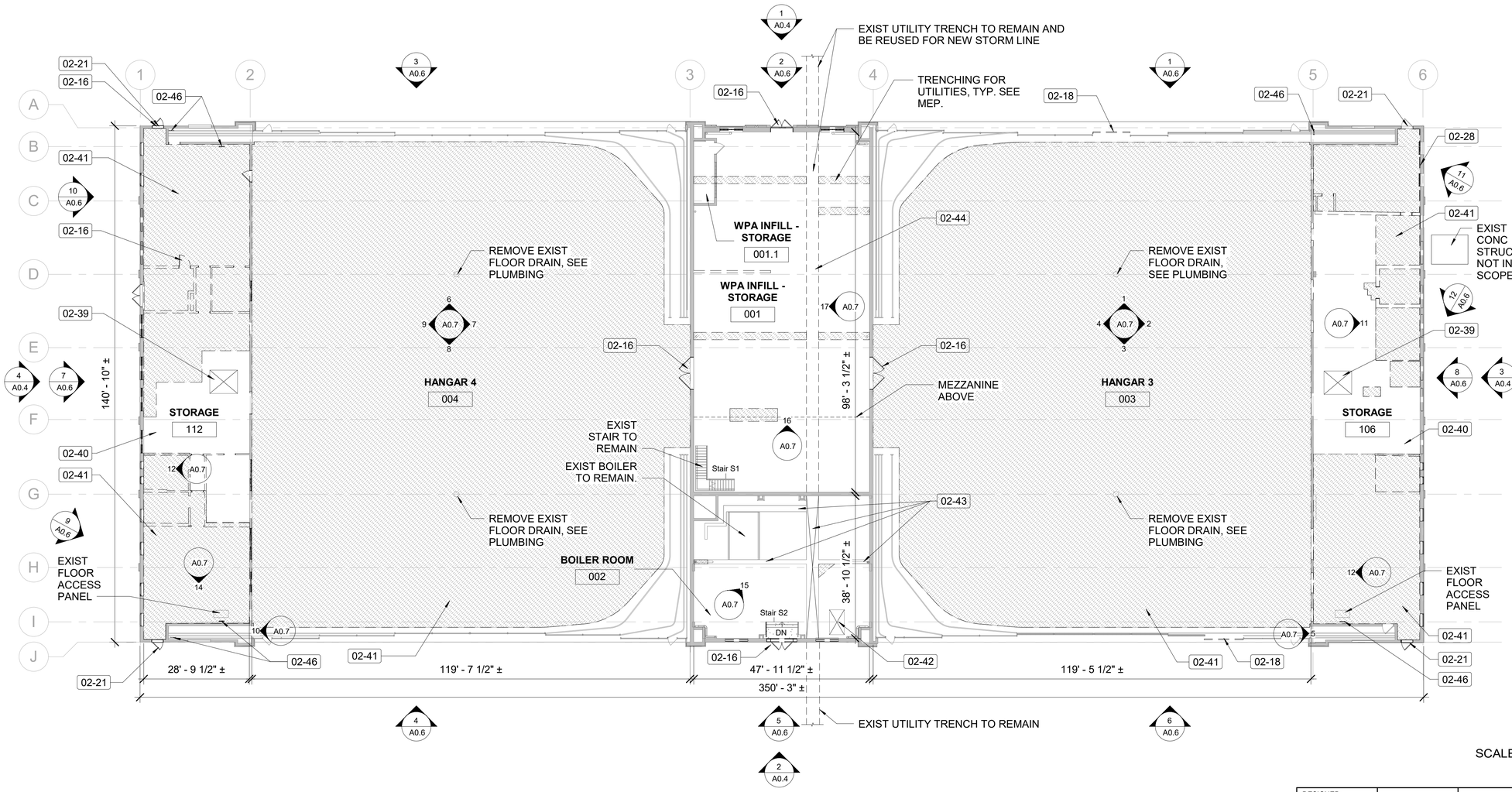
DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: LEGENDS, SYMBOLS, ABBREVIATIONS	DRAWING NO. 646 190066
DRAWN: SW	A0.0		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 27 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	



2 A0.1 WPA INFILL MEZZANINE - DEMOLITION
SCALE Ⓐ



1 A0.1 FLOOR PLAN - DEMOLITION
SCALE Ⓐ

SHEET NOTES

1. ALL MASONRY WALLS INDICATED TO BE REMOVED MUST BE CAREFULLY DISMANTLED, AS THEY ARE IN A SIGNIFICANTLY DETERIORATED CONDITION.
2. ALL EXTERIOR DEMOLITION SCOPE IS INDICATED ON THE DEMO AND NEW WORK ELEVATIONS.
3. SEE STRUCTURAL DRAWINGS FOR ALL CONCRETE SLAB WORK.
4. SEE EXTERIOR ELEVATIONS AND WINDOW SCHEDULE FOR REPAIR/REPLACEMENT WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-16	DISMANTLE EXISTING DOOR AND FRAME. EVALUATE CONDITION PRIOR TO REINSTALLATION. RETAIN PROFILES FOR RECREATION IN AREAS WHERE TRIM IS MISSING.
02-18	REMOVE EXISTING OVERHEAD COILING DOORS.
02-21	REMOVE EXISTING PLYWOOD. REMOVE AND SALVAGE EXISTING DOOR FRAME IF APPLICABLE.
02-28	REMOVE EXISTING TERRA COTTA WALL FURRING.
02-39	REMOVE ALL REMAINING DEBRIS AND PIPING WITHIN EXISTING UTILITY PIT. REFER TO MEP FOR ADDITIONAL SCOPE.
02-40	REMOVE EXISTING WOOD SLEEPERS RECESSED INTO EXPOSED EARTH.
02-41	REMOVE EXISTING CONCRETE SLAB. SEE STRUCTURAL.
02-42	REMOVE EXISTING GUARDRAIL AROUND UTILITY PIT.
02-43	REMOVE ALL REMAINING DEBRIS AND PIPING FROM EXISTING UTILITY TRENCHES. REFER TO MEP, STRUCTURAL AND CIVIL FOR ADDITIONAL SCOPE.
02-44	ABATE EXISTING ASBESTOS-WRAPPED PIPING WITHIN EXISTING TRENCH BELOW ENTIRE LENGTH OF WPA INFILL - STORAGE AREA (TRENCH ACCESS VIA BOILER ROOM). SEE HAZMAT REPORT AND SPECIFICATIONS. ONCE FULLY ABATED, REMOVE ALL EXISTING PIPES TO RUN NEW STORM LINES. SEE STRUCTURAL FOR CAPPING OFF TRENCH.
02-45	REMOVE EXISTING DAMAGED GUARDRAIL.
02-46	REMOVE EXISTING FIXED METAL ROOF ACCESS LADDER.
02-50	REMOVE AND CAP EXISTING TOILET FLANGES AND SHOWER DRAINS.

DEMOLITION LEGEND

- EXISTING STRUCTURE TO REMAIN
- EXISTING TO BE REMOVED, SALVAGED OR REINSTALLED
- OR
- EXISTING TO REMAIN
- OR
- EXTENT OF EXISTING CONCRETE SLAB TO BE REMOVED. SEE STRUCTURAL.

SCALE Ⓐ 16' 8' 0' 16' 32'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 190066
CADD SW	A0.1	FLOOR PLAN - DEMOLITION	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 28 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

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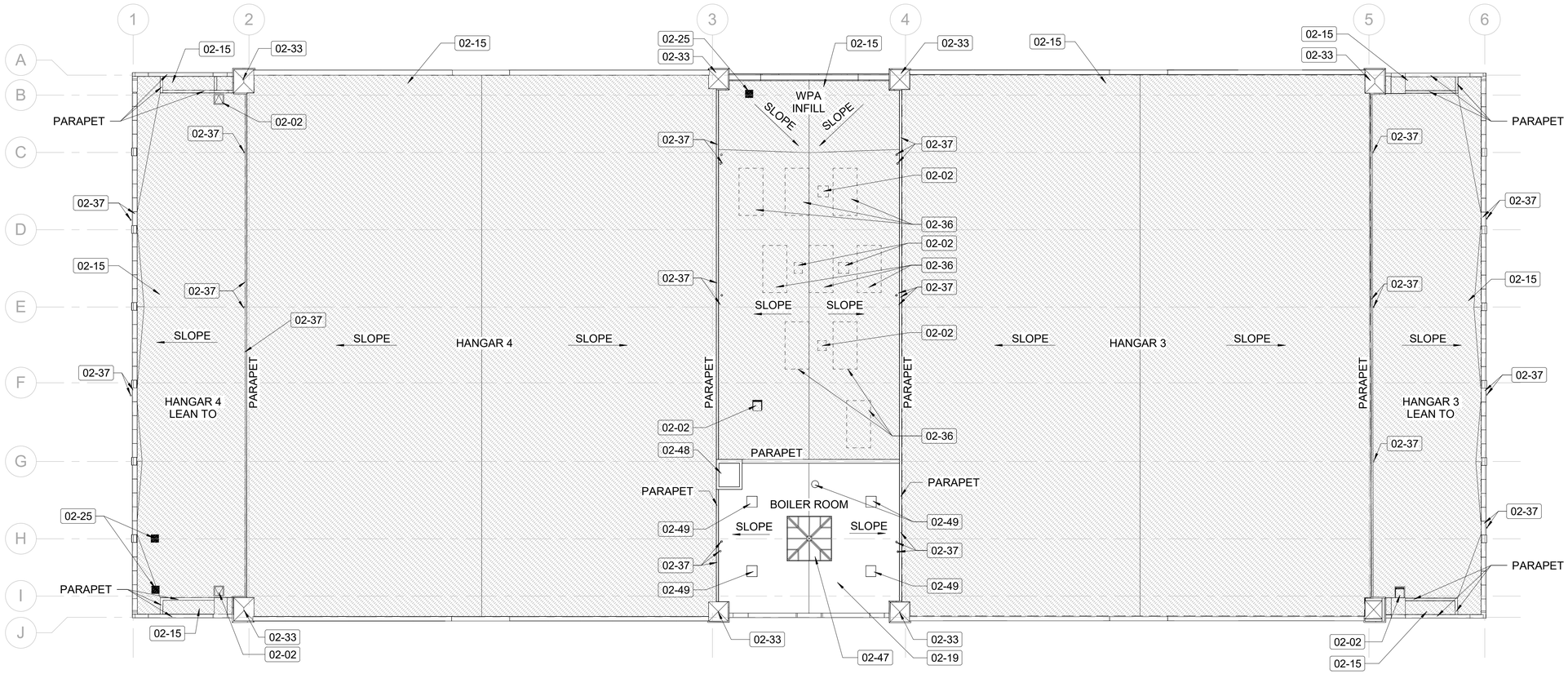

1 A0.2 ROOF PLAN - DEMOLITION
SCALE Ⓐ

SHEET NOTES

1. ALL MASONRY WALLS INDICATED TO BE REMOVED MUST BE CAREFULLY DISMANTLED, AS THEY ARE IN A SIGNIFICANTLY DETERIORATED CONDITION.
2. ALL EXTERIOR DEMOLITION SCOPE IS INDICATED ON THE DEMO AND NEW WORK ELEVATIONS.
3. SEE STRUCTURAL DRAWINGS FOR ALL CONCRETE SLAB WORK.
4. SEE EXTERIOR ELEVATIONS AND WINDOW SCHEDULE FOR REPAIR/REPLACEMENT WINDOW SCOPE.
5. UNLESS OTHERWISE NOTED, ALL EXISTING GUTTERS, DOWNSPOUTS, ROOF RAINS, OVERFLOW DRAINS AND SCUPPERS ARE TO BE REMOVED.
6. A FULL ROOF SURVEY WAS NOT PERFORMED DUE TO SAFETY CONCERNS. EXISTING ROOF SLOPE AND CRICKET LOCATIONS ARE BASED ON ROOF STRUCTURE AND LOCATIONS OF SCUPPERS AND DOWNSPOUTS.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
02-15	REMOVE EXISTING ROOF AND STRUCTURAL WOOD DECK.
02-19	REMOVE EXISTING ROOF. STRUCTURAL CONCRETE DECK TO REMAIN.
02-25	AREA OF EXISTING ROOF HAS TESTED POSITIVE FOR ASBESTOS. PROPERLY DISPOSE OF DURING REMOVAL. REFER TO HAZMAT REPORT.
02-33	EXISTING COPPER CAP TO REMAIN.
02-36	REMOVE EXISTING SKYLIGHT.
02-37	REMOVE EXISTING GUTTER, DOWNSPOUTS, ROOF DRAINS, OVERFLOW DRAINS AND SCUPPERS.
02-47	DISMANTLE EXISTING SKYLIGHT.
02-48	EXISTING CHIMNEY TO BE PARTIALLY DISMANTLED AND REBUILT. REFER TO ELEVATIONS FOR EXTENT OF WORK.
02-49	EXISTING ROOF OPENING. REMOVE ANY EXISTING BUILT UP ROOF MATERIALS DOWN TO CONCRETE ROOF DECK.

DEMOLITION LEGEND

- EXISTING TO BE REMOVED, SALVAGED OR REINSTALLED
- OR
- EXISTING TO REMAIN
- EXTENT OF EXISTING ROOF AND WOOD DECKING TO BE REMOVED. SEE STRUCTURAL.

SCALE Ⓐ 16' 8' 0' 16' 32'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO. A0.2	TITLE OF SHEET: ROOF PLAN - DEMOLITION	DRAWING NO. 646 190066
DRAWN: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 29 OF 153
DATE: 12/19/2025			

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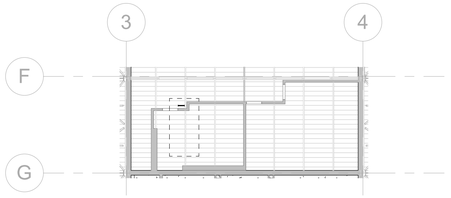
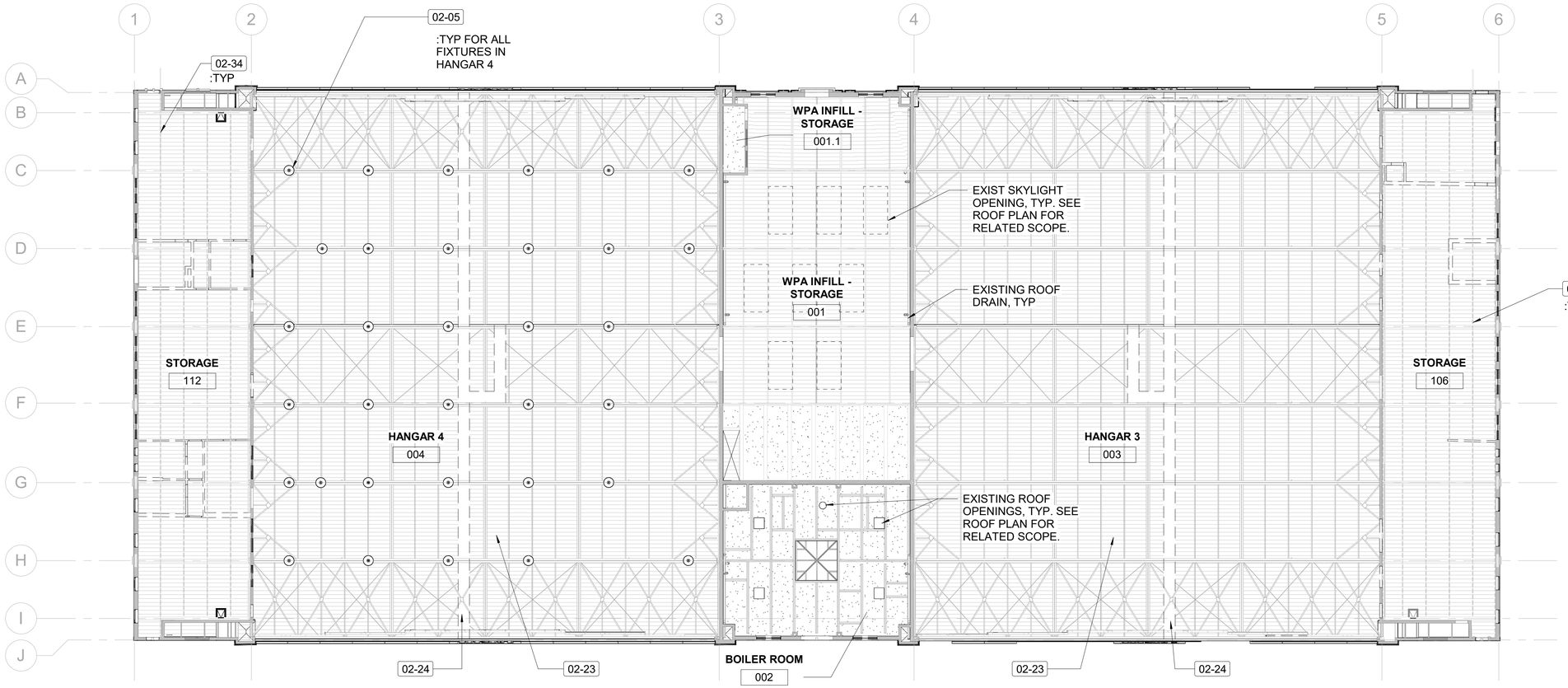
SHEET NOTES

1. ALL MASONRY WALLS INDICATED TO BE REMOVED MUST BE CAREFULLY DISMANTLED, AS THEY ARE IN A SIGNIFICANTLY DETERIORATED CONDITION.
2. ALL EXTERIOR DEMOLITION SCOPE IS INDICATED ON THE DEMO AND NEW WORK ELEVATIONS.
3. SEE STRUCTURAL DRAWINGS FOR ALL CONCRETE SLAB WORK.
4. SEE EXTERIOR ELEVATIONS AND WINDOW SCHEDULE FOR REPAIR/REPLACEMENT WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-05	REMOVE EXISTING LIGHT FIXTURE AND ELECTRICAL WIRING BACK TO SOURCE. PROPERLY DISPOSE OF ANY EXISTING REMAINING LUMINAIRES. SEE HAZMAT REPORT AND SPECIFICATIONS.
02-23	EXISTING CEILING WOOD DECKING HAVE TESTED POSITIVE FOR LEAD. PROPERLY DISPOSE OF DURING REMOVAL. REFER TO HAZMAT REPORT.
02-24	REMOVE EXISTING CATWALK. LEAD HAS BEEN IDENTIFIED IN THIS LOCATION. PROPERLY DISPOSE OF ELEMENTS. SEE HAZMAT REPORT.
02-34	REMOVE EXISTING METAL CEILING SUSPENSION SYSTEM AND ACCOMPANYING FASTENERS AND HARDWARE.



2 / A0.3 RCP MEZZANINE - DEMOLITION
SCALE Ⓐ



1 / A0.3 REFLECTED CEILING PLAN - DEMOLITION
SCALE Ⓐ

DEMOLITION LEGEND

- EXISTING STRUCTURE TO REMAIN
- OR — EXISTING TO BE REMOVED, SALVAGED OR REINSTALLED
- OR — EXISTING TO REMAIN
- EXISTING LIGHT FIXTURE
- CONCRETE CEILING
- WOOD PLANK CEILING

SCALE Ⓐ 16' 8' 0' 16' 32'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A0.3	TITLE OF SHEET REFLECTED CEILING PLAN - DEMOLITION GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 30 OF 153

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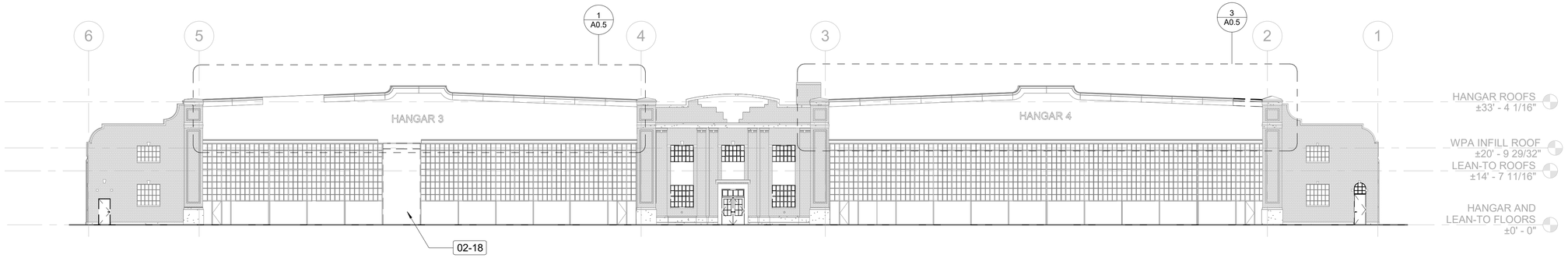
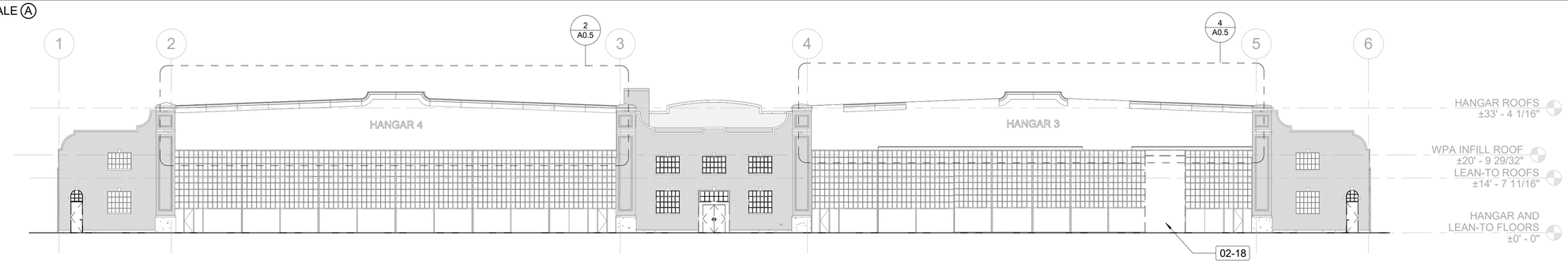


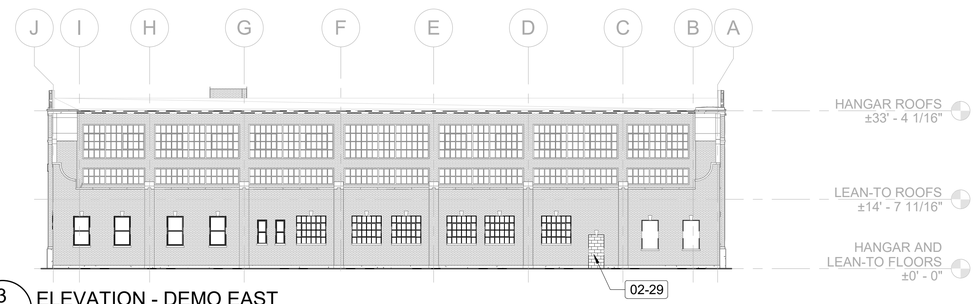
1 / A0.4 ELEVATION - DEMO NORTH

SCALE Ⓐ



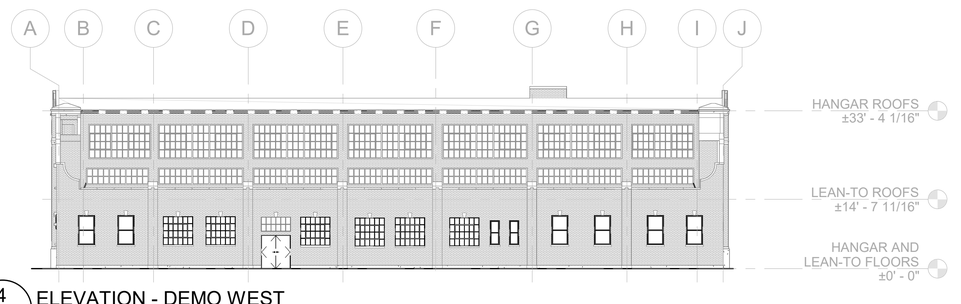
2 / A0.4 ELEVATION - DEMO SOUTH

SCALE Ⓐ



3 / A0.4 ELEVATION - DEMO EAST

SCALE Ⓐ



4 / A0.4 ELEVATION - DEMO WEST

SCALE Ⓐ

SHEET NOTES

1. ALL EXTERIOR MASONRY WALL REBUILD SCOPE IS INDICATED ON THE NEW WORK ELEVATIONS.

2. SEE NEW WORK EXTERIOR ELEVATIONS AND WINDOW SCHEDULE FOR REPAIR/REPLACEMENT WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-18	REMOVE EXISTING OVERHEAD COILING DOORS.
02-29	EXISTING CMU INFILL TO REMAIN.

SCALE Ⓐ 16 8 0 16 32

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: SW	A0.4	EXTERIOR ELEVATIONS - DEMOLITION	646 190066
TECH. REVIEW: AK			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	SHEET 31 OF 153

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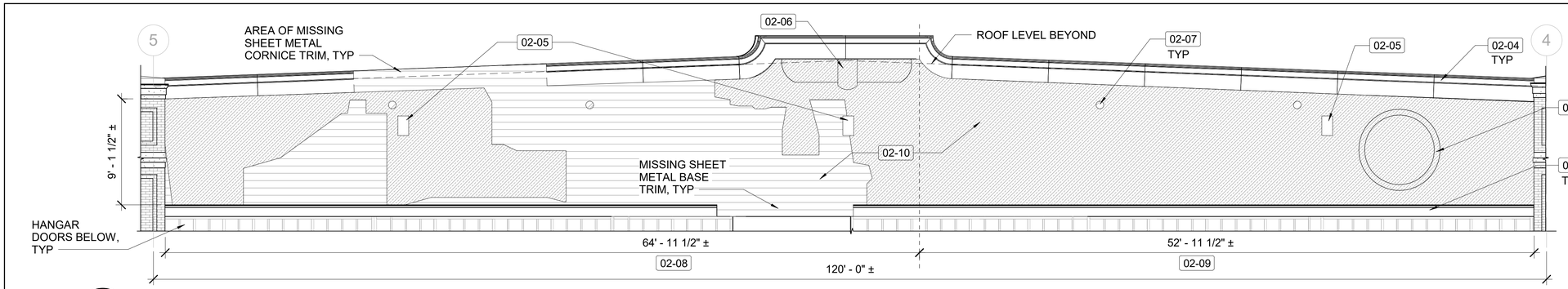
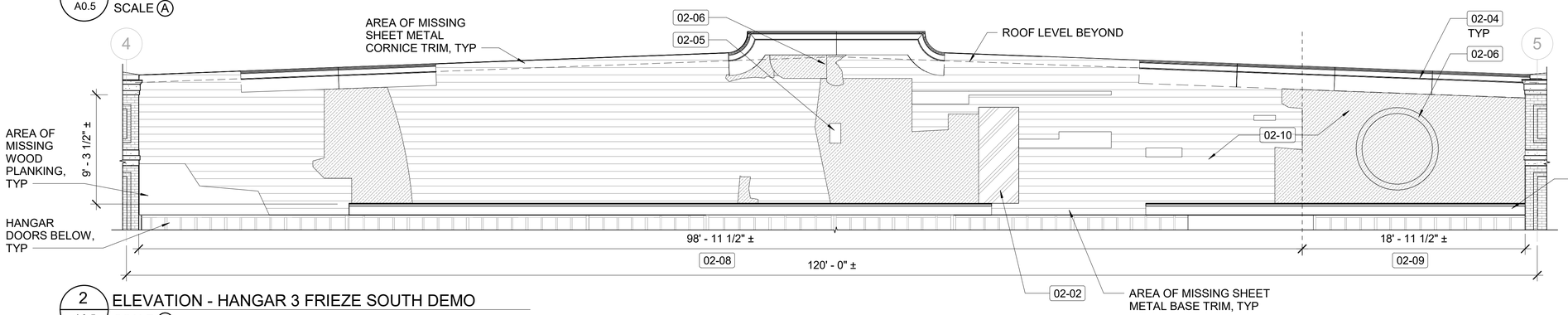


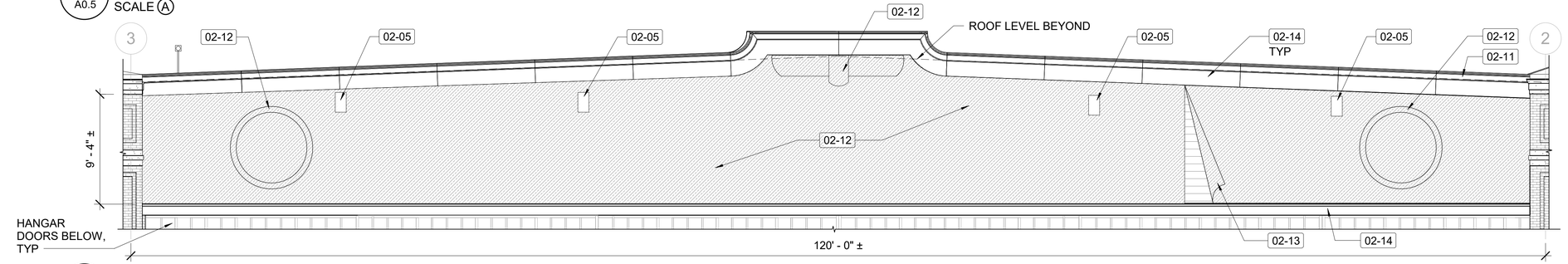
1 A0.5 ELEVATION - HANGAR 3 FRIEZE NORTH DEMO

SCALE Ⓐ



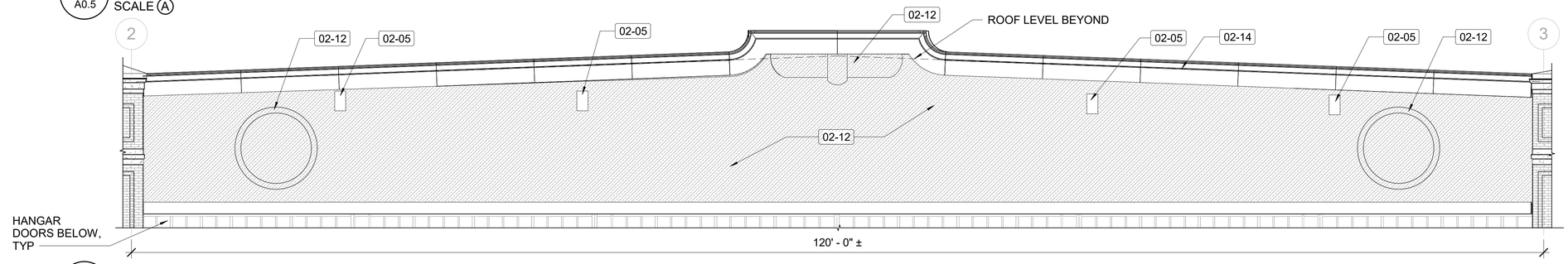
2 A0.5 ELEVATION - HANGAR 3 FRIEZE SOUTH DEMO

SCALE Ⓐ



3 A0.5 ELEVATION - HANGAR 4 FRIEZE NORTH DEMO

SCALE Ⓐ



4 A0.5 ELEVATION - HANGAR 4 FRIEZE SOUTH DEMO

SCALE Ⓐ

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
02-04	DISMANTLE AND SALVAGE EXISTING SHEET METAL TRIM. EVALUATE CONDITION PRIOR TO REINSTALLATION. RETAIN TRIM PROFILES FOR IN-KIND REPLACEMENT IN AREAS WHERE TRIM IS MISSING. ABATE LEAD PAINT PRIOR TO REINSTALLATION. SEE HAZMAT REPORT.
02-05	REMOVE EXISTING LIGHT FIXTURE AND ELECTRICAL WIRING BACK TO SOURCE. PROPERLY DISPOSE OF ANY EXISTING REMAINING LUMINAIRES. SEE HAZMAT REPORT AND SPECIFICATIONS.
02-06	DISMANTLE AND SALVAGE EXISTING DECORATIVE SHEET METAL ELEMENT FOR REPAIR AND REINSTALLATION. ABATE LEAD PAINT PRIOR TO REINSTALLATION. SEE HAZMAT REPORT AND SPECIFICATIONS.
02-07	REMOVE CAP AND ELECTRICAL WIRING BACK TO SOURCE. RETAIN LOCATION FOR INSTALLATION OF IN-KIND REPLACEMENT HISTORIC LIGHT FIXTURES.
02-08	DISMANTLE EXISTING DETERIORATED CORRUGATED COPPER SHEETING. LEAD PAINT HAS BEEN IDENTIFIED IN THIS LOCATION. DISPOSE OF PROPERLY. REFER TO HAZMAT REPORT AND SPECIFICATIONS.
02-09	DISMANTLE AND SALVAGE EXISTING CORRUGATED COPPER SHEETING FOR REPAIR AND REINSTALLATION. ABATE LEAD PAINT PRIOR TO REINSTALLATION. SEE HAZMAT REPORT AND SPECIFICATIONS.
02-10	REMOVE EXISTING WOOD PLANKING. VERIFY EXISTING SIZE AND WOOD SPECIES PRIOR TO DISPOSAL. LEAD PAINT HAS BEEN IDENTIFIED IN THIS LOCATION. DISPOSE OF PROPERLY. REFER TO HAZMAT REPORT AND SPECIFICATIONS.
02-11	REMOVE EXISTING DETERIORATED TRIM PANEL. LEAD PAINT HAS BEEN IDENTIFIED IN THIS LOCATION. DISPOSE OF PROPERLY. REFER TO HAZMAT REPORT AND SPECIFICATIONS.
02-12	EXISTING CORRUGATED COPPER SHEETING AND DECORATIVE ELEMENTS TO REMAIN. ABATE LEAD PAINT. SEE HAZMAT REPORT AND SPECIFICATIONS.
02-13	TEMPORARILY FASTEN PEELING CORRUGATED COPPER SHEETING UNTIL WORK IS TO BE PERFORMED IN THIS AREA.
02-14	EXISTING SHEET METAL TRIM TO REMAIN. ABATE LEAD PAINT. SEE HAZMAT REPORT AND SPECIFICATIONS.

SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

MATERIAL LEGEND

- CORRUGATED COPPER SHEETING
- MISC FERROUS SHEET METAL
- WOOD PLANKING

DESIGNED: CT	SUB SHEET NO. A0.5	TITLE OF SHEET: ENLARGED ELEVATIONS - DEMOLITION - HANGAR FRIEZES	DRAWING NO. 646 190066
DRAWN: SW		GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 32 OF 153
DATE: 12/19/2025			

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1 A0.6 HANGAR 3 & LEAN-TO 3 - NORTH
SCALE: NTS

2 A0.6 WPA INFILL - NORTH
SCALE: NTS

3 A0.6 HANGAR 4 & LEAN-TO 4 - NORTH
SCALE: NTS

4 A0.6 HANGAR 4 & LEAN-TO 4 - SOUTH
SCALE: NTS

5 A0.6 BOILER ROOM - SOUTH
SCALE: NTS

6 A0.6 HANGAR 3 & LEAN-TO 3 - SOUTH
SCALE: NTS

7 A0.6 LEAN-TO 4 - WEST
SCALE: NTS

8 A0.6 LEAN-TO 3 - EAST
SCALE: NTS

9 A0.6 LEAN-TO 4 - SOUTH DOOR POCKET DTL
SCALE: NTS

10 A0.6 LEAN-TO 4 - DOWNSPOUT DTL
SCALE: NTS

11 A0.6 LEAN-TO 3 - NORTH DOOR POCKET DTL
SCALE: NTS

12 A0.6 LEAN-TO 3 - DOWNSPOUT DTL
SCALE: NTS

SHEET NOTES

1. PHOTOS ARE FOR REFERENCE ONLY AND ARE INTENDED FOR THE CONTRACTOR TO FAMILIARIZE THEMSELVES WITH THE BUILDING. REFER TO DRAWINGS FOR SCOPE.
2. ALL PHOTOS WERE TAKEN BETWEEN DECEMBER 2023 AND MARCH 2025. NOTE THAT BUILDING CONDITIONS MAY HAVE CHANGED BETWEEN WHEN THE PHOTO WAS TAKEN AND WHEN THE CONTRACTOR COMMENCES WORK.

DESIGNED: CT CADD: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A0.6	TITLE OF SHEET: EXISTING CONDITIONS PHOTOS - EXTERIOR GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 33 OF 153

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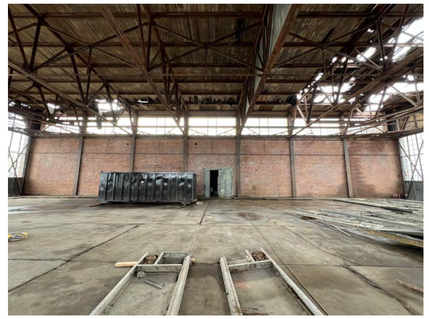
1 A0.7 HANGAR 3 - NORTH - INTERIOR
SCALE: NTS

2 A0.7 HANGAR 3 - EAST - INTERIOR
SCALE: NTS

3 A0.7 HANGAR 3 - SOUTH - INTERIOR
SCALE: NTS



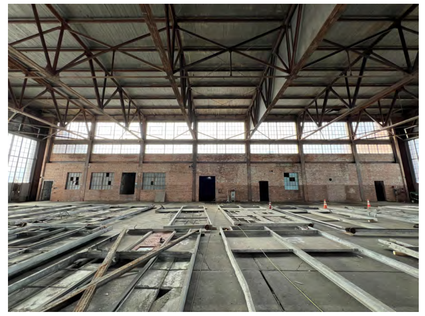
4 A0.7 HANGAR 3 - WEST - INTERIOR
SCALE: NTS

5 A0.7 HANGAR 3 - SOUTH - DOOR POCKET
SCALE Ⓐ

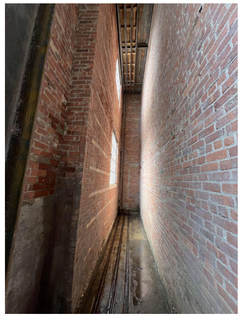
6 A0.7 HANGAR 4 - NORTH - INTERIOR
SCALE: NTS

7 A0.7 HANGAR 4 - EAST - INTERIOR
SCALE: NTS

8 A0.7 HANGAR 4 - SOUTH - INTERIOR
SCALE: NTS



9 A0.7 HANGAR 4 - WEST - INTERIOR
SCALE: NTS

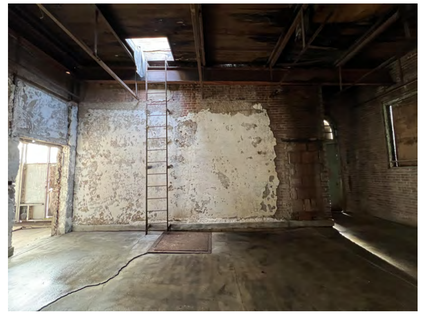


10 A0.7 HANGAR 4 - SOUTH - DOOR POCKET
SCALE Ⓐ

11 A0.7 LEAN-TO 3 - EAST - INTERIOR
SCALE: NTS

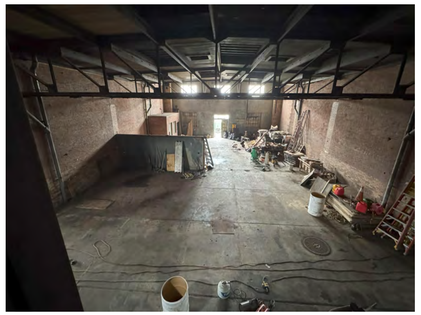
12 A0.7 LEAN-TO 3 - WEST - INTERIOR
SCALE: NTS

13 A0.7 LEAN-TO 4 - WEST - INTERIOR
SCALE: NTS

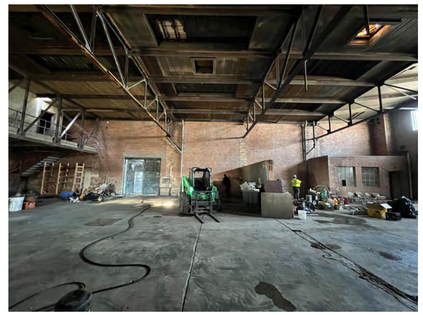


14 A0.7 LEAN-TO 4 - SOUTH - INTERIOR
SCALE: NTS

15 A0.7 BOILER ROOM - INTERIOR
SCALE: NTS



16 A0.7 WPA INFILL - NORTH - INTERIOR
SCALE: NTS



17 A0.7 WPA INFILL - WEST - INTERIOR
SCALE: NTS

18 A0.7 MEZZANINE - INTERIOR
SCALE: NTS

SHEET NOTES

1. PHOTOS ARE FOR REFERENCE ONLY AND ARE INTENDED FOR THE CONTRACTOR TO FAMILIARIZE THEMSELVES WITH THE BUILDING. REFER TO DRAWINGS FOR SCOPE.
2. ALL PHOTOS WERE TAKEN BETWEEN DECEMBER 2023 AND MARCH 2025. NOTE THAT BUILDING CONDITIONS MAY HAVE CHANGED BETWEEN WHEN THE PHOTO WAS TAKEN AND WHEN THE CONTRACTOR COMMENCES WORK.

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A0.7	TITLE OF SHEET EXISTING CONDITIONS PHOTOS - INTERIOR GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 34 OF 153

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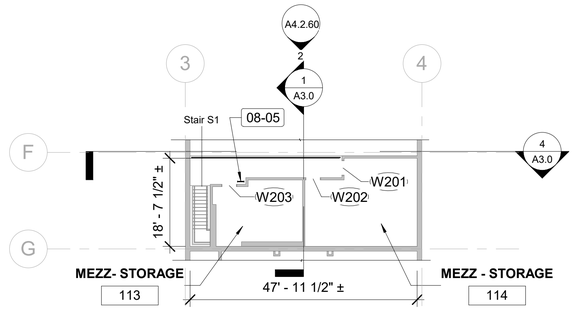
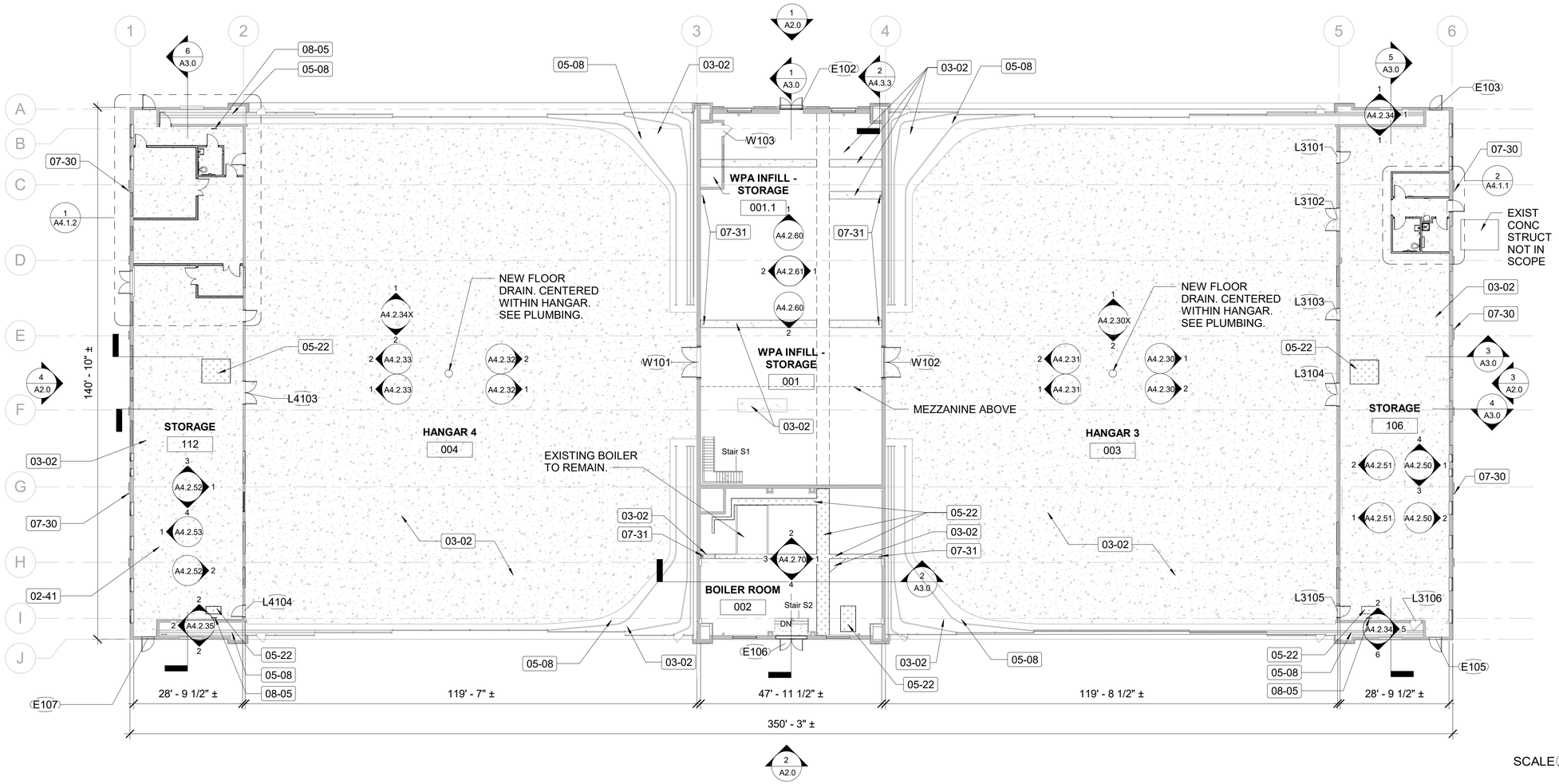


2 / A1.0 WPA INFILL MEZZANINE
SCALE Ⓐ



3 / A1.0 FLOOR PLAN - NEW WORK
SCALE Ⓐ

SHEET NOTES

1. DIMENSION ARE TO FINISH FACE UNLESS INDICATED OTHERWISE.
2. DOORS TO BE 4" FROM CORNER TO OUTSIDE OF FRAME UNLESS INDICATED OTHERWISE.
3. ALL CEILINGS ARE OPEN TO STRUCTURE ABOVE UNLESS INDICATED OTHERWISE.
4. ALL SINGLE LIGHT FIXTURES ARE TO BE CENTERED IN THE ROOM UNLESS INDICATED OTHERWISE.

KEYNOTES	
KEY VALUE	TEXT
02-41	REMOVE EXISTING CONCRETE SLAB. SEE STRUCTURAL.
03-02	CONCRETE SLABS TO BE REPAIRED OR REPLACED. SEE STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR EXTENT OF WORK.
05-08	RESTORE STEEL RAIL SLIDING DOOR TRACKS TO BE FULLY OPERABLE. SEE STRUCTURAL DETAILS FOR EXTENT OF SCOPE. TRACKS ARE TO BE PRIMED AND PAINTED. REFER TO HIGH PERFORMANCE COATINGS SPECIFICATION.
05-22	DIAMOND PLATE ACCESS PANEL OVER EXISTING PIT AND/OR TRENCH. SEE STRUCTURAL.
07-30	EXISTING SCUPPER LOCATION. NEW COPPER SHEET METAL SCUPPER AND 4" DIA ROUND COPPER DOWNSPOUT TO BE INSTALLED.
07-31	EXISTING RAINLEADER LOCATION. REPLACE WITH 6" DIA CAST IRON PIPE. ALL HORZ RUNS TO HAVE MIN. SLOPE OF 1/8":12". SEE PLUMBING.
08-05	REPLACEMENT STEEL FIXED LADDER FOR ROOF HATCH ACCESS. MOUNT ACCORDING TO MANUFACTURER'S INSTRUCTIONS. AVOID FASTENING INTO MASONRY UNITS, BUT RATHER INTO MORTAR JOINTS.

LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- NEW WALL / PARTITION
- WALL / PARTITION - 1HR RATED
- WALL / PARTITION - 2HR RATED
- EXISTING DOOR TO BE RESTORED
- NEW DOOR
- NEW CONCRETE SLAB

SCALE Ⓐ 16' 8' 0' 16' 32'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A1.0	TITLE OF SHEET: FLOOR PLAN - OVERALL GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 35 OF 153

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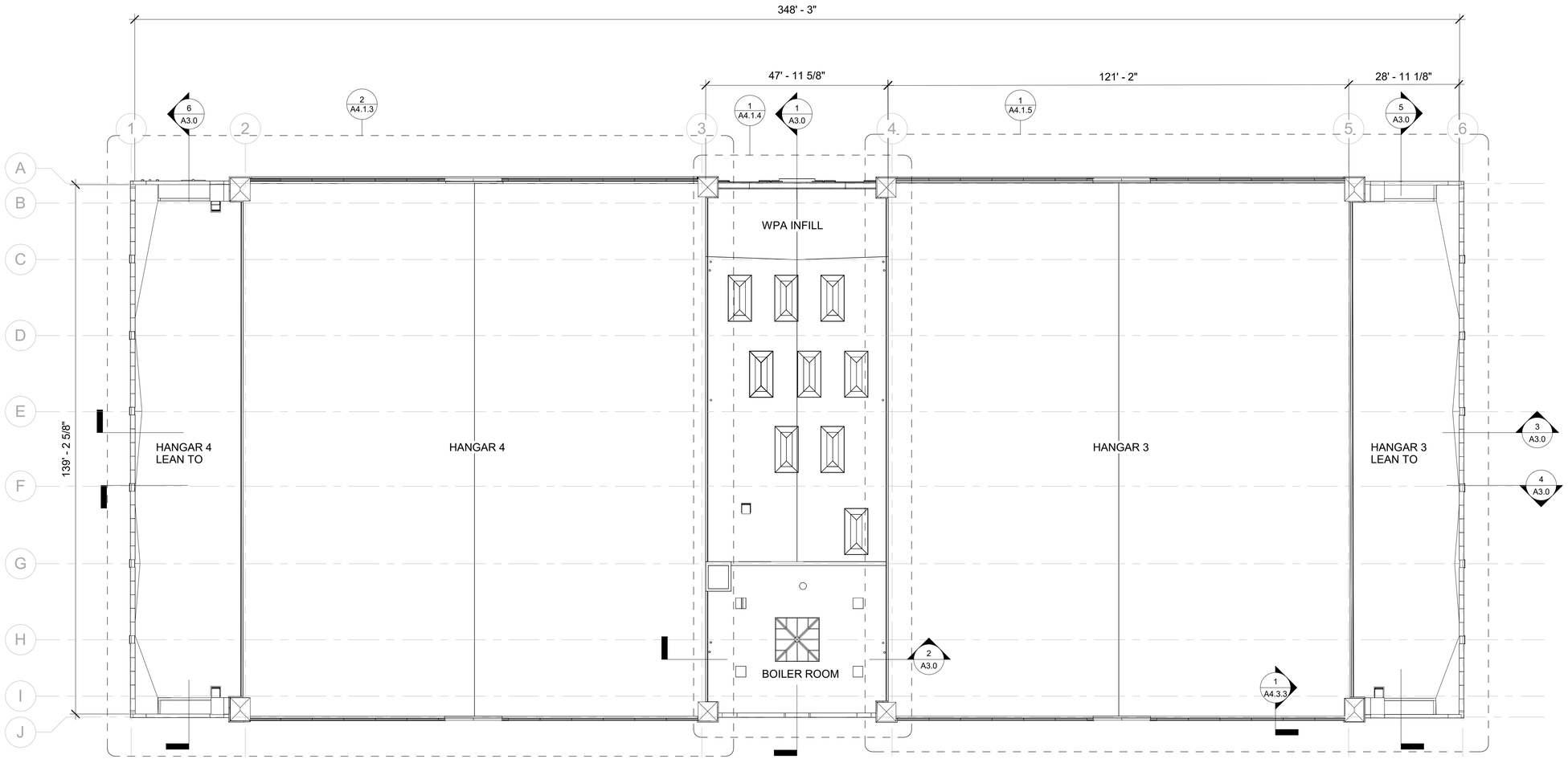
SHEET NOTES

1. OVERALL PLAN FOR REFERENCE. SEE ARCH ENLARGED PLANS AND ROOF DETAILS FOR SCOPE.
2. SEE STRUCTURAL FOR DECKING REPLACEMENT AND REPAIR AND TRUSS REPAIR.



1 / A1.1 OVERALL ROOF PLAN
SCALE Ⓐ

SCALE Ⓐ 16' 8' 0' 16' 32'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO. A1.1	TITLE OF SHEET: ROOF PLAN - OVERALL	DRAWING NO. 646 190066
DRAWN: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 36 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

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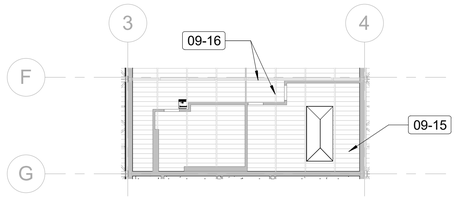
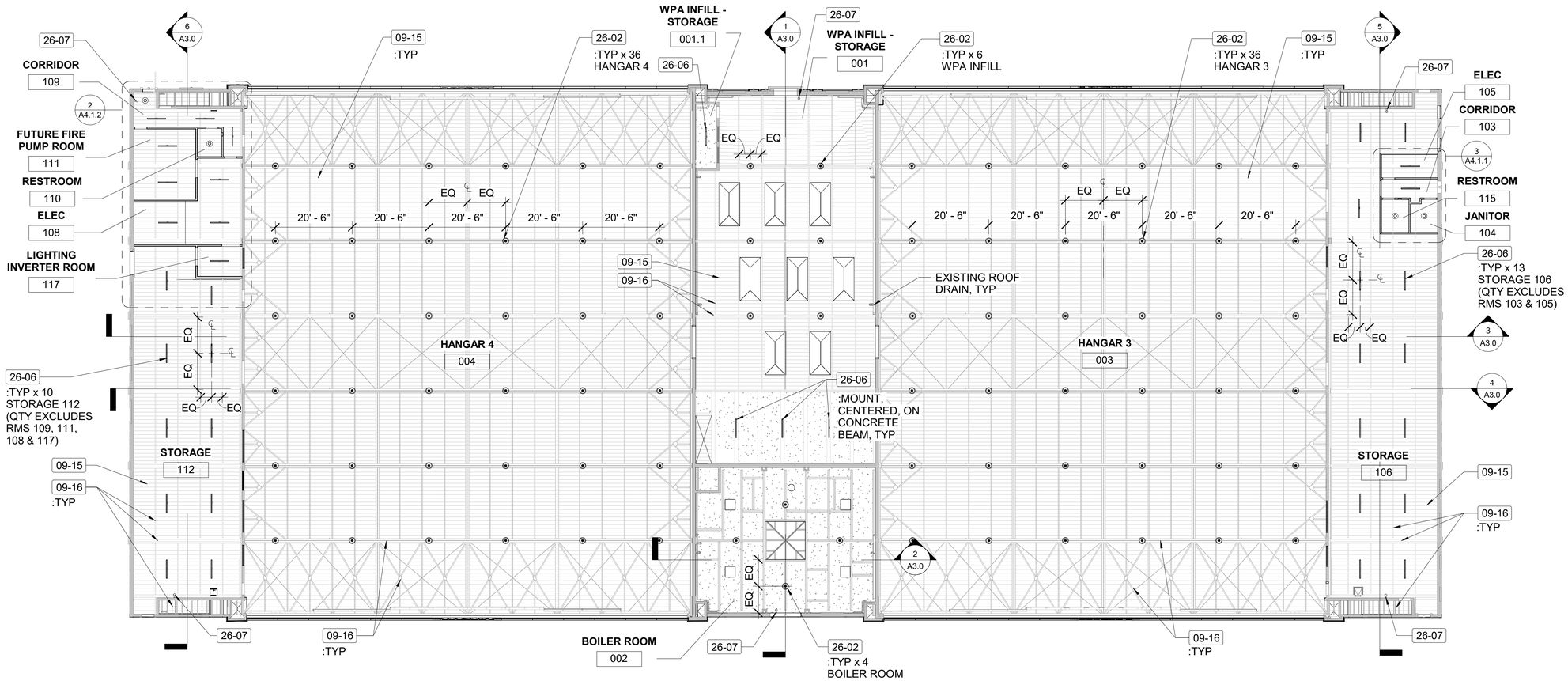


2 A1.2 REFLECTED CEILING PLAN MEZZANINE
SCALE Ⓐ

SHEET NOTES

1. DIMENSION ARE TO FINISH FACE UNLESS INDICATED OTHERWISE.
2. ALL CEILINGS ARE OPEN TO STRUCTURE ABOVE UNLESS INDICATED OTHERWISE.
3. ALL SINGLE LIGHT FIXTURES ARE TO BE CENTERED IN THE ROOM UNLESS INDICATED OTHERWISE.
4. SECURITY CAMERAS TO BE MOUNTED TO INTERIOR OF BUILDING. EXACT MOUNTING HEIGHTS AND LOCATIONS TO BE DETERMINED BY CO DURING CONSTRUCTION. REFER TO ENLARGED ROOF PLANS FOR EXTERIOR SECURITY CAMERA LOCATIONS. SEE ELECTRICAL.

KEYNOTES	
KEY VALUE	TEXT
09-15	PAINT ALL WOOD ROOF DECKING. SEE MATERIAL SCHEDULE. SEE ROOF DETAILS FOR ASSEMBLY.
09-16	FOR ALL EXPOSED STEEL STRUCTURAL ELEMENTS, REMOVE SURFACE RUST, PREP, PRIME WITH A RUST-INHIBITING PRIMER AND EPOXY TOPCOAT. SEE MATERIAL SCHEDULE.
26-02	INDUSTRIAL BAY STYLE LIGHT FIXTURE. MOUNT TO TRUSS. SEE ELECTRICAL DRAWINGS.
26-06	LINEAR LED FIXTURE WITH CAGE. CEILING MOUNTED. SEE ELECTRICAL DRAWINGS.
26-07	SECURITY CAMERA. SEE SHEET NOTES AND ELECTRICAL DRAWINGS.



1 A1.2 REFLECTED CEILING PLAN
SCALE Ⓐ

RCP LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- PARTITION
- HIGH BAY LIGHT FIXTURE
- LINEAR LIGHT FIXTURE
- PENDANT LIGHT FIXTURE
- EXPOSED WOOD PLANK CEILING
- EXPOSED CONCRETE CEILING
- SECURITY CAMERA

SCALE Ⓐ 16' 8' 0' 16' 32'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: REFLECTED CEILING PLAN - OVERALL	DRAWING NO. 646 190066
DRAWN: SW	A1.2		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 37 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

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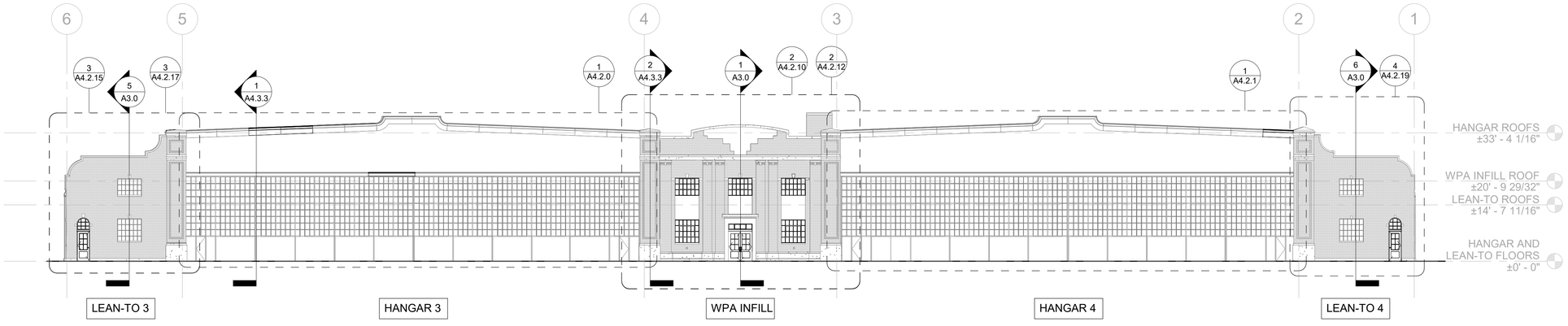
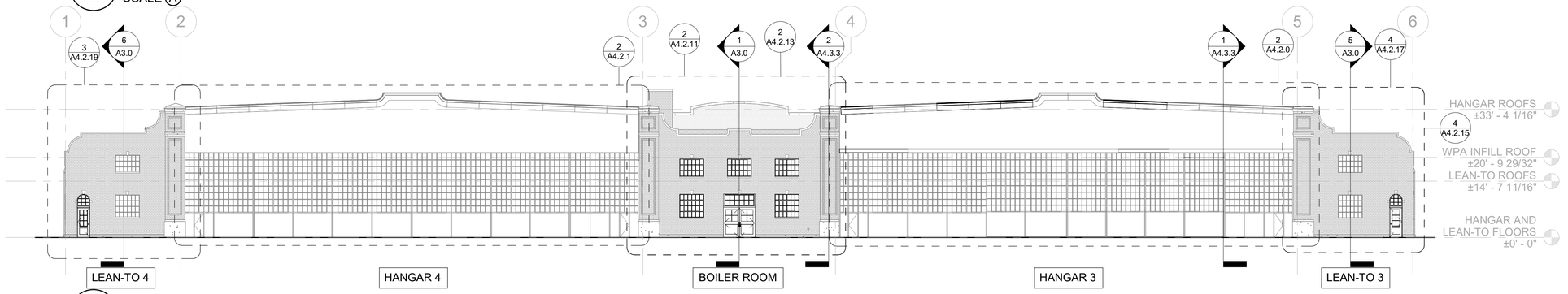
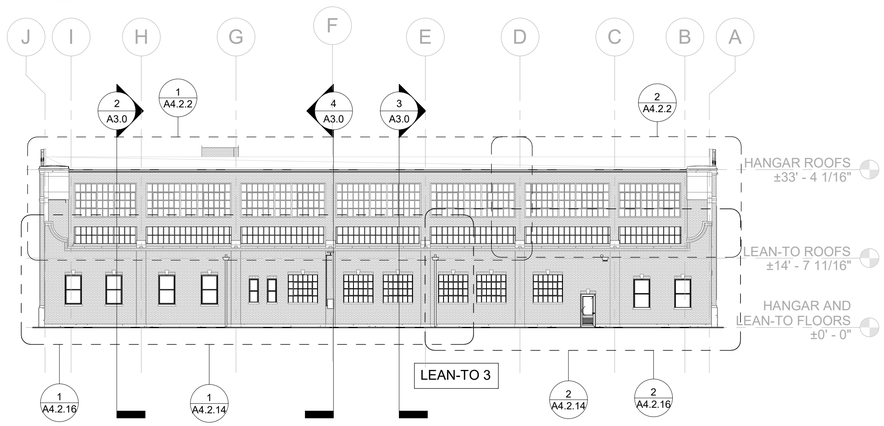


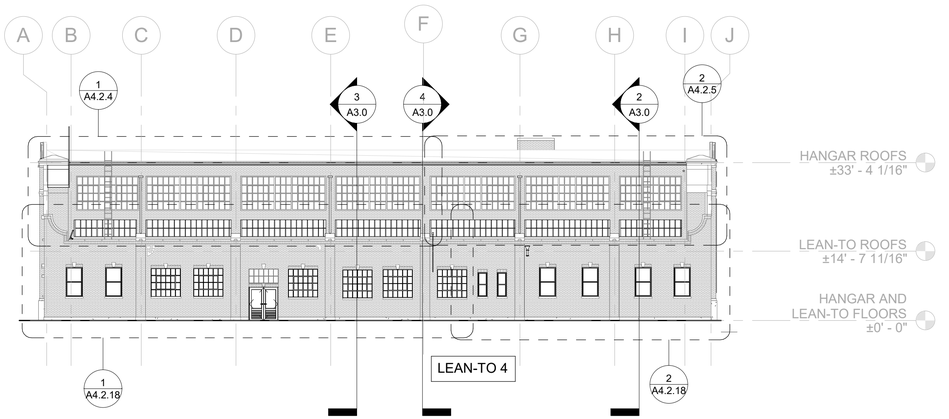
1 A2.0 ELEVATION - NORTH
SCALE Ⓐ



2 A2.0 ELEVATION - SOUTH
SCALE Ⓐ



3 A2.0 ELEVATION - EAST
SCALE Ⓐ



4 A2.0 ELEVATION - WEST
SCALE Ⓐ

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

SCALE Ⓐ 16 8 0 16 32
SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A2.0	TITLE OF SHEET EXTERIOR ELEVATIONS - OVERALL GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 38 OF 153

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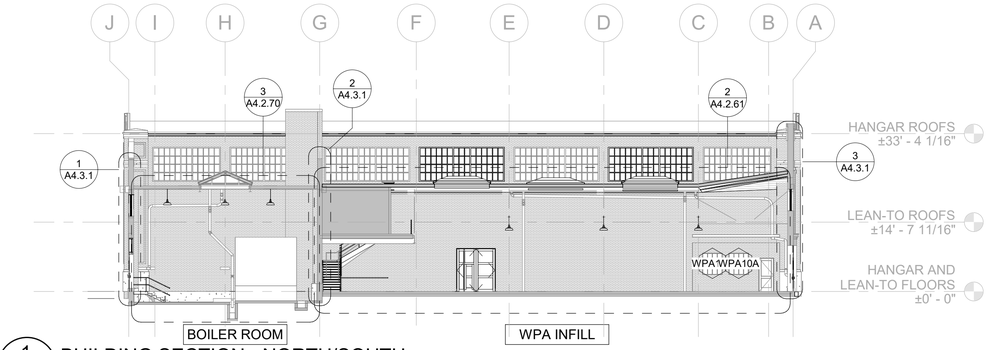
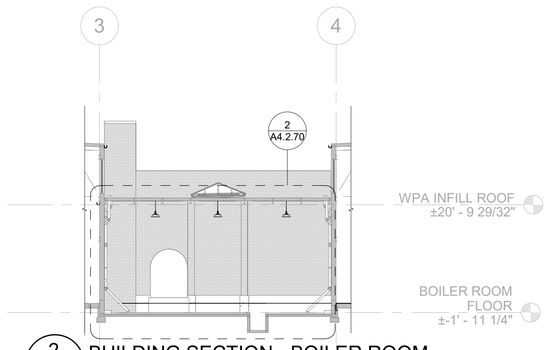
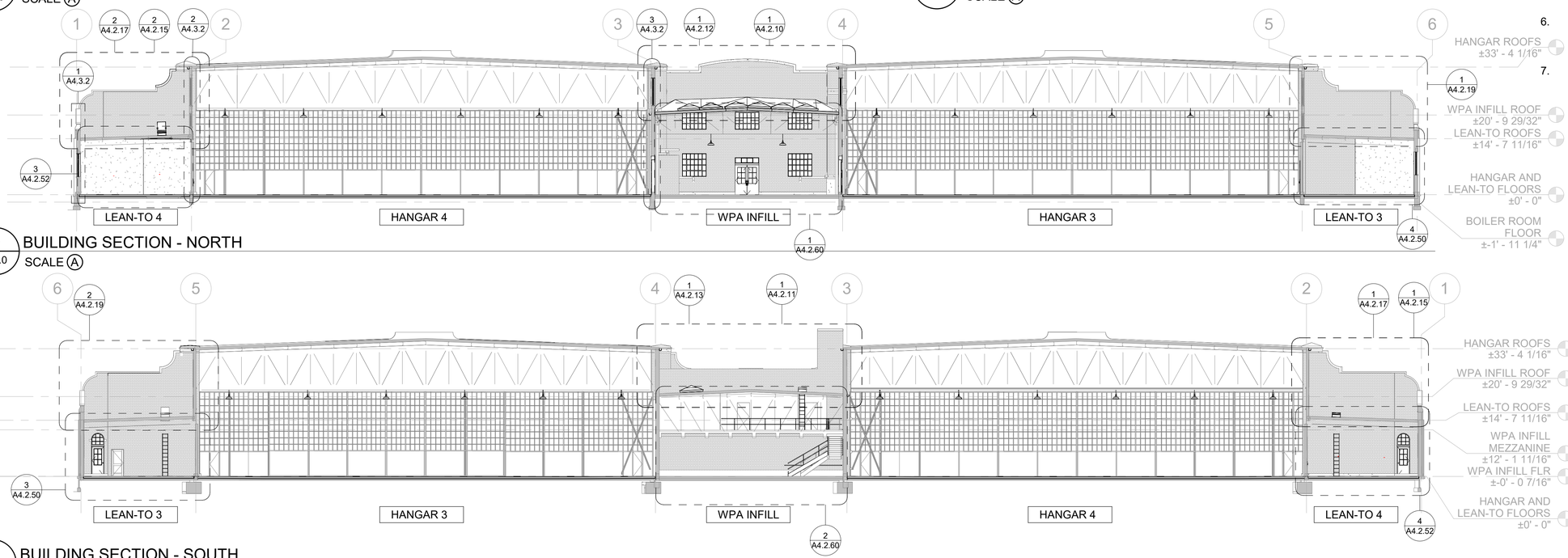


1 A3.0 BUILDING SECTION - NORTH/SOUTH
SCALE Ⓐ

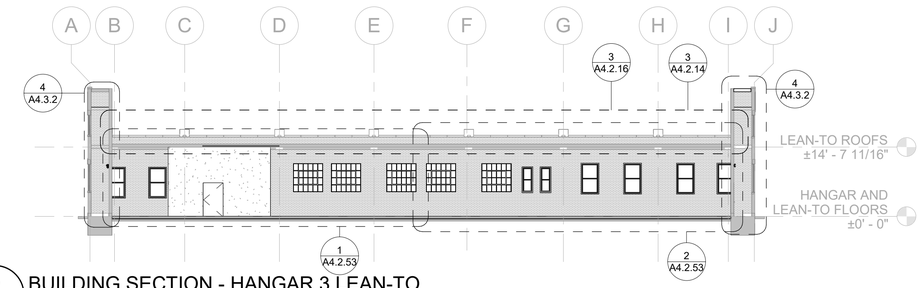


2 A3.0 BUILDING SECTION - BOILER ROOM
SCALE Ⓐ

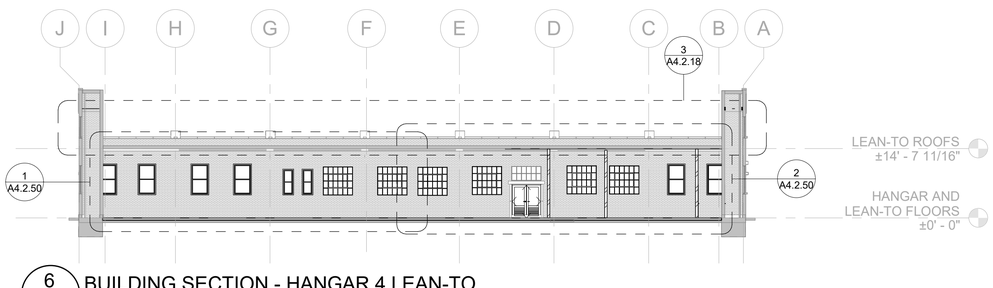


3 A3.0 BUILDING SECTION - NORTH
SCALE Ⓐ

4 A3.0 BUILDING SECTION - SOUTH
SCALE Ⓐ



5 A3.0 BUILDING SECTION - HANGAR 3 LEAN-TO
SCALE Ⓐ



6 A3.0 BUILDING SECTION - HANGAR 4 LEAN-TO
SCALE Ⓐ

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

SCALE Ⓐ 16 8 0 16 32
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: SW	A3.0	BUILDING SECTIONS	646 190066
TECH. REVIEW: AK			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	SHEET 39 OF 153

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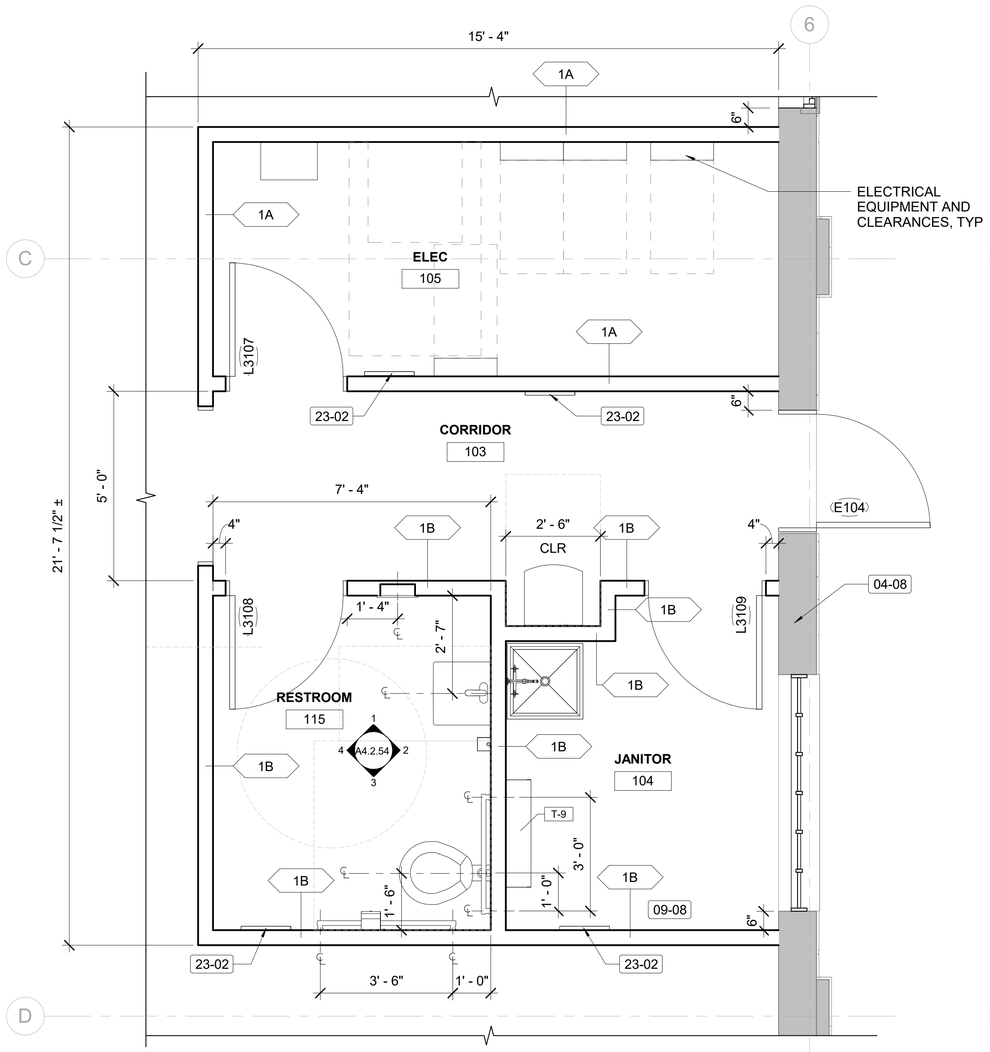
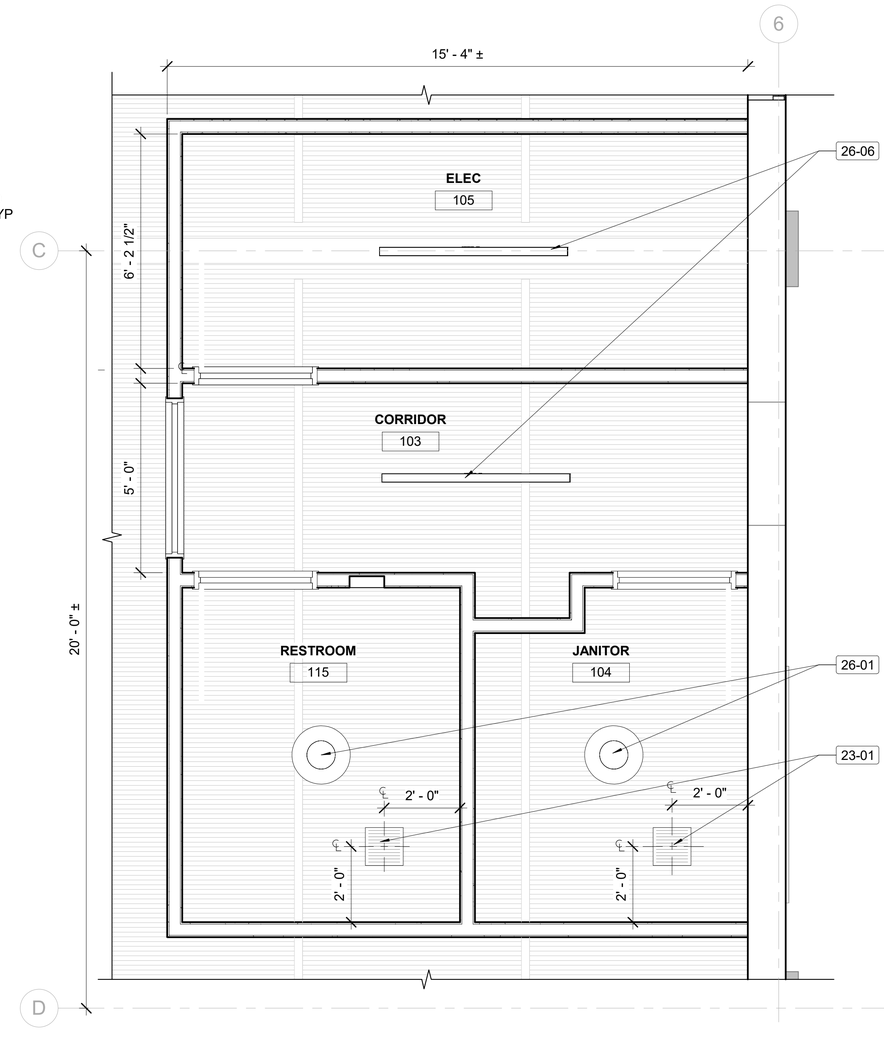


2 A4.1.1 HANGAR 3 LEAN-TO - ENLARGED PLAN
SCALE Ⓐ



3 A4.1.1 HANGAR 3 LEAN-TO - ENLARGED RCP
SCALE Ⓐ

LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- NEW WALL / PARTITION
- WALL / PARTITION - 1HR RATED
- WALL / PARTITION - 2HR RATED
- EXISTING DOOR TO BE RESTORED
- NEW DOOR

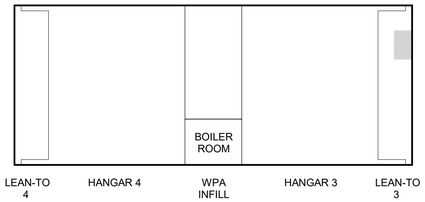
SHEET NOTES

1. DIMENSION ARE TO FINISH FACE UNLESS INDICATED OTHERWISE.
2. DOORS TO BE 4" FROM CORNER TO OUTSIDE OF FRAME UNLESS INDICATED OTHERWISE.
3. ALL CEILINGS ARE OPEN TO STRUCTURE ABOVE UNLESS INDICATED OTHERWISE.
4. ALL SINGLE LIGHT FIXTURES ARE TO BE CENTERED IN THE ROOM UNLESS INDICATED OTHERWISE.

KEYNOTES	
KEY VALUE	TEXT
04-08	EXIST MASONRY WALL TO REMAIN. CLEAN AND REPAIR EXPOSED INTERIOR BRICK AS NEEDED.
09-08	PROVIDE RUBBER WALL BASE AT PERIMETER PARTITIONS EXCLUDING BRICK MASONRY WALLS.
23-01	EXHAUST GRILLE. SEE MECHANICAL.
23-02	UNIT HEATER. MOUNT BOTTOM OF UNIT AT 18"-24" ABOVE FINISH FLOOR. SEE MECHANICAL.
26-01	PENDANT-TYPE INDUSTRIAL-STYLE LED LIGHT FIXTURE. GALVANIZED, POWDER COATED, METAL. SEE ELECTRICAL DRAWINGS.
26-06	LINEAR LED FIXTURE WITH CAGE. CEILING MOUNTED. SEE ELECTRICAL DRAWINGS.

ACCESSORIES SCHEDULE	
TYPE	DESCRIPTION
T-1	RECESSED PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
T-2	MIRROR WITH STAINLESS STEEL CHANNEL FRAME, 18"X30"
T-3	AUTOMATIC WALL-MOUNTED SOAP DISPENSER
T-4	SURFACE-MOUNTED MULTI-ROLL TOILET TISSUE DISPENSER
T-5	RECESSED SANITARY NAPKIN DISPOSAL
T-6	STAINLESS STEEL GRAB BARS WITH CONCEALED FLANGE, 36"
T-7	STAINLESS STEEL GRAB BARS WITH CONCEALED FLANGE, 42"
T-8	COAT HOOK
T-9	UTILITY SHELF WITH MOP/BROOM HOLDERS AND RAG HOOKS

KEY PLAN



SCALE Ⓐ 2' 1' 0 2' 4'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO. A4.1.1	TITLE OF SHEET: ENLARGED PLANS & RCPS - HANGAR 3 LEAN-TO	DRAWING NO. 646 190066
DRAWN: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 40 OF 153
DATE: 12/19/2025			

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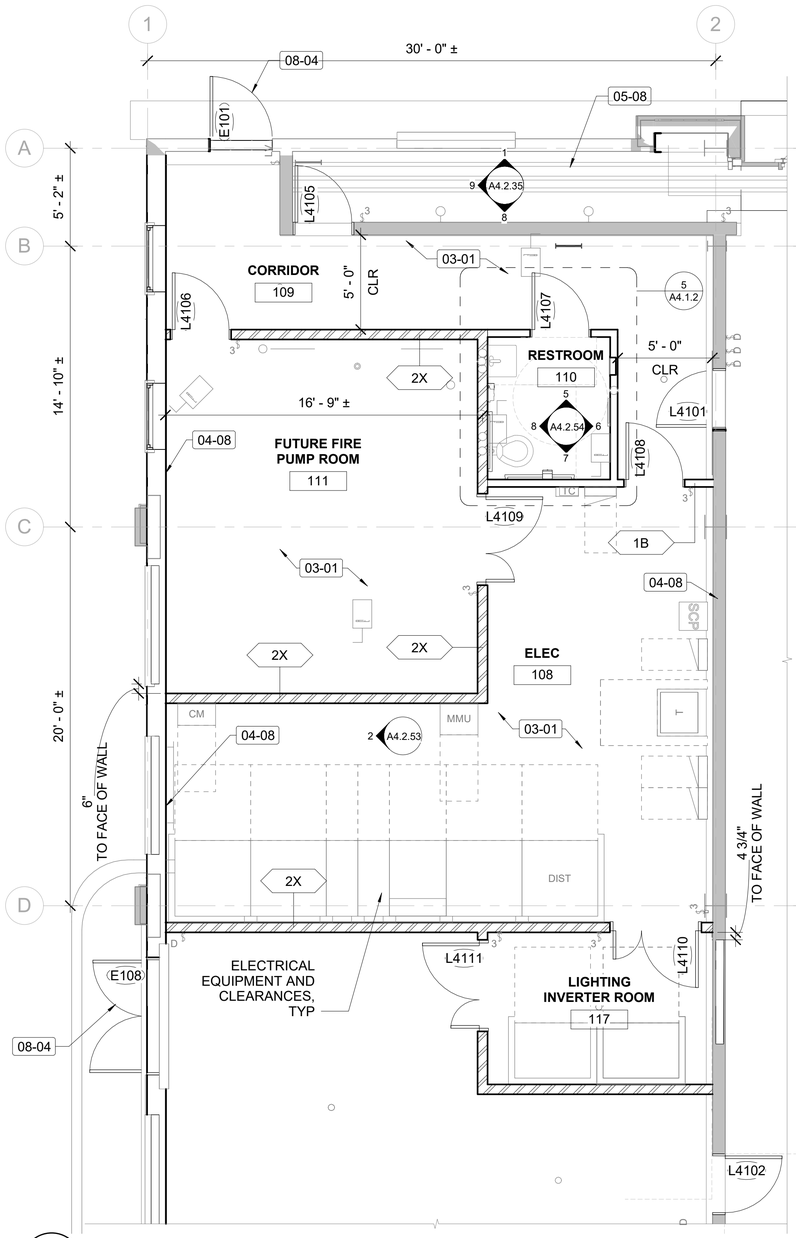
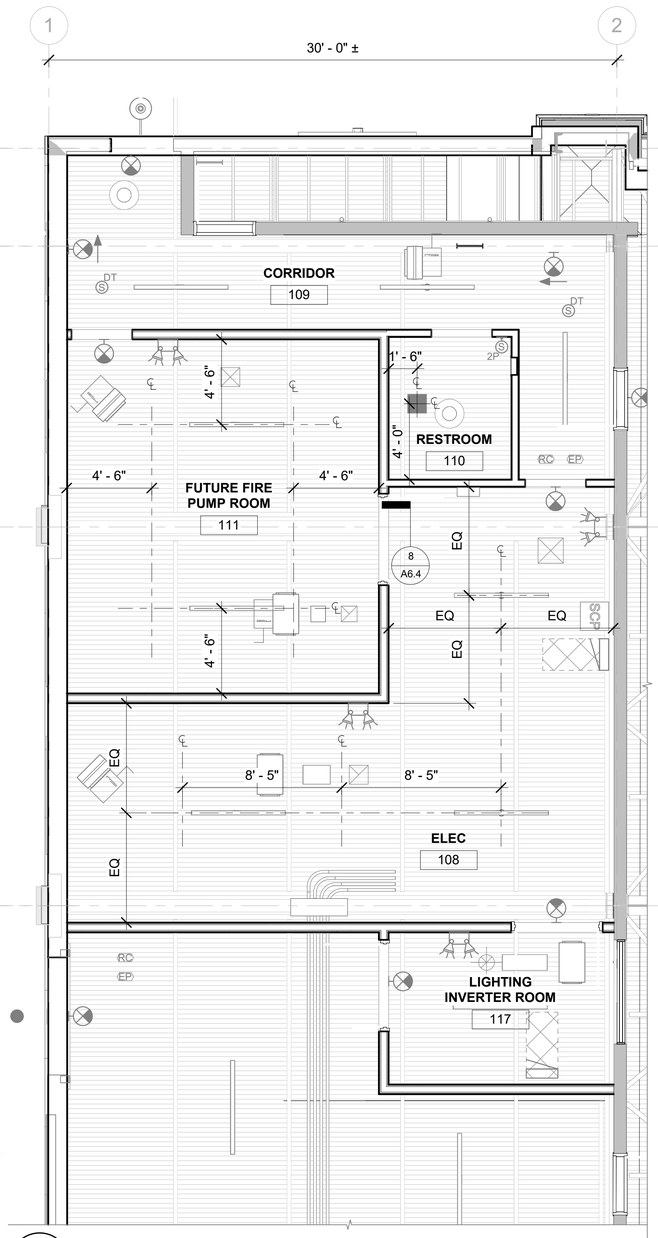
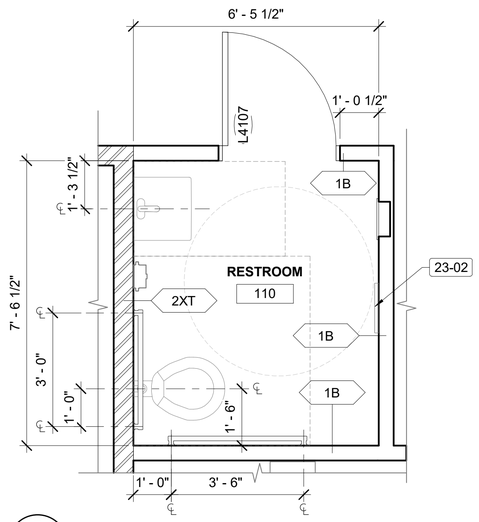


1 / A4.1.2 HANGAR 4 LEAN-TO - ENLARGED PLAN
SCALE (A)



2 / A4.1.2 HANGAR 4 LEAN-TO - ENLARGED RCP
SCALE (A)



5 / A4.1.2 HANGAR 4 RESTROOM - PLAN
SCALE (B)

SHEET NOTES

1. DIMENSION ARE TO FINISH FACE UNLESS INDICATED OTHERWISE.
2. DOORS TO BE 4" FROM CORNER TO OUTSIDE OF FRAME UNLESS INDICATED OTHERWISE.
3. ALL CEILINGS ARE OPEN TO STRUCTURE ABOVE UNLESS INDICATED OTHERWISE.
4. ALL SINGLE LIGHT FIXTURES ARE TO BE CENTERED IN THE ROOM UNLESS INDICATED OTHERWISE.

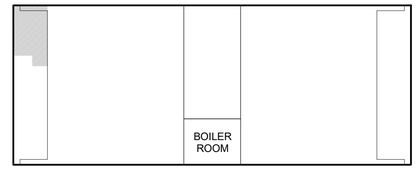
KEYNOTES	
KEY VALUE	TEXT
03-01	CONCRETE CRACK REPAIR. REFER TO TYPICAL DETAIL SHEETS.
04-08	EXIST MASONRY WALL TO REMAIN. CLEAN AND REPAIR EXPOSED INTERIOR BRICK AS NEEDED.
05-08	RESTORE STEEL RAIL SLIDING DOOR TRACKS TO BE FULLY OPERABLE. SEE STRUCTURAL DETAILS FOR EXTENT OF SCOPE. TRACKS ARE TO BE PRIMED AND PAINTED. REFER TO HIGH PERFORMANCE COATINGS SPECIFICATION.
08-04	DOOR, TRIM, AND TRANSOM TO MATCH EXISTING IN SIZE, SHAPE, AND PROFILE. REINSTALL CLEANED SALVAGED DOORS WHERE APPLICABLE.
23-02	UNIT HEATER. MOUNT BOTTOM OF UNIT AT 18"-24" ABOVE FINISH FLOOR. SEE MECHANICAL.

LEGEND

REFER TO PARTITION AND FINISH SCHEDULE FOR ADDITIONAL INFORMATION

- EXISTING CONSTRUCTION TO REMAIN
- NEW WALL / PARTITION
- WALL / PARTITION - 1HR RATED
- WALL / PARTITION - 2HR RATED
- EXISTING DOOR TO BE RESTORED
- NEW DOOR

KEY PLAN



SCALE (A) 4' 2' 0 4' 8' SCALE OF FEET

SCALE (B) 2' 1' 0 2' 4' SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: ENLARGED PLANS & RCPS - HANGAR 4 LEAN-TO	DRAWING NO. 646 190066
DRAWN: SW	A4.1.2	GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 41 OF 153
DATE: 12/19/2025			

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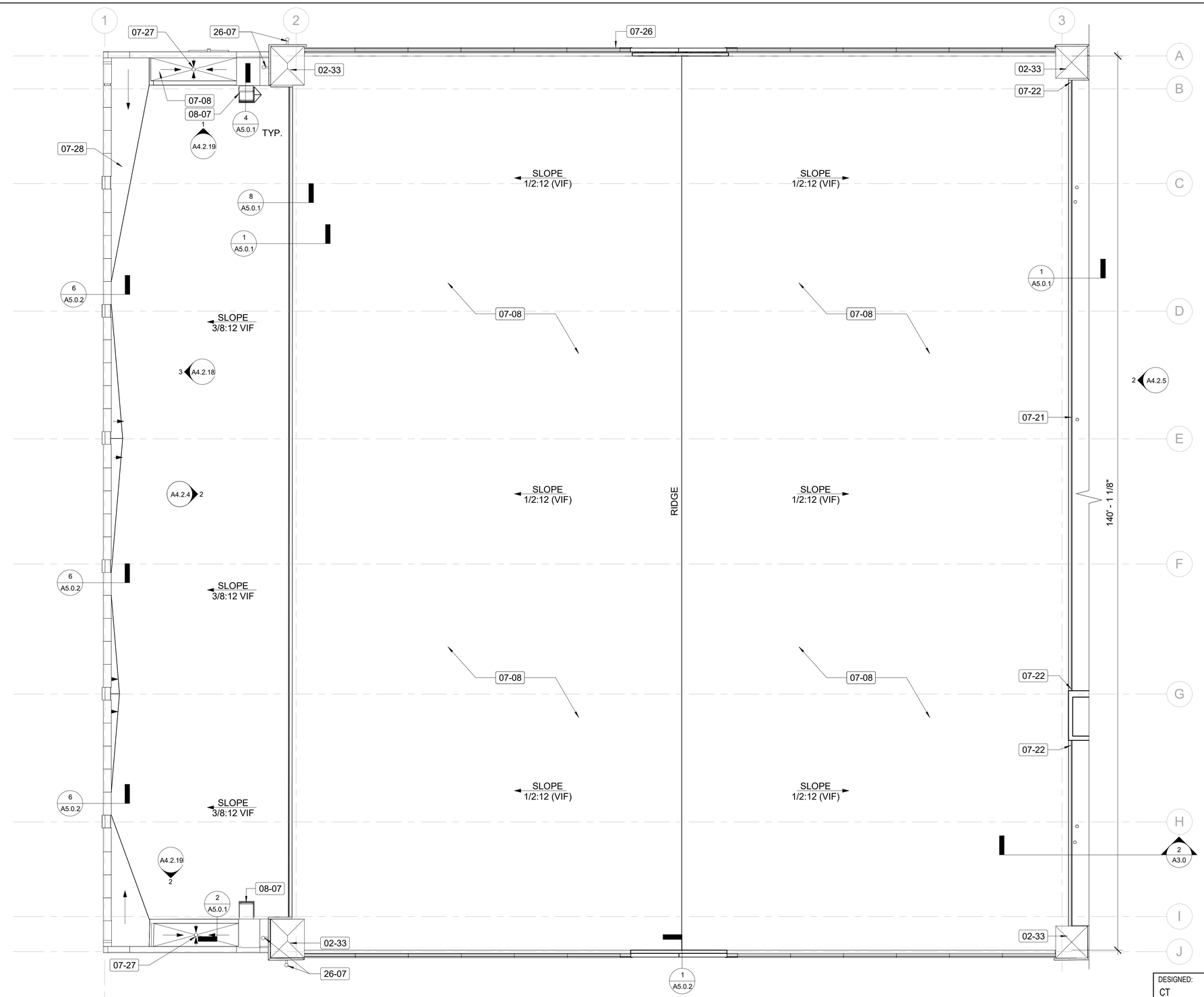


2 A4.1.3 HANGAR 4 ROOF PLAN
SCALE A

SHEET NOTES

1. SEE STRUCTURAL FOR DECKING REPLACEMENT AND REPAIR AND TRUSS REPAIR.
2. SECURITY CAMERAS TO BE MOUNTED TO EXTERIOR OF BUILDING. EXACT MOUNTING HEIGHTS AND LOCATIONS TO BE DETERMINED BY CO DURING CONSTRUCTION. REFER TO OVERALL RCP FOR INTERIOR SECURITY CAMERA LOCATIONS. SEE ELECTRICAL.

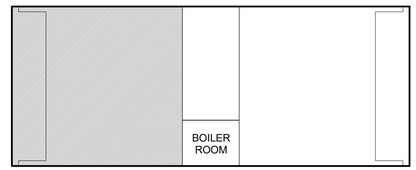
KEYNOTES	
KEY VALUE	TEXT
02-33	EXISTING COPPER CAP TO REMAIN.
07-08	TWO LAYERS OF BUILT UP MODIFIED BITUMEN ROOF UNDERNEATH LIQUID APPLIED AND FIBERGLASS REINFORCED POLYETHYLENE TOP COATS.
07-21	REPLACE EXISTING GUTTER AND DOWNSPOUTS (3). MATCH EXISTING PROFILE.
07-22	GUTTER END WALL EXPANSION JOINT.
07-26	COPPER COPING TO MATCH EXISTING.
07-27	ROOF DRAIN.
07-28	CRICKET BUILT UP FROM TAPERED INSULATION. TYP.
08-07	REPLACEMENT ROOF HATCH TO MATCH EXISTING SIZE AND SHAPE, BUT STILL MEET CODE REQUIREMENTS. FLASH ROOF HATCH APPROPRIATELY.
26-07	SECURITY CAMERA. SEE SHEET NOTES AND ELECTRICAL DRAWINGS.

ROOF PLAN LEGEND

DIRECTION OF ROOF SLOPE

SECURITY CAMERA

KEY PLAN



SCALE A 8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO. A4.1.3	TITLE OF SHEET: ENLARGED ROOF PLANS	DRAWING NO. 646 190066
DRAWN: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 42 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

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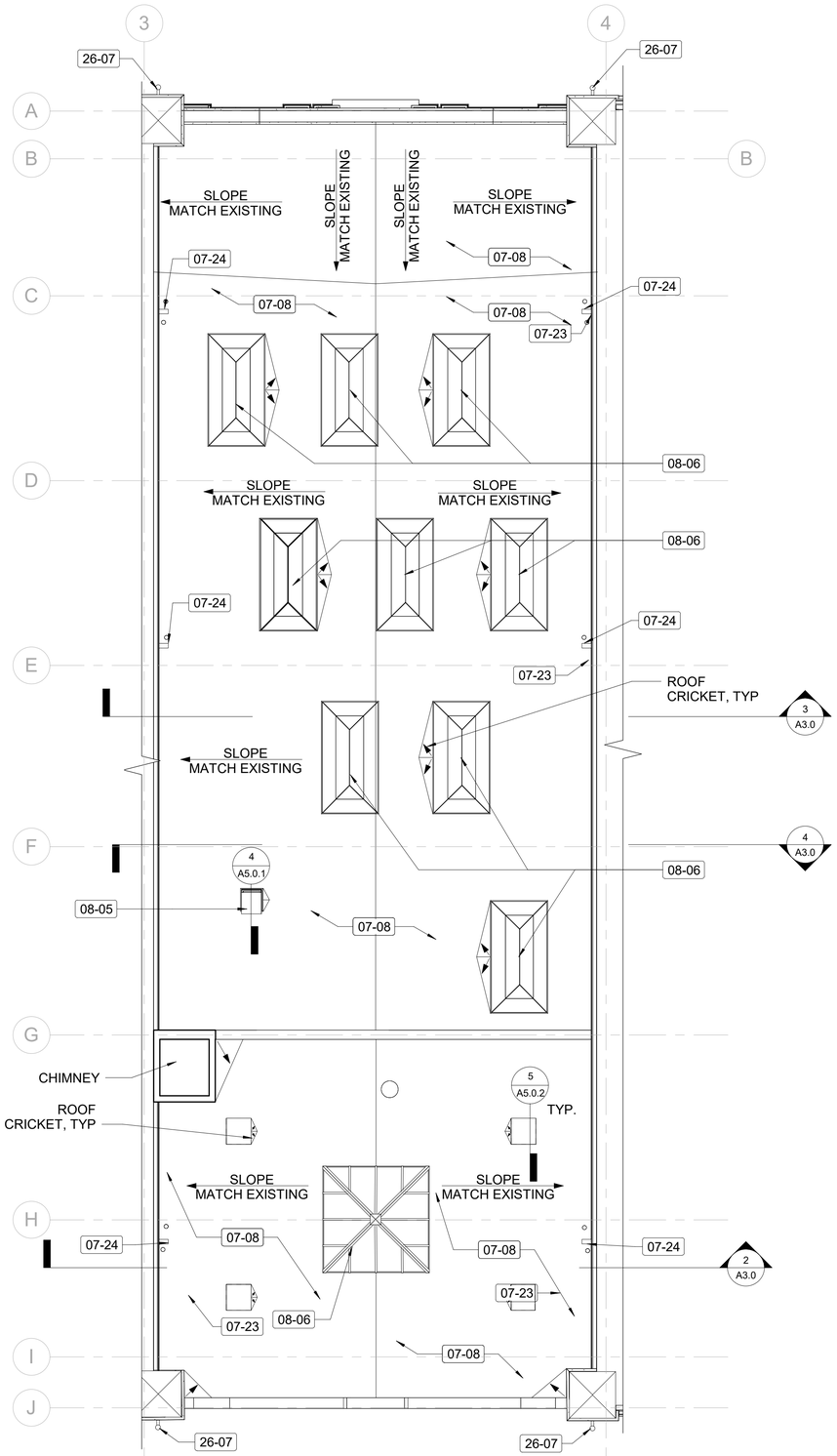


1 A4.1.4 WPA IN-FILL ROOF PLAN
SCALE Ⓐ

SHEET NOTES

1. SEE STRUCTURAL FOR DECKING REPLACEMENT AND REPAIR AND TRUSS REPAIR.
2. SECURITY CAMERAS TO BE MOUNTED TO EXTERIOR OF BUILDING. EXACT MOUNTING HEIGHTS AND LOCATIONS TO BE DETERMINED BY CO DURING CONSTRUCTION. REFER TO OVERALL RCP FOR INTERIOR SECURITY CAMERA LOCATIONS. SEE ELECTRICAL.

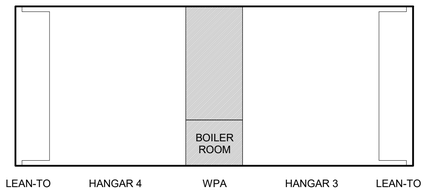
KEYNOTES	
KEY VALUE	TEXT
07-08	TWO LAYERS OF BUILT UP MODIFIED BITUMEN ROOF UNDERNEATH LIQUID APPLIED AND FIBERGLASS REINFORCED POLYETHYLENE TOP COATS.
07-23	ROOF DRAIN AND OVERFLOW IN EXISTING LOCATION. SEE PLUMB.
07-24	DOWNSPOUT SPLASH BLOCK.
08-05	REPLACEMENT STEEL FIXED LADDER FOR ROOF HATCH ACCESS. MOUNT ACCORDING TO MANUFACTURER'S INSTRUCTIONS. AVOID FASTENING INTO MASONRY UNITS, BUT RATHER INTO MORTAR JOINTS.
08-06	REPLACE EXISTING SKYLIGHT WITH NEW IN-KIND REPLACEMENT THAT MATCHES THE ORIGINAL IN SIZE AND SHAPE.
26-07	SECURITY CAMERA. SEE SHEET NOTES AND ELECTRICAL DRAWINGS.

ROOF PLAN LEGEND

DIRECTION OF ROOF SLOPE

SECURITY CAMERA

KEY PLAN



SCALE Ⓐ 8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: ENLARGED ROOF PLANS	DRAWING NO. 646 190066
DRAWN: SW	A4.1.4		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 43 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

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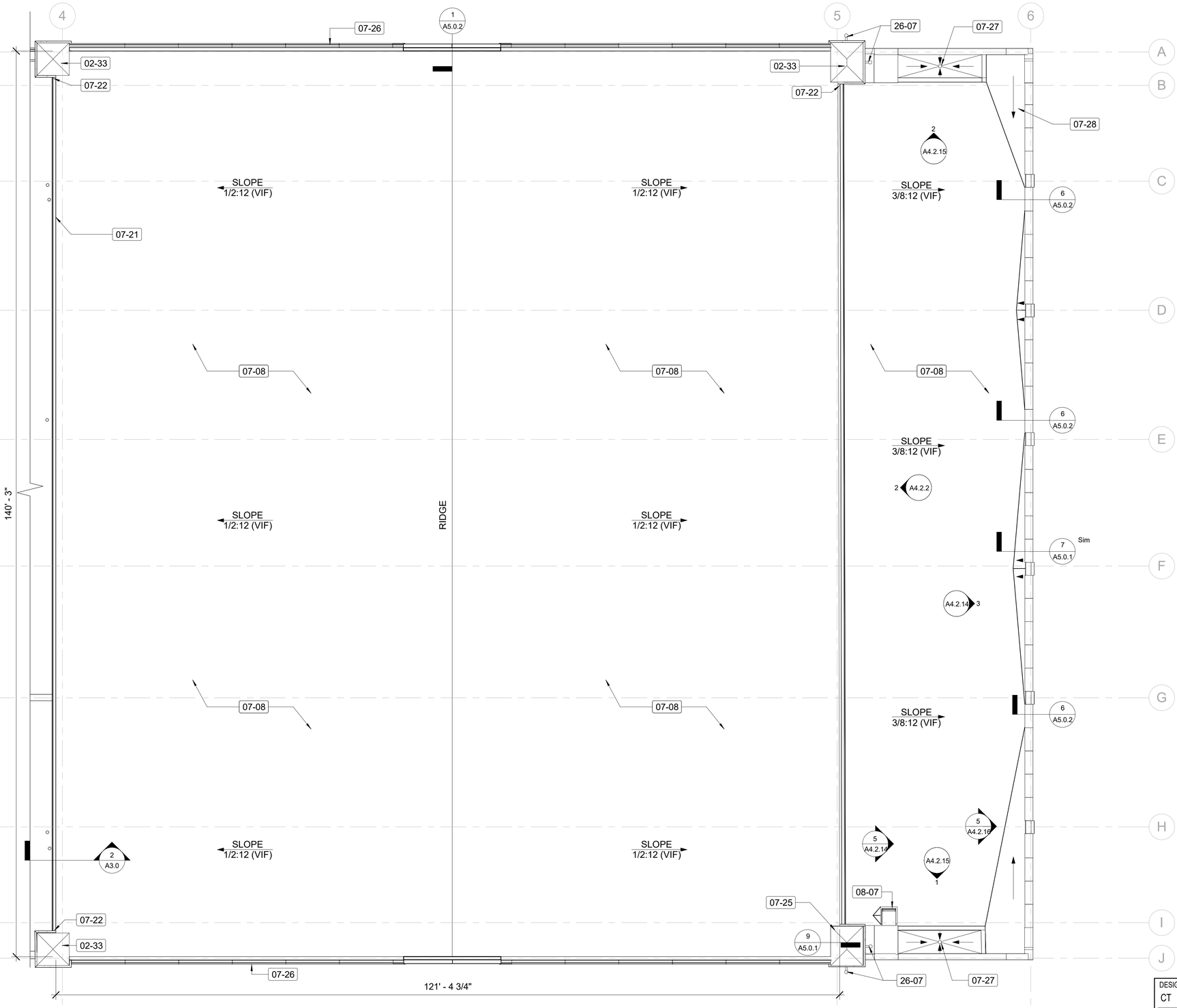


1 A4.1.5 HANGAR 3 ROOF PLAN
SCALE A

SHEET NOTES

1. SEE STRUCTURAL FOR DECKING REPLACEMENT AND REPAIR AND TRUSS REPAIR.
2. SECURITY CAMERAS TO BE MOUNTED TO EXTERIOR OF BUILDING. EXACT MOUNTING HEIGHTS AND LOCATIONS TO BE DETERMINED BY CO DURING CONSTRUCTION. REFER TO OVERALL RCP FOR INTERIOR SECURITY CAMERA LOCATIONS. SEE ELECTRICAL.

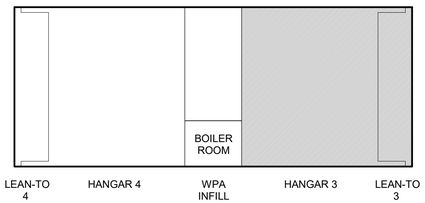
KEYNOTES	
KEY VALUE	TEXT
02-33	EXISTING COPPER CAP TO REMAIN.
07-08	TWO LAYERS OF BUILT UP MODIFIED BITUMEN ROOF UNDERNEATH LIQUID APPLIED AND FIBERGLASS REINFORCED POLYETHYLENE TOP COATS.
07-21	REPLACE EXISTING GUTTER AND DOWNSPOUTS (3). MATCH EXISTING PROFILE.
07-22	GUTTER END WALL EXPANSION JOINT.
07-25	COPPER COLUMN CAP. MATCH EXISTING IN SIZE AND SHAPE.
07-26	COPPER COPING TO MATCH EXISTING.
07-27	ROOF DRAIN.
07-28	CRICKET BUILT UP FROM TAPERED INSULATION. TYP.
08-07	REPLACEMENT ROOF HATCH TO MATCH EXISTING SIZE AND SHAPE, BUT STILL MEET CODE REQUIREMENTS. FLASH ROOF HATCH APPROPRIATELY.
26-07	SECURITY CAMERA. SEE SHEET NOTES AND ELECTRICAL DRAWINGS.

ROOF PLAN LEGEND

DIRECTION OF ROOF SLOPE

SECURITY CAMERA

KEY PLAN



SCALE A 8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

DESIGNED: CT	SUB SHEET NO. A4.1.5	TITLE OF SHEET: ENLARGED ROOF PLANS	DRAWING NO. 646 190066
DRAWN: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 44 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

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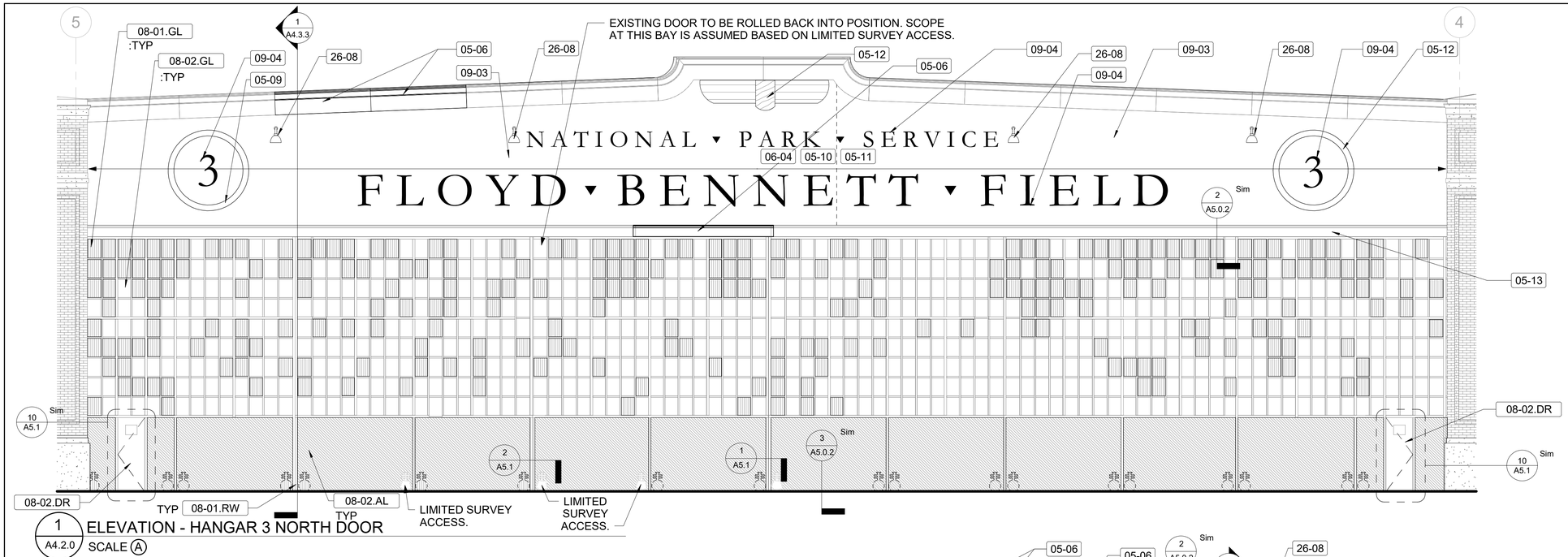
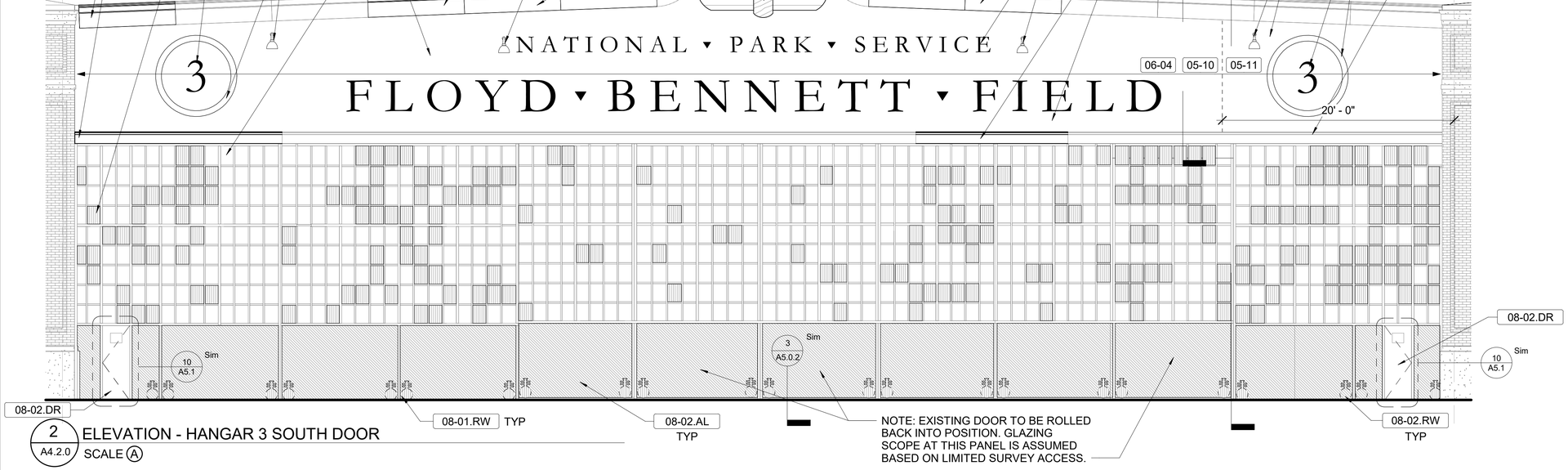


1 A4.2.0 ELEVATION - HANGAR 3 NORTH DOOR
SCALE Ⓐ



2 A4.2.0 ELEVATION - HANGAR 3 SOUTH DOOR
SCALE Ⓐ

SHEET NOTES

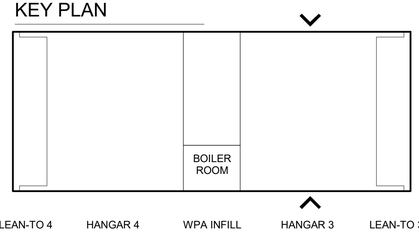
1. CONTRACTOR TO VERIFY ALL EXISTING DIMENSIONS IN FIELD.
2. ALL HANGAR DOORS SHOULD BE REMOVED COMPLETELY FROM THEIR TRACKS FOR RESTORATION.
3. REFER TO STRUCTURAL DRAWINGS FOR REPLACEMENT/REPAIR OF HANGAR DOOR STRUCTURAL MEMBERS.
4. HANGAR DOORS ARE TO BE REINSTALLED TO BE FULLY OPERABLE.
5. FOR HANGAR DOOR STRUTURAL MEMBER REPAIRS, SEE DETAILS ON STRUCTURAL DRAWINGS.

KEYNOTES	
KEY VALUE	TEXT
05-06	IN-KIND REPLACEMENT SHEET METAL TRIM PANEL. PRIME AND PAINT. COLOR TO MATCH HANGARS 1&2 TRIM.
05-09	INSTALL IN-KIND REPLACEMENT DECORATIVE METAL ELEMENT TO MATCH EXISTING.
05-10	INSTALL CORRUGATED COPPER SHEETING TO MATCH EXISTING.
05-11	CLEAN, REPAIR AND REINSTALL EXISTING SALVAGED COPPER SHEETING.
05-12	REPAIR, CLEAN AND REINSTALL SALVAGED DECORATIVE METAL ELEMENT.
05-13	ABATE LEAD PAINT ON EXISTING METAL TRIM. CLEAN, PRIME AND PAINT TO MATCH HANGARS 1&2.
06-04	INSTALL REPLACEMENT WOOD PLANKING SUBSTRATE. ASSUME 1X6 BOARDS.
08-01.GL	CAREFULLY REMOVE EXISTING WIREGLASS FROM STEEL FRAME. CLEAN AND REINSTALL. IF GLAZING APPEARS TO BE DAMAGED ONCE CONTRACTOR HAS REMOVED IT, THE EXISTING GLAZING SHOULD BE REPLACED WITH REPLICA GLAZING.
08-01.RW	DISMANTLE EXISTING WHEEL. BLAST TO BARE METAL. SHOP PRIME AND PAINT. REINSTALL TO BE OPERATIONAL. REPLACE WITH ON SITE SALVAGED WHEEL AS-NEEDED.
08-02.AL	REMOVE EXISTING DETERIORATED ALUMINUM PANELS AND RIVETS. REPLACE WITH ALUMINUM PANELS AND RIVETS TO MATCH EXISTING. SHOP PRIME AND PAINT METAL. PRIME AND PAINT RIVET HEADS AFTER INSTALLATION.
08-02.DR	REPLACE EXISTING DOOR WITH IN-KIND REPLACEMENT HISTORIC ALUMINUM DOOR AND HARDWARE.
08-02.GL	REMOVE EXISTING GLAZING. REPLACE WITH REPLICA ETCHED CHICKENWIRE SINGLE PANE GLAZING.
08-02.RW	REPLACE EXISTING ROLLING WHEEL WITH IN-KIND REPLACEMENT HISTORIC ROLLING WHEEL AND HARDWARE.
09-03	PRIME AND PAINT CORRUGATED COPPER SHEETING. COLOR TO MATCH HANGARS 1&2.
09-04	PAINT TEXT AND SYMBOLS TO MATCH HANGARS 1&2 IN SIZE AND TEXT TYPE.
26-08	INSTALL LIGHT FIXTURE AT EXISTING ORIGINAL JBOX LOCATIONS. SEE ELECTRICAL.

GLAZING AND HANGAR DOOR REPAIR LEGEND

GLAZING	ALUMINUM PANEL	ROLLING DOOR HARDWARE
08-01.GL	08-01.AL	08-01.RW
08-02.GL	08-02.AL	08-02.RW
	08-02.DR	

KEY PLAN



HANGAR 3&4 FRIEZES TO MATCH EXISTING HANGAR 1&2 FRIEZES IN TERMS OF TEXT STYLE AND SIZES.

SCALE Ⓐ 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO. A4.2.0	TITLE OF SHEET: ENLARGED ELEVATIONS - HANGAR 3 DOORS	DRAWING NO. 646 190066
DRAWN: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 45 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

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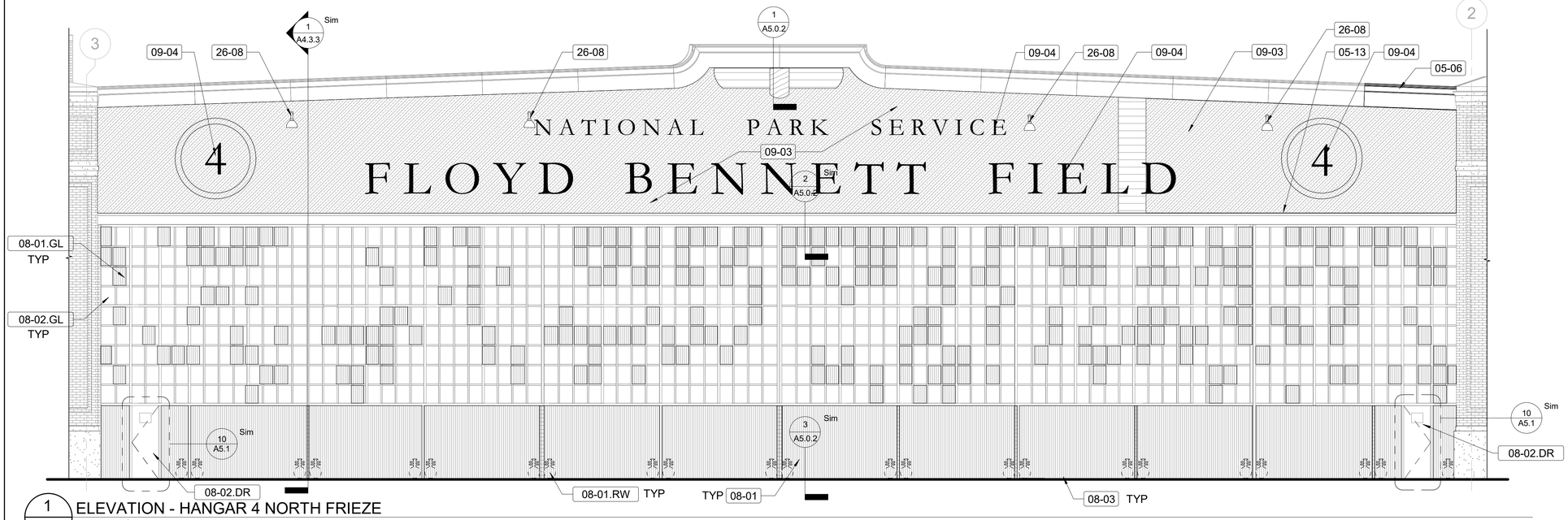
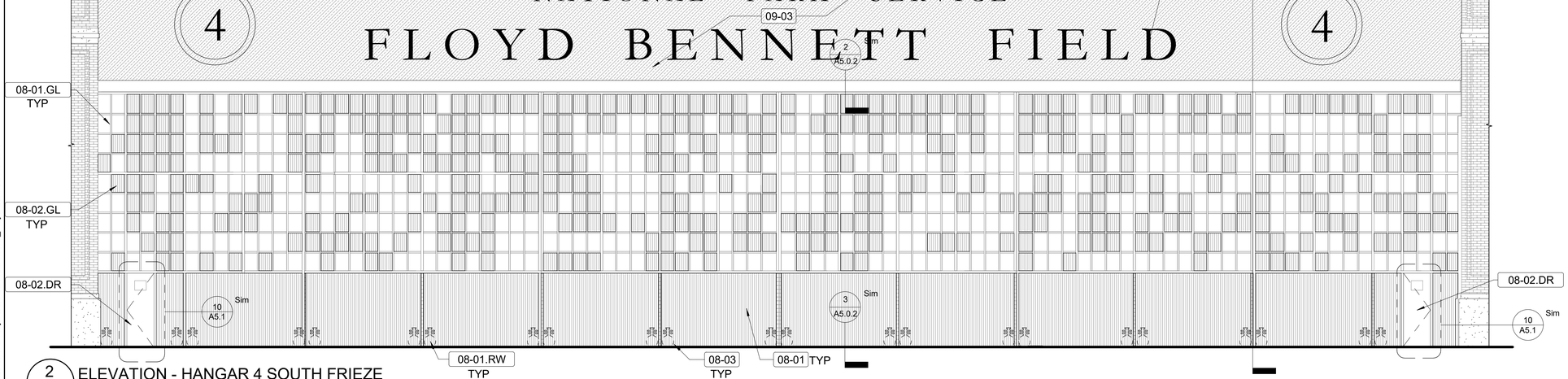


1 A4.2.1 ELEVATION - HANGAR 4 NORTH FRIEZE
SCALE Ⓐ



2 A4.2.1 ELEVATION - HANGAR 4 SOUTH FRIEZE
SCALE Ⓐ

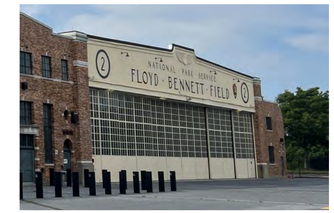
GLAZING AND HANGAR DOOR REPAIR LEGEND

GLAZING	ALUMINUM PANEL	ROLLING DOOR HARDWARE
08-01.GL	08-01.AL	08-01.RW
08-02.GL	08-02.AL	08-02.RW
	08-02.DR	

SHEET NOTES

1. CONTRACTOR TO VERIFY ALL EXISTING DIMENSIONS IN FIELD.
2. ALL HANGAR DOORS SHOULD BE REMOVED COMPLETELY FROM THEIR TRACKS FOR RESTORATION.
3. REFER TO STRUCTURAL DRAWINGS FOR REPLACEMENT/REPAIR OF HANGAR DOOR STRUCTURAL MEMBERS.
4. HANGAR DOORS ARE TO BE REINSTALLED TO BE FULLY OPERABLE.
5. FOR HANGAR DOOR STRUTURAL MEMBER REPAIRS, SEE DETAILS ON STRUCTURAL DRAWINGS.

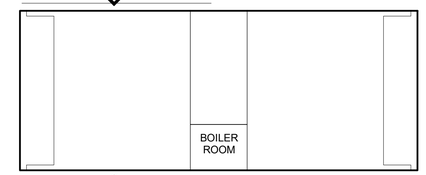
KEYNOTES	
KEY VALUE	TEXT
05-06	IN-KIND REPLACEMENT SHEET METAL TRIM PANEL. PRIME AND PAINT. COLOR TO MATCH HANGARS 1&2 TRIM.
05-13	ABATE LEAD PAINT ON EXISTING METAL TRIM. CLEAN, PRIME AND PAINT TO MATCH HANGARS 1&2.
08-01	REMOVE EXISTING ALUMINUM PANEL. STRIP EXISTING PAINT. SHOP PRIME AND PAINT. REINSTALL WITH ALUMINUM RIVETS TO MATCH EXISTING HISTORIC FASTENERS. PRIME AND PAINT RIVETS TO MATCH.
08-01.GL	CAREFULLY REMOVE EXISTING WIREGLASS FROM STEEL FRAME. CLEAN AND REINSTALL. IF GLAZING APPEARS TO BE DAMAGED ONCE CONTRACTOR HAS REMOVED IT, THE EXISTING GLAZING SHOULD BE REPLACED WITH REPLICA GLAZING.
08-01.RW	DISMANTLE EXISTING WHEEL. BLAST TO BARE METAL. SHOP PRIME AND PAINT. REINSTALL TO BE OPERATIONAL. REPLACE WITH ON SITE SALVAGED WHEEL AS-NEEDED.
08-02.DR	REPLACE EXISTING DOOR WITH IN-KIND REPLACEMENT HISTORIC ALUMINUM DOOR AND HARDWARE.
08-02.GL	REMOVE EXISTING GLAZING. REPLACE WITH REPLICA ETCHED CHICKENWIRE SINGLE PANE GLAZING.
08-03	CAREFULLY REMOVE EXISTING GASKETING.
09-03	PRIME AND PAINT CORRUGATED COPPER SHEETING. COLOR TO MATCH HANGARS 1&2.
09-04	PAINT TEXT AND SYMBOLS TO MATCH HANGARS 1&2 IN SIZE AND TEXT TYPE.
26-08	INSTALL LIGHT FIXTURE AT EXISTING ORIGINAL JBOX LOCATIONS. SEE ELECTRICAL.



HANGAR 3&4 FRIEZES MATCH EXISTING HANGAR 1&2 FRIEZES.

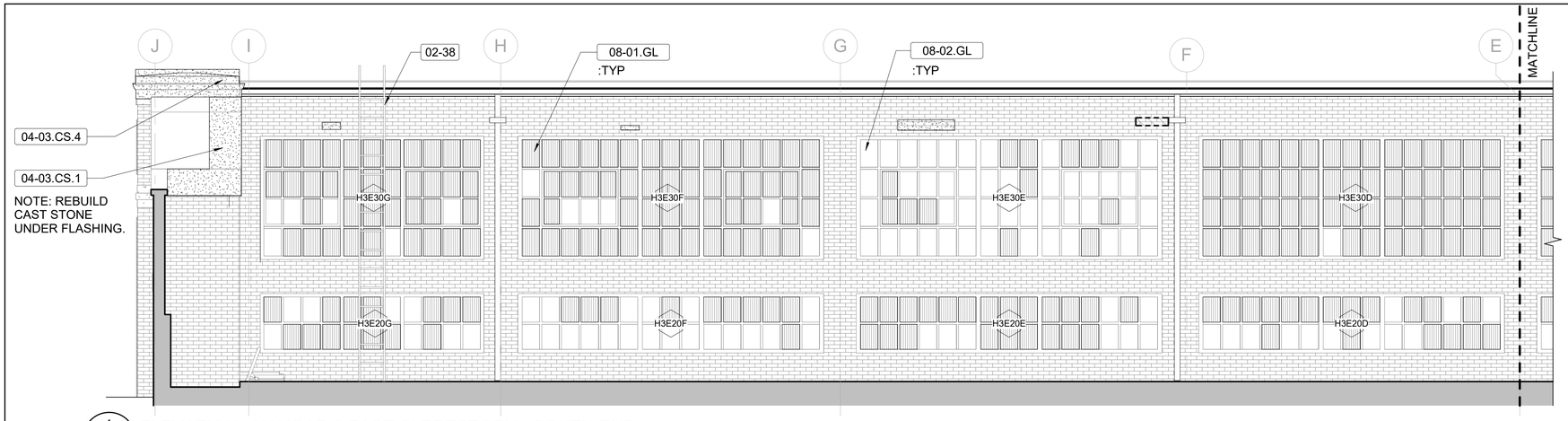
SCALE Ⓐ 4' 2' 0 4' 8'
SCALE OF FEET

KEY PLAN



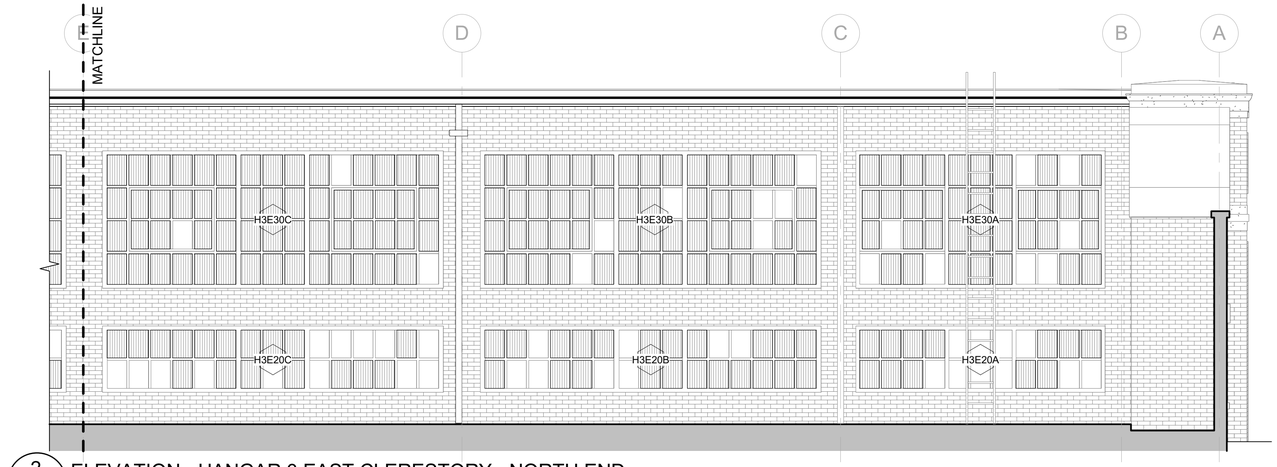
DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 190066
DRAWN: SW	A4.2.1	ENLARGED ELEVATIONS - HANGAR 4 DOORS	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 46 OF 153
DATE: 12/19/2025			

Autodesk Docs://GATE Floyd Bennett Field/GATE_Floyd Bennett Field.rvt
12/18/2025 4:18:53 PM



1 A4.2.2 ELEVATION - HANGAR 3 EAST CLERESTORY - SOUTH END

SCALE Ⓐ



2 A4.2.2 ELEVATION - HANGAR 3 EAST CLERESTORY - NORTH END

SCALE Ⓐ

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
02-38	REMOVE EXISTING LADDER. REPLACE WITH FIXED STEEL ROOF ACCESS LADDER.
04-03.CS.1	REMOVE ATMOSPHERIC STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.4	REMOVE CUPROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
08-01.GL	CAREFULLY REMOVE EXISTING WIREGLASS FROM STEEL FRAME. CLEAN AND REINSTALL. IF GLAZING APPEARS TO BE DAMAGED ONCE CONTRACTOR HAS REMOVED IT, THE EXISTING GLAZING SHOULD BE REPLACED WITH REPLICA GLAZING.
08-02.GL	REMOVE EXISTING GLAZING. REPLACE WITH REPLICA ETCHED CHICKENWIRE SINGLE PANE GLAZING.

CONCRETE & MASONRY REPAIR LEGEND TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

GENERAL

- 04-07 SEALANT IN JOINT

CONCRETE

- 03-01 CRACK REPAIR
- 03-04 PATCHING

BRICK

- 04-01.BR DISPLACEMENT - AREA OF REBUILD
- 04-02.BR REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
  - 04-03.BR.2 *BIOLOGICAL GROWTH*
  - 04-03.BR.3 *FERROUS STAINING*
  - 04-03.BR.4 *CUPROUS STAINING*
  - 04-03.BR.5 *PAINT*
  - 04-03.BR.6 *CALCIUM DEPOSIT*
- 04-04.BR UNIT REPLACEMENT
- 04-12 CRACK REPAIR

CAST STONE

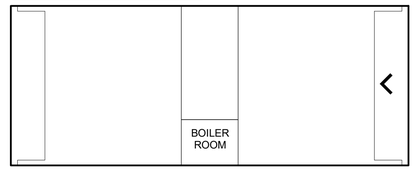
- 04-01.CS DISPLACEMENT - AREA OF REBUILD
- 04-02.CS REPOINTING
- CLEANING
  - 04-03.CS.1 *ATMOSPHERIC STAINING*
  - 04-03.CS.2 *BIOLOGICAL GROWTH*
  - 04-03.CS.3 *FERROUS STAINING*
  - 04-03.CS.4 *CUPROUS STAINING*
  - 04-03.CS.5 *PAINT*
  - 04-03.CS.6 *EFFLORESCENCE*
- 04-04.CS UNIT REPLACEMENT
- 04-05.CS PATCHING
- 04-06.CS CRACK REPAIR

GLAZING LEGEND

GLAZING

- 08-01.GL SALVAGE AND REINSTALL
- 08-02.GL REPLACE WITH REPLICA

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: EXTERIOR ELEVATIONS - HANGAR 3 EAST CLERESTORY	DRAWING NO. 646 190066
DRAWN: SW	A4.2.2	GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 47 OF 153
DATE: 12/19/2025			

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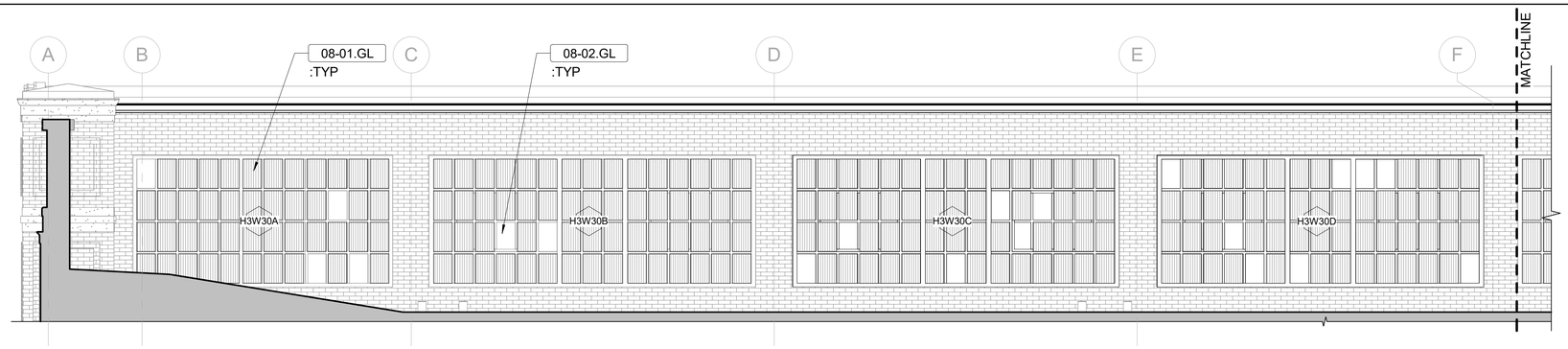
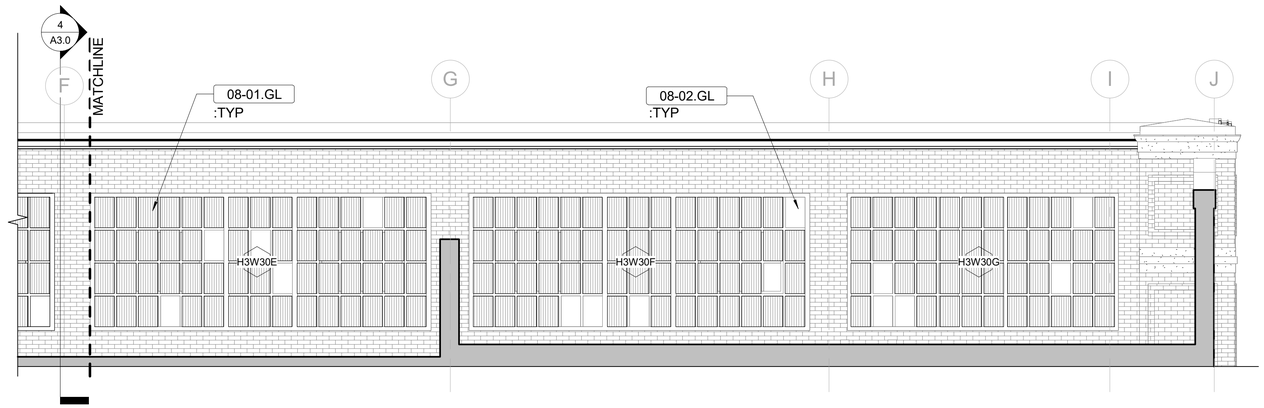
12/18/2025 4:18:56 PM



1 A4.2.3 ELEVATION - HANGAR 3 WEST CLERESTORY - NORTH END

SCALE Ⓐ



2 A4.2.3 ELEVATION - HANGAR 3 WEST CLERESTORY - SOUTH END

SCALE Ⓐ

NOTE: ELEVATION MASONRY CONDITIONS WERE UNABLE TO BE ACCESSED AND THEREFORE NOT SURVEYED. ASSUME 25% REPOINTING.

CONCRETE & MASONRY REPAIR LEGEND TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

GENERAL

04-07 SEALANT IN JOINT

CONCRETE

03-01 CRACK REPAIR

03-04 PATCHING

BRICK

04-01.BR DISPLACEMENT - AREA OF REBUILD

04-02.BR REPOINTING

CLEANING

04-03.BR.1 *ATMOSPHERIC STAINING*

04-03.BR.2 *BIOLOGICAL GROWTH*

04-03.BR.3 *FERROUS STAINING*

04-03.BR.4 *CUPROUS STAINING*

04-03.BR.5 *PAINT*

04-03.BR.6 *CALCIUM DEPOSIT*

04-04.BR UNIT REPLACEMENT

04-12 CRACK REPAIR

CAST STONE

04-01.CS DISPLACEMENT - AREA OF REBUILD

04-02.CS REPOINTING

CLEANING

04-03.CS.1 *ATMOSPHERIC STAINING*

04-03.CS.2 *BIOLOGICAL GROWTH*

04-03.CS.3 *FERROUS STAINING*

04-03.CS.4 *CUPROUS STAINING*

04-03.CS.5 *PAINT*

04-03.CS.6 *EFFLORESCENCE*

04-04.CS UNIT REPLACEMENT

04-05.CS PATCHING

04-06.CS CRACK REPAIR

GLAZING LEGEND

GLAZING

08-01.GL SALVAGE AND REINSTALL

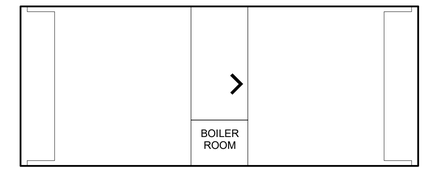
08-02.GL REPLACE WITH REPLICA

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
08-01.GL	CAREFULLY REMOVE EXISTING WIREGLASS FROM STEEL FRAME. CLEAN AND REINSTALL. IF GLAZING APPEARS TO BE DAMAGED ONCE CONTRACTOR HAS REMOVED IT, THE EXISTING GLAZING SHOULD BE REPLACED WITH REPLICA GLAZING.
08-02.GL	REMOVE EXISTING GLAZING. REPLACE WITH REPLICA ETCHED CHICKENWIRE SINGLE PANE GLAZING.

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A4.2.3	TITLE OF SHEET EXTERIOR ELEVATIONS - HANGAR 3 WEST CLERESTORY GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 48 OF 153

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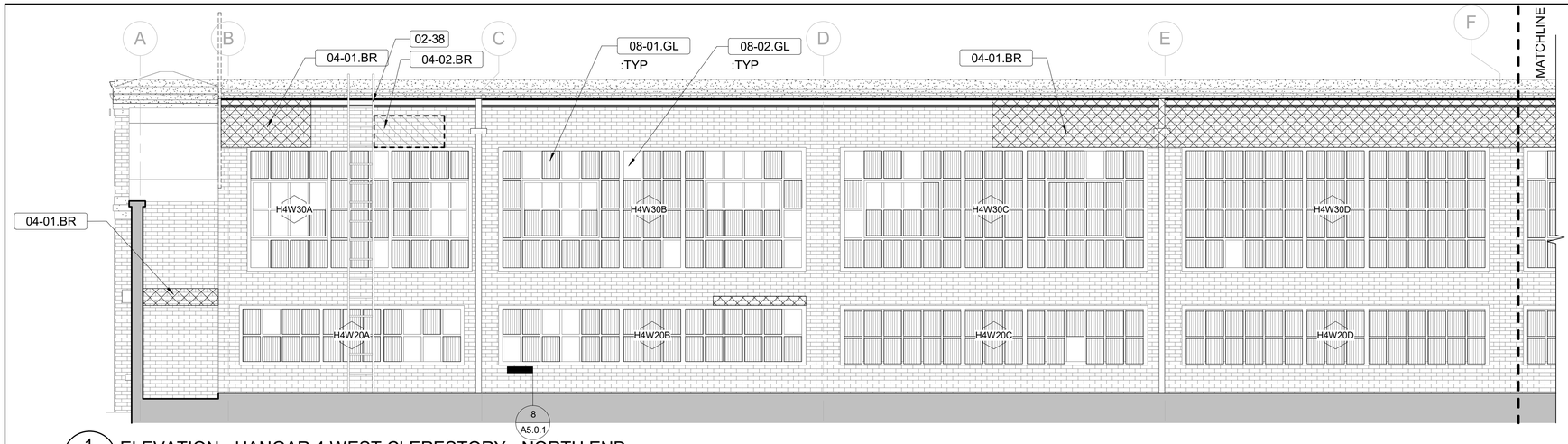
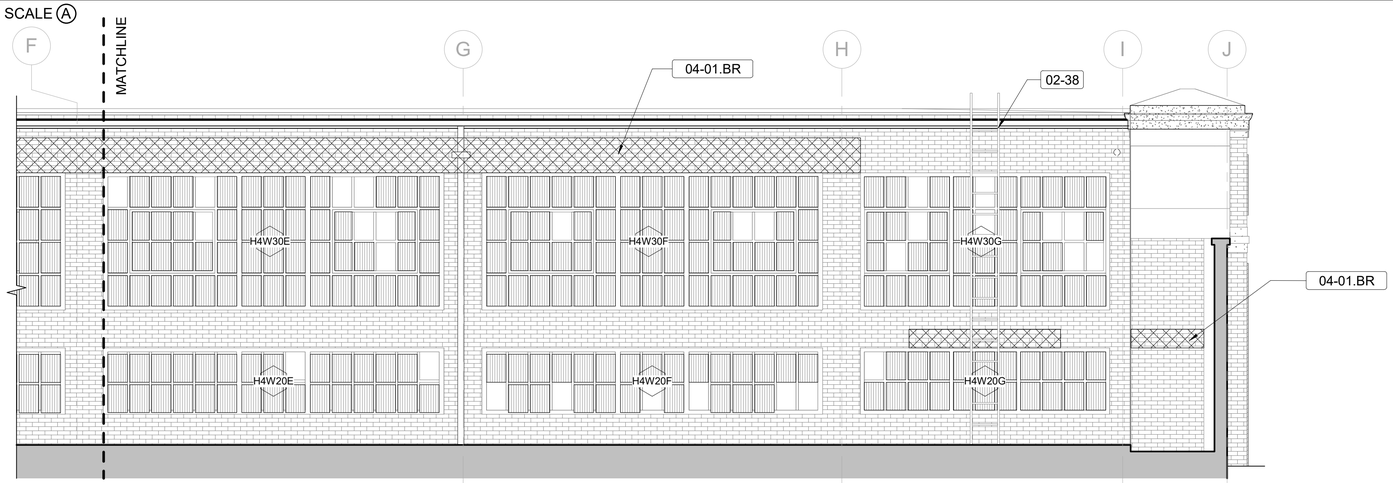


1 A4.2.4 ELEVATION - HANGAR 4 WEST CLERESTORY - NORTH END

SCALE Ⓐ



2 A4.2.4 ELEVATION - HANGAR 4 WEST CLERESTORY - SOUTH END

SCALE Ⓐ

CONCRETE & MASONRY REPAIR LEGEND TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

GENERAL

04-07	SEALANT IN JOINT	

CONCRETE

03-01	CRACK REPAIR	
03-04	PATCHING	

BRICK

04-01.BR	DISPLACEMENT - AREA OF REBUILD	
04-02.BR	REPOINTING	
	CLEANING	
04-03.BR.1	*ATMOSPHERIC STAINING*	
04-03.BR.2	*BIOLOGICAL GROWTH*	
04-03.BR.3	*FERROUS STAINING*	
04-03.BR.4	*CUPROUS STAINING*	
04-03.BR.5	*PAINT*	
04-03.BR.6	*CALCIUM DEPOSIT*	
04-04.BR	UNIT REPLACEMENT	
04-12	CRACK REPAIR	

CAST STONE

04-01.CS	DISPLACEMENT - AREA OF REBUILD	
04-02.CS	REPOINTING	
	CLEANING	
04-03.CS.1	*ATMOSPHERIC STAINING*	
04-03.CS.2	*BIOLOGICAL GROWTH*	
04-03.CS.3	*FERROUS STAINING*	
04-03.CS.4	*CUPROUS STAINING*	
04-03.CS.5	*PAINT*	
04-03.CS.6	*EFFLORESCENCE*	
04-04.CS	UNIT REPLACEMENT	
04-05.CS	PATCHING	
04-06.CS	CRACK REPAIR	

GLAZING LEGEND

GLAZING

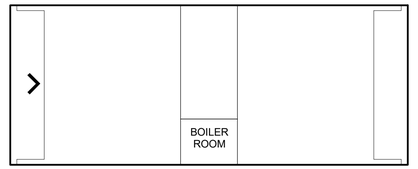
08-01.GL	SALVAGE AND REINSTALL
08-02.GL	REPLACE WITH REPLICA

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
02-38	REMOVE EXISTING LADDER. REPLACE WITH FIXED STEEL ROOF ACCESS LADDER.
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
08-01.GL	CAREFULLY REMOVE EXISTING WIREGLASS FROM STEEL FRAME. CLEAN AND REINSTALL. IF GLAZING APPEARS TO BE DAMAGED ONCE CONTRACTOR HAS REMOVED IT, THE EXISTING GLAZING SHOULD BE REPLACED WITH REPLICA GLAZING.
08-02.GL	REMOVE EXISTING GLAZING. REPLACE WITH REPLICA ETCHED CHICKENWIRE SINGLE PANE GLAZING.

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: EXTERIOR ELEVATIONS - HANGAR 4 WEST CLERESTORY	DRAWING NO. 646 190066
DRAWN: SW	A4.2.4	GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 49 OF 153
DATE: 12/19/2025			

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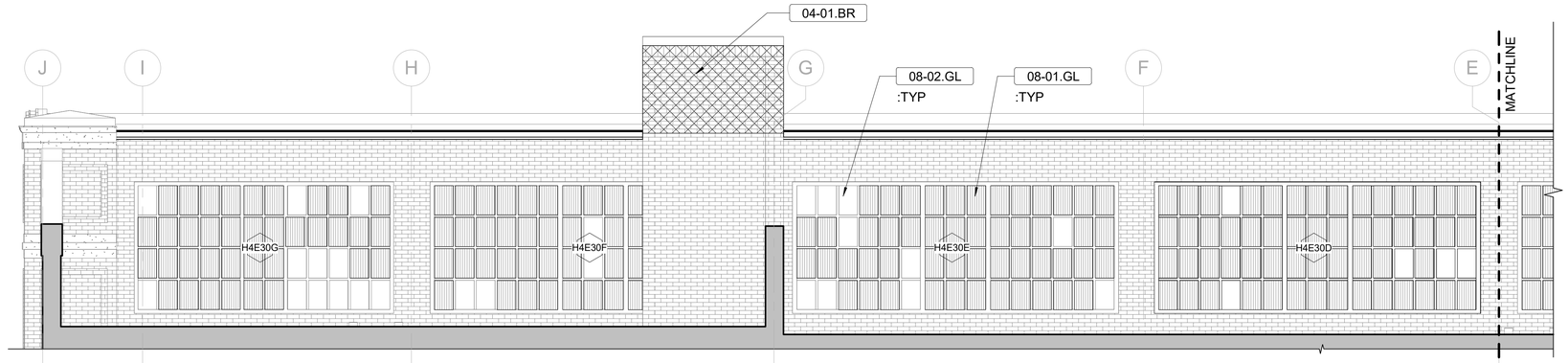
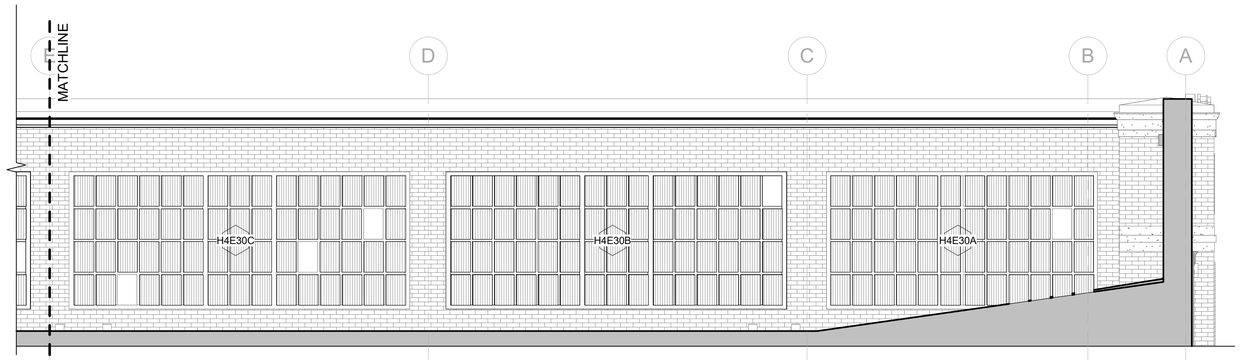
12/18/2025 4:19:01 PM



1 A4.2.5 ELEVATION - HANGAR 4 EAST CLERESTORY - SOUTH END

SCALE Ⓐ



2 A4.2.5 ELEVATION - HANGAR 4 EAST CLERESTORY - NORTH END

SCALE Ⓐ

NOTE: ELEVATION MASONRY CONDITIONS WERE UNABLE TO BE ACCESSED AND THEREFORE NOT SURVEYED. ASSUME APPROXIMATELY 25% REPOINTING

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
08-01.GL	CAREFULLY REMOVE EXISTING WIREGLASS FROM STEEL FRAME. CLEAN AND REINSTALL. IF GLAZING APPEARS TO BE DAMAGED ONCE CONTRACTOR HAS REMOVED IT, THE EXISTING GLAZING SHOULD BE REPLACED WITH REPLICA GLAZING.
08-02.GL	REMOVE EXISTING GLAZING. REPLACE WITH REPLICA ETCHED CHICKENWIRE SINGLE PANE GLAZING.

CONCRETE & MASONRY REPAIR LEGEND TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

GENERAL

04-07 SEALANT IN JOINT

CONCRETE

03-01 CRACK REPAIR

03-04 PATCHING

BRICK

04-01.BR DISPLACEMENT - AREA OF REBUILD

04-02.BR REPOINTING

CLEANING

04-03.BR.1 *ATMOSPHERIC STAINING*

04-03.BR.2 *BIOLOGICAL GROWTH*

04-03.BR.3 *FERROUS STAINING*

04-03.BR.4 *CUPROUS STAINING*

04-03.BR.5 *PAINT*

04-03.BR.6 *CALCIUM DEPOSIT*

04-04.BR UNIT REPLACEMENT

04-12 CRACK REPAIR

CAST STONE

04-01.CS DISPLACEMENT - AREA OF REBUILD

04-02.CS REPOINTING

CLEANING

04-03.CS.1 *ATMOSPHERIC STAINING*

04-03.CS.2 *BIOLOGICAL GROWTH*

04-03.CS.3 *FERROUS STAINING*

04-03.CS.4 *CUPROUS STAINING*

04-03.CS.5 *PAINT*

04-03.CS.6 *EFFLORESCENCE*

04-04.CS UNIT REPLACEMENT

04-05.CS PATCHING

04-06.CS CRACK REPAIR

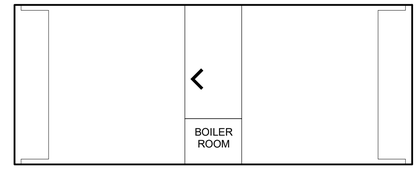
GLAZING LEGEND

GLAZING

08-01.GL SALVAGE AND REINSTALL

08-02.GL REPLACE WITH REPLICA

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO. A4.2.5	TITLE OF SHEET: EXTERIOR ELEVATIONS - HANGAR 4 EAST CLERESTORY	DRAWING NO. 646 190066
DRAWN: SW		GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 50 OF 153
DATE: 12/19/2025			

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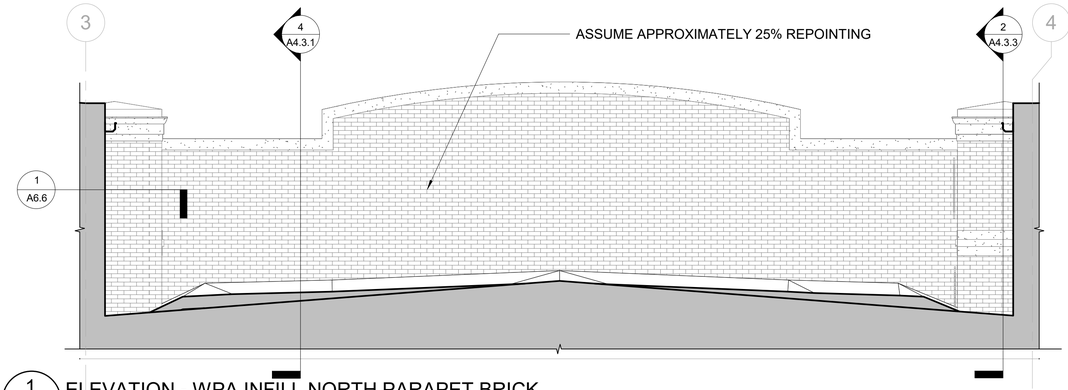
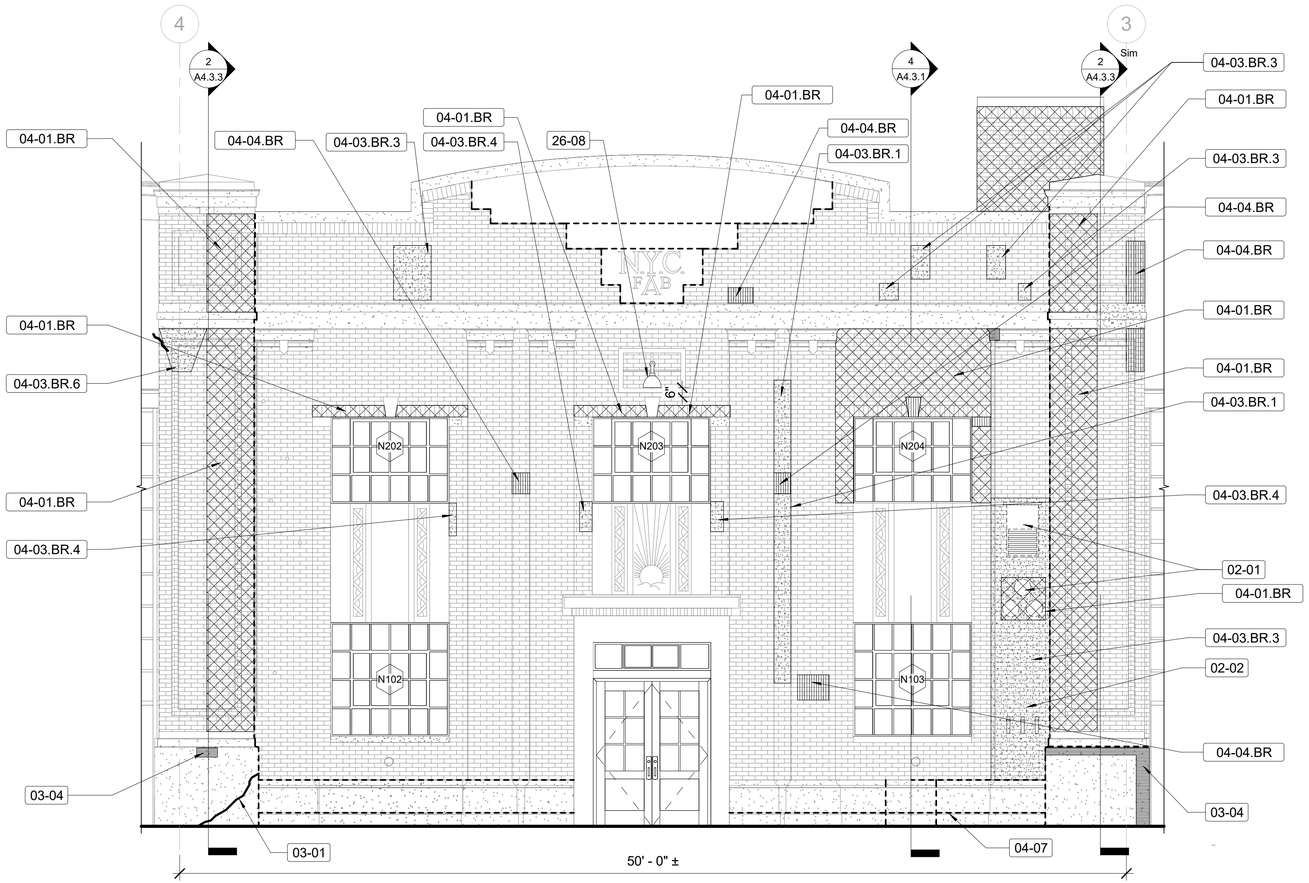


1 A4.2.10 ELEVATION - WPA INFILL NORTH PARAPET BRICK
SCALE A



2 A4.2.10 ELEVATION - WPA INFILL - NORTH BRICK
SCALE A

CONCRETE & BRICK REPAIR LEGEND

GENERAL

	04-07	SEALANT IN JOINT

CONCRETE

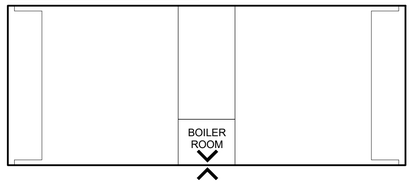
	03-01	CRACK REPAIR
	03-04	PATCHING

BRICK

	04-01.BR	DISPLACEMENT - AREA OF REBUILD
	04-02.BR	REPOINTING
		CLEANING
	04-03.BR.1	*ATMOSPHERIC STAINING*
	04-03.BR.2	*BIOLOGICAL GROWTH*
	04-03.BR.3	*FERROUS STAINING*
	04-03.BR.4	*CUPROUS STAINING*
	04-03.BR.5	*PAINT*
	04-03.BR.6	*CALCIUM DEPOSIT*
	04-04.BR	UNIT REPLACEMENT
	04-12	CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEY PLAN



SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
02-01	CAREFULLY REMOVE AND SALVAGE EXISTING ITEM(S). RETURN TO GOVERNMENT.
02-02	REMOVE EXISTING ITEM(S).
03-01	CONCRETE CRACK REPAIR. REFER TO TYPICAL DETAIL SHEETS.
03-04	PATCH AND REPAIR EXISTING CONCRETE PANEL.
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-03.BR.1	REMOVE ATMOSPHERIC STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.4	REMOVE CUPROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.6	REMOVE CALCIUM DEPOSITE USING THE GENTLEST CLEANING METHODS FIRST.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-07	REMOVE EXISTING SEALANT IN JOINT INDICATED. AVOID DAMAGING EXISTING MASONRY. ALL JOINTS BETWEEN SIMILAR MATERIALS ARE TO BE REPOINTED WITH MORTAR. ALL JOINTS BETWEEN DISSIMILAR JOINTS ARE TO BE SEALANT JOINTS. REFER TO TYPICAL MASONRY REPAIR DETAILS.
26-08	INSTALL LIGHT FIXTURE AT EXISTING ORIGINAL JBOX LOCATIONS. SEE ELECTRICAL.

SCALE A
4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A4.2.10	TITLE OF SHEET EXTERIOR ELEVATIONS - WPA INFILL NORTH - BRICK GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 51 OF 153

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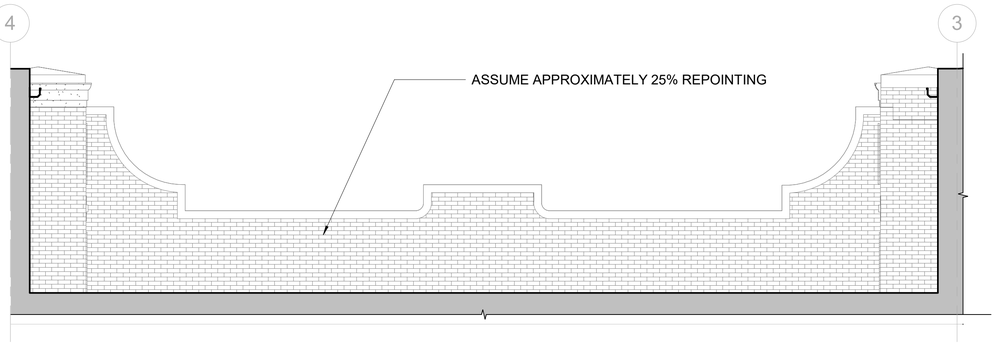
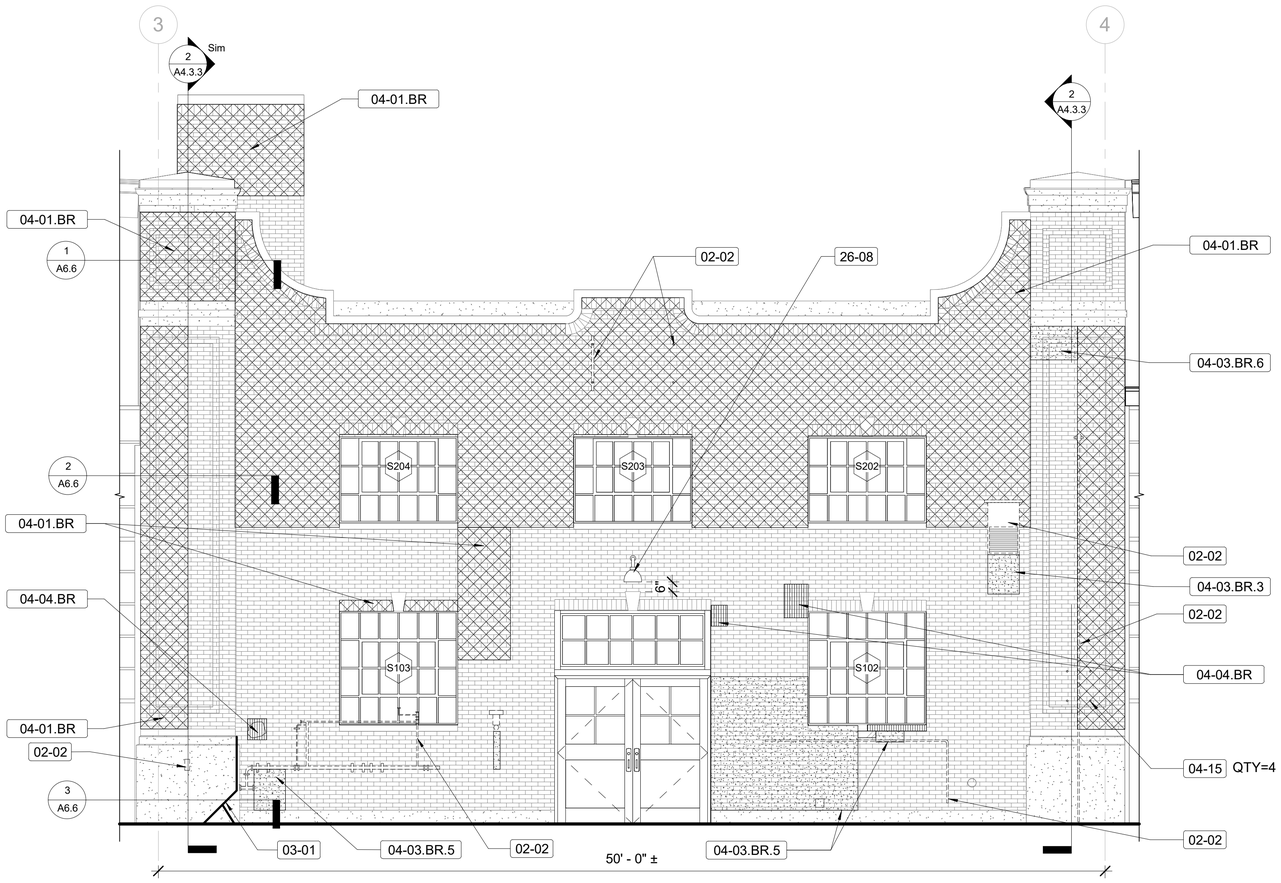


1 A4.2.11 ELEVATION - WPA INFILL SOUTH PARAPET BRICK
SCALE Ⓐ



2 A4.2.11 ELEVATION - WPA INFILL SOUTH BRICK
SCALE Ⓐ

CONCRETE & BRICK REPAIR LEGEND

GENERAL

04-07	SEALANT IN JOINT

CONCRETE

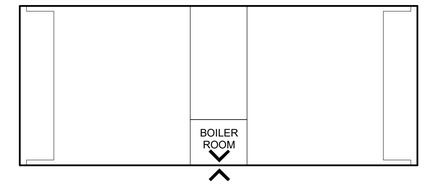
03-01	CRACK REPAIR
03-04	PATCHING

BRICK

04-01.BR	DISPLACEMENT - AREA OF REBUILD
04-02.BR	REPOINTING
	CLEANING
04-03.BR.1	*ATMOSPHERIC STAINING*
04-03.BR.2	*BIOLOGICAL GROWTH*
04-03.BR.3	*FERROUS STAINING*
04-03.BR.4	*CUPROUS STAINING*
04-03.BR.5	*PAINT*
04-03.BR.6	*CALCIUM DEPOSIT*
04-04.BR	UNIT REPLACEMENT
04-12	CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEY PLAN



SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
03-01	CONCRETE CRACK REPAIR. REFER TO TYPICAL DETAIL SHEETS.
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-03.BR.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.5	REMOVE PAINT USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.6	REMOVE CALCIUM DEPOSITE USING THE GENTLEST CLEANING METHODS FIRST.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.
26-08	INSTALL LIGHT FIXTURE AT EXISTING ORIGINAL JBOX LOCATIONS. SEE ELECTRICAL.

SCALE Ⓐ
4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: EXTERIOR ELEVATIONS - WPA INFILL SOUTH - BRICK	DRAWING NO. 646 190066
DRAWN: SW	A4.2.11		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 52 OF 153
DATE: 12/19/2025			

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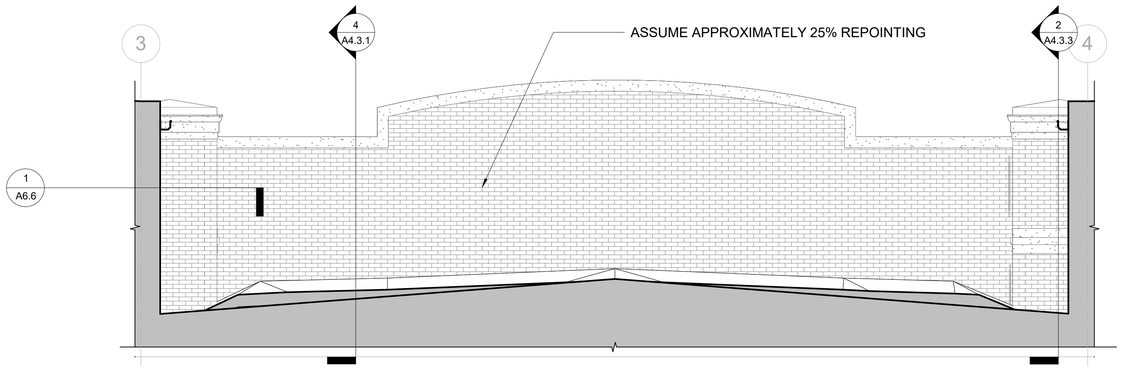
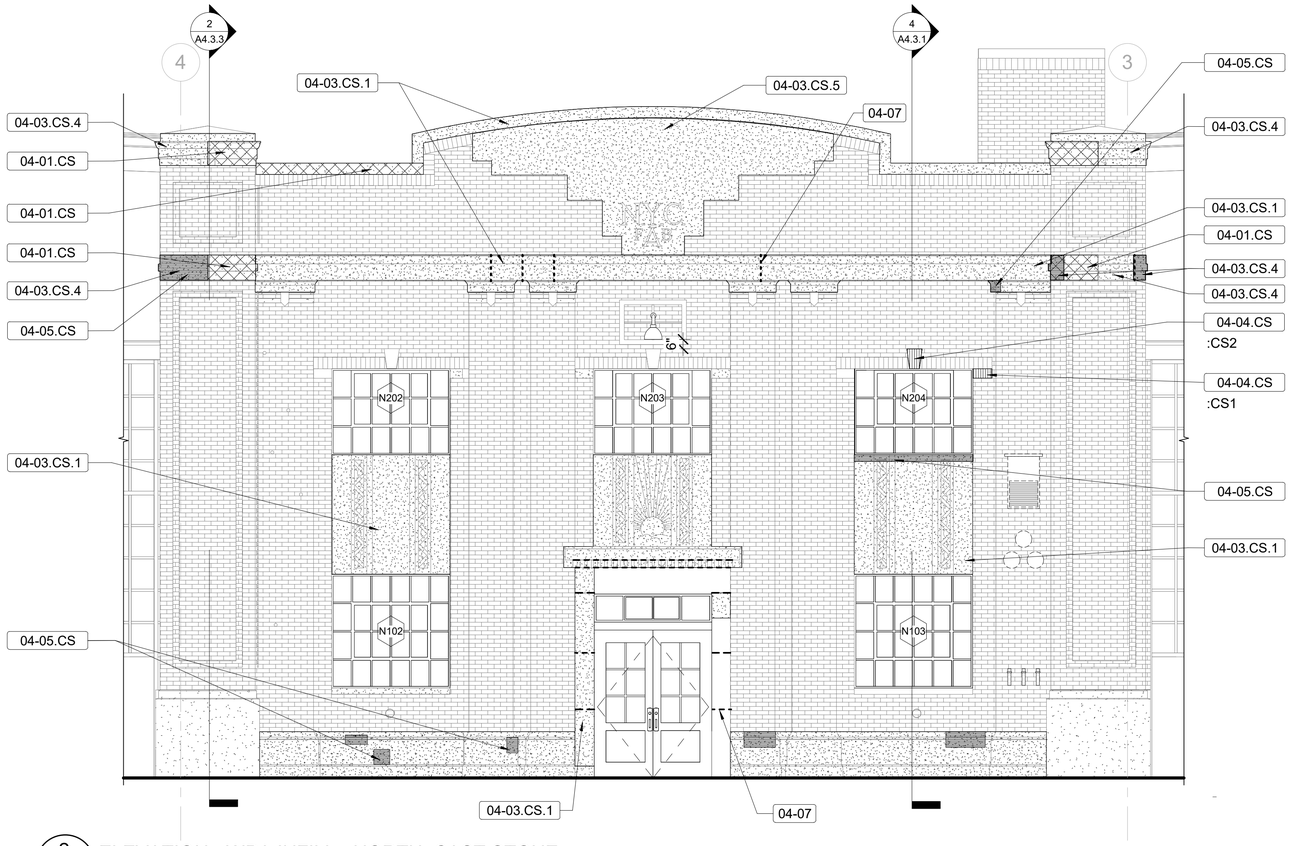
12/18/2025 4:19:10 PM



1 A4.2.12 ELEVATION - WPA INFILL NORTH PARAPET CAST STONE
SCALE A



2 A4.2.12 ELEVATION - WPA INFILL - NORTH CAST STONE
SCALE A

CAST STONE REPAIR LEGEND

CAST STONE

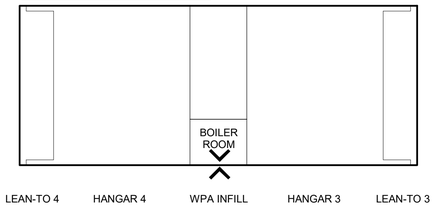
04-01.CS	DISPLACEMENT - AREA OF REBUILD	
04-02.CS	REPOINTING	
	CLEANING	
	04-03.CS.1	*ATMOSPHERIC STAINING*
	04-03.CS.2	*BIOLOGICAL GROWTH*
	04-03.CS.3	*FERROUS STAINING*
	04-03.CS.4	*CUPROUS STAINING*
	04-03.CS.5	*PAINT*
	04-03.CS.6	*EFFLORESCENCE*
04-04.CS	UNIT REPLACEMENT	
04-05.CS	PATCHING	
04-06.CS	CRACK REPAIR	

GENERAL

04-07	SEALANT IN JOINT

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEY PLAN



SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
04-01.CS	CAREFULLY DISMANTLE EXISTING CAST STONE ELEMENTS. SALVAGE FOR REINSTALLATION UNLESS OTHERWISE NOTED. CLEAN AS NOTED AND REINSTALL. MORTAR USED FOR REINSTALLATION TO MATCH EXISTING.
04-03.CS.1	REMOVE ATMOSPHERIC STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.4	REMOVE CUPROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.5	REMOVE PAINT USING THE GENTLEST CLEANING METHODS FIRST.
04-04.CS	CAREFULLY REMOVE EXTERIOR WYTHE OF EXISTING WYTHE OF EXISTING CAST STONE AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL NEW CAST STONE UNITS AND MORTARS TO MATCH EXISTING.
04-05.CS	PATCH CAST STONE. IF REBAR IS EXPOSED, CHIP AWAY CAST STONE UNTIL ENTIRE PORTION OF REBAR IS EXPOSED. REMOVE SURFACE RUST AND APPLY COATING PRIOR TO PATCHING.
04-07	REMOVE EXISTING SEALANT IN JOINT INDICATED. AVOID DAMAGING EXISTING MASONRY. ALL JOINTS BETWEEN SIMILAR MATERIALS ARE TO BE REPOINTED WITH MORTAR. ALL JOINTS BETWEEN DISSIMILAR JOINTS ARE TO BE SEALANT JOINTS. REFER TO TYPICAL MASONRY REPAIR DETAILS.

SCALE A
4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A4.2.12	TITLE OF SHEET EXTERIOR ELEVATIONS - WPA INFILL NORTH - CAST STONE GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 53 OF 153

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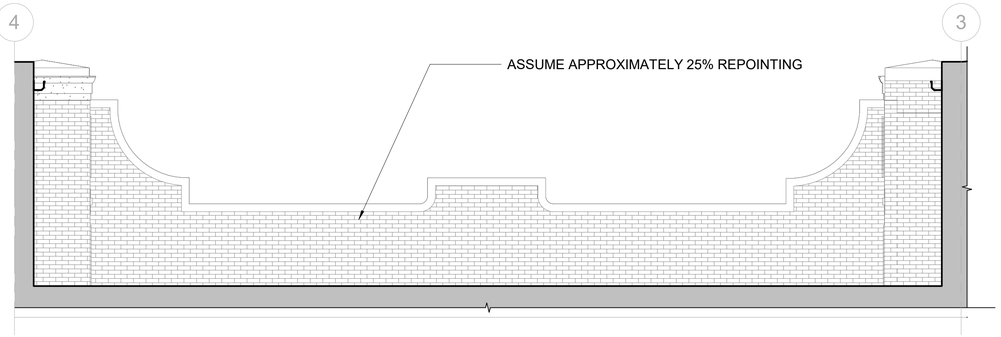
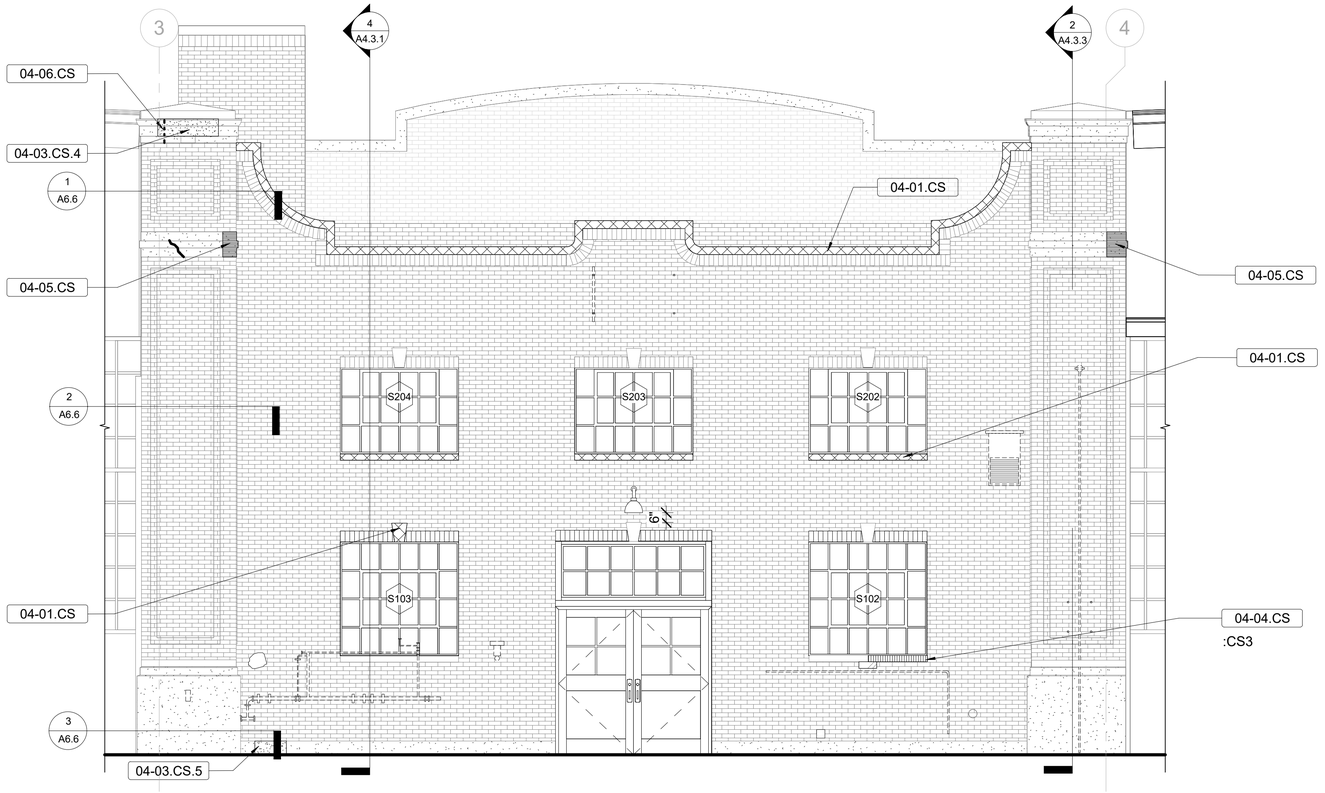


1 / A4.2.13 ELEVATION - WPA INFILL SOUTH PARAPET CAST STONE
SCALE Ⓐ



2 / A4.2.13 ELEVATION - WPA INFILL SOUTH CAST STONE
SCALE Ⓐ

CAST STONE REPAIR LEGEND

CAST STONE

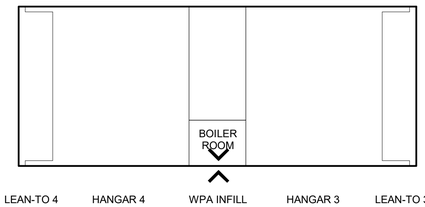
- 04-01.CS — DISPLACEMENT - AREA OF REBUILD
- 04-02.CS — REPOINTING
- CLEANING
  - 04-03.CS.1 *ATMOSPHERIC STAINING*
  - 04-03.CS.2 *BIOLOGICAL GROWTH*
  - 04-03.CS.3 *FERROUS STAINING*
  - 04-03.CS.4 *CUPROUS STAINING*
  - 04-03.CS.5 *PAINT*
  - 04-03.CS.6 *EFFLORESCENCE*
- 04-04.CS — UNIT REPLACEMENT
- 04-05.CS — PATCHING
- 04-06.CS — CRACK REPAIR

GENERAL

- 04-07 — SEALANT IN JOINT

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEY PLAN



SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
04-01.CS	CAREFULLY DISMANTLE EXISTING CAST STONE ELEMENTS. SALVAGE FOR REINSTALLATION UNLESS OTHERWISE NOTED. CLEAN AS NOTED AND REINSTALL. MORTAR USED FOR REINSTALLATION TO MATCH EXISTING.
04-03.CS.4	REMOVE CUPROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.5	REMOVE PAINT USING THE GENTLEST CLEANING METHODS FIRST.
04-04.CS	CAREFULLY REMOVE EXTERIOR WYTHE OF EXISTING WYTHE OF EXISTING CAST STONE AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL NEW CAST STONE UNITS AND MORTARS TO MATCH EXISTING.
04-05.CS	PATCH CAST STONE. IF REBAR IS EXPOSED, CHIP AWAY CAST STONE UNTIL ENTIRE PORTION OF REBAR IS EXPOSED. REMOVE SURFACE RUST AND APPLY COATING PRIOR TO PATCHING.
04-06.CS	CAST STONE CRACK REPAIR. REFER TO TYPICAL DETAIL SHEETS.

SCALE Ⓐ 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO. A4.2.13	TITLE OF SHEET: EXTERIOR ELEVATIONS - WPA INFILL SOUTH - CAST STONE	DRAWING NO. 646 190066
CADD: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 54 OF 153
DATE: 12/19/2025			

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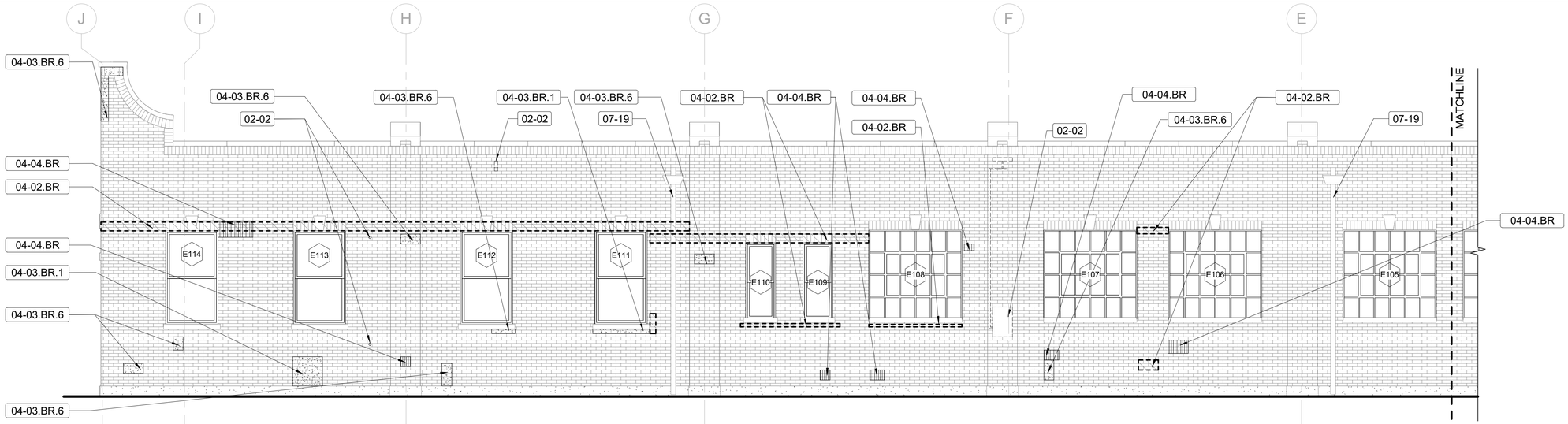
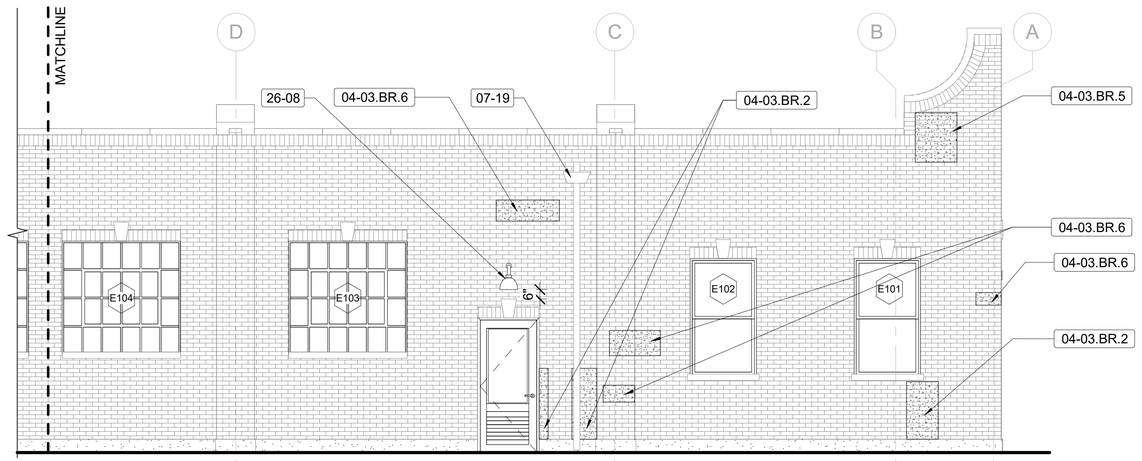


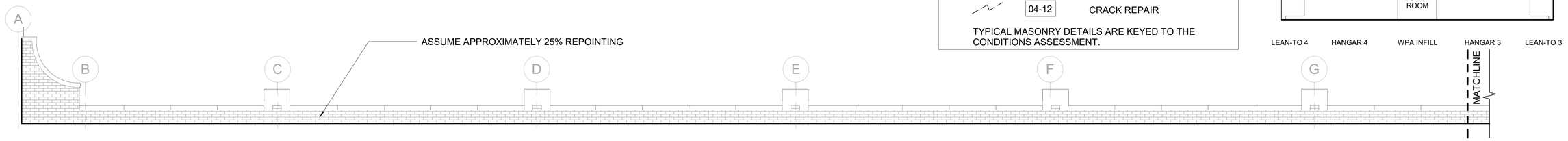
1 / A4.2.14 ELEVATION - HANGAR 3 LEAN-TO EAST BRICK - SOUTH END

SCALE Ⓐ



2 / A4.2.14 ELEVATION - HANGAR 3 LEAN-TO EAST BRICK - NORTH END

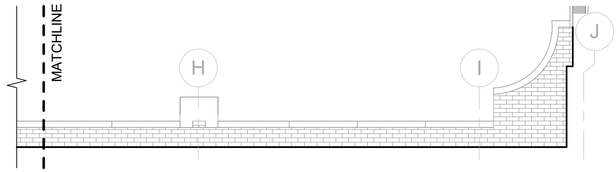
SCALE Ⓐ



SCALE Ⓐ

4' 2' 0 4' 8'

SCALE OF FEET



3 / A4.2.14 ELEVATION - HANGAR 3 LEAN-TO EAST PARAPET BRICK

SCALE Ⓐ

NOTE: ELEVATION MASONRY CONDITIONS WERE UNABLE TO BE ACCESSED AND THEREFORE NOT SURVEYED. ASSUME SIMILAR MASONRY SCOPE TO EAST CLERESTORY.

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

CONCRETE & BRICK REPAIR LEGEND

GENERAL

- 04-07 — SEALANT IN JOINT

CONCRETE

- 03-01 — CRACK REPAIR
- 03-04 — PATCHING

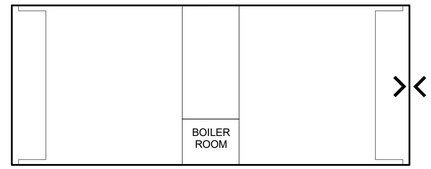
BRICK

- 04-01.BR — DISPLACEMENT - AREA OF REBUILD
- 04-02.BR — REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
  - 04-03.BR.2 *BIOLOGICAL GROWTH*
  - 04-03.BR.3 *FERROUS STAINING*
  - 04-03.BR.4 *CUPROUS STAINING*
  - 04-03.BR.5 *PAINT*
  - 04-03.BR.6 *CALCIUM DEPOSIT*
- 04-04.BR — UNIT REPLACEMENT
- 04-12 — CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
04-03.BR.1	REMOVE ATMOSPHERIC STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.2	REMOVE BIOLOGICAL GROWTH USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.5	REMOVE PAINT USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.6	REMOVE CALCIUM DEPOSITE USING THE GENTLEST CLEANING METHODS FIRST.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
07-19	REPLACE EXISTING SCUPPER WITH COPPER SCUPPER AND DOWNSPOUT. MATCH EXISTING SIZING.
26-08	INSTALL LIGHT FIXTURE AT EXISTING ORIGINAL JBOX LOCATIONS. SEE ELECTRICAL.

KEY PLAN



DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: EXTERIOR ELEVATIONS - HANGAR 3 LEAN-TO EAST - BRICK	DRAWING NO. 646 190066
DRAWN: SW	A4.2.14	GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 55 OF 153
DATE: 12/19/2025			

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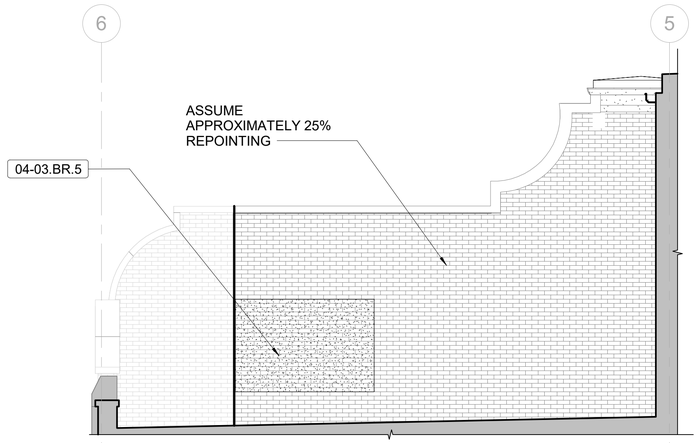
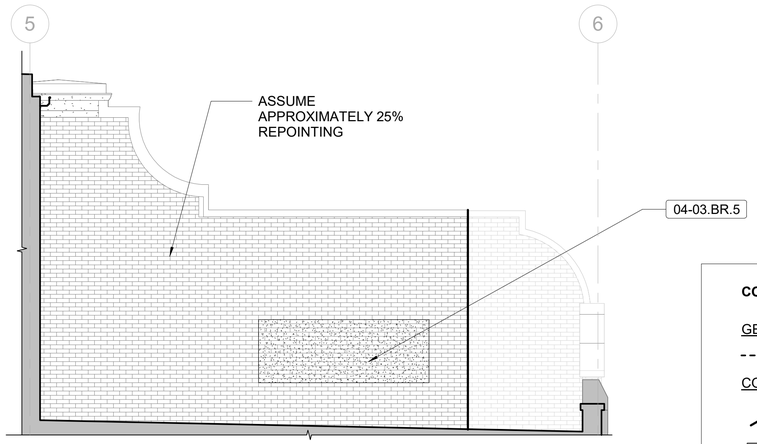
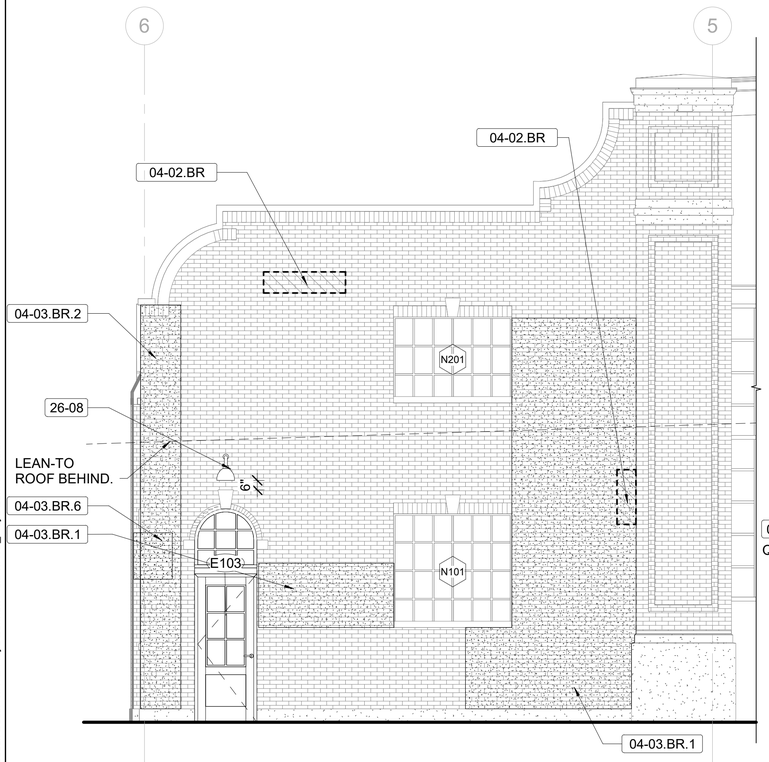


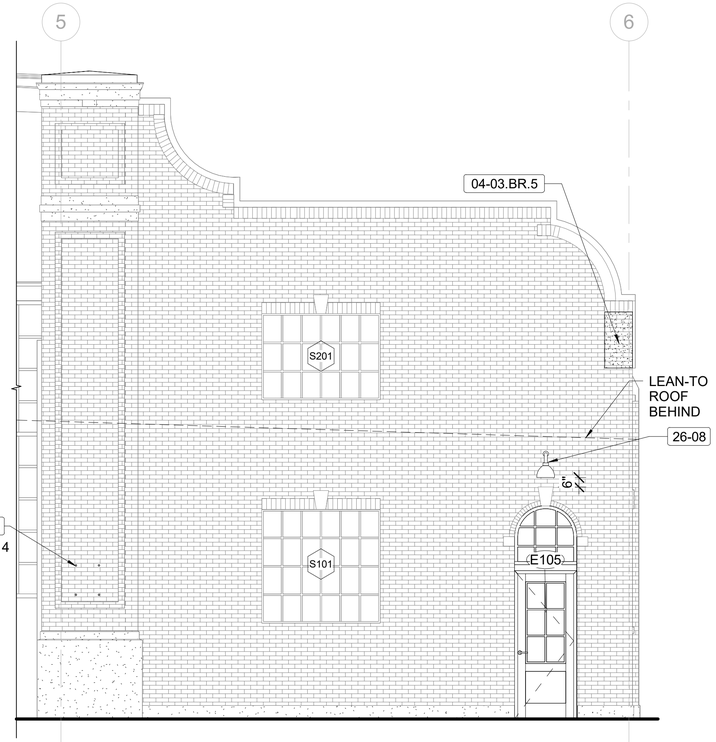
1 A4.2.15 ELEVATION - HANGAR 3 LEAN-TO SOUTH PARAPET
SCALE (A)



2 A4.2.15 ELEVATION - HANGAR 3 LEAN-TO NORTH PARAPET
SCALE (A)



3 A4.2.15 ELEVATION - HANGAR 3 LEAN-TO NORTH BRICK
SCALE (A)



4 A4.2.15 ELEVATION - HANGAR 3 LEAN-TO SOUTH BRICK
SCALE (A)

CONCRETE & BRICK REPAIR LEGEND

GENERAL

-------	04-07	SEALANT IN JOINT

CONCRETE

	03-01	CRACK REPAIR
	03-04	PATCHING

BRICK

	04-01.BR	DISPLACEMENT - AREA OF REBUILD
	04-02.BR	REPOINTING
		CLEANING
	04-03.BR.1	*ATMOSPHERIC STAINING*
	04-03.BR.2	*BIOLOGICAL GROWTH*
	04-03.BR.3	*FERROUS STAINING*
	04-03.BR.4	*CUPROUS STAINING*
	04-03.BR.5	*PAINT*
	04-03.BR.6	*CALCIUM DEPOSIT*
	04-04.BR	UNIT REPLACEMENT
	04-12	CRACK REPAIR

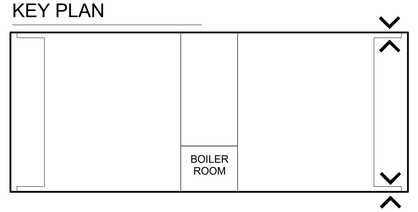
TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
04-03.BR.1	REMOVE ATMOSPHERIC STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.2	REMOVE BIOLOGICAL GROWTH USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.5	REMOVE PAINT USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.6	REMOVE CALCIUM DEPOSITE USING THE GENTLEST CLEANING METHODS FIRST.
04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.
26-08	INSTALL LIGHT FIXTURE AT EXISTING ORIGINAL JBOX LOCATIONS. SEE ELECTRICAL.

KEY PLAN



SCALE (A) 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A4.2.15	TITLE OF SHEET EXTERIOR ELEVATIONS - HANGAR 3 LEAN-TO NORTH&SOUTH - BRICK GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 56 OF 153

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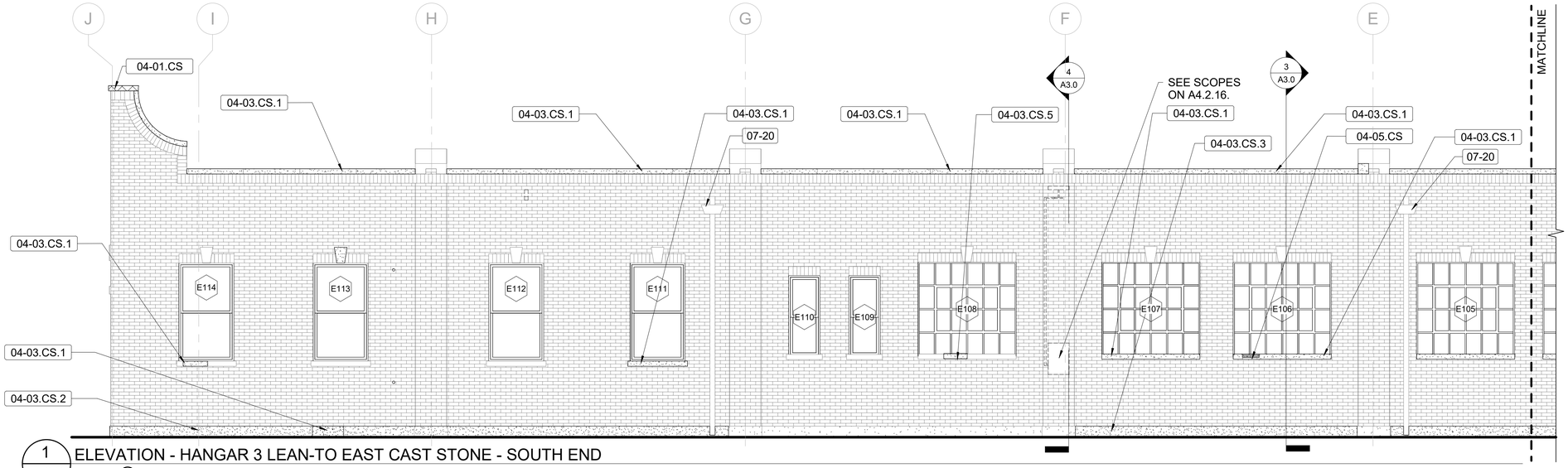
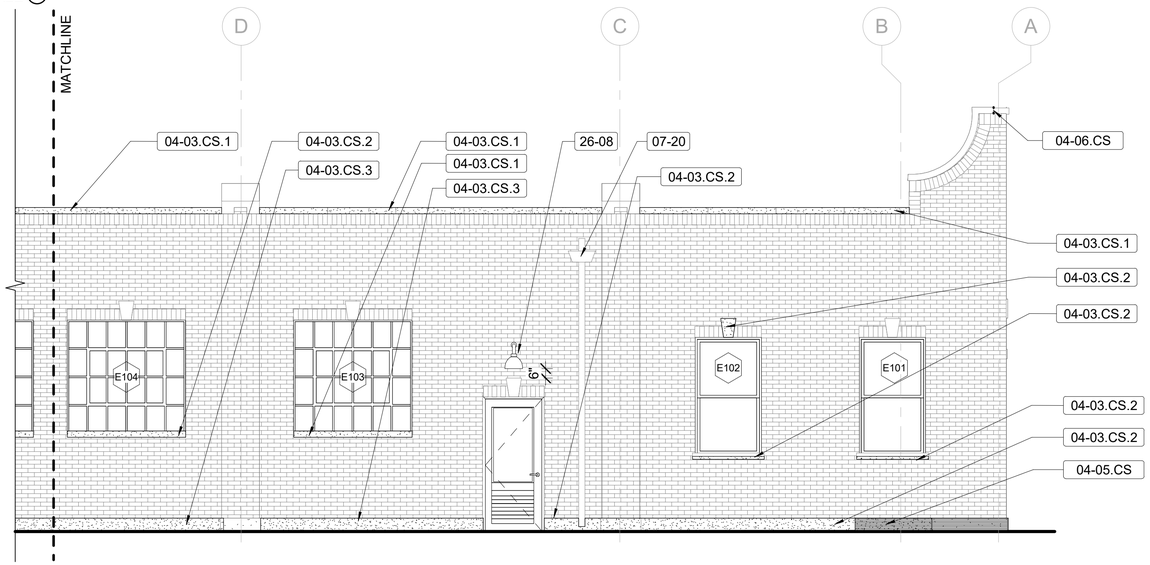


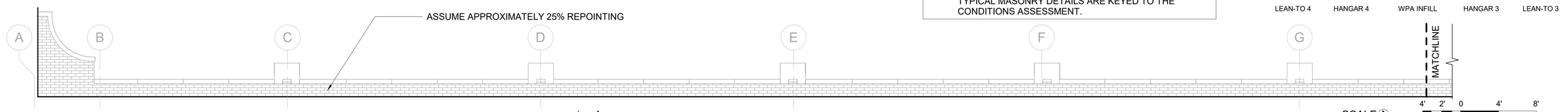
1 A4.2.16 ELEVATION - HANGAR 3 LEAN-TO EAST CAST STONE - SOUTH END

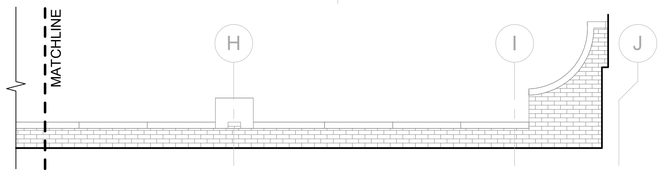
SCALE Ⓐ



2 A4.2.16 ELEVATION - HANGAR 3 LEAN-TO EAST CAST STONE - NORTH END

SCALE Ⓐ





3 A4.2.16 ELEVATION - HANGAR 3 LEAN-TO EAST PARAPET CAST STONE

SCALE Ⓐ

NOTE: ELEVATION MASONRY CONDITIONS WERE UNABLE TO BE ACCESSED AND THEREFORE NOT SURVEYED. ASSUME SIMILAR MASONRY SCOPE TO EAST CLERESTORY.

CAST STONE REPAIR LEGEND

CAST STONE

04-01.CS	DISPLACEMENT - AREA OF REBUILD
04-02.CS	REPOINTING
	CLEANING
04-03.CS.1	*ATMOSPHERIC STAINING*
04-03.CS.2	*BIOLOGICAL GROWTH*
04-03.CS.3	*FERROUS STAINING*
04-03.CS.4	*CUPROUS STAINING*
04-03.CS.5	*PAINT*
04-03.CS.6	*EFFLORESCENCE*
04-04.CS	UNIT REPLACEMENT
04-05.CS	PATCHING
04-06.CS	CRACK REPAIR

GENERAL

04-07	SEALANT IN JOINT

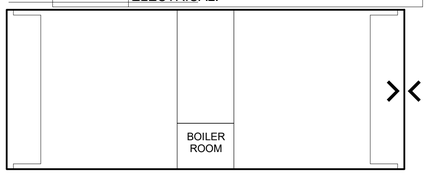
TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
04-01.CS	CAREFULLY DISMANTLE EXISTING CAST STONE ELEMENTS. SALVAGE FOR REINSTALLATION UNLESS OTHERWISE NOTED. CLEAN AS NOTED AND REINSTALL. MORTAR USED FOR REINSTALLATION TO MATCH EXISTING.
04-03.CS.1	REMOVE ATMOSPHERIC STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.2	REMOVE BIOLOGICAL GROWTH USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.5	REMOVE PAINT USING THE GENTLEST CLEANING METHODS FIRST.
04-05.CS	PATCH CAST STONE. IF REBAR IS EXPOSED, CHIP AWAY CAST STONE UNTIL ENTIRE PORTION OF REBAR IS EXPOSED. REMOVE SURFACE RUST AND APPLY COATING PRIOR TO PATCHING.
04-06.CS	CAST STONE CRACK REPAIR. REFER TO TYPICAL DETAIL SHEETS.
07-20	REPLACE EXISTING SCUPPER WITH COPPER SCUPPER AND DOWNSPOUT. MATCH EXISTING SIZING.
26-08	INSTALL LIGHT FIXTURE AT EXISTING ORIGINAL JBOX LOCATIONS. SEE ELECTRICAL.

KEY PLAN



SCALE Ⓐ

4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: EXTERIOR ELEVATIONS - HANGAR 3 LEAN-TO EAST - CAST STONE	DRAWING NO. 646 190066
DRAWN: SW	A4.2.16	GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 57 OF 153
DATE: 12/19/2025			

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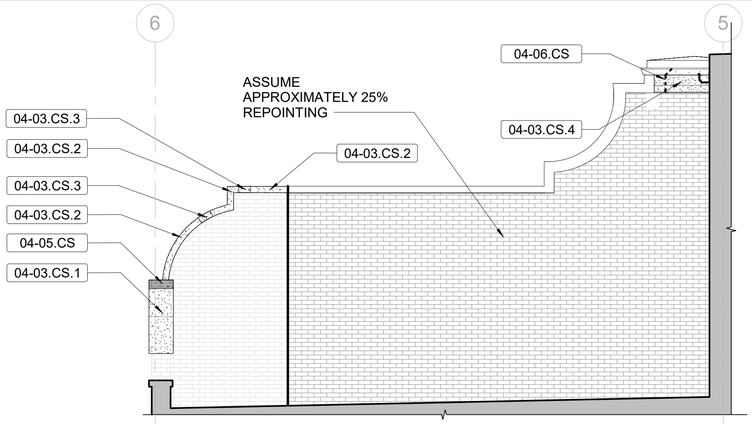
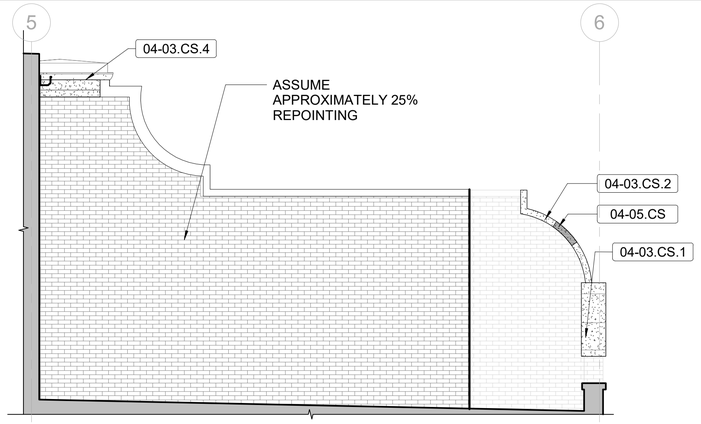
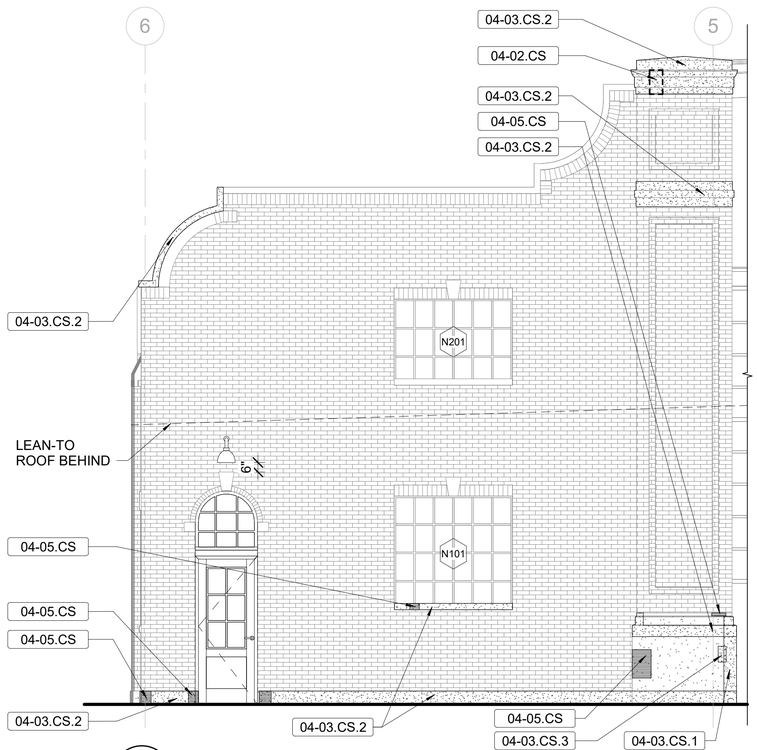
12/18/2025 4:19:22 PM



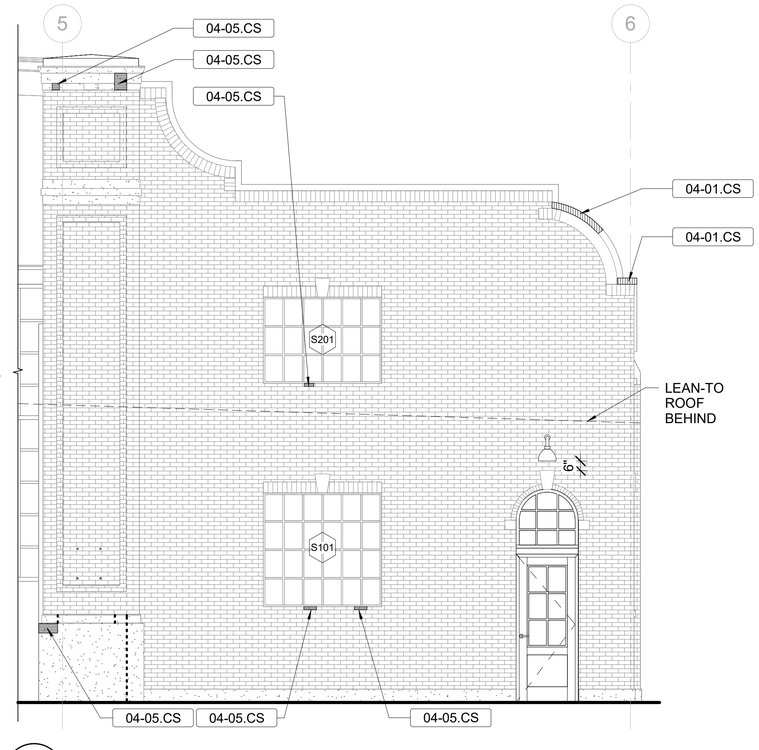
1 A4.2.17 ELEVATION - HANGAR 3 LEAN-TO SOUTH PARAPET
SCALE Ⓐ



2 A4.2.17 ELEVATION - HANGAR 3 LEAN-TO NORTH PARAPET
SCALE Ⓐ



3 A4.2.17 ELEVATION - HANGAR 3 LEAN-TO NORTH CAST STONE
SCALE Ⓐ



4 A4.2.17 ELEVATION - HANGAR 3 LEAN-TO SOUTH CAST STONE
SCALE Ⓐ

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

CAST STONE REPAIR LEGEND

CAST STONE

04-01.CS	DISPLACEMENT - AREA OF REBUILD	
04-02.CS	REPOINTING	
	CLEANING	
04-03.CS.1	*ATMOSPHERIC STAINING*	
04-03.CS.2	*BIOLOGICAL GROWTH*	
04-03.CS.3	*FERROUS STAINING*	
04-03.CS.4	*CUPROUS STAINING*	
04-03.CS.5	*PAINT*	
04-03.CS.6	*EFFLORESCENCE*	
04-04.CS	UNIT REPLACEMENT	
04-05.CS	PATCHING	
04-06.CS	CRACK REPAIR	

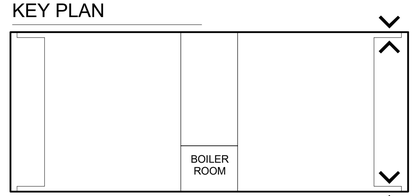
GENERAL

04-07	SEALANT IN JOINT	

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEYNOTES	
KEY VALUE	TEXT
04-01.CS	CAREFULLY DISMANTLE EXISTING CAST STONE ELEMENTS. SALVAGE FOR REINSTALLATION UNLESS OTHERWISE NOTED. CLEAN AS NOTED AND REINSTALL. MORTAR USED FOR REINSTALLATION TO MATCH EXISTING.
04-02.CS	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR TO MATCH EXISTING COMPOSITION AND COLOR.
04-03.CS.1	REMOVE ATMOSPHERIC STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.2	REMOVE BIOLOGICAL GROWTH USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.4	REMOVE CUPROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-05.CS	PATCH CAST STONE. IF REBAR IS EXPOSED, CHIP AWAY CAST STONE UNTIL ENTIRE PORTION OF REBAR IS EXPOSED. REMOVE SURFACE RUST AND APPLY COATING PRIOR TO PATCHING.
04-06.CS	CAST STONE CRACK REPAIR. REFER TO TYPICAL DETAIL SHEETS.

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A4.2.17	TITLE OF SHEET EXT ELEVS - HANGAR 3 LEAN-TO NORTH & SOUTH - CAST STONE GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 58 OF 153

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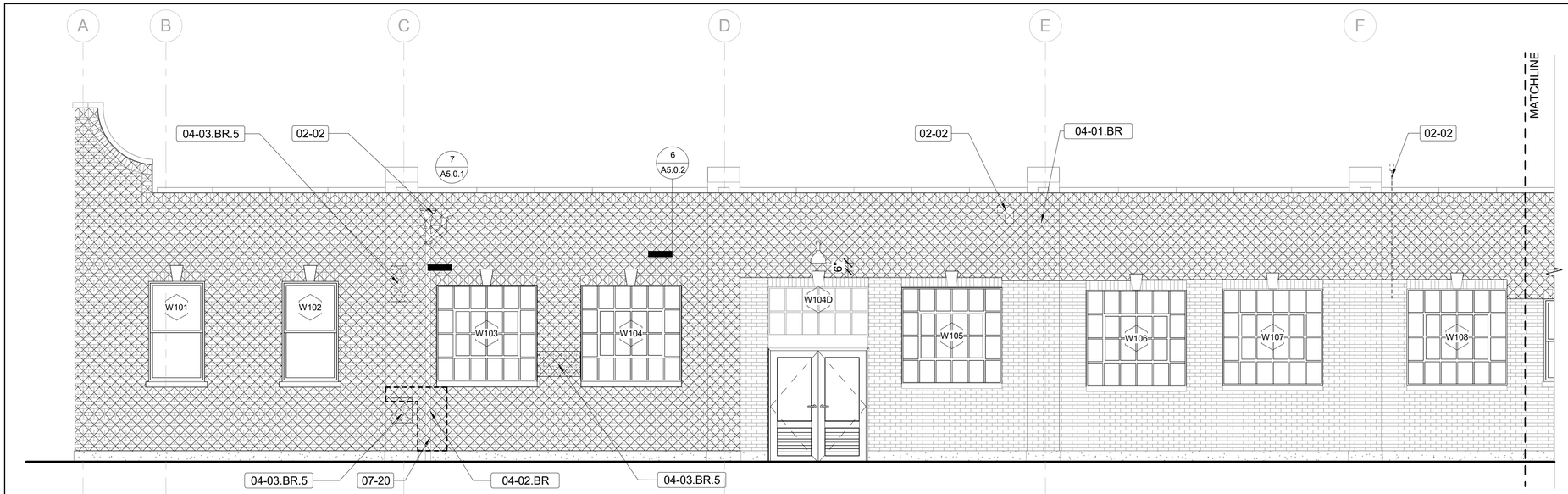
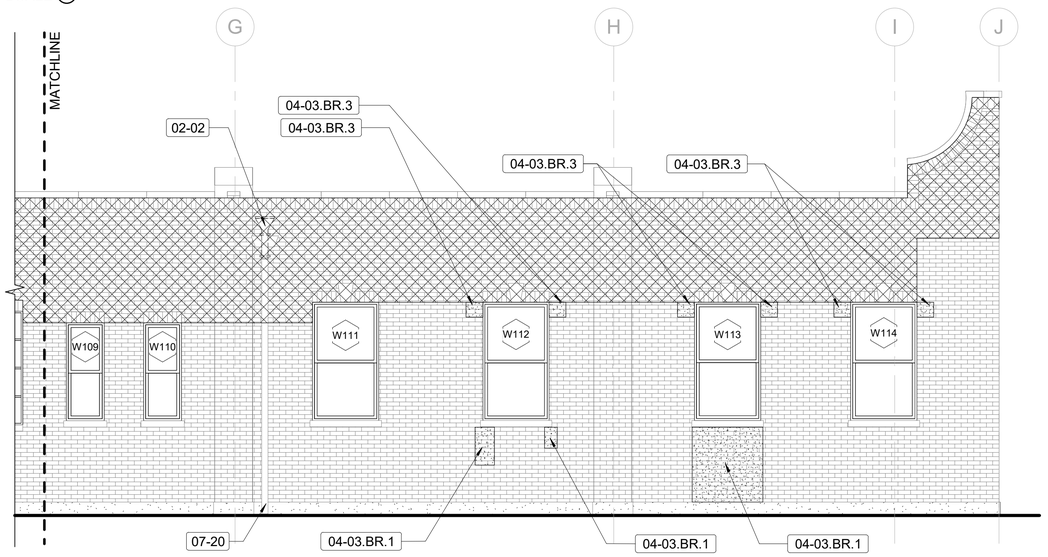


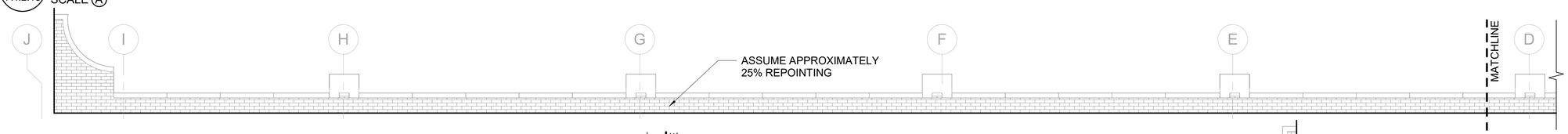
1 A4.2.18 ELEVATION - HANGAR 4 LEAN-TO WEST BRICK - NORTH END

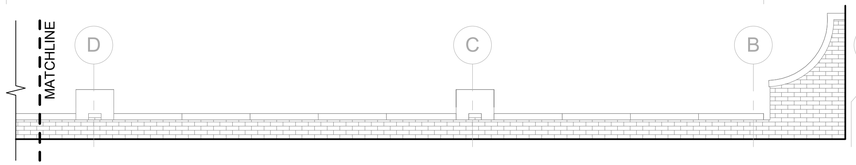
SCALE Ⓐ



2 A4.2.18 ELEVATION - HANGAR 4 LEAN-TO WEST BRICK - SOUTH END

SCALE Ⓐ





3 A4.2.18 ELEVATION - HANGAR 4 LEAN-TO WEST PARAPET BRICK

SCALE Ⓐ

NOTE: ELEVATION MASONRY CONDITIONS WERE UNABLE TO BE ACCESSED AND THEREFORE NOT SURVEYED. ASSUME SIMILAR MASONRY SCOPE TO WEST CLERESTORY.

CONCRETE & MASONRY REPAIR LEGEND

GENERAL

- 04-07 SEALANT IN JOINT

CONCRETE

- 03-01 CRACK REPAIR
- 03-04 PATCHING

BRICK

- 04-01.BR DISPLACEMENT - AREA OF REBUILD
- 04-02.BR REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
  - 04-03.BR.2 *BIOLOGICAL GROWTH*
  - 04-03.BR.3 *FERROUS STAINING*
  - 04-03.BR.4 *CUPROUS STAINING*
  - 04-03.BR.5 *PAINT*
  - 04-03.BR.6 *CALCIUM DEPOSIT*
- 04-04.BR UNIT REPLACEMENT
- 04-12 CRACK REPAIR

CAST STONE

- 04-01.CS DISPLACEMENT - AREA OF REBUILD
- 04-02.CS REPOINTING
- CLEANING
  - 04-03.CS.1 *ATMOSPHERIC STAINING*
  - 04-03.CS.2 *BIOLOGICAL GROWTH*
  - 04-03.CS.3 *FERROUS STAINING*
  - 04-03.CS.4 *CUPROUS STAINING*
  - 04-03.CS.5 *PAINT*
  - 04-03.CS.6 *EFFLORESCENCE*
- 04-04.CS UNIT REPLACEMENT
- 04-05.CS PATCHING
- 04-06.CS CRACK REPAIR

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
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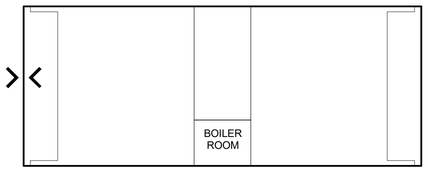
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
04-03.BR.1	REMOVE ATMOSPHERIC STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.5	REMOVE PAINT USING THE GENTLEST CLEANING METHODS FIRST.
07-20	REPLACE EXISTING SCUPPER WITH COPPER SCUPPER AND DOWNSPOUT. MATCH EXISTING SIZING.

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: EXT ELEVS - HANGAR 4 LEAN-TO WEST - BRICK & CAST STONE	DRAWING NO. 646 190066
DRAWN: SW	A4.2.18	GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 59 OF 153
DATE: 12/19/2025			

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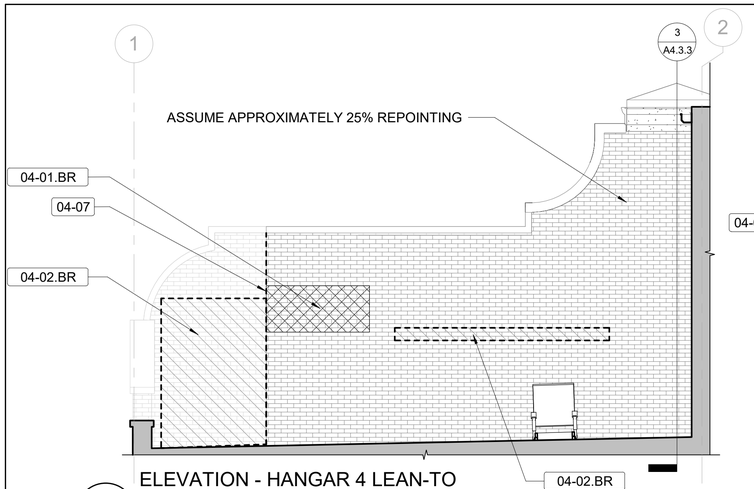
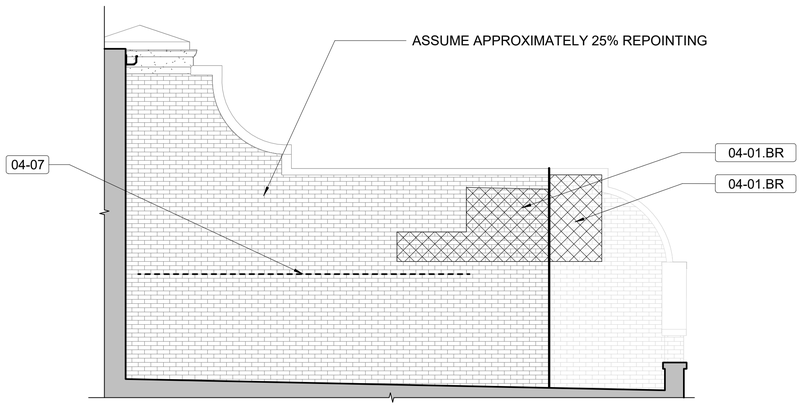
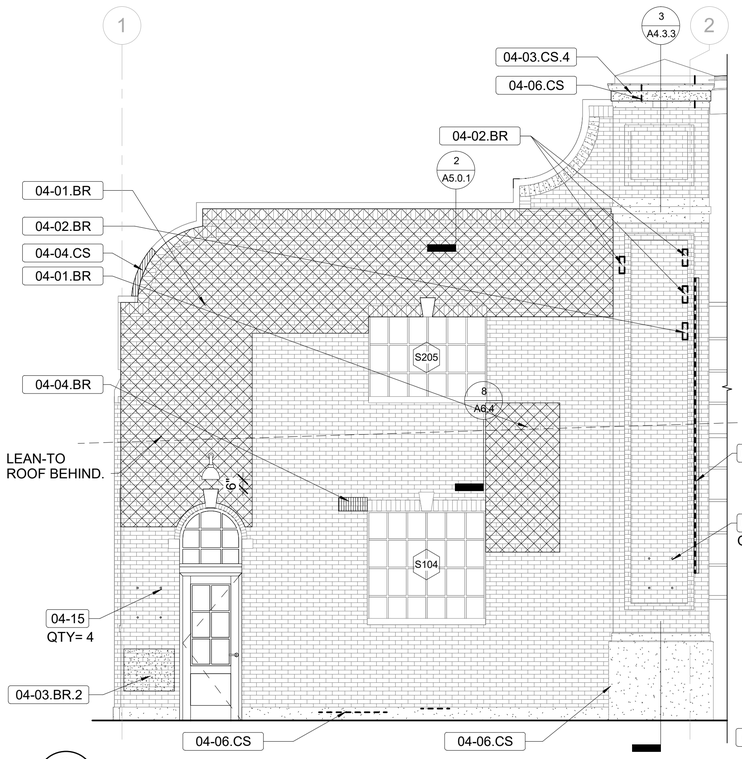


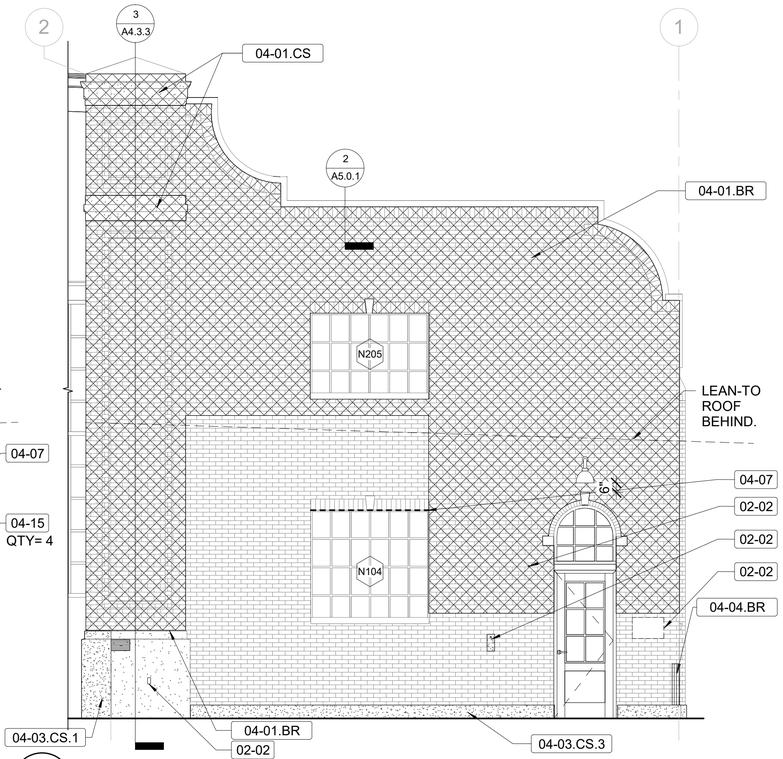
1 A4.2.19 ELEVATION - HANGAR 4 LEAN-TO NORTH PARAPET
SCALE Ⓐ



2 A4.2.19 ELEVATION - HANGAR 4 LEAN-TO SOUTH PARAPET
SCALE Ⓐ

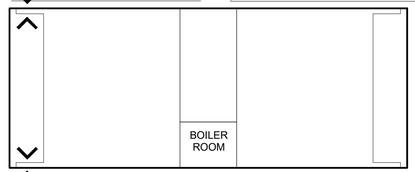


3 A4.2.19 ELEVATION - HANGAR 4 LEAN-TO SOUTH BRICK
SCALE Ⓐ



4 A4.2.19 ELEVATION - HANGAR 4 LEAN-TO NORTH BRICK
SCALE Ⓐ

KEY PLAN



CONCRETE & BRICK REPAIR LEGEND

GENERAL

04-07	SEALANT IN JOINT

CONCRETE

03-01	CRACK REPAIR
03-04	PATCHING

BRICK

04-01.BR	DISPLACEMENT - AREA OF REBUILD
04-02.BR	REPOINTING
	CLEANING
04-03.BR.1	*ATMOSPHERIC STAINING*
04-03.BR.2	*BIOLOGICAL GROWTH*
04-03.BR.3	*FERROUS STAINING*
04-03.BR.4	*CUPROUS STAINING*
04-03.BR.5	*PAINT*
04-03.BR.6	*CALCIUM DEPOSIT*
04-04.BR	UNIT REPLACEMENT
04-12	CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

CAST STONE REPAIR LEGEND

CAST STONE

04-01.CS	DISPLACEMENT - AREA OF REBUILD
04-02.CS	REPOINTING
	CLEANING
04-03.CS.1	*ATMOSPHERIC STAINING*
04-03.CS.2	*BIOLOGICAL GROWTH*
04-03.CS.3	*FERROUS STAINING*
04-03.CS.4	*CUPROUS STAINING*
04-03.CS.5	*PAINT*
04-03.CS.6	*EFFLORESCENCE*
04-04.CS	UNIT REPLACEMENT
04-05.CS	PATCHING
04-06.CS	CRACK REPAIR

GENERAL

04-07	SEALANT IN JOINT

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO EXTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY.
7. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAIL SHEETS.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-01.CS	CAREFULLY DISMANTLE EXISTING CAST STONE ELEMENTS. SALVAGE FOR REINSTALLATION UNLESS OTHERWISE NOTED. CLEAN AS NOTED AND REINSTALL. MORTAR USED FOR REINSTALLATION TO MATCH EXISTING.
04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
04-03.BR.2	REMOVE BIOLOGICAL GROWTH USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.1	REMOVE ATMOSPHERIC STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.4	REMOVE CUPROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-04.CS	CAREFULLY REMOVE EXTERIOR WYTHE OF EXISTING WYTHE OF EXISTING CAST STONE AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL NEW CAST STONE UNITS AND MORTARS TO MATCH EXISTING.
04-06.CS	CAST STONE CRACK REPAIR. REFER TO TYPICAL DETAIL SHEETS.
04-07	REMOVE EXISTING SEALANT IN JOINT INDICATED. AVOID DAMAGING EXISTING MASONRY. ALL JOINTS BETWEEN SIMILAR MATERIALS ARE TO BE REPOINTED WITH MORTAR. ALL JOINTS BETWEEN DISSIMILAR JOINTS ARE TO BE SEALANT JOINTS. REFER TO TYPICAL MASONRY REPAIR DETAILS.
04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.

SCALE Ⓐ 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A4.2.19	TITLE OF SHEET EXT ELEVS - HANGAR 4 LEAN-TO NORTH & SOUTH - BRICK & CAST STONE GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 60 OF 153

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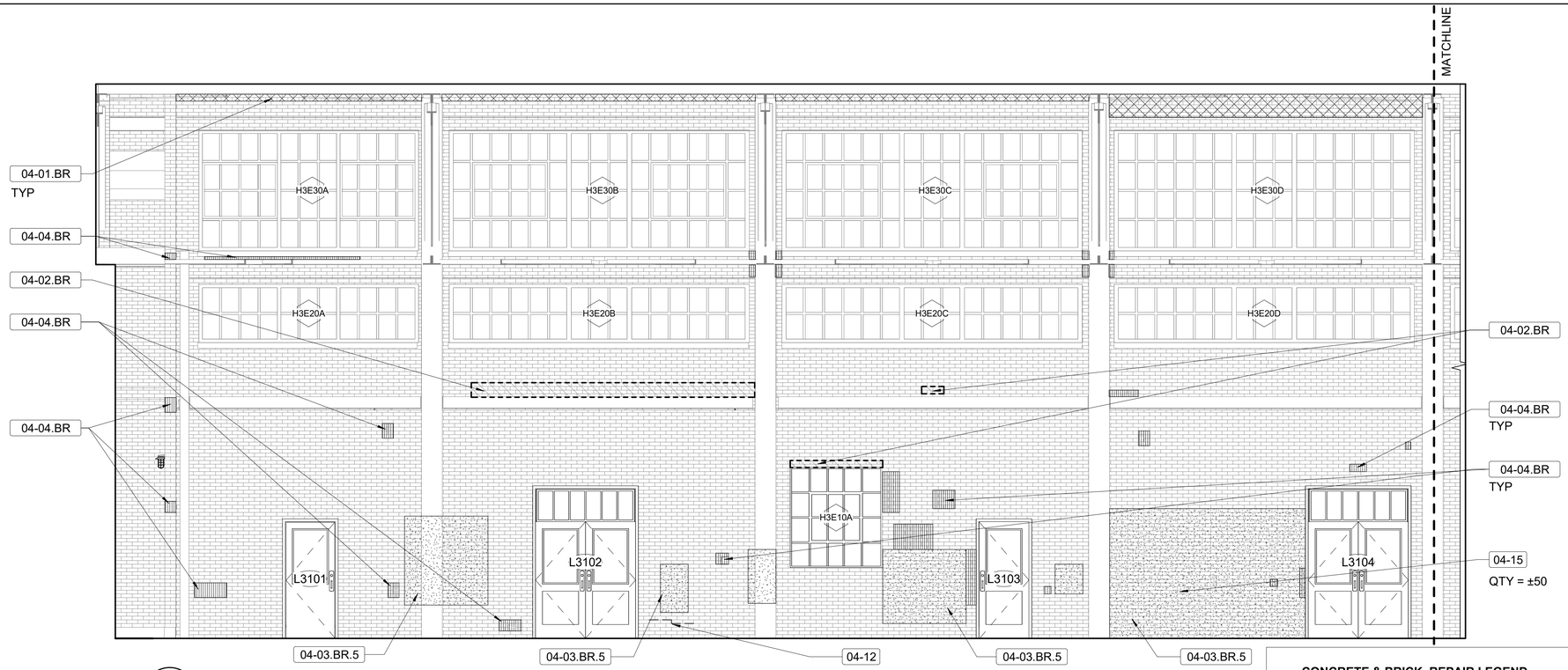
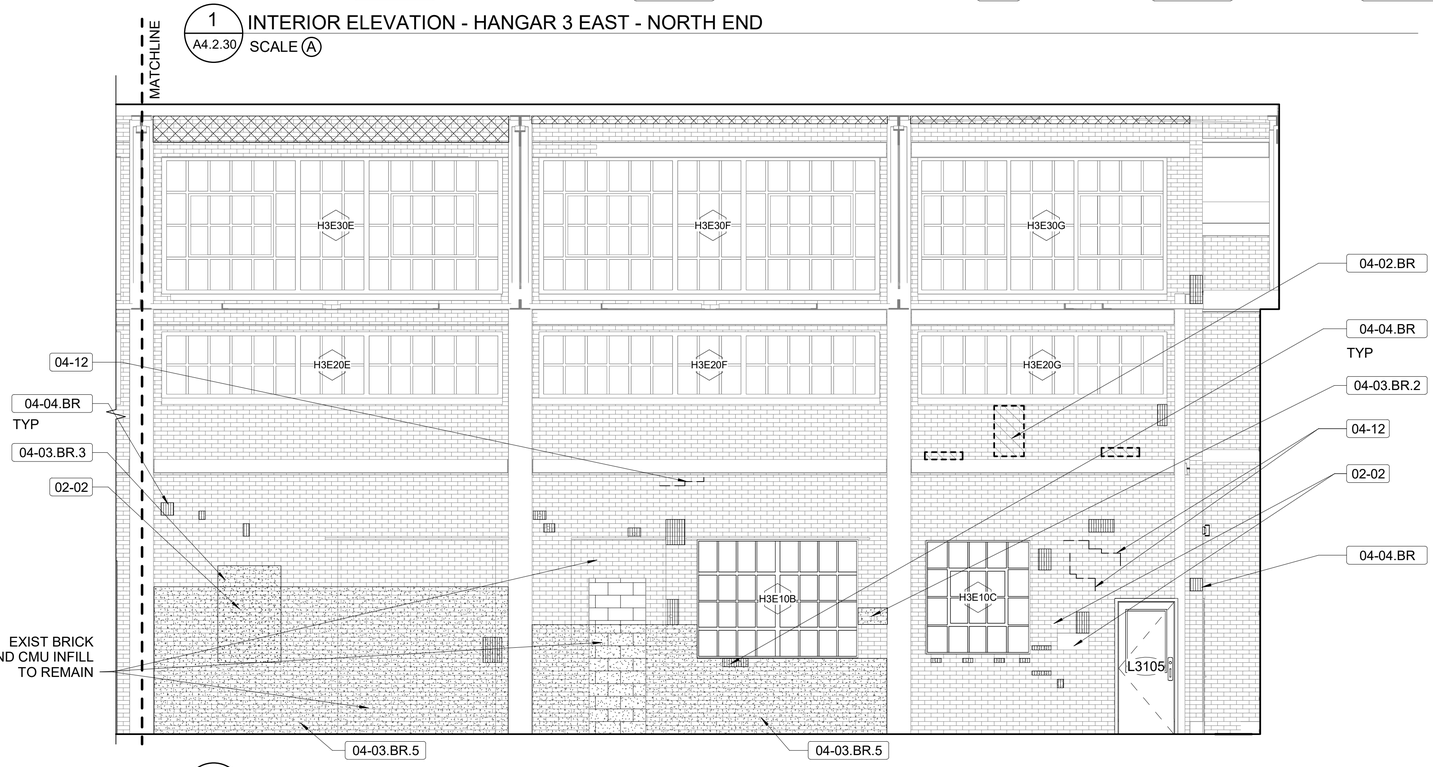


1 A4.2.30 INTERIOR ELEVATION - HANGAR 3 EAST - NORTH END
SCALE A



2 A4.2.30 INTERIOR ELEVATION - HANGAR 3 EAST - SOUTH END
SCALE A

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO INTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY IF POSSIBLE.
7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
04-03.BR.2	REMOVE BIOLOGICAL GROWTH USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.BR.5	REMOVE PAINT USING THE GENTLEST CLEANING METHODS FIRST.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-12	CAREFULLY REMOVE DISPLACED BRICK AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS AND REPOINT.
04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.

CONCRETE & BRICK REPAIR LEGEND

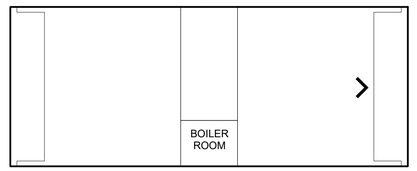
GENERAL
- 04-07 SEALANT IN JOINT

CONCRETE
- 03-01 CRACK REPAIR
- 03-04 PATCHING

BRICK
- 04-01.BR DISPLACEMENT - AREA OF REBUILD
- 04-02.BR REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
  - 04-03.BR.2 *BIOLOGICAL GROWTH*
  - 04-03.BR.3 *FERROUS STAINING*
  - 04-03.BR.4 *CUPROUS STAINING*
  - 04-03.BR.5 *PAINT*
  - 04-03.BR.6 *CALCIUM DEPOSIT*
- 04-04.BR UNIT REPLACEMENT
- 04-12 CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEY PLAN



SCALE A 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS - HANGAR 3 - EAST	DRAWING NO. 646 190066
DRAFTED: SW	A4.2.30		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 61 OF 153
DATE: 12/19/2025			

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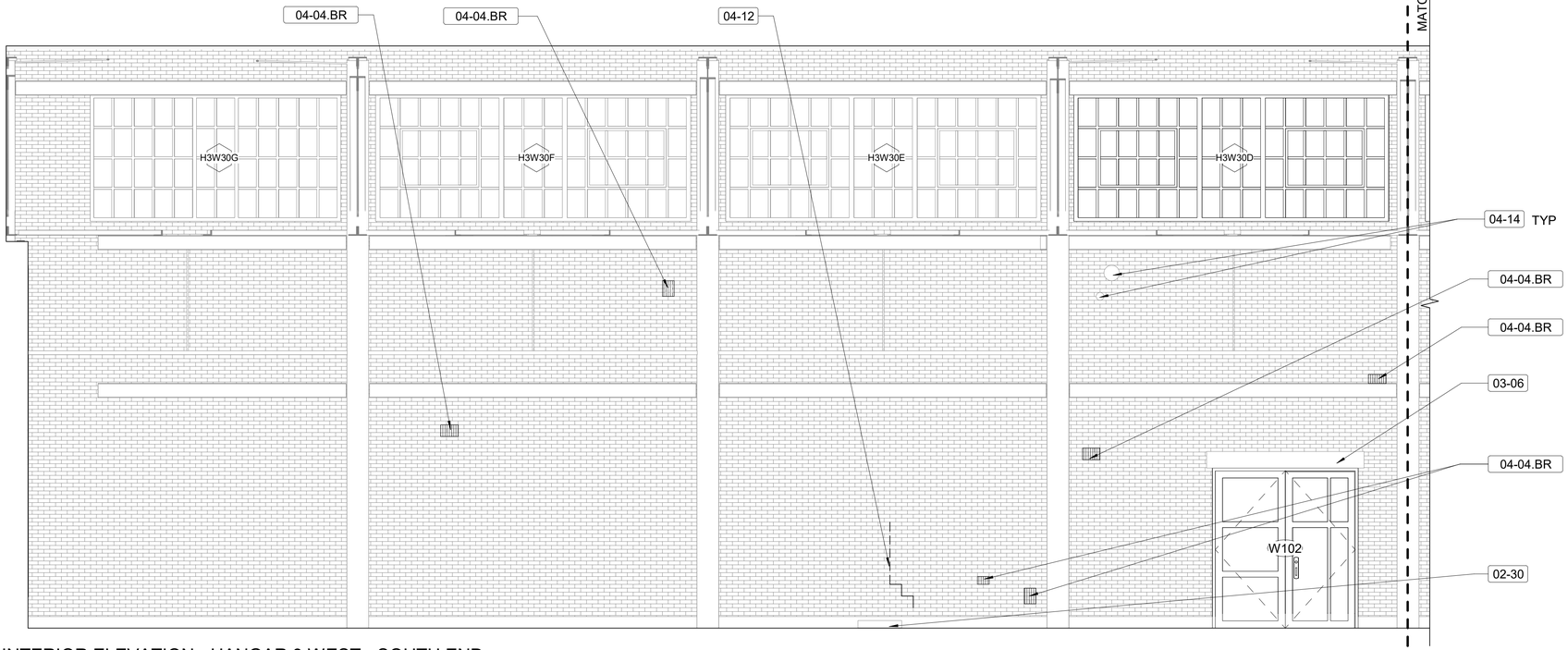
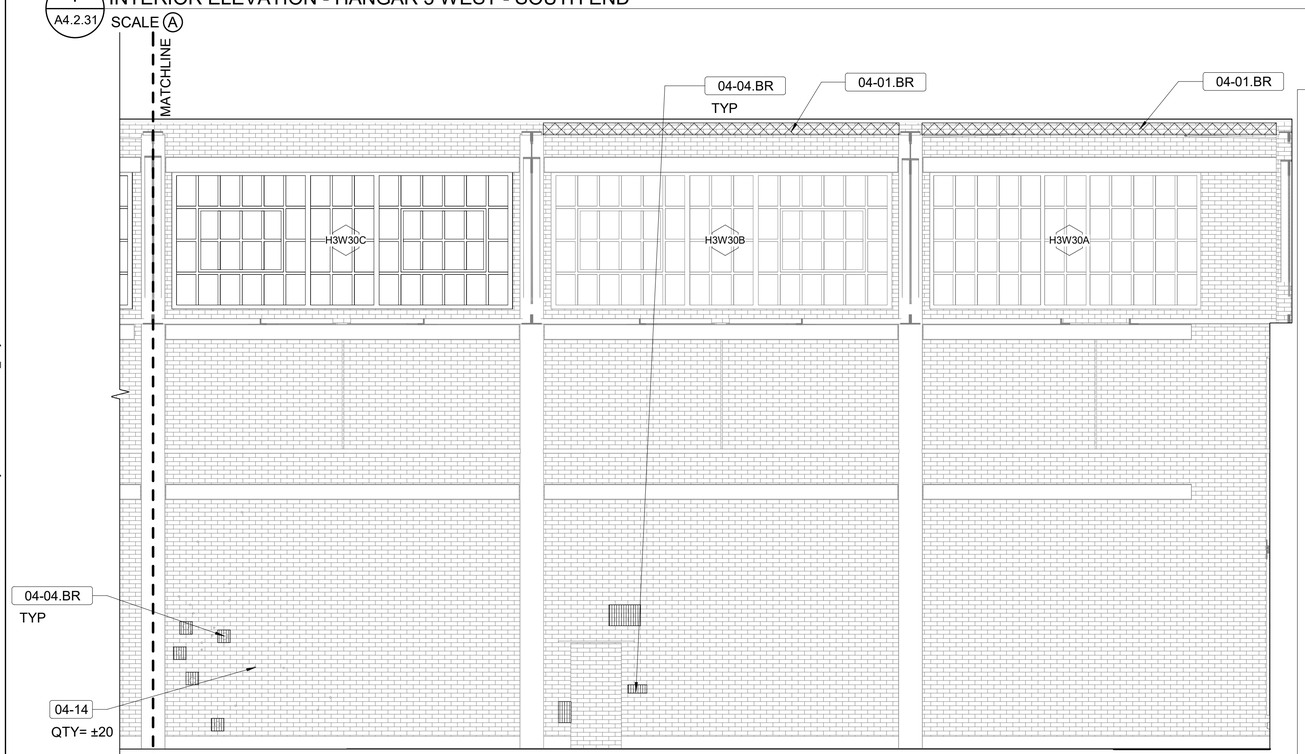


1 A4.2.31 INTERIOR ELEVATION - HANGAR 3 WEST - SOUTH END

SCALE Ⓐ



2 A4.2.31 INTERIOR ELEVATION - HANGAR 3 WEST - NORTH END

SCALE Ⓐ

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO INTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY IF POSSIBLE.
7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-30	REMOVE CONCRETE DRAINAGE BASIN, PIPING AND GRATING.
03-06	CLEAN, PRIME AND PAINT CONCRETE LINTEL.
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-12	CAREFULLY REMOVE DISPLACED BRICK AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS AND REPOINT.
04-14	IF THROUGH-WALL OPENING IS LARGER THAN 3": CAREFULLY REMOVE EXISTING PIPE (IF APPLICABLE), REMOVE EXISTING BRICKS AROUND OPENING AND REINSTALL SALVAGED AND/OR NEW BRICK. REPOINT. IF THROUGH-WALL OPENING IS LESS THAN 3" WIDE: CAREFULLY REMOVE EXISTING PIPE OR FASTENER (IF APPLICABLE) AND PATCH WITH MORTAR.

CONCRETE & BRICK REPAIR LEGEND

GENERAL

- 04-07 SEALANT IN JOINT

CONCRETE

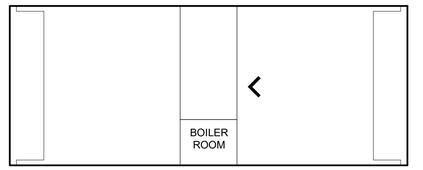
- 03-01 CRACK REPAIR
- 03-04 PATCHING

BRICK

- 04-01.BR DISPLACEMENT - AREA OF REBUILD
- 04-02.BR REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
  - 04-03.BR.2 *BIOLOGICAL GROWTH*
  - 04-03.BR.3 *FERROUS STAINING*
  - 04-03.BR.4 *CUPROUS STAINING*
  - 04-03.BR.5 *PAINT*
  - 04-03.BR.6 *CALCIUM DEPOSIT*
- 04-04.BR UNIT REPLACEMENT
- 04-12 CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS - HANGAR 3 - WEST	DRAWING NO. 646 190066
DRAWN: SW	A4.2.31		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 62 OF 153
DATE: 12/19/2025			

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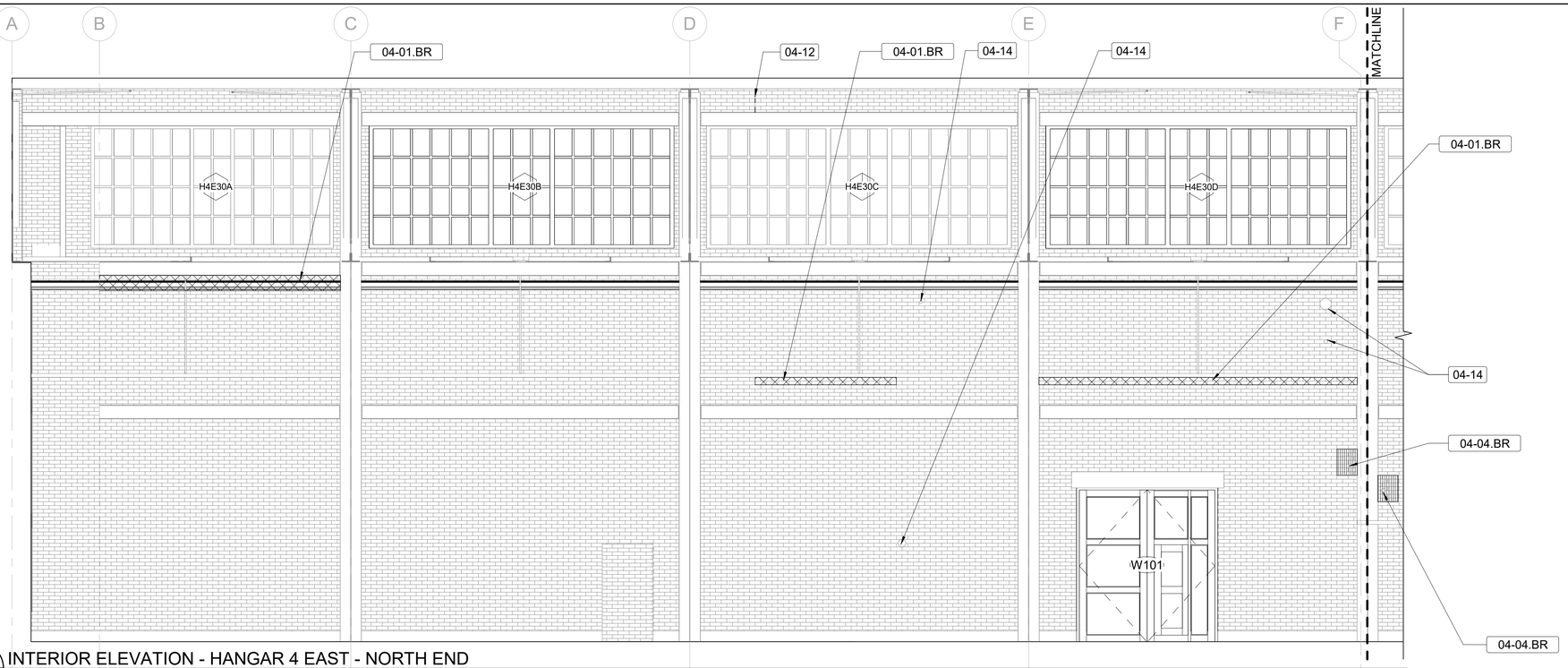
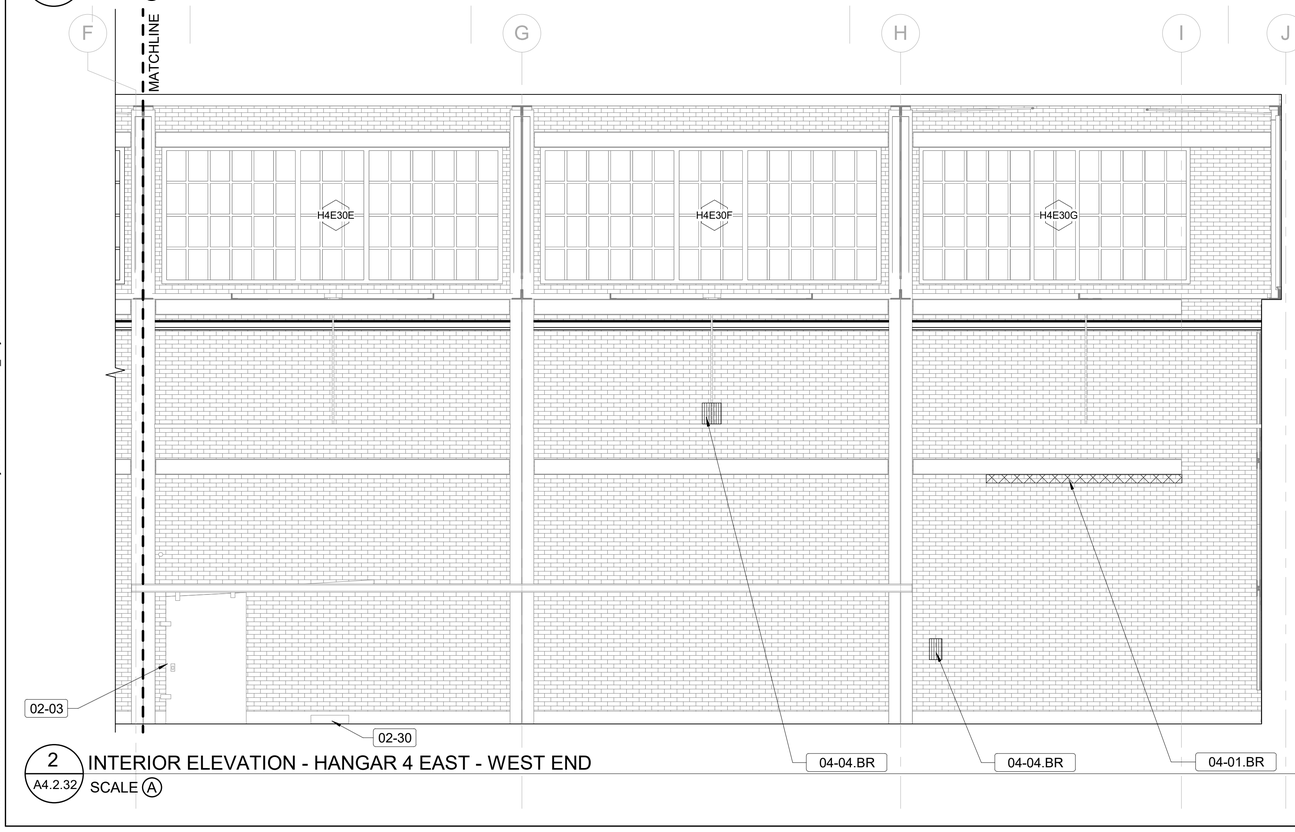


1 / A4.2.32 INTERIOR ELEVATION - HANGAR 4 EAST - NORTH END

SCALE Ⓐ



2 / A4.2.32 INTERIOR ELEVATION - HANGAR 4 EAST - WEST END

SCALE Ⓐ

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO INTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY IF POSSIBLE.
7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-03	EXISTING ITEM(S) TO REMAIN.
02-30	REMOVE CONCRETE DRAINAGE BASIN, PIPING AND GRATING.
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
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04-14	IF THROUGH-WALL OPENING IS LARGER THAN 3": CAREFULLY REMOVE EXISTING PIPE (IF APPLICABLE), REMOVE EXISTING BRICKS AROUND OPENING AND REINSTALL SALVAGED AND/OR NEW BRICK. REPOINT. IF THROUGH-WALL OPENING IS LESS THAN 3" WIDE: CAREFULLY REMOVE EXISTING PIPE OR FASTENER (IF APPLICABLE) AND PATCH WITH MORTAR.

CONCRETE & BRICK REPAIR LEGEND

GENERAL

- 04-07 — SEALANT IN JOINT

CONCRETE

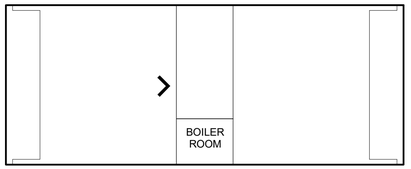
- 03-01 — CRACK REPAIR
- 03-04 — PATCHING

BRICK

- 04-01.BR — DISPLACEMENT - AREA OF REBUILD
- 04-02.BR — REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
  - 04-03.BR.2 *BIOLOGICAL GROWTH*
  - 04-03.BR.3 *FERROUS STAINING*
  - 04-03.BR.4 *CUPROUS STAINING*
  - 04-03.BR.5 *PAINT*
  - 04-03.BR.6 *CALCIUM DEPOSIT*
- 04-04.BR — UNIT REPLACEMENT
- 04-12 — CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS - HANGAR 4 - EAST	DRAWING NO. 646 190066
DRAWN: SW	A4.2.32		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 63 OF 153
DATE: 12/19/2025			

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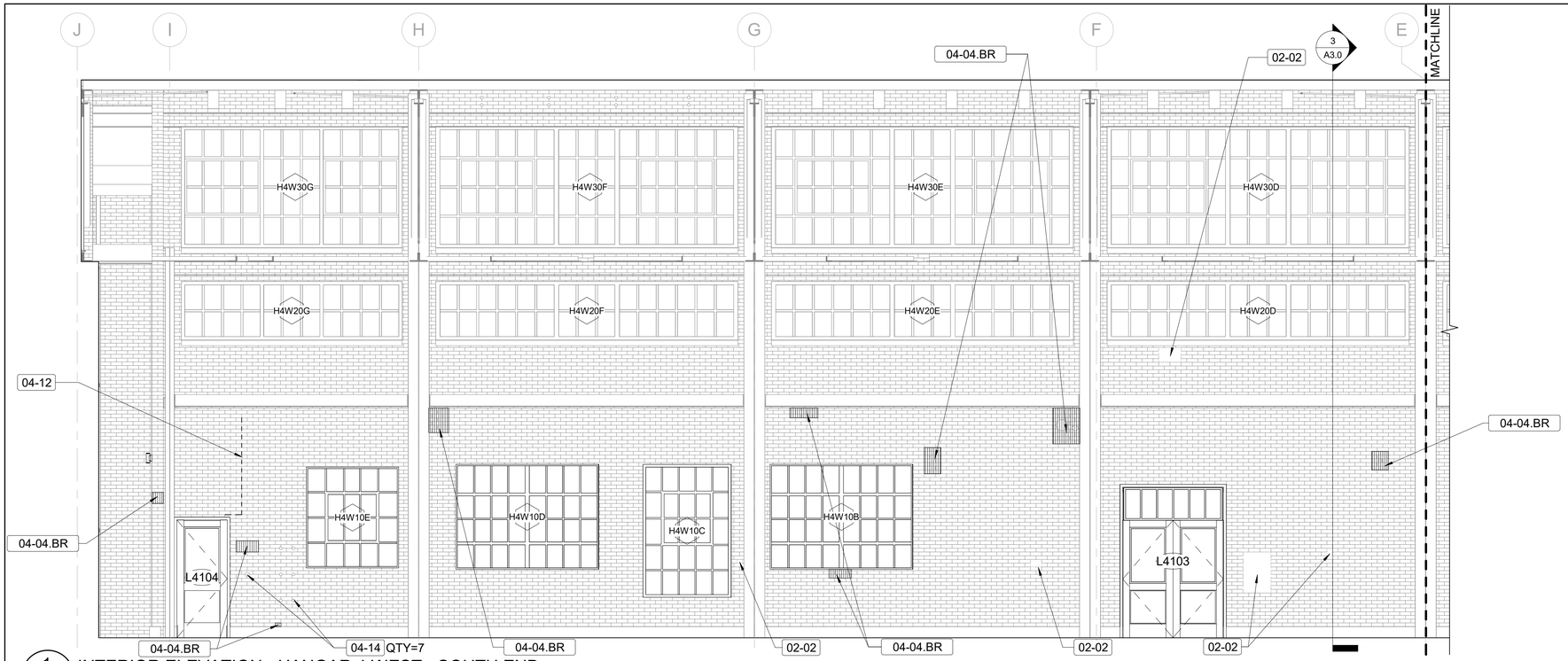
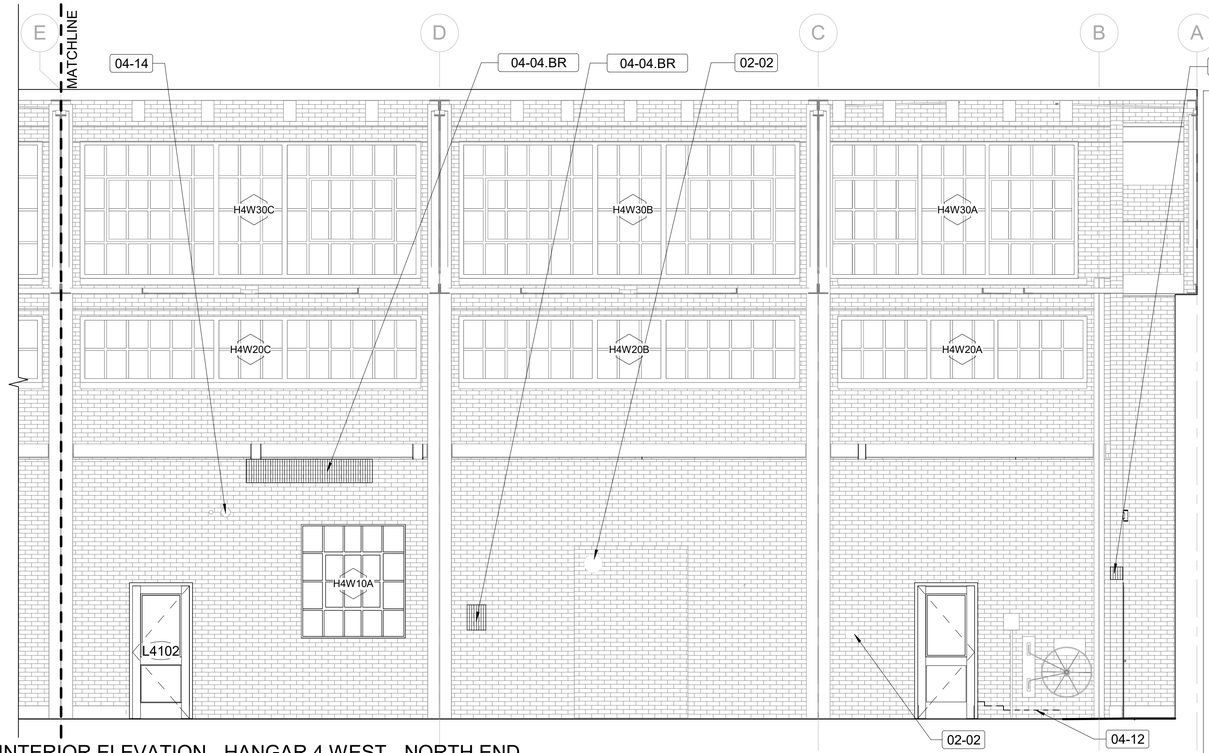


1 / A4.2.33 INTERIOR ELEVATION - HANGAR 4 WEST - SOUTH END

SCALE Ⓐ



2 / A4.2.33 INTERIOR ELEVATION - HANGAR 4 WEST - NORTH END

SCALE Ⓐ

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
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6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO INTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY IF POSSIBLE.
7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-12	CAREFULLY REMOVE DISPLACED BRICK AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS AND REPOINT.
04-14	IF THROUGH-WALL OPENING IS LARGER THAN 3": CAREFULLY REMOVE EXISTING PIPE (IF APPLICABLE), REMOVE EXISTING BRICKS AROUND OPENING AND REINSTALL SALVAGED AND/OR NEW BRICK. REPOINT. IF THROUGH-WALL OPENING IS LESS THAN 3" WIDE: CAREFULLY REMOVE EXISTING PIPE OR FASTENER (IF APPLICABLE) AND PATCH WITH MORTAR.

CONCRETE & BRICK REPAIR LEGEND

GENERAL

- 04-07 — SEALANT IN JOINT

CONCRETE

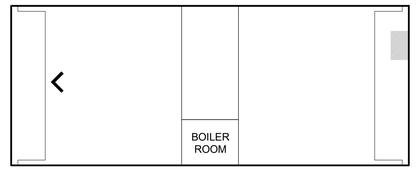
- 03-01 — CRACK REPAIR
- 03-04 — PATCHING

BRICK

- 04-01.BR — DISPLACEMENT - AREA OF REBUILD
- 04-02.BR — REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
  - 04-03.BR.2 *BIOLOGICAL GROWTH*
  - 04-03.BR.3 *FERROUS STAINING*
  - 04-03.BR.4 *CUPROUS STAINING*
  - 04-03.BR.5 *PAINT*
  - 04-03.BR.6 *CALCIUM DEPOSIT*
- 04-04.BR — UNIT REPLACEMENT
- 04-12 — CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS - HANGAR 4 - WEST	DRAWING NO. 646 190066
DRAWN: SW	A4.2.33		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 64 OF 153
DATE: 12/19/2025			

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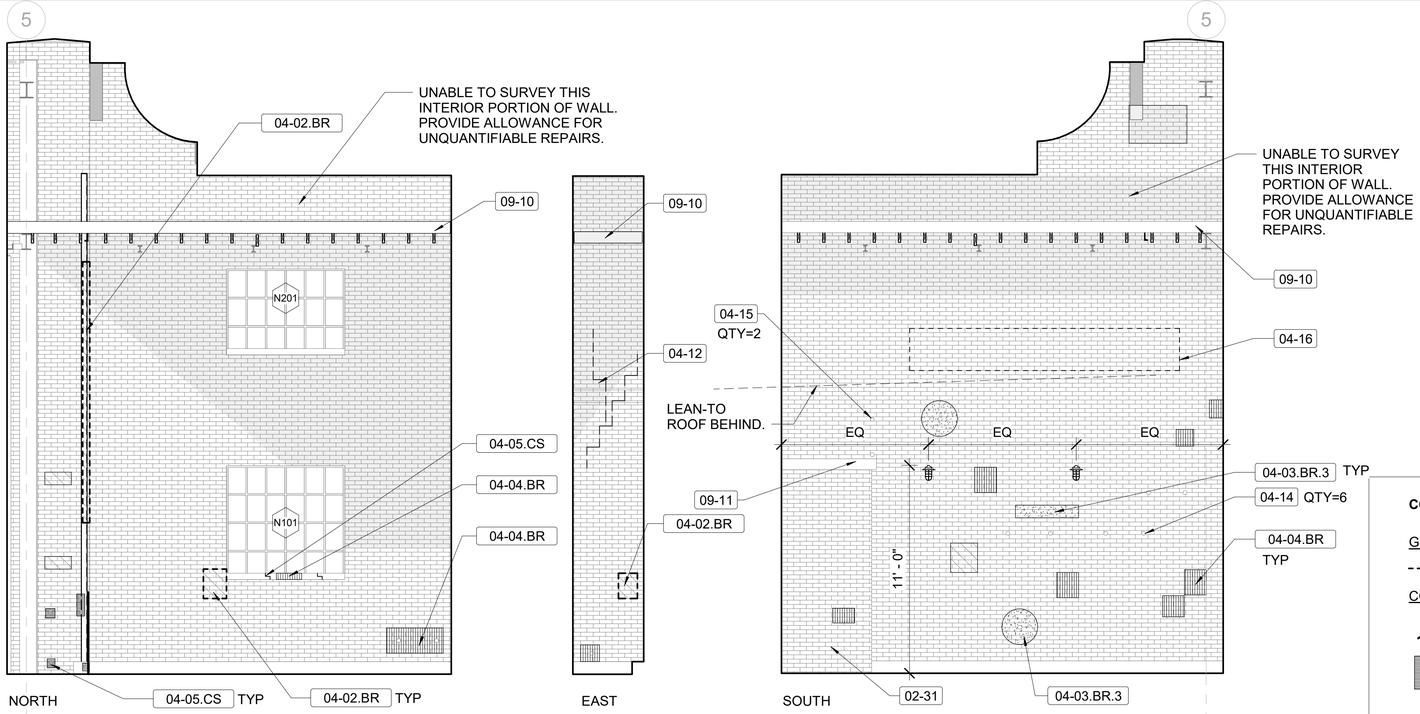
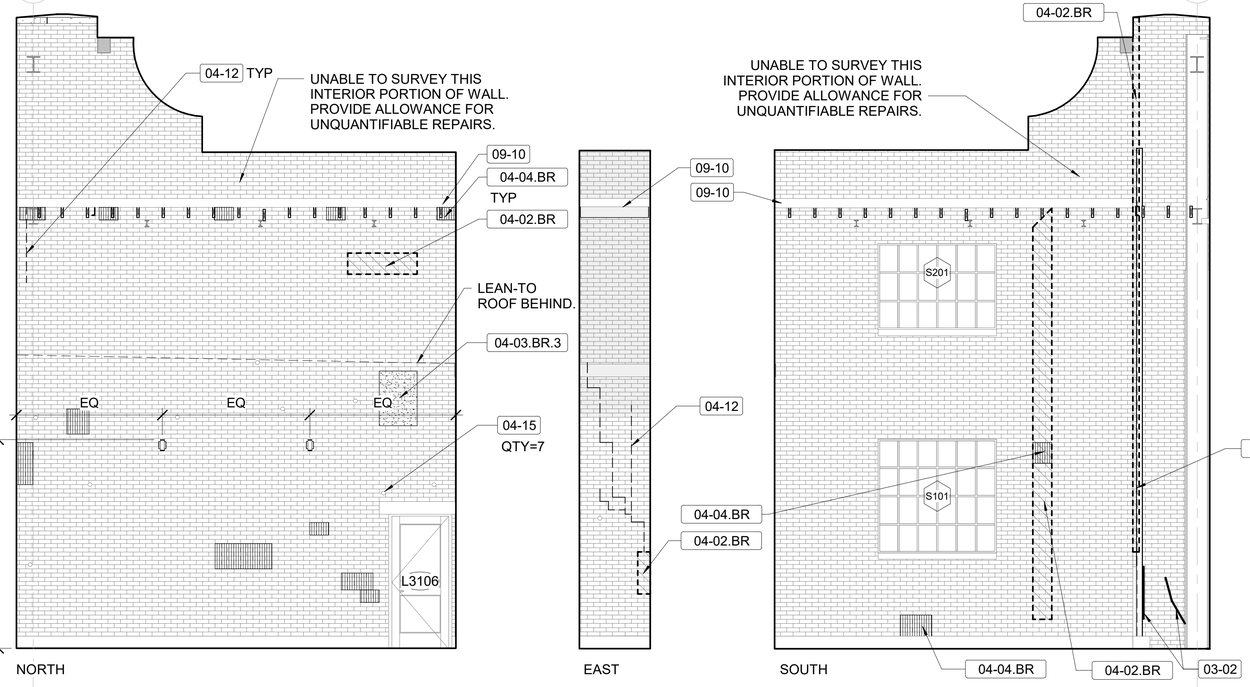


1 A4.2.34 HANGAR 3 NORTH HANGAR DOOR POCKET

SCALE Ⓐ



2 A4.2.34 HANGAR 3 SOUTH HANGAR DOOR POCKET

SCALE Ⓐ

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
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5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO INTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY IF POSSIBLE.
7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-31	EXISTING BRICK INFILL AND STL LINTEL TO REMAIN.
03-02	CONCRETE SLABS TO BE REPAIRED OR REPLACED. SEE STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR EXTENT OF WORK.
04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
04-03.BR.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-05.CS	PATCH CAST STONE. IF REBAR IS EXPOSED, CHIP AWAY CAST STONE UNTIL ENTIRE PORTION OF REBAR IS EXPOSED. REMOVE SURFACE RUST AND APPLY COATING PRIOR TO PATCHING.
04-12	CAREFULLY REMOVE DISPLACED BRICK AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS AND REPOINT.
04-14	IF THROUGH-WALL OPENING IS LARGER THAN 3": CAREFULLY REMOVE EXISTING PIPE (IF APPLICABLE), REMOVE EXISTING BRICKS AROUND OPENING AND REINSTALL SALVAGED AND/OR NEW BRICK. REPOINT. IF THROUGH-WALL OPENING IS LESS THAN 3" WIDE: CAREFULLY REMOVE EXISTING PIPE OR FASTENER (IF APPLICABLE) AND PATCH WITH MORTAR.
04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.
04-16	SINGLE WYTHE BRICK REPAIR.
09-10	EXISTING HANGAR DOOR TRACKS. CLEAN, PRIME AND PAINT. SEE STRUCTURAL.
09-11	CLEAN, PRIME AND PAINT STL LINTEL

CONCRETE & BRICK REPAIR LEGEND

GENERAL
- 04-07 — SEALANT IN JOINT

CONCRETE
- 03-01 — CRACK REPAIR
- 03-04 — PATCHING

BRICK
- 04-01.BR — DISPLACEMENT - AREA OF REBUILD
- 04-02.BR — REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
  - 04-03.BR.2 *BIOLOGICAL GROWTH*
  - 04-03.BR.3 *FERROUS STAINING*
  - 04-03.BR.4 *CUPROUS STAINING*
  - 04-03.BR.5 *PAINT*
  - 04-03.BR.6 *CALCIUM DEPOSIT*
- 04-04.BR — UNIT REPLACEMENT
- 04-12 — CRACK REPAIR

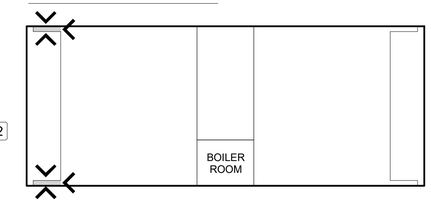
TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

BRICK LEGEND

ORIGINAL CONSTRUCTION BRICK (1929-1931)

WPA INFILL BRICK (1935-1936)

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS - HANGAR DOOR POCKETS - HANGAR 3	DRAWING NO. 646 190066
DRAWN: SW	A4.2.34	GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 65 OF 153
DATE: 12/19/2025			

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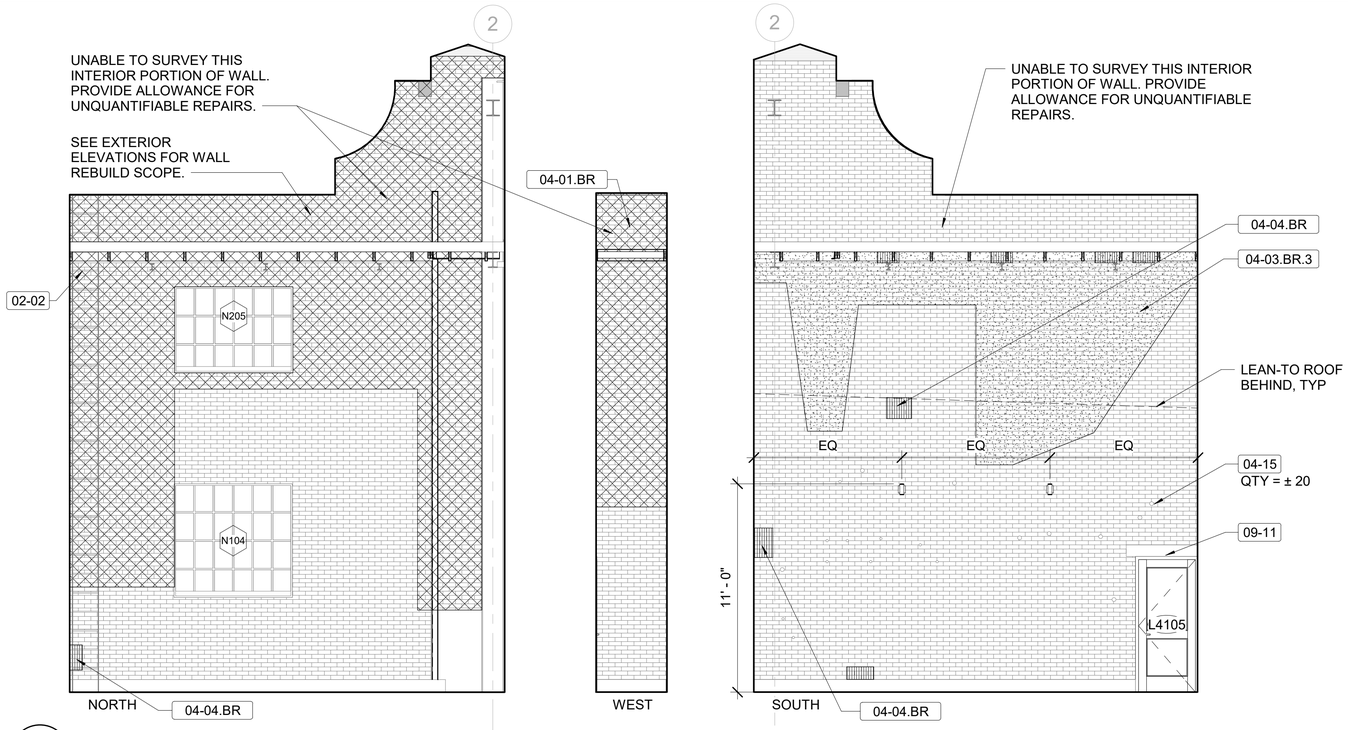
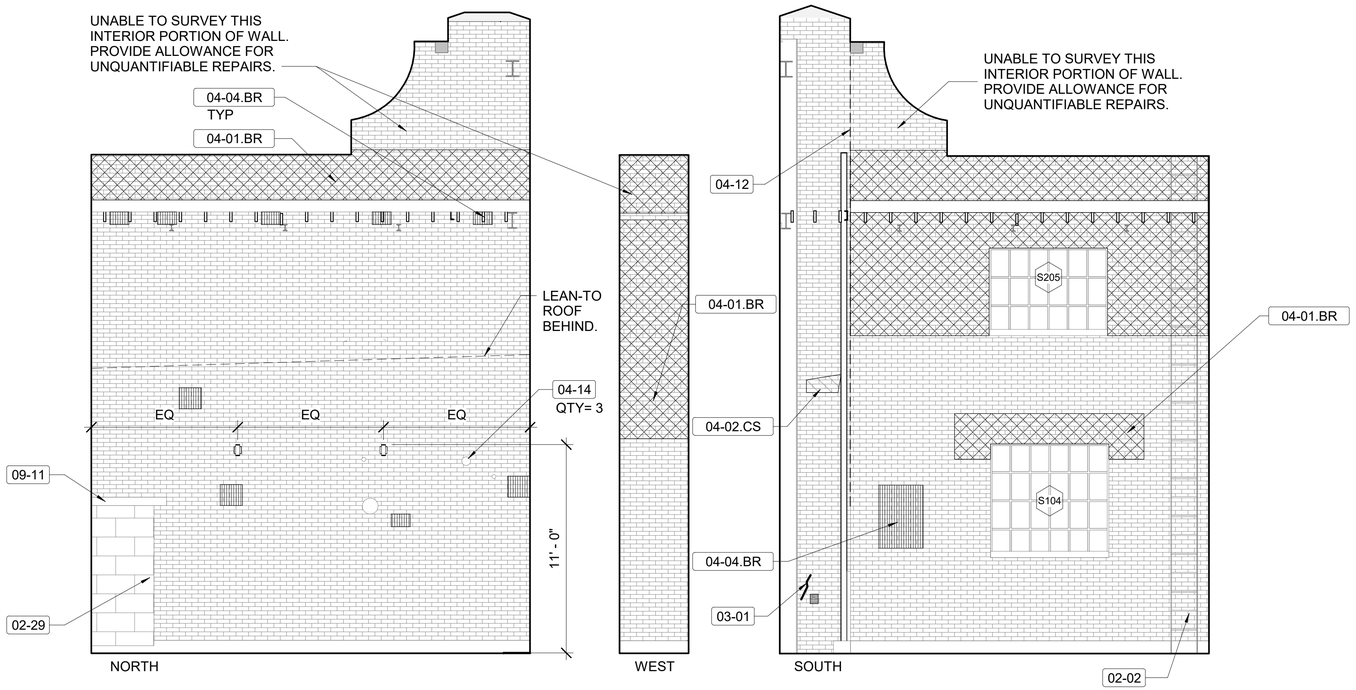


1 A4.2.35 HANGAR 4 NORTH HANGAR DOOR POCKET
SCALE Ⓐ



2 A4.2.35 HANGAR 4 SOUTH HANGAR DOOR POCKET
SCALE Ⓐ

CONCRETE & BRICK REPAIR LEGEND

GENERAL

	04-07	SEALANT IN JOINT

CONCRETE

	03-01	CRACK REPAIR
	03-04	PATCHING

BRICK

	04-01.BR	DISPLACEMENT - AREA OF REBUILD
	04-02.BR	REPOINTING
		CLEANING
	04-03.BR.1	*ATMOSPHERIC STAINING*
	04-03.BR.2	*BIOLOGICAL GROWTH*
	04-03.BR.3	*FERROUS STAINING*
	04-03.BR.4	*CUPROUS STAINING*
	04-03.BR.5	*PAINT*
	04-03.BR.6	*CALCIUM DEPOSIT*
	04-04.BR	UNIT REPLACEMENT
	04-12	CRACK REPAIR

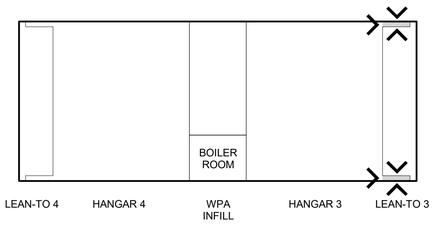
TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

BRICK LEGEND

ORIGINAL CONSTRUCTION BRICK (1929-1931)

WPA INFILL BRICK (1935-1936)

KEY PLAN



SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO INTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY IF POSSIBLE.
7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
02-29	EXISTING CMU INFILL TO REMAIN.
03-01	CONCRETE CRACK REPAIR. REFER TO TYPICAL DETAIL SHEETS.
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-02.CS	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR TO MATCH EXISTING COMPOSITION AND COLOR.
04-03.BR.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-12	CAREFULLY REMOVE DISPLACED BRICK AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS AND REPOINT.
04-14	IF THROUGH-WALL OPENING IS LARGER THAN 3": CAREFULLY REMOVE EXISTING PIPE (IF APPLICABLE), REMOVE EXISTING BRICKS AROUND OPENING AND REINSTALL SALVAGED AND/OR NEW BRICK. REPOINT. IF THROUGH-WALL OPENING IS LESS THAN 3" WIDE: CAREFULLY REMOVE EXISTING PIPE OR FASTENER (IF APPLICABLE) AND PATCH WITH MORTAR.
04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.
09-11	CLEAN, PRIME AND PAINT STL LINTEL

SCALE Ⓐ 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS - HANGAR DOOR POCKETS - HANGAR 4	DRAWING NO. 646 190066
DRAWN: SW	A4.2.35	GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 66 OF 153
DATE: 12/19/2025			

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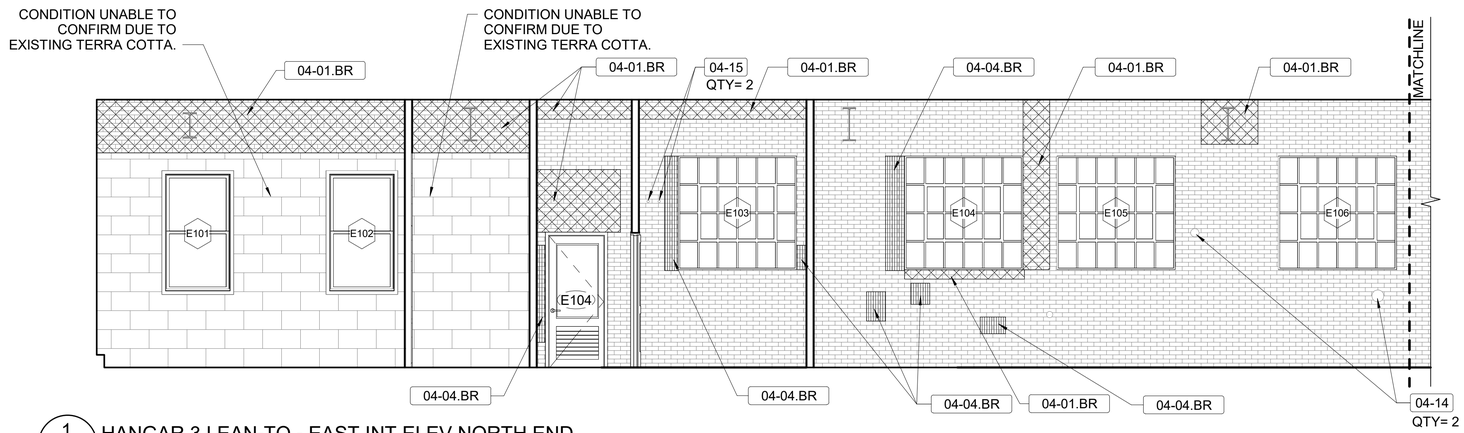
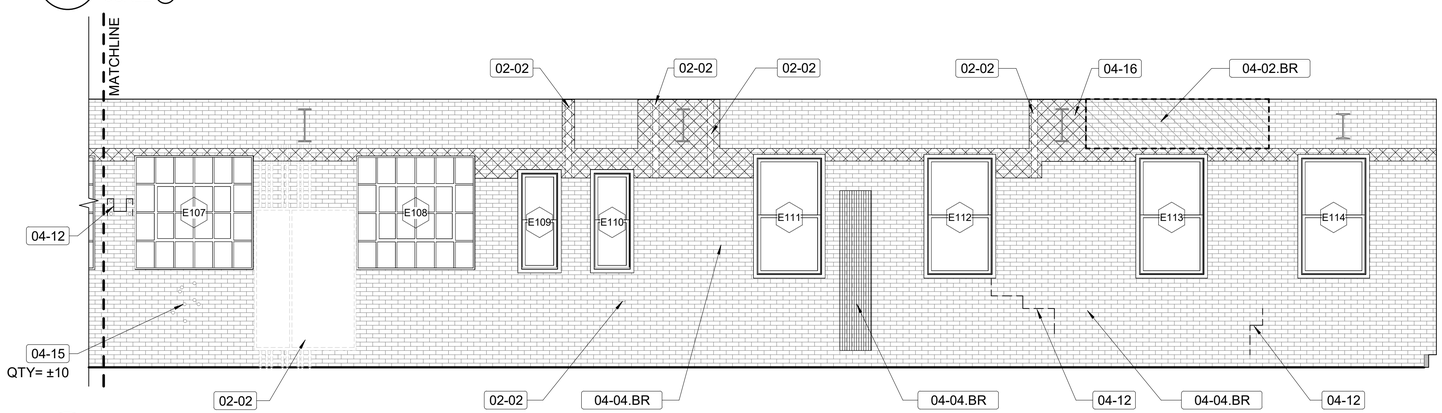
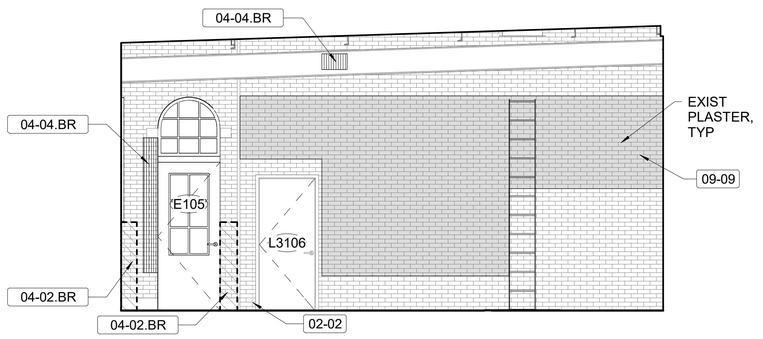


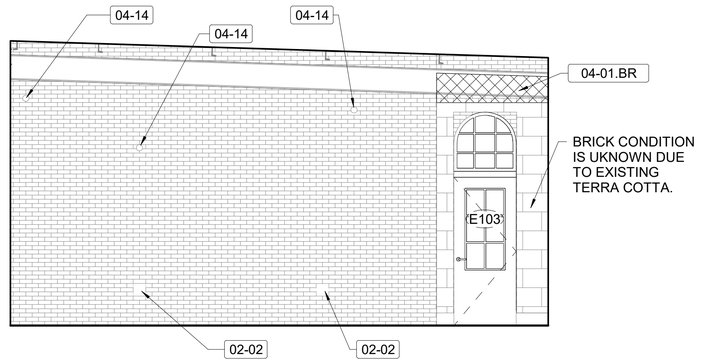
1 A4.2.50 HANGAR 3 LEAN-TO - EAST INT ELEV NORTH END
SCALE A



2 A4.2.50 HANGAR 3 LEAN-TO - EAST INT ELEV SOUTH END
SCALE A



3 A4.2.50 HANGAR 3 LEAN-TO - SOUTH INT ELEV
SCALE A



4 A4.2.50 HANGAR 3 LEAN-TO - NORTH INT ELEV
SCALE A

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO INTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY IF POSSIBLE.
7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

CONCRETE & BRICK REPAIR LEGEND

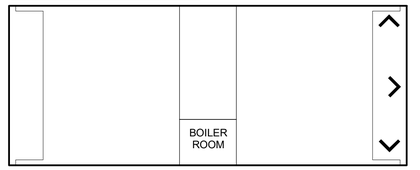
GENERAL
- 04-07 — SEALANT IN JOINT

CONCRETE
- 03-01 — CRACK REPAIR
- 03-04 — PATCHING

BRICK
- 04-01.BR — DISPLACEMENT - AREA OF REBUILD
- 04-02.BR — REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
  - 04-03.BR.2 *BIOLOGICAL GROWTH*
  - 04-03.BR.3 *FERROUS STAINING*
  - 04-03.BR.4 *CUPROUS STAINING*
  - 04-03.BR.5 *PAINT*
  - 04-03.BR.6 *CALCIUM DEPOSIT*
- 04-04.BR — UNIT REPLACEMENT
- 04-12 — CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEY PLAN



SCALE A 4' 2' 0 4' 8'
SCALE OF FEET

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
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04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.
04-16	SINGLE WYTHE BRICK REPAIR.
09-09	REMOVE DELAMINATED PLASTER PRIOR TO GENERAL MASONRY CLEANING. ASSUME 50% OF PLASTER WILL BE REMOVED. SOUND PLASTER TO REMAIN.

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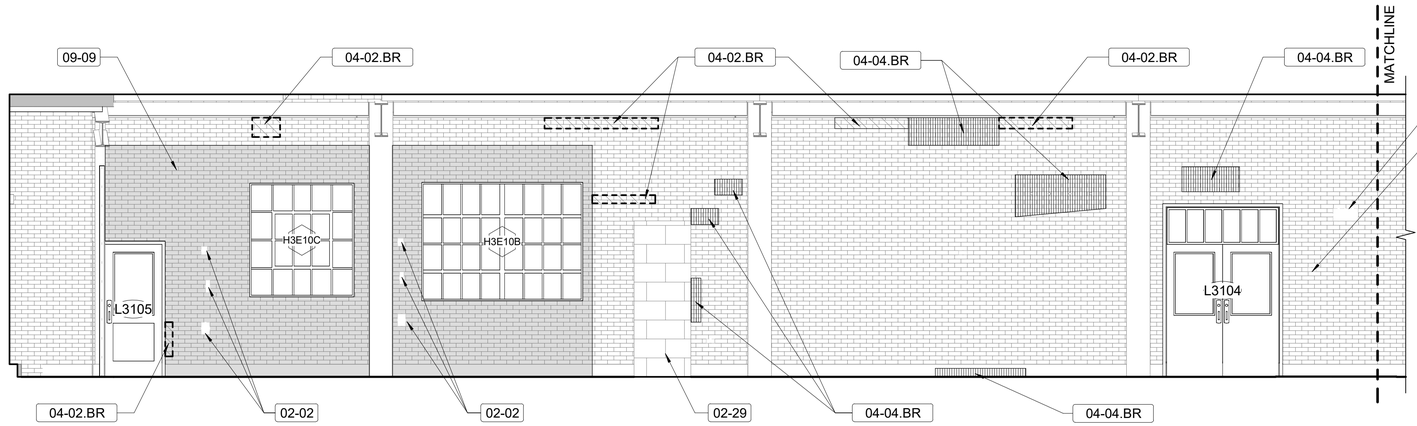
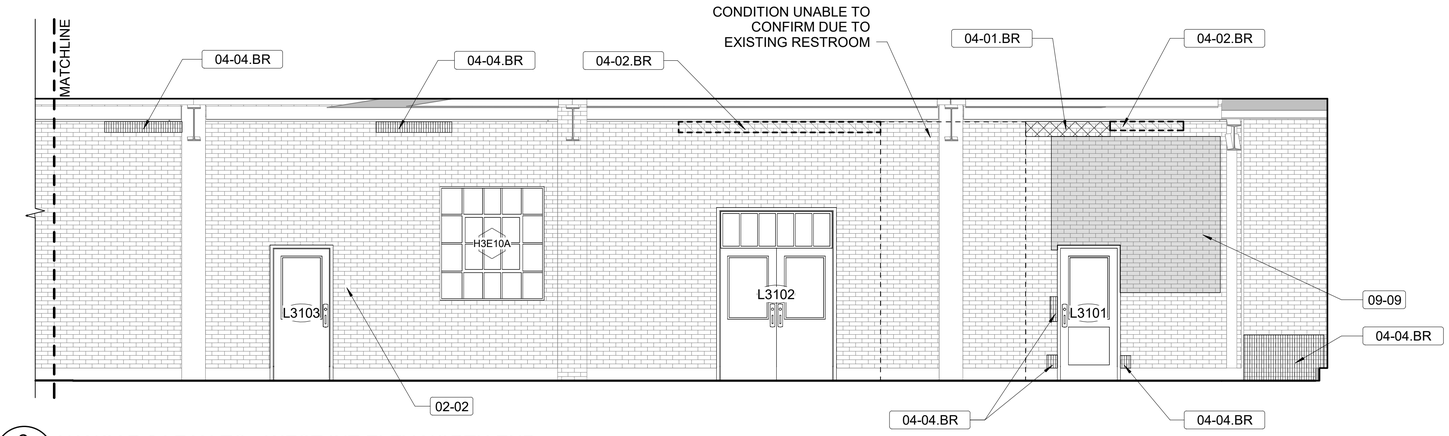
DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS HANGAR 3 LEAN-TO	DRAWING NO. 646 190066
CADD: SW	A4.2.50		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 67 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	



1 A4.2.51 HANGAR 3 LEAN-TO - WEST INT ELEV SOUTH END
SCALE Ⓐ



2 A4.2.51 HANGAR 3 LEAN-TO - WEST INT ELEV NORTH END
SCALE Ⓐ

CONCRETE & BRICK REPAIR LEGEND

GENERAL

04-07 SEALANT IN JOINT

CONCRETE

03-01 CRACK REPAIR

03-04 PATCHING

BRICK

04-01.BR DISPLACEMENT - AREA OF REBUILD

04-02.BR REPOINTING

CLEANING

- 04-03.BR.1 *ATMOSPHERIC STAINING*
- 04-03.BR.2 *BIOLOGICAL GROWTH*
- 04-03.BR.3 *FERROUS STAINING*
- 04-03.BR.4 *CUPROUS STAINING*
- 04-03.BR.5 *PAINT*
- 04-03.BR.6 *CALCIUM DEPOSIT*

04-04.BR UNIT REPLACEMENT

04-12 CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

SHEET NOTES

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KEYNOTES	
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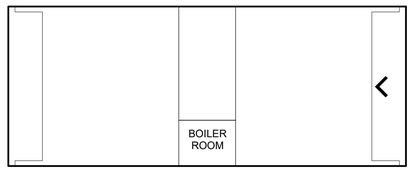
09-09	REMOVE DELAMINATED PLASTER PRIOR TO GENERAL MASONRY CLEANING. ASSUME 50% OF PLASTER WILL BE REMOVED. SOUND PLASTER TO REMAIN.

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS HANGAR 3 LEAN-TO	DRAWING NO. 646 190066
CADD: SW	A4.2.51		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 68 OF 153
DATE: 12/19/2025			

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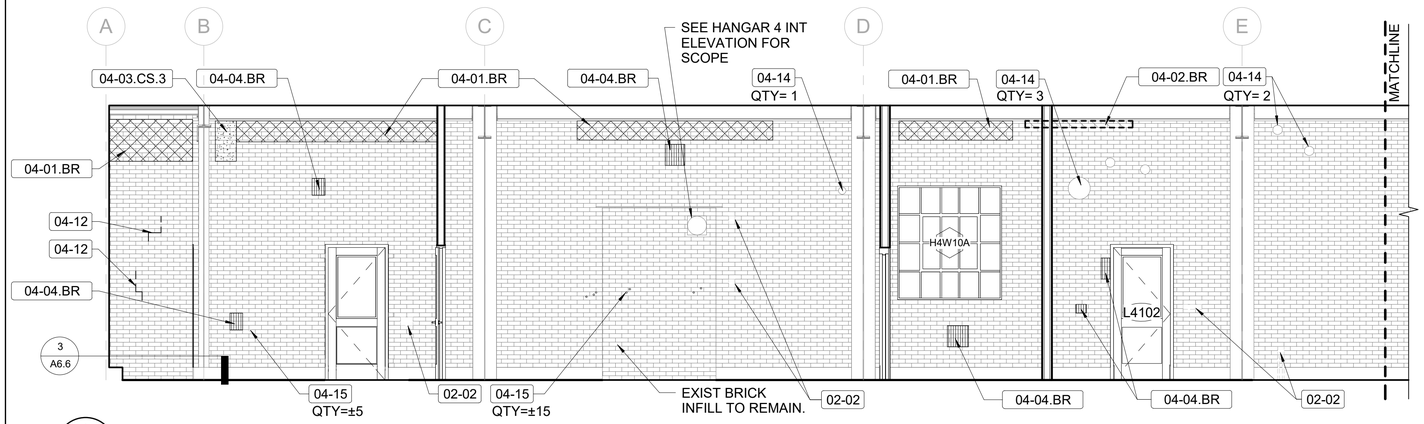
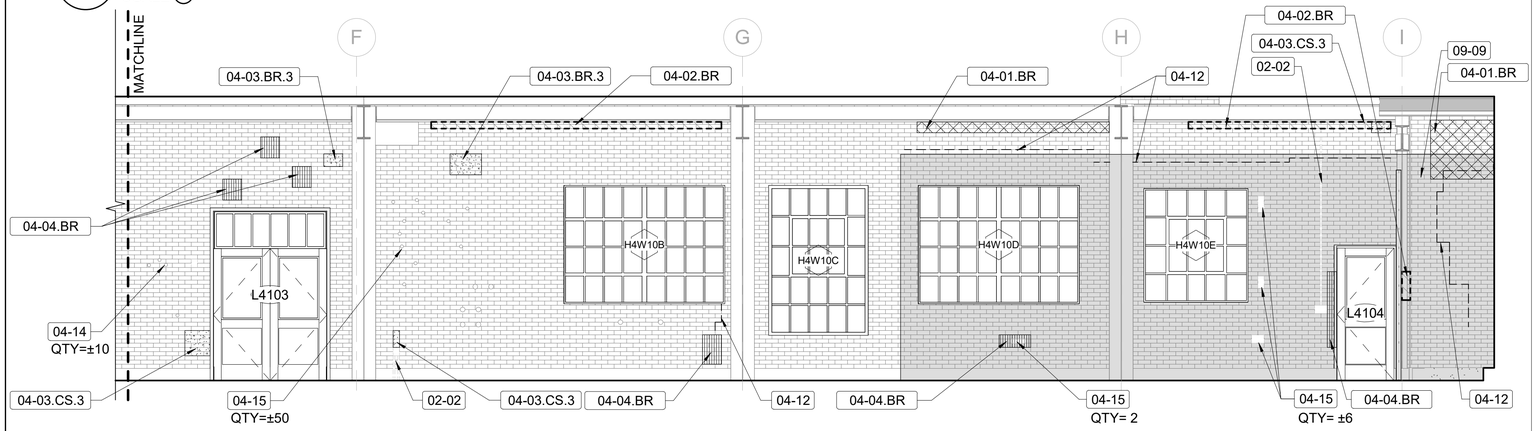


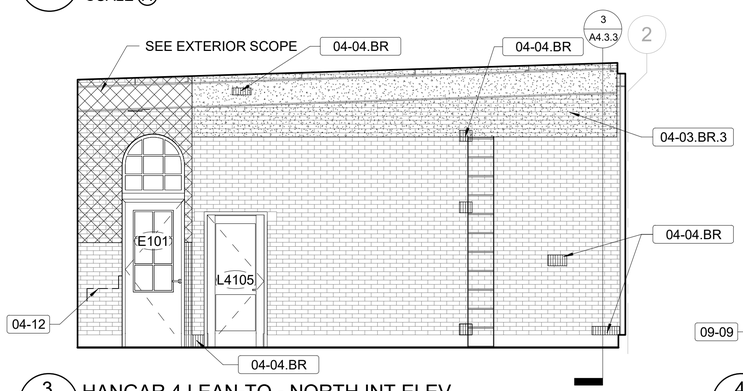
1 A4.2.52 HANGAR 4 LEAN-TO - EAST INT ELEV NORTH END

SCALE Ⓐ



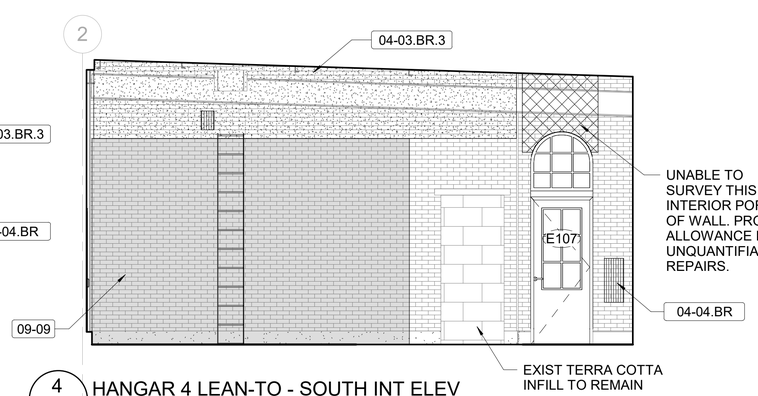
2 A4.2.52 HANGAR 4 LEAN-TO - EAST INT ELEV SOUTH END

SCALE Ⓐ



3 A4.2.52 HANGAR 4 LEAN-TO - NORTH INT ELEV

SCALE Ⓐ



4 A4.2.52 HANGAR 4 LEAN-TO - SOUTH INT ELEV

SCALE Ⓐ

CONCRETE & BRICK REPAIR LEGEND

GENERAL

- 04-07 — SEALANT IN JOINT

CONCRETE

- 03-01 — CRACK REPAIR
- 03-04 — PATCHING

BRICK

- 04-01.BR — DISPLACEMENT - AREA OF REBUILD
- 04-02.BR — REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
  - 04-03.BR.2 *BIOLOGICAL GROWTH*
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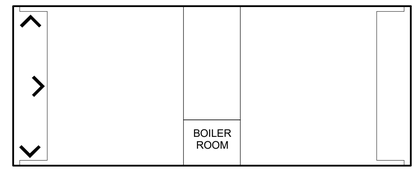
  - 04-03.BR.5 *PAINT*
  - 04-03.BR.6 *CALCIUM DEPOSIT*
- 04-04.BR — UNIT REPLACEMENT
- 04-12 — CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

KEY PLAN



SHEET NOTES

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KEYNOTES	
KEY VALUE	TEXT
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04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
04-03.BR.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-03.CS.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
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04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.
09-09	REMOVE DELAMINATED PLASTER PRIOR TO GENERAL MASONRY CLEANING. ASSUME 50% OF PLASTER WILL BE REMOVED. SOUND PLASTER TO REMAIN.

SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: SW	A4.2.52	INTERIOR ELEVATIONS HANGAR 4 LEAN-TO	646 190066
TECH. REVIEW: AK			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	SHEET 69 OF 153

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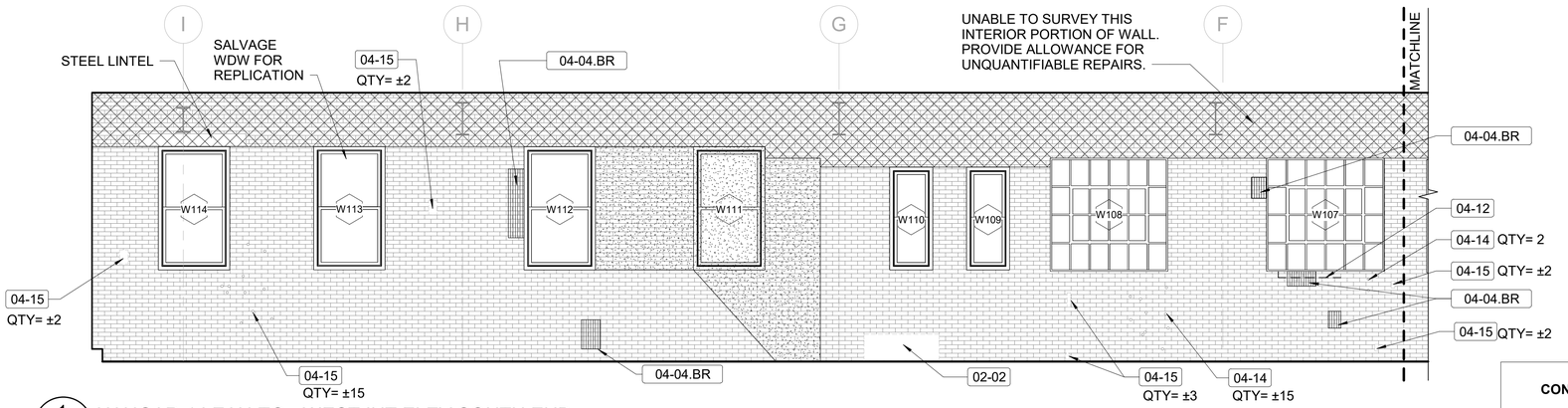
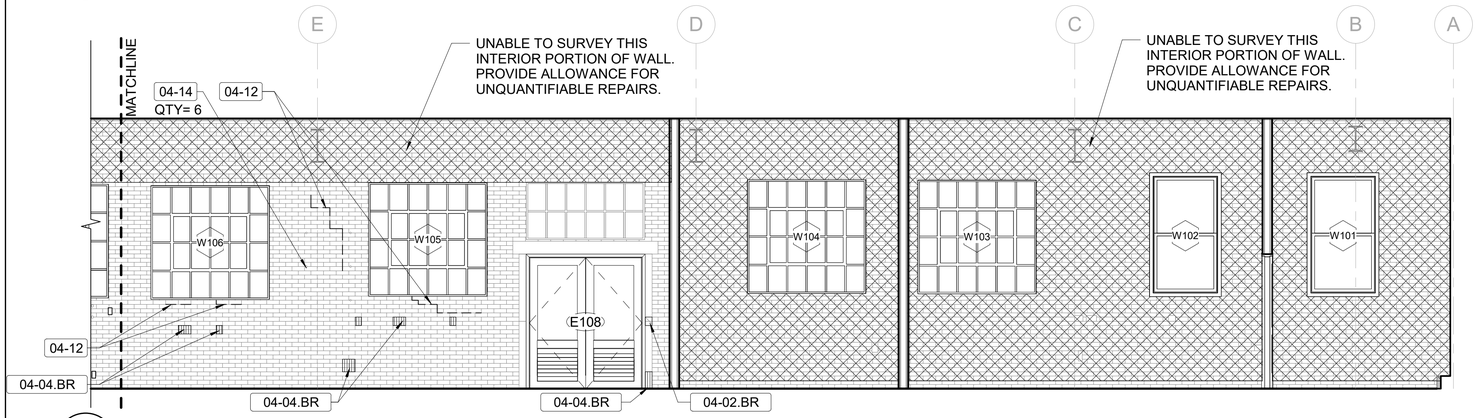


1 A4.2.53 HANGAR 4 LEAN-TO - WEST INT ELEV SOUTH END

SCALE Ⓐ



2 A4.2.53 HANGAR 4 LEAN-TO - WEST INT ELEV NORTH END

SCALE Ⓐ

CONCRETE & BRICK REPAIR LEGEND

GENERAL

- 04-07 — SEALANT IN JOINT

CONCRETE

- 03-01 — CRACK REPAIR
- 03-04 — PATCHING

BRICK

- 04-01.BR — DISPLACEMENT - AREA OF REBUILD
- 04-02.BR — REPOINTING
- CLEANING
  - 04-03.BR.1 *ATMOSPHERIC STAINING*
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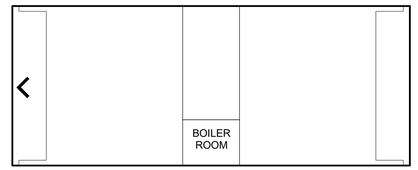
TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO INTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY IF POSSIBLE.
7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-12	CAREFULLY REMOVE DISPLACED BRICK AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS AND REPOINT.
04-14	IF THROUGH-WALL OPENING IS LARGER THAN 3": CAREFULLY REMOVE EXISTING PIPE (IF APPLICABLE), REMOVE EXISTING BRICKS AROUND OPENING AND REINSTALL SALVAGED AND/OR NEW BRICK. REPOINT. IF THROUGH-WALL OPENING IS LESS THAN 3" WIDE: CAREFULLY REMOVE EXISTING PIPE OR FASTENER (IF APPLICABLE) AND PATCH WITH MORTAR.
04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A4.2.53	TITLE OF SHEET INTERIOR ELEVATIONS HANGAR 4 LEAN-TO GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 70 OF 153

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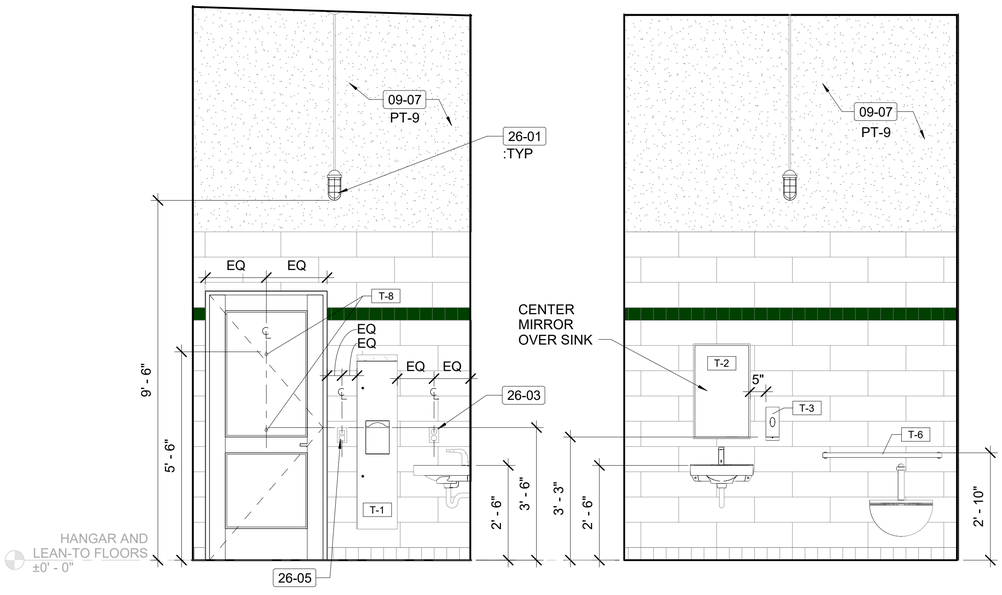
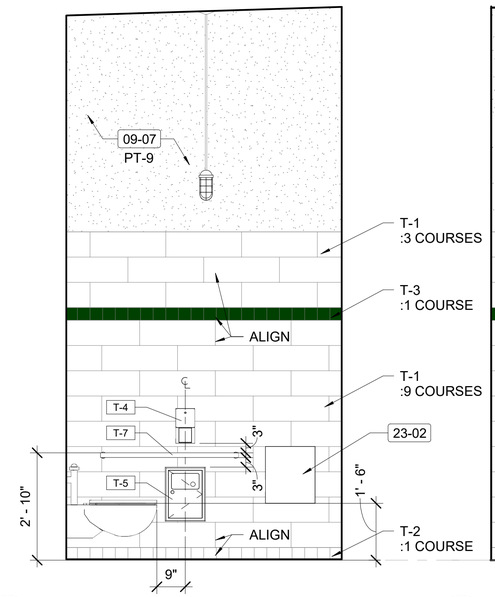
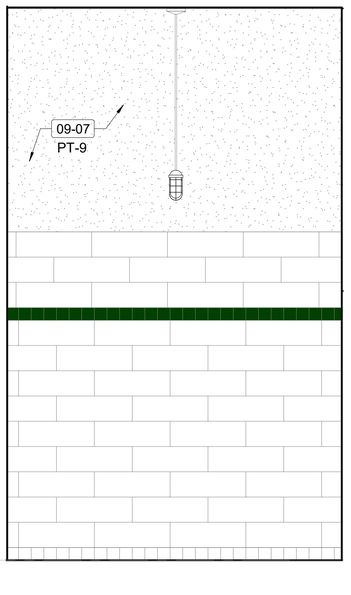


1 A4.2.54 RESTROOM EAST - NORTH INT ELEV FINISHES
SCALE A

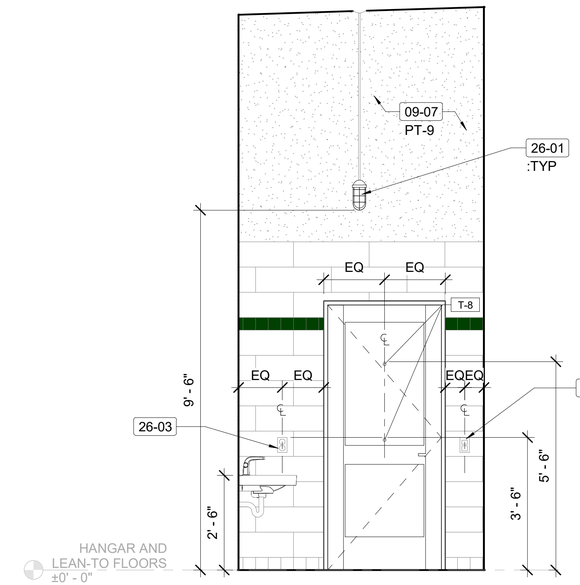
2 A4.2.54 RESTROOM EAST - EAST INT ELEV
SCALE A



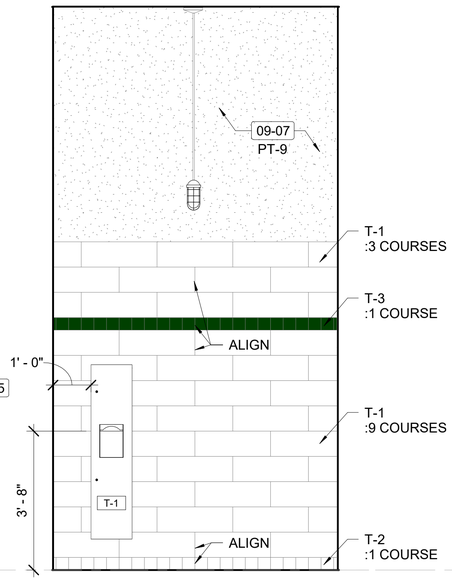
3 A4.2.54 RESTROOM EAST - SOUTH INT ELEV
SCALE A



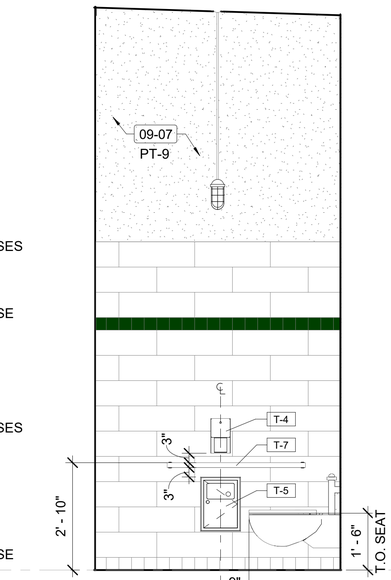
4 A4.2.54 RESTROOM EAST - WEST INT ELEV
SCALE A



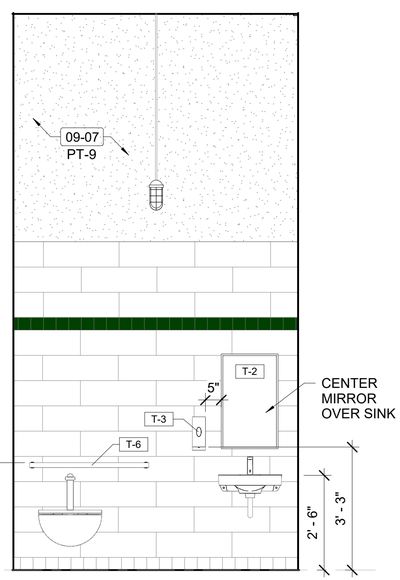
5 A4.2.54 RESTROOM WEST - NORTH INT ELEV
SCALE A



6 A4.2.54 RESTROOM EAST - EAST INT ELEV
SCALE A



7 A4.2.54 RESTROOM WEST - SOUTH INT ELEV
SCALE A



8 A4.2.54 RESTROOM WEST - WEST INT ELEV
SCALE A

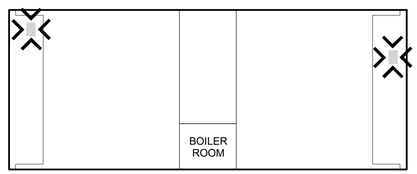
SHEET NOTES

1. ALL FIXTURES ARE TO BE INSTALLED PER ABAAS REQUIREMENTS.
2. REFER TO ENLARGED PLANS AND ARCPS FOR ADDITIONAL DIMENSIONS AND INFORMATION.
3. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
09-07	MOISTURE RESISTANT CEMENTITIOUS BACKERBOARD. PRIME AND PAINT.
23-02	UNIT HEATER. MOUNT BOTTOM OF UNIT AT 18"-24" ABOVE FINISH FLOOR. SEE MECHANICAL.
26-01	PENDANT-TYPE INDUSTRIAL-STYLE LED LIGHT FIXTURE. GALVANIZED, POWDER COATED, METAL. SEE ELECTRICAL DRAWINGS.
26-03	DUPLEX RECEPTACLE. SEE ELECTRICAL DRAWINGS.
26-05	LIGHT SWITCH/OCCUPANCY SENSOR. SEE ELECTRICAL.

ACCESSORIES SCHEDULE	
TYPE	DESCRIPTION
T-1	RECESSED PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
T-2	MIRROR WITH STAINLESS STEEL CHANNEL FRAME, 18"X30"
T-3	AUTOMATIC WALL-MOUNTED SOAP DISPENSER
T-4	SURFACE-MOUNTED MULTI-ROLL TOILET TISSUE DISPENSER
T-5	RECESSED SANITARY NAPKIN DISPOSAL
T-6	STAINLESS STEEL GRAB BARS WITH CONCEALED FLANGE, 36"
T-7	STAINLESS STEEL GRAB BARS WITH CONCEALED FLANGE, 42"
T-8	COAT HOOK
T-9	UTILITY SHELF WITH MOP/BROOM HOLDERS AND RAG HOOKS

KEY PLAN



SCALE A
4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS - RESTROOMS	DRAWING NO. 646 190066
DRAWN: SW	A4.2.54		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 71 OF 153
DATE: 12/19/2025			

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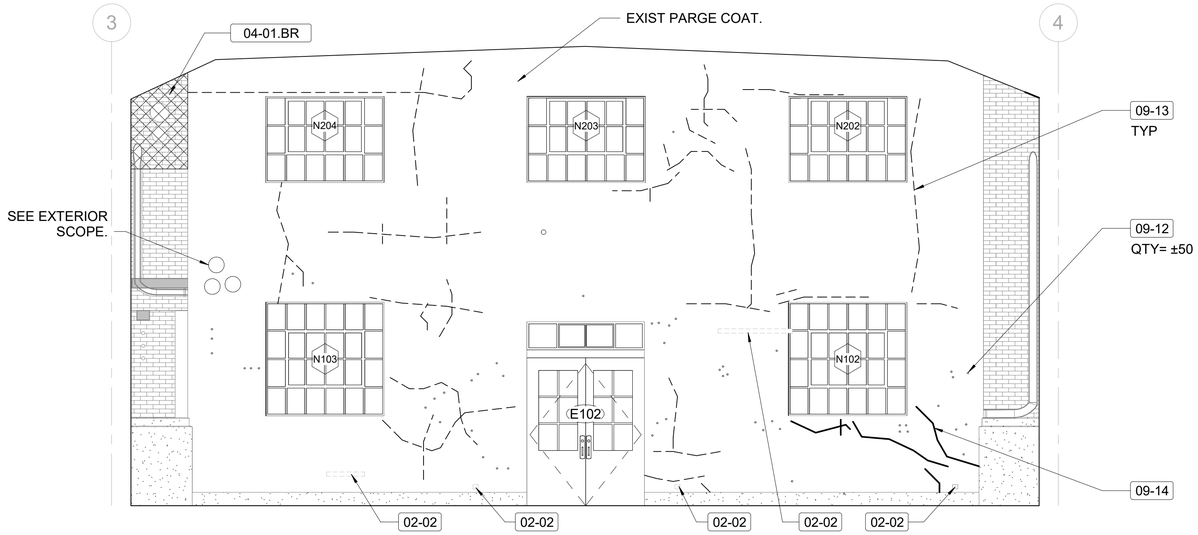
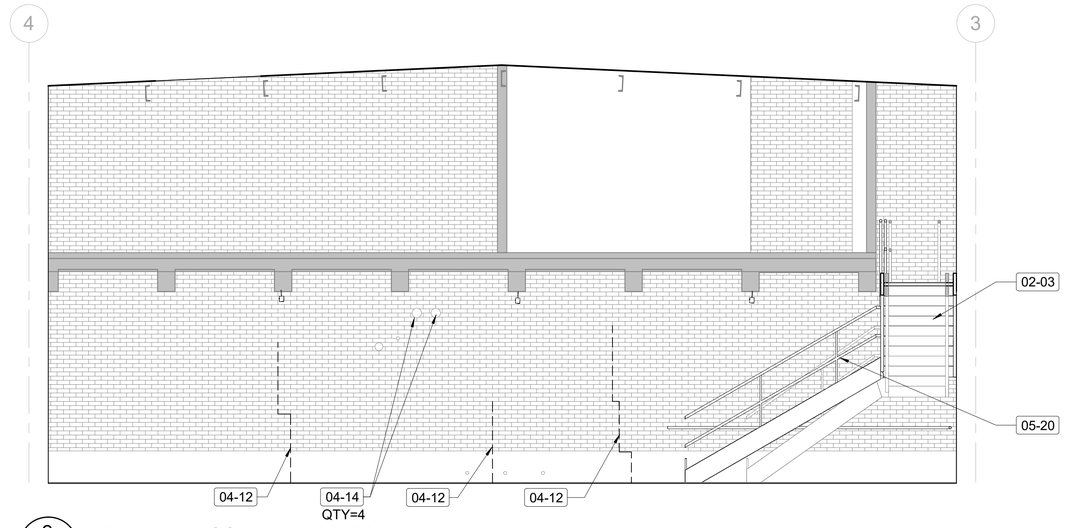


1 A4.2.60 WPA INFILL - NORTH INT ELEV
SCALE Ⓐ



2 A4.2.60 WPA INFILL - SOUTH INT ELEV
SCALE Ⓐ

CONCRETE & BRICK REPAIR LEGEND

GENERAL

04-07 SEALANT IN JOINT

CONCRETE

03-01 CRACK REPAIR

03-04 PATCHING

BRICK

04-01.BR DISPLACEMENT - AREA OF REBUILD

04-02.BR REPOINTING

CLEANING

- 04-03.BR.1 *ATMOSPHERIC STAINING*
- 04-03.BR.2 *BIOLOGICAL GROWTH*
- 04-03.BR.3 *FERROUS STAINING*
- 04-03.BR.4 *CUPROUS STAINING*
- 04-03.BR.5 *PAINT*
- 04-03.BR.6 *CALCIUM DEPOSIT*

04-04.BR UNIT REPLACEMENT

04-12 CRACK REPAIR

TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

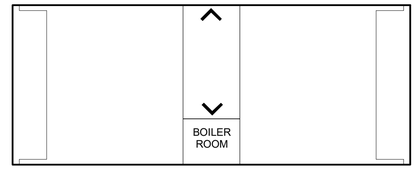
PARGE COAT REPAIR LEGEND

09-12 SEALANT IN JOINT

09-13 CRACK PATCHING

09-14 CRACK REPAIR

KEY PLAN



SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
3. ALL AREAS NOT CALLED OUT ARE EXISTING TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
4. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL BRICK AND CAST STONE IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO INTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY IF POSSIBLE.
7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
02-03	EXISTING ITEM(S) TO REMAIN.
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-12	CAREFULLY REMOVE DISPLACED BRICK AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS AND REPOINT.
04-14	IF THROUGH-WALL OPENING IS LARGER THAN 3": CAREFULLY REMOVE EXISTING PIPE (IF APPLICABLE), REMOVE EXISTING BRICKS AROUND OPENING AND REINSTALL SALVAGED AND/OR NEW BRICK. REPOINT. IF THROUGH-WALL OPENING IS LESS THAN 3" WIDE: CAREFULLY REMOVE EXISTING PIPE OR FASTENER (IF APPLICABLE) AND PATCH WITH MORTAR.
05-20	REPLACE EXISTING RAIL WITH 42" HEIGHT PIPE AND TUBE GUARDRAIL WITH ABA COMPLIANT HANDRAIL. MECHANICALLY MOUNT TO EXISTING STAIR STRINGER. POWDER COATED STEEL.
09-12	REMOVE LOOSE PLASTERS AROUND OPENINGS, PATCH WITH MORTAR WITH PROPER STRENGTH, COLOR AND TEXTURE MATCH EXISTING.
09-13	REMOVE LOOSE PLASTERS AROUND CRACKS, PATCH WITH MORTAR WITH PROPER STRENGTH, COLOR AND TEXTURE MATCH EXISTING.
09-14	PARGE COAT CRACK REPAIR. REFER TO CONCRETE CRACK DETAIL.

SCALE Ⓐ 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A4.2.60	TITLE OF SHEET INTERIOR ELEVATIONS - WPA INFILL - NORTH & SOUTH GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 72 OF 153

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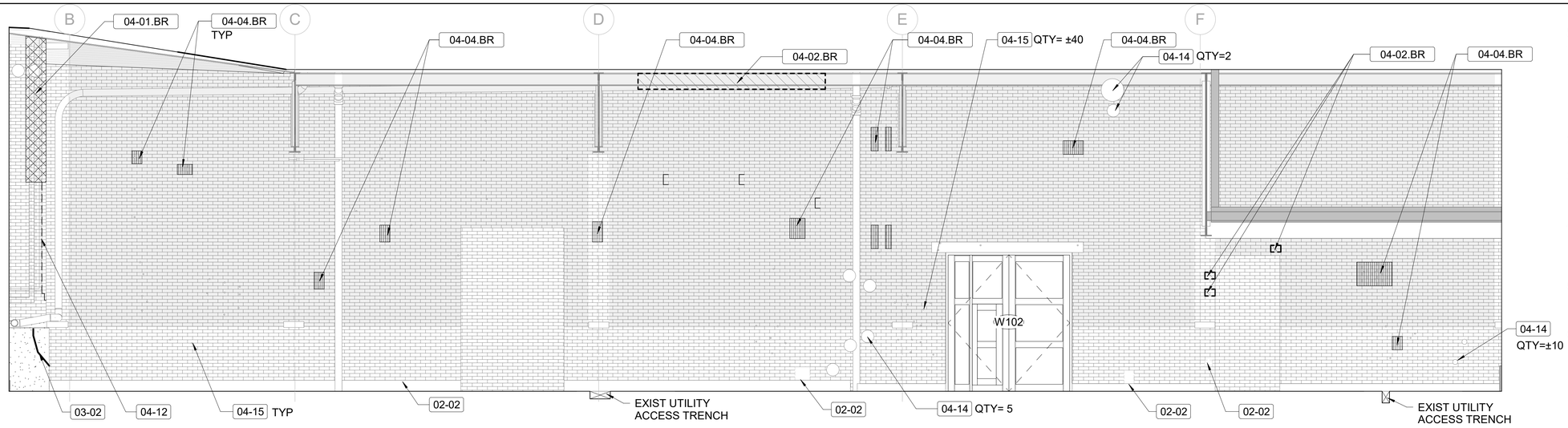
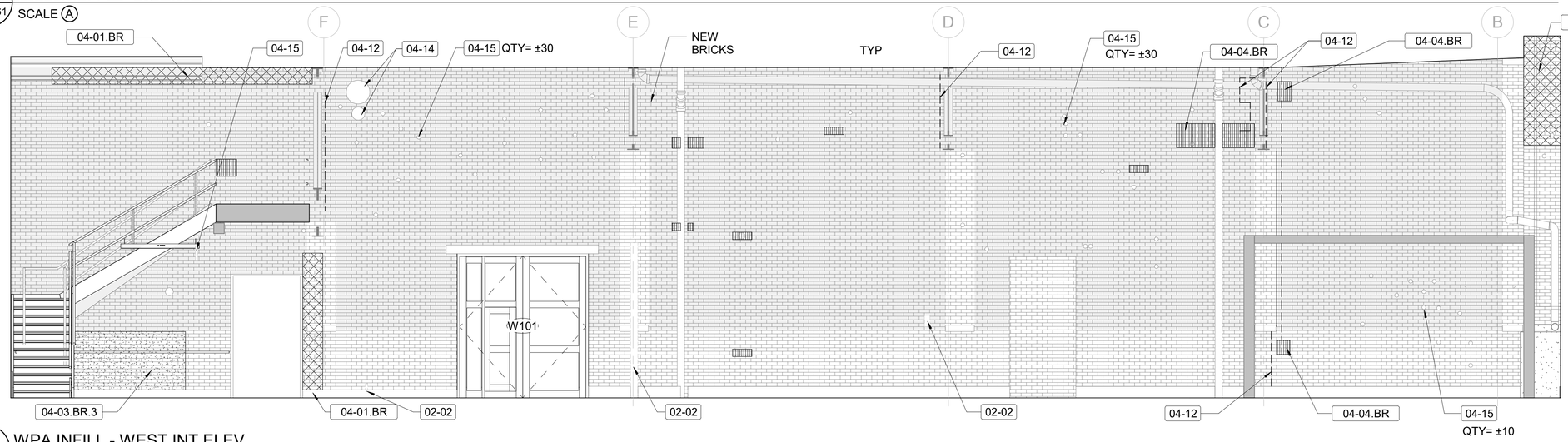


1 A4.2.61 WPA INFILL - EAST INT ELEV

SCALE Ⓐ



2 A4.2.61 WPA INFILL - WEST INT ELEV

SCALE Ⓐ

SHEET NOTES

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7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
03-02	CONCRETE SLABS TO BE REPAIRED OR REPLACED. SEE STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR EXTENT OF WORK.
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-02.BR	REMOVE LOOSE MORTAR AND/OR SEALANT. REPOINT WITH MORTAR.
04-03.BR.3	REMOVE FERROUS STAINING USING THE GENTLEST CLEANING METHODS FIRST.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-12	CAREFULLY REMOVE DISPLACED BRICK AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS AND REPOINT.
04-14	IF THROUGH-WALL OPENING IS LARGER THAN 3": CAREFULLY REMOVE EXISTING PIPE (IF APPLICABLE), REMOVE EXISTING BRICKS AROUND OPENING AND REINSTALL SALVAGED AND/OR NEW BRICK. REPOINT. IF THROUGH-WALL OPENING IS LESS THAN 3" WIDE: CAREFULLY REMOVE EXISTING PIPE OR FASTENER (IF APPLICABLE) AND PATCH WITH MORTAR.
04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.

CONCRETE & BRICK REPAIR LEGEND TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

GENERAL

- 04-07 — SEALANT IN JOINT

CONCRETE

- 03-01 — CRACK REPAIR
- 03-04 — PATCHING

BRICK

- 04-01.BR — DISPLACEMENT - AREA OF REBUILD
- 04-02.BR — REPOINTING

CLEANING

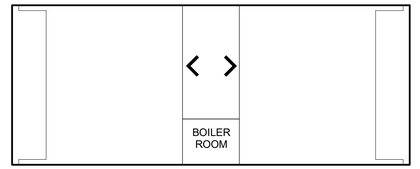
- 04-03.BR.1 — *ATMOSPHERIC STAINING*
- 04-03.BR.2 — *BIOLOGICAL GROWTH*
- 04-03.BR.3 — *FERROUS STAINING*
- 04-03.BR.4 — *CUPROUS STAINING*
- 04-03.BR.5 — *PAINT*
- 04-03.BR.6 — *CALCIUM DEPOSIT*

- 04-04.BR — UNIT REPLACEMENT
- 04-12 — CRACK REPAIR

BRICK LEGEND

- ORIGINAL CONSTRUCTION BRICK (1929-1931)
- WPA INFILL BRICK (1935-1936)

KEY PLAN



SCALE Ⓐ 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS - WPA INFILL - EAST & WEST	DRAWING NO. 646 190066
DRAWN: SW	A4.2.61	GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 73 OF 153
DATE: 12/19/2025			

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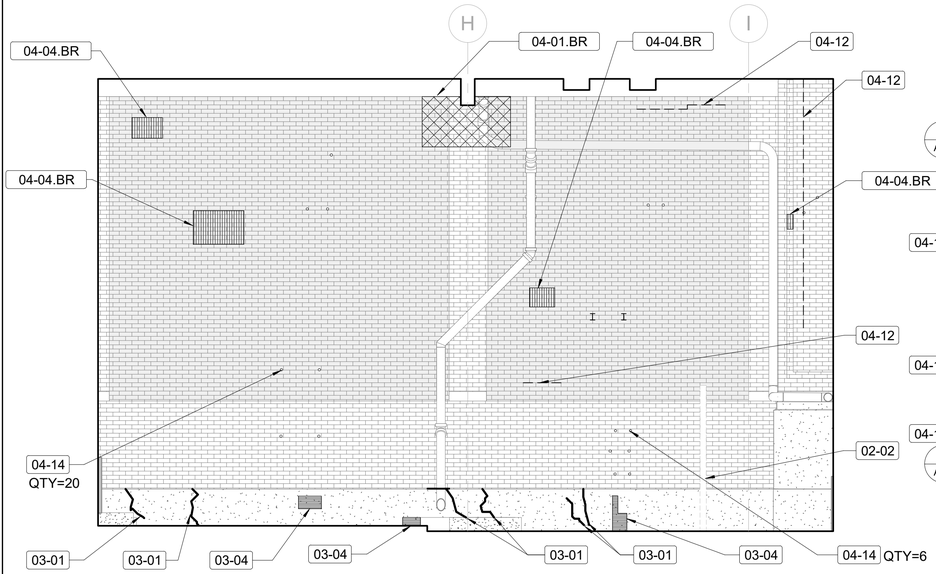
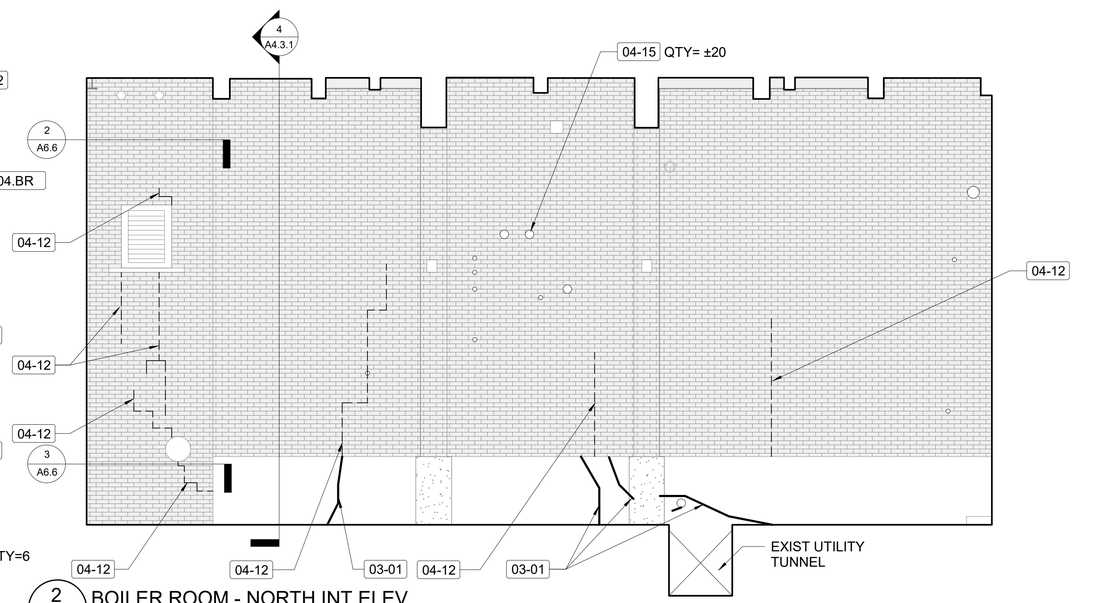
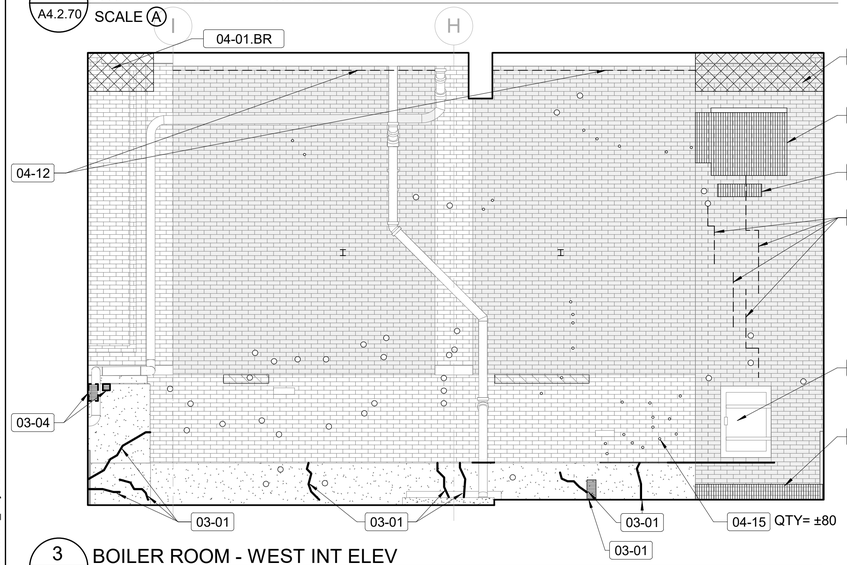


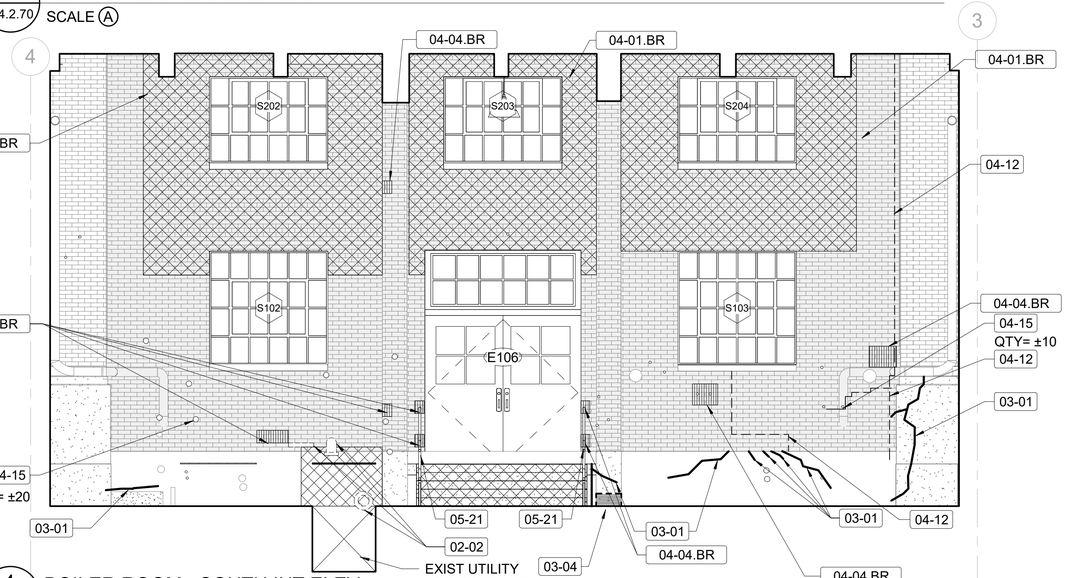
1 A4.2.70 BOILER ROOM - EAST INT ELEV
SCALE A



2 A4.2.70 BOILER ROOM - NORTH INT ELEV
SCALE A



3 A4.2.70 BOILER ROOM - WEST INT ELEV
SCALE A



4 A4.2.70 BOILER ROOM - SOUTH INT ELEV
SCALE A

SHEET NOTES

1. ALL SURVEY WAS DONE VISUALLY FROM THE GROUND AT A SINGLE POINT IN TIME. SOME ADDITIONAL REPAIR WORK MAY BE REQUIRED IN ADDITION TO THE WORK INDICATED ON THE DRAWINGS.
2. MASONRY REPAIR WORK IS SHOWN BY SHADING, HATCH, BOLD LINES, AND/OR NOTES.
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5. IN ADDITION TO SPOT CLEANING INDICATED ON DRAWINGS, PERFORM A GENERAL CLEANING OF 100% OF THE EXTERIOR MASONRY.
6. CAREFULLY REMOVE ALL EXISTING VEGETATION ON AND ADJACENT TO INTERIOR WALLS. AVOID DAMAGING EXISTING MASONRY IF POSSIBLE.
7. REFER TO DOOR AND WINDOW SCHEDULES FOR DOOR AND WINDOW SCOPE.

KEYNOTES	
KEY VALUE	TEXT
02-02	REMOVE EXISTING ITEM(S).
03-01	CONCRETE CRACK REPAIR. REFER TO TYPICAL DETAIL SHEETS.
03-04	PATCH AND REPAIR EXISTING CONCRETE PANEL.
04-01.BR	CAREFULLY DISMANTLE FULL WIDTH OF DAMAGED BRICK WALL INCLUDING CAST STONE ELEMENTS WITHIN THE WALL. SALVAGE AND CLEAN UNDAMAGED BRICKS AND CAST STONE ELEMENTS FOR REUSE. REBUILD WALL WITH SALVAGED AND/OR NEW BRICK. MATCH EXISTING WALL ASSEMBLY AND BOND PATTERNS.
04-04.BR	CAREFULLY REMOVE SINGLE WYTHE OF EXISTING BRICK WALL TO THE DEPTH OF DAMAGE. REMOVE ADJACENT MORTAR. AVOID DAMAGING ADJACENT EXISTING MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS TO MATCH EXISTING.
04-12	CAREFULLY REMOVE DISPLACED BRICK AND ADJACENT MORTAR. AVOID DAMAGING ADJACENT MATERIALS. INSTALL SALVAGED AND/OR NEW BRICK UNITS AND REPOINT.
04-14	IF THROUGH-WALL OPENING IS LARGER THAN 3": CAREFULLY REMOVE EXISTING PIPE (IF APPLICABLE), REMOVE EXISTING BRICKS AROUND OPENING AND REINSTALL SALVAGED AND/OR NEW BRICK. REPOINT. IF THROUGH-WALL OPENING IS LESS THAN 3" WIDE: CAREFULLY REMOVE EXISTING PIPE OR FASTENER (IF APPLICABLE) AND PATCH WITH MORTAR.
04-15	REMOVE EXISTING METAL FASTENERS. PATCH WITH MORTAR.
05-21	REPLACE EXISTING HANDRAIL WITH ABA COMPLIANT PIPE AND TUBE HANDRAIL. SURFACE MOUNT TO EXISTING CONCRETE STAIR. POWDER COATED STEEL.
08-08	CLEAN ACCESS DOOR, SEAL SHUT.

CONCRETE & BRICK REPAIR LEGEND TYPICAL MASONRY DETAILS ARE KEYED TO THE CONDITIONS ASSESSMENT.

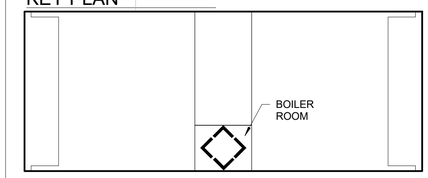
GENERAL
- 04-07 SEALANT IN JOINT

CONCRETE
- 03-01 CRACK REPAIR
- 03-04 PATCHING

BRICK
- 04-01.BR DISPLACEMENT - AREA OF REBUILD
- 04-02.BR REPOINTING
- 04-04.BR UNIT REPLACEMENT
- 04-12 CRACK REPAIR

CLEANING
- 04-03.BR.1 *ATMOSPHERIC STAINING*
- 04-03.BR.2 *BIOLOGICAL GROWTH*
- 04-03.BR.3 *FERROUS STAINING*
- 04-03.BR.4 *CUPROUS STAINING*
- 04-03.BR.5 *PAINT*
- 04-03.BR.6 *CALCIUM DEPOSIT*

KEY PLAN



BRICK LEGEND
- ORIGINAL CONSTRUCTION BRICK (1929-1931)
- WPA INFILL BRICK (1935-1936)

SCALE A 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: INTERIOR ELEVATIONS BOILER ROOM	DRAWING NO. 646 190066
DRAWN: SW	A4.2.70		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 74 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

Autodesk Docs://GATE Floyd Bennett Field/GATE_Floyd Bennett Field.rvt
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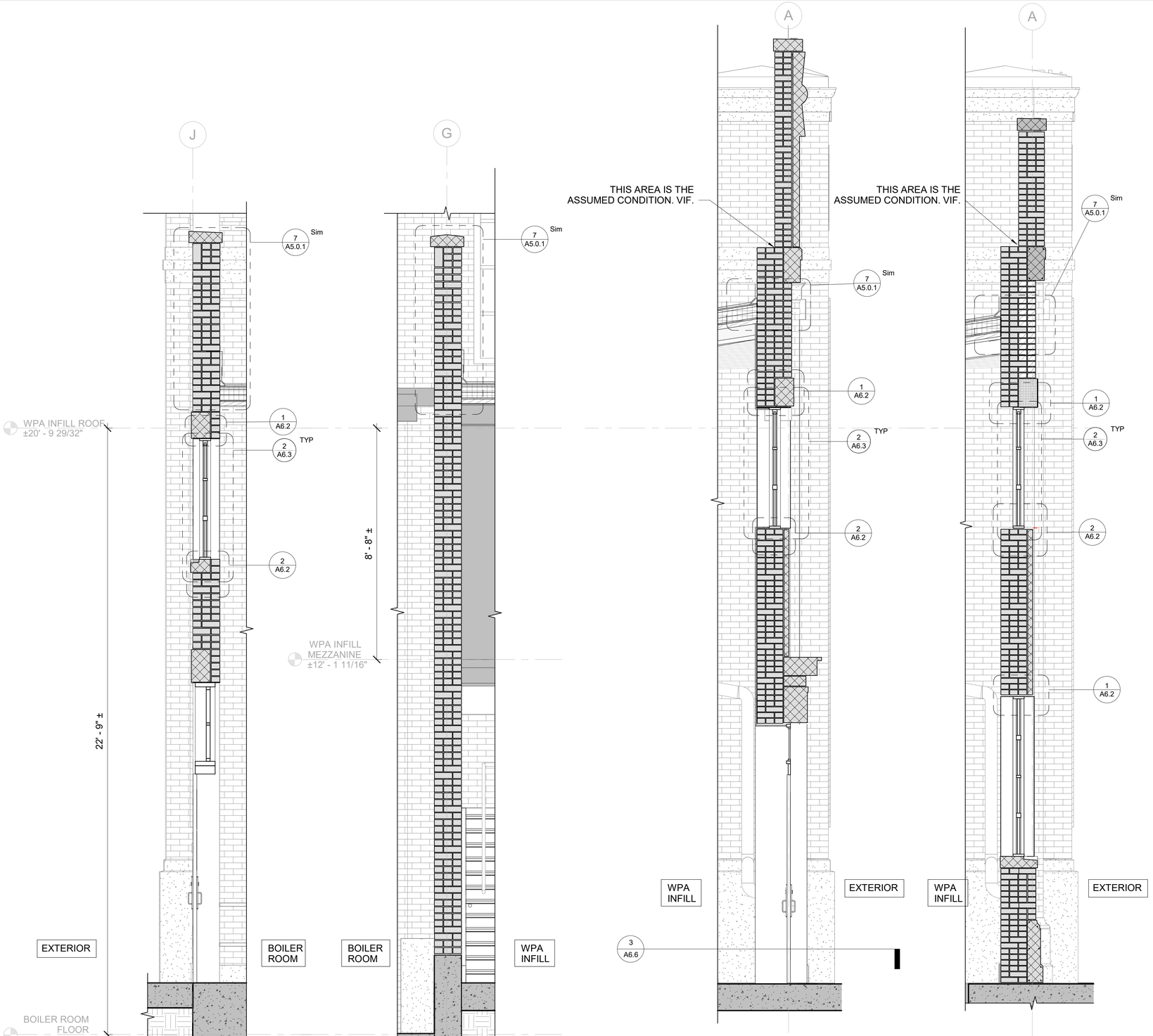


1 A4.3.1 WALL SECTION - BOILER ROOM SOUTH
SCALE A

2 A4.3.1 WALL SECTION - WPA INFILL CENTER
SCALE A

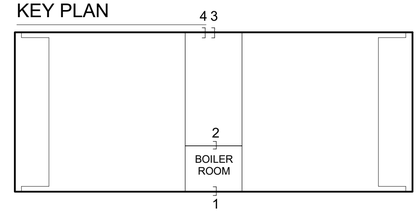
3 A4.3.1 WALL SECTION - WPA INFILL NORTH
SCALE A

4 A4.3.1 WALL SECTION - WPA INFILL NORTH - THRU WINDOWS
SCALE A

SHEET NOTES

1. **VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS IN FIELD PRIOR TO COMMENCING WORK.**
2. ALL NEW MORTAR IS TO MATCH EXISTING IN STRENGTH, COMPOSITION, COLOR, AND TEXTURE.
3. ALL JOINTS BETWEEN DISSIMILAR MATERIALS (i.e. THE JOINT BETWEEN CAST STONE AND BRICK) ARE TO BE SEALANT JOINTS.
4. ALL WALLS NOTED TO BE REBUILT SHALL BE REBUILT IN THE SAME CONFIGURATION AS THE ORIGINAL CONSTRUCTION. WALL CONFIGURATIONS SHOWN HERE ARE APPROXIMATE. NOTIFY CO IF THERE ARE ANY DISCREPANCIES IN THE WALL CONFIGURATIONS BETWEEN DRAWINGS AND ACTUAL WALL CONSTRUCTION.
5. SALVAGE ALL SOUND ORIGINAL EXISTING BRICKS FOR REBUILDING PORTIONS OF WALLS INDICATED. REMOVE EXISTING MORTAR AND CLEAN BRICKS PRIOR TO REUSE.
6. IN ALL BRICK REPAIRS, TOOTH NEW BRICK INTO ORIGINAL/EXISTING CONSTRUCTION.
7. IF A TRUE HEADER IS USED IN THE ORIGINAL CONSTRUCTION, A TRUE HEADER MUST BE REINSTALLED.
8. POSSIBLE REBAR LOCATIONS IN CAST STONE ELEMENTS ARE APPROXIMATE. CONTRACTOR MUST VERIFY REBAR LOCATIONS IN THE FIELD PRIOR TO REPAIRING CAST STONE.
9. REFER TO EXTERIOR ELEVATIONS FOR EXTENTS OF BRICK WALL REBUILDING.
10. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAILS.

KEY PLAN



SCALE A 2' 1' 0 2' 4'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: WALL SECTIONS	DRAWING NO. 646 190066
DRAWN: SW	A4.3.1		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 75 OF 153
DATE: 12/19/2025			

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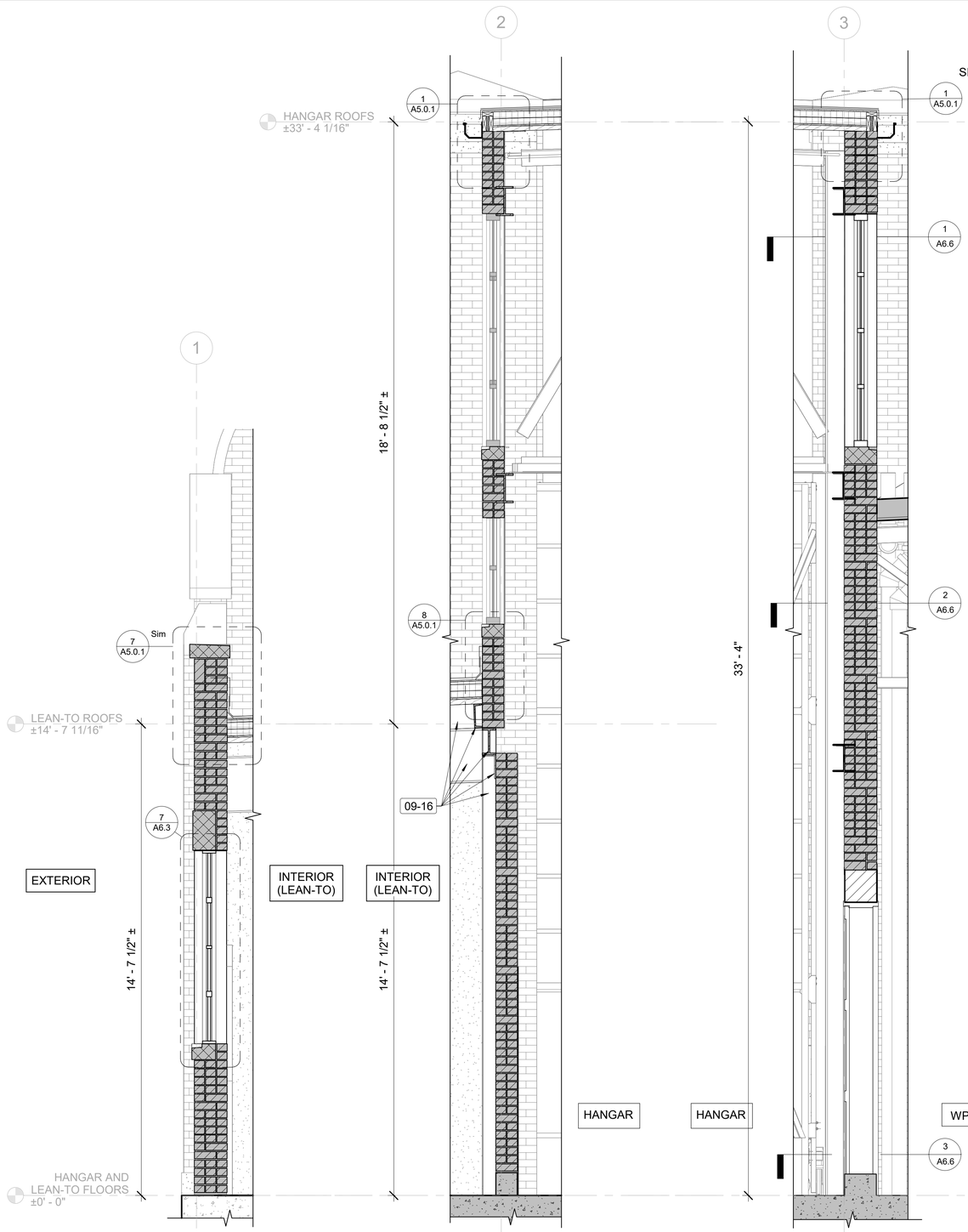


1 A4.3.2 WALL SECTION - LEAN-TO EAST/WEST
SCALE A

2 A4.3.2 WALL SECTION - HANGAR/LEAN-TO
SCALE A

3 A4.3.2 WALL SECTION - HANGAR/WPA INFILL
SCALE A

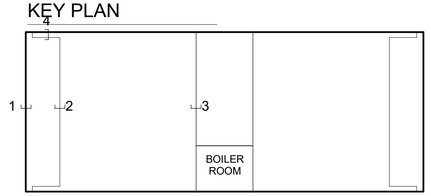
4 A4.3.2 WALL SECTION - HANGAR DOOR POCKET
SCALE A

SHEET NOTES

1. **VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS IN FIELD PRIOR TO COMMENCING WORK.**
2. ALL NEW MORTAR IS TO MATCH EXISTING IN STRENGTH, COMPOSITION, COLOR, AND TEXTURE.
3. ALL JOINTS BETWEEN DISSIMILAR MATERIALS (i.e. THE JOINT BETWEEN CAST STONE AND BRICK) ARE TO BE SEALANT JOINTS.
4. ALL WALLS NOTED TO BE REBUILT SHALL BE REBUILT IN THE SAME CONFIGURATION AS THE ORIGINAL CONSTRUCTION. WALL CONFIGURATIONS SHOWN HERE ARE APPROXIMATE. NOTIFY CO IF THERE ARE ANY DISCREPANCIES IN THE WALL CONFIGURATIONS BETWEEN DRAWINGS AND ACTUAL WALL CONSTRUCTION.
5. SALVAGE ALL SOUND ORIGINAL EXISTING BRICKS FOR REBUILDING PORTIONS OF WALLS INDICATED. REMOVE EXISTING MORTAR AND CLEAN BRICKS PRIOR TO REUSE.
6. IN ALL BRICK REPAIRS, TOOTH NEW BRICK INTO ORIGINAL/EXISTING CONSTRUCTION.
7. IF A TRUE HEADER IS USED IN THE ORIGINAL CONSTRUCTION, A TRUE HEADER MUST BE REINSTALLED.
8. POSSIBLE REBAR LOCATIONS IN CAST STONE ELEMENTS ARE APPROXIMATE. CONTRACTOR MUST VERIFY REBAR LOCATIONS IN THE FIELD PRIOR TO REPAIRING CAST STONE.
9. REFER TO EXTERIOR ELEVATIONS FOR EXTENTS OF BRICK WALL REBUILDING.
10. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAILS.

KEYNOTES	
KEY VALUE	TEXT
05-23	CLEAN, PRIME AND PAINT EXISTING UPPER HANGAR DOOR TRACKS TO ENSURE FULL DOOR OPERABILITY. SEE STRUCTURAL.
09-16	FOR ALL EXPOSED STEEL STRUCTURAL ELEMENTS, REMOVE SURFACE RUST, PREP, PRIME WITH A RUST-INHIBITING PRIMER AND EPOXY TOPCOAT. SEE MATERIAL SCHEDULE.
26-08	INSTALL LIGHT FIXTURE AT EXISTING ORIGINAL JBOX LOCATIONS. SEE ELECTRICAL.

KEY PLAN



SCALE A 2' 1' 0 2' 4'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: WALL SECTIONS	DRAWING NO. 646 190066
DRAWN: SW	A4.3.2		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		GATEWAY NATIONAL RECREATION AREA	SHEET 76 OF 153
DATE: 12/19/2025			

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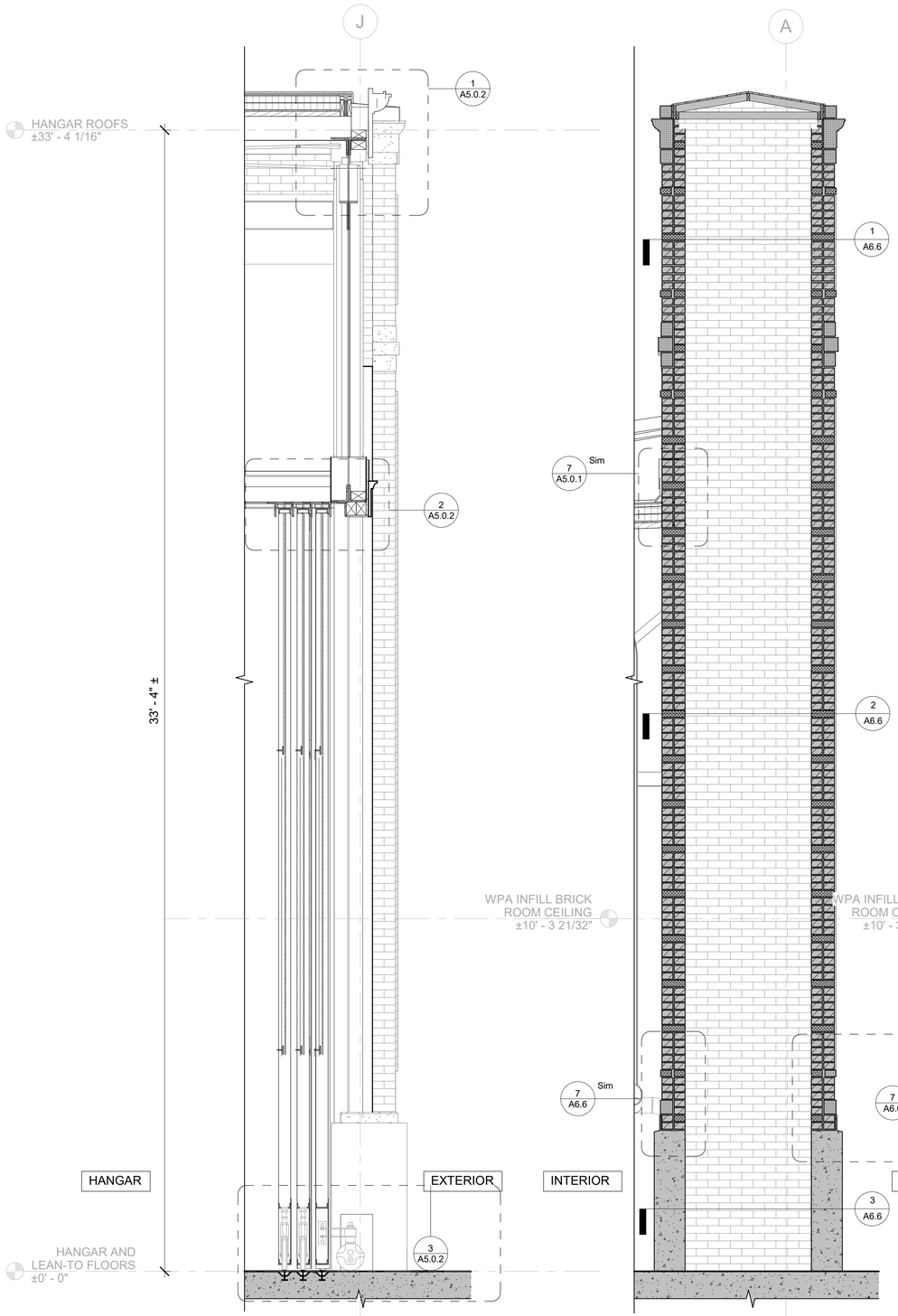
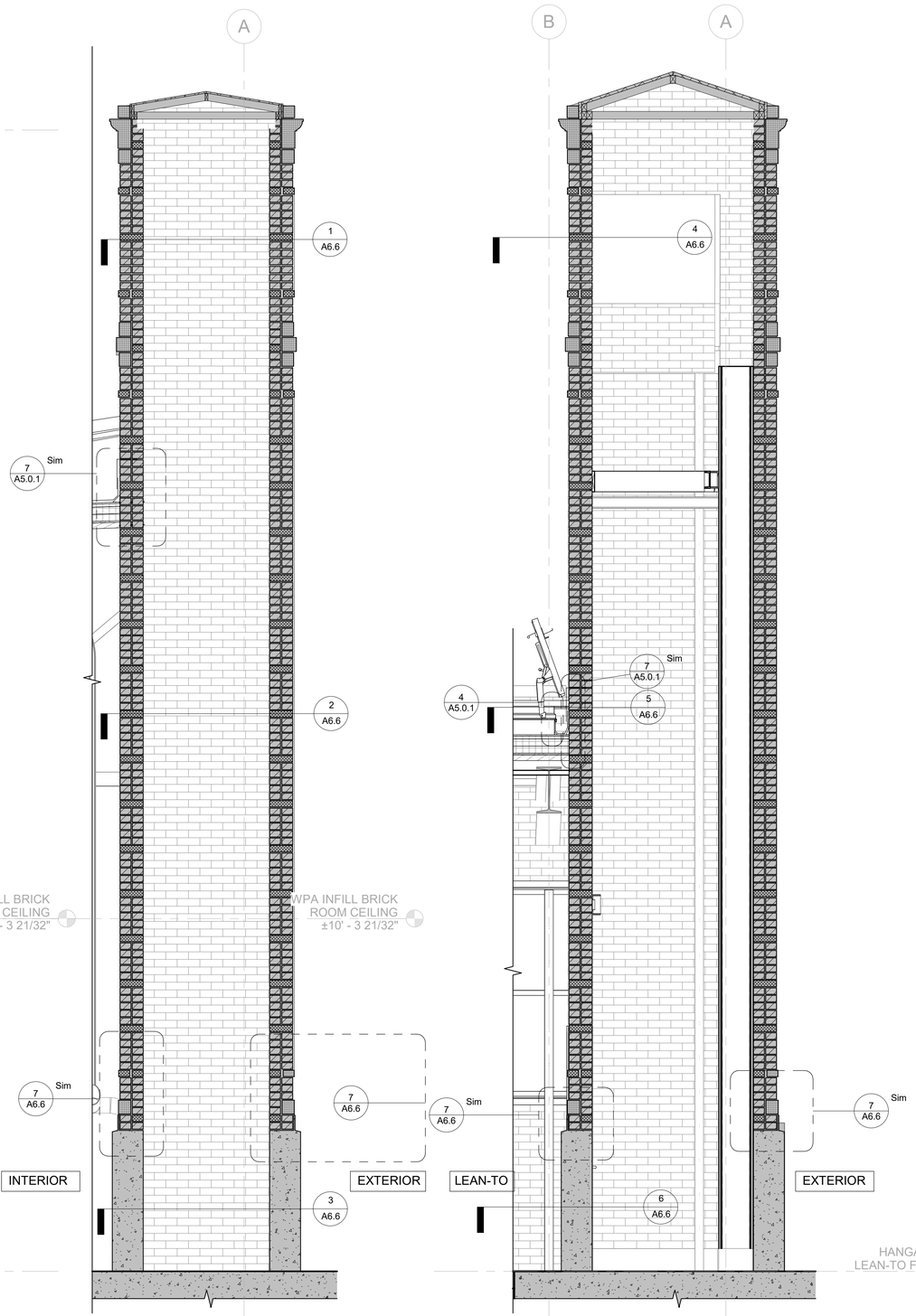


1 A4.3.3 WALL SECTION - HANGAR DOOR AND FRIEZE
SCALE Ⓐ



2 A4.3.3 WALL SECTION - TYP PILASTER
SCALE Ⓐ

3 A4.3.3 WALL SECTION @ DOOR POCKET PILASTER
SCALE Ⓐ

SHEET NOTES

1. **VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS IN FIELD PRIOR TO COMMENCING WORK.**
2. ALL NEW MORTAR IS TO MATCH EXISTING IN STRENGTH, COMPOSITION, COLOR, AND TEXTURE.
3. ALL JOINTS BETWEEN DISSIMILAR MATERIALS (i.e. THE JOINT BETWEEN CAST STONE AND BRICK) ARE TO BE SEALANT JOINTS.
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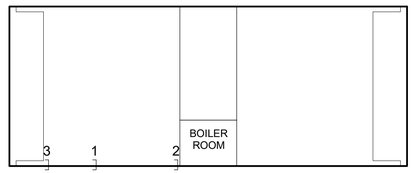
9. REFER TO EXTERIOR ELEVATIONS FOR EXTENTS OF BRICK WALL REBUILDING.
10. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAILS.

KEY PLAN



SCALE Ⓐ 2' 1' 0 2' 4'
SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A4.3.3	TITLE OF SHEET: WALL SECTIONS GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 77 OF 153

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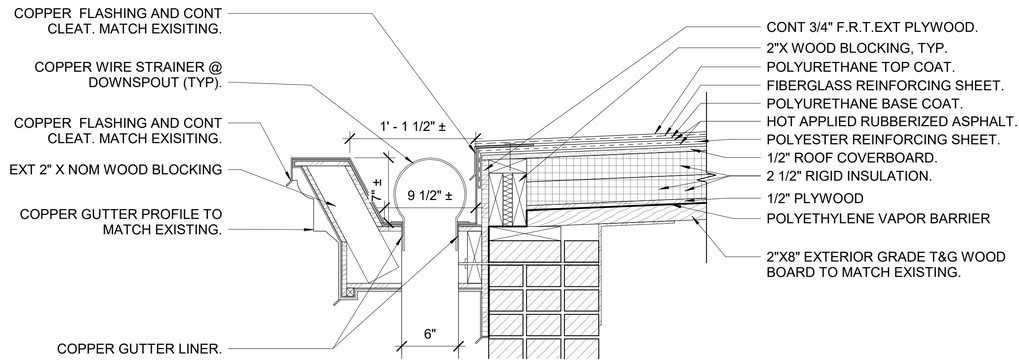
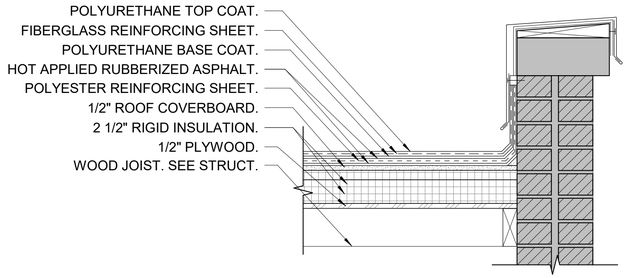
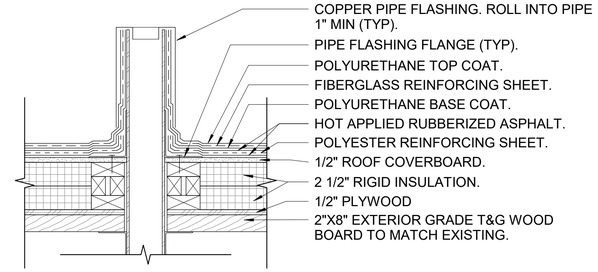


1 A5.0.1 HANGAR ROOF EDGE DETAIL
SCALE Ⓐ

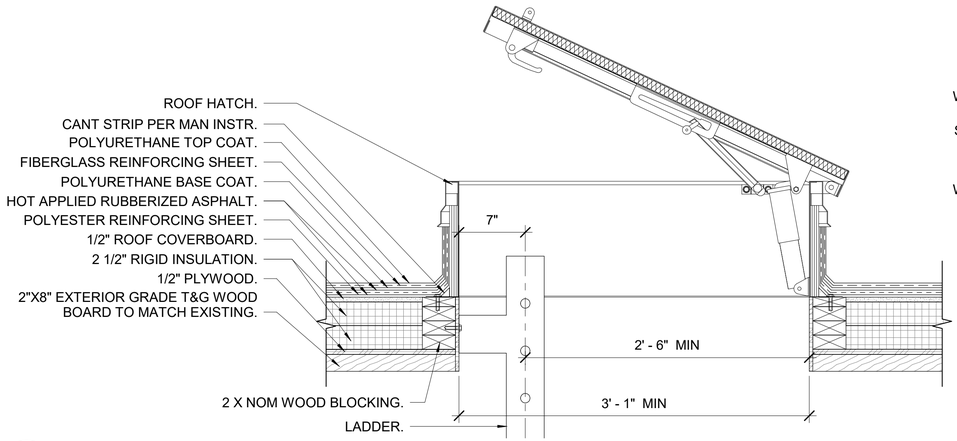


2 A5.0.1 DOOR POCKET ROOF DETAIL
SCALE Ⓐ

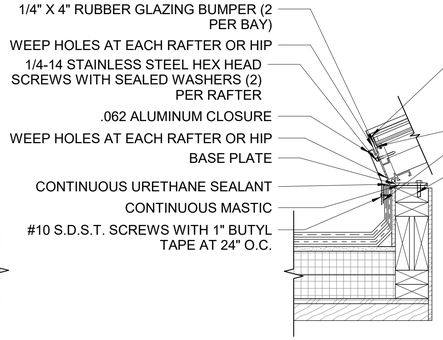
NOTE:
ROLL ROOF MEMBRANE LAYERS UP VENT STACK AND FLASHING FLANGE PER MAN INSTR.



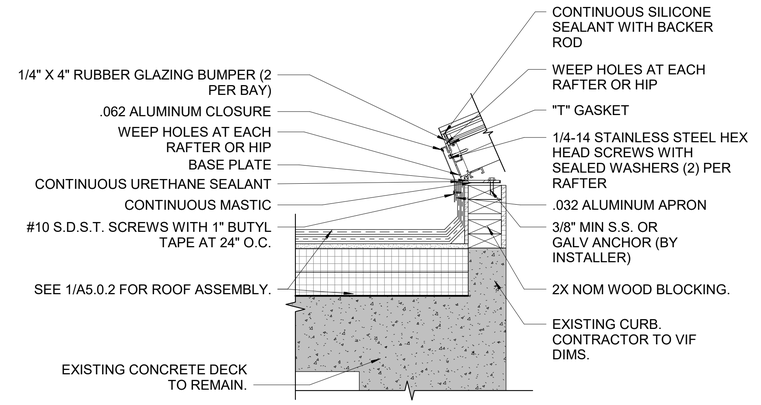
3 A5.0.1 VENT STACK DETAIL
SCALE Ⓐ



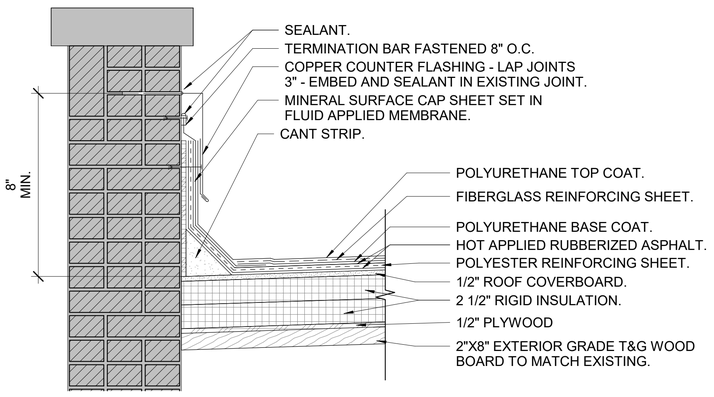
4 A5.0.1 ROOF HATCH DETAIL
SCALE Ⓐ



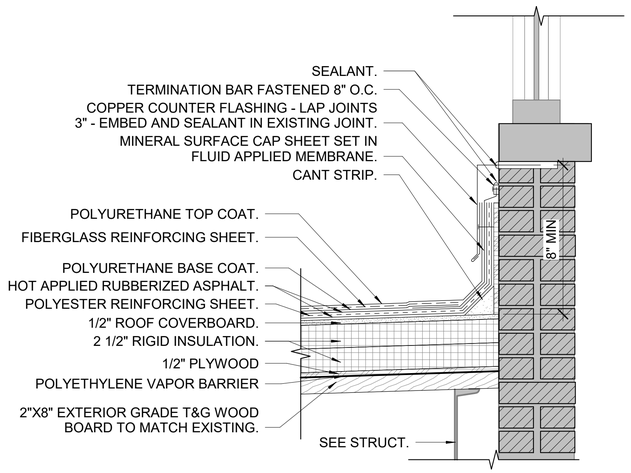
5 A5.0.1 WPA SKYLIGHT DETAIL
SCALE Ⓐ



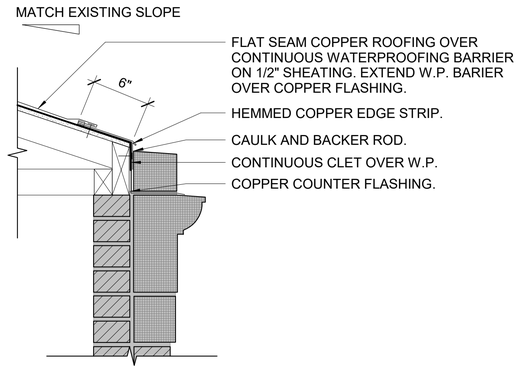
6 A5.0.1 BOILER ROOM ROOF SKYLIGHT DETAIL
SCALE Ⓐ



7 A5.0.1 LEAN TO PARAPET WALL ROOF DETAIL
SCALE Ⓐ



8 A5.0.1 CLERESTORY WALL ROOF DETAIL
SCALE Ⓐ



9 A5.0.1 COPPER CAP EDGE
SCALE Ⓐ

SCALE Ⓐ 12" 6" 0" 1'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: ROOF DETAILS	DRAWING NO. 646 190066
DRAWN: SW	A5.0.1		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 78 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

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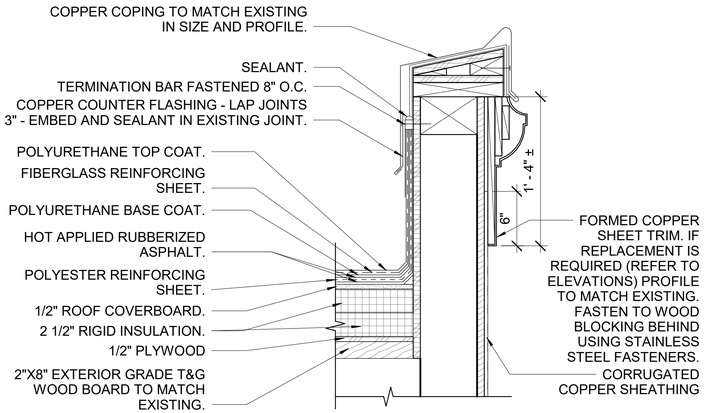
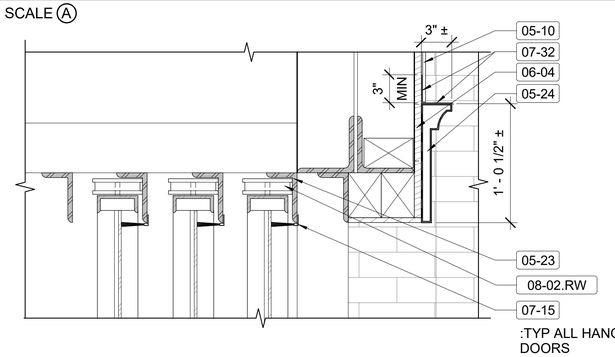
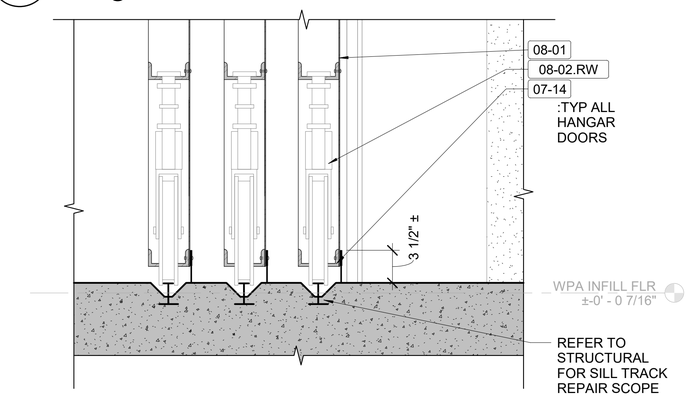


1 A5.0.2 HANGAR PARAPET WALL DETAIL
SCALE Ⓐ



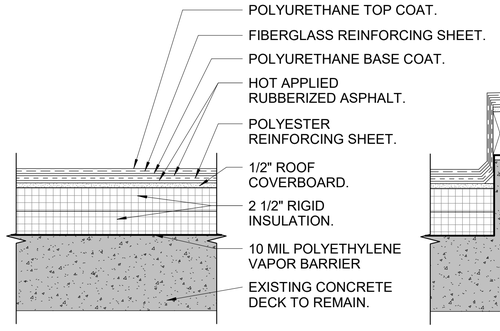
2 A5.0.2 HANGAR DOOR - HEAD - TYP
SCALE Ⓐ



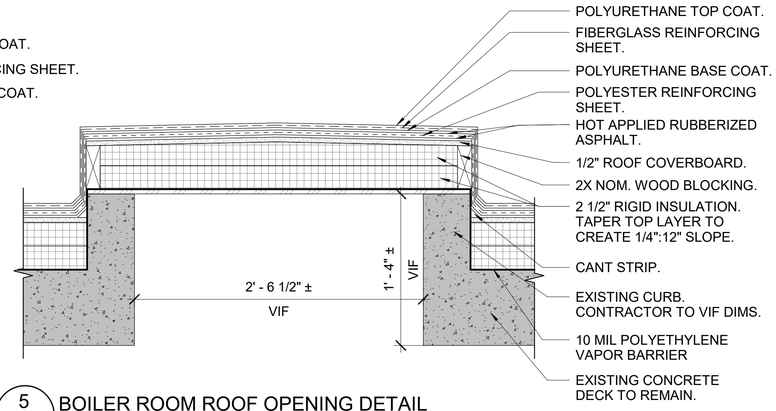
HANGAR DOOR WHEELS, EXISTING CONDITION

CONTRACTOR TO REVIEW EXISTING SALVAGED HANGAR DOOR WHEELS FOR SOUND PARTS BEFORE CREATING REPLICA WHEELS.

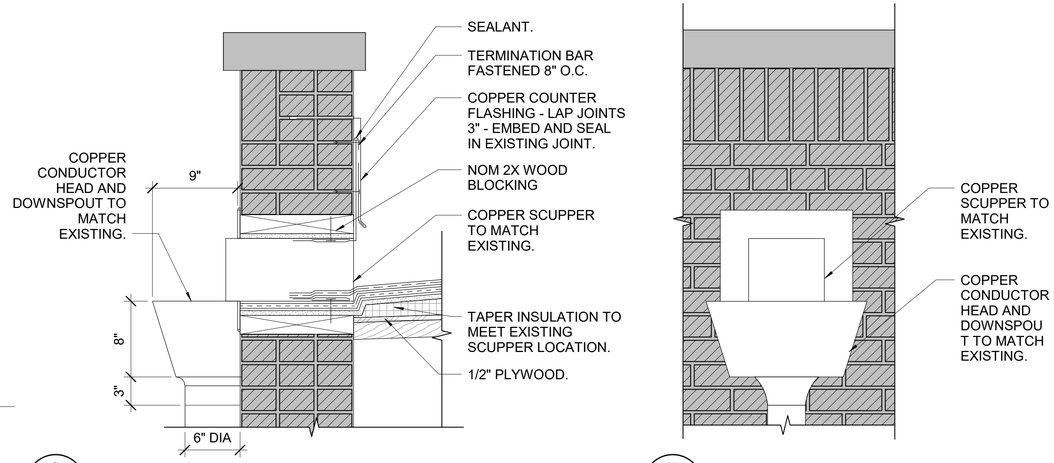
3 A5.0.2 HANGAR DOOR - SILL - TYP
SCALE Ⓐ



4 A5.0.2 BOILER ROOM ROOF DETAIL
SCALE Ⓐ

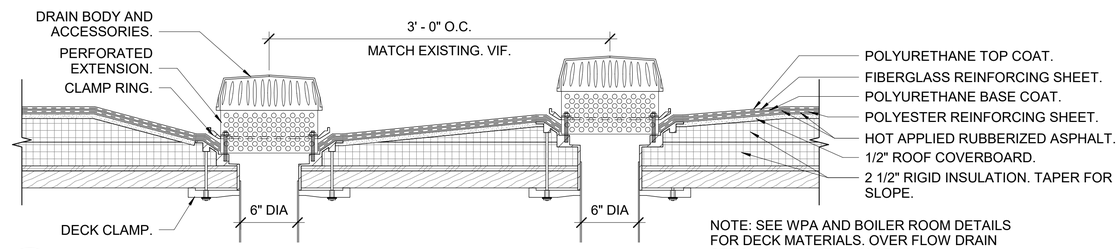


5 A5.0.2 BOILER ROOM ROOF OPENING DETAIL
SCALE Ⓐ

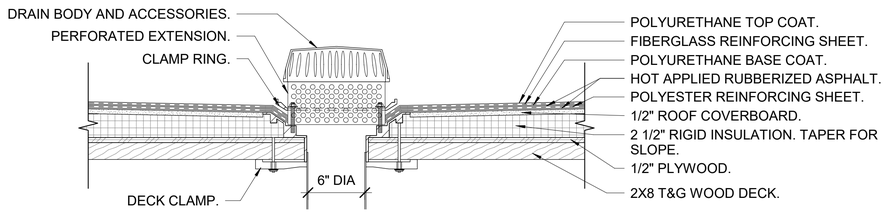


6 A5.0.2 LEAN TO THRU PARAPET SCUPPER DETAIL
SCALE Ⓐ

7 A5.0.2 LEAN TO SCUPPER ELEVATION
SCALE Ⓐ



8 A5.0.2 WPA ROOF DRAIN DETAIL
SCALE Ⓐ



9 A5.0.2 DOOR POCKET ROOF DRAIN DETAIL
SCALE Ⓐ

SHEET NOTES

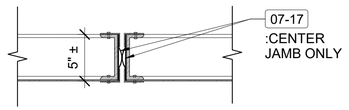
1. CONTRACTOR TO VERIFY ALL EXISTING DIMENSIONS IN FIELD.
2. ALL HANGAR DOORS SHOULD BE REMOVED COMPLETELY FROM THEIR TRACKS FOR RESTORATION.
3. REFER TO STRUCTURAL DRAWINGS FOR REPLACEMENT/REPAIR OF HANGAR DOOR STRUCTURAL MEMBERS.
4. HANGAR DOORS ARE TO BE REINSTALLED TO BE FULLY OPERABLE.
5. FOR HANGAR DOOR STRUTURAL MEMBER REPAIRS, SEE DETAILS ON STRUCTURAL DRAWINGS.

KEYNOTES	
KEY VALUE	TEXT
05-10	INSTALL CORRUGATED COPPER SHEETING TO MATCH EXISTING.
05-23	CLEAN, PRIME AND PAINT EXISTING UPPER HANGAR DOOR TRACKS TO ENSURE FULL DOOR OPERABILITY. SEE STRUCTURAL.
05-24	FORMED COPPER SHEET TRIM. IF REPLACEMENT IS REQUIRED (REFER TO ELEVATIONS) PROFILE TO MATCH EXISTING. FASTEN TO WOOD PLANKING BEHIND USING STAINLESS STEEL FASTENERS.
06-04	INSTALL REPLACEMENT WOOD PLANKING SUBSTRATE. ASSUME 1X6 BOARDS.
07-14	3/16" NEOPRENE CONTINUOUS WEATHERSTRIPPING WITH POWDER COATED ALUMINUM RETAINER AND ALUMINUM RIVET FASTENERS. POWDER COATING COLOR TO MATCH HANGAR DOORS. VERIFY REQUIRED NEOPRENE WIDTH IN FIELD.
07-15	NYLON BRUSH 90 DEGREE CONTINUOUS WEATHERSTRIPPING WITH POWDER COATED ALUMINUM RETAINER AND ALUMINUM RIVET FASTENERS. POWDER COATING COLOR TO MATCH HANGAR DOORS. VERIFY REQUIRED NYLON BRUSH WIDTH IN FIELD. TRIM IF NECESSARY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
07-32	CONTINUOUS COPPER SHEET FLASHING WITH DRIP EDGE ALONG ENTIRE LENGTH OF FACADE. FASTEN TO WOOD PLANK SUBSTRATE WITH STAINLESS STEEL FASTENERS.
08-01	REMOVE EXISTING ALUMINUM PANEL. STRIP EXISTING PAINT. SHOP PRIME AND PAINT. REINSTALL WITH ALUMINUM RIVETS TO MATCH EXISTING HISTORIC FASTENERS. PRIME AND PAINT RIVETS TO MATCH.
08-02.RW	REPLACE EXISTING ROLLING WHEEL WITH IN-KIND REPLACEMENT HISTORIC ROLLING WHEEL AND HARDWARE.

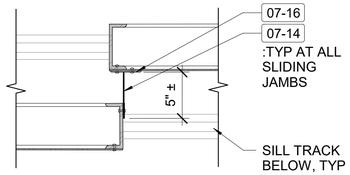
SCALE Ⓐ 12" 6" 0" 1'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: ROOF & HANGAR DOOR DETAILS	DRAWING NO. 646 190066
DRAWN: SW	A5.0.2		PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 79 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

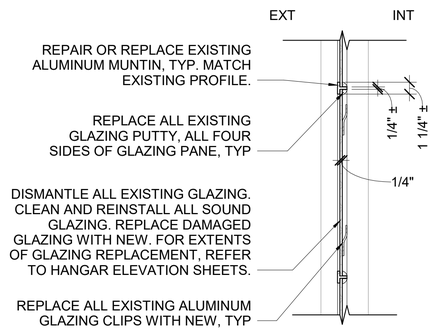
Autodesk Docs://GATE Floyd Bennett Field/GATE_Floyd Bennett Field.rvt
12/18/2025 4:20:00 PM



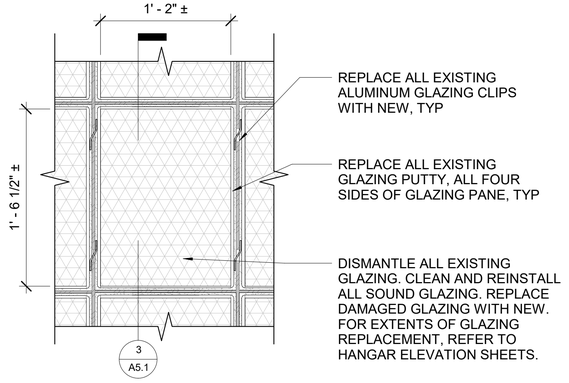
1 A5.1 HANGAR DOOR - CENTER JAMB
SCALE A



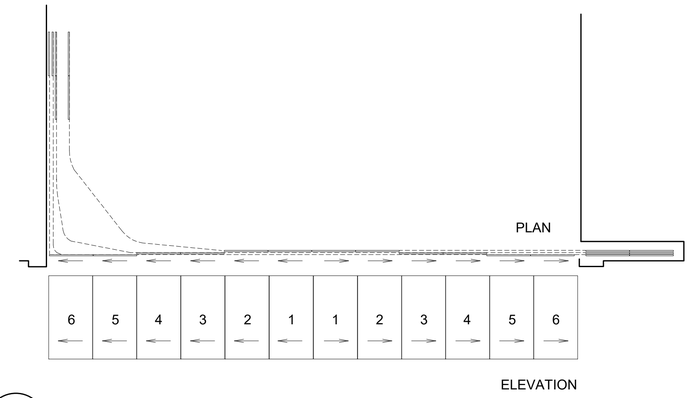
2 A5.1 HANGAR DOOR - SLIDING JAMB
SCALE A



3 A5.1 HANGAR DOOR GLAZING VERTICAL SECTION
SCALE A



4 A5.1 HANGAR DOOR GLAZING ELEVATION DETAIL
SCALE A



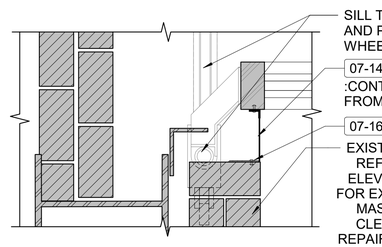
8 A5.1 HANGAR DOOR KEY PLAN & ELEVATION
SCALE: NTS

9 A5.1 EXISTING GLAZING REFERENCE PHOTOS
SCALE: NTS

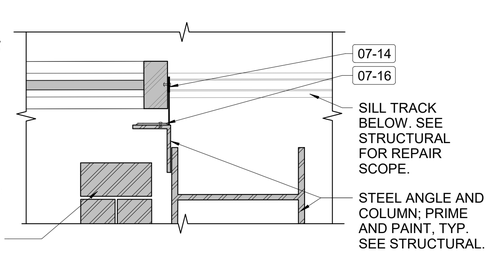
SHEET NOTES

1. CONTRACTOR TO VERIFY ALL EXISTING DIMENSIONS IN FIELD.
2. ALL HANGAR DOORS SHOULD BE REMOVED COMPLETELY FROM THEIR TRACKS FOR RESTORATION.
3. REFER TO STRUCTURAL DRAWINGS FOR REPLACEMENT/REPAIR OF HANGAR DOOR STRUCTURAL MEMBERS.
4. HANGAR DOORS ARE TO BE REINSTALLED TO BE FULLY OPERABLE.
5. FOR HANGAR DOOR STRUTURAL MEMBER REPAIRS, SEE DETAILS ON STRUCTURAL DRAWINGS.

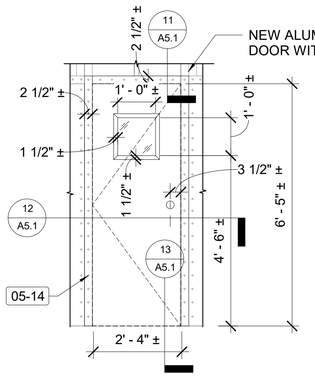
KEYNOTES	
KEY VALUE	TEXT
05-14	ALUMINUM RIVET FASTENER, TYP.
07-14	3/16" NEOPRENE CONTINUOUS WEATHERSTRIPPING WITH POWDER COATED ALUMINUM RETAINER AND ALUMINUM RIVET FASTENERS. POWDER COATING COLOR TO MATCH HANGAR DOORS. VERIFY REQUIRED NEOPRENE WIDTH IN FIELD.
07-16	ALUMINUM RUB PLATE, CONTINUOUS. POWDER COATED TO MATCH HANGAR DOORS. FASTEN WITH ALUMINUM RIVETS.
07-17	NEOPRENE BULB CONTINUOUS WEATHERSTRIPPING WITH POWDER COATED ALUMINUM RETAINER AND ALUMINUM RIVET FASTENERS. POWDER COATING COLOR TO MATCH HANGAR DOORS. VERIFY REQUIRED WEATHERSTRIPPING WIDTH IN FIELD.
07-18	NEOPRENE CONTINUOUS WEATHERSTRIPPING, FASTENED WITH ADHESIVE. CONFIRM ADHESIVE IS COMPATIBLE WITH ALUMINUM POWDER COATING.
07-29	SEALANT.



5 A5.1 HANGAR DOOR - END JAMB @ WALL
SCALE A

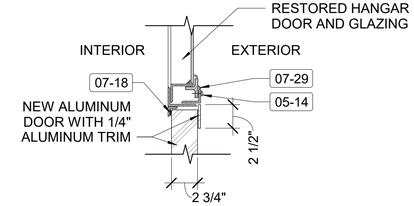


6 A5.1 HANGAR DOOR - END JAMB @ POCKET
SCALE A

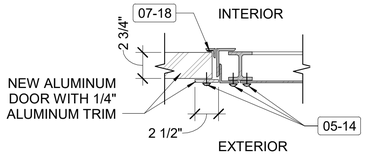


NOTE: DIMENSIONS ARE APPROXIMATE. MATCH DIMENSIONS OF HANGAR PILOT DOORS AT HANGARS 1 & 2.

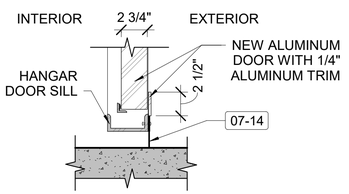
10 A5.1 HANGAR PILOT DOOR - ELEVATION
SCALE A



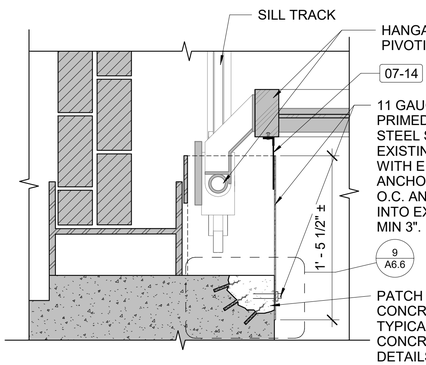
11 A5.1 HANGAR PILOT DOOR - HEAD
SCALE A



12 A5.1 HANGAR PILOT DOOR - JAMB
SCALE A



13 A5.1 HANGAR PILOT DOOR - SILL
SCALE A



7 A5.1 HANGAR DOOR - END JAMB @ PIVOT
SCALE A

EXISTING CONDITION FOR REFERENCE

SCALE A 24" 12" 0" 2' — SCALE OF FEET
SCALE B 6" 3" 0" 6" — SCALE OF FEET
SCALE C 40' 20' 0" 20' — SCALE OF FEET

DESIGNED: CT	SUB SHEET NO. A5.1	TITLE OF SHEET: HANGAR DOOR DETAILS	DRAWING NO. 646 190066
DRAWN: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK		HANGARS 3 & 4 HAZARDOUS MATERIALS REMEDIATION AND EARLY DEMOLITION	SHEET 80 OF 141
DATE: 12/19/2025			

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12/18/2025 4:20:03 PM

LOCATION	DOOR													FIRE RESISTANCE RATING (minutes)	HARDWARE		NOTES
DOOR NUMBER	EXIST/NEW	Type Mark	IGU TYPE	GLAZING TYPE	MAT'L	SIZE +/- W	H	T	TYPE	MAT'L	HEAD	JAMB	SILL		HDWR SET	FUNCTION	
E101	New Construction	3E	IGU-1	GL-1, GL-3	MTL, GL	3' - 3 1/2"	8' - 3"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		2.0	EXIT	
E102	New Construction	1E	IGU-1	GL-1, GL-3	MTL, GL	6' - 0"	7' - 6"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		1.0	EXIT	SALVAGE EXISTING DOOR FOR REPLICATION.
E103	New Construction	3E	IGU-1	GL-1, GL-3	MTL, GL	3' - 3 1/2"	8' - 3"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		2.0	EXIT	
E104	New Construction	4E.2	NONE	NONE	MTL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		2.0	EXIT	
E105	New Construction	3E	IGU-1	GL-1, GL-3	MTL, GL	3' - 3 1/2"	8' - 3"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		2.0	EXIT	
E106	New Construction	2E	IGU-1	GL-1, GL-3	MTL, GL	6' - 0"	7' - 10"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		1.0	EXIT	
E107	New Construction	3E	IGU-1	GL-1, GL-3	MTL, GL	3' - 3 1/2"	8' - 3"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		2.0	EXIT	
E108	New Construction	4E.1	NONE	NONE	WD	6' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		1.0	EXIT	
L3101	New Construction	1N.1	IGU-3	GL-3, GL-3	MTL, GL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		3.0	EXIT	
L3102	New Construction	1N.2 L	IGU-3	GL-3, GL-3	MTL, GL	6' - 0"	9' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		7.0		
L3103	New Construction	1N.1	IGU-3	GL-3, GL-3	MTL, GL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		4.0		
L3104	New Construction	1N.2 L	IGU-3	GL-3, GL-3	MTL, GL	6' - 0"	9' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		7.0		
L3105	New Construction	1N.1	IGU-3	GL-3, GL-3	MTL, GL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		3.0	EXIT	MATCH EXISTING DOOR HS21
L3106	Existing	1N.4	NONE	NONE	MTL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1	20	4.0		
L3107	New Construction	1N.4	NONE	NONE	MTL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 2	MTL	2/A6.0.1	2/A6.0.1	4/A6.0.1		5.0		
L3108	New Construction	1N.4	NONE	NONE	MTL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 2	MTL	2/A6.0.1	2/A6.0.1	4/A6.0.1		6.0		RESTROOM - PROVIDE WITH 1 INCH UNDERCUT
L3109	New Construction	1N.4	NONE	NONE	MTL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 2	MTL	2/A6.0.1	2/A6.0.1	4/A6.0.1		5.0		PROVIDE WITH 1 INCH UNDERCUT
L3110	New Construction	1N.4	NONE	NONE	MTL	4' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		N/A		FRAMED OPENING
L4101	New Construction	1N.1	IGU-3	GL-3, GL-3	MTL, GL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1	20	3.0	EXIT	REPAIR
L4102	New Construction	1N.1	IGU-3	GL-3, GL-3	MTL, GL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		4.0		MATCH EXISTING DOOR HS21
L4103	New Construction	1N.2 L	IGU-3	GL-3, GL-3	MTL, GL	6' - 0"	9' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		7.0		MATCH EXISTING DOOR HS21 - DOUBLE DOOR VERSION
L4104	New Construction	1N.1	IGU-3	GL-3, GL-3	MTL, GL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		3.0	EXIT	MATCH EXISTING DOOR HS21
L4105	New Construction	1N.4	NONE	NONE	MTL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1	20	4.0		
L4106	New Construction	1N.4	NONE	NONE	MTL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 2	MTL	2/A6.0.1	2/A6.0.1	4/A6.0.1	90	3.0	EXIT	
L4107	New Construction	1N.4	NONE	NONE	MTL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 2	MTL	2/A6.0.1	2/A6.0.1	4/A6.0.1		6.0		RESTROOM - PROVIDE WITH 1 INCH UNDERCUT
L4108	New Construction	1N.4	NONE	NONE	MTL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 2	MTL	2/A6.0.1	2/A6.0.1	4/A6.0.1	45	3.0	EXIT	
L4109	New Construction	1Q	NONE	NONE	MTL	4' - 6"	6' - 8"	0' - 1 3/4"	TYPE 2	MTL	2/A6.0.1	2/A6.0.1	4/A6.0.1	90	8.0	EXIT	
L4110	New Construction	1Q	NONE	NONE	MTL	4' - 6"	6' - 8"	0' - 1 3/4"	TYPE 2	MTL	2/A6.0.1	2/A6.0.1	4/A6.0.1	90	8.0	EXIT	
L4111	New Construction	1Q	NONE	NONE	MTL	4' - 6"	6' - 8"	0' - 1 3/4"	TYPE 2	MTL	2/A6.0.1	2/A6.0.1	4/A6.0.1	90	8.0	EXIT	
PN01	Existing	5E	IGU-3	GL-3, GL-3	MTL - ALUM	2' - 4 1/32"	6' - 4 3/4"				1/A6.0.1	1/A6.0.1	3/A6.0.1		11.0		REPLACE IN KIND - SEE HANGAR DOOR SCOPE
PN02	Existing	5E	IGU-3	GL-3, GL-3	MTL - ALUM	2' - 4 1/32"	6' - 4 3/4"				1/A6.0.1	1/A6.0.1	3/A6.0.1		11.0		REPLACE IN KIND - SEE HANGAR DOOR SCOPE
PN03	Existing	5E	IGU-3	GL-3, GL-3	MTL - ALUM	2' - 4 1/32"	6' - 4 3/4"				1/A6.0.1	1/A6.0.1	3/A6.0.1		11.0		REPLACE IN KIND - SEE HANGAR DOOR SCOPE
PN04	Existing	5E	IGU-3	GL-3, GL-3	MTL - ALUM	2' - 4 1/32"	6' - 4 3/4"				1/A6.0.1	1/A6.0.1	3/A6.0.1		11.0		REPLACE IN KIND - SEE HANGAR DOOR SCOPE
PS01	Existing	5E	IGU-3	GL-3, GL-3	MTL - ALUM	2' - 4 1/32"	6' - 4 3/4"				1/A6.0.1	1/A6.0.1	3/A6.0.1		11.0		REPLACE IN KIND - SEE HANGAR DOOR SCOPE
PS02	Existing	5E	IGU-3	GL-3, GL-3	MTL - ALUM	2' - 4 1/32"	6' - 4 3/4"				1/A6.0.1	1/A6.0.1	3/A6.0.1		11.0		REPLACE IN KIND - SEE HANGAR DOOR SCOPE
PS03	Existing	5E	IGU-3	GL-3, GL-3	MTL - ALUM	2' - 4 1/32"	6' - 4 3/4"				1/A6.0.1	1/A6.0.1	3/A6.0.1		11.0		REPLACE IN KIND - SEE HANGAR DOOR SCOPE
PS04	Existing	5E	IGU-3	GL-3, GL-3	MTL - ALUM	2' - 4 1/32"	6' - 4 3/4"				1/A6.0.1	1/A6.0.1	3/A6.0.1		11.0		REPLACE IN KIND - SEE HANGAR DOOR SCOPE
W101	New Construction	1P	NONE	NONE	MTL	8' - 0"	9' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		10.0		SALVAGE EXISTING DOOR AND HINGES FOR IN-KIND REPLACEMENT
W102	New Construction	1P	NONE	NONE	MTL	8' - 0"	9' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		10.0		SALVAGE EXISTING DOOR AND HINGES FOR IN-KIND REPLACEMENT
W103	Existing	1N.4	NONE	NONE	MTL	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		9.0		WPA INFILL CLOSET DOOR - REPAIR
W201	Existing	1N.4	NONE	NONE	NONE	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		N/A		OPENING, REPAIR / REPLACE WITH DOOR FRAME MATCH EXISTING AND DO NOT INSTALL A NEW DOOR
W202	Existing	1N.4	NONE	NONE	NONE	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		N/A		OPENING, REPAIR / REPLACE WITH DOOR FRAME MATCH EXISTING AND DO NOT INSTALL A NEW DOOR
W203	Existing	1N.4	NONE	NONE	NONE	3' - 0"	7' - 0"	0' - 1 3/4"	TYPE 1	MTL	1/A6.0.1	1/A6.0.1	3/A6.0.1		N/A		OPENING, REPAIR / REPLACE WITH DOOR FRAME MATCH EXISTING AND DO NOT INSTALL A NEW DOOR
Grand total: 43																	

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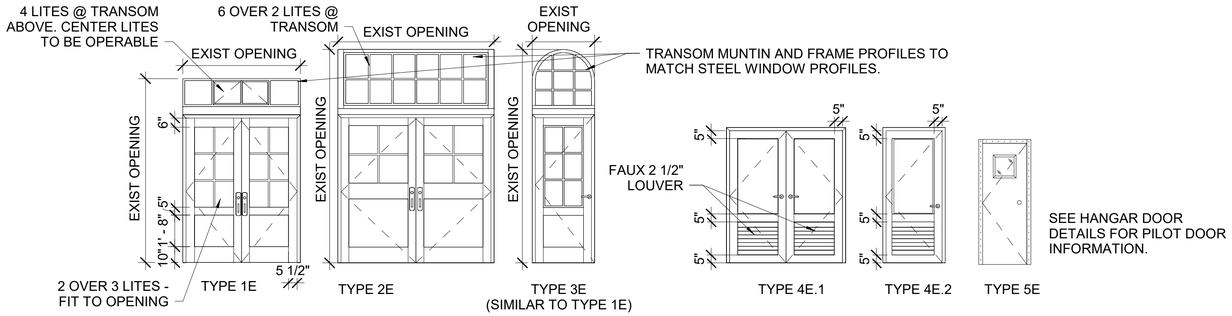
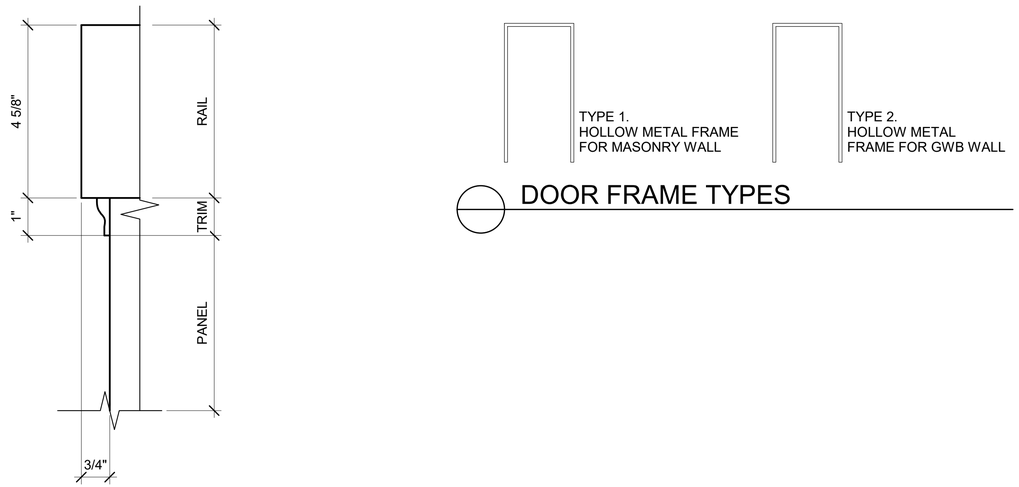
DESIGNED: CT	SUB SHEET NO. A6.0	TITLE OF SHEET DOOR SCHEDULE	DRAWING NO. 646 190066
DRAWN: SW			PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 81 OF 153
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	

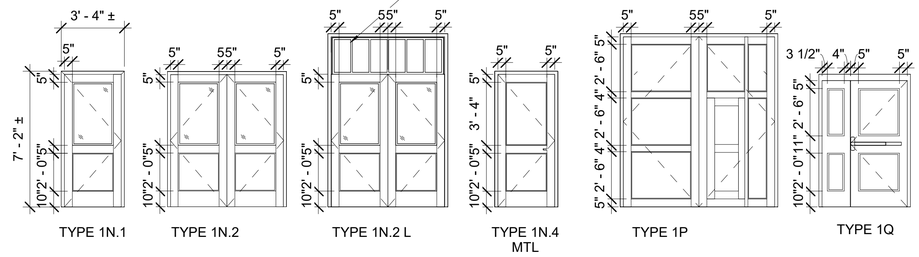


EXTERIOR DOOR TYPES

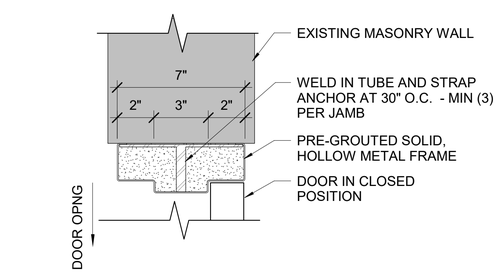


DOOR FRAME TYPES

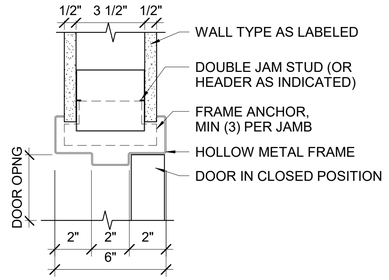
DOOR FRAME PROFILE



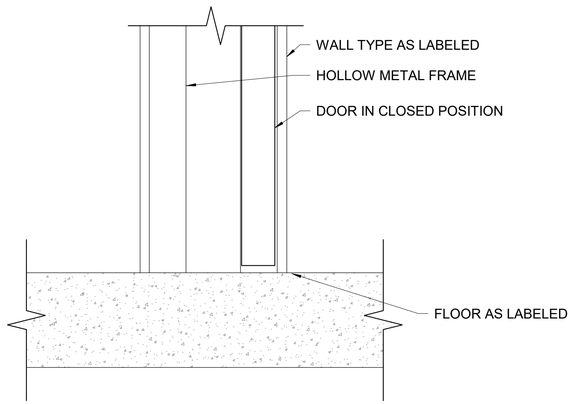
INTERIOR DOOR TYPES



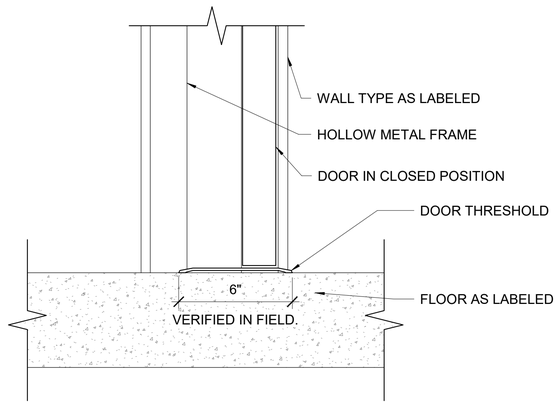
1 A6.0.1 08 - HM DOOR FRAME - HEAD/JAMB BRICK
SCALE A



2 A6.0.1 08 - HM DOOR FRAME - HEAD/JAMB GWB
SCALE A



3 A6.0.1 08 - HM DOOR FRAME - SILL NO THRESHOLD
SCALE A



4 A6.0.1 08 - HM DOOR FRAME - SILL THRESHOLD
SCALE A

SCALE A 6" 3" 0" 6"
SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A6.0.1	TITLE OF SHEET: DOOR TYPES & DETAILS GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 82 OF 153

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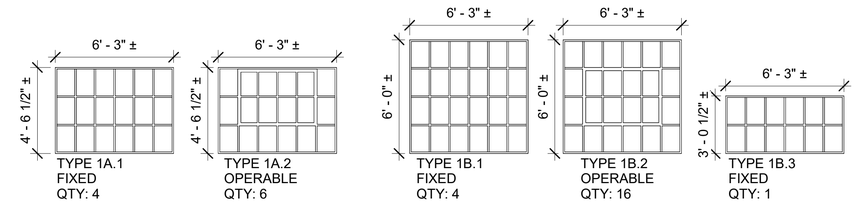
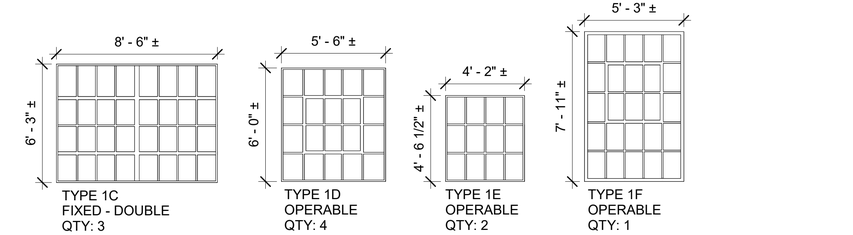
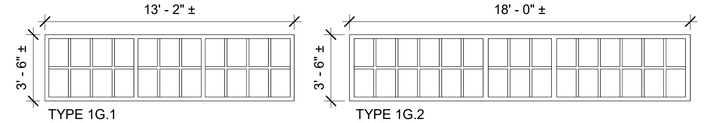
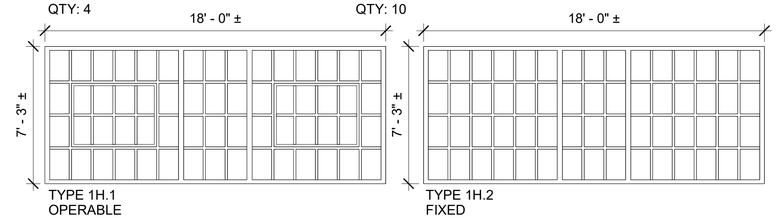
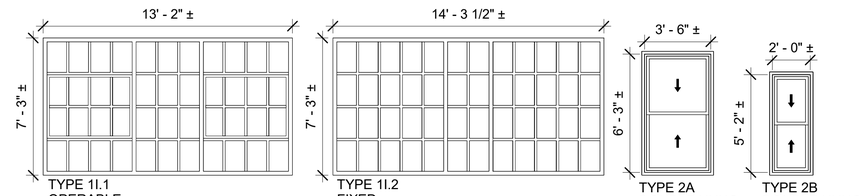
WINDOW NUMBER	EXIST/NEW	TYPE	IGU TYPE	GLAZING TYPE	SIZE (+/-) W	SIZE (+/-) H	MAT'L	FINISHES EXT/INT	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	HEAD HEIGHT	NOTES
E101	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	10' - 3"	IN-KIND WOOD WINDOW WITH IGU
E102	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	10' - 3"	IN-KIND WOOD WINDOW WITH IGU
E103	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 1 31/32"	THERMALLY BROKEN STEEL FRAME AND IGU
E104	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 1 31/32"	THERMALLY BROKEN STEEL FRAME AND IGU
E105	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 1 31/32"	THERMALLY BROKEN STEEL FRAME AND IGU
E106	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 1 31/32"	THERMALLY BROKEN STEEL FRAME AND IGU
E107	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 2 1/8"	THERMALLY BROKEN STEEL FRAME AND IGU
E108	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 1 31/32"	THERMALLY BROKEN STEEL FRAME AND IGU
E109	New Construction	2B	IGU-2	GL-2, GL-3	2' - 0"	5' - 2"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	-0' - 0 1/16"	IN-KIND WOOD WINDOW WITH IGU
E110	New Construction	2B	IGU-2	GL-2, GL-3	2' - 0"	5' - 2"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	-0' - 0 1/16"	IN-KIND WOOD WINDOW WITH IGU. SALVAGE EXISTING WOOD WINDOW FOR PROFILE AND DIMENSIONAL MATCHING.
E111	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	11' - 1 1/4"	IN-KIND WOOD WINDOW WITH IGU
E112	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	11' - 1 1/4"	IN-KIND WOOD WINDOW WITH IGU
E113	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	11' - 1 1/4"	IN-KIND WOOD WINDOW WITH IGU
E114	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	11' - 1 1/4"	IN-KIND WOOD WINDOW WITH IGU
H3E10A	New Construction	1D	IGU-1	GL-1, GL-3	5' - 6"	6' - 0"	STL	PT-4			2/A6.2	10' - 3"	THERMALLY BROKEN STEEL FRAME AND IGU
H3E10B	New Construction	1C	IGU-1	GL-1, GL-3	8' - 6"	6' - 3"	STL	PT-4			2/A6.2	10' - 3 1/4"	THERMALLY BROKEN STEEL FRAME AND IGU
H3E10C	New Construction	1D	IGU-1	GL-1, GL-3	5' - 6"	6' - 0"	STL	PT-4			2/A6.2	10' - 2 23/32"	THERMALLY BROKEN STEEL FRAME AND IGU
H3E20A	Existing	1G.1	NONE	GL-1	13' - 2"	3' - 6"	STL	PT-4	NONE	NONE	NONE	6' - 7 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E20B	Existing	1G.2	NONE	GL-1	18' - 0"	3' - 6"	STL	PT-4	NONE	NONE	NONE	9' - 1 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E20C	Existing	1G.2	NONE	GL-1	18' - 0"	3' - 6"	STL	PT-4	NONE	NONE	NONE	9' - 1 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E20D	Existing	1G.2	NONE	GL-1	18' - 0"	3' - 6"	STL	PT-4	NONE	NONE	NONE	6' - 7 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E20E	Existing	1G.2	NONE	GL-1	18' - 0"	3' - 6"	STL	PT-4	NONE	NONE	NONE	6' - 7 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E20F	Existing	1G.2	NONE	GL-1	18' - 0"	3' - 6"	STL	PT-4	NONE	NONE	NONE	9' - 1 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E20G	Existing	1G.1	NONE	GL-1	13' - 2"	3' - 6"	STL	PT-4	NONE	NONE	NONE	9' - 1 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E30A	Existing	1I.1	NONE	GL-1	13' - 2"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E30B	Existing	1H.1	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E30C	Existing	1H.1	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E30D	Existing	1H.2	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E30E	Existing	1H.1	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E30F	Existing	1H.1	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3E30G	Existing	1I.1	NONE	GL-1	13' - 2"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3W30A	Existing	1I.2	NONE	GL-1	14' - 3 1/2"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3W30B	Existing	1H.1	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3W30C	New Construction	1H.1	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4			2/A6.2	9' - 7 31/32"	REPLACE IN-KIND
H3W30D	New Construction	1H.1	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4			2/A6.2	9' - 7 15/16"	REPLACE IN-KIND
H3W30E	Existing	1H.1	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3W30F	Existing	1H.1	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H3W30G	Existing	1I.2	NONE	GL-1	14' - 3 1/2"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4E30A	Existing	1I.2	NONE	GL-1	14' - 3 1/2"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4E30B	New Construction	1H.2	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4			1/A6.2	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4E30C	Existing	1H.2	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4E30D	New Construction	1H.2	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4			2/A6.2	9' - 7 29/32"	REPLACE IN-KIND
H4E30E	Existing	1H.2	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4E30F	Existing	1H.2	NONE	GL-1	18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4E30G	Existing	1I.2	NONE	GL-1	14' - 3 1/2"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W10A	New Construction	1D	IGU-1	GL-1, GL-3	5' - 6"	6' - 0"	STL	PT-4			2/A6.2	10' - 3"	THERMALLY BROKEN STEEL FRAME AND IGU
H4W10B	New Construction	1C	IGU-1	GL-1, GL-3	8' - 6"	6' - 3"	STL	PT-4			2/A6.2	10' - 4"	THERMALLY BROKEN STEEL FRAME AND IGU
H4W10C	New Construction	1F	IGU-1	GL-1, GL-3	5' - 3"	7' - 11"	STL	PT-4			2/A6.2	14' - 6 5/16"	THERMALLY BROKEN STEEL FRAME AND IGU
H4W10D	New Construction	1C	IGU-1	GL-1, GL-3	8' - 6"	6' - 3"	STL	PT-4			2/A6.2	10' - 4"	THERMALLY BROKEN STEEL FRAME AND IGU
H4W10E	New Construction	1D	IGU-1	GL-1, GL-3	5' - 6"	6' - 0"	STL	PT-4			2/A6.2	10' - 2"	THERMALLY BROKEN STEEL FRAME AND IGU
H4W20A	Existing	1G.1	NONE		13' - 2"	3' - 6"	STL	PT-4	NONE	NONE	NONE	9' - 1 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W20B	Existing	1G.2	NONE		18' - 0"	3' - 6"	STL	PT-4	NONE	NONE	NONE	6' - 7 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W20C	Existing	1G.2	NONE		18' - 0"	3' - 6"	STL	PT-4	NONE	NONE	NONE	6' - 7 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W20D	Existing	1G.2	NONE		18' - 0"	3' - 6"	STL	PT-4	NONE	NONE	NONE	6' - 7 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W20E	Existing	1G.2	NONE		18' - 0"	3' - 6"	STL	PT-4	NONE	NONE	NONE	6' - 7 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W20F	Existing	1G.2	NONE		18' - 0"	3' - 6"	STL	PT-4	NONE	NONE	NONE	6' - 7 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W20G	Existing	1G.1	NONE		13' - 2"	3' - 6"	STL	PT-4	NONE	NONE	1/A6.2	9' - 1 3/16"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W30A	Existing	1I.1	NONE		13' - 2"	7' - 3"	STL	PT-4	NONE	NONE	1/A6.2	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W30B	Existing	1H.1	NONE		18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	1/A6.2	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W30C	Existing	1H.1	NONE		18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	1/A6.2	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W30D	Existing	1H.1	NONE		18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	1/A6.2	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W30E	Existing	1H.1	NONE		18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	1/A6.2	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W30F	Existing	1H.1	NONE		18' - 0"	7' - 3"	STL	PT-4	NONE	NONE	1/A6.2	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
H4W30G	Existing	1I.1	NONE		13' - 2"	7' - 3"	STL	PT-4	NONE	NONE	NONE	9' - 7 31/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
N101	Existing	1B.1	NONE		6' - 3"	6' - 0"	STL	PT-4	NONE	NONE	NONE	11' - 0"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
N102	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	10' - 9"	THERMALLY BROKEN STEEL FRAME AND IGU
N103	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	10' - 9"	THERMALLY BROKEN STEEL FRAME AND IGU
N104	Existing	1B.1	NONE		6' - 3"	6' - 0"	STL	PT-4	NONE	NONE	NONE	11' - 0"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
N201	Existing	1A.1	NONE		6' - 3"	6' - 0"	STL	PT-4	NONE	NONE	NONE	8' - 2 5/8"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
N202	New Construction	1A.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	8' - 5 3/32"	THERMALLY BROKEN STEEL FRAME AND IGU
N203	New Construction	1A.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	8' - 5 3/32"	THERMALLY BROKEN STEEL FRAME AND IGU
N204	New Construction	1A.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	8' - 5 1/8"	THERMALLY BROKEN STEEL FRAME AND IGU
N205	Existing	1A.1	NONE		6' - 3"	6' - 0"	STL	PT-4	NONE	NONE	NONE	8' - 2 5/8"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
RB01	Existing	S2	NONE		11' - 0"	2' - 10 5/16"	STL	PT-4					
RW01	New Construction	S1			6' - 0"	12' - 0"	STL	PT-4					
RW02	New Construction	S1			6' - 0"	12' - 0"	STL	PT-4					
RW03	New Construction	S1			6' - 0"	12' - 0"	STL	PT-4					
RW04	New Construction	S1			6' - 0"	12' - 0"	STL	PT-4					



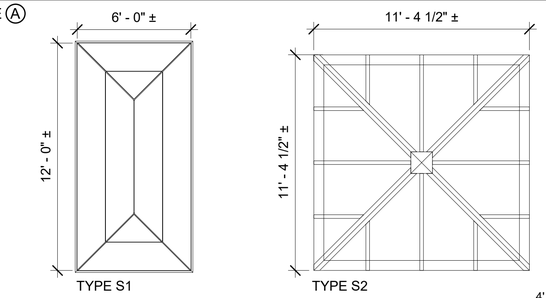








WINDOW TYPES
SCALE A



SKYLIGHT TYPES
SCALE A

SCALE A

4' 2' 0 4' 8'

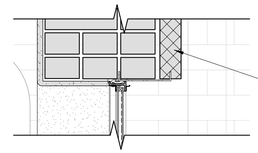
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO. A6.1	TITLE OF SHEET: WINDOW SCHEDULE & TYPES
CADD: SW		GATEWAY NATIONAL RECREATION AREA
TECH. REVIEW: AK		
DATE: 12/19/2025		

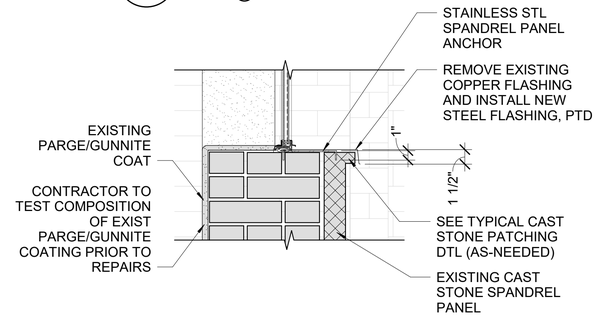
DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 83 OF 153

Autodesk Docs://GATE Floyd Bennett Field/GATE_Floyd Bennett Field.rvt
12/18/2025 4:20:05 PM

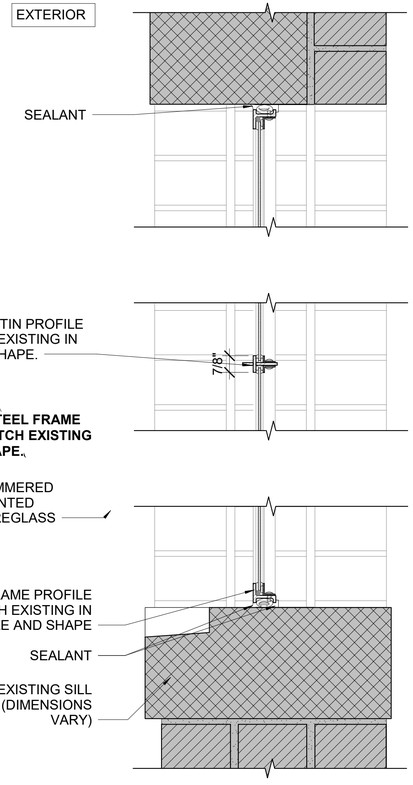
WINDOW NUMBER	EXIST/NEW	TYPE	IGU TYPE	GLAZING TYPE	SIZE (+/-) W	SIZE (+/-) H	MAT'L	FINISHES EXT/INT	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	HEAD HEIGHT	NOTES
RW05	New Construction	S1			6' - 0"	12' - 0"	STL	PT-4					
RW06	New Construction	S1			6' - 0"	12' - 0"	STL	PT-4					
RW07	New Construction	S1			6' - 0"	12' - 0"	STL	PT-4					
RW08	New Construction	S1			6' - 0"	12' - 0"	STL	PT-4					
RW09	New Construction	S1			6' - 0"	12' - 0"	STL	PT-4					
S101	Existing	1B.1	NONE		6' - 3"	6' - 0"	STL	PT-4	NONE	NONE	NONE	11' - 0 23/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
S102	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 2 27/32"	THERMALLY BROKEN STEEL FRAME AND IGU
S103	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 2 27/32"	THERMALLY BROKEN STEEL FRAME AND IGU
S104	Existing	1B.1	NONE		6' - 3"	6' - 0"	STL	PT-4	NONE	NONE	NONE	11' - 0 23/32"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
S201	Existing	1A.1	NONE		6' - 3"	6' - 0"	STL	PT-4	NONE	NONE	NONE	8' - 2 5/8"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
S202	New Construction	1A.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 7 5/32"	THERMALLY BROKEN STEEL FRAME AND IGU
S203	New Construction	1A.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 7 1/8"	THERMALLY BROKEN STEEL FRAME AND IGU
S204	New Construction	1A.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 7 5/32"	THERMALLY BROKEN STEEL FRAME AND IGU
S205	Existing	1A.1	NONE		6' - 3"	6' - 0"	STL	PT-4	NONE	NONE	NONE	8' - 2 5/8"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
W101	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	11' - 3 3/32"	IN-KIND WOOD WINDOW WITH IGU
W102	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	11' - 3 3/32"	IN-KIND WOOD WINDOW WITH IGU
W103	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 0 1/8"	THERMALLY BROKEN STEEL FRAME AND IGU
W104	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	11' - 0 5/16"	THERMALLY BROKEN STEEL FRAME AND IGU
W104D	Existing	1B.3	NONE		6' - 3"	4' - 6"	STL	PT-4	NONE	NONE	NONE	12' - 4 13/32"	THERMALLY BROKEN STEEL FRAME AND IGU
W105	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	10' - 10 1/2"	THERMALLY BROKEN STEEL FRAME AND IGU
W106	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	10' - 8 9/16"	THERMALLY BROKEN STEEL FRAME AND IGU
W107	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	10' - 9 15/32"	THERMALLY BROKEN STEEL FRAME AND IGU
W108	New Construction	1B.2	IGU-1	GL-1, GL-3	6' - 3"	6' - 0"	STL	PT-4			2/A6.2	10' - 9 15/32"	THERMALLY BROKEN STEEL FRAME AND IGU
W109	New Construction	2B	IGU-2	GL-2, GL-3	2' - 0"	5' - 2"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	-0' - 1 9/16"	IN-KIND WOOD WINDOW WITH IGU
W110	New Construction	2B	IGU-2	GL-2, GL-3	2' - 0"	5' - 2"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	-0' - 1 9/16"	IN-KIND WOOD WINDOW WITH IGU
W111	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	11' - 3 3/32"	IN-KIND WOOD WINDOW WITH IGU
W112	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	11' - 3 3/32"	IN-KIND WOOD WINDOW WITH IGU
W113	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	11' - 3 7/32"	SALVAGE EXISTING WOOD WINDOW FOR REPLICATION PURPOSES.
W114	New Construction	2A	IGU-2	GL-2, GL-3	3' - 6"	6' - 3"	WD	PT-4	3/A6.2	4/A6.2	3/A6.2	11' - 3 3/32"	IN-KIND WOOD WINDOW WITH IGU
WPA10A	Existing	1E	NONE	GL-1	4' - 2"	4' - 8"	STL	PT-4	NONE	NONE	NONE	8' - 3"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
WPA10B	Existing	1E	NONE	GL-1	4' - 2"	4' - 8"	STL	PT-4	NONE	NONE	NONE	8' - 3"	SEE STEEL WINDOW SPECIFICATION FOR REPAIR SCOPE.
Grand total: 109													



1 A6.2 CAST STONE FLASHING @ STL WDW HEAD
SCALE A



2 A6.2 CAST STONE FLASHING @ STL WDW SILL
SCALE A

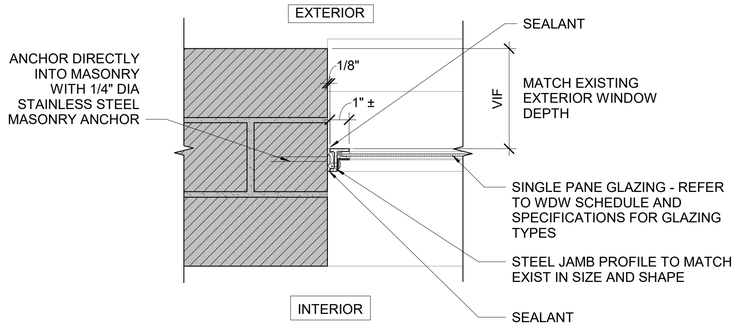


3 A6.2 STEEL WDW DTL - REPLACE IN KIND OR REPAIR
SCALE A

CONTRACTOR TO REFER TO WDW SCHEDULE FOR REPAIR VS. REPLACEMENT OF CLERESTORY WINDOWS. AS WINDOWS WERE SURVEYED FROM THE GROUND, IT IS POSSIBLE MORE WINDOWS THAN INDICATED WILL REQUIRE FULL REPLACEMENT. NOTIFY CO IF CONTRACTOR DEEMS A WINDOW NEEDS TO BE FULLY REPLACED RATHER THAN REPAIRED. REPLACEMENT WINDOWS ARE TO MATCH EXISTING DIMENSIONS, PROFILES, SITELINES AND OPERABILITY. SEE BELOW FOR TYPICAL EXISTING WINDOW TYPES:

TYPICAL EXTERIOR CLERESTORY WINDOW TO BE REPLACED IN-KIND

INTERIOR VIEW OF TYPICAL EXTERIOR CLERESTORY WINDOW TO BE REPLACED IN-KIND



4 A6.2 STEEL WDW JAMB DTL - REPLACE IN KIND
SCALE A

SCALE A 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHKD: SW	A6.2	WINDOW SCHEDULE & DETAILS	646 190066
TECH. REVIEW: AK			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	SHEET 84 OF 153

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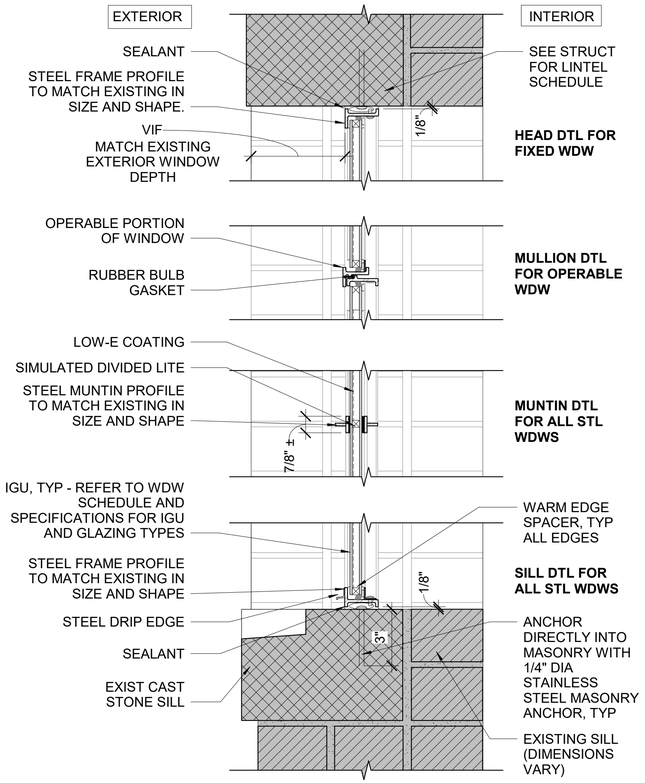
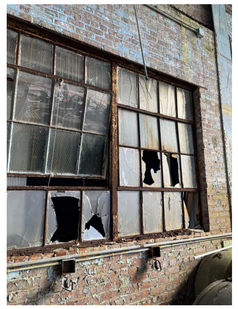
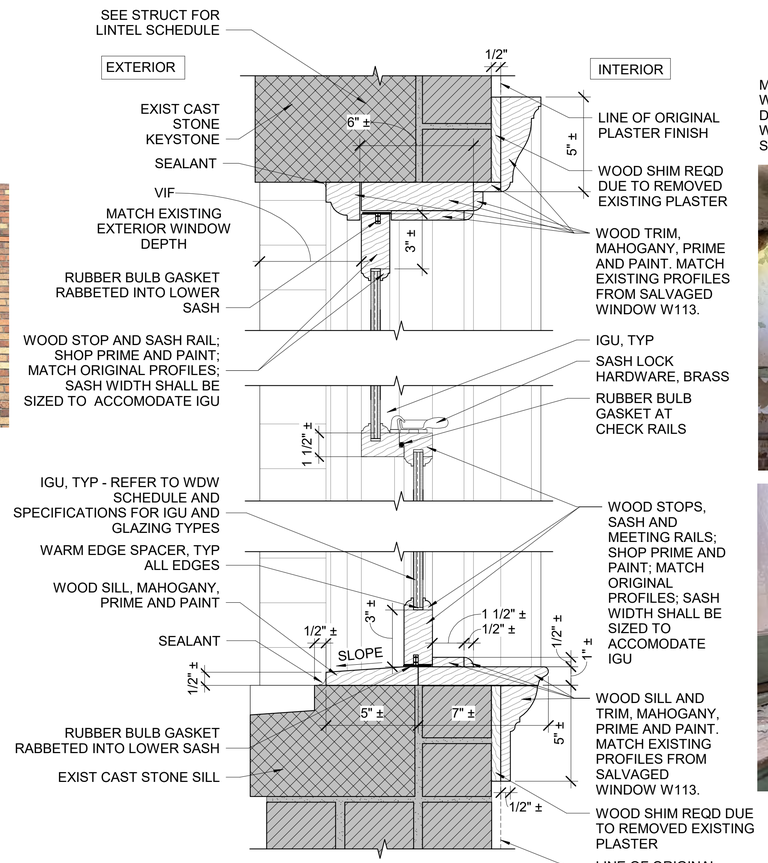


CONTRACTOR TO DIMENSION EACH WINDOW TYPE (SEE WINDOW SCHEDULE & TYPES) OF WINDOW OPENINGS, PROFILES AND SITE LINES PRIOR TO WINDOW FABRICATION. OPENINGS, PROFILES AND SIGHT LINES SHALL MATCH EXISTING:

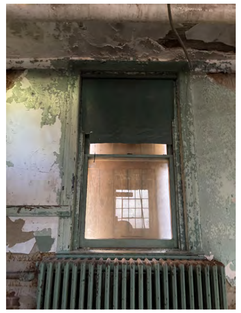
TYPICAL EXTERIOR STEEL WINDOW TO BE REPLACED



TYPICAL INTERIOR STEEL WINDOW TO BE REPLACED

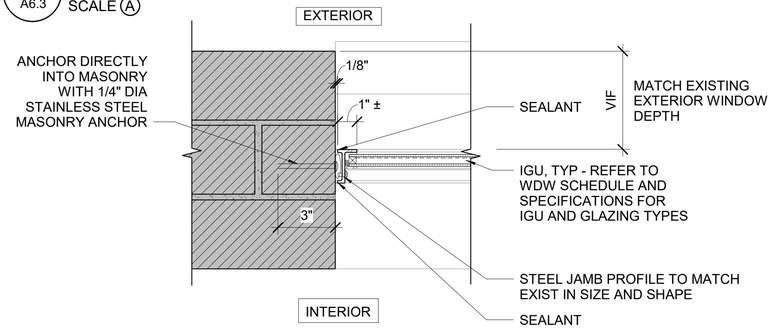


MATCH EXISTING HISTORIC WINDOW TRIM PROFILES AND DIMENSIONS (IMAGE BELOW OF WINDOW W113 TO BE SALVAGED):



2 A6.3 STEEL WDW DTL - THERMALLY BROKEN

SCALE Ⓐ

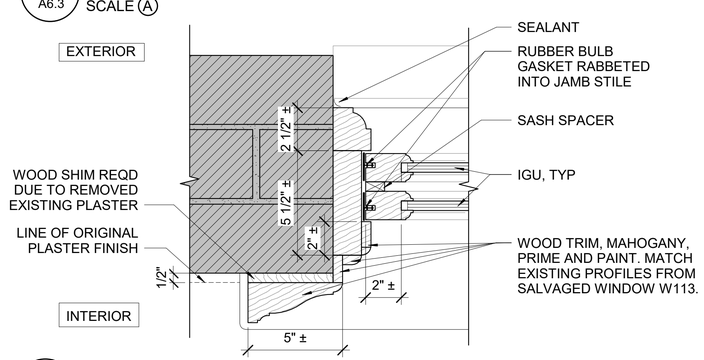


7 A6.3 REPLACEMENT STEEL WDW JAMB DTL - THERMALLY BROKEN

SCALE Ⓐ

4 A6.3 REPLACEMENT WOOD WDW SECTION DTL

SCALE Ⓐ



5 A6.3 REPLACEMENT WOOD WDW JAMB DTL

SCALE Ⓐ

SCALE Ⓐ 6" 3" 0" 6"

SCALE OF FEET

DESIGNED: CT DRAWN: SW TECH. REVIEW: AK DATE: 12/19/2025	SUB SHEET NO. A6.3	TITLE OF SHEET: WINDOW DETAILS GATEWAY NATIONAL RECREATION AREA	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 85 OF 153

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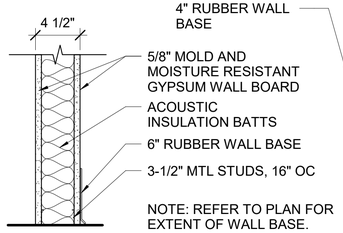
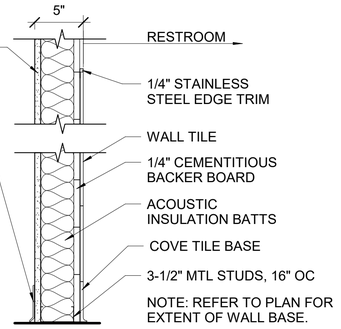
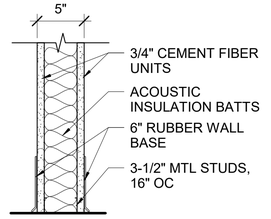


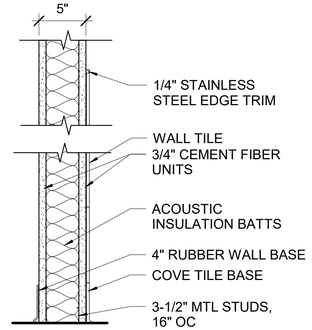
PARTITION 1A	
DESIGN NO.	-
FIRE RESISTANCE RATING	-
STC RATING	-



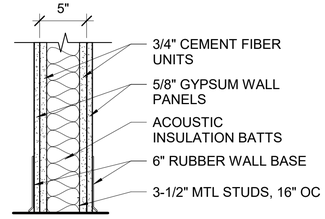
PARTITION 1B	
DESIGN NO.	-
FIRE RESISTANCE RATING	-
STC RATING	-



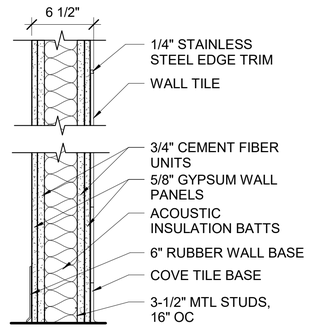
PARTITION 1X	
DESIGN NO.	UL V465
FIRE RESISTANCE RATING	1 HOUR
STC RATING	48-52



PARTITION 1XT	
DESIGN NO.	UL V465
FIRE RESISTANCE RATING	1 HOUR
STC RATING	48-52



PARTITION 2X	
DESIGN NO.	UL V465
FIRE RESISTANCE RATING	2 HOUR
STC RATING	51-55



PARTITION 2XT	
DESIGN NO.	UL V465
FIRE RESISTANCE RATING	2 HOUR
STC RATING	51-55

SHEET NOTES

1. ALL PARTITIONS SHEATHING LAYERS TO EXTEND TO STRUCTURE OR DECK ABOVE UNLESS NOTED OTHERWISE:
   - A. SEE PLANS FOR LEGEND & PARTITIONS WITH VARIED EXTENT
   - B. SEE LIFE SAFETY PLANS FOR LEGEND & FIRE RATING EXTENT/ DEFINITION

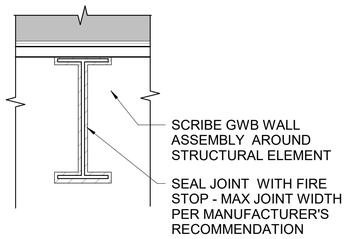
2. UTILIZE MOISTURE RESISTANT GYPSUM BOARD AT PARTITIONS (OTHER THAN PLUMBING PARTITIONS) IN THE FOLLOWING SPACE TYPES UNLESS NOTED OTHERWISE:
   - A. TOILET ROOMS
   - B. JANITOR'S CLOSETS

3. UTILIZE TILE BACKER BOARD AT PLUMBING PARTITIONS (WET WALLS), UNLESS NOTED OTHERWISE:
   - A. COORDINATE EXTENT OF BACKER BOARD WITH EXTENT OF TILE FINISH
   - B. TRANSITION TO MOISTURE RESISTANT GYPMSUM BOARD AT AREAS NOT DESIGNATED TO RECEIVE TILE

4. FIRE RATED FRAMED PARTITIONS (FIRE RATING IDENTIFIED) ARE TO INCLUDE:
   - A. PERIMETER FIRE STOP SEALANT FOR FULL DEPTH OF ALL SHEATHING LAYERS EACH SIDE OF FRAMING
     - 1.BASE: SEALANT OPTIONAL (1/4" MIN TO 3/4" MAX) IN LIEU OF SEALANT EXTEND GYPSUM BOARD TIGHT TO DECK
     - 2.TOP:
       - a.OPTION 1: SEAL TO DECK OR VARIED DECK (1/4" MIN TO 3/4" MAX)
       - b.OPTION 2: CLOSE SPACE AT VARIED DECK WITH UL DESIGN APPROVED OR PROJECT DEFINED FIRE RATED CLOSURE ASSEMBLY

FINISH SCHEDULE

MATERIAL DESIGNATION	DESCRIPTION	BASIS OF DESIGN	COLLECTION	NAME/COLOR MATCH	SIZE	THICKNESS	FINISH	LOCATION	SUBSTRATE	APPLICATION	SYSTEM
PT-1	EXTERIOR PAINT	SHERWIN WILLIAMS	SEE SYSTEM	BM MUSHROOM CAP 177	N/A	N/A	SEMI-GLOSS	HANGAR DOORS AND FRIEZE TRIM	ALUMINUM, SHEET COPPER	FIELD APPLIED	
PT-2	EXTERIOR PAINT	SHERWIN WILLIAMS	SEE SYSTEM	BM GOLDEN LAB 178	N/A	N/A	SEMI GLOSS	FRIEZE FACE/FIELD	CORRUGATED COPPER	FIELD APPLIED	
PT-3	EXTERIOR PAINT	SHERWIN WILLIAMS	SEE SYSTEM	BM HALE NAVY HC-154	N/A	N/A	SEMI-GLOSS	FRIEZE FACE/LETTERING AND NUMBERING	CORRUGATED COPPER	FIELD APPLIED	
PT-4	EXTERIOR PAINT	SHERWIN WILLIAMS	SEE SYSTEM	BM ESSEX GREEN HC-188	N/A	N/A	SEMI-GLOSS	WINDOWS	STEEL, WOOD	SHOP AND FIELD-APPLIED	
PT-5	EXTERIOR PAINT	SHERWIN WILLIAMS	SEE SYSTEM	BM OCEAN FLOOR 1630	N/A	N/A	SEMI-GLOSS	DOORS/FRAMES	STEEL	SHOP APPLIED	
PT-6	EXTERIOR PAINT	SHERWIN WILLIAMS	SEE SYSTEM	BM FEATHER DOWN OC-6	N/A	N/A	MATTE	STRUCTURAL ELEMENTS (COLUMNS, BEAMS, TRUSSES)	STEEL	FIELD-APPLIED	
PT-7	EXTERIOR PAINT	SHERWIN WILLIAMS	SEE SYSTEM	BM WHITE OPULENCE OC-69	N/A	N/A	MATTE	CEILING PLANKS	WOOD	FIELD-APPLIED	
PT-8	EXTERIOR PAINT	SHERWIN WILLIAMS	SEE SYSTEM	BM FEATHER DOWN OC-6	N/A	N/A	SEMI-GLOSS	OVERHEAD DOOR TRACKS	ALUMINUM OR STEEL	FIELD-APPLIED	
PT-9	INTERIOR PAINT	BENJAMIN MOORE	AURA INTERIOR PAINT	BM WHITE OPULENCE OC-69	N/A	N/A	SATIN/EGGSHELL	WALLS (RESTROOMS AND UTILITY SPACES)	GWB	FIELD-APPLIED	
RB-1	RUBBER WALL BASE	ALLSTATE FLOORING	COVEBASE RUBBER WALL BASE	A07	6"	1/8"	N/A	UTILITY ROOMS	GWB	N/A	N/A
T-1	WALL TILE	AMERICAN OLEAN	COLOR STORY WALL	CALM 0035	8"X24"	3/8"	GLOSS	RESTROOMS	N/A	N/A	N/A
T-2	COVE BASE	AMERICAN OLEAN	COLOR STORY WALL	CALM 0035	4"X4"	5/16"	GLOSS	RESTROOMS	N/A	N/A	N/A
T-3	WALL TILE ACCENT	AMERICAN OLEAN	COLOR STORY WALL	WISDOM 0082	4"X4"	5/16"	GLOSS	RESTROOMS	N/A	N/A	N/A



8 / A6.4 FIRE STOP AT STRUCTURAL PENETRATION
SCALE (A)

SCALE (A) 1' 6" 0 1' 2'
SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: SW	A6.4	PARTITION, MATERIAL, & ACCESSORIES SCHEDULES	646 190066
TECH. REVIEW: AK			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		GATEWAY NATIONAL RECREATION AREA	SHEET 86 OF 153

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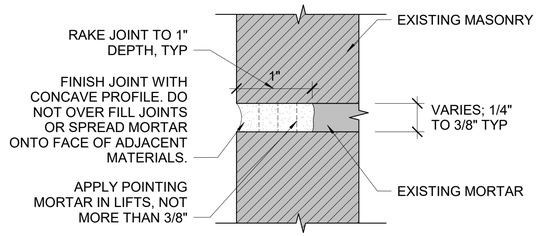
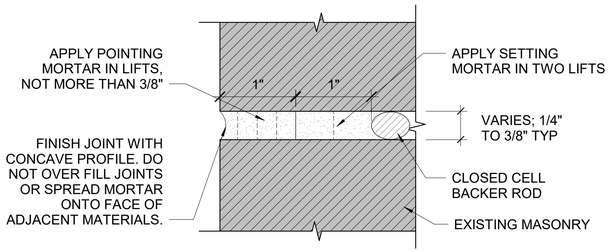
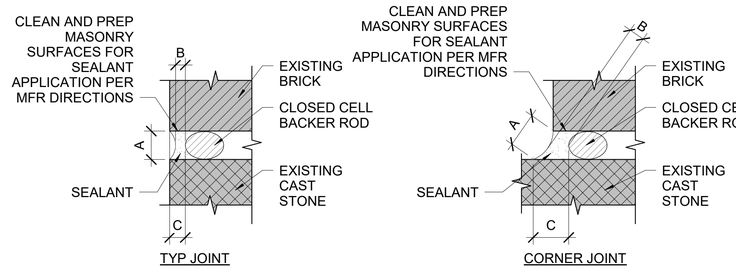


1 A6.5 MASONRY REPOINTING - TYPICAL 04-02
SCALE Ⓐ



2 A6.5 MASONRY REPOINTING - VOID JOINT - TYPICAL 04-02
SCALE Ⓐ

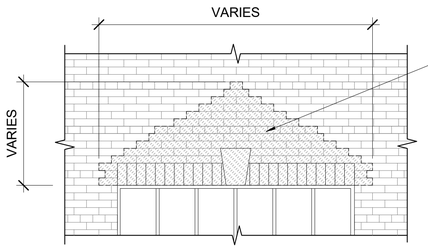


3 A6.5 MASONRY SEALANT JOINT - TYPICAL 04-07
SCALE Ⓐ

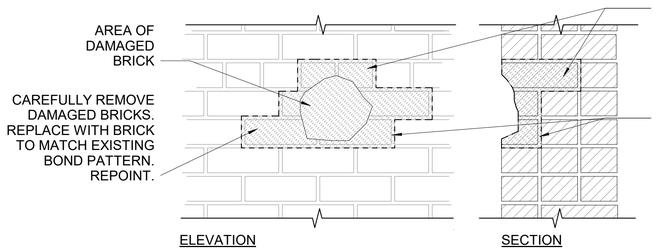
NOTES:

1. COMPLY WITH MANUFACTURER'S SPECIFIC REQUIREMENTS AND APPROVED MOCKUP PROCEDURES FOR JOINT SEALANT INSTALLATION.
2. WEATHERSEAL JOINT DESIGN:

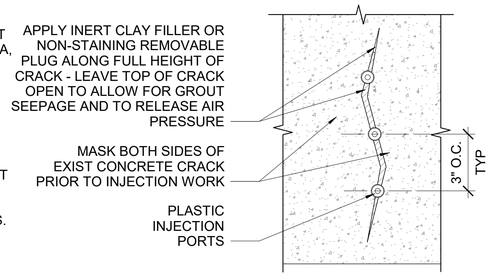
   DIM A: MIN 1/4" / MAX 2"
   DIM B: A/2, MIN 1/8" / MAX 1/2"
   DIM C: MIN 1/4" / TYP 3/8"
3. TOOL SURFACES SLIGHTLY CONCAVE EXCEPT WHERE DIRECTED OTHERWISE.



4 A6.5 STEEL LINTEL REPAIR/REPLACEMENT DETAIL - TYPICAL 04-04. BR
SCALE Ⓒ

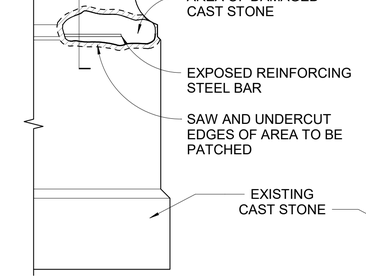


5 A6.5 SINGLE WYTHE BRICK REPLACEMENT DETAIL - TYPICAL 04-04. BR
SCALE Ⓑ

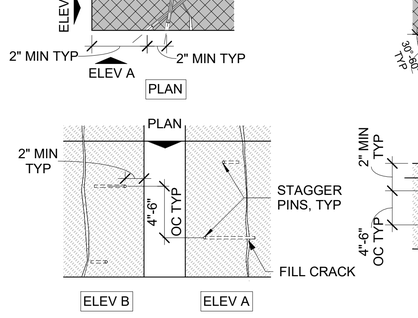


SHEET NOTES

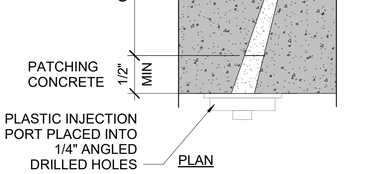
1. **VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS IN FIELD PRIOR TO COMMENCING WORK.**
2. ALL NEW MORTAR IS TO MATCH EXISTING IN STRENGTH, COMPOSITION, COLOR, AND TEXTURE.
3. ALL JOINTS BETWEEN DISSIMILAR MATERIALS (i.e THE JOINT BETWEEN CAST STONE AND BRICK) ARE TO BE SEALANT JOINTS.
4. ALL WALLS NOTED TO BE REBUILT SHALL BE REBUILT IN THE SAME CONFIGURATION AS THE ORIGINAL CONSTRUCTION. WALL CONFIGURATIONS SHOWN HERE ARE APPROXIMATE. NOTIFY CO IF THERE ARE ANY DISCREPANCIES IN THE WALL CONFIGURATIONS BETWEEN DRAWINGS AND ACTUAL WALL CONSTRUCTION.
5. SALVAGE ALL SOUND ORIGINAL EXISTING BRICKS FOR REBUILDING PORTIONS OF WALLS INDICATED. REMOVE EXISTING MORTAR AND CLEAN BRICKS PRIOR TO REUSE.
6. IN ALL BRICK REPAIRS, TOOTH NEW BRICK INTO ORIGINAL/EXISTING CONSTRUCTION.
7. IF A TRUE HEADER IS USED IN THE ORIGINAL CONSTRUCTION, A TRUE HEADER MUST BE REINSTALLED.
8. POSSIBLE REBAR LOCATIONS IN CAST STONE ELEMENTS ARE APPROXIMATE. CONTRACTOR MUST VERIFY REBAR LOCATIONS IN THE FIELD PRIOR TO REPAIRING CAST STONE.
9. REFER TO EXTERIOR ELEVATIONS FOR EXTENTS OF BRICK WALL REBUILDING.
10. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAILS.



6 A6.5 CAST STONE PATCHING - TYPICAL 04-05. CS
SCALE: NTS



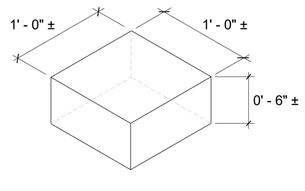
7 A6.5 CAST STONE CRACK REPAIR - TYPICAL 04-06. CS
SCALE: NTS



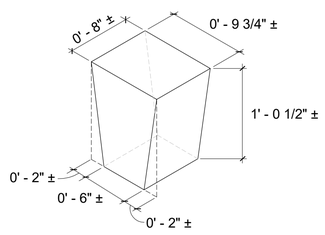
NOTES:

1. AT A DOWNWARD SLOPING ANGLE, DRILL 1/4" HOLES (2" DEEP) AT CENTERLINE OF CRACK FOR INJECTION PORTS.
2. CLEAN THE CRACK AND DRILL HOLES USING COMPRESSED AIR WHERE POSSIBLE, AND POTABLE WATER TO PROVIDE A CLEAN SUBSTRATE PRIOR TO MORTAR INJECTION.
3. AFTER MASKING THE CONCRETE, APPLYING THE INJECTION PORTS AND THE INTERT CLAY FILLER OR NONSTAINING REMOVABLE PLUGS, FILL GROUT UNTIL LEVEL WITH THE FACE OF CONCRETE.
4. REMOVE THE CLAY FILLER/PLUG MATERIAL AND INJECTION PORTS.
5. RAKE GROUT OUT OF CRACK JOINT A MINIMIUM OF 1/2". DO NOT WIDEN THE CRACK.
6. REMOVE LOOSE MATERIAL WITH COMPRESSED AIR (MAX 50 PSI).
7. WET JOINT AND FILL WITH PATCHING CONCRETE.
8. TOOL TO MATCH ORIGINAL PROFILE.

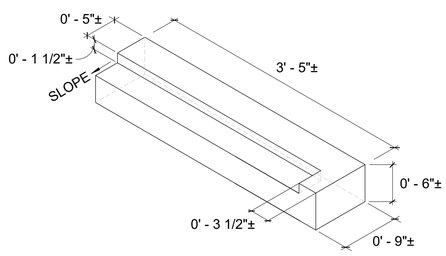
11 A6.5 CONCRETE CRACK REPAIR - TYPICAL 03-01
SCALE Ⓐ



9 A6.5 CAST STONE REPLACEMENT - WINDOW JAMB - CS1
SCALE Ⓐ 04-04. CS



10 A6.5 CAST STONE REPLACEMENT - KEYSTONE - CS2
SCALE Ⓐ 04-04. CS



8 A6.5 CAST STONE REPLACEMENT - SILL - CS3
SCALE Ⓐ 04-04. CS

SCALE Ⓐ 2" 1" 0" 1" SCALE OF FEET
SCALE Ⓑ 12" 6" 0" 1' SCALE OF FEET
SCALE Ⓒ 2' 1' 0 2' 4' SCALE OF FEET

DESIGNED: CT	SUB SHEET NO.	TITLE OF SHEET: TYPICAL MASONRY & CONCRETE REPAIR DETAILS	DRAWING NO. 646 190066
DRAWN: SW	A6.5	GATEWAY NATIONAL RECREATION AREA	PMIS/PKG NO. GATE 308504
TECH. REVIEW: AK			SHEET 87 OF 153
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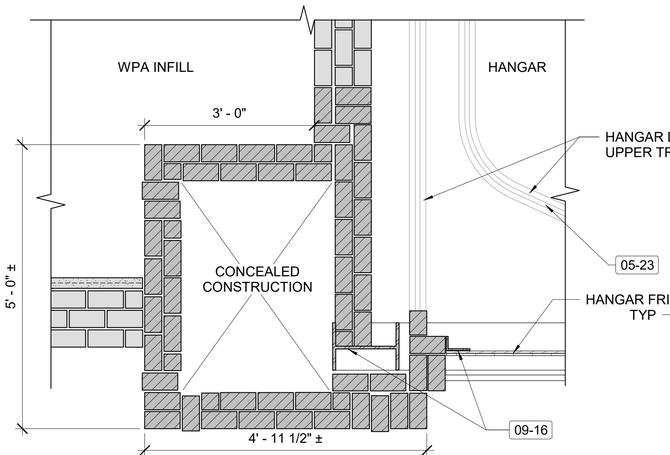
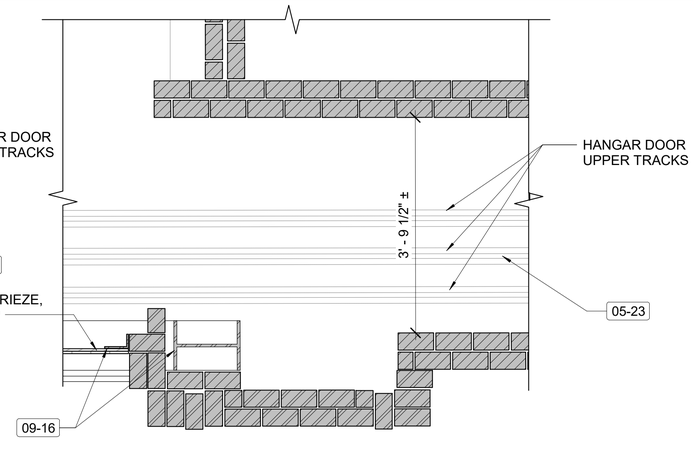
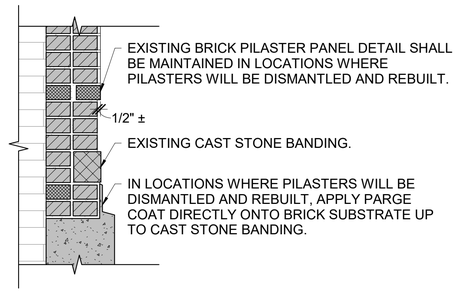


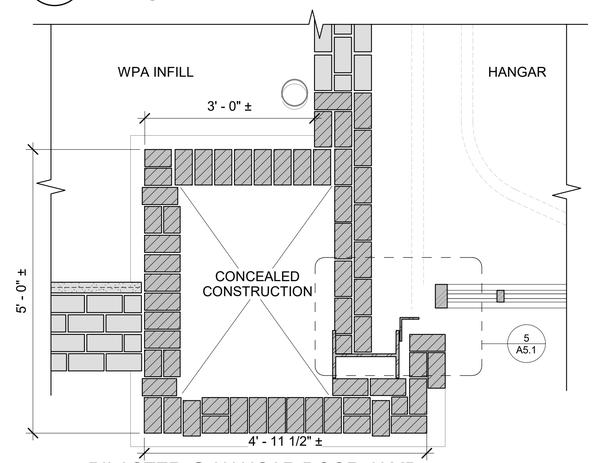
1 / A6.6 PILASTER @ HANGAR DOOR FRIEZE - STRETCHER COURSE
SCALE Ⓐ



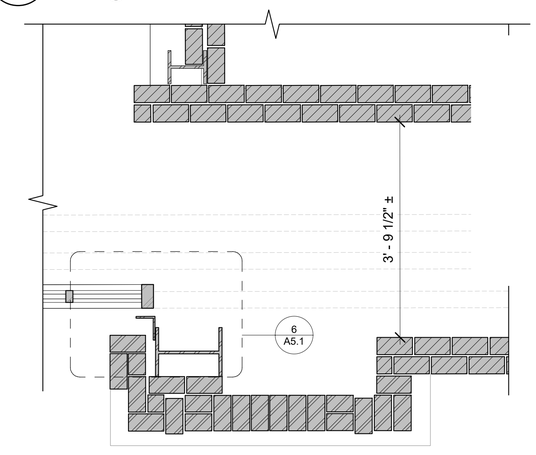
4 / A6.6 PILASTER @ DOOR POCKET - HANGAR DOOR FRIEZE - STRETCHER COURSE
SCALE Ⓐ



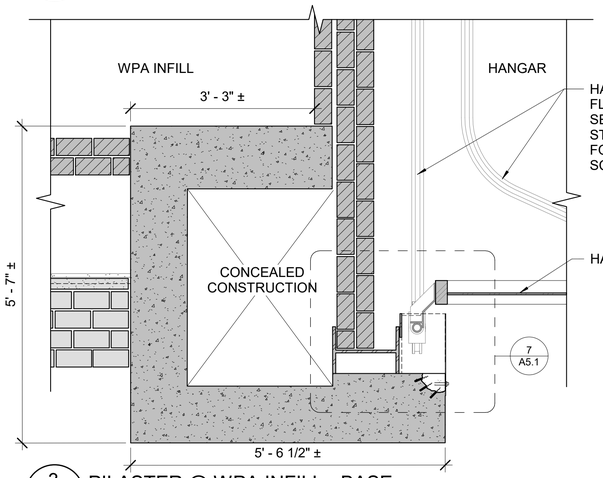
7 / A6.6 DETAIL @ PILASTER BASE
SCALE Ⓑ



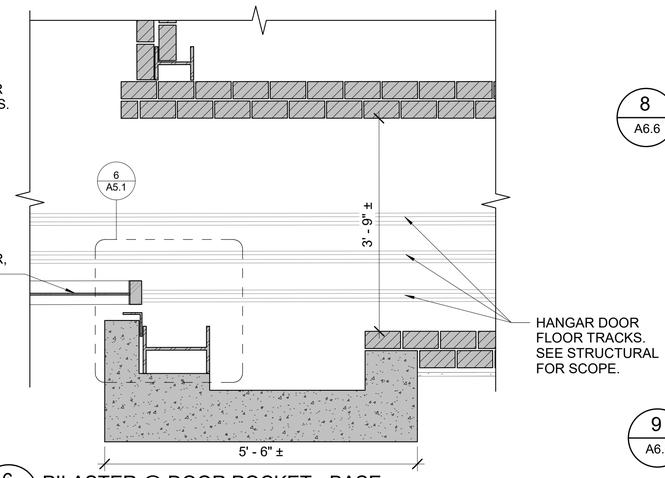
2 / A6.6 PILASTER @ HANGAR DOOR JAMB - HEADER COURSE
SCALE Ⓐ



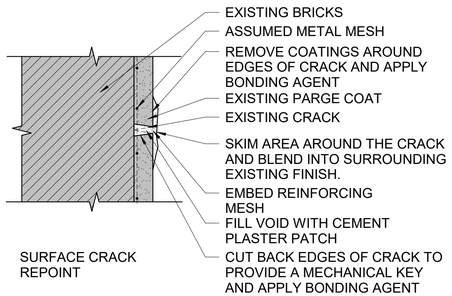
5 / A6.6 PILASTER @ DOOR POCKET - HANGAR DOOR JAMB - HEADER COURSE
SCALE Ⓐ

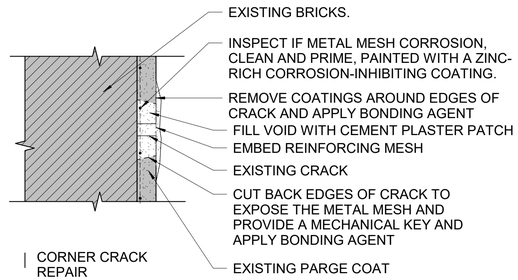


3 / A6.6 PILASTER @ WPA INFILL - BASE
SCALE Ⓐ

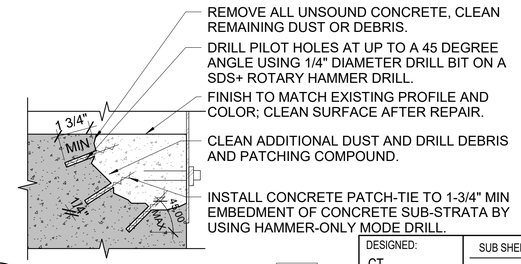


6 / A6.6 PILASTER @ DOOR POCKET - BASE
SCALE Ⓐ





8 / A6.6 PARGE COAT REPAIR - TYPICAL
SCALE Ⓒ



9 / A6.6 CONCRETE PATCHING 03-04
SCALE Ⓓ

SHEET NOTES

1. **VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS IN FIELD PRIOR TO COMMENCING WORK.**
2. ALL NEW MORTAR IS TO MATCH EXISTING IN STRENGTH, COMPOSITION, COLOR, AND TEXTURE.
3. ALL JOINTS BETWEEN DISSIMILAR MATERIALS (i.e. THE JOINT BETWEEN CAST STONE AND BRICK) ARE TO BE SEALANT JOINTS.
4. ALL WALLS NOTED TO BE REBUILT SHALL BE REBUILT IN THE SAME CONFIGURATION AS THE ORIGINAL CONSTRUCTION. WALL CONFIGURATIONS SHOWN HERE ARE APPROXIMATE. NOTIFY CO IF THERE ARE ANY DISCREPANCIES IN THE WALL CONFIGURATIONS BETWEEN DRAWINGS AND ACTUAL WALL CONSTRUCTION.
5. SALVAGE ALL SOUND ORIGINAL EXISTING BRICKS FOR REBUILDING PORTIONS OF WALLS INDICATED. REMOVE EXISTING MORTAR AND CLEAN BRICKS PRIOR TO REUSE.
6. IN ALL BRICK REPAIRS, TOOTH NEW BRICK INTO ORIGINAL/EXISTING CONSTRUCTION.
7. IF A TRUE HEADER IS USED IN THE ORIGINAL CONSTRUCTION, A TRUE HEADER MUST BE REINSTALLED.
8. POSSIBLE REBAR LOCATIONS IN CAST STONE ELEMENTS ARE APPROXIMATE. CONTRACTOR MUST VERIFY REBAR LOCATIONS IN THE FIELD PRIOR TO REPAIRING CAST STONE.
9. REFER TO EXTERIOR ELEVATIONS FOR EXTENTS OF BRICK WALL REBUILDING.
10. REFER TO TYPICAL MASONRY, CAST STONE AND CONCRETE REPAIR DETAILS.

KEYNOTES	
KEY VALUE	TEXT
05-23	CLEAN, PRIME AND PAINT EXISTING UPPER HANGAR DOOR TRACKS TO ENSURE FULL DOOR OPERABILITY. SEE STRUCTURAL.
09-16	FOR ALL EXPOSED STEEL STRUCTURAL ELEMENTS, REMOVE SURFACE RUST, PREP, PRIME WITH A RUST-INHIBITING PRIMER AND EPOXY TOPCOAT. SEE MATERIAL SCHEDULE.

BRICK LEGEND

- ORIGINAL CONSTRUCTION BRICK (1929-1931)
- WPA INFILL BRICK (1935-1936)

SCALE Ⓐ 24" 12" 0" 2' — SCALE OF FEET
SCALE Ⓑ 1' 6" 0 1' 2' — SCALE OF FEET
SCALE Ⓒ 4" 2" 1" 0" 2" — SCALE OF FEET
SCALE Ⓓ 6" 3" 0" 6" — SCALE OF FEET

DESIGNED:	CT
DRAWN:	SW
TECH. REVIEW:	AK
DATE:	12/19/2025

SUB SHEET NO. A6.6

TITLE OF SHEET
TYPICAL MASONRY & CONCRETE REPAIR DETAILS
GATEWAY NATIONAL RECREATION AREA

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 88 OF 153

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GENERAL NOTES

1. ALL STRUCTURAL WORK SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND SHALL CONFORM TO THE PROJECT SPECIFICATIONS, INCLUDING THE 2024 INTERNATIONAL BUILDING CODE AND THE 2024 INTERNATIONAL EXISTING BUILDING CODE.
2. CONTRACTOR SHALL PROVIDE TEMPORARY SHORING, BRACING, SHEETING AND MAKE SAFE ALL FLOORS, ROOFS, WALLS AND ADJACENT PROPERTY AS PROJECT CONDITIONS REQUIRE. SHORING AND SHEETING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE PROJECT JURISDICTION HIRED BY THE CONTRACTOR WHO SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR THE OWNER'S REVIEW.
3. DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION GIVEN IN STRUCTURAL DRAWINGS ARE BASED ON INFORMATION CONTAINED IN VARIOUS ORIGINAL DESIGN AND CONSTRUCTION DOCUMENTS PROVIDED BY THE OWNER, AND LIMITED FIELD OBSERVATIONS AND MEASUREMENTS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PERTAINING TO EXISTING CONDITIONS BY ACTUAL MEASUREMENT AND OBSERVATION AT THE SITE. ALL DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN IN THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE CONTRACTING OFFICER FOR THE STRUCTURAL ENGINEER'S EVALUATION BEFORE THE AFFECTED CONSTRUCTION IS PUT IN PLACE.
4. THE CONTRACT DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. THESE NOTES HIGHLIGHT RATHER THAN REPLACE THE SPECIFICATIONS CONTAINED IN THE PROJECT MANUAL. PLEASE NOTIFY THE ENGINEER OF ANY CONFLICTS. REFER TO THE SPECIFICATION FOR WORK NOT SHOWN ON THE DRAWINGS.
5. THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS REPRESENTS THE DESIGN INTENT OF THE PROPOSED CONSTRUCTION. ELECTRONIC VERSIONS (PDF, DWG) OF THESE DRAWINGS SHOULD NOT BE USED TO DETERMINE DIMENSIONS OR GATHER ANY INFORMATION THAT IS NOT SPECIFICALLY LABELED OR OTHERWISE DENOTED IN PLAN, SECTION, OR DETAIL. DUPLICATION OF THESE DRAWINGS FOR USE IN THE PREPARATION OF SHOP DRAWINGS IS NOT ACCEPTABLE. THIS INCLUDES ANNOTATED HARD-COPIES AND DIRECT REUSE OF ELECTRONIC FILES.

FOUNDATIONS

1. SUBGRADE BELOW NEW SLABS ON GRADE AND EQUIPMENT PADS SHALL BE IMPROVED AS SPECIFIED IN THE GEOTECHNICAL INVESTIGATION REPORT BY GHD DATED MAY 27, 2025 TO PROVIDE A MODULUS OF SUBGRADE REACTION (K) OF 115 PCI (SEE TYPICAL DETAILS IN THESE DRAWINGS). ADEQUACY OF BEARING STRATUM SHALL BE VERIFIED IN FIELD PRIOR TO PLACING CONCRETE.
2. ALL EXTERIOR FOOTINGS SHALL BE PLACED A MINIMUM OF 4'-0" BELOW FINAL GRADE.
3. CONCRETE SHALL BE POURED IN DRY EXCAVATIONS. CONTRACTOR SHALL NOTE SOIL AND WATER CONDITIONS AS SHOWN BY BORINGS AND DEPTHS OF FOOTING AS SHOWN ON FOUNDATION PLANS.

CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE ACI FOLLOWING GOVERNING STANDARDS.
   A. AMERICAN CONCRETE INSTITUTE (ACI) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318), LOCALLY APPROVED EDITION.
   B. ACI "MANUAL OF CONCRETE PRACTICE" LOCALLY APPROVED EDITION
   C. CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE" LOCALLY APPROVED EDITION
2. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED.
3. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60. REINFORCING STEEL SHALL BE DETAILED ACCORDING TO THE ACI "DETAILS AND DETAILING OF REINFORCEMENT", (ACI 315), LOCALLY APPROVED EDITION.
4. WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185, WITH A MINIMUM YIELD STRENGTH OF 65,000 PSI.
5. PROVIDE MINIMUM SHRINKAGE AND TEMPERATURE REINFORCEMENT, AS REQUIRED BY ACI 318, IN ALL SLABS AND WALLS WHERE REINFORCEMENT IS NOT INDICATED ON DRAWINGS.
6. COORDINATE SIZE AND LOCATION OF ALL OPENINGS AND PIPE SLEEVES WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. MINIMUM CONCRETE BETWEEN SLEEVES SHALL BE 6". CORE DRILLING OF WALLS AND SLABS SHALL NOT BE PERMITTED.
7. ALL GROUT SHALL BE NONSHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI.
8. PROVIDE CLEARANCE FROM FACE OF CONCRETE TO REINFORCEMENT AS FOLLOWS:
   - SLABS: 3/4"
   - BEAMS, COLUMNS: 1 1/2"
   - FOOTINGS: 3"
   - EXTERIOR WALLS: 2" FOR #6 OR LARGER, 1 1/2" FOR #5 OR SMALLER
   - INTERIOR WALLS: 3/4"
9. SHOP DRAWINGS SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR REVIEW AND APPROVAL. NO CONCRETE WORK SHALL COMMENCE WITHOUT APPROVED SHOP DRAWINGS.
10. SEE OTHER DRAWINGS IN THIS PROJECT FOR SIZE AND LOCATIONS OF EQUIPMENT PADS, INSERT AND EMBED ITEMS.
11. REINFORCING DOWELS, WATERSTOPS AND OTHER EMBED ITEMS SHALL BE INSTALLED AND SECURED PRIOR TO CONCRETE PLACEMENT. "WET-SETTING" OF EMBEDDED ITEMS IS NOT PERMITTED.
12. WHERE CONCRETE IS PLACED AGAINST AND DOWELED TO HARDENED CONCRETE AND/OR WHERE A ROUGHENED SURFACE IS INDICATED IN THE STRUCTURAL DRAWINGS, THE HARDENED CONCRETE SURFACE SHALL BE CLEAN AND FREE OF LAITANCE AND SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4".

EXISTING BRICK MASONRY

1. MASONRY CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF THE MASONRY SOCIETY (TMS) 602-22 SPECIFICATION FOR MASONRY STRUCTURES.
2. MASONRY REPAIRS SHALL BE COMPLETED USING BRICK UNITS AND MORTAR THAT HAVE MATERIAL PROPERTIES CONSISTENT WITH EXISTING MASONRY. MORTAR SHALL BE TYPE N PORTLAND CEMENT / LIME MORTAR. NEW BRICK, CAST STONE MASONRY AND MORTAR SHALL MATCH ORIGINAL IN COLOR, TEXTURE, SIZE, MAKEUP AND PROFILE.
3. REPAIR OF MASONRY: IF MORTAR CAN BE REMOVED EASILY WITH HAND TOOLS BY SCRAPING, REMOVE SOFT OR CRACKED MORTAR TO SOUND MATERIAL. LIMIT DEPTH OF REMOVAL TO A MAXIMUM OF 2" (51 MM). ALSO REPOINT AREAS WHERE MORTAR DOES NOT EXIST. FOR BRICKS LOOSE ENOUGH TO BE REMOVED BY HAND, REMOVE, CLEAN AND REINSTALL IN A FULL BED OF MORTAR. SEE ARCHITECTURAL DRAWINGS FOR EXTENTS.
4. INFILL EXISTING UNUSED OR NEWLY ABANDONED PENETRATIONS, JOIST AND BEAM POCKETS, UTILITY CHASES AND ELECTRICAL BOX RECESSES WITH SOLID MASONRY OR GROUT.
5. REINFORCEMENT OF BRICK MASONRY JOINTS (REFER TO DRAWINGS):
   A. DEFORMED STAINLESS STEEL WIRE IN CONFORMANCE WITH ASTM A1022 (Fy = 75 KSI).
   B. HALFEN HELIFIX HELIBAR GRADE 316 STAINLESS STEEL HELICAL BARS OR APPROVED EQUAL (Fy = 85 KSI MIN.). INSTALL WITH HELIBOND GROUT OR APPROVED EQUAL: POLYMER MODIFIED INJECTABLE, CEMENTITIOUS, THIXOTROPIC, NON-SHRINK GROUT (6,500 PSI MIN. 28-DAY COMPRESSIVE STRENGTH).

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE FOLLOWING GOVERNING STANDARDS:
   A. AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES," LOCALLY APPROVED EDITIONS.
   B. AMERICAN WELDING SOCIETY (AWS) D1.1 "STRUCTURAL WELDING CODE--STEEL", LOCALLY APPROVED EDITION.
2. ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
   A. WIDE FLANGE BEAMS, COLUMNS AND STRUCTURAL TEES: ASTM A992
   B. HOLLOW STRUCTURAL SECTIONS: ASTM A500, GRADE B
   C. STRUCTURAL PIPE SECTIONS: ASTM A53, GRADE B
   D. CHANNELS, ANGLES AND PLATES: ASTM A36 UNLESS OTHERWISE NOTED.
   E. BOLTED CONNECTIONS OF BEAMS/GIRDERS ARE TO BE DESIGNED AS FOLLOWS:
      a. STANDARD BEAM TO BEAM/GIRDER: A325 OR A490 BEARING TYPE BOLTS (3/4" DIAMETER MINIMUM).
      b. BEAM/GIRDER TO COLUMN CONNECTIONS: A325 OR A490 TYPE BOLTS (3/4" DIAMETER MINIMUM).
   F. ANCHOR BOLTS: ASTM F1554, GRADE 36. FURNISHED COMPLETE WITH NUTS AND WASHERS. ANCHOR BOLTS SHALL HAVE HEADED ENDS OR NUTS WELDED (TACK AT BOTTOM SIDE OF NUT) AT EMBEDDED END.
   G. STRUCTURAL STEEL NOTED TO BE STAINLESS STEEL SHALL BE ASTM A276 STAINLESS STEEL GRADE 304.
   H. ALL STAINLESS STEEL BOLTS SHALL CONFORM TO ASTM F593 ALLOY 304.
   I. ALL STAINLESS STEEL NUTS SHALL CONFORM TO ASTM F594 ALLOY 304.
   J. WELDED HEADED SHEAR STUDS: A108 3/4" DIAMETER.
3. STEEL CONNECTIONS:
   A. ALL BOLTS USED IN CONNECTIONS AT THE END OF AXIALLY LOADED MEMBERS, AND ALL BOLTS IN MOMENT CONNECTIONS (INCLUDING VERTICAL SHEAR) SHALL BE SLIP-CRITICAL.
   B. PROVIDE MECHANICALLY GALVANIZED BOLTS FOR EXTERIOR APPLICATIONS.
   C. MINIMUM SIZE WELD, UNLESS NOTED OTHERWISE, IS 1/4" FILLET.
4. SHOP AND ERECTION DRAWINGS SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR REVIEW AND APPROVAL. NO FABRICATION OF STEEL SHALL COMMENCE WITHOUT APPROVED SHOP DRAWINGS.
5. WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS LICENSED BY THE GOVERNING LOCALITY AND CERTIFIED IN ACCORDANCE WITH AWS D1.1. WELDING ELECTRODES SHALL BE ASTM A233, CLASS E70XX (USE LOW HYDROGEN ELECTRODES FOR A992, GRADE 50 STEEL).
6. STRUCTURAL STEEL MEMBERS SHALL BE FINISHED PER THE FOLLOWING SPECIFICATIONS:
   A. GALVANIZE ALL STRUCTURAL STEEL EXPOSED TO WEATHER, AND STEEL SUPPORTING EXTERIOR ELEMENTS.
      a. HOT-DIP GALVANIZING SHALL CONFORM TO ASTM A123. REPAIR SCRATCHED OR ABRADED GALVANIZED SURFACES WITH COLD GALVANIZING ZINC-RICH PAINT.
   B. WHERE SHOP PAINTING IS REQUIRED BY PROJECT SPECIFICATION, PROVIDE MODIFIED ALKYD PER MANUFACTURER REQUIREMENTS. ALL FIELD PAINTING SHALL BE PER ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
   C. FACES OF STRUCTURAL STEEL MEMBERS SUPPORTING METAL DECK WITH WELDED FASTENING, OR RECEIVING WELDED SHEAR STUDS, SHALL REMAIN FREE OF ALL PAINT AND PRIMER.
7. ALL BEAMS, EXCEPT CANTILEVER BEAMS, SHALL BE FABRICATED WITH NATURAL CAMBER UP. CANTILEVER BEAMS SHALL BE FABRICATED SO THAT NATURAL CAMBER RAISES CANTILEVER END, U.N.O.
8. LINTELS SHALL BE INSTALLED OVER ALL OPENINGS IN MASONRY WALLS AS FOLLOWS:

MASONRY OPENING	LINTEL
4'-0" OR LESS	L4x3-1/2x5/16 LLV
4'-1" to 7'-0"	L6x3-1/2x5/16 LLV

   A. 3 1/2" LEGS ARE HORIZONTAL.
   B. PROVIDE ONE ANGLE FOR EACH 4" OF WALL THICKNESS.
   C. PROVIDE L5x5x5/16" ANGLES FOR 6" THICK WALLS AND PARTITIONS.
   D. PROVIDE MINIMUM 6" BEARING ON EACH END, U.N.O.
9. FIELD CUTTING OR BURNING OF STRUCTURAL STEEL IS PROHIBITED EXCEPT WHEN APPROVED BY THE ENGINEER OF RECORD.
10. SEE ARCHITECTURAL DRAWINGS FOR MISCELLANEOUS STEEL NOT SHOWN ON STRUCTURAL DRAWINGS. STEEL EXPOSED AS AN ARCHITECTURAL FINISH ELEMENT IS TO BE CLASSIFIED AS ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) PER AISC, U.N.O. REDUCED TOLERANCES SHALL BE MAINTAINED.
11. UNLESS NOTED OTHERWISE, ALL HSS AND PIPE COLUMNS SHALL BE FULLY CAPPED WITH 1/4" THICK A36 PLATE MATCHING HIGHEST ELEVATION OF THE CONNECTED MEMBERS.

ALTERATIONS TO EXISTING STRUCTURAL STEEL

1. REFER TO THE STRUCTURAL STEEL NOTES FOR ADDITIONAL INFORMATION.
2. THE FOLLOWING IS OFFERED AS THE GENERAL CONCEPT FOR STRUCTURAL ALTERATIONS, REPAIRS OR REINFORCEMENT:
   A. FIELD VERIFY EXISTING CONDITIONS.
   B. REMOVE FIREPROOFING CONCRETE AS REQUIRED AND CONFIRM EXISTING CONDITIONS.
   C. DESIGN, INSTALL & INSPECT TEMPORARY SHORING AS REQUIRED.
   D. PERFORM STRUCTURAL REPAIR OR REINFORCEMENT PER DRAWINGS.
   E. INSPECT ALL CONDITIONS PRIOR TO REMOVAL OF SHORING.
   F. DO NOT INSTALL FIREPROOFING UNTIL SHORING HAS BEEN REMOVED, U.N.O.
3. USE LOW HYDROGEN ELECTRODES AND PRE-HEAT FOR WELDS TO EXISTING STEEL WITH Fy = LESS THAN 36ksi.
4. OVERCUTS, NOTCHES OR GOUGES DUE TO CUTTING OR BURNING OF STEEL THAT IS TO SUPPORT LOAD SHALL BE REPAIRED AND GROUND OUT TO PREVENT STRESS CONCENTRATIONS.
5. EXISTING CONCRETE ENCASEMENT OF STEEL THAT IS REMOVED, DAMAGED, OR FOUND TO BE MISSING SHALL BE REPLACED PER THE PROVIDED DETAIL(S). EXISTING CONCRETE ENCASEMENT THAT IS NOT SECURELY ANCHORED IN PLACE SHALL BE REMOVED AND REPAIRED.
6. ALL BOLT HEADS AND NUTS EXPOSED TO VIEW SHALL BE HEAVY SQUARE. FOR HIGH-STRENGTH BOLTS, THREADED STUDS OF EQUAL MATERIAL PROPERTIES MAY BE USED WITH NUTS EACH END TO COMPLY WITH THIS REQUIREMENT.

POST-INSTALLED ADHESIVE AND MECHANICAL ANCHORS

1. POST INSTALLED ANCHORS SHALL BE INSTALLED PER THE CODE EVALUATION REPORT FOR THE PRODUCT AND MANUFACTURER RECOMENDATIONS IN INTACT BASE MATERIAL. NOTIFY ENGINEER OF RECORD PRIOR TO INSTALLATION IF BASE MATERIAL CONDITION DEVIATES FROM STRUCTURAL DRAWINGS OR MANUFACTURER RECOMMENDATIONS.
2. MANUFACTURER DATA FOR ANY ALTERNATE ANCHORAGE DIFFERING FROM THE STRUCTURAL DESIGN DOCUMENTS PROPOSED BY CONTRACTOR SHALL BE SUBMITTED TO ENGINEER OF RECORD FOR REVIEW AND APPROVAL. SUBMITTAL SHALL INCLUDE THE CODE EVALUATION REPORT BY ICC EVALUATION SERVICE, IAPMO UNIFORM EVALUATION SERVICES, OR AN EQUAL APPROVED BY THE ENGINEER OF RECORD DEMONSTRATING TESTED CAPACITY MEETING OR EXCEEDING CAPACITY OF ANCHORAGE SPECIFIED IN CONTRACT DOCUMENTS.
3. UNLESS OTHERWISE INDICATED, POST-INSTALLED ADHESIVE ANCHORS SHALL BE HILTI HIT-HY 200 V3 INTO CONCRETE BASE MATERIAL OR HILTI HIT-HY 270 INTO BRICK MASONRY BASE MATERIAL OR APPROVED EQUAL.
4. POST-INSTALLED SCREW ANCHORS IN BRICK MASONRY SHALL BE PYTHON MT URM SCREW ANCHORS OR APPROVED EQUAL. ANCHORS SHALL HAVE THE FOLLOWING PROPERTIES:
   A. ANCHORS SHALL BE A "SCREW TYPE ANCHOR" THAT IS INSTALLED WITH ROTARY IMPACT ACTION INTO A PRE-DRILLED PILOT HOLE.
   B. ANCHORS SHALL BE NO GREATER IN DIAMETER THAN 8MM.
   C. ANCHORS SHALL BE FULLY THREADED FOR ALL APPLICATIONS EXCLUDING THE PINNING OF VENEERS AND ORNAMENTS.
   D. ANCHORS SHALL BE OF A MATERIAL WITH A YIELD STRESS NO LESS THAN 900 MPA (130 KSI), AND NO GREATER THAN 1100 MPA (160 KSI)
   E. ANCHORS SHALL BE OF A MATERIAL AND COATING SYSTEM COMBINATION THAT HAS BEEN TESTED IN ACCORDANCE WITH ASTM B117 TO A MINIMUM OF 1000 HOURS.
   F. ANCHORS SHALL BE OF A LENGTH SUCH THAT THE EMBEDMENT SPECIFIED ON THE RELEVANT DETAIL CAN BE ACHIEVED.

TONGUE AND GROOVE ROOF DECK

1. DECKING LUMBER SHALL BE 2x8 SPRUCE-PINE-FIR SELECT GRADE OR HEM-FIR COMMERCIAL DEX GRADE AND SHALL COMPLY WITH AITC 112 "STANDARD FOR TONGUE AND GROOVE HEAVY TIMBER ROOF DECKING"
2. DECKING SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 15%.
3. EACH PIECE SHALL BE SQUARE-END TRIMMED. WHERE RANDOM LENGTHS ARE FURNISHED, EACH PIECE SHALL BE SQUARE-END TRIMMED ACROSS THE FACE SO THAT AT LEAST 90% OF THE PIECES ARE WITHIN 1/64 INCHES OF SQUARE FOR EVERY 2 INCHES OF WIDTH. THE ENDS ARE PERMITTED TO BE BEVELED UP TO 2 DEGREES FROM VERTICAL, WITH THE EXPOSED FACE SLIGHTLY LONGER THAN THE OPPOSITE FACE OF THE PIECE.
4. T&G DECKING SHALL BE INSTALLED WITH THE TONGUES UP ON SLOPED OR PITCHED ROOFSWITH PATTERN FACES DOWN.
5. EACH PIECE OF DECKING SHALL BE NAILED AT EACH INTERMEDIATE AND END SUPPORT W/ (1) 16d TOE-NAIL THROUGH THE TONGUE AND (2) 16d FACE NAILS.
6. DECKING LAYUP SHALL BE A CONTROLLED RANDOM PATTERN AND MUST HAVE THE FOLLOWING CONSTRAINTS.
   A. IN THE END BAYS EACH PIECE MUST REST ON THE END SUPPORT (OR CONTINUE OVER THE FIRST INTERIOR SUPPORT IF CANTILEVERED).
   B. THERE SHALL BE A MINIMUM DISTANCE OF 2 FEET BETWEEN END JOINTS IN ADJACENT COURSES.
   C. AT INTERIOR BAYS OCCASIONAL PIECES NOT RESTING OVER A SUPPORT MAY OCCUR PROVIDED THE ENDS OF THE ADJACENT PIECES IN THE SAME COURSE ARE CONTINUED FOR AT LEAST 2 FEET OVER THE NEXT SUPPORT AND THIS CONDITION SHALL NOT OCCUR MORE THAN ONCE EVERY 6 COURSES.
   D. MINIMUM LENGTHS FOR DECKING BASED ON BOARD FEET PERCENTAGE SHALL BE AS FOLLOWS:
      a. NOT LESS THAN 40% TO BE 14 FEET AND LONGER WITH AT LEAST 20% EQUAL TO OR GREATER IN LENGTH THAN THE MAXIMUM SPAN.
      b. NOT MORE THAN 10% TO BE LESS THAN 10 FEET.
      c. NOT MORE THAN 1% TO BE 4 TO 5 FEET.

WOOD STRUCTURAL PANEL SHEATHING

1. PROVIDE STRUCTURAL I PLYWOOD SHEATHING WITH BOND CLASSIFICATIONS APPROPRIATE TO THE END USE: "EXTERIOR" (PERMANENT EXPOSURE), OR "EXPOSURE I" (CONSTRUCTION EXPOSURE ONLY)
2. ROOF SHEATHING:
   A. 15/32" STRUCT I PLYWOOD (32/16 SPAN RATING, MIN 4-PLY) WHERE INSTALLED OVER 2x DECKING W/ LONG SIMPSON WSV SCREWS @ 4" O.C. TO 2x DECKING AT ALL SHEATHING PANEL EDGES AND DIAPHRAGM BOUNDARIES (EDGES OF ROOF, STEPS IN ROOF, CHANGES IN SLOPE AND AROUND OPENINGS) AND @ 12" O.C. ELSEWHERE.
   B. 5/8" NOMINAL PLYWOOD ELSEWHERE. ROOF SHEATHING SHALL BE FASTENED TO FRAMING WITH 10d COMMON NAILS. UNLESS NOTED OTHERWISE, FASTENERS OF SHEATHING TO FRAMING SHALL BE SPACED @ 6" O.C. AT SUPPORTED SHEATHING PANEL EDGES AND AT ALL DIAPHRAGM BOUNDARIES (PERIMETER OF FLOOR/ROOF; PERIMETER OF ALL OPENINGS; AND ALL RIDGES, VALLEYS, HIPS, AND OTHER CHANGES IN SLOPE) AND @ 12" O.C. ELSEWHERE.
3. USE PLY CLIPS OR OTHER EDGE SUPPORT AS REQUIRED FOR PLYWOOD SHEATHING.
4. LEAVE 1/16" SPACE AT ALL PLYWOOD PANEL END JOINTS AND 1/8" SPACE AT ALL PANEL EDGE JOINTS.

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DESIGNED: JCT / EB / PA CADD: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S0.1	TITLE OF SHEET STRUCTURAL GENERAL NOTES HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 89 OF 153

STANDARD ABBREVIATIONS

ACT.	ACTUAL
ADD'L	ADDITIONAL
ADJ.	ADJACENT
A/E	DESIGN TEAM OF RECORD
ALT.	ALTERNATE
ANCH.	ANCHOR
APPROX.	APPROXIMATE/APPROXIMATELY
ARCH.	ARCHITECT/ARCHITECTURAL
BLDG.	BUILDING
BM.	BEAM
B.O.	BOTTOM OF
BOT.	BOTTOM
BRG.	BEARING
BSMT.	BASEMENT
CANT.	CANTILEVER
CFS	COLD FORMED STEEL
C.I.	CAST IRON
C.I.P.	CAST IN PLACE
C.J.	CONTRACTION JOINT
CLG.	CEILING
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
COMP.	COMPOSITE
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
COORD.	COORDINATE/COORDINATION
CONTR.	CONTRACTOR
COTR	CONTRACT OFFICER'S TECHNICAL REPRESENTATIVE
CTR.	CENTER
DBL.	DOUBLE
DEMO	DEMOLITION/DEMOLISH
DIA.	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
D.L.	DEAD LOAD
DN.	DOWN
DTL.	DETAIL
DWG(S)	DRAWING(S)
DWL.	DOWEL
(E)	EXISTING MEMBER OR DIMENSION
EA.	EACH
E.F.	EACH FACE
E.J.	EXPANSION JOINT
EL.	ELEVATION
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EMBED.	EMBEDMENT
E.O.	EDGE OF
ENGR.	ENGINEER
E.O.R.	ENGINEER OF RECORD
EQ.	EQUAL
E.S.	EACH SIDE
E.W.	EACH WAY
EXIST.	EXISTING
EXP.	EXPANSION
EXT.	EXTERIOR
FDN.	FOUNDATION
FIN.	FINISH
FLR.	FLOOR
FRMG.	FRAMING
F.S.	FAR SIDE
FT.	FEET
FTG.	FOOTING
GA.	GAGE
GALV.	GALVANIZED
G.B.	GRADE BEAM
GLULAM	GLUE LAMINATED TIMBER
HDR.	HEADER
HGR.	HANGER
HORIZ.	HORIZONTAL
H.P.	HIGH POINT
HT.	HEIGHT
HVAC	HEATING, VENTILATION, & AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
I.D.	INSIDE DIAMETER
I.F.	INSIDE FACE
I.J.	ISOLATION JOINT
INFO	INFORMATION
INT.	INTERIOR
JT.	JOINT
K	KIP
LB.	POUND
L.L.	LIVE LOAD
LLBB	LONG LEGS BACK-TO-BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
L.P.	LOW POINT
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
L.W.	LIGHTWEIGHT
L.W.	LONG WAY
MAS.	MASONRY
MAX.	MAXIMUM
MECH.	MECHANICAL
MEP	MECH., ELECT., PLUMBING, & FIRE PROTECTION
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MPII	MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS
N.F.	NEAR FACE
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
NOM.	NOMINAL
N.S.	NEAR SIDE
N.T.S.	NOT TO SCALE
N.W.	NORMAL WEIGHT
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OPNG.	OPENING
OPP.	OPPOSITE
PC.	PIECE
P/C	PRECAST
PED.	PEDESTAL
PERP.	PERPENDICULAR
PL.	PLATE
PLF	POUNDS PER LINEAR FOOT
PREFAB.	PREFABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
P.T.	PRESERVATIVE TREATED
P-T	POST-TENSIONED
REINF.	REINFORCE(D)/REINFORCEMENT
REQ'D	REQUIRED
REV.	REVISION
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
SECT.	SECTION
S.I.F.	STEP IN FOOTING
SLBB	SHORT LEGS BACK-TO-BACK
SIM.	SIMILAR
S.O.G.	SLAB ON GRADE
SPEC.	SPECIFICATION
SQ.	SQUARE
S.S.	STAINLESS STEEL
STD.	STANDARD
STIFF.	STIFFENER
STL.	STEEL
S.W.	SHORT WAY
SYM.	SYMMETRIC
T & B	TOP & BOTTOM
T&G	TONGUE & GROOVE
TEMP.	TEMPORARY/TEMPERATURE
T.C.	TERRACOTA
THK.	THICK(NESS)
T.O.	TOP OF
TR.	TRANSFER
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
U-P	UNDERPINNING
VERT.	VERTICAL
V.I.F.	VERIFY IN FIELD
W/	WITH
W.P	WORK POINT
W.W.R.	WELDED WIRE REINFORCEMENT
#	NUMBER/SIZE
Ø	DIAMETER

DESIGN LOADS AND FACTORS

LIVE LOADS		SNOW LOADS		WIND DESIGN PARAMETERS		SEISMIC DESIGN PARAMETERS	
FLOOR OR ROOF AREA	LOAD (PSF)	LOAD TYPE	LOAD...	PARAMETER	VALUE	PARAMETER	VALUE
ASSEMBLY	100	FLAT ROOF SNOW LOAD	31	ULTIMATE WIND SPEED	118 MPH	SEISMIC DESIGN CATEGORY	B
LIGHT STORAGE	125	WINDWARD DRIFT AGAINST PARAPETS	VARIES	WIND EXPOSURE	D	RISK CATEGORY	II
WPA INFILL MEZZANINE / OFFICE (1)	50					SITE CLASS*	E
ROOF	20					SHORT PERIOD MAP VALUE (Ss)	0.26g
						1.0 SEC. PERIOD MAP VALUE (S1)	0.049g
						SHORT PERIOD DESIGN VALUE (Sds)	0.17g
						1.0 SEC. PERIOD DESIGN VALUE (Sd1)	0.064g
		PARAMETER	VALUE			RESPONSE MODIFICATION (R)	R = 1.5 FOR ORDINARY PLAIN MASONRY SHEARWALLS
		GROUND SNOW LOAD (Pg)	45				R = 3.5 FOR ORDINARY STEEL MOMENT FRAMES
		SNOW EXPOSURE FACTOR (Ce)	0.8				
		THERMAL FACTOR (Ct)	1.2			* BASED ON GEOTECHNICAL REPORT REFERENCED IN GENERAL NOTES	
		TERRAIN EXPOSURE	D				
SPECIAL CONSIDERATIONS:		SPECIAL CONSIDERATIONS:		SPECIAL CONSIDERATIONS:		SPECIAL CONSIDERATIONS:	
(1) 15 PSF PARTITION ALLOWANCE IS ADDED WHERE DESIGN LIVE LOADS ARE LESS THAN 80 PSF.							

FRAMING LUMBER

1. ALL FRAMING LUMBER WORK SHALL CONFORM TO THE FOLLOWING GOVERNING STANDARDS:
   A. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION, "TIMBER CONSTRUCTION MANUAL" LOCALLY APPROVED EDITION.
   B. NATIONAL FOREST PRODUCTS ASSOCIATION "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION," LOCALLY APPROVED EDITION.
2. FRAMING LUMBER SHALL HAVE EACH PIECE GRADE STAMPED, SHALL BE SURFACED DRY (EXCEPT STUDS, WHICH SHALL BE KILN DRIED) AND SHALL CONFORM TO THE FOLLOWING SPECIES AND GRADE: RAFTERS AND JOISTS: DOUGLAS FIR-LARCH # 2 OR HEM FIR #2 BEAMS, GIRDERS AND HEADERS: DOUGLAS FIR-LARCH #1 OR HEM FIR #1, STUDS AND PLATES: DOUGLAS FIR-LARCH #2 OR HEM FIR #2
3. PRESERVATIVE-TREATED WOOD: PROVIDE TREATED DOUG-FIR #2 LUMBER COMPLYING WITH ACQ-D (CARBONATE). COPPER AZOLE (CA-B), OR SODIUM BORATE (SBX (DOT) WITH NaS10/2) AT ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY, OR AS OTHERWISE INDICATED ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. ACZA TREATMENT IS NOT PERMITTED. TREATED LUMBER AND/OR PLYWOOD SHALL BEAR THE LABEL OF AN ACCREDITED AGENCY SHOWING 0.40 PCF RETENTION. WHERE LUMBER AND/OR PLYWOOD IS CUT OR DRILLED AFTER TREATMENT, THE TREATED SURFACE SHALL BE FIELD-TREATED WITH COPPER NAPTHENATE (THE CONCENTRATION OF WHICH SHALL CONTAIN A MINIMUM OF 2% COPPER METAL) BY REPEATED BRUSHING, DIPPING, OR SOAKING UNTIL THE WOOD ABSORBS NO MORE PRESERVATIVE.
4. ALL WOOD FRAMING INCLUDING DETAILS FOR BRIDGING, BLOCKING, FIRE STOPPING, ETC., SHALL CONFORM TO THE LOCALLY APPROVED EDITION OF THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" AND ITS SUPPLEMENTS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE NFPA "MANUAL FOR HOUSE FRAMING" OR THE GOVERNING LOCAL/STATE BUILDING CODE.
5. FASTENING SHALL BE IN ACCORDANCE WITH THE MOST RESTRICTIVE OF: THE GOVERNING LOCAL/STATE BUILDING CODE, (LOCALLY APPROVED EDITION), OR THE MANUFACTURER'S RECOMMENDED FASTENING SCHEDULES.
6. ALL FLUSH FRAMED CONNECTIONS SHALL BE MADE WITH APPROVED GALVANIZED STEEL JOIST OR BEAM HANGERS, MINIMUM 18 GAUGE, INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. WHERE FRAMING LUMBER IS FLUSH FRAMED TO MICROLLAM, STEEL OR FLITCH-PLATE GIRDER, SET THESE GIRDERS 1/2" CLEAR (MIN.) BELOW TOP OF FRAMING LUMBER, TO ALLOW FOR SHRINKAGE.
8. USE DOUBLE TRIMMERS AND HEADERS AT ALL FLOOR OPENINGS WHERE BEAMS ARE NOT DESIGNATED.
9. PROVIDE CROSS BRIDGING AT A MAXIMUM OF 8' O/C.
10. BUILT UP BEAMS LESS THAN 8" DEEP SHALL BE SPIKED TOGETHER WITH 2 - 16D NAILS @16"o/c. BUILT UP BEAMS GREATER THAN 8" DEEP SHALL BE SPIKED TOGETHER WITH 3 - 16D NAILS @16" O/C.
11. NO NEW OR EXISTING JOISTS SHALL BE CUT OR NOTCHED WITHOUT APPROVAL.
12. ALL LIGHT-GAUGE HANGERS SUPPORTING PRESERVATIVE TREATED WOOD SHALL MEET OR EXCEED G185 (1.85 OZ OF ZINC PER SQUARE FOOT). ALTERNATIVELY, STAINLESS STEEL CONNECTIONS MAY BE USED. FASTENERS SHALL MATCH THE HANGER FINISH AND MATERIAL.
13. ALL SILL PLATES SHALL BE PRESSURE TREATED AND ANCHORED TO FOUNDATION WALLS WITH 1/2" DIA. HEADED ANCHOR BOLTS (ASTM F1554) @ 4'-0" O/C. AND WITHIN 12" OF ALL SILL PLATES SPLICES. (MIN, 7" EMBED.)

SPECIAL INSPECTIONS & TESTS

1. SPECIAL INSPECTIONS AND TESTS SHALL BE PERFORMED BY A THIRD PARTY TESTING / INSPECTION AGENCY PROVIDED BY THE CONTRACTOR FOR THE FOLLOWING ITEMS:
   A. SOILS (PER IBC 1705.6 AND THE APPROVED GEOTECHNICAL REPORT)
   B. STEEL CONSTRUCTION (PER IBC 1705.2 AND AISC 360)
   C. CONCRETE CONSTRUCTION (PER IBC 1705.3 AND ACI 318)
      a. POST-INSTALLED ADHESIVE ANCHORS IN HARDENED CONCRETE IN ACCORDANCE WITH THE CODE EVALUATION REPORT FOR THE PRODUCT (ICC ESR-4868 FOR HILTI HIT-HY 200 V3 ADHESIVE).
   D. MASONRY CONSTRUCTION (PER IBC 1705.4 AND TMS 402/602). MASONRY SPECIAL INSPECTIONS AND TESTS SHALL BE PERFORMED FOR QUALITY ASSURANCE LEVEL 2 PER TMS 602.
      a. POST-INSTALLED ADHESIVE ANCHORS IN UNREINFORCED MASONRY IN ACCORDANCE WITH THE CODE EVALUATION REPORT FOR THE PRODUCT (ICC ESR-4144 FOR HILTI HIT-HY 270 ADHESIVE) AND THE IEBC. PER ESR-4144 AND IEBC A107.4 & A107.5 FOR ANCHORS RESISTING TENSION OR A COMBINATION OF SHEAR AND TENSION (CONFIGURATION "B" PER ESR-4144), IN ADDITION TO PERIODIC SPECIAL INSPECTION, 5% OF THE ANCHORS SHALL BE SUBJECT TO A DIRECT-TENSION TEST PER IEBC A107.5.1, AND 20% SHALL BE TESTED USING A CALIBRATED TORQUE WRENCH PER IEBC A107.5.2. DIRECT TENSION TESTS SHALL SUBJECT THE ANCHOR TO 2.5 TIMES THE DESIGN LOAD OF 1200 LB (= 3000 LB) PER IEBC A107.5.1. FOR ANCHORS RESISTING SHEAR ONLY (CONFIGURATION "A" PER ESR-4144), CONTINUOUS SPECIAL INSPECTION (WITHOUT TESTING) IS PERMITTED IN LIEU OF PERIODIC INSPECTION COMBINED WITH TESTING PER IEBC A107.4.
      b. POST-INSTALLED SCREW ANCHORS IN UNREINFORCED MASONRY IN ACCORDANCE WITH THE CODE EVALUATION REPORT FOR THE PRODUCT (ICC ESR-5183 FOR PYTHON MT URM SCREW ANCHORS) AND THE IEBC. IN ADDITION TO PERIODIC SPECIAL INSPECTION, DIRECT-TENSION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH ESR-5183 SECTIONS 4.3 AND 4.4. DIRECT-TENSION TEST METHOD SHALL BE IN ACCORDANCE WITH ASTM E3121. PER ESR-5183 SECTION 4.4 AND IEBC A107.5.1, DIRECT-TENSION TESTS SHALL SUBJECT THE ANCHOR TO 2.5 TIMES THE DESIGN LOAD. THE DESIGN LOAD FOR SCREW ANCHORS WITH LESS THAN 6.5" EMBEDMENT AND LESS THAN 16" EDGE DISTANCE IN MASONRY IS 636 LB. THE DESIGN LOAD FOR SCREW ANCHORS WITH EMBEDMENT GREATER THAN OR EQUAL TO 6.5", BUT LESS THAN 8", WITH EDGE DISTANCE GREATER THAN OR EQUAL TO 16", IS 1135 LB.
   E. ALL OTHER POST-INSTALLED ANCHORS IN ACCORDANCE WITH THE ICC CODE EVALUATION REPORT FOR THE PRODUCT.
   F. SEE STATEMENT OF SPECIAL INSPECTION AND TESTS FOR MORE DETAILED REQUIREMENTS FOR EACH ITEM.
2. WHERE REQUIRED BY IBC 1704.6, STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY A REGISTERED DESIGN PROFESSIONAL PROVIDED BY THE CONTRACTOR. STRUCTURAL OBSERVATIONS ARE LIMITED TO THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM(S), DETAILS, AND LOAD PATHS FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AND ARE NOT A SUBSITUTE FOR INSPECTIONS PER IBC 110 OR SPECIAL INSPECTIONS AND TESTS PER IBC 1705.
3. TESTING / INSPECTION AGENCY SHALL FILE ALL REQUIRED REPORTS WITH THE AUTHORITY HAVING JURISDICTION / BUILDING OFFICIAL.
4. SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO ANY INSPECTIONS BY THE AUTHORITY HAVING JURISDICTION / BUILDING OFFICIAL PER IBC 110.

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DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S0.2	STRUCTURAL GENERAL NOTES	646 190066
TECH. REVIEW: NF			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 90 OF 153

KEYNOTE LEGEND (MASTER)	
03-01	SAW CUT AND LOCALLY REMOVE EXISTING CONCRETE SLAB ON GRADE. TRENCH SOIL TO INSTALL UNDER-SLAB UTILITIES WHERE APPLICABLE. PROVIDE COMPACTED, CRUSHED STONE TO BOTTOM OF SLAB ELEVATION WITHOUT DAMAGING PIPING (WHERE PRESENT). PATCH SLAB ON GRADE PER TYPICAL DETAILS 1 & 3/S5.1.
03-02	REPLACE PORTION OF EXISTING SLAB ON GRADE AT AREAS OF SIGNIFICANT RELATIVE SETTLEMENT OR PROVIDE NEW SLAB PER TYPICAL DETAIL 1/S5.1.
03-03	PEFORM CONCRETE REPAIRS IN EXISTING ROOF SLAB OR WHERE INDICATED PER TYPICAL DETAILS 1/S6.5 AND 2/S6.5. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REPAIRS.
03-04	PERFORM EPOXY INJECTION REPAIRS PER TYPICAL DETAIL 4/S6.5.
03-05	BELOW SLAB PIPING PER MEP DRAWINGS. LOCATE BELOW EXISTING GRADE BEAM PER DETAIL 4/S5.1.
04-01	INSTALL STAINLESS STEEL JOINT REINFORCING WITHIN BRICK JOINTS PER NOTES ON ELEVATIONS AND HELIBAR JOINT REINFORCEMENT INSTALLATION PROCEDURE ON S6.4. REINFORCING IN EXISTING MASONRY SHALL BE 6 MM DIAMETER HELIBARS OR APPROVED EQUAL. WHERE MASONRY IS TO BE REBUILT, (1) D2 DEFORMED WIRE SHALL BE SUBSTITUTED FOR (2) HELIBARS AND LAID IN THE MORTAR JOINT WITH 5/8" CLEAR MORTAR COVER AND 2'-0" LAP WHERE REQUIRED.
04-02	REBUILD MASONRY ARCH USING SALVAGED MASONRY UNITS AND COMPATIBLE MORTAR.
04-03	REBUILD / REPAIR BRICK MASONRY PER TYPICAL DETAIL 3/S6.4. SEE ARCHITECTURAL DRAWINGS FOR EXTENTS AND ADDITIONAL INFORMATION.
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-02	EXPOSE EXISTING LINTEL BEARING BY REMOVING SURROUNDING BRICK MASONRY. WIRE BRUSH CLEAN TO BARE METAL TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. IF NO OR MINIMAL SECTION LOSS IS OBSERVED, COAT ALL EXPOSED LINTEL SURFACES WITH ZINC-RICH, RUST-INHIBITING PAINT. IF SECTION LOSS IS OBSERVED, REPLACE OUTER WYTHE LINTEL WITH HOT-DIPPED GALVANIZED LINTEL TO MATCH EXISTING GEOMETRY (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS.
05-03	TEMPORARILY SHORE BRICK MASONRY ABOVE LINTEL WHERE REQUIRED. REMOVE BRICK MASONRY AROUND CORRODED LINTEL AND REPLACE LINTEL WITH HOT-DIPPED GALVANIZED ANGLES TO MATCH EXISTING IN SIZE (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS. SEE ARCHITECTURAL ELEVATIONS FOR EXTENTS OF MASONRY REBUILDING.
05-04	REMOVE MASONRY ENCASEMENT AT BEAM POCKET TO FULLY EXPOSE BEAM END AND BEARING PLATE. CLEAN ALL STEEL PER 05-01 AND REINFORCE DETERIORATED BEAM END WITH WELDED STEEL PLATES PER DETAILS ON S6.2. REPLACE BEARING PLATE WHERE REQUIRED. COAT BEAM END AND BEARING PLATE WITH ZINC-RICH, RUST-INHIBITING PAINT PRIOR TO PATCHING MASONRY.
05-05	REPLACE DETERIORATED HANGAR DOOR ALUMINUM FRAMING MEMBER IN KIND. SEE DETAILS ON S7.2 FOR DIMENSIONS.
05-06	REPLACE DETERIORATED HANGAR DOOR ALUMINUM CONNECTING ANGLE AND BOLTS IN KIND. INCORPORATE NEOPRENE WASHERS IN BOLTED CONNECTIONS TO PREVENT GALVANIC CORROSION OF DISSIMILAR METALS. SEE DETAILS ON S7.2 FOR INFORMATION.
05-07	REPLACE CORRODED HANGAR DOOR RAILS IN KIND PER DETAIL 4/S5.2.
05-08	CLEAN ALL EXPOSED COLUMN SURFACES OF SURFACE CORROSION AND RUST SCALING DEPOSITS. COAT COLUMN WITH INTUMESCENT PAINT PER PROJECT SPECIFICATIONS, SECTION 09 96 00, UP TO TRUSS BOTTOM CHORD LEVEL.
05-09	REMOVE CONCRETE ENCASEMENT AT COLUMN BASE, CLEAN STEEL PER 05-01, AND REINFORCE COLUMN BASE AS REQUIRED WITH WELDED STEEL PLATES PER DETAILS ON S6.1.
05-10	REMOVE MASONRY ENCASEMENT ALONG COLUMN, CLEAN STEEL PER 05-01, AND REINFORCE DETERIORATE SECTION OF COLUMN AS REQUIRED WITH WELDED STEEL PLATES.
05-11	REMOVE LOOSE CONCRETE ENCASEMENT ON STEEL BEAM. CLEAN EXPOSED SURFACES OF BEAM OF ALL RUST AND COAT WITH ZINC-RICH, RUST-INHIBITING PAINT. REPAIR CONCRETE ENCASEMENT PER TYPICAL DETAIL 3/S6.5.
05-12	REMOVE MASONRY ENCASEMENT AT COLUMN TO FULLY EXPOSE COLUMN FLANGES AND WEB. CLEAN ALL STEEL PER 05-01. COAT COLUMN WITH INTUMESCENT PAINT UP TO TRUSS BOTTOM CHORD LEVEL PER ARCHITECTURAL SPECIFICATIONS PRIOR TO PATCHING MASONRY.
05-13	EXTREME SECTION LOSS AT EXISTING CLERESTORY BEAM WEB. CLEAN ALL STEEL PER 05-01. REINFORCE DETERIORATED BEAM WEB WITH WELDED STEEL PLATES PER TYPICAL DETAIL 3/S6.2. COAT BEAM WITH ZINC-RICH, RUST-INHIBITING PAINT PER ARCHITECTURAL SPECIFICATIONS. PROVIDE UNIT COST FOR REPAIRS.
06-01	REPLACE EXISTING ROOF DECKING WITH NEW 2x (1-1/2" THICK) TONGUE AND GROOVE ROOF DECKING. OVERLAY WITH 15/32" PLYWOOD SHEATHING. SHEATHING PANELS SHALL BE INSTALLED WITH LONG DIMENSION PERPENDICULAR TO DECKING. SEE GENERAL NOTES FOR MATERIAL INFORMATION AND FASTENERS. ASSUME 100% REPLACEMENT OF ROOF DECKING FOR PRICING.
06-02	REPLACE EXISTING NAILERS WITH NEW (2)2x4 NAILERS BOLTED TO PURLINS. RE-USE EXISTING 1/2" DIAMETER BOLTS WHERE IN GOOD CONDITION. REPLACE DETERIORATED BOLTS IN KIND. SEE TYP. DETAIL 3/S6.6. ASSUME 100% REPLACEMENT OF NAILERS AND 100% REPLACEMENT OF BOLTS FOR PRICING.
09-01	COAT STRUCTURAL STEEL SUPPORTING MEMBER AT FIRE-RESISTANCE-RATED SPACES WITH INTUMESCENT PAINT PER THE PROJECT SPECIFICATIONS, SECTION 09 96 00.
A	HANGAR DOOR FRAMING MEMBER REPLACEMENT IN KIND. USE SALVAGED MEMBER FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
B	HANGAR DOOR MULLION MEMBER REPLACEMENT IN KIND. LENGTH NOTED INDICATES EXISTING DETERIORATION FROM BASE OF DOOR. USE SALVAGED MEMBERS FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
C	CONNECTION REPLACEMENT IN KIND. SEE DWG. S7.2 FOR CONNECTION DETAILS. USE SALVAGED CONNECTION FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
D	WHEEL CONNECTION REPLACEMENT IN KIND.
E	REPLACE ALL MEMBERS AND CONNECTIONS @ BOTTOM OF DOOR IN KIND (EXCEPT SMALL VERTICAL MEMBERS). USE SALVAGED MEMBERS FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
F	HANGAR DOOR MULLION MEMBER REPLACEMENT IN KIND AT EXISTING SPLICE (AT 3'-0" FROM BASE U.N.O.). USE SALVAGED MEMBER FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
G	HANGAR DOOR MULLION MEMBER REPLACEMENT IN KIND AT BENT MULLION. USE SALVAGED MEMBER FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
H	DOOR PULL DETERIORATED, SEE ARCHITECTURAL DRAWINGS.

CONCRETE MIX DESIGN SCHEDULE (PER ACI 318-19)

LOCATION	EXPOSURE CATEGORIES & CLASS				MIX PROPERTIES						
	FREEZING/THAWING (F)	SULFATE (S)	IN CONTACT WITH WATE...	CORROSION (C)	MAX AGGREGATE (IN)	MAX WATER/CEMENT	MIN f'c (PSI)	MIN. AIR CONTENT (+ 1.5%)	MAX CI (% WT. CEMENT)	SLUMP (INCHES)	OTHER
FOUNDATIONS	F1	S0	W1	C1	.75	.45	4500	5%	0.15	5	
INTERIOR SLABS ON GRADE	F0	S0	W1	C0	.75	.45	4000	0%	0.15	4	
EXTERIOR SLABS ON GRADE	F3	S0	W1	C2	.75	.40	5000	7%	0.15	4	
NOTE: AT AREAS OF SLABS TO RECEIVE HARD-TROWEL FINISH, CONTRACTOR TO ELIMINATE AIR CONTENT/ENTRAINMENT											

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.	
CADD: MAS	S0.3	SCHEDULES AND LEGENDS	646 190066	
TECH. REVIEW: NF			PMIS/PKG NO. GATE 308504	
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 91 OF 153	

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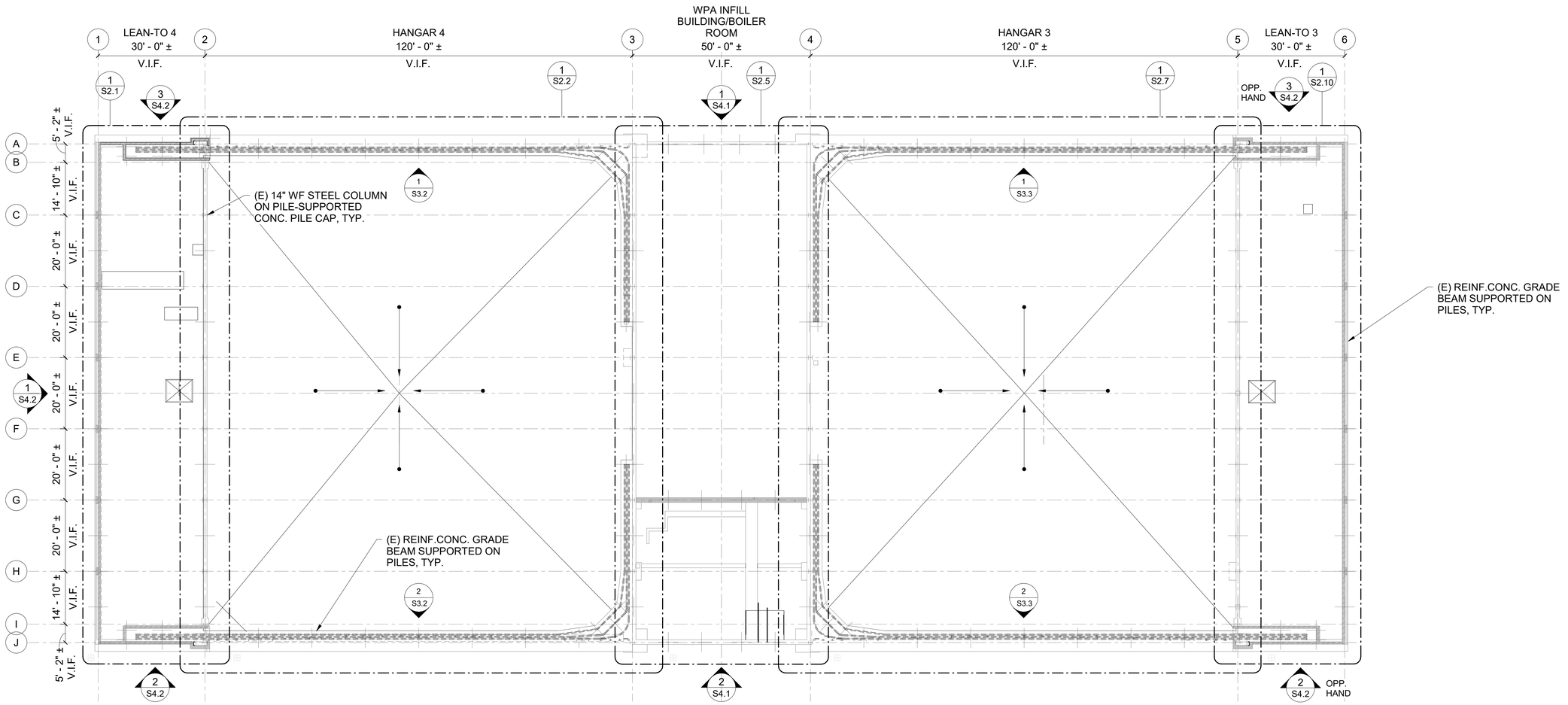

1 S1.0 FOUNDATION - GROUND FLOOR OVERALL PLAN

SCALE A

SCALE A 16' 8' 0' 16' 32'

SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET: FOUNDATION - GROUND FLOOR OVERALL PLAN	DRAWING NO. 646 190066
CADD: MAS	S1.0		PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF			SHEET 92 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	

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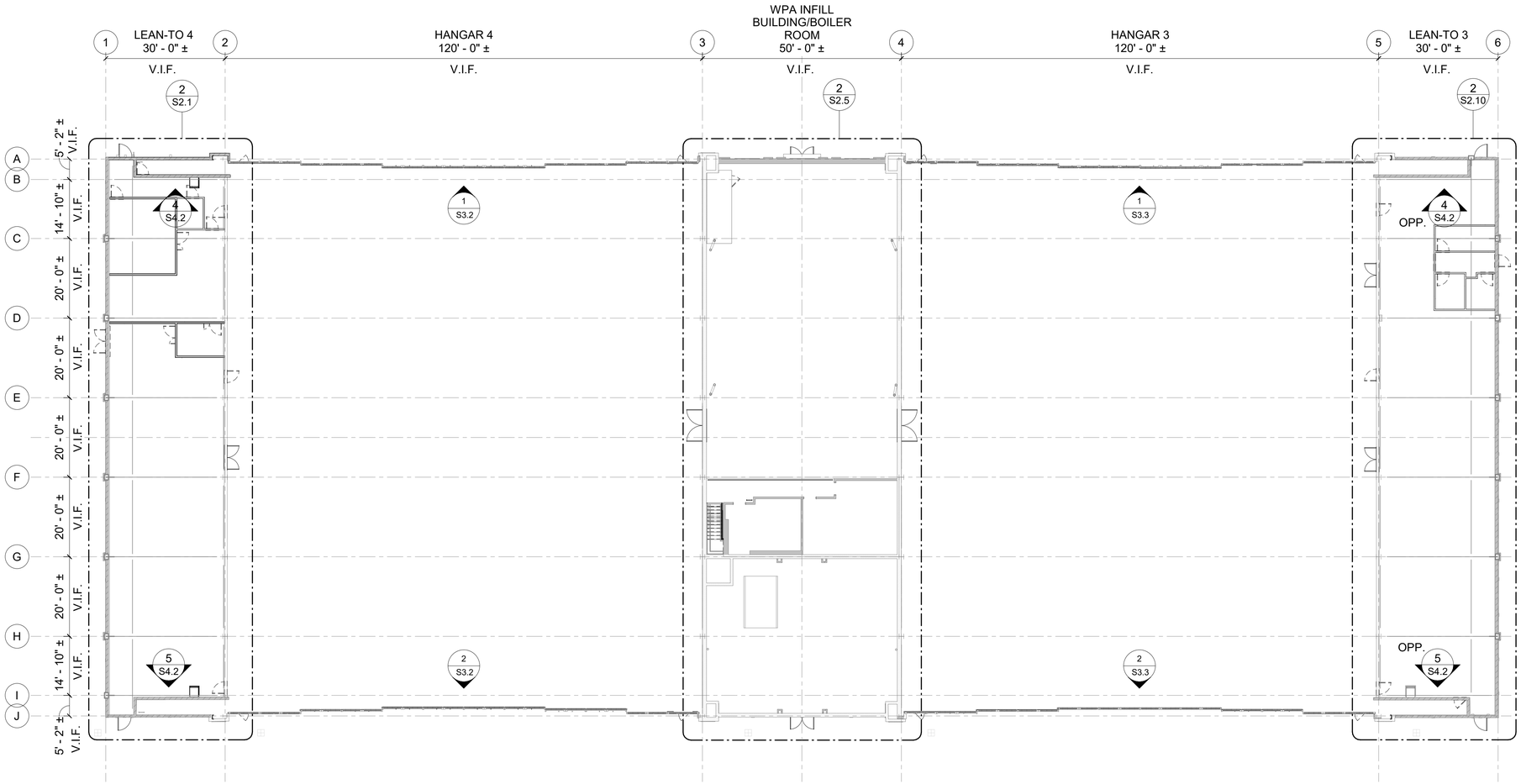

1 S1.1 LEAN-TO ROOF AND WPA INFILL MEZZANINE OVERALL FRAMING PLAN
SCALE Ⓐ

SCALE Ⓐ 16' 8' 0' 16' 32'
SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA CADD: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S1.1	TITLE OF SHEET LEAN-TO ROOF AND WPA INFILL MEZZANINE OVERALL FRAMING PLAN HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 93 OF 153

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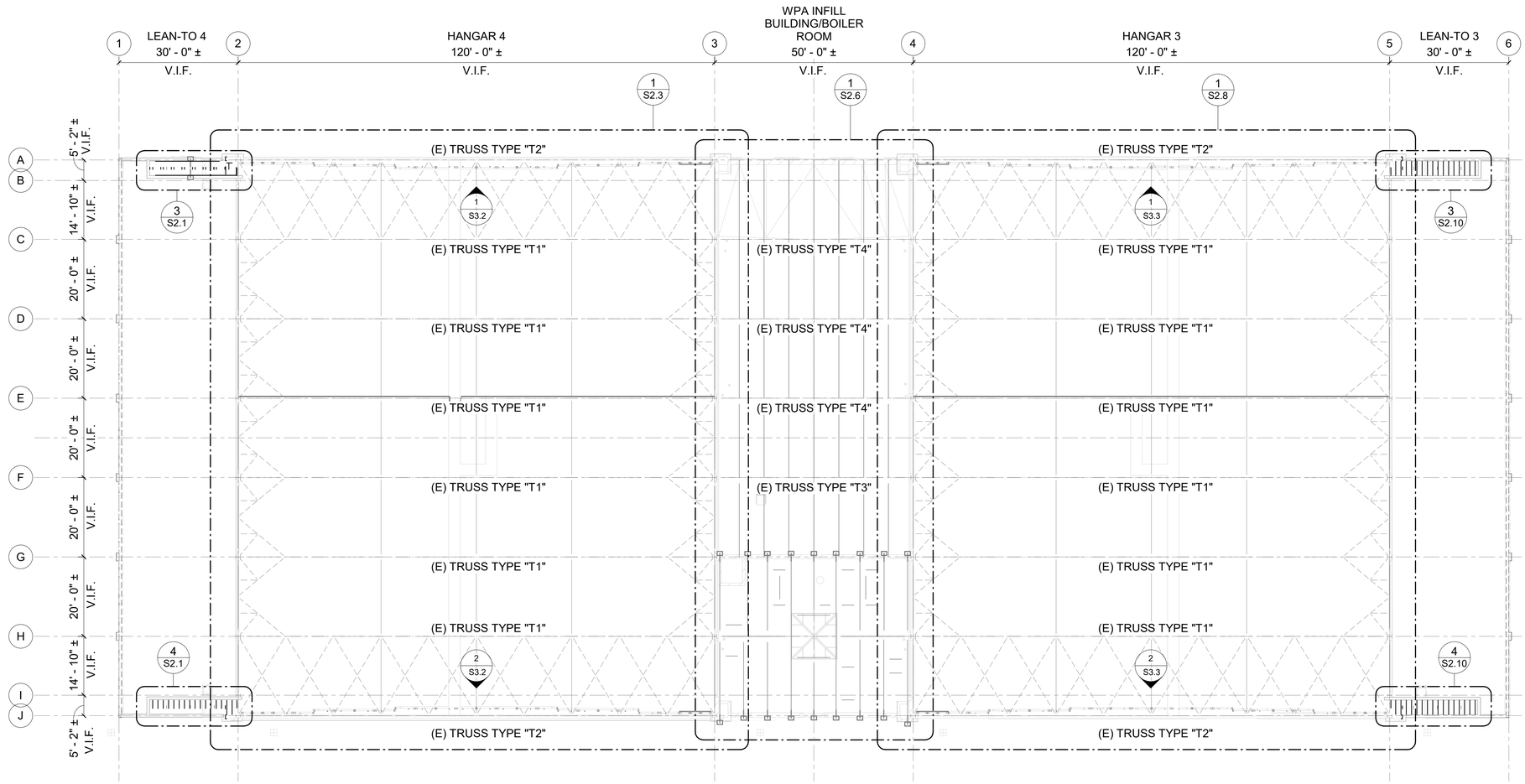

1 S1.2 HANGAR ROOF TRUSS BOTTOM CHORD LEVEL OVERALL FRAMING PLAN

SCALE Ⓐ

SCALE Ⓐ 16' 8' 0' 16' 32'

SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S1.2	HANGAR ROOF TRUSS BOTTOM CHORD LEVEL OVERALL FRAMING PLAN	646 190066
TECH. REVIEW: NF		HANGARS 3 & 4 REHABILITATION	PMIS/PKG NO. GATE 308504
DATE: 12/19/2025			SHEET 94 OF 153

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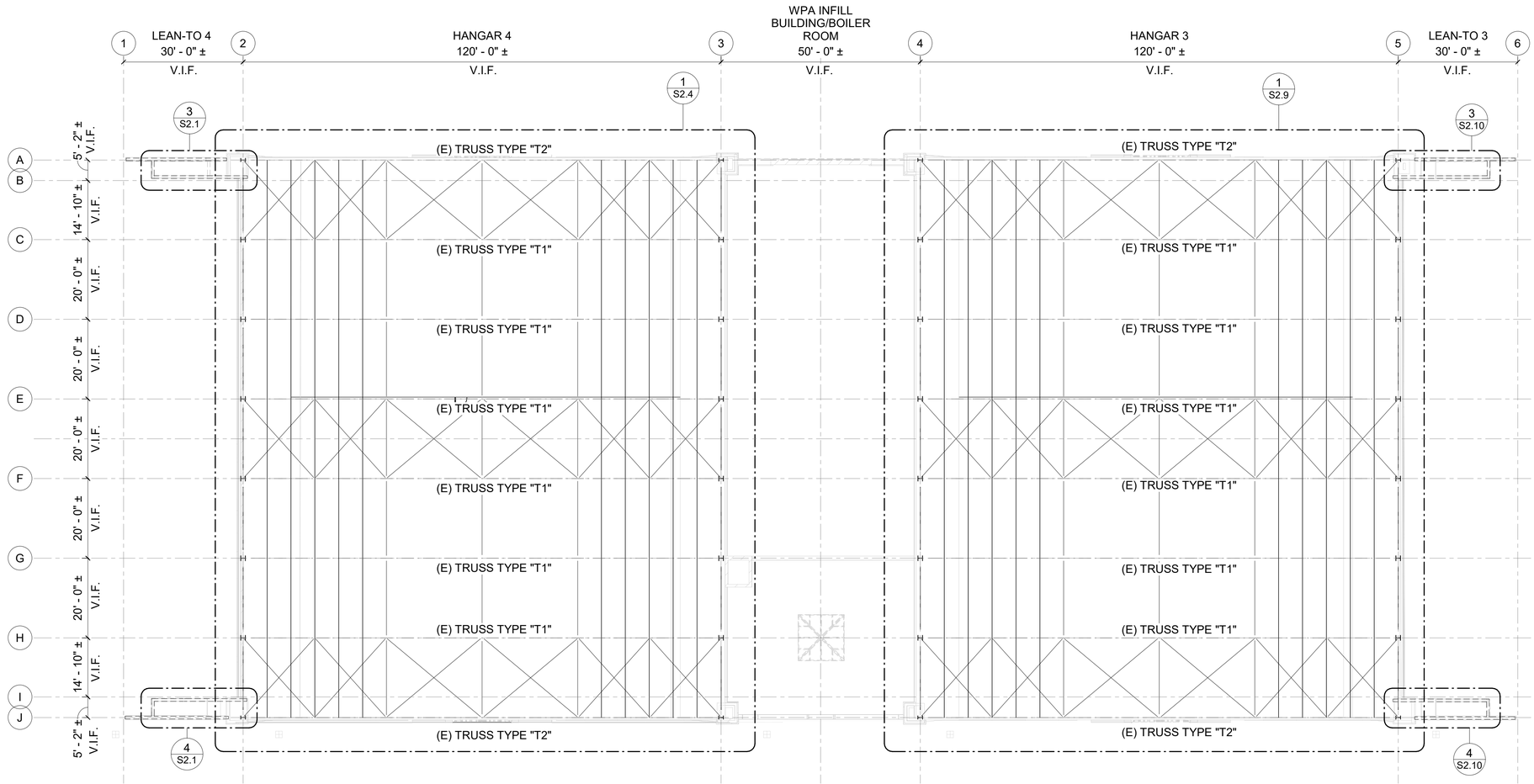

1 S1.3 HANGAR ROOF TRUSS TOP CHORD LEVEL OVERALL FRAMING PLAN

SCALE Ⓐ

SCALE Ⓐ 16' 8' 0' 16' 32'

SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO. S1.3	TITLE OF SHEET: HANGAR ROOF TRUSS TOP CHORD LEVEL OVERALL FRAMING PLAN — HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066
CADD: MAS			PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF			SHEET 95 OF 153
DATE: 12/19/2025			

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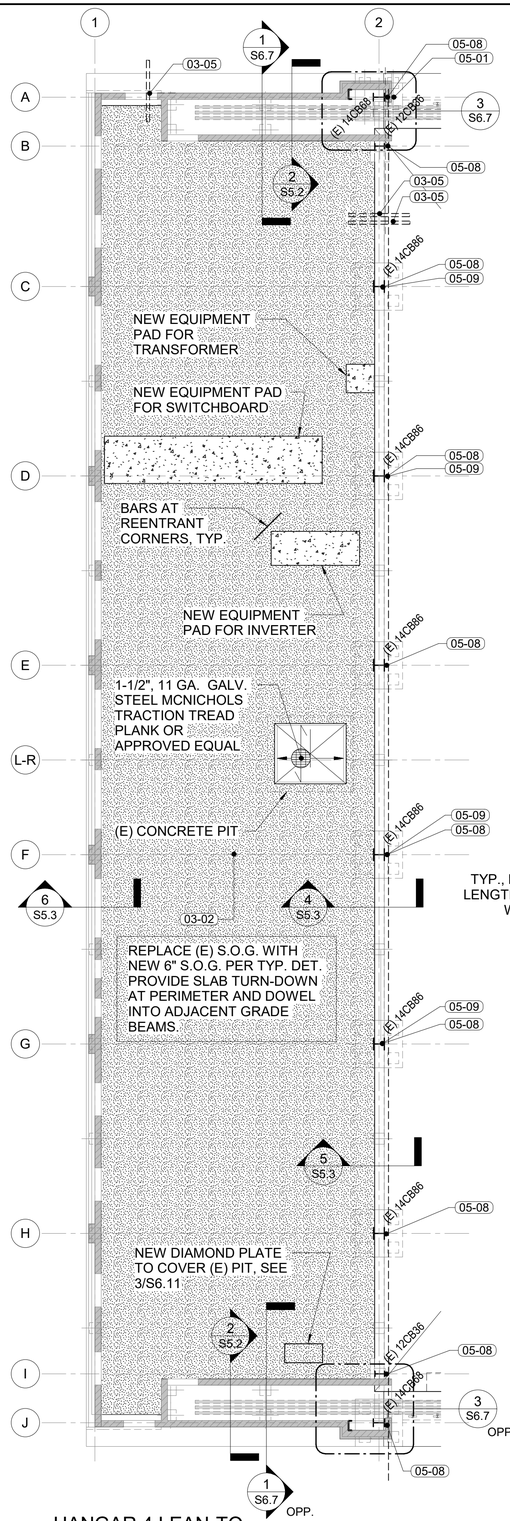
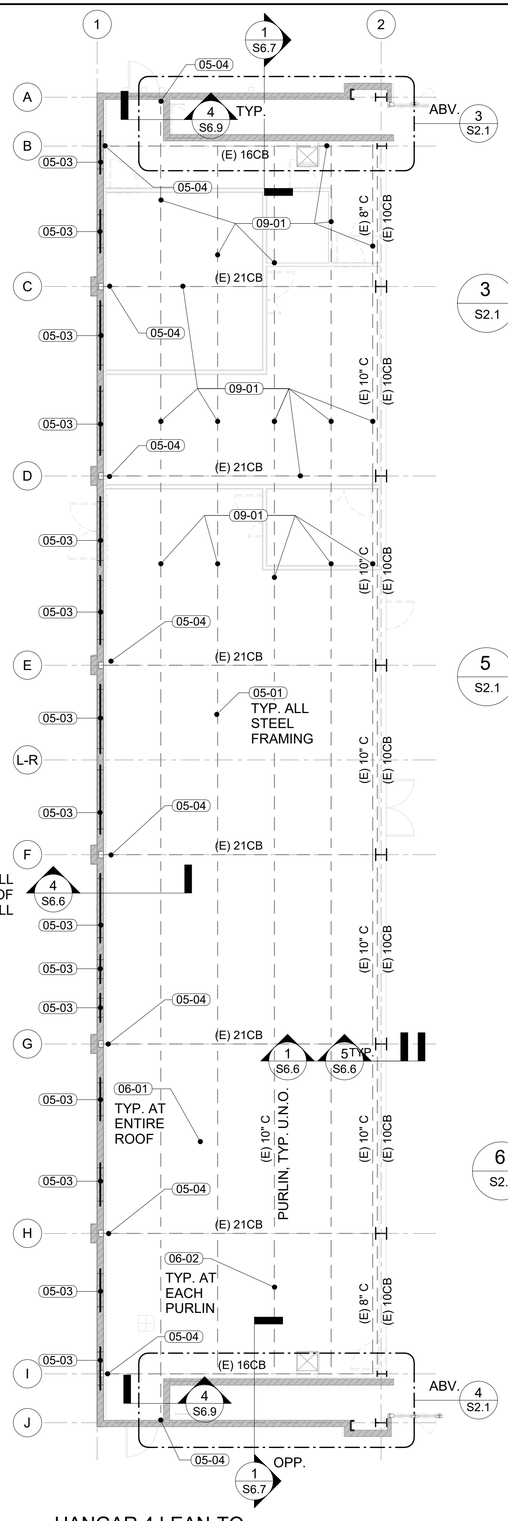
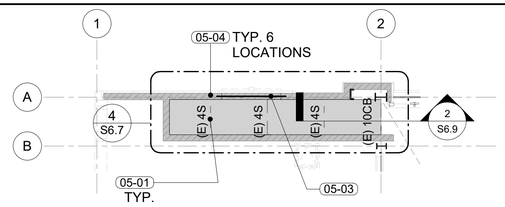


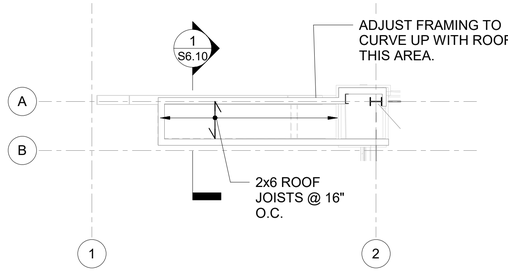
1 S2.1 HANGAR 4 LEAN-TO FOUNDATION / GROUND FLOOR PLAN
SCALE B



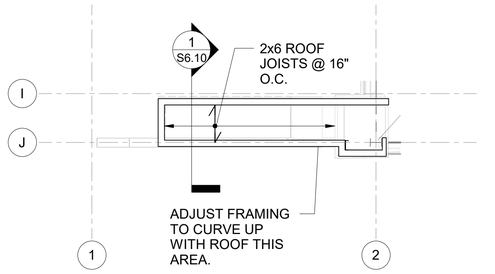
2 S2.1 HANGAR 4 LEAN-TO ROOF FRAMING PLAN
SCALE B



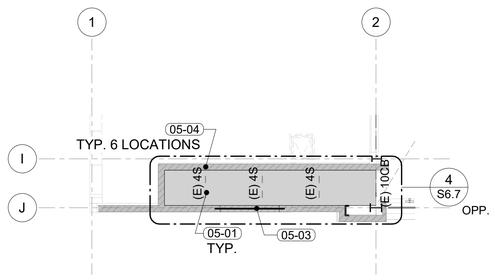
3 S2.1 PART PLAN (ABOVE) TRACK SUPPORT AT HANGAR DOOR POCKET
SCALE B



5 S2.1 PART PLAN HANGAR DOOR POCKET ROOF FRAMING
SCALE B



6 S2.1 PART PLAN HANGAR DOOR POCKET ROOF FRAMING
SCALE B



4 S2.1 PART PLAN (ABOVE) TRACK SUPPORT AT HANGAR DOOR POCKET
SCALE B

KEYNOTE LEGEND	
03-02	REPLACE PORTION OF EXISTING SLAB ON GRADE AT AREAS OF SIGNIFICANT RELATIVE SETTLEMENT OR PROVIDE NEW SLAB PER TYPICAL DETAIL 1/S5.1.
03-05	BELOW SLAB PIPING PER MEP DRAWINGS. LOCATE BELOW EXISTING GRADE BEAM PER DETAIL 4/S5.1.
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-03	TEMPORARILY SHORE BRICK MASONRY ABOVE LINTEL WHERE REQUIRED. REMOVE BRICK MASONRY AROUND CORRODED LINTEL AND REPLACE LINTEL WITH HOT-DIPPED GALVANIZED ANGLES TO MATCH EXISTING IN SIZE (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS. SEE ARCHITECTURAL ELEVATIONS FOR EXTENTS OF MASONRY REBUILDING.
05-04	REMOVE MASONRY ENCASEMENT AT BEAM POCKET TO FULLY EXPOSE BEAM END AND BEARING PLATE. CLEAN ALL STEEL PER 05-01 AND REINFORCE DETERIORATED BEAM END WITH WELDED STEEL PLATES PER DETAILS ON S6.2. REPLACE BEARING PLATE WHERE REQUIRED. COAT BEAM END AND BEARING PLATE WITH ZINC-RICH, RUST-INHIBITING PAINT PRIOR TO PATCHING MASONRY.
05-08	CLEAN ALL EXPOSED COLUMN SURFACES OF SURFACE CORROSION AND RUST SCALING DEPOSITS. COAT COLUMN WITH INTUMESCENT PAINT PER PROJECT SPECIFICATIONS, SECTION 09 96 00, UP TO TRUSS BOTTOM CHORD LEVEL.
05-09	REMOVE CONCRETE ENCASEMENT AT COLUMN BASE, CLEAN STEEL PER 05-01, AND REINFORCE COLUMN BASE AS REQUIRED WITH WELDED STEEL PLATES PER DETAILS ON S6.1.
06-01	REPLACE EXISTING ROOF DECKING WITH NEW 2x (1-1/2" THICK) TONGUE AND GROOVE ROOF DECKING. OVERLAY WITH 15/32" PLYWOOD SHEATHING. SHEATHING PANELS SHALL BE INSTALLED WITH LONG DIMENSION PERPENDICULAR TO DECKING. SEE GENERAL NOTES FOR MATERIAL INFORMATION AND FASTENERS. ASSUME 100% REPLACEMENT OF ROOF DECKING FOR PRICING.
06-02	REPLACE EXISTING NAILERS WITH NEW (2)2x4 NAILERS BOLTED TO PURLINS. RE-USE EXISTING 1/2" DIAMETER BOLTS WHERE IN GOOD CONDITION. REPLACE DETERIORATED BOLTS IN KIND. SEE TYP. DETAIL 3/S6.6. ASSUME 100% REPLACEMENT OF NAILERS AND 100% REPLACEMENT OF BOLTS FOR PRICING.
09-01	COAT STRUCTURAL STEEL SUPPORTING MEMBER AT FIRE-RESISTANCE-RATED SPACES WITH INTUMESCENT PAINT PER THE PROJECT SPECIFICATIONS, SECTION 09 96 00.

PLAN NOTES

1. SEE DRAWINGS S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SCHEDULES.
2. DATUM ELEVATION 0'-0" REFERENCES TOP OF GROUND FLOOR (LEVEL 0) ELEVATION 13.73'. ALL ELEVATIONS INDICATED ARE RELATIVE TO THE DATUM ELEVATION.
3. SEE FOUNDATION SECTIONS FOR BOTTOM OF GRADE BEAM AND BOTTOM OF PILE CAP ELEVATIONS.
4. PER THE 1929 DRAWINGS, EXISTING PILES ARE NOTED TO BE 14" SQUARE REINFORCED CONCRETE PILES, 35' DEEP BELOW WALL AND COLUMN FOUNDATIONS AND 15' DEEP BELOW DOOR RAIL FOUNDATIONS. LAYOUT INDICATED ON PLAN IS PER 1929 DRAWINGS AND HAS NOT BEEN VERIFIED IN THE FIELD.
5. SEE DRAWING S5.1 FOR TYPICAL FOUNDATION DETAILS.
6. COORDINATE ALL DIMENSIONS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.
7. COORDINATE ALL SLAB OPENINGS, SLOPES, SLEEVES, DEPRESSIONS, EDGE DIMENSIONS AND CURBS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.
8. COORDINATE ALL EQUIPMENT PADS WITH MEP AND ARCHITECTURAL DRAWINGS.

SCALE B
8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S2.1	HANGAR 4 LEAN-TO FRAMING PLANS	646 190066
TECH. REVIEW: NF			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 96 OF 153

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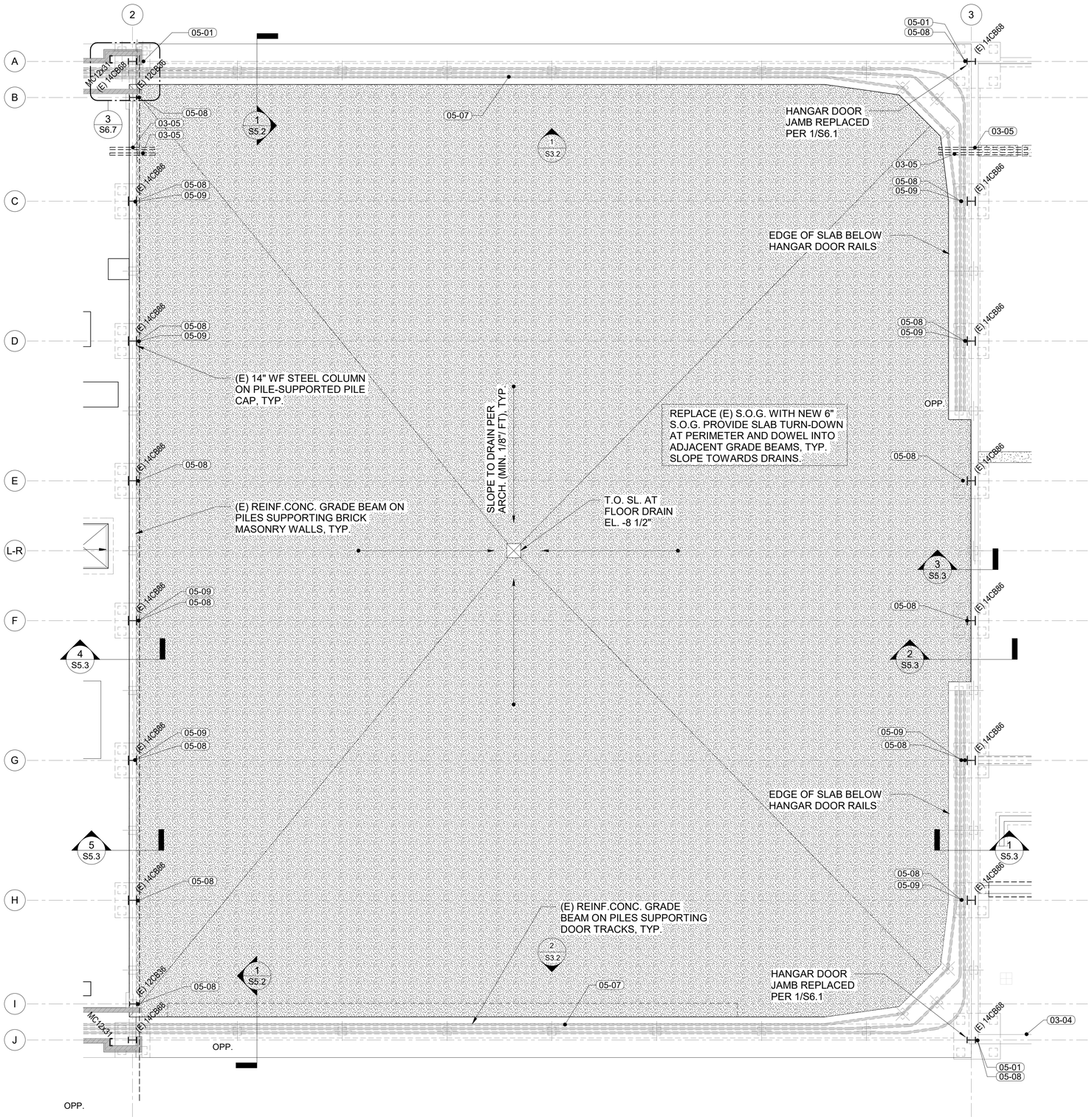

1 S2.2 00 - GROUND FLOOR STRUCTURAL PLAN HANGAR 4

SCALE B

KEYNOTE LEGEND	
03-04	PERFORM EPOXY INJECTION REPAIRS PER TYPICAL DETAIL 4/S6.5.
03-05	BELOW SLAB PIPING PER MEP DRAWINGS. LOCATE BELOW EXISTING GRADE BEAM PER DETAIL 4/S5.1.
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-07	REPLACE CORRODED HANGAR DOOR RAILS IN KIND PER DETAIL 4/S5.2.
05-08	CLEAN ALL EXPOSED COLUMN SURFACES OF SURFACE CORROSION AND RUST SCALING DEPOSITS. COAT COLUMN WITH INTUMESCENT PAINT PER PROJECT SPECIFICATIONS, SECTION 09 96 00, UP TO TRUSS BOTTOM CHORD LEVEL.
05-09	REMOVE CONCRETE ENCASEMENT AT COLUMN BASE, CLEAN STEEL PER 05-01, AND REINFORCE COLUMN BASE AS REQUIRED WITH WELDED STEEL PLATES PER DETAILS ON S6.1.

PLAN NOTES

1. SEE DRAWINGS S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SCHEDULES.
2. DATUM ELEVATION 0'-0" REFERENCES TOP OF GROUND FLOOR (LEVEL 0) ELEVATION 13.73'. ALL ELEVATIONS INDICATED ARE RELATIVE TO THE DATUM ELEVATION.
3. SEE FOUNDATION SECTIONS FOR BOTTOM OF GRADE BEAM AND BOTTOM OF PILE CAP ELEVATIONS.
4. PER THE 1929 DRAWINGS, EXISTING PILES ARE NOTED TO BE 14" SQUARE REINFORCED CONCRETE PILES, 35' DEEP BELOW WALL AND COLUMN FOUNDATIONS AND 15' DEEP BELOW DOOR RAIL FOUNDATIONS. LAYOUT INDICATED ON PLAN IS PER 1929 DRAWINGS AND HAS NOT BEEN VERIFIED IN THE FIELD.
5. SEE DRAWING S5.1 FOR TYPICAL FOUNDATION DETAILS.
6. COORDINATE ALL DIMENSIONS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.
7. COORDINATE ALL SLAB OPENINGS, SLOPES, SLEEVES, DEPRESSIONS, EDGE DIMENSIONS AND CURBS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.
8. COORDINATE ALL EQUIPMENT PADS WITH MEP AND ARCHITECTURAL DRAWINGS.

SCALE B 8' 0' 8' 16' SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO. S2.2	TITLE OF SHEET: HANGAR 4 FOUNDATION / GROUND FLOOR PLAN	DRAWING NO. 646 190066
CADD: MAS			PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF			SHEET 97 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	

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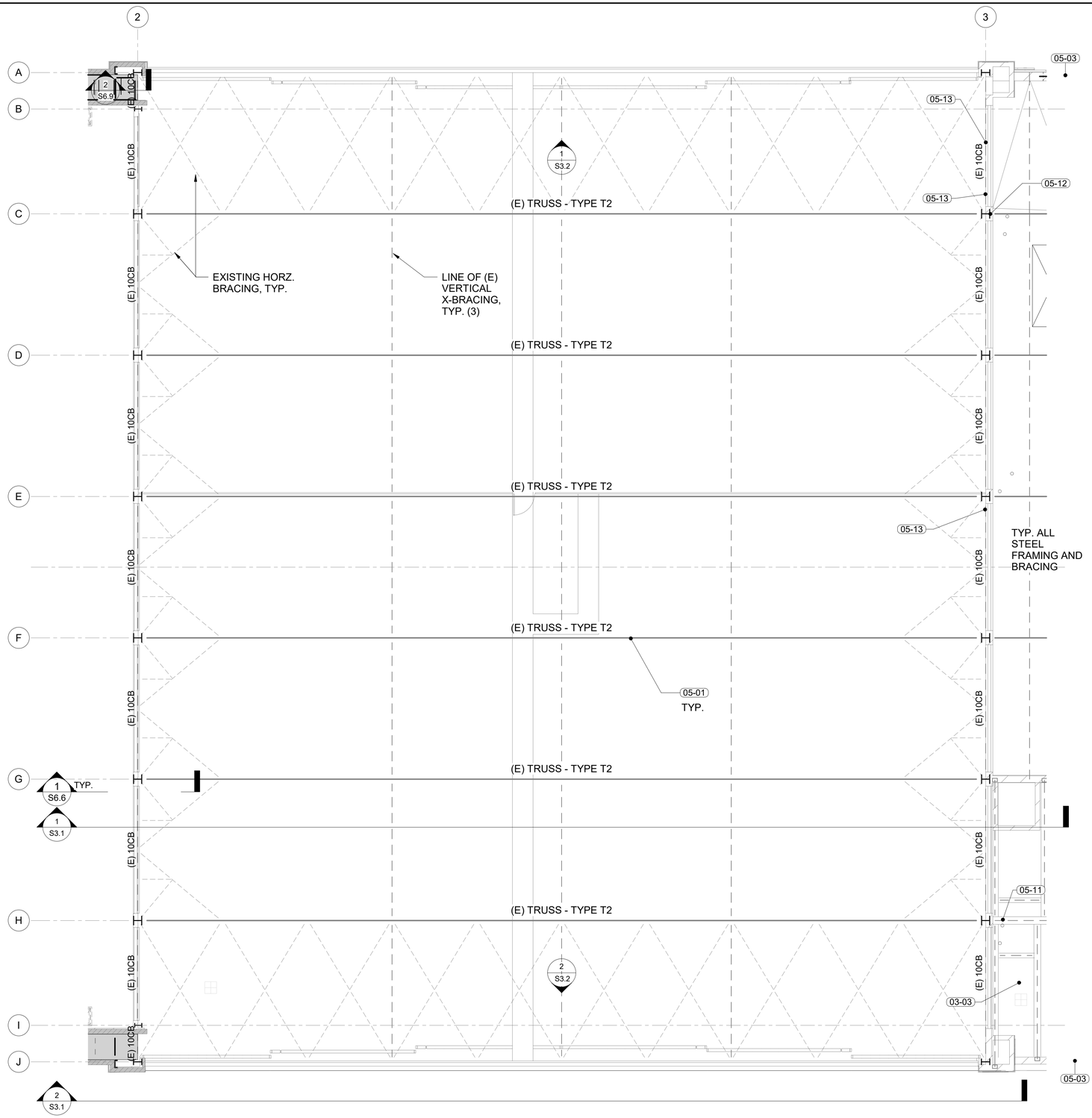

KEYNOTE LEGEND	
03-03	PEFORM CONCRETE REPAIRS IN EXISTING ROOF SLAB OR WHERE INDICATED PER TYPICAL DETAILS 1/S6.5 AND 2/S6.5. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REPAIRS.
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-03	TEMPORARILY SHORE BRICK MASONRY ABOVE LINTEL WHERE REQUIRED. REMOVE BRICK MASONRY AROUND CORRODED LINTEL AND REPLACE LINTEL WITH HOT-DIPPED GALVANIZED ANGLES TO MATCH EXISTING IN SIZE (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS. SEE ARCHITECTURAL ELEVATIONS FOR EXTENTS OF MASONRY REBUILDING.
05-11	REMOVE LOOSE CONCRETE ENCASEMENT ON STEEL BEAM. CLEAN EXPOSED SURFACES OF BEAM OF ALL RUST AND COAT WITH ZINC-RICH, RUST-INHIBITING PAINT. REPAIR CONCRETE ENCASEMENT PER TYPICAL DETAIL 3/S6.5.
05-12	REMOVE MASONRY ENCASEMENT AT COLUMN TO FULLY EXPOSE COLUMN FLANGES AND WEB. CLEAN ALL STEEL PER 05-01. COAT COLUMN WITH INTUMESCENT PAINT UP TO TRUSS BOTTOM CHORD LEVEL PER ARCHITECTURAL SPECIFICATIONS PRIOR TO PATCHING MASONRY.
05-13	EXTREME SECTION LOSS AT EXISTING CLERESTORY BEAM WEB. CLEAN ALL STEEL PER 05-01. REINFORCE DETERIORATED BEAM WEB WITH WELDED STEEL PLATES PER TYPICAL DETAIL 3/S6.2. COAT BEAM WITH ZINC-RICH, RUST-INHIBITING PAINT PER ARCHITECTURAL SPECIFICATIONS. PROVIDE UNIT COST FOR REPAIRS.

PLAN NOTES

1. SEE DRAWINGS S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SCHEDULES.
2. DATUM ELEVATION 0'-0" REFERENCES TOP OF GROUND FLOOR (LEVEL 0) ELEVATION 13.73'. ALL ELEVATIONS INDICATED ARE RELATIVE TO THE DATUM ELEVATION.
3. EXISTING FRAMING AND LAYOUT INDICATED ON PLAN IS PER THE 1929 DRAWINGS AND SHALL BE VERIFIED IN THE FIELD IN AREAS OF WORK.
4. SEE DRAWINGS S6.1 AND S6.2 FOR TYPICAL STEEL REPAIR DETAILS.
5. SEE DRAWING S6.3 FOR TYPICAL LINTEL DETAILS, DRAWING S6.4 FOR TYPICAL MASONRY REPAIR DETAILS, AND S6.5 FOR TYPICAL CONCRETE REPAIR DETAILS.
6. COORDINATE ALL DIMENSIONS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.

SCALE B 8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

1 / S2.3 HANGAR 4 ROOF TRUSS BOTTOM CHORD FRAMING PLAN
SCALE B

DESIGNED: JCT / EB / PA	SUB SHEET NO. S2.3	TITLE OF SHEET: HANGAR 4 ROOF TRUSS BOTTOM CHORD LEVEL FRAMING PLAN HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066
CADD: MAS			PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF			SHEET 98 OF 153
DATE: 12/19/2025			

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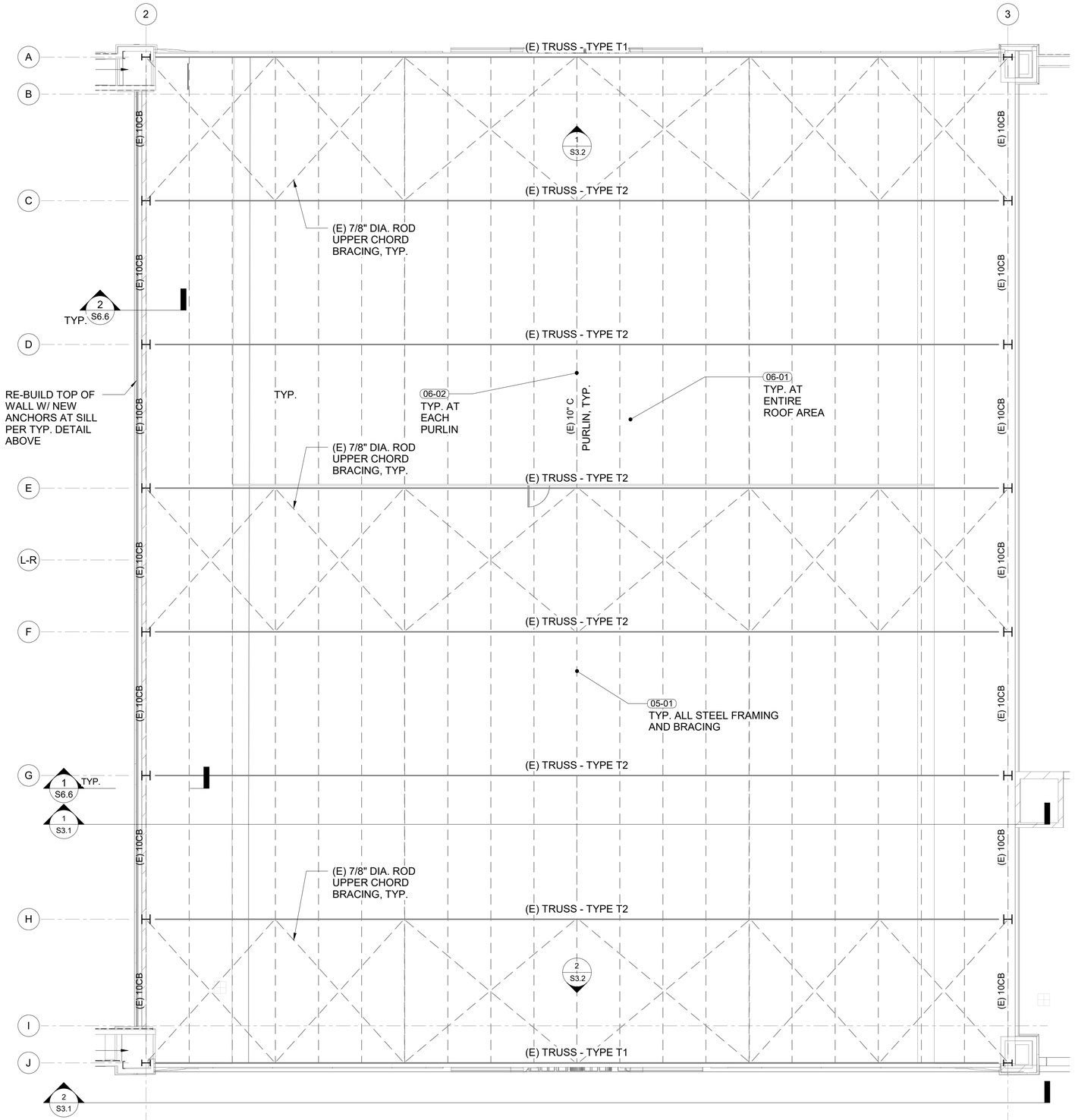

1 S2.4 HANGAR 4 ROOF TRUSS TOP CHORD LEVEL FRAMING PLAN

SCALE B

KEYNOTE LEGEND	
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
06-01	REPLACE EXISTING ROOF DECKING WITH NEW 2x (1-1/2" THICK) TONGUE AND GROOVE ROOF DECKING. OVERLAY WITH 15/32" PLYWOOD SHEATHING. SHEATHING PANELS SHALL BE INSTALLED WITH LONG DIMENSION PERPENDICULAR TO DECKING. SEE GENERAL NOTES FOR MATERIAL INFORMATION AND FASTENERS. ASSUME 100% REPLACEMENT OF ROOF DECKING FOR PRICING.
06-02	REPLACE EXISTING NAILERS WITH NEW (2)2x4 NAILERS BOLTED TO PURLINS. RE-USE EXISTING 1/2" DIAMETER BOLTS WHERE IN GOOD CONDITION. REPLACE DETERIORATED BOLTS IN KIND. SEE TYP. DETAIL 3/S6.6. ASSUME 100% REPLACEMENT OF NAILERS AND 100% REPLACEMENT OF BOLTS FOR PRICING.

PLAN NOTES

1. SEE DRAWINGS S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SCHEDULES.
2. DATUM ELEVATION 0'-0" REFERENCES TOP OF GROUND FLOOR (LEVEL 0) ELEVATION 13.73'. ALL ELEVATIONS INDICATED ARE RELATIVE TO THE DATUM ELEVATION.
3. EXISTING FRAMING AND LAYOUT INDICATED ON PLAN IS PER THE 1929 DRAWINGS AND SHALL BE VERIFIED IN THE FIELD IN AREAS OF WORK.
4. SEE DRAWINGS S6.1 AND S6.2 FOR TYPICAL STEEL REPAIR DETAILS.
5. SEE DRAWING S6.3 FOR TYPICAL LINTEL DETAILS, DRAWING S6.4 FOR TYPICAL MASONRY REPAIR DETAILS, AND S6.5 FOR TYPICAL CONCRETE REPAIR DETAILS.
6. COORDINATE ALL DIMENSIONS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.

SCALE B 8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO. S2.4	TITLE OF SHEET: HANGAR 4 ROOF TRUSS TOP CHORD LEVEL FRAMING PLAN	DRAWING NO. 646 190066
CADD: MAS		HANGARS 3 & 4 REHABILITATION	PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF			SHEET 99 OF 153
DATE: 12/19/2025			

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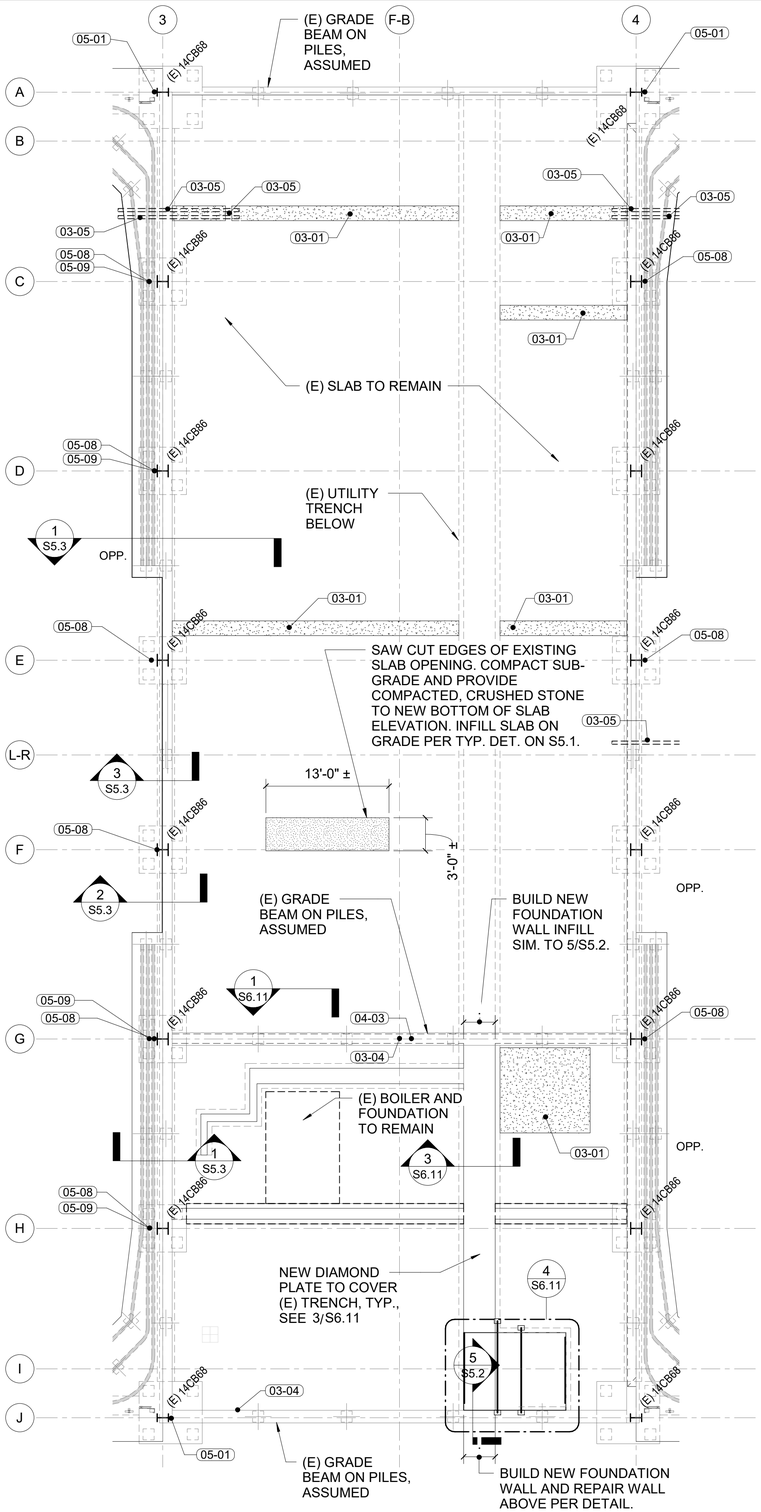
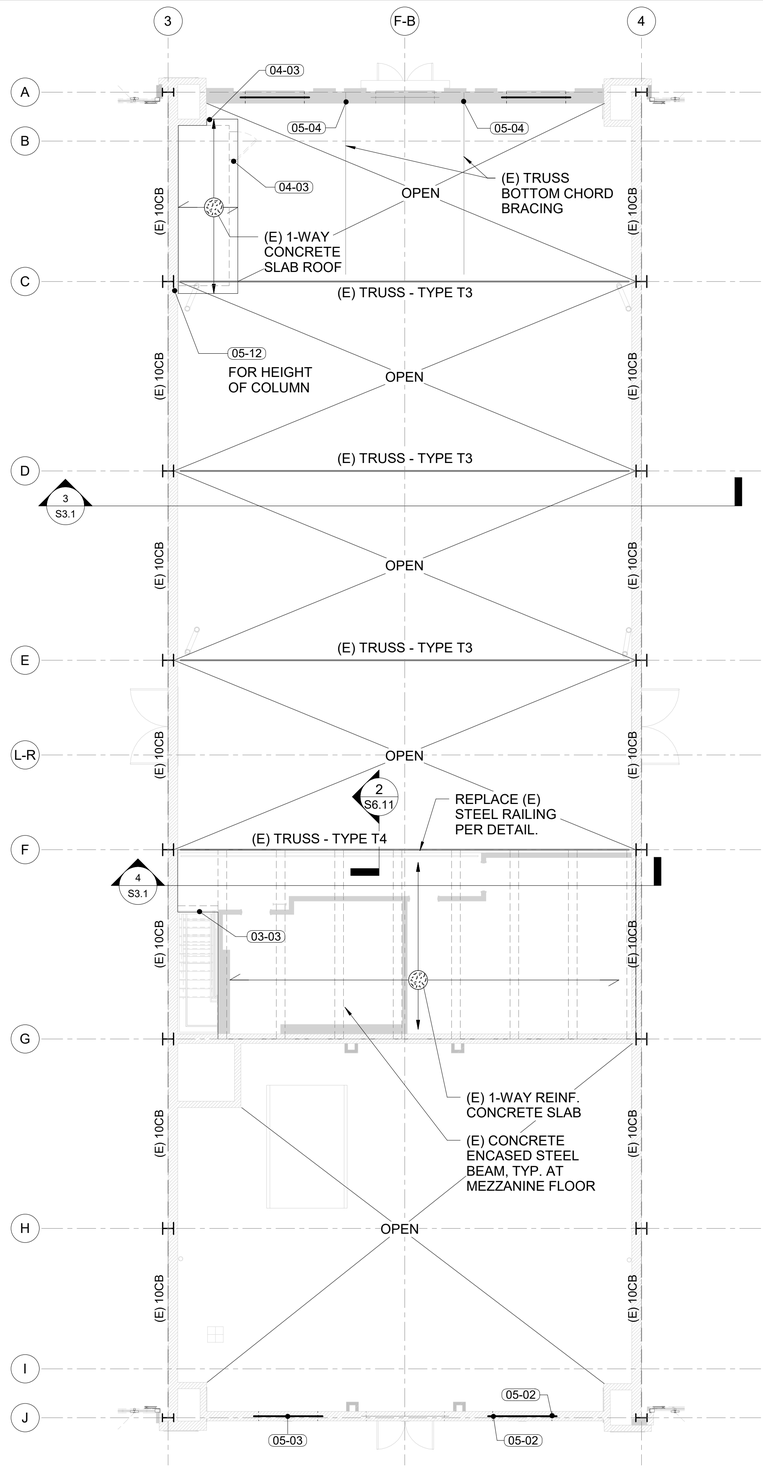


1 S2.5 WPA INFILL FOUNDATION / GROUND FLOOR PLAN

SCALE B



2 S2.5 WPA INFILL MEZZANINE AND BOTTOM CHORD FRAMING PLAN

SCALE B

KEYNOTE LEGEND

03-01	SAW CUT AND LOCALLY REMOVE EXISTING CONCRETE SLAB ON GRADE. TRENCH SOIL TO INSTALL UNDER-SLAB UTILITIES WHERE APPLICABLE. PROVIDE COMPACTED, CRUSHED STONE TO BOTTOM OF SLAB ELEVATION WITHOUT DAMAGING PIPING (WHERE PRESENT). PATCH SLAB ON GRADE PER TYPICAL DETAILS 1 & 3/S5.1.
03-03	PEFORM CONCRETE REPAIRS IN EXISTING ROOF SLAB OR WHERE INDICATED PER TYPICAL DETAILS 1/S6.5 AND 2/S6.5. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REPAIRS.
03-04	PERFORM EPOXY INJECTION REPAIRS PER TYPICAL DETAIL 4/S6.5.
03-05	BELOW SLAB PIPING PER MEP DRAWINGS. LOCATE BELOW EXISTING GRADE BEAM PER DETAIL 4/S5.1.
04-03	REBUILD / REPAIR BRICK MASONRY PER TYPICAL DETAIL 3/S6.4. SEE ARCHITECTURAL DRAWINGS FOR EXTENTS AND ADDITIONAL INFORMATION.
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-02	EXPOSE EXISTING LINTEL BEARING BY REMOVING SURROUNDING BRICK MASONRY. WIRE BRUSH CLEAN TO BARE METAL TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. IF NO OR MINIMAL SECTION LOSS IS OBSERVED, COAT ALL EXPOSED LINTEL SURFACES WITH ZINC-RICH, RUST-INHIBITING PAINT. IF SECTION LOSS IS OBSERVED, REPLACE OUTER WYTHE LINTEL WITH HOT-DIPPED GALVANIZED LINTEL TO MATCH EXISTING GEOMETRY (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS.
05-03	TEMPORARILY SHORE BRICK MASONRY ABOVE LINTEL WHERE REQUIRED. REMOVE BRICK MASONRY AROUND CORRODED LINTEL AND REPLACE LINTEL WITH HOT-DIPPED GALVANIZED ANGLES TO MATCH EXISTING IN SIZE (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS. SEE ARCHITECTURAL ELEVATIONS FOR EXTENTS OF MASONRY REBUILDING.
05-04	REMOVE MASONRY ENCASEMENT AT BEAM POCKET TO FULLY EXPOSE BEAM END AND BEARING PLATE. CLEAN ALL STEEL PER 05-01 AND REINFORCE DETERIORATED BEAM END WITH WELDED STEEL PLATES PER DETAILS ON S6.2. REPLACE BEARING PLATE WHERE REQUIRED. COAT BEAM END AND BEARING PLATE WITH ZINC-RICH, RUST-INHIBITING PAINT PRIOR TO PATCHING MASONRY.
05-08	CLEAN ALL EXPOSED COLUMN SURFACES OF SURFACE CORROSION AND RUST SCALING DEPOSITS. COAT COLUMN WITH INTUMESCENT PAINT PER PROJECT SPECIFICATIONS, SECTION 09 96 00, UP TO TRUSS BOTTOM CHORD LEVEL.
05-09	REMOVE CONCRETE ENCASEMENT AT COLUMN BASE, CLEAN STEEL PER 05-01, AND REINFORCE COLUMN BASE AS REQUIRED WITH WELDED STEEL PLATES PER DETAILS ON S6.1.
05-12	REMOVE MASONRY ENCASEMENT AT COLUMN TO FULLY EXPOSE COLUMN FLANGES AND WEB. CLEAN ALL STEEL PER 05-01. COAT COLUMN WITH INTUMESCENT PAINT UP TO TRUSS BOTTOM CHORD LEVEL PER ARCHITECTURAL SPECIFICATIONS PRIOR TO PATCHING MASONRY.

PLAN NOTES

1. SEE DRAWINGS S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SCHEDULES.
2. DATUM ELEVATION 0'-0" REFERENCES TOP OF GROUND FLOOR (LEVEL 0) ELEVATION 13.73'. ALL ELEVATIONS INDICATED ARE RELATIVE TO THE DATUM ELEVATION.
3. SEE FOUNDATION SECTIONS FOR BOTTOM OF GRADE BEAM AND BOTTOM OF PILE CAP ELEVATIONS.
4. PER THE 1929 DRAWINGS, EXISTING PILES ARE NOTED TO BE 14" SQUARE REINFORCED CONCRETE PILES, 35' DEEP BELOW WALL AND COLUMN FOUNDATIONS AND 15' DEEP BELOW DOOR RAIL FOUNDATIONS. LAYOUT INDICATED ON PLAN IS PER 1929 DRAWINGS AND HAS NOT BEEN VERIFIED IN THE FIELD.
5. SEE DRAWING S5.1 FOR TYPICAL FOUNDATION DETAILS.
6. COORDINATE ALL DIMENSIONS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.
7. COORDINATE ALL SLAB OPENINGS, SLOPES, SLEEVES, DEPRESSIONS, EDGE DIMENSIONS AND CURBS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.
8. COORDINATE ALL EQUIPMENT PADS WITH MEP AND ARCHITECTURAL DRAWINGS.

SCALE B 8' 0' 8' 16'

SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 190066
CADD MAS	S2.5	WPA INFILL FRAMING PLANS	PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF			SHEET 100 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	

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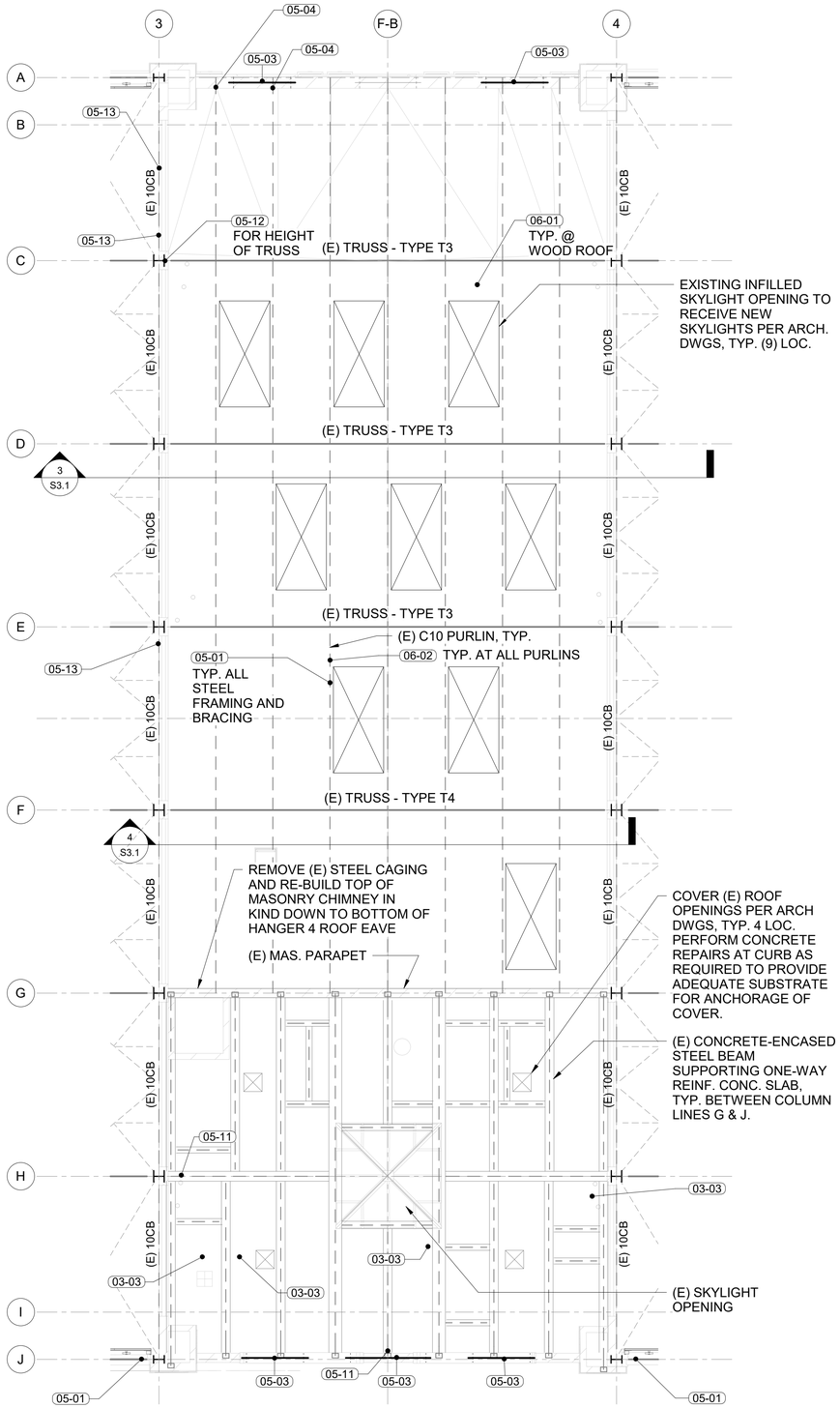

1 S2.6 WPA INFILL TOP CHORD AND ROOF FRAMING PLAN
SCALE B

KEYNOTE LEGEND	
03-03	PEFORM CONCRETE REPAIRS IN EXISTING ROOF SLAB OR WHERE INDICATED PER TYPICAL DETAILS 1/S6.5 AND 2/S6.5. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REPAIRS.
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-03	TEMPORARILY SHORE BRICK MASONRY ABOVE LINTEL WHERE REQUIRED. REMOVE BRICK MASONRY AROUND CORRODED LINTEL AND REPLACE LINTEL WITH HOT-DIPPED GALVANIZED ANGLES TO MATCH EXISTING IN SIZE (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS. SEE ARCHITECTURAL ELEVATIONS FOR EXTENTS OF MASONRY REBUILDING.
05-04	REMOVE MASONRY ENCASEMENT AT BEAM POCKET TO FULLY EXPOSE BEAM END AND BEARING PLATE. CLEAN ALL STEEL PER 05-01 AND REINFORCE DETERIORATED BEAM END WITH WELDED STEEL PLATES PER DETAILS ON S6.2. REPLACE BEARING PLATE WHERE REQUIRED. COAT BEAM END AND BEARING PLATE WITH ZINC-RICH, RUST-INHIBITING PAINT PRIOR TO PATCHING MASONRY.
05-11	REMOVE LOOSE CONCRETE ENCASEMENT ON STEEL BEAM. CLEAN EXPOSED SURFACES OF BEAM OF ALL RUST AND COAT WITH ZINC-RICH, RUST-INHIBITING PAINT. REPAIR CONCRETE ENCASEMENT PER TYPICAL DETAIL 3/S6.5.
05-12	REMOVE MASONRY ENCASEMENT AT COLUMN TO FULLY EXPOSE COLUMN FLANGES AND WEB. CLEAN ALL STEEL PER 05-01. COAT COLUMN WITH INTUMESCENT PAINT UP TO TRUSS BOTTOM CHORD LEVEL PER ARCHITECTURAL SPECIFICATIONS PRIOR TO PATCHING MASONRY.
05-13	EXTREME SECTION LOSS AT EXISTING CLERESTORY BEAM WEB. CLEAN ALL STEEL PER 05-01. REINFORCE DETERIORATED BEAM WEB WITH WELDED STEEL PLATES PER TYPICAL DETAIL 3/S6.2. COAT BEAM WITH ZINC-RICH, RUST-INHIBITING PAINT PER ARCHITECTURAL SPECIFICATIONS. PROVIDE UNIT COST FOR REPAIRS.
06-01	REPLACE EXISTING ROOF DECKING WITH NEW 2x (1-1/2" THICK) TONGUE AND GROOVE ROOF DECKING. OVERLAY WITH 15/32" PLYWOOD SHEATHING. SHEATHING PANELS SHALL BE INSTALLED WITH LONG DIMENSION PERPENDICULAR TO DECKING. SEE GENERAL NOTES FOR MATERIAL INFORMATION AND FASTENERS. ASSUME 100% REPLACEMENT OF ROOF DECKING FOR PRICING.
06-02	REPLACE EXISTING NAILERS WITH NEW (2)2x4 NAILERS BOLTED TO PURLINS. RE-USE EXISTING 1/2" DIAMETER BOLTS WHERE IN GOOD CONDITION. REPLACE DETERIORATED BOLTS IN KIND. SEE TYP. DETAIL 3/S6.6. ASSUME 100% REPLACEMENT OF NAILERS AND 100% REPLACEMENT OF BOLTS FOR PRICING.

PLAN NOTES

1. SEE DRAWINGS S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SCHEDULES.
2. DATUM ELEVATION 0'-0" REFERENCES TOP OF GROUND FLOOR (LEVEL 0) ELEVATION 13.73'. ALL ELEVATIONS INDICATED ARE RELATIVE TO THE DATUM ELEVATION.
3. EXISTING FRAMING AND LAYOUT INDICATED ON PLAN IS PER THE 1929 DRAWINGS AND SHALL BE VERIFIED IN THE FIELD IN AREAS OF WORK.
4. SEE DRAWINGS S6.1 AND S6.2 FOR TYPICAL STEEL REPAIR DETAILS.
5. SEE DRAWING S6.3 FOR TYPICAL LINTEL DETAILS, DRAWING S6.4 FOR TYPICAL MASONRY REPAIR DETAILS, AND S6.5 FOR TYPICAL CONCRETE REPAIR DETAILS.
6. COORDINATE ALL DIMENSIONS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.

SCALE B 8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S2.6	WPA INFILL ROOF FRAMING PLAN	646 190066
TECH. REVIEW: NF			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 101 OF 153

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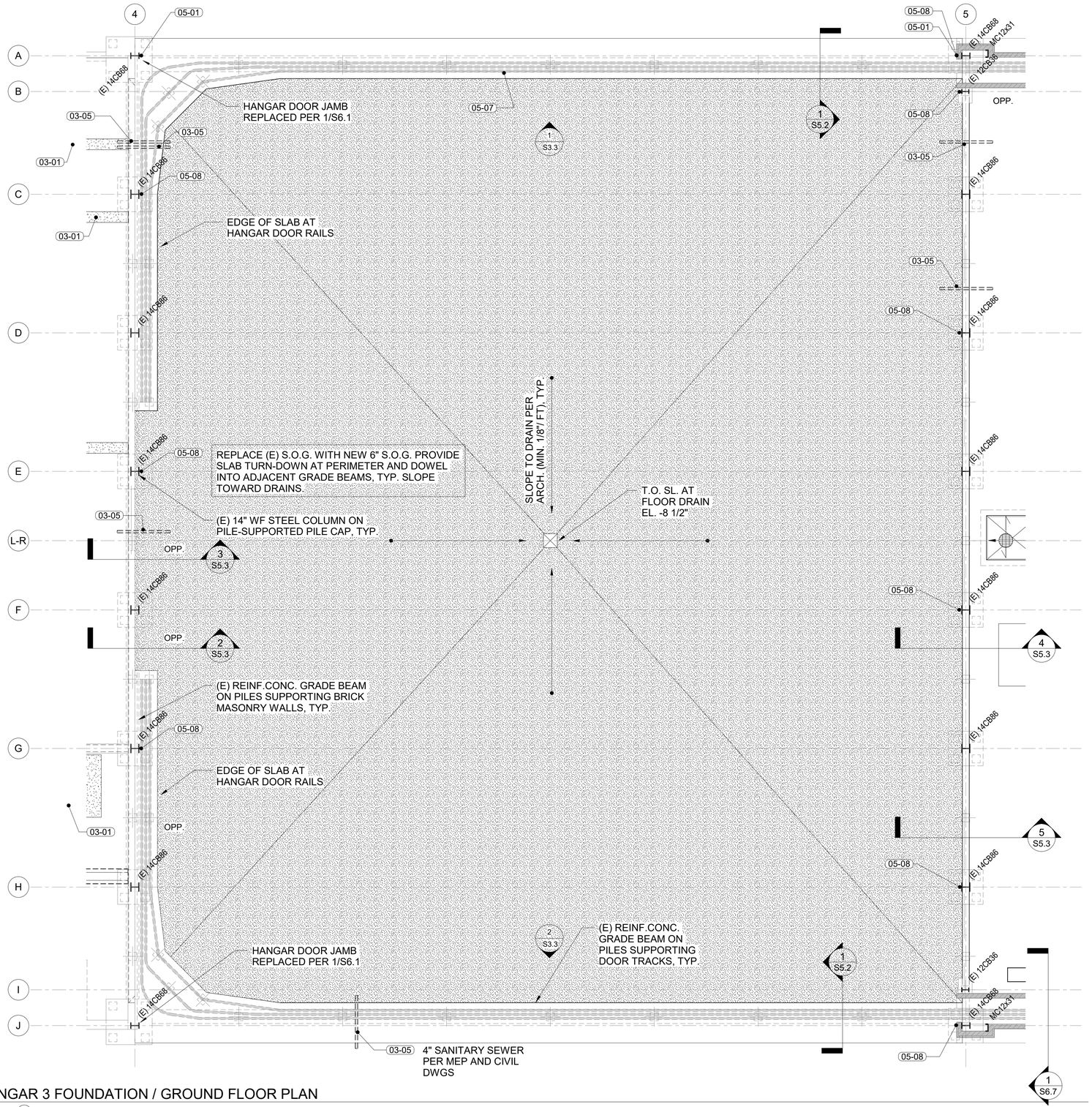

1 S2.7 HANGAR 3 FOUNDATION / GROUND FLOOR PLAN
SCALE B

KEYNOTE LEGEND	
03-01	SAW CUT AND LOCALLY REMOVE EXISTING CONCRETE SLAB ON GRADE. TRENCH SOIL TO INSTALL UNDER-SLAB UTILITIES WHERE APPLICABLE. PROVIDE COMPACTED, CRUSHED STONE TO BOTTOM OF SLAB ELEVATION WITHOUT DAMAGING PIPING (WHERE PRESENT). PATCH SLAB ON GRADE PER TYPICAL DETAILS 1 & 3/S5.1.
03-05	BELOW SLAB PIPING PER MEP DRAWINGS. LOCATE BELOW EXISTING GRADE BEAM PER DETAIL 4/S5.1.
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-07	REPLACE CORRODED HANGAR DOOR RAILS IN KIND PER DETAIL 4/S5.2.
05-08	CLEAN ALL EXPOSED COLUMN SURFACES OF SURFACE CORROSION AND RUST SCALING DEPOSITS. COAT COLUMN WITH INTUMESCENT PAINT PER PROJECT SPECIFICATIONS, SECTION 09 96 00, UP TO TRUSS BOTTOM CHORD LEVEL.

PLAN NOTES

1. SEE DRAWINGS S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SCHEDULES.
2. DATUM ELEVATION 0'-0" REFERENCES TOP OF GROUND FLOOR (LEVEL 0) ELEVATION 13.73'. ALL ELEVATIONS INDICATED ARE RELATIVE TO THE DATUM ELEVATION.
3. SEE FOUNDATION SECTIONS FOR BOTTOM OF GRADE BEAM AND BOTTOM OF PILE CAP ELEVATIONS.
4. PER THE 1929 DRAWINGS, EXISTING PILES ARE NOTED TO BE 14" SQUARE REINFORCED CONCRETE PILES, 35' DEEP BELOW WALL AND COLUMN FOUNDATIONS AND 15' DEEP BELOW DOOR RAIL FOUNDATIONS. LAYOUT INDICATED ON PLAN IS PER 1929 DRAWINGS AND HAS NOT BEEN VERIFIED IN THE FIELD.
5. SEE DRAWING S5.1 FOR TYPICAL FOUNDATION DETAILS.
6. COORDINATE ALL DIMENSIONS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.
7. COORDINATE ALL SLAB OPENINGS, SLOPES, SLEEVES, DEPRESSIONS, EDGE DIMENSIONS AND CURBS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.
8. COORDINATE ALL EQUIPMENT PADS WITH MEP AND ARCHITECTURAL DRAWINGS.

SCALE B 8' 0' 8' 16' SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO. S2.7	TITLE OF SHEET: HANGAR 3 FOUNDATION / GROUND FLOOR PLAN	DRAWING NO. 646 190066
CADD: MAS			PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF		HANGARS 3 & 4 REHABILITATION	SHEET 102 OF 153
DATE: 12/19/2025			

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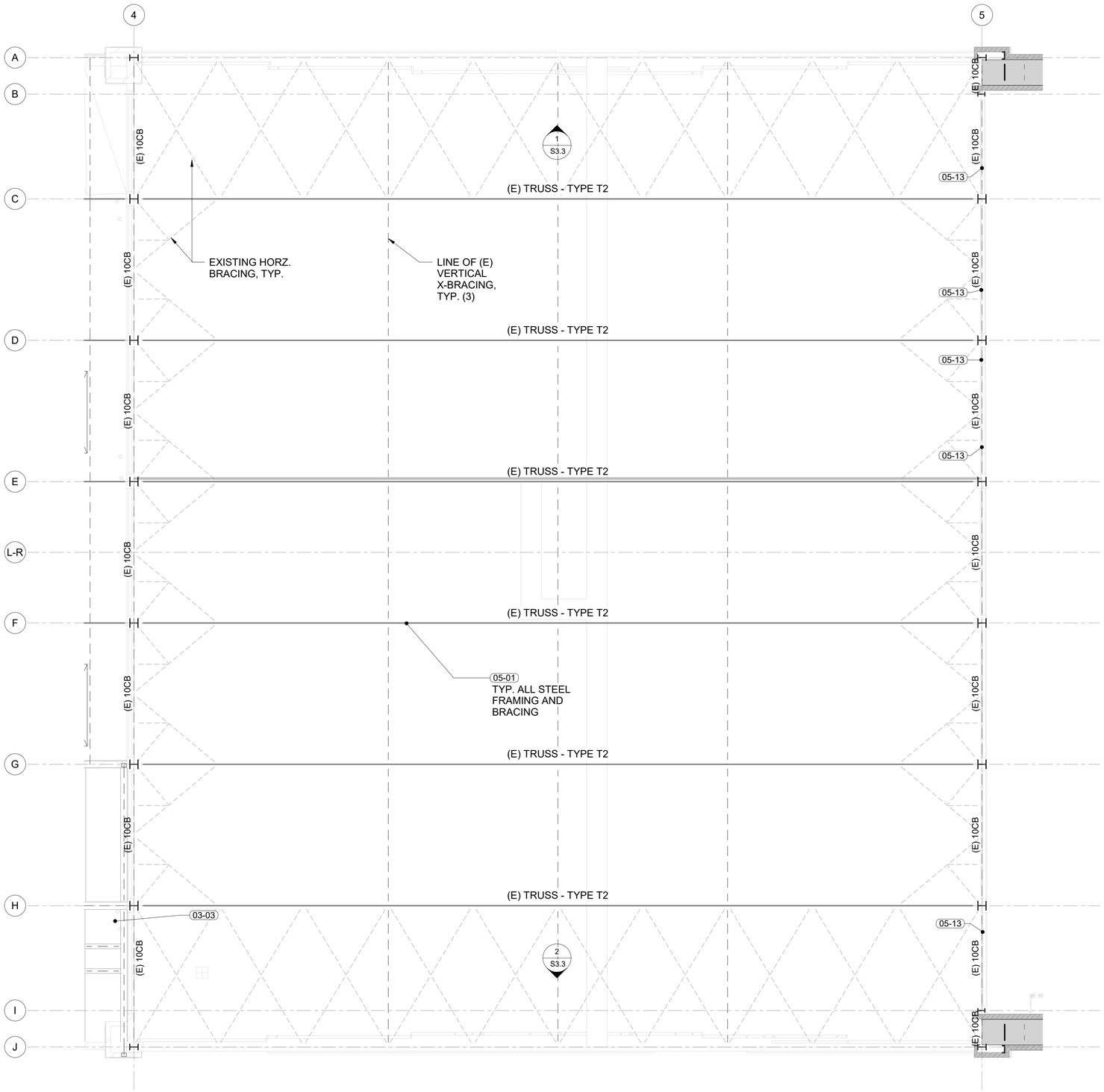

1 S2.8 HANGAR 3 ROOF TRUSS BOTTOM CHORD LEVEL FRAMING PLAN

SCALE B

KEYNOTE LEGEND	
03-03	PEFORM CONCRETE REPAIRS IN EXISTING ROOF SLAB OR WHERE INDICATED PER TYPICAL DETAILS 1/S6.5 AND 2/S6.5. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REPAIRS.
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-13	EXTREME SECTION LOSS AT EXISTING CLERESTORY BEAM WEB. CLEAN ALL STEEL PER 05-01. REINFORCE DETERIORATED BEAM WEB WITH WELDED STEEL PLATES PER TYPICAL DETAIL 3/S6.2. COAT BEAM WITH ZINC-RICH, RUST-INHIBITING PAINT PER ARCHITECTURAL SPECIFICATIONS. PROVIDE UNIT COST FOR REPAIRS.

PLAN NOTES

1. SEE DRAWINGS S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SCHEDULES.
2. DATUM ELEVATION 0'-0" REFERENCES TOP OF GROUND FLOOR (LEVEL 0) ELEVATION 13.73'. ALL ELEVATIONS INDICATED ARE RELATIVE TO THE DATUM ELEVATION.
3. EXISTING FRAMING AND LAYOUT INDICATED ON PLAN IS PER THE 1929 DRAWINGS AND SHALL BE VERIFIED IN THE FIELD IN AREAS OF WORK.
4. SEE DRAWINGS S6.1 AND S6.2 FOR TYPICAL STEEL REPAIR DETAILS.
5. SEE DRAWING S6.3 FOR TYPICAL LINTEL DETAILS, DRAWING S6.4 FOR TYPICAL MASONRY REPAIR DETAILS, AND S6.5 FOR TYPICAL CONCRETE REPAIR DETAILS.
6. COORDINATE ALL DIMENSIONS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.

SCALE B 8' 0' 8' 16' SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO. S2.8	TITLE OF SHEET: HANGAR 3 ROOF TRUSS BOTTOM CHORD LEVEL FRAMING PLAN	DRAWING NO. 646 190066
CADD: MAS		HANGARS 3 & 4 REHABILITATION	PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF			SHEET 103 OF 153
DATE: 12/19/2025			

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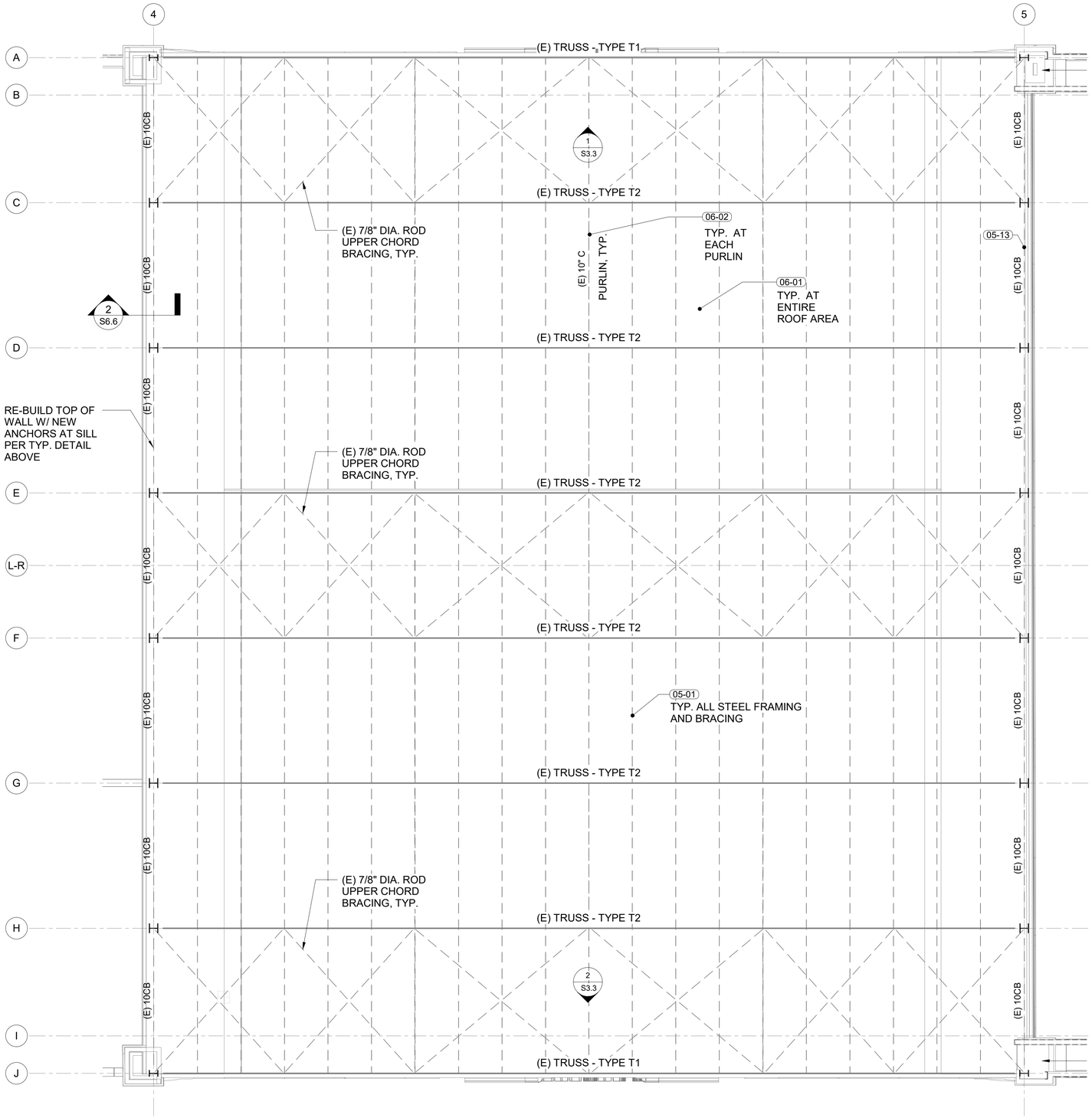

1 S2.9 HANGAR 3 ROOF TRUSS TOP CHORD LEVEL FRAMING PLAN
SCALE B

KEYNOTE LEGEND	
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-13	EXTREME SECTION LOSS AT EXISTING CLERESTORY BEAM WEB. CLEAN ALL STEEL PER 05-01. REINFORCE DETERIORATED BEAM WEB WITH WELDED STEEL PLATES PER TYPICAL DETAIL 3/S6.2. COAT BEAM WITH ZINC-RICH, RUST-INHIBITING PAINT PER ARCHITECTURAL SPECIFICATIONS. PROVIDE UNIT COST FOR REPAIRS.
06-01	REPLACE EXISTING ROOF DECKING WITH NEW 2x (1-1/2" THICK) TONGUE AND GROOVE ROOF DECKING. OVERLAY WITH 15/32" PLYWOOD SHEATHING. SHEATHING PANELS SHALL BE INSTALLED WITH LONG DIMENSION PERPENDICULAR TO DECKING. SEE GENERAL NOTES FOR MATERIAL INFORMATION AND FASTENERS. ASSUME 100% REPLACEMENT OF ROOF DECKING FOR PRICING.
06-02	REPLACE EXISTING NAILERS WITH NEW (2)2x4 NAILERS BOLTED TO PURLINS. RE-USE EXISTING 1/2" DIAMETER BOLTS WHERE IN GOOD CONDITION. REPLACE DETERIORATED BOLTS IN KIND. SEE TYP. DETAIL 3/S6.6. ASSUME 100% REPLACEMENT OF NAILERS AND 100% REPLACEMENT OF BOLTS FOR PRICING.

PLAN NOTES

1. SEE DRAWINGS S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SCHEDULES.
2. DATUM ELEVATION 0'-0" REFERENCES TOP OF GROUND FLOOR (LEVEL 0) ELEVATION 13.73'. ALL ELEVATIONS INDICATED ARE RELATIVE TO THE DATUM ELEVATION.
3. EXISTING FRAMING AND LAYOUT INDICATED ON PLAN IS PER THE 1929 DRAWINGS AND SHALL BE VERIFIED IN THE FIELD IN AREAS OF WORK.
4. SEE DRAWINGS S6.1 AND S6.2 FOR TYPICAL STEEL REPAIR DETAILS.
5. SEE DRAWING S6.3 FOR TYPICAL LINTEL DETAILS, DRAWING S6.4 FOR TYPICAL MASONRY REPAIR DETAILS, AND S6.5 FOR TYPICAL CONCRETE REPAIR DETAILS.
6. COORDINATE ALL DIMENSIONS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.

SCALE B 8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 646 190066
CADD MAS	S2.9	HANGAR 3 ROOF TRUSS TOP CHORD LEVEL FRAMING PLAN	PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF		HANGARS 3 & 4 REHABILITATION	SHEET 104 OF 153
DATE: 12/19/2025			

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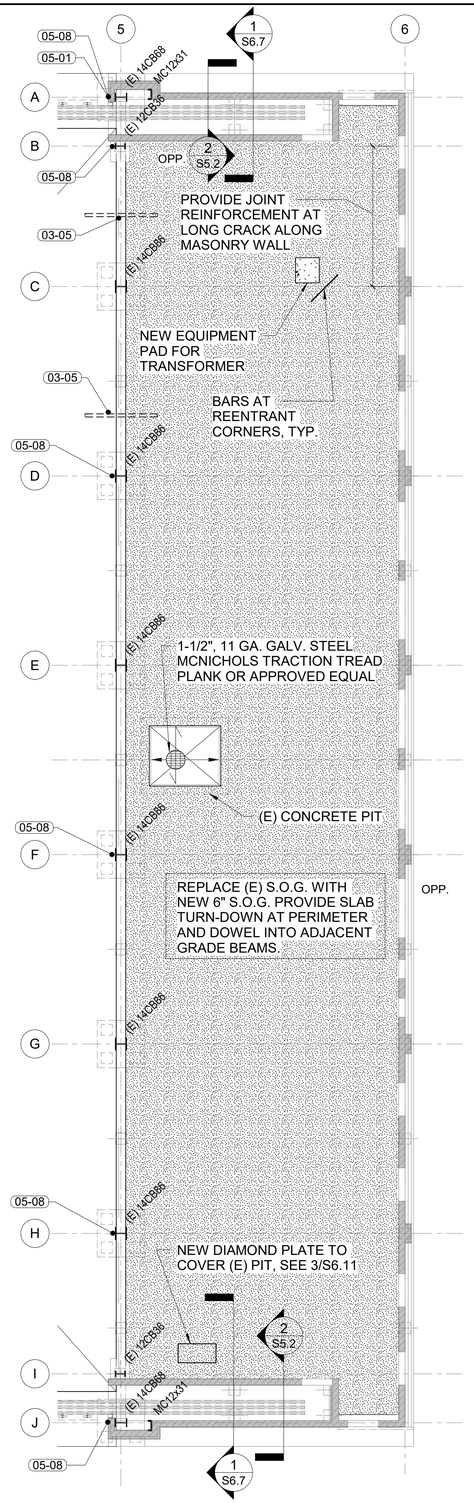
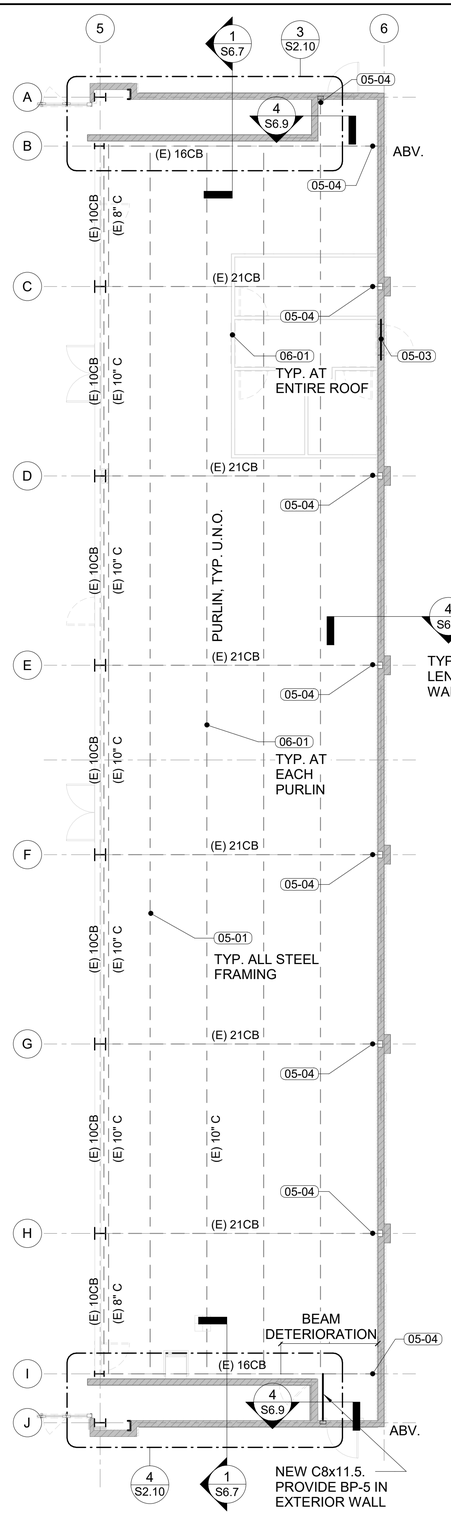
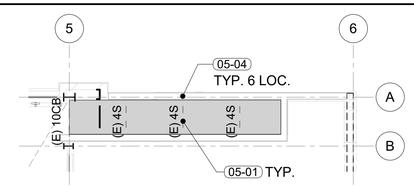


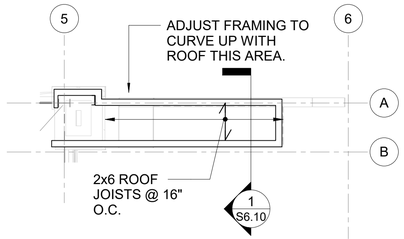
1 S2.10 HANGAR 3 LEAN-TO FOUNDATION / GROUND FLOOR PLAN
SCALE B



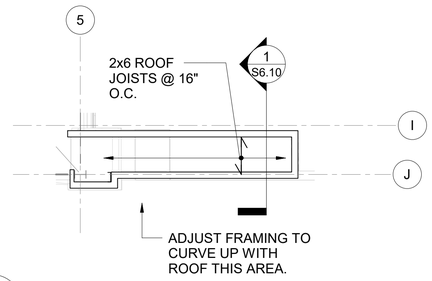
2 S2.10 HANGAR 3 LEAN-TO ROOF FRAMING PLAN
SCALE B



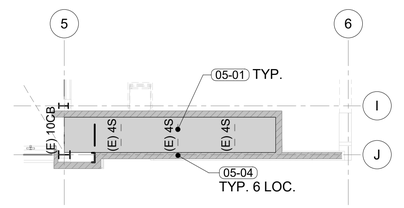
3 S2.10 PART PLAN (ABOVE) TRACK SUPPORT AT HANGER DOOR POCKET
SCALE B



5 S2.10 PART PLAN HANGAR DOOR POCKET ROOF FRAMING
SCALE B



6 S2.10 PART PLAN HANGAR DOOR POCKET ROOF FRAMING
SCALE B



4 S2.10 PART PLAN (ABOVE) TRACK SUPPORT AT HANGER DOOR POCKET
SCALE B

KEYNOTE LEGEND	
03-05	BELOW SLAB PIPING PER MEP DRAWINGS. LOCATE BELOW EXISTING GRADE BEAM PER DETAIL 4/S5.1.
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-03	TEMPORARILY SHORE BRICK MASONRY ABOVE LINTEL WHERE REQUIRED. REMOVE BRICK MASONRY AROUND CORRODED LINTEL AND REPLACE LINTEL WITH HOT-DIPPED GALVANIZED ANGLES TO MATCH EXISTING IN SIZE (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS. SEE ARCHITECTURAL ELEVATIONS FOR EXTENTS OF MASONRY REBUILDING.
05-04	REMOVE MASONRY ENCASEMENT AT BEAM POCKET TO FULLY EXPOSE BEAM END AND BEARING PLATE. CLEAN ALL STEEL PER 05-01 AND REINFORCE DETERIORATED BEAM END WITH WELDED STEEL PLATES PER DETAILS ON S6.2. REPLACE BEARING PLATE WHERE REQUIRED. COAT BEAM END AND BEARING PLATE WITH ZINC-RICH, RUST-INHIBITING PAINT PRIOR TO PATCHING MASONRY.
05-08	CLEAN ALL EXPOSED COLUMN SURFACES OF SURFACE CORROSION AND RUST SCALING DEPOSITS. COAT COLUMN WITH INTUMESCENT PAINT PER PROJECT SPECIFICATIONS, SECTION 09 96 00, UP TO TRUSS BOTTOM CHORD LEVEL.
06-01	REPLACE EXISTING ROOF DECKING WITH NEW 2x (1-1/2" THICK) TONGUE AND GROOVE ROOF DECKING. OVERLAY WITH 15/32" PLYWOOD SHEATHING. SHEATHING PANELS SHALL BE INSTALLED WITH LONG DIMENSION PERPENDICULAR TO DECKING. SEE GENERAL NOTES FOR MATERIAL INFORMATION AND FASTENERS. ASSUME 100% REPLACEMENT OF ROOF DECKING FOR PRICING.

PLAN NOTES

1. SEE DRAWINGS S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SCHEDULES.
2. DATUM ELEVATION 0'-0" REFERENCES TOP OF GROUND FLOOR (LEVEL 0) ELEVATION 13.73'. ALL ELEVATIONS INDICATED ARE RELATIVE TO THE DATUM ELEVATION.
3. SEE FOUNDATION SECTIONS FOR BOTTOM OF GRADE BEAM AND BOTTOM OF PILE CAP ELEVATIONS.
4. PER THE 1929 DRAWINGS, EXISTING PILES ARE NOTED TO BE 14" SQUARE REINFORCED CONCRETE PILES, 35' DEEP BELOW WALL AND COLUMN FOUNDATIONS AND 15' DEEP BELOW DOOR RAIL FOUNDATIONS. LAYOUT INDICATED ON PLAN IS PER 1929 DRAWINGS AND HAS NOT BEEN VERIFIED IN THE FIELD.
5. SEE DRAWING S5.1 FOR TYPICAL FOUNDATION DETAILS.
6. COORDINATE ALL DIMENSIONS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.
7. COORDINATE ALL SLAB OPENINGS, SLOPES, SLEEVES, DEPRESSIONS, EDGE DIMENSIONS AND CURBS WITH ARCHITECT, CIVIL, MEP AND OTHER PRIME CONTRACTORS.
8. COORDINATE ALL EQUIPMENT PADS WITH MEP AND ARCHITECTURAL DRAWINGS.

SCALE B
8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S2.10	HANGER 3 LEAN-TO FRAMING PLANS	646 190066
TECH. REVIEW: NF			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 105 OF 153

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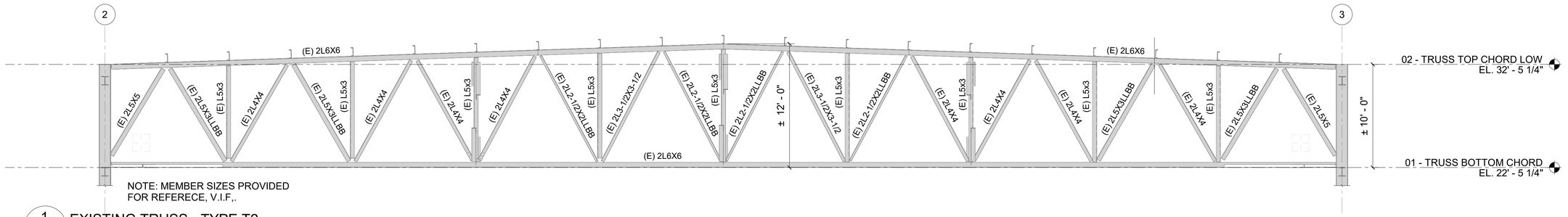
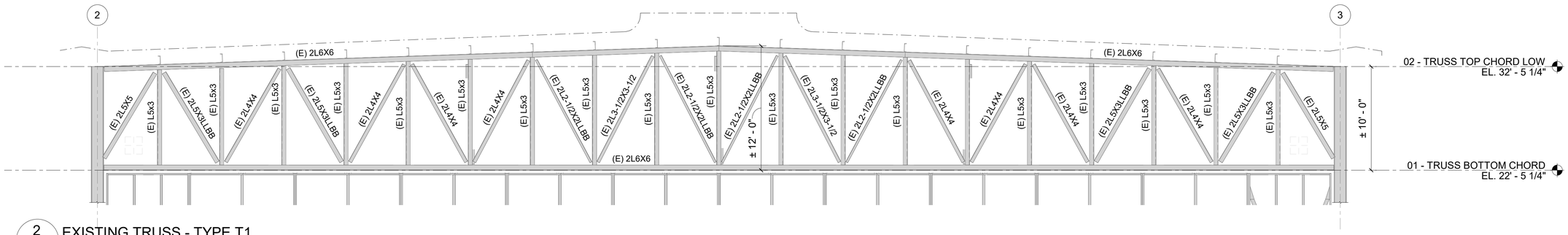


NOTE: MEMBER SIZES PROVIDED FOR REFERECE, V.I.F,.

1 S3.1 EXISTING TRUSS - TYPE T2

SCALE C



2 S3.1 EXISTING TRUSS - TYPE T1

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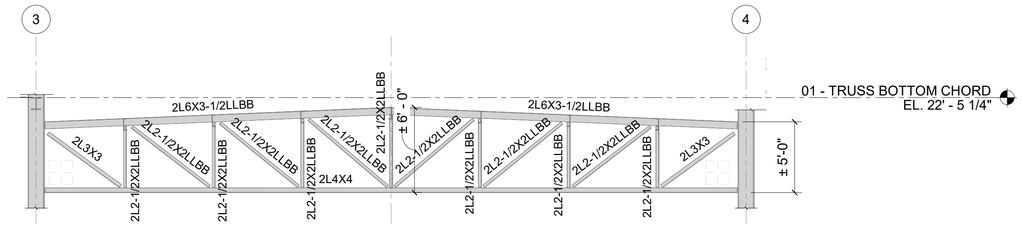
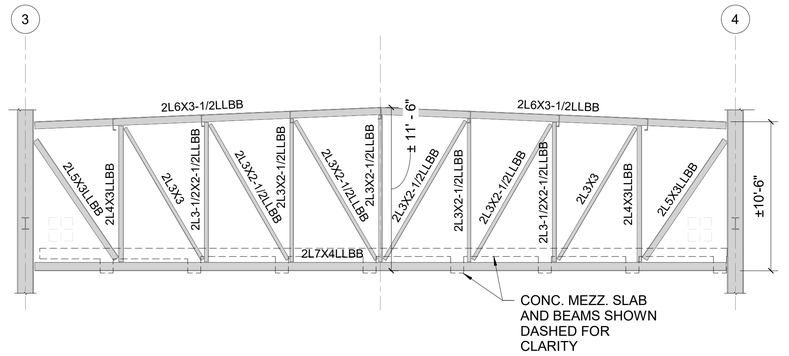


3 S3.1 EXISTING TRUSS - TYPE T3

SCALE C



4 S3.1 EXISTING TRUSS - TYPE T4

SCALE C

SCALE C 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S3.1	EXISTING TRUSS ELEVATIONS	646 190066
TECH. REVIEW: NF			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 106 OF 153

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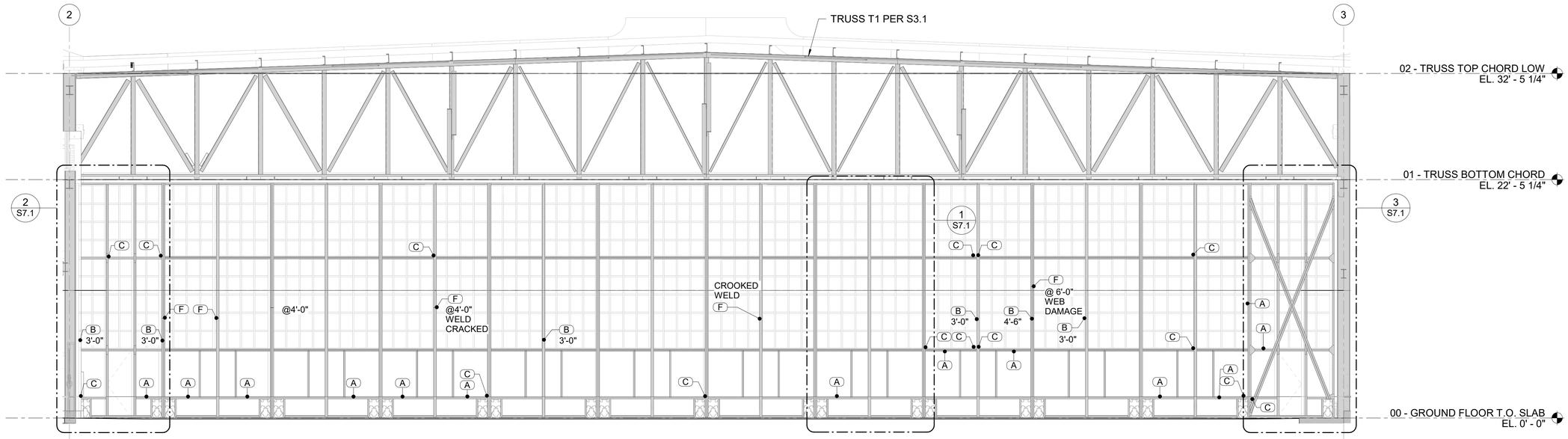
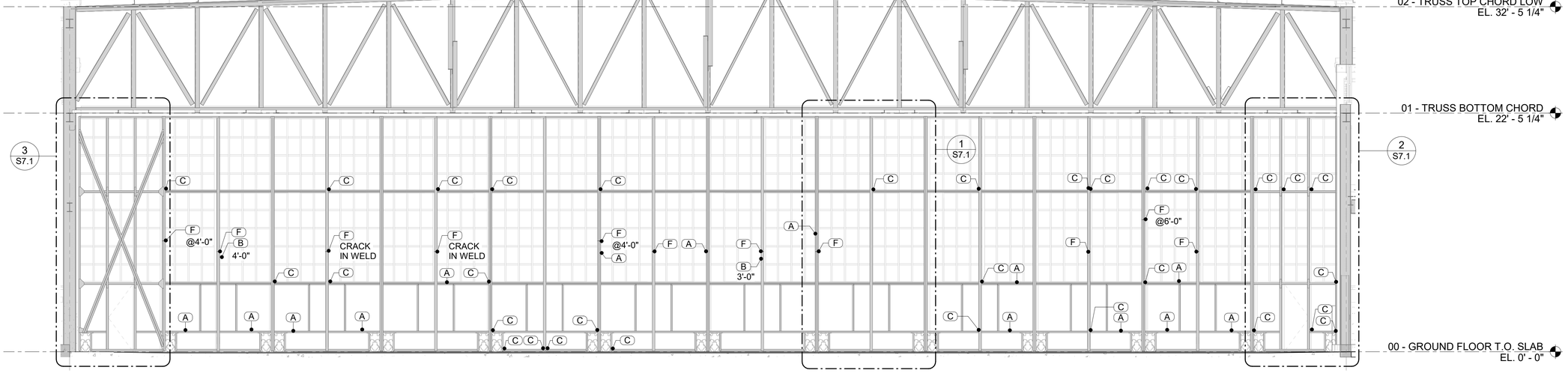


1 S3.2 HANGAR 4 NORTH INTERIOR ELEVATION

SCALE C



2 S3.2 HANGAR 4 SOUTH INTERIOR ELEVATION

SCALE C

KEYNOTE LEGEND	
A	HANGAR DOOR FRAMING MEMBER REPLACEMENT IN KIND. USE SALVAGED MEMBER FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
B	HANGAR DOOR MULLION MEMBER REPLACEMENT IN KIND. LENGTH NOTED INDICATES EXISTING DETERIORATION FROM BASE OF DOOR. USE SALVAGED MEMBERS FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
C	CONNECTION REPLACEMENT IN KIND. SEE DWG. S7.2 FOR CONNECTION DETAILS. USE SALVAGED CONNECTION FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
F	HANGAR DOOR MULLION MEMBER REPLACEMENT IN KIND AT EXISTING SPLICE (AT 3'-0" FROM BASE U.N.O.). USE SALVAGED MEMBER FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.

SCALE C 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: JCT / EB / PA DRAWN: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S3.2	TITLE OF SHEET HANGAR 4 INTERIOR ELEVATIONS HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 107 OF 153

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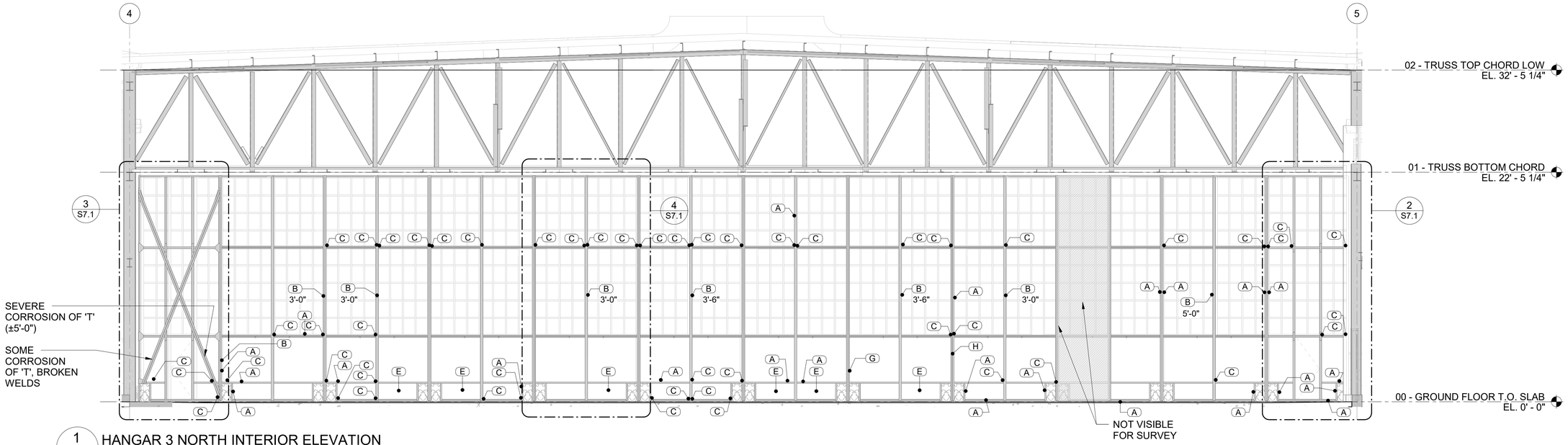
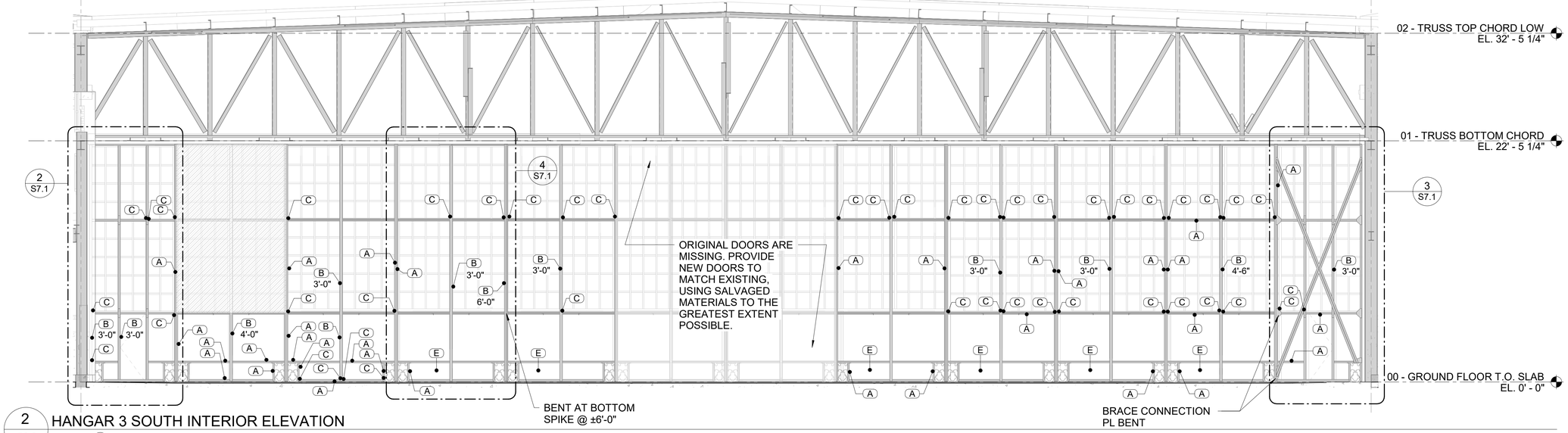


1 S3.3 HANGAR 3 NORTH INTERIOR ELEVATION

SCALE C



2 S3.3 HANGAR 3 SOUTH INTERIOR ELEVATION

SCALE C

SCALE C 4' 2' 0 4' 8'

SCALE OF FEET

KEYNOTE LEGEND	
A	HANGAR DOOR FRAMING MEMBER REPLACEMENT IN KIND. USE SALVAGED MEMBER FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
B	HANGAR DOOR MULLION MEMBER REPLACEMENT IN KIND. LENGTH NOTED INDICATES EXISTING DETERIORATION FROM BASE OF DOOR. USE SALVAGED MEMBERS FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
C	CONNECTION REPLACEMENT IN KIND. SEE DWG. S7.2 FOR CONNECTION DETAILS. USE SALVAGED CONNECTION FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
D	WHEEL CONNECTION REPLACEMENT IN KIND.
E	REPLACE ALL MEMBERS AND CONNECTIONS @ BOTTOM OF DOOR IN KIND (EXCEPT SMALL VERTICAL MEMBERS). USE SALVAGED MEMBERS FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
G	HANGAR DOOR MULLION MEMBER REPLACEMENT IN KIND AT BENT MULLION. USE SALVAGED MEMBER FROM HANGAR 5-8 DOOR REMNANTS TO THE EXTENT POSSIBLE.
H	DOOR PULL DETERIORATED, SEE ARCHITECTURAL DRAWINGS.

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET: HANGAR 3 INTERIOR ELEVATIONS	DRAWING NO. 646 190066
DRAWN: MAS	S3.3		PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF		HANGARS 3 & 4 REHABILITATION	SHEET 108 OF 153
DATE: 12/19/2025			

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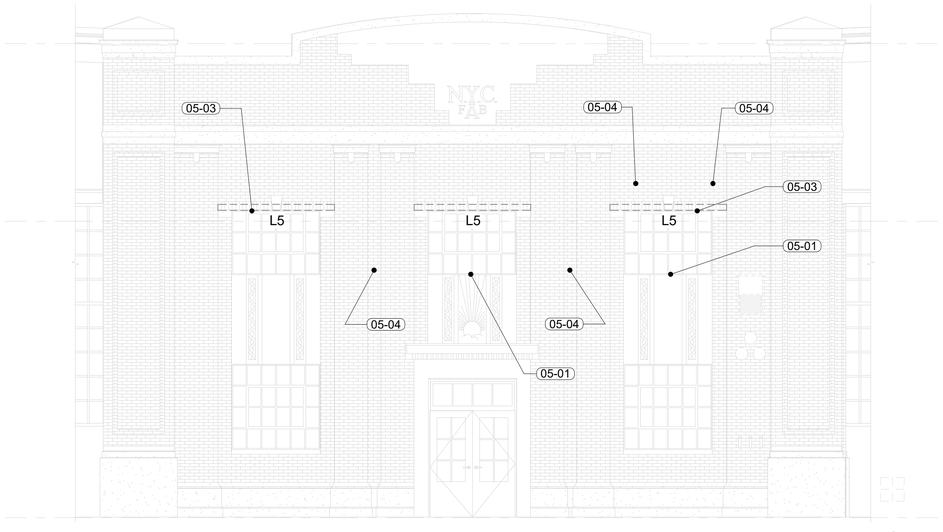
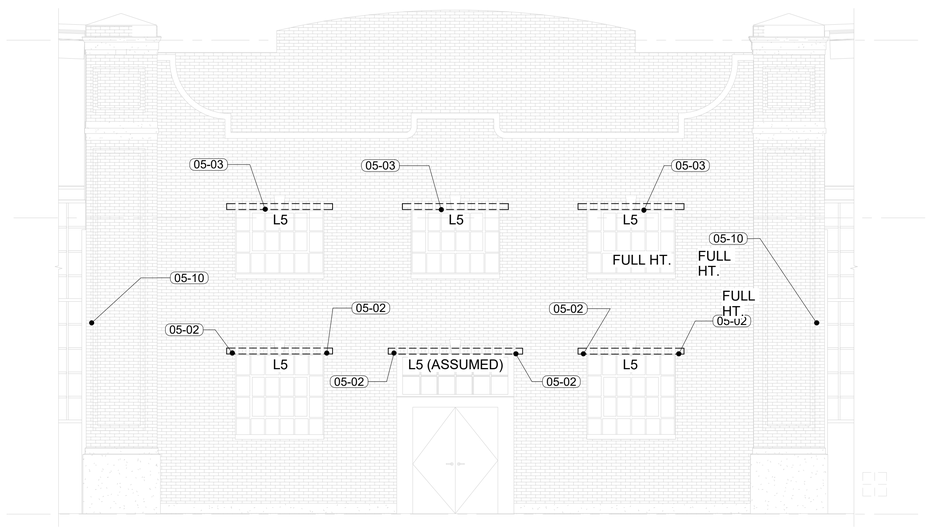


1 S4.1 ELEVATION - WPA INFILL - NORTH

SCALE C



2 S4.1 ELEVATION - WPA INFILL SOUTH

SCALE C

KEYNOTE LEGEND	
05-01	WIRE BRUSH CLEAN TO BARE METAL ALL STRUCTURAL STEEL (COLUMNS, BEAMS, TRUSS ELEMENTS AND CONNECTIONS) TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. FOR CLERESTORY BEAMS AT THE INTERSECTION OF THE HANGARS AND THE WPA INFILL BUILDING, SEQUENTIAL REMOVAL OF THE TOP COURSE OF BRICK BELOW MAY BE REQUIRED TO CLEAN THE BEAM BOTTOM FLANGE; RESET BRICK AFTER CLEANING AND COATING STEEL. AFTER CLEANING, DETERMINE SECTION LOSS BY COMPARING RESULTING ELEMENT THICKNESS (MEASURED USING DIGITAL CALIPERS) TO THE ORIGINAL THICKNESSES SHOWN ON THE DRAWINGS. REINFORCE STRUCTURAL MEMBERS WHERE FRAMING ELEMENTS HAVE EXPERIENCED MORE THAN 5% SECTION LOSS (REFERENCE COLUMN REPAIR DETAILS ON S6.1 AND BEAM REPAIR DETAILS ON S6.2). REINFORCEMENT SHALL CONSIST OF FIELD WELDING NEW STEEL REINFORCEMENT SECTIONS TO THE EXISTING COMPROMISED MEMBERS. FOR PRICING, ASSUME THAT 100% OF ALL SUPERSTRUCTURE ELEMENT SURFACES WILL REQUIRE RUST CLEANING AND COATING WITH ZINC-RICH, RUST-INHIBITING PAINT. SEE DETAILS FOR ASSUMED QUANTITIES OF REINFORCEMENT.
05-02	EXPOSE EXISTING LINTEL BEARING BY REMOVING SURROUNDING BRICK MASONRY. WIRE BRUSH CLEAN TO BARE METAL TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. IF NO OR MINIMAL SECTION LOSS IS OBSERVED, COAT ALL EXPOSED LINTEL SURFACES WITH ZINC-RICH, RUST-INHIBITING PAINT. IF SECTION LOSS IS OBSERVED, REPLACE OUTER WYTHE LINTEL WITH HOT-DIPPED GALVANIZED LINTEL TO MATCH EXISTING GEOMETRY (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS.
05-03	TEMPORARILY SHORE BRICK MASONRY ABOVE LINTEL WHERE REQUIRED. REMOVE BRICK MASONRY AROUND CORRODED LINTEL AND REPLACE LINTEL WITH HOT-DIPPED GALVANIZED ANGLES TO MATCH EXISTING IN SIZE (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS. SEE ARCHITECTURAL ELEVATIONS FOR EXTENTS OF MASONRY REBUILDING.
05-04	REMOVE MASONRY ENCASEMENT AT BEAM POCKET TO FULLY EXPOSE BEAM END AND BEARING PLATE. CLEAN ALL STEEL PER 05-01 AND REINFORCE DETERIORATED BEAM END WITH WELDED STEEL PLATES PER DETAILS ON S6.2. REPLACE BEARING PLATE WHERE REQUIRED. COAT BEAM END AND BEARING PLATE WITH ZINC-RICH, RUST-INHIBITING PAINT PRIOR TO PATCHING MASONRY.
05-10	REMOVE MASONRY ENCASEMENT ALONG COLUMN, CLEAN STEEL PER 05-01, AND REINFORCE DETERIORATE SECTION OF COLUMN AS REQUIRED WITH WELDED STEEL PLATES.

SCALE C 4' 2' 0 4' 8'

SCALE OF FEET

DESIGNED: JCT / EB / PA DRAWN: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S4.1	TITLE OF SHEET EXTERIOR ELEVATIONS - WPA INFILL HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 109 OF 153

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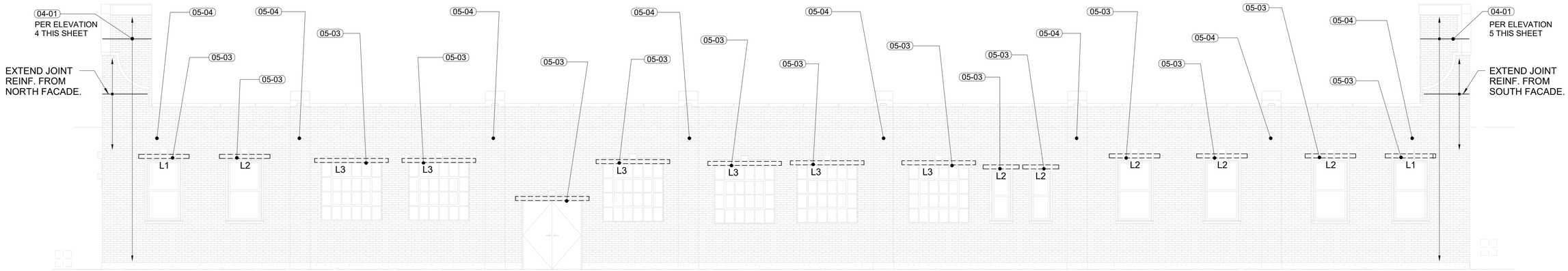
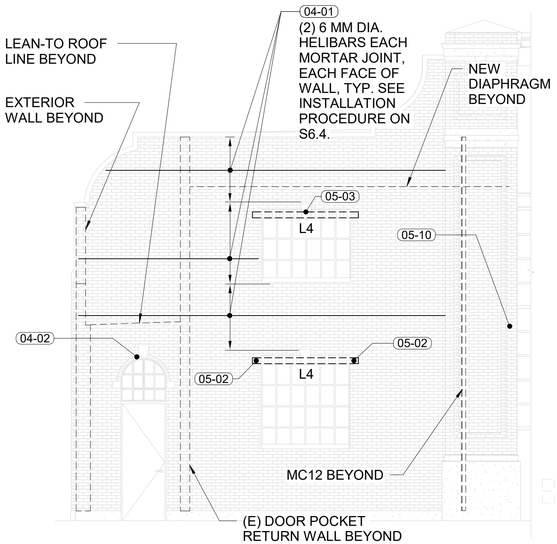


NOTE: SHORING OF MASONRY ABOVE LINTELS TO BE REPLACED IS NOT REQUIRED WHERE MASONRY IS TO BE REBUILT IN ITS ENTIRETY ABOVE WINDOW OPENINGS. REFER TO ARCH. DWGS.

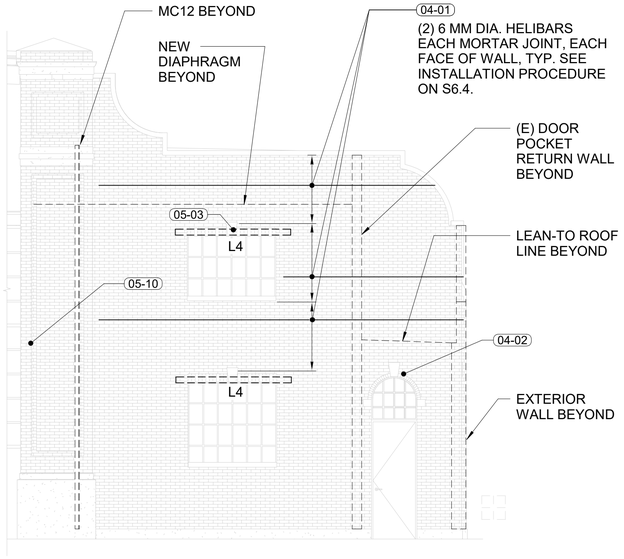
1 S4.2 ELEVATION - HANGAR 4 LEAN-TO WEST

SCALE C



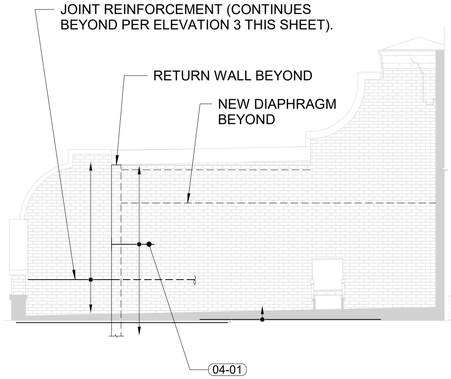
2 S4.2 ELEVATION - HANGAR 4 LEAN-TO SOUTH

SCALE C



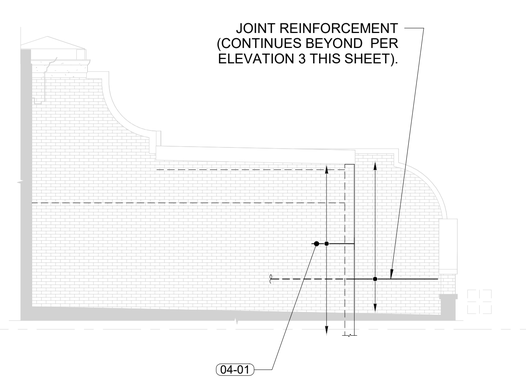
3 S4.2 ELEVATION - HANGAR 4 LEAN-TO NORTH

SCALE C



4 S4.2 ELEVATION - HANGAR 4 LEAN-TO NORTH PARAPET

SCALE C



5 S4.2 ELEVATION - HANGAR 4 LEAN-TO SOUTH PARAPET

SCALE C

KEYNOTE LEGEND	
04-01	INSTALL STAINLESS STEEL JOINT REINFORCING WITHIN BRICK JOINTS PER NOTES ON ELEVATIONS AND HELIBAR JOINT REINFORCEMENT INSTALLATION PROCEDURE ON S6.4. REINFORCING IN EXISTING MASONRY SHALL BE 6 MM DIAMETER HELIBARS OR APPROVED EQUAL. WHERE MASONRY IS TO BE REBUILT, (1) D2 DEFORMED WIRE SHALL BE SUBSTITUTED FOR (2) HELIBARS AND LAID IN THE MORTAR JOINT WITH 5/8" CLEAR MORTAR COVER AND 2'-0" LAP WHERE REQUIRED.
04-02	REBUILD MASONRY ARCH USING SALVAGED MASONRY UNITS AND COMPATIBLE MORTAR.
05-02	EXPOSE EXISTING LINTEL BEARING BY REMOVING SURROUNDING BRICK MASONRY. WIRE BRUSH CLEAN TO BARE METAL TO REMOVE SURFACE CORROSION AND RUST SCALING DEPOSITS. IF NO OR MINIMAL SECTION LOSS IS OBSERVED, COAT ALL EXPOSED LINTEL SURFACES WITH ZINC-RICH, RUST-INHIBITING PAINT. IF SECTION LOSS IS OBSERVED, REPLACE OUTER WYTHE LINTEL WITH HOT-DIPPED GALVANIZED LINTEL TO MATCH EXISTING GEOMETRY (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS.
05-03	TEMPORARILY SHORE BRICK MASONRY ABOVE LINTEL WHERE REQUIRED. REMOVE BRICK MASONRY AROUND CORRODED LINTEL AND REPLACE LINTEL WITH HOT-DIPPED GALVANIZED ANGLES TO MATCH EXISTING IN SIZE (SEE ASSUMED LINTEL PROFILES ON S6.3, V.I.F.). REBUILD MASONRY WITH APPROPRIATE MORTAR AND BRICK PER ARCHITECTURAL SPECIFICATIONS. SEE ARCHITECTURAL ELEVATIONS FOR EXTENTS OF MASONRY REBUILDING.
05-04	REMOVE MASONRY ENCASEMENT AT BEAM POCKET TO FULLY EXPOSE BEAM END AND BEARING PLATE. CLEAN ALL STEEL PER 05-01 AND REINFORCE DETERIORATED BEAM END WITH WELDED STEEL PLATES PER DETAILS ON S6.2. REPLACE BEARING PLATE WHERE REQUIRED. COAT BEAM END AND BEARING PLATE WITH ZINC-RICH, RUST-INHIBITING PAINT PRIOR TO PATCHING MASONRY.
05-10	REMOVE MASONRY ENCASEMENT ALONG COLUMN, CLEAN STEEL PER 05-01, AND REINFORCE DETERIORATE SECTION OF COLUMN AS REQUIRED WITH WELDED STEEL PLATES.

NOTE: INSTALL SIMILAR JOINT REINFORCEMENT IN HANGAR 3 WALLS AT DOOR POCKET AS SHOWN IN ELEVATIONS 1 THROUGH 5 THIS SHEET. CONTRACTOR SHALL CONFIRM THAT THERE IS NO EXISTING REINF. IN THE HANGAR 3 WALLS PRIOR TO CONSTRUCTION.

SCALE C 4' 2' 0 4' 8'
SCALE OF FEET

DESIGNED: JCT / EB / PA CADD: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S4.2	TITLE OF SHEET: EXTERIOR ELEVATIONS - HANGAR 4 LEAN-TO HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 110 OF 153

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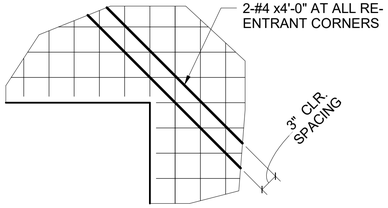
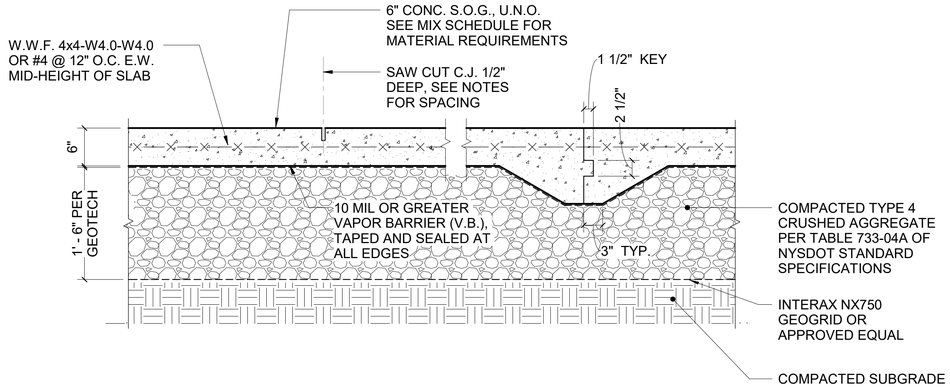
SLAB ON GRADE NOTES
1. SAWED CONTRACTION JOINTS SHALL BE LOCATED AT A MAX. SPACING OF 36 x SLAB THICKNESS (INCHES).
2. JOINTS SHALL BE SAWED NO LATER THAN 24 HOURS AFTER CONC. IS PLACED.

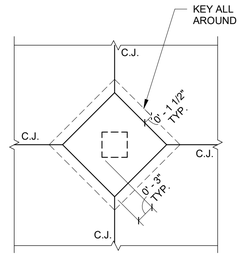
SUBGRADE PREPARATION

1. SUBGRADE BELOW NEW SLABS ON GRADE SHALL BE IMPROVED AS SPECIFIED IN THE GEOTECHNICAL INVESTIGATION REPORT REFERENCED IN THE GENERAL NOTES.
   A. UNDERCUT EXPOSED SUBGRADE TO A DEPTH OF 18 INCHES BELOW THE PROPOSED BASE OF SLAB.
   B. COMPACT AND PROOFROLL THE EXPOSED SUBGRADE.
   C. PLACE GEOGRID IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS INCLUDING THE REQUIRED MINIMUM OVERLAPS.
   D. PLACE BACKFILL COMPRISED OF CRUSHED AGGREGATE OVER THE GEOGRID TO THE PLANNED TOP OF SUBGRADE. BACKFILL PLACEMENT TO BE PERFORMED PER GEOTECHNICAL REPORT.
   E. PERFORM A FINAL PROOF ROLL PER GEOTECHNICAL REPORT.
2. CONTRACTOR'S OPTION TO USE RAMMED AGGREGATE PIERS (RAPs) AS AN ALTERNATE TO GEOGRID INSTALLATION FOR SUPPORT OF NEW SLAB ON GRADE. REFER TO RECOMMENDATIONS IN THE GEOTECHNICAL REPORT FOR INSTALLATION PROCEDURES OR CONTACT DESIGN TEAM FOR MORE INFORMATION.

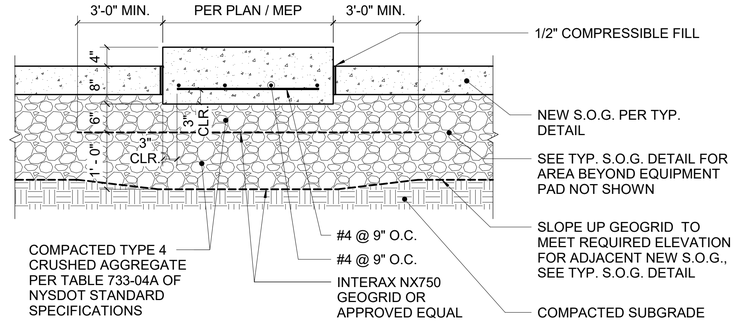


PART PLAN AT RE-ENTRANT CORNER





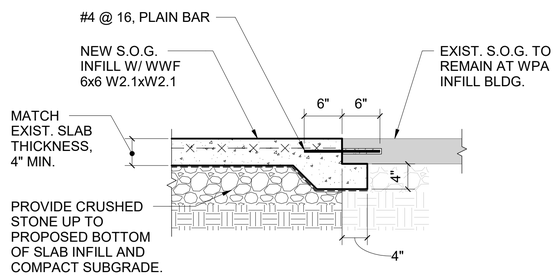
PART PLAN AT COLUMN



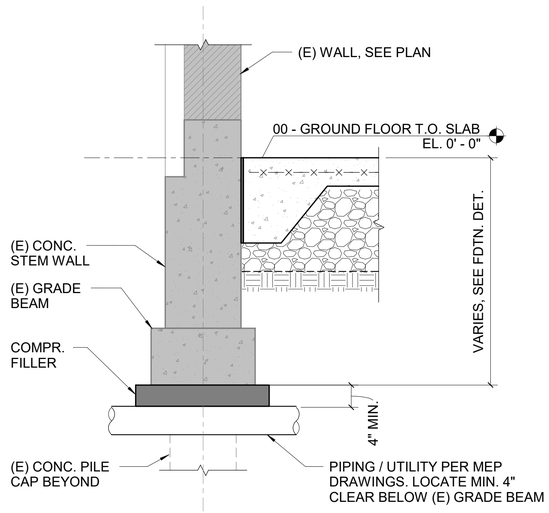
NOTES:
1. SEE 1/S5.1 FOR SUBGRADE PREPARATION.
2. BACKFILL PLACEMENT TO BE PERFORMED PER GEOTECHNICAL REPORT.
3. IF SINGLE ROLL OF GEOGRID IS NOT SUFFICIENTLY WIDE FOR COMPLETE COVERAGE IN SINGLE PASS, OVERLAP SEAMS MIN. 3'-0"
4. PAD FOUNDATION IS DESIGNED FOR NET 1,200 PSF BEARING.

1 S5.1 TYPICAL SLAB ON GRADE
SCALE: NTS

2 S5.1 TYPICAL DETAIL EQUIPMENT PAD
SCALE: NTS



3 S5.1 TYPICAL ATTACHMENT OF NEW S.O.G. TO EXISTING
SCALE: NTS



4 S5.1 TYPICAL UTILITY BELOW EXISTING FOUNDATION
SCALE: NTS

DESIGNED: JCT / EB / PA DRAWN: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S5.1	TITLE OF SHEET: TYPICAL FOUNDATION DETAILS HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 111 OF 153

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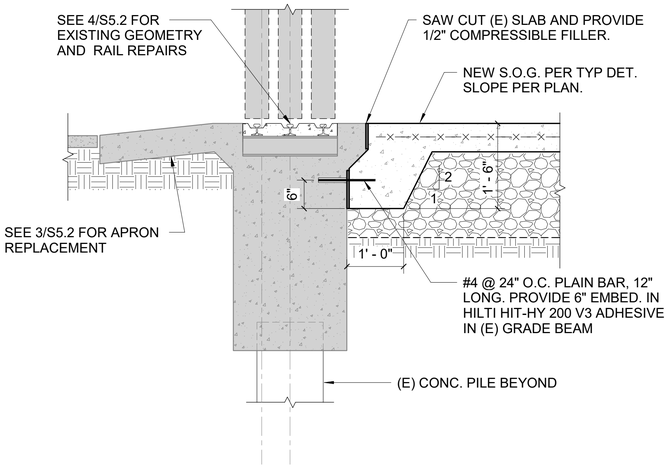
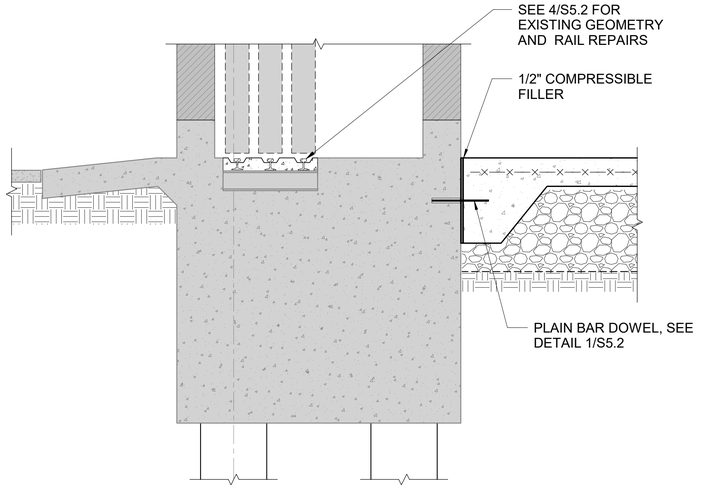


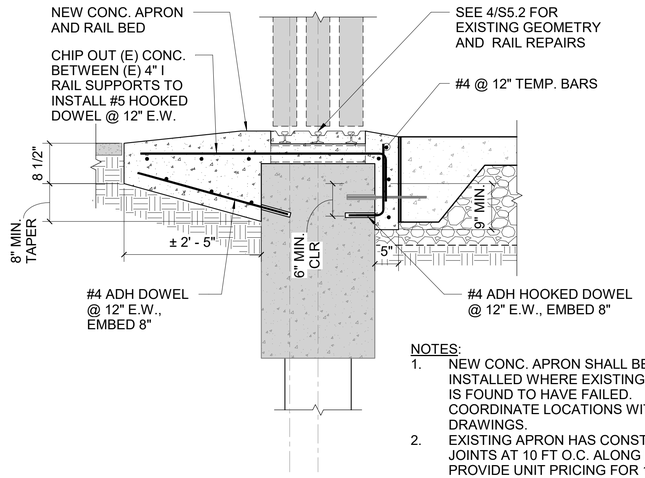
1 S5.2 SLAB ANCHORAGE AT HANGAR DOOR RAIL AND DOOR THRESHOLD

SCALE (D)



2 S5.2 SLAB ANCHORAGE AT HANGAR DOOR RAIL AND DOOR POCKET

SCALE (D)

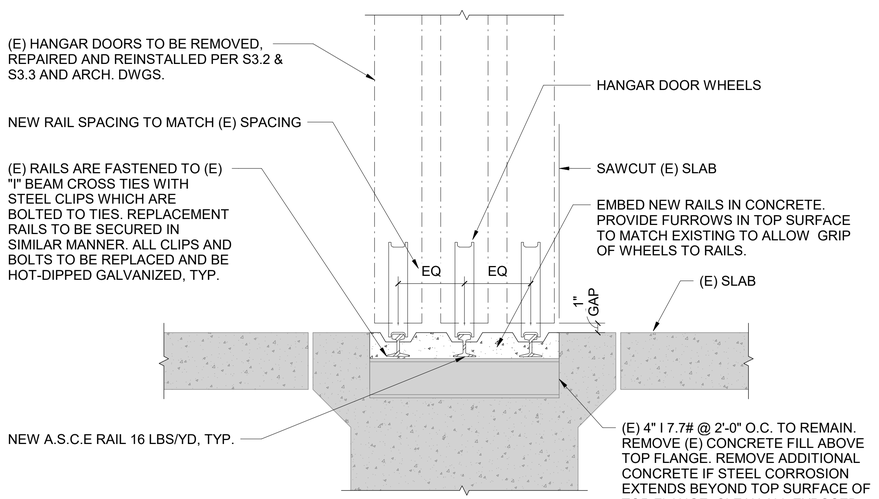


NOTES:

1. NEW CONC. APRON SHALL BE INSTALLED WHERE EXISTING APRON IS FOUND TO HAVE FAILED. COORDINATE LOCATIONS WITH ARCH. DRAWINGS.
2. EXISTING APRON HAS CONSTRUCTION JOINTS AT 10 FT O.C. ALONG LENGTH. PROVIDE UNIT PRICING FOR 10' LENGTHS OF APRON REPLACEMENT.

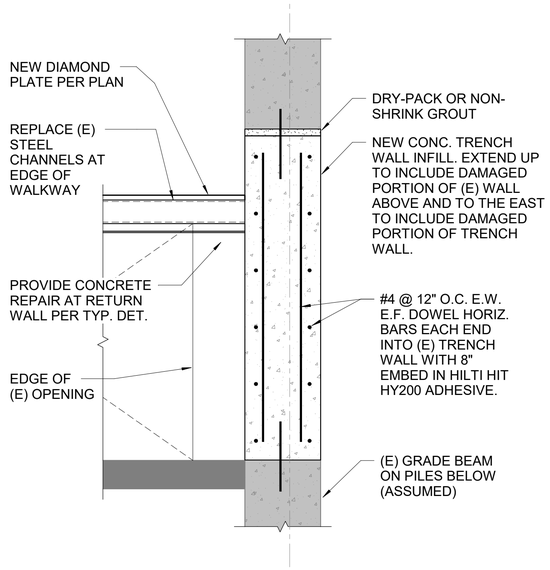
3 S5.2 NEW CONCRETE APRON AT EXISTING DOOR THRESHOLD

SCALE (D)



4 S5.2 TYPICAL DOOR RAIL REPLACEMENT

SCALE (E)



5 S5.2 SECTION AT TRENCH WALL INFILL

SCALE (D)

SCALE (E) 12" 6" 0" 1'
SCALE OF FEET

SCALE (D) 24" 12" 0" 2'
SCALE OF FEET

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET: FOUNDATION DETAILS	DRAWING NO. 646 190066
CADD: MAS	S5.2		PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF			SHEET 112 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	

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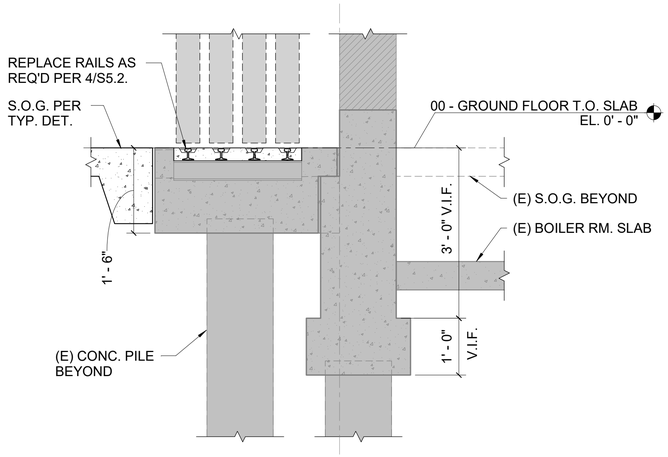
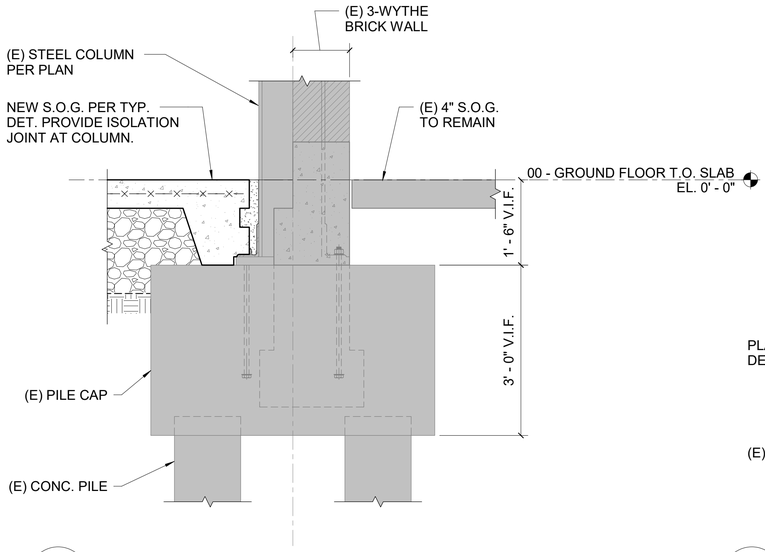
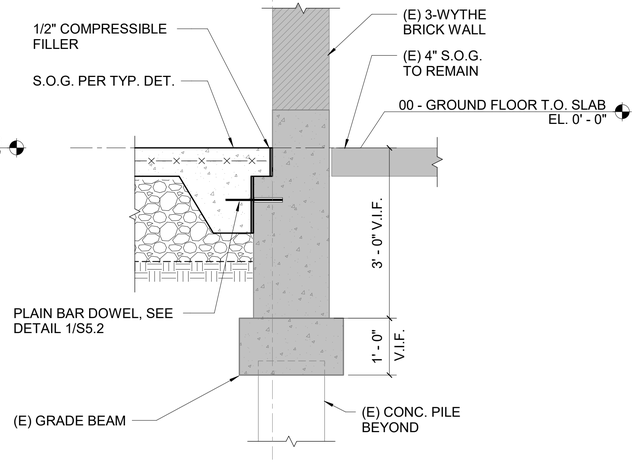


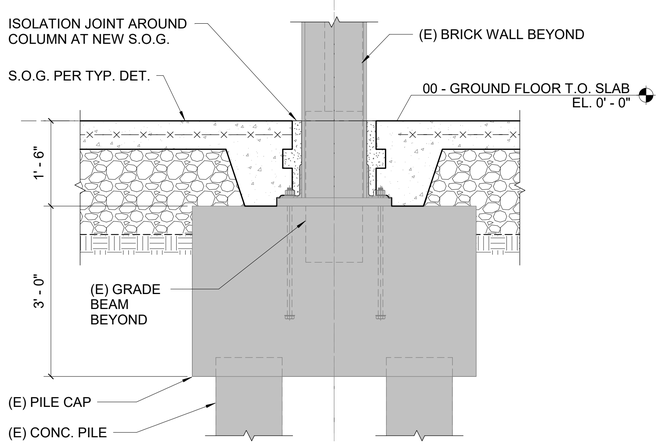
1 S5.3 SECTION AT HANGAR RAIL FOUNDATION
SCALE D



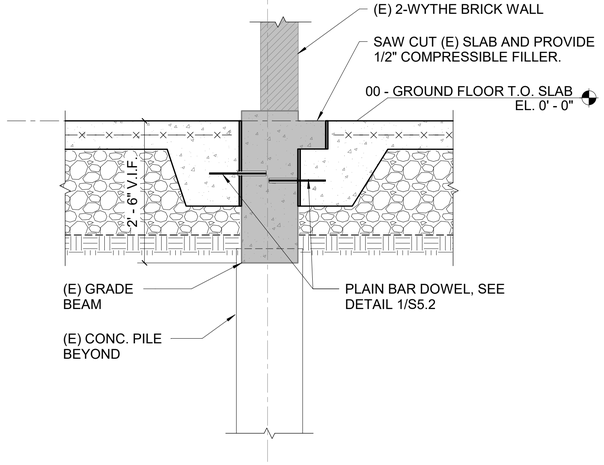
2 S5.3 DETAIL SECTION
SCALE D



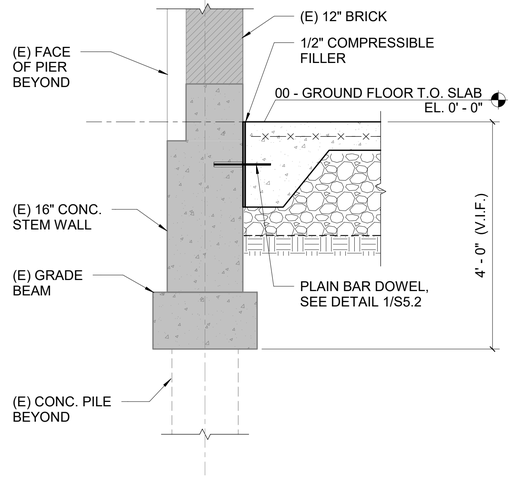
3 S5.3 DETAIL SECTION
SCALE D



4 S5.3 DETAIL SECTION
SCALE D



5 S5.3 DETAIL SECTION
SCALE D



6 S5.3 FOUNDATION SECTION AT LEAN-TO EXTERIOR WALL
SCALE D

SCALE D 24" 12" 0" 2'
SCALE OF FEET

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S5.3	FOUNDATION DETAILS	646 190066
TECH. REVIEW: NF			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 113 OF 153

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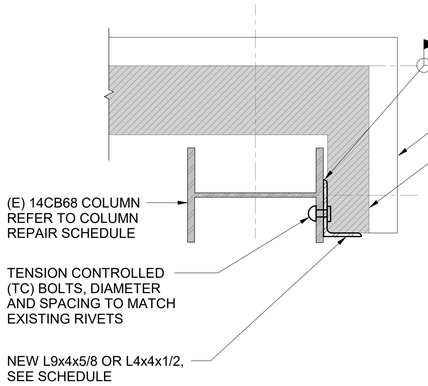


ANGLE REPAIR SCHEDULE

COLUMN LOCATION	MIN. HEIGHT OF ANGLE REPLACEMENT	ANGLE SIZE	WELDING REQUIRED
2-A	-	-	-
2-J	-	-	-
3-A	23'-0"	L9x4x5/8	YES
3-J	23'-0"	L9x4x5/8	YES
4-A	23'-0"	L9x4x5/8	YES
4-J	23'-0"	L9x4x5/8	YES
5-A	-	-	-
5-J	-	-	-

NOTES:
1. THE MINIMUM HEIGHT OF ANGLE REPLACEMENT IS REFERENCED FROM THE TOP OF CONCRETE BASE.
2. COORDINATE WITH ARCHITECTURAL DOCUMENTS FOR THE REPAIR TO THE BOTTOM PORTION OF THE EXISTING ANGLES THAT ARE CAST INTO THE CONCRETE BASE.

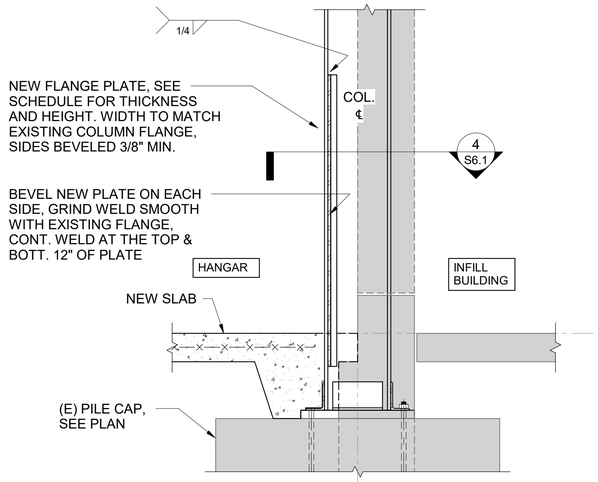
1 S6.1 HANGAR DOOR JAMB REPAIR DETAILS AT COLUMNS

SCALE: NTS

COLUMN REPAIR SCHEDULE

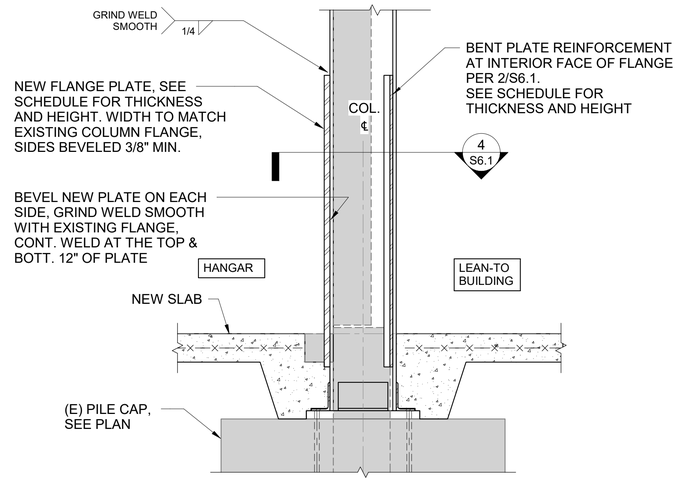
COLUMN LOCATION	MIN. THICKNESS OF FLANGE PLATE...	MIN. HEIGHT OF FLANGE...	MIN. THICKNESS OF WEB PLATE...	MIN. LENGTH OF WEB REINFORCEMENT	LEG LENGTH AT FLANGE, L1	LEG LENGTH AT WEB, L2	LOCATION
	DWG. REFERENCE (4 & 5/S6.1)		DWG. REFERENCE (6/S6.1)				
2-A	3/8"	1'-3"	1/4"	1'-3"	2-1/2"	8"	8" BELOW T.O. SLAB
2-B	1/4"	1'-2" LEAN-TO	1/4"	1'-8" LEAN-TO	2-1/2"	8"	8" BELOW T.O. SLAB
2-C	-	-	-	-	-	-	-
2-D	-	-	1/4"	4'-10" LEAN-TO	2-1/2"	8"	8" BELOW T.O. SLAB
2-E	3/8"	1'-4" LEAN-TO	-	-	-	-	8" BELOW T.O. SLAB
2-F	-	-	-	-	-	-	-
2-G	3/8"	1'-4" LEAN-TO	-	-	-	-	-
2-H	-	-	-	-	-	-	-
2-I	-	-	-	-	-	-	-
2-J	3/8"	1'-1"	3/8"	1'-1"	2-1/2"	8"	8" BELOW T.O. SLAB
3-A	3/8"	1'-6"	1/4"	2'-6"	2-1/2"	8"	8" BELOW T.O. SLAB
3-C	-	-	1/4"	6'-10"	2-1/2"	8"	8" BELOW T.O. SLAB
3-D	3/8"	1'-1"	1/4"	2'-0"	2-1/2"	8"	8" BELOW T.O. SLAB
3-E	-	-	1/4"	5'-10"	2-1/2"	8"	8" BELOW T.O. SLAB
3-F	3/8"	1'-1"	1/4"	1'-6"	2-1/2"	8"	8" BELOW T.O. SLAB
3-G	-	-	1/4"	4'-10"	2-1/2"	8"	8" BELOW T.O. SLAB
3-H	-	-	1/4"	4'-10"	2-1/2"	8"	8" BELOW T.O. SLAB
3-J	3/8"	1'-4"	1/4"	1'-4"	2-1/2"	8"	8" BELOW T.O. SLAB
4-A	3/8"	1'-4"	1/4"	1'-4"	2-1/2"	8"	8" BELOW T.O. SLAB
4-C	3/8"	1'-6"	1/4"	5'-4"	2-1/2"	8"	8" BELOW T.O. SLAB
4-D	3/8"	1'-4"	1/4"	1'-6"	2-1/2"	8"	8" BELOW T.O. SLAB
4-E	-	-	1/4"	2'-4"	2-1/2"	8"	8" BELOW T.O. SLAB
4-F	3/8"	1'-1"	1/4"	5'-4"	2-1/2"	8"	8" BELOW T.O. SLAB
4-G	3/8"	1'-3"	1/4"	2'-2"	2-1/2"	8"	8" BELOW T.O. SLAB
4-H	3/8"	1'-3"	1/4"	1'-10"	2-1/2"	8"	8" BELOW T.O. SLAB
4-J	-	-	1/4"	1'-6"	2-1/2"	8"	8" BELOW T.O. SLAB
5-A	3/8"	2'-4"	1/4"	-	-	-	8" BELOW T.O. SLAB
5-B							NOT OBSERVED
5-C	-	-	-	-	-	-	8" BELOW T.O. SLAB
5-D	3/8"	1'-6" HANGAR	-	-	-	-	8" BELOW T.O. SLAB
5-E	3/8"	2'-0" HANGAR	-	-	-	-	8" BELOW T.O. SLAB
5-F	3/8"	2'-10" LEAN-TO...	1/4"	2'-10" LEAN-TO	2-1/2"	10"	8" BELOW T.O. SLAB
5-G	3/8"	3'-10" LEAN-TO 1'-10" HANGAR	1/4"	3'-10" LEAN-TO	2-1/2"	10"	8" BELOW T.O. SLAB
5-H	3/8"	3'-4" LEAN-TO...	-	-	-	-	8" BELOW T.O. SLAB
5-I							NOT OBSERVED
5-J	3/8"	1'-3"	-	-	-	-	8" BELOW T.O. SLAB

NOTES:
REINFORCEMENT PLATE HEIGHTS INDICATED ARE BASED ON VISUAL INSPECTION OF EXISTING COLUMNS. HEIGHTS MAY INCREASE ONCE WALL MASONRY IS REMOVED AND CLEANING & MEASUREMENT OF COLUMN DETERIORATION IS COMPLETED.



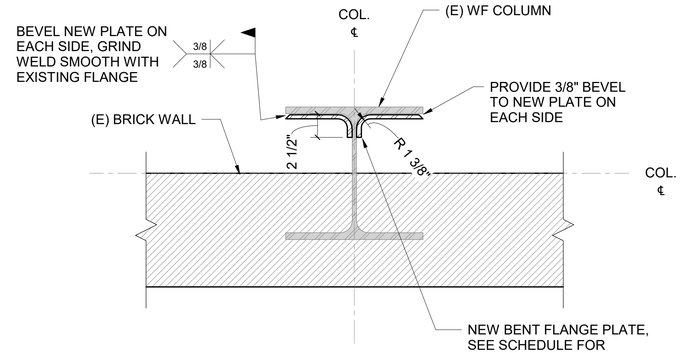
2 S6.1 TYPICAL COL FLANGE REPAIR AT INFILL ADJACENT WALL

SCALE: NTS



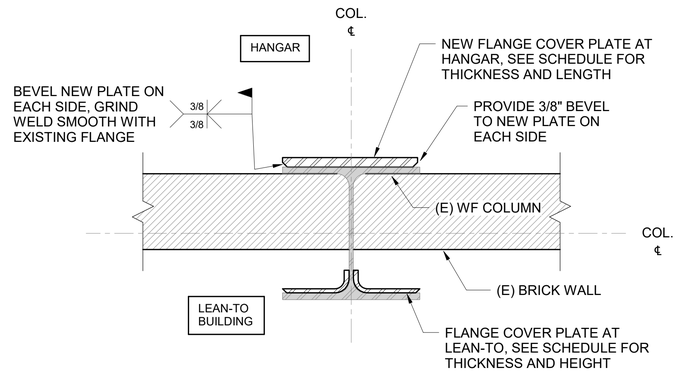
3 S6.1 TYPICAL COL FLANGE REPAIR AT LEAN-TO ADJACENT WALL

SCALE: NTS



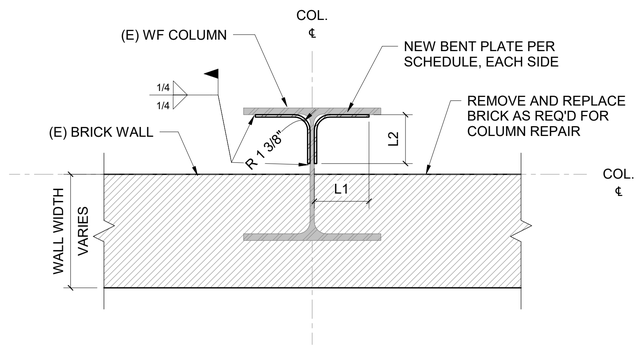
4 S6.1 SECTION AT COLUMN FLANGE REPAIR AT INFILL

SCALE: NTS



5 S6.1 SECTION AT COLUMN FLANGE REPAIR AT LEAN-TO

SCALE: NTS



6 S6.1 TYPICAL SECTION AT COLUMN WEB REPAIR

SCALE: NTS

DESIGNED: JCT / EB / PA	SUB SHEET NO. S6.1	TITLE OF SHEET: STEEL COLUMN REPAIR DETAILS	DRAWING NO. 646 190066
CADD: MAS			PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF		HANGARS 3 & 4 REHABILITATION	SHEET 114 OF 153
DATE: 12/19/2025			

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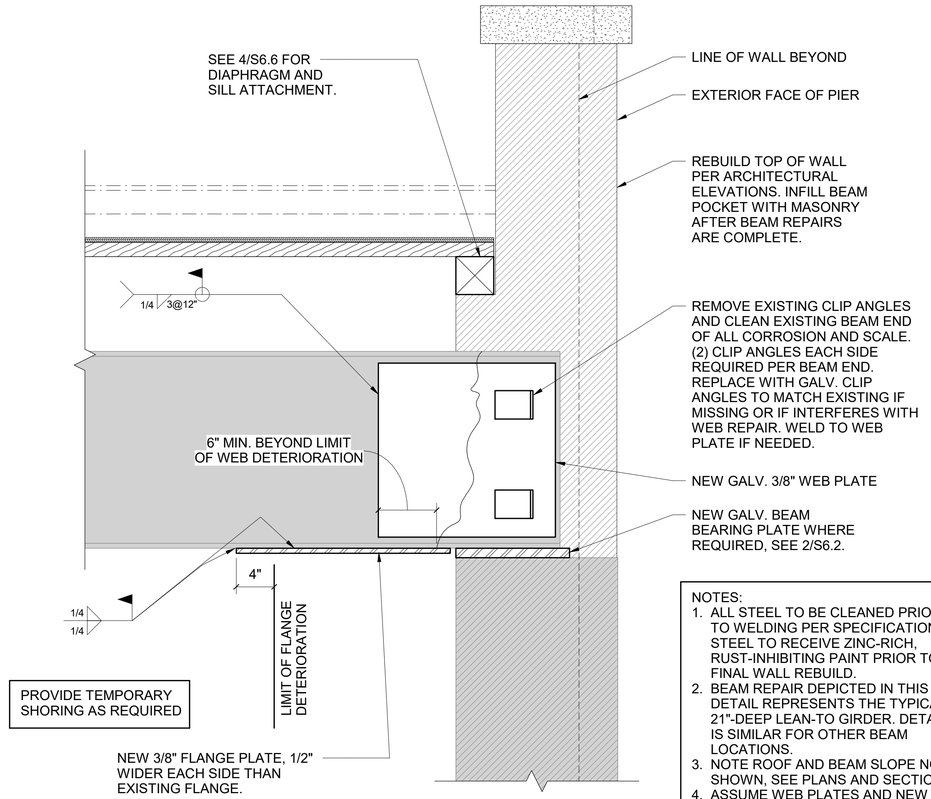
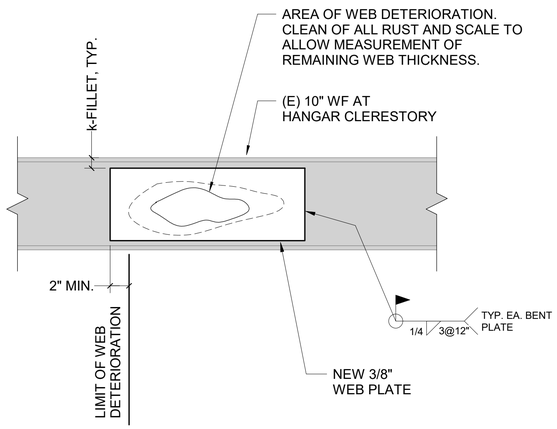


NOTES:
1. ALL STEEL TO BE CLEANED PRIOR TO WELDING PER SPECIFICATIONS. STEEL TO RECEIVE ZINC-RICH, RUST-INHIBITING PAINT PRIOR TO FINAL WALL REBUILD.
2. BEAM REPAIR DEPICTED IN THIS DETAIL REPRESENTS THE TYPICAL 21"-DEEP LEAN-TO GIRDER. DETAIL IS SIMILAR FOR OTHER BEAM LOCATIONS.
3. NOTE ROOF AND BEAM SLOPE NOT SHOWN, SEE PLANS AND SECTIONS.
4. ASSUME WEB PLATES AND NEW CLIP ANGLES WILL BE REQUIRED WHERE INDICATED ON PLAN. PROVIDE UNIT COST FOR ADD.

1 S6.2 TYPICAL LEAN-TO BEAM FLANGE AND WEB REPAIR

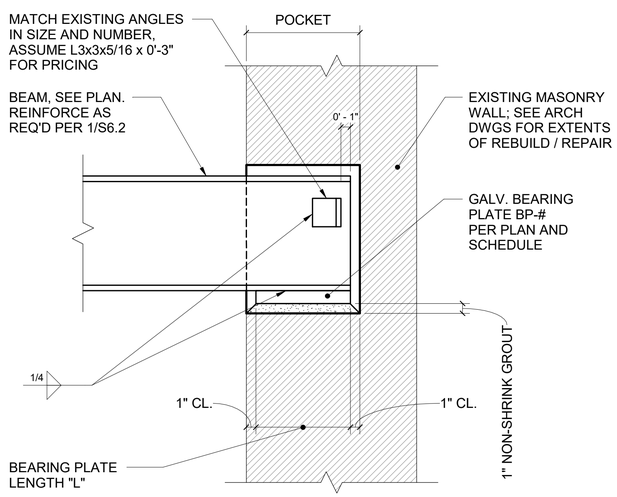
SCALE: NTS



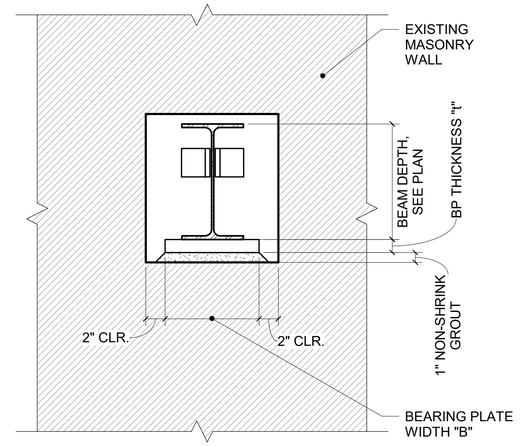
NOTES:
1. ALL STEEL TO BE CLEANED PRIOR TO WELDING PER SPECIFICATIONS. STEEL TO RECEIVE ZINC-RICH, RUST-INHIBITING PAINT PRIOR TO FINAL WALL REBUILD.
2. LOCATIONS NOTED ON PLAN INDICATE THOSE TO HAVE RUSTED THROUGH THE BEAM WEB AS OBSERVED FROM THE GROUND. ONCE THE STEEL HAS BEEN CLEANED AND OBSERVED FROM BOTH SIDES UP CLOSE, ADDITIONAL LOCATIONS WILL LIKELY BE IDENTIFIED. ASSUME 12 ADDITIONAL LOCATIONS IN ADDITION TO THOSE INDICATED ON PLAN. ASSUME A 36"-LONG WEB PLATE AT EACH LOCATION FOR PRICING AND PROVIDE A UNIT COST FOR ADDITIONAL LOCATIONS THAT MAY BE IDENTIFIED DURING CONSTRUCTION.

3 S6.2 TYPICAL HANGAR BEAM WEB REPAIR

SCALE: NTS



SECTION



ELEVATION

BEAM BEARING PLATE SCHEDULE					
BEAM SIZE	MARK	L (IN)	B (IN)	t (IN)	NOTES
21" CB 55#	BP-1	12	12	0.75	
16" B 45#	NO BP				BEARS DIRECTLY ON 2C LINTEL
4" I 7.7#	BP-3	6	6	0.50	
C10 x 15.3#	BP-4	8	6	0.50	
C8 x 11.5#	BP-5	8	6	0.50	

NOTES:
1. PROVIDE TEMPORARY SHORING TO UNDERSIDE OF BEAM NEAR BEARING END PRIOR TO REPLACING BEARING PLATE.
2. CUT POCKET IN WALL AS SHOWN.
3. FILL HOLLOWS IN WALL UNDER BEARING PLATE SOLID WITH MORTARED BRICK BEFORE PLACING PLATE. (MINIMUM 2 COURSES)
4. AFTER BEAM IS REPAIRED / REINFORCED AND BEARING PLATE IS REPLACED, BRICK UP POCKET SOLID. FULL MORTAR BEDDING IN ALL H & V BRICK JOINTS, TO POCKET FACES AND TO BEAM. (ALTERNATE: GROUT SOLID)
5. ASSUME ALL BEARING PLATES WILL NEED TO BE REPLACED WHERE INDICATED ON PLAN. PROVIDE UNIT COST FOR ADD.

2 S6.2 EXISTING BEAM BEARING REPAIR

SCALE: NTS

DESIGNED: JCT / EB / PA	SUB SHEET NO. S6.2	TITLE OF SHEET: STEEL BEAM REPAIR DETAILS	DRAWING NO. 646 190066
CADD: MAS			PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF		HANGARS 3 & 4 REHABILITATION	SHEET 115 OF 153
DATE: 12/19/2025			

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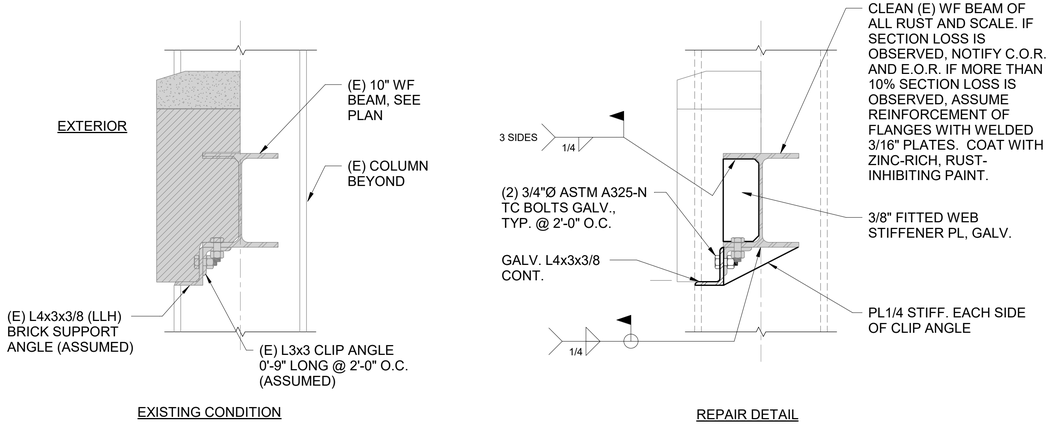
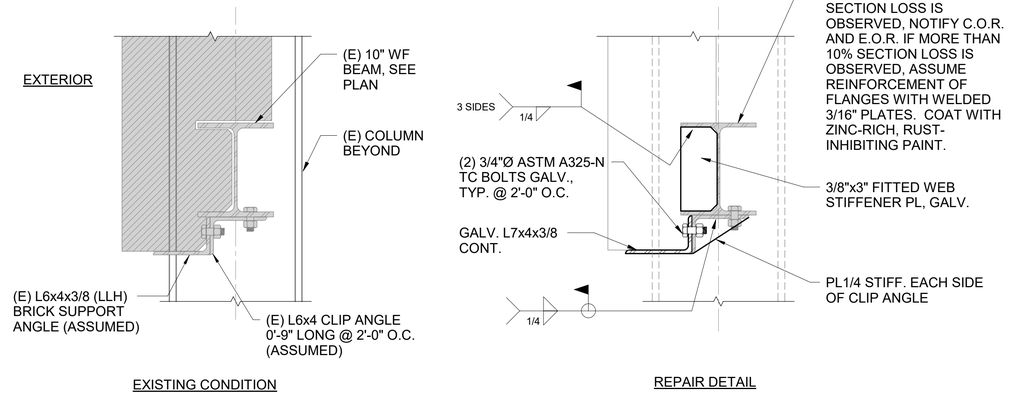


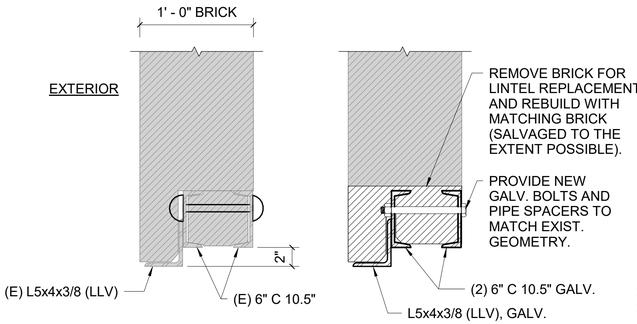
1 S6.3 TYP. HUNG LINTEL REPLACEMENT AT HANGAR CLERESTORIES - TRUSS BOTTOM CHORD LEVEL

SCALE E



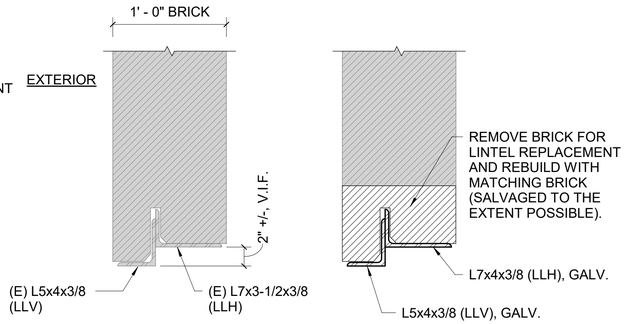
2 S6.3 TYP. HUNG LINTEL REPLACEMENT AT HANGAR CLERESTORIES - TRUSS TOP CHORD LEVEL

SCALE E



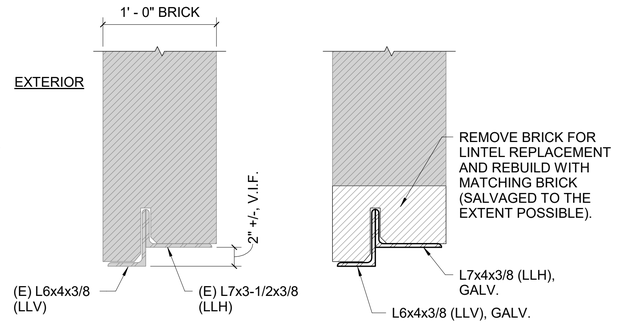
3 S6.3 TYPICAL LINTEL REPAIR AT LEAN-TO TYPE L1

SCALE E



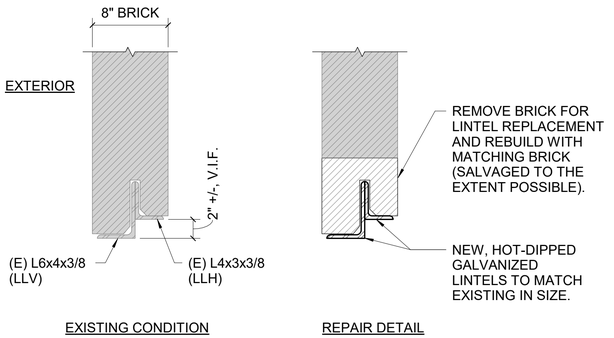
4 S6.3 TYPICAL LINTEL REPAIR AT LEAN-TO TYPE L2

SCALE E



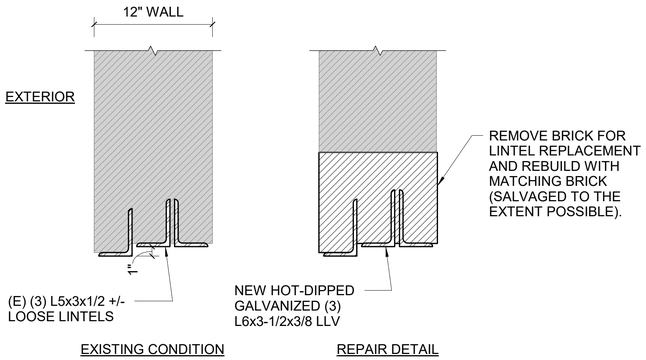
5 S6.3 TYPICAL LINTEL REPAIR AT LEAN-TO TYPE L3

SCALE E



6 S6.3 TYPICAL LINTEL REPAIR AT LEAN-TO TYPE L4

SCALE E



7 S6.3 LINTEL REPAIR AT WPA INFILL BUILDING TYPE L5

SCALE E

SUGGESTED LINTEL REPLACEMENT SEQUENCE

1. INSTALL TEMPORARY SHORING AS NECESSARY USING ADJUSTABLE POSTS OR FRAMING ON EACH SIDE OF BEARING WALL IMMEDIATELY ABOVE NEW LINTEL OR BY NEEDLING AND SHORING.
2. REMOVE A HORIZONTAL BAND OF MASONRY ABOVE THE EXISTING LINTEL TO BE REPLACED AT OUTSIDE FACE OF WALL.
3. INSTALL FIRST (OUTER) STEEL LINTEL AND TEMPORARY BLOCKING AT 2'-0" BETWEEN NEW LINTEL AND UNDERSIDE OF EXISTING MASONRY AS NECESSARY. PROVIDE BEARING LENGTH TO MATCH EXISTING (12" ASSUMED).
4. REPEAT STEP 3 ON THE OPPOSITE FACE OF THE WALL IF LINTEL AT INNER WYTHE OF MASONRY REQUIRES REPLACEMENT.
5. FOR LINTEL L1, BOLT BEAMS TOGETHER THROUGH PIPE SPACERS AT ENDS AND AT 2'-0" O.C. WITH 3/4"Ø A36 THREADED RODS.
6. REBUILD MASONRY ABOVE STEEL WITH BRICK TO MATCH EXISTING. USE SALVAGED BRICK TO THE EXTENT POSSIBLE.
7. ALLOW 12 HOURS FOR CURING, THEN REMOVE SHORING.

SCALE E

12" 6" 0" 1'

SCALE OF FEET

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S6.3	MASONRY REPAIR AND LINTEL REPLACEMENT DETAILS	646 190066
TECH. REVIEW: NF		HANGARS 3 & 4 REHABILITATION	PMIS/PKG NO. GATE 308504
DATE: 12/19/2025			SHEET 116 OF 153

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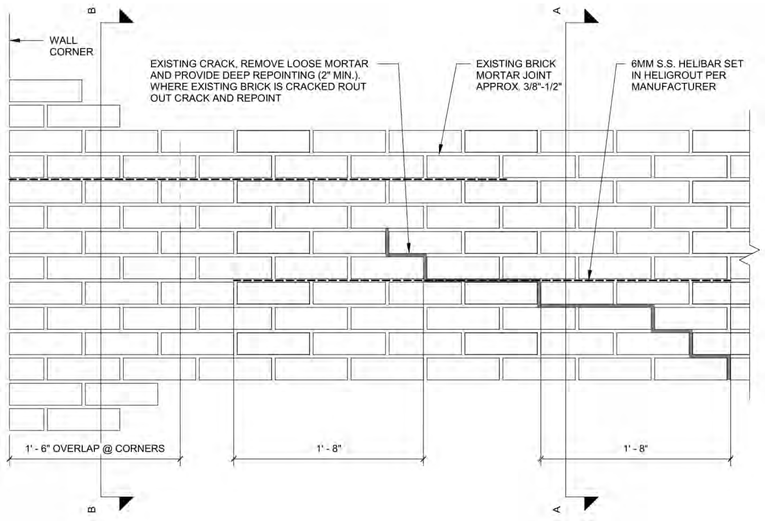
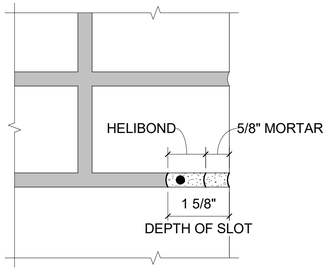
NOTES:
1. STITCHING REINFORCEMENT TO BE 6 MM HALFEN HELIFIX HELIBAR GRADE 304 STAINLESS STEEL OR APPROVED EQUAL.
2. HELIBAR SHALL BE INSTALLED AT 16"+/- O.C. VERTICALLY, ALONG FULL HEIGHT OF EXISTING CRACK AND AT LEAST 16" ABOVE AND BELOW CRACK EXTENTS.
3. THE DEPTH OF SLOT FOR HELIBAR INSTALLATION SHALL BE 1-5/8" (SEE SECTION A-A). GROUT BAR PER MANUFACTURER'S RECOMMENDATIONS AND REPOINT OUTER PORTION OF JOINT WITH APPROVED POINTING MORTAR.
4. SEE HELIFIX-HELIBAR MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS FOR SUGGESTED INSTALLATION PROCEDURE.



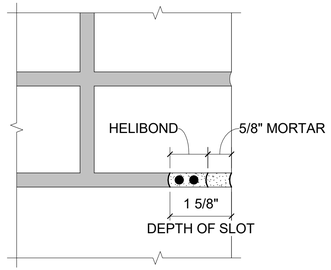
1 S6.4 BRICK MASONRY STITCHING REPAIR ELEVATION

SCALE: NTS



SECTION A-A

TYPICAL DETAIL AT SINGLE HELIBAR



SECTION B-B

TYPICAL DETAIL AT DOUBLE HELIBAR OR AT HELIBAR OVERLAP

HELIBAR JOINT REINFORCEMENT INSTALLATION PROCEDURE

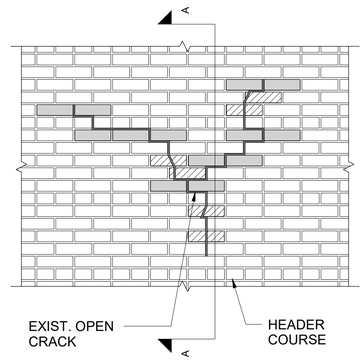
1. USING A TWIN-BLADED, DIAMOND-TIPPED WALL CHASER AND VACUUM ATTACHMENT, FOLLOWED BY A HAND OR POWER CHISEL IF REQUIRED TO ACHIEVE FINAL SLOT DEPTH, CUT 40 mm (1-5/8") DEEP SLOT INTO HORIZONTAL MORTAR JOINT. HEIGHT OF SLOT SHALL EQUAL FULL MORTAR JOINT HEIGHT AND SHALL BE A MINIMUM HEIGHT OF 8 mm (3/8"). ENSURE THAT NO MORTAR IS LEFT ATTACHED TO THE EXPOSED BRICK SURFACES WITHOUT CUTTING INTO EXISTING BRICK UNITS.
2. REMOVE ALL DUST AND MORTAR FROM THE SLOT, AND THOROUGHLY FLUSH WITH WATER. WHERE THE SUBSTRATE IS VERY POROUS OR FLUSHING WITH WATER IS INAPPROPRIATE, USE A WATER-BASED PRIMER FOR POROUS SURFACES (HeliPrimer WB OR APPROVED EQUAL). ENSURE THE SLOT IS DAMP OR PRIMED PRIOR TO COMMENCING STEP 5.
3. MIX HeliBond (OR APPROVED EQUAL) CEMENTITIOUS GROUT USING A POWER MIXER (3-JAW-CHUCK DRILL WITH MIXING PADDLE) AND LOAD INTO THE INJECTION GUN (Helifix Pointing Gun CS OR APPROVED EQUAL).
4. FIT APPROPRIATE MORTAR NOZZLE ON INJECTION GUN.
5. INJECT AN APPROXIMATELY 15 mm (5/8") DEEP BEAD OF HeliBond (OR APPROVED EQUAL) GROUT INTO THE BACK OF THE SLOT.
6. PUSH ONE 6 mm (1/4") DIAMETER HeliBar (OR APPROVED EQUAL) INTO THE GROUT AS NEEDED TO OBTAIN GOOD COVERAGE.
7. INJECT A SECOND APPROXIMATELY 15 mm (5/8") DEEP BEAD OF HeliBond (OR APPROVED EQUAL) GROUT OVER THE EXPOSED BAR.
8. PUSH A SECOND 6 mm (1/4") DIAMETER HeliBar (OR APPROVED EQUAL) INTO THE GROUT AS NEEDED TO OBTAIN GOOD COVERAGE.
9. INJECT A THIRD APPROXIMATELY 15 mm (5/8") DEEP BEAD OF Helibond (OR APPROVED EQUAL) GROUT OVER THE EXPOSED BAR. IRON IT INTO THE SLOT USING A STANDARD FINGER TROWEL. INJECT ADDITIONAL GROUT IF NECESSARY TO LEAVE 15 mm (5/8") FOR REPOINTING. (REPOINTING MAY COMMENCE AS SOON AS HeliBond GROUT HAS STARTED TO GEL.)
10. REPOINT THE REMAINING SLOT WITH APPROPRIATE MORTAR TO MATCH EXISTING CONSTRUCTION AND IN ACCORDANCE WITH STRUCTURAL GENERAL NOTES, ARCHITECTURAL / CONSERVATION REQUIREMENTS, AND PROJECT SPECIFICATIONS.

NOTES:
1. INSTALL PROPRIETARY REINFORCEMENT AND GROUT SYSTEMS IN ACCORDANCE WITH SUMMARY NOTES ABOVE AND MANUFACTURER'S RECOMMENDATIONS.
2. ANY CRACKS IN THE MASONRY WHERE THE JOINT REINFORCEMENT IS TO BE INSTALLED MUST BE REPAIRED PRIOR TO INSTALLATION.
3. ANY MISSING OR POOR QUALITY MASONRY MUST BE REPLACED PRIOR TO INSTALLATION.
4. IN HOT CONDITIONS, ENSURE THE MASONRY IS WELL WETTED OR PRIMED TO PREVENT PREMATURE DRYING OF THE HeliBond (OR APPROVED EQUAL) GROUT. ADDITIONAL WETTING OR PRIMING OF THE SLOT SHOULD BE CARRIED OUT JUST PRIOR TO GROUT INJECTION.
5. DO NOT INSTALL HeliBond (OR APPROVED EQUAL) GROUT WHEN THE AIR TEMPERATURE IS BELOW 4 DEGREES CELCIUS (39 DEGREES FAHRENHEIT) OR APPLY OVER ICE.
6. IF HeliBars (OR APPROVED EQUAL) ARE NOT CONTINUOUS, BARS SHALL BE SPLICED 500 mm (20") MINIMUM. SPLICES IN BARS SHALL BE STAGGERED.

NOTES:
1. (2) 6 MM HELIBAR CAN BE SUBSITUTED WITH (1) D2 DEFORMED WIRE LAID IN MORTAR JOINT IN BRICK COURSES WHERE MASONRY IS TO BE FULLY REBUILT.
2. REFER TO HELIBAR JOINT REINFORCEMENT INSTALLATION PROCEDURE FOR ADDITIONAL INFORMATION.

2 S6.4 BRICK MASONRY JOINT REINFORCEMENT DETAIL AT CORNERS, TEES AND WALL ENDS (PLAN VIEW)

SCALE: NTS



WALL ELEVATION

SECTION A-A

NOTES:

1. DENOTES BRICKS TO BE REMOVED, SALVAGED AND RESET IN NEW MORTAR THAT IS COMPATIBLE WITH EXISTING MASONRY CONSTRUCTION. WHERE CRACK IS THROUGH FULL WALL THICKNESS, REBUILD AS SUCH AT OUTERMOST WYTHES. FILL CRACK WITHIN INNER WYTHES OF WALL WITH MORTAR OR APPROVED GROUT.
2. DENOTES CRACKED BRICKS TO BE REPLACED WITH FULL SIZED BRICKS TO MATCH EXISTING WITH COMPATIBILITY FOR BOTH MATERIAL STRENGTH AND APPEARANCE. WHERE ADEQUATE REPLACEMENT BRICK IS NOT AVAILABLE, AND WITH EXPLICIT APPROVAL BY ARCHITECT AND OWNER, CRACKS IN BRICKS MAY BE ROUTED OUT AND REPOINTED FOR FULL DEPTH.
3. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL REPAIR DETAILS.

3 S6.4 TYPICAL BRICK REPAIR DETAIL

SCALE: NTS

DESIGNED: JCT / EB / PA CADD: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S6.4	TITLE OF SHEET: TYPICAL BRICK REPAIR DETAILS HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 117 OF 153

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CONCRETE REPAIR NOTES

1. STANDARDS

   A. ASTM C171, C309, C387, AND C881, LATEST EDITIONS.

   B. AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS: ACI 301, ACI 305R, ACI 306R, ACI 308, ACI 311.4R, ACI 318.1, AND ACI SP-15.

2. PACKAGED PRODUCTS: SUBMIT MANUFACTURER'S SPECIFICATIONS, INSTALLATION PROCEDURES, AND MATERIAL SAFETY DATA SHEETS FOR ONE OF THE APPROVED PRODUCTS:

   A. NON-SAG POLYMER-MODIFIED PORTLAND CEMENT PATCHING MORTAR.

      1. SIKAREPAIR SHB - SIKA CONCRETE RESTORATION.
      2. OVERHEAD MORTAR - STO CONCRETE RESTORATION DIVISION.
      3. VERTICOAT - EUCLID CHEMICAL COMPANY.
      4. APPROVED EQUAL.

   B. CORROSION INHIBITORS

      1. SIKA ARMATEC 110 - SIKA FERRO GUARD.
      2. CORTEC MCI - 2020 BY MONEX RESOURCES, INC.
      3. APPROVED EQUAL.

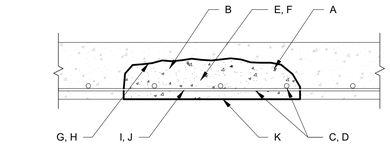
3. SEQUENCE & CONSTRUCTION NOTES (SEE SECTION A)

   A. PREPARE SURFACES TO BE RESTORED IN COMPLIANCE WITH PRODUCT MANUFACTURER'S PRINTED INSTRUCTIONS AND AS SPECIFIED. CLEAN AREAS TO BE RESTORED WITH WIRE BRUSH AND COMPRESSED AIR OR WATER TO REMOVE ALL LOOSE MATERIALS, INCLUDING OIL, DIRT, DUST, OR OTHER FOREIGN MATERIAL FROM SURFACES TO BE REPAIRED.
   B. REMOVE LOOSE AND DETERIORATED CONCRETE BY MECHANICAL MEANS DOWN TO SOUND CONCRETE SUBSTRATE. DETAIL THE EDGE OF THE PATCH TO A 90-DEGREE ANGLE AND 1/2" MINIMUM DEPTH TO PREVENT FURTHER EDGING. CHIP CONCRETE SUBSTRATE TO OBTAIN A FRACTURED AGGREGATE SURFACE WITH A MINIMUM SURFACE PROFILE OF 1/8" DEPTH.
   C. ALL OXIDIZED AND CORRODED BARS SHALL BE UNDERCUT A MINIMUM OF 3/4" OR 1/4" LARGER THAN THE LARGEST SIZE AGGREGATE IN THE PATCHING CONCRETE, WHICHEVER IS GREATER. EXPOSED BARS WHICH ARE NOT OXIDIZED OR CORRODED DO NOT HAVE TO BE UNDERCUT IF LESS THAN 50% OF THE BAR'S CIRCUMFERENCE IS EXPOSED AND THE BOND BETWEEN THE BAR AND CONCRETE IS INTACT. IF THE BOND IS BROKEN OR MORE THAN 50% OF THE BAR'S CIRCUMFERENCE IS EXPOSED, THEN THE BAR SHALL BE UNDERCUT AS DESCRIBED IN SECTION C.
   D. CLEAN REINFORCING STEEL OF OXIDATION USING A WIRE BRUSH. THE REINFORCING BARS SHALL BE CLEANED TO BRIGHT METAL. APPLY ANTI-CORROSION PRIMER AND BONDING BRIDGE. COAT THE REINFORCEMENT OR OTHER STEEL TO REMAIN WITH CORROSION INHIBITOR.
   E. IF REDUCED SECTION OF REINFORCEMENT IS LESS THAN 80% OF ORIGINAL AREA, PROVIDE ADDITIONAL REINFORCING STEEL OF 1.5 x AREA LOST OR GREATER OR REPLACE WITH NEW.
   F. REINFORCING SHALL BE ADDED ACCORDING TO NOTES BELOW AND SECTIONS B AND C.

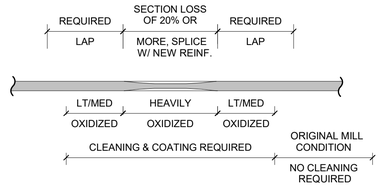
      1. SPLICE LENGTH SHOWN SHALL EXTEND ON BOTH ENDS OF HEAVILY OXIDIZED SECTION FROM THE POINT WHERE THE EXISTING BAR IS BEING SPLICED.
      2. IF LAP SPLICE OF ADDITIONAL STEEL EXTENDS BEYOND THE REPAIR AREA PERIMETER, CUT A NOTCH IN THE EXISTING CONCRETE TO PROVIDE A 3/4" CLEAR SPACE BEHIND AND ON EACH SIDE OF THE ADDED STEEL.
      3. BOTTOM BAR SPLICE NEED NOT EXTEND BEYOND THE FACE OF SUPPORT OF THE BEAM OR GIRDER.
      4. IF ADDED STEEL ENCOUNTERS END OF MEMBER, PROVIDE HOOK OR MECHANICAL ANCHOR TO DEVELOP THE STEEL TENSION CAPACITY. DRILL & GROUT AS REQ'D.
      5. IF OBSTRUCTION PREVENTS FULL SPLICE LENGTH, USE MECHANICAL TENSION SPLICE COUPLER. CUT AND CONNECT TO EXIST REINF.
      6. SEE SECTIONS B & C FOR ADDITIONAL INFO.

   G. SATURATE THE SURFACE OF THE PREPARED CONCRETE WITH WATER FOR A MAXIMUM OF TWO HOURS PRIOR TO THE PLACEMENT OF THE NEW CONCRETE. NO STANDING WATER AT THE TIME OF PATCH INSTALLATION.
   H. JUST PRIOR TO NEW CONCRETE PLACEMENT, APPLY A SCRUB COAT OF A THIN CEMENT SLURRY WITH A STIFF BRUSH. SLURRY MUST BE SCRUBBED INTO SUBSTRATE, FILLING ALL PORES AND VOIDS.
   I. APPLY REPAIR MORTAR PER MANUFACTURER'S REQUIREMENTS. AT AREAS WHERE THE DEPTH OF REPAIR TO SOUND CONCRETE EXCEEDS THE MAXIMUM THICKNESS OF A SINGLE LIFT AS INDICATED BY THE MORTAR MANUFACTURER, APPLY THE PATCHING MORTAR IN MULTIPLE LIFTS WITH THICKNESS NOT EXCEEDING THE MAXIMUM. ALLOW SUFFICIENT CURING TIME AND SCORE MORTAR SURFACE BETWEEN LIFTS.
   J. PLACE CONCRETE TO MINIMUM 3/4" COVER OVER REINFORCING BARS.
   K. STRIKE OFF SURFACES AS NECESSARY AND ALLOW CONCRETE TO SET. COORDINATE WITH ARCHITECT FOR FINAL FINISH APPEARANCE, CURE BY COVERING EXPOSED SURFACES WITH WET BURLAP.

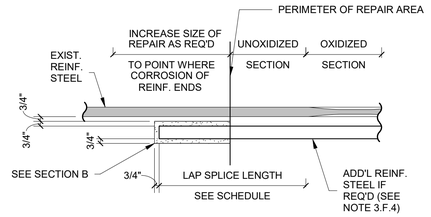
4. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL REPAIR DETAILS.



SECTION A



SECTION B

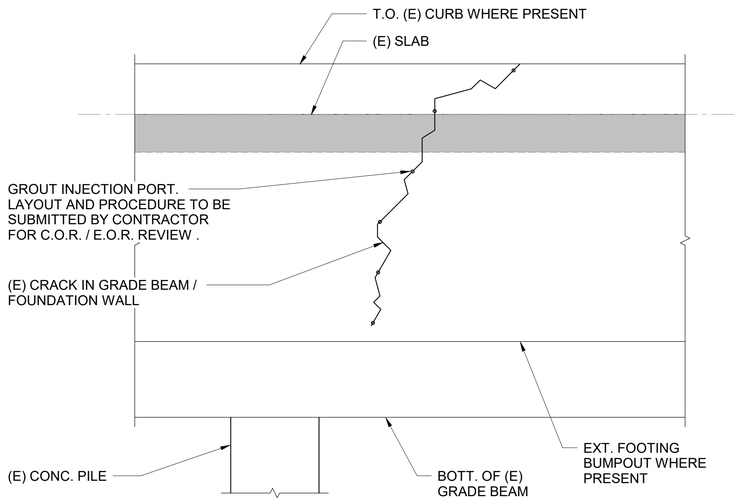


SECTION C

SLAB BAR REPAIR SPLICE SCHEDULE			
EXISTING BAR SIZE	BOT BARS	TOP BARS	REMARKS
#3	12"	16"	
#4	16"	22"	
#5	20"	27"	
#6	25"	35"	
#7	34"	48"	
#8	45"	63"	

1 S6.5 TYPICAL CONCRETE REPAIR DETAIL

SCALE: NTS



CONCRETE EPOXY INJECTION REPAIR NOTES

1. STANDARDS

   A. ASTM C881, STANDARD SPECIFICATION FOR EPOXY-RESIN-BASE BONDING SYSTEMS FOR CONCRETE, LATEST EDITION.

   B. AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS: ACI 224.1R, ACI 364.1R, ACI 503R, AND ACI 546.

2. EPOXY PRODUCTS: SUBMIT MANUFACTURER'S SPECIFICATIONS, INSTALLATION PROCEDURES, AND MATERIAL SAFETY DATA SHEETS.

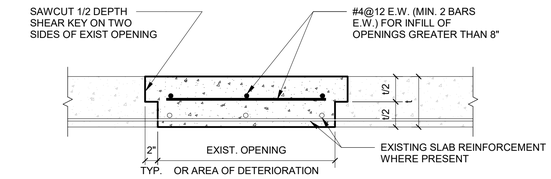
3. RECOMMENDED SEQUENCE & CONSTRUCTION NOTES

   A. CLEAN THE SURFACE AREA ABOUT 1/2" WIDE ON EACH SIDE OF THE CRACK BY WIRE BRUSHING. WHERE CONCRETE SURFACES ADJACENT TO THE CRACK ARE DETERIORATED, V-GROOVE THE CRACK UNTIL SOUND CONCRETE IS REACHED.
   B. INSTALL INJECTION PORTS AT 8 INCHES ON CENTER OR AS REQUIRED BASED ON MATERIAL THICKNESS AND WIDTH OF CRACK. INSTALL THE CAP SEAL.
   C. BATCH AND MIX THE EPOXY IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. FOR CRACK WIDTHS 0.010 INCHES OR SMALLER, USE A LOW-VISCOSITY EPOXY (500 CPS OR LESS). FOR WIDER CRACKS, OR WHERE INJECTION ACCESS IS LIMITED TO ONE SIDE, USE A MEDIUM TO GEL VISCOSITY MATERIAL.
   D. INJECT THE EPOXY, STARTING AT THE WIDEST SECTION OF THE CRACK AT HORIZONTAL CRACKS OR AT THE BASE OF THE CRACK FOR VERTICAL CRACKS. CONTINUE THE INJECTION UNTIL REFUSAL AND CAP PORT. MANAGE PRESSURE WITH CARE TO PREVENT BLOWOUT OF THE CAP SEAL OR PORTS.
   E. REMOVE THE PORTS AND CAP SEAL BY HEAT, CHIPPING OR GRINDING.
   F. TO ENSURE THAT THE INJECTIONS HAS BEEN SUCCESSFUL, PERFORM NON-DESTRUCTIVE EVALUATION (NDE) USING ONE OF THE FOLLOWING METHODS:

      1. IMPACT ECHO (IE).
      2. ULTRASONIC PULSE VELOCITY (UPV)
      3. SPECTRAL ANALYSIS OF SURVACE WAVES (SASW)

4 S6.5 GRADE BEAM CRACK EPOXY REPAIR (ELEVATION)

N.T.S.



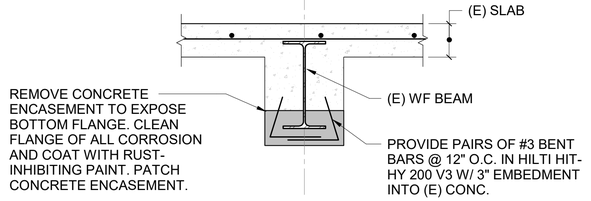
INFILL OF EXISTING OPENINGS < 3'-0" MAX DIMENSION

NOTES FOR INFILL OF EXISTING OPENINGS:
1. THIS DETAIL APPLIES FOR INFILL OF EXISTING OPENINGS UP TO 3'-0" MAX. IN DIMENSION.
2. CREATE SHEAR KEY ON SIDES OF OPENING.
3. PROVIDE REINFORCING PER DETAIL FOR INFILL OF OPENINGS GREATER THAN 8".
4. FORM BOTTOM OF INFILL AND CAST CONCRETE.

NOTES FOR FULL-DEPTH CONCRETE SLAB REPAIR
1. REMOVE LOOSE CONCRETE PER 1/S6.5 TO SOUNDS MATERIAL. THIS DETAIL APPLIES WHERE LOOSE / DETERIORATED CONCRETE EXTENDS TO FULL DEPTH OF SLAB.
2. CLEAN AND COAT REINFORCING STEEL PER 1/S6.5. PROVIDE ADDITIONAL REINFORCING AS NEEDED PER 1/S6.5 (MID-DEPTH REINFORCING AS SHOWN ABOVE NOT REQUIRED).
3. CREATE SHEAR KEY ON SIDES OF OPENING.
4. SATURATE THE SURFACE OF THE PREPARED CONCRETE WITH WATER FOR A MAXIMUM OF TWO HOURS PRIOR TO THE PLACEMENT OF THE NEW CONCRETE. NO STANDING WATER AT THE TIME OF PATCH INSTALLATION.
5. JUST PRIOR TO NEW CONCRETE PLACEMENT, APPLY A SCRUB COAT OF A THIN CEMENT SLURRY WITH A STIFF BRUSH. SLURRY MUST BE SCRUBBED INTO SUBSTRATE, FILLING ALL PORES AND VOIDS.
6. FORM BOTTOM OF REPAIR AREA AND CAST CONCRETE.

2 S6.5 TYPICAL FULL-DEPTH CONCRETE REPAIR DETAIL / INFILL OF EXISTING OPENINGS

SCALE: NTS



3 S6.5 TYPICAL CONCRETE ENCASEMENT REPAIR

SCALE: NTS

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET: TYPICAL CONCRETE REPAIR DETAILS	DRAWING NO. 646 190066
CADD: MAS	S6.5		PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF			SHEET 118 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	

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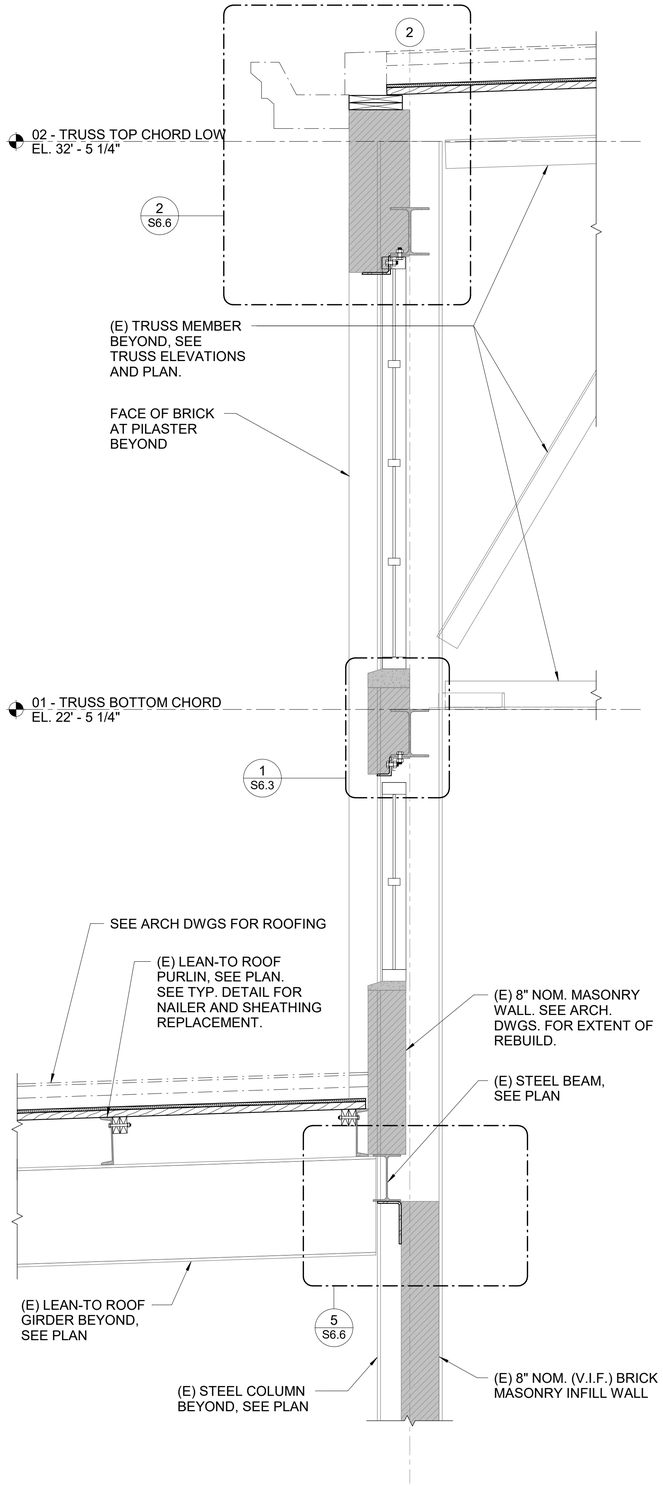
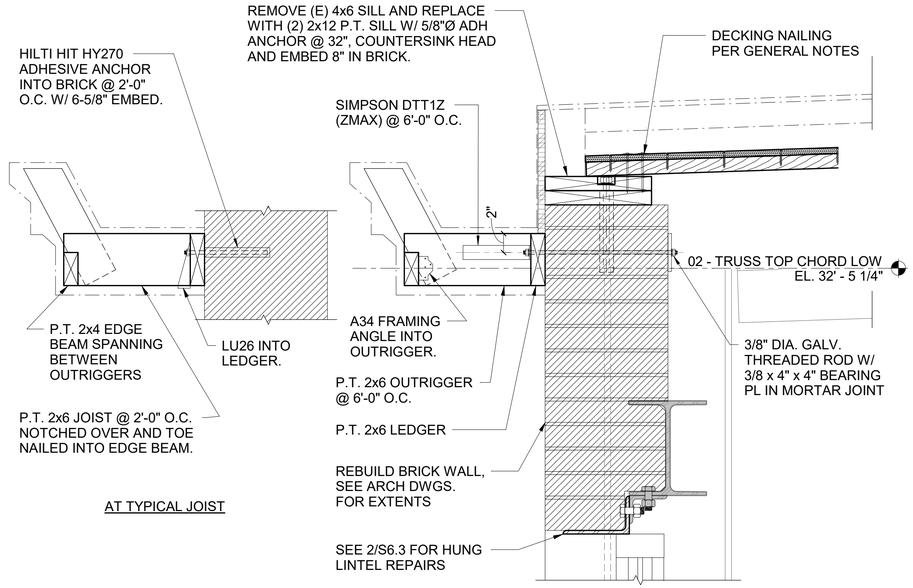
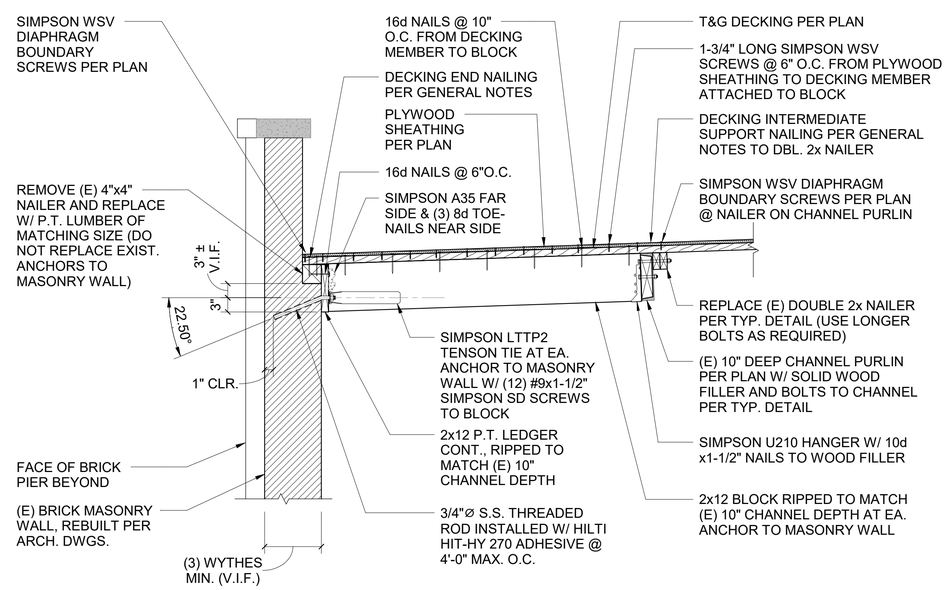


1 S6.6 SECTION AT HANGAR CLERESTORY AND LEAN-TO ROOF
SCALE (D)

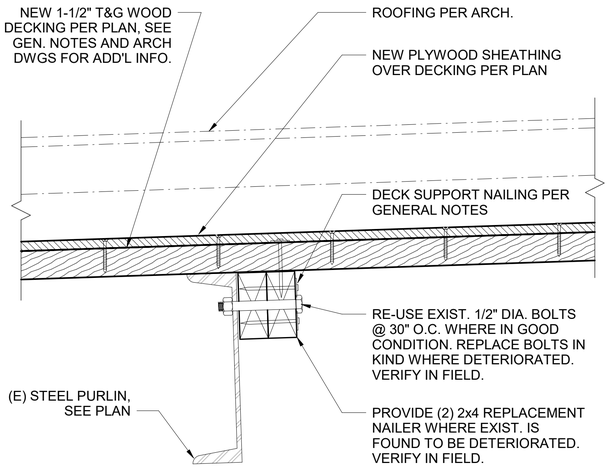


AT TYPICAL JOIST

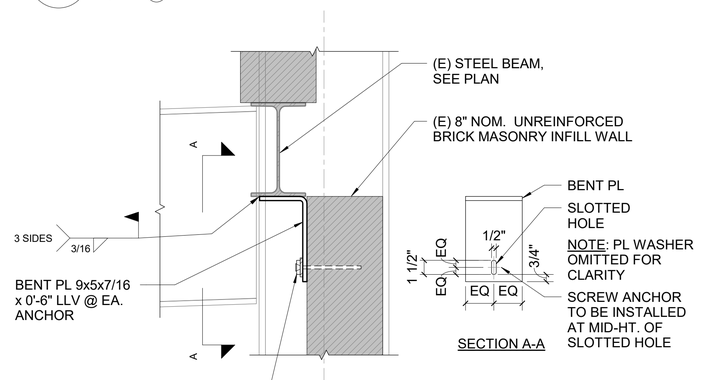
2 S6.6 TYPICAL HANGAR ROOF EAVE DETAIL
SCALE (E)



4 S6.6 LEAN-TO ROOF DIAPHRAGM CONNECTION TO EXTERIOR WALL
SCALE (D)



3 S6.6 TYPICAL ROOF NAILER REPLACEMENT DETAIL
SCALE (F)



NOTES:
1. VERIFY PRIOR TO FABRICATION OF STEEL THAT SCREW ANCHOR INSTALLED AS SHOWN AT MID-HT. OF VERT. SLOTTED HOLE IN BENT PL WILL BE IN THE FACE OF A BRICK W/ A MIN. OF 1" EDGE DISTANCE TO TOP OR BOTTOM OF BRICK UNIT.
2. SCREW ANCHORS SHALL NOT BE INSTALLED IN HEAD JOINTS. LOCATE BENT PLATES SUCH THAT SCREW ANCHOR HAS A MIN. OF 1" EDGE DISTANCE TO END OF BRICK UNIT.
3. BRACING OF THE TOP OF THE INFILL WALL SHALL BE INSTALLED AFTER BRICK REMOVAL AND REPLACEMENT ABOVE IS COMPLETE.

5 S6.6 SECTION AT INFILL WALL BRACING
SCALE (E)

SCALE (F) 6" 3" 0" 6" SCALE OF FEET
SCALE (E) 12" 6" 0" 1' SCALE OF FEET
SCALE (D) 24" 12" 0" 2' SCALE OF FEET

DESIGNED: JCT / EB / PA	SUB SHEET NO. S6.6	TITLE OF SHEET: SUPERSTRUCTURE DETAILS	DRAWING NO. 646 190066
CADD: MAS			PMIS/PKG NO. GATE 308504
TECH. REVIEW: NF			SHEET 119 OF 153
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	

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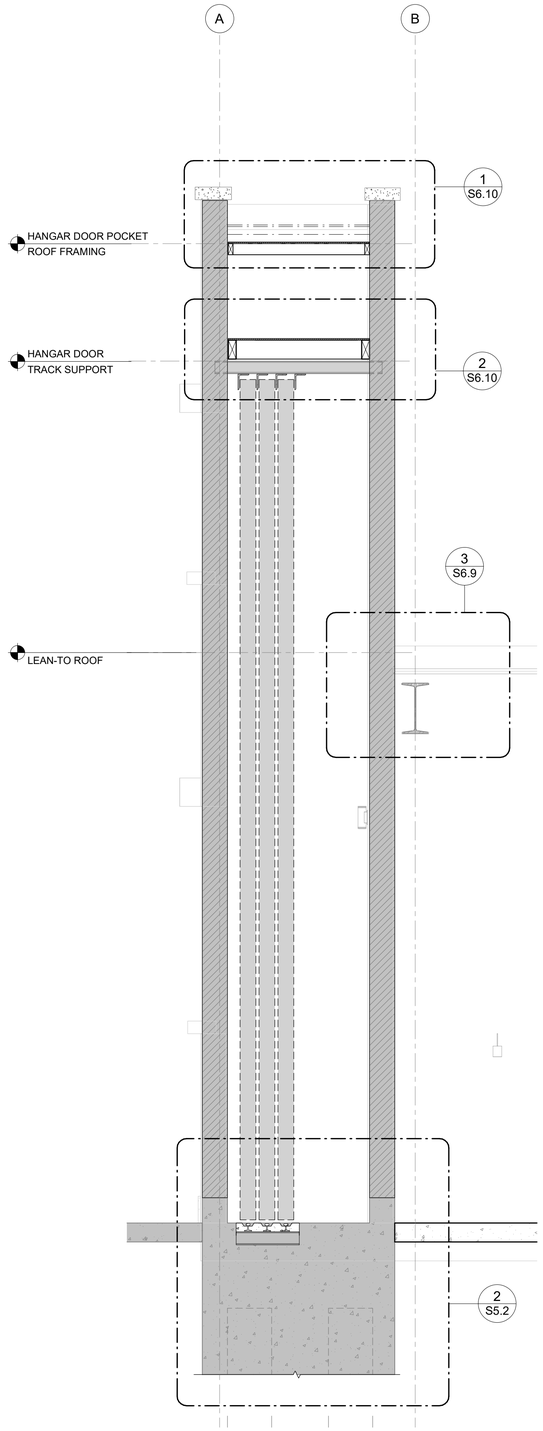
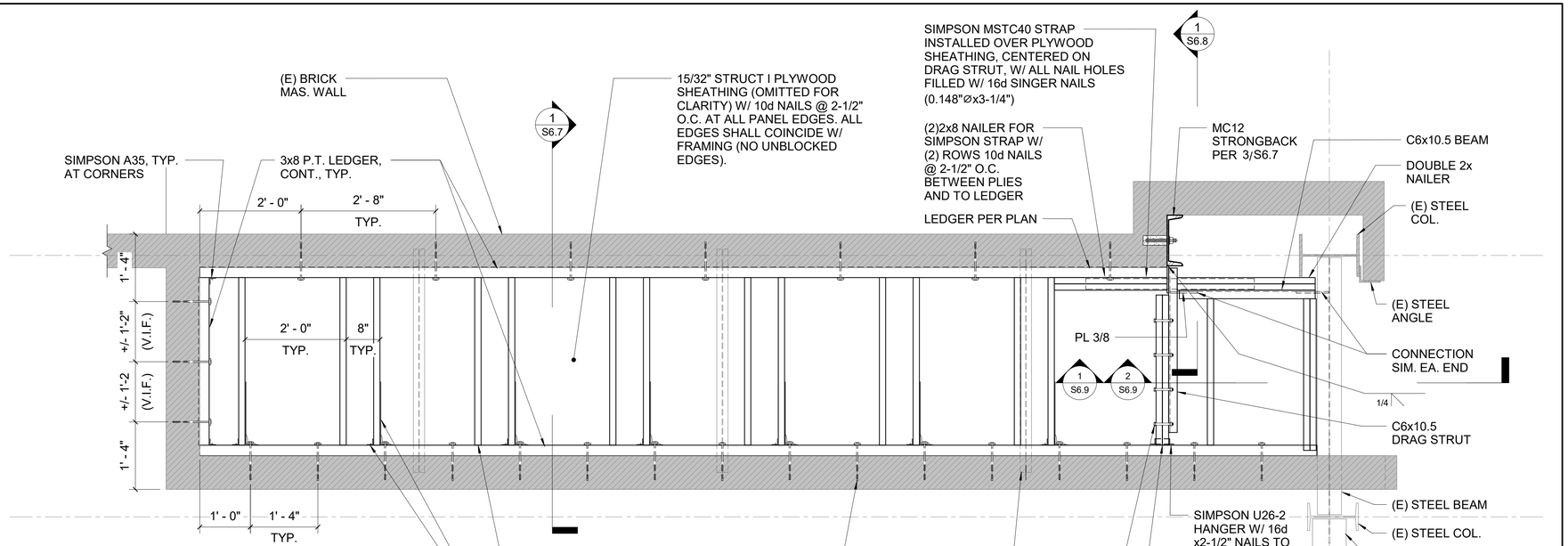
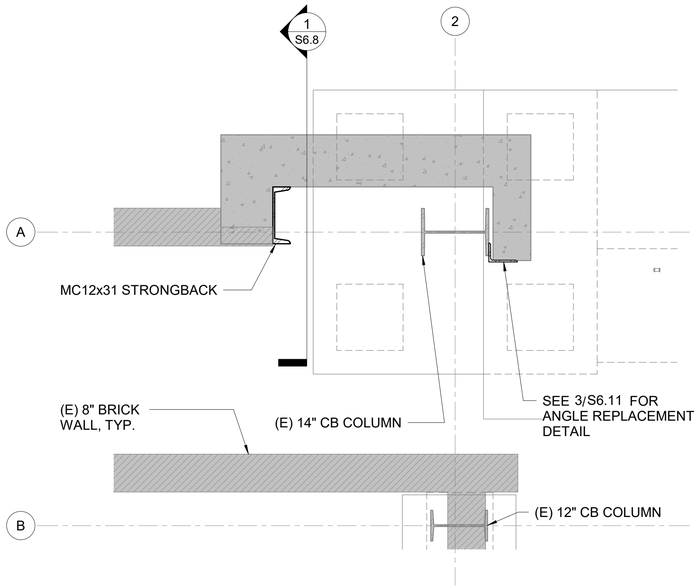


1 S6.7 SECTION AT HANGAR DOOR POCKET
SCALE G



NOTES:
1. SCREW ANCHORS SHALL NOT BE INSTALLED IN VERTICAL HEAD JOINTS BETWEEN BRICK UNITS. ANCHOR LOCATIONS SHOWN SHALL BE ADJUSTED BY THE MIN. DISTANCE REQUIRED SUCH THAT ANCHORS HAVE A MIN. OF 1" EDGE DISTANCE TO END OF BRICK UNITS.
2. IF LEDGERS ARE INSTALLED IN MORE THAN ONE PIECE, THERE SHALL BE A MIN. OF (2) SCREW ANCHORS IN EA. PIECE, LOCATED 4" FROM EA. END.
3. ALL 8" NOMINAL DEPTH WOOD FRAMING AT POCKET DIAPHRAGM SHALL BE RIPPED TO 6" DEPTH TO MATCH C6 STEEL FRAMING.

4 S6.7 HANGAR DOOR POCKET DIAPHRAGM AT TRACK SUPPORT LEVEL
SCALE D



3 S6.7 PARTIAL PLAN AT HANGAR DOOR POCKET
SCALE D

SCALE G 2' 1' 0 2' 4' SCALE OF FEET 1/2"=1'-0"

SCALE D 24" 12" 0" 2' SCALE OF FEET 3/4"=1'-0"

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S6.7	HANGAR DOOR POCKET WALL DETAILS	646 190066
TECH. REVIEW: NF			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 120 OF 153

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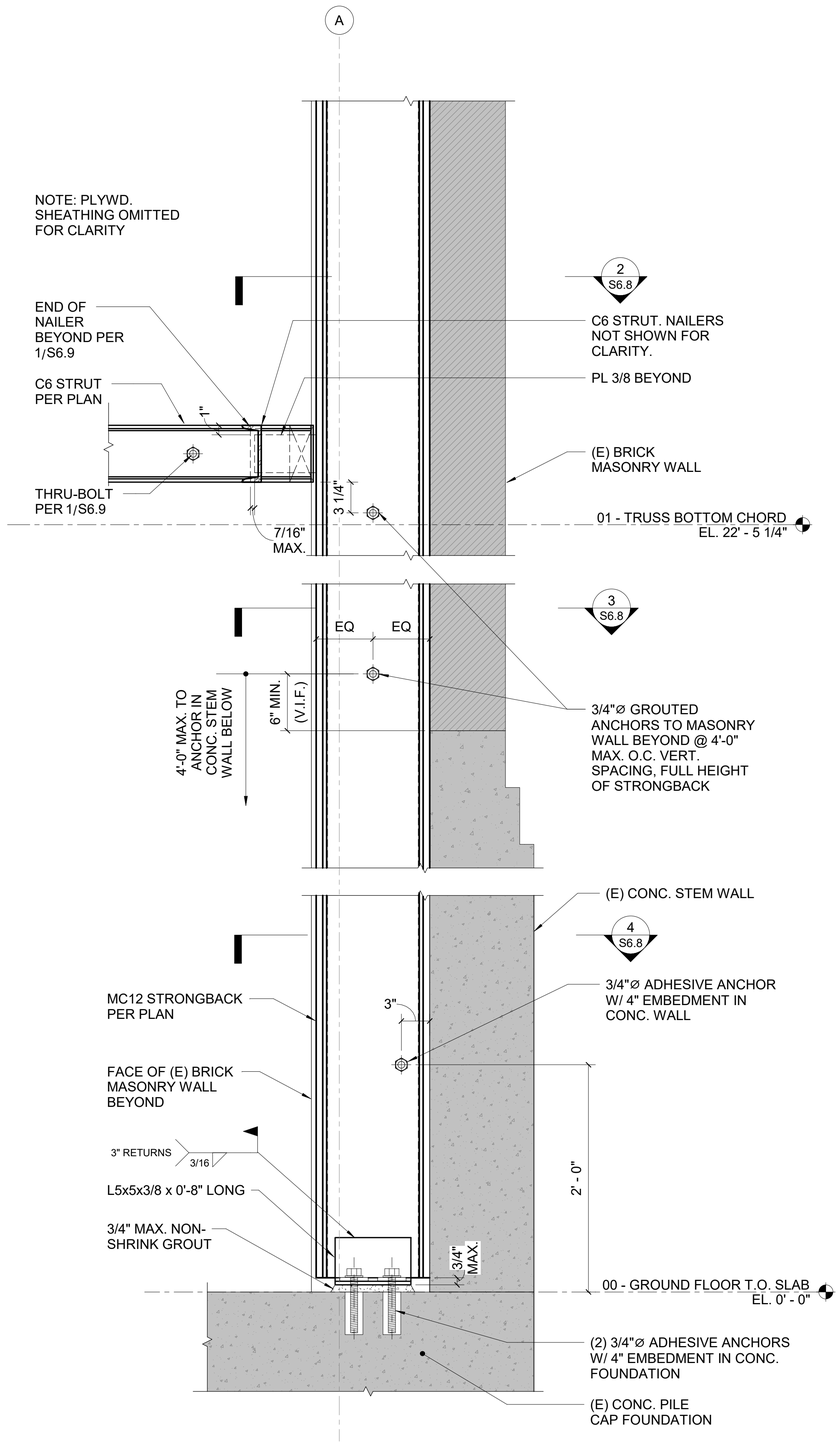
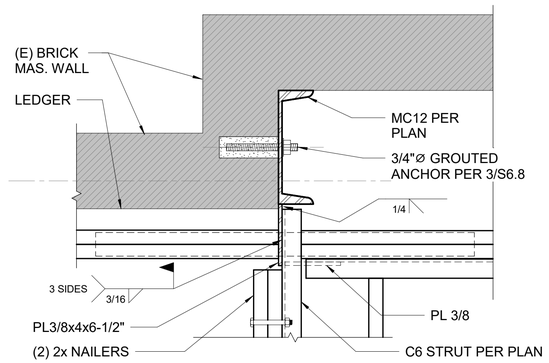
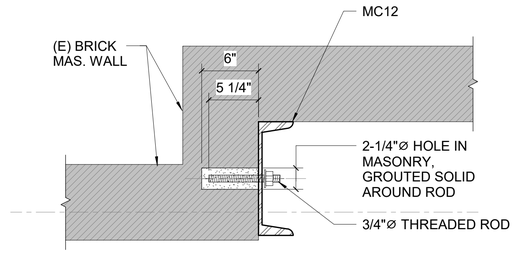


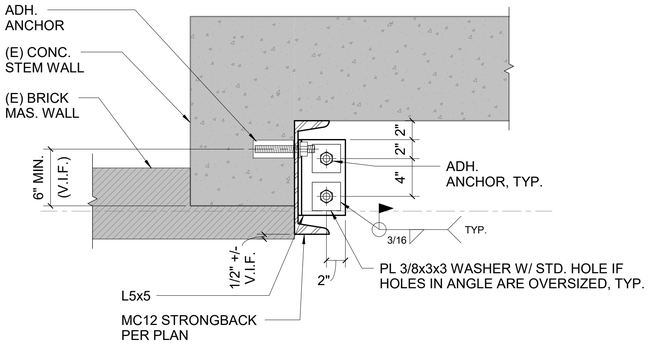
1 S6.8 ELEVATION AT HANGAR POCKET WALL STRONGBACK
SCALE (D)



2 S6.8 PLAN DETAIL AT HANGAR DOOR POCKET AT TRACK GUIDE SUPPORT LEVEL
SCALE (E)



3 S6.8 PLAN DETAIL AT HANGAR DOOR POCKET WALL STRONGBACK
SCALE (E)



4 S6.8 PLAN DETAIL AT HANGAR DOOR POCKET STRONGBACK BASE
SCALE (E)

SCALE (E) 12" 6" 0" 1'
SCALE OF FEET

SCALE (D) 24" 12" 0" 2'
SCALE OF FEET

DESIGNED: JCT / EB / PA CADD: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S6.8	TITLE OF SHEET: HANGAR DOOR POCKET WALL DETAILS HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 121 OF 153

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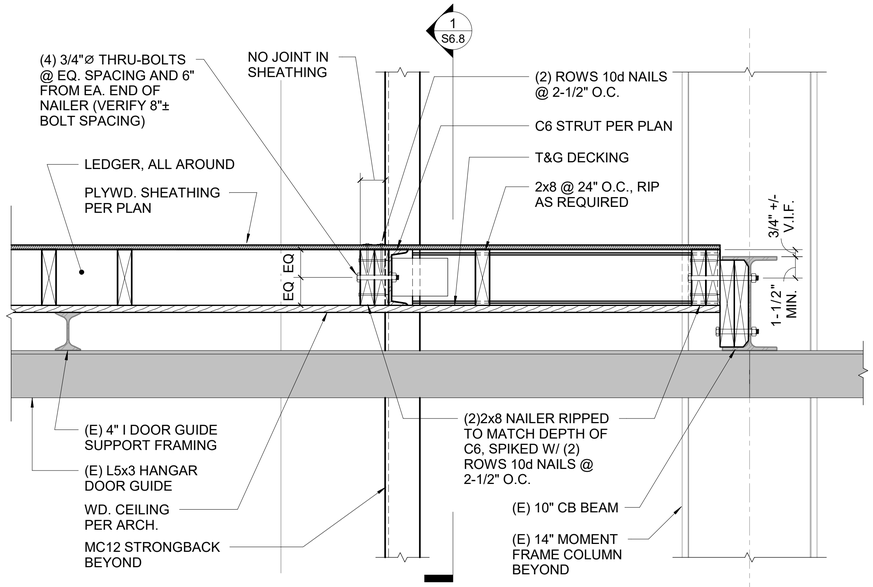
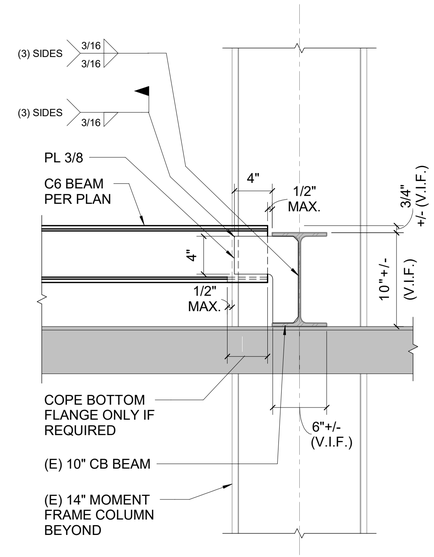


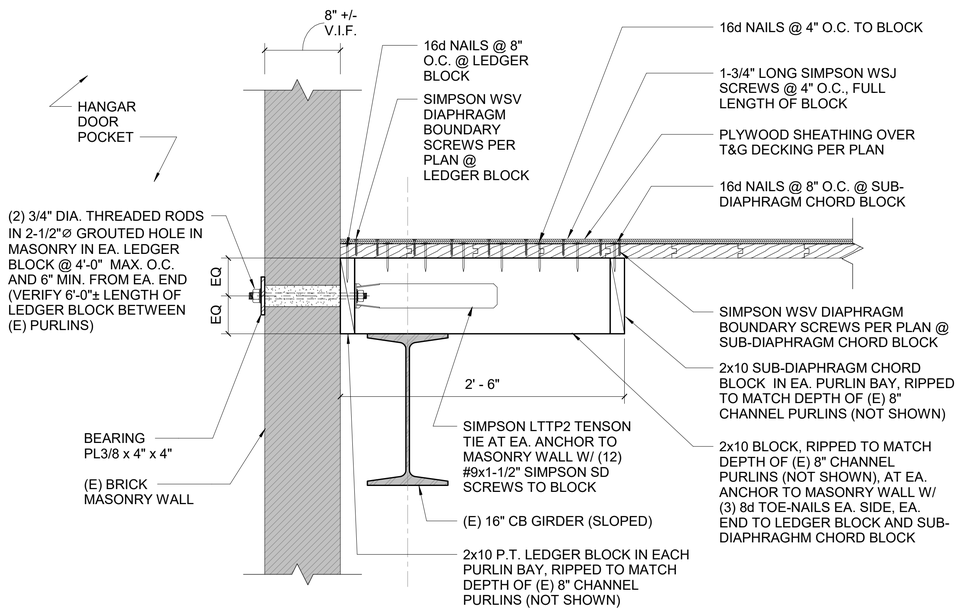
1 S6.9 SECTION AT HANGAR DOOR POCKET TRACK DIAPHRAGM

SCALE E



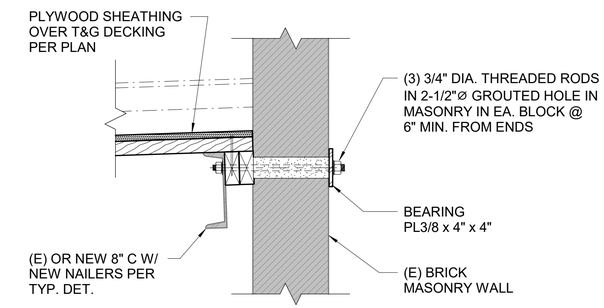
2 S6.9 SECTION AT HANGAR DOOR POCKET TRACK DIAPHRAGM CHANNEL CONNECTION

SCALE E



3 S6.9 SECTION THROUGH LEAN-TO ROOF AT DOOR POCKET WALL

SCALE E



4 S6.9 SECTION THROUGH LEAN-TO ROOF AT DOOR POCKET WALL

SCALE E

SCALE E 12" 6" 0" 1'
SCALE OF FEET

SCALE D 24" 12" 0" 2'
SCALE OF FEET

DESIGNED: JCT / EB / PA CADD: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S6.9	TITLE OF SHEET: HANGAR DOOR POCKET WALL DETAILS HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 122 OF 153

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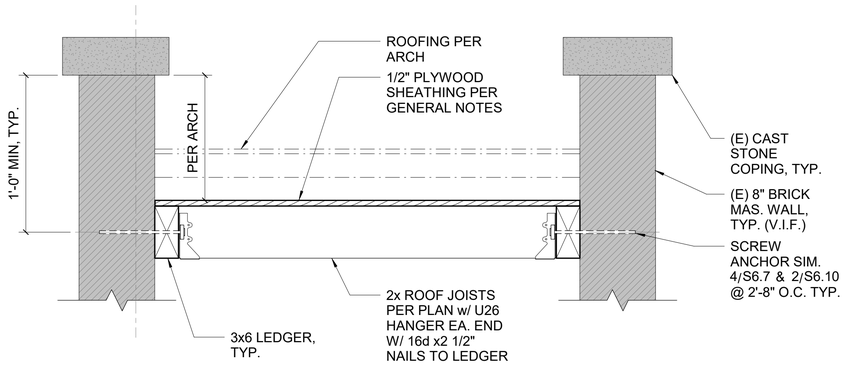
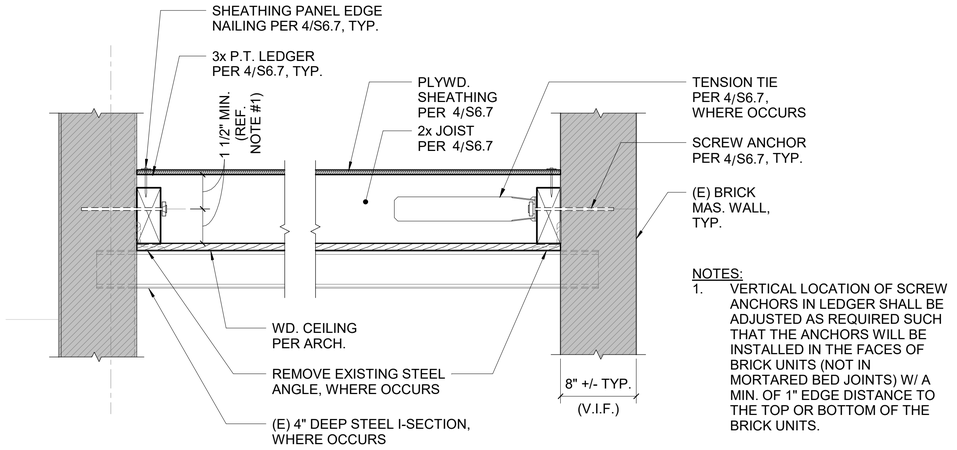


1 S6.10 SECTION THROUGH HANGAR DOOR POCKET ROOF

SCALE (E)

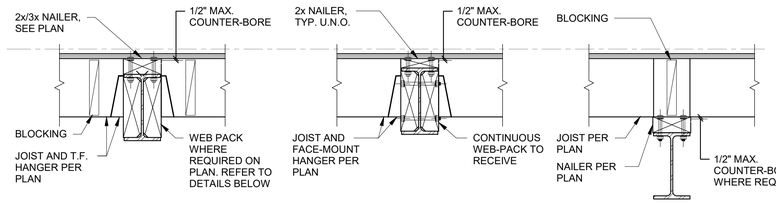


NOTES:

1. VERTICAL LOCATION OF SCREW ANCHORS IN LEDGER SHALL BE ADJUSTED AS REQUIRED SUCH THAT THE ANCHORS WILL BE INSTALLED IN THE FACES OF BRICK UNITS (NOT IN MORTARED BED JOINTS) W/ A MIN. OF 1" EDGE DISTANCE TO THE TOP OR BOTTOM OF THE BRICK UNITS.

2 S6.10 SECTION THROUGH HANGAR DOOR POCKET DIAPHRAGM

SCALE (E)

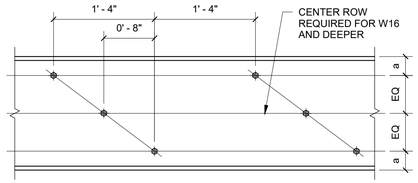


"FLUSH" STEEL BEAM W/ TOP FLANGE HANGERS

"FLUSH" STEEL BEAM W/ FACE MOUNT HANGERS

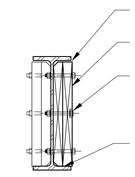
STEEL BEAM "UNDER"

COMMON WOOD JOIST TO STEEL BEAM CONFIGURATIONS



WEB-PACKS NOTES:

1. PROVIDE 1/2" ⌀ A307 BOLTS WITH STANDARD WASHERS AT HEAD AND NUT. SHAFT OF BOLT TO BE UNTHREADED WHERE IN CONTACT WITH WOOD.
2. USE 2x AND/OR LVL MATERIAL WHENEVER POSSIBLE CONNECT PLIES WITH #9 x 2 1/2" LONG WOOD SCREWS SPACED AT 8" IN LINE WITH EACH ROW OF BOLTS.
3. ONE LAYER OF SHEATHING MAY BE USED TO BUILD OUT WEB-PACK TO APPROPRIATE THICKNESS. SHEATHING SHALL BE POSITIONED AGAINST THE BEAM WEB. THE SHEATHING PLY SHALL BE GLUED AND SCREWED TO THE ADJACENT PLY WITH SCREW HEAD IN CONTACT WITH SHEATHING.
4. DIMENSION FROM TIP OF FLANGE TO FACE OF WEB-PACK SHALL BE 1/8", TYPICAL WEB-PACK ON EXTERIOR SIDE OF BEAM SHALL BE EXTENDED TO EXTERIOR SHEATHING AS APPLICABLE.



BM SIZE	DIM. "a"
W8 W10	2 1/2"
W12	3"
W14	4"
W16 W18	3" + ROW
W21 W24	4" + ROW

NOTE: "+ROW" DENOTES CTR ROW REQ'D., SEE BEAM ELEVATION

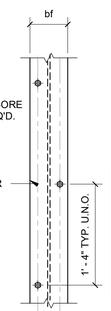
FACE OF WEB-PACK TO MATCH FACE OF WALL STUD WHERE REQ'D.

SHEATHED EXTERIOR WALL BELOW BEAM, WHERE OCCURS, INSTALL AS MUCH FRAMING AS PRACTICAL TO PRE-LOAD BEAM PRIOR TO INSTALLATION OF WALL BELOW

TYPICAL WEB-PACK FASTENING DETAILS

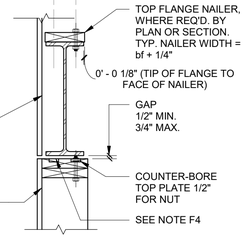
FLANGE FASTENING NOTES

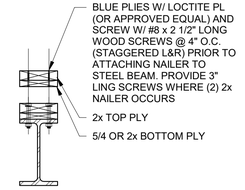
1. PROVIDE 1/2" ⌀ A307 BOLTS SHAFT OF BOLT TO BE UNTHREADED WHERE IN CONTACT WITH WOOD. PROVIDE STD WASHERS WHERE SUPPORTING ROOF AND/OR ATTIC FRAMING.
2. USE HEM FIR NO.2 OR BETTER FOR ALL NAILERS (NON-STUD GRADE). FOR NAILER THICKNESS GREATER THAN 1 1/2", PROVIDE SOLID 3x MATERIAL OR PROVIDE BUILT-UP NAILER WITH PLIES FASTENED PER DETAIL A.
3. FOR HSS MEMBERS TO RECEIVE NAILERS, PROVIDE 1/2" ⌀ THREADED ROD WELDED TO FACE OF HSS IN SAME PATTERN. USE HSS WIDTH IN PLACE OF FLANGE WIDTH WHEN ENTERING THE TOP FLANGE TABLE BELOW.
4. PROVIDE 1/2" A307 BOLTS SET IN LOCTITE PL. WELD NUT TO BOTTOM FLANGE WITH 3/16" FILLET ALONG 3 ALTERNATING FLATS. ADVANCE BOLT TO FILL FULL DEPTH OF NUT.



TOP FLANGE BOLTS	
NOMINAL BM FLANGE WIDTH, bf (INCHES)	DIMENSION 'X'
bf ≤ 4	2 1/4"
5 ≤ bf ≤ 7 1/4	3 1/2"
7 1/2 ≤ bf	5 1/2"

BOT. FLANGE WELDED NUTS	
WALL TOP PLATE	DIMENSION 'X'
2x4	0"
2x6	1 1/2"
2x8	3 1/4"





DETAIL 'A'

TYPICAL WOOD TO STEEL FLANGE FASTENING DETAILS

3 S6.10 TYPICAL WOOD TO STEEL FLANGE / WEB FASTENING DETAILS

N.T.S.

SCALE (E) 12" 6" 0" 1'
SCALE OF FEET

SCALE (D) 24" 12" 0" 2'
SCALE OF FEET

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S6.10	HANGAR DOOR POCKET WALL DETAILS	646 190066
TECH. REVIEW: NF			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 123 OF 153

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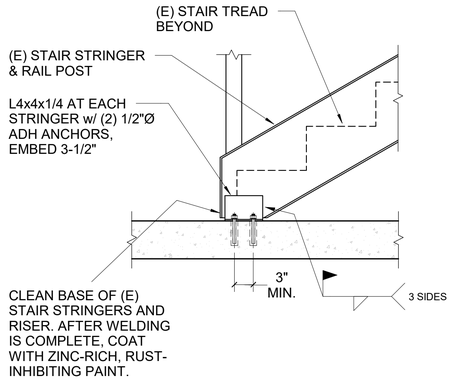
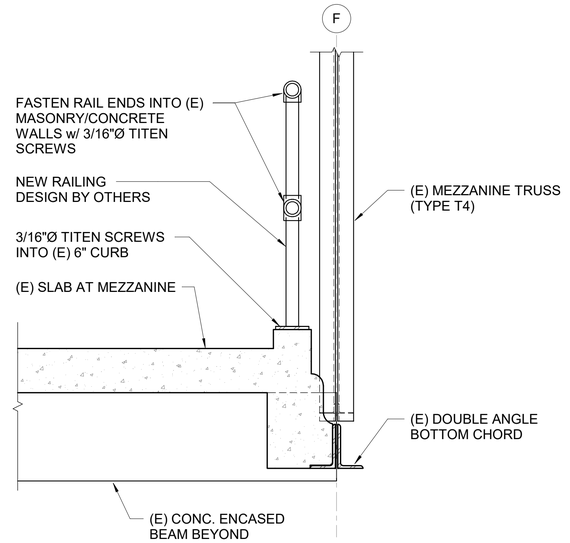


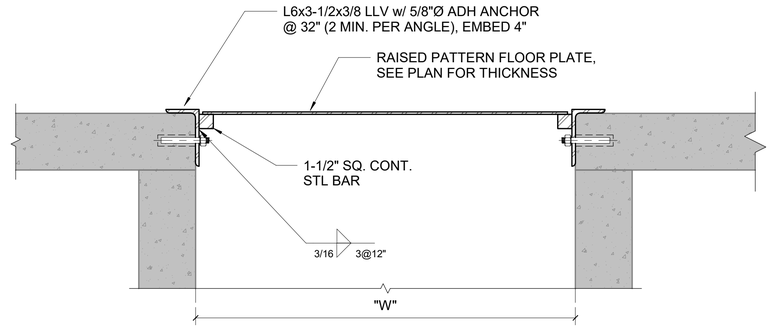
1 S6.11 EXISTING STAIR BASE REPAIR AT WPA INFILL

SCALE (H)



2 S6.11 NEW RAILING AT WPA INFILL MEZZANINE

SCALE (H)

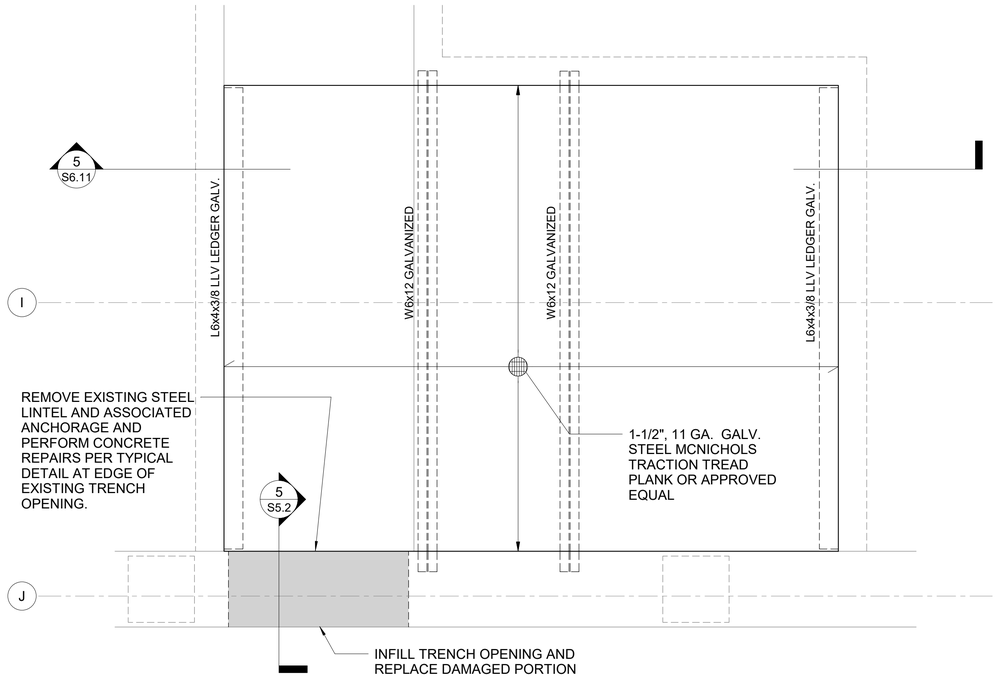


NOTES:

1. REMOVE EXIST. EDGE ANGLE WHERE PRESENT AND REPAIR CONCRETE PER TYPICAL DETAIL WHERE DAMAGED PRIOR TO INSTALLING NEW SUPPORT ANGLE.
2. FOR TRENCH WIDTH "W" = 1'-6" OR LESS, USE 3/16" RAISED PATTERN FLOOR PLATE. FOR TRENCH WIDTH "W" WHERE 1'-6" < "W" < 4'-0", USE 1/2" FLOOR PLATE.
3. FLOOR PLATE IS DESIGNED FOR 100 PSF LIVE LOAD.
4. PROVIDE PLATE IN LENGTHS APPROPRIATE FOR TRANSPORTATION OR LIFTING.
5. PROVIDE WELDED RINGS OR HOLES TO FACILITATE LIFTING OF PLATE WITH LIFTING HOOK.

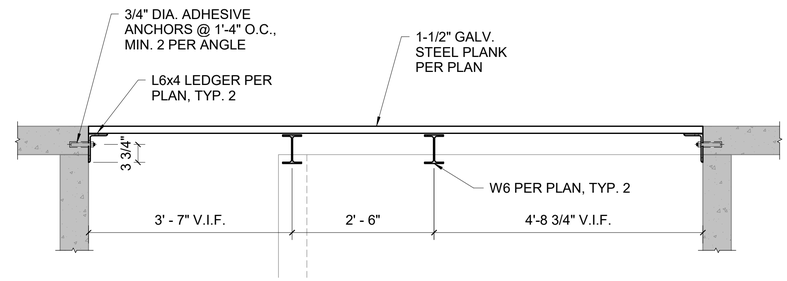
3 S6.11 SECTION AT TRENCH COVER

SCALE (D)



4 S6.11 PARTIAL PLAN AT BOILER ROOM PIT

SCALE (D)



5 S6.11 SECTION AT BOILER ROOM PIT

SCALE (D)

SCALE (H) 1' 6" 0 1' 2'
SCALE OF FEET

SCALE (D) 24" 12" 0" 2'
SCALE OF FEET

DESIGNED: JCT / EB / PA	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD: MAS	S6.11	SECTIONS AND DETAILS	646 / 190066
TECH. REVIEW: NF			PMIS/PKG NO. GATE 308504
DATE: 12/19/2025		HANGARS 3 & 4 REHABILITATION	SHEET 124 OF 153

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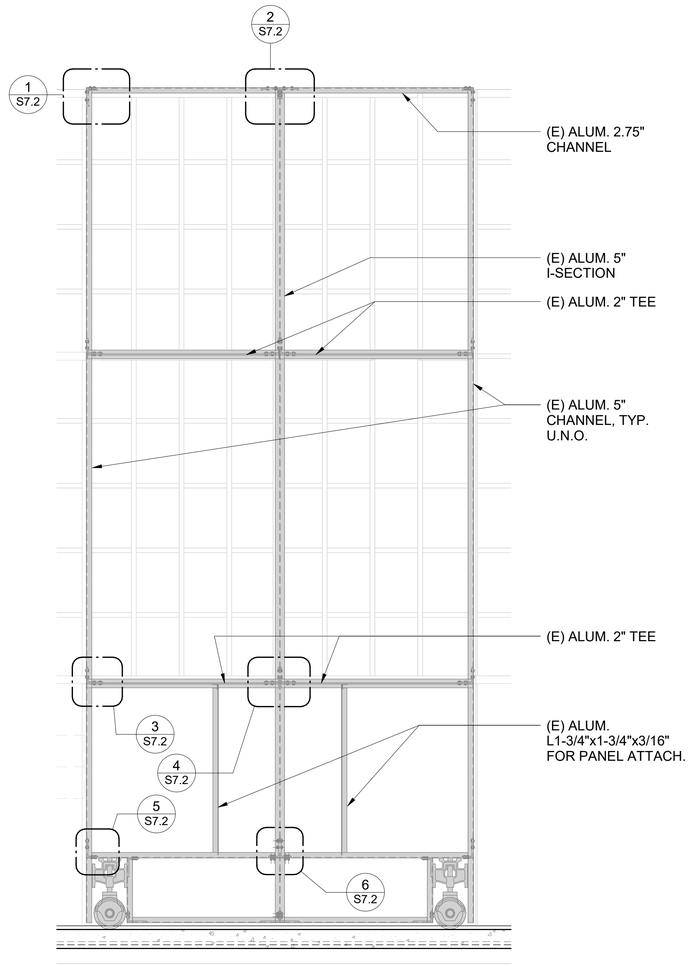
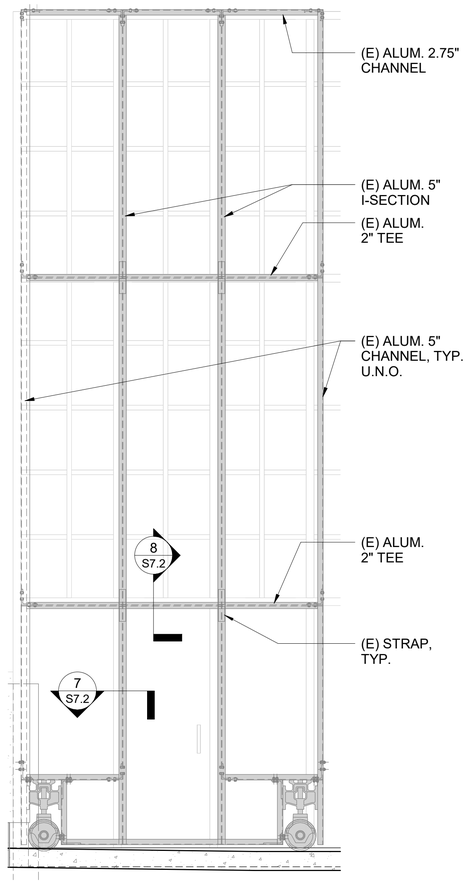
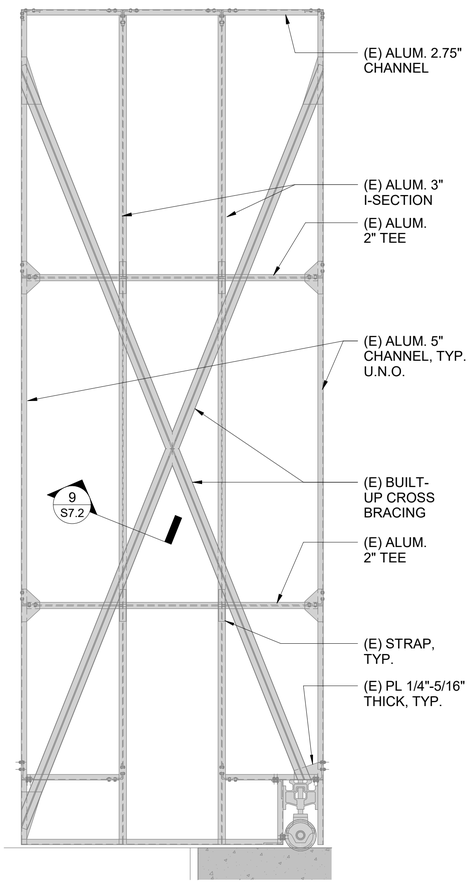


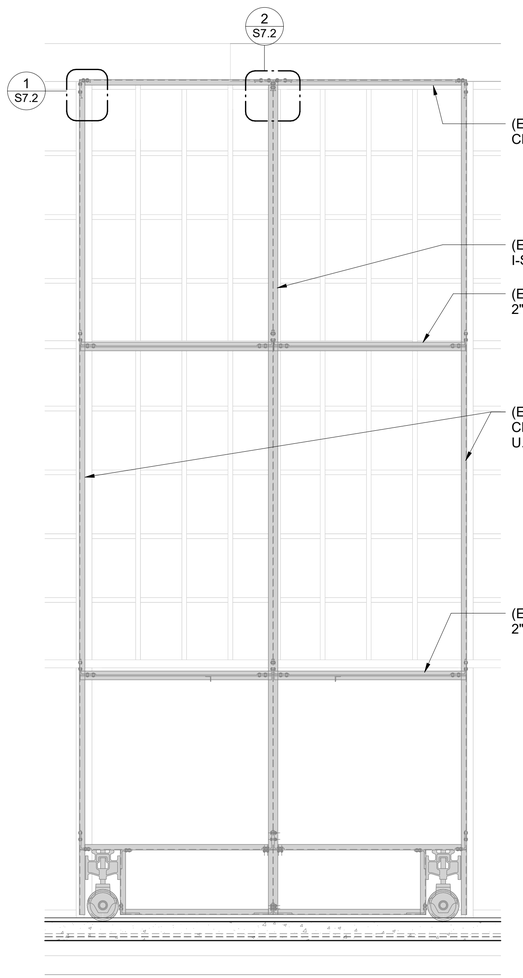
1 S7.1 TYPICAL HANGAR DOOR ELEVATION - HANGAR 4
SCALE G



2 S7.1 TYPICAL HANGAR DOOR ELEVATION W/ PILOT DOOR - NOT BRACED
SCALE G



3 S7.1 TYPICAL HANGAR DOOR ELEVATION W/ PILOT DOOR - BRACED
SCALE G



4 S7.1 TYPICAL HANGAR DOOR ELEVATION - HANGAR 3
SCALE G

SCALE G 2' 1' 0 2' 4'
SCALE OF FEET

DESIGNED: JCT / EB / PA CADD: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S7.1	TITLE OF SHEET HANGAR DOOR REPAIR DETAILS HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 125 OF 153

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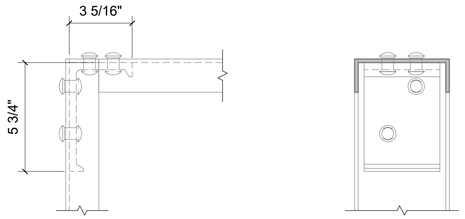
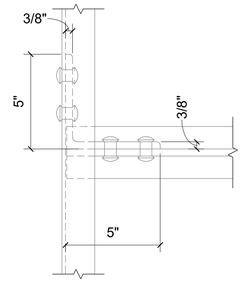


ELEVATION

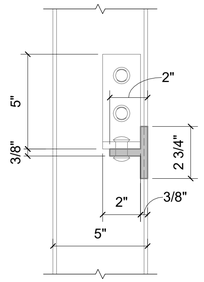
SECTION

1 S7.2 TYP. CHANNEL TO CHANNEL AT DOOR HEAD

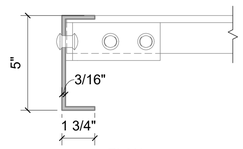
SCALE (F)



ELEVATION



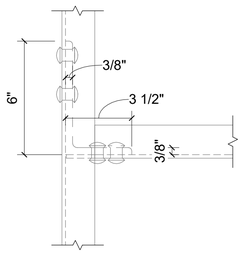
SECTION



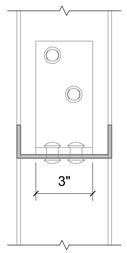
PLAN

3 S7.2 TYP. TEE TO CHANNEL MULLION CONNECTION

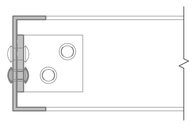
SCALE (F)



ELEVATION



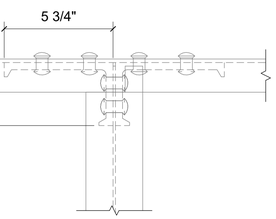
SECTION



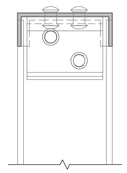
PLAN

5 S7.2 TYP. CHANNEL TO CHANNEL MULLION CONNECTION

SCALE (F)



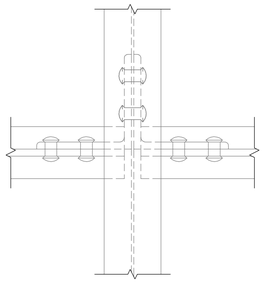
ELEVATION



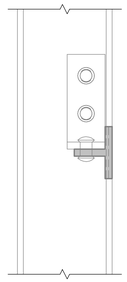
SECTION

2 S7.2 TYP. CHANNEL TO WF AT DOOR HEAD

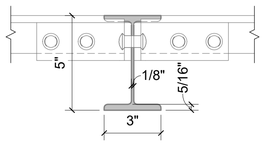
SCALE (F)



ELEVATION



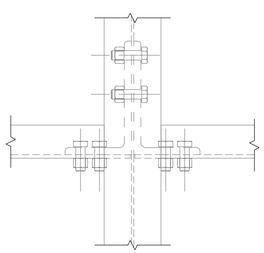
SECTION



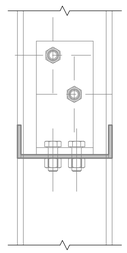
PLAN

4 S7.2 TYP. TEE TO WF MULLION CONNECTION

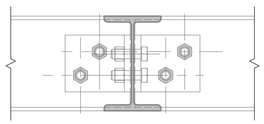
SCALE (F)



ELEVATION



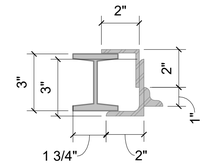
SECTION



PLAN

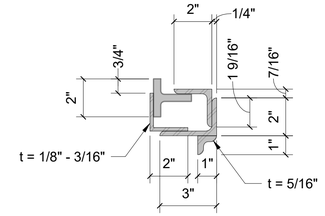
6 S7.2 TYP. CHANNEL TO WF MULLION CONNECTION

SCALE (F)



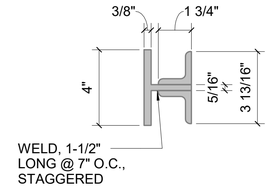
7 S7.2 PEDESTRIAN DOOR JAMB SECTION

SCALE (F)



8 S7.2 PEDESTRIAN DOOR HEAD SECTION

SCALE (F)



9 S7.2 TYP. SECTION DIAGONAL BRACE

SCALE (F)

SHEET NOTES:

1. MEMBER AND CONNECTION TYPES AND GEOMETRIES THIS SHEET ARE PROVIDED FOR INFORMATION AND ARE BASED ON LIMITED FIELD MOEASUREMENTS. ALL DIMENSIONS SHALL BE VERIFIED IN FIELD PRIOR TO FABRICATION AND CONSTRUCTION.
2. NEW CONNECTORS SHALL BE OF AN APPROPRIATE MATERIAL OR SHALL HAVE A NEOPRENE WASHER BETWEEN THE CONNECTOR AND THE CONNECTED MEMBER(S) TO PREVENT GALVANIC CORROSION. SUBMIT ALL PROPOSED MATERIALS TO THE CONTRACTING OFFICER FOR REVIEW AND APPROVAL.
3. LOCATIONS FOR REPAIRS OR MEMBER / CONNECTOR REPLACEMENT NOTED ON DRAWING S7.1 ARE BASED ON LIMITED OBSERVATIONS FROM THE GROUND AND SHOULD BE USED AS THE BASIS FOR PRICING. SEVERAL DOOR PANELS COULD NOT BE OBSERVED. PROVIDE UNIT COSTS FOR EACH REPAIR / REPLACEMENT TYPE AS AN ADD / DEDUCT.

SCALE (F) 6" 3" 0" 6"

SCALE OF FEET

DESIGNED: JCT / EB / PA CADD: MAS TECH. REVIEW: NF DATE: 12/19/2025	SUB SHEET NO. S7.2	TITLE OF SHEET: HANGAR DOOR REPAIR DETAILS HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 126 OF 153

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MECHANICAL SYMBOLS AND ABBREVIATIONS

SYMBOLS INDICATED HERE AND NOT USED IN THE CONTRACT DOCUMENTS DO NOT APPLY TO THIS PROJECT. ADDITIONAL SYMBOLS MAY BE INDICATED IN THE CONTRACT DOCUMENTS.

SHEET SYMBOLS

EQ # — SCHEDULED EQUIPMENT DESIGNATION.
-TOP INDICATES EQUIPMENT ABBREVIATION
-BOTTOM INDICATES EQUIPMENT NUMBER
REFER TO EQUIPMENT SCHEDULES

1 / M-1 — SECTION DESIGNATION.
-TOP INDICATES SECTION NUMBER,
-BOTTOM INDICATES ON WHICH SHEET SECTION APPEARS

2 / M-1 — DETAIL REFERENCE.
-TOP INDICATES SECTION NUMBER,
-BOTTOM INDICATES ON WHICH SHEET SECTION APPEARS

A/15B-6 — DETAIL REFERENCE.
-TOP INDICATES SECTION NUMBER,
-BOTTOM INDICATES ON WHICH SHEET SECTION APPEARS

MATCHLINE DESIGNATION

1 — REVISION REFERENCE.
REFER TO SHEET REVISION BLOCK

1 — SHEET KEYNOTE REFERENCE

ROOM NAME / 101 — ROOM NAME & NUMBER DESIGNATION

POINT OF NEW CONNECTION TO EXISTING

HALFTONE LIGHT LINE INDICATES EXISTING WORK

HEAVY LINE INDICATES NEW WORK

1" UC — INDICATES A DOOR UNDERCUT (UC) W/ MIN HEIGHT

FIELD MOUNTED CONTROLS

T — THERMOSTAT OR TEMPERATURE SENSOR

F SD — DUCT SMOKE DETECTOR

DUCTWORK

RECTANGULAR/ROUND BRANCH TAKE-OFF OR ROUND/ROUND BRANCH TAKE-OFF

W, R=1.5W — RADIUS ELBOW

45° LATERAL BRANCH

SQUARE TEE (FOR LOW PRESSURE SA DIVERGING ONLY)

BULLHEAD TEE (FOR LOW PRESSURE SA DUCTWORK ONLY)

TRANSITION - ECCENTRIC
15° MAX. FOR DIVERGING,
25° MAX FOR CONVERGING

TRANSITION - CONCENTRIC
15° MAX. FOR DIVERGING,
25° MAX FOR CONVERGING

LINE CONTINUATION BREAK (RECTANGULAR, ROUND)

SUPPLY AIR (SA) OR OUTDOOR AIR (OA) DUCT (SOLID LINES TYPICAL FOR SUPPLY AIR AND OUTDOOR AIR UP, HIDDEN LINE DOWN)

EXHAUST AIR (EA) DUCT (SOLID LINES TYPICAL FOR EXHAUST AIR UP, HIDDEN LINE DOWN)

DUCT RISE/DROP W /90° ELBOWS (SUPPLY RECTANGULAR DUCT SHOWN)

DUCTWORK AT DIFFUSERS & GRILLES

SUPPLY DIFFUSER OR GRILLE (HORIZONTAL MOUNT)

EXHAUST REGISTER OR GRILLE (HORIZONTAL MOUNT)

EXHAUST OR RETURN REGISTER OR GRILLE (VERTICAL MOUNT)

SUPPLY REGISTER OR GRILLE (VERTICAL MOUNT)

DAMPERS

MANUAL BALANCING DAMPER

CONTROL DAMPER

BD — BACKDRAFT DAMPER

FS — COMBINATION FIRE/ SMOKE DAMPER

OPPOSED BLADE DAMPER

PARALLEL BLADE DAMPER

ACTUATORS

MANUAL

GENERAL

MODULATING

M — ELECTRIC MOTOR DRIVEN

PIPING

ELBOW DOWN

ELBOW UP

BOTTOM CONNECTION (45° OR 90°)

TOP CONNECTION (45° OR 90°)

R — 45° PIPE RISE(R) / DROP(D)

TEE (REFER TO SPECIFICATION FOR SIDE, TOP OR BOTTOM TEE)

LINE CONTINUATION BREAK

FLOW DIRECTION

CONNECTION POINT

OR — ECCENTRIC REDUCER

CONCENTRIC REDUCER

PIPING SPECIALTIES

GENERAL PIPELINE STRAINER WITHOUT DRAIN BLOWDOWN VALVE

EQ — WATER SYSTEM PIPELINE STRAINER WITH BLOWDOWN VALVE

SUCTION DIFFUSER

FLANGE

UNION

2" AND SMALLER, CAP OR PLUG
2-1/2" AND LARGER, BLIND FLANGE

THERMOMETER

PRESSURE GAUGE (WITH GAUGE VALVE)

FLOW ELEMENT (SENSOR)

FLOW SWITCH

AUTOMATIC AIR VENT

MANUAL AIR VENT

TEST PLUG (PRESSURE/TEMP.)

CONCENTRIC REDUCER

DIRECTION OF PITCH (DOWN)

PIPE GUIDE

PIPE SLEEVE

PIPE ANCHOR

VALVES

BUTTERFLY VALVE

GATE VALVE

BALL VALVE

GAUGE VALVE

BALANCING VALVE

SWING CHECK VALVE

M, XX — 2-WAY MOTOR CONTROL VALVE (VALVE BODY AS SPECIFIED)

XX — 2-WAY CONTROL VALVE (VALVE BODY AS SPECIFIED)

GAS SHUTOFF VALVE

DRAIN VALVE W/ HOSE CONNECTION AND CAP

GAS PRESSURE REGULATOR

RPBP — REDUCED PRESSURE BACKFLOW PREVENTER (RPBP)

VACUUM RELIEF/VACUUM BREAKER

PIPING SYSTEM LABELS

—D— DRAIN
—DCW— DOMESTIC COLD WATER
—HWR— HEATING HOT WATER RETURN
—HWS— HEATING HOT WATER SUPPLY
—NG— NATURAL GAS
—V— VENT

ABBREVIATIONS - GENERAL

AFF	ABOVE FINISHED FLOOR	L	LENGTH
AL	ALUMINUM	LAT	LEAVING AIR TEMPERATURE
ALT	ALTERNATE	LBS	POUNDS
AP	ACCESS PANEL	LWT	LEAVING WATER TEMPERATURE
AVG	AVERAGE	MAX	MAXIMUM
BAS	BUILDING AUTOMATION SYSTEM	MBH	THOUSANDS OF BTU PER HOUR
BHP	BRAKE HORSEPOWER	MEP	MECHANICAL, ELECTRICAL, AND PIPING
BTUH	BRITISH THERMAL UNITS PER HOUR	MER	MECHANICAL EQUIPMENT ROOM
CA	COMBUSTION AIR	MIN	MINIMUM
CAP	CAPACITY	NA	NOT APPLICABLE
CFM	CUBIC FEET PER MINUTE	NC	NORMALLY CLOSED
CL	CENTERLINE	NIC	NOT IN CONTRACT
CLG	CEILING	NO	NORMALLY OPEN
CS	CARBON STEEL	NOM	NOMINAL
CU	COPPER	NPS	NOMINAL PIPE SIZE
DAT	DISCHARGE AIR TEMPERATURE	NPT	NATIONAL PIPE THREAD
DB	DRY BULB	NTS	NOT TO SCALE
DDC	DIRECT DIGITAL CONTROL	OA	OUTSIDE AIR
DIA	DIAMETER	OC	ON CENTER
DIM	DIMENSION	OED	OPEN END DUCT
EA	EXHAUST AIR / EACH	PD	PRESSURE DROP
EAT	ENTERING AIR TEMPERATURE	PH	PHASE
EC	ELECTRICAL CONTRACTOR	PSI	POUNDS PER SQUARE INCH
ECM	ELECTRICALLY COMMUTATED MOTOR	PSIG	POUNDS PER SQUARE INCH GAUGE
EFF	EFFICIENCY		
ESP	EXTERNAL STATIC PRESSURE	QTY	QUANTITY
ETR	EXISTING TO REMAIN		
EWT	ENTERING WATER TEMPERATURE	RH	RELATIVE HUMIDITY
EXH	EXHAUST	RPM	REVOLUTIONS PER MINUTE
FC	FAIL CLOSED	SA	SUPPLY AIR
FLA	FULL LOAD AMPS	SCCR	SHORT CIRCUIT CURRENT RATING
FLP	FAIL LAST POSITION	SP	STATIC PRESSURE
FO	FAIL OPEN	SQ	SQUARE
FPM	FEET PER MINUTE	SS	STAINLESS STEEL
FT	FEET	TA	TRANSFER AIR
GA	GAUGE	TYP	TYPICAL
GAL	GALLONS		
GE	GENERAL EXHAUST	V	VOLTS
GPM	GALLONS PER MINUTE	W	WATT / WIDTH
H	HEIGHT	WB	WET BULB
HP	HORSE POWER	WC	WATER COLUMN
IN	INCH	WG	WATER GAUGE
KW	KILOWATT	WPD	WATER PRESSURE DROP
		X	EXISTING

ABBREVIATIONS - EQUIPMENT

CUH	CABINET UNIT HEATER	RH	RELIEF HOOD
D	DAMPER	RV	RELIEF VALVE
EF	EXHAUST FAN	SCR	SILICON CONTROLLED RECTIFIER
ET	EXPANSION TANK	SD	SUCTION DIFFUSER
FD	FLOOR DRAIN	SF	SUPPLY FAN
HT	HEAT TRACE	SG	SUPPLY GRILLE
IH	INTAKE HOOD	SRV	SAFETY RELIEF VALVE
L	LOUVER	T	TANK
P	PUMP	UH	UNIT HEATER
		V	VALVE
		VFD	VARIABLE FREQUENCY DRIVE
		WFM	WATER FLOW METER

NO.	REVISION	DATE	BY

SEAL

DESIGNED: BTF
CADD: BTF
TECH. REVIEW: SS
DATE: 12/19/2025

SUB SHEET NO. M1

TITLE OF SHEET
MECHANICAL SYMBOLS, GENERAL NOTES & ABBREVIATIONS
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 127 OF 153

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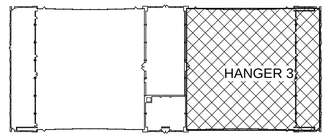
SHEET NOTES

1 PROVIDE CEILING EXHAUST FAN AS SCHEDULED WITH HANGERS, SUPPORTS, AND APPURTENANCES REQUIRED. EXHAUST FAN SHALL BE SWITCHED ON WITH LIGHTS. COORDINATE ELECTRICAL CONNECTION WITH ELECTRICAL CONTRACTOR. FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS PRIOR TO BEGINNING ANY WORK.

2 PROVIDE ELECTRIC WALL HEATER AS SCHEDULED WITH HANGERS, SUPPORTS, AND APPURTENANCES REQUIRED. PROVIDE THERMOSTAT ON WALL 44" AFF AND SET TO ENERGIZE HEATER AT 50 DEG F. COORDINATE ELECTRICAL CONNECTION WITH ELECTRICAL CONTRACTOR. FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS PRIOR TO BEGINNING ANY WORK.



KEY PLAN

SCALE Ⓐ 8' 0' 8' 16'

SCALE OF FEET

BUILDING NORTH

NO.	REVISION	DATE	BY

1 / M2 **MECHANICAL NEW WORK FLOOR PLAN - ENLARGED - HANGAR 3**

SCALE Ⓐ

SEAL

DESIGNED: BTF

CADD BTF

TECH. REVIEW: SS

DATE: 12/19/2025

SUB SHEET NO. M2

TITLE OF SHEET: MECHANICAL NEW WORK FLOOR PLAN - ENLARGED - HANGAR 3

HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066

PMIS/PKG NO. GATE 308504

SHEET 128 OF 153

Autodesk Docs://GATE Floyd Bennett Field/24200-03_GATE_Mechanical.rvt

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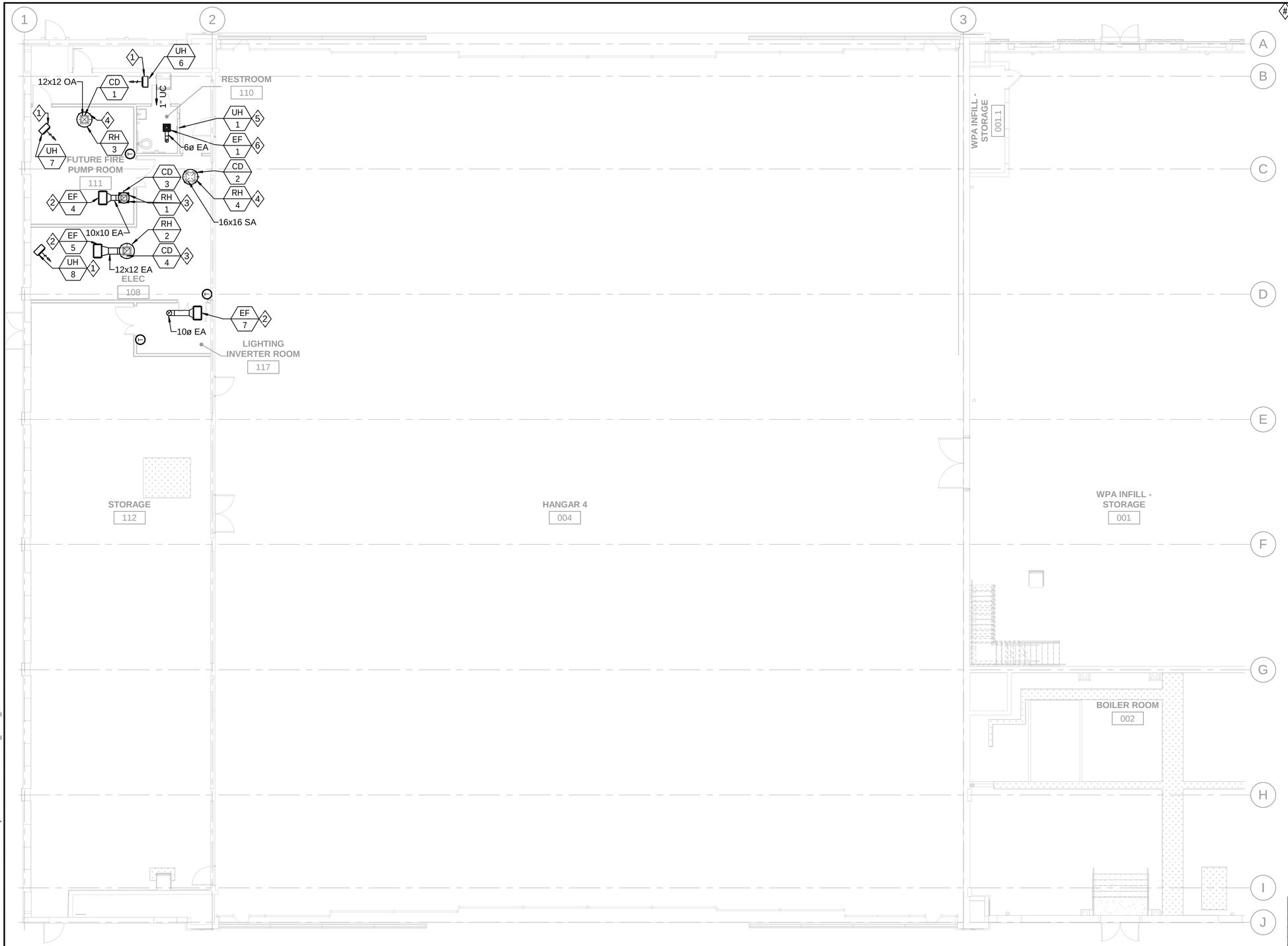
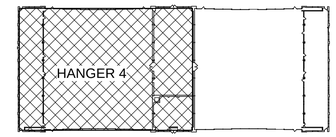


SHEET NOTES

1. PROVIDE ELECTRIC UNIT HEATER AS SCHEDULED WITH HANGERS, SUPPORTS, AND APPURTENANCES REQUIRED. PROVIDE THERMOSTAT ON WALL 44" AFF AND SET TO ENERGIZE HEATER AT 50 DEG F. COORDINATE ELECTRICAL CONNECTION WITH ELECTRICAL CONTRACTOR. FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS PRIOR TO BEGINNING ANY WORK.
2. PROVIDE CABINET EXHAUST FAN AS SCHEDULED WITH HANGERS, SUPPORTS, AND APPURTENANCES REQUIRED. PROVIDE THERMOSTAT ON WALL 44" AFF AND SET TO ENERGIZE FAN AT 80 DEG F. COORDINATE ELECTRICAL CONNECTION WITH ELECTRICAL CONTRACTOR. FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS PRIOR TO BEGINNING ANY WORK.
3. PROVIDE EXHAUST ROOF HOOD AS SCHEDULED WITH MANUFACTURER'S ROOF CURB, SUPPORTS, AND APPURTENANCES REQUIRED. PROVIDE DUCTWORK FROM HOOD TO EXHAUST FAN AS INDICATED WITH SUPPORTS, HANGERS, TRANSITIONS, AND APPURTENANCES REQUIRED TO MAKE A COMPLETE OPERATABLE SYSTEM. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
4. PROVIDE INTAKE ROOF HOOD AS SCHEDULED WITH MANUFACTURER'S ROOF CURB, SUPPORTS, AND APPURTENANCES REQUIRED. PROVIDE DUCTWORK STUBBED DOWN FROM HOOD INTO SPACE APPROXIMATELY 2'-0" WITH SUPPORTS, HANGERS, TRANSITIONS, AND APPURTENANCES REQUIRED. PROVIDE MOTORIZED DAMPER WITHIN DUCTWORK AND TIE IN TO EXHAUST FAN. DAMPER SHALL OPEN WHEN EXHAUST FAN ENERGIZES AND CLOSE WHEN DE-ENERGIZED. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
5. PROVIDE ELECTRIC WALL HEATER AS SCHEDULED WITH HANGERS, SUPPORTS, AND APPURTENANCES REQUIRED. PROVIDE THERMOSTAT ON WALL 44" AFF AND SET TO ENERGIZE HEATER AT 50 DEG F. COORDINATE ELECTRICAL CONNECTION WITH ELECTRICAL CONTRACTOR. FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS PRIOR TO BEGINNING ANY WORK.
6. PROVIDE CEILING EXHAUST FAN AS SCHEDULED WITH HANGERS, SUPPORTS, AND APPURTENANCES REQUIRED. EXHAUST FAN SHALL BE SWITCHED ON WITH LIGHTS. COORDINATE ELECTRICAL CONNECTION WITH ELECTRICAL CONTRACTOR. FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS PRIOR TO BEGINNING ANY WORK.



KEY PLAN

SCALE Ⓐ 8' 0' 8' 16'

SCALE OF FEET

BUILDING NORTH

NO.	REVISION	DATE	BY

1 / M3 **MECHANICAL NEW WORK FLOOR PLAN - ENLARGED - HANGAR 4 & WPA INFILL**

SCALE Ⓐ

SEAL	DESIGNED: BTF ADD BTF TECH. REVIEW: SS DATE: 12/19/2025	SUB SHEET NO. M3	TITLE OF SHEET: MECHANICAL NEW WORK FLOOR PLAN - ENLARGED - HANGAR 4 & WPA INFILL HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066

PMIS/PKG NO. GATE 308504

SHEET 129 OF 153

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EXHAUST FANS

MARK EF	PERFORMANCE						PHYSICAL CHARACTERISTICS							ELECTRICAL CHARACTERISTICS (MOTOR)								BASIS OF DESIGN
	NORMAL OPERATION				START-UP		TYPE	DRIVE	WHEEL			FAN CLASS		TYPE	HP	RPM	VOLT	PH	AMPS	MCA	MOCP	
	(CFM)	SP ("WG)	TEMP. (°F)	BHP	TEMP (°F)	BHP			TYPE	MIN. DIA. (IN)	RPM	CLASS	MAX RPM									
1	75	0.25	70.0	0.01	70.0	0.01	INLINE	DIRECT	CENTRIFUGAL	-	882	I	1,750	DIRECT	1/16	1,750	115	1	0.19	0.2	15	GREENHECK MODEL SP-A110
2	75	0.25	70.0	0.01	70.0	0.01	INLINE	DIRECT	CENTRIFUGAL	-	882	I	1,750	DIRECT	1/16	1,750	115	1	0.19	0.2	15	GREENHECK MODEL SP-A110
3	75	0.25	70.0	0.01	70.0	0.01	INLINE	DIRECT	CENTRIFUGAL	-	882	I	1,750	DIRECT	1/16	1,750	115	1	0.19	0.2	15	GREENHECK MODEL SP-A110
4	315	0.25	80.0	0.05	80.0	0.05	INLINE	DIRECT	CENTRIFUGAL	-	799	I	1,750	DIRECT	1/4	1,750	208	1	2.95	3.7	15	GREENHECK MODEL CSP-A1050-VG
5	500	0.25	80.0	0.07	80.0	0.07	INLINE	DIRECT	CENTRIFUGAL	-	821	I	1,750	DIRECT	1/4	1,750	208	1	2.95	3.7	15	GREENHECK MODEL CSP-A1050-VG
6	75	0.25	70.0	0.01	70.0	0.01	INLINE	DIRECT	CENTRIFUGAL	-	882	I	1,750	DIRECT	1/16	1,750	115	1	0.19	0.2	15	GREENHECK MODEL SP-A110
7	150	0.25	70.0	0.01	70.0	0.01	INLINE	DIRECT	CENTRIFUGAL	-	941	I	1,750	DIRECT	1/16	1,750	115	1	1.5	1.9	15	GREENHECK MODEL SP-A110

NOTES:
1. PROVIDE FANS WITH BIRD SCREEN ON OUTLET, SPEED CONTROLERS, DISCONNECT SWITCH, AND SPRING ISOLATORS.
2. PROVIDE FANS UNDER 150 CFM WITH METAL BACKDRAFT DAMPERS. FOR FANS ABOVE 150 CFM, PROVIDE MOTORIZED DAMPERS POWER OPEN WITH EXHAUST FAN.

CONTROL DAMPERS

MARK CD	SERVICE	BLADE TYPE		SIZE (IN)	AIR FLOW		LOW LEAK SEALS	ACTUATOR				REMARKS
		OPPOSED	PARALLEL	W X H	MAX CFM	MIN CFM		TYPE (1)	MODULATING	2-POSITION	FAIL POSITION (2)	BASIS OF DESGIN
1	INTAKE		X	12x12	315	315	YES	E	NO	YES	FC	RUSKIN CD35
2	INTAKE		X	16x16	500	500	YES	E	NO	YES	FC	RUSKIN CD35
3	EXHAUST		X	10x10	315	315	YES	E	NO	YES	FC	RUSKIN CD35
4	EXHAUST		X	12x12	500	500	YES	E	NO	YES	FC	RUSKIN CD35

NOTES:
1. ACTUATOR TYPE: E=ELECTRIC, P=PNEUMATIC
2. FC=FAIL CLOSED, FO=FAIL OPEN, FLP=FAIL TO LAST POSITION

ELECTRIC UNIT HEATERS

MARK UH	TYPE	AIR			ELECTRICAL						REMARKS
		CFM	EAT (°F)	LAT (°F)	MOTOR KW	HP	PH	VOLT	AMPS	DISCONNECT TYPE	BASIS OF DESIGN OR EQUAL
1	WALL	140	0	90	4.0	1/60	1	277	19.2	MANUAL	MARLEY AWH4408F
2	WALL	140	0	90	4.0	1/60	1	277	19.2	MANUAL	MARLEY AWH4408F
3	WALL	140	0	90	4.0	1/60	1	277	19.2	MANUAL	MARLEY AWH4408F
4	WALL	140	0	90	4.0	1/60	1	277	19.2	MANUAL	MARLEY AWH4408F
5	HORIZONTAL	400	0	42	5.0	1/40	1	277	24.1	MANUAL	MARKEL 5100
6	HORIZONTAL	400	0	42	5.0	1/40	1	277	24.1	MANUAL	MARKEL 5100
7	HORIZONTAL	400	0	42	5.0	1/40	1	277	24.1	MANUAL	MARKEL 5100
8	HORIZONTAL	400	0	42	5.0	1/40	1	277	24.1	MANUAL	MARKEL 5100

NOTES:
1. PROVIDE HEATERS WITH TAMPER PROOF THERMOSTAT, 16 GUAGE STEEL GRILL, SURFACE MOUNTING FRAME, & AUTOMATIC RESET THERMAL LIMIT.
2. PROVIDE SUSPENDED UNIT HEATERS WITH REMOTE MOTED THERMOSTAT, WALL BRACKET, SINGLE SPEED MOTOR, AND ADJUSTABLE LOUVER ASSEMBLY.

INTAKE/EXHAUST HOODS

MARK RH	SERVICE	CAPACITY (CFM)	APPROX. HEIGHT (IN)	THROAT SIZE (IN) (W x L)	MAXIMUM INLET VELOCITY (FPM)	DAMPER	REMARKS
							BASIS OF DESIGN
1	EXHAUST	315	20	10x10	553	YES	GREENHECK GRSR-10
2	EXHAUST	500	22	12x12	610	YES	GREENHECK GRSR-12
3	INTAKE	315	22	12x12	384	YES	GREENHECK GrSI-12
4	INTAKE	500	22	15x15	446	YES	GREENHECK GRSI-15

NOTES:
1. PROVIDE MESH INSECT SCREEN ON OPENING OF HOOD.
2. PROVIDE HOODS WITH MODULATING DAMPERS TO OPEN WHEN ASSOCIATED FAN IS ENERGIZED.

NO.	REVISION	DATE	BY

SEAL

DESIGNED: Designer
CADD Author
TECH. REVIEW: Checker
DATE: 12/19/2025

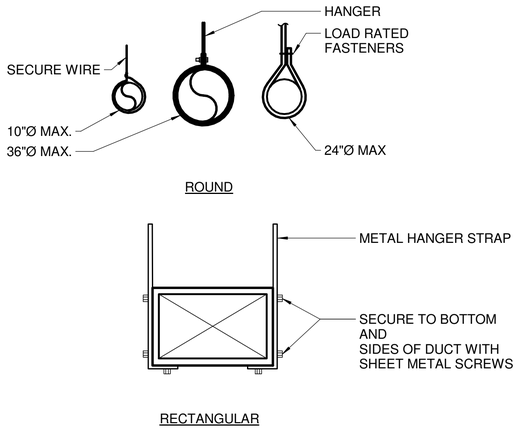
SUB SHEET NO. M4

TITLE OF SHEET
MECHANICAL SCHEDULES

HANGARS 3 & 4 REHABILITATION

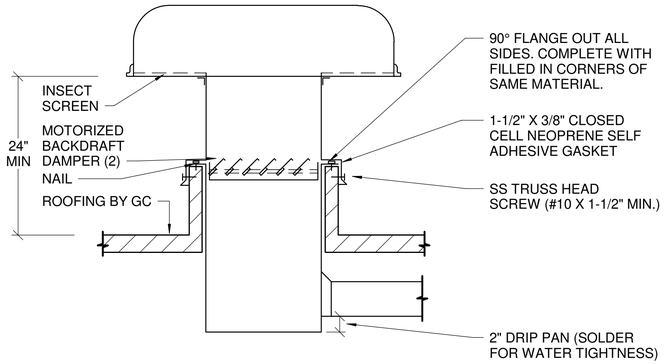
DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 130 OF 153

12/18/2025 10:42:36 AM Autodesk Docs://GATE Floyd Bennett Field/24200-03_GATE_Mechanical.rvt



NOTE:
1. FOR ANGLE SIZE AND HANGER STRAP GAUGE, SEE SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS.

5 M5 DUCT SUPPORT METHODS DETAIL
NO SCALE

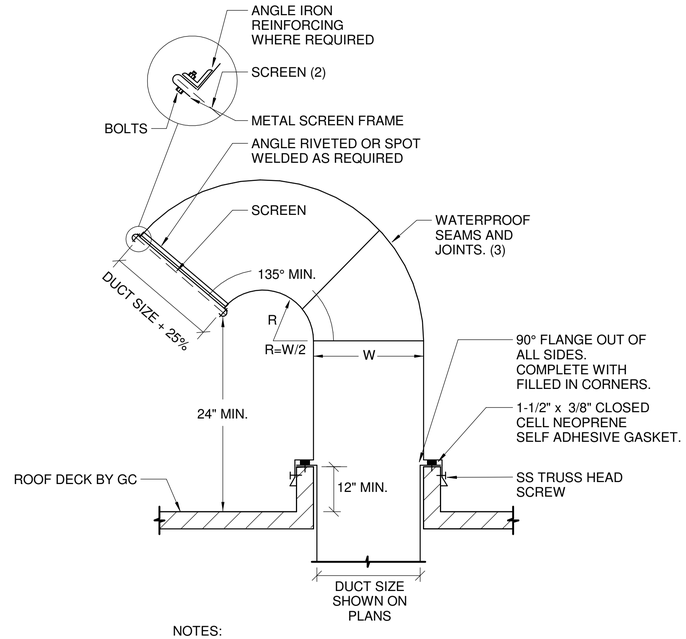


NOTES:

(1) CURB AND FLASHING BY GC UNLESS OTHERWISE SPECIFIED.

(2) PROVIDE MOTORIZED DAMPER AND INTERCONNECT WITH ASSOCIATED EXHAUST FAN OPERATION.

3 M5 TYPICAL RELIEF OR EXHAUST HOOD (DUCTED INLET)
NO SCALE



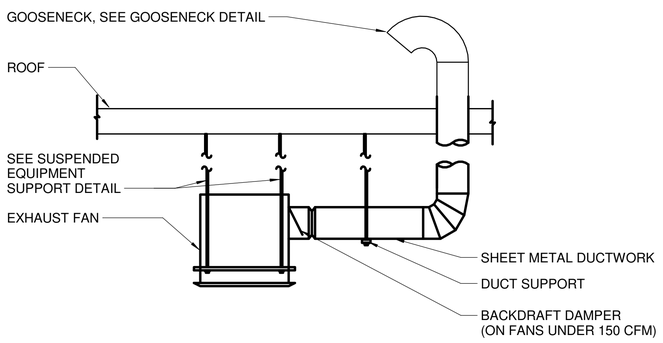
NOTES:

(1) CURB AND FLASHING BY GC UNLESS OTHERWISE SPECIFIED.

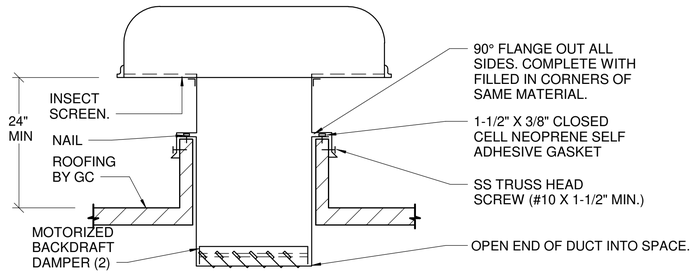
(2) 1/2" OPENINGS FOR INTAKE AND 1/4" OPENINGS FOR EXHAUST APPLICATION.

(3) UNLESS OTHERWISE INDICATED ON PLANS, GOOSENECK SHALL BE OF SAME MATERIAL AS DUCTWORK WITH EXTERIOR PROTECTIVE WHITE PAINT.

1 M5 GOOSENECK
NO SCALE



6 M5 CEILING EXHAUST FAN DETAIL
NO SCALE

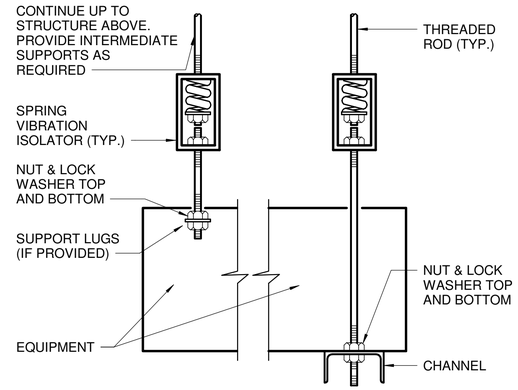


NOTES:

(1) CURB AND FLASHING BY GC UNLESS OTHERWISE SPECIFIED.

(2) PROVIDE MOTORIZED DAMPER AND INTERCONNECT WITH EXHAUST FAN OPERATION.

4 M5 OUTSIDE AIR INTAKE HOOD
SCALE Ⓐ



2 M5 SUSPENDED EQUIPMENT SUPPORT DETAIL
NO SCALE

NO.	REVISION	DATE	BY

SEAL

DESIGNED: Designer
CADD Author
TECH. REVIEW: Checker
DATE: 12/19/2025

SUB SHEET NO. M5

TITLE OF SHEET
MECHANICAL DETAILS

HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 131 OF 153

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ELECTRICAL SYMBOLS AND ABBREVIATIONS

NOTES: SYMBOLS INDICATED HERE AND NOT USED IN THE CONTRACT DOCUMENTS DO NOT APPLY TO THIS PROJECT.

EQUIPMENT AND WIRING

- MOTOR
- ELECTROSTATIC SHIELDED ISOLATION TRANSFORMER
- GROUND CONNECTION
- TRANSFORMER
- PANELBOARD - NORMAL SURFACE MOUNTED
- PANELBOARD - EMERGENCY/LIFE SAFETY SURFACE MOUNTED
- DISTRIBUTION PANELBOARD
- NON FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- ENCLOSED CIRCUIT BREAKER
- MAGNETIC MOTOR STARTER
- COMBINATION MOTOR STARTER
- $_{M}$ MANUAL STARTER W/OVERLOAD PROTECTION
- CAMERA - WALL - PTZ
- SCP SECURITY CONTROL PANEL
- AUTOMATIC TRANSFER SWITCH
- GEN REMOTE GENERATOR ANNUNCIATOR
- M REVENUE METER, kWh/D
- CM METER WITH CURRENT TRANSFORMER
- MOLDED CASE CIRCUIT BREAKER
- LOW VOLTAGE DRAW-OUT AIR CIRCUIT BREAKER
- SWITCH - ONE LINE DIAGRAM
- GROUNDED "Y" SYSTEM
- H ELECTRIC HEATER
- J SURFACE JUNCTION BOX
- J SURFACE JUNCTION BOX - WALL
- J FLUSH JUNCTION BOX - CEILING
- J FLUSH JUNCTION BOX - WALL
- J FLUSH JUNCTION BOX - FLOOR
- CS SPLIT CORE CURRENT SENSOR
- PTZ CAMERA - CEILING

RECEPTACLES

- DUPLEX RECEPTACLE
  MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: 1'-6"
- SINGLE RECEPTACLE
  MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: 1'-6"
- DOUBLE DUPLEX RECEPTACLE MOUNTING LOCATION: WALL MOUNTING HEIGHT: 1'-6"
- DUPLEX RECEPTACLE - ABOVE CASEWORK OR 2" ABOVE COUNTERTOP BACKSPLASH
  MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: FIELD VERIFY
- FIXED EQUIPMENT CONNECTION - WALL MOUNTING
  LOCATION: WALL
  MOUNTING HEIGHT: 1'-6"
- DUPLEX RECEPTACLE - CEILING MOUNTED MOUNTING LOCATION: CEILING
- DOUBLE DUPLEX RECEPTACLE - CEILING MOUNTED
  MOUNTING LOCATION: CEILING
- DUPLEX RECEPTACLE - FLOOR MOUNTED MOUNTING LOCATION: FLOOR
- FIXED EQUIPMENT CONNECTION MOUNTING
  LOCATION: COORDINATE W/ EQUIPMENT
- DOUBLE DUPLEX RECEPTACLE - ABOVE CASEWORK OR 2" ABOVE COUNTERTOP
  BACKSPLASH MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: FIELD VERIFY

LIGHTING

TYPE

- CIRCUIT/SWITCH
- SURFACE MOUNTED LINEAR LED
  MOUNTING LOCATION: CEILING
- SURFACE MOUNTED LINEAR LED
  MOUNTING LOCATION: WALL
- PENDANT/SUSPENDED LINEAR LED
- PENDANT/SUSPENDED FLUORESCENT
- RECESSED GRID MOUNTED FLUORESCENT MOUNTING LOCATION: CEILING
- RECESSED FLANGE MOUNTED FLUORESCENT MOUNTING LOCATION: CEILING
- SURFACE MOUNTED FLUORESCENT MOUNTING LOCATION: CEILING
- SURFACE MOUNTED EMERGENCY LINEAR FLUORESCENT
  MOUNTING LOCATION: CEILING
- SURFACE MOUNTED EMERGENCY LINEAR FLUORESCENT
  MOUNTING LOCATION: WALL
- PENDANT/SUSPENDED EMERGENCY LINEAR FLUORESCENT
- PENDANT/SUSPENDED EMERGENCY FLUORESCENT
- RECESSED GRID MOUNTED EMERGENCY FLUORESCENT.
  MOUNTING LOCATION: CEILING
- RECESSED FLANGE MOUNTED EMERGENCY FLUORESCENT.
  MOUNTING LOCATION: CEILING
- SURFACE MOUNTED EMERGENCY FLUORESCENT.
  MOUNTING LOCATION: CEILING
- SINGLE FACE EXIT FIXTURE MOUNTING LOCATION: WALL
- DOUBLE FACE EXIT FIXTURE MOUNTING LOCATION: WALL
- J TRACK MOUNTING LOCATION: AS NOTED
- y / XX CONTROL STATION
  MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: 3'-6"
  y = SWITCH DESIGNATION (lower case)
  PC = PHOTOCELL
  RC = ROOM CONTROLLER
  EP = EMERGENCY LIGHTING CONTROL UNIT
- RECESSED MOUNTED INCANDESCENT/COMPACT FLUORESCENT/HID
  MOUNTING LOCATION: CEILING
- SURFACE MOUNTED INCANDESCENT/COMPACT FLUORESCENT/HID
  MOUNTING LOCATION: CEILING
- RECESSED MOUNTED INCANDESCENT/COMPACT FLUORESCENT/HID
  MOUNTING LOCATION: WALL
- SURFACE MOUNTED INCANDESCENT/COMPACT FLUORESCENT/HID
  MOUNTING LOCATION: WALL
- PENDANT/SUSPENDED INCANDESCENT/COMPACT FLUORESCENT/HID
- RECESSED MOUNTED EMERGENCY INCANDESCENT/COMPACT FLUORESCENT/HID
  MOUNTING LOCATION: CEILING
- SURFACE MOUNTED EMERGENCY INCANDESCENT/COMPACT FLUORESCENT/HID
  MOUNTING LOCATION: CEILING
- RECESSED MOUNTED EMERGENCY INCANDESCENT/COMPACT FLUORESCENT/HID
  MOUNTING LOCATION: WALL
- SURFACE MOUNTED EMERGENCY INCANDESCENT/COMPACT FLUORESCENT/HID
  MOUNTING LOCATION: WALL
- PENDANT/SUSPENDED EMERGENCY INCANDESCENT/COMPACT FLUORESCENT/HID
- DIRECTIONAL INDICATOR ADDED TO FIXTURE SYMBOL TO DESIGNATE AIMING DIRECTION
- EXIT DIRECTIONAL ARROW
- SINGLE FACE EXIT FIXTURE MOUNTING LOCATION: CEILING
- DOUBLE FACE EXIT FIXTURE MOUNTING LOCATION: CEILING
- TWO HEAD BATTERY PACK FIXTURE

SWITCHES

- $_{a}$ SINGLE POLE SWITCH
  MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: 3'-6"
  a = SWITCH DESIGNATION
- $_{3}$ THREE WAY SWITCH
  MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: 3'-6"
- $_{4}$ FOUR WAY SWITCH
  MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: 3'-6"
- $_{K}$ KEY SWITCH
  MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: 3'-6"
- TC TIME CLOCK
  MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: 5'-0"
- $_{LV}$ LOW VOLTAGE LIGHT SWITCH
  LOCATION: WALL
  MOUNTING HEIGHT: 3'-6"
- S XX OCCUPANCY SENSOR FOR LIGHTING CONTROL
  PIR = PASSIVE INFRARED
  2P = 2 POLE, DUAL RELAY
  U = ULTRASONIC
  DT = DUAL TECHNOLOGY
  AL = AMBIENT LIGHT SENSOR
  MOUNTING LOCATION: WALL
  MOUNTING HEIGHT: 3'-6"
- S XX OCCUPANCY SENSOR FOR LIGHTING CONTROL
  MOUNTING LOCATION: CEILING

SITE SYMBOLS

—E—UG—

E = ELECTRIC POWER
T = TELEPHONE
UG = UNDERGROUND
OH = OVERHEAD
D = DATA

SHEET SYMBOLS

- # NOTE DESIGNATION
- 1 / X0.0 DETAIL REFERENCE
  TOP DESIGNATES DETAIL NUMBER
  BOTTOM DESIGNATES ON WHICH SHEET DETAIL APPEARS
- LINE CONTINUE BREAK
- ELEVATION DESIGNATION
- # REVISION NUMBER DESIGNATION
- NEW WORK CONNECTION TO EXISTING WORK
  DESIGNATION
- EQ / # EQUIPMENT DESIGNATION
  TOP DESIGNATES EQUIPMENT ABBREVIATION
  BOTTOM DESIGNATES EQUIPMENT NUMBER
- REFER / X0.0 PLAN CONTINUATION DESIGNATION
- 1 / X0.0 SECTION REFERENCE TOP DESIGNATES
  SECTION NUMBER BOTTOM DESIGNATES ON WHICH SHEET SECTION APPEARS

NO.	REVISION	DATE	BY

SEAL

DESIGNED: DAT
CADD DAT
TECH. REVIEW: WJR
DATE: 12/19/2025

SUB SHEET NO. E11

TITLE OF SHEET
ELECTRICAL SYMBOLS & ABBREVIATIONS
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 132 OF 153

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ELECTRICAL ABBREVIATIONS

A	-	AMPERES
AC	-	ABOVE CEILING/ALTERNATING CURRENT
ADO	-	AUTOMATIC DOOR OPENER
AF	-	AMPERE FRAME
AFF	-	ABOVE FINISHED FLOOR
AIC	-	AMP INTERRUPTING CAPACITY
ALT	-	ALTERNATE
ARCH	-	ARCHITECTURAL
ASC	-	ABOVE SUSPENDED CEILING
AT	-	AMPERE TRIP
AUTO	-	AUTOMATIC
BC	-	BARE COPPER
BFC	-	BELOW FINISH CEILING
BFL	-	BELOW FLOOR LEVEL
BLDG	-	BUILDING
BRKR	-	BREAKER
C	-	CONDUIT
CB	-	CIRCUIT BREAKER
CCTV	-	CLOSED CIRCUIT TELEVISION
CCT	-	CIRCUIT
CCT BKR	-	CIRCUIT BREAKER
CFCI	-	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CLG	-	CEILING
CO	-	CONDUIT ONLY
CONTR	-	CONTRACTOR
CORR	-	CORRIDOR
CR	-	CONTROL RELAY
CT	-	CURRENT TRANSFORMER
DB	-	DIRECT BURIAL
DC	-	DIRECT CURRENT
DED	-	DEDICATED
DET	-	DETAIL
DIA	-	DIAMETER
DISC	-	DISCONNECT
DN	-	DOWN
DP	-	DISTRIBUTION PANEL
DS	-	DISCONNECT SWITCH
EC	-	EMPTY CONDUIT/ELECTRICAL CONTRACTOR
ECL	-	EMERGENCY CRITICAL LIGHTING
ECP	-	EMERGENCY CRITICAL POWER
EDB	-	ELECTRIC DUCT BANK
EG	-	EQUIPMENT GROUND
EJ	-	EXPANSION JOINT
ELEC	-	ELECTRIC/ELECTRICAL
ELL	-	EMERGENCY LIFE SAFETY LIGHTING
ELP	-	EMERGENCY LIFE SAFETY POWER
EMER	-	EMERGENCY
EMI	-	ELECTROMAGNETIC INTERFERENCE
EMT	-	ELECTRICAL METALLIC TUBING
EQUIP	-	EQUIPMENT
ESM	-	ELECTRIC STRIP MOLD
EWC	-	ELECTRIC WATER COOLER
F/FC	-	FLUSH WITH FINISHED CEILING
F/FF	-	FLUSH WITH FINISHED FLOOR
F/FW	-	FLUSH WITH FINISHED WALL
FA	-	FIRE ALARM
FACP	-	FIRE ALARM CONTROL PANEL
FCU	-	FAN COIL UNIT
FDR	-	FEEDER
FDS	-	FUSED DISCONNECT SWITCH
FIXT	-	FIXTURE
FL	-	AT FLOOR LINE
FLA	-	FULL LOAD AMPERES
FLEX	-	FLEXIBLE
FLR	-	FLOOR
FLUOR	-	FLUORESCENT
FS	-	FLOW SWITCH
FSS	-	FUSED SAFETY SWITCH
FSCP	-	FLAME SAFEGUARD CONTROL PANEL
FVNR	-	FULL VOLTAGE NON-REVERSING
GC	-	GENERAL CONTRACTOR
GFCI	-	GROUND FAULT CIRCUIT INTERRUPTER
GFP	-	GROUND FAULT PROTECTION
GND	-	GROUND
GEN	-	GENERATOR
GFI	-	GROUND FAULT INTERRUPTER
GTB	-	GROUND TERMINAL BOX
HH	-	HANDHOLE
HOA	-	HAND OFF AUTOMATIC
HP	-	HORSE POWER
HT	-	HEIGHT/HEAT TRACE
HV	-	HIGH VOLTAGE
IMC	-	INTERMEDIATE METAL CONDUIT
INCAND	-	INCANDESCENT
JB	-	JUNCTION BOX
KO	-	KNOCK-OUT
KV	-	KILOVOLT
KVA	-	KILOVOLT-AMPERES
KW	-	KILOWATTS
KWH	-	KILOWATT HOURS
LAN	-	LOCAL AREA NETWORK
LGT	-	LIGHT
LTG	-	LIGHTING
LTS	-	LIGHTS
LV	-	LOW VOLTAGE
MATV	-	MASTER ANTENNA TELEVISION
MC	-	MECHANICAL CONTRACTOR
MCB	-	MAIN CIRCUIT BREAKER
MCC	-	MOTOR CONTROL CENTER
MCP	-	MOTOR CIRCUIT PROTECTOR
MDP	-	MAIN DISTRIBUTION PANEL
MMU	-	MULTI METERING UNIT
MLO	-	MAIN LUGS ONLY
MH	-	MANHOLE
MTD	-	MOUNTED
MTG	-	MOUNTING
MTG HGT	-	MOUNTING HEIGHT
MTR	-	MOTOR/METER
NA	-	NOT APPLICABLE
NC	-	NEW CONNECTION/NORMALLY CLOSED
NEC	-	NATIONAL ELECTRICAL CODE
NF	-	NON-FUSED DISCONNECT
NFSS	-	NON-FUSED SAFETY SWITCH
NIC	-	NOT IN CONTRACT
NO	-	NORMALLY OPEN
NTS	-	NOT TO SCALE
OC	-	ON CENTER
OFCI	-	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	-	OWNER FURNISHED OWNER INSTALLED
P	-	POLE
PA	-	PUBLIC ADDRESS
PB	-	PULL BOX/PUSHBUTTON
PBPU	-	PREFABRICATED BEDSIDE PATIENT POWER UNIT
PC	-	PLUMBING CONTRACTOR/PHOTOCELL
PDU	-	POWER DISTRIBUTION UNIT
PF	-	POWER FACTOR
PH	-	PHASE
PLBG	-	PLUMBING
PNL	-	PANEL
POD	-	POWER OPERATED DAMPER
PT	-	POTENTIAL TRANSFORMER
PTRV	-	POWER TYPE ROOF VENTILATOR
PWR	-	POWER
REC	-	RECESSED
RECEP	-	RECEPTACLE
REL	-	RELOCATE
REQD	-	REQUIRED
RGIP	-	REMOTE GROUND INDICATOR PANEL
RMC	-	RIGID METAL CONDUIT
RVAT	-	REDUCED VOLTAGE AUTO TRANSFORMER
RX	-	EXISTING TO BE REPLACED AND/OR RELOCATED
SHT	-	SHEET
SIG	-	SIGNAL
SM	-	SURFACE MOUNTED
SPEC	-	SPECIFICATION
SS	-	SAFETY SWITCH
STA	-	STATION
STR	-	STARTER
SW	-	SWITCH
SWBD	-	SWITCHBOARD
SWGR	-	SWITCHGEAR
TEL	-	TELEPHONE
TFA	-	TO FLOOR ABOVE
TFB	-	TO FLOOR BELOW
TS	-	TAMPER SWITCH/TIME SWITCH
TV	-	TELEVISION
TVSS	-	TRANSIENT VOLTAGE SURGE SUPPRESSION
TVTC	-	TELEVISION TERMINAL CABINET
TYP	-	TYPICAL
UC	-	UNDER COUNTER
UG	-	UNDERGROUND
UH	-	UNIT HEATER
UNO	-	UNLESS NOTED OTHERWISE
UPS	-	UNINTERRUPTED POWER SUPPLY
V	-	VOLTAGE
VFD	-	VARIABLE FREQUENCY DRIVE
VP	-	VAPOR PROOF
W	-	WIRE
W/	-	WITH
WP	-	WEATHERPROOF
WS	-	WALL SURFACE
WT	-	WATER TIGHT
X	-	EXISTING TO REMAIN
XFMR	-	TRANSFORMER

[ABBREVIATION INDICATED HERE AND NOT USED IN THE CONTRACT DOCUMENTS DO NOT APPLY TO THIS PROJECT]

GENERAL POWER NOTES

1. REFER TO E51 FOR ELECTRICAL ONE LINE AND GROUNDING DIAGRAMS.
2. REFER TO E81, E82 & E83 FOR PANELBOARD SCHEDULES.
3. COORDINATE WITH CONTRACTING OFFICER FOR EXACT LOCATION OF ELECTRICAL DEVICES (RECEPTACLES, RACEWAYS, CONTROL PANELS ETC.) PRIOR TO INSTALLATION.
4. RECEPTACLES IN COMMON WALL SHALL BE LOCATED IN MINIMUM 12" FROM EACH OTHER. BACK BOXES SHALL NOT BE BACK TO BACK.
5. PROVIDE GFCI RECEPTACLE FOR ANY RECEPTACLES ON WALLS OR RACEWAYS WITHIN 6' OF SINKS.
6. NO DUCTS, PIPING OR EQUIPMENT FOREIGN TO ELECTRICAL ROOM SERVED, SHALL PASS THROUGH THE ELECTRICAL SPACE OR ROOM TO SERVE OTHER SPACES.

GENERAL SITE PLAN NOTES

1. COORDINATE UNDERGROUND CONDUIT LAYOUT WITH OTHER UTILITIES UNDERGROUND WORK.
2. UTILIZE HAND DIGGING WHERE WORK IS REQUIRED IN THE VICINITY OF KNOWN UNDERGROUND UTILITIES. TAKE ALL NECESSARY PRECAUTIONS SO NO EXISTING UTILITIES ARE ACCIDENTALLY DAMAGED. CONTACT THE APPROPRIATE UNDERGROUND UTILITY LOCATING AGENCY.
3. FIELD COORDINATE THE EXACT LOCATION OF UNDERGROUND CONDUITS WITH ALL OTHER UNDERGROUND UTILITIES AND THE SITE CONDITIONS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO ALL EXISTING CONCRETE & STRUCTURE TO REMAIN. EXISTING DAMAGES WILL BE MARKED ON A PRE-CONSTRUCTION WALK THROUGH.
5. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. FOLLOW DRAWINGS IN LAYING OUT, VERIFY FIELD CONDITIONS, AND COORDINATE WITH EXISTING CONDITIONS.
6. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, INCLUDING REQUIREMENTS OF LOCAL AUTHORITIES.
7. ASPHALT PAVEMENT, CONCRETE, FENCES, VEGETATION, GRASS, AND GRAVEL AREAS TO REMAIN WHICH HAVE BEEN DISTURBED SHALL BE RESTORED AND REPAINTED TO MATCH EXISTING.
8. ALL STORM DRAINS, SWALES, AND OTHER DRAINAGE FACILITIES SHALL REMAIN IN SERVICE DURING CONSTRUCTION. NO EXCAVATED MATERIAL MAY BE PLACED IN SWALES OR DRAINAGE DITCHES.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CONSTRUCTION PERMITS AND SCHEDULING ALL INSPECTIONS. ALL FINAL INSPECTIONS SHALL BE COMPLETED BEFORE ACCEPTANCE BY THE OWNER.
10. WHERE UNDERGROUND WIRING CROSSES EXISTING SIDEWALK OR ROADWAY, BORE BELOW WITHOUT DISTURBING OR DAMAGING SURFACE ABOVE. PROVIDE SCHEDULE 40 PVC SLEEVE IN BORED HOLE FOR CONDUIT TO ROUTE THROUGH.
11. PROVIDE PROTECTION TO PREVENT A PERSON FROM TRIPPING ON, OR FALLING INTO A TRENCH. COVERING SHALL BE CAPABLE OF SUPPORTING A 250-LB PERSON.
12. REFER TO ARCHITECTURAL ELEVATIONS, FLOOR PLANS, AND CIVIL/LANDSCAPE DRAWINGS FOR EXACT DEVICE LOCATIONS AND ORIENTATION. ELECTRICAL DRAWINGS INDICATE DEVICE QUANTITIES AND RELATIVE LOCATION, BUT EXACT LOCATION AND ELEVATION SHALL BE PER ARCHITECTURAL DRAWINGS. IN THE ABSENCE OF AN ARCHITECTURAL ELEVATION, ELECTRICAL DRAWINGS SHALL TAKE PRECEDENCE.

GENERAL LIGHTING PLAN NOTES

1. REFER TO ARCHITECTURAL ELEVATIONS AND FLOOR PLANS FOR EXACT DEVICE LOCATIONS AND ORIENTATION. IN THE ABSENCE OF AN ARCHITECTURAL ELEVATION, ELECTRICAL DRAWINGS SHALL TAKE PRECEDENCE.
2. OCCUPANCY SENSORS SHALL CONTROL ALL LUMINAIRES IN THE ROOMS IN WHICH THEY ARE INSTALLED. PROVIDE QUANTITY OF SENSORS AS REQUIRED FOR FULL COVERAGE OF THE ROOM. IN ROOMS WITH MORE THAN ONE SENSOR, ALL SENSORS SHALL BE TIED TOGETHER.
3. ALL LIGHTING ON EMERGENCY POWER IS SWITCHED OFF. PROVIDE UL-924 LISTED EMERGENCY DEVICE FOR EACH SWITCHED CIRCUIT. PROVIDE UNSWITCHED EMERGENCY POWER AND UNSWITCHED NORMAL POWER TO THE TRANSFER DEVICE. REFER TO THE SWITCHED EMERGENCY LIGHTING DEVICE DETAIL ON SHEET E72.
4. UNLESS NOTED OTHERWISE, PENDANT LUMINAIRES SHALL BE MOUNTED AT 9'-0" AFF.
5. UNLESS NOTED OTHERWISE, INDUSTRIAL TYPE LIGHTING FIXTURES SHALL BE MOUNTED BELOW OBSTRUCTIONS SUCH AS PIPING, DUCTWORK, ETC. WHERE NO OBSTRUCTIONS EXIST, FIXTURES SHALL BE MOUNTED AT 9'-0" AFF. UNDER NO CIRCUMSTANCES SHALL A FIXTURE BE MOUNTED LESS THAN 8'-0" AFF TO THE BOTTOM.
6. ALL THE EXIT SIGNS SHALL BE ON SEPARATE CIRCUIT AS NOTED ON FLOOR PLAN.

NO.	REVISION	DATE	BY

SEAL

DESIGNED: DAT
CADD: DAT
TECH. REVIEW: WJR
DATE: 12/19/2025

SUB SHEET NO. E21

TITLE OF SHEET
ELECTRICAL GENERAL NOTES
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 133 OF 153

Autodesk Docs://GATE Floyd Bennett Field/24200-03_GATE_Electrical.rvt
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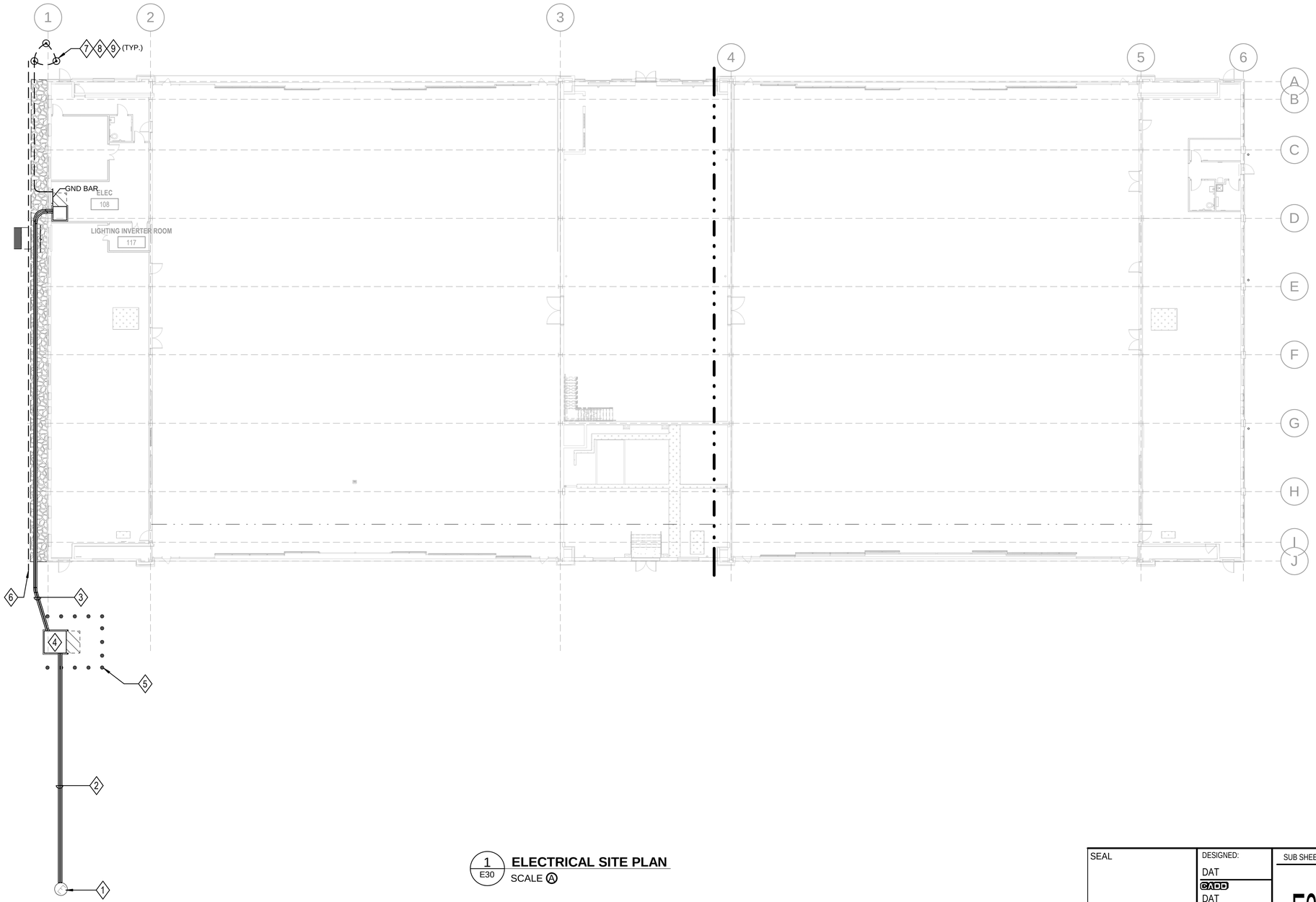
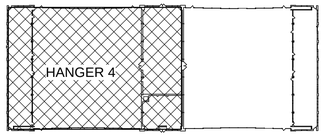


SHEET KEYED NOTES

1. EXISTING CON EDISON MANHOLE MH2071.
2. PRIMARY 2 WAY DUCT BANK CONCRETE ENCASED.
3. SECONDARY 12 WAY DUCT BANK CONCRETE ENCASED. REFER TO SHEET 1/E71 FOR ADDITIONAL INFORMATION.
4. PROPOSED PAD MOUNTED TRANSFORMER LOCATION, TRANSFORMER BY CONED. PROVIDE 6" HOUSEKEEPING PAD. COORDINATE PAD REQUIREMENTS WITH CONED.
5. TYPICAL BOLLARDS, REFER TO CIVIL DRAWINGS FOR ADDITIONAL DETAILS.
6. EXISTING PROPERTY LINE [FENCE].
7. COPPER CLAD GROUND RODS DRIVEN INTO THE EARTH PER NEC [250.52(A)] 3/4" X 10'-0". GROUND ROD MINIMUM 6 FEET APART. REFER TO SHEET E51 FOR CONNECTION REQUIREMENT. ALL GROUND CONDUCTORS RUN BELOW GRADE.
8. PROVIDE EXOTHERMIC WELDED CONNECTIONS BELOW GROUND.
9. INSTALL ADDITIONAL GROUND RODS IF REQUIRED TO ACHIEVE 5 OHMS OR LESS RESISTANCE.



KEY PLAN

SCALE A 16' 0' 16' 32'

SCALE OF FEET

BUILDING NORTH

NO.	REVISION	DATE	BY

1 / E30 **ELECTRICAL SITE PLAN**

SCALE A

SEAL	DESIGNED: DAT CADD DAT TECH. REVIEW: WJR DATE: 12/19/2025	SUB SHEET NO. E30	TITLE OF SHEET: ELECTRICAL POWER SITE PLAN HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066

PMIS/PKG NO. GATE 308504

SHEET 134 OF 153

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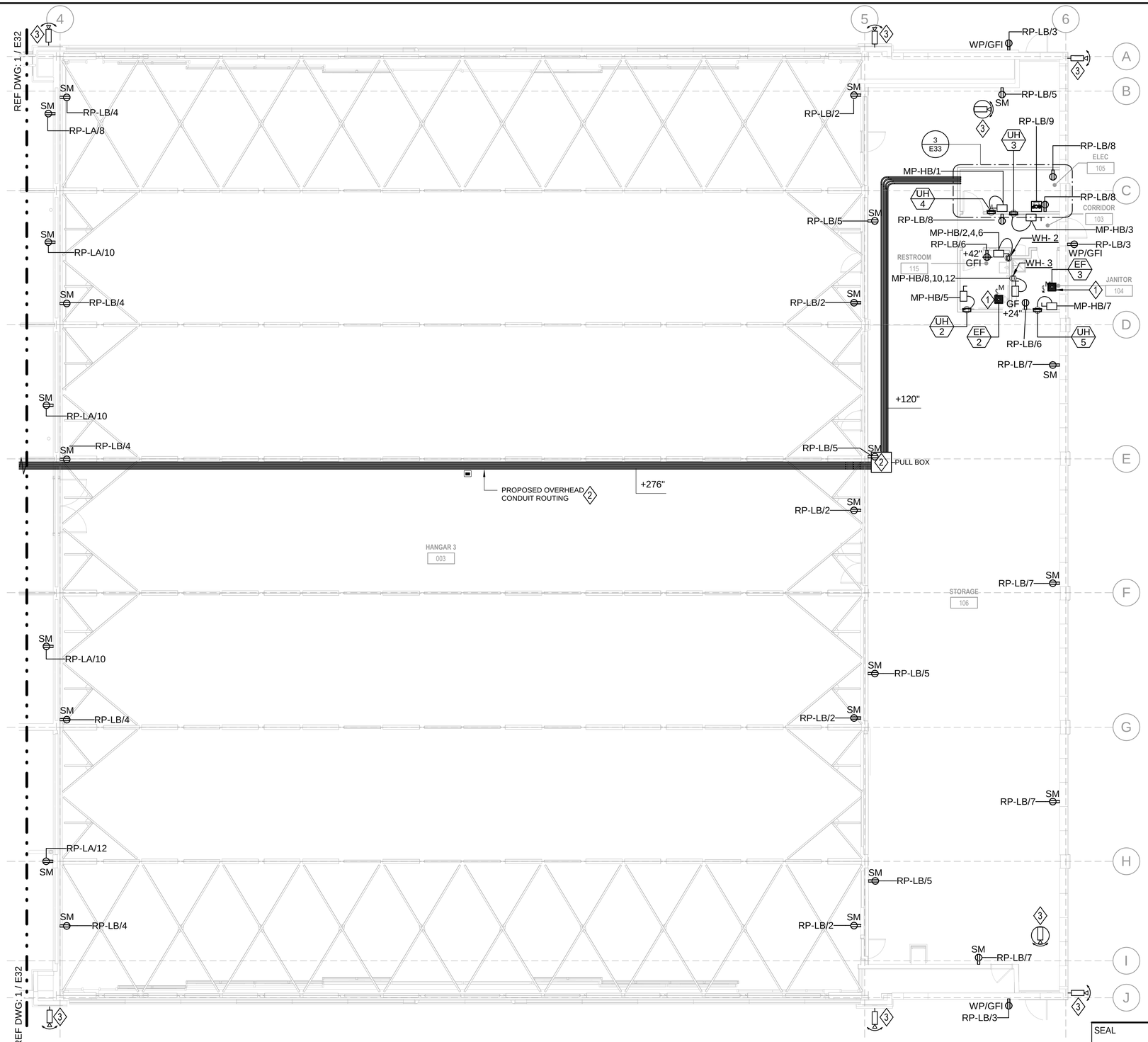
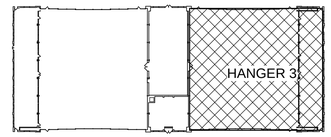


SHEET KEYED NOTES

1. EXHAUST FAN CONTROLLED BY DUAL RELAY OCCUPANCY SENSOR. REFER TO LIGHTING PLAN FOR SWITCH LOCATION AND 2/E72 FOR CONTROL DETAIL.
2. SUPPORT CONDUIT AS PER NEC TABLE 344.30(B)(2) IN COORDINATION WITH CONDUIT SIZE, PROVIDE PULL BOX FOR EVERY 4 BENDS AS REQUIRED PER NEC 344.28 AND SIZE PER NEC 314.28(A). CONDUITS ROUTED UNDERSIDE OF THE TOP STRUCTURAL SUPPORT BETWEEN JOISTS. FIELD COORDINATE EXACT ROUTING.
3. PROVIDE (1) 1" CONDUIT FROM SECURITY CONTROL PANEL LOCATED IN ELECTRICAL ROOM 105 AT EACH EXTERIOR/INTERIOR CAMERA LOCATIONS TO RUN LOW VOLTAGE CABLE AS REQUIRED. EXACT MOUNTING HEIGHT AND LOCATION OF THE SECURITY CAMERAS TO BE DETERMINED DURING CONSTRUCTION IN COORDINATION WITH CONTRACTING OFFICER.

1 / E31 **ELECTRICAL NEW WORK FLOOR PLAN - ENLARGED - HANGAR 3**
SCALE A



KEY PLAN

SCALE A 8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

NO.	REVISION	DATE	BY

SEAL

DESIGNED: DAT
DRAWN: DAT
TECH. REVIEW: WJR
DATE: 12/19/2025

SUB SHEET NO. E31

TITLE OF SHEET
ELECTRICAL POWER FLOOR PLAN - ENLARGED - HANGAR 3
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 135 OF 153

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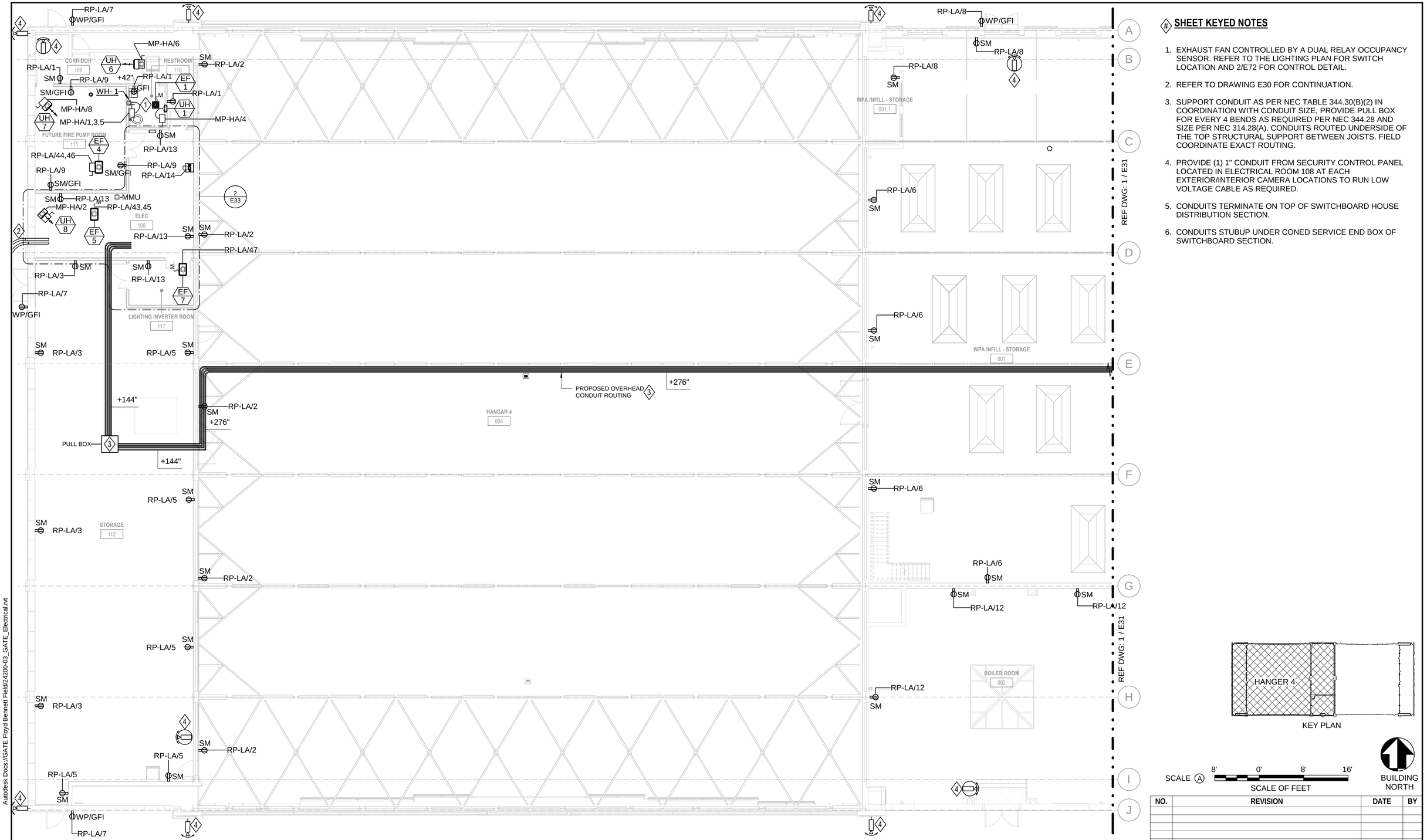

SHEET KEYED NOTES

1. EXHAUST FAN CONTROLLED BY A DUAL RELAY OCCUPANCY SENSOR. REFER TO THE LIGHTING PLAN FOR SWITCH LOCATION AND 2/E72 FOR CONTROL DETAIL.
2. REFER TO DRAWING E30 FOR CONTINUATION.
3. SUPPORT CONDUIT AS PER NEC TABLE 344.30(B)(2) IN COORDINATION WITH CONDUIT SIZE, PROVIDE PULL BOX FOR EVERY 4 BENDS AS REQUIRED PER NEC 344.28 AND SIZE PER NEC 314.28(A). CONDUITS ROUTED UNDERSIDE OF THE TOP STRUCTURAL SUPPORT BETWEEN JOISTS. FIELD COORDINATE EXACT ROUTING.
4. PROVIDE (1) 1" CONDUIT FROM SECURITY CONTROL PANEL LOCATED IN ELECTRICAL ROOM 108 AT EACH EXTERIOR/INTERIOR CAMERA LOCATIONS TO RUN LOW VOLTAGE CABLE AS REQUIRED.
5. CONDUITS TERMINATE ON TOP OF SWITCHBOARD HOUSE DISTRIBUTION SECTION.
6. CONDUITS STUBUP UNDER CONED SERVICE END BOX OF SWITCHBOARD SECTION.

KEY PLAN

SCALE Ⓐ 8' 0' 8' 16'

SCALE OF FEET

BUILDING NORTH

NO.	REVISION	DATE	BY

1 / E32 ELECTRICAL PLAN LEVEL 01 - HANGER 4

SCALE Ⓐ

SEAL	DESIGNED: DAT CADD DAT TECH. REVIEW: WJR DATE: 12/19/2025	SUB SHEET NO. E32	TITLE OF SHEET: ELECTRICAL POWER FLOOR PLAN - ENLARGED - HANGAR 4 HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066

PMIS/PKG NO. GATE 308504

SHEET 136 OF 153

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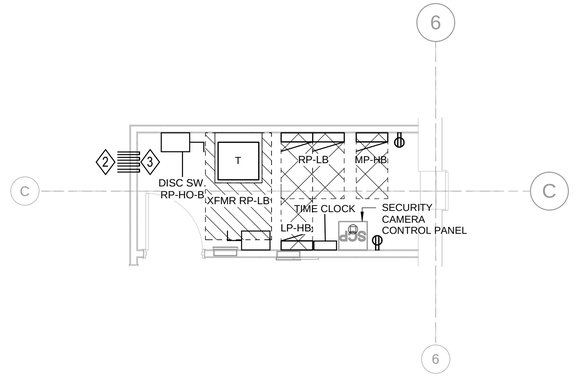
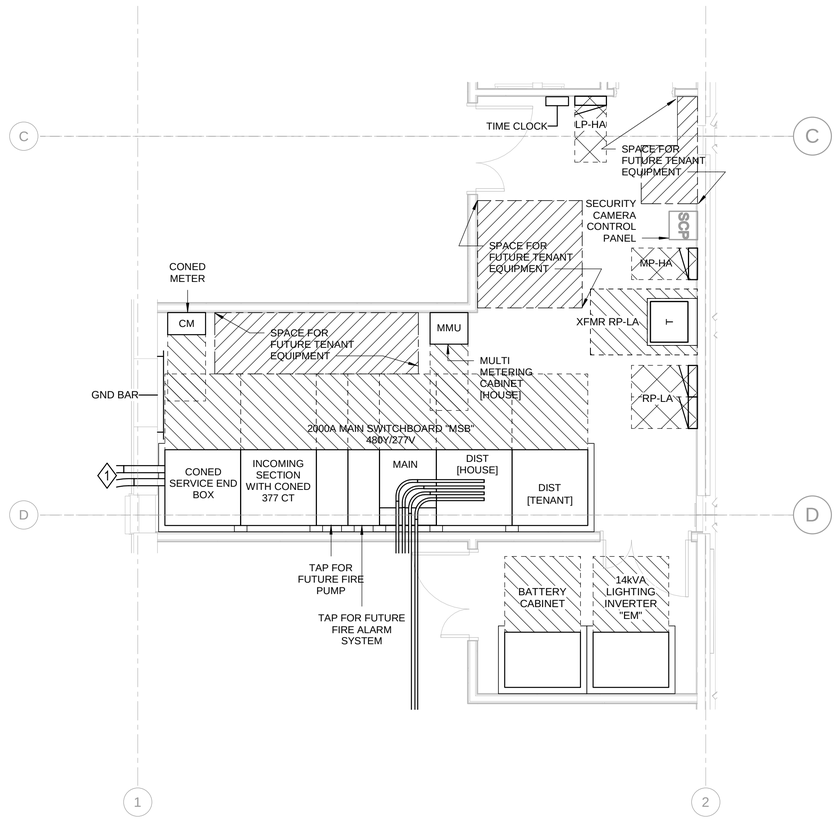
SHEET KEYED NOTES

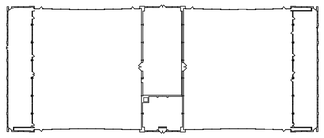
1. REFER TO DRAWING E30 FOR CONTINUATION.
2. REFER TO DRAWING E31 FOR CONTINUATION.
3. CONDUITS TERMINATE ON TOP OF THE ELECTRICAL EQUIPMENT ASSOCIATED WITH BRANCH DISTRIBUTION SYSTEM WITHIN THIS ROOM RESPECTIVELY.



3 / E33 **ELECTRICAL ENLARGED PLAN LEVEL 01 - ELEC CLOSET 105**
SCALE Ⓐ



2 / E33 **ELECTRICAL ENLARGED PLAN LEVEL 01 - ELEC ROOM 108**
SCALE Ⓐ



KEY PLAN

SCALE Ⓐ 4' 0' 4' 8'
SCALE OF FEET

BUILDING NORTH

NO.	REVISION	DATE	BY

SEAL	DESIGNED: DAT CADD DAT TECH. REVIEW: WJR DATE: 12/19/2025	SUB SHEET NO. E33	TITLE OF SHEET ELECTRICAL POWER FLOOR PLAN - ENLARGED - ELEC ROOMS HANGARS 3 & 4 REHABILITATION
			DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 137 OF 153

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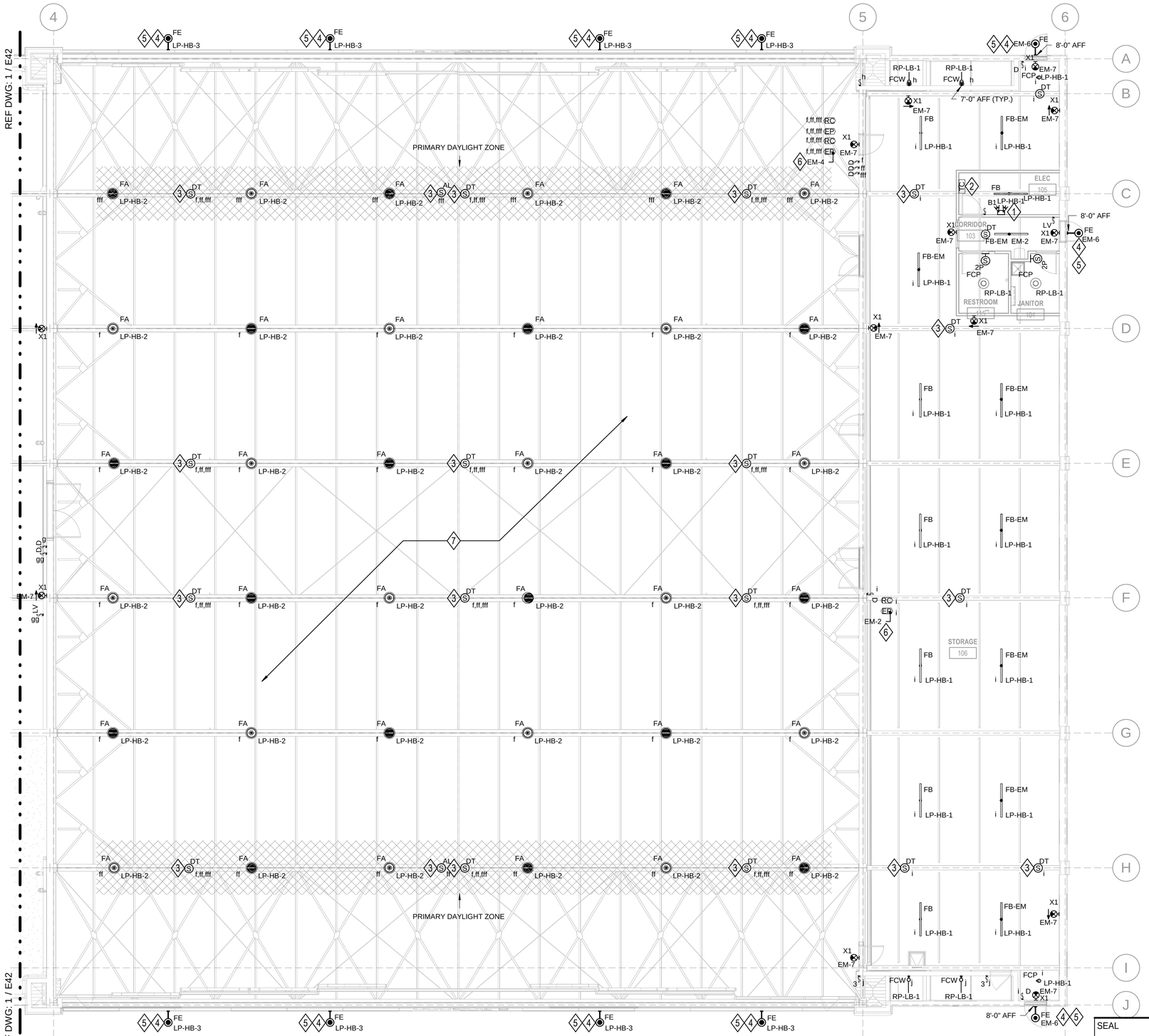
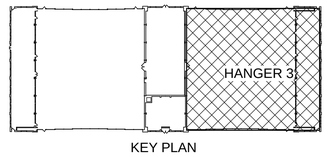


1 E41 **LIGHTING PLAN LEVEL 01 - HANGER 3**

SCALE A

SHEET KEYED NOTES

1. CONNECT AHEAD OF LOCAL SWITCH SERVING THIS SPACE.
2. ELECTRONIC TIMER CONTROL - ASTRONOMIC 7-DAY 4-CIRCUIT ELECTRONIC CONTROL, 120-277 VAC, 4-SPST, OUTDOOR METAL ENCLOSURE. BOD INTERMATIC CATALOGUE # ET8415CR OR APPROVED EQUAL.
3. OCCUPANCY SENSOR SURFACE MOUNTED ON STRUCTURAL BEAM.
4. EXTERIOR LIGHT FIXTURE MOUNTING HEIGHT AND LOCATION TO MATCH EXISTING CONDITION. REFER TO ARCHITECTURAL DRAWING FOR EXACT ELEVATION.
5. ALL EXTERIOR LIGHTING FIXTURES SHALL BE CIRCUITED VIA TIME CLOCK, WIRING ASSOCIATED WITH EXTERIOR LIGHTING SHALL BE #10 AWG TO ACCOMMODATE VOLTAGE DROP.
6. ALL EMERGENCY LIGHT FIXTURES IN THIS SPACE SHALL BE SWITCHED AND CONTROLLED VIA UL-924 EMERGENCY SHUNT RELAY DEVICE [EP]. UPON LOSS OF NORMAL POWER, EMERGENCY LIGHTS SHALL AUTOMATICALLY BYPASS SWITCH AND ILLUMINATE AT 100%.
7. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF LIGHT FIXTURES.



KEY PLAN

SCALE A 8' 0' 8' 16'

SCALE OF FEET

BUILDING NORTH

NO.	REVISION	DATE	BY

SEAL

DESIGNED: DAT
CADD DAT
TECH. REVIEW: WJR
DATE: 12/19/2025

SUB SHEET NO. E41

TITLE OF SHEET
ELECTRICAL LIGHTING FLOOR PLAN - ENLARGED - HANGAR 3
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 138 OF 153

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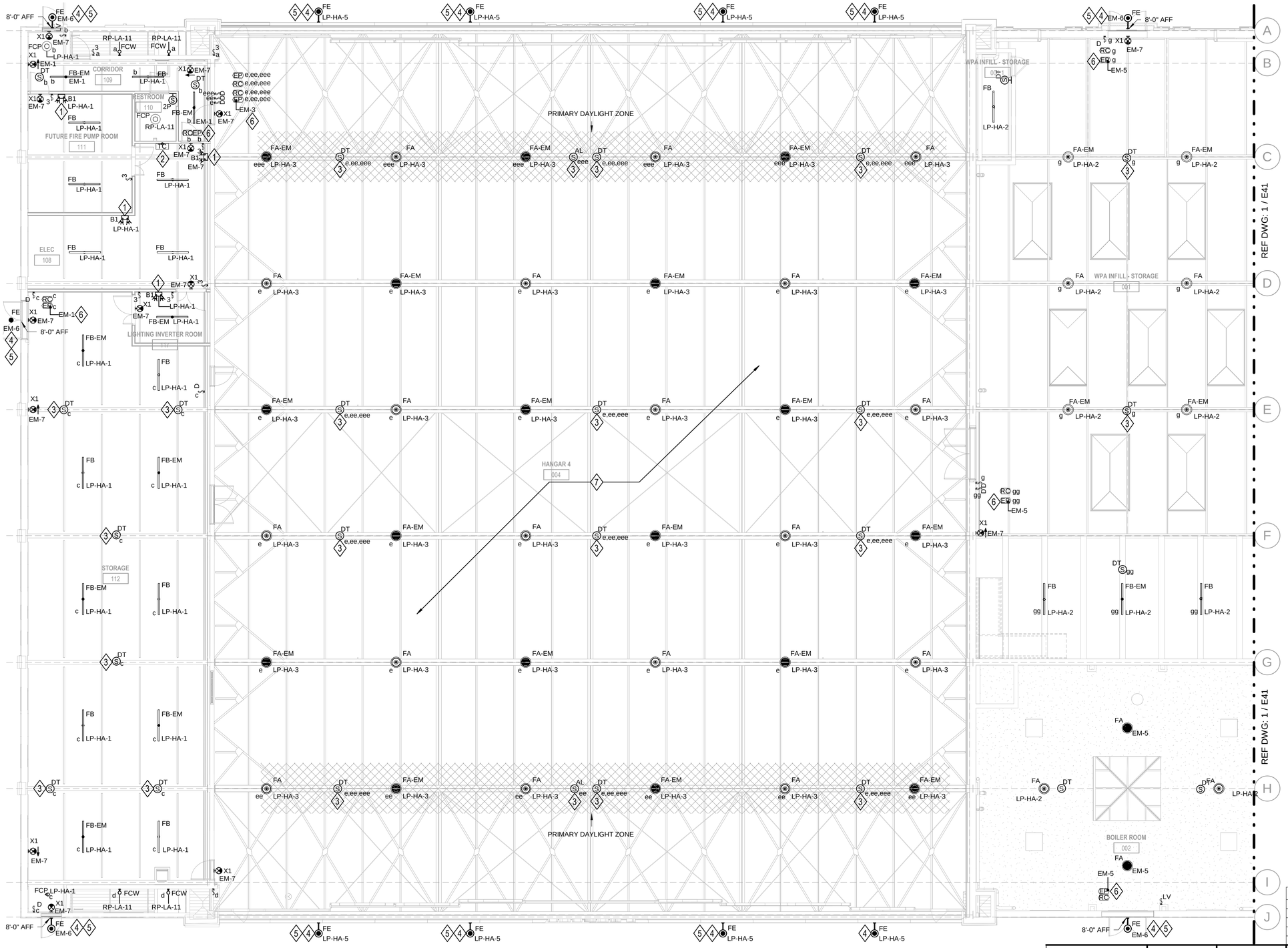
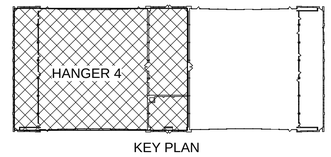


1 E42 **LIGHTING PLAN LEVEL 01 - HANGER 4**
SCALE Ⓐ

SHEET KEYED NOTES

1. CONNECT AHEAD OF LOCAL SWITCH SERVING THIS SPACE.
2. ELECTRONIC TIMER CONTROL - ASTRONOMIC 7-DAY 4-CIRCUIT ELECTRONIC CONTROL, 120-277 VAC, 4-SPST, OUTDOOR METAL ENCLOSURE. BOD INTERMATIC CATALOGUE # ET8415CR OR APPROVED EQUAL.
3. OCCUPANCY SENSOR SURFACE MOUNTED ON STRUCTURAL BEAM.
4. EXTERIOR LIGHT FIXTURE MOUNTING HEIGHT AND LOCATION TO MATCH EXISTING CONDITION. REFER TO ARCHITECTURAL DRAWING FOR EXACT ELEVATION.
5. ALL EXTERIOR LIGHTING FIXTURES SHALL BE CIRCUITED VIA TIME CLOCK, WIRING ASSOCIATED WITH EXTERIOR LIGHTING SHALL BE #10 AWG TO ACCOMMODATE VOLTAGE DROP.
6. ALL EMERGENCY LIGHT FIXTURES IN THIS SPACE SHALL BE SWITCHED AND CONTROLLED VIA UL-924 EMERGENCY SHUNT RELAY DEVICE [EP]. UPON LOSS OF NORMAL POWER, EMERGENCY LIGHTS SHALL AUTOMATICALLY BYPASS SWITCH AND ILLUMINATE AT 100%.
7. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF LIGHT FIXTURES.



KEY PLAN

SCALE Ⓐ 8' 0' 8' 16'
SCALE OF FEET

BUILDING NORTH

NO.	REVISION	DATE	BY

SEAL

DESIGNED: DAT
DRAWN: DAT
TECH. REVIEW: WJR
DATE: 12/19/2025

SUB SHEET NO. E42

TITLE OF SHEET
ELECTRICAL LIGHTING FLOOR PLAN - ENLARGED - HANGAR 4
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 139 OF 153

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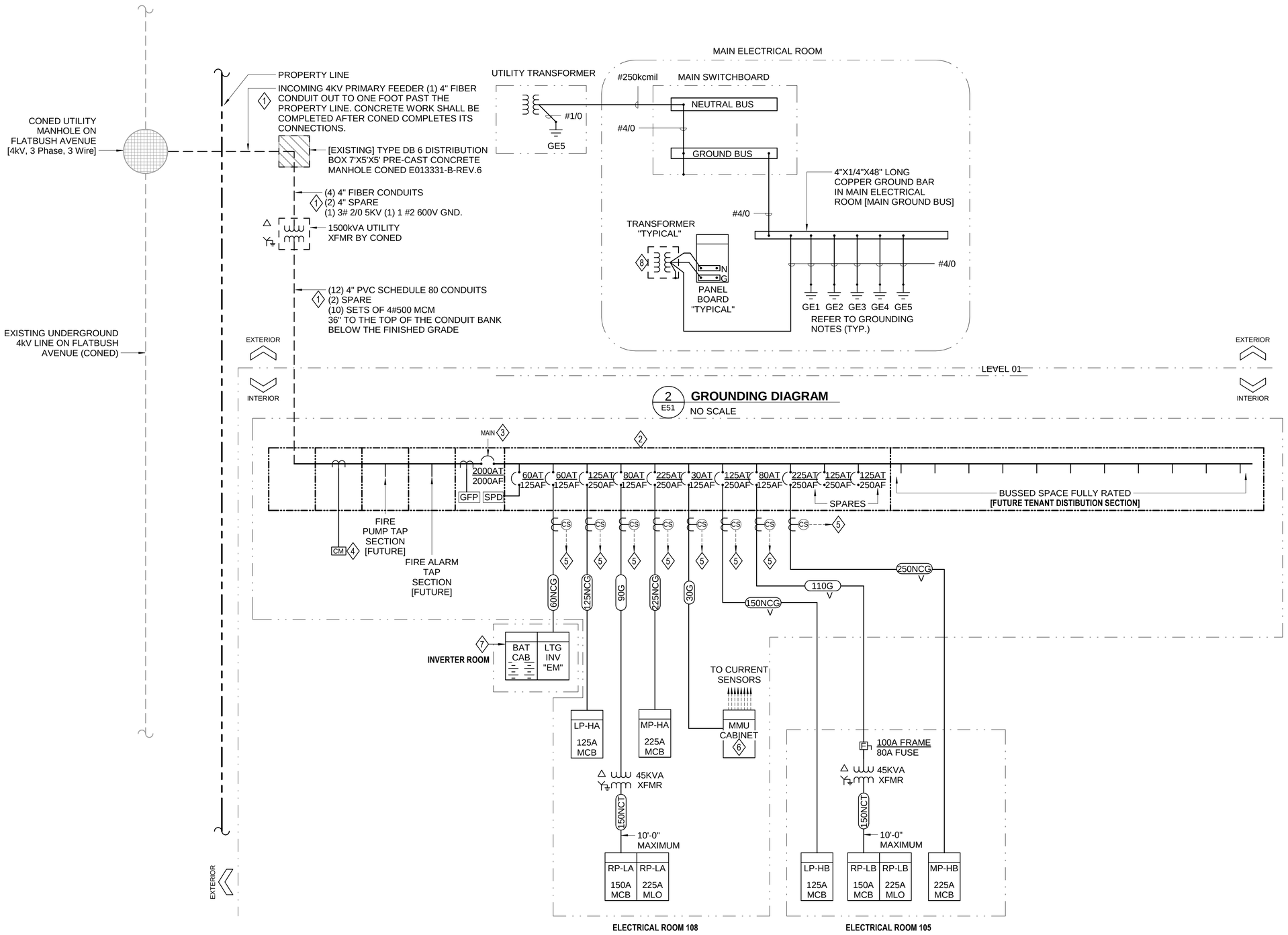

SHEET KEYED NOTES

1. FEEDERS ENCASED IN CONCRETE.
2. CONTRACTOR SHALL PROVIDE A FULL SHORT-CIRCUIT COORDINATION STUDY INCLUDING AN ARC-FLASH HAZARD ANALYSIS AND ARC FLASH WARNING LABELS PER NEC 110.21 (**AND / OR THE SPECIFICATIONS).
3. PROVIDE ENERGY-REDUCING MAINTENANCE SWITCHING WITH LOCAL STATUS INDICATOR OR OTHER APPROVED EQUIVALENT MEANS TO REDUCE THE CLEARING TIME OF ARC ENERGY AT 2000A CIRCUIT BREAKER. PROVIDE DOCUMENTATION TO MAINTENANCE PERSONNEL AS PER NEC 240.87 (A) OR OTHER APPROVED ALTERNATE MEANS SHALL BE TO PROVIDE CIRCUIT BREAKER WITH INSTANTANEOUS TRIP SETTING THAT IS LESSER THAN THE AVAILABLE ARCING CURRENT.
4. PROVIDE ADVANCED ENERGY METER AS REQUIRED PER EPAct OF 2005 REQUIREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. COORDINATE WITH CONED AND CONTRACTING OFFICER PRIOR TO PURCHASE AND INSTALLATION.
5. TO MMU CABINET.
6. SEE MMU CABINET NOTES BELOW FOR ADDITIONAL INFORMATION.
7. 16KVA UL-924 LISTED INVERTER WITH MINIMUM 90 MINUTES RUN TIME FOR LIFE SAFETY SYSTEMS. BASIS OF DESIGN IOTA IIS3P (ORDER # IIS3P-16700-277/480IN 2771/480OU-BYPASSBBM-5YR-10-1P277-20-ON/OFF-10).
8. REFER TO SHEET E61 TRANSFORMER FEEDER SCHEDULE FOR BONDING JUMPER AND GROUNDING ELECTRODE CONDUCTOR SIZE

GROUNDING NOTES GE#

1. GROUNDING ELECTRODE CONDUCTOR TO STRUCTURAL STEEL OF BUILDING, [NEC 250-52(A)(2)].
2. BOND TO INTERIOR METAL WATER PIPING, [NEC 250-104(A)].
3. BOND TO INTERIOR METAL PIPING THAT MAY BECOME ENERGIZED, [NEC 250-104(B)].
4. GROUNDING ELECTRODE CONDUCTOR TO UNDERGROUND WATER SERVICE, [NEC 250-52(A)(1)].
5. BOND TO DRIVEN GROUND RODS. SEE SHEET E30 FOR LOCATION AND ADDITIONAL INFORMATION.

MMU CABINET NOTES

1. PROVIDE E-MON SUB. METER WITH THE FOLLOWING SPECIFICATION TO COMPLY IECC SECTION C405.12.3, C405.12.4 & C405.12.5:
2. METER SHALL BE A MMU (MULTIPLE METER UNIT) AND FULLY ELECTRONIC WITH DIGITAL LCD DISPLAY FOR KILOWATT HOUR READINGS, KILOWATT DEMAND, KILOWATT PEAK DATE AND TIME.
3. METER SHALL BE UL LISTED. CSA APPROVED AND CERTIFIED BY A NATIONALLY RECOGNIZED INDEPENDENT TESTING LABORATORY.
4. METER SHALL PROVIDE A LOAD INDICATOR TO INDICATE REAL TIME POWER CONSUMPTION LEVELS FOR FIELD TESTING AND CERTIFICATION.
5. METER SHALL BE PROVIDED WITH A SELF CONTAINED BACK UP SYSTEM TO MAINTAIN MEMORY DURING POWER FAILURES. THE DATA CAN BE STORED IN THE MEMORY UP TO 36 MONTHS OR UNTIL RESET.
6. METER SHALL BE PROVIDED WITH A MODULAR CONNECTOR TO PROVIDE INTERFACING FOR AUTOMATIC METER READING, PULSE MODULES, ANALOG SIGNAL MODULES, ENERGY CONTROL MODULES, INSTANTANEOUS DEMAND DISPLAYS.
7. METER SHALL BE MMU-12 WITH EMON CLASS 3200 METERS WITH BACNET MS TP. PROVISION FOR FUTURE CONNECTION DURING INSTALLATION OF COMMUNICATION SYSTEM.

NO.	REVISION	DATE	BY

SEAL

DESIGNED: DAT
CADD: DAT
TECH. REVIEW: WJR
DATE: 12/19/2025

SUB SHEET NO. E51

TITLE OF SHEET: ONELINE AND GROUNDING DIAGRAM

HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 140 OF 153

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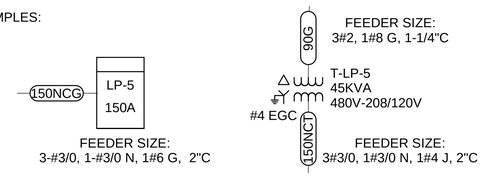
COPPER FEEDER SCHEDULE

FEEDER TAG	CONDUCTORS (SUFFIX NCG) 4W, +G 100% N (NEUTRAL IS CURRENT CARRYING CONDUCTOR)
15NCG	3#12, 1#12 N, 1#12 G, 3/4"C
20NCG	3#10, 1#10 N, 1#12 G, 3/4"C
25NCG	3#8, 1#8 N, 1#10 G, 3/4"C
30NCG	3#8, 1#8 N, 1#10 G, 3/4"C
35NCG	3#6, 1#6 N, 1#10 G, 1"C
40NCG	3#6, 1#6 N, 1#10 G, 1"C
45NCG	3#4, 1#4 N, 1#10 G, 1-1/4"C
50NCG	3#4, 1#4 N, 1#10 G, 1-1/4"C
60NCG	3#3, 1#3 N, 1#10 G, 1-1/4"C
70NCG	3#2, 1#2 N, 1#8 G, 1-1/4"C
80NCG	3#1, 1#1 N, 1#8 G, 1-1/2"C
90NCG	3#1/0, 1#1/0 N, 1#8 G, 2"C
100NCG	3#1/0, 1#1/0 N, 1#8 G, 2"C
110NCG	3#1/0, 1#1/0 N, 1#6 G, 2"C
125NCG	3#2/0, 1#2/0 N, 1#6 G, 2"C
150NCG	3#3/0, 1#3/0 N, 1#6 G, 2"C
175NCG	3#4/0, 1#4/0 N, 1#6 G, 2-1/2"C
200NCG	3-250kcmil, 1-250kcmil N, 1#6 G, 2-1/2"C
225NCG	3-300kcmil, 1-300kcmil N, 1#4 G, 3"C
250NCG	3-400kcmil, 1-400kcmil N, 1#4 G, 3"C
300NCG	3-500kcmil, 1-500kcmil N, 1#4 G, 3-1/2"C
350NCG	[2 SETS] 3#4/0, 1#4/0 N, 1#3 G, 2-1/2"C
400NCG	[2 SETS] 3-250kcmil, 1-250kcmil N, 1#3 G, 2-1/2"C
450NCG	[2 SETS] 3-300kcmil, 1-300kcmil N, 1#2 G, 3"C
500NCG	[2 SETS] 3-400kcmil, 1-400kcmil N, 1#2 G, 3"C
600NCG	[2 SETS] 3-500kcmil, 1-500kcmil N, 1#1 G, 3-1/2"C
700NCG	[3 SETS] 3-350kcmil, 1-350kcmil N, 1#1/0 G, 3"C
750NCG	[3 SETS] 3-400kcmil, 1-400kcmil N, 1#1/0 G, 3"C
800NCG	[3 SETS] 3-400kcmil, 1-400kcmil N, 1#1/0 G, 3"C
900NCG	[3 SETS] 3-500kcmil, 1-500kcmil N, 1#2/0 G, 3-1/2"C
1000NCG	[4 SETS] 3-400kcmil, 1-400kcmil N, 1#2/0 G, 3"C
1200NCG	[4 SETS] 3-500kcmil, 1-500kcmil N, 1#3/0 G, 3-1/2"C
1600NCG	[6 SETS] 3-400kcmil, 1-400kcmil N, 1#4/0 G, 3"C
2000NCG	[7 SETS] 3-500kcmil, 1-500kcmil N, 1-250kcmil G, 3-1/2"C
2500NCG	[9 SETS] 3-500kcmil, 1-500kcmil N, 1-350kcmil G, 3-1/2"C
3000NCG	[10 SETS] 3-500kcmil, 1-500kcmil N, 1-400kcmil G, 3-1/2"C
3200NCG	[11 SETS] 3-500kcmil, 1-500kcmil N, 1-500kcmil G, 3-1/2"C
4000NCG	[14 SETS] 3-500kcmil, 1-500kcmil N, 1-500kcmil G, 3-1/2"C
5000NCG	[17 SETS] 3-500kcmil, 1-500kcmil N, 2-350kcmil G, 3-1/2"C

FEEDER TAG	CONDUCTORS (SUFFIX G) 3W, +G
15G	3#12, 1#12 G, 3/4"C
20G	3#12, 1#12 G, 3/4"C
25G	3#10, 1#10 G, 3/4"C
30G	3#10, 1#10 G, 3/4"C
35G	3#8, 1#10 G, 3/4"C
40G	3#8, 1#10 G, 3/4"C
45G	3#6, 1#10 G, 3/4"C
50G	3#6, 1#10 G, 3/4"C
60G	3#4, 1#10 G, 1"C
70G	3#4, 1#8 G, 1"C
80G	3#3, 1#8 G, 1-1/4"C
90G	3#2, 1#8 G, 1-1/4"C
100G	3#1, 1#8 G, 1-1/4"C
110G	3#1, 1#6 G, 1-1/2"C
125G	3#1/0, 1#6 G, 1-1/2"C
150G	3#1/0, 1#6 G, 1-1/2"C
175G	3#2/0, 1#6 G, 1-1/2"C
200G	3#3/0, 1#6 G, 2"C
225G	3#4/0, 1#4 G, 2"C
250G	3-250kcmil, 1#4 G, 2"C
300G	3-350kcmil, 1#4 G, 2-1/2"C
350G	3-500kcmil, 1#3 G, 3"C
400G	[2 SETS] 3#3/0, 1#3 G, 2"C
450G	[2 SETS] 3#4/0, 1#2 G, 2"C
500G	[2 SETS] 3-250kcmil, 1#2 G, 2"C
600G	[2 SETS] 3-350kcmil, 1#1 G, 2-1/2"C
700G	[2 SETS] 3-500kcmil, 1#1/0 G, 3"C
750G	[2 SETS] 3-500kcmil, 1#1/0 G, 3"C
800G	[3 SETS] 3-300kcmil, 1#1/0 G, 2-1/2"C
900G	[3 SETS] 3-350kcmil, 1#2/0 G, 2-1/2"C
1000G	[3 SETS] 3-400kcmil, 1#2/0 G, 3"C
1200G	[4 SETS] 3-350kcmil, 1#3/0 G, 2-1/2"C
1600G	[5 SETS] 3-400kcmil, 1#4/0 G, 3"C
2000G	[6 SETS] 3-400kcmil, 1-250kcmil G, 3"C
2500G	[7 SETS] 3-500kcmil, 1-350kcmil G, 3"C
3000G	[8 SETS] 3-500kcmil, 1-400kcmil G, 3"C
3200G	[9 SETS] 3-500kcmil, 1-500kcmil G, 3"C
4000G	[11 SETS] 3-500kcmil, 1-500kcmil G, 3"C
5000G	[14 SETS] 3-500kcmil, 2-350kcmil G, 3-1/2"C

XFMR RATING kVA	FEEDER TAG	CONDUCTORS (SUFFIX NCT) 4W + J 100% N (NEUTRAL IS CURRENT CARRYING CONDUCTOR)	TRANSFORMER GROUNDING ELECTRODE CONDUCTOR (SUFFIX NCT)
9	35NCT	3#6, 1#6 N, 1#8 J, 1"C	#8
15	50NCT	3#4, 1#4 N, 1#8 J, 1-1/4"C	#8
30	100NCT	3#1/0, 1#1/0 N, 1#6 J, 2"C	#6
45	150NCT	3#3/0, 1#3/0 N, 1#4 J, 2"C	#4
75	250NCT	3-400kcmil, 1-400kcmil N, 1#1/0 J, 3"C	#1/0
112.5	400NCT	[2 SETS] 3-250kcmil, 1-250kcmil N, 1#2 J, 2-1/2"C	#1/0
150	500NCT	[2 SETS] 3-400kcmil, 1-400kcmil N, 1#1/0 J, 3"C	#2/0
225	800NCT	[3 SETS] 3-400kcmil, 1-400kcmil N, 1#1/0 J, 3"C	#3/0
300	1000NCT	[4 SETS] 3-400kcmil, 1-400kcmil N, 1#1/0 J, 3"C	#3/0
500	1600NCT	[6 SETS] 3-400kcmil, 1-400kcmil N, 1#1/0 J, 3"C	#3/0
750	2500NCT	[9 SETS] 3-500kcmil, 1-500kcmil N, 1#1/0 J, 3-1/2"C	#3/0
1000	3000NCT	[10 SETS] 3-500kcmil, 1-500kcmil N, 1#1/0 J, 3-1/2"C	#3/0

EXAMPLES:



SCHEDULE LEGEND:

N = NEUTRAL

G = EQUIPMENT GROUNDING CONDUCTOR

J = SUPPLY SIDE BONDING JUMPER SIZED FOR BONDING A SINGLE RACEWAY PER SET OF CONDUCTORS

C = CONDUIT

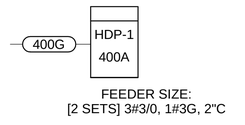
FEEDER DESIGNATOR

400G
T
└ FEEDER MODIFIER (IF NEEDED)

FEEDER MODIFIERS :

V = UPSIZED FOR VOLTAGE DROP

EXAMPLES:



NO.	REVISION	DATE	BY

SEAL

DESIGNED: DAT
ADD DAT
TECH. REVIEW: WJR
DATE: 12/19/2025

SUB SHEET NO. E61

TITLE OF SHEET
ELECTRICAL FEEDER SCHEDULES

HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 141 OF 153

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LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER BASIS OF DESIGN	MODEL NUMBER BASIS OF DESIGN	MOUNTING TYPE	COLOR TEMP	CRI	LUMENS	WATTS	VOLTAGE	DESCRIPTION AND NOTES	LOCATION
FA	COLUMBIA	CRN2-1-LSCS-EDMV-100W-4000K	HOOK	4000K	80	15800	100	120-347V	GRAY FINISH : HIGH BAY FIXTURE, MOUNTED ON STRUCTURAL FRAME PROVIDE NECESSARY ACCESSORIES.	HANGARS WPA INFILL STORAGE
FB	COLUMBIA	LXEM-4-40-XL-DCA-EDU-XEDPM	SUSPENDED/ PENDANT	4000K	80	10700	91.5	UNV	GRAY FINISH: PENDANTS BY ELECTRICAL CONTRACTOR, REQUIRES 3/8" OD THREADED ROD.	GENERAL STORAGE ROOM
FCP	BARN LIGHT Electric	C-STU-X-150-SBK-X-LED70-4000K	SUSPENDED/ CORD HUNG	4000K	80	4900	70	UNV	0-10V DIMMING	
FCW	BARN LIGHT Electric	BLE-W-CGG-100-WGG-100-975-FST-GU24	WALL	4000K	80	1100	11	120V	PROVIDE SEPARATE LED BULB - NON DIMMING	
FE	WILCOX SERIES	G-DBW8-150-G15-980-LED38-2700K-FL	WALL	2700K	80	3000	30	120-277V	NON DIMMING	EXTERIOR
X1	LITHONIA	EXR KED M6	WALL	RED	-	-	4	UNV		ALL AREAS
B1	SURE-LITES	SEL25SDSQ	WALL	3500K	-	-	1.8	277V		ELECTRICAL ROOMS

LIGHTING GENERAL NOTES (APPLIES TO ALL FIXTURES):

1. ALL LUMINARIES SHALL BE UL LISTED FOR THEIR INTENDED USE, SHALL BE LED.
2. COORDINATE WITH ARCHITECT FOR FINAL FIXTURE MOUNTING HEIGHTS AND INSTALLATION REQUIREMENTS.
3. PROVIDE ANY SPECIAL HARDWARE OR EQUIPMENT NECESSARY FOR APPROPRIATE INSTALLATION, SURFACE MOUNTING KIT, VANDAL GUARD, ETC.
4. ALL LIGHTING INSTALLATION REQUIREMENT SHALL COORDINATE WITH ARCHITECTURE FOR FINAL APPROVAL OF EXACT DEPTH DIMENSIONS, FINISH COLOR, COLOR TEMPERATURE, AESTHETICS, MOUNTING TYPE.
5. LIGHTING FIXTURE INDICATED IS THE BASIS OF DESIGN. OTHER LISTED EQUIVALENT MANUFACTURERS SHALL MEET REQUIREMENTS OF THE BASIS OF DESIGN FIXTURE TO BE CONSIDERED.

MECHANICAL AND PLUMBING EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

UNIT MARK	UNIT DESCRIPTION	VOLTAGE / PHASE	HP	LOAD KW	FLA	MCA	MOCP IN PANEL	UNIT DISCONNECT SWITCH			FEEDER	REMARKS
								SIZE	TYPE	FURNISHED BY		
EF- 1, 2, 3, 6 & 7	EXHAUST FAN	120/1	1/16	-	0.19	0.2	20	-	SM	DIV. 26	2#12 + 1#12 G IN 3/4"C	EF -1, 2 & 3 CONTROLLED BY OCCUPANCY SENSOR
EF- 4 & 5	EXHAUST FAN	208/1	1/4	-	2.95	3.7	20	30A/5A	FSS	DIV.26	2#12 + 1#12 G IN 3/4"C	
UH- 1, 2, 3 & 4	UNIT HEATER	277/1	1/60	4.0	14.4	19.2	20	30A	NF	DIV.26	2#12 + 1#12 G IN 3/4"C	
UH- 5 & 6	UNIT HEATER	277/1	1/40	5.0	18.0	24.1	25	30A	NF	DIV.26	2#10 + 1#10 G IN 3/4"C	
WH- 1, 2 & 3	WATER HEATER	480/3	-	20.0	24.0	36.0	40	60A	NF	DIV.26	3#8 + 1#8 G IN 3/4"C	

ABBREVIATIONS: SM - MOTOR RATED SWITCH; NFSS - NON FUSED SAFETY SWITCH; FSS - FUSED SAFETY SWITCH; VFD - VARIABLE FREQUENCY DRIVE

NOTES:

1. ALL OUTDOOR DISCONNECT SWITCHES SHALL BE IN NEMA 3R ENCLOSURE TYPE, UNLESS OTHERWISE NOTED.
2. ALL FUSE SIZES FOR EQUIPMENT DISCONNECT SWITCH SHALL BE BASED ON THE EQUIPMENT NAME PLATE DATA AND EQUIPMENT MANUFACTURER RECOMMENDATIONS.
3. CONTRACTOR TO PROVIDE ELECTRICAL CONNECTIONS FOR ALL ASSOCIATED CONDENSATE PUMP, CONTROL PANEL, ALARM AND MISCELLANEOUS ACCESSORY DEVICES SERVING EQUIPMENT AS REQUIRED.
4. ALL FUSES SHALL BE DUAL ELEMENT TYPE.

NO.	REVISION	DATE	BY

SEAL

DESIGNED: DAT
DADD DAT
TECH. REVIEW: WJR
DATE: 12/19/2025

SUB SHEET NO. E62

TITLE OF SHEET
LIGHTING FIXTURES, MECH/PLUM EQUIPMENT SCHEDULES
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 142 OF 153

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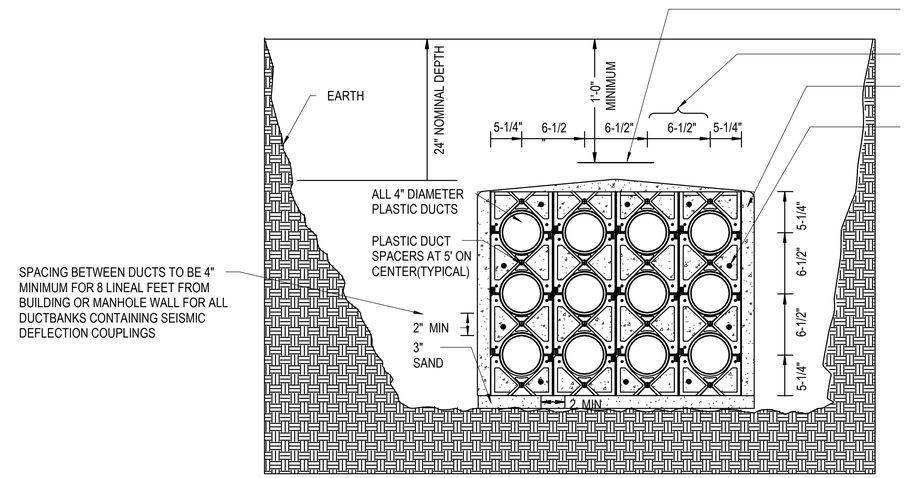
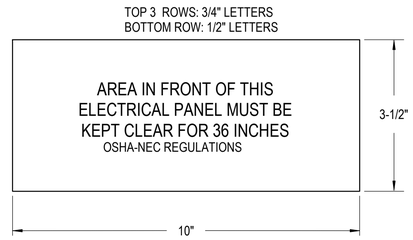


4 / E71 **TYPICAL 3x4 DUCTBANK CROSS SECTION**
NO SCALE



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NOTES: (1) SUBSTITUTE "42 INCHES" FOR 480V OR 480/277V PANELS.

2 / E71 **OSHA / NEC PLACARD**
NO SCALE

NO.	REVISION	DATE	BY

SEAL	DESIGNED: DAT CADD DAT TECH. REVIEW: WJR DATE: 12/19/2025	SUB SHEET NO. E71	TITLE OF SHEET ELECTRICAL DETAILS HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 / 190066 PMIS/PKG NO. GATE 308504 SHEET 143 OF 153

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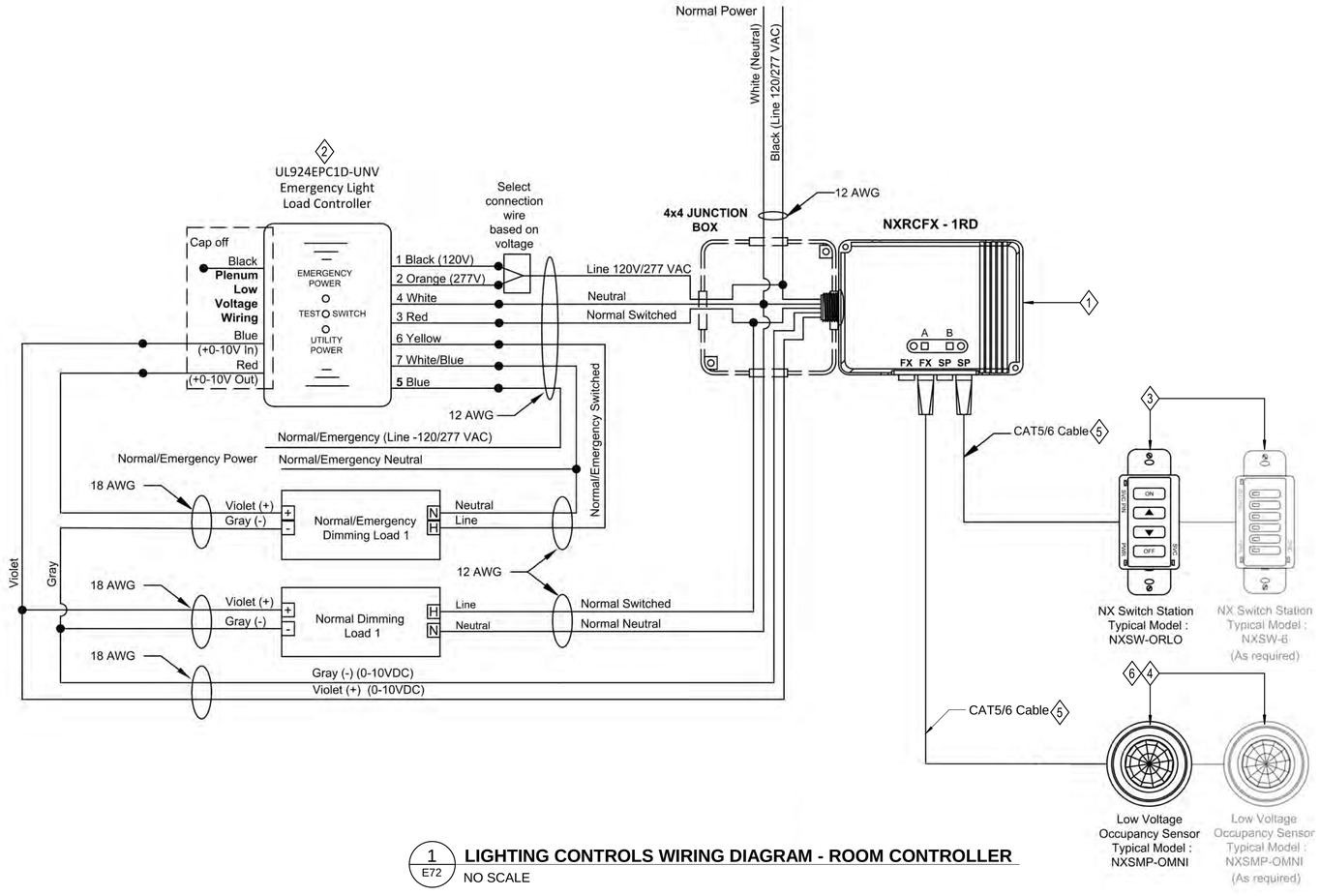
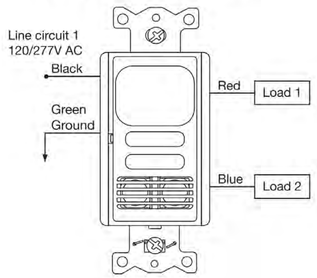


1 E72 **LIGHTING CONTROLS WIRING DIAGRAM - ROOM CONTROLLER**

NO SCALE

Dual Circuit Sensor,
Wired for Dual Circuits



2 E72 **LIGHTING CONTROLS WIRING DIAGRAM - DUAL CIRCUIT**

NO SCALE

GENERAL NOTES:

1. PROVIDE ROOM CONTROLLERS (HUBBELL #NXRC) WITH QUANTITY OF ZONES AS REQUIRED FOR EACH RESPECTIVE ROOM/AREA AS NOTED ON THE FLOOR PLANS.
2. WHERE DIMMING IS NOTED ON THE FLOOR PLANS, PROVIDE DIMMING ROOMCONTROLLERS AS REQUIRED TO ACCOMMODATE DIMMING ZONES.
3. ALL ROOM CONTROLLERS WITHIN AN AREA SHALL BE INTERCONNECTED WITHTHE INTENT FOR ALL CONTROLLERS TO FUNCTION SIMULTANEOUSLY. REFER TO FLOOR PLANS FOR SWITCH LEG QUANTITIES.
4. ONE ROOM CONTROLLER CAN ACCOMMODATE UP TO 30 DEVICE LOADS.
   A. SWITCH STATION = 1 LOAD
   B. PIR OCCUPANCY SENSOR = 1 LOAD
   C. PIR OCCUPANCY SENSOR WITH RP OPTION = 2 LOADS
   D. DUAL TECH OCCUPANCY SENSOR = 3 LOADS
   E. DUAL TECH OCCUPANCY SENSOR WITH RP OPTION = 4 LOADS
   F. DAYLIGHT SENSOR = 1 LOAD
   G. NOTE: ONLY ONE DAYLIGHT SENSOR PER ROOM CONTROLLER
5. ALL CAT 5 CABLE RUNS NEED TO BE CHECKED WITH A CAT 5 METER FOR PROPERTERMINATION OF RJ45 CONNECTORS.
6. MAXIMUM DISTANCE OF 1000 FEET BETWEEN TWO DEVICES.
7. REFER TO FLOOR PLANS FOR QUANTITIES, LOCATIONS AND TYPES FOR ALL DEVICES.
8. DEVICES SHOWN WITHIN DETAIL ARE FOR REFERENCE ONLY.

KEYED NOTES:

1. ROOM CONTROLLER DEVICE NOTED AS "[RC]" ON FLOOR PLANS. PROGRAM ROOM CONTROLLER TO AUTO ON ALL THE LIGHTS TO 50% OUTPUT UPON OCCUPANCY.
2. EMERGENCY SHUNT RELAY DEVICE NOTES AS "[EP]" ON FLOOR PLANS.
3. LOW VOLTAGE DIMMER SWITCH NOTED AS "$D" ON FLOOR PLANS, REFER TO FLOOR PLAN FOR EXACT QUANTITIES AND LOCATION.
4. LOW VOLTAGE HIGH BAY DUAL TECH OCCUPANCY SENSOR NOTED AS "ⓈDT" ON FLOOR PLANS, REFER TO FLOOR PLAN FOR EXACT QUANTITIES AND LOCATION.
5. ALL LOW VOLTAGE CAT5/6 CABLE SHALL BE INSTALLED IN CONDUIT.
6. DAYLIGHT SENSOR "ⓈAL" CONNECTION NOT SHOWN. PROVIDE DAYLIGHT SENSORS AS REQUIRED IN COORDINATION WITH FLOOR PLAN.

NO.	REVISION	DATE	BY

SEAL	DESIGNED: DAT CADD DAT TECH. REVIEW: WJR DATE: 12/19/2025	SUB SHEET NO. E72	TITLE OF SHEET: LIGHTING CONTROLS DETAILS HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 144 OF 153

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EM

MAIN TYPE	MCB	**VOLTAGE**	480/277 Wye	**LOCATION**	LEVEL 01,LIGHTING INVERTER ROOM 117
MAIN RATING	60 A	3 **PHASE**	4 **WIRE**	**FED FROM**	MSB
BUS RATING	100 A	**MOUNTING**	SURFACE	**SCCR**	42 kA
		ENCLOSURE	TYPE 1	**CALCULATED AVAILABLE FAULT CURRENT**	kA

REMARKS: ALL EMEGENCY LIGHTING WIRING SHALL BE #10 AWG. ON: NORMAL ON OFF: NORMAL OFF [COORDINATE WITH INVERTER MANUFACTURER]

					LEFT SIDE, kVA			**RIGHT SIDE,...**							
DESCRIPTION	**BRKR NOTES**	**BRKR AMP, POLES**		**CKT NO**	**A**	**B**	**C**	**A**	**B**	**C**	**CKT NO**	**BRKR AMP, POLES**		**BRKR NOTES**	**DESCRIPTION**
EM. LTG. MIX ROOMS...	OFF	20 A	1	1	1.19			1.09			2	1	20 A	OFF	EM. LTG. MIX ROOMS...
EM. LTG. HANGAR 4	OFF	20 A	1	3		1.00			1.00		4	1	20 A	OFF	EM. LTG. HANGAR 3
EM. LTG. BOILER RM	OFF	20 A	1	5			3.21			0.40	6	1	20 A	ON	LIGHTING EGRESS...
EXIT SIGNS	ON	20 A	1	7	0.14			0.00			8	1	20 A		SPARE
SPARE		20 A	1	9		0.00			0.00		10	1	20 A		SPARE

	A	B	C
1ST SECTION PHASE SUBTOTAL (kVA)	2.41 kVA	2.00 kVA	3.61 kVA
2ND SECTION PHASE SUBTOTAL (kVA)	0.00 kVA	0.00 kVA	0.00 kVA
ALL SECTIONS PHASE GRAND TOTAL (kVA)	2.41 kVA	2.00 kVA	3.61 kVA

LOAD CLASSIFICATION	**CONNECTED (KVA)**	**DEMAND FACTOR**	**DEMAND (KVA)**
POWER	0.00 kVA	100%	0.00 kVA
LIGHTING	8.02 kVA	100%	8.02 kVA
MOTOR	0.00 kVA	125% LARGEST, 100% OTHER	0.00 kVA
RECEPTACLE	0.00 kVA	100% FIRST 10KVA, 50%...	0.00 kVA
HEATING	0.00 kVA	100%	0.00 kVA
TOTAL LOAD	8.02 kVA		8.02 kVA
TOTAL AMPS	10 A		10 A

MSB

MAIN TYPE	MCB	**VOLTAGE**	480/277 Wye	**LOCATION**	LEVEL 01,ELEC 108
MAIN RATING	2000 A	3 **PHASE**	4 **WIRE**	**FED FROM**	
BUS RATING	2000 A	**MOUNTING**	PAD	**SCCR**	100 kA
		ENCLOSURE	NEMA 1	**CALCULATED AVAILABLE FAULT CURRENT**	kA

REMARKS: MAIN CIRCUIT BREAKER 100% RATED.

SPACE	**DESCRIPTION**	**CONNECTED LOAD (kVA)**	**FRAME**	**TRIP**	**POLES**	**BRKR NOTES**	**NOTES**
1	BUSSED SPACE	--	--	--	3		FIRE PUMP TAP SECTION
2	BUSSED SPACE	--	--	--	3		FIRE ALARM TAP SECTION
3	SPD	6.00 kVA	125 A	60 A	3		HOUSE DISTRIBUTION
4	LP-HA	7.91 kVA	250 A	125 A	3		HOUSE DISTRIBUTION
5	MP-HA	43.80 kVA	250 A	225 A	3		HOUSE DISTRIBUTION
6	XFMR RP-LA	12.34 kVA	125 A	80 A	3		HOUSE DISTRIBUTION
7	LP-HB	5.29 kVA	400 A	20 A	3		HOUSE DISTRIBUTION
8	MP-HB	69.00 kVA	250 A	225 A	3		HOUSE DISTRIBUTION
9	XFMR RP-LB	5.74 kVA	125 A	80 A	3		HOUSE DISTRIBUTION
10	EM [INVERTER]	8.02 kVA	125 A	60 A	3		HOUSE DISTRIBUTION
11	MMU CABINET	2.00 kVA	125 A	30 A	3		HOUSE DISTRIBUTION
12	BUSSED SPACE	--	--	--	3		HOUSE DISTRIBUTION
13	BUSSED SPACE	--	--	--	3		HOUSE DISTRIBUTION
14	BUSSED SPACE	--	--	--	3		TENANT DISTRIBUTION
15	BUSSED SPACE	--	--	--	3		TENANT DISTRIBUTION
16	BUSSED SPACE	--	--	--	3		TENANT DISTRIBUTION
17	BUSSED SPACE	--	--	--	3		TENANT DISTRIBUTION
18	BUSSED SPACE	--	--	--	3		TENANT DISTRIBUTION
19	BUSSED SPACE	--	--	--	3		TENANT DISTRIBUTION
20	BUSSED SPACE	--	--	--	3		TENANT DISTRIBUTION

LOAD CLASSIFICATION	**CONNECTED (KVA)**	**DEMAND FACTOR**	**DEMAND (KVA)**
POWER	3.60 kVA	100%	3.60 kVA
LIGHTING	21.38 kVA	100%	21.38 kVA
MOTOR	35.00 kVA	125% LARGEST, 100% OTHER	36.25 kVA
RECEPTACLES	13.32 kVA	100% FIRST 10KVA, 50%...	11.66 kVA
HEATING	64.00 kVA	100%	64.00 kVA
TOTAL LOAD	143.30 kVA		142.89 kVA
TOTAL AMPS	172 A		172 A

ELECTRICAL LOAD SUMMARY [NPS CORE + TENANT]

LOAD TYPE	**QUANTITY**	**UNIT LOAD**	**TOTAL LOAD**	**DESCRIPTION**
SPACE CONDITIONING FOR HANGER 3 (TONS)	165	2,000	330,000	
SPACE CONDITIONING FOR HANGER 4 (TONS)	165	2,000	330,000	
SPACE CONDITIONING FOR INFILL (TONS)	50	2,000	100,000	
POD SPACE CONDITIONING VRF (TONS)	52	1,800	93,600	
GENERAL PURPOSE POWER (SF)	49,080	2.8	137,424	
GENERAL PURPOSE LIGHTING FOR HANGERS (SF)	49,080	0.8	39,264	
GENERAL PURPOSE LIGHTING FOR PODS	16,789	0.8	13,431	
COOKING (SF)	3,548	45	159,660	
SPECIFIC TENANT EQUIPMENT (LAB, PROCESSS, ETC)	4,529	15	67,935	
NPS CORE + FIRE PUMP (35HP) [FUTURE]	8,000	8	64,000	

	1,335,314	KVA		
FUTURE 25%	1,669,143	KVA		
	2,008.60	AMPS	480	VOLTAGE SYSTEM
			85%	UTILIZATION FACTOR
	1,707.31	AMPS		DEMAND LOAD

THE PROPOSED ELECTRICAL SERVICE SIZE AT 480/277 VOLT, 3-PHASE, 4-WIRE IS 2000 AMPS

NO.	**REVISION**	**DATE**	**BY**

SEAL

DESIGNED: DAT
CADD DAT
TECH. REVIEW: WJR
DATE: 12/19/2025

SUB SHEET NO. E81

TITLE OF SHEET
ELECTRICAL PANEL SCHEDULES
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 145 OF 153

Autodesk Docs://GATE Floyd Bennett Field/24200-03_GATE_Electrical.rvt
12/18/2025 10:00:46 AM

MP-HA

MAIN TYPE	MCB	**VOLTAGE**	480/277 Wye	**LOCATION**	LEVEL 01,ELEC 108
MAIN RATING	225 A	3 **PHASE**	4 **WIRE**	**FED FROM**	MSB
BUS RATING	250 A	**MOUNTING**	SURFACE	**SCCR**	42 kA
		ENCLOSURE	TYPE 1	**CALCULATED AVAILABLE FAULT CURRENT**	kA

REMARKS:

DESCRIPTION	BRKR NOTES	BRKR AMP, POLES		CKT NO	LEFT SIDE, kVA A	LEFT SIDE, kVA B	LEFT SIDE, kVA C	RIGHT SIDE, kVA A	RIGHT SIDE, kVA B	RIGHT SIDE, kVA C	CKT NO	BRKR AMP, POLES		BRKR NOTES	DESCRIPTION
WH-2 RESTROOM 115		40 A	3	1	7.87			5.00			2	1	20 A		MOTOR
--	--	--	--	3		7.87			5.20		4	1	20 A		MOTOR
--	--	--	--	5			7.87			5.00	6	1	20 A		MOTOR
SPARE		20 A	3	7	0.00			5.00			8	1	20 A		MOTOR
--	--	--	--	9		0.00			0.00		10	1	20 A		SPARE
--	--	--	--	11			0.00			0.00	12	1	20 A		SPARE
SPARE		20 A	3	13	0.00			0.00			14	1	20 A		SPARE
--	--	--	--	15		0.00			0.00		16	1	20 A		SPARE
--	--	--	--	17			0.00			0.00	18	1	20 A		SPARE
SPARE		20 A	1	19	0.00			0.00			20	1	20 A		SPARE
SPARE		20 A	1	21		0.00			0.00		22	1	20 A		SPARE
SPARE		20 A	1	23			0.00			0.00	24	1	20 A		SPARE
SPARE		20 A	1	25	0.00			0.00			26	1	20 A		SPARE
SPARE		20 A	1	27		0.00			0.00		28	1	20 A		SPARE
SPARE		20 A	1	29			0.00			0.00	30	1	20 A		SPARE
BUSSED SPACE		--	1	31	--			--			32	1	--		BUSSED SPACE
BUSSED SPACE		--	1	33		--			--		34	1	--		BUSSED SPACE
BUSSED SPACE		--	1	35			--			--	36	1	--		BUSSED SPACE
BUSSED SPACE		--	1	37	--			--			38	1	--		BUSSED SPACE
BUSSED SPACE		--	1	39		--			--		40	1	--		BUSSED SPACE
BUSSED SPACE		--	1	41			--			--	42	1	--		BUSSED SPACE

	A	B	C
1ST SECTION PHASE SUBTOTAL (kVA)	17.87 kVA	13.07 kVA	12.87 kVA
2ND SECTION PHASE SUBTOTAL (kVA)	0.00 kVA	0.00 kVA	0.00 kVA
ALL SECTIONS PHASE GRAND TOTAL (kVA)	17.87 kVA	13.07 kVA	12.87 kVA

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	0.00 kVA	100%	0.00 kVA
LIGHTING	0.00 kVA	100%	0.00 kVA
MOTOR	19.00 kVA	125% LARGEST, 100% OTHER	20.25 kVA
RECEPTACLE	0.00 kVA	100% FIRST 10KVA, 50%...	0.00 kVA
HEATING	20.00 kVA	100%	20.00 kVA
TOTAL LOAD	39.00 kVA		40.25 kVA
TOTAL AMPS	47 A		48 A

MP-HB

MAIN TYPE	MCB	**VOLTAGE**	480/277 Wye	**LOCATION**	LEVEL 01,ELEC 105
MAIN RATING	225 A	3 **PHASE**	4 **WIRE**	**FED FROM**	MSB
BUS RATING	250 A	**MOUNTING**	SURFACE	**SCCR**	42 kA
		ENCLOSURE	TYPE 1	**CALCULATED AVAILABLE FAULT CURRENT**	kA

REMARKS:

DESCRIPTION	BRKR NOTES	BRKR AMP, POLES		CKT NO	LEFT SIDE, kVA A	LEFT SIDE, kVA B	LEFT SIDE, kVA C	RIGHT SIDE, kVA A	RIGHT SIDE, kVA B	RIGHT SIDE, kVA C	CKT NO	BRKR AMP, POLES		BRKR NOTES	DESCRIPTION
UH-4 ELEC 105		20 A	1	1	5.20			7.87			2	3	40 A		WH-2 RESTROOM 115
UH-3 CORRIDOR 103		20 A	1	3		5.20			7.87		4	--	--	--	--
UH-2 RESTROOM 115		20 A	1	5			5.20			7.87	6	--	--	--	--
UH-5 JANITOR 104		20 A	1	7	6.20			7.87			8	3	40 A		WH-3 JANITOR 104
SPARE		20 A	1	9		0.00			7.87		10	--	--	--	--
SPARE		20 A	1	11			0.00			7.87	12	--	--	--	--
SPARE		20 A	1	13	0.00			0.00			14	3	40 A		SPARE
SPARE		20 A	1	15		0.00			0.00		16	--	--	--	--
SPARE		20 A	1	17			0.00			0.00	18	--	--	--	--
SPARE		20 A	1	19	0.00			0.00			20	3	20 A		SPARE
SPARE		20 A	1	21		0.00			0.00		22	--	--	--	--
SPARE		20 A	1	23			0.00			0.00	24	--	--	--	--
BUSSED SPACE		--	1	25	--			--			26	1	--		BUSSED SPACE
BUSSED SPACE		--	1	27		--			--		28	1	--		BUSSED SPACE
BUSSED SPACE		--	1	29			--			--	30	1	--		BUSSED SPACE
BUSSED SPACE		--	1	31	--			--			32	1	--		BUSSED SPACE
BUSSED SPACE		--	1	33		--			--		34	1	--		BUSSED SPACE
BUSSED SPACE		--	1	35			--			--	36	1	--		BUSSED SPACE
BUSSED SPACE		--	1	37	--			--			38	1	--		BUSSED SPACE
BUSSED SPACE		--	1	39		--			--		40	1	--		BUSSED SPACE
BUSSED SPACE		--	1	41			--			--	42	1	--		BUSSED SPACE

	A	B	C
1ST SECTION PHASE SUBTOTAL (kVA)	27.13 kVA	20.93 kVA	20.93 kVA
2ND SECTION PHASE SUBTOTAL (kVA)	0.00 kVA	0.00 kVA	0.00 kVA
ALL SECTIONS PHASE GRAND TOTAL (kVA)	27.13 kVA	20.93 kVA	20.93 kVA

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	0.00 kVA	100%	0.00 kVA
LIGHTING	0.00 kVA	100%	0.00 kVA
MOTOR	13.00 kVA	125% LARGEST, 100% OTHER	14.25 kVA
RECEPTACLE	0.00 kVA	100% FIRST 10KVA, 50%...	0.00 kVA
HEATING	44.00 kVA	100%	44.00 kVA
TOTAL LOAD	57.00 kVA		58.25 kVA
TOTAL AMPS	69 A		70 A

LP-HA

MAIN TYPE	MCB	**VOLTAGE**	480/277 Wye	**LOCATION**	LEVEL 01,ELEC 108
MAIN RATING	125 A	3 **PHASE**	4 **WIRE**	**FED FROM**	MSB
BUS RATING	125 A	**MOUNTING**	SURFACE	**SCCR**	42 kA
		ENCLOSURE	TYPE 1	**CALCULATED AVAILABLE FAULT CURRENT**	kA

REMARKS:

DESCRIPTION	BRKR NOTES	BRKR AMP, POLES		CKT NO	LEFT SIDE, kVA A	LEFT SIDE, kVA B	LEFT SIDE, kVA C	RIGHT SIDE, kVA A	RIGHT SIDE, kVA B	RIGHT SIDE, kVA C	CKT NO	BRKR AMP, POLES		BRKR NOTES	DESCRIPTION
LTG. MIX ROOMS...		20 A	1	1	1.57			1.16			2	1	20 A		LTG. BOILER RM
LTG. HANGAR 4		20 A	1	3		3.60			0.19		4	1	20 A		LTG. MEZZANINE
EXTERIOR LIGHTING		20 A	1	5			0.40			1.00	6	1	20 A		TIME CLOCK
SPARE		20 A	1	7	0.00			0.00			8	1	20 A		SPARE
SPARE		20 A	1	9		0.00			0.00		10	1	20 A		SPARE
SPARE		20 A	1	11			0.00			0.00	12	1	20 A		SPARE
SPARE		20 A	1	13	0.00			0.00			14	1	20 A		SPARE
SPARE		20 A	1	15		0.00			0.00		16	1	20 A		SPARE
SPARE		20 A	1	17			0.00			0.00	18	1	20 A		SPARE
SPARE		20 A	1	19	0.00			0.00			20	1	20 A		SPARE
BUSSED SPACE		--	1	21		--			--		22	1	--		BUSSED SPACE
BUSSED SPACE		--	1	23			--			--	24	1	--		BUSSED SPACE
BUSSED SPACE		--	1	25	--			--			26	1	--		BUSSED SPACE
BUSSED SPACE		--	1	27		--			--		28	1	--		BUSSED SPACE
BUSSED SPACE		--	1	29			--			--	30	1	--		BUSSED SPACE

	A	B	C
1ST SECTION PHASE SUBTOTAL (kVA)	2.73 kVA	3.78 kVA	1.40 kVA
2ND SECTION PHASE SUBTOTAL (kVA)	0.00 kVA	0.00 kVA	0.00 kVA
ALL SECTIONS PHASE GRAND TOTAL (kVA)	2.73 kVA	3.78 kVA	1.40 kVA

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	0.00 kVA	100%	0.00 kVA
LIGHTING	7.91 kVA	100%	7.91 kVA
MOTOR	0.00 kVA	125% LARGEST, 100% OTHER	0.00 kVA
RECEPTACLE	0.00 kVA	100% FIRST 10KVA, 50%...	0.00 kVA
HEATING	0.00 kVA	100%	0.00 kVA
TOTAL LOAD	7.91 kVA		7.91 kVA
TOTAL AMPS	10 A		10 A

LP-HB

MAIN TYPE	MCB	**VOLTAGE**	480/277 Wye	**LOCATION**	LEVEL 01,ELEC 105
MAIN RATING	125 A	3 **PHASE**	4 **WIRE**	**FED FROM**	MSB
BUS RATING	125 A	**MOUNTING**	SURFACE	**SCCR**	42 kA
		ENCLOSURE	TYPE 1	**CALCULATED AVAILABLE FAULT CURRENT**	kA

REMARKS:

DESCRIPTION	BRKR NOTES	BRKR AMP, POLES		CKT NO	LEFT SIDE, kVA A	LEFT SIDE, kVA B	LEFT SIDE, kVA C	RIGHT SIDE, kVA A	RIGHT SIDE, kVA B	RIGHT SIDE, kVA C	CKT NO	BRKR AMP, POLES		BRKR NOTES	DESCRIPTION
LTG. MIX ROOMS...		20 A	1	1	1.29			3.60			2	1	20 A		LTG. HANGAR 3
LIGHTING EXTERIOR		20 A	1	3		0.40					4				
SPARE		20 A	1	5			0.00			0.00	6	1	20 A		SPARE
SPARE		20 A	1	7	0.00			0.00			8	1	20 A		SPARE
SPARE		20 A	1	9		0.00			0.00		10	1	20 A		SPARE
SPARE		20 A	1	11			0.00			0.00	12	1	20 A		SPARE
SPARE		20 A	1	13	0.00			0.00			14	1	20 A		SPARE
SPARE		20 A	1	15		0.00			0.00		16	1	20 A		SPARE
SPARE		20 A	1	17			0.00			0.00	18	1	20 A		SPARE
SPARE		20 A	1	19	0.00			0.00			20	1	20 A		SPARE
BUSSED SPACE		--	1	21		--			--		22	1	--		BUSSED SPACE
BUSSED SPACE		--	1	23			--			--	24	1	--		BUSSED SPACE
BUSSED SPACE		--	1	25	--			--			26	1	--		BUSSED SPACE
BUSSED SPACE		--	1	27		--			--		28	1	--		BUSSED SPACE
BUSSED SPACE		--	1	29			--			--	30	1	--		BUSSED SPACE

	A	B	C
1ST SECTION PHASE SUBTOTAL (kVA)	4.89 kVA	0.40 kVA	0.00 kVA
2ND SECTION PHASE SUBTOTAL (kVA)	0.00 kVA	0.00 kVA	0.00 kVA
ALL SECTIONS PHASE GRAND TOTAL (kVA)	4.89 kVA	0.40 kVA	0.00 kVA

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	0.00 kVA	100%	0.00 kVA
LIGHTING	5.29 kVA	100%	5.29 kVA
MOTOR	0.00 kVA	125% LARGEST, 100% OTHER	0.00 kVA
RECEPTACLE	0.00 kVA	100% FIRST 10KVA, 50%...	0.00 kVA
HEATING	0.00 kVA	100%	0.00 kVA
TOTAL LOAD	5.29 kVA		5.29 kVA
TOTAL AMPS	6 A		6 A

NO.	REVISION	DATE	BY

SEAL

DESIGNED: DAT
CADD DAT
TECH. REVIEW: WJR
DATE: 12/19/2025

SUB SHEET NO. E82

TITLE OF SHEET
ELECTRICAL PANEL SCHEDULES
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 146 OF 153

Autodesk Docs://GATE Floyd Bennett Field/24200-03_GATE_Electrical.rvt
12/18/2025 10:00:48 AM

RP-LB

MAIN TYPE	MCB	**VOLTAGE**	120/208 Wye	**LOCATION**	LEVEL 01,ELEC 105
MAIN RATING	150 A	3 **PHASE**	4 **WIRE**	**FED FROM**	XFMR RP-LB
BUS RATING	225 A	**MOUNTING**	SURFACE	**SCCR**	22 kA
		ENCLOSURE	TYPE 1	**CALCULATED AVAILABLE FAULT CURRENT**	kA

REMARKS:

				LEFT SIDE, kVA			RIGHT SIDE, kVA							
DESCRIPTION	**BRKR NOTES**	**BRKR AMP, POLES**		**CKT NO**	**A**	**B**	**C**	**A**	**B**	**C**	**CKT NO**	**BRKR AMP, POLES**		**BRKR NOTES**	**DESCRIPTION**
RESTROOM LTG. 115		20 A	1	1	0.08			0.90			2	1	20 A		RECEPT. HANGERS 003
RECEPT. WP/GFI...		20 A	1	3		0.54			0.90		4	1	20 A		RECEPT. HANGERS 003
RECEPT. STORAGE 103		20 A	1	5			0.90			0.36	6	1	20 A		RECEPT. GFI ROOM...
RECEPT. STORAGE 103		20 A	1	7	0.72			0.54			8	1	20 A		RECEPT. ROOM 103 &...
CAMERA PWR SUPPLY		20 A	1	9		0.80			0.00		10	1	20 A		SPARE
SPARE		20 A	1	11			0.00			0.00	12	1	20 A		SPARE
SPARE		20 A	1	13	0.00			0.00			14	1	20 A		SPARE
SPARE		20 A	1	15		0.00			0.00		16	1	20 A		SPARE
SPARE		20 A	1	17			0.00			0.00	18	1	20 A		SPARE
SPARE		20 A	1	19	0.00			0.00			20	1	20 A		SPARE
SPARE		20 A	1	21		0.00			0.00		22	1	20 A		SPARE
SPARE		20 A	1	23			0.00			0.00	24	1	20 A		SPARE
SPARE		20 A	1	25	0.00			0.00			26	1	20 A		SPARE
SPARE		20 A	1	27		0.00			0.00		28	1	20 A		SPARE
SPARE		20 A	1	29			0.00			0.00	30	1	20 A		SPARE
BUSSED SPACE		--	1	31	--			--			32	1	--		BUSSED SPACE
BUSSED SPACE		--	1	33		--			--		34	1	--		BUSSED SPACE
BUSSED SPACE		--	1	35			--			--	36	1	--		BUSSED SPACE
BUSSED SPACE		--	1	37	--			--			38	1	--		BUSSED SPACE
BUSSED SPACE		--	1	39		--			--		40	1	--		BUSSED SPACE
BUSSED SPACE		--	1	41			--			--	42	1	--		BUSSED SPACE
SPARE		20 A	1	43	0.00			0.00			44	1	20 A		SPARE
SPARE		20 A	1	45		0.00			0.00		46	1	20 A		SPARE
SPARE		20 A	1	47			0.00			0.00	48	1	20 A		SPARE
SPARE		20 A	1	49	0.00			0.00			50	1	20 A		SPARE
SPARE		20 A	1	51		0.00			0.00		52	1	20 A		SPARE
SPARE		20 A	1	53			0.00			0.00	54	1	20 A		SPARE
SPARE		20 A	1	55	0.00			0.00			56	1	20 A		SPARE
SPARE		20 A	1	57		0.00			0.00		58	1	20 A		SPARE
SPARE		20 A	1	59			0.00			0.00	60	1	20 A		SPARE
BUSSED SPACE		--	1	61	--			--			62	1	--		BUSSED SPACE
BUSSED SPACE		--	1	63		--			--		64	1	--		BUSSED SPACE
BUSSED SPACE		--	1	65			--			--	66	1	--		BUSSED SPACE
BUSSED SPACE		--	1	67	--			--			68	1	--		BUSSED SPACE
BUSSED SPACE		--	1	69		--			--		70	1	--		BUSSED SPACE
BUSSED SPACE		--	1	71			--			--	72	1	--		BUSSED SPACE
BUSSED SPACE		--	1	73	--			--			74	1	--		BUSSED SPACE
BUSSED SPACE		--	1	75		--			--		76	1	--		BUSSED SPACE
BUSSED SPACE		--	1	77			--			--	78	1	--		BUSSED SPACE
BUSSED SPACE		--	1	79	--			--			80	1	--		BUSSED SPACE
BUSSED SPACE		--	1	81		--			--		82	1	--		BUSSED SPACE
BUSSED SPACE		--	1	83			--			--	84	1	--		BUSSED SPACE

	A	B	C
1ST SECTION PHASE SUBTOTAL (kVA)	2.24 kVA	2.24 kVA	1.26 kVA
2ND SECTION PHASE SUBTOTAL (kVA)	0.00 kVA	0.00 kVA	0.00 kVA
ALL SECTIONS PHASE GRAND TOTAL (kVA)	2.24 kVA	2.24 kVA	1.26 kVA

LOAD CLASSIFICATION	**CONNECTED (KVA)**	**DEMAND FACTOR**	**DEMAND (KVA)**
POWER	0.80 kVA	100%	0.80 kVA
LIGHTING	0.08 kVA	100%	0.08 kVA
MOTOR	0.00 kVA	125% LARGEST, 100% OTHER	0.00 kVA
RECEPTACLE	4.86 kVA	100% FIRST 10KVA, 50%...	4.86 kVA
HEATING	0.00 kVA	100%	0.00 kVA
TOTAL LOAD	5.74 kVA		5.74 kVA
TOTAL AMPS	16 A		16 A

RP-LA

MAIN TYPE	MCB	**VOLTAGE**	120/208 Wye	**LOCATION**	LEVEL 01,ELEC 108
MAIN RATING	150 A	3 **PHASE**	4 **WIRE**	**FED FROM**	XFMR RP-LA
BUS RATING	225 A	**MOUNTING**	SURFACE	**SCCR**	22 kA
		ENCLOSURE	TYPE1	**CALCULATED AVAILABLE FAULT CURRENT**	kA

REMARKS:

				LEFT SIDE, kVA			RIGHT SIDE, kVA							
DESCRIPTION	**BRKR NOTES**	**BRKR AMP, POLES**		**CKT NO**	**A**	**B**	**C**	**A**	**B**	**C**	**CKT NO**	**BRKR AMP, POLES**		**BRKR NOTES**	**DESCRIPTION**
RECEPT. RM 109 &110		20 A	1	1	0.54			0.90			2	1	20 A		RECEPT. HANGERS 004
RECEPT. STORAGE 112		20 A	1	3		0.72			0.90		4	1	20 A		RECEPT. HANGERS 004
RECEPT. STORAGE 112		20 A	1	5			0.90			0.72	6	1	20 A		RECEPT. WPA INFILL...
RECEPT. WP/GFI...		20 A	1	7	0.54			0.72			8	1	20 A		RECEPT. WPA INFILL...
RECEPT. FIRE PUMP...		20 A	1	9		0.54			0.54		10	1	20 A		RECEPT. WPA INFILL...
RESTROOM LTG. 110		20 A	1	11			0.08			0.72	12	1	20 A		RECEPT. BOILER 002
RECEPT. RM 108 &117		20 A	1	13	0.72			0.80			14	1	20 A		CAMERA PWR SUPPLY
SPARE		20 A	1	15		0.00			0.00		16	1	20 A		SPARE
SPARE		20 A	1	17			0.00			0.00	18	1	20 A		SPARE
SPARE		20 A	1	19	0.00			0.00			20	1	20 A		SPARE
SPARE		20 A	1	21		0.00			0.00		22	1	20 A		SPARE
SPARE		20 A	1	23			0.00			0.00	24	1	20 A		SPARE
SPARE		20 A	1	25	0.00			0.00			26	1	20 A		SPARE
SPARE		20 A	1	27		0.00			0.00		28	1	20 A		SPARE
BUSSED SPACE		--	1	29			--			--	30	1	--		BUSSED SPACE
BUSSED SPACE		--	1	31	--			--			32	1	--		BUSSED SPACE
BUSSED SPACE		--	1	33		--			--		34	1	--		BUSSED SPACE
BUSSED SPACE		--	1	35			--			--	36	1	--		BUSSED SPACE
BUSSED SPACE		--	1	37	--			--			38	1	--		BUSSED SPACE
BUSSED SPACE		--	1	39		--			--		40	1	--		BUSSED SPACE
BUSSED SPACE		--	1	41			--			--	42	1	--		BUSSED SPACE
EF-5 ELEC 108		20 A	2	43	0.50			0.50			44	2	20 A		EF-4 FUTURE FIRE...
--	--	--	--	45		0.50			0.50		46	--	--	--	--
EF-7 LTG INVERTER R...		20 A	1	47			1.00			0.00	48	2	20 A		SPARE
SPARE		20 A	1	49	0.00			0.00			50	--	--	--	--
SPARE		20 A	1	51		0.00			0.00		52	2	20 A		SPARE
SPARE		20 A	1	53			0.00			0.00	54	--	--	--	--
SPARE		20 A	1	55	0.00			0.00			56	1	20 A		SPARE
SPARE		20 A	1	57		0.00			0.00		58	1	20 A		SPARE
SPARE		20 A	1	59			0.00			0.00	60	1	20 A		SPARE
SPARE		20 A	1	61	0.00			0.00			62	1	20 A		SPARE
SPARE		20 A	1	63		0.00			0.00		64	1	20 A		SPARE
SPARE		20 A	1	65			0.00			0.00	66	1	20 A		SPARE
SPARE		20 A	1	67	0.00			0.00			68	1	20 A		SPARE
SPARE		20 A	1	69		0.00			--		70	1	--		BUSSED SPACE
BUSSED SPACE		--	1	71			--			--	72	1	--		BUSSED SPACE
BUSSED SPACE		--	1	73	--			--			74	1	--		BUSSED SPACE
BUSSED SPACE		--	1	75		--			--		76	1	--		BUSSED SPACE
BUSSED SPACE		--	1	77			--			--	78	1	--		BUSSED SPACE
BUSSED SPACE		--	1	79	--			--			80	1	--		BUSSED SPACE
BUSSED SPACE		--	1	81		--			--		82	1	--		BUSSED SPACE
BUSSED SPACE		--	1	83			--			--	84	1	--		BUSSED SPACE

	A	B	C
1ST SECTION PHASE SUBTOTAL (kVA)	5.22 kVA	3.70 kVA	3.42 kVA
2ND SECTION PHASE SUBTOTAL (kVA)	0.00 kVA	0.00 kVA	0.00 kVA
ALL SECTIONS PHASE GRAND TOTAL (kVA)	5.22 kVA	3.70 kVA	3.42 kVA

LOAD CLASSIFICATION	**CONNECTED (KVA)**	**DEMAND FACTOR**	**DEMAND (KVA)**
POWER	0.80 kVA	100%	0.80 kVA
LIGHTING	0.08 kVA	100%	0.08 kVA
MOTOR	3.00 kVA	125% LARGEST, 100% OTHER	3.25 kVA
RECEPTACLE	8.46 kVA	100% FIRST 10KVA, 50%...	8.46 kVA
HEATING	0.00 kVA	100%	0.00 kVA
TOTAL LOAD	12.34 kVA		12.59 kVA
TOTAL AMPS	34 A		35 A

NO.	REVISION	DATE	BY

SEAL

DESIGNED: DAT

CADD DAT

TECH. REVIEW: WJR

DATE: 12/19/2025

SUB SHEET NO. E83

TITLE OF SHEET: ELECTRICAL PANEL SCHEDULES

HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066

PMIS/PKG NO. GATE 308504

SHEET 147 OF 153

Autodesk Docs://GATE Floyd Bennett Field/24200-03_GATE_Electrical.rvt
12/18/2025 10:00:51 AM

PIPING SYMBOLS AND ABBREVIATIONS

SYMBOLS INDICATED HERE AND NOT USED IN THE CONTRACT DOCUMENTS DO NOT APPLY TO THIS PROJECT.

SHEET SYMBOLS

EQ # — SCHEDULED EQUIPMENT DESIGNATION.
-TOP INDICATES EQUIPMENT ABBREVIATION
-BOTTOM INDICATES EQUIPMENT NUMBER
REFER TO EQUIPMENT SCHEDULES

1 / M-1 — SECTION DESIGNATION.
-TOP INDICATES SECTION NUMBER,
-BOTTOM INDICATES ON WHICH SHEET SECTION APPEARS

2 / M-1 — DETAIL REFERENCE.
-TOP INDICATES SECTION NUMBER,
-BOTTOM INDICATES ON WHICH SHEET SECTION APPEARS

A/15B-6 — DETAIL REFERENCE.
-TOP INDICATES SECTION NUMBER,
-BOTTOM INDICATES ON WHICH SHEET SECTION APPEARS

MATCHLINE DESIGNATION

1 — REVISION REFERENCE.
REFER TO SHEET REVISION BLOCK

1 — SHEET KEYNOTE REFERENCE

ROOM NAME / 101 — ROOM NAME & NUMBER DESIGNATION

POINT OF NEW CONNECTION TO EXISTING

POINT OF DEMOLITION

HALFTONE LIGHT LINE INDICATES EXISTING WORK

HEAVY LINE INDICATES NEW WORK

PIPING SYMBOLS

- ELBOW DOWN
- ELBOW UP
- BOTTOM CONNECTION (45° OR 90°)
- TOP CONNECTION (45° OR 90°)
- 45° PIPE RISE(R) / DROP(D)
- TEE (REFER TO SPECIFICATION FOR SIDE, TOP OR BOTTOM TEE)
- EXISTING PIPING TO REMAIN
- LINE CONTINUATION BREAK
- FLOW DIRECTION
- CONNECTION POINT
- OR — ECCENTRIC REDUCER
- CONCENTRIC REDUCER

PIPING SYSTEM LABELS

WATER
—DCW— DOMESTIC COLD WATER
—DHW— DOMESTIC HOT WATER
—DHR— DOMESTIC HOT WATER RETURN

WASTE OR STORM
—SAN— WASTE OR SOIL
—S— STORM
—OD— OVERFLOW DRAIN

VENT
– – V – – VENT

PIPE FITTINGS, VALVES, & SPECIALTIES

- GATE VALVE
- BALL VALVE
- BUTTERFLY VALVE
- BALANCING VALVE
- CHECK VALVE
- PRESSURE RELIEF VALVE
- RPBP / OR — REDUCED PRESSURE BACKFLOW PREVENTER
- DOUBLE CHECK BACKFLOW PREVENTER
- PIPE GUIDE
- PIPE SLEEVE
- ANCHOR
- FLANGE
- UNION
- PIPE CAP
- M — WATER METER
- WATER HAMMER ARRESTOR
- HOSE BIBB
- WALL HYDRANT

DRAINS AND CLEANOUTS

- FLOOR DRAIN/FLOOR SINK
- ROOF DRAIN
- HUB DRAIN
- FIXTURE WASTE TRAP
- CLEANOUT
- FCO — FLOOR CLEANOUT

FIXTURE INSTALLATION

FIXTURE	BARRIER FREE DESIGN	NON-BARRIER FREE
WATER CLOSET	FLOOR TO RIM - 17"	FLOOR TO RIM - 15"
URINAL	FLOOR TO RIM - 17", MIN. ONE PER ROOM	FLOOR TO RIM - 24"
		FLOOR TO RIM - 31"
LAVATORY	FLOOR TO RIM - 34", MAX. FLOOR TO UNDER APRON - 29"	
		FLOOR TO RIM - 40"
DRINKING FOUNTAIN	FLOOR TO SPOUT - 36", MAX. FLOOR TO UNDER APRON - 27"	

ABBREVIATIONS

AFF - ABOVE FINISHED FLOOR
AMPS - AMPERES
APPROX - APPROXIMATE

BHP - BRAKE HORSEPOWER
BTU - BRITISH THERMAL UNIT
BTUH - BRITISH THERMAL UNITS PER HOUR

CO - CLEANOUT
CU - COPPER

D - DEPTH / DRAIN LINE
DCW - DOMESTIC COLD WATER
DFU - DRAINAGE FIXTURE UNIT
DHR - DOMESTIC HOT WATER RETURN
DHW - DOMESTIC HOT WATER
DIA - DIAMETER
DIM - DIMENSION

EA - EACH
EQUIP - EQUIPMENT
ET - EXPANSION TANK
ETR - EXISTING TO REMAIN
EWC - ELECTRIC WATER COOLER
EWT - ENTERING WATER TEMPERATURE

°F - FAHRENHEIT
FCO - FLOOR CLEANOUT
FD - FLOOR DRAIN
FLA - FULL LOAD AMPERES
CONTRACTOR
FT - FEET

G - GAS
GAL - GALLON
CONTRACTOR
GPH - GALLONS PER HOUR
GPM - GALLONS PER MINUTE

HB - HOSE BIBB
HP - HORSEPOWER

ID - INSIDE DIAMETER
IN - INCHES

JS - JANITOR'S SINK

KW - KILOWATT

L - LENGTH
LAV - LAVATORY
LBS - POUNDS
LWT - LEAVING WATER TEMPERATURE

MAX - MAXIMUM
MB - MOP BASIN
MBH - ONE THOUSAND BTUH
MC - MECHANICAL CONTRACTOR
MEZZ - MEZZANINE
MH - MANHOLE
MIN - MINIMUM / MINUTE

NC - NORMALLY CLOSED
NIC - NOT IN CONTRACT
NO - NUMBER
NOM - NOMINAL
NPSH - NET POSITIVE SUCTION HEAD
NPT - NATIONAL PIPE THREAD
NTS - NOT TO SCALE

OC - ON CENTER
OD - OUTSIDE DIAMETER

P - PUMP
PH - PHASE
PSI - POUNDS PER SQUARE INCH

RD - ROOF DRAIN

S - STORM
SAN - SANITARY
SQ - SQUARE

TD - TRENCH DRAIN
TEMP - TEMPERATURE
TMV - THERMOSTATIC MIXING VALVE
TP - TRAP PRIMER
TYP - TYPICAL

UR - URINAL

V - VENT / VOLTS
VOL - VOLUME
VTR - VENT THRU ROOF

W/ - WITH
W/O - WITHOUT
WC - WATER CLOSET
WCO - WALL CLEANOUT
WH - WATER HEATER
WSFU - WATER SUPPLY FIXTURE UNIT

X - EXISTING

NO.	REVISION	DATE	BY

SEAL

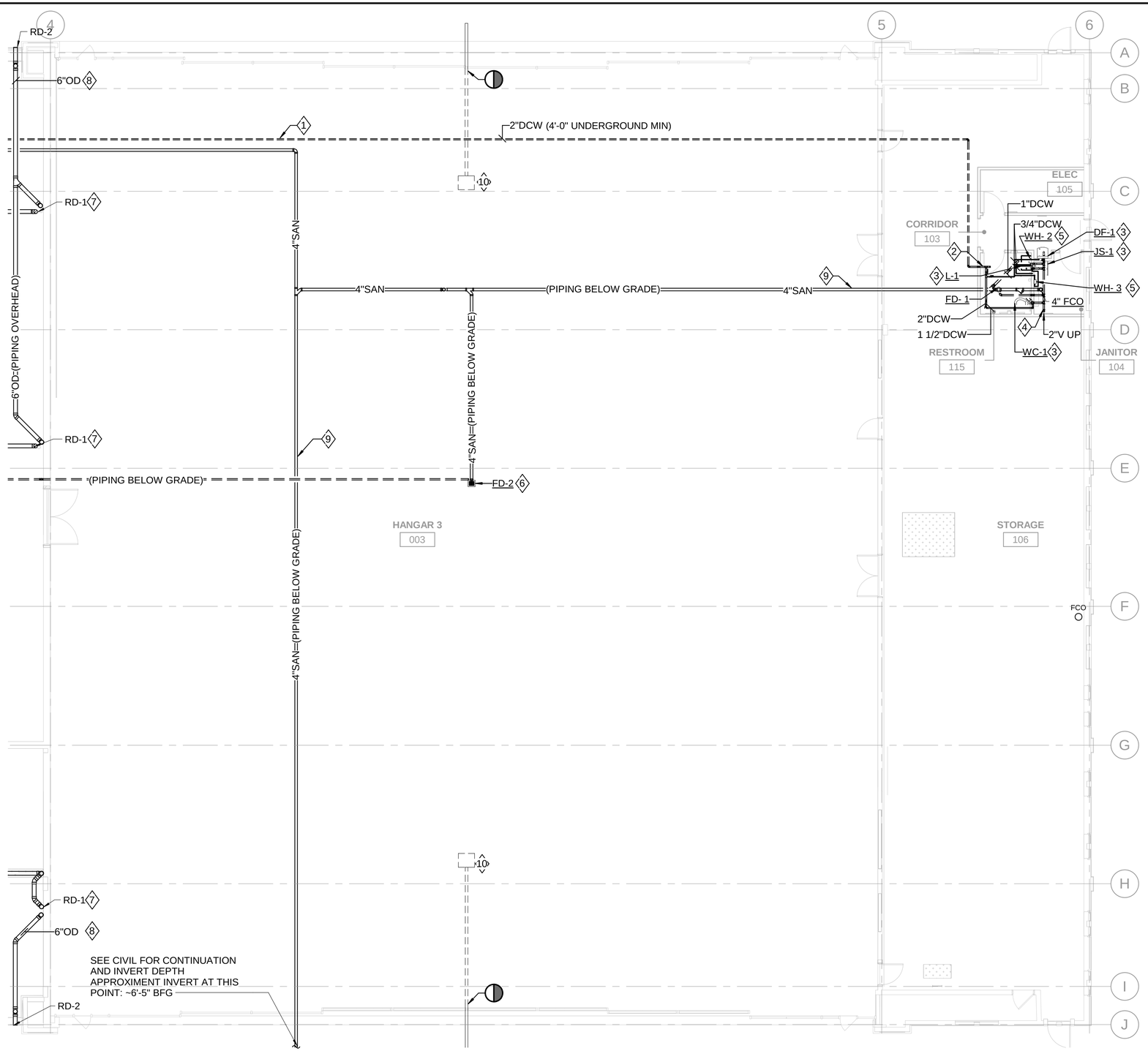
DESIGNED: BTF
DRAWN: BTF
TECH. REVIEW: SS
DATE: 12/19/2025

SUB SHEET NO. P1

TITLE OF SHEET
PLUMBING SYMBOLS, GENERAL NOTES & ABBREVIATIONS
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 148 OF 153

Autodesk Docs://GATE Floyd Bennett Field/24200-03_GATE_Mechanical.rvt
12/18/2025 10:42:30 AM



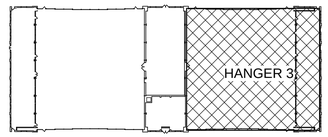
1 PLUMBING NEW WORK FLOOR PLAN - ENLARGED - HANGAR 3

1 / P2

SCALE Ⓐ

SHEET NOTES

1. PROVIDE INSULATED COPPER DOMESTIC WATER PIPING FROM BACKFLOW PREVENTER TO BELOW GRADE APPROXIMATELY 4'-0" BFF WITH SUPPORTS AND APPURTENANCES REQUIRED. ROUTE PIPING TO AVOID CONFLICT WITH EXISTING GRADE BEAMS. FIELD COORDINATE TRENCHING, CONCRETE WORK, EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
2. PROVIDE INSULATED COPPER DOMESTIC WATER PIPING FROM BACKFLOW PREVENTER TO OVERHEAD APPROXIMATELY 12'-0" AFF WITH HANGERS, SUPPORTS AND APPURTENANCES REQUIRED. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
3. PROVIDE PLUMBING FIXTURES AS SCHEDULED WITH SUPPORTS AND APPURTENANCES REQUIRED. FIELD COORDINATE EXACT LOCATION AND PIPING ROUTING PRIOR TO BEGINNING ANY WORK.
4. PROVIDE SANITARY VENT PIPING OVERHEAD FROM FIXTURES TO VENT THROUGH ROOF AS INDICATED. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
5. PROVIDE POINT OF USE WATER HEATER AS SCHEDULED. COORDINATE ELECTRICAL CONNECTION WITH ELECTRICAL CONTRACTOR. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
6. PROVIDE FLOOR DRAIN AS SCHEDULE WITH 4" SANITARY PIPING UNDERGROUND TO CONNECTION TO SITE UTILITY. COORDINATE ROUTING, SLOPING, AND ELEVATION CONNECTION WITH CIVIL PLANS. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
7. PROVIDE 6" COMBINATION MAIN & OVERFLOW ROOF DRAIN AS SCHEDULED WITH PIPING FROM DOWN TO STORM PIPING UNDERGROUND AND OVERFLOW PIPING TO EXTERIOR WALL. COORDINATE LOCATION WITH ARCHITECTURAL ROOF PLAN. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
8. PROVIDE OVERFLOW STORM PIPING OVERHEAD AS HIGH AS POSSIBLE THEN DOWN FACE OF INSIDE WALL TO APPROXIMENTLY 4'-0" AFG AND PROVIDE RD-2 DOWNSPOUT NOZZEL. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
9. PROVIDE SANITARY WASTE PIPING BELOW GRADE TO FIXTURES AS INDICATED. ROUTE PIPING AS INDICATED AND CONNECT TO MAIN OUTSIDE OF BUILDING. SEE CIVIL UTILITY PLAN FOR EXACT INVERT AND LOCATION OF TIE IN. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
10. REMOVE FLOOR DRAIN WITH PIPING TO EXTERIOR WALL COMPLETE. CAP AND ABANDON PIPING OUTSIDE OF BUILDING. COORDINATE REMOVAL WITH CONCRETE SLAB REMOVAL. FIELD COORDINATE EXACT LOCATION AND LIMITS OF DEMOLITION PRIOR TO BEGINNING ANY WORK.



KEY PLAN

SCALE Ⓐ 8' 0' 8' 16'

SCALE OF FEET

BUILDING NORTH

NO.	REVISION	DATE	BY

SEAL

DESIGNED: BTF
CADD: BTF
TECH. REVIEW: SS
DATE: 12/19/2025

SUB SHEET NO. P2

TITLE OF SHEET
PLUMBING NEW WORK FLOOR PLAN - ENLARGED - HANGAR 3
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 149 OF 153

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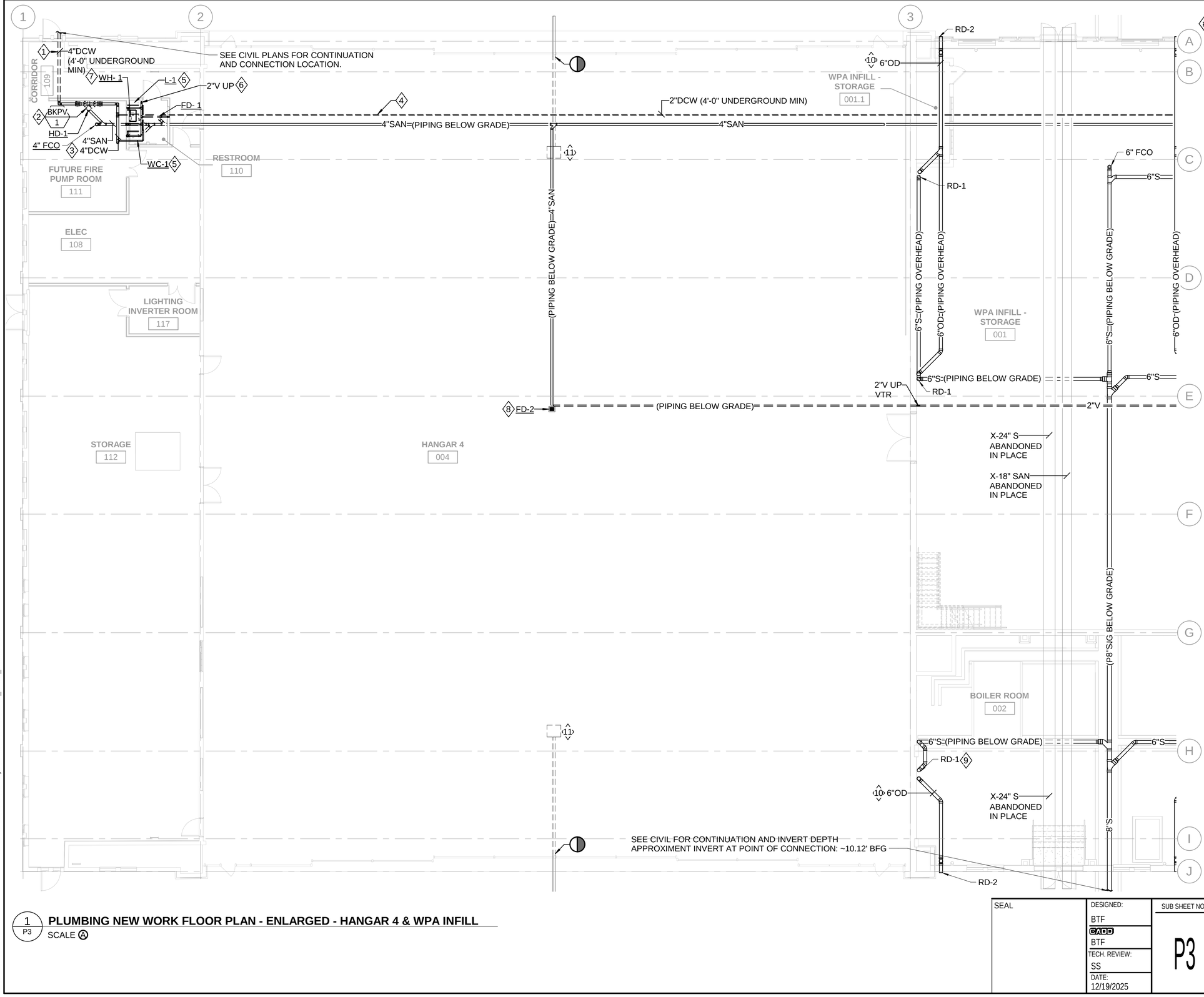
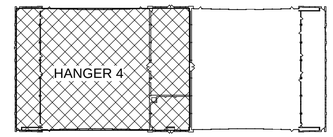


SHEET NOTES

1. PROVIDE INSULATED DOMESTIC WATER PIPING FROM UNDERGROUND UTILITY LOCATION AN DUP TO BACKFLOW PREVENTER WITH HANGERS, SUPPORTS, AND APPURTENANCES REQUIRED. FIELD COORDINATE TRENCHING, CONCRETE WORK, EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
2. PROVIDE DOMESTIC WATER BACKFLOW PREVENTER AT 48" AFF WITH SUPPORTS AND APPURTENANCES REQUIRED. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
3. PROVIDE INSULATED COPPER DOMESTIC WATER PIPING FROM BACKFLOW PREVENTER TO OVERHEAD APPROXIMATELY 12'-0" AFF WITH HANGERS, SUPPORTS AND APPURTENANCES REQUIRED. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
4. PROVIDE INSULATED COPPER DOMESTIC WATER PIPING FROM BACKFLOW PREVENTER TO BELOW GRADE APPROXIMATELY 4'-0" BFF WITH SUPPORTS AND APPURTENANCES REQUIRED. ROUTE PIPING TO AVOID CONFLICT WITH EXISTING GRADE BEAMS. FIELD COORDINATE TRENCHING, CONCRETE WORK, EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
5. PROVIDE PLUMBING FIXTURES AS SCHEDULED WITH SUPPORTS AND APPURTENANCES REQUIRED. FIELD COORDINATE EXACT LOCATION AND PIPING ROUTING PRIOR TO BEGINNING ANY WORK.
6. PROVIDE SANITARY VENT PIPING OVERHEAD FROM FIXTURES TO VENT THROUGH ROOF AS INDICATED. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
7. PROVIDE POINT OF USE WATER HEATER AS SCHEDULED. COORDINATE ELECTRICAL CONNECTION WITH ELECTRICAL CONTRACTOR. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
8. PROVIDE FLOOR DRAIN AS SCHEDULE WITH 4" SANITARY PIPING UNDERGROUND TO CONNECTION TO SITE UTILITY. COORDINATE ROUTING, SLOPING, AND ELEVATION CONNECTION WITH CIVIL PLANS. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
9. PROVIDE 6" COMBINATION MAIN & OVERFLOW ROOF DRAIN AS SCHEDULED WITH PIPING FROM DOWN TO STORM PIPING UNDERGROUND AND OVERFLOW PIPING TO EXTERIOR WALL. COORDINATE LOCATION WITH ARCHITECTURAL ROOF PLAN. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
10. PROVIDE OVERFLOW STORM PIPING OVERHEAD AS HIGH AS POSSIBLE THEN DOWN FACE OF INSIDE WALL TO APPROXIMENTLY 4'-0" AFG AND PROVIDE RD-2 DOWNSPOUT NOZZEL. FIELD COORDINATE EXACT LOCATION AND ROUTING PRIOR TO BEGINNING ANY WORK.
11. REMOVE FLOOR DRAIN WITH PIPING TO EXTERIOR WALL COMPLETE. CAP AND ABANDON PIPING OUTSIDE OF BUILDING. COORDINATE REMOVAL WITH CONCRETE SLAB REMOVAL. FIELD COORDINATE EXACT LOCATION AND LIMITS OF DEMOLITION PRIOR TO BEGINNING ANY WORK.



KEY PLAN

SCALE A 8' 0' 8' 16'

SCALE OF FEET

BUILDING NORTH

NO.	REVISION	DATE	BY

1 / P3 PLUMBING NEW WORK FLOOR PLAN - ENLARGED - HANGAR 4 & WPA INFILL

SCALE A

SEAL	DESIGNED: BTF CADD BTF TECH. REVIEW: SS DATE: 12/19/2025	SUB SHEET NO. P3	TITLE OF SHEET: PLUMBING NEW WORK FLOOR PLAN - ENLARGED - HANGAR 4 & WPA INFILL HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 150 OF 153

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12/18/2025 10:42:35 AM

PLUMBING FIXTURES

TAG	FIXTURE		TRIM							CONNECTION						
	TYPE	MANUFACTURER AND MODEL NUMBER	TYPE	MANUFACTURER AND MODEL NUMBER	TYPE	MANUFACTURER AND MODEL NUMBER	TYPE	MANUFACTURER AND MODEL NUMBER	DESCRIPTION	WASTE	VENT	TRAP	COLD WATER		HOT WATER	
													BRANCH SUPPLY	STOP INLET	BRANCH SUPPLY	STOP INLET
WC-1	WATER CLOSET FLOOR MOUNTED BARRIER-FREE	AMERICAN STANDARD 3641.001 OR EQUAL	FLUSH VALVE	SLOAN ROYAL 111-1.28 OR EQUAL					WHITE VITREOUS CHINA, FLOOR MOUNTED SIPHON JET, ELONGATE BOWL, 1.28 GALLONS PER FLUSH, 1-1/2" TOP SPUD INLET, BARRIER-FREE HEIGHT 1.28 GALLONS PER FLUSH, EXPOSED MANUAL DIAPHRAGM FLUSHOMETER, SIDE OSCILLATING HANDLE, 1-1/2" TOP SPUD CONNECTION	4"	2"	INTEGRAL	1-1/2"	1"	-	-
L-1	LAVATORY WALL HUNG BARRIER-FREE	AMERICAN STANDARD DECORUM OR EQUAL	FAUCET	CHICAGO FAUCET 2200-4 OR EQUAL	MIXING VALVE	SYMMONS 7-225-CK	IN-LINE CHECK VALVE	CIRCLE SEAL 2200 SERIES	20" X 18" WHITE VITREOUS CHINA, WALL HUNG, SINGLE FAUCET HOLE, DRILLED FOR CARRIER SUPPORT, MOUNT 34" AFF TO RIM TO BE BARRIER-FREE SINGLE HANDLE, E12 AERATOR EXPOSED LEAD-FREE MIXING VALVE, CHECK/STRAINERS ON INLETS, TAMPER RESISTANT CAP, 0.5 GPM MINIMUM FLOW	1-1/2"	1-1/2"	1-1/4"	1/2"	1/2"	1/2"	1/2"
JS-1	JANITOR'S SINK	FIAT TSB-200 OR EQUAL	FACUET	CHICAGO FAUCET 782-E27 OR EQUAL	HOSE AND BRACKET	FIAT 832-AA			STAIN RESISTANT, WHITE, PRE-CAST TERRAZZO, 24" X 24" X 12", INTEGRAL STAINLESS STEEL GRID STRAINER DRAIN OUTLET, 3"P-TRAP TO MATCH PIPING SYSTEM. TYPE 304 STAINLESS STEEL WALL GAURDS, 20 GA, 12" HEIGHT, LOCATED ON TWO WALLS. CAST OR WROUGHT COPPER ALLOY, COMBINATION FAUCET MOUNTED 36" ABOVE FINISHED FLOOR. SPOUT SHALL HAVE PAIL HOOK, 3/4" HOSE CONNECTION, WALL BRACE, CONCEALED INTEGRAL STOPS, 8" CENTERS. CAST, COPPER ALLOY HANDLES. COPPER ALLOY OR CRS ESCUTCHEON. IN-LINE ASSE 1001 VACUUM BREAKER. EXPOSED PARTS SHALL BE CHROME PLATED. 30" LONG, 5/8" RUBBER HOSE AND STAINLESS STEEL HOSE BRACKET. MOUNT BRACKET MINIMUM 18" ABOVE FINISHED FLOOR AND 6" LEFT OF FAUCET CENTER	3"	1-1/2"	3"	3/4"	1/2"	3/4"	1/2"
HB-1	HOSE BIBB	CHICAGO FAUCET 387-E27 OR EQUAL	N/A	N/A					3/4" THREADED CONNECTION WITH IN-LINE VACUUM BREAKER. MOUNT AT 36" ABOVE FINISHED FLOOR	-	-	-	3/4"	3/4"	-	-

ELECTRIC POINT OF USE WATER HEATERS

TAG WH	BASIS OF DESIGN MANUFACTURER AND MODEL OR EQUAL	WATER SIDE				ELECTRICAL					REMARKS
		MIN. FLOW (GPM)	MAX. FLOW (GPM)	EWT (°F)	LWT (°F)	NUMBER OF ELEMENTS	ELEMENT WATTAGE (kw)	VOLT	PH	SCCR (MIN.)	
1	EEMAX PROSERIES XTP020480	0.5	20	38	110	2	20	480	3	65	
2	EEMAX PROSERIES XTP020480	0.5	20	38	110	2	20	480	3	65	
3	EEMAX PROSERIES XTP020480	0.5	20	38	110	2	20	480	3	65	

DRAINS AND CLEANOUTS

TAG	BASIS OF DESIGN MANUFACTURER AND MODEL OR EQUAL	DESCRIPTION
FD-1	ZURN ZN415B-P-VP	6" ROUND FLOOR DRAIN W/ NICKLE BRONZE TOP, TRAP PRIMER CONNECTION, CLAMPING COLLAR
FD-2	ZURN Z668-VP	11"x19" RECTANGULAR AREA FLOOR DRAIN W/ CAST IRON VANDEL PROOF TOP, NO HUB CONNECTION
HD-1	ZURN Z1870-ZM	6" TO 4" OPEN HUB DRAIN, 316 STAINLESS STEEL, NO HUB CONNECTION
TP-1	ZURN Z1022-DU2-DU4	TRAP PRIMER
FCO	ZURN Z1400-ZN-VP	FLOOR CLEANOUT, CAST IRON, EXTRA HEAVY DUTY TOP
RD-1	ZURN Z-Z164-G	12" DIA COMBINATION MAIN & OVERFLOW DRAIN LOW SILHOUETTE DOME, 6" PIPING CONNECTION, NO-HUB CONNECTION, AND UNDERDECK CLAMP.
RD-2	ZURN Z199-DC-CP-VP	DOWNSPOUT NOZZLE W/ CHROME PLATED COVER, STAINLESS STEEL HINGED STRAINER

BACKFLOW PREVENTER (RPBP)

TAG	SERVICE	LOCATION	BASIS OF DESIGN			REMARKS
			MANUFACTURER OR EQUAL	MODEL	SIZE (IN)	
RPBP-1	MAIN	METER ROOM	WATTS	994	4"	

NO.	REVISION	DATE	BY

SEAL

DESIGNED: Designer
CADD: Author
TECH. REVIEW: Checker
DATE: 12/19/2025

SUB SHEET NO. P4

TITLE OF SHEET: PLUMBING SCHEDULES

HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066

PMIS/PKG NO. GATE 308504

SHEET 151 OF 153

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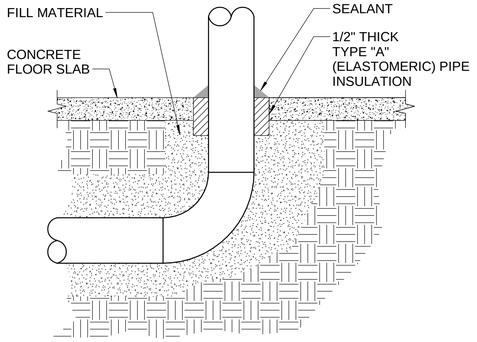
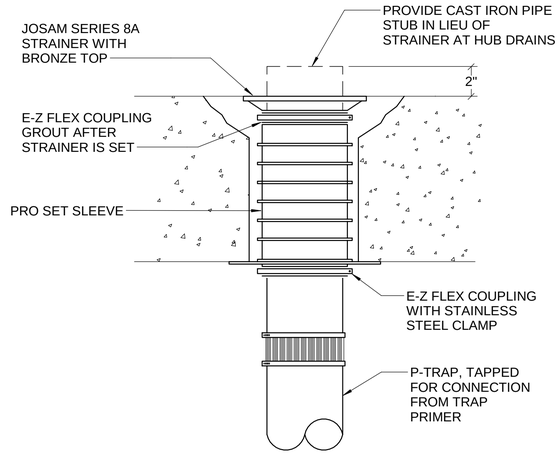
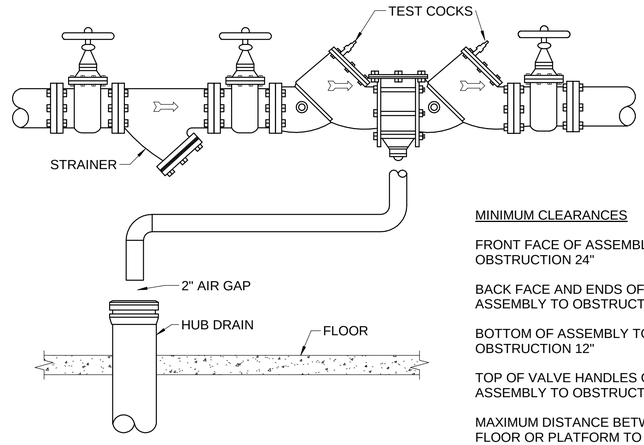


5 P5 **PIPE THROUGH SLAB ON GRADE**
NO SCALE



NOTE:
INSTALL SLEEVE WITH FLANGE BELOW EXISTING FLOOR. OVERSIZE CORE HOLE AND SET TEMPORARY FORM BOARD, FILL ANNULAR SPACE WITH HYDRAULIC CEMENT AND ALLOW DRYING TIME. CONSULT WITH MANUFACTURER FOR ALTERNATIVE METHODS AND/OR NEW PROCEDURES

3 P5 **FLOOR DRAIN**
NO SCALE



MINIMUM CLEARANCES

FRONT FACE OF ASSEMBLY TO OBSTRUCTION 24"

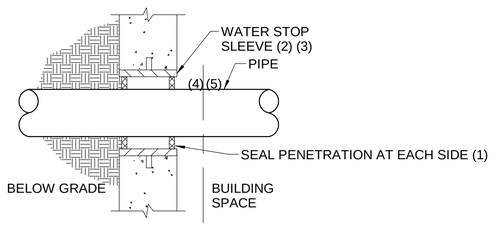
BACK FACE AND ENDS OF ASSEMBLY TO OBSTRUCTION 4"

BOTTOM OF ASSEMBLY TO OBSTRUCTION 12"

TOP OF VALVE HANDLES OR TOP OF ASSEMBLY TO OBSTRUCTION 18"

MAXIMUM DISTANCE BETWEEN FLOOR OR PLATFORM TO LOWEST POINT OF ASSEMBLY 7'-0"

1 P5 **REDUCED PRESSURE BACKFLOW PREVENTER**
NO SCALE



NOTES:

(1) "LINK SEAL" MODULAR WALL SEAL BY GPT. USE 316 SS NUTS AND BOLTS. INSTALL WITH ADJUSTMENT NUTS TO INTERIOR SIZE.

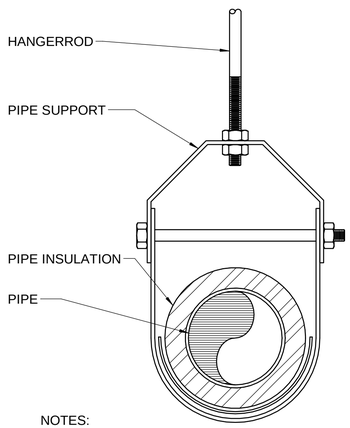
(2) REFER TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

(3) FOR CORE DRILLED HOLE, INSTALL "LINK SEAL" SEAL BETWEEN PIPE AND OPENING WITHOUT SLEEVE. SIZE OPENING AS RECOMMENDED BY SEAL MANUFACTURER.

(4) UNDERGROUND PIPE INCLUDING PRE-INSULATED PIPE IF USED.

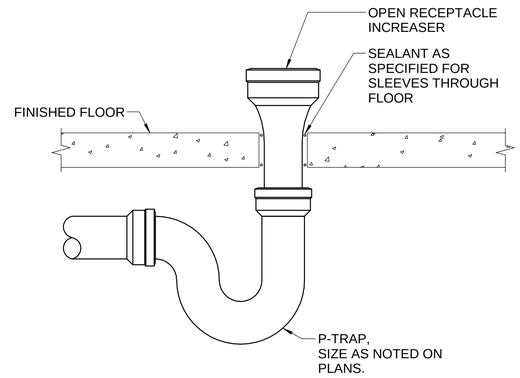
(5) INDOOR PIPE.

6 P5 **PIPE THRU FOUNDATION WALL INTO BUILDING SPACE**
NO SCALE



NOTES:
(1) REFER TO SPECIFICATION FOR INSULATED PIPE SUPPORTS, INSULATION PROTECTION SHIELDS AND SADDLES.

4 P5 **PIPE OR TUBING ISOLATION SUPPORT**
NO SCALE



2 P5 **HUB DRAIN WITH INCREASER**
NO SCALE

NO.	REVISION	DATE	BY

SEAL

DESIGNED: Designer
CADD Author
TECH. REVIEW: Checker
DATE: 12/19/2025

SUB SHEET NO. P5

TITLE OF SHEET
PLUMBING DETAILS
HANGARS 3 & 4 REHABILITATION

DRAWING NO. 646 190066
PMIS/PKG NO. GATE 308504
SHEET 152 OF 153

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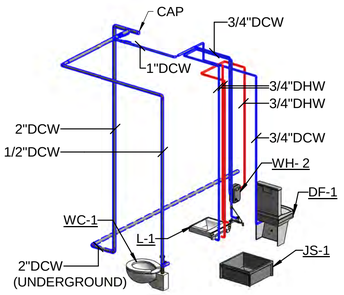
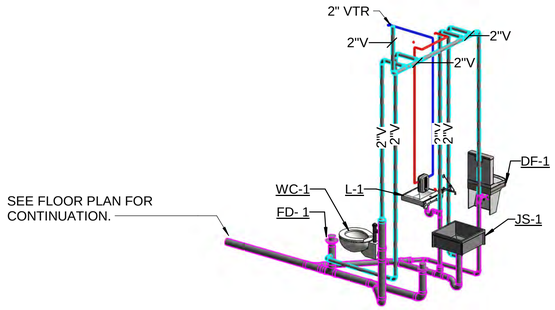


5 P6 **ISO WATER RISER - HANGER 3 RESTROOM**
NO SCALE



3 P6 **ISO WASTE RISER - HANGER 3 RESTROOM**
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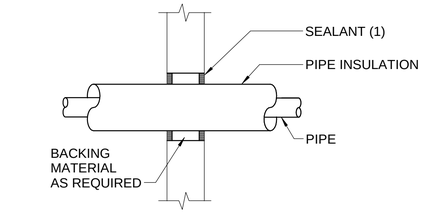
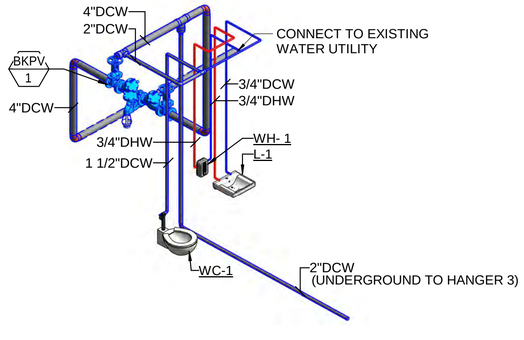


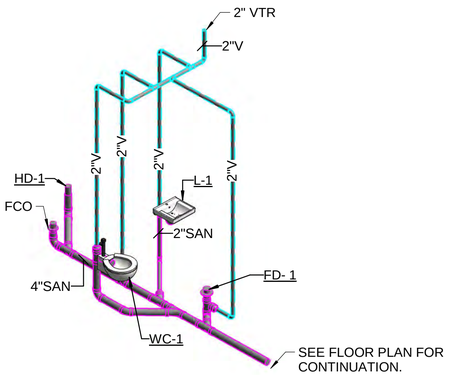
NOTES:

(1) SEALING PIPE PENETRATION IS REQUIRED FOR ANY INTERIOR WALL. WHERE WALL IS FIRE RATED, APPLY FIRE STOPPING SYSTEM (COMBINATION OF SEALANT, BACKING MATERIAL AND INSULATION) MEETING THIS RATING.

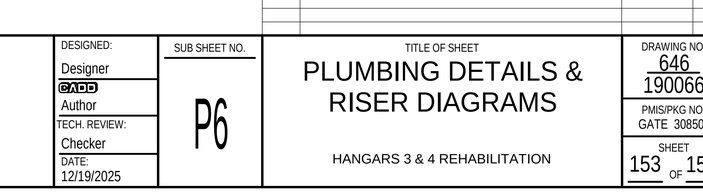
1 P6 **PIPE THRU INTERIOR WALL**
NO SCALE



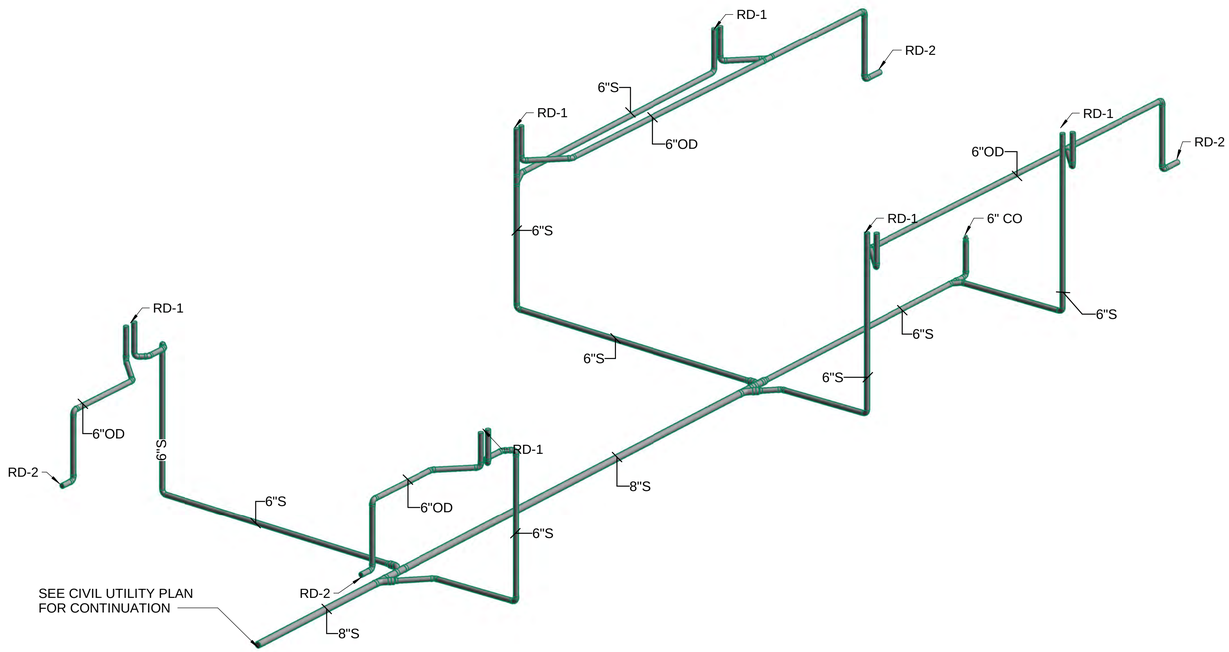
6 P6 **ISO WATER RISER - HANGER 4 RESTROOM**
NO SCALE



4 P6 **ISO WASTE RISER - HANGER 4 RESTROOM**
SCALE Ⓐ



2 P6 **SENSOR ACTIVATED LAVATORY**
NO SCALE



7 P6 **ISO STORM RISER - WPA INFILL**
NO SCALE

NO.	REVISION	DATE	BY

SEAL	DESIGNED: Designer CADD Author TECH. REVIEW: Checker DATE: 12/19/2025	SUB SHEET NO. P6	TITLE OF SHEET PLUMBING DETAILS & RISER DIAGRAMS HANGARS 3 & 4 REHABILITATION	DRAWING NO. 646 190066 PMIS/PKG NO. GATE 308504 SHEET 153 OF 153

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