SECTION 00 90 01
BIDDING AND CONTRACT REQUIREMENTS
ADDENDUM NUMBER 1

Demonica Kemper Architects
125 N. Halsted Street, Suite 301
Chicago, IL 60661
312.496.0000

To: Prospective Bidders

Issued: May 27, 2025

Re: ADDENDUM NUMBER (1) TO THE BIDDING DOCUMENTS FOR

McHenry County College
Engagement Hall
Architect's Project Number: 24-027

This addendum forms a part of the bidding and contract documents and modifies the original bidding documents dated May 16, 2025. Acknowledge receipt of this addendum in the space provided on Bid Form. FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.

ADDENDA TO THE PROJECT MANUAL

1. 00 52 00 – A201 General Conditions
    A. **ADD** the attached section in its entirety.
2. 00 65 01 – Exhibit K Pepper Coordination Protocol
    A. **ADD** the attached section in its entirety.
3. 01 23 00 – ALTERNATES
    A. **REVISE** scope notes of alternates 1A, 1B, and 1C.
    B. **REPLACE** the previously issued section 01 23 00 with the attached section in its entirety.
4. 08 71 00 – Door Hardware
    A. **ADD** the attached section in its entirety.
5. 09 65 16 – RESILIENT SHEET FLOORING
    A. DELETE the section in its entirety. Refer to finish plans for scope adjustments.
6. 26 05 33 – CONDUIT AND BOXES
    A. **ADD** section "2.10 Handholes" which includes specification requirements for HH-1 and provides approved manufacturers.
    B. **REPLACE** the previously issued section 26 05 33 with the attached section in its entirety.
7. 33 01 30.73 – Cured-in-place Slip Liner
    A. **ADD** the attached section in its entirety.
8. 33 11 17 – Site Casing Pipe
    A. **REVISE** the Fiberglass Casing Pipe section.
    B. **REPLACE** the previously issued section 33 11 17 with the attached section in its entirety.
9. 33 41 11 – Site Storm Utility Drainage Piping
    A. **REVISE** the Storm Sewer Pipe Materials section, Part C.
    B. **REPLACE** the previously issued section 33 41 11 with the attached section in its entirety.

ADDENDA TO THE DRAWINGS

GENERAL

1. G1.01
    A. **ADD** Technology sheets to sheet index.
    B. **REVISE** Plumbing sheet numbers in sheet index
    C. **ADD** sheet E3.01 ELECTRICAL DETAILS.
    D. **ADD** sheet MD1.12 ROOF PLAN DEMOLITION – MECHANICAL.
    E. **REVISE** sheet S1.00 to ENGAGEMENT HALL FOUNDATION PLAN.
    F. **REVISE** sheet S2.00 to ENGAGEMENT HALL ROOF FRAMING PLAN.
    G. **REVISE** note to “LIGHT SWITCH/ THERMOSTAT / FIRE ALARM PULL / AV TOUCH PANEL”

CIVIL
1. C-03
    A. **DELETE** construction fence and multileader notes referring to fence.
    B. **REVISE** text in the sheet page Legend referring to the construction fence.
    C. **DELETE** notes to remove the two trees south of Building B, and the one tree north of Building C at the eastern location of the infiltration basin.
2. C-04
    A. **REVISE** the text of the multileader calling out the proposed stamped colored concrete north of the Engagement Hall.
    B. **REVISE** the text of the Stamped Colored Concrete Notes.
3. C-05
    A. **ADD** the scope for the bid alternate storm sewer casing pipe underneath the Engagement Hall.
    B. **REVISE** the text of the Alternate Bid Notes.
    C. **REVISE** the limits of disturbance and grading northeast of the infiltration basin.
    D. **REVISE** area of disturbance noted.
4. C-06
    A. **ADD** the scope for the bid alternate storm sewer casing pipe underneath the Engagement Hall.
    B. **REVISE** the text of the Alternate Bid Notes.
    C. **REVISE** the grading in the vicinity of the southwest door of Building B.
    D. **REVISE** area of disturbance noted.
5. C-07
    A. **DELETE** miscellaneous text removed from conflict tags.
6. C-08
    A. **REVISE** the area of disturbance.

LANDSCAPE
1. L-100
    A. **REVISE** Trees previously listed for demolition are now shown to remain. Note was added calling out trees to remain and to be protected in place.
    B. **REVISE** turf hatch was edited to reflect the new limit of disturbance. Due to this change the turf quantity changed.
    C. **REVISE** layout of gravel and rock mulch at edge of building. Due to this change the rock mulch quantity changed.
    D. **REVISE** layout of plants in the beds where gravel was removed to fill out the space better.
2. L-101
    A. **ADD** detail to sheet.
3. L-102
    A. **REVISE** text under Part 1 – General.

ARCHITECTURAL
1. AD2.01
    A. **REVISE** extent of existing ceiling demolition.

2. A0.10
    A. **ADD** (2) existing trees to remain. Refer to Landscape / Civil.
    B. **REVISE** raised planter seat wall detail as indicated.
    C. **REVISE** Architectural Site Plan Referenced Notes.
    D. **REVISE** extent of area of landscaping to match Landscape.
    E. **ADD** relocated Building ID sign location. Refer to Civil.
3. A1.01
    A. **REVISE** location of wall section 1/A6.04.
4. A2.01
    A. **REVISE** ceiling color at service door entrance into Engagement Hall 103 from Cafeteria Bldg. B.
    B. **REVISE** location of speakers, WAP, microphone antenna, etc. in Engagement Hall 103. (Refer to Technology for quantity).
    C. **REVISE** location of occupancy sensors and light sensors in Engagement Hall 103. (Refer to Electrical for quantity).
    D. **REVISE** extent of existing ceiling to be demolished and existing ceiling to remain in dining area.
    E. **ADD** 2x2 returns to ceiling in Connecting Link 102. (Refer to Mechanical).
    F. **ADD** ceiling detail 5/A7.73 in Engagement Hall 103.
    G. **ADD** note to “PAINT ALL EXPOSED CONDUIT, SPRINKLER PIPING, STORM DRAINS, DUCT, AND ALL OTHER MEP/FP ITEMS WITHIN ENGAGE HALL 103. COORD. W/ ARCHITECT FOR COLOR SELECTION” to RCP General Notes.
    H. **REVISE** size and location of linear diffusers on exposed ceiling ductwork in Engagement Hall 103. (Refer to Mechanical for final size, quantity, and location).
    I. **REVISE** note 10 in RCP Referenced Notes
    J. **REVISE** text note about bid alternate 8 and 9 on RCP to note 14 and note 15 on RCP Referenced Notes.
    K. **ADD** spot lighting in Engagement Hall 103 to match Electrical drawings.
    L. **REVISE** RCP reference note at existing soffit north of Vestibule 105 from 12 to 13.
5. A2.02
    A. **REVISE** extent of existing ceiling to be demolished and existing ceiling to remain in dining area.
    B. **REVISE** text note about bid alternate 8 and 9 on RCP to note 14 and note 15 on RCP Referenced Notes.
    C. **REVISE** note 10 in RCP Referenced Notes
    D. **ADD** note to “PAINT ALL EXPOSED CONDUIT, SPRINKLER PIPING, STORM DRAINS, DUCT, AND ALL OTHER MEP/FP ITEMS WITHIN ENGAGE HALL 103. COORD. W/ ARCHITECT FOR COLOR SELECTION” to RCP General Notes.
    E. **ADD** RCP reference note 13 to REFLECTED CEILING PLAN – BLDG B – 2ND FL.
    F. **ADD** 2x2 returns to ceiling in Connecting Link 102. (Refer to Mechanical).
6. A4.01
    A. **REVISE** back-lit aluminum channel signage bid and alternate note.
7. A6.02
    A. **REVISE** continuous wall washer uplight base bid and alternate 2 note.
    B. **REVISE** flush wood panel base bid and alternate 9 note.
    C. **REVISE** electric recessed roller shade base bid and alternate 7 note.
    D. **ADD** linear diffuser note to WALL SECTION – ENGAGEMENT HALL – WEST 1.
    E. **ADD** linear diffuser note to WALL SECTION – ENGAGMENT HALL – WEST 2.
8. A6.03
    A. **REVISE** continuous wall washer uplight base bid and alternate 2 note.
    B. **ADD** linear diffuser note to WALL SECTION – ENGAGEMENT HALL – EAST.
9. A6.04
    A. **ADD** exit sign note to WALL SECTION – ENGAGEMENT HALL – SOUTH.
    B. **REVISE** flush wood panel base bid and alternate 8 note.
    C. **REVISE** electric recessed roller shade base bid and alternate 7 note.
    D. **REVISE** continuous wall washer uplight base bid and alternate 2 note.
    E. **ADD** linear diffuser note to WALL SECTION – ENGAGEMENT HALL – SOUTH.
    F. **ADD** roof drain note to WALL SECTION – ENGAGEMENT HALL – SOUTH.
10. A6.05
    A. **REVISE** note to “EXISTING EIFS SOFFIT SYSTEM (REMOVE AND REPLACE EXISTING STUCCO SOFFIT STRUCTURE AS REQUIRED FOR NEW WORK)”

11. A7.03
    A. **ADD** detail 11/A7.03 SECTION DETAIL – ACM AT EXISTING SOFFIT to sheet.
12. A7.51
    A. **ADD** note “OVERFLOW DRAIN (REFER TO PLUMBING)”.
    B. **REVISE** note to “5/8" GYP BOARD ON 1 5/8" AND 3 5/8" METAL STUD FRAMING (REFER TO WALL TYPE)” and adjust plan detail to match.
13. A7.52
    A. **REVISE** flush wood panel base bid and alternate 8 note.
    B. **REVISE** flush wood panel base bid and alternate 9 note.
    C. **ADD** note “1” WALL EXPANSION JOINT (REFER TO SPEC.)” to PLAN DETAIL – STOREFRONT JAMB @ WOOD VENEER.
14. A7.71
    A. **REVISE** flush wood panel base bid and alternate 9 note.
15. A7.72
    A. **REVISE** flush wood panel base bid and alternate 8 note.
    B. **REVISE** flush wood panel base bid and alternate 9 note.
    C. **REVISE** electric recessed roller shade base bid and alternate 7 note.
    D. **REVISE** continuous wall washer uplight base bid and alternate 2 note.
    E. **DELETE** “DOOR (REFER TO SCHED.)” note from 1/A7.72 CEILING DETAIL and 6/A7.72 CEILING DETAIL – BID ALT NO. 2.
    F. **ADD** “LINEAR DIFFUSER (REFER TO MECH.)” note.
    G. **REVISE** note to “LINEAR DIFFUSER (REFER TO MECH.)” in 3/A7.72 CEILING DETAIL.
    H. **REVISE** note to “CEILING SYSTEM (REFER TO RCP) IN 5/A7.72 CEILING DETAIL.
16. A7.73
    A. **REVISE** note to “2" ZEE FURRING ON 4" COLD FORMED METAL FRAMING” and adjust ceiling detail to match on CEILING DETAIL – NORTH WALL.
    B. **REVISE** view title to “CEILING DETAIL – NORTH WALL”.
    C. **ADD** notes to CEILING DETAIL – DOUBLE EGRESS DOOR HEAD.
    D. **REVISE** CEILING DETAIL – TYPICAL MOUNTING HEIGHTS AT CLT.
    E. **ADD** view 5/A7.73 CEILING DETIAL – TYPICAL MOUNTHING HEIGHTS AT CLT – NO DUCTWORK.
17. A9.01
    A. **ADD** views 7 and 8 to sheet.
    B. **REVISE** flush wood panel base bid and alternate 8 note.
    C. **REVISE** flush wood panel base bid and alternate 9 note.
    D. **REVISE** continuous wall washer uplight base bid and alternate 2 note.
    E. **ADD** “LINEAR DIFFUSER (REFER TO MECH.)” note and adjust interior elevationsrc.
18. A9.02
    A. **REVISE** PT-2 to PT-1 at service door entrance into Engagement Hall 103 in view 3.
    B. **REVISE** flush wood panel base bid and alternate 8 note.
    C. **REVISE** flush wood panel base bid and alternate 9 note.
19. A10.00
    A. **ADD** door hardware sets as indicated. Refer to specs for details.
    B. **REVISE** door type as indicated for door 102. Refer to specs for details.
20. A11.01
    A. **REVISE** Finish Plan General Note #9 to say ENGAGEMENT HALL 103.
    B. **REVISE** PT-5 paint color to Sherwin Williams – Dovetail 7018.
    C. **REVISE** WC-1 to Momentum – Bristol – Silverado.
    D. **REVISE** WD-1 color note to say: STAINED TO MATCH ARCHITECT SAMPLE, LIGHT WOOD FINISH (REFER TO SPECS)
    E. **REVISE** WD-1 color note to say: STAINED TO MATCH ARCHITECT SAMPLE, DARK WOOD FINISH (REFER TO SPECS)
    F. **REVISE** CPT-1 to Interface – Open Air 402 - Granite 106742.
    G. **REVISE** WLKF-1 color to Ebony 31500.
    H. **REVISE** TRANS-2 color to Burnt Umber 63.
    I. **REVISE** Finish Plan Referenced Note #3 to clarify that no wall base is required at heavy timber columns.
    J. **REVISE** Finish Plan Referenced Note #4 to NOT USED.

K. **DELETE** Finish Plan Referenced Note 4 from plan.
L. **REVISE** LVT-2 width in Connecting Link at Cafeteria end to align with face of column as indicated on plan.
M. **REVISE** wall finish tags at service door entrance into Engagement Hall 103 as indicated on plan.
N. **ADD** WD-2 wall finish tags as indicated on plan.

STRUCTURAL

1. S1.00 – ENGAGEMENT HALL FOUNDATION PLAN
   A. **REVISE** sheet title to ENGAGEMENT HALL in lieu of EVENT CENTER
   B. **REVISE** 1/S1.00 label to ENGAGEMENT HALL in lieu of EVENT CENTER
   C. **DELETE** the monumental sign reference from note 17
2. S1.01 – MAIN ENTRANCE FOUNDATION PLAN
   A. **DELETE** the monumental sign reference from note 17
3. S2.00 – ENGAGEMENT HALL ROOF FRAMING PLAN
   A. **REVISE** sheet title to ENGAGEMENT HALL in lieu of EVENT CENTER
   B. **REVISE** 1/S2.00 label to ENGAGEMENT HALL in lieu of EVENT CENTER
   C. **REVISE** the framing dimensions at the cantilevered low roof between grids U and AA.
   D. **REVISE** the HSS girt elevations along grid HH to 15’-9”
4. S5.00 – ELEVATIONS
   A. **REVISE** the HSS girt elevations in 3/S5.00 to 15’-9”

MECHANICAL

1. M0.00 - HVAC COVERSHEET:
   A. **ADD** note to refer to scope documents from CM for prepurchase through Trane
2. MD1.01 - FLOOR PLAN DEMOLITION - PIPING
   A. **ADD** existing HVAC Piping and Mechanical Equipment in dining hall.
   B. **ADD** note to provide temporary support for existing pipes running through corridor.
3. MD1.02 – ROOF DEMOLITION – PIPING
   A. **REVISE** sheet number to 1.12
   B. **REVISE** sheet title to ROOF DEMOLITION - MECHANICAL
4. MD1.11 - FLOOR PLAN DEMOLITION - VENTILATION
   A. **DELETE** Air Terminals and associated ductwork in existing curved ceiling located in the Dining hall from Demolition Scope
   B. **ADD** Existing diffusers in existing east building spaces to demolition scope for fireproofing deck
   C. **REVISE** Keynote 2. Only air terminal to be removed if air terminal is staying in the same place.
   D. **ADD** Key note 3. Remove air terminal and associated ductwork as required for new location.
5. MD1.12 – ROOF PLAN DEMOLITION – MECHANICAL
   A. **ADD** the attached sheet in its entirety.
6. M1.01 - FLOOR PLAN – PIPING
   A. **ADD** existing HVAC Piping and Mechanical Equipment in dining hall.
7. M1.11 - FLOOR PLAN - VENTILATION
   A. **REVISE** Keynote 1 and 2. Extending Supply and Return for continuous look around the space.
   B. **REVISE** Sidewall diffusers to show continuous look around space.
   C. **REVISE** RTU-1 and RTU-2 supply mains ductwork sizing
   D. **REVISE** diffuser layout in event space.
   E. **ADD** return grilles (2) in corridor.
   F. **DELETE** air terminals in dining hall curved ceiling from new work scope. Air terminals are to remain.
   G. **ADD** note to refer to air terminal - ceiling return sound boot detail.
8. M2.00 - SECTION VIEWS
   A. **REVISE** Section view. Lower air terminal to ceiling.
9. M3.00 - HVAC DETAILS
   A. **ADD** air terminal - slot diffuser side wall hidden flange detail
   B. **ADD** air terminal - ceiling return sound boot detail.
10. M4.01 - HVAC DIAGRAMS
    A. **ADD** lighting control diagram for existing RP-1
    B. **ADD** note for controls to be provided by Trane through prepurchase and refer to scope documents by CM for all work/scope to be prepurchase through Trane.

11. M5.00 - HVAC SCHEDULES
    A. **ADD** note saying RTU-1 and RTU-2 are to be provided by the owner and to refer to CM scope documents for all work/scope being prepurchased.
    B. **REVISE** model numbers for Radiators in Radiation schedule.
    C. **ADD** note to Radiation Schedule to provide double sided low surface temperature.
    D. **REVISE** linear diffuser schedule to show proper dimensions.

PLUMBING
1. P1.00 - UNDERFLOOR - PLUMBING - EVENT SPACE
    A. **DELETE** FCO
    B. **REVISE** Primary storm piping to route directly into main.
2. P1.01 - FLOOR PLAN - PLUMBING - EVENT SPACE:
    A. **REVISE** primary/secondary storm piping in northern chase.
    B. **DELETE** Floor Cleanout
3. P1.02 - ROOF PLAN - PLUMBING
    A. **REVISE** Roof Drain Tags

FIRE PROTECTION
1. F1.01 - FLOOR PLAN - FIRE PROTECTION
    A. **ADD** sheet note to provide hangers and support in engagement hall 103 with architectural wooden structure.
2. F2.00 - FIRE PROTECTION DETAILS
    A. **ADD** Detail for exposed sprinkler head.

ELECTRICAL
1. E0.00 – ELECTRICAL COVERSHEET
    A. **ADD** handhole symbol in the electrical symbol list.
2. E1.00 – OVERALL PLAN – ELECTRICAL
    A. **ADD** handhole “HH-1” for future sign installation.
    B. **ADD** keynote #8.
    C. **ADD** keynote #9.
3. E1.02 – FLOOR PLAN – POWER
    A. **ADD** 120V connection in Connecting Link 102 to exhaust fan “EF-1”. Connected to 20A/1P circuit LEC-39.
4. E3.01 – ELECTRICAL DETAILS
    A. **ADD** sheet E3.01 – Electrical Details.
    B. **ADD** Exterior Handhole Detail.
5. E6.00 – ELECTRICAL PANEL SCHEDULES
    A. **REVISE** RTU-2 wire size and circuit breaker size in Panel HEC schedule.
    B. **ADD** to Panel LEC schedule new EF-1 circuit load.
    C. **REVISE** in Panel LEC schedule circuit LEC-40 load description.

TECHNOLOGY
1. T0.00 – TECHNOLOGY COVERSHEET
    A. **ADD** AV FUNCTIONAL DIAGRAM KEY
    B. **REVISE** TECHNOLOGY SYMBOL LIST.
    C. **REVISE** TECHNOLOGY GENERAL NOTES.
2. T1.01 – FLOOR PLAN – TECHNOLOGY – ENGAGEMENT HALL
    A. **REVISE** sheet title to ENGAGEMENT HALL in lieu of EVENT SPACE
    B. **REVISE** Detail #1 title to ENGAGEMENT HALL in lieu of EVENT SPACE
    C. **ADD** Elevation 5/T2.00 in ENGAGEMENT HALL.
    D. **ADD** keynote#2 symbol in ENGAGEMENT HALL.
    E. **REVISE** keynote#2 description on sheet.
3. T2.00 – TECHNOLOGY ENLARGED PLANS
    A. **DELETE** panel AV-WP3-R and AV-WP4-R from detail#2 AV CABINET ELEVATION.
    B. **ADD** panel AV-MPP-1 in detail#2 AV CABINET ELEVATION.
    C. **ADD** detail #5 VIDEO WALL ELEVATION.
4. T3.00 – TECHNOLOGY DETAILS

A. **REVISE** Keynote#2 of detail 3 CONNECTIVITY RISER DIAGRAM – EXISTING TR.
B. **REVISE** CONTROLLED SECURITY SCHEME (CSS) TYPE SCHEDULE.

5. T4.00 – TECHNOLOGY DIAGRAMS
   A. **REVISE** Detail #1 title to ENGAGEMENT HALL in lieu of EVENT SPACE
   B. **REVISE** Detail #1AV DIAGRAM – ENGAGEMENT HALL.

6. T5.00 – TECHNOLOGY SCHEDULES
   A. **REVISE** TECHNOLOGY EQUIPMENT SCHEDULE.

CLARIFICATIONS

1. Existing Roofing Warranties
   A. There is no current warranty for the roofing system on Building B.
   B. See attached for the roofing warranty and system for Building C. All removal, replacement, and tie-ins required for new work need to be completed under the conditions of the existing warranty.

2. Pre-Bid RFI and Addenda Issuance
   A. All pre-bid RFI's should be sent to Josh Warriner (jwarriner@pepperconstruction.com) at Pepper Construction via email for review and response. Emails should be titled with the project name with RFI questions clearly noted.
   B. All responses to pre-bid RFI submitted will be provided in a subsequent addendum issuance.
   C. All Pre-Bid RFI are due by **MONDAY, 6/2/2025 AT 5 PM.** Any pre-bid RFI received after this date may not receive a response.
   D. The Final Addendum will be issued **TUESDAY, 6/3/2025**. Refer to the MCC Bid site for all addendum issuances.

3. Site Visits by Bidding Contractors
   A. Contractors may visit the site prior to submitting bids for field verification of the existing buildings. Coordinate all visits with Josh Warriner (630-918-8162, jwarriner@pepperconstruction.com) from Pepper Construction and Pat Sullivan (815) 479-7730, psullivan@mchenry.edu) from MCC to coordinate with the college's schedule.

This addendum consists of 7 pages, excluding attachments.

END 00 90 01.

Attachments:
1. MCC Engagement Hall - Building A and C Roof Guarantees
2. 005200, 006501, 012300, 087100, 260533, 330130.73, 331117, 334111
3. C-03, C-04, C-05, C-06, C-07, C-08
4. L-100, L-101, L-102
5. G1.01, AD2.01, A0.10, A2.01, A2.02, A4.01, A6.02, A6.03, A6.04, A6.05, A7.03, A7.51, A7.52, A7.71, A7.72, A7.73, A9.01, A9.02, A10.00, A11.01
6. S1.00, S1.01, S2.00, S5.00
7. M0.00, MD1.01, MD1.02, MD1.11, MD1.01, MD1.12, M1.11, M2.00, M3.00, M4.01, M5.00
8. P1.00, P1.01, P1.02
9. F1.01, F2.00
10. E0.00, E1.00, E1.02, E3.01, E6.00
11. T0.00, T1.01, T2.00, T3.00, T4.00, T5.00

IRCA

Certified Consultants and Specifiers

Roof Condition Evaluations

Moisture Testing

Quality Compliance Inspection during roof construction

September 30, 2016

Mr. Todd Wheeland
McHenry County College
8900 US Hwy 14
Crystal Lake, IL 60012-2761

RE: McHenry County College Roof Guarantee
2015/2016 Project
Roofs A & C

Dear Mr. Wheeland:

Enclosed is the Firestone Building Products Red Shield Roofing System limited warranty for recently completed roofing at the referenced facility. Its term is 20 years and it covers defects in materials, wear by the elements and workmanship. To remain in effect, the manufacturer stipulates that he must be notified within 30 days of discovery of a roof leak. We have also included the contractor's two year contractor warranty for your files.

For your convenience, we have also enclosed a sample of a leak notification letter and a sketch of the affected roofs. If a leak were to develop, you could complete the letter, mark the leak location on the plan and send them to the indicated parties and the manufacturer.

To guard against having to use the provided forms, we recommend that you incorporate these roofs' maintenance into an annual roof management program. Regular inspection and timely repair of minor defects can go a long way to prevent leaks.

It has been a pleasure working with you. We are looking forward to serving you in the future. Should you have any questions about the guarantee or our other services, please call me.

Sincerely,

ILLINOIS ROOF CONSULTING ASSOCIATES, INC.

James C. Gruebnau, RRC
Project Manager

JCG/jr
15120.ltr

Enclosures

Illinois Roof Consulting Assoc., Inc.
4302-G Crystal Lake Road
McHenry, Illinois 60050
(815) 385-6560
FAX (815) 385-3581
www.irca.com

Date:

Firestone Building Products
250 West 96th Street
Indianapolis, IN 46260

RE: Roof Leak
Warranty No. R0100231
McHenry County College
8900 US HWY 14
Crystal Lake, IL 60012-2738

Dear Sirs:

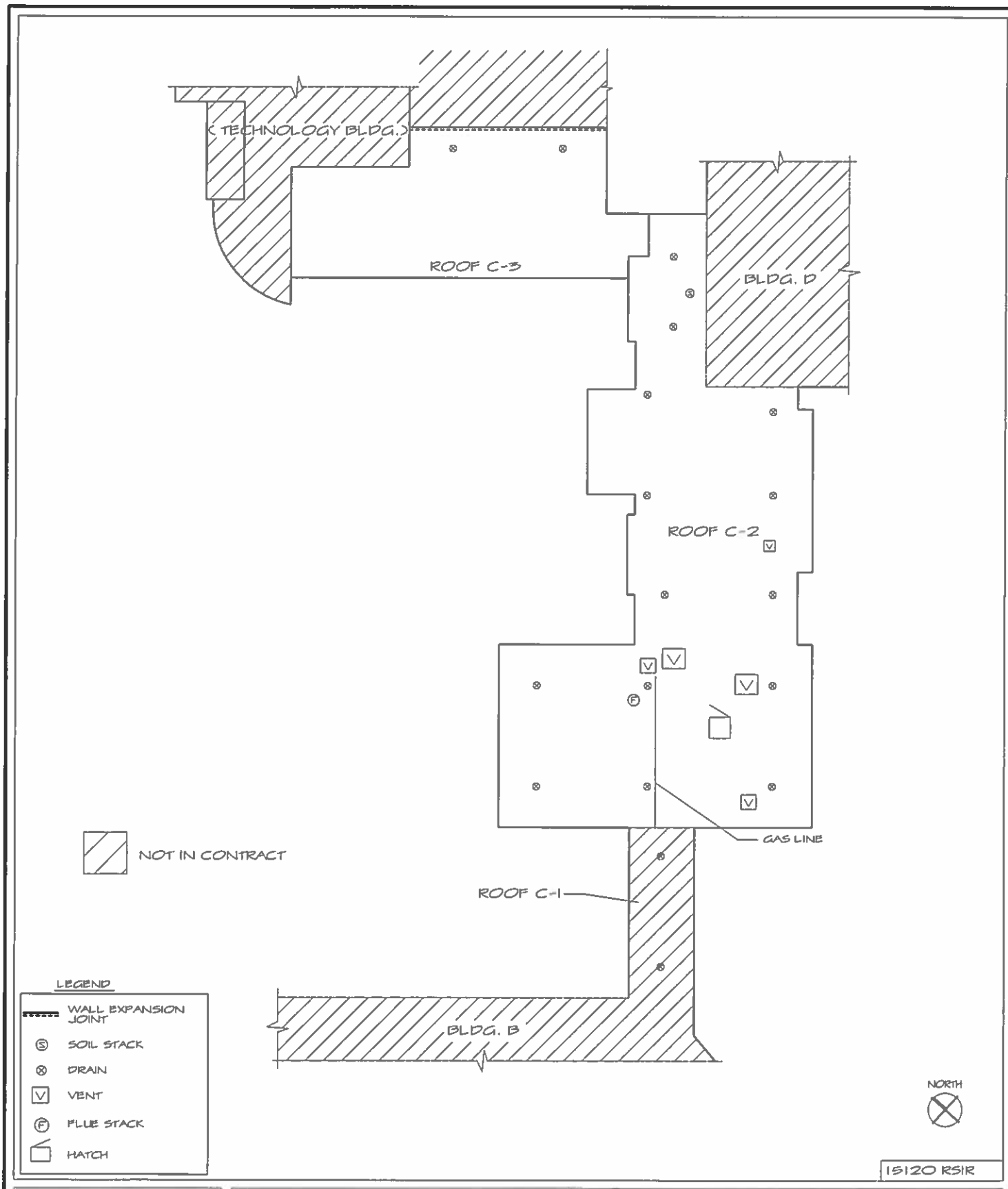
On _____, we discovered roof leakage which we believe is covered under our guarantee agreement. We have enclosed a roof sketch with the leak(s) noted.

This letter serves as your written notice under the terms of the agreement. Your timely attention to the resolution of this claim is appreciated.

Sincerely,

Mr. Todd Wheeland
Director of Facility Projects and Construction
McHenry County College
8900 US HWY 14
Crystal Lake, IL 60012-2738

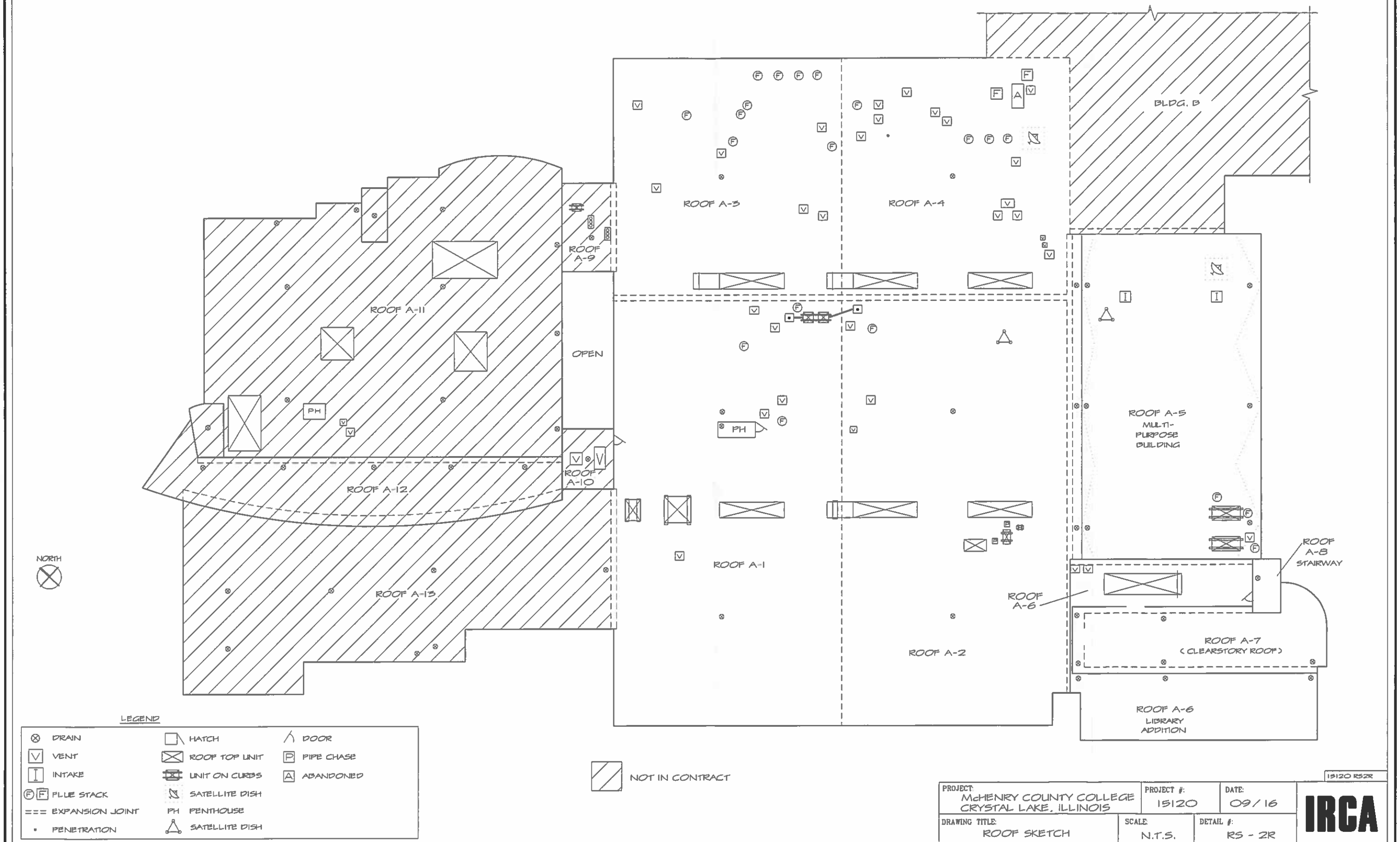
cc: Illinois Roof Consulting Associates, Inc.
MetalMaster/RoofMaster



15120 RSIR

IRCA

PROJECT: McHENRY COUNTY COLLEGE CRYSTAL LAKE, ILLINOIS		DRAWING TITLE: ROOF SKETCH -- BUILDING C	
PROJECT #: 15120	DATE: 09/16	SCALE: N.T.S.	DETAIL #: RS - 1R



15120 RS2R

PROJECT:	PROJECT #:	DATE:
McHENRY COUNTY COLLEGE CRYSTAL LAKE, ILLINOIS	15120	09/16
DRAWING TITLE:	**SCALE:**	**DETAIL #:**
ROOF SKETCH	N.T.S.	RS - 2R

IRCA

RED SHIELD WARRANTY

RED SHIELD ROOFING SYSTEM LIMITED WARRANTY

Warranty No: RO100231 **FBPCO #** JH0536 **Square Footage:** 114550 s.f.
Building Owner: MCHENRY COUNTY COLLEGE
Building Identification: MCHENRY COUNTY COLLEGE
Building Address: 8900 US HIGHWAY 14, CRYSTAL LAKE, IL, 60012-2738
Warranty Period Of: TWENTY (20) Years, Beginning On: 09/01/16
Roofing Contractor: METALMASTER ROOFMASTER (07433)

For the warranty period indicated above, Firestone Building Products Company, LLC ("Firestone"), an Indiana limited liability company, warrants to the Building Owner ("Owner") named above that Firestone will, subject to the Terms, Conditions and Limitations set forth below, repair any leak in the Firestone Roofing System ("System").

TERMS, CONDITIONS AND LIMITATIONS

1. **Products Covered.** The System shall mean only the Firestone brand roofing membranes, Firestone brand roofing insulations, Firestone brand roofing metal, and other Firestone brand roofing accessories when installed in accordance with Firestone technical specifications by a Firestone-licensed applicator.
2. **Notice.** In the event any leak should occur in the System, the Owner must give notice in writing or by telephone to Firestone within thirty (30) days of any occurrence of a leak. Written notice may be sent to Firestone at the street address or fax number shown on the reverse side of this Limited Warranty. Evidence of this notice shall be the receipt by Owner of a Firestone Leak Notification Acknowledgement. By so notifying Firestone, the Owner authorizes Firestone or its designee to investigate the cause of the leak.
3. **Investigation.** If upon investigation, Firestone determines that the leak is not excluded under the Terms, Conditions and Limitations set forth in this Red Shield Roofing System Limited Warranty (the "Limited Warranty"), the Owner's sole and exclusive remedy and Firestone's total liability shall be limited to the repair of the leak. Should the investigation reveal that the leak is excluded under the Terms, Conditions and Limitations, the Owner shall be responsible for payment of the investigation costs. Failure by Owner to pay for these costs shall render this Limited Warranty null and void. Firestone will advise the Owner of the type and/or extent of repairs required to be made at the Owner's expense that will permit this Limited Warranty to remain in effect for the unexpired portion of its term. Failure by the Owner to properly make these repairs in a reasonable manner using a Firestone-licensed applicator and within 60 days shall render this Limited Warranty null and void.
4. **No Dollar Limit (NDL).** There is no dollar limit placed on warranted leak repairs to the extent such repairs are covered by this Limited Warranty.
5. **Disputes.** Any dispute, controversy or claim between the Owner and Firestone concerning this Limited Warranty shall be settled by mediation. In the event that the Owner and Firestone do not resolve the dispute, controversy or claim in mediation, the Owner and Firestone agree that neither party will commence or prosecute any suit, proceeding, or claim other than in the courts of Hamilton County in the state of Indiana or the United States District Court, Southern District of Indiana, Indianapolis Division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts.
6. **Payment Required.** Firestone shall have no obligation under this Limited Warranty unless and until Firestone and the licensed applicator have been paid in full for all materials, supplies, services, approved written change orders, warranty costs and other costs which are included in, or incidental to, the System. In the event that repairs not covered by this Limited Warranty are necessary in the future, Firestone reserves the right to suspend this Limited Warranty until such repairs have been completed and the licensed applicator and/or Firestone has been paid in full for such repairs.
   Exclusions. Firestone shall have no obligation under this Limited Warranty, or any other liability, now or in the future if a leak or damage is caused by: (a) Natural forces, disasters, or acts of God including, but not limited to, fires, hurricanes, tornadoes, hail, wind-blown debris, lightning, earthquakes, volcanic activity, atomic radiation, insects or animals; (b) Winds of peak gust speed at or in excess of 55 MPH calculated at ten(10) meters above ground using available meteorological data;(c) Act(s), conduct or omission(s) by any person, or act(s) of war, terrorism or vandalism, which damage the System or which impair the System's ability to resist leaks; (d) Failure by the Owner to use reasonable care in maintaining the System, said maintenance to include, but not be limited to, those items listed on the reverse side of this Limited Warranty entitled "Building Envelope Care and Maintenance Guide"; (e) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, skylights etc ; (f) Construction generated moisture, condensation or infiltration of moisture in, from, through, or around the walls, copings, rooftop hardware or equipment, skylights, building structure or underlying or surrounding materials; (g) Acid, oil, harmful chemicals, or the reaction between them; (h) Alterations or repairs to the System that are not completed in accordance with Firestone's published specifications, not completed by an approved contractor, and/or not completed with proper notice to Firestone; (i) The design of the roofing system: Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of System is appropriate for a building and makes no warranty express or implied as to the suitability of its Products for any particular structure; such a determination is the responsibility of the architect, engineer or design professional; (j) Improper selection of materials for the roof assembly or the failure to accurately calculate wind uplift and/or roof loads;(k) Deterioration to metal roofing materials and accessories caused by marine salt water, atmosphere, or by regular spray of either salt or fresh water; or, (l) Change in building use or purpose.
7. **Transfer.** This Limited Warranty shall be transferable subject to Owner's payment of the current transfer fee set by Firestone.
8. **Term.** The term of this Limited Warranty shall be for the period set forth above and such term shall not be extended under any circumstances.
9. **Roof Access.** During the term of this Limited Warranty, Firestone's designated representative or employees shall have free access to the roof during regular business hours. In the event that roof access is limited due to security or other restrictions, Owner shall reimburse Firestone for all reasonable cost incurred during inspection and/or repair of the System that are due to delays associated with said restrictions. Owner shall be responsible for the damage caused by, removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, excluding accepted stone ballast or pavers, as necessary to expose the system for inspection and/or repair.
10. **Waiver.** Firestone's failure to enforce any of the terms or conditions stated herein shall not be construed as a waiver of such provision or of any other terms and conditions of this Limited Warranty.
11. **Governing Law.** This Limited Warranty shall be governed by and construed in accordance with the laws of the State of Indiana without regard to that State's rules on conflict of laws.
12. **Severability.** If any portion of this Limited Warranty is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions shall nevertheless continue in full force.

FIRESTONE DOES NOT WARRANT PRODUCTS INCORPORATED OR UTILIZED IN THIS INSTALLATION THAT WERE NOT FURNISHED BY FIRESTONE. FIRESTONE SPECIFICALLY DISCLAIMS LIABILITY UNDER ANY THEORY OF LAW ARISING OUT OF THE INSTALLATION OF, PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY FIRESTONE.

THIS LIMITED WARRANTY SUPERSEDES AND IS IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND FIRESTONE HEREBY DISCLAIMS ALL SUCH WARRANTIES. THIS LIMITED WARRANTY SHALL BE THE OWNER'S SOLE AND EXCLUSIVE REMEDY AGAINST FIRESTONE, AND FIRESTONE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGES TO THE BUILDING OR ITS CONTENTS OR THE ROOF DECK. THIS LIMITED WARRANTY CANNOT BE AMENDED, ALTERED OR MODIFIED IN ANY WAY EXCEPT IN WRITING SIGNED BY AN AUTHORIZED OFFICER OF FIRESTONE. NO OTHER PERSON HAS ANY AUTHORITY TO BIND FIRESTONE WITH ANY REPRESENTATION OR WARRANTY WHETHER ORAL OR WRITTEN.

FIRESTONE BUILDING PRODUCTS COMPANY, LLC
By: Chris Huettig

Authorized Signature: _____
Title: Director, Quality Building Services

Firestone

BUILDING ENVELOPE CARE AND MAINTENANCE GUIDE
(For Red Shield Warranted Roofing Systems)

Congratulations on your purchase of a Firestone Roofing System! Your roof is a valuable asset that should be properly maintained. **Firestone Building Products recommends that all roofs and roofing systems receive periodic inspections and maintenance to ensure that they perform as designed.**

1. The roof should be inspected at least twice yearly and after any severe storms. A record of all inspection and maintenance activities should be maintained, including a listing of the date and time of each activity as well as the identification of the parties performing the activity.
2. Proper maintenance and good roofing practice require that ponded water (defined as water standing on the roof forty-eight hours after it stops raining) not be allowed on the roof. Roofs should have slope to drain, and all drain areas must remain clean. Bag and remove all debris from the roof since such debris can be quickly swept into drains by rain. This will allow for proper water run-off and avoid overloading the roof.
3. The Firestone Roofing System should not be exposed to acids, solvents, greases, oil, fats, chemicals and the like. If the Firestone Roofing System is in contact with any such materials, these contaminants should be removed immediately and any damaged areas should be inspected by a Firestone Licensed Applicator and repaired if necessary.
4. The Firestone Roofing System is designed to be a waterproofing membrane and not a traffic surface. Roof traffic other than periodic traffic to maintain rooftop equipment and conduct periodic inspections should be prohibited. In any areas where periodic roof traffic may be required to service rooftop equipment or to facilitate inspection of the roof, protective walkways should be installed by a Firestone Licensed Applicator as needed to protect the roof surface from damage.
5. Firestone recommends periodic maintenance for some roofing membranes:
   a. **Smooth-surfaced Firestone APP membranes** should be coated with an approved liquid coating, such as Firestone Aluminum Roof Coating or Firestone AcrylTop applied in accordance with Firestone specifications, in order to maximize the service life of the membrane. If this coating is not applied as part of the initial roofing installation, it should be applied within the first five years after the roof is installed to help protect the membrane from surface crazing and cracking. In addition, this coating should be maintained as needed to re-coat any areas that have blistered, peeled or worn through.
   b. **Granule-surfaced Firestone APP and SBS membranes** do not normally need surface maintenance other than periodic inspection for contaminants, cuts or punctures. If areas of granular loss are discovered during inspection, these areas should be coated with Firestone AcrylTop or other Firestone-approved coating applied in accordance with Firestone specifications.
   c. **Gravel-surfaced Firestone BUR membranes** do not normally need surface maintenance other than periodic inspection for contaminants or damage. If areas of gravel loss are discovered during inspection, gravel shall be reinstalled into hot asphalt to protect the surface of the membrane. Coatings on smooth surface BUR membranes shall be maintained as needed to re-coat any areas that have blistered, peeled or worn through.
   d. **Firestone EPDM and TPO roofing membranes** do not normally need surface maintenance other than periodic inspection for contaminants, cuts or punctures. Occasionally, approved liquid roof coatings, such as Firestone AcrylTop, are applied to the surface of EPDM membranes in order to provide a lighter surface color. Such coatings do not need to be maintained to assure the performance of the underlying EPDM roof membrane, but some maintenance and re-coating may be necessary in order to maintain a uniform surface appearance.
   e. **Firestone Una-Clad metal roofing panels and trim** do not normally need surface maintenance other than periodic inspection for contaminants or damage. In addition, periodic cleaning of the surface may be needed to remove dirt and maintain the aesthetic appearance of the coated metal. Simple washing with plain water using hoses or pressure spray equipment is usually adequate. If cleaning with agents other than water is contemplated, several precautions should be observed: (1) do not use wire brushes, abrasives, or similar cleaning tools which will mechanically abrade the coating surface, and (2) cleaning agents should be tested in an inconspicuous area before use on a large scale.
6. All metal work, including counter-flashings, drains, skylights, equipment curbs and supports, and other Firestone brand rooftop accessories should be properly maintained at all times. Particular attention should be paid to sealants at joints in metal work and flashings. If cracking or shrinkage is observed, the joint sealant should be removed and replaced with new sealant.
7. Any alterations to the roof, including but not limited to roof curbs, pipe penetrations, roof-mounted accessories, and tie-ins to building additions must be performed by a licensed Firestone Licensed Applicator and reported to Firestone. Additional information and reporting forms for roof alterations are available at www.firestonebpco.com.
8. Should you experience a leak:
   (a) Check for the obvious: clogged roof drains, loose counterflashings, broken skylights, open grills or vents, broken water pipes.
   (b) Note conditions resulting in leakage. Heavy or light rain, wind direction, temperature and time of day that the leak occurs are all-important clues to tracing roof leaks. Note whether the leak stops shortly after each rain or continues to drip until the roof is dry. If you are prepared with the facts, the diagnosis and repair of the leak can proceed more rapidly.
   (c) Contact Firestone Warranty Claims at 1-800-830-5612 as soon as possible...but please don't call until you are reasonably sure that the Firestone Roofing System is the cause of the leak.

Firestone feels that the preceding requirements will assist you, the building owner, in maintaining a watertight roof for many years. Your roof is an investment, and maintenance is essential to maximize your return on this important investment.

Firestone
BUILDING PRODUCTS
NOBODY COVERS YOU BETTER.®
250 West 96th Street – Indianapolis, IN 46260
1-800-428-4442 * 1-317-575-7000 * FAX 1-317-575-7100
www.firestonebp.com

Although UNA-CLAD factory-applied finishes are extremely durable, a periodic cleaning to remove build-ups of resins and other residue is a good idea to extend coating life. A variety of methods for removal of surface deposits are available. Simple washing with plain water using hoses or pressure spray equipment is usually adequate. When heavy deposits of dirt or other contaminants dull surfaces, stronger methods may be needed.

Two precautions should be observed: (1) do not use wire brushes, abrasives, or similar cleaning tools which will mechanically abrade the coatings surface, and (2) certain cleaning agents listed below should be tested in an inconspicuous area before use on a large scale.

GROUP A: HOT OR COLD DETERGENT SOLUTIONS
A 5% solution in water of commonly used commercial and industrial detergents will not have any deleterious effect on a fluoropolymer surface. These solutions should be followed by an adequate rinse of water. Use a cloth or sponge for application.

GROUP B: SOLVENTS
Most organic solvents are flammable and/or toxic, and must be handled accordingly. Read the manufacturer's Material Safety Data Sheets (MSDS). Keep away from open flames, sparks and electrical motors. Use adequate ventilation, protective clothing, and goggles. Solvent that may be used to remove non-water soluble deposits such as tar, grease, oil, paint, and graffiti from fluoropolymer surfaces include:

- Ethanol(denatured alcohol)
- Isopropyl alcohol (rubbing alcohol)
- Methanol (wood alcohol) Note: methanol is toxic

The above alcohols have no permanent effect on fluoropolymer surfaces.

GROUP C: PETROLEUM SOLVENTS AND TURPENTINE

- VM&P naphtha
- Mineral spirits
- Kerosene
- Turpentine (wood or gum spirits)

The above solvents have no permanent effect on fluoropolymer surfaces.

GROUP D: AROMATIC AND CHLORINATED SOLVENTS

- Xylol (Xylene) Toluol (Toluene)
- Perchlorethylene (Perclene)
- Tricholorethylene (Triclene)
  Note: Perchlorethylene and Trichlorethylene are toxic.

The above solvents should be used with caution on a fluoropolymer surface. Limit contact with solvent to five minutes maximum and test before using.

GROUP E: KETONES, ESTERS, LACQUER THINNER AND PAINT REMOVER

- Methyl isobutyl ketone (MIBK)
- Ethyl acetate (nail polish remover)
- Butyl acetate
- Lacquer thinner
- Paint remover (non-flammable)

The above solvents should be used cautiously on a fluoropolymer surface. Limit contact to fluoropolymer surface and test before using. Note: There are many formulations of paint remover on the market. It is possible that some will remove the fluoropolymer surface. Proceed very cautiously in use of paint remover. Metal supplier and coating manufacturer are not responsible for damage from unrestricted use.

GRAFFITI
Graffiti presents a special problem because of the many possible agents used, especially aerosol paint. It is best to try soap and water first. If needed, try the less active solvents from Groups B, C, and D. Next, try the stronger solvents in Group E. If none of these are satisfactory, it may be necessary to resort to touchup, repaint or replacement.

MILDEW
In areas subject to high humidity levels, dirt and spore deposits can permit mildew growth to occur. The following solution is recommended to remove mildew when necessary:

- 1/3 cup dry powdered laundry detergent (such as Tide®)
- 1 quart sodium hypochlorite 5% solution (such as Clorox®)
- 3 quarts water

RUST STAINS
Hydrochloric, citric acid, or muriatic acid, diluted with ten volumes of water, may assist in removing rust stains from fluoropolymer surfaces. Limit contact to five minutes. Oxalic acid solutions or acetic acid (vinegar) may be used for the some purpose. Flush with water. Caution: Acid solutions are corrosive and toxic. Flush all surfaces with copious amounts of water after use.

NOTE: Misuse or abuse of any of the cleaning agents listed above may result in the voiding of the Firestone Metal Paint Finish Limited Warranty. For more information contact Firestone Roofing Solutions ay 1-800-428-4511.

Firestone
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Metalmaster Roofmaster, Inc. hereby guarantees all work performed by Metalmaster Roofmaster, Inc. only on the below referenced project against any defect of material and/or workmanship for a period of two (2) years from the effective date shown above. If during the warranty period, Metalmaster Roofmaster will diligently correct any applicable defects in workmanship and/or material upon receipt of written notice from the Owner. The Owner shall furnish notice to Metalmaster Roofmaster promptly upon discovery of the condition requiring repair.

Metalmaster Roofmaster is not liable for any loss or damage during the warranty period for (a) Any and all misuse and/or abuse by the owner or others; (b) Failure by the Owner to provide routine maintenance; (c) Routine wear and tear; (d) Any act(s), conduct or omission(s) by any person, acts of war, terrorism, vandalism, natural forces or disasters; (e) Deterioration or failure of adjacent or surrounding building components; (f) Condensation, ice backup or infiltration in, through or around adjacent or surrounding building components; (g) Any acids, harmful chemicals, alteration, repair, disturbance, roofing, penetrations, heavy traffic, installation or attachment of any kind that does not comply with published specifications and/or which were not performed by Metalmaster Roofmaster; (h) The architecture, engineering, construction or design of the roof, roofing system or building. Any and all other applicable Manufacturer's warranty exclusions are incorporated herein by reference and shall apply with the same force as if fully set forth herein.

Metalmaster Roofmaster's liability is limited to the repair of its material and workmanship only. Metalmaster Roofmaster is not liable for any loss or damage to the exterior, interior or contents of any structure under any circumstance. This Metalmaster Roofmaster Warranty shall become null and void if payment of all sums due and owing is not received in full.

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MCHENRY COUNTY COLLEGE
OWNER

MCHENRY COUNTY COLLEGE BLDG A & C
PROJECT NAME

8900 US HIGHWAY 14 CRYSTAL LAKE, IL
PROJECT LOCATION

METALMASTER ROOFMASTER, INC.

DAVID KOZIAL, EXECUTIVE VICE PRESIDENT

Dated this 1st day of September, 2016

Non Transferable

METAL PAINT FINISH LIMITED WARRANTY

Warranty No. PFW021944 **6,080 SF**

Purchaser: MCHENRY COUNTY COLLEGE
Building Identification: MCHENRY COUNTY COLLEGE
Building Address: 8900 US HIGHWAY 14, CRYSTAL LAKE, IL 60050
Warranty Period of THIRTY FIVE (35) Years Beginning on: SEPTEMBER 01, 2016
Roofing Contractor: METALMASTER ROOFMASTER

For the warranty period indicated above, Firestone Building Products Company ("Firestone"), a division of BFS Diversified Products, LLC, an Indiana limited liability company warrants to the Purchaser that, subject to the Terms, Conditions and Limitations set forth below, the exterior paint finish ("Finish") on the UNA-CLAD brand coil-coated metal ("UNA-CLAD Metal") supplied by Firestone as part of the Firestone Project (FBPCO) Number listed above, will not exhibit the following exterior surface conditions, measured at the values listed below by Group 1) Peeling checking or cracking, except for crazing or cracking that may occur on formed edges or bends of the metal roofing panels and trim, 2) Chalking in excess of a numerical rating, Vertical and Non-Vertical, listed below, when measured in accordance with ASTM D 4214 "Standard Methods of Evaluating Degree of Chalking of Exterior Paints," for a term not to exceed thirty (30) years, or 3) Fade or change in color in excess of the Vertical rating listed below in color difference units, as measured on exposed surfaces which have been cleaned of external deposits and chalk and the corresponding values measured on the original or unexposed painted surfaces when tested in accordance with ASTM D 2244 3 7.1 and 3 8 4 "Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentially Measured Color Coordinates," for a term not to exceed thirty (30) years

TERMS, CONDITIONS AND LIMITATIONS

Group 1: Adhesion – 35 years, Chalk – 30 years at 8, Fade – 30 years at 5: Almond, Bone White, Cityscape, Colonial Red, Hartford Green, Hemlock Green, Mansard Brown, Medium Bronze, Patina Green, Regal Blue, Sandstone, Sherwood Green, Sierra Tan, Sky Blue, Slate Gray, Stone White, Terra Cotta, Tropical Patina, Champagne Metallic, Classic Copper, Silver Metallic
Group 2: Adhesion 35 years, Chalk – 30 years at 8, Fade – 30 years at 7: Charcoal Gray, Dark Bronze, Dark Ivy, Extra Dark Bronze, Teal
Group 3: Adhesion – 35 years, Chalk – 20 years at 8, Fade – 20 years at 9: Brandywine, Matte Black, Regal Red, Electric Blue, Award Blue

1 **Product Usage**. This Metal Paint Finish Limited Warranty (the "Limited Warranty") is limited exclusively to metal roofing panels and trim fabricated from UNA-CLAD Metal and installed in accordance with Firestone technical specifications.
2 **Notice**. In the event any peeling, checking, cracking, chalking, fading or excessive color change are observed by the Purchaser, the Purchaser must give notice in writing or by telephone to Firestone within thirty (30) days of any such observation. Written notice may be sent to Firestone at the street address or fax number shown on the reverse side of this Limited Warranty. By so notifying Firestone, the Purchaser authorizes Firestone or its designee to investigate the surface condition of the UNA-CLAD Metal
3 **Investigation and Remedy**. If upon investigation, Firestone determines that the surface condition of the UNA-CLAD Metal is not excluded under the Terms, Conditions and Limitations set forth in this Limited Warranty, the Purchaser's sole and exclusive remedy and Firestone's total liability shall be limited to the refinishing of the UNA-CLAD Metal as determined by Firestone to require refinishing. Any and all refinishing work so performed by Firestone in compliance with this warranty shall be performed by using any standard finishing practices and materials. If the investigation reveals that the surface condition of the UNA-CLAD Metal trim is excluded under the Terms, Conditions and Limitations, the Owner shall be responsible for payment of the investigation costs. Failure by Purchaser to pay for these costs shall render this Limited Warranty null and void.
4 **Disputes**. Any dispute, controversy or claim between the Purchaser and Firestone concerning this Limited Warranty shall be settled by mediation. In the event that the Purchaser and Firestone do not resolve the dispute, controversy or claim in mediation, the Purchaser and Firestone agree that neither party will commence or prosecute any suit, proceeding, or claim other than in the courts of Hamilton County in the state of Indiana or the U.S. District Circuit, Southern District of Indiana, Indianapolis Division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts.
5 **Paint Finish Colors**. This warranty shall extend only to standard colors identified as such in Firestone published literature at the date of issuance of this Limited Warranty or as approved in writing by Firestone. Colors identified as "metallic" by Firestone are not warranted against fade or change in color.
6 **Payment Required**. Firestone shall have no obligation under this Limited Warranty unless and until Firestone has been paid in full for all materials, supplies, services, approved written change orders, warranty costs and other costs which are included in, or incidental to, the fabrication and installation of the UNA-CLAD Metal
7 **Exclusions**. Firestone shall have no obligation under this Limited Warranty, or any other liability, now or in the future if peeling, checking, cracking, chalking, fading or excessive color change of the UNA-CLAD Metal is caused by: (a) Natural forces, disasters, or acts of God including, but not limited to wind, hurricanes, tornadoes, hail, wind-blown debris, lightning, earthquakes, volcanic activity, atomic radiation, insects or animals; (b) Any act(s), conduct or omission(s) by any person, or act(s) of war, terrorism or vandalism, which damage the UNA-CLAD Metal (c) Failure by the Purchaser to use reasonable care in maintaining the UNA-CLAD Metal, said maintenance to include, but not limited to those items listed in the "Firestone / UNA-CLAD Paint Finish Cleaning and Maintenance Guide" on the reverse side of this Limited Warranty; (d) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, etc.; (e) Condensation or moisture infiltration in, through, or around the walls, copings, rooftop, hardware or equipment, building structure or underlying or surrounding materials, (f) Any acid, oil, harmful chemical, chemical or physical reaction and the like which comes in contact with the UNA-CLAD Metal, including but not limited to chemical fumes, salt water spray or any installation within 1500 feet of a saltwater environment, surface temperatures that exceed 200 degrees Fahrenheit, airborne sand abrasion, metal shavings, standing water or the continuous spray of water (h) Alterations or repairs to the metal roofing panels and trim not approved in writing by Firestone; (i) Any failure caused by the attachment or mounting of any item or device to or near the metal roofing panels and trim, or by improper handling during fabrication and installation, including but not limited to, improper equipment fabrication, storage, transportation, erection, placement or failure to immediately remove strippable protective film coatings; (j) Failure to give proper notice as set forth in paragraph 1(a) above, (k) any punched or vented steel.
8 **Transfer**. This Limited Warranty shall be transferable subject to Firestone's inspection and written approval, and to Purchaser's payment of the current transfer fee set by Firestone
9 **Term**. The term of this Limited Warranty shall be for the period set forth above and such term shall not be extended under any circumstances
10 **Access**. During the term of this Limited Warranty, Firestone's designated representative or employees shall have free access to the UNA-CLAD Metal during regular business hours In the event that access is limited due to security or other restrictions, Purchaser shall reimburse Firestone for all reasonable cost incurred during inspection and/or refinishing of the UNA-CLAD Metal that are due to delays associated with said restrictions. Owner shall be responsible for the removal and replacement of ay overburdens, superstrata or overlays, either permanent or temporary, as necessary to expose the UNA-CLAD Metal for inspection and/or refinishing
11 **Waiver**. Firestone's failure to enforce any of the terms or conditions stated herein shall not be construed as a waiver of such provision or of any other terms and conditions of this Limited Warranty.
12. **Governing Law**. This Limited Warranty shall be governed by and construed in accordance with the laws of the State of Indiana without regard to that State's rules on conflict of laws
13. **Severability**. If any portion of this Limited Warranty is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions shall nevertheless continue in full force

FIRESTONE DOES NOT WARRANT PRODUCTS INCORPORATED OR UTILIZED IN THIS INSTALLATION THAT WERE NOT FURNISHED BY FIRESTONE. FIRESTONE SPECIFICALLY DISCLAIMS LIABILITY UNDER ANY THEORY OF LAW ARISING OUT OF THE INSTALLATION OF, PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY FIRESTONE.

THIS LIMITED WARRANTY SUPERSEDES AND IS IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND FIRESTONE HEREBY DISCLAIMS ALL SUCH WARRANTIES. THIS LIMITED WARRANTY SHALL BE THE OWNER'S SOLE AND EXCLUSIVE REMEDY AGAINST FIRESTONE, AND FIRESTONE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGES TO THE BUILDING OR ITS CONTENTS OR THE ROOF DECK. THIS LIMITED WARRANTY CANNOT BE AMENDED, ALTERED OR MODIFIED IN ANY WAY EXCEPT IN WRITING SIGNED BY AN AUTHORIZED OFFICER OF FIRESTONE. NO OTHER PERSON HAS ANY AUTHORITY TO BIND FIRESTONE WITH ANY REPRESENTATION OR WARRANTY WHETHER ORAL OR WRITTEN.

Firestone Building Products Company, LLC
By: **Phil LaDuke**

Authorized Signature::

Title: **Director, Quality Assurance**

FIRESTONE / UNA-CLAD PAINT FINISH CLEANING AND MAINTENANCE GUIDE

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

:

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

TABLE OF ARTICLES

INDEX
(Topics and numbers in bold are Section headings.)

Init.
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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, Advertisement for Bids, Invitation & Instructions to Bidders, Conditions (General, Supplementary and Special Supplementary), Proposal, Surety Bond, Performance Bond, Labor and Material Payment Bond, Plans, Drawings, Specifications, Addenda, Bulletins, Supplemental Plans, and Supplemental Specifications, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract approved by the Owner and signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means all of the Contractor's duties under the Contract Documents, including the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.6.1 The General Conditions and Division 1 Sections are a part of each and every Section of the Specifications.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker, if any, is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.1.9 Miscellaneous Definitions

§ 1.1.9.1 "Furnish as used throughout the Contract Documents is hereby defined to mean "Materials shall be furnished only. Materials or items to be furnished shall be consigned to the Contractor and delivered to the site."

§ 1.1.9.2 "Install" as used throughout the Contract Documents is hereby defined to mean "Material or items furnished by other parties shall be installed only. Such material or items shall be received at the site, unloaded, stored, protected, and installed in place, including connections, auxiliary items, and other work required for a complete and functioning installation, unless any such work is specifically excluded.

§ 1.1.9.3 "Provide" as used throughout the Contract Documents is hereby defined to mean "furnish and install".

§ 1.1.9.4 "Project Manual" as used throughout the Bidding and Contract Documents is hereby defined to mean the bound volume containing the Bidding and Contract Documents as enumerated in the Table of Contents.

§ 1.1.9.5 The words "Contractor shall" are implied and shall be so understood wherever a direction or instruction is stated in the imperative sense.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.1.2 Should discrepancies appear within the Contract Documents the Contractor shall request an interpretation from the Architect before proceeding with the work. If the Contractor fails to make such request, no excuse will thereafter be entertained for failure to carry out work in the required manner, and to provide required guarantees, warranties or bonds. Should Drawings and Specifications conflict, the Contractor is deemed to have estimated on better quality and larger quantity of work, unless he shall have requested and obtained written decision from the Architect before submission of bid as to which method or materials will be required.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the reserved rights claimed by the owner(s) and any licensee(s) who have an interest in and to the Instruments of Service.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if

any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the owner(s) and any licensee(s) who have an interest in and to the Instruments of Service.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission**§ 1.6.2** Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

(Paragraph deleted)

§ 1.7 Digital Data Use and Transmission

The parties may agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. If the parties agree to protocols governing the transmission and use of Instruments of Service and other documents in digital form, the parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, or another written agreement as agreed upon by the parties, to establish these protocols for the development, use, transmission, and exchange of digital data.

(Paragraphs deleted)

§ 1.8 Reserved.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall, to the extent allowed by law and by the Owner's policies and prcedures, have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 Reserved.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Not Used.

§ 2.2.2 Reserved.

§ 2.2.3 Reserved.

§ 2.2.4 Where the Owner has furnished any information or documents to the Contractor in connection with the Project, the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, lenders, insurers, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. The Contractor shall provide information or other assistance as the Architect or Owner may request in connection with these obligations.

§ 2.3.2 As appropriate for the Project, the Owner shall retain an architect and/or engineer lawfully licensed to practice architecture and/or engineering, or an entity lawfully practicing architecture and/or engineering, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 Reserved.

§ 2.3.4 Upon written request by the Contractor, the Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3. The Owner's rights and remedies under this section are in addition to, and not a limitation of, any other rights and remedies of the Owner under the Contract Documents or otherwise.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents or approved construction schedules, and fails within a five-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default, neglect, or failure. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and reasonable attorneys' fees, and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner within thirty (30) days after a request by the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

§ 2.5.1 For this contract, a labor dispute shall be defined as any slow-down or cessation of work. In the event of a labor dispute which results in a slow-down or cessation of work, the notice provisions of this Section shall not apply, but shall be governed by Section 3.4.7 of these General Conditions.

§ 2.6 Owner's Right to Audit. The Contractor shall keep full and accurate records of all labor and material costs incurred and items billed in connection with the performance of the Work, which records shall be open to inspection, copying, and audit by the Owner or its authorized representatives during performance of the Work and until three years after Final Payment. Wages, salaries and all associated taxes, costs and benefits that are combined as a comprehensive unit of pay in the Contractor's comprehensive rates and any lump sum values shall constitute the primary data for accounting and auditing purposes.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express

authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative. The Contractor is an independent contractor, and shall not be deemed an agent of the Owner for any reason. This Project is utilizing a construction manager at-risk, which is reflected in a separate agreement between the Owner and Construction Manager. When the lowest, responsive and responsible multiple prime trade bidder(s) are identified and awarded contracts by the Owner, each such award shall constitute the automatic assignment of that trade contract by the Owner to the Construction Manager, who shall then be known as the "Contractor," and each such successful bidder shall then be known as a "Subcontractor." For purposes of the work of this agreement each "Subcontractor" shall be responsible for all terms and conditions as outlined for the "Contractor" unless stipulated further herein.

§ 3.1.2 The Contractor shall perform the Work in strict accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation by the Contractor, that the Contract Documents are full and complete, are sufficient to enable the Contractor to determine the cost of the Work and that the Contract Documents are sufficient to enable it to construct the Work outlined therein, in accordance with applicable laws and regulations, and otherwise to fulfill all its obligations hereunder, including, but not limited to, Contractor's obligations to construct the Work for an amount not in excess of the Contract Sum on or before the date(s) of Completion established in the Agreement. The Contractor further acknowledges and declares that it has visited and examined the Project site, examined all physical and other conditions affecting the Work, excluding subsurface or otherwise concealed physical conditions and unknown physical conditions, and is fully familiar with all of the conditions thereon and thereunder affecting the same. In connection therewith, Contractor specifically represents and warrants to Owner that prior to the submission of its bid it has: (a) thoroughly examined the location of the work to be performed, is familiar with local conditions, and has read and thoroughly understands the Contract Documents as they relate to the physical conditions prevalent or likely to be encountered in the performance of the work at such location; (2) examined the nature, location and character of the general area in which the Project is located, including without limitation, its climatic conditions, available labor supply and labor costs, available equipment supply and equipment costs, those bearing upon access (including partial or total restrictions on access), transportation, delivery, disposal, staging, handling and storage of materials, availability of water, electric power, roads and uncertainties of weather, ground water table or similar physical conditions of the ground, the character, the character of facilities needed prior to and during the prosecution of the Work and all other matters which can in any way effect the Work or the cost thereof under this Agreement; and (3) examined the quality and quantity of all materials, supplies, tools, equipment, labor, and professional services necessary to complete the Work in the manner and within the cost and time frame required by the Contract Documents. Any failure by the Contractor to acquaint itself with all the available information concerning these conditions will not relieve the Contractor from any obligation under the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor or its Subcontractors or suppliers as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.2.1 The exactness of grades, elevations, dimensions or locations given on any Drawings issued by the Architect are not guaranteed by the Architect or the Owner. The Contractor shall, therefore, satisfy himself as to the accuracy of all grades, elevations, dimensions and locations. In all cases of interconnection of his work with existing work, he shall verify at the site all dimensions relating to such existing work. Any errors due to the Contractor's failure to so verify all such grades, elevations, locations or dimensions shall be promptly rectified by him without additional cost to the Owner.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect and Owner any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided including any increases in construction costs if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.2.5 Prior to any excavation, the Contractor shall determine the locations of all existing water, gas, sewer, electric, telephone, telegraph, television, irrigation, petroleum pipelines, and other underground utilities and structures. Where the locations of existing underground and surface utilities and structures are indicated, these locations are generally approximate, and all items that may be encountered during the work are not necessarily indicated. The Contractor shall determine the exact locations of all items indicated, and the existence and locations of all items not indicated.

§ 3.2.6 In all cases where Work interconnects with existing facilities, Contractor shall field measure and verify at the site all dimensions relating to such existing facilities. Any conflicts in the Work and the existing facilities which could have been mitigated by the Contractor's obligation to verify the dimensions of the existing facilities shall be promptly rectified by the Contractor at its own expense, and such obligation does not limit the Owner's other rights and remedies under the Contract Documents.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose to Owner and Architect alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. The Contractor shall not proceed performing the Work using its alternative means, methods, techniques, sequences, or procedures without written approval from the Architect.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Notwithstanding any other text in the Contract Documents, consumption of temporary utilities shall be Owner's expense.

§ 3.4.2 The materials specified have been determined to have characteristics appropriate for the purposes of this project. No work will be acceptable which utilizes an alternate not approved during the bidding process.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.4.4 Whenever any provisions of the Contract conflict with any agreements or regulation of any kind in force among members of any trade association, union or councils, which regulate what work shall be included in the work of particular trades, the Contractor shall make necessary arrangements to reconcile any such conflict without delay or cost to the Owner and without recourse to the Architect or the Owner.

§ 3.4.5 Contractor shall maintain harmonious labor relations on the job site. If a labor problem arises or any person employed by the Contractor on the Work shall appear to the Owner to be incompetent or conduct himself in a disorderly or improper manner, such person or persons shall be removed from the Work immediately on the request of the Owner. Said removal shall not create any additional cost to Owner and shall not extend the time for completion of the Work.

§ 3.4.6 The Contractor and each Subcontractor shall pay not less than the general prevailing rate of hourly wages for work of a similar character in the locality in which the work is performed and not less than general prevailing rate of hourly wages for legal holidays and overtime work in the performance of work under this Contract, as established by the Illinois Department of Labor, pursuant to an act of the General Assembly of the State of Illinois. In accordance with applicable law, Contractor and each Subcontractor shall keep an accurate record showing the names and occupation of all laborers, workers and mechanics employed by them, and also showing the actual hourly wages paid to each such individual, which records shall be certified and submitted in accordance with State law and which shall be open at all reasonable hours to inspection by the Owner, its officers and agents, and to agents of the Illinois Department of Labor. The Contractor and each Subcontractor hereby agree, jointly and severally, to defend, indemnify and hold harmless the Owner from any and all claims, demands, liens or suits of any kind or nature whatsoever (including suits for injunctive relief) by the Illinois Department of Labor under the Illinois Prevailing Wage Act and Illinois Preference Act, or by any laborer, worker or mechanic employed by the Contractor or the Subcontractor who alleges that he has been paid for his services in a sum less than prevailing wage rates required by Illinois law. The Owner agrees to notify the Contractor or Subcontractor of the pendency of any such claim, demand, lien or suit. Contractor must pay prevailing wages in effect at time labor is performed. The Illinois Department of Labor publishes the prevailing wage rates on its website at http://www.state.il.us/agency/idol/rates/rates.HTM. The Department revises the prevailing wage rates and the Contractor/subcontractor has an obligation to check the Department's website for revisions to prevailing wage rates. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor's website.

§ 3.4.7 7 In the event of a labor dispute arising out of an unfair labor practice on the part of the Contractor and resulting in a slow-down or in the cessation or suspension of work, the Contractor shall not be relieved of its obligations to provide labor or for timely progress and completion of the work, In such event, the notice provisions contained in Section 2.4. shall not apply. Instead, the Contractor shall be automatically deemed to be in default and to have committed a breach of contract unless said work stoppage or slow-down is remedied to the Owner's satisfaction in accordance with this Section. In the event of a work stoppage due to a labor dispute, the Contractor shall provide replacement labor within 24 hours of the commencement of the work stoppage. In the event of a slow-down of work due to a labor dispute, the Contractor shall provide as much supplemental labor as may be necessary to resume normal and customary progress and deadlines on the project in accordance with the time schedules established for the work. In the alternative, the Owner shall have the option to replace or supplement labor and shall be entitled to reduce the contract sum by an amount equal to the Owner's cost of replacing or supplementing labor. If the balance of the contract sum is not sufficient to cover such amounts, the contractor shall pay the difference to the Owner. The Owner may also pursue any other remedies it may have, including, but not limited to, remedies under the performance bond and payment bond. If any labor dispute necessitates legal action or legal intervention by the Owner, or in the event that the Owner otherwise takes legal action to enforce the terms of this section, the Contractor shall be responsible for the Owner's attorney's fees and court costs, without prejudice to any other remedies that the Owner may have.

§ 3.4.8 The Contractor shall not at any time permit on the Project site any alcohol or controlled substances whether inside or outside of buildings or structures. Possession or use of any of the foregoing at or adjacent to the site shall obligate the Contractor to remove such offending personnel from the site and replace them at no additional cost to the Owner.

§3.4.9 The Contractor and any Subcontractors shall conform to labor laws of the State and various acts amendatory and supplementary thereto and to other laws, ordinances and legal requirements applicable thereto. Contractor shall enforce among all personnel directly or indirectly employed by it, and among all Subcontractors and their employees, all rules which the Owner may establish for conduct of such personnel on the site.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and shall be free from defects, Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect or the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.5.3 All work included under the Specification, unless extended elsewhere herein, shall be guaranteed against defect in material and workmanship for a period of two (2) years from the date of Substantial Completion as established by the Certificate of Substantial Completion.

§ 3.6 Taxes

The Contractor shall pay any applicable sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received, whether or not yet effective or merely scheduled to go into effect. By executing the Contract, the Contractor is certifying that any such taxes have /will be collected and remitted. Further, the Contractor acknowledges that falsification of this certification shall be grounds for voiding the contract.

§ 3.6.1 The Contractor shall also pay unemployment and social security taxes, or other taxes imposed by Local, City, State or Federal Government. Notwithstanding the foregoing, the Owner is exempt from Retailer's Service, Occupation and Use taxes. Contractor shall obtain from the Owner evidence of such exemption and shall not include in the Contract Sum any tax from which the Owner is exempt.

§ 3.6.2 The Owner is exempt from the Illinois Use Tax Act and the Retailer's Occupation Tax. The Owner's exemption identification number issued by the Illinois Department of Revenue can be obtained by contacting the Owner. Any taxes for which the Owner is not exempt shall be paid by the Contractor.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first

observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15. Contractor voluntarily waives any right, including any rights arising from the provisions of the Illinois Public Construction Contract Act, to stop the work pending resolution of any claim for additional time or compensation for such changed conditions.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall immediately notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection. Notwithstanding any provision of the Contract Documents to the contrary, any use of an allowance account is subject to the written pre-approval of the Owner.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts as well as the labor costs of performing the Work when made part of the allowance line item within the Schedule of Values;

.2 unless excluded under Section 3.8.2.1, above, Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated material and equipment allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness so as not to delay progress of the Work.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work on site. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The Contractor's competent superintendent shall have the knowledge and control of all work under this Contract and shall communicate directly to the Owner upon request. The superintendent shall be subject to approval by the Owner and shall not be replaced without the prior written consent of the Owner. The Owner shall have the right to require that the Contractor replace the superintendent, at no additional cost to the Owner, at any time during the duration of the Work if his/her performance is not satisfactory to the Owner.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Owner or Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Owner or Architect to provide notice within the 14-day period or any extension of said time period shall constitute notice of no initial objection, but shall not affect Owner's right to make a subsequent rejection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall indicate the proposed completion dates for the various subdivisions of the Work, as well as the totality of the Work. The schedule shall be updated at intervals as requested by the Architect and Owner, but no less than once per month, and submitted to Architect. Each schedule shall contain a comparison of actual progress with the estimated progress for such point in time stated in the original schedule. If any schedule submitted sets forth a date for Completion for the Work or any phase of the Work beyond the date(s) of Completion established in the Contract (as the same may be extended as provided in the Contract Documents), then Contractor shall submit to Architect and Owner for their review and approval a narrative description of the means and methods which Contractor intends to employ to expedite the progress of the Work to ensure timely completion of the various phases of the Work as well as the totality of the Work. To ensure such timely completion, Contractor shall take all necessary action including, without limitation, increasing the number of personnel and labor on the Project and implementing overtime and double shifts. In that event, Contractor shall not be entitled to an adjustment in the Contract Sum of the schedule. The Contractor's submission of the initial construction schedule and monthly schedule updates shall be conditions precedent to certification of the Contractor's application for payment. The Owner's or Architect's failure to object to a submitted schedule that exceeds time limits current under the Contract Documents shall not relieve the Contractor of its obligations to meet the time limits in the Contract Documents, nor shall it make the Owner or Architect liable for any of the Contractor's damages incurred as a result of increased construction time or not meeting the time limits in the Contract Documents. Similarly, the Owner's or Architect's failure to object to a Contractor's schedule showing completion in advance of the time limits in the Contract Documents shall not create or infer any rights in favor of the Contractor for acceleration of the Work.

§ 3.10.1.1 The Contractor's construction schedules shall be in a bar chart format, and shall depict, at a minimum, activity identification and durations, critical path, float, early start, early finish, late start, and late finish.

§ 3.10.1.2 The float in the construction schedules will not be deemed exclusively available to the Contractor or Owner, but rather shall be available to either party as needed.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.10.4 Construction Engineering Check. The Contractor shall notify the Owner three (3) business days in advance of all grading, drainage, and other major items of construction for field checking of construction engineering. All questions pertaining to the Plans, Specifications and details of the Work shall be directed to the Architect and cleared prior to construction.

§ 3.10.5 Contractor's Construction Schedule. The Contractor shall provide regular monitoring and updating of the Progress Schedule with monthly Update Reports submitted contemporaneously with the monthly pay application, or more frequently as required by Architect or the conditions of the Work. The Update Reports shall indicate progress achieved and activities commenced or completed within the last month.

§ 3.10.6 Should the Contractor fail to adhere to the Construction Schedule, the Contractor shall furnish such additional labor and/or services or work sufficient overtime as may be necessary to make progress conform to the Construction Schedule at no additional cost to the Owner. Failure to adhere to the Construction Schedule or failure to take steps to regain the Construction Schedule shall constitute a cause for termination and a declaration of default under the terms

of the Agreement. The Owner shall be entitled to rely on Contractor's schedules for coordination of its own activities, as well as the activities of other contractors working at the Project site or on the Project.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals (collectively the "As-Built Documents"). These As-Built Documents shall be in electronic form or paper copy, available for inspection by the Architect or Owner upon reasonable notice, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed. Adequate maintenance of the As-Built Documents shall be a condition precedent to certification of the Contractor's applications for payment.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Architect has specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Contract Documents.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to the site access plan, if any, and to the areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. The Contractor shall enforce the Owner's instructions regarding the conduct and use of the site by his employees.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project. Throughout the progress of the Work the Contractor shall continually remove from the Project Site and from any adjacent property, all waste, scraps, tools, equipment, storage facilities, machinery, trailers, and vehicles no longer required for prosecution of the Work, such that the Project site remains clean, orderly, and safe.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.15.3 The Contractor shall walk the site at the close of every work day to assure it is either free of waste material and rubbish, or the waste material and rubbish is secured in a container that is inaccessible to public.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, or the Contractor knows that the required deign, process, or product is infringement, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall waive any right of contribution against the Owner and shall indemnify and hold harmless the Owner, the Construction Manager, and the Architect and their officers, officials, employees, volunteers and agents from and against all claims, damages losses and expenses, including, but not limited to, legal fees (attorney's and paralegal's fees, expert fees and court costs), arising out of or resulting from the performance of the Work but only to the extent caused in whole or in part by Contractor's breach of contract or by any wrongful or negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts they may be liable. Such obligation shall not be construed to negate, abridge or otherwise reduce any other right to indemnity which the Owner would otherwise have. The indemnification obligations under this paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any subcontractor under Workers' Compensation or Disability Benefit Acts or Employee Benefit Act.

"Claims, damages, losses and expenses" as these words are used in this Contract shall be construed to include, but not limited to (1) injury or damage consequent upon the failure of or use or misuse by Contractor, its Subcontractors, agents, servants or employees, of any hoist, rigging, blocking, scaffolding, or any and all other kinds of items of equipment, including those covered in the Illinois Structural Work Act whether or not the same be owned, furnished or loaned by Owner; (2) all attorneys' fees and costs incurred in defense of the claim or in bringing an action to enforce the provisions of this Indemnity or any other indemnity contained in the Contract Documents, including the fees charged by the indemnitee's expert witnesses and (3) all costs, expenses, lost time, opportunity costs and other similar direct or incidental damages incurred by the party being indemnified or its employees, agents or consultants.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

§ 3.18.3 In the event that the Contractor or its Subcontractors are requested to, but refuse to, honor the indemnity obligations hereunder or to provide a defense, then in addition to all other obligations hereunder, the Contractor and its Subcontractors shall reimburse the Owner and Architect the cost of any legal action concerning Contractor's or Subcontractor's duty to defend and indemnify under this Agreement, including attorneys' fees, time expended, costs and expenses.

§ 3.18.5 The Contractor shall include in each and every Subcontract with any and all Subcontractors and/or material suppliers performing Work and require each and every Subcontractor and/or material supplier performing Work to agree to be bound by all of the provisions 3.18.1 through 3.18.10 under the Contract Documents.

§ 3.18.6 The Contractor's indemnity obligations hereunder shall specifically include all claims and judgments which may be made against the indemnitees under federal or state law or the law of the other governmental bodies having jurisdiction, and further, against claims and judgments arising from violation of public ordinances and requirements of governing authorities due to Contractor's or Contractor's employees' method of execution of the Work.

§ 3.18.7 The provisions of this Section 3.18 are not intended to conflict in any way with the Construction Contract Indemnification for Negligence Act, 740 ILCS 35/0.01 *et seq*. and shall be interpreted in accordance therewith.

§ 3.18.8 The Contractor shall indemnify and hold harmless the Owner in the event of labor or trade union conflicts or disputes between the Contractor and Subcontractors and their respective employees, provided such dispute is resulting from unfair labor practices by the Contractor. The Contractor shall endeavor to adjust and resolve such conflicts and disputes which affect the timely completion of the Work. Such conflicts or disputes shall not be a basis or excuse for the breach of the Contract Documents by the Contractor or its Subcontractors, and shall not provide the Contractor with relief from complying with dates for Substantial Completion or Final Completion. Labor or trade union disputes that affect production or delivery of materials or equipment, or the installation, shall be at no cost to the Owner. The Contractor shall notify the Architect and the Owner in writing as soon as possible as to any labor or trade disputes which may affect the Work and its timely completion. In such event, the Contractor shall provide a written proposal to the Architect and the Owner which includes any comparable substitution(s) necessary to complete the Work.

§ 3.18.9 None of the foregoing provisions shall deprive the Owner or the Architect of any action, right or remedy otherwise available to them or either of them at law.

§ 3.19 If the Work is to be performed by trade unions, the Contractor shall make all necessary arrangements to reconcile, without delay, damage, or cost to the Architect or to the Owner, any conflict between the Contract Documents and any agreements or regulations of any kind at any time in force among members or councils which regulate or distinguish what activities shall not be included in the Work of any particular trade. Such arrangements are subject to written pre-approval of Owner and Architect. In case the progress of the Work is affected by any undue delay in furnishing or installing any items or materials or equipment required under the Contract Documents because of the conflict involving any such agreement or regulation, the Architect may require that other material or equipment of equal kind and quality be provided at no additional cost to the Owner.

§ 3.20 The obligations of the Contractor under this Section 3.18 shall not extend to the liability of the Architect, the Architect's consultants, and agents and employees of any of them arising out of (1) the preparation or approval of maps, Drawings, opinions, reports, surveys, Change Orders, designs or Specifications, or (2) the giving of or the failure to give directions or instructions by the Architect, the Architect's consultants, and agents and employees of any of them.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement or the Contract Documents.

(Paragraph deleted)

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall endeavor to include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect and the Owner each have authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Owner or Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance of the information given with the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness so as not to delay progress of the Work while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The authority of the Architect's Project representative is limited by the Owner's policies and procedures, and by the terms and conditions of the agreement between the Owner and Architect. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents and if approved in writing by the Owner.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness so as not to delay the progress of the Work or cause Work to be performed out of sequence. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 If this Project is utilizing a construction manager at-risk, then when the lowest, responsive and responsible multiple prime trade bidder(s) are identified and awarded contracts by the Owner, each such award shall constitute the automatic assignment of that trade contract by the Owner to the construction manager, who is also known as the "Contractor". Each such successful bidder shall then be known as a "Subcontractor." If this Project is utilizing a single general contractor or multiple prime trade contractors, and the Project is not utilizing a construction manager-at risk, then there shall be no such assignment. In any case, a Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Reserved.

(Paragraphs deleted)

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect.

Each Subcontractor acknowledges: (1) that the Owner is a direct intended third party beneficiary of each Subcontract between the Contractor and Subcontractor; (2) that notwithstanding any contract provision to the contrary, Subcontractor shall be bound to perform the Work in accordance with these AIA A201 General Conditions, as amended; and (3) that the Subcontractor is not a third party beneficiary of any contract between Contractor and Owner.

Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will

be bound. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner, and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Reserved.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity, and upon such further assignment, the Owner shall have no further liability to such subcontractor.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project or other construction or operations on site with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4

§ 6.1.5 Owner shall not assign to Contractor any separate contracts whose terms with respect to payment applications, insurance, damages, and excusable delay materially vary from those contained in the Subcontract Agreement.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed

construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. Subject to Article 15, the Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 The Owner may, without invalidating the Contract and without notice to the surety, direct changes in the Work. Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.1.4 No Change Order shall be approved or paid unless preceded by a written direction for the Change Order is provided by the Owner. This requirement cannot be waived by conduct, custom, or practice with respect to this Project or other projects. There shall be no implied or constructive change orders.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

Methods used in determining adjustments to the Contract sum may include those listed in Section 7.3.3.

§ 7.2.2 No payment for changes in the Work shall be made until such change has been memorialized in an executed Change Order and the Change has been executed.

§ 7.2.3 If the Contractor is also the Project's Construction Manager pursuant to a separate construction management agreement with the Owner, the Contractor shall not be permitted any markup on Change Orders or compensation with respect to Change Orders, other than as may be provided in such construction management agreement. The Subcontractors, and any Contractor who is not serving as Construction Manager for the Project, shall be entitled to the following markups for additive Changes Orders, and shall be required to take the following mark-downs for deductive Change Orders. Additional markup for insurance or bonds will not be allowed. All Change Order requests must be

submitted with the following backup information or they will not be reviewed or processed by the Architect or Owner: material and labor quantities, material unit costs, labor rates, and any other substantiating data to explain and substantiate the Change Order amount.

Markups and Markdowns for Change Orders:

Additive Change Order: 10%
Deductive Change Order: 10.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order for the purposes of defining the change and/or how any payment shall be calculated, but not for the purpose of approving payment.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation, with markups for overhead and profit as set forth in subparagraph 7.2.3, above;
.2 Unit prices stated in the Contract Documents or subsequently agreed upon;
.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
.4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an allowance for profit in accordance with the schedule set forth in subparagraph 7.2.3. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following :

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Upon execution by the Owner, such agreement shall be effective and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase or net decrease, if any, with respect to that change.

§ 7.3.9 Reserved.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing and approved by the Owner. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.3.1 In the absence of a certificate establishing the Date of Substantial Completion, the date of the final certificate of payment and the Date of Substantial Completion shall be one and the same.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. The Contractor shall achieve Final Completion within thirty (30) days following Substantial Completion.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by a cause that (1) was unforeseen by the Contractor; and (2) is not within the Contractor's control, then the Contract Time shall be equitably extended and such extension shall be reduced to a Change Order.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 Reserved.

§ 8.3.4 Extension of Contract Time resulting from Changes in the Work shall be negotiated into respective Change Orders. Whenever the Contractor seeks an adjustment in the Contract Time as part of a Claim or Change Order, the Contractor shall justify the request with proper written reference to the approved construction schedules. All executed Change Orders shall be deemed to include adjustments in the Contract Time, if any, resulting from the underlying Change in the Work.

§ 8.3.5 In addition to other rights and remedies set forth elsewhere in the Contract Documents, the Contractor shall reimburse the Owner for all Architect's fees and expenses for additional services necessitated by (1) Contractor's failure to achieve Substantial Completion within the time established in the Contract Documents through no fault of the Owner; (2) for more than one inspection to determine Substantial Completion; and (3) for more than one inspection to determine Final Completion.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents. If the Contractor is also the construction manager pursuant to a construction management agreement with the Owner, that agreement contains any and all additional compensation payable to the Contractor in its role as construction manager.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated for any one item of material or equipment are changed by more than 25% in a proposed Change Order or Construction Change Directive, the applicable unit prices shall be equitably adjusted in such Change Order or Construction Change Directive.

§ 9.2 Schedule of Values

The Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various Subcontracts. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. Each section of the schedule organized by Subcontract shall further allocate each Subcontractor's Work into discrete tasks with values corresponding to each task. The total of all values for all tasks for all Subcontractors shall equal the Contract Sum. Portions of the Work not subcontracted shall be allocated into discrete tasks and corresponding values. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment. The format of the schedule shall be AIA Document G703 – (Application and Certificate for Payment) Continuation Sheet. Approval by the Owner of the schedule of values (and revisions thereto) shall be a condition precedent to certification of Contractor's applications for payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, including copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents. The Contractor's inclusion in an Application for Payment of an amount owed to a Subcontractor shall constitute the Contractor's certification to the Owner that such Subcontractor is entitled to payment in that amount, and that there are no backcharges, Claims, or other disputes then pending or anticipated which may impact that Subcontractor's right to such payment. Contractor shall submit all Applications for Payment in a consistent format.

§ 9.3.1.1 Such applications may include requests for payment on account of changes in the Work that have been properly authorized by Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 Ten percent (10%) of each payment amount will be retained until the Work is fifty percent (50%) complete. Thereafter, Five percent (5%) of each payment amount will be retained until final completion of the project.

§ 9.3.1.4 The following forms must be used for payment requests: (1) AIA Application & Certificate for Payment (G702 & G703) with waiver forms as stipulated.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work included in an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.3.4 The first payment shall be accompanied by the Contractor's partial waiver of lien only. Each subsequent monthly payment request shall be accompanied by the Contractor's partial waiver and partial waiver of Subcontractors and Material Suppliers who were included in the immediate preceding payment request to the extent of that payment (i.e., the Contractor must submit partial waivers on a current basis, but Subcontractors and Material Suppliers may be not more than one payment late with their partial waivers). The lien waivers, when taken together, shall equal the sum due and paid under the immediately preceding Application for Payment, and shall be effective through the submittal date of the immediately preceding Application. Application for final payment shall be accompanied by final waivers of lien from the Contractor, Subcontractor and Material Suppliers who have not previously furnished such waivers.

.1 By providing such waivers the Contractor, Subcontractor or Material Supplier is expressly waiving its lien rights under 770 ILCS 60/23, the *Mechanics Lien Act*, as well as its rights under the *Public Construction Bond Act,* 30 ILCS 550/2, whether or not specifically stated in the waiver.

§ 9.3.5 All Applications for Payment shall be accompanied by the Contractor's and Subcontractors' certified payrolls as required by the Illinois Prevailing Wage Act, 820 ILCS 130/5.

§ 9.3.6 Submission of properly executed lien waivers and the certified payrolls are conditions precedent to certification of each Application for Payment

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount

certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made, or if any other condition precedent to payment has not occurred. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

.1 defective Work not remedied;

.2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;

.3 failure of the Contractor to make payments to Subcontractors or suppliers in accordance with the terms of the applicable subcontracts, or for properly performed or delivered labor, materials or equipment;

.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

.5 damage to the Owner or a Separate Contractor;

.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or

.7 failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 If Contractor disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, Contractor may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld. No interest shall be paid on payments withheld. The Architect's determination as to the issuance of withholding of, or the amount of payment reflected by, Certificates of Payment, shall be final and binding; and shall subject the Architect to no liability whatsoever to Contractor, Surety or any other person.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in accordance with the Local Government Prompt Payment Act, 50 ILCS 505/1, et seq. and may be otherwise provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 Provided a Subcontractor has performed in accordance with the terms of its Subcontract, the Contractor shall, in compliance with any and all applicable laws, pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law. In the sole discretion of the Owner, if the Contractor fails to furnish evidence as required by this Section, the Owner has the right, but not the obligation, to pay Subcontractors and suppliers directly .

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If at any time there is evidence of any liens or claims for which the Owner may become liable, the Owner shall have the right to retain, out of any payment due or thereafter to become due to Contractor or a Subcontractor, an amount sufficient to completely indemnify and defend the Owner from and against such lien or claim, including any reasonable attorneys' fees and litigation expenses that have been or may be incurred by the Owner. Should any such evidence be established after all payments are made, the Contractor or Subcontractor shall repay the Owner all sums which the Owner may be compelled to pay in discharging such lien or claim, including all reasonably attorneys' fees, litigation expenses, and other costs resulting from such lien or claim.

§9.6.9 The Owner shall withhold ten percent (10%) from all progress payments to the Contractor as retention until the Work is fifty percent (50%) complete. Thereafter, the Owner shall withhold five percent (5%) from all progress payments to the Contractor as retention. The Contractor shall request retention with its final Application for Payment as provided in Section 9.10. No interest shall accrue on monies held in retention. Contractor shall ensure that each contract between Contractor and each Subcontractor contains this same provision for the withholding and release of retention.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for

its intended use without any interference resulting from Contractor's operations or from incomplete work. The Work is not substantially complete until all Project systems included in the Work are operational as designed and scheduled, all required governmental inspections and certifications have been made and obtained, designated instruction of the Owner's personnel in the operation of systems has been completed and documented, and all final finishes required by the Contract Documents have been installed. The Work is not substantially complete until the Contractor has submitted the following items to the Owner or Architect::

.1 All As-Built Documents in conformance with the Contract Documents and the requirements of this Agreement;
.2 All operations and maintenance manuals as required by the Contract Documents;
.3 All manufacturers' warranties as required by the Contract Documents; if such warranties cannot be executed until the Certificate of Substantial Completion is executed, the Contractor shall submit a warranty specimen as a condition of Substantial Completion, and shall submit the fully-executed warranty prior to Final Completion.

If in the event Contractor does not complete remaining work within thirty (30) days of Substantial completion, Owner shall give the Contractor written notice of the remaining Work to be completed. If the Contractor fails to complete the remaining work to be completed within five (5) days of receipt of the written notice, the Owner reserves the right to complete the remaining Work in accordance with § 2.4 without further notice to the Contractor. All costs incurred by Owner therein shall be offset against Contractor's final payment.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment, which shall be attached to the Certificate of Substantial Completion (the "Punch List"). Failure to include an item on the Punch List does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's Punch List, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's Punch List, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion with the Punch List attached. The Certificate of Substantial Completion shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the Punch List accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate.

§ 9.8.6 Upon Substantial Completion, the Contractor and Subcontractors hereby assign all vendor and manufacturers' warranties to the Owner, if and to the extent any such warranty identified the Contractor or a Subcontractor, and not the Owner, as the entity to whom the warrantor is obligated.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a

portion substantially complete, the Contractor shall prepare and submit a Punch List to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 All Work depicted on the Contractor's Punch List and thereafter identified in the Architect's inspection shall be completed by Contractor within thirty (30) days of issuance of the Certificate of Substantial Completion. Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate, including retention held pursuant to Section 9.6.9, is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, including those fully-executed warranties required by Section 9.8.1.1 to be furnished prior to final completion, and (6) final releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner, along with the final submittal of certified payroll as provided by Section 5 of the Prevailing Wage Act, 820 ILCS 130/5. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs, reasonable attorneys' fees, and litigation expenses, unless Contractor is proceeding diligently and in good faith to contest such lien and has furnished to Owner reasonable security, such as a bond, title insurance, letter of credit, etc., to reasonably protect Owner against such lien.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, and it shall not constitute a waiver of Claims. Otherwise, if the Contractor does not complete remaining work within thirty (30) days after Substantial Completion, Owner may complete the remaining Work and backcharge the Contractor in accordance with Section 2.5. All related costs incurred by Owner shall be deducted from Contractor's final payment, and if the amount of Contractor's final Application for Payment is insufficient to cover such costs, Contractor shall pay such insufficiency to Owner upon demand.

§ 9.10.4
(Paragraphs deleted)

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and specifically identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. Neither the Owner nor the Architect shall be responsible for any safety precautions or programs in connection with the Work.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

.1 employees on the Work and other persons who may be affected thereby;

.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If any person suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, the responsible party shall give notice of the injury or damage,

whether or not insured, to the other party within a reasonable time not exceeding 21 days after discovery. The notice, as required by Section 1.6.1, shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 Without accepting any responsibility or liability for the remediation of hazardous materials that exist on or contiguous to the Project site as of the date of the Agreement, the Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume. By Change Order, the Contract Time shall be equitably extended.

§ 10.3.3

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the procurement, delivery, unloading, loading, stockpiling, storing, preparing, installing, use and/or handling of such materials or substances (collectively, "handling").

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to requirements of the Contract Documents or the Owner's fault or negligence.

§ 10.3.6 Reserved.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Liability Insurance

§ 11.1.1 The Contractor, and the Subcontractors, to the extent applicable as specified below, shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

.1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;

.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;

.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;

.4 Claims for damages insured by usual personal injury liability coverage which are sustained (1) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor or (2) by another person;

.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;

.6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;

.7 Claims for bodily injury or property damage arising out of completed operations; and

.8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

To the extent of any conflict between this Section 11.1 and other Contract Documents, the Contractor and Subcontractors shall purchase and maintain the insurance with the higher limits, broader coverage, and better protections for the Owner. Such coverage shall be procured on an occurrence basis. Such coverage shall be procured from insurers with a Best's Key Rating Guide rating of at least A / VIII.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until three (3) years after Substantial Completion of Work, or for such other period for maintenance of completed operations coverage as specified in the Contract Documents, whichever is greatest. In addition to the above the insurance required by paragraph 11.1 shall be on an occurrence basis.

1. Workers compensation
   - a. State: Statutory
   - b. Applicable Federal (e.g., Longshoreman's): Statutory
   - c. Employer's Liability:
     - i. Bodily Injury by Accident – each accident $1,000,000.00
     - ii. Bodily Injury by Disease – each employee $1,000,000.00
     - iii. Bodily Injury by Disease – each policy limit $1,000,000.00
   - d. The policy shall include a waiver of subrogation in favor of the Owner.

2. Commercial General Liability (including Premises Operations; Independent Contractor's Protective; Products and Completed Operations; Broad Form Property Damage; contractual liability; explosion; collapse and underground hazards; covering personal injury and bodily injury):
   - a. Bodily Injury:
     - i. Each Person $1,000,000.00
     - ii. Each Occurrence $1,000,000.00
     - iii. Aggregate $2,000,000.00
   - b. Property Damage:
     - i. Each Person $1,000,000.00
     - ii. Each Occurrence $1,000,000.00
     - iii. Aggregate $2,000,000.00
   - c. Products and Completed Operations to be maintained for 1 year after final payment.

3. Commercial/Business Automobile Liability (including hired, rented, and non-owed vehicles, covering personal injury, bodily injury and property damage):
   - a. Bodily Injury:
     - i. Each Person $1,000,000.00
     - ii. Each Occurrence $1,000,000.00

4. Umbrella Excess Liability:
   a. Over Primary Insurance $5,000,000.00

§ 11.1.3 Certificates and endorsements of for the above coverages and the Owner's and Contractor's Protective Policy shall be submitted to the Architect for transmittal to the Owner for his approval prior to the start of construction. Attached to the required Certificate and endorsements provide AIA Document G715; specifically setting forth evidence of all coverage required by Article 11. The Contractor shall certify to the Owner that he has obtained or will obtain similar certificates of insurance and endorsements from each of his Subcontractors before their work commences. The Contractor and each Subcontractor must be covered by insurance of the same character and in the same amounts as the Contractor unless the Contractor and Owner agree that a reduced coverage is adequate. The Contractor and each Subcontractor's insurance shall cover the Owner, Architect, their agents and employees as "additional insured" on a primary and noncontributory basis. The amount of the company's liability under this policy shall not be reduced by the existence of such other insurance. Contractors certificates and endorsements shall be on standard Acord forms.

11.1.3.1. These Certificates and endorsements and the insurance policies required by this Paragraph 11.1 shall contain a provision that coverages afforded under the policies will not be cancelled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner and Architect. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate and endorsements evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Subparagraph 9.10.2 and thereafter upon renewal or replacement of such coverage until the time permitted for expiration. If any aggregate limit is reduced on account of claims paid, Contractor and Subcontractor shall immediately notify the Owner and Architect in writing of the amount of such reduction. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.1.5 Failure of either the Architect or Owner to demand certificates of insurance and/or policies and/or endorsements shall not constitute a waiver of the Contractor's and Subcontractor's responsibilities under this Section 11.1. Nor shall review and/or approval by either the Owner or Architect in any way relieve Contractor or any Subcontractor of its responsibility for furnishing sufficient insurance.

§ 11.1.6 Liability of Contractor or Subcontractor is not limited by these insurance requirements or by actual insurance coverage. Nothing related to insurance requirements in the Contract Documents is to be construed as limiting the liability of the Contractor, the liability of any Subcontractor of any tier, or the liability of the Architect, or any of their respective insurance carriers. Owner does not represent that the coverages or limits of insurance specified are sufficient or adequate to protect the Owner, Contractor, Architect, or any Subcontractor's interest or liabilities, but are merely minimums.

§ 11.1.7 Each Subcontractor shall comply with all requirements of this Section 11.1, except that the Owner may in writing excuse a Subcontractor from procuring and maintaining an excess / umbrella policy in conformance with Section 11.1.2, where deemed appropriate by the Owner, in its sole discretion.

§ 11.2 Builder's Risk Insurance

§ 11.2.1 The Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a Builder's Risk Special/Open Perils policy form in the amount of the Contract Sum, as modified by Change Orders, comprising the total value for the entire Project at the site on a replacement cost basis. Any required deductible shall be paid by the Owner unless the Contract Documents otherwise provide or the Contractor acknowledges its obligation to pay such deductibles in writing and prior to commencement of the Work. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance,

until final payment has been made as provided in Section 9.10 or until no person or entity other than the Contractor has an insurable interest in the property required by this Section 11.2.1 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property (Special/Open Perils Builder's Risk) insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Builder's Risk Insurance Policy. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right but not the obligation to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by Builder's Risk insurance required by the Agreement, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss.

§ 11.3.6 Not Used

§ 11.3.7 Not Used

§ 11.4 Performance and Payment Bond

§ 11.4.1 The Contractor, before commencing the Work, shall furnish or caused to be furnished a Performance Bond and a Labor and Material Bond. The Performance Bond shall be in an amount equal to 100% of the full amount of the Contract Sum as security for the faithful performance of the obligation of the Contract Documents, and the Labor and Material Payment Bond shall be in an amount equal to 100% of the full amount of the Contract Sum as security for the payment of all persons performing labor and furnishing materials in connection with the Contract Documents. Such bonds shall be on standard AIA Documents, issued by the American Institute of Architects, shall be issued by a surety satisfactory to the Owner, and shall name the Owner as a primary co-obligee. The cost of the bonds is to be included in the Bid Proposal. The Performance Bond and Labor and Material Payment Bond will become a part of the Contract. Each Bidder shall list the name of the surety company that will be furnishing the Bonds on its Bid Proposal. The failure of a Bidder to list the name of its surety company on its Bid Proposal shall be a non-responsive bid. The failure of the successful Bidder to enter into a Contract and supply the required Bonds within ten (10) days after the Notice of Award or within such extended period as the Owner may grant if the forms do not meet its approval shall constitute a default, and the Owner may either award the Contract to the next responsible, responsive Bidder or re-advertise for bids. A charge against the defaulting Bidder may be made for the difference between the amount of the bid and the amount for which a contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the bid guarantee. . The payment and performance bonds shall strictly comply with the Public Construction Bond Act, 30 ILCS 550/0.01, *et seq.* (the "Act"), and with all provisions of this Section 11.1.2 and its subparts to the extent not in conflict with the Act. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located. Each such surety shall have a Best's Key Rating Guide rating of at least A / VIII.

§ 11.4.1.1 The Contractor shall deliver the required bonds to the Owner not later than three days following the date the Agreement is entered into, or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished.

§ 11.4.1.2 The Contractor shall require the attorney-in-fact who executed the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.4.3 Reserved.

§ 11.4.4 Whenever the Contractor shall be and is declared by Owner to be in default under the Contract, the Surety and the Contractor are each responsible to make full payment to the Owner or any and all extra Work incurred by the Architect as a result of the Contractor's default, and to pay to Owner all attorney's fees and court costs incurred by Owner as a result of the Contractor's default, and in protecting Owner's rights under the Agreement to remedy Contractor's default.

§ 11.4.5 The Contractor shall (i) furnish all Surety Company's bonds through Surety Company's agents approved by and/or as directed by Owner; (ii) fully covered and guarantee with said bond the faithful performance and completion of the entire Contract, including without limitation, the faithful performance of prevailing wage requirements; and (iii) guarantee with said bond payment in all cases by the Contractor or by the Surety Company for all labor performed, material and supplies furnished with the entire Work in the Contract. Said Bond shall remain in full force and effect during the entire period of all general guarantees given by the Contractor with the Contract as called for in the Specifications and Contract, except in cases where other bonds are specifically called for in the specifications and Contract in connection with special guarantees.

§ 11.4.6 The payment and performance bonds shall be executed on AIA Document A312, or on another form acceptable to the Owner, and shall include a penal sum equivalent to or greater than the Contract Sum as defined in Section 9.1.1. If the Project involves a Contractor who is also serving as a construction manager at risk that will take or has taken assignment of trades pursuant to Section 5.1.1, then for purposes of determining the penal sum of the

bond, the Contract Sum means the aggregate sum of all bids awarded by the Owner and assigned to the Contractor as provided in Section 5.1.1.

§ 11.4.7 All terms and conditions of all Contract Documents, including those that comprise these A201 General Conditions, as amended, shall be deemed incorporated by reference into each bond furnished in connection with this Section 11.4. In case of any conflict between any provision of any performance or payment bond and the Contract Documents, the provisions of the Contract Documents shall prevail to the extent of such conflict. Any provision of any bond purporting to create a condition precedent for Owner not otherwise contained in the Contract Documents, or which otherwise purports to abrogate or nullify the Owner's rights or remedies otherwise available in contract, law, or equity, is void. If any provision of any bond purports to shorten the period of limitations and/or the period of repose as provided in Section 13-214 of the Code of Civil Procedure, 735 ILCS 5/13-214, or if any provision of any bond purports to shorten any other applicable statute of limitation or repose, such provision of such bond shall be null and void, but all other provisions of such bond shall remain enforceable.

§ 11.4.8 No surety shall assert solvency of its principal or its principal's denial of default as a defense to any claim under any bond furnished in accordance with this Section 11.4.

§ 11.4.9 If any surety shall make any assignment for the benefit of creditors or commit any act of bankruptcy, or is declared bankrupt, or if it shall file a voluntary petition in bankruptcy, or shall in the opinion of the Owner be insolvent, the Contractor shall immediately upon request by the Owner furnish and maintain other bonds satisfactory to the Owner. No further payment shall be due nor shall be made to Contractor until the new surety or sureties shall have met the Owner's qualifications.

§ 11.4.10 If at any time the Owner shall become reasonably dissatisfied with any surety, or for any other reason such bonds shall cease to be adequate security for the Owner, Contractor shall, within five (5) days after notice to do so, substitute acceptable bonds in such form and sum and signed by such other surety or sureties as may be reasonably satisfactory to the Owner. No further payment shall be deemed due nor shall be made to Contractor until the new surety or sureties shall have met the Owner's qualifications.

§ 11.4.11 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished. The Owner may furnish bonds to any person, at any time, without consent of the Contractor.

§ 11.5 Miscellaneous Requirements

(Paragraphs deleted)

§ 11.5.1 All insurance and bond coverage shall be provided by companies having policy holder ratings no lower than "A" and financial rating not lower than "15" in the Best's Insurance Guide, latest edition in effect as of the date of the Contract.

§ 11.5.2 The Contractor is responsible for determining that Subcontractors are adequately insured against arising out of or relating to the Work. The premium cost and charges for such insurance shall be paid by each Subcontractor.

§ 11.5.3 The limits of liability shall not be less than that stated in the requirements.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Owner's or Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Owner or Architect has not specifically requested to examine prior to its being covered, the Owner or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within two years after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so. The Owner shall give such notice promptly after discovery of the condition. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it and backcharge the Contractor in accordance with Section 2.5.

§ 12.2.2.2 The two-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The two-year period for correction of Work shall be extended on specific items of Work identified by the Owner as defective, and such extension shall commence upon the performance of corrective Work by the Contractor pursuant to this Section 12.2. Such extension shall expire one year from the date of completion of such corrective Work.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to any obligations the Contractor has under the Contract Documents. Establishment of the two-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the Owner may seek to enforce that obligation or any other obligation arising under the Contract Documents.

§ 12.2.6 All other warranties and guarantees required by the Contract Documents shall be provided to the Architect prior to Substantial Completion or Final Completion, as applicable, and are separate obligations from the obligations contained in this Section 12.2.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so by express written notice to the Contractor instead of requiring its removal and correction, in which case the Contract Sum will be reduced by deductive Change Order, as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the State of Illinois without regard for conflict of law principles. The Work shall comply with all applicable laws, statutes, ordinances, codes, rules, regulations or orders during its performance and completion. Historical lack of enforcement of any local law shall not constitute a waiver of the Contractor's responsibility for compliance with such law in a manner consistent with the Contract Documents unless and until the Contractor has received written consent for the waiver of such compliance from the Owner and the agency responsible for the local law enforcement.

§ 13.1.1 Contractor and each Subcontractor shall comply with the Illinois Human Rights Act, 775 ILCS 5/2-101 *et seq*., and Contractor and each Subcontractor hereby certifies that he / she / it has and will maintain at all times during the term of this agreement a written sexual harassment policy in accordance with 775 ILCS 5/2-105(A)(4).

§ 13.1.2 Contractor and each Subcontractor hereby certifies pursuant to Section 33E-11 of the Illinois Criminal Code that he / she / it is not barred from bidding on, or contracting in connection with, the Project as a result of a conviction for either bid-rigging or bid rotating under Section 33E-3 or 33E-4 of the Criminal Code.

§ 13.1.3 The Contractor and each Subcontractor hereby certifies that he / she / it will provide a drug free workplace in compliance Section 3 of the Drug Free Workplace Act, 30 ILCS 580/3.

§ 13.1.4 At least once per month prior to final completion of the Work, the Contractor and each Subcontractor shall submit to the Owner certified payrolls in accordance with Section 5 of the Illinois Prevailing Wage Act, 820 ILCS 130/5.

§ 13.1.4 Upon the Owner's request, any employee of the Contractor and any employee of any Subcontractor or other supplier or vendor shall submit state-issued identification documents (e.g. driver's license, state identification card, etc.) or other documents to the Owner and provide the necessary consents so that the Owner may obtain a criminal background check of the employee. No person who fails or refuses to produce such documents may work on the Project at the Project site. Alternatively, the Owner reserves the right to direct the Contractor, at any time during the Project, to immediately obtain criminal background checks of Contractor's or Subcontractor's employees. Such criminal background checks will be performed at Contractor's or Subcontractor's expense and at no additional cost to Owner. If in the Owner's sole discretion objectionable information regarding any employee is discovered in the background check, whether performed by Owner or Contractor, such person shall not be allowed to work on the Project at the Project site. The Owner may request new background checks of any employee at any time.

§ 13.1.5 This Contract is subject to and shall be construed in accordance with all provisions of law applicable to the Work and the Project. All applicable rules of law shall prevail over any conflicting provision contained in any of the Contract Documents.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. This Contract is non-assignable in whole or in part by Contractor, and an assignment shall be void without the prior written consent of Owner.

§ 13.2.2 The Contract Documents and these A201 General Conditions provide the rights and obligations by and between Owner, Architect, and Contractor. There are no other beneficiaries to the Contract.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear, without markup by the Architect or Contractor, costs of tests, inspections, or

approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense and without markup by the Architect or Contractor.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.4.7 Retests. The cost of a retest will be borne by the party requesting the retest, unless the retest shows that the original test or the Work being tested was in error or defective, and in such event, the cost of the retest shall be borne by the other party.

§ 13.5 Interest

All references to interest payments throughout the contract documents are hereby voided. Payments shall be administered in compliance with the Illinois Local Government Prompt Payment Act, 50 ILCS 505/1, *et seq.*

§ 13.6 Additional Architectural Services

§ 13.6.1 The Contractor shall be liable for all hours of the Architect's time at the Architect's hourly rate of the individual providing the service for the following. The funds paid the Architect will be deducted by the Owner from the amounts due the Contractor for these additional architectural services by change order and paid directly to the Architect:

.1 After two reviews of shop drawings/submittals per item.
.2 Any office or field time spent after the second punchlist (excluding project closeout procedures).
.3 Any office or field time spent should project closeout extend more than sixty (60) days beyond the Contractual Substantial Completion date.

§ 13.7 Drugfree Workplace

§ 13.7.1 The Contractor shall comply with the *Illinois Drug Free Workplace Act* as contained in the Illinois Compiled Statutes Ch. 30, Sec. 580/1 *et. seq.*

§ 13.8 Equal Employment Opportunity

§ 13.8.1 All companies entering into contractual relationships with the Owner on federal or state-assisted projects must comply with the Illinois Preference Act and Federal Equal Opportunity regulations, including, but not limited to Executive Order 11246-11375.

§ 13.9 Record Keeping

§ 13.9.1 Contractor and any subcontractor shall keep and maintain accurate books of record and account, in accordance with sound accounting principles, of all expenditures made and all costs, liabilities and obligations incurred under this Contract, and all papers, files, accounts, reports, cost proposals with backup data and all other material relating to work under this Contract and shall make all such materials available at the office of the Owner at any reasonable time during the term of this contract and for the length of time established by law or five (5) years, whichever is longer from the date of final payment to Contractor or termination of this Contract for audit, inspection and copying upon Owner's request.

§ 13.10 Substance Abuse Prevention

§ 13.10.1 The Contractor shall comply with and cause all subcontractors to comply with the requirements and provisions of the Illinois Substance Abuse Prevention on Public Works Projects Act (820 ILCS 265/1 *et. seq.*) (the "Act") by:

.1 Prohibiting the use, possession, distribution or delivery of any drug or alcohol (as defined under the Act) or allowing any employee to be under the influence of any said drug or alcohol while performing the Work;

.2 Filing a written substance abuse prevention program with the Owner for the prevention of substance abuse among its employees prior to the commencement of the Work. Said program shall be available to the general public and, at a minimum, contain the following:

.a A minimum requirement of a 9 panel urine drug test plus a test for alcohol. Testing an employee's blood may only be used for post-accident testing, however, blood testing is not mandatory for the employer where a urine test is sufficient;

.b A prohibition against the actions for the use, possession, distribution or delivery of any drug or alcohol (as defined under the Act) or any employee under the influence of any said drug or alcohol while performing the Work;

.c A requirement that employees performing the Work submit to pre-hire, random, reasonable suspicion, and post-accident drug and alcohol testing. Testing of an employee before commencement of the Work is not required if the employee participated in a random testing program during the 90 days preceding the date on which the employee commenced work hereunder; and

.d A procedure for notifying an employee that he or she may not perform any of the Work if he or she: 1) uses, possess, delivers or is under the influence of a drug or alcohol as prohibited under the Act; 2) tests positive for the presence of a drug as outlined in the Act; or 3) refuses to submit to drug or alcohol testing as required under the Contractor's substance abuse program until the employee tests negative for the presence of drugs or alcohol as outlined in the Act or has been approved to commence or return to work in accordance with the Contractor's substance abuse program.

.3 Immediately removing and/or prohibiting access to the Work site of any employee who: 1) uses, possess, delivers or is under the influence of a drug or alcohol as prohibited under the Act; 2) tests positive for the presence of a drug as outlined in the Act; or 3) refuses to submit to drug or alcohol testing as required under the Contractor's substance abuse program. Said employee shall be prohibited from the Work site until he or she tests negative for the presence of drugs or alcohol as outlined in the Act or has been approved to commence or return to work in accordance with the Contractor's substance abuse program; and

.4 Complying with all other requirements of the Act.

§ 13.10.2 Failure by the Contractor to comply with the requirements of the Illinois Substance Abuse Prevention on Public Works Projects Act shall constitute a material default of the Contract and shall give the Owner the right to pursue any remedy available to it at law or in equity, including termination of this Contract for cause in the Owner's sole discretion and any other remedy as provided in this Contract. In the event of a default hereunder, Contractor shall also pay to the Owner all damages Owner is entitled to under this Contract that arise from the default, together with interest, costs, and the Owner's reasonable attorney fees.

§ 13.11 Contractor warrants that it is familiar with and shall comply with Federal, State and local laws, statutes, ordinances, rules and regulations and the orders and decrees of any courts or administrative bodies or tribunals in any manner affecting the performance of the Contract including without limitation Workers' Compensation Laws, minimum salary and wage statutes and regulations, laws with respect to permits and licenses and fees in connection therewith, laws regarding maximum working hours. No plea of misunderstanding or ignorance thereof will be considered.

§ 13.11.1 Whenever required, the Contractor or Subcontractor shall furnish the Architect and Owner with satisfactory proof of compliance with said Federal, State and local laws, statutes, ordinances, rules, regulations, orders, and decrees.

§ 13.11.2 Contractor shall carefully examine the Occupational Safety and health Act as issued by the Federal Register (OSHA), and the specific regulations governing procedures, techniques, safety precautions, equipment design, and the configuration of the same as required under this Act and shall comply with all terms of the Act and to perform and complete in a workmanlike manner all work required in full compliance with said Act.

§ 13.11.3 Contractor shall comply with all terms of the Illinois Preference Act and all terms of the Equal Employment Opportunity Clause of the Illinois Fair Employment Practices Commission.

§ 13.11.4 At all times Contractor shall remain in compliance with the Illinois Public Works Employment Discrimination Act (775 ILCS 10/1, et seq.,) and the Illinois Human Rights Act (775 ILCS 5/2-101, et seq.,), and in addition shall at all times comply with Section 2-105 of the Illinois Human Rights Act requiring a written sexual harassment policy as defined therein.

§ 13.11.5 Contractor understands, represents and warrants to the Owner that the Contractor and its Subcontractors (for which the Contractor takes responsibility to ensure that they comply with the above-mentioned Acts) are in compliance with all requirements and that they will remain in compliance for the entirety of the Work. A violation of any of the Acts set forth in this Article is cause for the immediate cancellation of the Contract. However, any forbearance or delay by the Owner in canceling this Contract shall not be considered as, and does not constitute, Owner's consent to such violation and a waiver of any rights the Owner may have, including without limitation, cancellation of this Contract.

§ 13.11.6 Freedom of Information Act. Contractor agrees to maintain all records and documents for projects of the Owner in compliance with the Freedom of Information Act, 5 ILCS 140/1 et seq. In addition, Contractor shall produce, without cost to the Owner, records which are responsive to a request received by the Owner under the Freedom of Information Act so that the Owner may provide records to those requesting them within the time frames required. If additional time is necessary to compile records in response to a request, then Contractor shall so notify the Owner and if possible, the Owner shall request an extension so as to comply with the Act. In the event that the Owner is found to have not complied with the Freedom of Information Act based upon Contractor's failure to produce documents or otherwise appropriately respond to a request under the Act, then Contractor shall indemnify and hold the Owner harmless, and pay all amounts determined to be due including but not limited to fines, costs, attorneys' fees and penalties.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

(Paragraph deleted)

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed. However, in no event shall Contractor be entitled to overhead and profit on Work not executed, or costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- **.1** refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- **.3** disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- **.4** otherwise is guilty of a material breach of a provision of the Contract Documents.
- **.5** Failed to remedy a labor dispute in accordance with Section 3.4.7 of the General Conditions.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- **.1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- **.2** Accept assignment of subcontracts pursuant to Section 5.4; and
- **.3** Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, including reasonable attorneys' fees, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner upon demand.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be equitably adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. No adjustment shall be made to the extent

- **.1** that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- **.2** that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work;

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and

.4 Immediately assign to the Owner any sub-contractual assignments requested by the Owner pursuant to Section 5.4.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed. However, in no event shall Contractor be entitled to overhead and profit on Work not executed, or costs incurred by reason of such termination.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents. This Section 15.1.1 does not create any conditions precedent on any cause of action the Owner may have against the Contractor.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with applicable law.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by the Contractor under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the Contractor first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 If the Owner and Contractor agree with the Initial Decision Maker's decision, the Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision. In the event of such agreement, the Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim, and timely notice is a condition precedent to any recovery or relief by Contractor on such Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5.1 Unit Prices. The Contractor shall be responsible for notifying the Owner of any discrepancies or additions to work items completed on a unit price basis. This notification must take place prior to the execution of the Work. The

purpose of this requirement is to make sure the Owner is aware of the extra items affecting the cost of the original contract amount. Discrepancies in the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the corrected sum thereof will be resolved in favor of the corrected sum.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given, and such notice is a condition precedent to any recovery or relief by Contractor on such Claim. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

In the event that the Contractor shall fail to achieve Substantial Completion within the agreed upon date(s), subject to extensions of time to which it is entitled, Contractor shall be liable to Owner for liquidated damages, as the Owner's sole and exclusive remedy for Construction Manager's unexcused delay, in amounts set forth below for the period commencing thirty (30) days after the date of Substantial Completion until the date Substantial Completion actually occurs, subject to a cap equal to the Construction Manager's Fee. Liquidated damages, if applicable, shall be as follows:

0-30 days $0/day
31 days on $1,000/day
The parties agree that calculating damages that Owner will suffer due to Contractor's unexcused delay in achieving Substantial Completion would be difficult, if not impossible and that the above liquidated damages reflect a reasonable good faith estimate of such damages, and not a penalty

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for damages arising out of or relating to income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work. Further, Contractor's liability for Owner's damages related to rental expenses in the event of Contractor's unexcused delay in achieving Substantial Completion shall, under no circumstances, exceed $100,000.

§ 15.2 Initial Decision

§ 15.2.0 As used in this Section 15.2 and its subparts, "Claims" refers only to Claims by the Contractor, and does not include Claims by the Owner.

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to arbitration or litigation, as the case may be, of any Claim initiated by Contractor and arising prior to the date final payment is due. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the Contractor may commence litigation without a decision having been rendered, and such litigation shall be subject to the Owner's right to elect arbitration as provided in Section 15.4.1. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall not be binding.

§ 15.2.6 Reserved.

(Paragraph deleted)
§ 15.2.7 Reserved.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Reserved.

(Paragraphs deleted)
§ 15.4 Arbitration
§ 15.4.1 In the sole and exclusive discretion of the Owner, all claims, disputes and other matters in question between any of the Architect, Owner, Contractor, Surety, Subcontractor or any material supplier arising out of, or relating to, agreements to which two or more of said parties are bound, or the Contract Documents or the breach thereof, shall, in the case of such election by the Owner, be decided by arbitration. If the Owner elects such arbitration, it shall be conducted in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then in effect at the time that the demand is made, as modified herein. In any such arbitration, the arbitrator shall make separate findings as to liability and the amount of damages with respect to each party to the arbitration to the extent any liability or responsibility for damages exists. The Architect, surety, subcontractors and material suppliers who have an interest in the dispute shall be joined as parties to the arbitration. The arbitrator shall have authority to decide all issues between the parties. The foregoing option of the Owner to arbitrate and any other agreement to arbitrate with an additional person or persons, duly consented to by the parties, shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrator shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.
§ 15.4.1.1 If the Owner elects arbitration, in its sole discretion, notice of the demand for arbitration shall be filed in writing with the other part(ies) to the arbitration and with the American Arbitration Association. Such demand for arbitration shall be made within a reasonable time after the claim, dispute or other matter in question has arisen, and in no event shall it be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would otherwise be barred by an applicable statute of limitations or repose. Whether such limitations have been met shall be decided by the arbitrator if contested by a party.

§ 15.4.1.2 All parties shall carry on the Work and perform their duties during any arbitration proceedings, and the Owner shall continue to make payments to the extent required by the Contract Documents. However, at the request of any party, contested payments may be placed in an escrow account pending resolution of the dispute.

§ 15.4.1.3 If the Owner elects arbitration, in its sole discretion, in addition to the other rules of the American Arbitration Association applicable to any arbitration hereunder, the following shall apply:

.1 Promptly after the impaneling of the arbitrator, the arbitrator shall establish a procedure for each party to set forth in writing and to serve upon each other party a detailed statement of its contentions of fact and law, along with appropriate responses thereto;

.2 All parties to the arbitration shall be entitled to reasonable discovery procedures as provided by the Illinois Code of Civil Procedure and Illinois Supreme Court Rules, as supplemented by rules to be established by the arbitrator;

.3 The arbitration shall be commenced and conducted as expeditiously as possible consistent with affording reasonable discovery as provided herein. Similarly, the scope of discovery, and the extent of proceedings hereunder relating to discovery, shall be consistent with the parties' intent that the arbitration be conducted as expeditiously as possible.

§ 15.4.2 In the event of any litigation or arbitration between the parties hereunder, the Contractor shall pay the Owner's reasonable attorneys' fees and court costs to the extent the court or tribunal determines the Owner is the prevailing party.

(Paragraphs deleted)

ARTICLE 16 EQUAL EMPLOYMENT OPPORTUNITY/POLICIES OF EMPLOYMENT

§ 16.1 In the event of the Contractor's non-compliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act or the Rules and Regulations of the Illinois Department of Human Rights ("Department"), the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation. During the performance of this contract, the Contractor agrees as follows:

§ 16.1.1 That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are under-utilized.

§ 16.1.2 That, if it hires additional employees in order to perform this contract or any portion thereof, it will determine the availability (in accordance with the Department's Rules and Regulations) of minorities and women in the area(s) for which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not under-utilized.

.1 All Contracts for work herein are subject to the provision of the Equal Employment Opportunity Clause of the Illinois Fair Employment Practices Commission.

§ 16.1.3 That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service.

§ 16.1.4 That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any such labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply

with such Act and Rules and Regulations, the Contractor will promptly so notify the Department and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations thereunder.

§ 16.1.5 That it will submit reports, including but not limited to, certified payroll documentation as required by the Department's Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency; and in all respects comply with the Illinois Human Rights Act and the Department's Rules and Regulations.

§ 16.1.6 That it will permit access to all relevant books, records, accounts and work sites by personnel of the contacting agency and the department for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.

§ 16.2 Incorporation by Operation of the Regulation

§ 16.2.1 All contract specifications furnished by any contacting agency, Bidders or Contractors shall contain the Equal Employment Opportunity Clause set forth in Paragraph 16 such clause shall be included as a material term of any contract; however, a contracting agency having published rules and regulations which govern all its contracts and which include the Equal Employment Opportunity Clause may incorporate such clause by reference in such agency's individual contracts or contract specifications. By operation of these Rules and Regulations, the Equal Employment Opportunity Clause shall be deemed to be a part of every contract whether or not such contract is in writing and regardless of whether said clause is physically incorporated therein.

§ 16.3 Subcontracts

§ 16.3.1 Each public Contractor and Subcontractor shall in turn include the Equal Employment Opportunity Clause set forth in Paragraph 16 in each of its subcontracts under which any portion of the contract obligations are undertaken or assumed, said inclusion to be either verbatim or by reference so that the provisions of the clause will be binding upon such Subcontractors.

§ 16.4 Written Sexual Harassment Policy

§ 16.4.1 Each public Contractor and Subcontractor engaged in the Work shall have in place a written sexual harassment policy in full compliance with 775 ILCS 5/2-105 (A) (4) of the Illinois Human Rights Act.

ARTICLE 17 OTHER REQUIREMENTS

§ 17.1 All Contractors for work herein are subject to the provisions of the Illinois Prevailing Wage Act, 820 ILCS Section 130, providing for the payment of the prevailing rate of wage to all laborers, workmen and mechanics engaged in the Work.

EXHIBIT K

Coordination Protocol Document

Project:	Engagement Hall
Owner:	McHenry County College
Architect:	Demonica Kemper Architects
Date:	05-27-25

Table of Contents

Right of Use:

- Proprietary Information: Subcontractor acknowledges that the following items are confidential and proprietary and are to not be shared with any other party (except for Subcontractors and consultants of Subcontractor that are directly associated with the Project) outside of this Project without the written permission of Pepper.
    - Exhibit K - Coordination Protocol Document
    - 3D Coordination Procedures and associated correspondence (coordination reports, tracking logs, meeting minutes).
    - Any and all VDC images associated with the Project
- Subcontractor acknowledges and agrees to the following conditions with respect to any Electronic Information transmitted by Pepper to Subcontractor.
- Subcontractor acknowledges that the Design Team may require multiple company specific conditions release or electronic information waivers to be signed and adhered to for this Project. Subcontractor will comply with such Design Team requirements.

A. Introduction

Firms outlined in this document will participate in a design / coordination process using 3D Modeling. This effort will be a collaborative process in which this team will coordinate their work while generating shop drawings in a three dimensional virtual environment. This document outlines the coordination process including file requirements, meetings, schedule, coordination areas, and project deliverables.

B. Project and Team

1. Project Description

Project Name	XXX
Project Number	Pepper: XXXXXXX
Project Description	XXX
Areas Coordinated	XXX

2. Core Collaboration Team

Contact Name	Role/Title	Company	Email	Phone
Name	MEP Coordinator	Pepper	xxx@pepperconstruction.com	xxx-xxx-xxxx
Name	Project Executive	Pepper	xxx@pepperconstruction.com	xxx-xxx-xxxx
Name	Project Manager	Pepper	xxx@pepperconstruction.com	xxx-xxx-xxxx
Name	Project Engineer	Pepper	xxx@pepperconstruction.com	xxx-xxx-xxxx
Name	Superintendent	Pepper	xxx@pepperconstruction.com	xxx-xxx-xxxx
	Architect			
	Engineer			
	Owners Rep (if Required)			
	Trade partner #1			
	Trade Partner #2			
	Trade Partner #3			

3. Team collaboration

The table below illustrates the recommended level of team participation in coordination meetings.

Team Member	All Meetings	As Needed / Requested	Sign-Off Meetings
Architect		x	x
Structural Engineer		x	
Mechanical Engineer		x	x
Construction Manager / General Subcontractor	x	x	x
Trade Partners	x	x	x

a. An updated Design Model will not be provided by design consultants with every revision or update to the Contract Documents. Except to the extent Pepper provides in writing that such updates are not required, Subcontractor shall maintain and update their respective models throughout construction by incorporating, at a minimum, the following:

I. Responses to Requests for Information (RFI's).
II. ASI's, CCD's, sketches, bulletins or other documents that affect the Contract Documents.
III. Submittal comments and revisions on approved shop drawings.
IV. Approved substitution requests.
V. As-built field modifications.
VI. Revisions in the sequencing of the Work.
VII. Revisions requested by Pepper and those on behalf of other Subcontractors.

b. As the coordination team identifies conflicts that require the architect's input, the Model Manager (see below) will communicate those issues to the architect and collaborate to identify a solution as necessary.
c. As the architect identifies solutions to these conflicts, they should notify the Model Manager as soon as possible with a documented solution that is shared with the coordination team.
d. Pepper may share the Subcontractor's Construction Model with other Project participants for purposes of coordinating work on the Project, including for purposes of spatial coordination, constructability analysis, construction planning, submittals, fabrication, and installation of Work. Pepper may also combine Subcontractor's Construction Model with the models of other Project participants into a Federated Model for the same purposes.

4. Model Manager

a. Pepper will assign a Model Manager to the project. The Model Manager will be responsible for compiling the federated model, performing clash detection, compiling clash reports, and facilitating the coordination meetings. The Model Manager will be the coordination team's liaison with the design team in communicating issues that require design team input.

Contact Name	Role/Title	Company	Email	Phone
Name	MEP Coordinator	Pepper	xxx@pepperconstruction.com	xxx-xxx-xxxx

Task	Design Team	Pepper
Compile Federated Model		x
Provide Architectural, Structural, MEP-FP CAD Backgrounds	x	x
Model Manager to facilitate model during coordination, including clash detection		x
Management of overall coordination and schedule		x
Provide on-site workstation for use by field personnel		x
Issue 2D composites of coordinated systems		x
Facilitate sign-off process		x

b. Pepper will provide an on-site workstation with the most current federated model. A Pepper project manager or superintendent will have access to the workstation and will be able to query the model on site to clarify system coordination at the request of tradesmen or other personnel on site.

C. Coordination Meetings

1. Project Phases / Milestones

Project Phase/Milestone	Estimated Start Date	Estimated Completion Date
(Example) Construction Documents Issued	8/6/15	9/30/15

(Example) Construction	3/2/16	3/6/17
(Example) Project Turnover	3/6/17	3/6/17
XXX	XX/XX/XX	XX/XX/XX

2. 3D Modeling Coordination Schedule

A specific schedule for 3D Modeling coordination will be released as an attachment to this Coordination Protocol Document. Coordination will need to be completed in advance of construction commencing and in time for material to be fabricated to meet the project schedule.

3. Meeting Days

Date:	TBD
Time:	TBD
Location:	TBD

a. Subcontractor shall participate in coordination meetings as outlined by Pepper, including a 3D coordination kick-off meeting attended by Subcontractor's 3D technicians/detailers, lead superintendents/foremen and project managers assigned to the Project.

b. Each trade partner as outlined in the Core Collaboration Team chart in Section 'B.2' of this document must be represented by members of their firm directly responsible for detailing and coordination. It is recommended that trade partners bring a 2D set of contract drawings.

c. Pepper will demonstrate clash detection within Navisworks and its utilization for the project, answer any questions or concerns regarding all aspects of the 3D Modeling and coordination process, and make recommendations as needed.

d. Model geometry should be clash free within the same system and with structure and should be located above ceilings and within walls and bulkheads as required. Areas where meeting these constraints are not feasible should be noted by the trade partner and discussed in the meeting.

4. Meeting Location

Location: Teams Meeting

Frequency: Additional coordination meetings will be held as needed at the discretion of the Model Manager in order to meet the coordination schedule and ultimately the overall project schedule. Meetings may be held via web and tele-conferencing at the discretion of the Model Manager.

D. Project 3D Modeling Goals and Implementation

1. 3D Modeling Goals

Project Goal (EXAMPLES BELOW)
1. To demonstrate a collaborative effort among all stakeholders, using 3D Modeling to communicate, coordinate, and construct the project. Installations 100% accurate to coordinated model. Model all systems regardless of size unless noted otherwise in section D.
2. Utilize prefabrication to expedite installations where possible. Establish metrics for measuring cost savings, schedule savings, and capture photos, videos, and interviews throughout the project to tell the story at the end.
3. Locate system components such that they can be properly accessed and maintained by facility personnel during building operation.

2. 3D Modeling Implementation

The table below outlines the various ways the team has discussed using 3D Modeling to this point. The column labeled 'Y/N/M' (Yes/No/Maybe) illustrates the team's current position for implementing this particular activity.

Methods of Implementation	Y/N/M	Description (EXAMPLES BELOW)
MEP-FP Trade Coordination	Y	Team to perform 3D coordination and clash detection to optimize system installation and ensure the finished work is ideal for hospital operation.
MEP-FP 2D Composite Plans	Y	Team to post CAD files for PCC to compile and print the following: Shop Composite, RCP Composite (Anything in ceiling), CMU/Shear wall Composite, PAD Composite, Hanger Point Composite, Slab Opening/Core Composite.
Structural Modeling and Coordination	Y	Pepper may generate a 3D model of the concrete and reinforcement for the project to help with coordination and quantity verification.
Exterior Envelope Trade Coordination	N	Pepper will utilize the design model to assist in exterior envelope review. Pepper may require exterior envelope trades to generate 3D models for their scope of work for use in coordination.
Prefabrication	M	Pepper will work with trade partners to identify prefabrication opportunities. Trades are encouraged to plan work to take advantage of prefab benefits for scheduling and sequencing.
Laser Scanning	M	Team to evaluate need to capture scan data of existing conditions
Facilities Management	M	Pepper to determine FM goals for the project and determine if deliverable data is required. Not to be included as part of original scope of work for MEP-FP trades.

3. Coordination Requirements

All Subcontractors are responsible for their coordinated models and field installations. Any field issues will be the responsibility of the Subcontractor to correct. Pepper is **NOT** responsible for any of the Subcontractors' models, but acts as the model facilitator.

Subcontractor to provide competent 3D Modeling technician/detailers who are experienced in the type of work that the Subcontractor is providing. Prior to award, submit resume of Subcontractor assigned modeler for review of modeling experience. Pepper will not be responsible to train Subcontractor's modeling personnel. In the case where Subcontractor will be outsourcing 3D Modeling and coordination efforts to another company, only Project approved companies will be acceptable, and approval by Pepper will be required prior to award of the Project.

Subcontractor shall provide its 3D Modeling technician/draftspersons with any necessary hardware, software and network/internet connectivity to execute the modeling effort described herein, this includes a minimum of (1) license to Autodesk Navisworks Manage per 3D modeler on the Project.

Subcontractor to show all of their respective system components and/or equipment in their 3D models.

Subcontractor is responsible for ensuring the technical accuracy and completeness [(consistent with the Level of Development Requirements)] of Subcontractor's Construction Model. Model elements in the Subcontractor's Construction Model to be consistent with their 2D shop drawings.

Subcontractor is required to review their respective model content and ensure there are no conflicts with structural or architectural model elements prior to initial submission to Pepper for inclusion in the federated model (i.e. clear all beams, columns, soffits and other structural and architectural components) maintaining all required vertical and horizontal clearances, as specified (i.e. fire spray thickness and scheduled beam deflection). At a minimum, the model shall be pre-coordinated by the Subcontractor to identify major issues. Smaller issues should be identified and resolved by Subcontractors outside weekly meetings.

Any system components or attributes appearing on contract documents, but not included in the model, will be the Subcontractor's responsibility to coordinate in the field.

It is each Subcontractor's responsibility to coordinate their work in accordance with the contract documents. At any point there is a discrepancy between the model and the contract documents, the contract documents shall take precedence. Design models may be provided to the Subcontractors as a reference, but do not take precedence over the contract documents. Subcontractor shall take reasonable steps to verify the accuracy of such Model Elements is consistent with contract documents. Subcontractor to notify Pepper with conflicts that are identified between the Model Elements and Contract Documents.

The 3D Modeling coordination process requires Subcontractors to submit models that represent a complete model of their respective trade and do not degrade the design intent or performance of building systems.

Each Subcontractor shall anticipate the interrelationship of Subcontractors and other trades so work can be performed in manner that minimizes interference with respect to system layout and sequencing of activities.

The 3D Modeling Coordination process is not the basis for contract adjustment or change order.

It is the responsibility of each Subcontractor to coordinate connections to existing systems. Existing to remain systems will be modeled by the respective subcontractor for each trade and used for coordination.

All additional quantities of material beyond what is inferred on the drawings that is required to complete work in place is part of the Subcontractor's bid price and contract.

During the construction of the project, there may be requirements to make field modifications of building systems being installed. These modifications are to be updated in the model within (14) days of the field modification. The Subcontractor shall immediately notify Pepper in writing that an adjustment has been made.

Subcontractors are expected to complete 3D Modeling Coordination in accordance with the overall project schedule and allocate resources as needed to comply with work activities as required to execute the work.

Pepper may share the Subcontractor's Construction Model with other Project participants for purposes of coordinating work on the Project, including for purposes of spatial coordination, constructability analysis, construction planning, submittals, fabrication, and installation of Work. Pepper may also combine Subcontractor's Construction Model with the models of other Project participants into a Federated Model for the same purposes.

Subcontractor shall ensure that, as well as the field superintendents and field foremen responsible for the installation of the work, they shall also participate in the coordination process. The field personnel must also be present during the final sign-off of each Coordination Area.

Subcontractor shall establish layout points based on the Coordinated Model and shall locate these layout points in the field using a total station or equivalent technology.

All of Subcontractor's Construction Models shall be coordinated with Owner furnished systems/equipment.

E. Process Overview

1. Develop Preliminary 3D Models for Coordination

   Each participating Subcontractor will be required to develop design / coordination drawings by creating a 3D model which includes all system components respective to their scope of work. Subcontractors shall provide this 3D model, with contents as outlined in this document for use in coordination.

2. Assemble Federated Model and Begin Clash Detection

   The Model Manager will integrate the architectural, MEP-FP, and any other required models into a federated 3D model for design review and clash detection. Each firm should post their respective files regularly and should review the federated model for conformance to design specifications. The Model Manager will regularly perform clash detection and post the latest nwf/.nwd model to the project file sharing site.

   The following hierarchy will be used as a general standard for resolving clashes:

Priority	Building Systems
1	Structural / Architectural Components

2	Major equipment & fixtures
3	Gravity systems
4	Large duct and piping mains
5	Large conduit/Racks of conduit & cable tray
6	Pneumatic tube
7	Small piping
8	Small conduit, hangers, supports, etc.

3. General Requirements

In general, the following model structure and features will be required:

Each trade partner may choose layer names. The layers have to structure the scope of the work in a meaningful way. (i.e. Supply, Return, Hangers all on separate layers)

The geometry of identical 3D elements contained in different files has to agree when the elements of the different files are superimposed.

Colors, file naming, and layer naming have to remain consistent.

Elements of the building must be represented in only one file. There must be no overlap of elements of different files.

All parties shall provide models with a scope representing a level of detail greater than or equal to what is typically drawn on 2D plans. Greater level of detail may be needed to include all the required model elements. Refer to the Discipline Specific Model Requirements section.

Any system(s) designed to extend beyond the building line are to be modeled up to the connection point indicated in the Contract Documents or 5'-0" outside the building perimeter if information is not indicated. This shall include all underground systems.

The Model Manager will archive the coordination progress by posting .NWD files to the Project Collaboration Site for the team to review.

4. File Upload Requirements

Prior to first upload, files should be pre-coordinated for same system clashes, structural steel clashes, architectural wall and soffit clashes and clearances above ceilings

Each trade partner is responsible to elevate their models to the correct elevation defined as the Model Reference Point

Clean drawings in the following ways:

Hide Text

Remove any2D lines

Remove all x-references

Purge all model content loaded into the file that is not being used or referenced

Post both native and .NWC files to the Project Collaboration Site, at a minimum, 4 hours before the scheduled coordination meeting time. Timing will be established by Model Manager after each meeting.

5. Collaborate with the Architect

The design / coordination team will meet either in person or via web conference as necessary. These meetings will be to review the design and coordination progress and address design, constructability, and coordination issues. These meetings will occur until all involved parties have confidence in the constructability of the coordinated systems.

While Model Manager will update the architectural model as approved changes are made, it is each Subcontractor's responsibility to review conflicts identified through the Integrated Team Coordination process with the most current contract documents to ensure that conflicts correlate with most current designed conditions.

6. Involve Field Personnel

Each Subcontractor is responsible for reviewing design models during coordination with field personnel, including the installing foreman or superintendent, to ensure that coordinated design fits all install requirements. Field Personnel to be at meetings prior to sign-off, and aware of updates/coordination schedule. Ensure that field personnel feedback is being incorporated prior to sign off of the model to avoid issues during field installation. All field personnel to review sequencing with other trades scope of work.

7. Drawing Submissions and Sign-off

Each time a Subcontractor posts a new .nwc file to the project file sharing site, they must also post a 3D .dwg file of their system. This will allow files to be overlaid on a drawing either in Revit or in AutoCAD. If required, all object enablers to be provided by the Subcontractor as well.

Following the completion of coordination of a floor or coordination area, the team will engage in a signoff process where each firm acknowledges and agrees to their final layout and location of systems. Upon completion of the Coordinated Subcontractor Model and comment revisions per submittal review, Subcontractor will be expected to acknowledge acceptance of the Coordinated Model in writing. Each firm will submit 3D and 2D documentation. The drawings and model will be the basis for installation. The 2D drawings produced by each trade will then be submitted to the design team for formal review and submission.

After the sign-off, Pepper will issue a 2D overlay of coordinated systems using the native sign-off files with necessary coordination comments, dimensions, elevations, etc. This document is intended to ensure ceiling installation matches the coordinated model.

Any modifications to system layout, location, etc. after signoff and before or during installation shall be reflected in the Subcontractor's most current drawing on the team collaboration site immediately. When updating the model due to changes, it is the responsibility of that Subcontractor to review the model and make sure the updates are clash free. If during one of these updates (post sign off) a clash is discovered, it is the responsibility of the Subcontractor making alterations to their file to notify the Model Manager as well as the other trade effected to make sure a conclusion is reached, and all parties are in agreement. At the conclusion of the project, the model shall reflect Subcontractor as-builts. Native files and Navisworks files will be turned over to the owner.

Subcontractor acknowledges that any fabrication or installation that takes place prior to area sign-off, approved submittals, or in conflict with the Contract Documents shall be at the Subcontractor's own risk.

8. As-Builts and Turnover Information

Any models by the Subcontractors shall be submitted to Pepper at the completion of the coordination process. Any and all revisions or updated as-built models shall be submitted to Pepper as required in this document and the Project Specifications or as amended by the subcontract agreement. At the end of the project, Subcontractor shall provide copies of the final electronic version of the Model(s) to Pepper no later than thirty (30) days after Substantial Completion or earlier as outlined in the Contract Documents. The Models provided shall be in native authoring 3D formats, coordination export files (Navisworks or equivalent), 2D CAD exports of each view used, and PDF formats as compatible for the Owner.

Subcontractor shall adhere to Pepper's Closeout guidelines for final naming conventions and document organization.

F. 3D Modeling Plan

1. Planned 3D Models

The following lists the 3D models that will be generated for trade coordination throughout the course of the project. The design team will provide models to be used as a reference, but the trade partners are expected to provide the model(s) for the scopes of work listed below. The name abbreviations for files will be: (Remove any irrelevant trades for your project)

The files submitted to Pepper need to be in a format that can be opened and displayed in Autodesk® Navisworks 2019. Please refer to the Supported File Formats and Applications area on Autodesk's® website for a complete listing of the various formats that are supported by Navisworks.

The 3D models have to consist of 3D solids (not lines or wire frames) that represent the actual dimensions of the building elements and the equipment that will be installed on the project. Reasonable abstractions can be made but have to be

coordinated. The abstractions have to allow meaningful coordination and clash detection. The global coordinate system of the submitted files has to follow the coordinate system used by the architect.

Formatting for Model File Names				
File Name Intent = TRADE ABBREV_LEVEL.nwc (trade abbreviations noted in table below) File Name Format Example = *PLMB_L01.nwc*				
Model Name	**File Name Abbrev.**	**Model Content**	**Authoring Company**	**Authoring Tool**
Architectural Model	ARCH	Proposed architectural building components	(Specify Architect or other party)	Revit 20XX
Structural Model	STRUCT	Structural steel and concrete	(Specify Engineer or other party)	Revit 20XX
Steel Model	STEELFAB	Steel columns, framing, bracing, and new structural supports	XXX	XXX
Metal Panel Model	MP	Metal panel system and associated supports, girts, and other components as outlined in the Discipline Specific Model Requirements	XXX	XXX
Curtain Wall Model	CW	Curtain wall mullions, glazing and other components as outlined in Discipline Specific Model Requirements.	XXX	XXX
Cold Form Metal Studs	CFMS	Cold Form Metal Studs, soffitd, partitions and other components as outlined in Discipline Specific Model Requirements.	XXX	XXX
Concrete Model	CONC	Concrete associated with the building along with reinforcement and other components as outlined in Discipline Specific Model Requirements.	XXX	XXX
Elevator Model	ELEV	Elevator and any support systems or miscellaneous steel that is being provided by the elevator Subcontractor. For additional information see Discipline Specific Model Requirements.	XXX	XXX
Mechanical Duct Model	MDUCT	New ductwork, equipment and other components as outlined in Discipline Specific Model Requirements.	XXX	CAD
Mechanical Piping Model	MPIPE	New mechanical piping, valves, equipment, and other components as outlined in the Discipline Specific Model Requirements.	XXX	CAD
Medical Gas Model	MED	New medical gas piping, valves, equipment and other components as outlined in the Discipline Specific Model Requirements.	XXX	CAD
Plumbing Model	PLMB	New storm, sanitary, vent, water piping, and other components as outlined in the Discipline Specific Model Requirements.	XXX	CAD

Pneumatic Tube Model	PTUBE	New pneumatic tube systems including equipment and other components as outlined in the Discipline Specific Model Requirements.	XXX	CAD
Fire Protection Model	FIRE	Sprinkler piping, sprinkler heads, fire protection equipment and other components as outlined in the Discipline Specific Model Requirements.	XXX	CAD
Electrical Model	ELEC	Electrical systems, conduit, cable tray, light fixtures, equipment, and other components as outlined in the Discipline Specific Model Requirements.	XXX	CAD
Food Service Equipment	FSE	Food service equipment, clearances, and MEP connections.		
King Studs Model	KINGSTUD	This model will include locations of king studs through the model and will be provided by Pepper.	Pepper	Revit 20XX
Supplemental Model	SUPP	This model will include any additional model needed for overhead coordination that is not being modeled by the design team or any trade partners.	Pepper	XXX
Beverage Conduit / Food Service Conduit	BEV	New beverage and fry oil conduits including equipment and other components as outlined in the Discipline Specific Model Requirements.		
Millwork	MW	Bar die walls, openings for MEP's, hardwared.		
Federated Model	MODEL	All project models assembled in one Navisworks model for review and coordination	Pepper	Navisworks 20XX

2. 3D Model Components

a. Project Reference Point

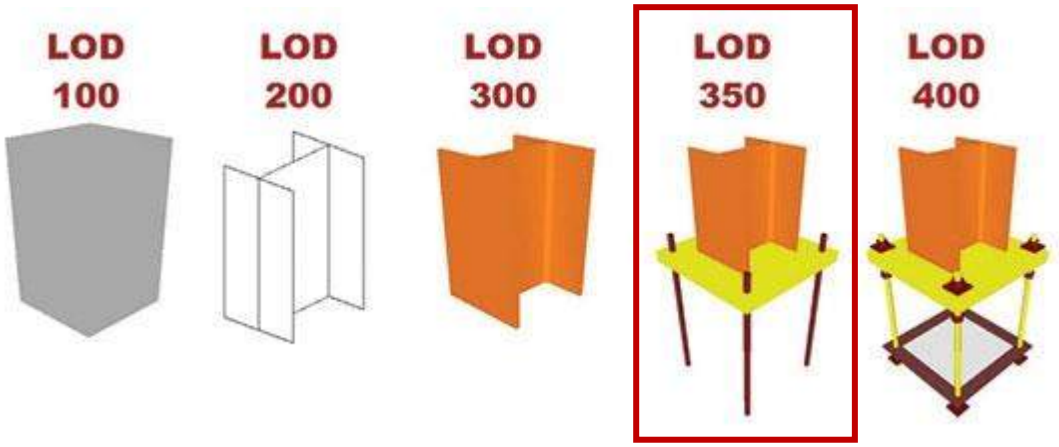
Project (0,0,0) Reference Point	Files exported from Revit must use - Project Internal or Shared Coordinates X: Origin Point of Architectural CAD Files is (X'-X" from column XX) Y: Origin Point of Architectural CAD Files is (X'-X" from column XX) Z: Main Level = 0'-0" (Note: Please indicate origin point of your file with a cross hair or other identifiable symbol that can be identified within Navisworks)

Subcontractor's Construction Models shall be created in 1:1 scale utilizing standard architectural US units of measure (feet and inches), unless directed.

Subcontractor's Construction Model shall utilize the point of origin (x,y,z) in both horizontal and vertical planes defined by Pepper above, and shall be elevated to building design elevations so that no transforms will be needed or applied inside of the federated Navisworks coordination model.

b. Discipline Specific 3D Model Requirements

3D Modeling for each trade shall generally include, but not necessarily be limited to the items listed in the table below for each of the planned models as part of the scope of work for each trade. Each of the trade partners is above all responsible for making sure that the contents of the model represent a complete system and that tolerance for system access and maintenance along with insulation are included where appropriate. If there is any confusion about the requirements in the tables below, please contact the project model manager.



All coordination models must be model to a minimum **L**evel **O**f **D**evelopment 350 standards. Which states "The Model Element is graphically represented within the Model as a specific system, object, or assembly in terms of quantity, size, shape, orientation, and interfaces with other building systems".

If you would like more info on LOD 350 please click the following link:

General Notes (All Trades)

Access spaces required by codes and for maintenance should be represented as objects in a model for all trades. The objects representing access spaces should be on separate layers for each system and be modeled to the ceiling.

ARCH	ARCHITECTURAL MODEL
The architect will provide a design intent model to represent all walls, ceilings, doors and other architectural components in preparation of the contract documents. The architectural model does not take the place of the contract documents, but will be available as a reference during coordination and will be used as part of the federated model.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Walls	Models will include walls with rating designation by wall type. Full height walls should be modeled to extend to the structure above.
Ceilings, Soffits	Ceilings should indicate ceiling type with designation for lay-in acoustical ceilings, gypsum ceiling systems, or other type of ceiling system as part of the component parameters. If ceiling heights change or are adjusted during coordination the architect, or model manager when approved, will update the model accordingly.
Doors and Windows	Doors and windows will be included as part of the architectural model. Overhead doors will have a generic shape representing “no-fly” zones for other above ceiling trades.
Casework	Casework will be included in the architectural model.
Light Fixtures	Light fixtures will be included in the architectural model, but will be a placeholder only. **The electrical trade partner will model light fixtures based on actual submittals including clearances for installation and maintenance.**

STRUCT	STRUCTURAL MODEL
The structural engineer will provide a design intent model to represent the structural framing design for the project. The structural model does not take the place of the contract documents, but will be available as a reference during coordination and will be used as part of the federated model.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Steel Framing	Structural design model will include steel framing with no geometry shown to reflect connection details or misc. framing. Steel fabricator will be responsible for generating a model to a higher level of detail. See 'Steel' section within 2.b. of this document.
Concrete Structure	Structural design model will include basic geometry for slabs, concrete columns, perimeter foundations, pad footings and any other concrete components of the structure.
Fireproofing	Fireproofing will not be modeled. It will be the responsibility of each MEP-FP trade partner to route systems to avoid fireproofing. A clearance will be applied to the steel during clash detection to assist in coordinating with fireproofing.

STEELFAB	STEEL MODEL
The Subcontractor responsible for structural steel fabrication will provide a fabrication model to be used for coordination and will ensure that the contents of the model represent a complete system as needed for installation. The table below outlines the minimum requirements for models to be used in coordination.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Steel Framing	Model all columns, beams, trusses, and joist framing. Include anchor bolt locations. Include slopes on framing members as noted on contract documents
Bracing and Gusset Plates	Model all connections and additional bracing including k-braces and gussets plates.
Additional steel	Include all angles, channels, plates, and structural elements required to frame around openings or support equipment

MP	METAL PANEL MODEL
The Subcontractor responsible for installation and fabrication of Metal Panels will be responsible for making sure that the contents of the model represent a complete system. The table below outlines the minimum requirements for models to be used in coordination.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Metal Panels	Metal panels should be modeled to accurate dimensions and thicknesses. Girts and other rails required for the installation of the panels should be modeled by the metal panel trade partner.

CW	CURTAIN WALL MODEL
The Subcontractor responsible for installation and fabrication of curtain wall and storefront will be responsible for making sure that the contents of the model represent a complete system. The table below outlines the minimum requirements for models to be used in coordination.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Curtain wall and Storefront	Curtain wall mullions and glazing should be modeled to accurate dimensions. Modeling of the exact profile for each mullion is not necessary but overall dimensions and mullion dimensions shall be modeled accurately.

CFMS	COLD FORM METAL STUD

The Subcontractor responsible for installation and fabrication of cold form metal stud and will be responsible for making sure that the contents of the model represent a complete system. The table below outlines the minimum requirements for models to be used in coordination.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
General	Including but not limited to wall construction, soffits (horizontal, vertical, and angle supports), movable/operable partitions, temporary partitions, finishes as deemed necessary by Pepper, and any additional components are to be modeled.
Openings	Framing for all openings larger than 2'-0" x 2'-0"
Supports	All permanent wall supports to actual location and appropriate spacing. All supports/kickers should be on a separate layer from the wall framing. This includes all backing and strapping to be used for layout drawings.
Stud Framing	All primary & secondary stud framing (door king studs, headers, etc.). Major framing elements such as king studs and headers to be on a separate layer.
Ceilings	All grid and hard ceilings to be used for MEP coordination. As well as the framing pocket and supports for in ceiling projection screens, light coves, skylights, etc.
Life Safety	Detail framing around all fire, smoke, and fire/smoke dampers. Quantity and locations of and tolerance around dampers to be coordinated with mechanical contractor.
REQUIREMENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Coordination Meetings	Subcontractor shall fully participate in the MEP coordination meetings as required and specified by Pepper. Subcontractor is responsible to reviewing the models for compatibility and constructability issues or clashes with wall partitions. In the case of conflicts with other trades, it will be the contractor's responsibility to modify framing as required in order to meet the intent of the wall construction.
Priority Walls	Subcontractor to provide specific delineated views of priority walls outlining proposed sequence of installation. As well as fire rated walls and path of egress.
Model Elements	All model elements to be within 1/8" tolerance and all walls to be modeled to actual width, depth, and height, and include typical stud layout, including partial height walls framing to structure and drywall to above ceiling.
Head of Wall	Special head of wall details that cannot be interrupted such as deflection heads are to be modeled in a separate layer/family.
Sequencing	Where construction requires sequencing, provide additional detailing for framing conditions as necessary to accommodate highly congested areas resulting from high volume or very large MEP systems. Details to be identified and communicated to field staff for use during production framing.
As-Builts	Subcontractor to use a Total Station or equivalent technology to locate and document as built conditions.

CONC	**CONCRETE**
The Subcontractor responsible for installation of concrete will be responsible for making sure that the contents of the model represent a complete system. The table below outlines the minimum requirements for models to be used in coordination.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Concrete	Concrete elements should be modeled to accurate dimensions. Overall geometry of the elements should be modeled accurately.

Rebar and Post Tension Systems	Unless directly specified for the project the rebar and post tension systems will not be required in the model. Drawings will be provided and are to be used in coordination for special areas of consideration.

ELEV	ELEVATOR SYSTEMS
The Subcontractor responsible for installation of the elevator systems will be responsible for making sure that the contents of the model represent a complete system and that tolerance for system access and maintenance are included where appropriate. The table below outlines the minimum requirements for models to be used in coordination.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
General	Specific system elements modeled by type including, but not limited to, all paths of travel zones and miscellaneous support framing provided by the elevator system Subcontractor are to be modeled. The model provided should be a project specific model with all model elements including appropriate sizing for the actual design and manufacture specifications for this project.

MDUCT	MECHANICAL DUCT MODEL
The Subcontractor responsible for installation of mechanical duct will be responsible for making sure that the contents of the model represent a complete system and that tolerance for system access and maintenance along with insulation are included where appropriate. The table below outlines the minimum requirements for models to be used in coordination. Any elements not included in the model will be the responsibility of the mechanical duct Subcontractor to coordinate with other trades.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Supply, Return, and Exhaust Duct	All ductwork is required to be modeled including low exhaust and return that is located within a chase wall. Insulation and flanges are required to be modeled on ductwork and shall be accounted for in coordination.
Stainless Steel and Welded Duct	Ductwork is required to be modeled including sloping requirements as specified and/or per SMACNA requirements. Coordinate termination locations with equipment.
Flexible Duct	All duct connections to grilles registers and diffusers are required to be modeled. Flexible connections to equipment shall be modeled.
Grilles, Registers, and Diffusers	Architectural reflected ceiling drawings shall be used as the basis for grille, register, and diffuser locations unless otherwise directed.
Terminal boxes	VAV and CAV boxes shall include no-fly zones as needed to properly access and maintain the equipment. No-fly zones should extend to finished floor where applicable for coordination with casework and other building elements
Return / Exhaust air valves	Air valves shall include no-fly zones as needed to properly access and maintain the equipment
Equipment	Models should include all Fan Coil and Blower Coil Units, and Exhaust and Supply Air Fans, Equipment shall include no-fly zones as needed to properly access and maintain the equipment. No-fly zones should include door swings on equipment, filter sections, fan access sections, electrical access zones, and coil replacement sections. All equipment modeled shall be based on approved submittals.
Fire and Smoke Dampers	Dampers shall include no-fly zones as needed for proper access for inspection and maintenance. It is Subcontractor's responsibility to coordinate all damper locations with rated assemblies. No-fly zones should extend to finished floor where applicable for coordination with casework and other building elements.
Duct Access Doors	Model no-fly zones at locations where duct access doors will be located. All access zones must be modeled to the ceiling.

Hangers and Supports	Hangers and supports for all duct and equipment above are required to be modeled, including riser supports in shafts, and will be coordinated in federated model in all areas.

MPIPE	MECHANICAL PIPING MODEL
The Subcontractor responsible for installation of mechanical piping will be responsible for making sure that the contents of the model represent a complete system and that tolerance for system access and maintenance along with insulation are included where appropriate. The table below outlines the minimum requirements for models to be used in coordination. Any elements not included in the model will be the responsibility of the mechanical piping Subcontractor to coordinate with other trades.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Chilled Water and Condenser Water Piping	Piping is required to be modeled with insulation and fittings must show the proper flange and/or coupling thicknesses. All piping is required to be modeled regardless of size.
Heating Water Piping	Piping is required to be modeled with insulation. All piping is required to be modeled regardless of size.
Steam and Condensate Piping	Piping is required to be modeled with insulation. All steam and condensate piping is required to be modeled regardless of size. Steam traps are required to be modeled at end of mains and where needed to maintain the function of the system and/or where needed to reset pipe elevations. Horizontal and vertical expansion fittings are required to be modeled according to approved submittals.
Gas Piping	All natural gas and compressed air piping is required to be modeled regardless of size.
Vent Piping	Piping is required to be modeled with insulation. All vent piping is required to be modeled regardless of size.
Pumps	Model pumps according to actual size and orientation per approved submittals. Models should be provided by manufacturer if available. Include no-fly zones as needed to access and maintain equipment. Pumps located above ceilings shall be located during coordination in areas where they can easily be accessed.
Equipment	Models should include AHUs, RTUs, boilers, steam generators, chillers, cooling towers, heat exchangers, unit heaters, PRV stations, condensate receivers, expansion tanks, air separators, flash tanks, and pressure vessels according to actual size per approved submittals. Models should be provided by manufacturer if available. Include no-fly zones as needed to access and maintain equipment. All equipment modeled shall be based on approved submittals.
Valves	All valves shall be modeled for all mechanical piping systems. Valve locations are required to be identified during coordination and no-fly zones should be included to represent space where access is needed to close and open the valve. No-fly zones should extend to the ceiling at minimum.
Hangers and Supports	Hangers and supports for all piping and equipment above are required to be modeled and will be coordinated in federated model in all areas. Steam and condensate piping should include guides and anchors where applicable and according to approved submittals.

MED	MEDICAL GAS MODEL
The Subcontractor responsible for installation of medical gas systems will be responsible for making sure that the contents of the model represent a complete system and that tolerance for system access and maintenance along with insulation are included where appropriate. The table below outlines the minimum requirements for models to be used in coordination. Any elements not included in the model will be the responsibility of the plumbing Subcontractor to coordinate with other trades.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**

Piping	Piping is required to be modeled with insulation. All medical gas piping is required to be modeled regardless of size. Piping that turns down into wall is required to be modeled. All piping to zone valve boxes are to be modeled.
Equipment	Models should include any equipment necessary to represent a complete medical gas piping system. No-fly zones required for system access should be included. All equipment modeled shall be based on approved submittals.
Valves	Valves shall be modeled for all medical gas piping systems. Valve locations are required to be identified during coordination and no-fly zones should be included to represent space where access is needed to close and open the valve. No-fly zones should extend to the ceiling at minimum.
Hangers and Supports	Hangers and supports for all piping and equipment above are required to be modeled and will be coordinated in federated model in all areas.

PLMB	PLUMBING MODEL
The Subcontractor responsible for installation of plumbing systems will be responsible for making sure that the contents of the model represent a complete system and that tolerance for system access and maintenance along with insulation are included where appropriate The table below outlines the minimum requirements for models to be used in coordination. Any elements not included in the model will be the responsibility of the plumbing Subcontractor to coordinate with other trades.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Domestic Water Piping, Soda Conduit	Piping is required to be modeled with insulation. All domestic hot and cold water piping is required to be modeled regardless of size. In-wall plumbing required in kitchen.
Storm, Sanitary, Waste, and Vent Piping	Piping is required to be modeled with insulation. All gravity and vent piping is required to be modeled regardless of size. Double containment should be modeled. Piping in walls is required to be modeled.
Fixtures	Plumbing fixtures are required to be modeled according to actual fixtures submitted. Include sinks, toilets, drinking fountains, eyewash stations and other fixtures as noted on the contract documents. Model and connect plumbing piping to each fixture, including in walls. Model carriers in walls for toilets and verify wall depth dimensions will allow for proper installation.
Pumps	Model pumps according to actual size and orientation per approved submittals. Models should be provided by manufacturer if available. Include no-fly zones as needed to access and maintain equipment. Pumps located above ceilings shall be located during coordination in areas where they can easily be accessed.
Equipment	Models should include water softeners, water heaters, expansion tanks and pressure vessels, and backflow preventers according to actual size per approved submittals. Models should be provided by manufacturer if available. Include no-fly zones as needed to access and maintain equipment. All equipment modeled shall be based on approved submittals.
Valves	Valves shall be modeled for all domestic water and gas piping systems. Valve locations are required to be identified during coordination and no-fly zones should be included to represent space where access is needed to close and open the valve. No-fly zones should extend to the ceiling at minimum.
Hangers and Supports	Hangers and supports for all piping and equipment above are required to be modeled and will be coordinated in federated model in all areas.

PTUBE	PNEUMATIC TUBE
The Subcontractor responsible for installation of pneumatic tube system will be responsible for making sure that the contents of the model represent a complete system. The table below outlines the minimum requirements	

for models to be used in coordination. Any elements not included in the model will be the responsibility of the pneumatic tube Subcontractor to coordinate with other trades.	
COMPONENT	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Piping	All pneumatic tube piping is required to be modeled regardless of size.
Stations and Equipment	All pneumatic tube stations and other equipment shall be modeled in its proper location and to the correct size. All equipment modeled shall be based on approved submittals.
Hangers and Supports	Hangers and supports for all piping and equipment above are required to be modeled and will be coordinated in federated model in all areas.

FIRE	**FIRE PROTECTION MODEL**
The Subcontractor responsible for installation of fire protection piping systems will be responsible for making sure that the contents of the model represent a complete system. The table below outlines the minimum requirements for models to be used in coordination. Any elements not included in the model will be the responsibility of the fire protection Subcontractor to coordinate with other trades. Coordination of sprinkler piping shall avoid trapping portions of the system in such a way that auxiliary drains are required. Where additional drains are required, these shall be indicated during the coordination process and noted on as-built drawings.	
COMPONENT	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Sprinkler piping	All sprinkler piping is required to be modeled regardless of size. Sprinkler systems requiring slope shall be modeled with correct slope and per NFPA requirements.
Valves	Zone valves, dry pipe valves, and pre-action valves shall be modeled for all sprinkler systems. Valve locations are required to be identified during coordination and no-fly zones should be included to represent space where access is needed to inspect and operate the valves.
Fire Protection Equipment	Fire pumps and compressors are required to be modeled according to actual size per approved submittals. Models should be provided by manufacturer if available. Include no-fly zones as needed to access and maintain equipment. All equipment modeled shall be based on approved submittals.
Hangers and Supports	Hangers and supports for all piping and equipment above are required to be modeled and will be coordinated in federated model in all areas.

ELEC	**ELECTRICAL MODEL**
The Subcontractor responsible for installation of electrical systems will be responsible for making sure that the contents of the model represent a complete system. The table below outlines the minimum requirements for models to be used in coordination. Any elements not included in the model will be the responsibility of the electrical Subcontractor to coordinate with other trades.	
COMPONENT	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Distribution	All feeder conduits 1” and larger are required to be modeled for coordination. Any branch conduits that share a rack with other conduits are required to be modeled. Routing of all individual power and lighting conduits to outlets and fixtures are not required to be modeled (unless otherwise specified). All conduit racks, bus ducts, raceways, supports, and cable trays are to be modeled. All items requiring access for maintenance will require access zones to be modeled. In-wall conduit required in kitchen.
Light Fixtures	Light fixtures to be modeled with appropriate clearance height dimensions above the ceiling as required to access and maintain each type of light fixture. Include no-fly zones as needed to access and maintain fixtures. All lights modeled shall be based on approved submittals.

Telecommunications	Telecommunication system hardware, racks, access points, servers, rack mounted equipment, racks, hangers, supports, cable tray, cameras, exit sign's etc. all to be modeled. In-wall conduit required in kitchen.
Fire Alarm	Fire Alarm system hardware, conduit and conduit racks, ceiling mounted equipment, hangers, supports, cable tray, etc. all to be modeled and coordinated.
Equipment	All electrical equipment, generators, variable frequency drives, access panels, wall and floor penetrations, etc. to be modeled. Include no-fly zones as needed to access and maintain equipment. Include no-fly zone over Electrical rooms to ensure no water lines run over top of electrical room. All equipment modeled shall be based on approved submittals.
Hangers and Supports	Hangers and supports for all elements above are required to be modeled and will be coordinated in federated model in all areas.

FSE	**FOOD SERVCE / KITCHEN EQUIPMENT**
The Subcontractor responsible for installation of medical gas systems will be responsible for making sure that the contents of the model represent a complete system and that tolerance for system access and maintenance along with insulation are included where appropriate. The table below outlines the minimum requirements for models to be used in coordination. Any elements not included in the model will be the responsibility of the plumbing Subcontractor to coordinate with other trades.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Equipment	Models should include any equipment necessary to represent a complete system. No-fly zones required for system access should be included. All equipment modeled shall be based on approved submittals. All Equipment legs, supports, etc. to be included in coordination model.
MEP Connections	All Plumbing, Beverage Line, Electrical connections shall be included in the coordination model. These shall be accurate to the approved submittals.

MW	**MILLWORK**
The Subcontractor responsible for installation of concrete will be responsible for making sure that the contents of the model represent a complete system. The table below outlines the minimum requirements for models to be used in coordination.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Millwork Panels / Bar Framing Components	Elements should be modeled to accurate dimensions. Overall geometry of the elements should be modeled accurately.
MEP Openings and Hardware	Models will accurately show MEP openings in panels for coordination. Hardware will be modeled accurately.
Gaming Unit Openings	Openings for gaming units will be accurately modeled for Unit Placement and coordination.

BEV	**BEVERAGE AND FRY OIL CONDUIT**
The Subcontractor responsible for installation of pneumatic tube system will be responsible for making sure that the contents of the model represent a complete system. The table below outlines the minimum requirements for models to be used in coordination. Any elements not included in the model will be the responsibility of the pneumatic tube Subcontractor to coordinate with other trades.	
COMPONENT	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Piping	All beverage and fry oil piping is required to be modeled regardless of size.

Stations and Equipment	All beverage and fry oil conduit stations and other equipment shall be modeled in its proper location and to the correct size. All equipment modeled shall be based on approved submittals.
Hangers and Supports	Hangers and supports for all piping and equipment above are required to be modeled and will be coordinated in federated model in all areas.

SUPP	SUPPLEMENTAL MODEL
This model will include any additional model needed for overhead coordination that is not being modeled by the design team or any trade partners.	
COMPONENTS	**LEVEL OF DETAIL AND ADDITIONAL REQUIREMENTS**
Various OH building elements	Includes but not limited to, metal ceiling grid system, clearance for racking and fixtures, accurate joist model, bracing, OH doors / track as needed, ceiling fans, kitchen equipment (OH Only), in-wall blocking in kitchen

c. General Quality Requirements Applying to All Trades

In addition to the model requirements above, all trades will also be required to consult with EXHIBIT I – Pepper Quality Coordination Guidelines (attached with this document) and make sure that the modeled systems are designed to avoid the common quality concerns outlined in the document.

d. Modeling Requirements for Existing Systems

Including any “Existing to Remain” systems in the coordination model is critical for renovation projects. Each Subcontractor will be responsible to model any existing to remain service for their respective trade. Requirements for this modeling are outlined below:

1. All trades are expected to utilize the scan data (if available) or field verification to create an accurate model that represents all existing to remain conditions for use in the coordination process.
2. All existing to remain model elements should be modeled as such that it is easily distinguished as an existing condition to others (i.e. different color, separate file).
3. It is understood that although the point cloud file (if available) is an accurate representation of the space, any additional field measurements or verifications that might be necessary to complete the required model elements are to be done by the respective Subcontractor.
4. When no point cloud or scan is available the subcontractor may use as-built drawings as a starting point, but field verification of their systems is required.
5. Once the existing to remain elements have been modeled the model elements should not be adjusted during coordination unless permission to change existing conditions is given.

If there are any questions about modeling procedure when utilizing a laser scan, please discuss with your model manager.

e. 3D As-Build Information

Contractor to use a Total Station or equivalent technology to locate and document as built conditions.

The Models provided shall reflect as-built conditions and meet all Project requirements, including those specified in the Project Coordination Protocol Document.

G. Project Collaboration Site

1. Egnyte is Pepper’s collaboration solution for managing documents, data, and design information with distributed teams. Subcontractor shall be required to utilize Pepper procedures for exchanging files including use of the Egnyte Site. Once the project’s team members are setup in the system a notification will be sent with login credentials and information on accessing this site. One representative per discipline will be provided access to the site.

a. Egnyte Web Access
   i. Egnyte Web Access enables you to access your site directly through the internet without having to download any software.
   ii. Egnyte Web Access:
      i. Internet Address: pepper.Egnyte.com

ii. User Name: *Assigned by Lead Model Manager*
iii. Password: Temporary password is sent in Welcome Email

H. Appendix

Please see attached documents.

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. ALTERNATE NO. 1: ADD to the Lump Sum Base Bid to provide one of the following systems in lieu of the Reinforced Concrete Pipe scheduled for the storm piping under the Engagement Hall and Connecting Link. Refer to civil drawings for more information.

1. ALTERNATE NO. 1A: Provide Reinforced Concrete pipe with Cured-in-Place Slip Liner System.

2. ALTERNATE NO. 1B: Provide ADS N-12 WT pipe encased in CLSM concrete.

3. ALTERNATE NO. 1C: Provide ADS N-12 WT pipe in a HOBAS fiberglass casing pipe with casing spacers.

B. ALTERNATE NO. 2: DEDUCT from the Lump Sum Base Bid to provide continuous wood trim in lieu of the continuous linear wall wash lights indicated at the perimeter of the Engagement Hall. Refer to architectural and electrical drawings for additional details.

C. ALTERNATE NO. 3: DEDUCT from the Lump Sum Base Bid to provide raised concrete curbs in lieu of the seated planter walls and remove the electrical outlets, AV speakers, and F8 up-light fixtures and all associated utilities at the North Patio Area. Refer to Civil, Electrical, and Technology drawings for additional details.

D. ALTERNATE NO. 4: DEDUCT from the Lump Sum Base Bid to remove (11) exterior light bollards and (1) exterior power bollard and all associated supports and utilities from the project scope. (8) exterior light bollards are located at the North Patio area and (3) exterior light bollards and (1) exterior power bollard are located at the south terrace. Refer to electrical drawings for additional details.

E. ALTERNATE NO. 5: DEDUCT from the Lump Sum Base Bid to remove all exterior tree up-light fixtures and associated utilities. Refer to electrical drawings for additional details.

F. ALTERNATE NO. 6: DEDUCT from the Lump Sum Base Bid to remove the exterior back-lit aluminum signage and all associated utilities on the existing west brick wall at the South Entrance. Refer to architectural and electrical drawings for additional details.

G. ALTERNATE NO. 7: DEDUCT from the Lump Sum Base Bid to remove the recessed interior electronic window shades and all associated supports and utilities at the South and West Entrances to the Engagement Hall. Refer to architectural and electrical drawings for additional details.

H. ALTERNATE NO. 8: DEDUCT from the Lump Sum Base Bid to provide painted gyp walls and ceilings in lieu of flush wood panel system at the South Entrance into the Engagement Hall. Refer to architectural drawings for additional details.

I. ALTERNATE NO. 9: DEDUCT from the Lump Sum Base Bid to provide painted gyp walls and ceilings in lieu of flush wood panel system at the West Entrance into the Engagement Hall. Refer to architectural drawings for additional details.

END OF SECTION 01 23 00

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 Section "Alternates" for alternates affecting this section.
2. Division 06 Section "Rough Carpentry"
3. Division 06 Section "Finish Carpentry"
4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:
   a. "Metal Doors and Frames"
   b. "Flush Wood Doors"
   c. "Stile and Rail Wood Doors"
   d. "Interior Aluminum Doors and Frames"
   e. "Aluminum-Framed Entrances and Storefronts"
   f. "Stainless Steel Doors and Frames"
   g. "Special Function Doors"
   h. "Entrances"
6. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
7. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.2 REFERENCES

A. UL LLC

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.3 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
   a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
   b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
   a. Wiring Diagrams: For power, signal, and control wiring and including:
      1) Details of interface of electrified door hardware and building safety and security systems.
      2) Schematic diagram of systems that interface with electrified door hardware.
      3) Point-to-point wiring.
      4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.

a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
   b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
   c. Indicate complete designations of each item required for each opening, include:
      1) Door Index: door number, heading number, and Architect's hardware set number.
      2) Quantity, type, style, function, size, and finish of each hardware item.
      3) Name and manufacturer of each item.
      4) Fastenings and other pertinent information.
      5) Location of each hardware set cross-referenced to indications on Drawings.
      6) Explanation of all abbreviations, symbols, and codes contained in schedule.
      7) Mounting locations for hardware.
      8) Door and frame sizes and materials.
      9) Degree of door swing and handing.
      10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

5. Key Schedule:
   a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
   b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
   c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
   d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
   e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
   f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
   b. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
   a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Final approved hardware schedule edited to reflect conditions as installed.
   d. Final keying schedule
   e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
   f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

1.4 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.
   d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
   a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
   b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:
   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware
   a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:
   a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference
   a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
      1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
      2) Preliminary key system schematic diagram.
      3) Requirements for key control system.
      4) Requirements for access control.
      5) Address for delivery of keys.

2. Pre-installation Conference
   a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Inspect and discuss preparatory work performed by other trades.
   c. Inspect and discuss electrical roughing-in for electrified door hardware.
   d. Review sequence of operation for each type of electrified door hardware.
   e. Review required testing, inspecting, and certifying procedures.
   f. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:

a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.6 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.7 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
    a. Mechanical Warranty
    1) Locks
        a) Corbin Russwin ML Series: 10 years
    2) Exit Devices
        a) Von Duprin: 3 years
    3) Closers
        a) LCN 4000 Series: 30 years
        b) CRL Concealed: 5 years
        c) Electrical Warranty
    4) Exit Devices
        a) Von Duprin: 1 year

1.8 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."

1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.

B. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

C. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.2 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer's recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with "Metal Doors and Frames", "Flush Wood Doors", "Stile and Rail Wood Doors" to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

C. Cable and Connectors:

1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.3 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Ives 5BB series

2. Acceptable Manufacturers and Products:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
   a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
   b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:

a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. 2 inches or thicker doors:
   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
8. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.4 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.5 ELECTRIC POWER TRANSFER

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Von Duprin EPT-10 CON

2. Acceptable Manufacturers and Products:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
2. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.6 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Corbin Russwin ML2000 series

2. Acceptable Manufacturers and Products:
   a. No Substitutions.

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
2. Indicators: Where specified, provide indicator window measuring a minimum 2-inch x 1/2 inch with 180-degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.
7. Provide motor based electrified locksets that comply with the following requirements:
   a. Universal input voltage – single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.
   b. Fail Safe/Fail Secure – changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case.

c. Low maximum current draw – maximum 0.4 amps to allow for multiple locks on a single power supply.
d. Low holding current – maximum 0.01 amps to produce minimal heat, eliminate “hot levers” in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
e. Connections – provide quick-connect Molex system standard.

8. (KEY OVERRIDE OPTION WHEN XL13-439 IS SPECIFIED IN HARDWARE SETS) Provide locks with a key override feature built into the chassis that allows the outside key to retract the deadbolt and/or latchbolt, overriding the inside thumbturn when it is being held in the locked position.
9. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
   a. Provide levers that return to within 1/2 inch (13 mm) of door face.
   b. Vandlgard: Provide levers with vandal resistant technology for use at heavy traffic or abusive applications.
   c. Lever Design: CSA

2.7 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin 98/35A series
   b. CRL PA100F

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide smooth touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
6. Provide exit devices with weather resistant components that can withstand harsh conditions of various climates and corrosive cleaners used in outdoor pool environments.
7. Provide flush end caps for exit devices.
8. Provide exit devices with manufacturer's approved strikes.
9. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.

10. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
11. Provide cylinder or hex-key dogging as specified at non fire-rated openings.
12. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
13. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
14. Provide electrified options as scheduled.
15. Top latch mounting: double- or single-tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.

2.8 ELECTRIC STRIKES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin 6000 Series

2. Acceptable Manufacturers and Products:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide electric strikes designed for use with type of locks shown at each opening.
2. Provide electric strikes UL Listed as burglary resistant that are tested to a minimum endurance test of 1,000,000 cycles.
3. Where required, provide electric strikes UL Listed for fire doors and frames.
4. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.9 MAGNETIC LOCKS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Security Door Controls

2. Acceptable Manufacturers:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide magnetic locks certified to meet ANSI/BHMA A156.23 classification criteria, UL10C, and UL1034 for burglary-resistant electronic locking mechanisms.

2. Provide magnetic locks equipped with SPDT Magnetic Bond Sensing device, where specified, to monitor whether enough magnetic holding force exists to ensure adequate locking and SPDT Door Status Monitor device, where specified, to monitor whether door is open or closed. Provide bond sensors fully concealed within electromagnet to resist tampering or damage.
3. Provide fasteners, mounting brackets, and spacer bars required for mounting and details.
4. Provide power supply recommended and approved by manufacturer of magnetic locks.
5. Where magnetic locks are scheduled, provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of magnetic locks for each individual leaf. Switches control both doors simultaneously at pairs. Locate controls as directed by Architect.

2.10 PASSIVE INFRARED MOTION SENSORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Security Door Controls MD-31D Series

2. Acceptable Manufacturers and Products:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide motion sensors as specified in hardware groups.

2.11 PUSHBUTTONS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN 8310 series

2. Acceptable Manufacturers and Products:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide push buttons as specified in hardware groups.

2.12 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage/Von Duprin PS900 Series

2. Acceptable Manufacturers and Products:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide power supplies approved by manufacturer of supplied electrified hardware.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
   a. 12/24 VDC Output, field selectable.
   b. Class 2 Rated power limited output.
   c. Universal 120-240 VAC input.
   d. Low voltage DC, regulated and filtered.
   e. Polarized connector for distribution boards.
   f. Fused primary input.
   g. AC input and DC output monitoring circuit w/LED indicators.
   h. Cover mounted AC Input indication.
   i. Tested and certified to meet UL294.
   j. NEMA 1 enclosure.
   k. Hinged cover w/lock down screws.
   l. High voltage protective cover.

2.13 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Corbin Russwin

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide cylinders/cores to match Owner’s existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer’s series as indicated. Refer to “KEYING” article, herein.

2.14 KEYING

A. Scheduled System:

1. Existing non-factory registered system:
   a. Provide cylinders/cores keyed into Owner’s existing keying system managed by Owner’s locksmith, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

1. Construction Keying:
   a. Replaceable Construction Cores.
   1) Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
      a) 3 construction control keys
      b) 12 construction change (day) keys.
   2) Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2. Permanent Keying:
   a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
   1) Master Keying system as directed by the Owner.
   b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
   c. Provide keys with the following features:
   1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
   2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
   d. Identification:
   1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
   2) Identification stamping provisions must be approved by the Architect and Owner.
   3) Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
   4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
   5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
   e. Quantity: Furnish in the following quantities.
   1) Permanent Control Keys: 3.
   2) Master Keys: 6.
   3) Change (Day) Keys: 3 per cylinder/core that is keyed differently
   4) Key Blanks: Quantity as determined in the keying meeting.

2.15 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN 4040XP series

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.

2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2-inch (38 mm) diameter piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards. Provide snap-on cover clip, with plastic covers, that secures cover to spring tube.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.16 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.17 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.18 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
   a. Glynn-Johnson

2. Acceptable Manufacturers:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.

2.19 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Substitutions by official Division 01 request only

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.20 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Zero International

2. Acceptable Manufacturers:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.21 ELECTRO-MECHANICAL AUTOMATIC OPERATORS

A. Manufacturers and products:

1. Scheduled Manufacturer and Product: LCN Senior Swing.

B. Manufacturers and products:

1. Provide low energy automatic operator units that are electro-mechanical design complying with ANSI/BHMA A156.19

   a. Opening: Powered by DC motor working through reduction gears.
   b. Closing: Spring force.
   c. Manual, hydraulic, or chain drive closers: Not permitted.
   d. Operation: Motor is off when door is in closing mode. Door can be manually operated with power on or off without damage to operator. Provide variable adjustments, including opening and closing speed adjustment.
   e. Cover: Aluminum.

2. Provide units with manual off/auto/hold-open switch, push and go function to activate power operator, vestibule interface delay, electric lock delay, hold-open delay adjustable from 2 to 30 seconds, and logic terminal to interface with accessories, mats, and sensors.
3. Provide drop plates, brackets, or adapters for arms as required to suit details.
4. Provide hard-wired motion sensors and/or actuator switches for operation as specified. Provide weather-resistant actuators at exterior applications.
5. Provide key switches, with LED’s, recommended and approved by manufacturer of automatic operator as required for function as described in operation description of hardware sets. Cylinders: Refer to “KEYING” article, herein.
6. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.

2.22 FINISHES

A. FINISH: BHMA 626/652 (US26D); except as indicated below or noted on hardware schedule

1. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
2. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
3. Protection Plates: BHMA 630 (US32D)
4. Overhead Stops and Holders: BHMA 630 (US32D)
5. Door Closers: Powder Coat to Match
6. Wall Stops: BHMA 630 (US32D)
7. Latch Protectors: BHMA 630 (US32D)
8. Weatherstripping: Clear Anodized Aluminum
9. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:

1. Install construction cores to secure building and areas during construction period.
2. Replace construction cores with permanent cores as indicated in keying section.
3. Furnish permanent cores to Owner for installation.

J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:

1. Conduit, junction boxes and wire pulls.
2. Connections to and from power supplies to electrified hardware.
3. Connections to fire/smoke alarm system and smoke evacuation system.
4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
5. Connections to panel interface modules, controllers, and gateways.
6. Testing and labeling wires with Architect's opening number.

K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

L. Door Closers & Auto Operators: Mount closers/operators on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers/operators so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

M. Overhead Stops/Holders: Mount overhead stops/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

N. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

O. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

P. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

Q. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

R. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

S. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.3 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Spring Hinges: Adjust to achieve positive latching when door can close freely from an open position of 30 degrees.
2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
3. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.4 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.5 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

Hardware Group No. 01

Provide each PR doors with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	FIRE EXIT HARDWARE	9849-EO-F-LBL	626	VON
1	EA	FIRE EXIT HARDWARE	9849-EO-F-LBLAFL	626	VON
2	EA	SURFACE CLOSERS	4040XP RW/PA	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7800 SERIES AS REQ	689	LCN
1	EA	GASKETING	488S-BK	BK	ZER
2	EA	ASTRAGAL	OVERLAPPING ASTRAGAL BY DOOR MANUFACTURER		B/O

WALL MAGNETS TO RELEASE WITH FIRE ALARM EVENT.

Hardware Group No. 02

Provide each PR doors with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	CONCEALED VERT CABLE EXIT DEVICE	QEL-RXLC-3549A-EO-CON-24VDC	626	VON
1	EA	CONCEALED VERT CABLE EXIT DEVICE	QEL-RXLC-3549A-NLOP-CON-24VDC	626	VON
1	EA	LFIC RIM CYLINDER	CT6D	626	C-R
1	EA	LFIC PERMANENT CORE	KEYED INTO EXISTING SYSTEM	626	C-R
2	EA	DOOR PULL	8190EZHD 8″	630-316	IVE
2	EA	SURFACE CLOSER	4040XP SHCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7800 SERIES AS REQ	689	LCN
1		SOUND GASKETING	BY FRAME MANUFACTURER HEAD AND JAMB		B/O
1	EA	CREDENTIAL READER	BY DIVISION 28		B/O

CREDENTIAL READER DEVICE IS TO RELEASE THE ELECTRIC STRIKE ALLOWING THE DOOR TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE.
REQUIRED POWER AND WIRING TO THE ELECTRIC STRIKE.

Hardware Group No. 03

Provide each SGL door with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ML2057 CSA CT6D	626	C-R
1	EA	LFIC PERMANENT CORE	KEYED INTO EXISTING SYSTEM	626	C-R
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	OH STOP	100S	630	GLY

Hardware Group No. 04

Provide each SGL door with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ML2057 CSA CT6D	626	C-R
1	EA	LFIC PERMANENT CORE	KEYED INTO EXISTING SYSTEM	626	C-R
1	EA	ELECTRIC STRIKE	6211AL FSE CON 12/16/24/28 VAC/VDC	630	VON
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	OH STOP	100S	630	GLY
1	EA	CREDENTIAL READER	BY DIVISION 28		B/O

CREDENTIAL READER DEVICE IS TO RELEASE THE ELECTRIC STRIKE ALLOWING THE DOOR TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE.
REQUIRED POWER AND WIRING TO THE ELECTRIC STRIKE.

Hardware Group No. 05

Provide each PR doors with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	711	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	CONCEALED VERT CABLE EXIT DEVICE	QEL-RXLC-3549A-EO-CON-24VDC	626	VON
1	EA	CONCEALED VERT CABLE EXIT DEVICE	QEL-RXLC-3549A-NLOP-CON-24VDC	626	VON
1	EA	LFIC RIM CYLINDER	CT6D	626	C-R
1	EA	LFIC PERMANENT CORE	KEYED INTO EXISTING SYSTEM	626	C-R
2	EA	DOOR PULL	9264-72	630-316	IVE
2	EA	SURFACE CLOSER	4040XP SHCUSH	711	LCN
2	EA	BLADE STOP SPACER	4040XP-61	711	LCN
2	EA	RAIN DRIP	142AA	AA	ZER
1	SET	MEETING STILE	8193AA-S	AA	ZER
1	EA	WEATHER STRIPPING	BY FRAME MANUFACTURER HEAD AND JAMB		B/O
2	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	CREDENTIAL READER	BY DIVISION 28		B/O
1	EA	POWER SUPPLY	PS902 (CALCULATE AND PROVIDE MINIMUM POWER SUPPLIES REQUIRED FOR PROJECT)	LGR	SCE

CREDENTIAL READER DEVICE IS TO RETRACT LATCH ALLOWING THE DOORS TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER: CREDENTIAL READER DEVICE. REQUIRED WIRING TO THE PS902 POWER SUPPLY (WHICH POWERS THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE), THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE ITSELF.

Hardware Group No. 06

Provide each PR doors with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	711	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	CONCEALED VERT CABLE EXIT DEVICE	3549A-QEL-RXLC-EO-CON-24VDC	626	VON
1	EA	CONCEALED VERT CABLE EXIT DEVICE	3549A-QEL-RXLC-NLOP-CON-24VDC	626	VON
1	EA	LFIC RIM CYLINDER	CT6D	626	C-R
1	EA	LFIC PERMANENT CORE	KEYED INTO EXISTING SYSTEM	626	C-R
2	EA	DOOR PULL	9264-72	630-316	IVE
1	EA	SURFACE CLOSER	4040XP SHCUSH	711	LCN
1	EA	BLADE STOP SPACER	4040XP-61	711	LCN
1	EA	AUTOMATIC OPENER	9540 REGARM	711	LCN
2	EA	ACTUATOR	8310-813	BLK	LCN
2	EA	RAIN DRIP	142AA	AA	ZER
1	SET	MEETING STILE	8193AA-S	AA	ZER
1	EA	WEATHER STRIPPING	BY FRAME MANUFACTURER HEAD AND JAMB		B/O
2	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	CREDENTIAL READER	BY DIVISION 28		B/O
1	EA	POWER SUPPLY	PS902 (CALCULATE AND PROVIDE MINIMUM POWER SUPPLIES REQUIRED FOR PROJECT)	LGR	SCE

CREDENTIAL READER DEVICE IS TO RETRACT LATCH ALLOWING THE DOORS TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER: CREDENTIAL READER DEVICE. REQUIRED WIRING TO THE PS902 POWER SUPPLY (WHICH POWERS THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE), THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE ITSELF.

Hardware Group No. 07

Provide each PR doors with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	711	IVE
1	EA	CONCEALED VERT CABLE EXIT DEVICE	3549A-EO	626	VON
1	EA	CONCEALED VERT CABLE EXIT DEVICE	3549A-NLOP	626	VON
1	EA	LFIC RIM CYLINDER	CT6D	626	C-R
1	EA	LFIC PERMANENT CORE	KEYED INTO EXISTING SYSTEM	626	C-R
2	EA	DOOR PULL	9264-72	630-316	IVE
2	EA	SURFACE CLOSER	4040XP SHCUSH	711	LCN
2	EA	BLADE STOP SPACER	4040XP-61	711	LCN
2	EA	RAIN DRIP	142AA	AA	ZER
1	SET	MEETING STILE	8193AA-S	AA	ZER
1	EA	WEATHER STRIPPING	BY FRAME MANUFACTURER HEAD AND JAMB		B/O
2	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER

Hardware Group No. 08

Provide each PR doors with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	711	IVE
2	EA	DOOR PULL	9264-72	630-316	IVE
2	EA	DUMMY PUSH BAR EXIT DEVICE	330	628	VON
1	EA	SURFACE CLOSER	4040XP SHCUSH	711	LCN
1	EA	BLADE STOP SPACER	4040XP-61	711	LCN
1	EA	AUTOMATIC OPENER	9540 REGARM	711	LCN
2	EA	ACTUATOR	8310-813	BLK	LCN

Hardware Group No. 09

Provide each PR doors with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	711	IVE
2	EA	DOOR PULL	9264-72	630-316	IVE
2	EA	DUMMY PUSH BAR EXIT DEVICE	330	628	VON
2	EA	SURFACE CLOSER	4040XP SHCUSH	711	LCN
2	EA	BLADE STOP SPACER	4040XP-61	711	LCN

Hardware Group No. 10

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	711	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	RIM EXIT DEVICE	35A-QEL-RXLC-NLOP-CON-24VDC	626	VON
1	EA	LFIC RIM CYLINDER	CT6D	626	C-R
1	EA	LFIC PERMANENT CORE	KEYED INTO EXISTING SYSTEM	626	C-R
1	EA	DOOR PULL	9264-72	630-316	IVE
1	EA	ELECTRIC STRIKE	6211AL FSE CON 12/16/24/28 VAC/VDC	630	VON
1	EA	AUTOMATIC OPENER	9540 REGARM	711	LCN
2	EA	ACTUATOR	8310-813	711	LCN
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	WEATHER STRIPPING	BY FRAME MANUFACTURER HEAD AND JAMB		B/O
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	CREDENTIAL READER	BY DIVISION 28		B/O
1	EA	POWER SUPPLY	PS902 (CALCULATE AND PROVIDE MINIMUM POWER SUPPLIES REQUIRED FOR PROJECT)	LGR	SCE

CREDENTIAL READER DEVICE IS TO RETRACT LATCH ALLOWING THE DOORS TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER: CREDENTIAL READER DEVICE. REQUIRED WIRING TO THE PS902 POWER SUPPLY (WHICH POWERS THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE), THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE ITSELF.

Hardware Group No. 11

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	711	IVE
1	EA	DOOR PULL	9264-72	630-316	IVE
1	EA	DUMMY PUSH BAR EXIT DEVICE	330	628	VON
1	EA	AUTOMATIC OPENER	9540 REGARM	711	LCN
2	EA	ACTUATOR	8310-813	711	LCN

Hardware Group No. 12

Provide each PR doors with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5	711	IVE
1	EA	TOP SECURING CONCEALED PANIC HANDLE	PA100F3AK0RB	RB	CRL
1	EA	TOP SECURING CONCEALED PANIC HANDLE	PA100F4AK0RB	RB	CRL
1	EA	LFIC RIM CYLINDER	CT6D	626	C-R
1	EA	LFIC PERMANENT CORE	KEYED INTO EXISTING SYSTEM	626	C-R
2	EA	DOOR PULL	9264-72	630-316	IVE
2	EA	SURFACE CLOSER	4040XP SHCUSH	711	LCN
2	EA	BLADE STOP SPACER	4040XP-61	711	LCN
1	EA	MEETING STILE	53BK	BK	ZER
1		SOUND GASKETING	BY FRAME MANUFACTURER HEAD AND JAMB		B/O
2	EA	AUTOMATIC DOOR BOTTOM	364AA	AA	ZER

Hardware Group No. 13

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	711	IVE
1	EA	STOREROOM LOCK	ML2057 CSA CT6D	626	C-R
1	EA	LFIC PERMANENT CORE	KEYED INTO EXISTING SYSTEM	626	C-R
1	EA	ELECTRIC STRIKE	6211AL FSE CON 12/16/24/28 VAC/VDC	630	VON
2	EA	SURFACE CLOSER	4040XP SHCUSH	711	LCN
2	EA	BLADE STOP SPACER	4040XP-61	711	LCN
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	WEATHER STRIPPING	BY FRAME MANUFACTURER HEAD AND JAMB		B/O
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	CREDENTIAL READER	BY DIVISION 28		B/O
1	EA	POWER SUPPLY	PS902 (CALCULATE AND PROVIDE MINIMUM POWER SUPPLIES REQUIRED FOR PROJECT)	LGR	SCE

CREDENTIAL READER DEVICE IS TO RETRACT LATCH ALLOWING THE DOORS TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER: CREDENTIAL READER DEVICE. REQUIRED WIRING TO THE PS902 POWER SUPPLY (WHICH POWERS THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE), THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE ITSELF.

END OF SECTION 08 71 00

SECTION 26 05 33 - CONDUIT AND BOXES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Rigid metallic conduit and fittings (RMC)

B. Intermediate metallic conduit and fittings (IMC)

C. Electrical metallic tubing and fittings (EMT)

D. Flexible metallic conduit and fittings (FMC)

E. Liquidtight flexible metallic conduit and fittings (LFMC)

F. Rigid polyvinyl chloride conduit and fittings (PVC)

G. Wall and ceiling outlet boxes

H. Electrical connection

I. Pull and junction boxes

J. **Handholes**

1.2 RELATED WORK

A. Section 26 05 53 - Electrical Identification: Refer to electrical identification for color and identification labeling requirements.

1.3 REFERENCES

A. American National Standards Institute (ANSI):

1. ANSI C80.1 - Rigid Steel Conduit, Zinc-Coated
2. ANSI C80.3 - Electrical Metallic Tubing, Zinc-Coated and Fittings
3. ANSI C80.4 - Fittings for Rigid Metal Conduit and Electrical Metallic Tubing
4. ANSI C80.6 - Intermediate Metal Conduit, Zinc Coated
5. ANSI/NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers and Box Supports

B. NECA "Standards of Installation"

C. National Electrical Manufacturers Association (NEMA):

1. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing and Cable
2. RN 1 - Polyvinyl chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit, Rigid Aluminum Conduit, and Intermediate Metal Conduit
3. TC 2 - Electrical Polyvinyl Chloride (PVC) Conduit
4. TC 9 - Fittings for PVC Plastic Utilities Duct for Underground Installation

D. NFPA 70 - National Electrical Code (NEC)

E. Underwriters Laboratories (UL): Applicable Listings

1. UL 1 - Flexible Metal Conduit
2. UL 6 - Rigid Metal Conduit
3. UL 360 - Liquid Tight Flexible Steel Conduit
4. UL514-B - Conduit Tubing and Cable Fittings
5. UL651-A - Type EB and a PVC Conduit and HDPE Conduit
6. UL797 - Electrical Metal Tubing
7. UL1242 - Intermediate Metal Conduit

F. Definitions:

1. Fittings: Conduit connection or coupling.
2. Body: Enlarged fittings with opening allowing access to the conductors for pulling purposes only.
3. Mechanical Spaces: Enclosed areas, usually kept separated from the general public, where the primary use is to house service equipment and to route services. These spaces generally have exposed structures, bare concrete and non-architecturally emphasized finishes.
4. Finished Spaces: Enclosed areas where the primary use is to house personnel and the general public. These spaces generally have architecturally emphasized finishes, ceilings and/or floors.
5. Concealed: Not visible by the general public. Often indicates a location either above the ceiling, in the walls, in or beneath the floor slab, in column coverings, or in the ceiling construction.
6. Above Grade: Not directly in contact with the earth. For example, an interior wall located at an elevation below the finished grade shall be considered above grade but a wall retaining earth shall be considered below grade.
7. Slab: Horizontal pour of concrete used for a floor or sub-floor.

1.4 SUBMITTALS

A. Include fittings and conduits 1.5" and larger in coordination files. Include all in--floor and underfloor conduit in coordination files. Refer to Section 26 05 00 for coordination drawing requirements.

PART 2 - PRODUCTS

2.1 RIGID METALLIC CONDUIT (RMC) AND FITTINGS

A. Manufacturers:

1. Atkore Allied Tube & Conduit
2. Nucor
3. Electroline
4. Western Tube
5. Wheatland Tube Co
6. or approved equal.

B. Manufacturers of RMC Conduit Fittings:

1. ABB/Thomas & Betts
2. Eaton/Crouse-Hinds
3. Electroline
4. Emerson Appleton & OZ Gedney
5. Hubbell Raco and Killark
6. NSI Bridgeport
7. Orbit Industries
8. Wesco Regal

C. Minimum Size Galvanized Steel: 3/4 inch, unless otherwise noted.

D. Fittings and Conduit Bodies:

1. End Bell Fittings: Malleable iron, hot dip galvanized, threaded flare type with provisions for mounting to form.
2. Expansion Joints: Malleable iron and hot dip galvanized providing a minimum of 4 inches of movement. Fitting shall be watertight with an insulating bushing and a bonding jumper.
3. Expansion Joint for Concrete Encased Conduit: Neoprene sleeve with bronze end coupling, stainless steel bands and tinned copper braid bonding jumper. Fittings shall be watertight and concrete-tight.
4. Conduit End Bushings: Malleable iron type with molded-on high impact phenolic thermosetting insulation. Where required elsewhere in the contract documents, bushing shall be complete with ground conductor saddle and clamp. High impact phenolic threaded type bushings are not acceptable.
5. All other fittings and conduit bodies shall be of malleable iron construction and hot dip galvanized.

E. PVC Externally Coated Conduit: Compliant with UL 6, ANSI C80.1 and NEMA RN 1; rigid galvanized steel conduit with external 40 mil PVC coating and internal 2 mil urethane coating surface. All fittings and conduit bodies shall be complete with coating. Threads shall be hot galvanized and coated with a clear coat of urethane. The PVC coated system shall include necessary PVC coated fittings, boxes and covers to form a complete encapsulated system.

1. Acceptable Manufacturers:

a. Atkore Calbond Calpipe
b. Robroy Perma-cote and Plati-Bond
c. ABB Ocal

2.2 INTERMEDIATE METALLIC CONDUIT (IMC) AND FITTINGS

A. Minimum Size Galvanized Steel: 3/4 inch, unless otherwise noted.

B. Manufacturers:

1. Atkore Allied Tube & Conduit
2. Nucor
3. Electroline
4. Western Tube
5. Wheatland Tube Co

C. Fittings and Conduit Bodies:

1. End Bell Fittings: Malleable iron, hot dip galvanized, threaded flare type with provisions for mounting to form.
2. Expansion Joints: Malleable iron and hot dip galvanized providing a minimum of 4 inches of movement. Fitting shall be watertight with an insulating bushing and a bonding jumper.
3. Expansion Joint for Concrete Encased Conduit: Neoprene sleeve with bronze end coupling, stainless steel bands and tinned copper braid bonding jumper. Fittings shall be watertight and concrete-tight.
4. Conduit End Bushings: Malleable iron type with molded-on high impact phenolic thermosetting insulation. Where required elsewhere in the contract documents, bushing shall be complete with ground conductor saddle and clamp. High impact phenolic threaded type bushings are not acceptable.
5. All other fittings and conduit bodies shall be of malleable iron construction and hot dip galvanized.

D. Manufacturers of IMC Conduit Fittings:

1. ABB/Thomas & Betts
2. Easton/Crouse-Hinds
3. Electroline
4. Emerson Appleton & OZ Gedney
5. Hubbell Raco and Killark
6. NSI Bridgeport
7. Orbit Industries
8. Wesco Regal

2.3 ELECTRICAL METALLIC TUBING (EMT) AND FITTINGS

A. Minimum Size Electrical Metallic Tubing: 3/4 inch, unless otherwise noted.

B. Manufacturers of EMT Conduit:

1. Allied Tube & Conduit
2. Calbond Calpipe
3. Nucor
4. Electroline
5. Western Tube
6. Wheatland Tube Co

C. Fittings and Conduit Bodies:

1. 2" Diameter or Smaller: Compression or steel set screw type of steel designed for their specific application.
2. Larger than 2": Compression type of steel designed for their specific application.
3. Manufacturers of EMT Conduit Fittings:

    a. ABB/Thomas & Betts
    b. Eaton/Crouse-Hinds
    c. Electroline
    d. Emerson Appleton & OZ Gedney
    e. Hubbell Raco and Killark
    f. NSI Bridgeport
    g. Orbit Industries
    h. Wesco Regal

2.4 FLEXIBLE METALLIC CONDUIT (FMC) AND FITTINGS

A. Minimum Size Galvanized Steel: 3/4 inch, unless otherwise noted. Lighting branch circuit wiring to an individual luminaire may be a manufactured, UL listed 3/8" flexible metal conduit and fittings with #14 AWG THHN conductors and an insulated ground wire. Maximum length of 3/8" FMC shall be six (6) feet.

B. Manufacturers:

1. ABB/Thomas & Betts
2. Anamet Electrical
3. Atkore American Flex AFC and Flexicon
4. Electri-Flex Co
5. Electroline
6. Southwire Alflex

C. Construction: Flexible steel, approved for conduit ground, zinc coated, threadless type formed from a continuous length of spirally wound, interlocked zinc coated strip steel. Provide a separate equipment grounding conductor when used for equipment where flexibility is required.

D. Fittings and Conduit Bodies:

1. Fittings and conduit bodies shall include plastic or cast metal inserts supplied by the manufacturer to protect conductors from sharp edges.
2. Manufacturers:

a. ABB/Thomas & Betts
b. Eaton/Crouse-Hinds
c. Electroline
d. Emerson Appleton & OZ Gedney
e. Hubbell Raco and Killark
f. NSI Bridgeport
g. Orbit Industries
h. Wesco Regal

2.5 LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC) AND FITTINGS

A. Manufacturers:

1. ABB/Thomas & Betts
2. Anamet Electrical
3. Atkore American Flex AFC and Flexicon
4. Electri-Flex Co
5. Electroline
6. Southwire Alflex

B. Construction: Flexible steel, approved for conduit ground, zinc coated, threadless type formed from a continuous length of spirally wound, interlocked zinc coated strip steel and an extruded PVC cover.

C. Fittings and Conduit Bodies:

1. Watertight, compression type, galvanized zinc coated cadmium plated malleable cast iron, UL listed.
2. Fittings and conduit bodies shall include plastic or cast metal inserts supplied by the manufacturer to protect conductors from sharp edges.
3. Manufacturers:

    a. ABB/Thomas & Betts
    b. Eaton/Crouse-Hinds
    c. Electroline
    d. Emerson Appleton & OZ Gedney
    e. Hubbell Raco and Killark
    f. NSI Bridgeport
    g. Orbit Industries
    h. Wesco Regal

2.6 RIGID NON-METALLIC CONDUIT (PVC) AND FITTINGS

A. Minimum Size Rigid Smooth-Wall Nonmetallic Conduit: 3/4 inch, unless otherwise noted.

B. Acceptable Manufacturers:

1. ABB/Carlon
2. Chevron Phillips Chemical Company
3. Cantex, J.M. Mfg.
4. Atkore Heritage Plastics

C. Construction: Schedule 40 and Schedule 80 rigid polyvinyl chloride (PVC), UL labeled for 90°C.

D. Fittings and Conduit Bodies: NEMA TC 3; sleeve type suitable for and manufactured especially for use with the conduit by the conduit manufacturer.

E. Plastic cement for joining conduit and fittings shall be provided as recommended by the manufacturer.

2.7 OUTLET BOXES

A. Sheet Metal Outlet Boxes: ANSI/NEMA OS 1; galvanized steel, 16 gauge (approximately 0.0625 inches), with 1/2-inch male fixture studs where required.

B. Nonmetallic Outlet Boxes: ANSI/NEMA OS 2.

C. Cast Boxes: Nema FB1, Type FD, Aluminum, cast feralloy, or stainless steel deep type, gasketed cover, threaded hubs.

D. Outlet boxes for luminaires to be not less than 1-1/2" deep, deeper if required by the number of wires or construction. The box shall be coordinated with surface luminaires to conceal the box from view or provide a finished trim plate.

E. Switch outlet boxes for local light control switches, dimmers and occupancy sensors shall be 4 inches square by 2-1/8 inches deep, with raised cover to fit flush with finish wall line. Multiple gang switch outlets shall consist of the required number of gang boxes appropriate to the quantity of switches comprising the gang. Where walls are plastered, provide a plaster raised cover. Where switch outlet boxes occur in exposed concrete block walls, boxes shall be installed in the block cavity with a raised square edge tile cover of sufficient depth to extend out to face of block or masonry boxes.

F. Wall or column receptacle outlet boxes shall be 4 inches square with raised cover to fit flush with finished wall line. Boxes in concrete block walls shall be installed the same as for switch boxes in block walls.

2.8 ECONN; ELECTRICAL CONNECTION

A. Electrical connection to equipment and motors, sized per Electrical Code. Coordinate requirements with contractor furnishing equipment or motor. Refer to specifications and general installation notes for terminations to motors.

2.9 JB; PULL AND JUNCTION BOXES

A. Sheet Metal Boxes: ANSI/NEMA OS 1; galvanized steel.

B. Sheet metal boxes larger than 12 inches in any dimension that contain terminations or components: Continuous hinged enclosure with 1/4 turn latch and white back panel for mounting terminal blocks and electrical components.

C. Cast Metal Boxes for Outdoor and Wet Location Installations: NEMA 250; Type 4 and Type 6, flat-flanged, surface-mounted junction box, UL listed as raintight. Galvanized cast iron box and cover with ground flange, neoprene gasket, and stainless steel cover screws.

D. Cast Metal Boxes for Underground Installations: NEMA 250; Type 4, inside flanged, recessed cover box for flush mounting, UL listed as raintight. Galvanized cast iron box and plain cover with neoprene gasket and stainless steel cover screws.

E. Flanged type boxes shall be used where installed flush in wall.

2.10 HANDHOLES

A. HH-1; Handhole, composite polymer concrete body and cover. Stainless steel hardware. Bolted non-skid cover rated for 5,000 pounds. Design load occasional non-deliberate vehicular traffic. Stack units to achieve depth shown on plans. Units in landscaped areas shall be green in color. 11"W, 18"L, 18"D or dimensions as shown on plans.

1. Manufacturers:

a. Hubbell/Quazite PG####BB18, PG####HA00
b. Carson Industries H Series
c. Armorcast
d. Highline Products
e. Synertech

PART 3 - EXECUTION

3.1 CONDUIT INSTALLATION SCHEDULE AND SIZING

A. In the event the location of conduit installation represents conflicting installation requirements as specified in the following schedule, a clarification shall be obtained from the Architect/Engineer. If this Contractor is unable to obtain a clarification as outlined above, concealed rigid galvanized steel conduit installed per these specifications and the Electrical Code shall be required.

B. Installation Schedule: Refer to drawings.

C. Size conduit as shown on the drawings and specifications. Where not indicated in the contract documents, conduit size shall be according to the Electrical Code. Conduit and conductor sizing shall be coordinated to limit conductor fill to less than 40%, maintain conductor ampere capacity as required by the Electrical Code (to include enlarged conductors due to temperature and quantity derating values) and to prevent excessive voltage drop and pulling tension due to long conduit/conductor lengths.

D. Minimum Conduit Size (Unless Noted Otherwise):

1. Above Grade: 3/4 inch. (The use of 1/2 inch would be allowed for installation conduit to individual light switches, individual receptacles and individual fixture whips from junction box.)
2. Below Grade 5' or less from Building Foundation: 1 inch.
3. Below Grade More than 5' from Building Foundation: 1 inch.
4. Controls Conduit: 1/2 inch.

E. Conduit sizes shall change only at the entrance or exit to a junction box, unless specifically noted on the drawings.

3.2 CONDUIT ARRANGEMENT

A. In general, conduit shall be installed concealed in walls, in finished spaces and where possible or practical, or as noted otherwise. Conduit shall be installed parallel or perpendicular to walls, ceilings, and exposed structural members. In unfinished spaces, mechanical and utility areas, conduit may run either concealed or exposed as conditions dictate and as practical unless noted otherwise on drawings. Installation shall maintain headroom in exposed vicinities of pedestrian or vehicular traffic.

B. Exposed conduit on exterior walls or above roof will not be allowed without prior written approval of Architect/Engineer. A drawing of the proposed routing and a photo of the location shall be submitted 14 days prior to start of conduit rough-in. Routing shall be shown on coordination drawings.

C. Conduit arrangement in elevated slabs (restricted to applications specifically noted or shown on drawings):

1. Conduit size shall not exceed one-third of the structural slab thickness. Place conduit between the top and bottom reinforcing with a minimum of 3" concrete cover.

2. Parallel conduits shall be spaced at least 8 inches apart. Exception: Within 18 inches of commonly served floor boxes, junction boxes, or similar floor devices. Arrange conduits parallel or perpendicular to building lines and walls.

D. Conduit shall not share the same cell as structural reinforcement in masonry walls.

E. Conduit runs shall be routed as shown on large scale drawings. Conduit routing on drawings scaled 1/4"=1'-0" or less shall be considered diagrammatic, unless noted otherwise. The correct routing, when shown diagrammatically shall be chosen by the Contractor based on information in the contract documents, in accordance with manufacturer's written instructions, applicable codes, the NECA's "Standard of Installation", in accordance with recognized industry standards, and coordinated with other contractors.

F. Contractor shall adapt Contractor's work to the job conditions and make such changes as required and permitted by the Architect/Engineer, such as moving to clear beams and joists, adjusting at columns, avoiding interference with windows, etc., to permit the proper installation of other mechanical and/or electrical equipment.

G. Contractor shall cooperate with all contractors on the project. Contractor shall obtain details of other contractor's work to ensure fit and avoid conflict. Any expense due to the failure of This Contractor to do so shall be paid for in full by Contractor. The other trades involved as directed by the Architect/Engineer shall perform the repair of work damaged as a result of neglect or error by This Contractor. The resultant costs shall be borne by This Contractor.

3.3 CONDUIT SUPPORT

A. Conduit runs installed above a suspended ceiling shall be properly supported. In no case shall conduit rest on the suspended ceiling construction, nor utilize ceiling support system for conduit support.

1. Support wire used to independently support raceway and wiring systems above suspending ceilings shall be supported on both ends, minimum 12 gauge suspended ceiling support wire, and distinguishable from ceiling support systems by color (field paint), tagging, or equivalent means.

B. Conduit shall not be supported from ductwork, water, sprinkler piping, or other non-structural members, unless approved by the Architect/Engineer. All supports shall be from structural slabs, walls, structural members, and bar joists, and coordinated with all other applicable contractors, unless noted otherwise.

C. Conduit shall be held in place by the correct size of galvanized one-hole conduit clamps, two-hole conduit straps, patented support devices, clamp back conduit hangers, or by other means if called for on the drawings.

D. Support individual horizontal raceways with separate, malleable-iron pipe hangers or clamps.

E. Spring-steel conduit clips specifically designed for supporting single conduits or tubing may be used in lieu of malleable-iron hangers for 1-1/2" and smaller raceways serving lighting and receptacle branch circuits above accessible ceilings and for securing raceways to slotted channel and angle supports.

F. Group conduits in parallel runs where practical and use conduit racks or trapeze hangers constructed of steel channel, suspended with threaded solid rods or wall mounted from metal channels with conduit straps or clamps. Provide space in each rack or trapeze for 25% additional conduits.

G. Do not exceed 25 lbs. per hanger and a minimum spacing of 2'-0" on center when attaching to metal roof decking (excludes concrete on metal deck). This 25 lbs. load and 2'-0" spacing include adjacent electrical and mechanical items hanging from deck. If the hanger restrictions cannot be achieved, supplemental framing off steel framing will need to be added.

H. Arrange supports in vertical runs so the weight of raceways and enclosed conductors is carried entirely by raceway supports, with no weight load on raceway terminals.

I. Supports for metallic conduit shall be no greater than 10 feet. A smaller interval may be used if necessitated by building construction, but in no event shall support spans exceed the Electrical Code requirements. Conduit shall be securely fastened within 3 feet of each outlet box, junction box, device box, cabinet, or fitting.

J. Supports of flexible conduit shall be within 12 inches of each outlet box, junction box, device box, cabinet, or fitting and at intervals not to exceed 4.5 feet.

K. Supports for non-metallic conduit shall be at sufficiently close intervals to eliminate any sag in the conduit. The manufacturer's recommendations shall be followed, but in no event shall support spans exceed the Electrical Code requirements.

L. Where conduit is to be installed in poured concrete floors or walls, provide concrete-tight conduit inserts securely fastened to forms to prevent conduit misplacement.

M. Finish:

1. Prime coat exposed steel hangers and supports. Hangers and supports in crawl spaces, pipe shafts, and above suspended ceiling spaces are not considered exposed.
2. Trim all ends of exposed field fabricated steel hangers, slotted channel and threaded rod to within 1" of support or fastener to eliminate potential injury to personnel unless shown otherwise on the drawings. Smooth ends and install elastomeric insulation with two coats of latex paint if exposed steel is within 6'-6" of finish floor and presents potential injury to personnel.

3.4 CONDUIT INSTALLATION

A. Conduit Connections:

1. Shorter than standard conduit lengths shall be cut square using industry standards. The ends of all conduits cut shall be reamed or otherwise finished to remove all rough edges.
2. Metallic conduit connections in slab on grade installation shall be sealed and one coat of rust inhibitor primer applied after the connection is made.
3. Where conduits with tapered threads cannot be coupled with standard couplings, then approved split or Erickson couplings shall be used. Running threads will not be permitted.
4. Install expansion/deflection joints where conduit crosses structure expansion/seismic joints.

B. Conduit terminations for all low voltage wiring shall have nylon bushings installed on each end of every conduit run.

C. Conduit Bends:

1. Use a hydraulic one-shot conduit bender or factory elbows for bends in conduit 2" in size or larger. All steel conduit bending shall be done cold; no heating of steel conduit shall be permitted.
2. All bends of rigid polyvinyl chloride conduit (PVC) shall be made with the manufacturer's approved bending equipment. The use of spot heating devices will not be permitted (i.e. blow torches).
3. A run of conduit shall not contain more than the equivalent of four (4) quarter bends (360°), including those bends located immediately at the outlet or body.
4. Rigid polyvinyl chloride conduit (PVC) runs longer than 100 feet or runs which have more than two 90° equivalent bends (regardless of length) shall use rigid metal or RTRC factory elbows for bends.
5. Use conduit bodies to make sharp changes in direction (i.e. around beams).

D. Conduit Placement:

1. Conduit shall be mechanically continuous from source of current to all outlets. Conduit shall be electrically continuous from source of current to all outlets, unless a properly sized grounding conductor is routed within the conduit. All metallic conduits shall be bonded per the Electrical Code.
2. Route exposed conduit and conduit above suspended ceilings (accessible or not) parallel/perpendicular to the building structural lines, and as close to building structure as possible. Wherever possible, route horizontal conduit runs above water and steam piping.
3. Route conduit through roof openings provided for piping and ductwork where possible. If not provided or routing through provided openings is not possible, route through roof jack with pitch pocket. Coordinate roof penetrations with other trades.
4. Conduits, raceway, and boxes shall not be installed in concealed locations in metal deck roofing or less than 1.5" below bottom of roof decking.
5. Avoid moisture traps where possible. Where unavoidable, provide a junction box with drain fitting at conduit low point.
6. All conduits through walls shall be grouted or sealed into openings. Where conduit penetrates firewalls and floors, seal with a UL listed sealant. Seal penetrations with intumescent caulk, putty, or sheet installed per manufacturer's recommendations. All materials used to seal penetrations of firewalls and floors shall be tested and certified as a system per ASTM E814 Standard for fire tests or through-penetration fire stops as manufactured by 3M or approved equal; refer to Section 26 05 03 for through penetration firestopping requirements.
7. Contractor shall be responsible for all openings required in masonry or exterior walls under this division. A qualified mason at the expense of this contractor shall repair all openings to match existing conditions.
8. Seal interior of conduit at exterior entries, air handling units, coolers/freezers, etc., and where the temperature differential can potentially be greater than 20°F, to prevent moisture penetration. Seal shall be placed where conduit enters warm space. Conduit seal fitting shall be a drain/seal, with sealing compound, identified for use with cable and raceway system.
9. Do not route conduits across each other in slabs on grade.
10. Rigid polyvinyl chloride conduit (PVC) shall be installed when material surface temperatures and ambient temperature are greater than 40°F.
11. Where rigid polyvinyl chloride conduit (PVC) is used below grade, in a slab, below a slab, etc., a transition to rigid galvanized steel conduit shall be installed before conduit exits earth. The conduit shall extend a minimum of 6" into the surface concealing the non-metallic conduit.

12. Contractor shall provide suitable mechanical protection around all conduits stubbed out from floors, walls or ceilings during construction to prevent bending or damaging of stubs due to carelessness with construction equipment.
13. Contractor shall provide a polypropylene pull cord with 2000 lbs. tensile strength in each empty conduit (indoor and outdoor), except in sleeves and nipples.

3.5 CONDUIT TERMINATIONS

A. Where conduit bonding is indicated or required in the contract documents, the bushings shall be a grounding type sized for the conduit and ground bonding conductor as manufactured by O-Z/Gedney, Appleton, Thomas & Betts, Burndy, Regal, Orbit Industries or approved equal.

B. Conduits with termination fittings shall be threaded for one (1) lock nut on the outside and one (1) lock nut and bushing on the inside of each box.

C. Where conduits terminate in boxes with knockouts, they shall be secured to the boxes with lock nuts and provided with approved screw type tinned iron bushings or fittings with plastic inserts.

D. Where conduits terminate in boxes, fittings, or bodies with threaded openings, they shall be tightly screwed against the shoulder portion of the threaded openings.

E. Conduit terminations to all motors shall be made with flexible metallic conduit (FMC), unless noted otherwise. Final connections to roof exhaust fans, or other exterior motors and motors in damp or wet locations shall be made with liquidtight flexible metallic conduit (LFMC). Motors in hazardous areas, as defined in the Electrical Code, shall be connected using flexible conduit rated for the environment. Flexible conduit shall not exceed 6' in length. Route equipment ground conductors from circuit ground to motor ground terminal through flexible conduit.

F. Rigid polyvinyl chloride conduit (PVC) shall be terminated using fittings and bodies produced by the manufacturer of the conduit, unless noted otherwise. Prepare conduit as per manufacturer's recommendations before joining. All joints shall be solvent welded by applying full even coat of plastic cement to the entire areas that will be joined. Turn the conduit at least a quarter to one half turn in the fitting and let the joint cure for 1-hour minimum or as per the manufacturer's recommendations.

G. All conduit ends shall be sealed with plastic immediately after installation to prevent the entrance of any foreign matter during construction. The seals shall be removed and the conduits blown clear of all foreign matter prior to any wires or pull cords being installed.

3.6 UNDERGROUND CONDUIT INSTALLATION

A. Conduit Connections:

1. Conduit joints in a multiple conduit run shall be staggered at least one foot apart.

B. Conduit Bends (Lateral):

1. Conduits shall have long sweep radius elbows instead of standard elbows wherever special bends are indicated and noted on the drawings, or as required by the manufacturer of the equipment or system being served.

C. Conduit Elbows (vertical):

1. Minimum metal or RTRC elbow radiuses shall be 30 inches for primary conduits (greater than 600V) and 18 inches for secondary conduits (less than 600V). Increase radius, as required, based on pulling tension calculation requirements.

D. Expansion Fittings at Finished Grade: Provide underground raceways with an expansion fitting after emerging from finished grade and exterior equipment pads. Field locate the expansion fitting above and within 24 inches of finished grade. Raceways extending less than 12 inches above finished grade, transitioning to LFMC within 12 inches of finished grade, and interior concrete building slabs do not require an expansion fitting unless required by code.

E. Conduit Placement:

1. Conduit runs shall be pitched a minimum of 4" per 100 feet to drain toward the terminations. Duct runs shall be installed deeper than the minimum wherever required to avoid any conflicts with existing or new piping, tunnels, etc.
2. For parallel runs, use suitable separators and chairs installed not greater than 4' on centers. Band conduit together with suitable banding devices. Securely anchor conduit to prevent movement during concrete placement or backfilling.
3. Where concrete is required, the materials for concreting shall be thoroughly mixed to a minimum f'c = 2500 and immediately placed in the trench around the conduits. No concrete that has been allowed to partially set shall be used.
4. Before the Contractor pulls any cables into the conduit, Contractor shall have a mandrel 1/4" smaller than the conduit inside diameter pulled through each conduit and if any concrete or obstructions are found, the Contractor shall remove them and clear the conduit. Spare conduit shall also be cleared of all obstructions.
5. Conduit terminations in manholes, masonry pull boxes, or masonry walls shall be with malleable iron end bell fittings.
6. All spare conduits not terminated in a covered enclosure shall have its terminations plugged as described above.
7. Ductbanks and conduit shall be installed a minimum of 24" below finished grade, unless otherwise noted on the drawings or elsewhere in these specifications.
8. All non-metallic conduit installed underground outside of a slab shall be rigid.

F. Horizontal Directional Drilling:

1. Entire drill path shall be accurately surveyed, with entry and exit stakes placed and coordinated with other contractors. If using a magnetic guidance system, entire drill path shall be surveyed for any surface geo-magnetic variations or anomalies.
2. Any utility locates within 20 feet of the bore path shall have the exact location physically verified by hand digging or vacuum excavation. Restore inspection holes to original condition after verification.

G. Raceway Seal (Exterior to Raceway):

1. All power, telecommunication, electrical conduits and innerducts shall be sealed between the raceway and the building foundation. The raceway penetration shall be sealed liquid-tight, water-tight, non-corrosive.
2. Below Grade Installation Options:

    a. Cast-in-place concrete installation.
    b. Hydraulic cement, hydraulic group, hydraulic epoxy.
    c. Foundation - Underground Sleeves and Seals; refer to Part 2-Products for product information.

3. Above Grade Installation Options:

    a. Masonry grout for masonry applications.
    b. Caulk Sealant, interior/exterior rated, color per architect. Approved Manufacturers include Sachco, Tremco Vulkem, Sika or approved equal when not specified by architectural scope.

3.7 BOX INSTALLATION SCHEDULE

A. Galvanized steel boxes may be used in:

1. Concealed interior locations above ceilings and in hollow studded partitions.
2. Exposed interior locations in mechanical rooms and in rooms without ceilings; higher than 8' above the highest platform level.
3. Direct contact with concrete except slab on grade.

B. Cast boxes shall be used in:

1. Exterior locations.
2. Direct contact with earth.
3. Direct contact with concrete in slab on grade.
4. Wet locations.

3.8 COORDINATION OF BOX LOCATIONS

A. Provide electrical boxes as shown on the drawings, and as required for splices, taps, wire pulling, equipment connections, and code compliance.

B. Electrical box locations shown on the Contract Drawings are approximate, unless dimensioned. Verify location of floor boxes and outlets in offices and work areas prior to rough-in.

C. Locate and install boxes to allow access. Avoid interferences with ductwork, piping, structure, equipment, etc. Recessed luminaires shall not be used as access to outlet, pull, and junction boxes. Where installation is inaccessible, provide access doors. Coordinate locations and sizes of required access doors with the Architect/Engineer and General Contractor.

D. Locate and install to maintain headroom and to present a neat appearance.

E. Coordinate locations with Heating Contractor to avoid baseboard radiation cabinets.

3.9 OUTLET BOX INSTALLATION

A. Do not install boxes back-to-back in walls.

1. Provide a minimum horizontal separation of 6 inches between boxes installed on opposite sides of non-rated stud walls. When the minimum separation cannot be maintained, install sound insulation pads on all five sides of the back box in accordance with the manufacturer's instructions.

2. Provide a minimum horizontal separation of 24 inches between boxes installed on opposite sides of fire-rated walls. When the minimum separation cannot be maintained, the box is greater than 16 square inches or the total box area (all trades) per 100 square feet is greater than or equal to 100 square inches, install fire-rated moldable pads to all five sides of the back box to maintain the fire rating of the wall. Install moldable pads in accordance with UL listing for the specific product. Sound insulation pads are not acceptable for use in fire-rated wall applications unless the product carries the necessary fire rating.

B. The Contractor shall anchor switch and outlet box to wall construction so that it is flush with the finished masonry, paneling, drywall, plaster, etc. The Contractor shall check the boxes as the finish wall surface is being installed to assure that the box is flush. (Provide plaster rings as necessary.)

C. Mount at heights shown or noted on the drawings or as generally accepted if not specifically noted.

D. Locate boxes in masonry walls to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat openings for boxes.

E. Provide knockout closures for unused openings.

F. Support boxes independently of conduit.

G. Use multiple-gang boxes where more than one device is mounted together; do not use sectional boxes. Provide barriers to separate wiring of different voltage systems.

H. Install boxes in walls without damaging wall insulation.

I. Coordinate mounting heights and locations of outlets mounted above counters, benches, backsplashes, and below baseboard radiation.

J. Provide recessed outlet boxes in finished areas; secure boxes to interior wall and partition studs, accurately positioned to allow for surface finish thickness. Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes.

K. Align wall-mounted outlet boxes for switches, thermostats, and similar devices.

L. Provide cast outlet boxes in exterior locations and wet locations, and where exposed rigid or intermediate conduit is used.

3.10 PULL AND JUNCTION BOX INSTALLATION

A. Locate pull boxes and junction boxes above accessible ceilings or in unfinished areas.

B. Support pull and junction boxes independent of conduit.

C. Do not install boxes back-to-back in walls.

1. Provide a minimum horizontal separation of 6 inches between boxes installed on opposite sides of non-rated stud walls. When the minimum separation cannot be maintained, install sound insulation pads on all five sides of the back box in accordance with the manufacturer's instructions.

2. Provide a minimum horizontal separation of 24 inches between boxes installed on opposite sides of fire-rated walls. When the minimum separation cannot be maintained, the box is greater than 16 square inches or the total box area (all trades) per 100 square feet is greater than or equal to 100 square inches, install fire-rated moldable pads to all five sides of the back box to maintain the fire rating of the wall. Install moldable pads in accordance with UL listing for the specific product. Sound insulation pads are not acceptable for use in fire-rated wall applications unless the product carries the necessary fire rating.

3.11 EXPOSED BOX INSTALLATION

A. Boxes shall be secured to the building structure with proper size screws, bolts, hanger rods, or structural steel elements.

B. On brick, block and concrete walls or ceilings, exposed boxes shall be supported with no less than two (2) Ackerman-Johnson, Paine, Phillips, or approved equal screw anchors or expansion shields and round head machine screws. Cast boxes shall not be drilled.

C. On steel structures, exposed boxes shall be supported to the steel member by drilling and tapping the member and fastening the boxes by means of round head machine screws.

D. Boxes may be supported on steel members by APPROVED beam clamps if conduit is supported by beam clamps.

E. Boxes shall be fastened to wood structures by means of a minimum of two (2) wood screws adequately large and long to properly support. (Quantity depends on size of box.)

F. Wood, plastic, or fiber plugs shall not be used for fastenings.

G. Explosive devices shall not be used unless specifically allowed.

END OF SECTION

SECTION 33 01 30.73 – CURED IN PLACE SLIP LINER

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pipe slip liner for storm sewer lines per Bid Alternate 1A.

1.2 RELATED REQUIREMENTS

A. Section 33 41 11 – Site Storm Utility Drainage Piping

1.3 REFERENCES

A. ASTM F1216

B. ASTM F1743

C. ASTM D790

D. ASTM D2990

E. ASTM D5813

1.4 SUBMITTALS

A. Product Data: Provide data on slip liner materials and accessories.

B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

PART 2 PRODUCTS

2.1 SLIP LINER TUBE

A. Where indicated on plans the proposed storm sewer shall be encased in pipe sections per the information below.

B. Tube: Provide sewn tube shall consisting of one or more layers of absorbent non-woven felt fabric and meet the requirements of ASTM F1216, Section 5.1 or ASTM F1743, Section

5.2.1 or ASTM D 5813, Sections 5 and 6. The tube shall be constructed to withstand installation pressures, have sufficient strength to bridge missing pipe, and stretch to fit irregular pipe sections.

C. Coating: The outside layer of the Tube shall be coated with an impermeable, flexible membrane that will contain the resin and allow the resin impregnation (wet out) procedure to be monitored.

D. Color: The color of the interior pipe surface of CIPP after installation shall be a relatively light reflective color so that a clear detailed examination with closed circuit television inspection equipment may be made.

E. Resin: The resin system shall be a corrosion resistant polyester or vinyl ester system including all required catalysts, initiators that when cured within the tube create a composite that satisfies the requirements of ASTM F1216, ASTM D5813 and ASTM F1743, the physical properties herein, and those which are to be utilized in the submitted and approved design of the CIPP for this project. The resin shall produce a CIPP that will comply with the structural and chemical resistance requirements of this specification.

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PART 3 EXECUTION

3.1 EXAMINATION

A. The CIPP shall be designed as per ASTM F1216, Appendix X.1. The CIPP design shall assume no bonding to the original pipe wall.

B. The Contractor must have performed long-term testing for flexural creep of the CIPP pipe material installed by his Company. Such testing results are to be used to determine the long-term, time dependent flexural modulus to be utilized in the product design. This is a

performance test of the materials (Tube and Resin) and general workmanship of the installation and curing as defined within the relevant ASTM standard. A percentage of the instantaneous flexural modulus value (as measured by ASTM D790 testing) will be used in design calculations for external buckling. The percentage, or the long-term creep retention value utilized, will be verified by this testing. Retention values exceeding 50% of the short-term test results shall not be applied unless substantiated by qualified third party test data to the Owner's satisfaction. The materials utilized for the contracted project shall be of a quality equal to or better than the materials used in the long-term test with respect to the initial flexural modulus used in the CIPP design.

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3.2 INSTALLATION

A. Installation shall be in accordance with ASTM F1216, Section 7, or ASTM F1743, Section 6, with the following modifications:

B. Resin Impregnation: The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the potential loss of resin during installation through cracks and irregularities in the original pipe wall, as applicable.

C. Tube Insertion: The wet out tube shall be positioned in the pipeline using either inversion or a pull-in method as defined within relevant ASTM standards previously stipulated. If pulled into place, a power winch or its equivalent should be utilized and care should be exercised not to damage the tube as a result of pull-in friction. The tube should be pulled-in or inverted through an existing manhole or approved access point and fully extend to the next designated manhole or termination point.

D. Temperature gauges shall be placed between the tube and the host pipe's invert position to monitor the temperatures during the cure cycle.

E. Curing shall be accomplished by utilizing hot water under hydrostatic pressure or steam pressure in accordance with the manufacturer's recommended cure schedule. A cool-down process shall be conducted that complies with the resin manufacturer's specifications.

END OF SECTION 33 01 30.73

SECTION 33 11 17 – SITE CASING PIPE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pipe and fittings for site water lines including domestic water lines and fire water lines.

1.2 RELATED REQUIREMENTS

A. Section 33 11 16 – Site Water Utility Distribution Piping

B. Section 33 41 11 – Site Storm Utility Drainage Piping

1.3 REFERENCES

A. ASTM A 139

B. AWWA C206

1.4 SUBMITTALS

A. Product Data: Provide data on pipe materials and accessories.

B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

PART 2 PRODUCTS

2.1 PVC SDR 26 CASING PIPE FOR WATERMAIN - OPEN TRENCH

A. Where indicated on plans the proposed 8" watermain shall be encased in PVC SDR 26 pipe.

B. Pipe: Provide new PVC SDR 26 pipe conforming to ASTM D2241 with joints confirming to ASTM D3212

C. Casing Spacers: Spacers shall have a T304 stainless steel shell with PVC lining, stainless steel bolts, and ultra-high molecular weight polymer runners, Cascade Waterworks Mfg. Co. Model CCS or approved equal. Spacers shall be joint restraint spacers. Spacer interval shall be as recommended by the spacer manufacturer and pipe manufacturer.

D. End Seals: Ends of the casing pipe shall be sealed with rubber end seals secured in place with stainless steel bands, Cascade Waterworks Mfg. Co. Model CCES or approved equal.

2.2 FIBERGLASS CASING PIPE – OPEN TRENCH (ALTERNATE BID 1C)

A. Where indicated on plans the proposed storm sewer pipes shall be encased in HOBAS fiberglass casing pipe or approved equal.

B. Pipe: Provide new fiberglass casing pipe conforming to AWWA M45, AWWA C950 with Flush Bell-Spigot Joints.

C. Casing Spacers: Spacers shall have a T304 stainless steel shell with PVC lining, stainless steel bolts, and ultra-high molecular weight polymer runners, Cascade Waterworks Mfg. Co. Model CCS-JR or approved equal. Spacers shall be joint restraint spacers. Spacer interval shall be as recommended by the spacer manufacturer and pipe manufacturer.

D. End Seals: Ends of the casing pipe shall be sealed with rubber end seals secured in place with stainless steel bands, Cascade Waterworks Mfg. Co. Model CCES or approved equal.

2.3 BEDDING AND COVER MATERIALS

A. Bedding: As specified in Section 31 23 16.13.

B. Complying with standard details in engineering drawings.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that building service connection and municipal utility water main size, location, and invert are as indicated.

3.2 TRENCHING

A. See the sections on excavation and fill for additional requirements.

B. Form and place concrete for pipe thrust restraints at each change of pipe direction. Place concrete to permit full access to pipe and pipe accessories.

C. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.

3.3 INSTALLATION - PIPE

A. Establish elevations of buried piping to ensure not less than 6 ft of cover.

B. Route pipe in straight line.

C. Provide tie drawings to Engineer and Owner of the location of both ends of the empty casing pipe.

END OF SECTION 33 11 17

SECTION 33 41 11 – SITE STORM UTILITY DRAINAGE PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Storm drainage piping, fittings, and accessories.

B. Connection of drainage system to municipal sewers.

C. Catch basins, Trench drains, Plant area drains, Paved area drainage, Site surface drainage, Detention tank, and Detention basin.

1.2 RELATED REQUIREMENTS

A. Section 31 23 16 - Excavation: Excavating of trenches.

B. Section 31 23 16.13 - Trenching: Excavating, bedding, and backfilling.

C. Section 31 23 23 - Fill: Bedding and backfilling.

D. Section 33 05 13 - Manholes and Structures.

1.3 DEFINITIONS

A. Bedding: Fill placed under, beside and directly over pipe, prior to subsequent backfill operations.

1.4 REFERENCE STANDARDS

A. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe; 2016.

B. ASTM C76M - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe (Metric); 2015.

C. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets; 2012.

D. ASTM C443M - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets (Metric); 2011.

1.5 SUBMITTALS

A. Product Data: Provide data indicating pipe and pipe accessories.

C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

D. Project Record Documents:

1. Record location of pipe runs, connections, catch basins, cleanouts, and invert elevations.

PART 2 PRODUCTS

2.1 SEWER PIPE MATERIALS

A. Concrete Pipe: Reinforced, ASTM C76 (ASTM C76M), Class II with Wall type A; mesh reinforcement; bell and spigot end joints.

B. Reinforced Concrete Pipe Joint Device: ASTM C443 (ASTM C443M) rubber compression gasket joint.

C. ADS N-12 WT Storm Sewer Pipe (BID ALTERNATE 1B and 1C): Pipe shall conform have a cell classification of 435400C per ASTM D3350 with a maximum carbon black content of 4%. Pipe shall conform with NCLS testing as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306 respectively. Joints and Fittings shall be bell and spigot meeting AASHTO M252, AASHTO M294 or ASTM F2306. Joints shall be watertight according to ASTM D3212. Gaskets shall meet the requirements of ASTM F477 and be installed buy the pipe manufacturer. ADS N-12 WT IB pipe or approved equal.

2.2 PIPE ACCESSORIES

A. Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required tee, bends, elbows, cleanouts, reducers, traps and other configurations required.

2.3 CATCH BASIN, TRENCH DRAIN, CLEANOUT, AND AREA DRAIN COMPONENTS

A. Lids and Drain Covers: Complying with City of Crystal Lake standard details in engineering plans.

2.4 BEDDING AND COVER MATERIALS

A. Bedding: As specified in Section 31 23 23.

B. Cover: As specified in Section 31 23 16.13.

PART 3 EXECUTION

3.1 TRENCHING

A. See Section 31 23 16.13 - Trenching for additional requirements.

B. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.

3.2 INSTALLATION - PIPE

A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on layout drawings.

B. Install pipe, fittings, and accessories in accordance with manufacturer's instructions. Seal watertight.

C. Lay pipe to slope gradients noted on layout drawings; with maximum variation from true slope of 1/8 inch in 10 feet.

D. Connect to building storm drainage system, foundation drainage system, and utility/municipal sewer system.

3.3 INSTALLATION - CATCH BASINS, TRENCH DRAINS AND CLEANOUTS

A. Form bottom of excavation clean and smooth to correct elevation.

B. Form and place cast-in-place concrete base pad, with provision for sanitary sewer pipe end sections.

C. Establish elevations and pipe inverts for inlets and outlets as indicated.

D. Mount lid and frame level in grout, secured to top cone section to elevation indicated.

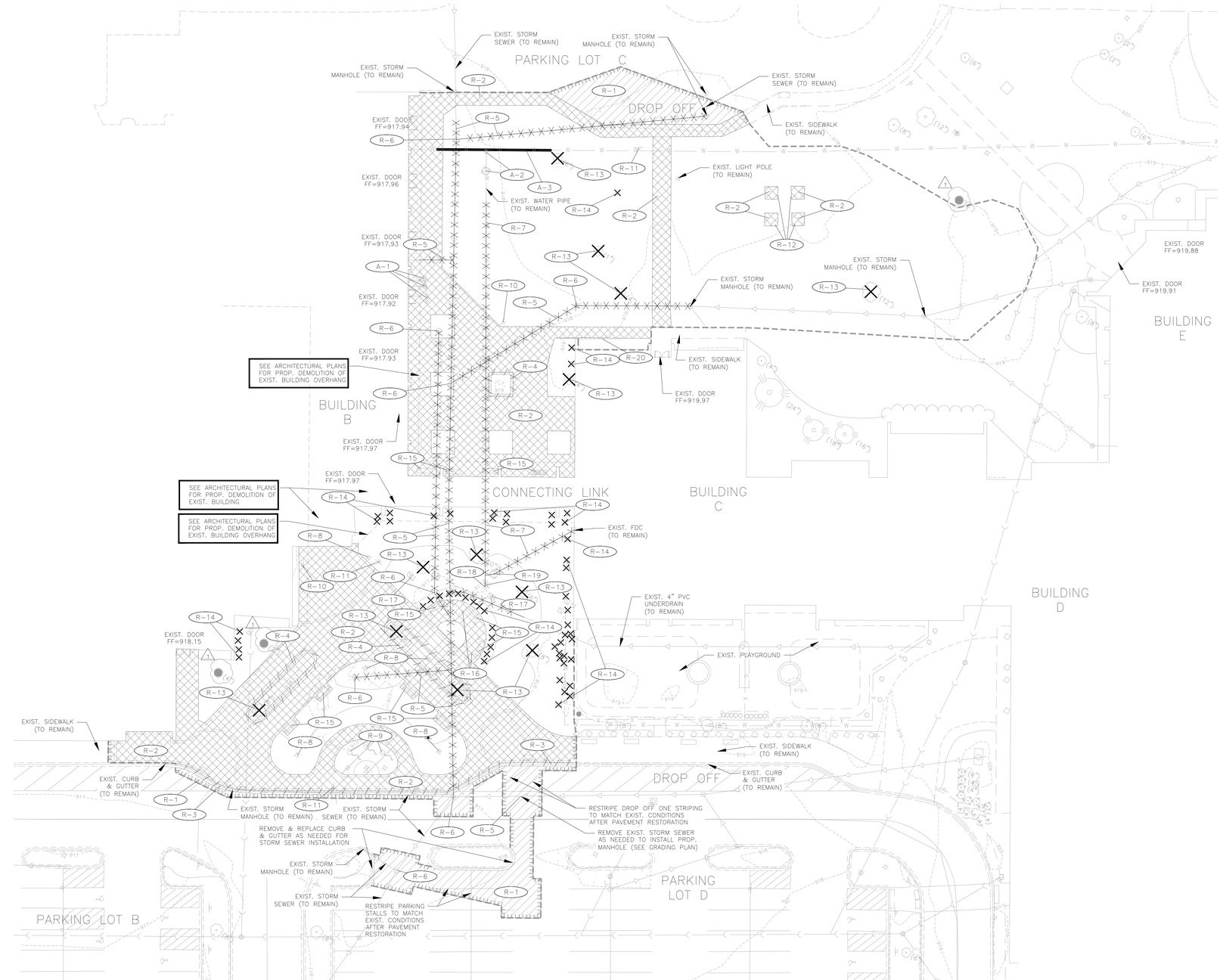
3.4 FIELD QUALITY CONTROL

A. Perform field inspection in accordance with Section 01 40 00 - Quality Requirements.

3.5 PROTECTION

A. Protect pipe and bedding cover from damage or displacement until backfilling operation is in progress.

END OF SECTION 33 41 11



NOTES:

- MCHENRY COUNTY COLLEGE (MCC) SHALL BE NOTIFIED OF ALL NON IDENTIFIED UNDERGROUND UTILITIES OR CONDUITS DISCOVERED DURING CONSTRUCTION. IF ANY OF THE UTILITY OR CONDUITS NEED TO BE REPAIRED, PLUGGED, REROUTED AND OR ABANDONED IN PLACE, IT SHALL TAKE PLACE PER THE DIRECTION OF THE MCC.
- ALL AREAS NOT WITHIN THE PROPOSED GRASSED AREAS OR STORMWATER MANAGEMENT FACILITY SHALL BE RESTORED WITH 4" TOPSOIL AND IDOT CLASS 1A SEED.

REMOVAL NOTES:

* ALL REMOVALS IN NON-PAVED AREAS DENOTED TO REQUIRE CLEARING AND GRUBBING SHALL INCLUDE TOPSOIL STRIP AND STOCKPILE AS PART OF THE REMOVAL UNLESS OTHERWISE NOTED.

LEGEND

- INDICATES HMA PAVEMENT REMOVAL (FULL DEPTH) (SEE TAGS FOR INFORMATION)
- INDICATES CONCRETE REMOVAL (FULL DEPTH) (SEE TAGS FOR INFORMATION)
- INDICATES UTILITY REMOVAL
- R-# INDICATES MISC. REMOVAL ITEMS
- INDICATES EXIST. CONCRETE CURB & GUTTER OR WALL TO BE REMOVED
- INDICATES TREE AND BRUSH REMOVAL (SEE LANDSCAPE PLANS)
- INDICATES TREE AND BRUSH PROTECTION (SEE LANDSCAPE PLANS)
- INDICATES PAVEMENT SAWCUT
- 1 NOTE: REFER TO PLANS BY CM LOGISTICS PLAN FOR CONSTRUCTION FENCE AND BARRIER LAYOUT.

PROJECT NOTES:

* LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. IN ADDITION TO, NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED. (INCLUDING STORM WATER POLLUTION PREVENTION PLAN PER THE DEVELOPMENT CRITERIA.) SEE SHEET C-05 & C-06 FOR EROSION CONTROL MEASURES)
* ALL EXISTING UTILITIES TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
* CONTRACTOR SHALL COORDINATE AND COMPLY WITH ALL UTILITY COMPANIES INVOLVED IN PROJECT AND PAY ALL REQUIRED FEES AND COSTS.
* ALL STRUCTURES & DEBRIS SHALL BE REMOVED PRIOR TO CONSTRUCTION & DISPOSED OF OFFSITE.
* ANY EXISTING FIELD DRAIN TILES ENCOUNTERED SHALL BE RECONNECTED OR CONNECTED TO THE NEAREST STORM SEWER.
* ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
* CONTRACTOR TO KEEP RING ROAD OPEN AT ALL TIMES.
* THE CONTRACTOR IS CAUTIONED NEITHER TO OBSTRUCT NOR REMOVE ANY EXISTING PAVEMENT, NOR TO DISTURB THE EXISTING TRAFFIC PATTERNS MORE THAN IS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.

STAGING NOTE:

(STAGING SUBJECT TO CHANGES PER SITE CONTRACTORS SCHEDULE AND METHODS OF OPERATION)

1. EROSION CONTROL MEASURES
2. PLAN REMOVALS
3. PROPOSED UNDERGROUND
4. GRADING
5. BUILDING CONSTRUCTION
6. PAVING
7. TOPSOIL RESPREAD/SEED

REMOVAL TAGS:

NUMBER	DESCRIPTION	REMARKS
A-1	SANITARY SEWER STRUCTURE	ADJUST RIM TO FINISHED GRADE
A-2	WATER STRUCTURE	ADJUST RIM TO FINISHED GRADE
A-3	WATER MAIN	LOWER WATERMAIN (SEE UTILITY PLAN)
R-1	ASPHALT PAVEMENT	REMOVE (FULL DEPTH)
R-2	CONCRETE PAVEMENT/SIDEWALK	REMOVE (FULL DEPTH)
R-3	CONCRETE CURB & GUTTER	REMOVE
R-4	CONCRETE PLANTER WALL	REMOVE
R-5	STORM SEWER PIPE	REMOVE
R-6	STORM SEWER STRUCTURE	REMOVE
R-7	WATER PIPE	REMOVE
R-8	LIGHT POLE	REMOVE
R-9	FLAG POLE	REMOVE & RELOCATE (BY OWNER)
R-10	SIGN	REMOVE
R-11	SIGN	REMOVE & RELOCATE (SEE SITE PLAN)
R-12	SCULPTURE	REMOVE & RELOCATE (BY OWNER)
R-13	TREE	REMOVE
R-14	BUSH	REMOVE
R-15	BENCH	REMOVE
R-16	PERGOLA & FENCE POST	REMOVE
R-17	IRRIGATION HANDHOLE	REMOVE
R-18	FIRE HYDRANT	REMOVE
R-19	WATER VALVE OR B-BOX	REMOVE
R-20	RETAINING WALL	REMOVE

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McHenry County College ENGAGEMENT HALL

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CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24 - 027

KEY PLAN:

LICENSED PROFESSIONAL ENGINEER
TODD M. RICHARDS
062-058779
STATE OF ILLINOIS

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	05/27/25

SHEET TITLE:

SITE DEMOLITION PLAN

SHEET NUMBER:

C-03

NORTH
0 20'
1" = 20'

ISSUED FOR BID – NOT FOR CONSTRUCTION

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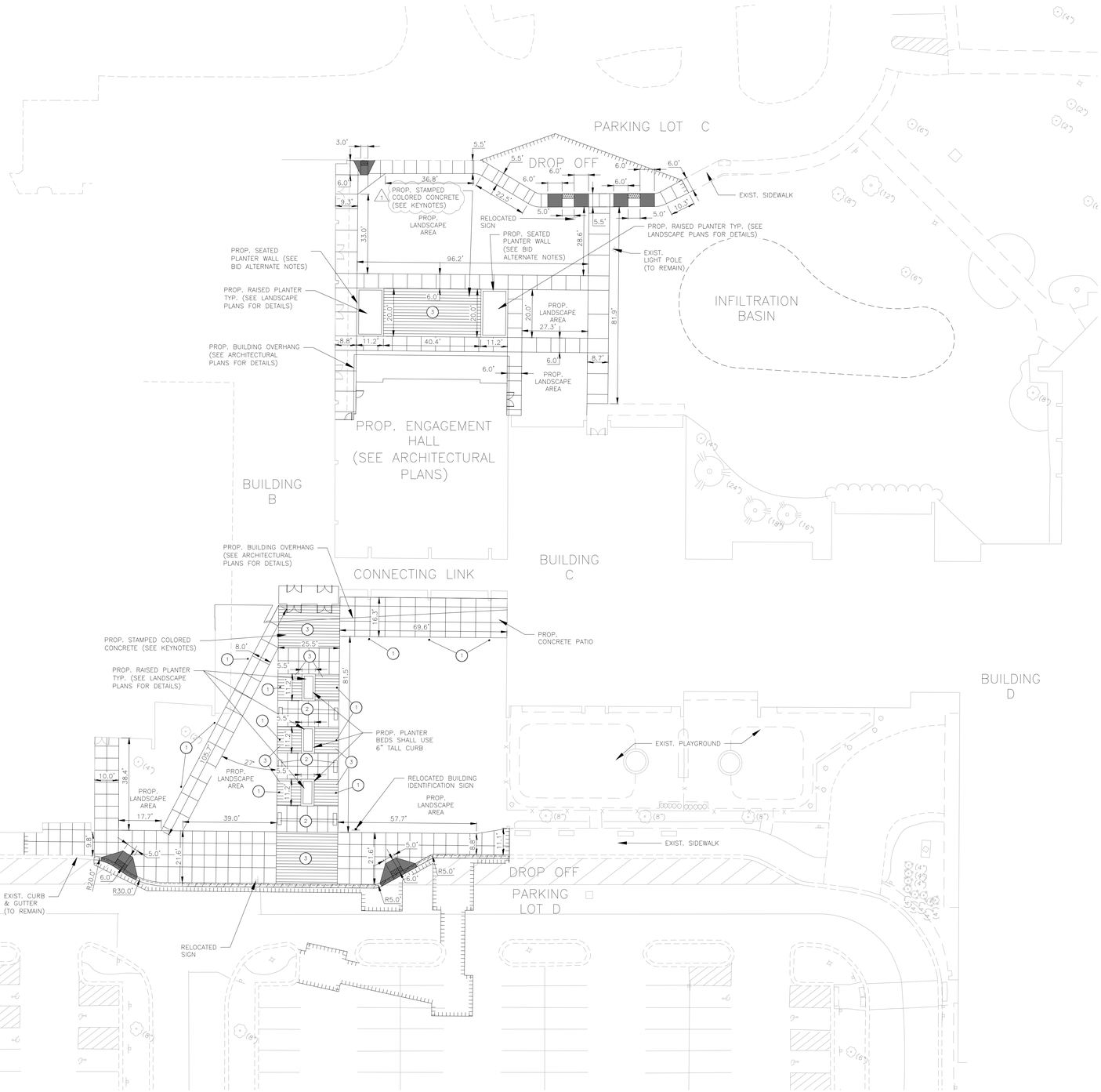

KEYNOTES:

1. LIGHTED BOLLARDS (SEE ELECTRICAL PLANS FOR LOCATION AND QUANTITY)
2. BENCHES (SEE ARCHITECTURAL PLANS)
3. STAMPED COLORED CONCRETE (SEE STAMPED COLORED CONCRETE NOTES, THIS SHEET)

HATCH LEGEND

- DENOTES PAVEMENT SAWCUT
- DENOTES REVERSE (SPILLING) CURB & GUTTER
- DENOTES CONCRETE CURB & GUTTER (CATCHING)
- DENOTES AREA OF DEPRESSED CURB AND GUTTER.
- DENOTES PROP. SIDEWALK
- DENOTES PROP. STAMPED COLORED CONCRETE
- DENOTES AREA OF DEPRESSED SIDEWALK
- DENOTES AREA TO UTILIZE TRUNCATED DOMES

PROJECT NOTES:

* CONTRACTOR TO COORDINATE W/ COLLEGE PRIOR TO CLOSING ANY PORTIONS OF THE EXISTING BUILDING OR PARKING LOT.
* ALL CONSTRUCTION FOR UTILITIES AND PAVEMENT SHOULD BE DONE IN ACCORDANCE WITH CITY OF CRYSTAL LAKE STANDARD SPECIFICATIONS.
* ALL PAVEMENT DIMENSIONS ARE MEASURED TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
* ALL PAVEMENT RADII ARE 5.0' RADIUS MEASURED TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
* ALL CURB ADJOINING SIDEWALKS SHALL BE DOWELED INTO THE CURB.

CONTRACTOR NOTES:

* CONTRACTOR TO COORDINATE THE SHUT DOWN OF THE EXISTING WATER MAIN WITH McHENRY COUNTY COLLEGE, THE CITY OF CRYSTAL LAKE AND THE CRYSTAL LAKE FIRE PROTECTION DISTRICT.
* ONCE THE EXISTING WATER MAIN IS ISOLATED/SHUT DOWN THE EXISTING WATER MAIN REMOVALS CAN BE MADE AND CONTRACTOR SHALL INSTALL THE NEW WATER MAIN LINE WITH CARRIER PIPE PER PLAN. ONCE THE PROPOSED WATER MAIN IS COMPLETE CONTRACTOR SHALL CONNECT IT THE EXISTING WATER MAIN AND RE-ENERGIZE THE ISOLATED LINE.

SITE DATA:

* PIN: 13-25-300-021
* PROPOSED PROJECT AREA: 50,348± SQ. FT. (1.16 ACRES)
* EXISTING IMPERVIOUS WITHIN PROJECT AREA: 21,481± SQ. FT. (42.67%)
  ** PAVED SURFACE: 17,318± SQ. FT. (34.40%)
  ** BUILDING AREA: 4,163± SQ. FT. (8.27%)
* PROPOSED IMPERVIOUS WITHIN PROJECT AREA: 24,495± SQ. FT. (48.56%)
  ** PAVED SURFACE: 15,196± SQ. FT. (30.18%)
  ** BUILDING AREA: 9,299± SQ. FT. (18.47%)
* NET CHANGE IN IMPERVIOUS AREA: 3,014± SQ. FT. INCREASE
  ** PROPOSED EVENT CENTER ROOF AREA: 6,347± SQ. FT.
  ** IMPERVIOUS TO EXIST. BASIN REDUCTION: 3,333± SQ. FT., SEE NOTE BELOW.
* NOTE:
  ** BUILDING AREA REFERS TO BUILDING ROOF AREA. PAVED SURFACE REFERS TO IMPERVIOUS AREA AT GROUND LEVEL. THE PROPOSED DEVELOPMENT RESULTS IN AN OVERALL INCREASE IN IMPERVIOUS AREA. HOWEVER, THE STORMWATER RUNOFF FROM THE PROPOSED EVENT CENTER BUILDING WILL BE ROUTED TO A PROPOSED INFILTRATION BASIN SEPARATE FROM THE EXISTING DETENTION BASIN. BECAUSE THIS BUILDING AREA WILL NO LONGER TRIBUTARY TO THE EXISTING DETENTION BASIN IT HAS BEEN CONSIDERED AS A HARDSCAPE AREA REDUCTION FOR PURPOSES OF STORMWATER CALCULATIONS, SEE STORMWATER MANAGEMENT REPORT FOR FURTHER DETAILS.

BUILDING AREA:

* PROPOSED BUILDING TO BE CONSTRUCTED PER ARCHITECTURAL PLANS.

PARKING DATA:

* NO CHANGES PROPOSED TO EXISTING PARKING.

STAMPED COLORED CONCRETE NOTES:

1. CONCRETE SHALL UTILIZE RUNNING BOND PATTERN PERPENDICULAR TO THE LONG AXIS OF THE SIDEWALK.
2. CONCRETE SHALL HAVE DARK GREY COLOR. CONTRACTOR SHALL PROVIDE MANUFACTURER'S COLOR CHART TO OWNER FOR SELECTION.
3. CONTRACTOR TO PROVIDE MOCK-UP OF STAMPED COLORED CONCRETE FOR REVIEW AND APPROVAL BY OWNER.
4. CONCRETE SHALL HAVE MEDIUM BROOM FINISH.
5. CONCRETE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION NUMBER 32 13 13 CONCRETE PAVING.

BID ALTERNATE NOTES:

* REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS OF RAISED PLANTER BEDS.
* BID ALTERNATE 3: PLANTER BEDS NORTH OF THE ENGAGEMENT HALL SHALL BE RAISED CONCRETE CURB.

NORTH

0 20'

1" = 20'

ISSUED FOR BID - NOT FOR CONSTRUCTION

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DKA PROJECT NO: 24 - 027

KEY PLAN:

LICENSED PROFESSIONAL ENGINEER
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062-058779
STATE OF ILLINOIS

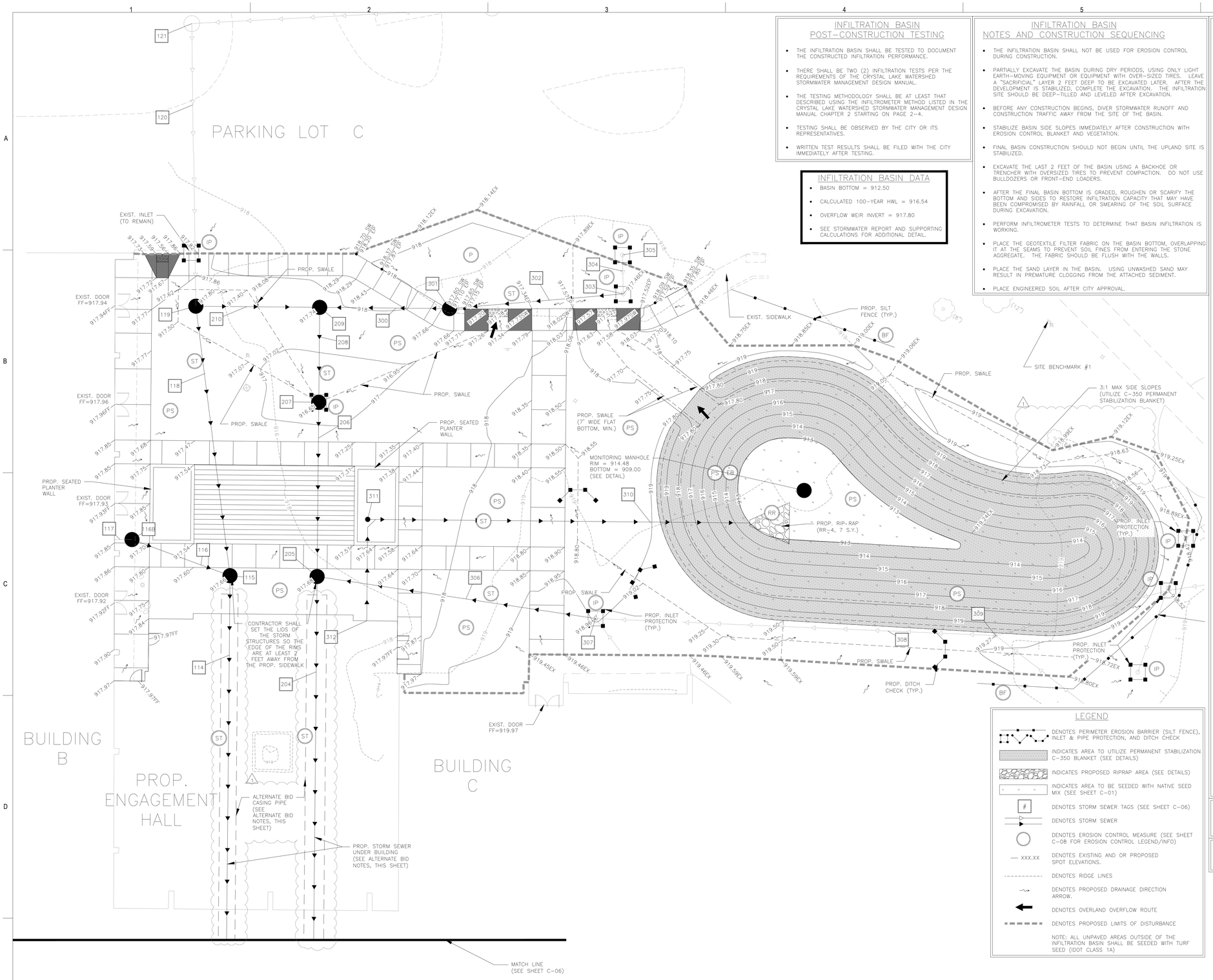
SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	05/27/25

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
C-04



INFILTRATION BASIN POST-CONSTRUCTION TESTING

- THE INFILTRATION BASIN SHALL BE TESTED TO DOCUMENT THE CONSTRUCTED INFILTRATION PERFORMANCE.
- THERE SHALL BE TWO (2) INFILTRATION TESTS PER THE REQUIREMENTS OF THE CRYSTAL LAKE WATERSHED STORMWATER MANAGEMENT DESIGN MANUAL.
- THE TESTING METHODOLOGY SHALL BE AT LEAST THAT DESCRIBED USING THE INFILTROMETER METHOD LISTED IN THE CRYSTAL LAKE WATERSHED STORMWATER MANAGEMENT DESIGN MANUAL CHAPTER 2 STARTING ON PAGE 2-4.
- TESTING SHALL BE OBSERVED BY THE CITY OR ITS REPRESENTATIVES.
- WRITTEN TEST RESULTS SHALL BE FILED WITH THE CITY IMMEDIATELY AFTER TESTING.

INFILTRATION BASIN DATA

- BASIN BOTTOM = 912.50
- CALCULATED 100-YEAR HWL = 916.54
- OVERFLOW WEIR INVERT = 917.80
- SEE STORMWATER REPORT AND SUPPORTING CALCULATIONS FOR ADDITIONAL DETAIL.

INFILTRATION BASIN NOTES AND CONSTRUCTION SEQUENCING

- THE INFILTRATION BASIN SHALL NOT BE USED FOR EROSION CONTROL DURING CONSTRUCTION.
- PARTIALLY EXCAVATE THE BASIN DURING DRY PERIODS, USING ONLY LIGHT EARTH-MOVING EQUIPMENT OR EQUIPMENT WITH OVER-SIZED TIRES. LEAVE A "SACRIFICIAL" LAYER 2 FEET DEEP TO BE EXCAVATED LATER. AFTER THE DEVELOPMENT IS STABILIZED, COMPLETE THE EXCAVATION. THE INFILTRATION SITE SHOULD BE DEEP-TILLED AND LEVELED AFTER EXCAVATION.
- BEFORE ANY CONSTRUCTION BEGINS, DIVER STORMWATER RUNOFF AND CONSTRUCTION TRAFFIC AWAY FROM THE SITE OF THE BASIN.
- STABILIZE BASIN SIDE SLOPES IMMEDIATELY AFTER CONSTRUCTION WITH EROSION CONTROL BLANKET AND VEGETATION.
- FINAL BASIN CONSTRUCTION SHOULD NOT BEGIN UNTIL THE UPLAND SITE IS STABILIZED.
- EXCAVATE THE LAST 2 FEET OF THE BASIN USING A BACKHOE OR TRENCHER WITH OVERSIZED TIRES TO PREVENT COMPACTION. DO NOT USE BULLDOZERS OR FRONT-END LOADERS.
- AFTER THE FINAL BASIN BOTTOM IS GRADED, ROUGHEN OR SCARIFY THE BOTTOM AND SIDES TO RESTORE INFILTRATION CAPACITY THAT MAY HAVE BEEN COMPROMISED BY RAINFALL OR SMEARING OF THE SOIL SURFACE DURING EXCAVATION.
- PERFORM INFILTROMETER TESTS TO DETERMINE THAT BASIN INFILTRATION IS WORKING.
- PLACE THE GEOTEXTILE FILTER FABRIC ON THE BASIN BOTTOM, OVERLAPPING IT AT THE SEAMS TO PREVENT SOIL FINES FROM ENTERING THE STONE AGGREGATE. THE FABRIC SHOULD BE FLUSH WITH THE WALLS.
- PLACE THE SAND LAYER IN THE BASIN. USING UNWASHED SAND MAY RESULT IN PREMATURE CLOGGING FROM THE ATTACHED SEDIMENT.
- PLACE ENGINEERED SOIL AFTER CITY APPROVAL.

GRADING & DRAINAGE NOTES

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, DOOR ACCESS, AND EXTERIOR GRADING. THE UTILITY SERVICE SIZES ARE TO BE DETERMINED BY THE ARCHITECT. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND ENSURE PROPER DEPTHS ARE ACHIEVED. THE JURISDICTION UTILITY REQUIREMENTS SHALL ALSO BE MET, AS WELL AS COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME.
2. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT, ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL BE SUBMITTED IN COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT.
3. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION SHALL BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND SHALL BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS.
4. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS AND REGULATIONS, OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES.
5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 0.75% MINIMUM SLOPE ALONG ALL ISLANDS, GUTTERS, AND CURBS; 1.0% ON ALL CONCRETE SURFACES; AND 1.5% MINIMUM ON ASPHALT, TO PREVENT PONDING. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITHOUT NOTIFICATION IS DONE SO AT THE CONTRACTOR'S OWN RISK.
6. IN CASE OF DISCREPANCIES BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE. IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICTS.
7. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
8. ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST.
9. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.
10. GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.
11. NO PART OF THE PROPOSED PROJECT IS LOCATED WITHIN A FLOOD HAZARD AREA.
12. SPOT ELEVATIONS SHOWN ARE @ EDGE OF PAVEMENT UNLESS OTHERWISE NOTED ON PLAN.
13. ALL STORM SEWER JOINTS SHALL HAVE O-RING GASKETS.
14. ALL STORM SEWER PIPE CONNECTIONS TO MANHOLES OR OTHER STRUCTURES SHALL BE CONNECTED THROUGH THE USE OF RUBBER BOOTS.
15. MATCH EXISTING GRADES AT PROPERTY LINES AND/OR CONSTRUCTION LIMITS.
16. SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS
17. ALL SIDEWALK CROSS SLOPES SHALL BE A MAXIMUM OF 2%. CROSS SLOPE
18. SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING OF PAVEMENT.
19. THE CONTRACTOR SHALL CONFINE HIS GRADING OPERATIONS TO WITHIN CONSTRUCTION LIMITS AND EASEMENTS SHOWN ON THE PLANS. ANY DAMAGE TO PROPERTIES OUTSIDE THE SITE BOUNDARY SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
20. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE CONTROL TO THE CONSTRUCTION AREA AND HAUL ROADS TO PREVENT THE SPREAD OF DUST.
21. ALL FIELD TILES ENCOUNTERED SHALL BE REPLACED AND/OR CONNECTED TO THE STORM SEWER SYSTEM AND LOCATED AND IDENTIFIED ON THE RECORD PLANS BY THE CONTRACTOR.
22. ALL STORM DRAINAGE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF CRYSTAL LAKE.
23. ELEVATIONS AND CONTOURS ARE TO STATE PLANE COORDINATES PER NAVD DATUM 88.
24. 1 WEEK PRIOR TO CONSTRUCTION WITHIN CITY ROW OR ANY CONNECTION TO PUBLIC SEWERS, CONTRACTOR SHALL NOTIFY THE APPROPRIATE CITY ENGINEERING DIVISIONS.
25. THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION UNITS. THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OR MATERIALS. STORAGE, PARKING AND SERVICE AREAS WILL BE SUBJECT TO THE APPROVAL OF THE OWNER.
26. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY AREAS OF PAVEMENT OR SIDEWALK NOT TO BE REMOVED THAT IS DAMAGED DUE TO OPERATING EQUIPMENT ON THE PAVEMENT OR SIDEWALK.
27. ALL EXISTING UTILITY TRENCHES THAT ARE PROPOSED TO BE WITHIN PAVEMENT AREAS SHALL BE EXPOSED AND BACKFILLED WITH CA-6 CRUSHED AGGREGATE.
28. ALL SUBGRADE, SUBBASE AND BINDER COURSE SHALL BE PROOFROLLED PER THE CITY OF CRYSTAL LAKE DEVELOPMENT ORDINANCES ENGINEERING SPECIFICATIONS.

LEGEND

- DENOTES PERIMETER EROSION BARRIER (SILT FENCE), INLET & PIPE PROTECTION, AND DITCH CHECK
- INDICATES AREA TO UTILIZE PERMANENT STABILIZATION C-350 BLANKET (SEE DETAILS)
- INDICATES PROPOSED RIPRAP AREA (SEE DETAILS)
- INDICATES AREA TO BE SEEDED WITH NATIVE SEED MIX (SEE SHEET C-01)
- DENOTES STORM SEWER TAGS (SEE SHEET C-06)
- DENOTES STORM SEWER
- DENOTES EROSION CONTROL MEASURE (SEE SHEET C-08 FOR EROSION CONTROL LEGEND/INFO)
- XXX.XX DENOTES EXISTING AND OR PROPOSED SPOT ELEVATIONS.
- DENOTES RIDGE LINES
- DENOTES PROPOSED DRAINAGE DIRECTION ARROW.
- DENOTES OVERLAND OVERFLOW ROUTE
- DENOTES PROPOSED LIMITS OF DISTURBANCE

NOTE: ALL UNPAVED AREAS OUTSIDE OF THE INFILTRATION BASIN SHALL BE SEEDED WITH TURF SEED (IDOT CLASS 1A)

SITE DISTURBANCE NOTE

- THE PROPOSED DEVELOPMENT IS ANTICIPATED TO DISTURB APPROXIMATELY (1.15) ACRES.

SITE BENCHMARK NOTE

- SEE SHEET C-00 FOR SITE BENCHMARK INFORMATION.

ALTERNATE BID NOTES

- THE BASE BID FOR THE STORM SEWER PIPING PROPOSED TO BE ROUTED UNDERNEATH THE BUILDING SHALL BE RCP. SEE NOTES BELOW FOR ALTERNATE BID OPTIONS.
- PIPE MATERIALS NOTED BY THE BID ALTERNATES SHALL BE FOR THE ENTIRE LENGTH OF STORM SEWER TAGS 114 AND 204.
- ALTERNATE BID 1A: PIPE SHALL BE RCP WITH CURED-IN-PLACE SLIP LINER (FULL LENGTH OF PIPE).
- ALTERNATE BID 1B: PIPE SHALL ADS N-12 WT ENCASED IN CLSM CONCRETE. PIPE SHALL BE ANCHORED DURING BACKFILLING WITH CLSM (CLSM FROM NORTH FACE OF ENGAGEMENT HALL TO SOUTH FACE OF MAIN ENTRANCE).
- ALTERNATE BID 1C: PIPE SHALL BE ADS N-12 WT INSIDE OF HOBAS FIBERGLASS PIPE WITH CASING SPACERS. 48" AND 60" DIAMETER CASING PIPES SHALL BE UTILIZED. PIPE CASINGS SHALL BEGIN 5 FEET NORTH OF THE NORTHERN FACE OF THE ENGAGEMENT HALL AND END 20 FEET SOUTH OF THE SOUTHERN FACE OF THE MAIN ENTRANCE (116 LIN. FT. EACH).

NORTH

0 10'

1" = 10'

ISSUED FOR BID – NOT FOR CONSTRUCTION

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dkA

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CRYSTAL LAKE, IL 60012

DKA PROJECT NO: 24 - 027

KEY PLAN:

REGISTERED PROFESSIONAL ENGINEER
TODD M. RICHARDS
062-058779
STATE OF ILLINOIS

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

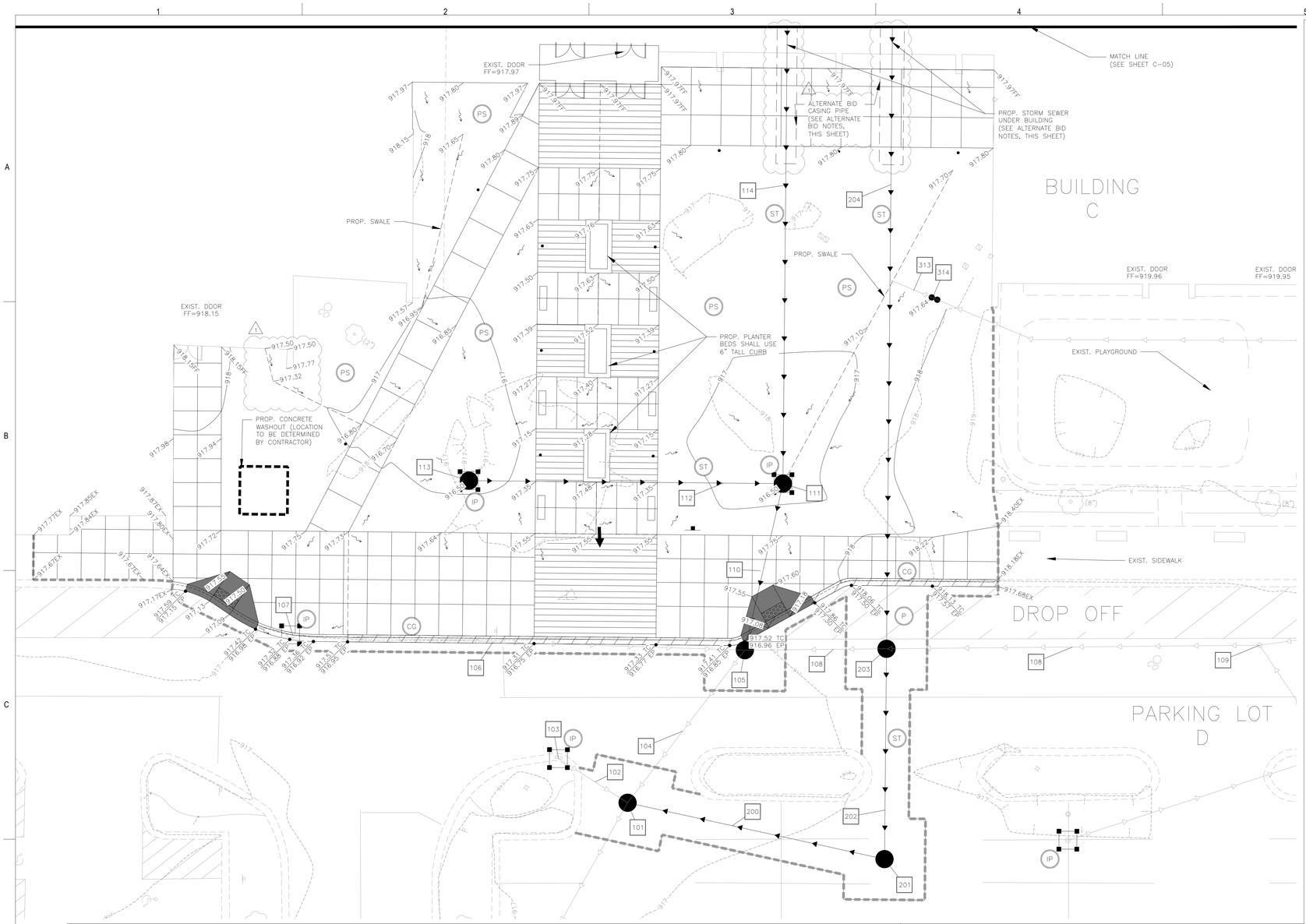
NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	05/27/25

SHEET TITLE:

GRADING & EROSION CONTROL PLAN - NORTH

SHEET NUMBER:

C-05



GRADING & DRAINAGE NOTES

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, DOOR ACCESS, AND EXTERIOR GRADING. THE UTILITY SERVICE SIZES ARE TO BE DETERMINED BY THE ARCHITECT. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND ENSURE PROPER DEPTHS ARE ACHIEVED. THE JURISDICTION UTILITY REQUIREMENTS SHALL ALSO BE MET, AS WELL AS COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME.
2. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL BE SUBMITTED IN COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT.
3. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION SHALL BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND SHALL BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS.
4. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS AND REGULATIONS, OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES.
5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 0.75% MINIMUM SLOPE ALONG ALL ISLANDS, GUTTERS, AND CURBS; 1.0% ON ALL CONCRETE SURFACES; AND 1.5% MINIMUM ON ASPHALT, TO PREVENT PONDING. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITHOUT NOTIFICATION IS DONE SO AT THE CONTRACTOR'S OWN RISK.
6. IN CASE OF DISCREPANCIES BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE. IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICTS.
7. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
8. ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST.
9. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.
10. GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.
11. NO PART OF THE PROPOSED PROJECT IS LOCATED WITHIN A FLOOD HAZARD AREA.
12. SPOT ELEVATIONS SHOWN ARE @ EDGE OF PAVEMENT UNLESS OTHERWISE NOTED ON PLAN.
13. ALL STORM SEWER JOINTS SHALL HAVE O-RING GASKETS.
14. ALL STORM SEWER PIPE CONNECTIONS TO MANHOLES OR OTHER STRUCTURES SHALL BE CONNECTED THROUGH THE USE OF RUBBER BOOTS.
15. MATCH EXISTING GRADES AT PROPERTY LINES AND/OR CONSTRUCTION LIMITS.
16. SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS
17. ALL SIDEWALK CROSS SLOPES SHALL BE A MAXIMUM OF 2% CROSS SLOPE
18. SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING OF PAVEMENT.
19. THE CONTRACTOR SHALL CONFINE HIS GRADING OPERATIONS TO WITHIN CONSTRUCTION LIMITS AND EASEMENTS SHOWN ON THE PLANS. ANY DAMAGE TO PROPERTIES OUTSIDE THE SITE BOUNDARY SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
20. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE CONTROL TO THE CONSTRUCTION AREA AND HAUL ROADS TO PREVENT THE SPREAD OF DUST.
21. ALL FIELD TILES ENCOUNTERED SHALL BE REPLACED AND/OR CONNECTED TO THE STORM SEWER SYSTEM AND LOCATED AND IDENTIFIED ON THE RECORD PLANS BY THE CONTRACTOR.
22. ALL STORM DRAINAGE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF CRYSTAL LAKE.
23. ELEVATIONS AND CONTOURS ARE TO STATE PLANE COORDINATES PER NAVD DATUM 88.
24. 1 WEEK PRIOR TO CONSTRUCTION WITHIN CITY ROW OR ANY CONNECTION TO PUBLIC SEWERS, CONTRACTOR SHALL NOTIFY THE APPROPRIATE CITY ENGINEERING DIVISIONS.
25. THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION UNITS. THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OR MATERIALS. STORAGE, PARKING AND SERVICE AREAS WILL BE SUBJECT TO THE APPROVAL OF THE OWNER.
26. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY AREAS OF PAVEMENT OR SIDEWALK NOT TO BE REMOVED THAT IS DAMAGED DUE TO OPERATING EQUIPMENT ON THE PAVEMENT OR SIDEWALK.
27. ALL EXISTING UTILITY TRENCHES THAT ARE PROPOSED TO BE WITHIN PAVEMENT AREAS SHALL BE EXPOSED AND BACKFILLED WITH CA-6 CRUSHED AGGREGATE.
28. ALL SUBGRADE, SUBBASE AND BINDER COURSE SHALL BE PROOFROLLED PER THE CITY OF CRYSTAL LAKE DEVELOPMENT ORDINANCES ENGINEERING SPECIFICATIONS.

LEGEND

- DENOTES PERIMETER EROSION BARRIER (SILT FENCE), INLET & PIPE PROTECTION, AND DITCH CHECK
- INDICATES AREA TO UTILIZE PERMANENT STABILIZATION C-350 BLANKET (SEE DETAILS)
- INDICATES PROPOSED RIPRAP AREA (SEE DETAILS)
- INDICATES AREA TO BE SEEDED WITH NATIVE SEED MIX (SEE SHEET C-01)
- # DENOTES STORM SEWER TAGS (SEE THIS SHEET)
- DENOTES STORM SEWER
- DENOTES EROSION CONTROL MEASURE (SEE SHEET C-08 FOR EROSION CONTROL LEGEND/INFO)
- XXX.XX DENOTES EXISTING AND OR PROPOSED SPOT ELEVATIONS.
- DENOTES RIDGE LINES
- DENOTES PROPOSED DRAINAGE DIRECTION ARROW.
- DENOTES OVERLAND OVERFLOW ROUTE
- DENOTES PROPOSED LIMITS OF DISTURBANCE

NOTE: ALL UNPAVED AREAS OUTSIDE OF THE INFILTRATION BASIN SHALL BE SEEDED WITH TURF SEED (IDOT CLASS 1A)

STORM TAGS (100 SERIES)

- ST-101 STM SWR MH 7' DIA., R-1713, CL; RIM = 916.30; INV = 910.37 N/S 36" RCP; INV = 911.50 W 12" RCP; INV = 910.37 E 24" RCP (CORED); CONTRACTOR TO FIELD VERIFY EXIST. PIPE INVERTS PRIOR TO ORDERING MATERIALS AND NOTIFY ENGINEER
- ST-102 EX SS RCP, 12"
- ST-103 EXIST. CURB INLET; RIM = 916.11; INV = 911.50 E 12" RCP
- ST-104 EX SS RCP, 36"
- ST-105 STM SWR MH 7' DIA., R-1713, CL; RIM = 916.90; INV = 911.63 NW/S 36" RCP; INV = 911.87 SW 12" RCP; INV = 911.57 NE 18" RCP
- ST-106 EX SS RCP, 12"
- ST-107 EXIST. CURB INLET; RIM = 916.88; INV = 912.55 NE 12" RCP
- ST-108 EX SS RCP, 18"; PIPE CUT TO INSERT MH; SEE TAG 203
- ST-109 EXIST. MH; TOP = 917.72; INV = 912.52 SW 18" RCP; INV = 912.62 NE 12" RCP; INV = UNKNOWN SE 12" RCP
- ST-110 29 LIN FT SS RCP, 36"; @ 0.45%
- ST-111 STM SWR MH 7' DIA., R-2504 TY A GRATE; RIM = 916.50; INV = 911.76 NW/SE 36" RCP; INV = 912.76 W 12" RCP
- ST-112 61 LIN FT SS RCP, 12"; @ 0.48%
- ST-113 STM SWR CB 2' DIA., R-2504 TY D GRATE; RIM = 916.50; INV = 913.05 E 12" RCP
- ST-114 182 LIN FT SS RCP, 36"; @ 0.30%
- ST-115 STM SWR MH 5' DIA., R-1713, CL; RIM = 917.66; INV = 912.31 NW/S 36" RCP; INV = 912.45 W 12" RCP
- ST-116 21 LIN FT SS RCP, 12"; @ 1.00%; CONTRACTOR TO FIELD VERIFY TAG 117 PIPE SIZE, MATERIAL, INVERT, AND LOCATION PRIOR TO ORDERING MATERIALS AND NOTIFY ENGINEER
- ST-116B STM SWR MH 4' DIA., R-1713, CL; RIM = 917.66; INV = 912.66 W/SE 12" RCP; CONNECT TO TAG 117; CONTRACTOR TO FIELD VERIFY TAG 117 SEE TAG 116 NOTES
- ST-117 EX SS, 12" (MATERIAL UNKNOWN) SEE TAG 116 NOTES ABOVE
- ST-118 63 LIN FT SS RCP, 36"; @ 0.30%
- ST-119 STM SWR MH 6' DIA., R-1713, CL; RIM = 917.80; INV = 912.50 SE 36" RCP; INV = 912.50 NW 24" RCP (FIELD VERIFY); INV = 912.50 NE 24" RCP
- ST-120 EX SS RCP, 24"
- ST-121 EXIST. MH; TOP = 918.47; INV = 912.77 SE 18" RCP; INV = 913.37 SW 12" RCP; INV = 913.12 NE 18" RCP; INV = 914.27 NW 18" RCP

STORM TAGS (200 SERIES)

- ST-200 48 LIN FT SS RCP, 24"; @ 0.63%
- ST-201 STM SWR MH 7' DIA., R-1713, CL; RIM = 917.22; INV = 910.67 SW 24" RCP; INV = 910.67 NW 48" RCP
- ST-202 37 LIN FT SS RCP, 48"; @ 0.30%
- ST-203 STM SWR MH 7' DIA., R-1713, CL; RIM = 917.27; INV = 910.78 SW/NW 48" RCP; INV = 911.81 SW 18" RCP (EXISTING); INV = 911.87 NE 18" RCP (EXISTING); CONTRACTOR TO FIELD VERFIY PIPE INVERTS PRIOR TO ORDERING MATERIALS AND NOTIFY ENGINEER (SEE TAG 108)
- ST-204 215 LIN FT SS RCP, 48"; @ 0.30%
- ST-205 STM SWR MH 7' DIA., R-1713, CL; RIM = 917.68; INV = 911.42 NW/SE 48" RCP; INV = 911.42 E 15" RCP
- ST-206 37 LIN FT SS RCP, 48"; @ 0.30%
- ST-207 STM SWR MH 7' DIA. WITH FOUR (4) R-4341-A GRATES (SEE DETAIL); RIM = 916.65; INV = 911.53 NW/SE 48" RCP
- ST-208 17 LIN FT SS RCP, 48"; @ 0.35%
- ST-209 STM SWR MH 7' DIA., R-1713, CL; RIM = 917.98; INV = 911.59 SE 48" RCP; INV = 911.85 SW/NE 24" RCP
- ST-210 25 LIN FT SS RCP, 24"; @ 2.60%

STORM TAGS (300 SERIES)

- ST-300 27 LIN FT SS RCP, 24"; @ 1.11%
- ST-301 STM SWR CB 4' DIA., R-3281 TY A GRATE; RIM = 917.10; INV = 912.15 SW/NE 24" RCP
- ST-302 40 LIN FT SS RCP, 24"; @ 4.15%
- ST-303 EXIST. INLET; RIM = 917.46; INV = 913.81 SW 24" RCP (CORED); INV = 914.16 NW 12" RCP
- ST-304 EX SS RCP, 12"
- ST-305 EXIST. INLET; RIM = 917.64; INV = 914.23 SE 12" RCP
- ST-306 66 LIN FT SS RCP, 15"; @ 1.35%
- ST-307 EXIST. MH; RIM = 918.96; INV = 912.31 SW 15" RCP (CORED); INV = 912.31 NE 15" RCP; INV = 914.56 SE 10" RCP
- ST-308 EX SS RCP, 15"
- ST-309 EXIST. MH (RAISE RIM TO FG); EX RIM = 919.09; PR RIM = 919.27; INV = 913.06 W/SE 15" RCP; INV = 913.06 E 12" RCP
- ST-310 96 LIN FT SS PVC, ROOF DRAIN 10" SDR 26; @ 0.65%; INV @ BASIN= 913.00
- ST-311 CLEANOUT; RIM = 917.95; INV = 913.62
- ST-312 26 LIN FT SS PVC, ROOF DRAIN 10" SDR 26; @ 0.62%; INV @ SR-310= 913.61; INV @ BLDG= 913.77; INSTALL 6" TO 10" ADAPTER TO CONNECT TO 6" PIPE WITHIN BUILDING
- ST-313 EX 4" PVC UNDERDRAIN; @ 0.30% (ESTIMATED); CORE CONNECTION INTO TAG 204 WITH 2 LIN FT RISER @ 1:1 SLOPE; INV @ 204 = 913.48; CONTRACTOR TO FIELD VERIFY EXIST. PIPE SIZE, DEPTH, AND LOCATION PRIOR TO ORDERING MATERIALS
- ST-314 DOUBLE CLEANOUT; RIM = 917.64; INV = 915.51; INSERT CLEANOUT ONTO TAG 313; CONTRACTOR TO FIELD VERIFY EXIST. PIPE SIZE, DEPTH, AND LOCATION PRIOR TO ORDERING MATERIALS

ALTERNATE BID NOTES

- THE BASE BID FOR THE STORM SEWER PIPING PROPOSED TO BE ROUTED UNDERNEATH THE BUILDING SHALL BE RCP. SEE NOTES BELOW FOR ALTERNATE BID OPTIONS.
- PIPE MATERIALS NOTED BY THE BID ALTERNATES SHALL BE FOR THE ENTIRE LENGTH OF STORM SEWER TAGS 114 AND 204.
- ALTERNATE BID 1A: PIPE SHALL BE RCP WITH CURED-IN-PLACE SLIP LINER (FULL LENGTH OF PIPE).
- ALTERNATE BID 1B: PIPE SHALL ADS N-12 WT ENCASED IN CLSM CONCRETE. PIPE SHALL BE ANCHORED DURING BACKFILLING WITH CLSM (CLSM FROM NORTH FACE OF ENGAGEMENT HALL TO SOUTH FACE OF MAIN ENTRANCE).
- ALTERNATE BID 1C: PIPE SHALL BE ADS N-12 WT INSIDE OF HOBAS FIBERGLASS PIPE WITH CASING SPACERS. 48" AND 60" DIAMETER CASING PIPES SHALL BE UTILIZED. PIPE CASINGS SHALL BEGIN 5 FEET NORTH OF THE NORTHERN FACE OF THE ENGAGEMENT HALL AND END 20 FEET SOUTH OF THE SOUTHERN FACE OF THE MAIN ENTRANCE (116 LIN. FT. EACH).

SITE BENCHMARK NOTE

- SEE SHEET C-00 FOR SITE BENCHMARK INFORMATION.

SITE DISTURBANCE NOTE

- THE PROPOSED DEVELOPMENT IS ANTICIPATED TO DISTURB APPROXIMATELY 1.16 ACRES.

NORTH
0 10'
1" = 10'

ISSUED FOR BID – NOT FOR CONSTRUCTION

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DKA PROJECT NO: 24 - 027

KEY PLAN:

LICENSED PROFESSIONAL ENGINEER
TODD M. RICHARDS
062-058779
STATE OF ILLINOIS

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	05/27/25

SHEET TITLE:
GRADING & EROSION CONTROL PLAN - SOUTH

SHEET NUMBER:
C-06

ONSITE WATERLINE NOTES:

- THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.
- ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN APPROVED AUXILIARY GATE VALVE.
- ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED AND DISINFECTED BEFORE ACCEPTANCE. SEE SITE WORK SPECIFICATIONS.
- ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
- GENERAL CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
- CONTRACTOR SHALL COORDINATE WITH CITY PUBLIC WORKS TO SCHEDULE WATER SERVICE SHUTOFF FOR PROPOSED WATER MAIN WORK.

PROJECT LEGEND:

- DENOTES MAINTAIN 18" VERTICAL SEPARATION PER TO IEPA'S REQUIREMENTS
- (S-#) DENOTES SANITARY SEWER TAG
- (W-#) DENOTES WATER MAIN TAG
- (A) DENOTES CONFLICT TAG
- DENOTES WATER MAIN CASING PIPE
- DENOTES ESTIMATED LENGTH OF PIPE LOWERING
- DENOTES ESTIMATED LENGTH OF PIPE INSULATION

NOTE: THE REQUIRED LENGTHS OF PIPE LOWERING AND PIPE INSULATION ARE DEPENDENT UPON THE SIZE/LOCATION/DEPTH OF THE EXISTING UTILITIES. CONTRACTOR SHALL FIELD VERIFY EXIST. UTILITY INFORMATION AND NOTIFY ENGINEER PRIOR TO ORDERING MATERIALS.

(A) CONFLICT TAGS

A — STORM SEWER TAG ST-208
BOP = 911.15
EXIST. 8" WATER MAIN
TOP = 909.65
VERT SEP = 1.50' MIN.
CONTRACTOR TO FIELD VERIFY WATER MAIN SIZE AND DEPTH LOWERING REQ'D

B — STORM SEWER TAG ST-118
BOP = 912.14
EXIST. 8" WATER MAIN
TOP = 910.64
VERT SEP = 1.50' MIN.
CONTRACTOR TO FIELD VERIFY WATER MAIN SIZE AND DEPTH LOWERING REQ'D

C — STORM SEWER TAG ST-118
BOP = 912.02
WATER TAG 8
TOP = 910.52
VERT SEP = 1.50' MIN.
LOWERING REQ'D

D — STORM SEWER TAG ST-116
BOP = 912.34
WATER TAG 8
TOP = 910.84
VERT SEP = 1.50' MIN.
LOWERING REQ'D

E — STORM SEWER TAG ST-114
BOP = 911.64
WATER TAG 8
TOP = 910.14
VERT SEP = 1.50' MIN.
LOWERING REQ'D

F — OMITTED

G — STORM SEWER TAG ST-204
BOP = 910.68
WATER TAG 8
TOP = 909.18
VERT SEP = 1.50' MIN.
LOWERING REQ'D

H — STORM SEWER TAG ST-313
BOP = 915.52
WATER TAG 9
TOP = 911.89
VERT SEP = 3.63'

I — STORM SEWER TAG ST-313
BOP = 915.53
WATER TAG 9
TOP = 911.28
VERT SEP = 4.25'

J — OMITTED

K — OMITTED

L — STORM SEWER TAG ST-312
BOP = 913.71
STORM SEWER TAG ST-306
TOP = 912.98
VERT SEP = 0.73'

UTILITY NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, DOOR ACCESS, AND EXTERIOR GRADING. THE UTILITY SERVICE SIZES ARE TO BE DETERMINED BY THE ARCHITECT. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND ENSURE PROPER DEPTHS ARE ACHIEVED. THE JURISDICTION UTILITY REQUIREMENTS SHALL ALSO BE MET, AS WELL AS COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME.
2. FIELD VERIFY ELEVATIONS AND LOCATIONS OF ALL CONNECTIONS TO EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
3. PROVIDE TEMPORARY SUPPORT FOR EXISTING UTILITY LINES THAT ARE ENCOUNTERED DURING CONSTRUCTION UNTIL BACKFILLING IS COMPLETE.
4. MAINTAIN A MINIMUM OF 6.0' COVER OVER ALL WATER MAINS & SERVICES.
5. MAINTAIN A MINIMUM OF 3.5' COVER OVER ALL SANITARY SERVICES.
6. ADJUST ALL MANHOLES AND FRAMES TO FINISHED GRADES.
7. ALL SANITARY SEWER AND WATER SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE IEPA STANDARDS.
8. 18" MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY/STORM SEWER AND WATER MAIN. (PER IEPA STANDARDS)
9. MAINTAIN A MINIMUM OF 10' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER LINES AND PUBLIC WATER MAINS. (PER IEPA STANDARDS)
10. WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATIONS AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK. THE CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY CALL JULIE AT 1-800-892-0123 AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
11. LOCATION OF SITE UTILITIES SHALL BE VERIFIED WITH PROPER UTILITY COMPANY PROVIDING SERVICE.
12. MATERIAL PERMITTED FOR USE AS SANITARY SEWER PIPES IS PVC SDR 26 FOR 4" AND 6".
13. ALL SANITARY SEWER CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE CITY OF CRYSTAL LAKE.
14. ALL CONNECTIONS TO PUBLIC SANITARY MANHOLES SHALL BE CORE DRILLED.
15. ALL STORM DRAINAGE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF CRYSTAL LAKE.
16. ALL FIELD TILES ENCOUNTERED SHALL BE REPLACED AND/OR CONNECTED TO THE STORM SEWER SYSTEM AND LOCATED AND IDENTIFIED ON THE RECORD PLANS BY THE CONTRACTOR.
17. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
18. PROVIDE UNDERDRAINS FROM SEEPS OR SPRINGS ENCOUNTERED. EXTEND TO STORM SEWER SYSTEM OR DAYLIGHT AT THE BOTTOM OF THE THE FILL SLOPE.
19. ALL PROPOSED PIPE CONNECTIONS TO EXISTING OR PROPOSED MANHOLES SHALL CONFORM TO ASTM-C923.
20. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
21. GENERAL CONTRACTOR SHALL HAVE APPROVAL FROM ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
22. ALL BUILDING UTILITY SERVICE LOCATIONS TO BE VERIFIED PRIOR TO CONSTRUCTION.
23. ALL EXISTING UTILITIES TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
24. CONTRACTOR TO COORDINATE W/ COLLEGE PRIOR TO CLOSING ANY PORTIONS OF ANY ADJACENT ACCESS DRIVES OR PARKING LOT.
25. MATERIAL FOR WATER SERVICES SHALL BE PVC C-900.

(W-#) WATER TAGS

W-1 EXIST. 8" WATER MAIN
CONTRACTOR TO FIELD VERIFY PIPE LOCATION, DEPTH, AND MATERIAL AND NOTIFY ENGINEER

W-2 LOWER 8" WATER MAIN BELOW PROPOSED STORM SEWER AND PROVIDE PROTECTION PER IEPA STANDARDS

W-3 CONTRACTOR TO FIELD VERIFY LOCATION/DEPTH OF EXIST. WATER MAIN. INSULATE PIPE IF FINISHED GRADE ELEVATION WILL RESULT IN LESS THAN 6.0 FEET OF COVER OVER TOP OF PIPE

W-4 RECONNECT TAG W-5 TO LOWERED SECTION OF PIPE AT TEE (SEE TAG W-2)

W-5 EXIST. 8" WATER MAIN
CONTRACTOR TO FIELD VERIFY PIPE LOCATION, DEPTH, AND MATERIAL AND NOTIFY ENGINEER

W-6 EXIST. WATER VALVE (ADJUST RIM)
EX RIM = 917.78
PR RIM = 917.10

W-7 EXIST. B-BOX (ADJUST RIM)
EX RIM = 917.75
PR RIM = 917.12

W-8 199 LIN FT WATER MAIN, 8" PVC C-900 W/ 22.5° and 45° BENDS
CONNECT TO TAG W-5
PIPE SHALL BE ENCASED BY 15" PVC SDR-26 PIPE USING CCS-JR CASING SPACERS
109 LIN FT CASING PIPE

W-9 PROP. MUELLER CENTURION 250 FIRE HYDRANT & AUX. VALVE WITH 169 LIN FT PVC C-900 LEAD PIPE, CONNECT TO TAG W-8 WITH 8X6X8 RIM = 918.55

W-10 OMITTED

W-11 OMITTED

W-12 OMITTED

W-13 127 LIN FT IRRIGATION LINE
1.5" TYPE K COPPER WATER SERVICE
CONNECT TO EXIST. RPZ

W-14 1.5" B-BOX
RIM = 917.95

W-15 EXIST. IRRIGATION LINE (TO REMAIN)

W-16 EXIST. IRRIGATION BLOWOUT PORT (TO REMAIN)

(S-#) SANITARY SEWER TAGS

S-1 EXIST. GREASE TRAP (TO REMAIN)
RIM = 917.77
INV = 915.48 (TOP OF 4" PVC)

S-2 EXIST. CLEAN OUT (TO REMAIN)
RIM = 917.80

S-3 EXIST. CLEAN OUT (TO REMAIN)
RIM = 917.75

NORTH
0 20'
1" = 20'

ISSUED FOR BID – NOT FOR CONSTRUCTION

5/21/2025 9:45:19 AM
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ARCHITECT OF RECORD
DEMONICA KEMPER ARCHITECTS
125 N. HALSTED STREET, SUITE 301
CHICAGO, IL 60661
P: 312.496.0000

MEP-FP-T-ENGINEERS
IMEG CORP.
263 SHUMAN BLVD, SUITE 550
NAPERVILLE, IL, 60563
P: 630.527.2320

CIVIL-LANDSCAPE ENGINEER
HR GREEN
1391 CORPORATE DRIVE, SUITE 203 MCHENRY, IL, 60050
P. 815.385.1778

CONSTRUCTION MANAGER
PEPPER CONSTRUCTION
411 LAKE ZURICH RD.
BARRINGTON, IL 60010
P. 847.381.2760

McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24 - 027

KEY PLAN:

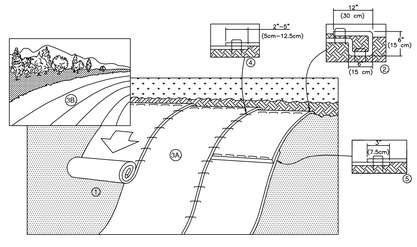
REGISTERED PROFESSIONAL ENGINEER
TODD M. RICHARDS
062-058779
STATE OF ILLINOIS

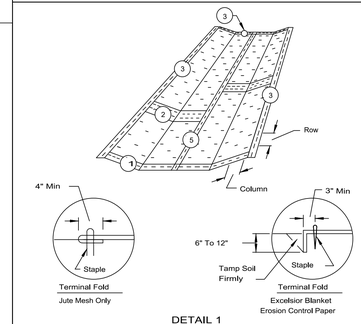
SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

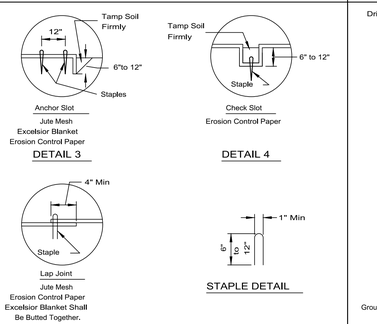
NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	05/27/25

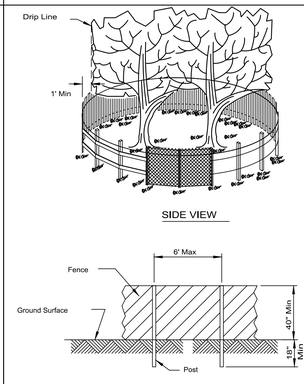
SHEET TITLE:
UTILITY PLAN

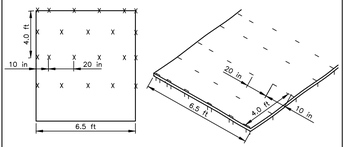
SHEET NUMBER:
C-07

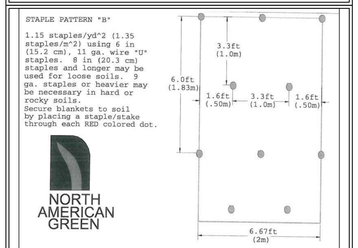


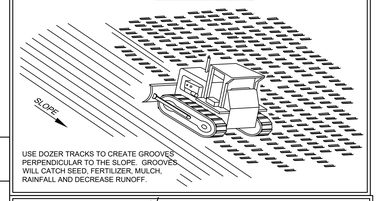


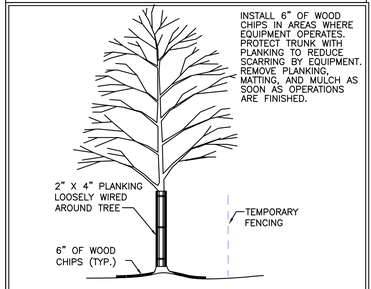


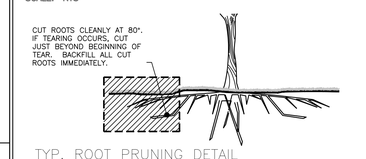












CONTROL MEASURE GROUP	CONTROL MEASURE	APPL.	KEY	CONTROL MEASURE CHARACTERISTICS	TEMP.	PERMNT
VEGETATIVE SOIL COVER	TEMPORARY SEEDING	X	TS	PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING IS NOT DESIRED OR TIME OF YEAR IS INAPPROPRIATE.	X	
	PERMANENT SEEDING	X	PS	PROVIDES PERMANENT VEGETATIVE COVER TO CONTROL EROSION, FILTERS SEDIMENT FROM WATER. MAY BE PART OF FINAL LANDSCAPE PLAN.		X
	DORMANT SEEDING		DS	SAME AS PERMANENT SEEDING EXCEPT IS DONE DURING DORMANT SEASON. HIGHER RATES OF SEED APPLICATION ARE REQUIRED.		
	SODDING		SO	QUICK PERMANENT COVER TO CONTROL EROSION. QUICK WAY TO ESTABLISH VEGETATION FILTER STRIP. CAN BE USED ON STEEP SLOPES OR IN DRAINAGEWAYS WHERE SEEDING MAY BE DIFFICULT.		
	GROUND COVER		GC	PROVIDES GROUND COVER, SHRUBS AND TREES IN ADDITION TO PERMANENT VEGETATION. MAY BE USED AS PART OF A FINAL LANDSCAPE PLAN ALONG WITH SHRUBS AND TREES.		
NON VEGETATIVE SOIL COVER	MULCHING		M	ADDED INSURANCE OF A SUCCESSFUL TEMPORARY OR PERMANENT SEEDING. CONTROLS UNWANTED VEGETATION AND PRESERVES MOISTURE. PROVIDES COVER WHERE VEGETATION CANNOT BE ESTABLISHED.		
	AGGREGATE COVER		AG	PROVIDES SOIL COVER ON ROADS AND PARKING LOTS AND AREAS WHERE VEGETATION CANNOT BE ESTABLISHED. PREVENTS MUD FROM BEING PICKED UP AND TRANSPORTED OFF–SITE.		
	PAVING	X	P	PROVIDES PERMANENT COVER ON PARKING LOTS AND ROADS OR OTHER AREAS WHERE VEGETATION CANNOT BE ESTABLISHED.		X
	EROSION BLANKET	X	EB	PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING TIME OF YEAR IS INAPPROPRIATE AND IN SLOPED AREAS.	X	
DIVERSIONS	RIDGE DIVERSION		RD	TYPICALLY USED ABOVE SLOPES. USED WHERE AN EXCESS OF SOIL IS AVAILABLE.		
	CHANNEL DIVERSION		CD	TYPICALLY USED AT TOP OR BASE OF SLOPES. USED WHEN EXCESS SOIL IS NOT AVAILABLE.		
	COMBINATION DIVERSION		DC	TYPICALLY USED ANYWHERE ON A SLOPE. SOIL TAKEN OUT OF CHANNEL IS USED TO BUILD THE RIDGE.		
	CURB AND GUTTER	X	CG	SPECIAL CASE OF DIVERSION USED IN CONJUNCTION WITH A STREET TO DIVERT WATER FROM AN AREA NEEDING PROTECTION.		X
	BENCHES		B	SPECIAL CASE OF DIVERSION CONSTRUCTED WHEN WORKING ON CUT SLOPES TO SHORTEN LENGTH OF SLOPE AND ADD SLOPE STABILITY.		
WATERWAYS	BARE CHANNEL		BC	PROVIDES MEANS OF CONVEYING RUNOFF TO DESIRED LOCATION. MAY BE USED TO DRAIN DEPRESSIONAL AREAS. ONLY APPLICABLE WHEN VELOCITY OF FLOW IS VERY LOW.		
	VEGETATIVE CHANNEL		VC	PROVIDED ADDED STABILITY TO CHANNEL. USED WHEN VELOCITY OF FLOW IS NOT EXTREMELY FAST.		
	LINED CHANNEL		LC	USED WHEN VEGETATION WILL NOT PROTECT THE CHANNEL AGAINST HIGH VELOCITIES OF FLOW OR WHERE VEGETATION CANNOT BE ESTABLISHED.		
	ROCK CHECKS		RC	PROVIDES AN ENERGY DISSIPATER ALONG A LENGTHY CHANNEL TO REDUCE VELOCITY OF STORMWATER		
ENCLOSED DRAINAGE	STORM SEWER	X	ST	CAN BE USED TO CONVEY SEDIMENT LADEN WATER TO SEDIMENT BASIN OR IN CONJUNCTION WITH A WATERWAY.		X
	UNDERDRAIN		UD	USED TO LOWER WATER TABLE AND INTERCEPT GROUNDWATER FOR BETTER VEGETATION GROWTH AND SLOPE STABILITY. USED TO CARRY BASE FLOW IN WATERWAYS AND TO DEWATER SEDIMENT BASINS.		
SPILLWAYS	STRAIGHT PIPE SPILLWAY		SS	USED FOR RELATIVELY SMALL VERTICAL DROPS AND SMALL FLOWS OF WATER		
	DROP INLET PIPE SPILLWAY		DIS	SAME AS PIPE SPILLWAY EXCEPT LARGER FLOWS AND LARGE VERTICAL DROPS CAN BE ACCOMMODATED.		
	WEIR SPILLWAY		W	USED FOR RELATIVELY SMALL VERTICAL DROPS AND FLOWS MUCH GREATER THAN PIPE STRUCTURES.		
	BOX INLET WEIR SPILLWAY		BS	SAME AS WEIR SPILLWAY EXCEPT LARGER FLOWS CAN BE ACCOMMODATED BECAUSE OF LOWER WEIR LENGTH.		
OUTLETS	LINED APRON		LA	PROTECTS DOWNSTREAM CHANNEL FROM HIGH VELOCITY OF FLOW DISCHARGING FROM STRUCTURES.		
	STONE RIP RAP	X	RR	USED AS AN ENERGY DISSIPATER AT OUTLET STRUCTURES TO REDUCE VELOCITIES		X
SEDIMENT BASINS	EMBANKMENT SEDIMENT BASIN		ES	USED WHERE TOPOGRAPHY LENDS ITSELF TO CONSTRUCTING A DAM AND EARTH FILL IS AVAILABLE.		
	EXCAVATED SEDIMENT BASIN		XS	USED WHERE EMBANKMENT COULD CAUSE A HAZARD DOWNSTREAM IN CASE OF FAILURE AND WHEN EXCESS EARTH FILL IS NOT AVAILABLE.		
	COMBINATION SEDIMENT BASIN		CS	USED WHEN TOPOGRAPHY IS SUITABLE BUT ADDITIONAL CAPACITY IS NEEDED.		
SEDIMENT FILTERS	BARRIER FILTER	X	BF	USED FOR SINGLE LOTS OR DRAINAGE AREAS LESS THAN 1/2 ACRE TO FILTER SEDIMENT FROM RUNOFF.	X	
	VEGETATIVE FILTER		VF	USED ALONG DRAINAGE WAYS OR PROPERTY LINES TO FILTER SEDIMENT FROM RUNOFF. SIZE MUST BE INCREASED IN PROPORTION TO DRAINAGE AREA.		
	FILTER BASKET		FB	USED FOR FILTERING SEDIMENT WITHIN THE ROADWAY BEFORE ENTERING THE STORM SEWER		
	INLET PROTECTION	X	IP	USED FOR FILTERING SEDIMENT WITHIN GRASS AREAS BEFORE WATER ENTERS THE STORM SEWER	X	
MUD AND DUST CONTROL	STABILIZED CONST. ENTRANCE		SE	PREVENT MUD FROM BEING PICKED UP AND CARRIED OFF–SITE.		
	DUST AND TRAFFIC CONTROL	X	DT	PREVENTS DUST FROM LEAVING CONSTRUCTION SITE.	X	

STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING			A,B,C,D	▨	▨	*	*	▨	▨			
SODDING			G**	▨	▨	▨	▨	▨	▨			
TEMPORARY SEEDING			E	▨	▨	▨	F	▨	▨			

A (1)	KENTUCKY BLUEGRASS 50 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 30 LBS/ACRE AND CREEPING RED FESCUE 20 LBS/ACRE
B (1A)	BLUE GRASS 30 LBS/ACRE PERENNIAL RYEGRASS 10 LBS/ACRE DAWSONS RED FESCUE 10 LBS ACRE SCALDIS HARD FESCUE 10 LBS/ACRE FULTS SALT GRASS 30 LBS/ACRE
C (4)	ANDROPOGON GERNADI (BIG BLUE STEM) 4 LBS/ACRE ANDROPOGON SCOPARIUS (LITTLE BLUE STEM) 5 LBS/ACRE BOUTELOVA CURTIPENDULA (SIDE OATS GRAMA) 5 LBS/ACRE ELYMUS CANADENENSIS (WILD RYE) 1 LBS/ACRE PANCIUM VIRGATUM (SWITCH GRASS) 1 LBS/ACRE SORGHASTRUM NUTONS (INDIAN GRASS) 2 LBS/ACRE ANNUAL RYE GRASS 25 LBS/ACRE OATS, SPRING 25 LBS/ACRE PERENNAL RYE GRASS 15 LBS/ACRE
D (4B)	ANNUAL RYE GRASS 250 LBS/ACRE OATS, SPRING 250 LBS/ACRE WETLAND GRASSES 6 LBS/ACRE
E	SPRING OATS 100 LBS/ACRE
F	WHEAT OR CEREAL RYE 150 LBS/ACRE.
G	SOD
H	ALFALFA/SOYBEANS 100–250 LBS/ACRE (VERIFY WITH TCR)
*	IRRIGATION NEEDED DURING JUNE AND JULY
**	IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD.
( )	IDOT STANDARD

SLOPE INSTALLATION

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE:
   *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

EROSION CONTROL NOTES

- * All sedimentation and erosion control regulations shall be adhered to per City of Crystal Lake requirements
- * All erosion control measures shall be installed prior to the start of construction.
- * No land disturbing activities shall not commence until approval to do so has been received by governing authorities, in addition to, no land clearing or grading shall begin until all perimeter erosion and sediment control measures have been installed. (Including storm water pollution prevention plan per the development criteria.)
- * If any additional soil erosion measures are deemed necessary by the City Engineer or his representative. These measures must be immediately implemented by the contractor.
- * The general contractor shall strictly adhere to the storm water pollution prevention plan (swppp) during construction operations.
- * All topsoil shall be stripped prior to filling
- * All exposed areas shall be seeded as specified within 14 days of final grading.
- * Should construction stop for longer than 14 days, the site shall be seeded as specified.
- * Sediment and erosion control measures shall be inspected at least once every seven (7) days and within 24 hours of a rainfall exceeding 0.5 inches during a 24–hour period or more frequently if required by governing NPDES general permit. All maintenance required by inspection shall commence within 24 hours and be completed within 48 hours of report.
- * This plan shall not be considered all inclusive as the general contractor shall take all necessary precautions to prevent soil sediment from leaving the site.
- * General contractor shall comply with all state and local ordinances that apply.
- * Additional erosion and sediment control measures will be installed if deemed necessary by on site inspection.
- * If installation of storm drainage system should be interrupted by weather or nightfall, the pipe ends shall be covered with filter fabric.
- * General contractor shall be responsible to take whatever means necessary to establish permanent soil stabilization.
- * All erosion and sediment control practices shall be maintained and repaired as needed to ensure effective performance of the required erosion control measures.
- * All erosion and sediment control work shall conform to the I.D.O.T. Manual for, standards and procedures for erosion control.
- * All construction will adhere to the requirements set forth in the IEPA's new construction site activities national pollutant discharge elimination system (NPDES) storm water permit.
- * All roadways and driveways shall be cleaned at the end of each construction day.
- * All disturbed areas shall be stabilized within 7 days of active disturbance.
- * All erosion control measures shall be disposed of within 30 days of final stabilization of the site.
- * Ground cover for 5:1 slopes or greater shall be established as soon as possible.
- * All disturbed areas to to restored w/ 6" topsoil respread & seeding/sodding unless otherwise noted on plans
- * Filter Baskets or Silt filter fabric shall be placed between frame and grate until vegetation is established. (see detail)
- * Utilize excelsior blanket on all slopes of 5:1 or greater.
  *Seeding per I.D.O.T. Manual, section 251,standard specifications for road and bridge construction, (latest edition
  *Class 3 type – slope mixture
  *Mulch/hydroseed per I.D.O.T. Manual, section 251, standard specifications for road and bridge construction, (latest edition
  *Mulch/hydroseed method 2, procedure 3
- * No dimensions shall be assumed by scaling.
- * No known drain tiles are present on the proposed development, if tiles are encountered during construction please notify the engineer immediately.
- * No part of the proposed project is located within a flood hazard 10–100yr area a flood hazard area
- *
  Excess material shall be placed at specified location unless otherwise specified by owner and approved by engineer for use of lot grading. Stockpiles shall be surrounded with filter fence and shall be seeded per I.D.O.T. Manual (latest addition) (temporary) if left more than 14 working days.
- * General contractor shall notify all utility companies having underground utilities on site or in right–of–way prior to excavation. Contractor shall contact utility locating company and locate all utilities prior to grading start.

PHASING NOTES:

SEQUENCE OF MAJOR ACTIVITIES

The Contractor will be responsible for implementing the following erosion control and storm water management control measures. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor. The order of activities will be as follows (refer to the Erosion and Sediment Control Plan Sheet contained in this SWPPP for details and refer to the Suggested Phasing Plan in the design drawings for construction sequencing):

A. A pre–construction meeting shall be held by the Site Project Manager and the Operator's Engineer prior to land disturbing activities.
B. Install perimeter silt fences and inlet protection in the locations shown on the Erosion Control plan sheets.
C. Implement erosion control measures around the existing storm sewer to prevent sedimentation from infiltrating into the storm sewer system as shown on the Erosion Control plan sheets.
D. Construct temporary construction exits at locations shown on the Erosion Control plan sheets.
E. Begin clearing and grubbing operations if applicable. Clearing and grubbing shall be done only in areas where earthwork will be performed and only in areas where building is planned to commence within 7 days after clearing and grubbing.
F. Disturbed areas of the site where Construction Activity has ceased for more than 7 days shall be temporarily seeded and watered.
G. Commence site grading.
H. Construct gutter inlets, area inlets, storm sewer manholes and proposed storm sewer.
I. Install inlet / outlet protection around the constructed storm sewer to prevent sedimentation from infiltrating into the storm sewer system as shown on the Erosion Control plan sheets.
J. Construct utilities
K. Finalize pavement subgrade preparation.
L. Construct all curb and gutter. Inlet protection may be removed temporarily for this construction.
M. Remove inlet protection around inlets and manholes no more than 48 hours prior to placing stabilized base course.
N. Install base material as required for pavement.
O. Carry out final grading and seeding, sodding and planting, including rolled erosion control products where shown on the Erosion Control plan sheets.
P. Remove silt fencing only after all paving is complete and exposed surfaces are stabilized.
Q. Remove temporary construction exits

A schedule for implementation for the activities identified above is included as Form C–3 of the SWPPP.

SPECIFICATIONS & GENERAL NOTES

NOTES:

This plan has been prepared to comply with the provisions of the NPDES Permit Number issued by the Illinois Environmental Protection Agency for Stormwater Discharges from Construction Site Activities.

1. Site Description.

   a. The following is a description of the construction activity which is the subject of this plan:
   The proposed development consists of construction of MCC Event Center, sidewalks, storm sewer and infiltration basin. The construction activities for site improvements will include: site clearing, grubbing, mass grading, pavement construction, building construction, installation of utilities including storm sewers, soil erosion and sedimentation control measures, as a minimum.

   b. The following is a description of the intended sequence of major activities which will disturb soils for major portions of the construction site such as grubbing, excavation, and grading:

   The sequence of the construction activities may be as follows:
   See Sequence of major activities on this sheet.

   c. The total area of the construction site is estimated to be 1.16 ± acres.

   The total area if the site that is estimated to be disturbed by excavation, grading, or other activities, is 1.15 ± acres. 1

2. Controls.

   This section of the plan addresses the various controls that will be implemented for each of the major construction activities described in 1.b above. For each measure discussed, the contractors will be responsible for its implementation as indicated. Each such contractor has signed the required certification on forms which are attached to, and are a part of, this plan.

   a. Erosion and Sediment Controls.

   (i) STABILIZATION PRACTICES. Provided below is a description of interim and permanent stabilization practices, including site–specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Except as provided in 2.a. (i) (A) and 2.b. stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portions of the site where construction activity will not occur for a period of 21 or more calendar days.

   (A) Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

   The following interim and permanent stabilization practices, as a minimum will be implemented to stabilize the disturbed area of the site:

   1 Temporary Seeding
   2 Permanent seeding
   3 Erosion Blanket
   4 Stone Riprap
   5 Barrier filter
   6 Dust & Traffic Control

   (ii) STRUCTURAL PRACTICES. Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. The installation of these devices may be subject to Section 404 of the Clean Water Act.

   1. Infiltration basins
   2. Storm sewer system
   3. Vegetated drainage swales
   4. Permanent seeding
   5. Stone Riprap
   6. Filter fabric

   b. Erosion Control. It shall be the Contractor's responsibility to provide adequate erosion control on the job site. The following erosion control sequence shall be adhered to:

   A. A pre–construction meeting shall be held by the Site Project Manager and the Operator's Engineer prior to land disturbing activities.
   B. Install perimeter silt fences and inlet protection in the locations shown on the Erosion Control plan sheets.
   C. Implement erosion control measures around the existing storm sewer to prevent sedimentation from infiltrating into the storm sewer system as shown on the Erosion Control plan sheets.
   D. Construct temporary construction exits at locations shown on the Erosion Control plan sheets.
   E. Begin clearing and grubbing operations if applicable. Clearing and grubbing shall be done only in areas where earthwork will be performed and only in areas where building is planned to commence within 7 days after clearing and grubbing.
   F. Disturbed areas of the site where Construction Activity has ceased for more than 7 days shall be temporarily seeded and watered.
   G. Commence site grading.
   H. Construct gutter inlets, area inlets, storm sewer manholes and proposed storm sewer.
   I. Install inlet / outlet protection around the constructed storm sewer to prevent sedimentation from infiltrating into the storm sewer system as shown on the Erosion Control plan sheets.
   J. Construct utilities
   K. Finalize pavement subgrade preparation.
   L. Construct all curb and gutter. Inlet protection may be removed temporarily for this construction.
   M. Remove inlet protection around inlets and manholes no more than 48 hours prior to placing stabilized base course.
   N. Install base material as required for pavement.
   O. Carry out final grading and seeding, sodding and planting, including rolled erosion control products where shown on the Erosion Control plan sheets.
   P. Remove silt fencing only after all paving is complete and exposed surfaces are stabilized.
   Q. Remove temporary construction exits

   Any siltation of conduits, structures, or ditches shall be cleaned and maintained by the Contractor, on a weekly basis, until the seeding has taken hold. All washouts, gullies, etc. will be regraded and reseeded by the Contractor, at the Contractor's expense.

   The Contractor's responsibility for erosion control shall extend throughout the construction process. The Contractor shall be responsible for cleanup of paved surfaces within and adjacent to the project.

   All erosion control practices shall be in compliance with the latest revision of the "Standard Specifications for Road and Bridge Construction," by the Illinois Department of Transportation and with "Standards and Specifications for Soil Erosion and Sedimentation Control" as published by the Illinois Environmental Protection Agency.

   If a topsoil stockpile location is provided and approved by the City, Contractor shall establish erosion control measures for the stockpile if it is to remain in place for more than three days. In addition, barrier filter fence shall enclose topsoil stockpile location with exception of truck access during construction hours.

   c. Stormwater Management.

   (i) Provided below is a description of measures that will be installed during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

   The practices selected for implantation were determined on the basis of the technical guidance contained in IEPA's Standard Specifications for Soil Erosion and Sedimentation Control, and other ordinances listed in the Specifications.

   The stormwater pollutant control measures shall include:

   1. Silt filter fence
   2. Drainage swales
   3. Storm sewers
   4. Rip–rap outlet protection

   (ii) Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non–erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions, such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

   Stormwater Management Control includes
   1 Stone Riprap
   2 Filter Fabric

3. Other Controls.

   (i) Waste Disposal. The solid waste materials including trash, construction debris, excess construction materials, machinery, tools and other items will be collected and disposed off–site by the contractor. The contractor is responsible to acquire any permit required for such disposal. Burning on the site will not be permitted. No solid materials, including building materials, shall be discharged into Waters of the State, except as authorized by a Section 404 permit.

   (ii) The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.

   The sanitary sewage will be discharged to the proposed sanitary sewer constructed per IEPA and local standards.

   a. Approved State or Local Plans.

   The management practices, controls and other provisions contained in this plan are at least as protective as the requirements contained in the latest amendment of the Illinois Environmental Protection Agency's Standards and Specifications for Soil and Erosion and Sediment Control dated October 1987, Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Plan, and the Municipal Subdivision Ordinance. Requirements specified in sediment and erosion control site plans or site permits or stormwater management or site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI to be authorized to discharge under this permit, incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

   b. Maintenance.

   The following is a description of procedures that will be used to maintain, in good and effective operating conditions, vegetation, erosion and sediment control measures and other protective measures identified in this plan and Standard Specifications.

   Vegetative erosion control measures: The vegetative growth of temporary and permanent seeding, sodding, vegetative channels, vegetative filter, etc. shall be maintained periodically and supply adequate watering and fertilizer. The vegetative cover shall be removed and reseeded as necessary.

   Silt filter fence: The damaged silt filter fence shall be restored to meet the standards or removed and replaced as needed.

   Rip–rap outlet protection: It shall be inspected after high flows for any scour beneath the Rip–rap or for stones that have been dislodged. It shall be repaired immediately.
   Inlet Protection: Shall be inspected and emptied of silt if filled as required.

   Disturbed areas shall be stabilized with temporary or permanent measures within 7 calendar days following the end of active disturbance, or redisturbance, consistent with the following criteria:

   (i) Appropriate temporary or permanent stabilization measures shall include seeding, mulching, sodding, and/or non–vegetative measures.
   (ii) Areas having slopes greater than 12 percent shall be stabilized with sod, mat, or blanket in combination with seeding or equivalent.

   Soil storage piles containing more than 10 cu. yds. of material shall not be located with a downslope drainage length less than 25 feet to a roadway or drainage channel. Filter barriers, including straw bales, filter fence, or equivalent, shall be installed immediately on the down slope of the piles.

4. Inspections.

   The Owner, or Owner's representative shall provide qualified personnel to inspect disturbed areas of the construction site which have not been finally stabilized, structural control measures and location where vehicles enter or exit the site. Such inspections shall be conducted at least once every seven (7) calendar days within 24 hours of the end of a storm that is 0.5 inches or greater or equivalent snowfall.

   a. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off–site sediment tracking.

   b. Based on the results of the inspection, the description of potential pollutant sources identified in section 1 above and pollution prevention measures identified in section 2 above shall be revised as appropriate as soon as practicable after such inspection. Any changes to this plan resulting from the required inspections shall be implemented within 7 calendar days following the inspection.

   c. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of this stormwater pollution prevention plan and actions taken in accordance with section 4.b. shall be made and retained as part of the plan for at least three (3) years after the date of the inspection. The report shall be signed in accordance with Part VI.G of the general permit.

   d. If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer or Resident Technician shall complete and file an "Incidence of Noncompliance" (ION) report for the identified violation. The Resident Engineer or Resident Technician shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of noncompliance shall be signed by a responsible authority in accordance with Part VI. G of the general permit. The report of noncompliance shall be mailed to the following address:

   Illinois Environmental Protection Agency
   Division of Water Pollution Control
   Attn: Permit Section
   P.O. Box 19276
   Springfield, Illinois 62794–9276

5. Non–Stormwater Discharges.
   Except for flows from fire fighting activities, sources of non–stormwater that may be combined with stormwater discharges associated with the industrial activity addressed in this plan, are described below:

   a. Water main flushing
   b. Fire hydrant flushing
   c. Watering for dust control
   d. Irrigation drainage for vegetative growth for seeding, etc..

   The pollution prevention measures, as described below, will be implemented for non–stormwater components of the discharge:

   The fire hydrant and water main shall not be flushed directly on the exposed area of sub grade of the pavement. Hoses shall be used to direct the flow into the storm sewer system, if available.

   The erosion due to irrigation of seeding shall be considered minor.

   Contractor to provide the above non–stormwater discharged control to the standard specification required by the City or the approved equal.

6. Monitoring and Management Plan
   A three–year maintenance and monitoring plan is required after installation of native landscaping.
   See Project Specifications for details.

CONSTRUCTION SEQUENCE

1. File stormwater NPDES permit with the IEPA at least 30 days prior to beginning work.
2. Install all permanent and temporary erosion control practices, i.e. diversions, vegetated swales, stabilized construction entrances, temporary silt basins, polymer systems, and silt fences.
3. City inspection and signoff.
4. Strip topsoil.
5. Stabilize stockpiles with vegetative cover and additional erosion control measures.
6. City inspection and signoff.
7. Begin mass grading.
8. Add additional soil erosion and sediment control as needed. In particular the CLSO requirement for stabilization within 14 days of temporary or permanent cessation of grading must be met and will be vigorously enforced by the City.
9. Disk disturbed pervious areas to restore infiltration prior to topsoil placement and vegetation.
10. Partially excavate infiltration basin and add fabric and sand cover.
11. City inspection of infiltration basin.
12. Permanent site stabilization.
13. City inspection.
14. Finish infiltration basin construction.
15. City inspection.

EB EROSION BLANKET PLAN

DETAIL 1

DETAIL 2

EB EROSION BLANKET PLAN

DETAIL 3

DETAIL 4

DETAIL 5

STAPLE DETAIL

NOTES:
1. On erosion control paper, check slots, in ditch channel shall be spaced so that one occurs within each 50' on slopes of more than 4% and less than 6%. On slopes of 6% or more, they shall be spaced so that one occurs within each 25'.
2. Staples are to be placed alternately, in columns approximately 2' apart and in rows approximately 3' apart. Approximately 175 staples are required per 4'x 225' roll of material and 125 staples are required per 4'x 150' roll of material.
3. Erosion control material shall be placed loosely over ground surface. Do not stretch.
4. All terminal ends and transverse laps shall be stapled at approximately 12" intervals.

TREE PROTECTION - FENCING

SIDE VIEW

POST AND FENCE DETAIL

NOTES:
1. The fence shall be located a minimum of 1 foot outside the drip line of the tree to be saved and in no case closer than 5 feet to the trunk of any tree.
2. Fence posts shall be either standard steel posts or wood posts with a minimum cross sectional area of 3.0 sq. in.
3. The fence may be either 40" high snow fence, 40" plastic web fencing or any other material as approved by the engineer/inspector.

REFERENCE		STANDARD DWG. NO.
Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____	NRCS Natural Resources Conservation Service	IL-530 SHEET 1 OF 2 DATE 5-24-94
Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____	NRCS Natural Resources Conservation Service	IL-530 SHEET 2 OF 2 DATE 3-1-95
Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____	NRCS Natural Resources Conservation Service	IL-690 SHEET 1 OF 1 DATE 4-7-94

PERMANENT EXCELSIOR BLANKET INSTALLATION DETAIL
FOR USE WITH C–350 EXCELSIOR BLANKET

STAPLE PATTERN "E"
FOR USE WITH C–350 EXCELSIOR BLANKET

3.8 STAPLES/YD2 USING 6in 11ga WIRE "U" STAPLES. 8in STAPLES AND LONGER MAY BE USED FOR LOOSE SOILS. 9ga STAPLES OR HEAVER MAY BE NECESSARY IN HARD OR ROCKY SOILS

STAPLE PATTERN "B"

1.15 staples/yd^2 (1.35 staples/m^2) using 6 in (15.2 cm), 11 ga. wire "U" staples. 8 in (20.3 cm) staples and longer may be used for loose soils. 9 ga. staples or heavier may be necessary in hard or rocky soils.
Secure blankets to soil by placing a staple/stake through each RED colored dot.

NORTH AMERICAN GREEN

TRACKING DETAIL

USE DOZER TRACKS TO CREATE GROOVES PERPENDICULAR TO THE SLOPE. GROOVES WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL AND DECREASE RUNOFF.

INSTALL 6" OF WOOD CHIPS IN AREAS WHERE EQUIPMENT OPERATES. PROTECT TRUNK WITH PLANKING TO REDUCE SCARRING BY EQUIPMENT. REMOVE PLANKING, MATTING, AND MULCH AS SOON AS OPERATIONS ARE FINISHED.

TYP. TREE TRUNK PROTECTION DETAIL

SCALE: NTS

CUT ROOTS CLEANLY AT 80°. IF TEARING OCCURS, CUT JUST BEYOND BEGINNING OF TEAR. BACKFILL ALL CUT ROOTS IMMEDIATELY.

TYP. ROOT PRUNING DETAIL

SCALE: NTS

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MEP-FP-T-ENGINEERS
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McHenry County College
ENGAGEMENT HALL
8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24 - 027

KEY PLAN:

TODD M. RICHARDS
062-058779

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	05/27/25

SHEET TITLE:
EROSION CONTROL DETAILS

SHEET NUMBER:
C-08

ISSUED FOR BID – NOT FOR CONSTRUCTION

5/21/2025 10:08:35 AM
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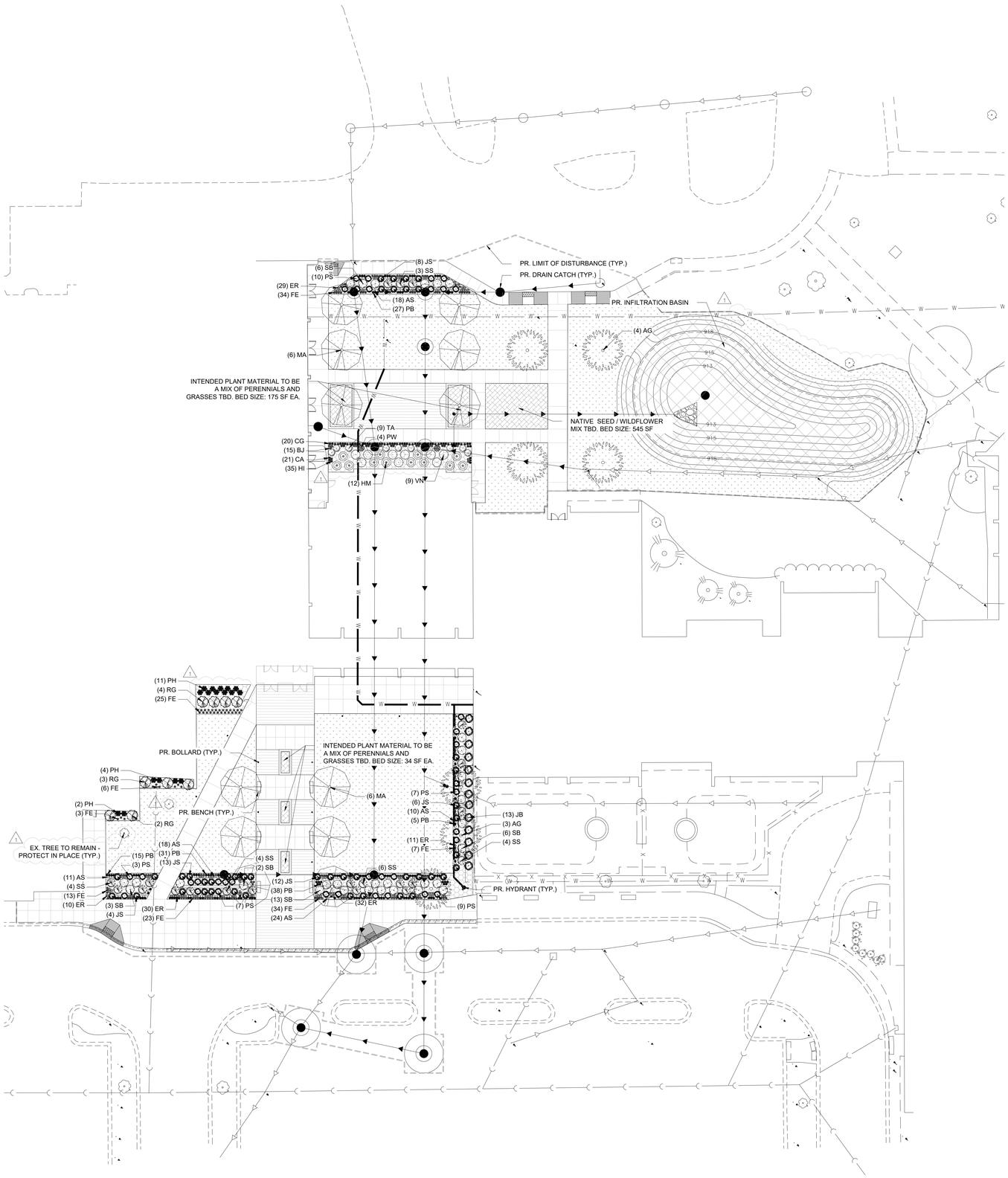

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	PLANTING SIZE
DECIDUOUS TREES				
	AG	7	ACER GINNALA AMUR MAPLE	2.5" CAL.
ORNAMENTAL TREES				
	MA	12	MALUS SIEBOLDII JAPANESE CRABAPPLE	2.5" CAL.
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
DECIDUOUS SHRUBS				
	HM	12	HYDRANGEA QUERCIFOLIA 'MUNCHKIN' MUNCHKIN OAKLEAF HYDRANGEA	5 GAL.
	RG	9	RHUS AROMATICA 'GRO-LOW' GRO-LOW FRAGRANT SUMAC	5 GAL.
	SS	21	SPIRAEA JAPONICA 'LITTLE PRINCESS' LITTLE PRINCESS JAPANESE SPIREA	5 GAL.
	SB	30	SYRINGA X 'BAILBELLE' TINKERBELLE® LILAC	5 GAL.
	VN	9	VIBURNUM OPULUS 'NANUM' DWARF EUROPEAN CRANBERRYBUSH	5 GAL.
EVERGREEN SHRUBS				
	JB	13	JUNIPERUS SCOPULORUM 'BLUE ARROW' BLUE ARROW JUNIPER	5 GAL.
	JS	43	JUNIPERUS SQUAMATA 'BLUE STAR' BLUE STAR JUNIPER	5 GAL.
	PS	36	PINUS MUGO 'SLOWMOUND' SLOWMOUND MUGO PINE	5 GAL.
	PW	4	PINUS STROBUS 'BLUE SHAG' BLUE SHAG WHITE PINE	5 GAL.
	TA	9	THUJA OCCIDENTALIS 'ANNA VAN VLOTEN' ANNA'S MAGIC BALL® ARBORVITAE	5 GAL.
GRASSES				
	CA	21	CAREX COMANS 'AMAZON MIST' AMAZON MIST COLORGRASS® HAIR SEDGE	1 GAL.
	CG	20	CAREX GLAUCA BLUE SEDGE	1 GAL.
	FE	145	FESTUCA GLAUCA 'ELIJAH BLUE' ELIJAH BLUE FESCUE	1 GAL.
	PH	17	PENNISETUM ALOPECUROIDES 'HAMELN' HAMELN FOUNTAIN GRASS	1 GAL.
	PB	116	PENNISETUM ALOPECUROIDES 'LITTLE BUNNY' LITTLE BUNNY FOUNTAIN GRASS	1 GAL.
PERENNIALS				
	AS	81	ARTEMISIA SCHMIDTIANA 'SILVER MOUND' SILVER MOUND ARTEMISIA	1 GAL.
	BJ	15	BRUNNERA MACROPHYLLA 'JACK FROST' JACK FROST SIBERIAN BUGLOSS	1 GAL.
	ER	112	ECHINACEA X 'BALEVOEEN' EVOLUTION™ COLORIFIC™ CONEFLOWER	1 GAL.
	HI	35	HELLEBORUS X GLANDORFENSIS 'COSEH 4200' ICE N' ROSES® ROSE HELLEBORE	1 GAL.

GROUND COVERS		
	3,701 SF	1-1/2" ROCK MULCH
	6,028 SF	DETENTION SEEDING
	15,573 SF	TURF SOD
	999 SF	WOOD MULCH

NORTH
0 20'
1" = 20'

ISSUED FOR BID – NOT FOR CONSTRUCTION

ARCHITECT OF RECORD
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McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012

DKA PROJECT NO: 24 - 027

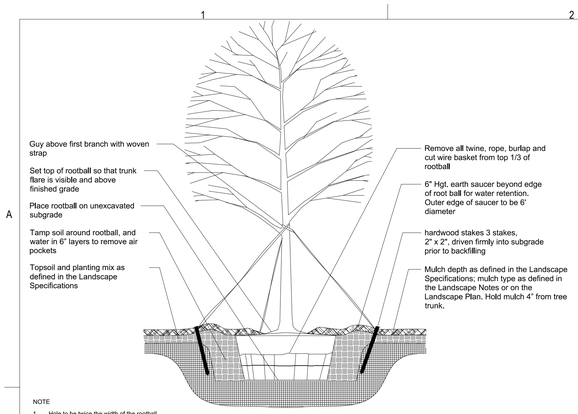
KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	05/27/25

SHEET TITLE:
OVERALL LANDSCAPE PLAN

SHEET NUMBER:
L-100

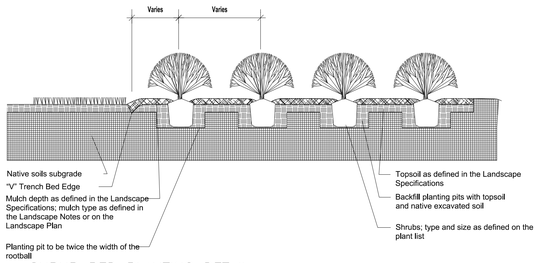


NOTE

1. Hole to be twice the width of the rootball.
2. Do not heavily prune tree at planting. Prune only crossover limbs, broken or dead branches; Do not remove the terminal buds of branches that extend to the edge of the crown.
3. Each tree must be planted such that the trunk flare is visible at the top of the rootball. Trees where the trunk flare is not visible shall be rejected. Do not cover the top of the rootball with soil. Mulch to be held back 4" away from trunk.
4. Remove Guy Wires and Staking when warranty period has expired (after one year).

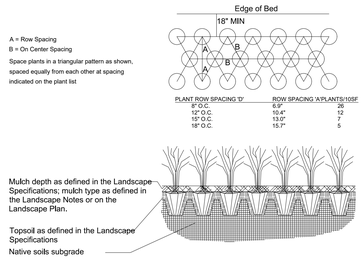
1 TREE PLANTING AND STAKING DETAIL

SCALE: NTS



2 SHRUB BED PLANTING DETAIL

SCALE: NTS



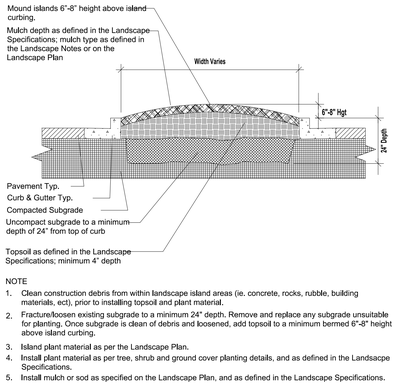
PLANT ROW SPACING 'D'	ROW SPACING W/PLANTS/100SF	
8" O.C.	6.9"	26
12" O.C.	10.4"	12
15" O.C.	13.0"	7
18" O.C.	15.7"	5

NOTE

1. Space groundcover plants in accordance with indicated spacing listed on the plant list, or as shown on the landscape plan.
2. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants.
3. Plant to within 24" of the trunks of trees and shrubs within planting bed and to within 18" of edge of bed.

3 GROUNDCOVER PLANTING DETAIL

SCALE: NTS

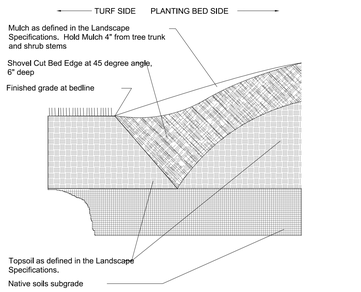


NOTE

1. Clean construction debris from within landscape island areas (ie. concrete, rocks, rubble, building materials, ect), prior to installing topsoil and plant material.
2. Fracture/loosen existing subgrade to a minimum 24" depth. Remove and replace any subgrade unsuitable for planting. Once subgrade is clean of debris and loosened, add topsoil to a minimum bermed 6"-8" height above island curbing.
3. Island plant material as per the Landscape Plan.
4. Install plant material as per tree, shrub and ground cover planting details, and as defined in the Landsacpe Specifications.
5. Install mulch or sod as specified on the Landscape Plan, and as defined in the Landscape Specifications.

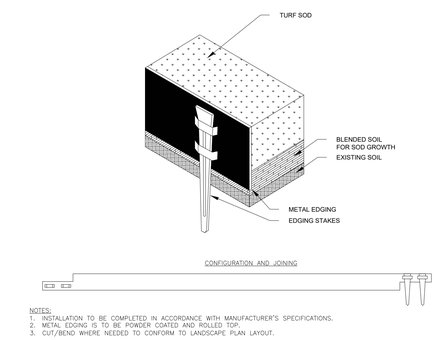
4 PARKING ISLAND BERMING DETAIL

SCALE: NTS



5 "V" TRENCH BED EDGING

SCALE: NTS



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. METAL EDGING IS TO BE POWDER COATED AND ROLLED TOP.
3. CUT/BEND WHERE NEEDED TO CONFORM TO LANDSCAPE PLAN LAYOUT.

6 TYP. METAL EDING DETAIL

SCALE: NTS

GENERAL NOTES

1. BASE MAP INFORMATION IS ACCURATE AS OF THE DATE PRINTED ON THIS PACKAGE.
2. THE LANDSCAPE PLANS CONTAINED HEREIN ILLUSTRATE APPROXIMATE LOCATIONS OF ALL SITE CONDITIONS. REFER TO SURVEY, ARCHITECTURAL, CIVIL ENGINEERING, STRUCTURAL, ELECTRICAL, IRRIGATION AND ALL OTHER DRAWINGS, IF AVAILABLE, FOR ADDITIONAL DETAILED INFORMATION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING AWARE OF AND FIELD VERIFYING ALL RELATED EXISTING AND PROPOSED CONDITIONS, UTILITIES, PIPES AND STRUCTURES, ETC. PRIOR TO BIDDING AND CONSTRUCTION. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONTACTING JULIE, THE COUNTY PUBLIC WORKS DEPARTMENT, THE MUNICIPALITY AND ANY OTHER PUBLIC OR PRIVATE AGENCIES NECESSARY FOR UTILITY LOCATION PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF APPARENT CONFLICTS WITH CONSTRUCTION AND UTILITIES SO THAT ADJUSTMENTS CAN BE PLANNED PRIOR TO INSTALLATION. IF FIELD ADJUSTMENTS ARE NECESSARY DUE TO EXISTING UTILITY LOCATIONS THEY MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY AND ALL COSTS OR OTHER LIABILITIES INCURRED DUE TO DAMAGE OF SAID UTILITIES/STRUCTURES/ETC.
4. THE CONTRACTOR SHALL COMPLY WITH ALL CODES APPLICABLE TO THIS WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH SUBCONTRACTORS AND OTHER CONTRACTORS OF RELATED TRADES, AS REQUIRED, TO ACCOMPLISH THE PLANTING AND RELATED OPERATIONS.
6. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL PLANT MATERIAL WITH THE INSTALLATION OF OTHER IMPROVEMENTS SUCH AS HARDSCAPE ELEMENTS AND RELATED STRUCTURES. ANY DAMAGE TO EXISTING IMPROVEMENTS IS THE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ALL AREAS OF THE SITE, OR ADJACENT AREAS, WHERE DISTURBED BY OPERATIONS OF OR RELATED TO THE CONTRACTOR'S WORK.
8. ALL SURFACE DRAINAGE SHALL BE DIVERTED AWAY FROM STRUCTURES AND NOTED SITE FEATURES IN ALL AREAS AT A MINIMUM OF 2% SLOPE OR AS SHOWN ON THE CIVIL ENGINEERING PLANS. ALL AREAS SHALL POSITIVELY DRAIN AND ALL ISLANDS SHALL BE CROWNED 1" IN HEIGHT PER 1' IN ISLAND WIDTH.
9. THE CONTRACTOR SHALL STAKE ALL TREE LOCATIONS AND THE PERIMETER OF SHRUB/PERENNIAL BEDS PRIOR TO INSTALLATION AND CONTACT THE OWNER'S REPRESENTATIVE FOR APPROVAL. FINAL LOCATION AND STAKING OF ALL PLANT MATERIALS SHALL BE ACCEPTED BY THE OWNER'S REPRESENTATIVE IN ADVANCE OF PLANTING.
10. IF CONFLICTS ARISE BETWEEN THE SIZE OF AREAS AND PLANS, THE CONTRACTOR IS REQUIRED TO CONTACT THE OWNER'S REPRESENTATIVE FOR RESOLUTION PRIOR TO INSTALLATION.
11. WHERE PROVIDED, AREA TAKEOFFS AND PLANT QUANTITY ESTIMATES IN THE PLANT LIST ARE FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE TO DO THEIR OWN QUANTITY TAKE-OFFS FOR ALL PLANT MATERIALS AND SIZES SHOWN ON PLANS. IN CASE OF ANY DISCREPANCIES, PLANS TAKE PRECEDENCE OVER CALL-OUTS AND/OR THE PLANT LIST(S).
12. PLANTS ARE TO BE TYPICAL IN SHAPE AND SIZE FOR SPECIES. PLANTS PLANTED IN ROWS OR GROUPS SHALL BE MATCHED IN FORM. PLANTS SHALL NOT BE ROOT-BOUND OR LOOSE IN THEIR CONTAINERS. HANDLE ALL PLANTS WITH CARE IN TRANSPORTING, PLANTING AND MAINTENANCE UNTIL INSPECTION AND FINAL ACCEPTANCE. FIELD COLLECTED MATERIAL SHALL NOT BE USED UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE.
13. SHREDDED HARDWOOD MULCH, FERTILIZING, AS SPECIFIED, STAKING, WATERING AND ONE (1) YEAR PLANT WARRANTY FOR INSTALLED PLANT MATERIAL, SHALL BE CONSIDERED INCIDENTAL TO THE PLANT ITEMS.
14. MUSHROOM COMPOST SHALL BE FINELY SCREENED, HOMOGENOUS, DECOMPOSED ORGANIC MATERIAL SUITABLE FOR HORTICULTURAL USE. MIX THOROUGHLY IN PLANT BED BEFORE INSTALLING PLANTS.

LANDSCAPE NOTES

1. LANDSCAPE CONTRACTOR TO READ AND UNDERSTAND THE LANDSCAPE SPECIFICATIONS (SHEET L-102) PRIOR TO FINALIZING BIDS. THE LANDSCAPE SPECIFICATIONS SHALL BE ADHERED TO THROUGHOUT THE CONSTRUCTION PROCESS.
2. CONTRACTOR RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3. CONTRACTOR RESPONSIBLE FOR PROTECTING EXISTING TREES FROM DAMAGE DURING CONSTRUCTION.
4. ALL PLANTING AREAS SHALL BE CLEANED OF CONSTRUCTION DEBRIS (IE. CONCRETE, ROCK, RUBBLE, BUILDING MATERIALS, ETC.) PRIOR TO ADDING AND SPREADING OF THE TOPSOIL.
5. ALL SHRUBS BEDS (EXISTING AND NEW) TO BE MULCHED WITH A 3 INCH MINIMUM LAYER OF DOUBLE SHREDDED HARDWOOD MULCH.
6. ALL ANNUAL AND PERENNIAL BEDS TO BE TILLED TO A MINIMUM DEPTH OF 12 INCHES AND AMENDED WITH 4 INCHES OF ORGANIC MATERIAL. MULCH PLANTED ANNUAL AND PERENNIAL BEDS WITH 2 INCH DEPTH OF MINI NUGGETS.
7. PLANTING HOLES TO BE DUG A MINIMUM OF TWICE THE WIDTH OF THE SIZE OF THE ROOT BALL OF BOTH SHRUB AND TREE. BACK TO BE A MIX OF 4 PARTS TOPSOIL AND 1 PART ORGANIC SOIL CONDITIONER (IE. NATURE'S HELPER OR PRO MIX). BACKFILL AND TAMP BOTTOM OF HOLE PRIOR TO PLANTING SO TOP OF ROOT BALL DOES NOT SETTLE BELOW SURROUNDING GRADE.
8. EXISTING GRASS IN PROPOSED PLANTING AREAS TO BE KILLED AND REMOVED AND AREA TO BE HAND RAKED TO REMOVE ALL ROCKS AND DEBRIS LARGER THAN 1 INCH IN DIAMETER PRIOR TO PLANTING SHRUBS.
9. ANY EXISTING GRASS DISTURBED DURING CONSTRUCTION TO BE FULLY REMOVED, REGRADED AND REPLACED. ALL TIRE MARKS AND INDENTIONS TO BE REPAIRED.
10. SOIL TO BE TESTED TO DETERMINE FERTILIZER AND LIME REQUIREMENTS AND DISTRIBUTED PRIOR TO LAYING SOD.
11. SOD TO BE DELIVERED FRESH (CUT LESS THAN 24 HOURS PRIOR TO ARRIVING ON SITE), LAID IMMEDIATELY, ROLLED, AND WATERED THOROUGHLY IMMEDIATELY AFTER PLANTING. EDGE OF SOD IS TO BE "V" TRENCHED.
12. ALL CHANGES TO DESIGN OR PLANT SUBSTITUTIONS ARE TO BE AUTHORIZED BY THE LANDSCAPE ARCHITECT.
13. ALL LANDSCAPING SHALL BE INSTALLED IN CONFORMANCE WITH ANSI Z60.1 THE "AMERICAN STANDARD FOR NURSERY STOCK" AND THE ACCEPTED STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
14. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS INSTALLED FOR ONE FULL YEAR FROM DATE OF ACCEPTANCE BY THE OWNER. ALL PLANTS SHALL BE ALIVE AND AT A VIGOROUS RATE OF GROWTH AT THE END OF THE GUARANTEE PERIOD. THE LANDSCAPE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR ACTS OF GOD OR VANDALISM.
15. ANY PLANT THAT IS DETERMINED DEAD, IN AN UNHEALTHY OR UNSIGHTLY CONDITION, LOST ITS SHAPE DUE TO DEAD BRANCHES OR OTHER SYMPTOMS OF POOR, NON-VIGOROUS GROWTH SHALL BE REPLACED BY THE LANDSCAPE CONTRACTOR.
16. GENERAL CONTRACTOR IS RESPONSIBLE FOR ADDING A MIN OF 4" OF CLEAN FRIABLE TOPSOIL IN ALL PLANTING BEDS AND ALL GRASSED AREAS. GRADED AREAS TO BE HELD DOWN THE APPROPRIATE ELEVATION TO ACCOUNT FOR TOPSOIL. SEE SPECIFICATIONS FOR REQUIRED TOPSOIL CHARACTERISTICS.
17. IN ALL PARKING LOT ISLANDS, THE GENERAL CONTRACTOR IS RESPONSIBLE TO REMOVE ALL DEBRIS, FRACTURE/LOOSEN SUBGRADE TO A MIN. 24" DEPTH. ADD TOPSOIL TO A 6"-8" BERM HEIGHT ABOVE ISLAND CURBING; REFER TO LANDSCAPE SPECIFICATIONS AND LANDSCAPE ISLAND DETAIL.
18. PRIOR TO BEGINNING WORK, THE LANDSCAPE CONTRACTOR SHALL INSPECT THE SUBGRADE, GENERAL SITE CONDITIONS, VERIFY ELEVATIONS, UTILITY LOCATIONS, IRRIGATION, APPROVE TOPSOIL PROVIDED BY GENERAL CONTRACTOR AND OBSERVE THE SITE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. NOTIFY GENERAL CONTRACTOR OF ANY UNSATISFACTORY CONDITIONS, AND WORK SHALL NOT PROCEED UNTIL SUCH CONDITIONS HAVE BEEN CORRECTED AND ARE ACCEPTABLE TO THE LANDSCAPE CONTRACTOR.
19. STAKE ALL EVERGREEN AND DECIDUOUS TREES AS SHOWN IN THE DETAILS THIS SHEET.
20. REMOVE ALL STAKES AND GUYING FROM ALL TREES AFTER ONE YEAR FROM PLANTING.
21. WATER THOROUGHLY TWICE IN FIRST 24 HOURS AND APPLY MULCH IMMEDIATELY.
22. SITE TO BE 100% IRRIGATED IN ALL PLANTING BEDS AND GRASS AREA BY AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM. SEE IRRIGATION PLAN FOR DESIGN.
23. ALL TREE PROTECTION DEVICES TO BE INSTALLED PRIOR TO THE START OF LAND DISTURBANCE, AND MAINTAINED UNTIL FINAL LANDSCAPING.
24. ALL TREE PROTECTION AREAS TO BE PROTECTED FROM SEDIMENTATION.
25. ALL TREE PROTECTION FENCING TO BE INSPECTED DAILY, AND REPAIRED OR REPLACED AS NEEDED.
26. NO PARKING, STORAGE OR OTHER CONSTRUCTION ACTIVITIES ARE TO OCCUR WITHIN TREE PROTECTION AREAS.
27. CONTRACTOR SHALL USE CAUTION WHEN DIGGING TREE PITS IN THE VICINITY OF UNDERGROUND UTILITY LINES AND MAY NEED TO HAND DIG THE PITS IN MANY OF THESE INSTANCES.

ISSUED FOR BID – NOT FOR CONSTRUCTION

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KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	05/27/25

SHEET TITLE:

LANDSCAPE NOTES & DETAILS

SHEET NUMBER:

L-101

LANDSCAPE SPECIFICATIONS

PART 1 - GENERAL

DESCRIPTION

PROVIDE TREES, SHRUBS, GROUND COVERS, SOD, AND ANNUALS/PERENNIALS AS SHOWN AND SPECIFIED ON THE LANDSCAPE PLAN. THE WORK INCLUDES:

1. SOIL PREPARATION.
2. TREES, SHRUBS, GROUND COVERS, AND ANNUALS/PERENNIALS.
3. PLANTING MIXES.
4. TOP SOIL, MULCH AND PLANTING ACCESSORIES.
5. MAINTENANCE.
6. DECORATIVE STONE.
7. LANDSCAPE EDGING SHALL BE REQUIRED BETWEEN WHERE ALL GROUND COVER TYPES CHANGE TO A DIFFERENT GROUND COVER. SEE SPECIFICATIONS DETAIL.

1

RELATED WORK:

8. IRRIGATION SYSTEM; SEE IRRIGATION SPECIFICATIONS (NOT INCLUDED IN PACKAGE).

QUALITY ASSURANCE

PLANT NAMES INDICATED; COMPLY WITH “STANDARDIZED PLANT NAMES” AS ADOPTED BY THE LATEST EDITION OF THE AMERICAN JOINT COMMITTEE OF HORTICULTURAL NOMENCLATURE. NAMES OF VARIETIES NOT LISTED CONFORM GENERALLY WITH NAMES ACCEPTED BY THE NURSERY TRADE. PROVIDE STOCK TRUE TO BOTANICAL NAME AND LEGIBLY TAGGED.

COMPLY WITH SIZING AND GRADING STANDARDS OF THE LATEST EDITION OF “AMERICAN STANDARD FOR NURSERY STOCK”. A PLANT SHALL BE DIMENSIONED AS IT STANDS IN ITS NATURAL POSITION.

ALL PLANTS SHALL BE NURSERY GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR A MINIMUM OF 2 YEARS.

NURSERY STOCK FURNISHED SHALL BE AT LEAST THE MINIMUM SIZE INDICATED. LARGER STOCK IS ACCEPTABLE, AT NO ADDITIONAL COST, AND PROVIDING THAT THE LARGER PLANTS WILL NOT BE CUT BACK TO SIZE INDICATED. PROVIDE PLANTS INDICATED BY TWO MEASUREMENTS SO THAT ONLY A MAXIMUM OF 25% ARE OF THE MINIMUM SIZE INDICATED AND 75% ARE OF THE MAXIMUM SIZE INDICATED.

BEFORE SUBMITTING A BID, THE CONTRACTOR SHALL HAVE INVESTIGATED THE SOURCES OF SUPPLY AND BE SATISFIED THAT THEY CAN SUPPLY THE LISTED PLANTS IN THE SIZE, VARIETY AND QUALITY AS SPECIFIED. FAILURE TO TAKE THIS PRECAUTION WILL NOT RELIEVE THE CONTRACTOR FROM THEIR RESPONSIBILITY FOR FURNISHING AND INSTALLING ALL PLANT MATERIALS IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS WITHOUT ADDITIONAL COST TO THE OWNER. THE LANDSCAPE ARCHITECT SHALL APPROVE ANY SUBSTITUTES OF PLANT MATERIAL, OR CHANGES IN PLANT MATERIAL SIZE, PRIOR TO THE LANDSCAPE CONTRACTOR SUBMITTING A BID.

DELIVER, STORAGE AND HANDLING

TAKE ALL PRECAUTIONS CUSTOMARY IN GOOD TRADE PRACTICE IN PREPARING PLANTS FOR MOVING. WORKMANSHIP THAT FAILS TO MEET THE HIGHEST STANDARDS WILL BE REJECTED. SPRAY DECIDUOUS PLANTS IN FOLIAGE WITH AN APPROVED
“ANTI-DESICCANT” IMMEDIATELY AFTER DIGGING TO PREVENT DEHYDRATION. DIG, PACK, TRANSPORT, AND HANDLE PLANTS WITH CARE TO ENSURE PROTECTION AGAINST INJURY. INSPECTION CERTIFICATES REQUIRED BY LAW SHALL ACCOMPANY EACH SHIPMENT INVOICE OR ORDER TO STOCK. PROTECT ALL PLANTS FROM DRYING OUT. IF PLANTS CANNOT BE PLANTED IMMEDIATELY UPON DELIVERY, PROPERLY PROTECT THEM WITH SOIL, WET PEAT MOSS, OR IN A MANNER ACCEPTABLE TO THE LANDSCAPE ARCHITECT. WATER HEELED-IN PLANTINGS DAILY. NO PLANT SHALL BE BOUND WITH ROPE OR WIRE IN A MANNER THAT COULD DAMAGE OR BREAK THE BRANCHES. COVER PLANTS TRANSPORTED ON OPEN VEHICLES WITH A PROTECTIVE COVERING TO PREVENT WIND BURN.

PROJECT CONDITIONS

PROTECT EXISTING UTILITIES, PAVING, AND OTHER FACILITIES FROM DAMAGE CAUSED BY LANDSCAPE OPERATIONS.

A COMPLETE LIST OF PLANTS, INCLUDING A SCHEDULE OF SIZES, QUANTITIES, AND OTHER REQUIREMENTS ARE SHOWN ON THE DRAWINGS. IN THE EVENT THAT QUANTITY DISCREPANCIES OR MATERIAL OMISSIONS OCCUR IN THE PLANT MATERIALS LIST, THE PLANTING PLANS SHALL GOVERN.

THE IRRIGATION SYSTEM WILL BE INSTALLED PRIOR TO PLANTING. LOCATE, PROTECT AND MAINTAIN THE IRRIGATION SYSTEM DURING PLANTING OPERATIONS. REPAIR IRRIGATION SYSTEM COMPONENTS DAMAGED DURING PLANTING OPERATIONS; AT THE CONTRACTOR’S EXPENSE. REFER TO THE IRRIGATION SPECIFICATIONS, IRRIGATION PLAN AND IRRIGATION DETAILS.

DO NOT BEGIN LANDSCAPE ACCESSORY WORK BEFORE COMPLETION OF FINAL GRADING OR SURFACING.

WARRANTY

WARRANT PLANT MATERIAL TO REMAIN ALIVE, BE HEALTHY AND IN A VIGOROUS CONDITION FOR A PERIOD OF 1 YEAR AFTER COMPLETION AND FINAL ACCEPTANCE OF ENTIRE PROJECT.

REPLACE, IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, ALL PLANTS THAT ARE DEAD OR, ARE IN AN UNHEALTHY, OR UNSIGHTLY CONDITION, AND HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES, OR OTHER CAUSES DUE TO THE CONTRACTOR’S NEGLIGENCE. THE COST OF SUCH REPLACEMENT(S) IS AT THE CONTRACTOR’S EXPENSE. WARRANT ALL REPLACEMENT PLANTS FOR 1 YEAR AFTER INSTALLATION.

WARRANTY SHALL NOT INCLUDE DAMAGE, LOSS OF TREES, PLANTS, OR GROUND COVERS CAUSED BY FIRES, FLOODS, FREEZING RAINS, LIGHTNING STORMS, WINDS OVER 75 MILES PER HOUR, WINTER KILL CAUSED BY EXTREME COLD, SEVERE WINTER CONDITIONS NOT TYPICAL OF PLANTING AREA, AND/OR ACTS OF VANDALISM OR NEGLIGENCE ON A PART OF THE OWNER.

REMOVE AND IMMEDIATELY REPLACE ALL PLANTS, FOUND TO BE UNSATISFACTORY DURING THE INITIAL PLANTING INSTALLATION.
MAINTAIN AND PROTECT PLANT MATERIAL, LAWNS, AND IRRIGATION UNTIL FINAL ACCEPTANCE IS MADE.

ACCEPTANCE

INSPECTION OF PLANTED AREAS WILL BE MADE BY THE OWNER’S REPRESENTATIVE.

1. PLANTED AREAS WILL BE ACCEPTED PROVIDED ALL REQUIREMENTS, INCLUDING MAINTENANCE, HAVE BEEN COMPLIED WITH AND PLANT MATERIALS ARE ALIVE AND IN A HEALTHY, VIGOROUS CONDITION.

UPON ACCEPTANCE, THE CONTRACTOR SHALL COMMENCE THE SPECIFIED PLANT MAINTENANCE.

CODES, PERMITS AND FEES

OBTAIN ANY NECESSARY PERMITS FOR THIS SECTION OF WORK AND PAY ANY FEES REQUIRED FOR PERMITS.

THE ENTIRE INSTALLATION SHALL FULLY COMPLY WITH ALL LOCAL AND STATE LAWS AND ORDINANCES, AND WITH ALL ESTABLISHED CODES APPLICABLE THERETO; ALSO AS DEPICTED ON THE LANDSCAPE AND IRRIGATION CONSTRUCTION SET.

PART 2 - PRODUCTS

MATERIALS

PLANTS: PROVIDE TYPICAL OF THEIR SPECIES OR VARIETY; WITH NORMAL, DENSELY DEVELOPED BRANCHES AND VIGOROUS, FIBROUS ROOT SYSTEMS. PROVIDE ONLY SOUND, HEALTHY, VIGOROUS PLANTS FREE FROM DEFECTS, DISFIGURING KNOTS, SUN SCALD INJURIES, FROST CRACKS, ABRASIONS OF THE BARK, PLANT DISEASES, INSECT EGGS, BORERS, AND ALL FORMS OF INFESTATION. ALL PLANTS SHALL HAVE A FULLY DEVELOPED FORM WITHOUT VOIDS AND OPEN SPACES. PLANTS HELD ON STORAGE WILL BE REJECTED IF THEY SHOW SIGNS OF GROWTH DURING THE STORAGE PERIOD.

1. BALLED AND PLANTS WRAPPED WITH BURLAP, TO HAVE FIRM, NATURAL BALLS OF EARTH OF SUFFICIENT DIAMETER AND DEPTH TO ENCOMPASS THE FIBROUS AND FEEDING ROOT SYSTEM NECESSARY FOR FULL RECOVERY OF THE PLANT. PROVIDE BALL SIZES COMPLYING WITH THE LATEST EDITION OF THE “AMERICAN STANDARD FOR NURSERY STOCK”. CRACKED OR MUSHROOMED BALLS, OR SIGNS OF CIRCLING ROOTS ARE NOT ACCEPTABLE.
2. CONTAINER- GROWN STOCK: GROWN IN A CONTAINER FOR SUFFICIENT LENGTH OF TIME FOR THE ROOT SYSTEM TO HAVE DEVELOPED TO HOLD ITS SOIL TOGETHER, FIRM AND WHOLE.
   - 2.1. NO PLANTS SHALL BE LOOSE IN THE CONTAINER.
   - 2.2. CONTAINER STOCK SHALL NOT BE POT BOUND.
3. PLANTS PLANTED IN ROWS SHALL BE MATCHED IN FORM.
4. PLANTS LARGER THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED WHEN ACCEPTABLE TO THE LANDSCAPE ARCHITECT.
   - 4.1. IF THE USE OF LARGER PLANTS IS ACCEPTABLE, INCREASE THE SPREAD OF ROOTS OR ROOT BALL IN PROPORTION TO THE SIZE OF THE PLANT.
5. THE HEIGHT OF THE TREES, MEASURED FROM THE CROWN OF THE ROOTS TO THE TOP OF THE TOP BRANCH, SHALL NOT BE LESS THAN THE MINIMUM SIZE DESIGNATED IN THE PLANT LIST.
6. NO PRUNING WOUNDS SHALL BE PRESENT WITH A DIAMETER OF MORE THAN 1” AND SUCH WOUNDS MUST SHOW VIGOROUS BARK ON ALL EDGES.
7. EVERGREEN TREES SHALL BE BRANCHED TO THE GROUND OR AS SPECIFIED IN PLANT LIST.
8. SHRUBS AND SMALL PLANTS SHALL MEET THE REQUIREMENTS FOR SPREAD AND HEIGHT INDICATED IN THE PLANT LIST
   - 8.1. THE MEASUREMENTS FOR HEIGHT SHALL BE TAKEN FROM THE GROUND LEVEL TO THE HEIGHT OF THE TOP OF THE PLANT AND NOT THE LONGEST BRANCH.
   - 8.2. SINGLE STEMMED OR THIN PLANTS WILL NOT BE ACCEPTED.
   - 8.3. SIDE BRANCHES SHALL BE GENEROUS, WELL-TWIGGED, AND THE PLANT AS A WHOLE WELL-BUSHED TO THE GROUND
   - 8.4. PLANTS SHALL BE IN A MOIST, VIGOROUS CONDITION, FREE FROM DEAD WOOD, BRUISES, OR OTHER ROOT OR BRANCH INJURIES.

ACCESSORIES

TOPSOIL: SHALL BE FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, OBTAINED FROM A WELL-DRAINED ARABLE SITE, REASONABLY FREE FROM CLAY, LUMPS, COARSE SANDS, STONES, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS, WITH ACIDITY RANGE OF BETWEEN PH 6.0 AND 6.8.

NOTE: ALL PLANTING AREAS SHALL BE CLEANED OF CONSTRUCTION DEBRIS (IE. CONCRETE, RUBBLE, STONES, BUILDING MATERIAL, ETC.) PRIOR TO ADDING AND SPREADING OF THE TOP SOIL.

1. SOD AREAS: SPREAD A MINIMUM 4” LAYER OF TOP SOIL AND RAKE SMOOTH.
2. PLANTING BED AREAS: SPREAD A MINIMUM 4” LAYER OF TOP SOIL AND RAKE SMOOTH.
3. LANDSCAPE ISLANDS/MEDIANS: FRACTURE/LOOSEN EXISTING SUBGRADE TO A MINIMUM 24" DEPTH. REMOVE AND REPLACE ANY SUBGRADE UNSUITABLE FOR PLANTING. ONCE SUBGRADE IS CLEAN OF DEBRIS AND LOOSENED, ADD TOPSOIL TO A MINIMUM BERM 6"-8" HEIGHT ABOVE ISLAND CURBING.
4. ANNUAL/PERENNIAL BED AREAS: ADD A MINIMUM OF 4” ORGANIC MATTER AND TILL TO A MINIMUM 12” DEPTH.

MULCH: TYPE SELECTED DEPENDENT ON REGION AND AVAILABILITY; SEE LANDSCAPE PLANS FOR TYPE OF MUCH TO BE USED. HOLD MULCH 4” FROM TREE TRUNKS AND SHRUB STEMS.

1. HARDWOOD: 6 MONTH OLD WELL ROTTED DOUBLE SHREDDED NATIVE HARDWOOD BARK MULCH NOT LARGER THAN 4” IN LENGTH AND ½” IN WIDTH, FREE OF WOOD CHIPS AND SAWDUST. INSTALL MINIMUM DEPTH OF 3”.
2. PINE STRAW: PINE STRAW TO BE FRESH HARVEST, FREE OF DEBRIS, BRIGHT IN COLOR. BALES TO BE WIRED AND TIGHTLY BOUND. NEEDLES TO BE DRY. INSTALL MINIMUM DEPTH OF 3”.
3. RIVER ROCK: (COLOR) LIGHT GRAY TO BUFF TO DARK BROWN, WASHED RIVER ROCK, 1” – 3” IN SIZE. INSTALL IN SHRUB BEDS TO AN EVEN DEPTH OF 3”. WEED CONTROL BARRIER TO BE INSTALLED UNDER ALL ROCK MULCH AREAS. USE CAUTION DURING INSTALLATION NOT TO DAMAGE PLANT MATERIAL.
4. MINI NUGGETS: INSTALL TO A MINIMUM DEPTH OF 2”-3” AT ALL LOCATIONS OF ANNUAL AND PERENNIAL BEDS. LIFT THE STEMS AND LEAVES OF THE ANNUALS AND CAREFULLY SPREAD THE MULCH TO AVOID INJURING THE PLANTS. GENTLY BRUSH THE MULCH OFF THE PLANTS.

GUYING/STAKING:

1. ARBORTIE: GREEN (OR WHITE) STAKING AND GUYING MATERIAL TO BE FLAT, WOVEN, POLYPROPYLENE MATERIAL, ¾” WIDE 900 LB. BREAK STRENGTH. ARBORTIE SHALL BE FASTENED TO STAKES IN A MANNER WHICH PERMITS TREE MOVEMENT AND SUPPORTS THE TREE.
2. REMOVE GUYING/STAKING AFTER ONE YEAR FROM PLANTING.

TREE WRAP: TREE WRAPS SHOULD BE USED ON YOUNG, NEWLY PLANTED THIN-BARKED TREES (CHERRY, CRABAPPLE, HONEY LOCUST, LINDEN, MAPLE, MOUNTAIN ASH, PLUM) THAT ARE MOST SUSCEPTIBLE TO SUN SCALD/SUNBURN. STANDARD WATERPROOFED TREE WRAPPING PAPER, 2-1/2” WIDE, MADE OF 2 LAYERS OF CREPE DRAFT PAPER WEIGHING NOT LESS THAN 30 LBS. PER REAM, CEMENTED TOGETHER WITH ASPHALT. WRAP THE TREE IN THE FALL AND LEAVE THE WRAP IN PLACE THROUGHOUT THE WINTER AND EARLY SPRING. TREE WRAPS ARE TEMPORARY AND NO LONGER NEEDED ONCE TREES DEVELOP CORKY BARK.

PART 3 – EXECUTION

INSPECTION

PRIOR TO BEGINNING WORK, THE LANDSCAPE CONTRACTOR SHALL INSPECT THE SUBGRADE, GENERAL SITE CONDITIONS, VERIFY ELEVATIONS, UTILITY LOCATIONS, IRRIGATION, APPROVE TOP SOIL PROVIDED BY THE GENERAL CONTRACTOR AND OBSERVE THE SITE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. NOTIFY THE GENERAL CONTRACTOR OF ANY UNSATISFACTORY CONDITIONS, AND WORK SHALL NOT PROCEED UNTIL SUCH CONDITIONS HAVE BEEN CORRECTED AND ARE ACCEPTABLE TO THE LANDSCAPE CONTRACTOR.

PREPARATION

PLANTING SHALL BE PERFORMED ONLY BY EXPERIENCED WORKMEN FAMILIAR WITH PLANTING PROCEDURES UNDER THE SUPERVISION OF A QUALIFIED SUPERVISOR.

LOCATE PLANTS AS INDICATED ON THE PLANS OR AS APPROVED IN THE FIELD AFTER STAKING BY THE LANDSCAPE CONTRACTOR. IF OBSTRUCTIONS ARE ENCOUNTERED THAT ARE NOT SHOWN ON THE DRAWINGS, DO NOT PROCEED WITH PLANTING OPERATIONS UNTIL ALTERNATE PLANT LOCATIONS HAVE BEEN SELECTED AND APPROVED BY THE LANDSCAPE ARCHITECT; SPACING OF PLANT MATERIAL SHALL BE AS SHOWN ON THE LANDSCAPE PLAN.

EXCAVATE CIRCULAR PLANT PITS WITH VERTICAL SIDES, EXCEPT FOR PLANTS SPECIFICALLY INDICATED TO BE PLANTED IN BEDS. PROVIDE SHRUB PITS AT LEAST 12” GREATER THAN THE DIAMETER OF THE ROOT SYSTEM AND 24” GREATER FOR TREES. DEPTH OF PIT SHALL ACCOMMODATE THE ROOT SYSTEM. PROVIDE UNDISTURBED SUB GRADE TO HOLD ROOT BALL AT NURSERY GRADE AS SHOWN ON THE DRAWINGS.

INSTALLATION

SET PLANT MATERIAL IN THE PLANTING PIT TO PROPER GRADE AND ALIGNMENT. SET PLANTS UPRIGHT, PLUMB, AND FACED TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO EACH OTHER OR ADJACENT STRUCTURE. SET PLANT MATERIAL 2” – 3” ABOVE THE FINISH GRADE. NO FILLING WILL BE PERMITTED AROUND TRUNKS OR STEMS. BACKFILL THE PIT WITH TOPSOIL MIX AND EXCAVATED MATERIAL. DO NOT USE FROZEN OR MUDDY MIXTURES FOR BACKFILLING. FORM A RING OF SOIL AROUND THE EDGE OF EACH PLANTING PIT TO RETAIN WATER.

AFTER BALLED AND WRAPPED IN BURLAP PLANTS ARE SET, MUDDLE PLANTING SOIL MIXTURE AROUND BASES OF BALLS AND FILL ALL VOIDS.

1. REMOVE ALL BURLAP, ROPES, AND WIRES FROM THE TOP 1/3 OF THE ROOT BALL

SPACE GROUND COVER PLANTS IN ACCORDANCE WITH INDICATED DIMENSIONS. ADJUST SPACING AS NECESSARY TO EVENLY FILL PLANTING BED WITH INDICATED QUANTITY OF PLANTS. PLANT TO WITHIN 24” OF THE TRUNKS OF TREES AND SHRUBS WITHIN PLANTING BED AND TO WITHIN 18” OF EDGE OF BED.

MULCHING:

1. MULCH TREE AND SHRUB PLANTING PITS AND SHRUB BEDS WITH REQUIRED MULCHING MATERIAL (SEE LANDSCAPE PLAN FOR MULCH TYPE); DEPTH OF MULCH AS NOTED ABOVE. HOLD MULCH BACK 4” AWAY FROM TREE TRUNKS AND SHRUB STEMS. THOROUGHLY WATER MULCHED AREAS. AFTER WATERING, RAKE MULCH TO PROVIDE A UNIFORM FINISHED SURFACE.

DECORATIVE STONE: (WHERE INDICATED ON LANDSCAPE PLAN)

1. INSTALL WEED CONTROL BARRIER OVER SUB-GRADE PRIOR TO INSTALLING STONE. LAP 6” ON ALL SIDES.
2. PLACE STONE WITHOUT DAMAGING WEED BARRIER.
3. ARRANGE STONES FOR BEST APPEARANCE AND TO COVER ALL WEED BARRIER FABRIC.

WRAPPING, GUYING, STAKING:

1. INSPECT TREES FOR INJURY TO TRUNKS, EVIDENCE OF INSECT INFESTATION, AND IMPROPER PRUNING BEFORE WRAPPING.
2. WRAPPING:
   - 2.1. WRAP TRUNKS OF ALL YOUNG NEWLY PLANTED TREES KNOWN TO HAVE THIN BARK. WRAP SPIRALLY FROM BOTTOM TO TOP WITH SPECIFIED TREE WRAP AND SECURE IN PLACE.
   - 2.2. OVERLAP ½ THE WIDTH OF THE TREE WRAP STRIP AND COVER THE TRUNK FROM THE GROUND TO THE HEIGHT OF THE SECOND BRANCH.
   - 2.3. SECURE TREE WRAP IN PLACE WITH TWINE WOUND SPIRALLY DOWNWARD IN THE OPPOSITE DIRECTION, TIED AROUND THE TREE IN AT LEAST 3 PLACES IN ADDITION TO THE TOP AND BOTTOM.
   - 2.4. WRAP THE TREES IN THE FALL AND LEAVE THE WRAP IN PLACE THROUGHOUT THE WINTER AND EARLY SPRING.
   - 2.5. TREE WRAPS ARE TEMPORARY AND NO LONGER NEEDED ONCE THE TREES DEVELOP CORKY BARK.
3. STAKING/GUYING:
   - 3.1. STAKE/GUY ALL TREES IMMEDIATELY AFTER LAWN SODDING OPERATIONS AND PRIOR TO ACCEPTANCE.
   - 3.2. STAKE DECIDUOUS TREES 2” CALIPER AND LESS. STAKE EVERGREEN TREES UNDER 7’-0” TALL.
     - 3.2.1. STAKES ARE PLACED IN LINE WITH PREVAILING WIND DIRECTION AND DRIVEN INTO UNDISTURBED SOIL.
     - 3.2.2. TIES ARE ATTACHED TO THE TREE, USUALLY AT THE LOWEST BRANCH.
   - 3.3. GUY DECIDUOUS TREES OVER 2” CALIPER. GUY EVERGREEN TREES 7’-0” TALL AND OVER.
     - 3.3.1. GUY WIRES TO BE ATTACHED TO THREE STAKES DRIVEN INTO UNDISTURBED SOIL, WITH ONE STAKE PLACED IN THE DIRECTION OF THE PREVAILING WIND.
     - 3.3.2. TIES ARE ATTACHED TO THE TREE AS HIGH AS PRACTICAL.
     - 3.3.3. THE AXIS OF THE STAKE SHOULD BE AT 90 DEGREE ANGLE TO THE AXIS ON THE PULL OF THE GUY WIRE.
4. **REMOVE ALL GUYING AND STAKING AFTER ONE YEAR FROM PLANTING.**

PRUNING:

1. PRUNE DECIDUOUS TREES AND EVERGREENS ONLY TO REMOVE BROKEN OR DAMAGED BRANCHES.

WORKMANSHIP

DURING LANDSCAPE/IRRIGATION INSTALLATION OPERATIONS, ALL AREAS SHALL BE KEPT NEAT AND CLEAN. PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING STRUCTURES. ALL WORK SHALL BE PERFORMED IN A SAFE MANNER TO THE OPERATORS, THE OCCUPANTS AND ANY PEDESTRIANS.

UPON COMPLETION OF INSTALLATION OPERATIONS, ALL EXCESS MATERIALS, EQUIPMENT, DEBRIS AND WASTE MATERIAL SHALL BE CLEANED UP AND REMOVED FROM THE SITE; UNLESS PROVISIONS HAVE BEEN GRANTED BY THE OWNER TO USE ON-SITE TRASH RECEPTACLES. SWEEP PARKING AND WALKS CLEAN OF DIRT AND DEBRIS. REMOVE ALL PLANT TAGS AND OTHER DEBRIS FROM LAWNS AND PLANTING AREAS.

ANY DAMAGE TO THE LANDSCAPE, THE STRUCTURE, OR THE IRRIGATION SYSTEM CAUSED BY THE LANDSCAPE CONTRACTOR SHALL BE REPAIRED BY THE LANDSCAPE CONTRACTOR WITHOUT CHARGE TO THE OWNER.

MAINTENANCE

CONTRACTOR SHALL PROVIDE MAINTENANCE UNTIL WORK HAS BEEN ACCEPTED BY THE OWNER'S REPRESENTATIVE.

MAINTENANCE SHALL INCLUDE MOWING, FERTILIZING, MULCHING, PRUNING, CULTIVATION, WEEDING, WATERING, AND APPLICATION OF APPROPRIATE INSECTICIDES AND FUNGICIDES NECESSARY TO MAINTAIN PLANTS AND LAWNS FREE OF INSECTS AND DISEASE.

1. RE-SET SETTLED PLANTS TO PROPER GRADE AND POSITION. RESTORE PLANTING SAUCER AND ADJACENT MATERIAL AND REMOVE DEAD MATERIAL.
2. REPAIR GUY WIRES AND STAKES AS REQUIRED. REMOVE ALL STAKES AND GUY WIRES AFTER 1 YEAR.
3. CORRECT DEFECTIVE WORK AS SOON AS POSSIBLE AFTER DEFICIENCIES BECOME APPARENT AND WEATHER AND SEASON PERMIT.
4. WATER TREES, PLANTS AND GROUND COVER BEDS WITHIN THE FIRST 24 HOURS OF INITIAL PLANTING, AND NOT LESS THAN TWICE PER WEEK UNTIL FINAL ACCEPTANCE.

LANDSCAPE MAINTENANCE SPECIFICATIONS

THE CONTRACTOR SHALL PROVIDE AS A SEPARATE BID, MAINTENANCE FOR A PERIOD OF 1 YEAR AFTER FINAL ACCEPTANCE OF THE PROJECT LANDSCAPING. THE CONTRACTOR MUST BE ABLE TO PROVIDE CONTINUED MAINTENANCE IF REQUESTED BY THE OWNER OR PROVIDE THE NAME OF A REPUTABLE LANDSCAPE CONTRACTOR WHO CAN PROVIDE MAINTENANCE.

STANDARDS

ALL LANDSCAPE MAINTENANCE SERVICES SHALL BE PERFORMED BY TRAINED PERSONNEL USING CURRENT, ACCEPTABLE HORTICULTURAL PRACTICES.

ALL WORK SHALL BE PERFORMED IN A MANNER THAT MAINTAINS THE ORIGINAL INTENT OF THE LANDSCAPE DESIGN.

ALL CHEMICAL APPLICATIONS SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT COUNTY, STATE AND FEDERAL LAWS, USING EPA REGISTERED MATERIALS AND METHODS OF APPLICATION. THESE APPLICATIONS SHALL BE PERFORMED UNDER THE SUPERVISION OF A LICENSED CERTIFIED APPLICATOR.

APPROVALS

ANY WORK PERFORMED IN ADDITION TO THAT WHICH IS OUTLINED IN THE CONTRACT SHALL ONLY BE DONE UPON WRITTEN APPROVAL BY THE OWNER’S REPRESENTATIVE (GENERAL MANAGER OF THE RESTAURANT).

ALL SEASONAL COLOR SELECTIONS SHALL BE APPROVED BY THE GENERAL MANAGER PRIOR TO ORDERING AND INSTALLATION.

SOIL TESTING

THE MAINTENANCE CONTRACTOR SHALL PERFORM SOIL TESTS AS NEEDED TO IDENTIFY IMBALANCES OR DEFICIENCIES CAUSING PLANT MATERIAL DECLINE. THE OWNER SHALL BE NOTIFIED OF THE RECOMMENDATION FOR APPROVAL, AND THE NECESSARY CORRECTIONS MADE AT AN ADDITIONAL COST TO THE OWNER.

ACCEPTABLE SOIL TEST RESULTS

	LANDSCAPE TREES AND SHRUBS	TURF
pH RANGE	5.0 - 7.0	6.0 - 7.0
ORGANIC MATTER	> 1.5%	> 2.5%
MAGNESIUM (Mg)	100+ LBS/ACRE	100+ LBS/ACRE
PHOSPHORUS (P205)	150+ LBS/ACRE	150+ LBS/ACRE
POTASSIUM (K2O)	120+ LBS/ACRE	120+ LBS/ACRE
SOLUBLE SALTS/ CONDUCTIVITY	NOT TO EXCEED 900PPM/1.9MMHOS/CM IN SOIL; NOT TO EXCEED 1400 PPM/2.5 MMHOS/CM IN HIGH ORGANIC MIX.	NOT TO EXCEED 900PPM/1.9MMHOS/CM IN SOIL; NOT TO EXCEED 1400 PPM/2.5 MMHOS/CM IN HIGH ORGANIC MIX.

WORKMANSHIP

DURING LANDSCAPE MAINTENANCE OPERATIONS, ALL AREAS SHALL BE KEPT NEAT AND CLEAN. PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING STRUCTURES. ALL WORK SHALL BE PERFORMED IN A SAFE MANNER TO THE OPERATORS, THE OCCUPANTS AND ANY PEDESTRIANS.

UPON COMPLETION OF MAINTENANCE OPERATIONS, ALL DEBRIS AND WASTE MATERIAL SHALL BE CLEANED UP AND REMOVED FROM THE SITE, UNLESS PROVISIONS HAVE BEEN GRANTED BY THE OWNER TO USE ON-SITE TRASH RECEPTACLES.

ANY DAMAGE TO THE LANDSCAPE, THE STRUCTURE, OR THE IRRIGATION SYSTEM CAUSED BY THE MAINTENANCE CONTRACTOR, SHALL BE REPAIRED BY THE MAINTENANCE CONTRACTOR WITHOUT CHARGE TO THE OWNER.

TURF

GENERAL CLEAN UP

PRIOR TO MOWING, ALL TRASH, STICKS, AND OTHER UNWANTED DEBRIS SHALL BE REMOVED FROM LAWNS, PLANT BEDS, AND PAVED AREAS.

MOWING

WARM SEASON GRASSES (I.E. BERMUDA GRASS) SHALL BE MAINTAINED AT A HEIGHT OF 1” TO 2” DURING THE GROWING SEASON.

COOL SEASON GRASSES, INCLUDING BLUE GRASS, TALL FESCUE, PERENNIAL RYEGRASS, ETC., SHALL BE MAINTAINED AT A HEIGHT OF 2” TO 3” IN SPRING AND FALL. FROM JUNE THROUGH SEPTEMBER, MOWING HEIGHT SHALL BE MAINTAINED AT NO LESS THAN 3”.

THE MOWING OPERATION INCLUDES TRIMMING AROUND ALL OBSTACLES, RAKING EXCESSIVE GRASS CLIPPINGS AND REMOVING DEBRIS FROM WALKS, CURBS, AND PARKING AREAS. CAUTION: WEED EATERS SHOULD NOT BE USED AROUND TREES BECAUSE OF POTENTIAL DAMAGE TO THE BARK.

EDGING

EDGING OF ALL SIDEWALKS, CURBS AND OTHER PAVED AREAS SHALL BE PERFORMED ONCE EVERY OTHER MOWING. DEBRIS FROM THE EDGING OPERATIONS SHALL BE REMOVED AND THE AREAS SWEPT CLEAN. CAUTION SHALL BE USED TO AVOID FLYING DEBRIS.

LIMING & FERTILIZING

A SOIL TEST SHALL BE TAKEN TO DETERMINE WHETHER AN APPLICATION OF LIMESTONE IN LATE FALL IS NECESSARY. IF LIMESTONE IS REQUIRED, THE LANDSCAPE CONTRACTOR SHALL SPECIFY THE RATE, OBTAIN APPROVAL FROM THE OWNER AND APPLY IT AT AN ADDITIONAL COST. A UNIT PRICE FOR LIMING OF TURF SHALL ACCOMPANY THE BID BASED ON A RATE OF 50 POUNDS PER 1000 SQUARE FEET.

FERTILIZER SHALL BE APPLIED IN AREAS BASED ON THE EXISTING TURF SPECIES.

LAWN WEED CONTROL: HERBICIDES

SELECTION AND PROPER USE OF HERBICIDES SHALL BE THE LANDSCAPE CONTRACTOR’S RESPONSIBILITY. ALL CHEMICAL APPLICATIONS SHALL BE PERFORMED UNDER THE SUPERVISION OF A LICENSED CERTIFIED APPLICATOR. **READ THE LABEL PRIOR TO APPLYING ANY CHEMICAL.**

INSECT & DISEASE CONTROL FOR TURF

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING THE SITE CONDITIONS ON EACH VISIT TO DETERMINE IF ANY INSECT PEST OR DISEASE PROBLEMS EXIST. THE CONTRACTOR SHALL IDENTIFY THE INSECT PEST OR DISEASE, AS WELL AS THE HOST PLANT, AND THEN CONSULT THE MOST CURRENT EDITION OF THE COOPERATIVE EXTENSION SERVICE’S “COMMERCIAL INSECTICIDE RECOMMENDATION FOR TURF” FOR CONTROL. THE LICENSED APPLICATOR SHALL BE FAMILIAR WITH THE LABEL PROVIDED FOR THE SELECTED PRODUCT PRIOR TO APPLICATION.

INSPECTION AND TREATMENT TO CONTROL INSECT PESTS SHALL BE INCLUDED IN THE CONTRACT PRICE.

TREES, SHRUBS, & GROUND COVER

PRUNING

ALL ORNAMENTAL TREES, SHRUBS AND GROUND COVER SHALL BE PRUNED WHEN APPROPRIATE TO REMOVE DEAD OR DAMAGED BRANCHES, DEVELOP THE NATURAL SHAPES. **DO NOT SHEAR TREES OR SHRUBS.** IF PREVIOUS MAINTENANCE PRACTICE HAS BEEN TO SHEAR AND BALL, THEN A NATURAL SHAPE WILL BE RESTORED GRADUALLY.

PRUNING GUIDELINES:

1. PRUNE THOSE THAT FLOWER BEFORE THE END OF JUNE IMMEDIATELY AFTER FLOWERING. FLOWER BUDS DEVELOP DURING THE PREVIOUS GROWING SEASON. FALL, WINTER OR SPRING PRUNING WOULD REDUCE THE SPRING FLOWERING DISPLAY.
2. PRUNE THOSE THAT FLOWER IN SUMMER OR AUTUMN IN WINTER OR SPRING BEFORE NEW GROWTH BEGINS, SINCE THESE PLANTS DEVELOP FLOWERS ON NEW GROWTH.
3. DELAY PRUNING PLANTS GROWN FOR ORNAMENTAL FRUITS, SUCH AS COTONEASTERS, PYRACANTHAS AND VIBURNUMS.
4. HOLLIES AND OTHER EVERGREENS MAY BE PRUNED DURING WINTER IN ORDER TO USE THEIR BRANCHES FOR SEASONAL DECORATION. HOWEVER, SEVERE PRUNING OF EVERGREENS SHOULD BE DONE IN EARLY SPRING ONLY.
5. BROADLEAF EVERGREEN SHRUBS SHALL BE HAND-PRUNED TO MAINTAIN THEIR NATURAL APPEARANCE AFTER THE NEW GROWTH HARDENS OFF.
6. HEDGES OR SHRUBS THAT REQUIRE SHEARING TO MAINTAIN A FORMAL APPEARANCE SHALL BE PRUNED AS REQUIRED. DEAD WOOD SHALL BE REMOVED FROM SHEARED PLANTS BEFORE THE FIRST SHEARING OF THE SEASON.
7. CONIFERS SHALL BE PRUNED, IF REQUIRED, ACCORDING TO THEIR GENUS.
   - 7.1. YEWS, JUNIPERS, HEMLOCKS, ARBORVITAE, AND FALSE-CYPRESS MAY BE PRUNED AFTER NEW GROWTH HAS HARDENED OFF IN LATE SUMMER. IF SEVERE PRUNING IS NECESSARY, IT MUST BE DONE IN EARLY SPRING.
   - 7.2. FIRS AND SPRUCES MAY BE LIGHTLY PRUNED IN LATE SUMMER, FALL, OR WINTER AFTER COMPLETING GROWTH. LEAVE SIDE BUDS. NEVER CUT CENTRAL LEADER.
   - 7.3. PINES MAY BE LIGHTLY PRUNED IN EARLY JUNE BY REDUCING CANDLES.
8. GROUNDCOVER SHALL BE EDGED AND PRUNED AS NEEDED TO CONTAIN IT WITHIN ITS BORDERS.
9. THINNING: REMOVE BRANCHES AND WATER SPROUTS BY CUTTING THEM BACK TO THEIR POINT OF ORIGIN ON PARENT STEMS. THIS METHOD RESULTS IN A MORE OPEN PLANT, WITHOUT STIMULATING EXCESSIVE GROWTH. THINNING IS USED ON CREPE MYRTLES, LILACS, VIBURNUMS, SMOKE BUSH,ETC.
10. RENEWAL PRUNING: REMOVE OLDEST BRANCHES OF SHRUB AT GROUND, LEAVING THE YOUNGER, MORE VIGOROUS BRANCHES. ALSO REMOVE WEAK STEMS. ON OVERGROWN PLANTS, THIS METHOD MAY BE BEST DONE OVER A THREE-YEAR PERIOD. RENEWAL PRUNING MAY BE USED ON ABELIA, FORSYTHIA, DEUTZIA, SPIREA, ETC.

PLANTS OVERHANGING PASSAGEWAYS AND PARKING AREAS AND DAMAGED PLANTS SHALL BE PRUNED AS NEEDED.

SHADE TREES THAT CANNOT BE ADEQUATELY PRUNED FROM THE GROUND SHALL NOT BE INCLUDED IN THE MAINTENANCE CONTRACT. A CERTIFIED ARBORIST UNDER A SEPARATE CONTRACT SHALL PERFORM THIS TYPE OF WORK.

SPRING CLEANUP

PLANT BEDS SHALL RECEIVE A GENERAL CLEANUP BEFORE FERTILIZING AND MULCHING. CLEANUP INCLUDES REMOVING DEBRIS AND TRASH FROM BEDS AND CUTTING BACK HERBACEOUS PERENNIALS LEFT STANDING THROUGH WINTER, E.G. ORNAMENTAL GRASSES, SEDUM AUTUMN JOY.

FERTILIZING

FOR TREES, THE RATE OF FERTILIZATION DEPENDS ON THE TREE SPECIES, TREE VIGOR, AREA AVAILABLE FOR FERTILIZATION, AND GROWTH STAGE OF THE TREE. MATURE SPECIMENS BENEFIT FROM FERTILIZATION EVERY 3 TO 4 YEARS; YOUNGER TREES SHALL BE FERTILIZED MORE OFTEN DURING RAPID GROWTH STAGES.

THE CURRENT RECOMMENDATION IS BASED ON THE RATE OF 1000 SQUARE FEET OF AREA UNDER THE TREE TO BE FERTILIZED. FOR DECIDUOUS TREES, 2 TO 6 POUNDS OF NITROGEN PER 1000 SQUARE FEET; FOR
NARROW-LEAF EVERGREENS, 1 TO 4 POUNDS OF NITROGEN PER 1000 SQUARE FEET; FOR BROADLEAF EVERGREENS, 1 TO 3 POUNDS OF NITROGEN PER 1000 SQUARE FEET.

SHRUBS AND GROUNDCOVER SHALL BE TOP-DRESSED WITH COMPOST 1” DEEP, OR FERTILIZED ONCE IN MARCH WITH 10-6-4 ANALYSIS FERTILIZER AT THE RATE OF 3 POUNDS PER 100 SQUARE FEET OF BED AREA. ERICACEOUS MATERIAL SHALL BE FERTILIZED WITH AN ERICACEOUS FERTILIZER AT THE MANUFACTURER’S RECOMMENDATION RATE. IF PLANTS ARE GROWING POORLY, A SOIL SAMPLE SHOULD BE TAKEN.

MULCHING

ANNUALLY, ALL TREE AND SHRUB BEDS WILL BE PREPARED AND MULCHED, TO A MINIMUM DEPTH OF 3” WITH QUALITY MULCH TO MATCH EXISTING. BED PREPARATION SHALL INCLUDE REMOVING ALL WEEDS, CLEANING UP SAID BED, EDGING AND CULTIVATING DECAYED MULCH INTO THE SOIL. DEBRIS FROM EDGING IS TO BE REMOVED FROM BEDS WHERE APPLICABLE. IF DEEMED NECESSARY, A PRE-EMERGENT HERBICIDE MAY BE APPLIED TO THE SOIL TO INHIBIT THE GROWTH OF FUTURE WEEDS.

ORGANICALLY MAINTAINED GARDENS SHALL NOT RECEIVE ANY PRE-EMERGENT HERBICIDES. MULCH IN EXCESS OF 4” WILL BE REMOVED FROM THE BED AREAS. SPECIAL CARE SHALL BE TAKEN IN THE MULCHING OPERATION NOT TO OVER-MULCH OR COVER THE BASE OF TREES AND SHRUBS. THIS CAN BE DETRIMENTAL TO THE HEALTH OF THE PLANTS.

WEEDING

ALL BEDS SHALL BE WEEDED ON A CONTINUOUS BASIS THROUGHOUT THE GROWING SEASON TO MAINTAIN A NEAT APPEARANCE AT ALL TIMES.

PRE-EMERGENT (SOIL-APPLIED) AND POST-EMERGENT (FOLIAR-APPLIED) HERBICIDES SHALL BE USED WHERE AND WHEN APPLICABLE AND IN ACCORDANCE WITH THE PRODUCT’S LABEL.

INSECT & DISEASE CONTROL: TREES, SHRUBS & GROUNDCOVER

THE MAINTENANCE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING THE LANDSCAPE SITE ON A REGULAR BASIS. THE MONITORING FREQUENCY SHALL BE MONTHLY EXCEPT FOR GROWING SEASON, WHICH WILL BE EVERY OTHER WEEK. TRAINED PERSONNEL SHALL MONITOR FOR PLANT DAMAGING INSECT ACTIVITY, PLANT PATHOGENIC DISEASES AND POTENTIAL CULTURAL PROBLEMS IN THE LANDSCAPE. THE PEST OR CULTURAL PROBLEM WILL BE IDENTIFIED UNDER THE SUPERVISION OF THE CONTRACTOR.

FOR PLANT DAMAGING INSECTS AND MITES IDENTIFIED IN THE LANDSCAPE, THE CONTRACTOR SHALL CONSULT AND FOLLOW THE RECOMMENDATIONS OF THE MOST CURRENT EDITION OF THE STATE COOPERATIVE SERVICE PUBLICATION ON INSECT CONTROL ON LANDSCAPE PLANT MATERIAL.

PLANT PATHOGENIC DISEASE PROBLEMS IDENTIFIED BY THE CONTRACTOR THAT CAN BE RESOLVED BY PRUNING OR PHYSICAL REMOVAL OF DAMAGED PLANT PARTS WILL BE PERFORMED AS PART OF THE CONTRACT. FOR AN ADDITIONAL CHARGE, PLANT PATHOGENIC DISEASES THAT CAN BE RESOLVED THROUGH PROPERLY TIMED APPLICATIONS OF FUNGICIDES SHALL BE MADE WHEN THE OWNER AUTHORIZES IT.

IF THE CONTRACTOR NOTES AN ESPECIALLY INSECT-OR DISEASE-PRONE PLANT SPECIES IN THE LANDSCAPE, HE/SHE WILL SUGGEST REPLACEMENT WITH A MORE PEST-RESISTANT CULTIVARS OR SPECIES THAT IS CONSISTENT WITH THE INTENT OF THE LANDSCAPE DESIGN.

NOTE: FOR IDENTIFICATION OF PLANT-DAMAGING INSECTS AND MITES, A REFERENCE TEXTBOOK THAT CAN BE USED IS INSECTS THAT FEED ON TREES AND SHRUBS BY JOHNSON AND LYON, COMSTOCK PUBLISHING ASSOCIATES. FOR PLAN PATHOGENIC DISEASES, TWO REFERENCES ARE SUGGESTED: SCOUTING AND CONTROLLING WOODY ORNAMENTAL DISEASES IN LANDSCAPES AND NURSERIES , AUTHORIZED BY GARY MOORMAN, PUBLISHED BY PENN STATE COLLEGE OF AGRICULTURAL SCIENCES, AND DISEASES OF TREES AND SHRUBS BY SINCLAIR AND LYON, PUBLISHED BY COMSTOCK PUBLISHING PRESS.

TRASH REMOVAL

THE MAINTENANCE CONTRACTOR SHALL REMOVE TRASH FROM ALL SHRUB AND GROUNDCOVER BEDS WITH EACH VISIT.

LEAF REMOVAL

ALL FALLEN LEAVES SHALL BE REMOVED FROM THE SITE IN NOVEMBER AND ONCE IN DECEMBER. IF REQUESTED BY THE OWNER, THE MAINTENANCE CONTRACTOR, AT AN ADDITIONAL COST TO THE OWNER SHALL PERFORM SUPPLEMENTAL LEAF REMOVALS.

WINTER CLEAN-UP

THE PROJECT SHALL RECEIVE A GENERAL CLEAN-UP ONCE DURING EACH OF THE WINTER MONTHS, I.E., JANUARY, FEBRUARY, AND MARCH.
CLEAN-UP INCLUDES:

- CLEANING CURBS AND PARKING AREAS
- REMOVING ALL TRASH AND UNWANTED DEBRIS
- TURNING MULCH WHERE NECESSARY
- INSPECTION OF GROUNDS

SEASONAL COLOR: PERENNIALS, ANNUALS, AND BULBS

THE INSTALLATION OF PERENNIALS, ANNUALS, AND BULBS, UNLESS SPECIFIED HEREIN, SHALL BE REVIEWED WITH THE OWNER, AND, IF ACCEPTED, INSTALLED AND BILLED TO THE OWNER.

SEASONAL COLOR MAINTENANCE

PERENNIALIZATION OF BULBS:

1. AFTER FLOWERING, CUT OFF SPENT FLOWER HEADS.
2. ALLOW LEAVES OF DAFFODILS AND HYACINTHS TO REMAIN FOR SIX WEEKS AFTER FLOWERS HAVE FADED. CUT OFF AT BASE.
3. ALLOW LEAVES OF OTHER BULBS TO YELLOW NATURALLY AND THEN CUT OFF AT BASE.
4. APPLY FERTILIZER AFTER FLOWERING IN SPRING, POSSIBLY AGAIN IN FALL. APPLY 10-10-10 AT THE RATE OF 2 POUNDS PER 1000 SQUARE FEET, OR TOP-DRESS WITH COMPOST 1” DEEP. FALL FERTILIZATION WITH A BULB FERTILIZER OR MULCHING WITH 1” OF COMPOST IS OPTIONAL.

FLOWER ROTATION

1. BULBS: REMOVE THE ENTIRE PLANT AND BULB AFTER FLOWERS HAVE FADED OR AT THE DIRECTION OF THE OWNER, AND INSTALL NEW PLANTS IF INCLUDED IN CONTRACT.
2. SUMMER ANNUALS OR FALL PLANTS:
   - 2.1. DEAD HEADING: PINCH AND REMOVE DEAD FLOWERS ON ANNUALS AS NECESSARY.
   - 2.2. FERTILIZING SUMMER ANNUALS: FERTILIZE USING ONE OR TWO METHODS: APPLY A SLOW-RELEASE FERTILIZER IN MAY FOLLOWING MANUFACTURER’S RECOMMENDATIONS. A BOOSTER SUCH AS 10-10-10 MAY BE NECESSARY IN LATE SUMMER. OR, APPLY LIQUID FERTILIZATIONS OF 20-20-20 WATER-SOLUBLE FERTILIZERS, NOT TO EXCEED 2 POUNDS OF 20-20-20 PER 100 GALLONS OF WATER, MONTHLY; OR MULCH WITH COMPOST 1” DEEP.
   - 2.3. REMOVAL: IF FALL PLANTS ARE TO BE INSTALLED, SUMMER ANNUALS SHALL BE LEFT IN THE GROUND UNTIL THE FIRST KILLING FROST AND THEN REMOVED, UNLESS OTHERWISE DIRECTED BY THE OWNER.

PERENNIALS

1. AFTER INITIAL INSTALLATION, IF A TIME-RELEASED FERTILIZER HAS BEEN INCORPORATED DURING PLANT INSTALLATION, NO MORE FERTILIZER NEED BE APPLIED THE FIRST GROWING SEASON.
2. THE FOLLOWING YEAR:
   - 2.1. FERTILIZE PERENNIALS WITH A SLOW-RELEASE FERTILIZER OR ANY 50% ORGANIC FERTILIZER, OR MULCH PERENNIALS WITH COMPOST 1” DEEP.
   - 2.2. CUT ALL DECIDUOUS PERENNIALS FLUSH TO THE GROUND BY MARCH 1, IF THIS WAS NOT DONE THE
   - 2.3. PREVIOUS FALL, TO ALLOW NEW GROWTH TO DEVELOP FREELY.
   - 2.4. MULCH THE PERENNIAL BED ONCE IN EARLY SPRING AT 1”-2” DEPTH. IF SOIL IS BARED IN LATE
   - 2.5. FALL, RE-MULCH LIGHTLY AFTER GROUND IS FROZEN TO PROTECT PERENNIALS.
   - 2.6. INSPECT FOR INSECT OR DISEASE PROBLEMS ON PERENNIALS. MONITOR AND CONTROL SLUGS ON HOSTAS AND LIGULARIAS. POWDERY MILDEW ON PHLOX, MONARDAS, AND ASTERS CAN BE PREVENTED WITH PROPERLY TIMED FUNGICIDES OR USE OF DISEASE-RESISTANT VARIETIES.
   - 2.7. WEED PERENNIAL BED AS SPECIFIED IN “WEEDING” ABOVE.
   - 2.8. PRUNE BRANCHING SPECIES TO INCREASE DENSITY. CUT ONLY THE FLOWERING STEMS AFTER BLOOMING. DO NOT REMOVE THE FOLIAGE.
3. THE FOLLOWING FALL CUT BACK DETERIORATING PLANT PARTS UNLESS INSTRUCTED TO RETAIN FOR WINTER INTEREST, E.G. SEDUM AUTUMN JOY AND ORNAMENTAL GRASSES.
4. LONG-TERM CARE:
   - 4.1. DIVIDE PLANTS THAT OVERCROWD THE SPACE PROVIDED. DIVIDE ACCORDING TO THE SPECIES. SOME NEED FREQUENT DIVIDING, E.G. ASTERS AND YARROW EVERY TWO YEARS; OTHER RARELY, IF EVER, E.G. PEONIES, HOSTAS, AND ASTILBE.
   - 4.2. FOR DETAILED INFORMATION REGARDING THE CARE OF SPECIFIC PERENNIALS, REFER TO ALL ABOUT PERENNIALS BY ORTHO; PERENNIALS: HOW TO SELECT, GROW AND ENJOY BY PAMELA HARPER AND FREDERICK MCGOUTY, HP BOOKS PUBLISHER; HERBACEOUS PERENNIAL PLANTS: A TREATISE ON THEIR IDENTIFICATION, CULTURE AND GARDEN ATTRIBUTES BY ALLAN ARMITAGE, STIPES PUB LLC.

SUMMARY OF MAINTENANCE

LAWN MAINTENANCE

1. SOIL ANALYSIS PERFORMED ANNUALLY TO DETERMINE PH. IF PH DOES NOT FALL WITHIN SPECIFIED RANGE, ADJUST ACCORDING TO SOIL TEST RECOMMENDATIONS .
2. MAINTAIN PROPER FERTILITY AND PH LEVELS OF THE SOIL TO PROVIDE AN ENVIRONMENT CONDUCIVE TO TURF VITALITY FOR COOL SEASON GRASSES
3. MOW WARM AND COOL SEASON ON A REGULAR BASIS AND AS SEASON AND WEATHER DICTATES. REMOVE NO MORE THAN THE TOP 1/3 OF LEAF BLADE. CLIPPINGS ON PAVED AND BED AREAS WILL BE REMOVED.
4. AERATE WARM SEASON TURF AREAS TO MAINTAIN HIGH STANDARDS OF TURF APPEARANCE.
5. APPLY PRE-EMERGENT TO TURF IN TWO APPLICATIONS IN EARLY FEBRUARY AND EARLY APRIL TO EXTEND BARRIER.
6. APPLY POST EMERGENT AS NEEDED TO CONTROL WEEDS.
7. MECHANICALLY EDGE CURBS AND WALKS.
8. APPLY NON-SELECTIVE HERBICIDE, TO MULCHED BED AREAS AND PAVEMENT AND REMOVE EXCESS RUNNERS TO MAINTAIN CLEAN DEFINED BEDS.

TREE, GROUNDCOVER, AND SHRUB BED MAINTENANCE

1. PRUNE SHRUBS, TREES AND GROUNDCOVER TO ENCOURAGE HEALTHY GROWTH AND CREATE A NATURAL APPEARANCE.
2. MULCH TO BE APPLIED IN FEBRUARY/MARCH WITH A HALF RATE IN LATE SUMMER TO TOP DRESS.
3. APPLY PRE-EMERGENT HERBICIDES IN FEBRUARY AND APRIL.
4. MANUAL WEED CONTROL TO MAINTAIN CLEAN BED APPEARANCE.
5. APPLY FUNGICIDES AND INSECTICIDES AS NEEDED TO CONTROL INSECTS AND DISEASE.
6. ORNAMENTAL SHRUBS, TREES AND GROUNDCOVERS TO BE FERTILIZED THREE (3) TIMES PER YEAR WITH A BALANCED MATERIAL (JANUARY/FEBRUARY, APRIL/MAY, AND OCTOBER/NOVEMBER)
7. EDGE ALL MULCHED BEDS.
8. REMOVE ALL LITTER AND DEBRIS.

GENERAL MAINTENANCE

1. REMOVE ALL MAN-MADE DEBRIS, BLOW EDGES.
2. INSPECT GROUNDS ON A MONTHLY BASIS AND SCHEDULE INSPECTION WITH UNIT OPERATOR.

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McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012

DKA PROJECT NO: 24 - 027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	05/27/25

SHEET TITLE:

LANDSCAPE SPECIFICATIONS

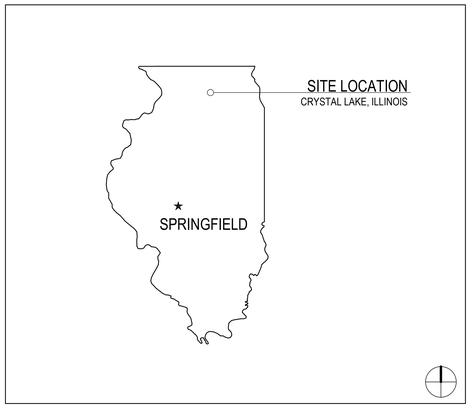
SHEET NUMBER:

L-102

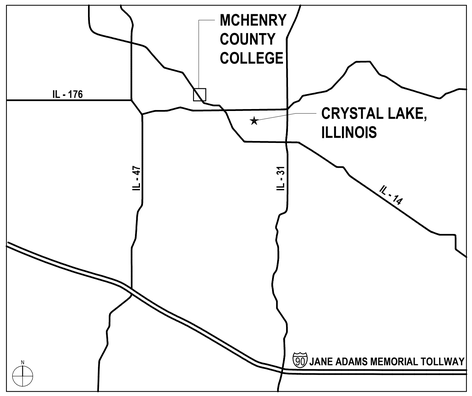
ABBREVIATIONS

AP	ACCESS PANEL
ACOUST	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
ADJ	ADJACENT
A.F.F.	ABOVE FINISH FLOOR
AGGR	AGGREGATE
A/C	AIR CONDITIONING
ALT	ALTERNATE
ALUM	ALUMINUM
L	ANGLE
APPD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL OR ARCHITECT
AD	AREA DRAIN
ASB	ASBESTOS
ASPH	ASPHALT
A/V	AUDIO VISUAL
BSMT	BASEMENT
BRG	BEARING
BM	BEAM
BTW	BETWEEN
BITUM	BITUMINOUS
BLK	BLOCK
BLKG	BLOCKING
BD	BOARD
BRK	BRICK
BLDG	BUILDING
CAB	CABINET
CIP	CAST IN PLACE
CIPC	CAST IN PLACE CONCRETE
CI	CURB INLET
CB	CATCH BASIN
CLG	CEILING
CTR	CENTER
CJ	CONTROL JOINT
CL	CENTER LINE
CPT	CARPET
CT	CERAMIC TILE
CLR	CLEAR
CLO	CLOSET
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CM	CONSTRUCTION MANAGER
CONT	CONTINUOUS OR CONTINUE
CONTR	CONTRACTOR
CK	CORK
CORR	CORRIDOR
CNSK	COUNTERSUNK
CRS	COURSE
DEMO	DEMOLISH OR DEMOLITION
DEPT	DEPARTMENT
DL	DEAD LOAD
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DIV	DIVISION
DR	DOOR
DO	DOOR OPENING
DBL	DOUBLE
DS	DOWNSPOUT
DRW	DRAWER
DWG	DRAWING
DF	DRINKING FOUNTAIN
DS	DRY STANDPIPE
DWT	DETECTABLE WARNING TILE
E	EAST
EA	EACH
EIFS	EXTERIOR INSULATION FINISH SYSTEM
ELEC	ELECTRICAL
ETC	ELECTRICAL TRADES CONTRACTOR
EWC	ELECTRICAL WATER COOLER
EP	ELECTRICAL PANEL BOARD
EL	ELEVATION
ELEV	ELEVATION
ELVTR	ELEVATOR
ENCL	ENCLOSURE
EMER	EMERGENCY
EP PT	EPOXY PAINT
EPF	EPOXY FLOORING
EQ	EQUAL
EQPMT	EQUIPMENT
EXSTG	EXISTING
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXPD	EXPOSED
EXTR	EXTERIOR
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOS	FACE OF STUD
FR	FIBERGLASS REINFORCED PANEL
FIN	FINISH OR FINISHED
FA	FIRE ALARM
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
FPRF	FIREPROOF
FB	FLAT BAR STOCK
FL	FLOOR
FD	FLOOR DRAIN
FLUOR	FLUORESCENT
FT	FOOT OR FEET
FTG	FOOTING
FDN	FOUNDATION
FRM	FRAME
FRMG	FRAMING
FS	FULL SIZE
FURR	FURRING
FUTR	FUTURE
FW	FABRIC WALLCOVERING
GA	GAUGE
GALV	GALVANIZED
GEN	GENERAL
GC	GENERAL CONTRACTOR
GTC	GENERAL TRADES CONTRACTOR
GL	GLASS OR GLAZING
GD	GRADE
GND	GROUND
GYP BD	GYPSUM BOARD
HDW	HARDWARE
HDWD	HARDWOOD
HDR	HEADER
HTG	HEATING
HVAC	HEATING, VENTILATING, AIR CONDITIONING
HT	HEIGHT
HC	HOLLOW CORE
HM	HOLLOW METAL
HMF	HOLLOW METAL FRAME
HORZ	HORIZONTAL
HB	HOSE BIB
HR	HOUR
INC	INCLUDE
I.D.	INSIDE DIAMETER
INSUL	INSULATION
INTR	INTERIOR
INV	INVERT
JAN	JANITOR
JT	JOINT
KIT	KITCHEN
LAM	LAMINATE
LAV	LAVATORY
LH	LEFT HAND
LGTH	LENGTH
LT	LIGHT
LWC	LIGHT WEIGHT CONCRETE
LTL	LINTEL
LN	LINOLEUM
LL	LIVE LOAD
MH	MANHOLE
MFR	MANUFACTURER
MAS	MASONRY
MO	MASONRY OPENING
MTL	METAL
MAX	MAXIMUM
MECH	MECHANICAL
MTC	MECHANICAL TRADES CONTRACTOR
MEMB	MEMBRANE
MT	MARBLE TILE
MIN	MINIMUM
MISC	MISCELLANEOUS
MTD	MOUNDED
MTG	MOUNTING
MUL	MULLION
NOM	NOMINAL
N	NORTH
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NO OR #	NUMBER
OBS	OBSCURE
OFF	OFFICE
O.C.	ON CENTER
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
O.D.	OUTSIDE DIAMETER
OA	OVERALL
OFD	OVERFLOW DRAIN
PT	PAINT
PTD	PAINTED
PR	PAIR
PNL	PANEL
PBD	PARTICLE BOARD
PTN	PARTITION
PLAS	PLASTIC
P-LAM	PLASTIC LAMINATE
PL	PLATE
PTC	PLUMBING TRADES CONTRACTOR
PLYWD	PLYWOOD
PSI	POUNDS PER SQUARE INCH
PC	PRECAST
PCC	PRECAST CONCRETE
QT	QUARRY TILE
R	RADIUS
RWL	RAIN WATER LEADER
RFRG	REFRIGERATOR
RGTR	REGISTER
REINF	REINFORCED
REQD	REQUIRED
RES	RESILIENT
RA	RETURN AIR
RAG	RETURN AIR GRILLE
RH	RIGHT HAND
ROW	RIGHT OF WAY
R	RISER
RD	ROOF DRAIN
RM	ROOM
R.O.	ROUGH OPENING
RB	RUBBER BASE
SECT	SECTION
SK	SINK
SCHED	SCHEDULE
SHTG	SHEATHING
SHT	SHEET
SV	SHEET VINYL
SHWR	SHOWER
SIM	SIMILAR
SC	SEALED CONCRETE
SPM	SINGLE PLY MEMBRANE
S	SOUTH
SFRM	SPRAY APPLIED FIRE RESISTIVE MATERIAL
SPEC	SPECIFICATION
SQ	SQUARE
S.S.	STAINLESS STEEL
STD	STANDARD
STA	STATION
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURE OR STRUCTURAL
SUSP	SUSPENDED
SAT	SUSPENDED ACOUSTICAL TILE
SYM	SYMMETRICAL
TEL	TELEPHONE
TV	TELEVISION
TRZ	TERRAZZO
TB	TILE BASE
THK	THICK
T.O.C.	TOP OF CURB
TOP	TOP OF PAVEMENT
TOW	TOP OF WALL
T&G	TONGUE AND GROOVE
TYP	TYPICAL
UNF	UNFINISHED
U.N.O.	UNLESS NOTED OTHERWISE
UR	URINAL
VB	VINYL BASE
VERT	VERTICAL
VEST	VESTIBULE
VCT	VINYL COMPOSITION TILE
VW	VINYL WALLCOVERING
WSCT	WAINSCOT
WC	WATER CLOSET
WLK	WALK-OFF MAT
WR	WATER RESISTANT
WT	WALL TILE OR WEIGHT
W	WEST
W	WIDE FLANGE "W16x21"
W	WIDTH
W/	WITH
W/O	WITHOUT
WD	WOOD
WDP	WOOD PANEL
X	EXISTING

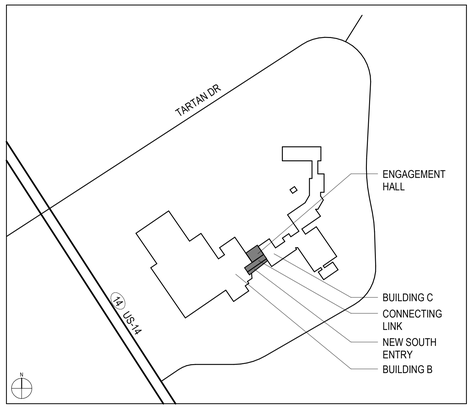
STATE LOCATION MAP



AREA MAP



CAMPUS MAP



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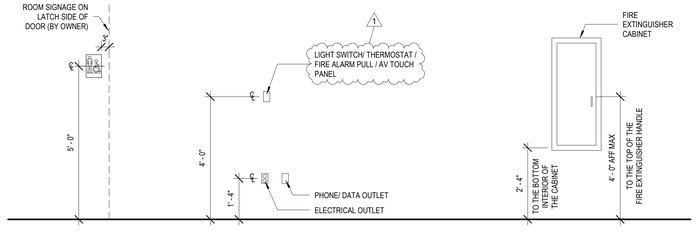

NOTE: IN THE EVENT OF A CONFLICT BETWEEN DIMENSIONS SHOWN ON THIS DRAWING AND ANY OTHER ARCHITECTURAL, ELECTRICAL, OR MECHANICAL SHEETS OR SPECIFICATIONS, NOTIFY ARCHITECT OF DISCREPANCY.

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:

SHEET INDEX, ABBREVIATIONS, SYMBOLS & NOTES

SHEET NUMBER:

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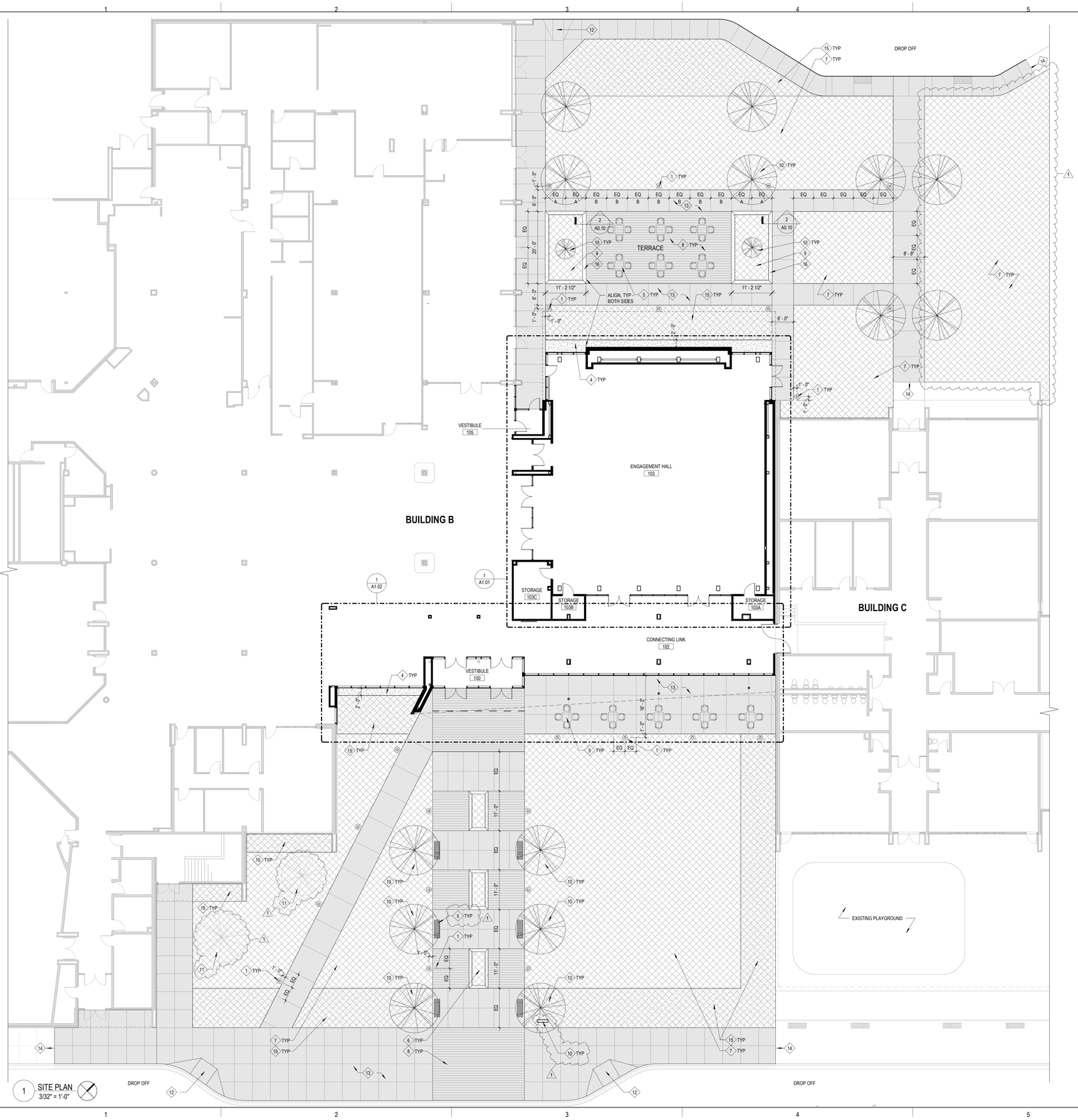


1 SITE PLAN
3/32" = 1'-0"

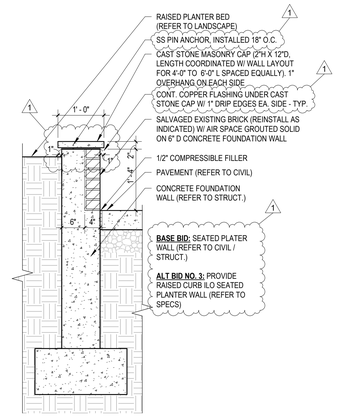
FLOOR PLAN & SECTION SYMBOLS LEGEND:

NOTE: REFER TO M.E.P.F.P. DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, AND FIRE PROTECTION SYSTEMS

- GREYTONE LINES DEPICT EXISTING CONSTRUCTION
- EXISTING DOOR
- NEW WALL CONSTRUCTION
- NEW DOOR
- ROOM NAME 101 — ROOM TAG
- XXXX — DOOR / FRAME TAG
- XX — WINDOW TAG
- XX 2HR — PARTITION TYPE / PARTITION MODIFIERS - REFER TO A10.01
- 1 A(XX.XX) SIM — PLAN AND SECTION DETAIL CALLOUT
- 1 A(XX.XX) SIM — SECTION CALLOUT
- 1 A101 1 — ELEVATION CALLOUT
- DATUM ELEVATION — DATUM TAG
- 1 — NEW WORK REFERENCED NOTES
- FD — FLOOR DRAIN - REFER TO PLUMBING
- FEC — SURFACE-MOUNTED EXTINGUISHER CABINET
- SFEC — SEMI-RECESSED EXTINGUISHER CABINET
- RFEC — RECESSED EXTINGUISHER CABINET
- 'X' MB/T — LENGTH SPECIFIED MARKERBOARD

ARCHITECTURAL SITE PLAN REFERENCED NOTES:

1. **BASE BID:** LIGHT BOLLARDS. (REFER TO ELEC.). **BID ALT NO. 4:** REMOVE BOLLARDS INDICATED FROM PROJECT SCOPE.(REFER TO SPECS.)
2. CONCRETE STOOP (REFER TO STRUCTURE)
3. RELOCATED BUILDING ID SIGN.
4. GRAVEL EDGE MAINTENANCE STRIP. (REFER TO LANDSCAPE)
5. SITE FURNITURE. (FOR REFERENCE ONLY, N.I.C.)
6. RAISED PLANTER BEDS. (REFER TO LANDSCAPE)
7. HATCHED AREA INDICATES AREA OF LANDSCAPING- TYP. (REFER TO LANDSCAPE)
8. HATCHED AREA INDICATES STAMPED COLORED CONCRETE. TYP. (REFER TO CIVIL)
9. PLANTER BEDS. (REFER TO LANDSCAPE)
10. PROPOSED TREE. (REFER TO LANDSCAPE)
11. EXISTING TREE TO REMAIN. (REFER TO LANDSCAPE)
12. CURB CUT. (REFER TO CIVIL)
13. PROPOSED CONCRETE SIDEWALK. (REFER TO CIVIL)
14. EXISTING SIDEWALK TO REMAIN. (REFER TO CIVIL)
15. HATCHED AREA INDICATES PLANTED SHRUBS. (REFER TO LANDSCAPE).
16. **BASE BID:** SEATED PLANTER WALL (REFER TO CIVIL / STRUCTURAL). **BID ALT NO. 3:** PROVIDE RAISED CURB ILO SEATED PLANTER WALL (REFER TO SPECS.)



2 WALL SECTION - RAISED PLANTER
3/4" = 1'-0"

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NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
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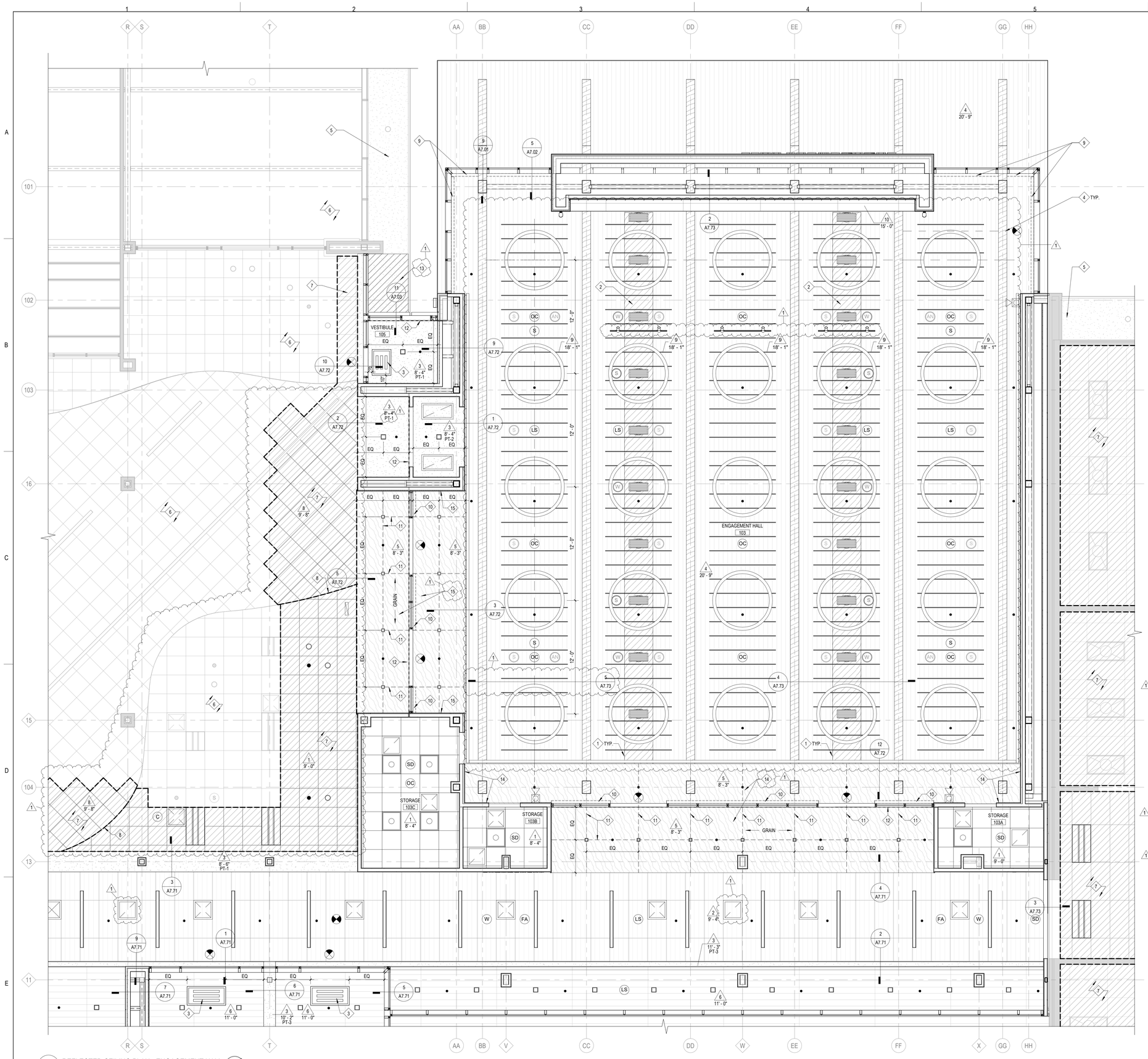

1 REFLECTED CEILING PLAN - ENGAGEMENT HALL
1/4" = 1'-0"

RCP SYMBOLS LEGEND:

NOTE: REFER TO M.E.P.F.P. DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, AND FIRE PROTECTION SYSTEMS

- CEILING TYPE
- CEILING ELEVATION AFF
- SUSPENDED ACOUSTICAL TILE CEILING
- GYPSUM BOARD CEILING OR SOFFIT
- LINEAR WOOD SLAT CEILING SYSTEM
- WOOD PANEL CEILING
- ROLLER SHADE, ELECTRIC (TYP.)
- RECESSED 2'x4' LIGHT FIXTURE
- RECESSED 2'x2' FIXTURE
- RECESSED LINEAR FIXTURE
- LARGE PENDANT LIGHT MOUNT FIXTURE
- RECESSED DOWN LIGHT
- PENDANT LIGHT MOUNT LINEAR FIXTURE
- SPRINKLER HEAD
- MOTORIZED SCREEN
- CEILING MOUNTED PROJECTOR
- SOLID HATCH DENOTES EXIT SIGN FACE PLATE
- DIRECTION OF EGRESS
- EXIT SIGN, WALL MOUNTED
- (H) HEAT DETECTOR
- (SD) SMOKE DETECTOR
- (A) FIRE ALARM DEVICE
- (AN) MICROPHONE ANTENNA
- (S) SPEAKER
- (C) CLOSED CIRCUIT CAMERA
- (OC) OCCUPANCY / VANCANCY SENSOR
- (W) WIRELESS ACCESS POINT
- (LS) LIGHT SENSOR
- RETURN AIR GRILLE
- SUPPLY AIR GRILLE
- LINEAR DIFFUSER - SUPPLY/RETURN
- ACCESS PANEL
- CABINET UNIT HEATER

RCP GENERAL NOTES:

1. ALL HEATING, VENTILATION, ELECTRICAL, PLUMBING, AND FIRE PROTECTION ITEMS ARE SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS FOR REFERENCE AND COORDINATION ONLY. REFER TO HEATING, VENTILATION, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR ACTUAL QUANTITIES. IN CASE OF CONFLICT THE ARCHITECTURAL REFLECTED CEILING PLAN SHALL GOVERN LOCATION OF THESE ITEMS.
2. IN AREAS THAT DO NOT HAVE ARCHITECTURAL REFLECTED CEILING PLANS YET REQUIRE NEW ITEMS TO BE INSTALLED IN OR ABOVE THE CEILING PLANE, CONTRACTOR SHALL REMOVE AND REINSTALL, REPLACE OR MODIFY EXISTING CEILING CONSTRUCTION TO ACCOMMODATE NEW WORK. ANY NEW CEILING AREAS SHALL MATCH EXISTING ADJACENT FINISHES.
3. CENTER ALL FIXTURES IN CEILING TILES AND FIELD VERIFY GRID LAYOUT FOR PROPER FIXTURE LOCATION. ALIGN ALL FIXTURES IN BOTH DIRECTIONS OF CEILING TILE. (UNO)
4. CENTER ALL SPRINKLER HEADS IN CEILING TILES.
5. ALL GYP. BD. CEILINGS TO BE PAINTED PT-1 UNLESS OTHERWISE NOTED ON PLANS
6. EXTEND FACE OF ALL GYP. BD. SOFFITS AND HEADERS 6" MIN. BEYOND FINISHED CEILING ABOVE (UNO).
7. PAINT ALL EXPOSED CONDUIT, SPRINKLER PIPING, STORM DRAINS, DUCT, AND ALL OTHER MEP/FP ITEMS WITHIN ENGAGE HALL 103. COORD. W/ ARCHITECT FOR COLOR SELECTION.

RCP REFERENCED NOTES:

1. LINEAR DIFFUSER. (REFER TO MECH.)
2. DUCT - PAINT PT-5. (REFER TO MECH.)
3. RECESSED CABINET HEATER (REFER TO MECH.)
4. EXPOSED HEAVY TIMBER BEAMS. (REFER TO STRUCT.)
5. EXISTING EXTERIOR SOFFIT.
6. EXISTING CEILING TO REMAIN.
7. SALVAGED CEILING TILES AND ALL ASSOCIATED LIGHTING, DIFFUSERS, SPRINKLER HEADS, DEVICES, EQUIPMENT, ETC. TO BE REINSTALLED. SEE DEMO RCP FOR FULL EXTENT OF WORK. COORDINATE W/ MEPF.
8. CEILING EDGE TRIM TO BE REPLACED / REINSTALLED AS REQUIRED.
9. ROLLER SHADE, ELECTRIC. (REFER TO ELEC.) SEE GLAZING ELEVATIONS FOR CLERESTORY LOCATIONS.
10. **BASE BID:** RECESSED ROLLER SHADE, ELECTRIC. (REFER TO ELEC.) **BID ALT NO. 7:** REMOVE ROLLER SHADE (REFER TO SPEC.)
11. 1/8" OVERLAP JOINT BETWEEN FLUSH WOOD PANELS - TYP.
12. 1" CEILING EXPANSION JOINT. (REFER TO SPEC.)
13. REMOVE AND REPLACE EXISTING STUCCO SOFFIT STRUCTURE AS REQUIRED FOR NEW WORK.
14. **BASE BID:** FLUSH WOOD PANEL SYSTEM AT CEILING AND WALLS. **BID ALT NO. 8:** PAINTED GYP BD CEILING AND WALLS (REFER TO SPEC.)
15. **BASE BID:** FLUSH WOOD PANEL SYSTEM AT CEILING AND WALLS. **BID ALT NO. 9:** PAINTED GYP BD CEILING AND WALLS (REFER TO SPEC.)

CEILING TYPES:

TYPE	DESCRIPTION
0	EXPOSED STRUCTURE
1	2' X 2' ACOUSTICAL PANEL SYSTEM
2	2' X 4' ACOUSTICAL PANEL SYSTEM - SCORED TILES
3	PAINTED GYP BOARD ON METAL FRAMING
4	CROSS LAMINATED TIMBER, INTERIOR / EXTERIOR APPLICATIONS (REFER TO WALL SECTIONS)
5	FLUSH WOOD PANEL CEILING SYSTEM (WD-1)
6	WOOD PHENOLIC CEILING SYSTEM - INTERIOR
7	WOOD PHENOLIC CEILING - EXTERIOR
8	2' x 2' ACOUSTICAL PANEL SYSTEM - BLACK FINISH
9	SUSPENDED ACOUSTIC CEILING BAFFLES AT EXPOSED CLT DECKING
10	GLASS FIBER REINFORCED CONCRETE PANEL CEILING SYSTEM

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NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:
REFLECTED CEILING PLANS - EVENT CENTER

SHEET NUMBER:
A2.01

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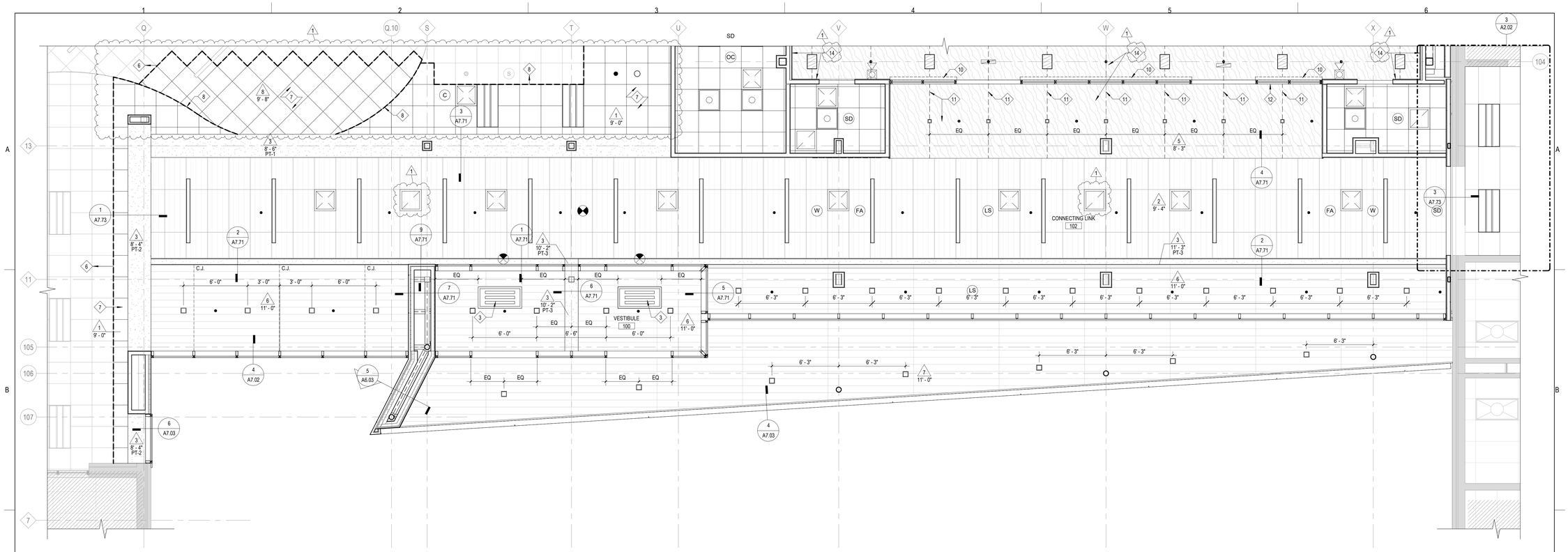
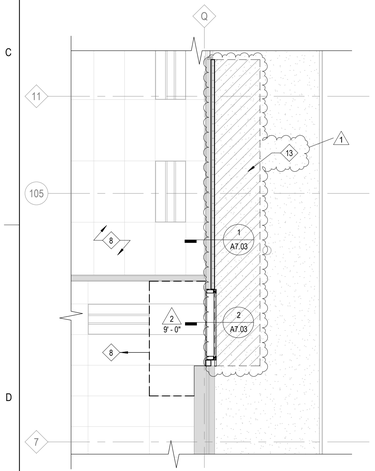
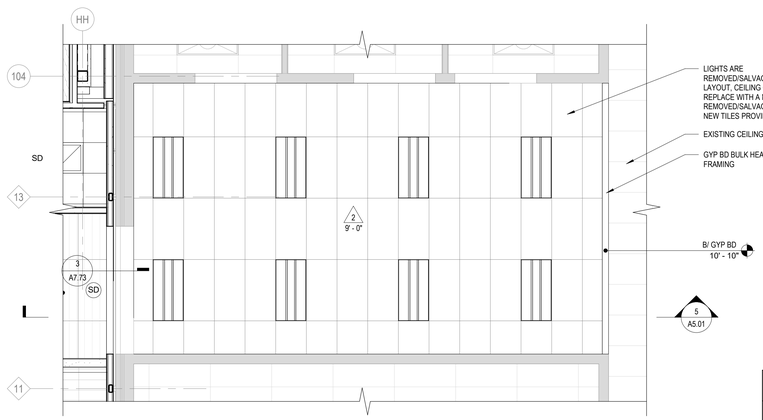


1 REFLECTED CEILING PLAN - ENTRY
1/4" = 1'-0"



2 REFLECTED CEILING PLAN - BLDG B - 2ND FL.
1/4" = 1'-0"



3 REFLECTED CEILING PLAN - BUILDING C
1/4" = 1'-0"

CEILING TYPES:

TYPE	DESCRIPTION
0	EXPOSED STRUCTURE
1	2' X 2' ACOUSTICAL PANEL SYSTEM
2	2' X 4' ACOUSTICAL PANEL SYSTEM - SCORED TILES
3	PAINTED GYP BOARD ON METAL FRAMING
4	CROSS LAMINATED TIMBER, INTERIOR / EXTERIOR APPLICATIONS (REFER TO WALL SECTIONS)
5	FLUSH WOOD PANEL CEILING SYSTEM (WD-1)
6	WOOD PHENOLIC CEILING SYSTEM - INTERIOR
7	WOOD PHENOLIC CEILING - EXTERIOR
8	2' x 2' ACOUSTICAL PANEL SYSTEM - BLACK FINISH
9	SUSPENDED ACOUSTIC CEILING BAFFLES AT EXPOSED CLT DECKING
10	GLASS FIBER REINFORCED CONCRETE PANEL CEILING SYSTEM

RCP GENERAL NOTES:

1. ALL HEATING, VENTILATION, ELECTRICAL, PLUMBING, AND FIRE PROTECTION ITEMS ARE SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS FOR REFERENCE AND COORDINATION ONLY. REFER TO HEATING, VENTILATION, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR ACTUAL QUANTITIES. IN CASE OF CONFLICT THE ARCHITECTURAL REFLECTED CEILING PLAN SHALL GOVERN LOCATION OF THESE ITEMS.
2. IN AREAS THAT DO NOT HAVE ARCHITECTURAL REFLECTED CEILING PLANS YET REQUIRE NEW ITEMS TO BE INSTALLED IN OR ABOVE THE CEILING PLANE, CONTRACTOR SHALL REMOVE AND REINSTALL, REPLACE OR MODIFY EXISTING CEILING CONSTRUCTION TO ACCOMMODATE NEW WORK. ANY NEW CEILING AREAS SHALL MATCH EXISTING ADJACENT FINISHES.
3. CENTER ALL FIXTURES IN CEILING TILES AND FIELD VERIFY GRID LAYOUT FOR PROPER FIXTURE LOCATION. ALIGN ALL FIXTURES IN BOTH DIRECTIONS OF CEILING TILE. (UNO)
4. CENTER ALL SPRINKLER HEADS IN CEILING TILES.
5. ALL GYP. BD. CEILINGS TO BE PAINTED PT-1 UNLESS OTHERWISE NOTED ON PLANS
6. EXTEND FACE OF ALL GYP. BD. SOFFITS AND HEADERS 6" MIN. BEYOND FINISHED CEILING ABOVE U.N.O.
7. PAINT ALL EXPOSED CONDUIT, SPRINKLER PIPING, STORM DRAINS, DUCT, AND ALL OTHER MEP/FP ITEMS WITHIN ENGAGE HALL 103. COORD. W/ ARCHITECT FOR COLOR SELECTION.

RCP REFERENCED NOTES:

1. LINEAR DIFFUSER. (REFER TO MECH.)
2. DUCT - PAINT PT-6. (REFER TO MECH.)
3. RECESSED CABINET HEATER (REFER TO MECH.)
4. EXPOSED HEAVY TIMBER BEAMS. (REFER TO STRUCT.)
5. EXISTING EXTERIOR SOFFIT.
6. EXISTING CEILING TO REMAIN.
7. SALVAGED CEILING TILES AND ALL ASSOCIATED LIGHTING, DIFFUSERS, SPRINKLER HEADS, DEVICES, EQUIPMENT, ETC. TO BE REINSTALLED. SEE DEMO RCP FOR FULL EXTENT OF WORK. COORDINATE W/ MEPF
8. CEILING EDGE TRIM TO BE REPLACED / REINSTALLED AS REQUIRED.
9. ROLLER SHADE, ELECTRIC. (REFER TO ELEC.) SEE GLAZING ELEVATIONS FOR CLERESTORY LOCATIONS.
10. **BASE BID:** RECESSED ROLLER SHADE, ELECTRIC. (REFER TO ELEC.) **BID ALT NO. 7:** REMOVE ROLLER SHADE (REFER TO SPEC.)
11. 1/8" OVERLAP JOINT BETWEEN FLUSH WOOD PANELS - TYP.
12. 1" CEILING EXPANSION JOINT. (REFER TO SPEC.)
13. REMOVE AND REPLACE EXISTING STUCCO SOFFIT STRUCTURE AS REQUIRED FOR NEW WORK.
14. **BASE BID:** FLUSH WOOD PANEL SYSTEM AT CEILING AND WALLS. **BID ALT NO. 8:** PAINTED GYP BD CEILING AND WALLS (REFER TO SPEC.)
15. **BASE BID:** FLUSH WOOD PANEL SYSTEM AT CEILING AND WALLS. **BID ALT NO. 9:** PAINTED GYP BD CEILING AND WALLS (REFER TO SPEC.)

RCP SYMBOLS LEGEND:

NOTE: REFER TO M.E.P.F.P. DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, AND FIRE PROTECTION SYSTEMS

- CEILING TYPE
- CEILING ELEVATION AFF
- SUSPENDED ACOUSTICAL TILE CEILING
- GYPSUM BOARD CEILING OR SOFFIT
- LINEAR WOOD SLAT CEILING SYSTEM
- WOOD PANEL CEILING
- ROLLER SHADE (TYP.)
- WINDOW SHADE & POCKET
- RECESSED 2'x4' LIGHT FIXTURE
- RECESSED 1'x4' LIGHT FIXTURE
- SUPPLY AIR GRILLE
- LINEAR DIFFUSER - SUPPLY/RETURN
- RECESSED 2'x2' FIXTURE
- RECESSED LINEAR FIXTURE
- SMALL PENDANT LIGHT FIXTURE
- PENDANT LIGHT MOUNT FIXTURE
- RECESSED DOWN LIGHT
- PENDANT LIGHT MOUNT LINEAR FIXTURE
- SURFACE LIGHT MOUNT FIXTURE
- PENDANT LIGHT MOUNT FIXTURE
- SPRINKLER HEAD
- PENDANT LIGHT HUNG STRIP FIXTURE
- MOTORIZED SCREEN
- ACCESS PANEL
- CABINET UNIT HEATER
- CEILING MOUNTED PROJECTOR
- SOLID HATCH DENOTES EXIT SIGN FACE PLATE
- DIRECTION OF EGRESS
- EXIT SIGN, WALL MOUNTED
- HEAT DETECTOR
- SMOKE DETECTOR
- FIRE ALARM DEVICE
- SPEAKER
- CLOSED CIRCUIT CAMERA
- OCCUPANT SENSOR
- WIRELESS ACCESS POINT
- LIGHT SENSOR
- RETURN AIR GRILLE

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8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:

REFLECTED CEILING PLANS - ENTRY

SHEET NUMBER:

A2.02

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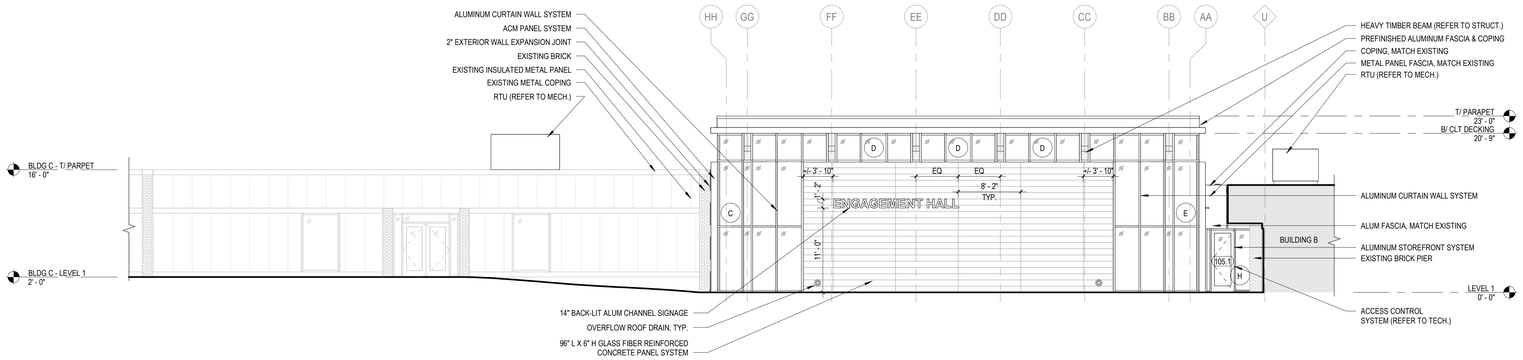
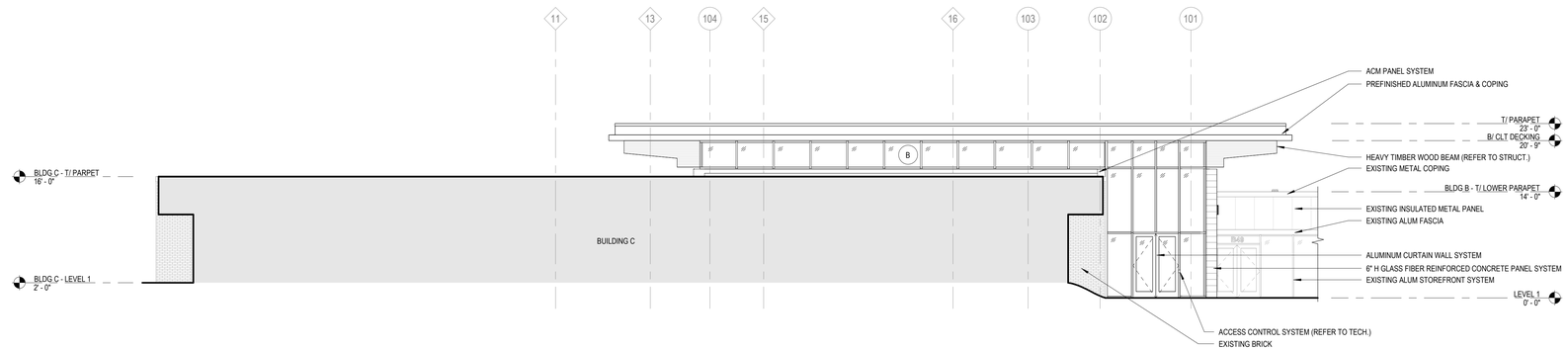
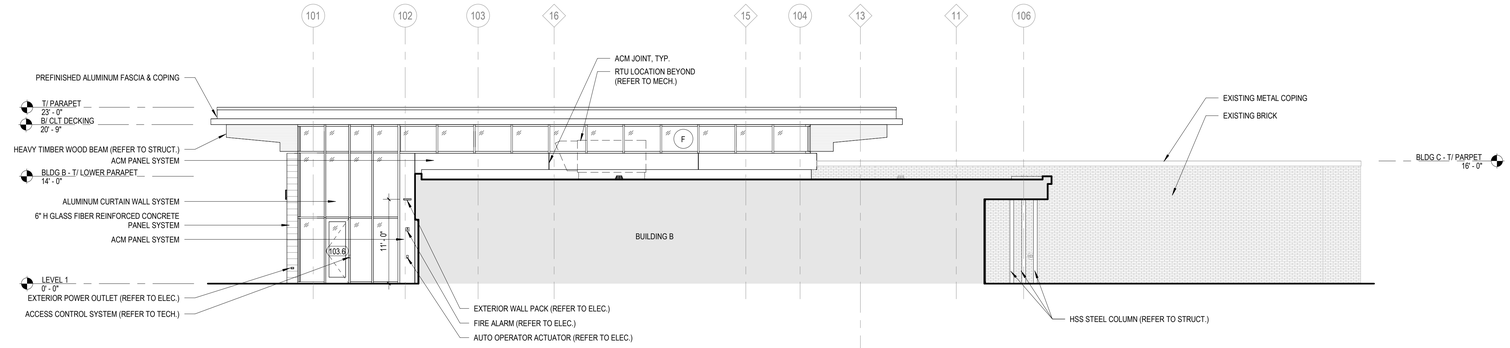


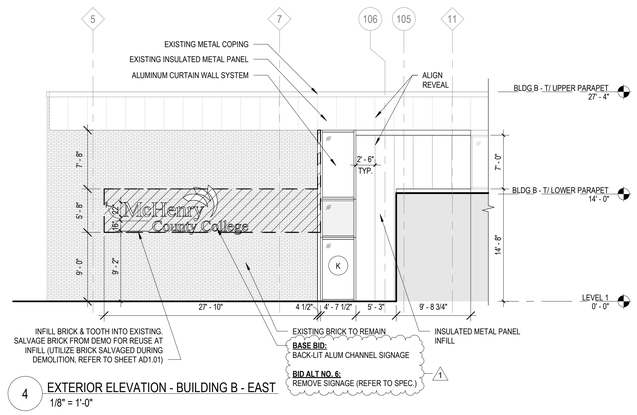
1 EXTERIOR ELEVATION - EVENT CENTER - NORTH
1/8" = 1'-0"



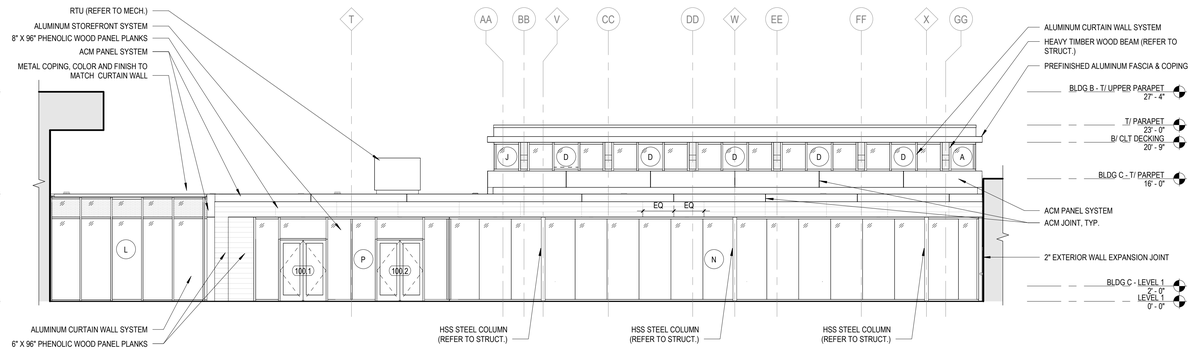
2 EXTERIOR ELEVATION - EVENT CENTER - EAST
1/8" = 1'-0"



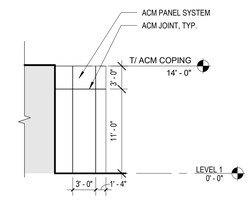
3 EXTERIOR ELEVATION - EVENT CENTER -WEST
1/8" = 1'-0"



4 EXTERIOR ELEVATION - BUILDING B - EAST
1/8" = 1'-0"



5 EXTERIOR ELEVATION - SOUTH
1/8" = 1'-0"



6 EXTERIOR ELEVATION - ENTRY - WEST
1/8" = 1'-0"

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NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:
EXTERIOR ELEVATIONS

SHEET NUMBER:
A4.01

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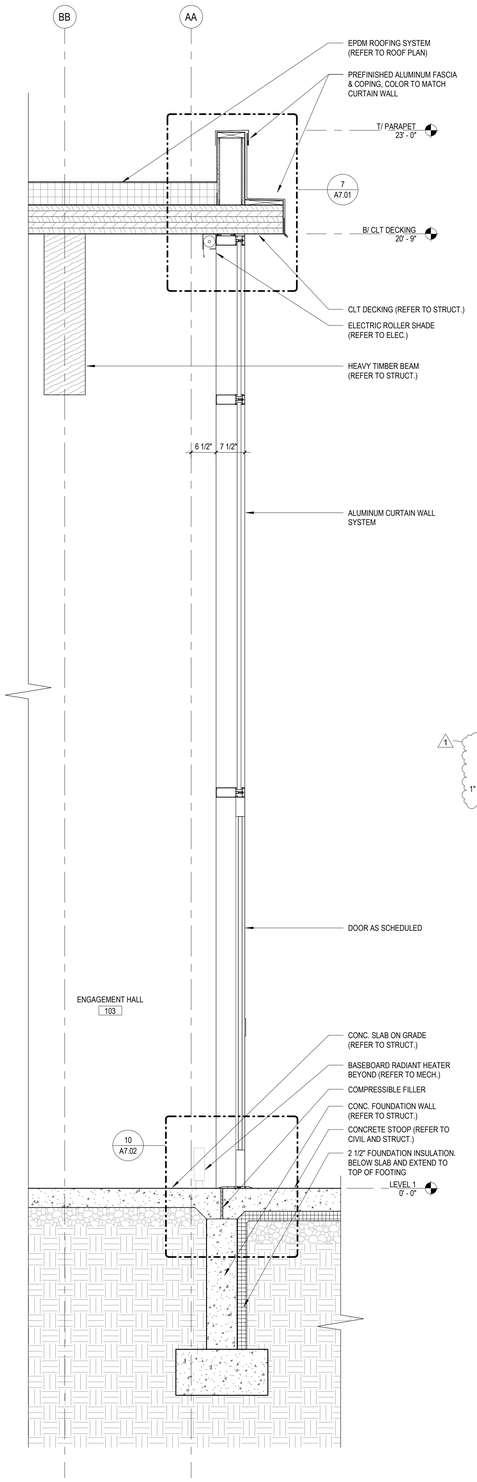
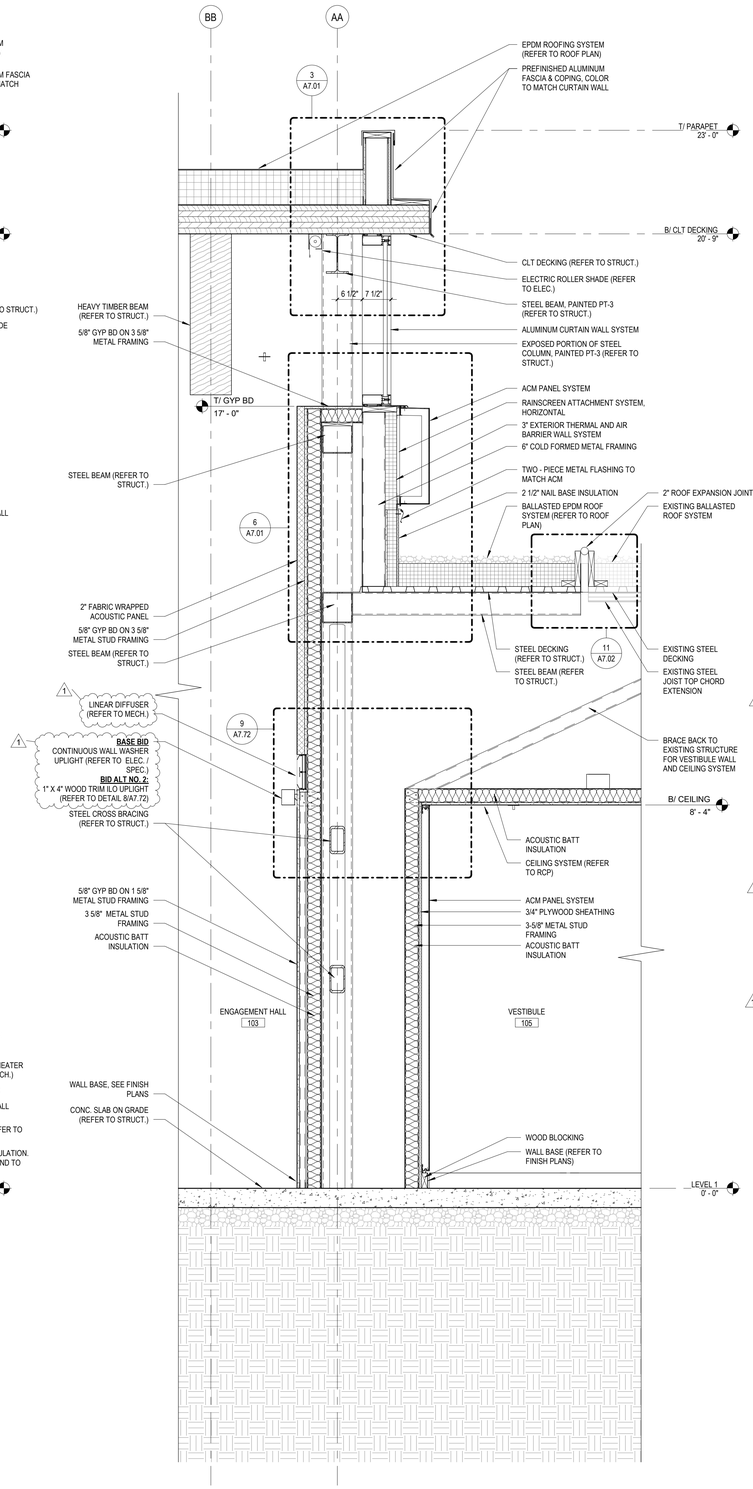
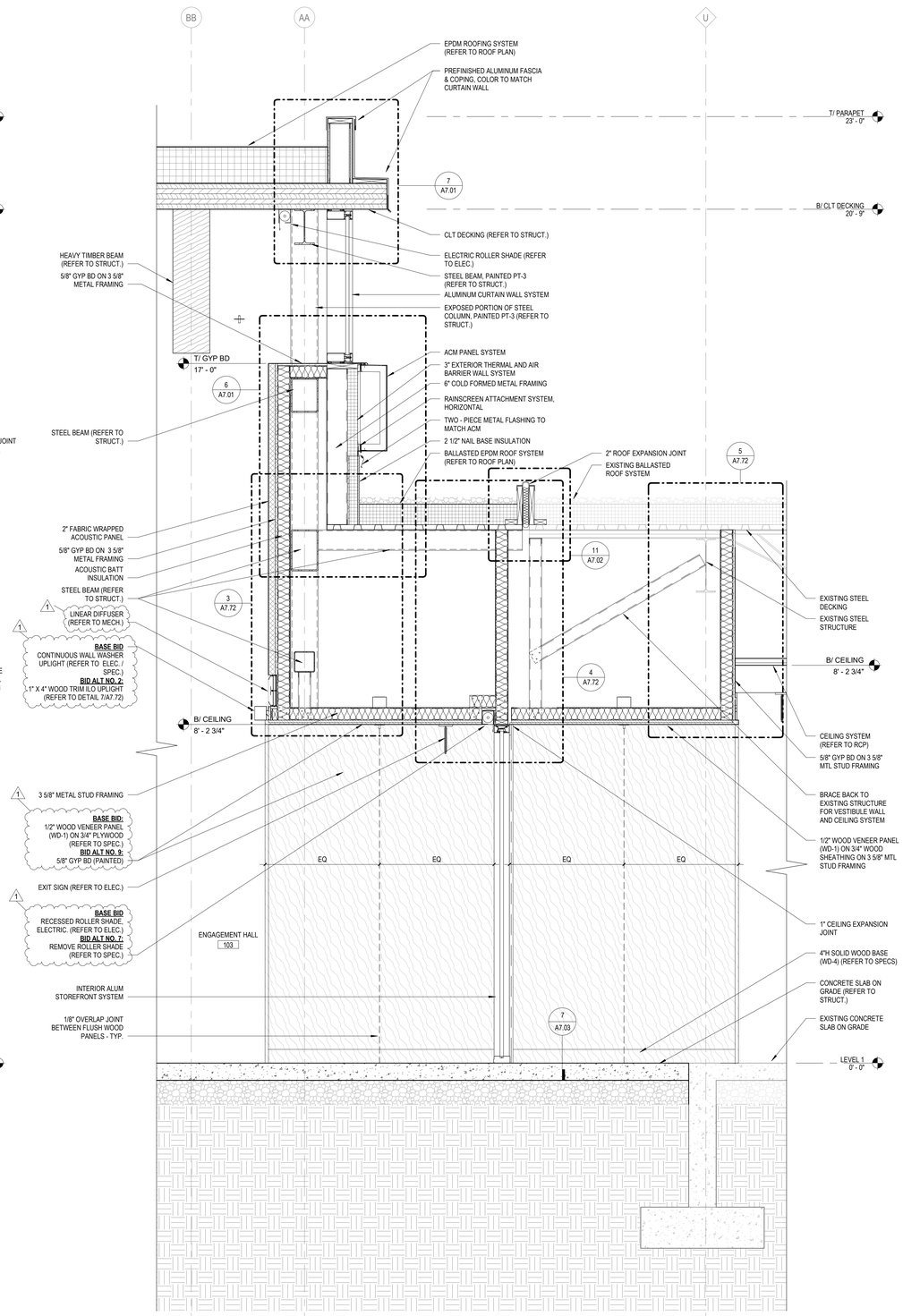


1 WALL SECTION - ENGAGEMENT HALL - CURTAIN WALL - WEST
3/4" = 1'-0"



2 WALL SECTION - ENGAGEMENT HALL - WEST 1
3/4" = 1'-0"



3 WALL SECTION - ENGAGEMENT HALL - WEST 2
3/4" = 1'-0"

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1	ADDENDUM 1	05/27/25

SHEET TITLE:

WALL SECTIONS

SHEET NUMBER:

A6.02

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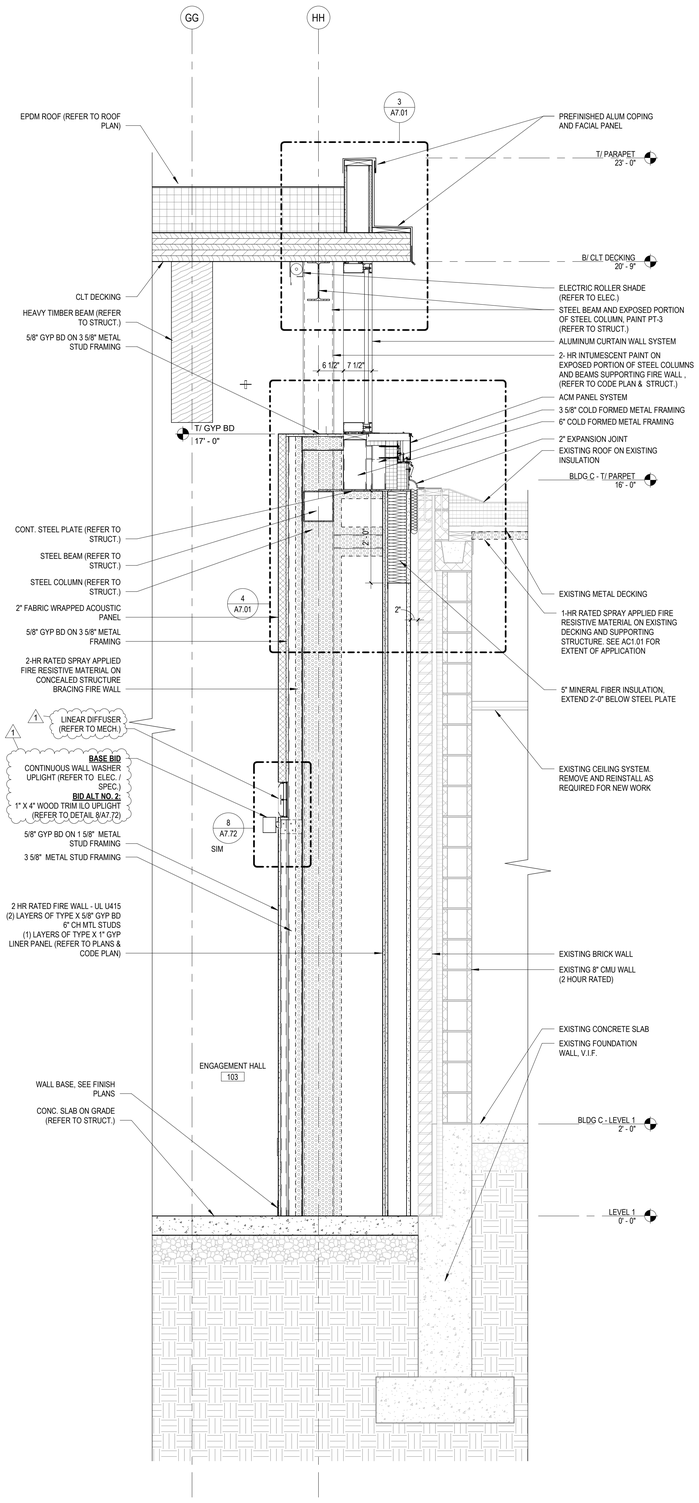
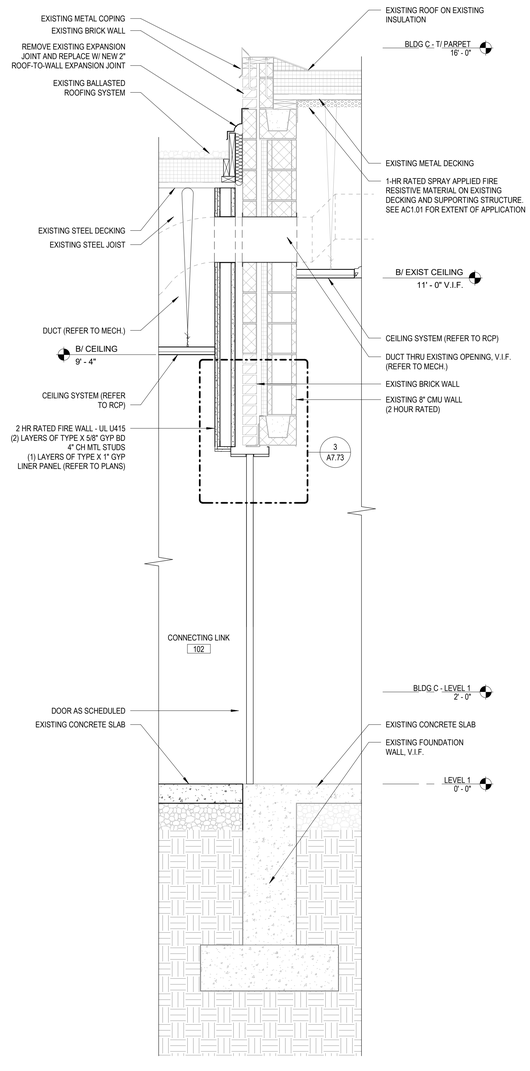
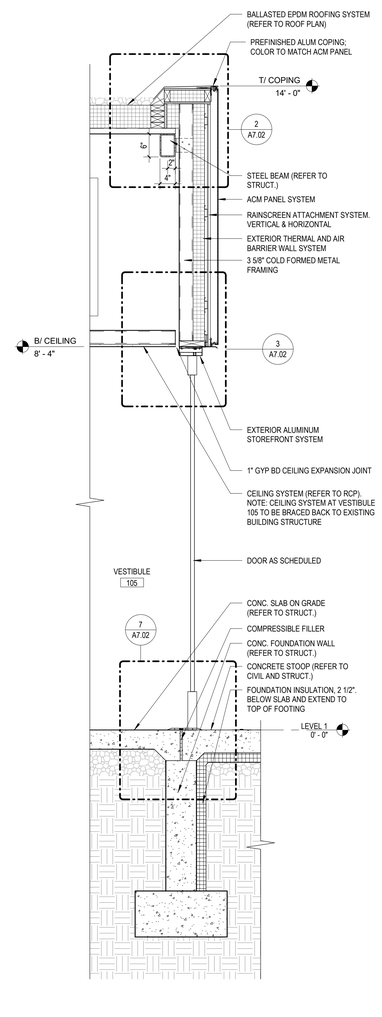


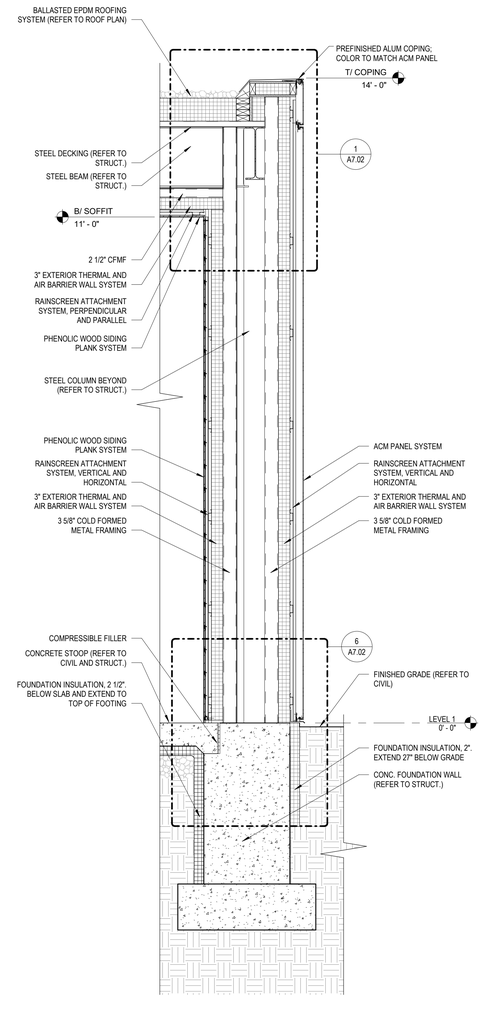
1 WALL SECTION - ENGAGEMENT HALL- EAST
3/4" = 1'-0"



2 WALL SECTION - CORRIDOR LINK CONNECTION
3/4" = 1'-0"



3 WALL SECTION - VESTIBULE 101 - NORTH
3/4" = 1'-0"



5 WALL SECTION - WING WALL
3/4" = 1'-0"

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1	ADDENDUM 1	05/27/25

SHEET TITLE:

WALL SECTIONS

SHEET NUMBER:

A6.03

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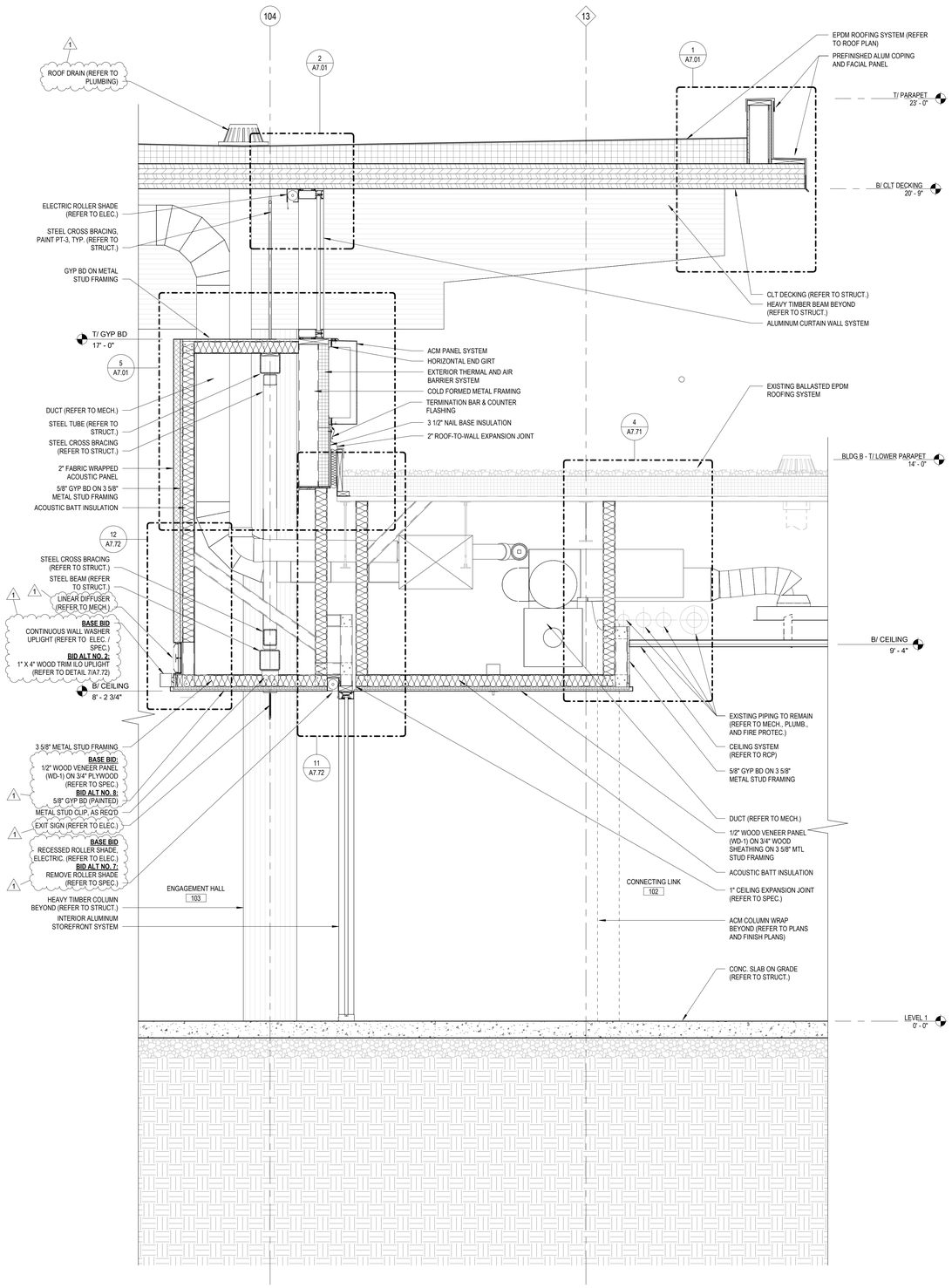
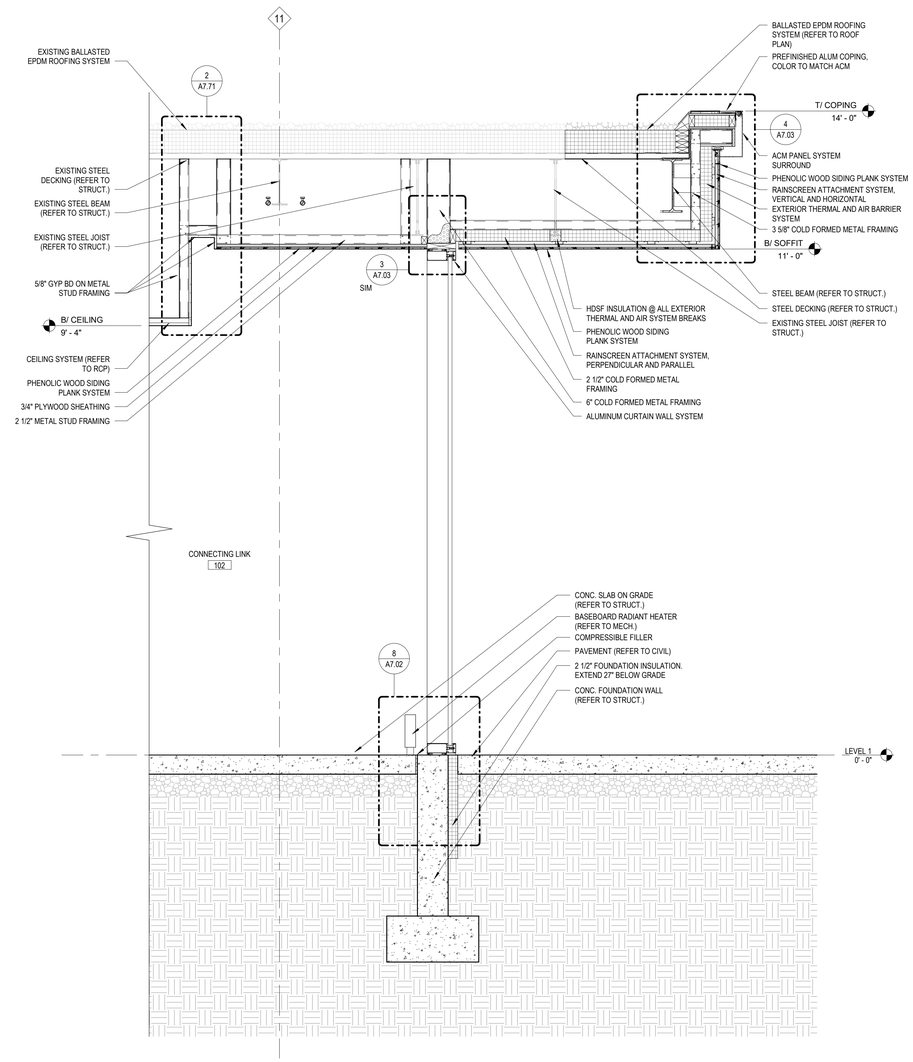


1 WALL SECTION - ENGAGEMENT HALL - SOUTH
3/4" = 1'-0"



2 WALL SECTION - CORRIDOR LINK - SOUTH
3/4" = 1'-0"

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NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:
WALL SECTIONS

SHEET NUMBER:
A6.04

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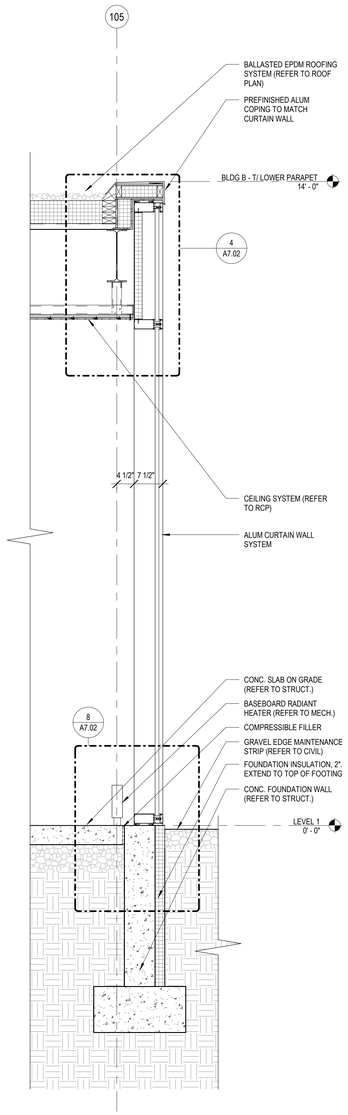
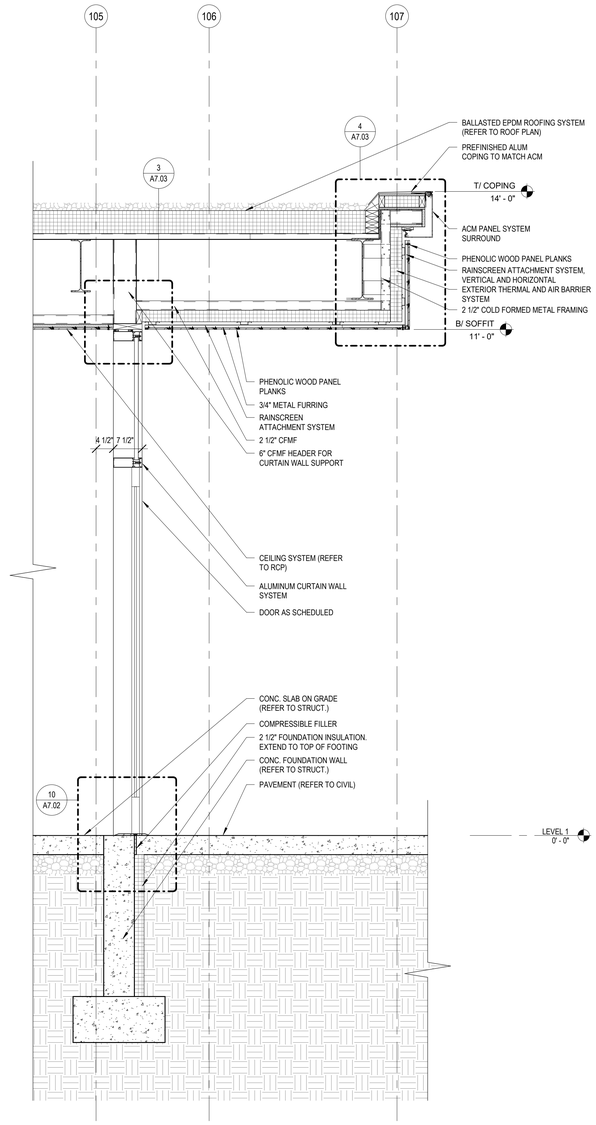
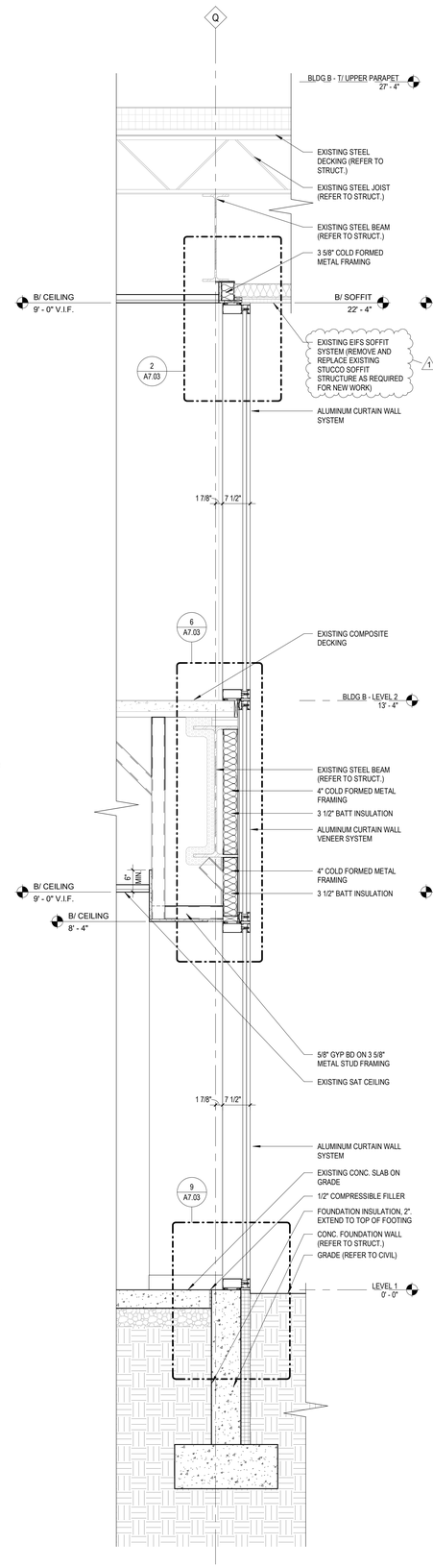


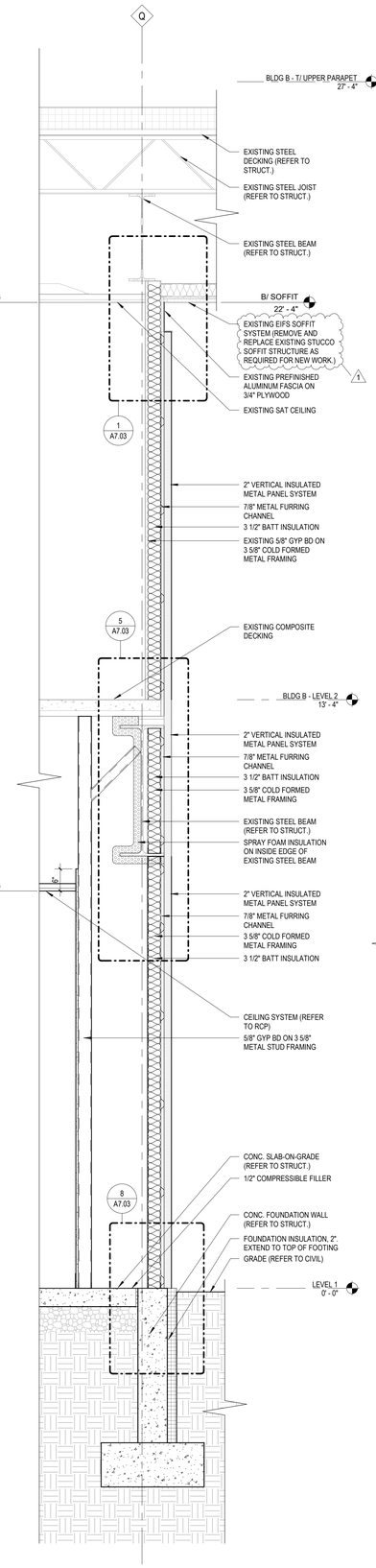
1 WALL SECTION - CURTAIN WALL AT ENTRY
3/4" = 1'-0"



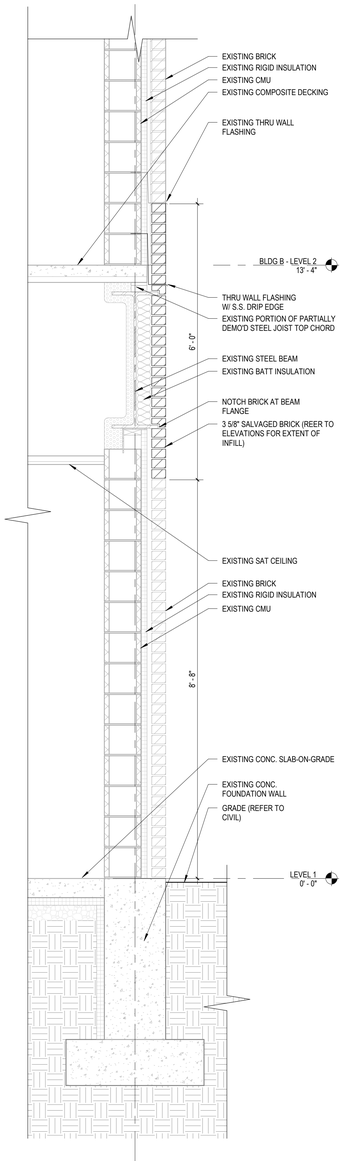
2 WALL SECTION - CURTAIN WALL AT VESTIBULE
3/4" = 1'-0"



3 WALL SECTION - CURTAIN WALL INFILL
3/4" = 1'-0"



4 WALL SECTION - WALL INFILL
3/4" = 1'-0"



5 WALL SECTION - BRICK INFILL AT EXISTING WALL
3/4" = 1'-0"

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NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:
WALL SECTIONS

SHEET NUMBER:
A6.05

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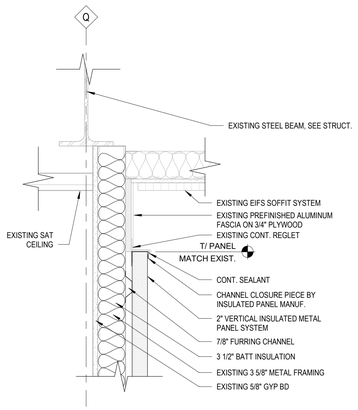
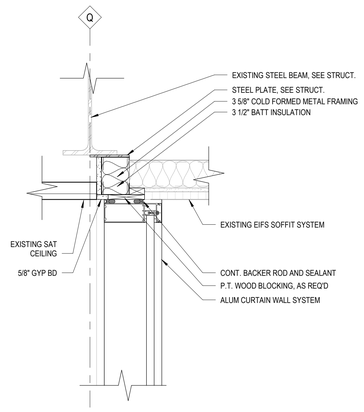
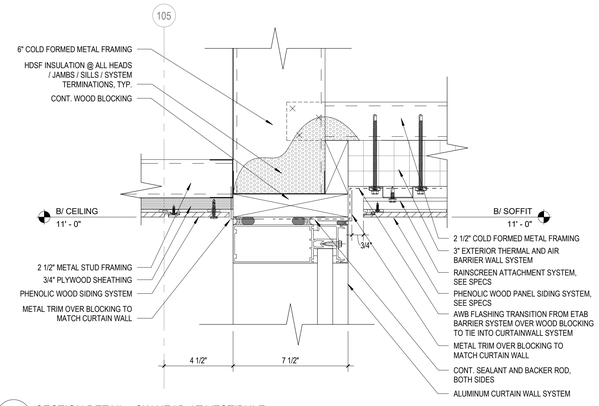


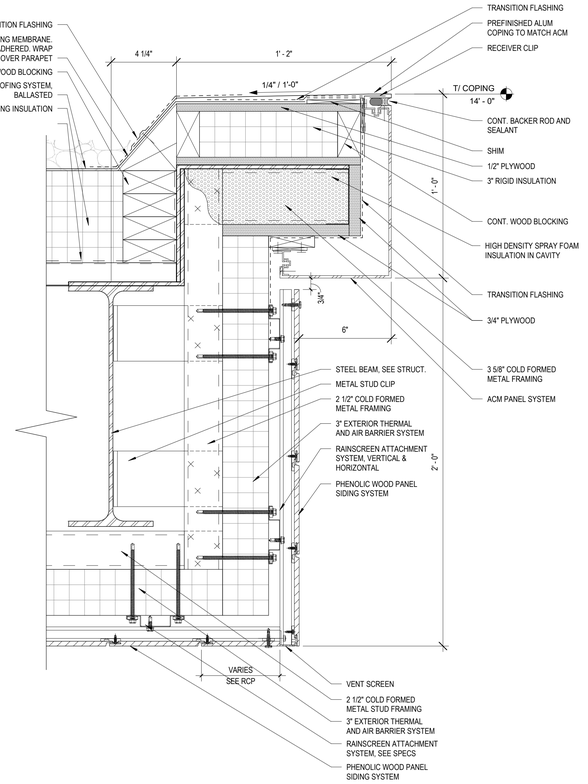
1 SECTION DETAIL - INSULATED METAL PANEL AT SOFFIT
1 1/2" = 1'-0"



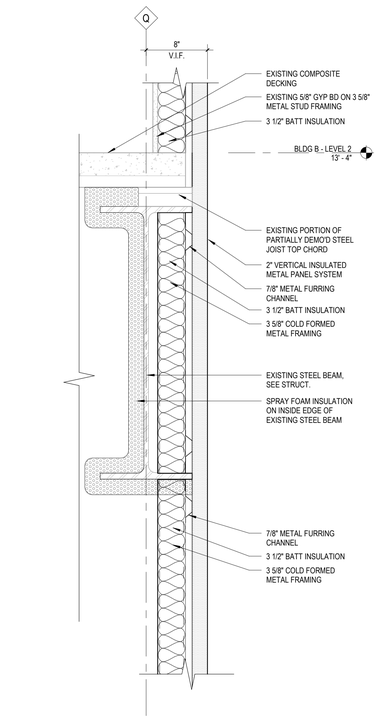
2 SECTION DETAIL - CURTAIN WALL AT EXIST SOFFIT
1 1/2" = 1'-0"



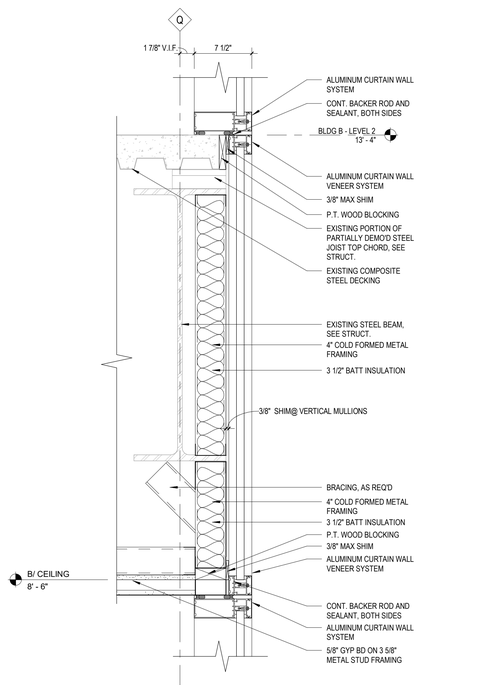
3 SECTION DETAIL - CW HEAD AT VESTIBULE
3" = 1'-0"



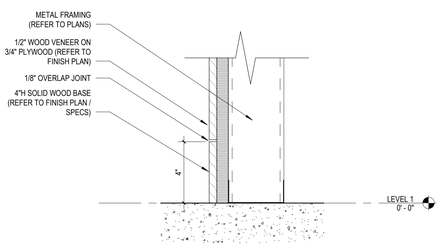
4 SECTION DETAIL - ACM SURROUND
3" = 1'-0"



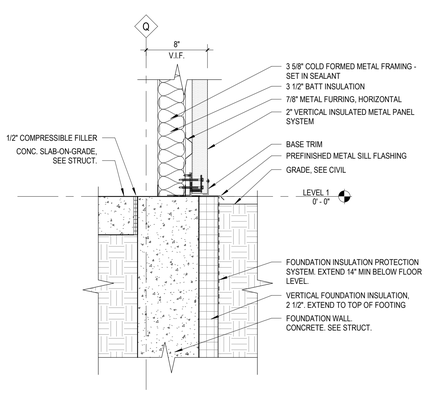
5 SECTION DETAIL - INSULATED METAL PANEL AT EXIST BEAM
1 1/2" = 1'-0"



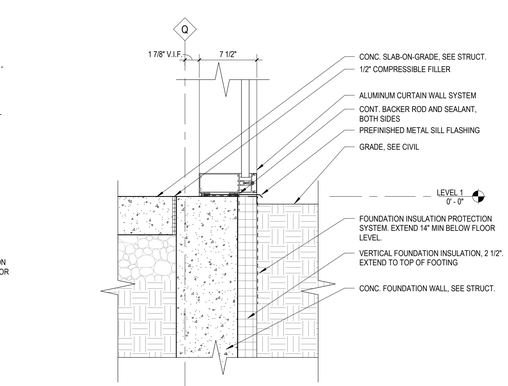
6 SECTION DETAIL - CURTAIN WALL AT EXIST BEAM
1 1/2" = 1'-0"



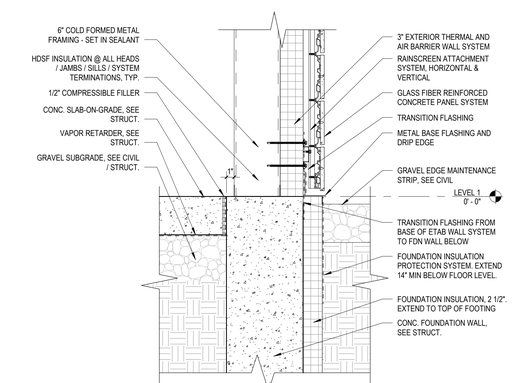
7 SECTION DETAIL - FLUSH WOOD PANEL SYSTEM BASE
3" = 1'-0"



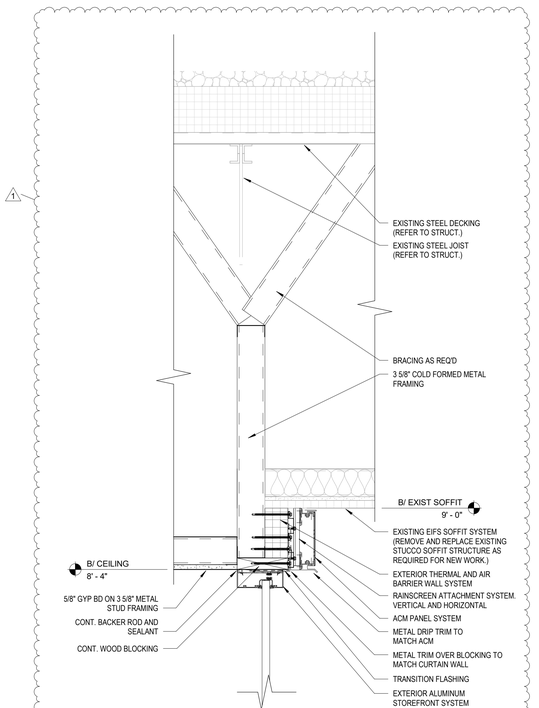
8 SECTION DETAIL - INSULATED METAL PANEL SILL
1 1/2" = 1'-0"



9 SECTION DETAIL - CURTAIN WALL SILL AT INFILL
1 1/2" = 1'-0"



10 SECTION DETAIL - GFRC SILL
1 1/2" = 1'-0"



11 SECTION DETAIL - ACM AT EXISTING SOFFIT
1 1/2" = 1'-0"

ARCHITECT OF RECORD
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McHenry County College ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

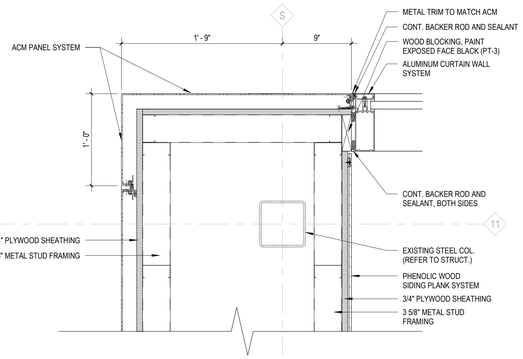
SHEET TITLE:

SECTION DETAILS

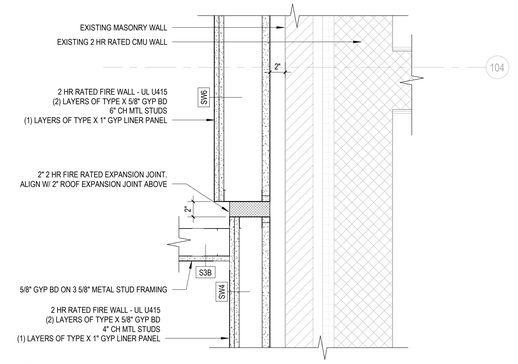
SHEET NUMBER:

A7.03

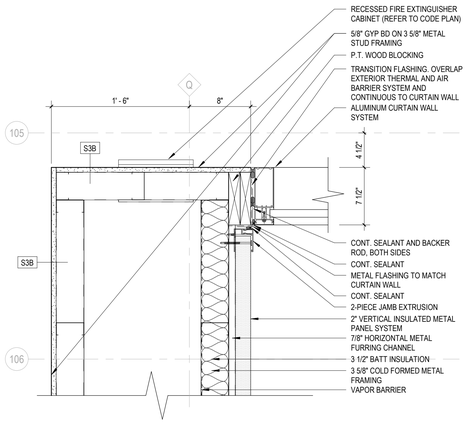
5/29/2025 1:51:04 PM



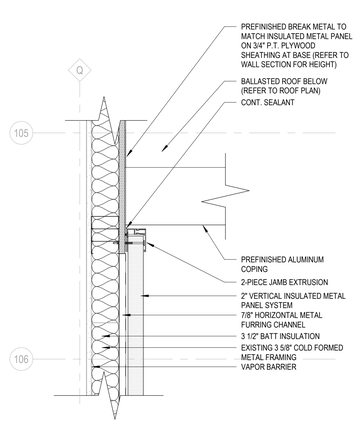
2 PLAN DETAIL - ENTRY WEST WALL
1 1/2" = 1'-0"



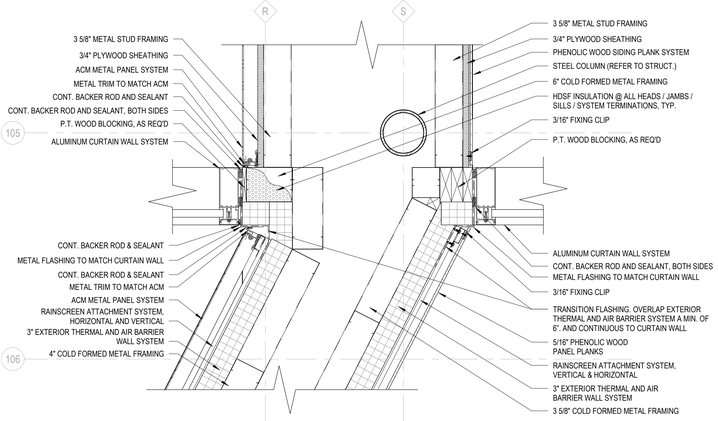
3 PLAN DETAIL - SHAFT WALL CONNECTION
1 1/2" = 1'-0"



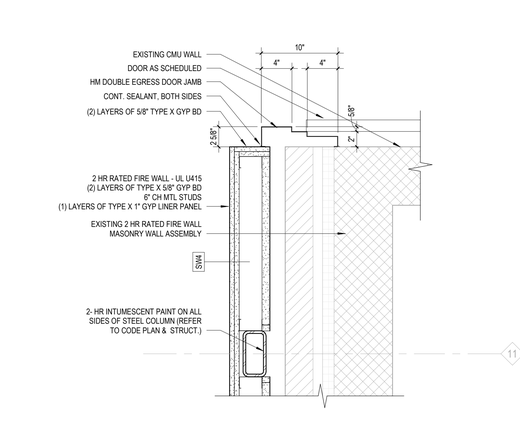
4 PLAN DETAIL - CW JAMB AT INFILL - 1ST FL. 1
1 1/2" = 1'-0"



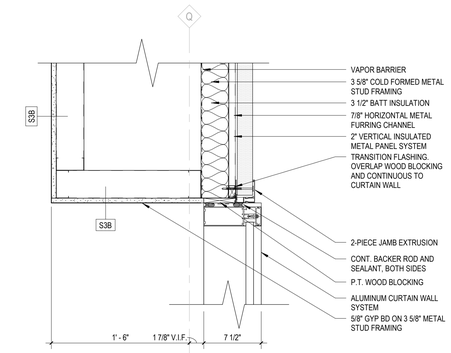
5 PLAN DETAIL CW JAMB AT INFILL - 2ND FL. 1
1 1/2" = 1'-0"



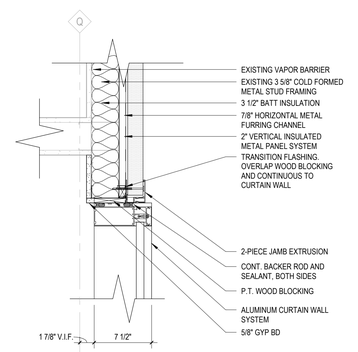
6 PLAN DETAIL - CW JAMB AT WING WALL
1 1/2" = 1'-0"



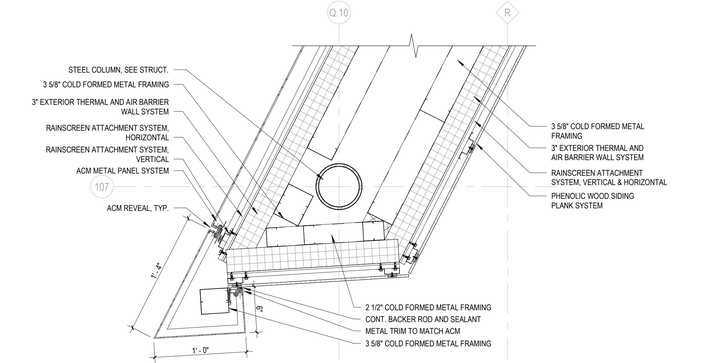
7 PLAN DETAIL - CONNECTING LINK TO BLDG C
1 1/2" = 1'-0"



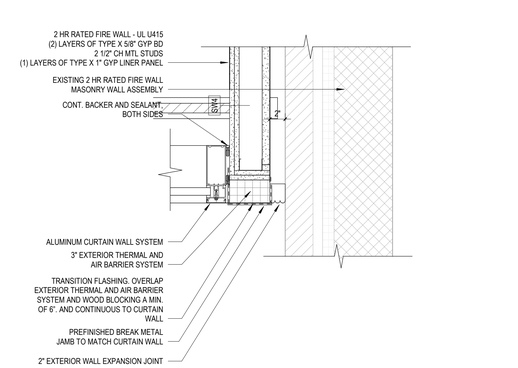
8 PLAN DETAIL - CW JAMB AT INFILL - 1ST FL. 2
1 1/2" = 1'-0"



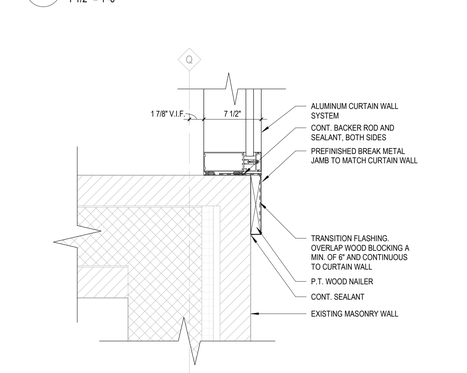
9 PLAN DETAIL - CW JAMB AT INFILL - 2ND FL. 2
1 1/2" = 1'-0"



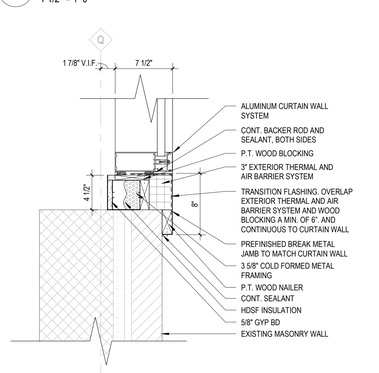
10 PLAN DETAIL - WING WALL
1 1/2" = 1'-0"



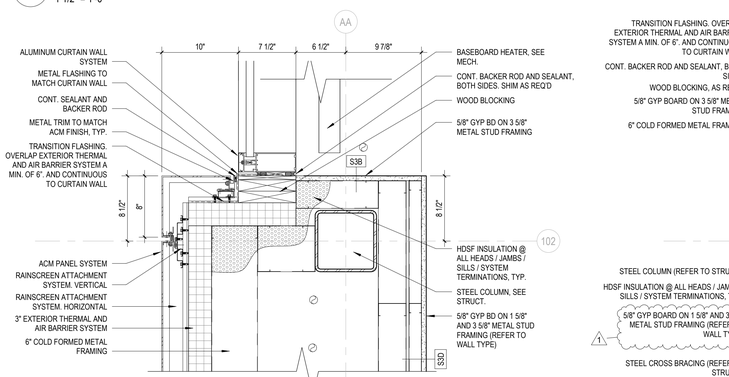
11 PLAN DETAIL - CW @ BLDG C
1 1/2" = 1'-0"



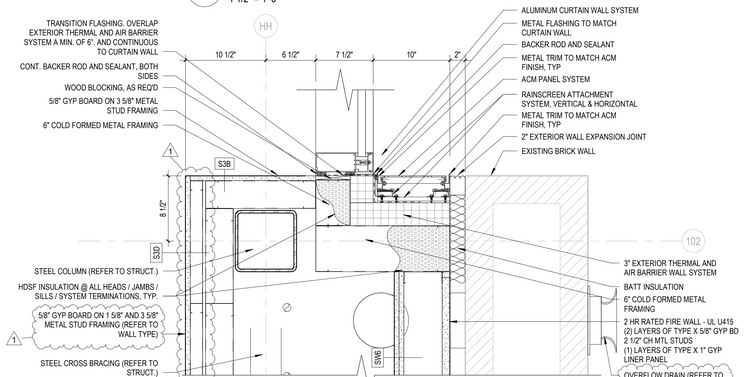
12 PLAN DETAIL - CW JAMB AT EXIST BRICK - 1ST FL.
1 1/2" = 1'-0"



13 PLAN DETAIL - CW JAMB AT EXIST BRICK 2ND FL.
1 1/2" = 1'-0"



14 PLAN DETAIL - COL AA-102
1 1/2" = 1'-0"



15 PLAN DETAIL - COL HH-102
1 1/2" = 1'-0"

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KEY PLAN:

SHEET STATUS: 05/16/2025

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1	ADDENDUM 1	05/27/25

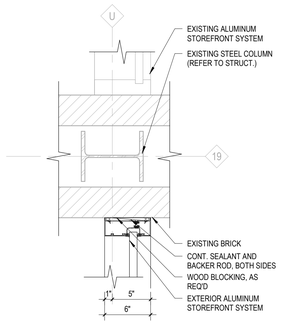
SHEET TITLE:

PLAN DETAILS

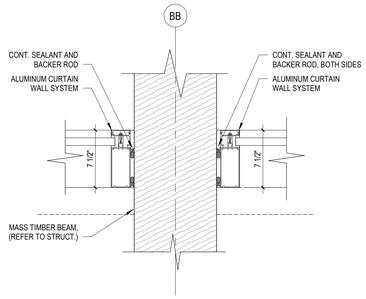
SHEET NUMBER:

A7.51

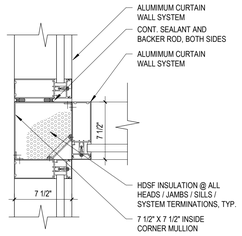
5/29/2025 1:51:05 PM



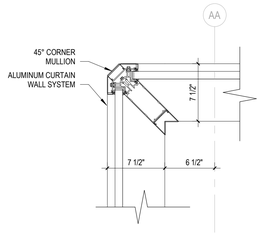
1 PLAN DETAIL - COL U-19
1 1/2" = 1'-0"



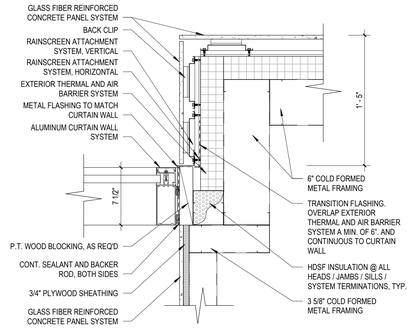
2 PLAN DETAIL - CW JAMB AT MASS TIMBER BEAM
1 1/2" = 1'-0"



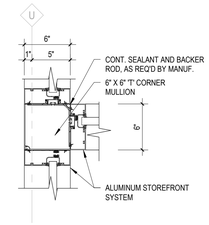
3 PLAN DETAIL - CURTAIN WALL T-CORNER
1 1/2" = 1'-0"



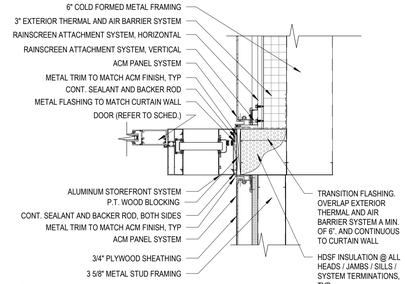
4 PLAN DETAIL - CW OUTSIDE CORNER MULLION
1 1/2" = 1'-0"



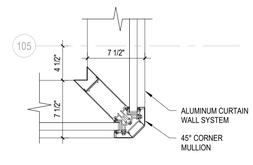
5 PLAN DETAIL - GFRC EXTERIOR CORNER
1 1/2" = 1'-0"



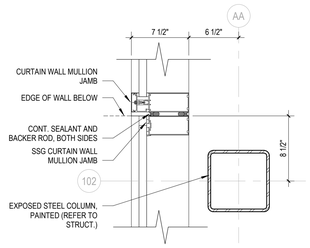
6 PLAN DETAIL - STOREFRONT T-CORNER
1 1/2" = 1'-0"



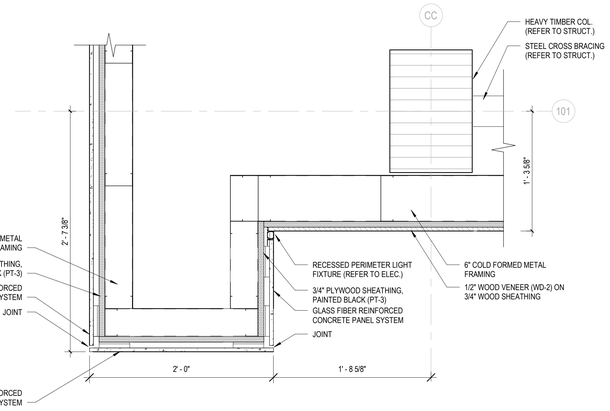
7 SF JAMB AT ACM
1 1/2" = 1'-0"



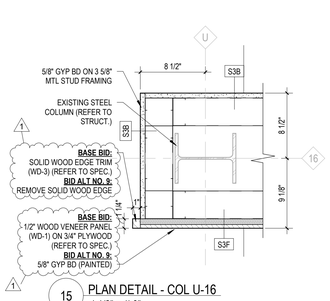
8 PLAN DETAIL - CURTAIN WALL OUTSIDE CORNER
1 1/2" = 1'-0"



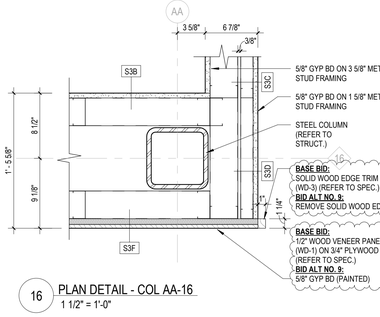
9 PLAN DETAIL - SSG AND CAPPED MULLION JAMB
1 1/2" = 1'-0"



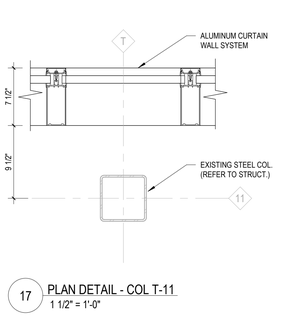
14 1PLAN DETAIL - GFRC INTERIOR CORNER
1 1/2" = 1'-0"



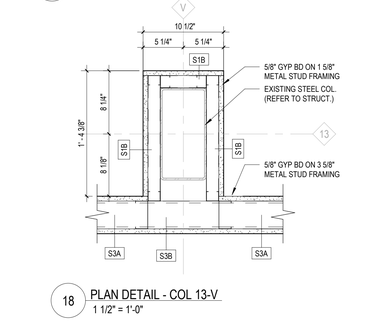
10 PLAN DETAIL - COL U-103
1 1/2" = 1'-0"



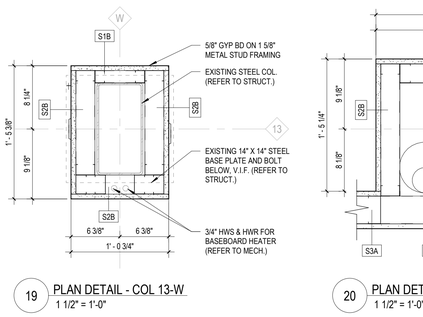
11 PLAN DETAIL - ACM - INSIDE CORNER
1 1/2" = 1'-0"



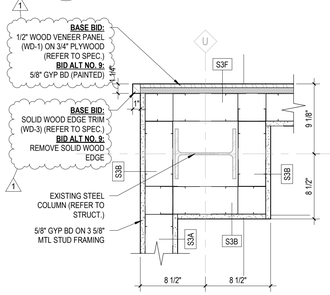
12 PLAN DETAIL - COL 13-T
1 1/2" = 1'-0"



13 PLAN DETAIL - SF JAMB AT SOUTH EVENT CENTER
1 1/2" = 1'-0"



14 1PLAN DETAIL - GFRC INTERIOR CORNER
1 1/2" = 1'-0"



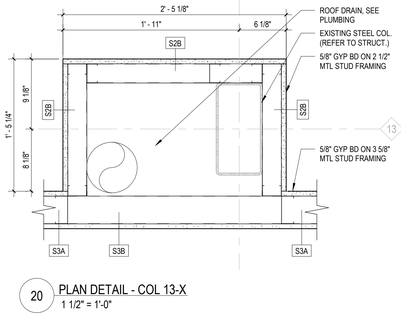
15 PLAN DETAIL - COL U-16
1 1/2" = 1'-0"

16 PLAN DETAIL - COL AA-16
1 1/2" = 1'-0"

17 PLAN DETAIL - COL T-11
1 1/2" = 1'-0"

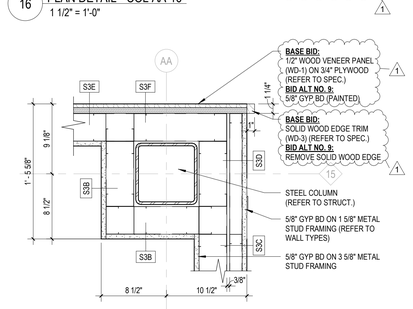
18 PLAN DETAIL - COL 13-V
1 1/2" = 1'-0"

19 PLAN DETAIL - COL 13-W
1 1/2" = 1'-0"

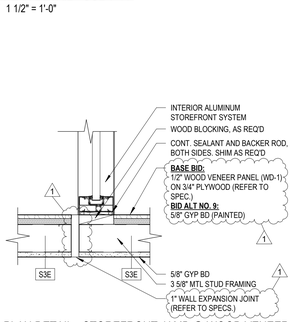


20 PLAN DETAIL - COL 13-X
1 1/2" = 1'-0"

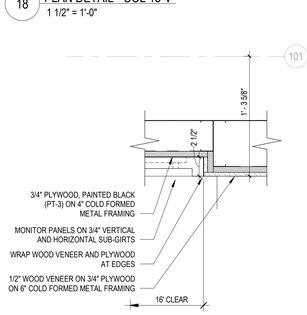
21 PLAN DETAIL - COL U-15
1 1/2" = 1'-0"



22 PLAN DETAIL - COL AA-15
1 1/2" = 1'-0"



23 PLAN DETAIL - STOREFRONT JAMB @ WOOD VENEER
1 1/2" = 1'-0"



24 PLAN DETAIL - DISPLAY WALL EDGE
1 1/2" = 1'-0"

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KEY PLAN:

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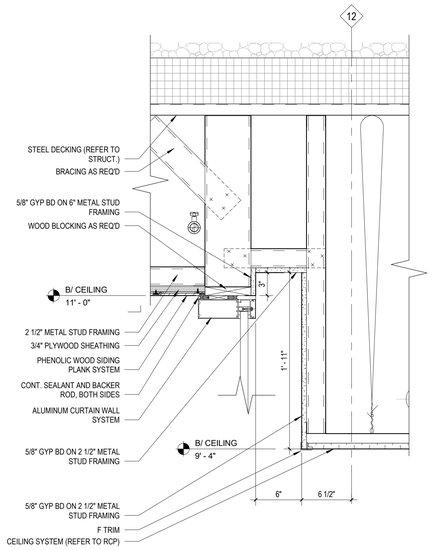
NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

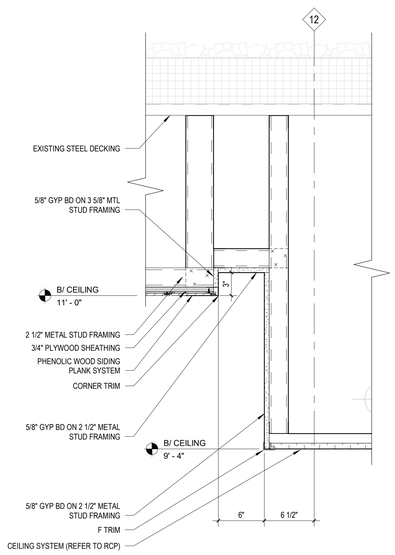
SHEET TITLE:
PLAN DETAILS

SHEET NUMBER:
A7.52

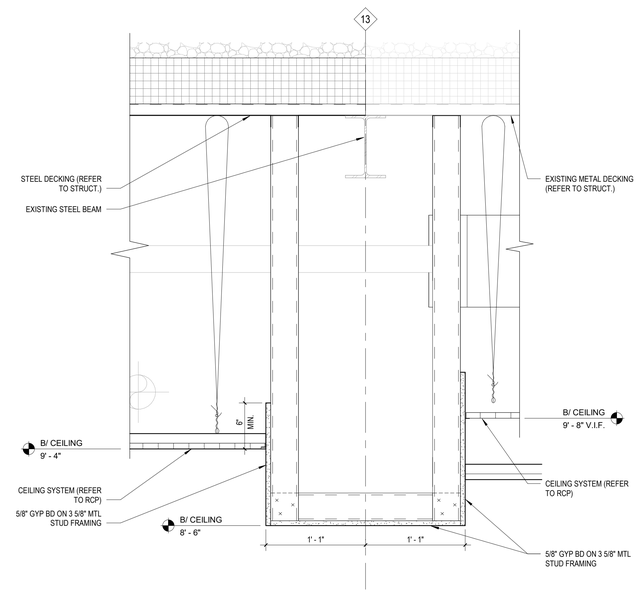
5/25/2025 1:51:07 PM



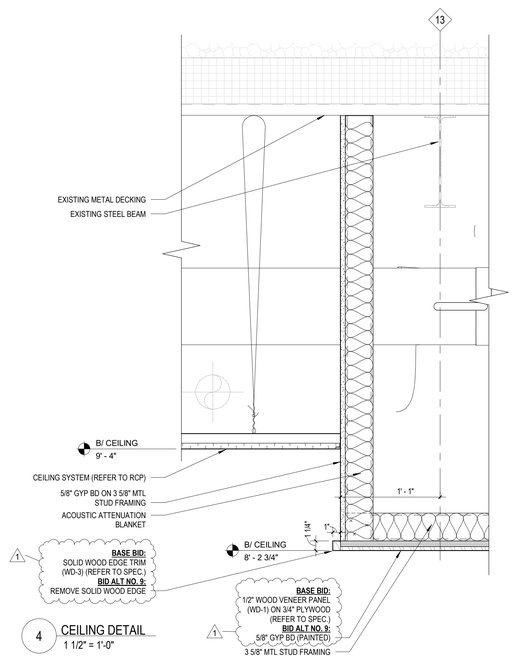
1 CEILING DETAIL
1 1/2" = 1'-0"



2 CEILING DETAIL
1 1/2" = 1'-0"



3 CEILING DETAIL
1 1/2" = 1'-0"



4 CEILING DETAIL
1 1/2" = 1'-0"

5 CEILING DETAIL
1 1/2" = 1'-0"

6 CEILING DETAIL
1 1/2" = 1'-0"

9 CEILING DETAIL
1 1/2" = 1'-0"

7 CEILING DETAIL
1 1/2" = 1'-0"

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1	ADDENDUM 1	05/27/25

SHEET TITLE:
CEILING DETAILS

SHEET NUMBER:
A7.71

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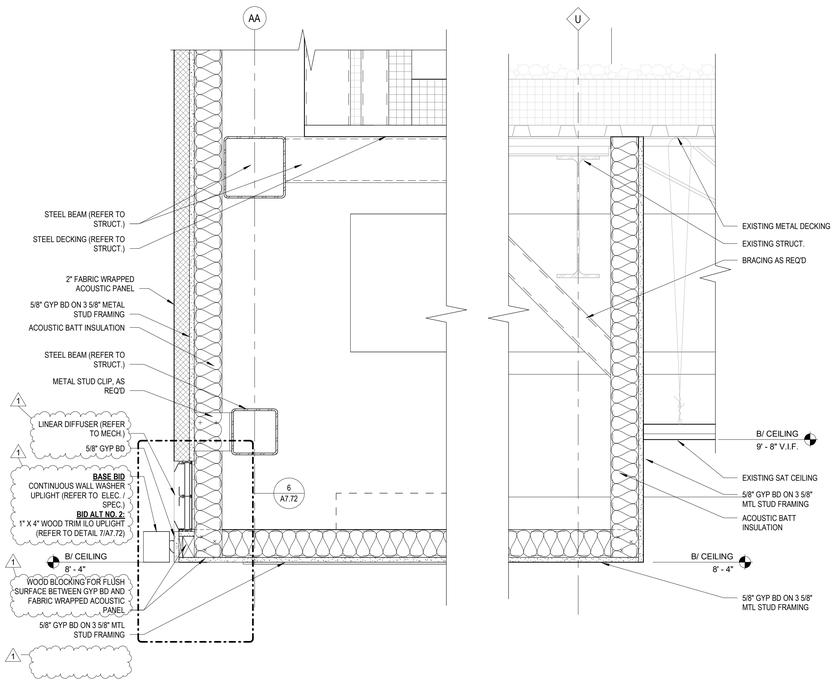
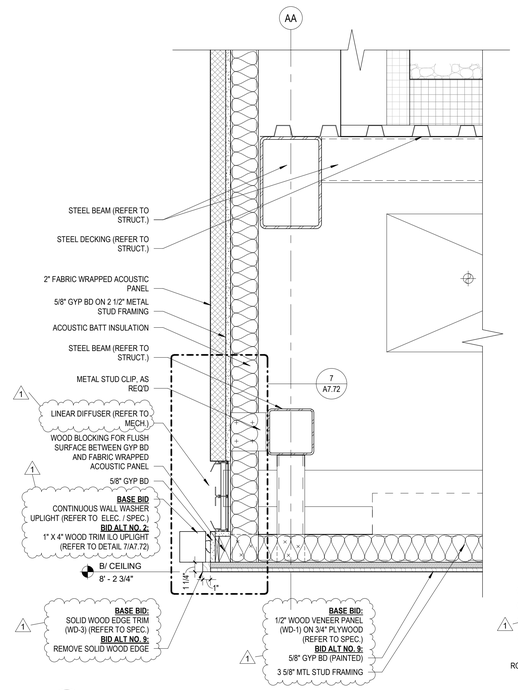


1 CEILING DETAIL
1 1/2" = 1'-0"

2 CEILING DETAIL
1 1/2" = 1'-0"



3 CEILING DETAIL
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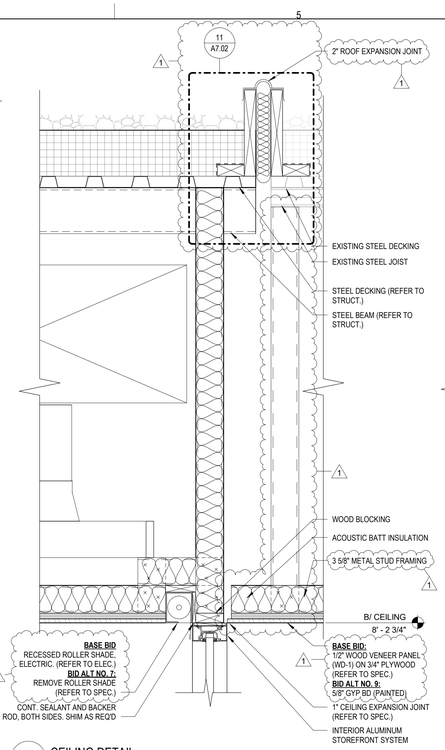
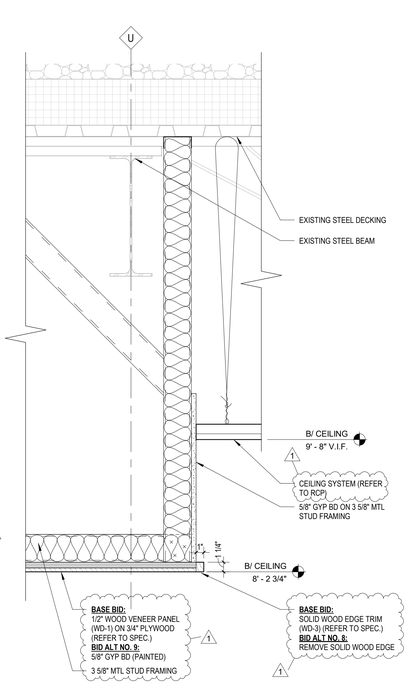
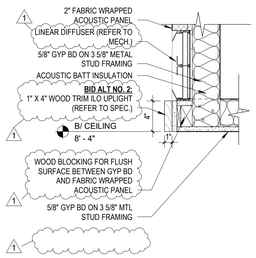


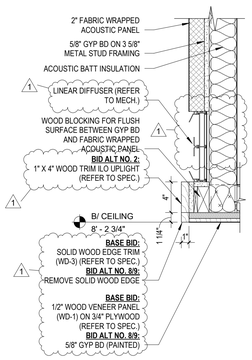
4 CEILING DETAIL
1 1/2" = 1'-0"



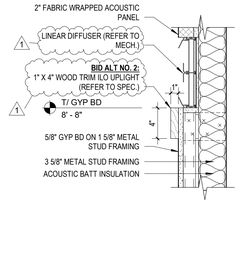
5 CEILING DETAIL
1 1/2" = 1'-0"



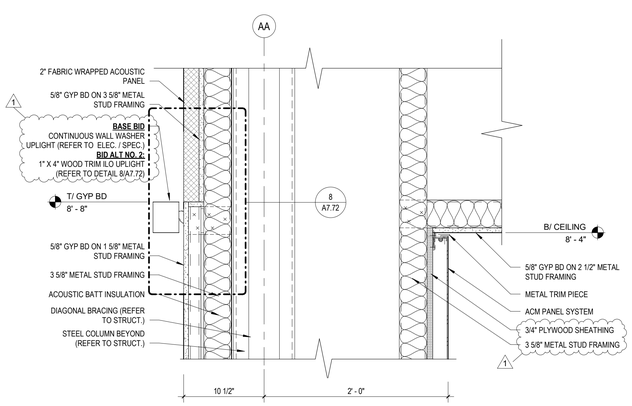
6 CEILING DETAIL - BID ALT NO. 2
1 1/2" = 1'-0"



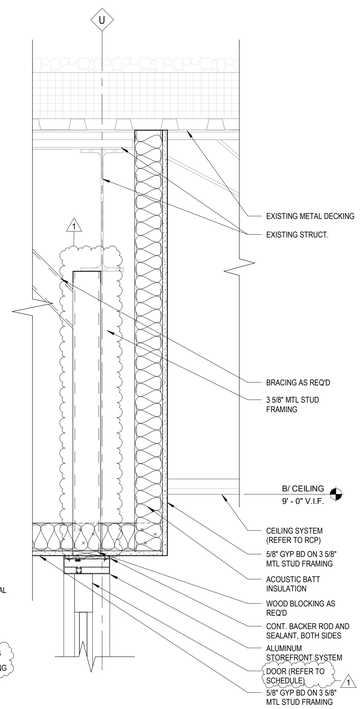
7 CEILING DETAIL - BID ALT NO. 2
1 1/2" = 1'-0"



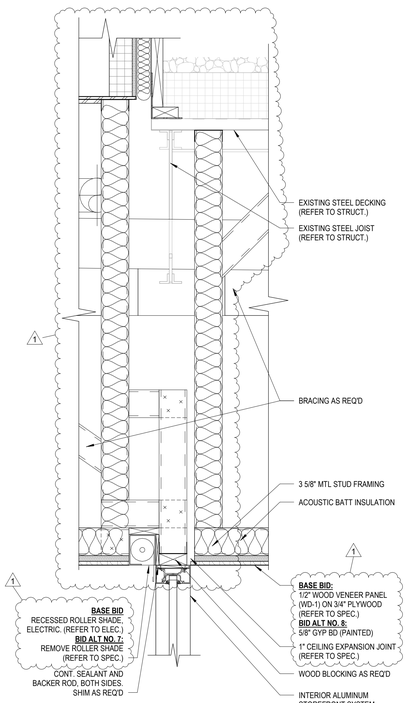
8 CEILING DETAIL - BID ALT NO. 2
1 1/2" = 1'-0"



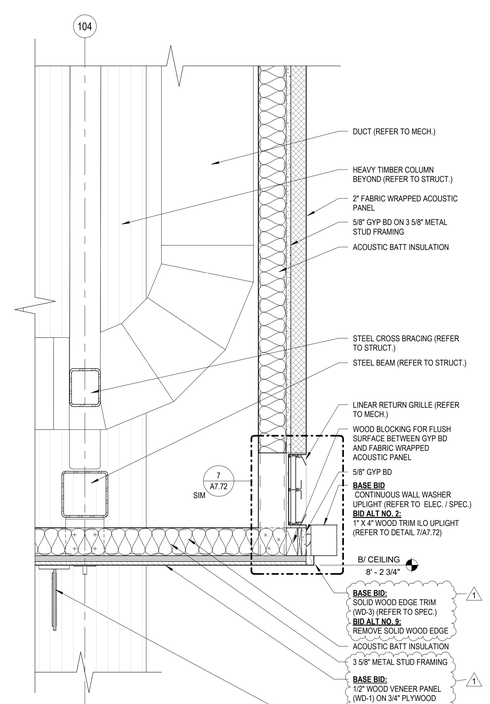
9 CEILING DETAIL
1 1/2" = 1'-0"



10 CEILING DETAIL
1 1/2" = 1'-0"



11 CEILING DETAIL
1 1/2" = 1'-0"



12 CEILING DETAIL
1 1/2" = 1'-0"

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McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:

CEILING DETAILS

SHEET NUMBER:

A7.72

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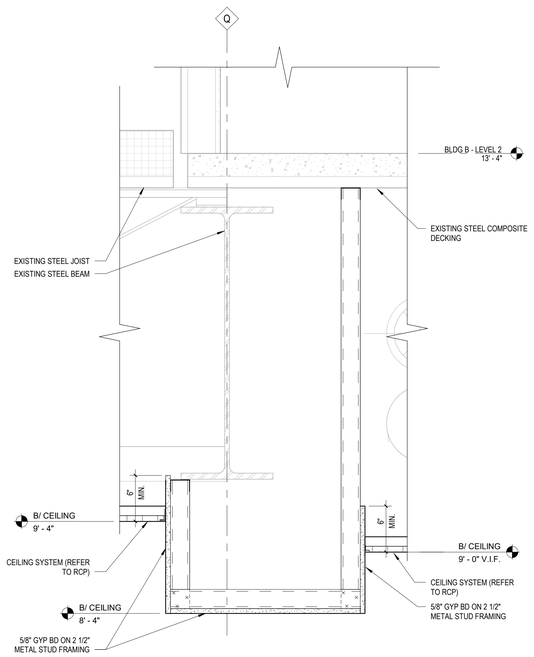
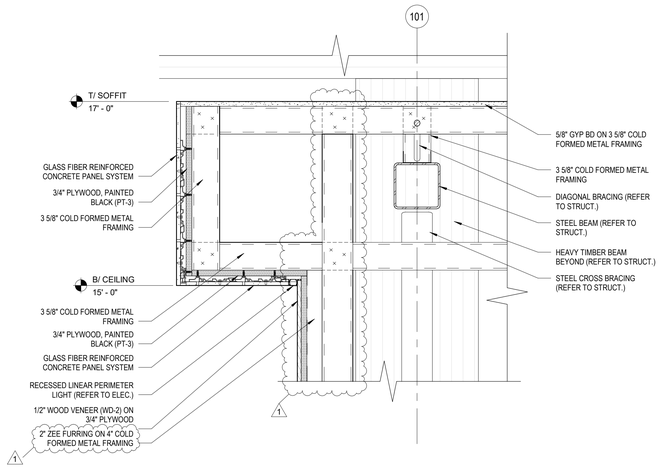
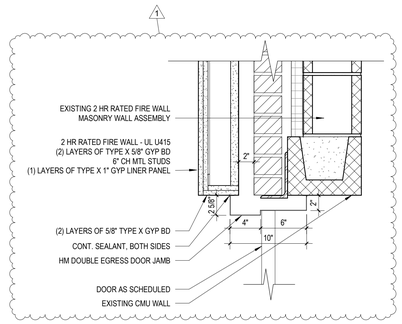


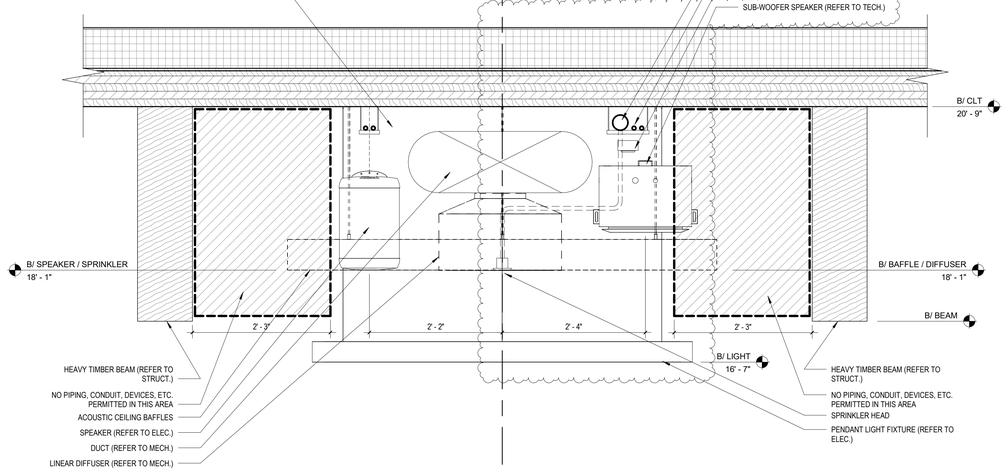
1 CEILING DETAIL
1 1/2" = 1'-0"



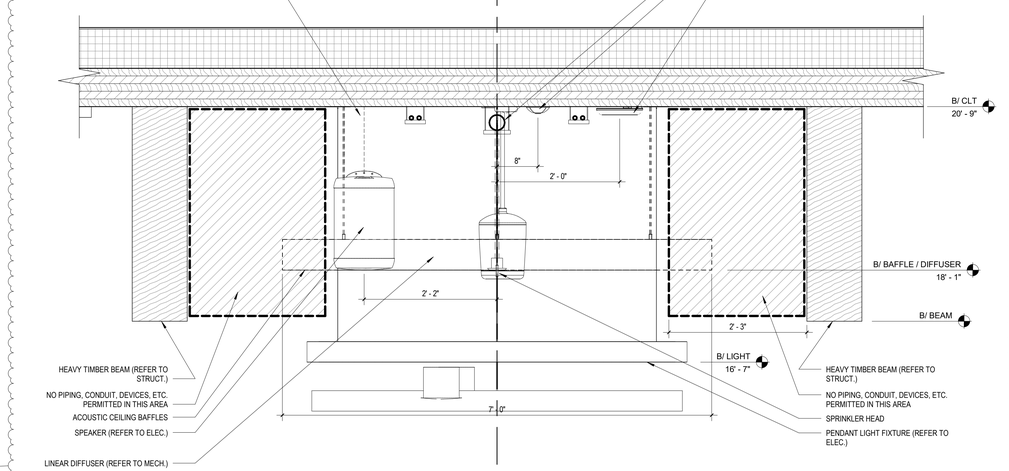
2 CEILING DETAIL - NORTH WALL
1 1/2" = 1'-0"



3 CEILING DETAIL - DOUBLE EGRESS DOOR HEAD
1 1/2" = 1'-0"



4 CEILING DETAIL - TYPICAL MOUNTING HEIGHTS AT CLT
1" = 1'-0"



5 CEILING DETAIL - TYPICAL MOUNTING HEIGHTS AT CLT - NO DUCTWORK
1" = 1'-0"

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
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NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:
CEILING DETAILS

SHEET NUMBER:
A7.73

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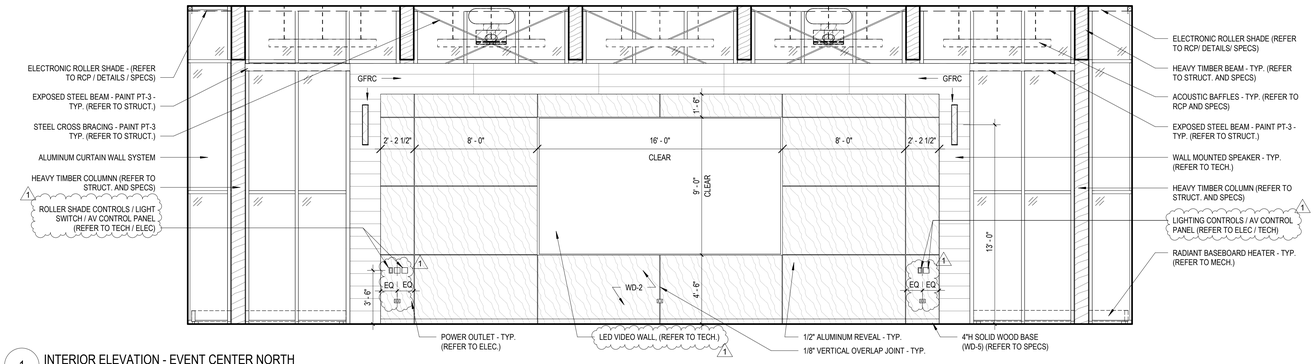
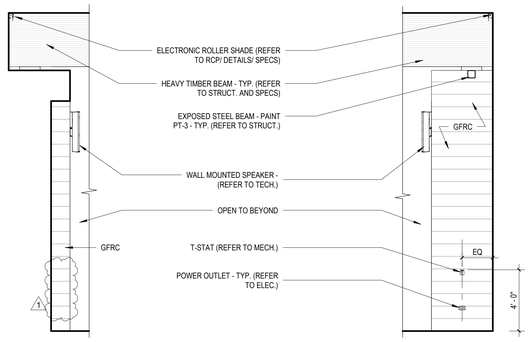
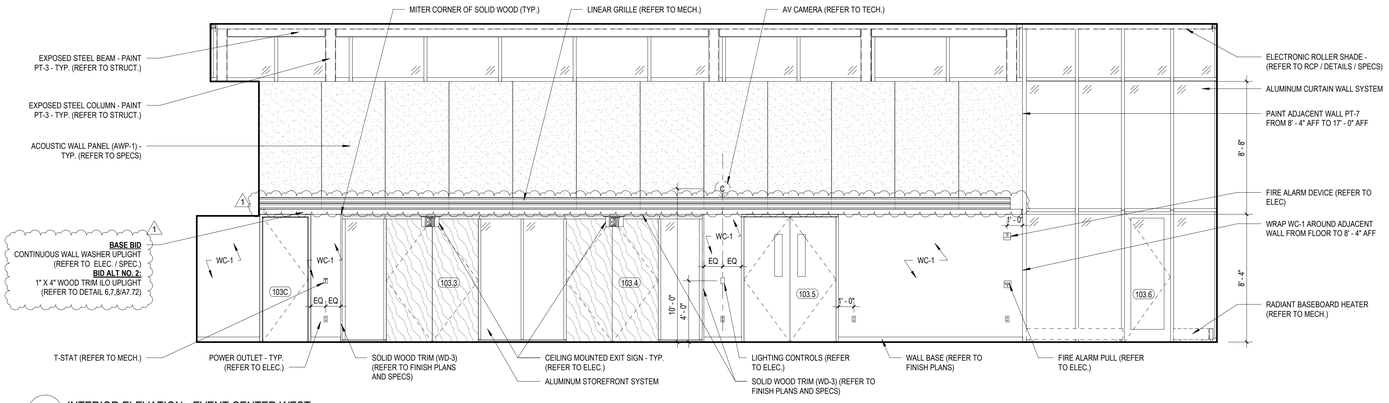


1 INTERIOR ELEVATION - EVENT CENTER NORTH
1/4" = 1'-0"

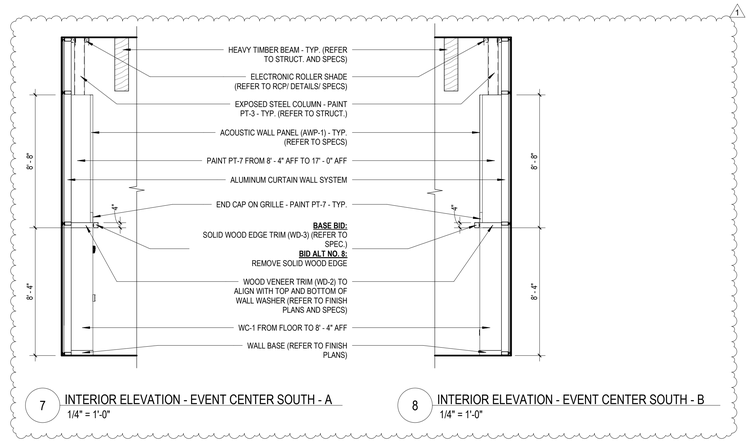


2 INTERIOR ELEVATION - EVENT CENTER NORTH - A
1/4" = 1'-0"

3 INTERIOR ELEVATION - EVENT CENTER NORTH - B
1/4" = 1'-0"

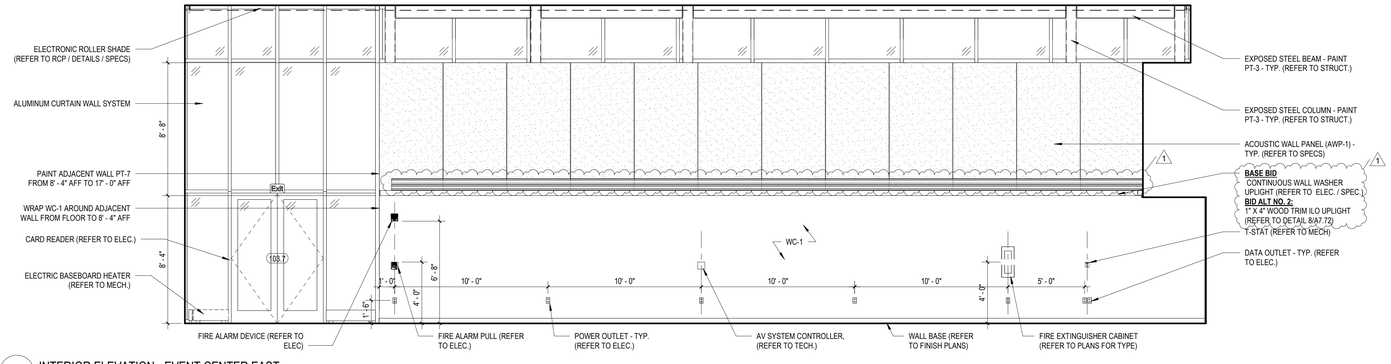


4 INTERIOR ELEVATION - EVENT CENTER WEST
1/4" = 1'-0"

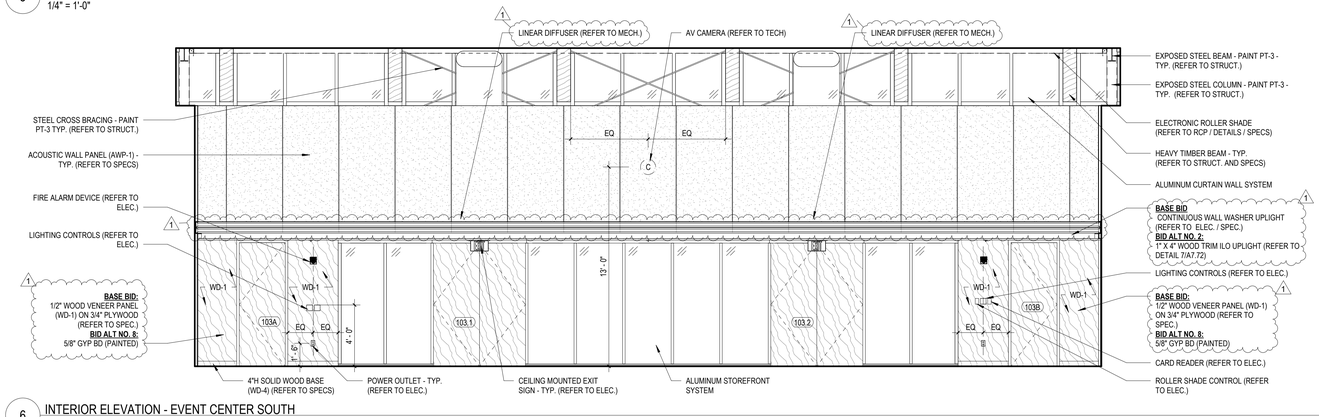


7 INTERIOR ELEVATION - EVENT CENTER SOUTH - A
1/4" = 1'-0"

8 INTERIOR ELEVATION - EVENT CENTER SOUTH - B
1/4" = 1'-0"



5 INTERIOR ELEVATION - EVENT CENTER EAST
1/4" = 1'-0"



6 INTERIOR ELEVATION - EVENT CENTER SOUTH
1/4" = 1'-0"

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DKA PROJECT NO: 24-027

KEY PLAN:

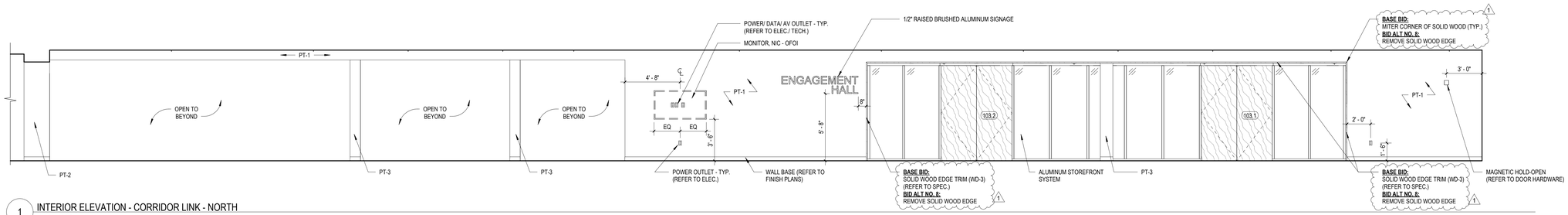
SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

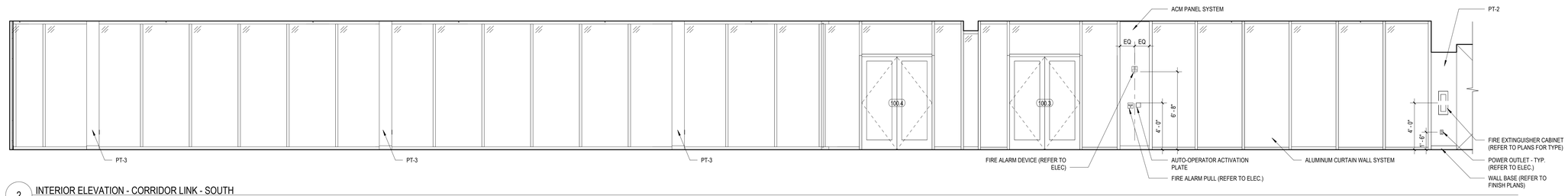
SHEET TITLE:
INTERIOR ELEVATIONS - EVENT CENTER

SHEET NUMBER:
A9.01

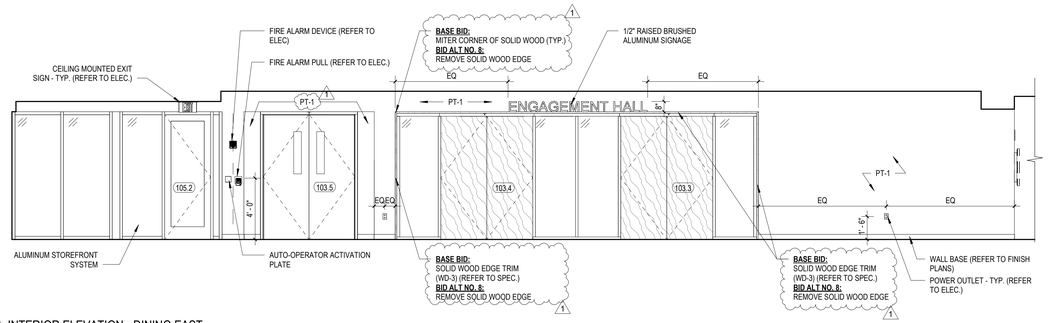
5/25/2025 1:51:13 PM



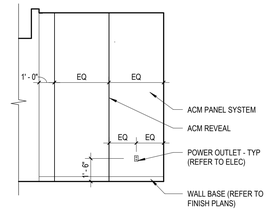
1 INTERIOR ELEVATION - CORRIDOR LINK - NORTH
1/4" = 1'-0"



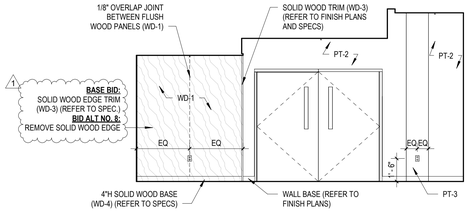
2 INTERIOR ELEVATION - CORRIDOR LINK - SOUTH
1/4" = 1'-0"



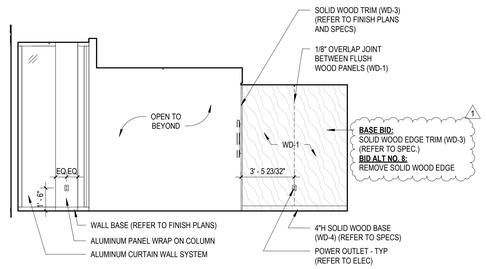
3 INTERIOR ELEVATION - DINING EAST
1/4" = 1'-0"



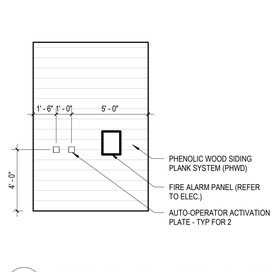
4 INTERIOR ELEVATION - CORRIDOR LINK - EAST 2
1/4" = 1'-0"



5 INTERIOR ELEVATION - CORRIDOR LINK - EAST
1/4" = 1'-0"



6 INTERIOR ELEVATION - CORRIDOR LINK - WEST
1/4" = 1'-0"



7 INTERIOR ELEVATION - VESTIBULE - WEST
1/4" = 1'-0"

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
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NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:
INTERIOR ELEVATIONS - ENTRY

SHEET NUMBER:
A9.02

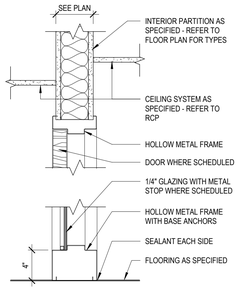
5/25/2025 1:51:14 PM

DOOR AND FRAME SCHEDULE

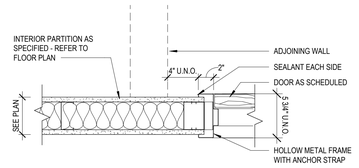
DOOR NUMBER	ROOM NAME	DOOR WIDTH	DOOR HEIGHT	DOOR FIRE RATING	DOOR MATERIAL	DOOR ELEV	DOOR GLAZING TYPE	FRAME MATERIAL	FRAME ELEV	FRAME GLAZING TYPE	HARDWARE SET	REMARKS
100.1	VESTIBULE	6' - 0"	8' - 0"	-	AL	FG-AL	GL-10	AL	SEE 10.10	GL-10	HS-06	(2) PANIC HARDWARE, (1) AUTO OPERATOR, ACCESS CONTROL
100.2	VESTIBULE	6' - 0"	8' - 0"	-	AL	FG-AL	GL-10	AL	SEE 10.10	GL-10	HS-07	(2) PANIC HARDWARE
100.3	VESTIBULE	6' - 0"	8' - 0"	-	AL	FG-AL	GL-10	AL	SEE 10.10	GL-10	HS-08	(2) PANIC HARDWARE, (1) AUTO OPERATOR
100.4	VESTIBULE	6' - 0"	8' - 0"	-	AL	FG-AL	GL-02	AL	SEE 10.10	GL-02	HS-09	(2) PANIC HARDWARE
102	CONNECTING LINK	8' - 0"	7' - 2"	2-HR	HM	FL	-	HM	FDE	-	HS-01	(2) ELECTRO-MAGNETIC HOLD OPENS
103.1	ENGAGEMENT HALL	6' - 0"	8' - 0 3/8"	-	WD	FL	-	AL	SEE 10.10	GL-04	HS-12	ACOUSTICAL SEALS, (2) PANIC HARDWARE, OVERHEAD CLOSERS, OVERHEAD STOPS
103.2	ENGAGEMENT HALL	6' - 0"	8' - 0 3/8"	-	WD	FL	-	AL	SEE 10.10	GL-04	HS-12	ACOUSTICAL SEALS, (2) PANIC HARDWARE, OVERHEAD CLOSERS, OVERHEAD STOPS
103.3	ENGAGEMENT HALL	6' - 0"	8' - 0 3/8"	-	WD	FL	-	AL	SEE 10.10	GL-04	HS-12	ACOUSTICAL SEALS, (2) PANIC HARDWARE, OVERHEAD CLOSERS, OVERHEAD STOPS
103.4	ENGAGEMENT HALL	6' - 0"	8' - 0 3/8"	-	WD	FL	-	AL	SEE 10.10	GL-04	HS-12	ACOUSTICAL SEALS, (2) PANIC HARDWARE, OVERHEAD CLOSERS, OVERHEAD STOPS
103.5	ENGAGEMENT HALL	6' - 0"	8' - 2"	-	HM	FL	-	HM	A	-	HS-02	ACOUSTICAL SEALS, ACCESS CONTROL, OVERHEAD CLOSERS, OVERHEAD STOPS
103.6	ENGAGEMENT HALL	3' - 0"	8' - 6"	-	AL	FG-AL	GL-10	AL	SEE 10.10	GL-10		ACCESS CONTROL
103.7	ENGAGEMENT HALL	6' - 0"	8' - 6"	-	AL	FG-AL	GL-10	AL	SEE 10.10	GL-10	HS-05	(2) PANIC HARDWARE. ACCESS CONTROL
103A	STORAGE	3' - 0"	8' - 0 3/4"	-	WD	FL	-	HM	A	-	HS-03	
103B	STORAGE	3' - 0"	8' - 0 3/4"	-	WD	FL	-	HM	A	-	HS-04	ACCESS CONTROL
103C	STORAGE	3' - 0"	8' - 2"	-	HM	FL	-	HM	A	-	HS-03	
105.1	VESTIBULE	3' - 0"	8' - 1 5/8"	-	AL	FG-AL	GL-10	AL	SEE 10.10	GL-10	HS-10	PANIC HARDWARE, AUTO OPERATOR, ACCESS CONTROL
105.2	VESTIBULE	3' - 0"	8' - 1 5/8"	-	AL	FG-AL	GL-10	AL	SEE 10.10	GL-10	HS-11	PANIC HARDWARE, AUTO OPERATOR

GLAZING SCHEDULE

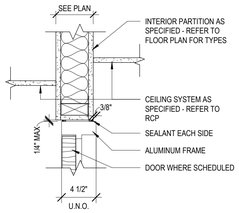
GL-04	9/16" CLEAR LAMINATED GLASS - STC 39
GL-10	1" INSULATED, TEMPERED CLEAR GLASS
GL-11	1" INSULATED, TEMPERED SPANDREL



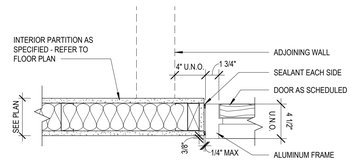
3 HOLLOW METAL FRAME - HEAD & SILL
1 1/2" = 1'-0"



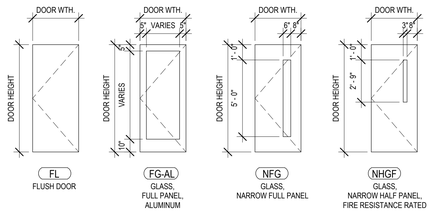
4 HOLLOW METAL FRAME - JAMB
1 1/2" = 1'-0"



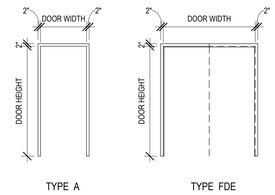
5 ALUMINUM FRAME - HEAD
1 1/2" = 1'-0"



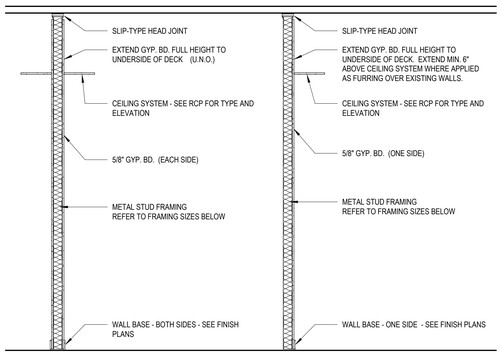
6 ALUMINUM FRAME - JAMB
1 1/2" = 1'-0"



1 DOOR ELEVATIONS
1/4" = 1'-0"



2. FRAME ELEVATIONS
1/4" = 1'-0"

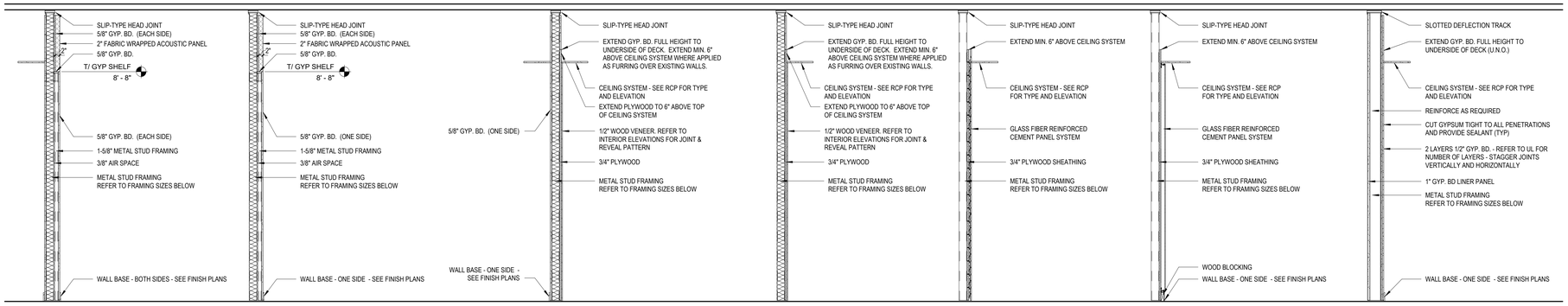


A - GYP BD EACH SIDE
CONSTRUCT PER UL: U419 AT SMOKE AND 1-HR FIRE RESISTANCE RATED PARTITIONS

- S1A 1-5/8" METAL STUD FRAMING
- S2A 2-1/2" METAL STUD FRAMING
- S3A 3-5/8" METAL STUD FRAMING
- S6A 6" METAL STUD FRAMING

B - GYP BD ONE SIDE

- S1B 1-5/8" METAL STUD FRAMING
- S2B 2-1/2" METAL STUD FRAMING
- S3B 3-5/8" METAL STUD FRAMING
- S6B 6" METAL STUD FRAMING



C - DOUBLE STUD, GYP BD EACH SIDE

- S3C 3-5/8" METAL STUD FRAMING

D - DOUBLE STUD, GYP BD ONE SIDE

- S3D 3-5/8" METAL STUD FRAMING

E - GYP BD ONE SIDE, WOOD VENEER ONE SIDE

- S3E 3-5/8" METAL STUD FRAMING

F - WOOD VENEER ONE SIDE

- S3F 3-5/8" METAL STUD FRAMING
- S6F 6" METAL STUD FRAMING

G - GFRC PANELS ON SIDE

- S3G 3-5/8" METAL STUD FRAMING

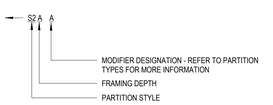
H - ACM PANELS ON SIDE

- S3H 3-5/8" METAL STUD FRAMING

SHAFT WALL
CONSTRUCT PER UL: U415 AT SMOKE AND 2-HR FIRE RESISTANCE RATED PARTITIONS

- SW4 4" C-H STUD SHAFT WALL FRAMING
- SW6 6" C-H STUD SHAFT WALL FRAMING

PARTITION TYPE LEGEND



PARTITION TYPE GENERAL NOTES:

1. ALL INTERIOR PARTITIONS SHALL BE TYPE S1A (U.N.O.)
2. ALL GYP BD ENCLOSURES AROUND COLUMNS SHALL BE TYPE S2D (U.N.O.)
3. PROVIDE SOLID FIRE RETARDANT TREATED WOOD BLOCKING, FLAT METAL STRAPS, OR METAL BACKING PLATES AT ALL WALL MOUNTED FIXTURES AND ACCESSORIES, INCLUDING BUT NOT LIMITED TO, DOOR STOPS, MILLWORK, DIGITAL DISPLAYS, VISUAL DISPLAY BOARDS, TOILET PARTITIONS, AND SIMILAR CONDITIONS.
4. PROVIDE MOISTURE RESISTANT GYP BD AT ALL PLUMBING PARTITIONS NOT SCHEDULED TO RECEIVE TILE.
5. SEE SPECIFICATIONS FOR ORIENTATION OF GYP BD PANELS, SIZING, AND SPACING OF METAL STUD FRAMING.
6. SEE SPECIFICATIONS FOR TYPE AND SPACING OF CMU HORIZONTAL JOINT REINFORCEMENT.
7. SEE INTERIOR ELEVATIONS FOR ANY GYP BD REVEAL PATTERNS.
8. FIRE-RESISTANCE-RATED SEPARATIONS
   A. SEE CODE COMPLIANCE PLANS FOR LOCATIONS AND TYPES OF FIRE RESISTANCE-RATED SEPARATIONS.
   B. AT SMOKE PARTITIONS, FIRE PARTITIONS AND FIRE BARRIERS, WALL ASSEMBLY CONSTRUCTION SHALL EXTEND FROM TOP OF FLOOR TO THE UNDERSIDE OF THE FLOOR, ROOF SLAB, OR DECK ABOVE.
   C. ALL PARTITIONS SHALL HAVE THE FOLLOWING PERMANENTLY AFFIXED MARKINGS AND IDENTIFICATION:
      a. 1/2" HIGH LETTERING, INDICATING RATING AND FIRE RESISTANCE RATED PARTITION TYPE, I.E. "2-HR FIRE WALL" OR "1-HR FIRE BARRIER", AND SHALL ALSO INCLUDE THE FOLLOWING SUFFIX: "PROTECT ALL OPENINGS AND PENETRATIONS"
      b. LOCATE LETTERING ABOVE ACCESSIBLE CEILINGS AT INTERVALS NOT TO EXCEED 30'-0". THERE SHOULD BE A MINIMUM OF ONE MARKING PER WALL, PER ROOM.

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DKA PROJECT NO:24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
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NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:
DOOR SCHEDULE AND WALL TYPES

SHEET NUMBER:
A10.00

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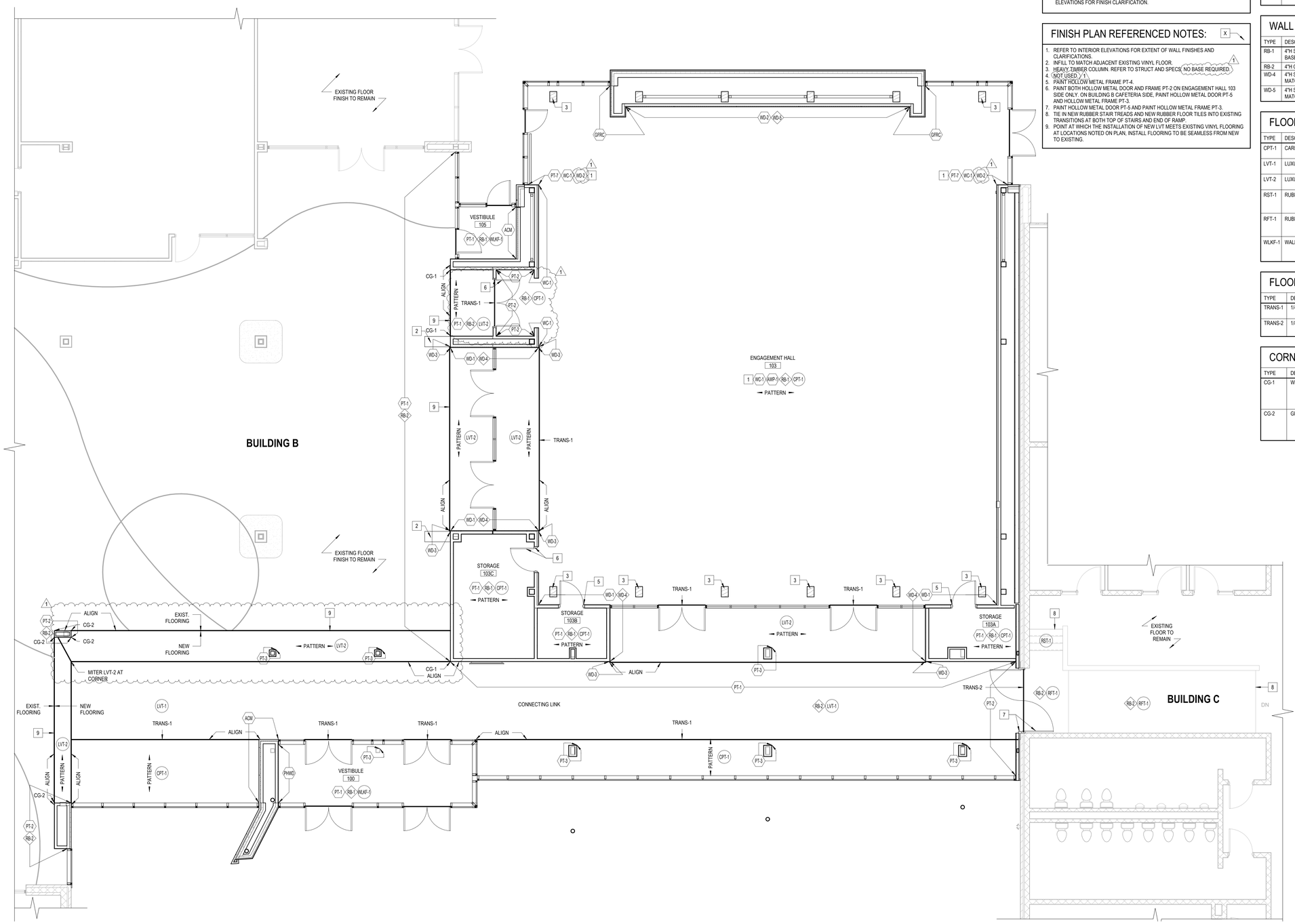

1 FINISH PLAN - OVERALL
3/16" = 1'-0"

FINISH PLAN SYMBOLS LEGEND:

(X) WALL FINISH TYPE (X) WALL BASE TYPE (X) FLOOR FINISH TYPE

FINISH PLAN GENERAL NOTES:

1. PAINT ALL EXPOSED CONDUIT, DUCTWORK, PIPING, ETC. IN ALL FINISHED SPACES. REFER TO INTERIOR FINISH PLANS AND REFLECTED CEILING PLANS FOR CLARIFICATIONS.
2. PAINT ALL EXPOSED METAL ON EXTERIOR INCLUDING, BUT NOT LIMITED TO: CONDUIT, PIPING, FLASHING, MECHANICAL FLUES AND DUCTS, AND HOLLOW METAL FRAMES AND DOORS.
3. PROVIDE CEMENTITIOUS SELF-LEVELING UNDERLAYMENT AT REMOVAL OF EXISTING FLOOR DRAINS AS REQUIRED TO PROVIDE A LEVEL SUBSTRATE FOR NEW FLOOR FINISH.
4. **ALL FINISHES ARE MONUMENTAL PER ROOM UNLESS NOTED OTHERWISE.**
5. AT ALL LOCATIONS WHERE EXISTING CASEWORK IS TO REMAIN, THE SUBSEQUENT BASE TYPE SPECIFIED FOR EACH ROOM SHALL BE INSTALLED OVER CASEWORK TOE KICKS UNLESS NOTED OTHERWISE. REFER TO FLOOR PLANS FOR CASEWORK LOCATIONS.
6. ALL CARPET TILE TO BE INSTALLED ASHLAR UNLESS SPECIFIED OTHERWISE.
7. ALL LUXURY VINYL TILE TO BE INSTALLED RANDOM STAGGERED UNLESS SPECIFIED OTHERWISE.
9. ALL EXPOSED CEILING DUCT WORK IN ENGAGEMENT HALL 103 TO BE PAINTED PT-6. REFER TO RCP AND MECH.
10. FOR ALL WALLS WITH MULTIPLE WALL FINISH TAGS, REFER TO INTERIOR ELEVATIONS FOR FINISH CLARIFICATION.

FINISH PLAN REFERENCED NOTES:

1. REFER TO INTERIOR ELEVATIONS FOR EXTENT OF WALL FINISHES AND CLARIFICATIONS.
2. INFILL TO MATCH ADJACENT EXISTING VINYL FLOOR.
3. HEAVY TIMBER COLUMN. REFER TO STRUCT AND SPECS.
4. NOT USED.
5. PAINT HOLLOW METAL FRAME PT-4.
6. PAINT BOTH HOLLOW METAL DOOR AND FRAME PT-2 ON ENGAGEMENT HALL 103 SIDE ONLY, ON BUILDING B CAFETERIA SIDE, PAINT HOLLOW METAL DOOR PT-5 AND HOLLOW METAL FRAME PT-3.
7. PAINT HOLLOW METAL DOOR PT-5 AND PAINT HOLLOW METAL FRAME PT-3.
8. TIE IN NEW RUBBER STAIR TREADS AND NEW RUBBER FLOOR TILES INTO EXISTING TRANSITIONS AT BOTH TOP OF STAIRS AND END OF RAMP.
9. POINT AT WHICH THE INSTALLATION OF NEW LVT MEETS EXISTING VINYL FLOORING AT LOCATIONS NOTED ON PLAN, INSTALL FLOORING TO BE SEAMLESS FROM NEW TO EXISTING.

WALL FINISH TYPES:

TYPE	DESCRIPTION	MANUFACTURER	NAME/#/COLOR
PT-1	GENERAL PAINT	BENJAMIN MOORE	CHALK WHITE 2126-70
PT-2	GRAY PAINT	SHERWIN WILLIAMS	ACIER 9170
PT-3	BLACK PAINT	BENJAMIN MOORE	BLACK 2132-10
PT-4	TAN PAINT	SHERWIN WILLIAMS	SOFT FAWN 9097
PT-5	DARK GRAY PAINT	SHERWIN WILLIAMS	DOVETAIL 7018
PT-6	DUCT WORK PAINT	SHERWIN WILLIAMS	BEIGE INTENSO 9096
PT-7	IVORY PAINT	SHERWIN WILLIAMS	CRUSHED ICE 7647
WC-1	WALLCOVERING	MOMENTUM	BRISTOL; SILVERADO
WD-1	WOOD VENEER PANEL	SEE SPEC	STAINED TO MATCH ARCHITECT SAMPLE, LIGHT WOOD FINISH (REFER TO SPECS)
WD-2	WOOD VENEER PANEL	SEE SPEC	STAINED TO MATCH ARCHITECT SAMPLE, DARK WOOD FINISH (REFER TO SPECS)
WD-3	SOLID WOOD EDGE TRIM TO MATCH WD-1	SEE SPEC	SEE SPEC
GFRC	GFRC	SEE SPEC	SEE SPEC
PHWD	PHENOLIC WOOD	SEE SPEC	SEE SPEC
ACM	ACM METAL PANEL	SEE SPEC	SEE SPEC
AWP-1	ACOUSTIC WALL PANEL	SEE SPEC	DUVALTEX / TWEED / BLEACH WHITE

WALL BASE TYPES:

TYPE	DESCRIPTION	MANUFACTURER	NAME/#/COLOR
RB-1	4"H STRAIGHT RUBBER BASE	JOHNSONITE	40 BLACK
RB-2	4"H COVE RUBBER BASE	JOHNSONITE	40 BLACK
WD-4	4"H SOLID WOOD BASE TO MATCH WD-1	SEE SPEC	SEE SPEC
WD-5	4"H SOLID WOOD BASE TO MATCH WD-2	SEE SPEC	SEE SPEC

FLOOR FINISH TYPES:

TYPE	MANUFACTURER	NAME/#/COLOR
CPT-1	INTERFACE	OPEN AIR 402 / GRANITE 106742, 9X36
LVT-1	MOHAWK GROUP	TERRAZZO 2.5MM / TEPHRA 727 / 12X24
LVT-2	MANNINGTON	SPACIA WOOD 2.5MM / SPRING MAPLE/ 7X48
RST-1	JOHNSONITE	RUBBER TREAD/ RISER, RAISED ROUND, COLOR: BURNT UMBER 63
RFT-1	JOHNSONITE	RUBBER TILE, RAISED ROUND, COLOR: BURNT UMBER 63, 24X24
WLKF-1	SHAW CONTRACT	WELCOME II TILE / EBONY 31500 24X24, INSTALL: MONOLITHIC

FLOOR TRANSITION TYPES:

TRANS-X

TYPE	DESCRIPTION	MANUFACTURER	NAME/#/COLOR
TRANS-1	1/4" TO 1/8"	JOHNSONITE	SLT-XX-A, COLOR: BURNT UMBER 63
TRANS-2	1/8" TO 0.80"	JOHNSONITE	SLT-XX-B, COLOR: BURNT UMBER 63

CORNER GUARD TYPES:

CG-X

TYPE	DESCRIPTION	MANUFACTURER	COLOR/ LENGTH
CG-1	WHITE	INPRO	TAPE-ON CORNER GUARDS, 3/4" X 3/4", ADHESIVE APPLIED, FULL HEIGHT, COLOR: FEATHER 0238
CG-2	GRAY	INPRO	TAPE-ON CORNER GUARDS, 3/4" X 3/4", ADHESIVE APPLIED, FULL HEIGHT, COLOR: SHIPROCK 0280

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SHEET STATUS: 05/16/2025
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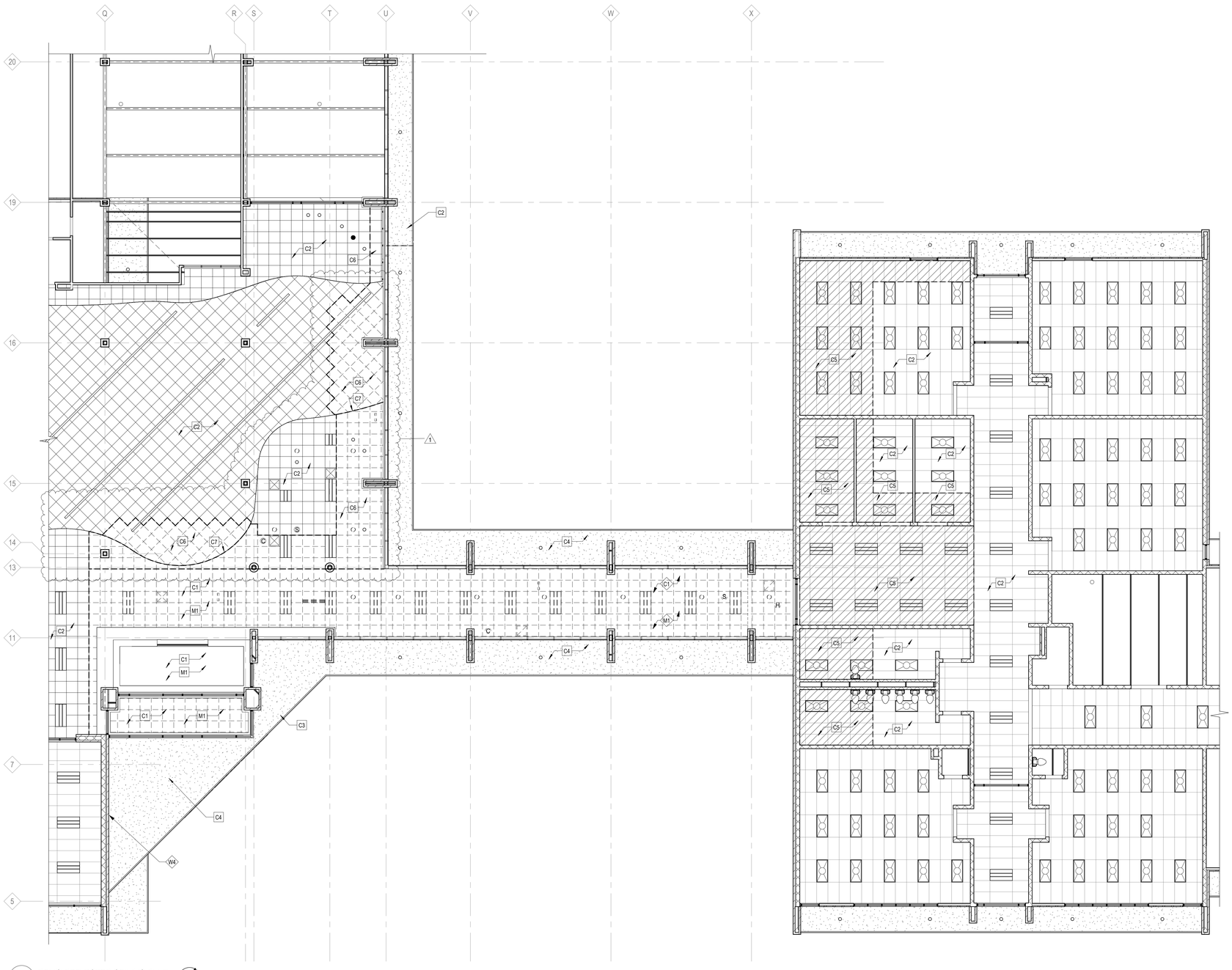
NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

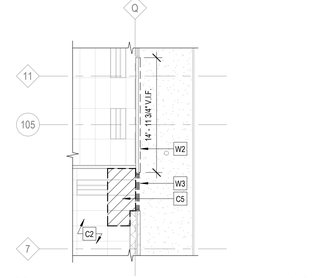
SHEET TITLE:
FINISH PLAN - EVENT CENTER & ENTRY

SHEET NUMBER:
A11.01

5/29/2025 1:51:15 PM



1 DEMO REFLECTED CEILING PLAN
1/8" = 1'-0"



2 DEMO REFLECTED CEILING PLAN - 2ND FL.
1/8" = 1'-0"

DEMO SYMBOLS LEGEND:

NOTE: REFER TO M.E.P.F.P. DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, AND FIRE PROTECTION SYSTEMS

- HATCH INDICATES AREA NOT IN SCOPE
- GYPSUM BOARD OR PLASTER PARTITION TO BE REMOVED
- CMU PARTITION TO BE REMOVED
- FRAME AND DOOR TO BE REMOVED, SALVAGE HARDWARE TO OWNER
- SUSPENDED ACOUSTICAL TILE CEILING TO BE REMOVED
- SUSPENDED ACOUSTICAL TILE CEILING TO REMAIN
- GYPSUM BOARD OR PLASTER CEILING TO BE REMOVED
- GYPSUM BOARD OR PLASTER CEILING TO REMAIN
- RECESSED 2'x4' LAY-IN LIGHT FIXTURE TO BE REMOVED
- RECESSED 2'x2' LAY-IN LIGHT FIXTURE TO BE REMOVED
- RECESSED 2'x4' LAY-IN LIGHT FIXTURE TO REMAIN
- RECESSED 2'x2' LAY-IN LIGHT FIXTURE TO REMAIN
- LINEAR LIGHT FIXTURE TO BE REMOVED
- REMOVE CEILING MOUNTED PROJECTOR - SALVAGE TO OWNER
- RETURN AIR GRILLE TO BE REMOVED
- SUPPLY AIR GRILLE TO BE REMOVED
- RETURN AIR GRILLE TO REMAIN
- SUPPLY AIR GRILLE TO REMAIN

DEMO GENERAL NOTES:

1. PRIOR TO AND DURING ANY DEMOLITION THE CONTRACTOR SHALL VERIFY AND MAINTAIN THE BUILDING'S STRUCTURAL INTEGRITY.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AS REQUIRED TO INSTALL ALL NEW WORK. REPAIR, PATCH AND FINISH EXISTING FLOORS, WALLS AND CEILINGS DESIGNATED TO REMAIN TO MATCH EXISTING CONDITIONS.
3. REMOVE ALL HANGERS, SUSPENSION SYSTEMS, SUPPORT FRAMING, EQUIPMENT PADS, ANCHORS, ATTACHMENT HARDWARE AND RELATED APPURTENANCES CONNECTED WITH THE WORK TO BE DEMOLISHED. IF COMPLETE REMOVAL IS NOT POSSIBLE, CUT DEVICES AS CLOSE AS POSSIBLE TO ADJOINING SURFACES OR ORIGIN OF SUPPORT.
4. DURING THE BIDDING PERIOD, EACH BIDDING CONTRACTOR SHALL VISIT THE SITE AND THE FACILITY TO DETERMINE EXISTING CONDITIONS. CONTRACTOR'S FAILURE TO REASONABLY DETERMINE AND/OR ANTICIPATE THE EFFECT OF EXISTING CONDITIONS AND THE WORK INVOLVED THEREBY SHALL NOT BE JUSTIFICATION FOR ADDITIONAL COMPENSATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
5. ALL MATERIALS, EQUIPMENT, FIXTURES, SYSTEMS, AND ACCESSORIES WHICH ARE TO REMAIN IN SERVICE SHALL BE CLEANED, REPAIRED, ADJUSTED AND PLACED INTO PROPER OPERATIONS IN ALL MODES WITH THE ORIGINAL SYSTEM.
6. WHEN TEMPORARY SHORING AND BRACING IS REQUIRED, CONTRACTOR SHALL RETAIN AND PAY FOR THE SERVICES OF A PROFESSIONAL ENGINEER- LICENSED TO PRACTICE IN THE STATE WHERE THE PROJECT IS LOCATED- TO DESIGN AND PREPARE DETAILED DRAWINGS.
7. CONTRACTOR SHALL COORDINATE SCHEDULE OF DEMOLITION WORK WITH THE OVERALL PHASING PLAN. ALL AREAS SURROUNDING EACH PHASE OF DEMOLITION/CONSTRUCTION WILL BE OCCUPIED BY THE OWNER DURING THE OWNER'S NORMAL BUSINESS HOURS. DEMOLITION WORK SHALL NOT ENCUMBER THE USE OF EXISTING ADJACENT SPACES.
8. EACH CONTRACTOR SHALL FOLLOW THE PROGRESS OF THE GENERAL DEMOLITION AND REMODELING WORK TO ASSURE THE ACCESSIBILITY AND SAFETY OF EQUIPMENT AND SYSTEMS IN SERVICE IN ORDER TO PROVIDE FOR THE TIMELY REMOVAL AND/OR RELOCATION OF EQUIPMENT, PIPING, ETC.
9. REMOVE ALL ABANDONED CONDUIT BOXES, CONDUCTORS, TELEPHONE LINES, ELECTRIC PANELS, AND ANY OTHER MISCELLANEOUS EQUIPMENT NOT REQUIRED FOR THE NEW FACILITY.
10. REMOVE ALL RECESSED FLOOR BOXES, WALKER DUCTS, FLOOR SINKS, HUB DRAINS, ELECTRICAL RECEPTACLES, ETC. AND FILL VOIDS AS REQUIRED.
11. REMOVE ALL DOOR STOPS AT ASSOCIATED DOORS TO BE DEMOLISHED.
12. NO TOXIC SUBSTANCES HAVE BEEN NOTED ON THE SITE. SHOULD THE CONTRACTOR ENCOUNTER ANY ASBESTOS, ASBESTOS PRODUCTS, PCBs OR OTHER TOXIC SUBSTANCES, THE CONTRACTOR SHOULD REPORT THIS IMMEDIATELY TO THE OWNER IN WRITING PRIOR TO CONTINUING WORK IN THIS AREA. WORK SHALL NOT BE RESUMED EXCEPT BY WRITTEN AUTHORIZATION OR AGREEMENT.
13. ALL CONSTRUCTION DEBRIS AND EXCESS MATERIAL IS TO BE REMOVED BY THE CONTRACTOR AT THE END OF EACH WORK DAY. THE JOB SITE IS TO BE LEFT SUFFICIENTLY CLEAN AS TO WARRANT OWNER'S APPROVAL.
14. REMOVE ALL CEILING SYSTEMS IN THEIR ENTIRETY, INCLUDING TILE, GRID, SUSPENSION WIRING, ANCHORS AND ALL ASSOCIATED APPURTENANCES.
15. PATCH EXISTING PARTITION TO MATCH ADJACENT SURFACES AT REMOVAL OF EXISTING ELECTRICAL DEVICES - REFER TO ELECTRICAL DRAWINGS.

DEMO REFERENCED NOTES:

FLOOR DEMOLITION KEYED NOTES

F1. REMOVE PORTION OF EXISTING FLOOR FINISH
F2. EXISTING FLOOR FINISH TO REMAIN
F3. REMOVE PORTION OF EXISTING SLAB ON GRADE, SEE STRUCT.
F4. PORTION OF EXISTING SLAB ON GRADE TO REMAIN, SEE STRUCT.
F5. SEE CIVIL FOR EXTENT AND SCOPE OF SITE DEMOLITION.

WALL DEMOLITION KEYED NOTES

W1. CAREFULLY REMOVE EXISTING FACE BRICK AND SET ASIDE AND STORE FOR FUTURE REINSTALLATION. REMOVE EXISTING BRICK WALL COLUMN ENCLOSURES AND ALL ASSOCIATED HARDWARE. STEEL COLUMNS TO REMAIN AND PROTECT THROUGHOUT CONSTRUCTION.
W2. REMOVE GYP / MTL STUD PARTITION TO EXTENTS INDICATED. RELOCATE ANY PIPING OR WIRING FEEDING ANY EXISTING TO REMAIN DEVICES OR FIXTURES. PATCH AND PREP ADJACENT WALLS TO REMAIN FOR NEW WORK.
W3. REMOVE EXISTING STOREFRONT SYSTEM
W4. REMOVE OVERHANG, PATCH BRICK WALL AS NEEDED
W5. REMOVE EXISTING RIBBED WALL BASE
W6. REMOVE EXISTING COLUMN ENCLOSURES (INCLUDING ALL ASSOCIATED ELEMENTS)
W7. REMOVE EXISTING HOLLOW METAL DOOR, FRAME, AND SIDELITES
W8. REMOVE PORTION (2" INSULATED METAL PANEL, 7/8" HAT CHANNEL, AND BATT INSULATION) OF EXISTING EXTERIOR WALL. METAL STUD, GYP BD, AND COPING AT SOFFIT TO REMAIN.

CEILING DEMOLITION KEYED NOTES

C1. REMOVE EXISTING SUSPENDED CEILING SYSTEM COMPLETE, INCLUDING ALL ACCESSORIES, SUSPENSION WIRES, CLIPS, ETC. TO EXTENTS SHOWN (SAT TILES TO BE SALVAGED FOR POTENTIAL RE-USE)
C2. EXISTING CEILING TO REMAIN. PROTECT THROUGHOUT CONSTRUCTION AND TIE INTO NEW CEILING SYSTEM AS REQUIRED.
C3. REMOVE EXISTING STEEL STRUCTURE
C4. REMOVE EXISTING EXTERIOR SOFFIT ASSEMBLY, INCLUDING ALL MTL STUD FRAMING, MTL STUD BRACING, AND LIGHTING
C5. TILES TO BE REMOVED, SALVAGED, AND REPLACED AS REQUIRED FOR SPRAY APPLIED FIRE RESISTIVE MATERIAL AND MECHANICAL DUCTWORK. (REFER TO CODE PLAN AND MEP)
C6. TILES TO BE REMOVED, SALVAGE, AND REPLACED AS REQUIRED FOR MECHANICAL DUCTWORK. (REFER TO MECHANICAL)
C7. CEILING EDGE TRIM TO BE REMOVED AS REQUIRED FOR DEMO / NEW WORK.

MISCELLANEOUS DEMOLITION KEYED NOTES

M1. REMOVE MECHANICAL AND PLUMBING SYSTEM (INCLUDING ALL ASSOCIATED PIPING, DUCT, UTILITIES, AND ACCESSORIES) COMPLETE.
M2. EXISTING, DOOR & FRAME TO REMAIN. PROTECT THROUGHOUT CONSTRUCTION.
M3. EXISTING WINDOW SYSTEM TO REMAIN. PROTECT THROUGHOUT CONSTRUCTION.
M4. EXISTING BRICK COLUMN WRAP TO REMAIN. PROTECT THROUGHOUT CONSTRUCTION.

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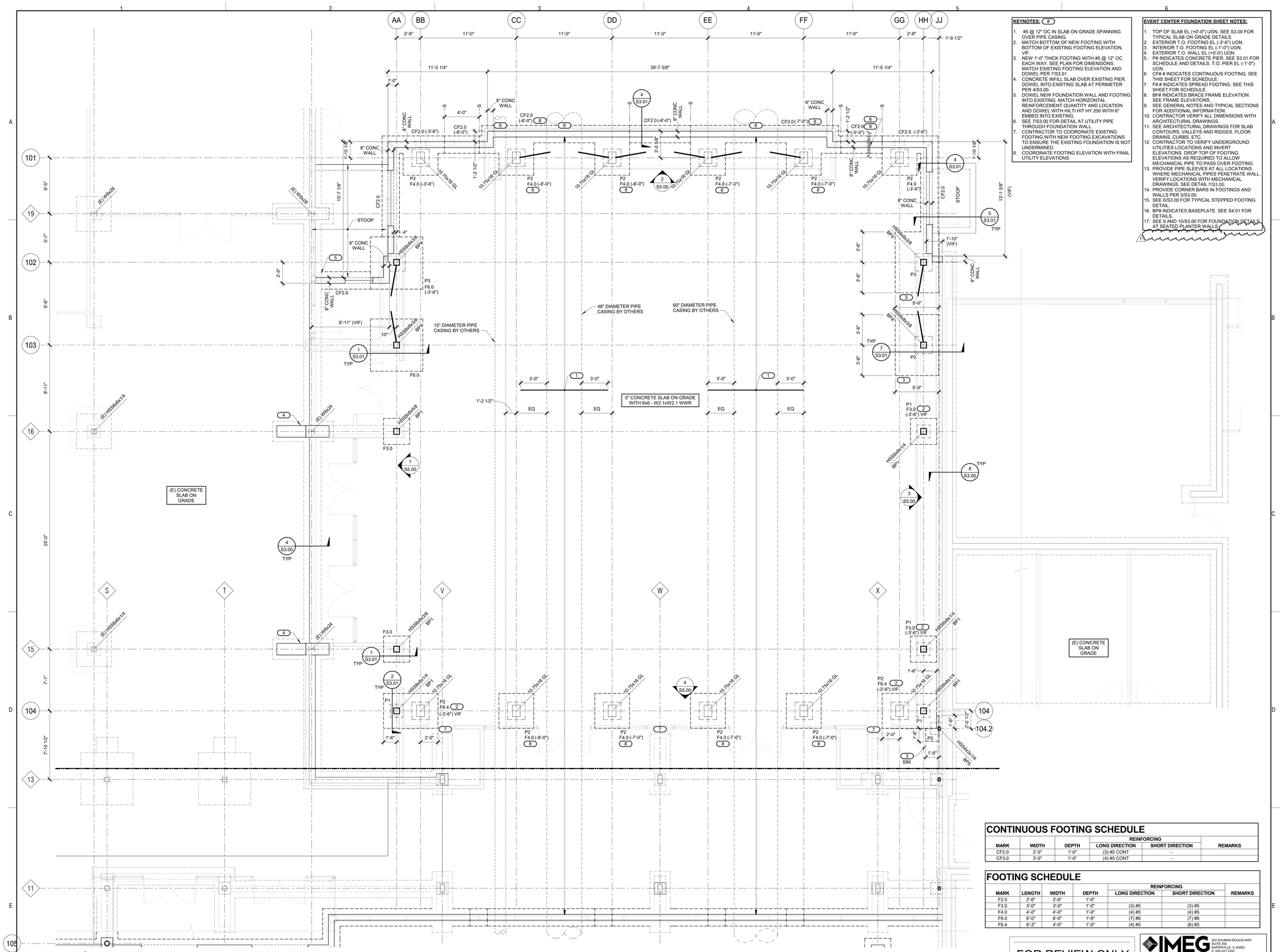
NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/25

SHEET TITLE:
DEMOLITION RCP

SHEET NUMBER:
AD2.01

5/29/2025 1:51:18 PM



KEYNOTES: (#)

1. #5 @ 12" OC IN SLAB ON GRADE SPANNING OVER PIPE CASING.
2. MATCH BOTTOM OF NEW FOOTING WITH BOTTOM OF EXISTING FOOTING ELEVATION, VIF.
3. NEW 1'-0" THICK FOOTING WITH #5 @ 12" OC EACH WAY. SEE PLAN FOR DIMENSIONS. MATCH EXISTING FOOTING ELEVATION AND DOWEL PER 7/S3.01.
4. CONCRETE INFILL SLAB OVER EXISTING PIER. DOWEL INTO EXISTING SLAB AT PERIMETER PER 4/S3.00.
5. DOWEL NEW FOUNDATION WALL AND FOOTING INTO EXISTING. MATCH HORIZONTAL REINFORCEMENT QUANTITY AND LOCATION AND DOWEL WITH HILTI HIT HY 200 WITH 6" EMBED INTO EXISTING.
6. SEE 7/S3.00 FOR DETAIL AT UTILITY PIPE THROUGH FOUNDATION WALL.
7. CONTRACTOR TO COORDINATE EXISTING FOOTING WITH NEW FOOTING EXCAVATIONS TO ENSURE THE EXISTING FOUNDATION IS NOT UNDERMINED.
8. COORDINATE FOOTING ELEVATION WITH FINAL UTILITY ELEVATIONS.

EVENT CENTER FOUNDATION SHEET NOTES:

1. TOP OF SLAB EL (+0'-0") UON. SEE S3.00 FOR TYPICAL SLAB ON GRADE DETAILS.
2. EXTERIOR T.O. FOOTING EL (-3'-6") UON.
3. INTERIOR T.O. FOOTING EL (-1'-0") UON.
4. EXTERIOR T.O. WALL EL (+0'-0") UON.
5. P# INDICATES CONCRETE PIER. SEE S3.01 FOR SCHEDULE AND DETAILS. T.O. PIER EL (-1'-0") UON.
6. CF#.# INDICATES CONTINUOUS FOOTING. SEE THIS SHEET FOR SCHEDULE.
7. F#.# INDICATES SPREAD FOOTING. SEE THIS SHEET FOR SCHEDULE.
8. BF# INDICATES BRACE FRAME ELEVATION. SEE FRAME ELEVATIONS.
9. SEE GENERAL NOTES AND TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
10. CONTRACTOR VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
11. SEE ARCHITECTURAL DRAWINGS FOR SLAB CONTOURS, VALLEYS AND RIDGES, FLOOR DRAINS, CURBS, ETC.
12. CONTRACTOR TO VERIFY UNDERGROUND UTILITIES LOCATIONS AND INVERT ELEVATIONS. DROP TOP OF FOOTING ELEVATIONS AS REQUIRED TO ALLOW MECHANICAL PIPE TO PASS OVER FOOTING.
13. PROVIDE PIPE SLEEVES AT ALL LOCATIONS WHERE MECHANICAL PIPES PENETRATE WALL. VERIFY LOCATIONS WITH MECHANICAL DRAWINGS. SEE DETAIL 7/S3.00.
14. PROVIDE CORNER BARS IN FOOTINGS AND WALLS PER 5/S3.00.
15. SEE 6/S3.00 FOR TYPICAL STEPPED FOOTING DETAIL.
16. BP# INDICATES BASEPLATE. SEE S4.01 FOR DETAILS.
17. SEE 9 AND 10/S3.00 FOR FOUNDATION DETAILS AT SEATED PLANTER WALLS.

CONTINUOUS FOOTING SCHEDULE

MARK	WIDTH	DEPTH	REINFORCING		REMARKS
			LONG DIRECTION	SHORT DIRECTION	
CF2.0	2'-0"	1'-0"	(3) #5 CONT	-	
CF3.0	3'-0"	1'-0"	(4) #5 CONT	-	

FOOTING SCHEDULE

MARK	LENGTH	WIDTH	DEPTH	REINFORCING		REMARKS
				LONG DIRECTION	SHORT DIRECTION	
F2.5	2'-6"	2'-6"	1'-0"			
F3.0	3'-0"	3'-0"	1'-0"	(3) #5	(3) #5	
F4.0	4'-0"	4'-0"	1'-0"	(4) #5	(4) #5	
F6.0	6'-0"	6'-0"	1'-0"	(7) #6	(7) #6	
F6.4	6'-3"	4'-0"	1'-0"	(4) #5	(6) #5	

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

1 NORTH

1 ENGAGEMENT HALL FOUNDATION PLAN

1/4" = 1'-0"

dka

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1	ADDENDUM 1	05/27/2025

SHEET TITLE:
1 ENGAGEMENT HALL FOUNDATION PLAN

SHEET NUMBER:
S1.00

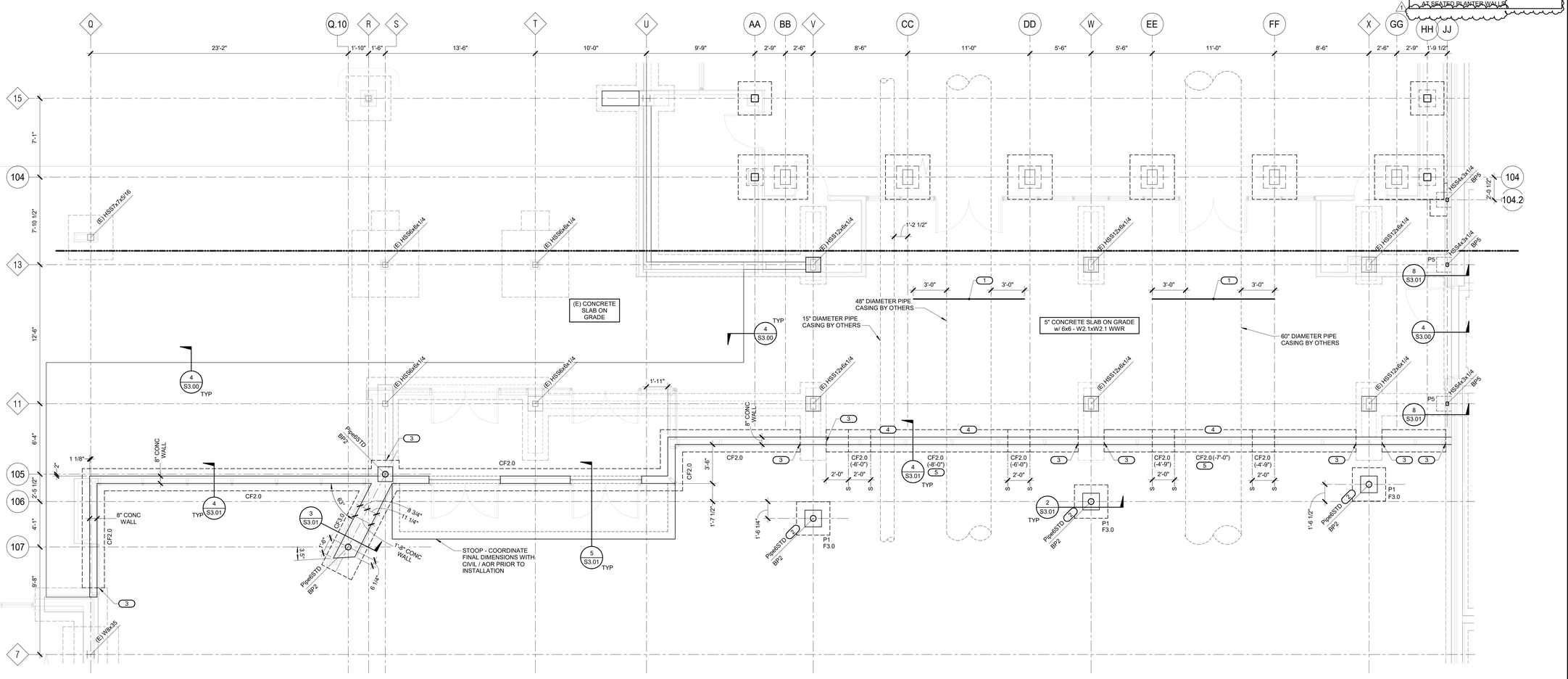
5/23/2025 8:29:02 AM

KEYNOTES: (#)

1. #5 @ 12" OC IN SLAB ON GRADE SPANNING OVER PIPE CASING.
2. PROVIDE AESS CATEGORY 2 AT EXPOSED STEEL.
3. DOWEL NEW FOUNDATION WALL AND FOOTING INTO EXISTING. MATCH HORIZONTAL REINFORCEMENT QUANTITY AND LOCATION AND DOWEL WITH HILTI HIT HY 200 WITH 6" EMBED INTO EXISTING.
4. SEE 7/S3.00 FOR DETAIL AT UTILITY PIPE THROUGH FOUNDATION WALL.
5. COORDINATE FOOTING ELEVATION WITH FINAL UTILITY ELEVATIONS.

MAIN ENTRANCE FOUNDATION SHEET NOTES:

1. TOP OF SLAB EL (+0'-0") UON. SEE S3.00 FOR TYPICAL SLAB ON GRADE DETAILS.
2. EXTERIOR T.O. FOOTING EL (-3'-6") UON.
3. INTERIOR T.O. FOOTING EL (-1'-0") UON.
4. EXTERIOR T.O. WALL EL (+0'-0") UON.
5. P# INDICATES CONCRETE PIER. SEE S3.01 FOR SCHEDULE AND DETAILS. T.O. PIER EL (-1'-0") UON.
6. CF# # INDICATES CONTINUOUS FOOTING. SEE S1.00 FOR SCHEDULE.
7. F#.# INDICATES SPREAD FOOTING. SEE S1.00 FOR SCHEDULE.
8. BF# INDICATES BRACE FRAME ELEVATION. SEE FRAME ELEVATIONS.
9. SEE GENERAL NOTES AND TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
10. CONTRACTOR VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
11. SEE ARCHITECTURAL DRAWINGS FOR SLAB CONTOURS, VALLEYS AND RIDGES, FLOOR DRAINS, CURBS, ETC.
12. CONTRACTOR TO VERIFY UNDERGROUND UTILITIES LOCATIONS AND INVERT ELEVATIONS. DROP TOP OF FOOTING ELEVATIONS AS REQUIRED TO ALLOW MECHANICAL PIPE TO PASS OVER FOOTING.
13. PROVIDE PIPE SLEEVES AT ALL LOCATIONS WHERE MECHANICAL PIPES PENETRATE WALL. VERIFY LOCATIONS WITH MECHANICAL DRAWINGS. SEE DETAIL 7/S3.00.
14. PROVIDE CORNER BARS IN FOOTINGS AND WALLS PER 5/S3.00.
15. SEE 6/S3.00 FOR TYPICAL STEPPED FOOTING DETAIL.
16. BP# INDICATES BASEPLATE. SEE S4.01 FOR DETAILS.
17. SEE 9 AND 10/S3.00 FOR FOUNDATION DETAILS AT SEATED PLANTER WALL.



1 MAIN ENTRANCE FOUNDATION PLAN

1/4" = 1'-0"

NORTH

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McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

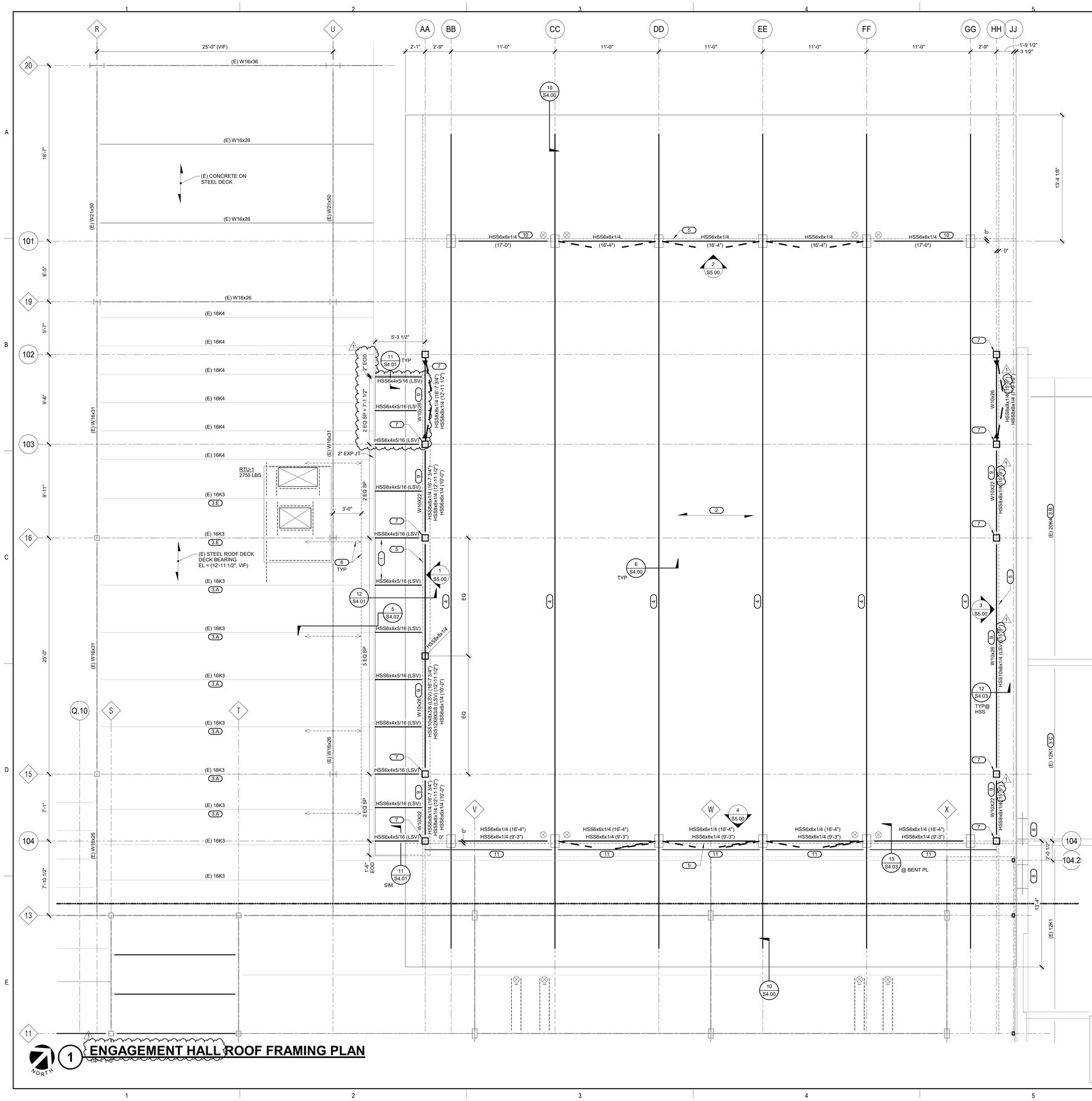
SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/2025

SHEET TITLE:
MAIN ENTRANCE FOUNDATION PLAN

SHEET NUMBER:
S1.01

5/23/2025 8:29:03 AM



FRAMING NOTES:

1. DECK BERAING ELEVATION NOTED ON PLAN.
2. SEE GENERAL NOTES AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
3. SEE S4.01 FOR TYPICAL SHEAR AND MOMENT CONNECTION DETAILS.
4. PROVIDE ANGLE FRAMING UNDER ALL ROOFTOP MECHANICAL EQUIPMENT CURBS AND AROUND ALL ROOF OPENINGS PER 1/S4.02.
5. PROVIDE STRUT PER 2/S4.02 WHERE CONCENTRATED LOAD IS APPLIED OFF JOIST PANEL POINT.
6. SEE 4/S4.00 FOR TYPICAL GLULAM COLUMN TO BEAM CONNECTION DETAIL.
7. SEE S4.00 FOR TYPICAL CLT DETAILS.

(#) — INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL

KEYNOTES: (#)

1. 1 1/2" (20 GA) TYPE B STEEL ROOF DECK (3 SPAN MINIMUM). FASTENING = 36/4 (2) WITH 5/8" PUDDLE WELDS AND #10 TEK SCREW SIDELAP FASTENERS. DECK BEARING EL (12'-11 1/2"). MATCH EXISTING ELEVATION, VIF.
2. 5-PLY CROSS LAMINATED TIMBER (CLT) DECKING (TOTAL THICKNESS = 5.47") GRADE V2.1. ALL VALUES TO BE COORDINATED WITH THE MANUFACTURER FOR FINALIZED PROPERTIES.
3. JOISTS REINFORCEMENT REQUIRED, SEE DETAIL 2/S4.02 FOR MORE INFORMATION. THE LETTER CORRESPONDS TO THE TYPE OF REINFORCING.
4. 10.75x42 GLULAM BEAM WITH TAPERED ENDS. SEE ARCHITECTURAL FOR PROFILE AT CANTILEVERED ENDS. PROVIDE ADDITIONAL COMPRESSION/TENSION LAMINATIONS AT TAPERED CANTILEVERED ENDS. CAMBER BEAM UPWARD 3/4".
5. (3)CS14 COILED STRAP INSTALLED ON TOPSIDE OF CLT. INSTALL PER MANUFACTURER SPECIFICATIONS.
6. L8x4x1/2 (LLV) AND KICKERS PER 5/S4.02.
7. SEE 11/S4.00 FOR TOP OF COLUMN DETAIL.
8. LINTEL FOR MECHANICAL OPENING. COORDINATE SIZE AND LOCATION WITH MECHANICAL CONTRACTOR. SEE 8/S4.02 FOR DETAIL.
9. PROVIDE SLIP CRITICAL BOLTS AT BEAM TO COLUMN CONNECTION.
10. PROVIDE AESS CATEGORY 2 AT EXPOSED STEEL.
11. CONTINUOUS BENT PLATE. T.O. BENT PLATE EL (+13'-4"). SEE DETAIL 13/S4.03.

1 ENGAGEMENT HALL ROOF FRAMING PLAN

1/4" = 1'-0"

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
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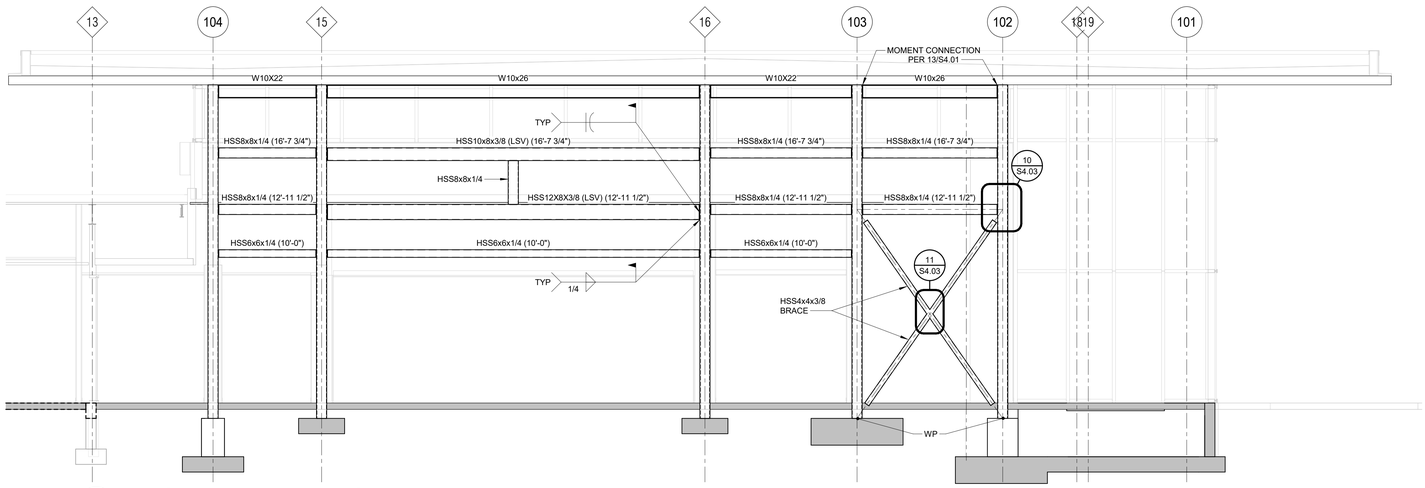
NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/2025

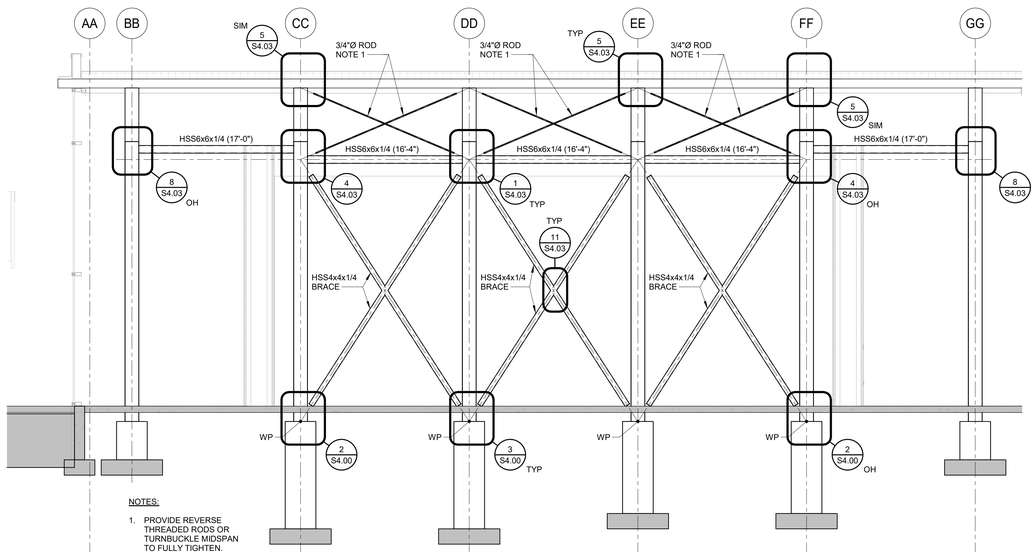
SHEET TITLE:
ENGAGEMENT HALL
ROOF FRAMING PLAN

SHEET NUMBER:
S2.00

5/23/2025 8:29:04 AM



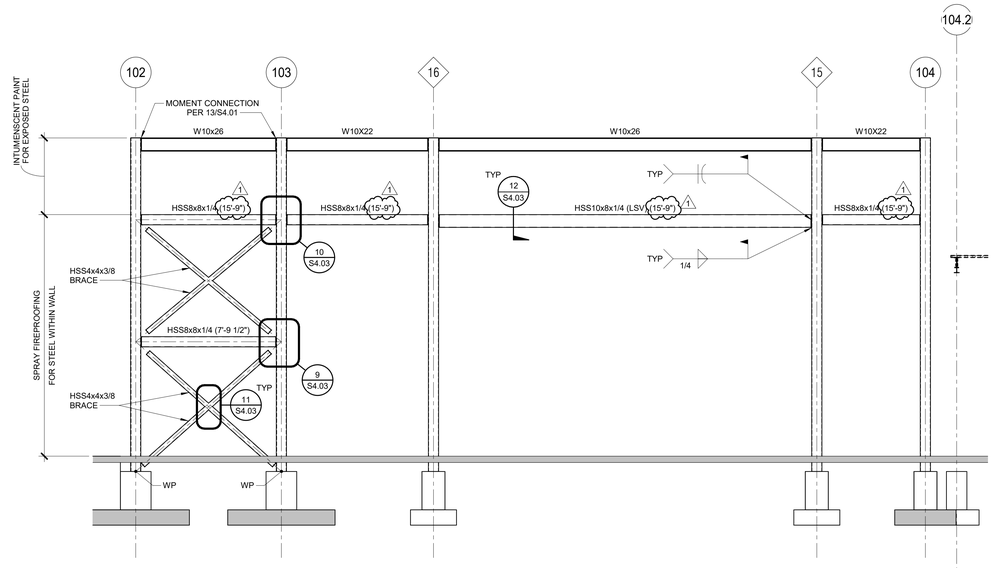
1 WEST WALL ELEVATION
1/4" = 1'-0"



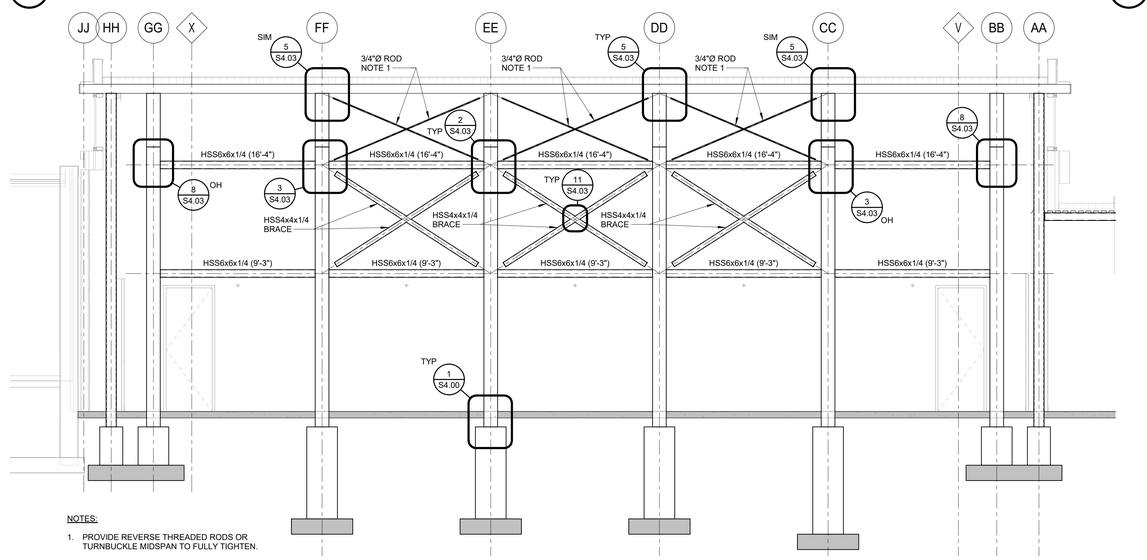
NOTES:

1. PROVIDE REVERSE THREADED RODS OR TURNBUCKLE MIDSPAN TO FULLY TIGHTEN.

2 NORTH WALL ELEVATION
1/4" = 1'-0"



3 EAST WALL ELEVATION
1/4" = 1'-0"



NOTES:

1. PROVIDE REVERSE THREADED RODS OR TURNBUCKLE MIDSPAN TO FULLY TIGHTEN.

4 SOUTH WALL ELEVATION
1/4" = 1'-0"

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KEY PLAN:

SHEET STATUS: 05/16/2025
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NO:	DESCRIPTION:	DATE:
1	ADDENDUM 1	05/27/2025

SHEET TITLE:
ELEVATIONS

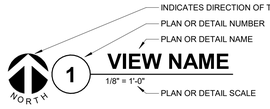
SHEET NUMBER:
S5.00

5/23/2025 8:29:15 AM

VIEW KEY

NAME — LEVEL NAME
10'-0" — HEIGHT ABOVE PROJECT 0'-0"

1 — KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL



LINE TYPE AND TAG KEY:

- NEW WORK BY THIS CONTRACTOR (DARK SOLID LINE)
- NEW WORK BY OTHER (LIGHT COLD LINE)
- NEW UNDERFLOOR
- EQUIPMENT CLEARANCE (DASHED LINE)

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
E.C.	ELECTRICAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
A.V.C.	AUDIO VISUAL CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR

HVAC SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
G	NATURAL GAS
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
	PIPE CAP
	PIPE DOWN
	PIPE UP OR UP/DOWN
	DIRECTION OF FLOW IN PIPE
	UNION/FLANGE
	CONTROL VALVE (TWO-WAY)
	SHUTOFF VALVE NORMALLY OPEN
	PRESSURE/TEMPERATURE TEST PLUG
	GAS REGULATOR
	PRESSURE/TEMPERATURE TEST PLUG
FM	FLOW METER (DUCT)
DSD	DUCT SMOKE DETECTOR
H	HUMIDITY SENSOR
T	TEMPERATURE SENSOR (DUCT)
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
	SAWCUT

HVAC SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
	FLEXIBLE DUCT
	MANUAL VOLUME DAMPER
	DUCT CAP
	DUCT DOWN
	DUCT UP
	SUPPLY/OUTSIDE AIR DUCT SECTION
	RETURN AIR DUCT SECTION
	EXHAUST/RELIEF AIR DUCT SECTION
SD-1 6/115	AIR TERMINAL PROPERTIES SYMBOL NECK SIZE/CFM
P	PRESSURE SENSOR/MONITOR
T	THERMOSTAT/SENSOR
CO2	CARBON DIOXIDE SENSOR

HVAC ABBREVIATION KEY

ABBR:	DESCRIPTION:
SA	SUPPLY AIR
SCCR	SHORT CIRCUIT CURRENT RATING
RA	RETURN AIR
TAB	TERMINAL AIR BOX
TD	TRANSFER DUCT
TYP	TYPICAL
FD	FIRE DAMPER

HVAC SHEET INDEX

PIPE INSULATION SCHEDULE (HVAC)

GENERAL NOTES:
1. REFER TO THE SPECIFICATIONS FOR TYPE DESCRIPTIONS AND JACKETING REQUIREMENTS.
2. TYPE E IS NOT ALLOWED IN RETURN AIR PLENUMS, UNLESS LISTED AND LABELED AS 25/50 RATED PER ASTM E84/UL723
3. PROVIDE RIGID INSERT AT HANGERS, EITHER PRE-MANUFACTURED COUPLINGS (REFER TO PIPE HANGER AND SUPPORTS SPECIFICATIONS) OR TYPE C INSULATION. SEE SPEC. FOR MORE DETAILS.
4. DIRECT BUIRED PIPING SHALL ONLY USE TYPE C OR TYPE E. REDUCTION IN THICKNESS FOR DIRECT BURED PIPING IS ALLOWED PER IECC AS APPLICABLE.

SYMBOL	PIPE SYSTEM	INSULATION TYPE	INSULATION THICKNESS PER NOMINAL PIPE OR TUBE SIZE			NOTES
			< 1"	1" TO < 1.5"	1.5" TO < 4"	
23 PIPING - HEATING WATER						
HWR	HEATING WATER RETURN	A (GlsFbr), C (CelGla), E (Plyiso)	1 1/2"	1 1/2"	2"	ALL
HWS	HEATING WATER SUPPLY	A (GlsFbr), C (CelGla), E (Plyiso)	1 1/2"	1 1/2"	2"	ALL

REFER TO SCOPE DOCUMENTS FROM CM FOR ALL WORK/SCOPE TO BE PREPURCHASED THROUGH TRANE. WORK TO INCLUDE RTUS, CONTROLS AND ALL ASSOCIATED WORK INCLUDING BUT NOT LIMITED TO CURB, START-UP, WARRANTY, ETC.

PIPING GENERAL NOTES:

1. THE SIZE OF BRANCH PIPING TO TERMINAL HEATING DEVICES AND COILS SHALL BE 3/4" UNLESS NOTED OTHERWISE.

VENTILATION GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO A TERMINAL AIR BOX (TAB) SHALL MATCH THE INLET SIZE UNLESS THE BRANCH IS GREATER THAN 6 FEET IN LENGTH, IN WHICH CASE THE BRANCH DUCT SHALL BE SIZED AT A PRESSURE DROP OF 0.07" W.C. PER 100' OF DUCTWORK.
2. UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO AN AIR TERMINAL SHALL MATCH THE INLET SIZE.
3. ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO EACH OTHER.
4. PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.

MECHANICAL GENERAL NOTES:

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2. CATALOG AND MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE DESCRIPTION OF MATERIAL SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL AND SCHEDULED PERFORMANCE TAKES PRECEDENCE OVER THE MODEL NUMBER. THE FIRST MANUFACTURER SCHEDULED IS THE BASIS OF DESIGN.
3. DETERMINATION OF QUANTITIES OF MATERIAL AND EQUIPMENT REQUIRED SHALL BE MADE BY THE CONTRACTOR FROM THE DOCUMENTS. WHERE MATERIAL AND/OR QUANTITY DISCREPANCIES ARISE BETWEEN DRAWINGS, SCHEDULES AND/OR SPECIFICATIONS, THE HIGHER QUALITY/ GREATER NUMBER SHALL GOVERN.
4. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
5. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
6. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
7. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
8. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
9. IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
10. SEAL ALL FLOOR AND WALL PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE.
11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
13. MAINTAIN A MINIMUM WORKING CLEARANCE OF 3'-6" IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, EQUIPMENT DISCONNECTS AND STARTERS.
14. MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6'-0" ABOVE THE EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING: DUCTWORK, PIPING, ETC.
15. DO NOT EXCEED 25 LBS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO METAL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON METAL DECK). THIS 25 LBS. LOAD AND 2'-0" SPACING INCLUDE ADJACENT ELECTRICAL AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING OFF STEEL FRAMING SHALL BE ADDED. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

TAB PRE-DEMOLITION NOTES:

1. BEFORE ANY DEMOLITION WORK IS BEGUN A COMPLETE AIR BALANCE TEST SHALL BE PERFORMED BY THE TESTING, ADJUSTING AND BALANCING (TAB) CONTRACTOR ON EXISTING TERMINAL AIR BOXES SERVING THE AREAS AFFECTED BY CONSTRUCTION. EQUIPMENT TO BE DEMOLISHED DOES NOT REQUIRE TESTING. PROVIDE AIR BALANCE TESTING ONLY ON EQUIPMENT THAT WILL CONTINUE TO BE USED TO SERVE RENOVATED AREAS AFTER THE CONSTRUCTION PHASE IS COMPLETED.
2. PROVIDE DUCT TRAVERSE READINGS AT LOCATIONS DESIGNATED ON THE DRAWINGS BY THE "AIRFLOW MEASUREMENT SYMBOL". THOSE MEASUREMENTS SHALL BE INCLUDED IN THE PRE DEMOLITION REPORT AND SHALL BE DESIGNATED WITH THE IDENTIFIER AS MARKED ON THE DRAWINGS. READINGS SHALL BE DESIGNATED WITH THE ROOM NAME AND NUMBER AS MARKED ON THE DRAWINGS. IF FLOOR PLANS DO NOT HAVE UNIQUE ROOM NAMES AND NUMBERS, TAB CONTRACTOR SHALL INCLUDE FLOOR PLAN WITH UNIQUE NUMBER DESIGNATIONS ASSIGNED TO READINGS THAT MATCH THOSE USED IN THE FINAL PRE-DEMOLITION REPORT. DRAWINGS THAT ARE HAND-MARKED WITH RED INK ARE ACCEPTABLE, PROVIDED THEY ARE LEGIBLE.
3. IN THE EVENT A DUCT TRAVERSE LOCATION AS MARKED ON THIS PLAN IS INACCESSIBLE FOR MEASUREMENT, THE TAB CONTRACTOR SHALL PERFORM THE TRAVERSE AT AN ALTERNATE LOCATION OR SHALL TAKE MULTIPLE DUCT TRAVERSES AND/OR READINGS AS REQUIRED TO DETERMINE THE AIRFLOW READING WHERE THE DUCT TRAVERSE SYMBOL IS SHOWN. IN THE EVENT TRAVERSES ARE TAKEN AT ALTERNATE LOCATION(S), TAB CONTRACTOR SHALL INCLUDE A DRAWING THAT SHOWS THE LOCATIONS WHERE THE ACTUAL MEASUREMENTS WERE TAKEN.
4. TAKE A DUCT STATIC PRESSURE READING AT EACH LOCATION WHERE A DUCT TRAVERSE READING IS TAKEN AND INCLUDE IN THE FINAL PRE-DEMOLITION TAB REPORT.
5. TAB CONTRACTOR SHALL COMPILE AND SUBMIT FOUR COPIES OF THE FINAL PRE-DEMOLITION REPORT WITHIN 10 WORKING DAYS AFTER THE FIELD MEASUREMENTS ARE COMPLETED. FINAL TAB REPORT SHALL BE SUBMITTED FOR REVIEW TO THE ARCHITECT/ENGINEER. TESTING SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.
6. TAB CONTRACTOR SHALL PROVIDE DUCT TRAVERSE READINGS AT LOCATIONS DESIGNATED ON THE DRAWINGS BY THE "AIRFLOW MEASUREMENT SYMBOL". THOSE MEASUREMENTS SHALL BE INCLUDED IN THE POST-CONSTRUCTION REPORT AND SHALL BE DESIGNATED WITH THE IDENTIFIER AS MARKED ON THE CONSTRUCTION DRAWINGS. GRILLE AND DIFFUSER READINGS SHALL BE DESIGNATED WITH THE ROOM NAME AND NUMBER AS MARKED ON THE DRAWINGS. IF THE DRAWINGS DO NOT HAVE UNIQUE ROOM NAMES AND NUMBERS, TAB CONTRACTOR SHALL INCLUDE FLOOR PLANS WITH UNIQUE NUMBER DESIGNATIONS ASSIGNED TO TRAVERSES, GRILLES, AND DIFFUSERS THAT MATCH THOSE USED IN THE FINAL PRE-DEMOLITION REPORT. SIMILAR ROOM NAMES, NUMBERS, OR DESIGNATIONS SHALL BE USED TO SIMPLIFY THE CROSS- REFERENCING OF READINGS TAKEN BETWEEN PRE-DEMOLITION AND POST-CONSTRUCTION REPORTS.
7. BALANCING CONTRACTOR SHALL PRE-BALANCE ALL EXISTING SYSTEMS TO REMAIN PER SPECIFICATION SECTION 23 05 93. BALANCE READINGS WILL BE REQUIRED AT AIR OUTLETS AND DUCT TRAVERSES TO VERIFY EXISTING AIRFLOW TO UNAFFECTED SPACES.

TAB POST-CONSTRUCTION NOTES:

1. AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, TESTING, ADJUSTING (TAB) AND BALANCING CONTRACTOR SHALL REBALANCE TERMINAL AIR BOXES AS REQUIRED TO ACHIEVE THE NEW AIRFLOW VALUES SHOWN ON THE CONSTRUCTION DRAWINGS.
2. AREAS SERVED BY THIS EQUIPMENT WHICH WERE NOT RENOVATED SHALL BE RE-BALANCED TO THE AIRFLOW RATES MEASURED BEFORE THE RENOVATION OCCURRED (REFER TO THE FINAL PRE- DEMOLITION REPORT).
3. IF DUCT TRAVERSE LOCATION AS MARKED ON THE DRAWINGS IS INACCESSIBLE FOR MEASUREMENT, THE TAB CONTRACTOR SHALL PERFORM THE TRAVERSE AT AN ALTERNATE LOCATION OR SHALL TAKE MULTIPLE DUCT TRAVERSES AND/OR GRILLE READINGS AS REQUIRED TO DETERMINE THE FLOW RATE. IN THE EVENT TRAVERSES ARE TAKEN AT AN ALTERNATE LOCATION(S), TAB CONTRACTOR SHALL INCLUDE A DRAWING THAT SHOWS THE LOCATIONS WHERE THE ACTUAL MEASUREMENTS WERE TAKEN.
4. A DUCT STATIC PRESSURE READING SHALL BE TAKEN AT EACH LOCATION WHERE A DUCT TRAVERSE READING IS TAKEN AND SHALL BE INCLUDED IN THE FINAL POST-CONSTRUCTION TAB REPORT.
5. TAB CONTRACTOR SHALL COMPILE AND SUBMIT COPIES OF THE FINAL POST-CONSTRUCTION TAB REPORT AS REQUIRED BY SECTION 23 05 93.
6. THE FINAL POST CONSTRUCTION REPORT SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.

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KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
HVAC COVERSHEET

SHEET NUMBER:
M0.00

5/23/2025 11:56:28 AM

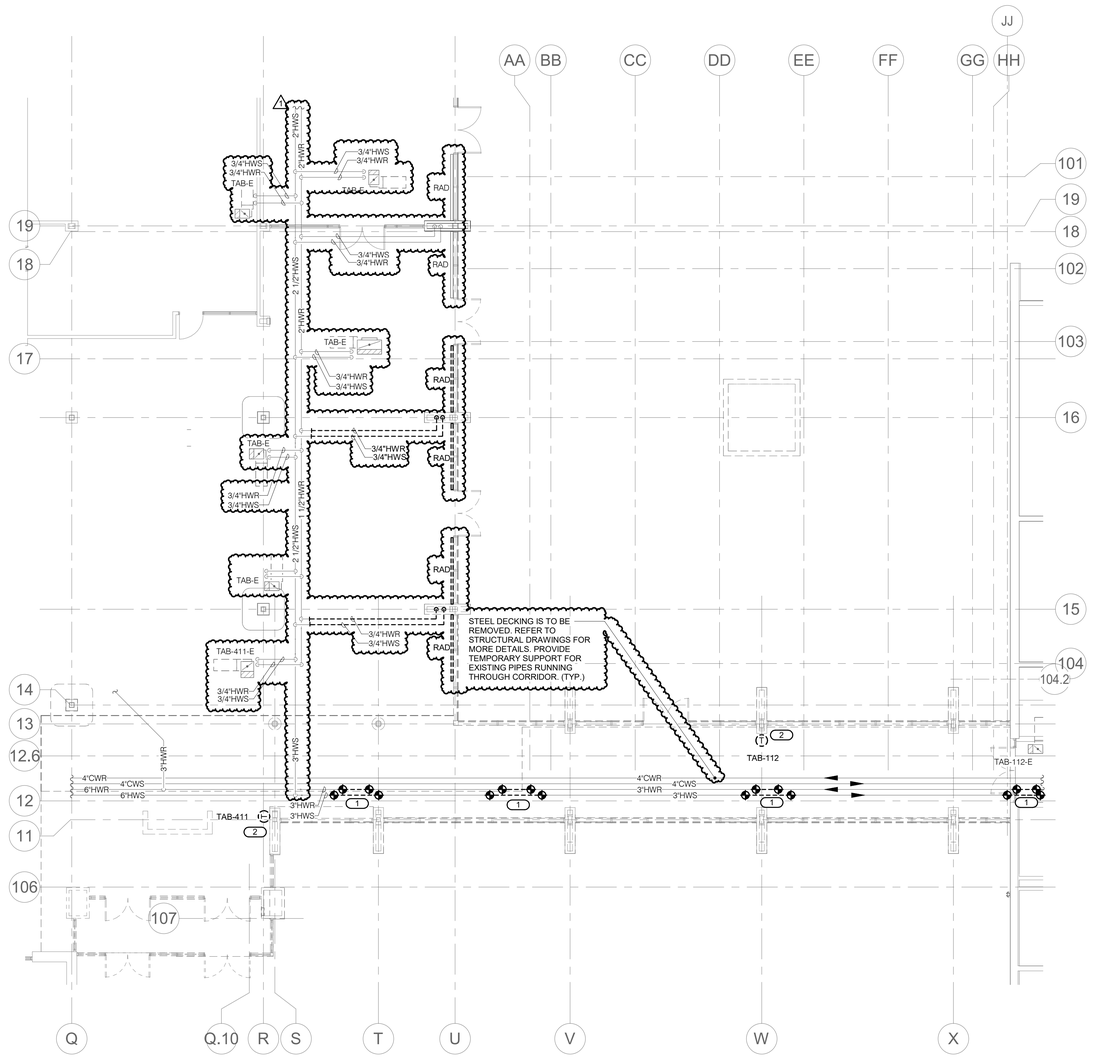
IMEG
263 SHUMAN BOULEVARD
SUITE 550
NAPERVILLE, IL 60563
P: 630.527.2320
www.imegcorp.com

Illinois Design Firm Registration #184008976-0014

REF. SCALE IN INCHES 0 1 2 3 — PROJECT #24005446.00

KEYNOTES:

1. DISCONNECT AND REMOVE SECTION OF HWR/HWS PIPING AS REQUIRED TO INSTALL NEW BRANCH PIPING. COORDINATE ISOLATION AND DRAINING OF HEATING WATER SYSTEM WITH OWNER. (TYP.).
2. DISCONNECT AND REMOVE EXISTING THERMOSTAT EXTEND WIRING TO NEW LOCATION. REFER TO NEW WORK FOR ADDITIONAL INFORMATION.



1 FLOOR PLAN DEMOLITION - PIPING

1/8" = 1'-0"

NORTH

ARCHITECT OF RECORD
DEMONICA KEMPER ARCHITECTS
125 N. HALSTED STREET, SUITE 301
CHICAGO, IL 60661
P: 312.496.0000

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CVIL-LANDSCAPE ENGINEER
HR GREEN
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P. 815.385.1778

CONSTRUCTION MANAGER
PEPPER CONSTRUCTION
411 LAKE ZURICH RD.
BARRINGTON, IL 60010
P. 847.381.2760

McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
FLOOR PLAN DEMOLITION - PIPING

SHEET NUMBER:
MD1.01

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Illinois Design Firm Registration #184008976-0014

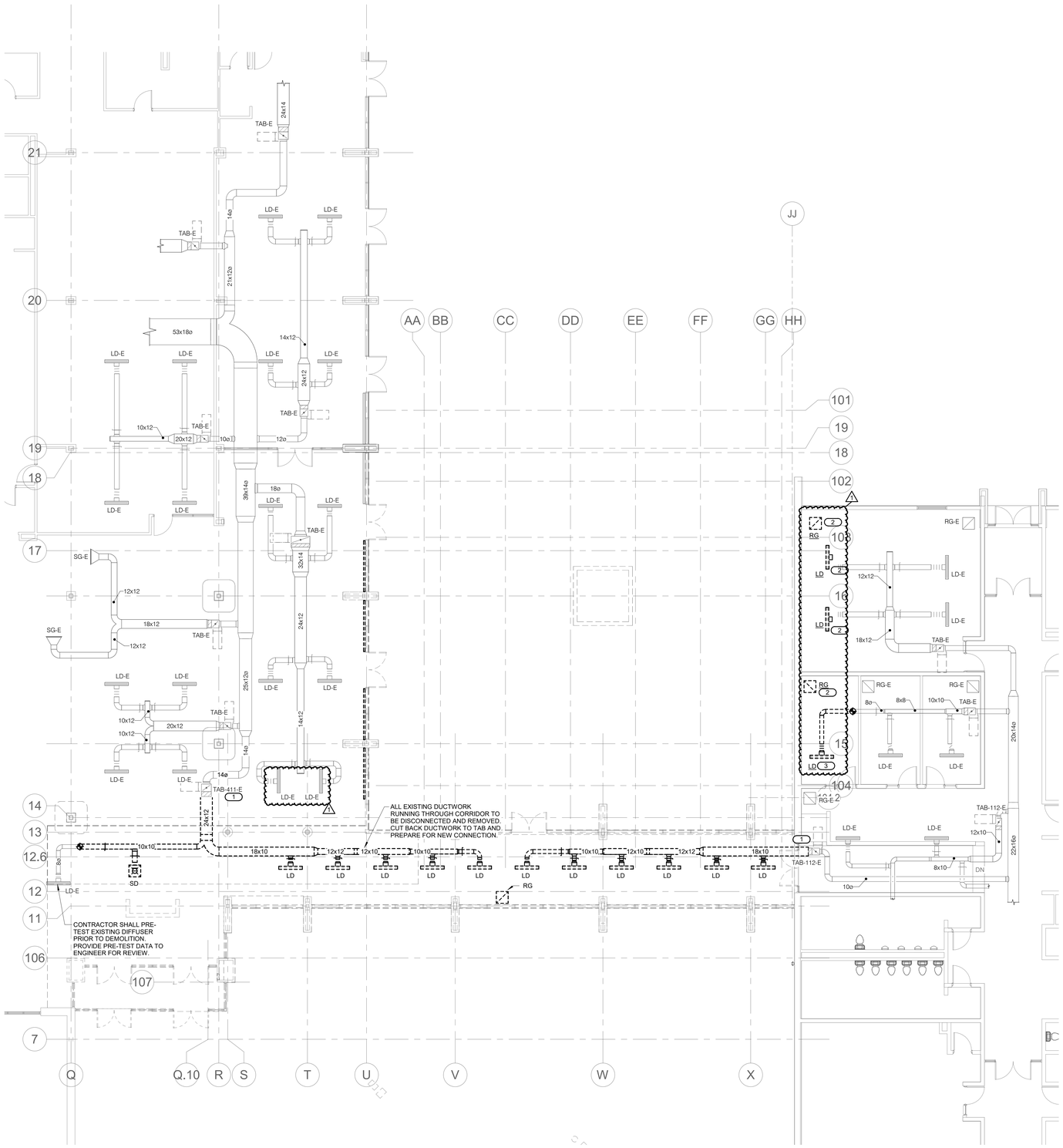
0 1 2 3
REF. SCALE IN INCHES

PROJECT #24005446.00

5/23/2025 11:56:31 AM

KEYNOTES:

1. PROVIDE PRETEST AND BALANCE ON TERMINAL AIR BOX AND ALL DIFFUSERS DOWNSTREAM PRIOR TO DEMOLITION. PROVIDE VALUES TO ENGINEER.
2. DISCONNECT EXISTING AIR TERMINAL. EXISTING AIR TERMINAL TO BE REINSTALLED AT SAME LOCATION AS PART OF NEW WORK.
3. DISCONNECT AND REMOVE EXISTING AIR TERMINAL AND ASSOCIATED DUCTWORK AS REQUIRED TO BE REINSTALLED AT DIFFERENT LOCATION AS PART OF NEW WORK. REFER TO NEW WORK PLAN FOR MORE INFORMATION.



1 FLOOR PLAN DEMOLITION - VENTILATION

1/8" = 1'-0"

ARCHITECT OF RECORD
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ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:

FLOOR PLAN DEMOLITION - VENTILATION

SHEET NUMBER:

MD1.11

5/23/2025 11:56:35 AM

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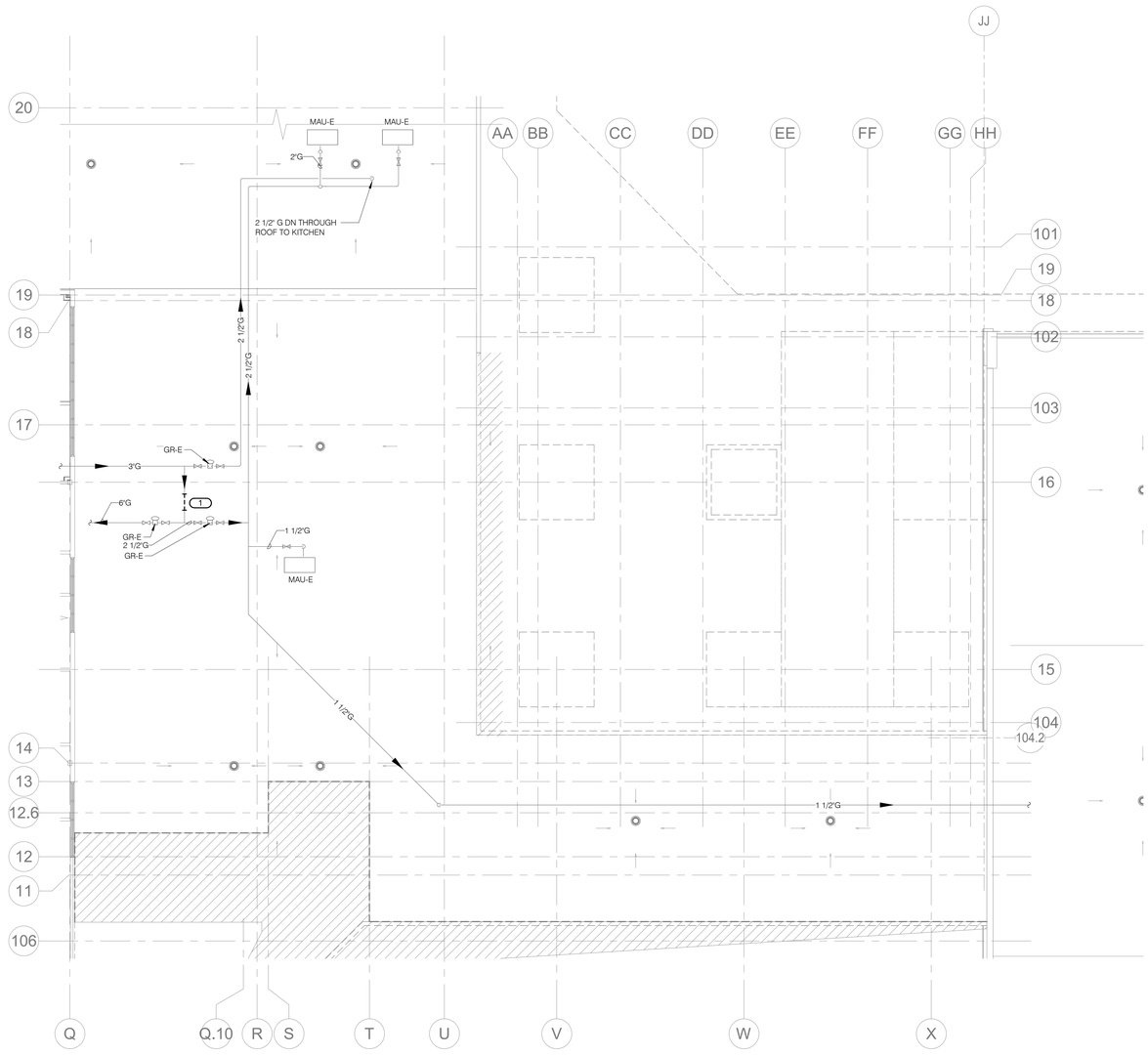
Illinois Design Firm Registration #184008976-0014

REF. SCALE IN INCHES 0 1 2 3 PROJECT #24005446.00

KEYNOTES:
1. DISCONNECT AND REMOVE SECTION OF GAS PIPING AS REQUIRED FOR NEW BRANCH CONNECTION.



1 ROOF PLAN DEMOLITION - PIPING
1/8" = 1'-0"

NORTH

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McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
ROOF PLAN DEMOLITION - MECHANICAL

SHEET NUMBER:
MD1.12

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Illinois Design Firm Registration #184008976-0014

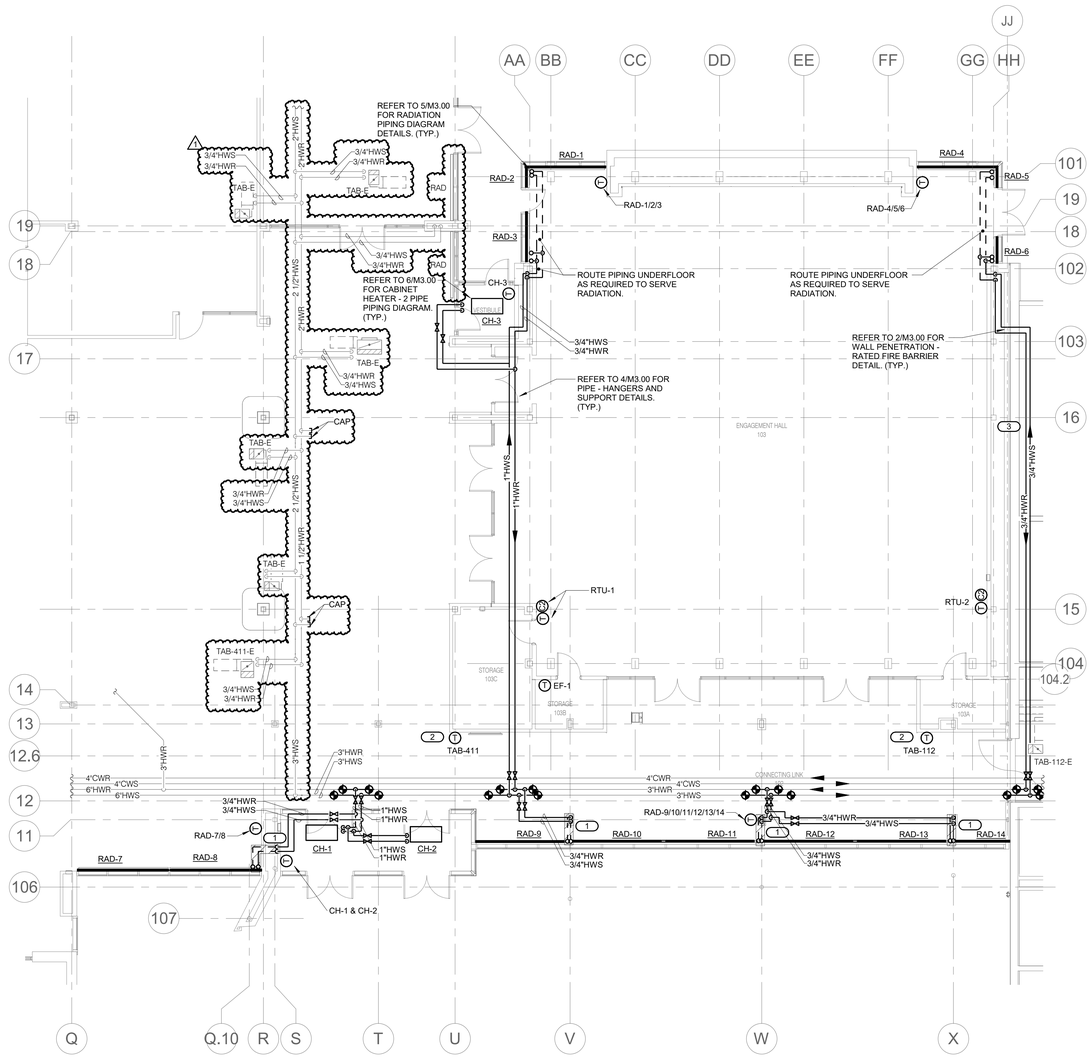
REF. SCALE IN INCHES 0 1 2 3

PROJECT #24005446.00

5/23/2025 11:56:32 AM

KEYNOTES:

1. DROP PIPING IN CHASE AND ROUTE UNDERFLOOR TO SERVE PEDESTAL MOUNTED RADIATION ON EACH SIDE. RADIATION TO BE CONTINOUS ALONG WALL. PROVIDE CONNECTORS/END CAPS AS REQUIRED. (TYP.)
2. PROVIDE NEW THERMOSTAT FOR TAB. PROVIDE NEW CONTROLS WIRING AS REQUIRED FOR NEW THERMOSTAT LOCATION
3. COORDINATE PIPING INSTALLATION WITH EXISTING CEILING CONTRACTOR TO REMOVE AND REPLACE CEILING TILES AS REQUIRED TO INSTALL PIPING.



1 FLOOR PLAN - PIPING

1/8" = 1'-0"

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McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

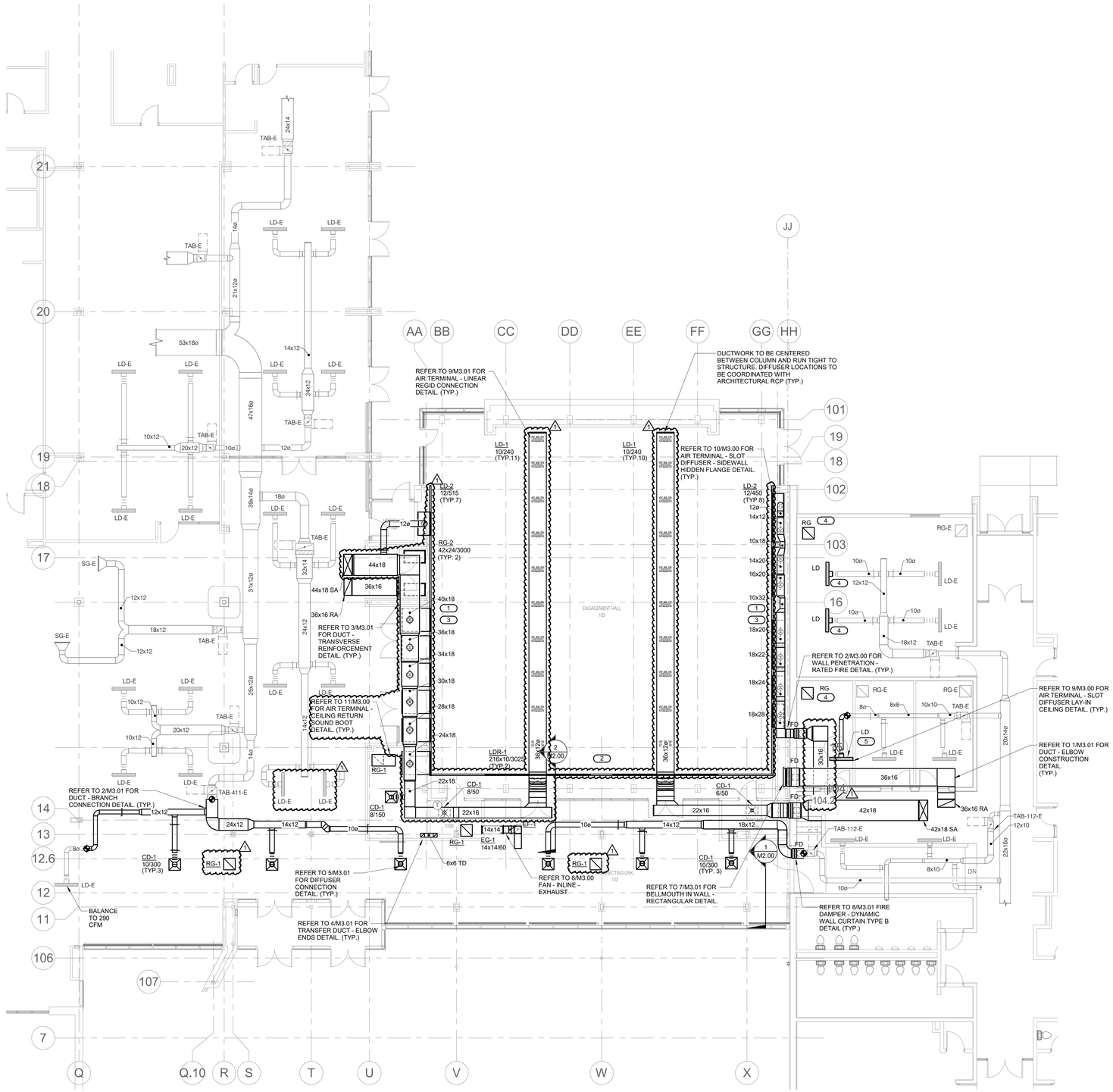
NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
FLOOR PLAN - PIPING

SHEET NUMBER:
M1.01

REF. SCALE IN INCHES — PROJECT #24005446.00

5/23/2025 11:56:39 AM



1 FLOOR PLAN - VENTILATION

1/8" = 1'-0"

ARCHITECT OF RECORD
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ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
FLOOR PLAN - VENTILATION

SHEET NUMBER:
M1.11

5/23/2025 11:56:41 AM

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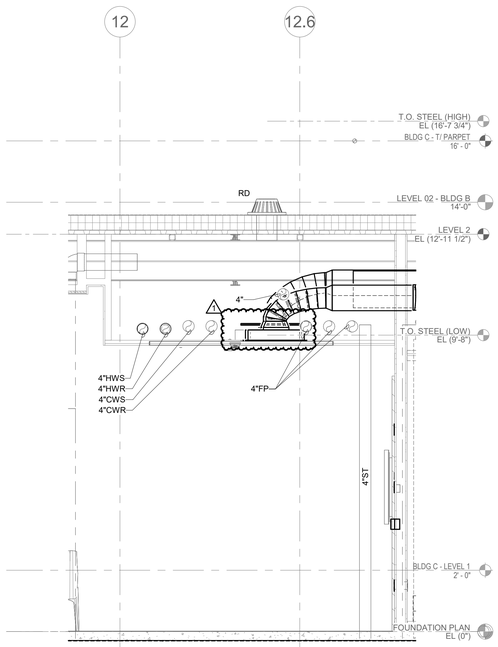
Illinois Design Firm Registration #184008976-0014

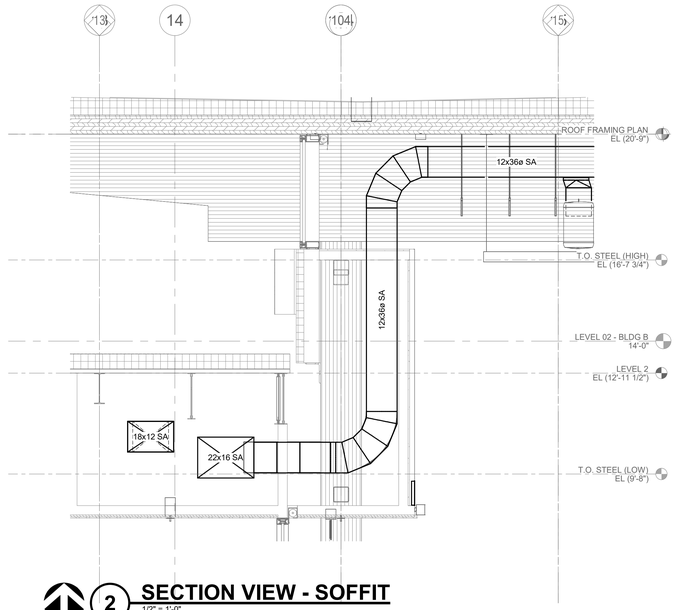
REF. SCALE IN INCHES 0 1 2 3 PROJECT #24005446.00



NORTH

1 SECTION VIEW - CORRIDOR

1/2" = 1'-0"



NORTH

2 SECTION VIEW - SOFFIT

1/2" = 1'-0"

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8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:

SECTION VIEWS

SHEET NUMBER:

M2.00

5/23/2025 11:56:44 AM

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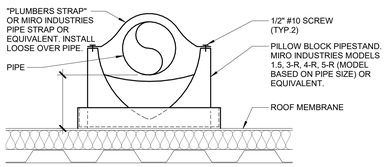
Illinois Design Firm Registration #184008976-0014

0 1 2 3

REF. SCALE IN INCHES

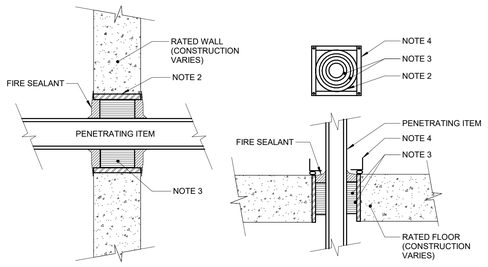
PROJECT #24005446.00



NOTES:

1. PIPE SUPPORT SHALL BE AT 8 FT. MAXIMUM SPACING. PROVIDE PIPE SUPPORT AT EACH SIDE OF 90° TURN.
2. PROVIDE EPDM PAD TO PROTECT ROOF IF REQUIRED BY ROOFING MANUFACTURER.
3. BASIS OF DESIGN: MIRO INDUSTRIES.

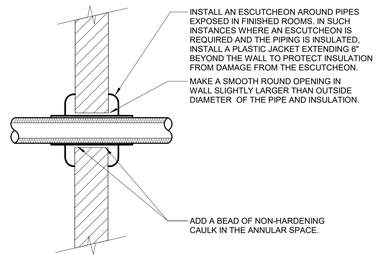
1 PIPE ROOF SUPPORT
NO SCALE



NOTES:

1. THIS GENERAL DETAIL APPLIES TO ALL ITEMS PENETRATING FIRE RATED WALLS OR FLOORS. THE INTENT IS TO MAINTAIN THE FIRE RATING AND TO ALLOW LONGITUDINAL MOVEMENT. REFER TO SPECIFICATION SECTION 23 05 03 - FOR SELECTION OF THROUGH PENETRATION FIRE STOPPING.
2. SCHEDULE 5 PIPE SLEEVE EMBEDDED IN WALL OR FLOOR, OR SMOOTH CORE DRILL. EACH CONTRACTOR FURNISHES SLEEVE TO G.C., COORDINATES SLEEVE LOCATIONS AND DEBURS SLEEVE. G.C. BUILDS SLEEVE INTO WALL ALLOWING NO GAP AROUND SLEEVE. IF SLEEVE IS NOT PROVIDED WHEN WALL OR FLOOR IS BUILT, CONTRACTOR SHALL INSTALL SLEEVE. SLEEVE SIZE SHALL ALLOW ANNULAR SPACE REQUIRED BY THE SELECTED FIRE STOP SYSTEM.
3. INSTALL BACKING MATERIAL, SUCH AS MINERAL WOOL SAFING, AS REQUIRED FOR FIRE STOP SYSTEM. INSTALL IN ACCORDANCE WITH FIRE STOP SYSTEM APPLICATION LISTING. SECURE TO WALL OR FLOOR TO ALLOW LONGITUDINAL MOVEMENT OF PENETRATING ITEM WITHOUT MOVEMENT OF FIRE BARRIER.
4. WATERTIGHT WELDED 1"x1" 20 GAUGE MINIMUM GALVANIZED SHEET METAL ANGLE FRAME, BY CONTRACTOR IN EQUIPMENT ROOMS FOR WATER STOP. PLACE A BEAD OF WATERPROOF SEALANT BETWEEN FLOOR AND BOTTOM OF ANGLE FRAME. SECURE TO FLOOR WITH MASONRY ANCHORS IN CORNERS AND ON 12" MAXIMUM CENTERS. MULTIPLE PENETRATING ITEMS MAY BE ENCLOSED IN ONE FRAME.

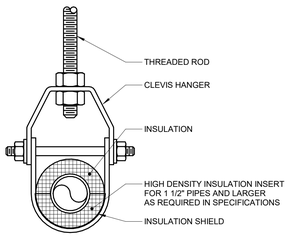
2 WALL PENETRATION - RATED FIRE BARRIER
NO SCALE



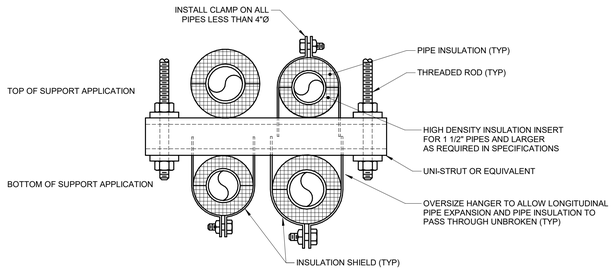
NOTES:

1. THIS DETAIL APPLIES TO ALL PIPES. THE INTENTION IS TO CONTINUE THE INSULATION AND VAPOR BARRIER THROUGH ALL PENETRATIONS. PERMIT THERMAL EXPANSION WITHOUT DAMAGING INSULATION, AND TO SEAL AIRTIGHT AROUND INSULATED AND UNINSULATED PIPES FOR NOISE TRANSMISSION CONTROL.
2. SEE SPECIFICATION SECTIONS 23 05 29 - HVAC) FOR ADDITIONAL INFORMATION.

3 WALL PENETRATION - NON-FIRE RATED
NO SCALE



INSULATED COLD PIPE HANGER

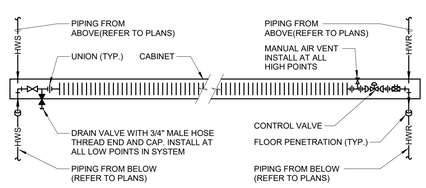


TRAPEZE HANGER

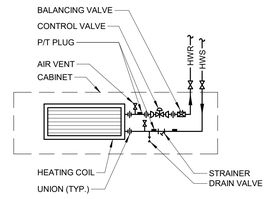
NOTES:

1. REFER TO SPECIFICATION SECTIONS 23 05 29 & 23 07 19.

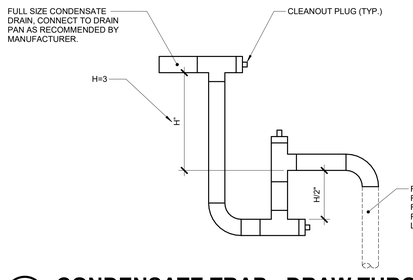
4 PIPE - HANGERS AND SUPPORTS
NO SCALE



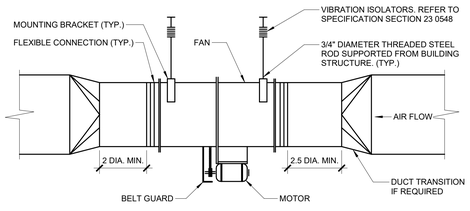
5 RADIATION - PIPING DIAGRAM
NO SCALE



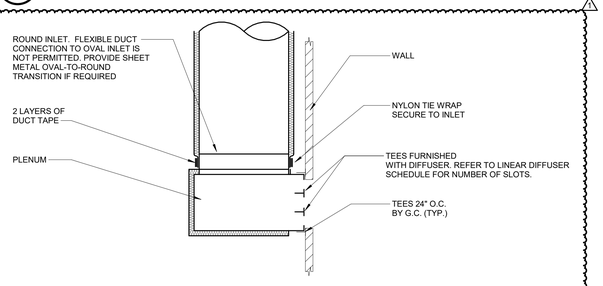
6 CABINET HEATER - 2-PIPE PIPING DIAGRAM
NO SCALE



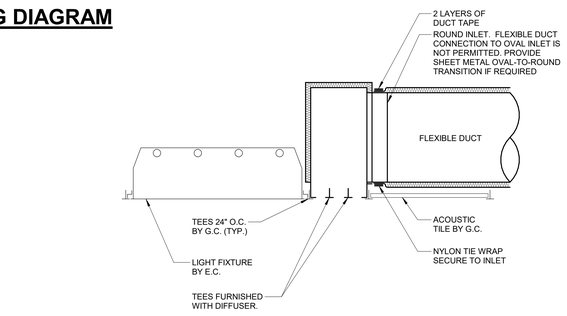
7 CONDENSATE TRAP - DRAW THROUGH COIL
NO SCALE



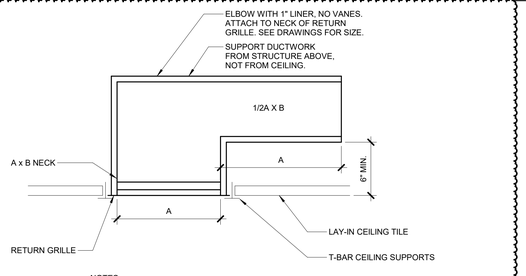
8 FAN - IN-LINE EXHAUST
NO SCALE



10 AIR TERMINAL - SLOT DIFFUSER SIDE WALL HIDDEN FLANGE
NO SCALE



9 AIR TERMINAL - SLOT DIFFUSER LAY-IN CEILING
NO SCALE



NOTES:

1. THIS DETAIL APPLIES TO [ALL RETURN GRILLES] [ALL RG-1] [ALL RG-#; RG-#:] [____] [NTS: DESIGNER SHOULD EDIT THIS NOTE TO CLARIFY WHERE THESE APPLY.

11 AIR TERMINAL - CEILING RETURN SOUND BOOT
NO SCALE

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8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

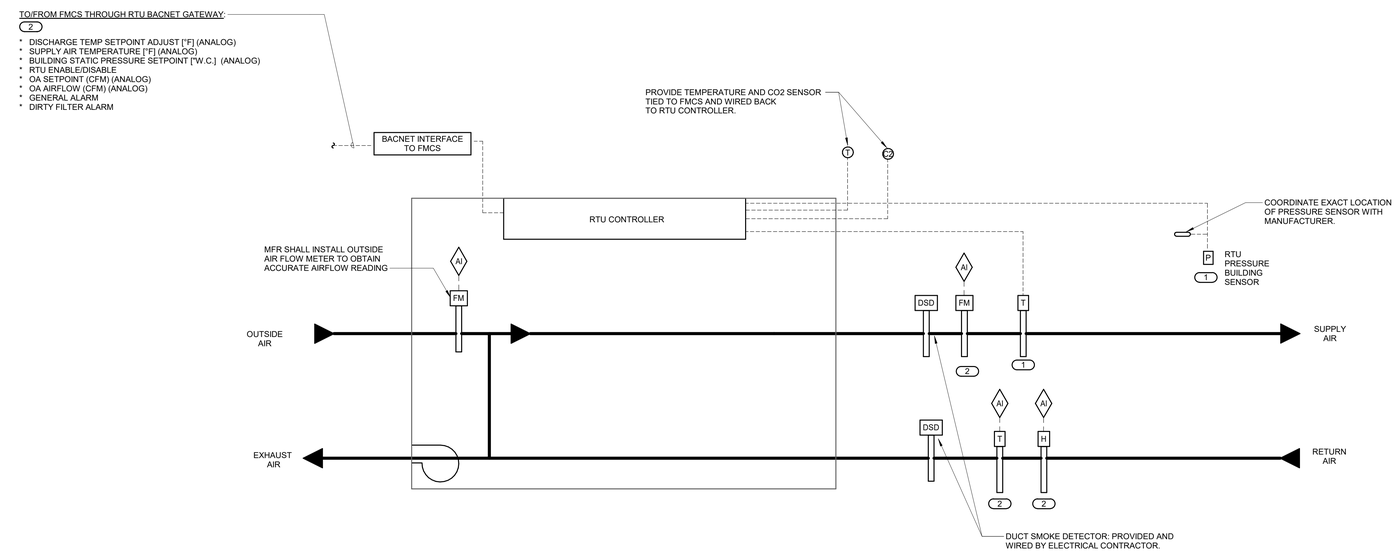
SHEET TITLE:
HVAC DETAILS

SHEET NUMBER:
M3.00

5/23/2025 11:56:45 AM

RTU REPORT GENERATION:	
DDC FMCS SHALL MONITOR THE FOLLOWING POINTS ON 10 MINUTE (ADJ.) INTERVALS WITHIN A SINGLE TREND. THE TREND SHALL RUN FOR 365 DAY (ADJ.) DURATION AT WHICH POINT THE NEWEST VALUES SHALL AUTOMATICALLY OVERWRITE THE OLDEST VALUES.	
PROVIDED BY PACKAGED MANUFACTURER THROUGH GATEWAY TO FMCS:	POINTS PROVIDED BY FMCS AND SYSTEM:
• SUPPLY AIR TEMP (SAT) [°F] • OUTSIDE AIRFLOW [CFM] • FILTER SWITCH • SUPPLY FAN VFD OUTPUT [% FULL SPEED] • RETURN FAN VFD OUTPUT [% FULL SPEED] • OUTSIDE AIR DAMPER POSITION [% OPEN] • RETURN AIR DAMPER POSITION [% OPEN]	• DATE • TIME • GLOBAL OUTSIDE AIR TEMP [°F] • GLOBAL OUTSIDE AIR DEWPOINT [°F] GLOBAL OUTSIDE AIR HUMIDITY [%RH] • SUPPLY AIR RELATIVE HUMIDITY [%] • ROOM AIR TEMP SETPOINT [°F] • RETURN AIR TEMP (RAT) [°F] • RETURN AIR RELATIVE HUMIDITY [%] • SUPPLY AIRFLOW [CFM]
THIS INFORMATION SHALL BE ACCESSIBLE TO VIEW IN EITHER TABULAR OR GRAPHICAL FORM ON THE FMCS OPERATOR WORKSTATION.	

TO/FROM FMCS THROUGH RTU BACNET GATEWAY:
(2)
- DISCHARGE TEMP SETPOINT ADJUST [°F] (ANALOG)
- SUPPLY AIR TEMPERATURE [°F] (ANALOG)
- BUILDING STATIC PRESSURE SETPOINT ["W.C.] (ANALOG)
- RTU ENABLE/DISABLE
- OA SETPOINT (CFM) (ANALOG)
- OA AIRFLOW (CFM) (ANALOG)
- GENERAL ALARM
- DIRTY FILTER ALARM



1 PACKAGED ROOFTOP UNIT - DX COOLING & GAS HEATING DIAGRAM
NO SCALE

ALL CONTROLS WORK TO BE PROVIDED BY TRANE THROUGH OWNER PRE-PRUCHASE. REFER TO SCOPE DOCUMENTS FROM CM FOR ALL WORK/SCOPE TO BE PREPURCHASED THROUGH TRANE.

KEYNOTES:
1. SENSOR PROVIDED BY RTU MANUFACTURER. SENSOR FEEDER/RACEWAY AND CONNECTION SHALL BE INSTALLED BY TCC CONTRACTOR IN THE FIELD.
2. POINT, SENSOR AND FEEDER/RACEWAY PROVIDED BY TCC.

ROOF TOP UNIT OPERATION AND CONTROL

PACKAGE ROOFTOP UNIT SYSTEM DESCRIPTION:
- REFER TO SECTION 23 74 11 FOR A DESCRIPTION OF THE RTU.
- THE TCC SHALL EXTEND THE FMCS NETWORK TO THE RTU BACNET INTERFACE PER THE PROTOCOL SPECIFIED IN SECTION 23 09 00 AND ON THE FLOOR PLANS.
- THE TCC SHALL WIRE ALL LOOSE CONTROLS PROVIDED BY THE RTU MANUFACTURER AS SHOWN ON THE CONTROL DIAGRAM.
- THE TCC SHALL PROVIDE ALL ADDITIONAL CONTROL COMPONENTS REQUIRED TO ACCOMPLISH THE SEQUENCE OF OPERATION LISTED BELOW.
- TCC AND RTU MANUFACTURER SHALL COORDINATE DURING BIDDING TO CONFIRM ALL SCOPE IS COVERED AND NOT DUPLICATED.
- MANUFACTURER SEQUENCE OF OPERATION MAY DIFFER FROM WHAT IS INDICATED BELOW. MANUFACTURER'S SEQUENCE SHALL TAKE PRECEDENCE BUT SHALL INCLUDE IMPLIED DESIGN SEQUENCE AS INDICATED. CONTROLS CONTRACTOR AND MANUFACTURER SHALL COORDINATE THAT COMPLETE INTEGRATION AND INTENDED OPERATION IS PER THE DESIGN DOCUMENTS.

SPACE CONDITIONS:
- RTU CONTROLLER SHALL BE SET TO MAINTAIN 72°F (ADJ.) DURING OCCUPIED OPERATION.
- RTU CONTROLLER SHALL BE SET TO MAINTAIN 65°F (ADJ.) WINTER AND 85°F (ADJ.) SUMMER DURING UNOCCUPIED OPERATION. SUMMER AND WINTER TURNOVER POINTS SHALL BE BASED ON OUTSIDE AIR TEMPERATURES, AND SHALL BE ADJUSTABLE. WINTER SHALL BE DEFINED AS OUTSIDE AIR TEMPERATURES LESS THEN 50F DEGREES (ADJ.). SUMMER SHALL BE DEFINED AS GREATER THAN 50F DEGREES (ADJ.).

BUILDING OCCUPANCY SCHEDULING:
ENABLE RTU TO RUN BASED ON THE FOLLOWING OCCUPANCY SCHEDULE WITH ALLOWANCE FOR ENERGY CODE OPTIMAL START.
- OCCUPIED MODE: MONDAY THROUGH FRIDAY 6:00AM-9:00PM (ADJ.); SATURDAY THROUGH SUNDAY 8:00AM-6:00PM (ADJ.)
- UNOCCUPIED MODE: MONDAY THROUGH FRIDAY 9:00PM-5:00AM (ADJ.); SATURDAY THROUGH SUNDAY 6:00PM-7:00AM (ADJ.)

SUPPLY FAN CONTROL:
- UNIT CONTROLLER SHALL START SUPPLY FAN. SUPPLY FAN SHALL RUN CONTINUOUSLY WHEN OCCUPIED.

EXHAUST FAN CONTROL:
- UNIT CONTROLLER SHALL MONITOR BUILDING PRESSURE SIGNAL. MODULATE SIGNAL TO EXHAUST FAN AS REQUIRED TO MAINTAIN (+0.05)" (ADJ.) W.C.

VENTILATION CONTROL:
- WHENEVER THE UNIT IS IN OCCUPIED MODE THE OUTSIDE AIR DAMPER AND RETURN AIR DAMPER SHALL MODULATE IN OPPOSITION TO MAINTAIN THE MINIMUM OUTSIDE AIR FLOW RATE (AS DESCRIBED IN RTU SCHEDULE), OR TO SATISFY THE ECONOMIZER DISCHARGE AIR SEQUENCE.

SUPPLY AIR CONTROL:
- DISCHARGE AIR TEMPERATURE SHALL BE MODULATED AS REQUIRED TO MAINTAIN SPACE SETPOINT. WHENEVER THE SUPPLY AIR TEMPERATURE IS ABOVE SETPOINT. THE FOLLOWING SHALL OCCUR IN SEQUENCE:
  - MODULATE GAS BURNER OFF.
  - MODULATE OA DAMPER AS REQUIRED UNTIL SET POINT IS REACHED.
  - THE COMPRESSORS SHALL BE ENABLED AND MFR SHALL MODULATE COMPRESSOR CAPACITY AS REQUIRED TO MAINTAIN SET POINT.
- WHENEVER THE DISCHARGE TEMPERATURE IS BELOW SET POINT, THE FOLLOWING SHALL OCCUR IN SEQUENCE:
  - IF THE DISCHARGED AIR TEMPERATURE IS MORE THAN 5°F (ADJ) BELOW SET POINT. MFR SHALL MODULATE COMPRESSORS OFF.
  - MODULATE OA DAMPER AS REQUIRED UNTIL SET POINT IS REACHED.
  - IF SET POINT CANNOT BE MAINTAINED BY OA DAMPER CONTROL, MODULATE GAS BURNER AS REQUIRED TO MAINTAIN SET POINT.

DEHUMIDIFICATION CONTROL:
- UNIT SHALL BE EQUIPPED WITH A HUMIDITY SENSOR IN THE SPACE OR IN THE RETURN DUCTWORK.
- HUMIDITY SET POINT SHALL BE 60% (ADJ.) RELATIVE HUMIDITY. ONCE THE SPACE HUMIDITY VALUE EXCEEDS THE DEHUMIDIFICATION SETPOINT DEHUMIDIFICATION IS ENABLED. THE UNIT WILL MAINTAIN THE COMPRESSOR OPERATION AND REDUCE THE INDOOR FAN AIRFLOW TO INCREASE LATENT CAPACITY.
- DURING DEHUMIDIFICATION MODE, DISCHARGE AIR TEMPERATURE OFF THE COOLING COIL SHALL BE 55°F (ADJ.) HOT GAS REHEAT COIL SHALL MODULATE AS REQUIRED TO MAINTAIN SPACE SETPOINT.
- IF THE SPACE HUMIDITY VALUE EXCEEDS THE DEHUMIDIFICATION SETPOINT DURING NO ACTIVE CALL FOR COOLING, THE UNIT WILL ENERGIZE THE COMPRESSOR AND FANS TO AN OPTIMUM CAPACITY FOR DEHUMIDIFICATION. IF DURING DEHUMIDIFICATION THE SPACE HUMIDITY FALLS BELOW THE DEHUMIDIFICATION SETPOINT - 2% (ADJ.), DEHUMIDIFICATION SEQUENCE WILL BE DISABLED AND THE UNIT WILL TRANSITION BACK TO NORMAL COOLING OR HEATING CONTROL.

ECONIMIZER CONTROL
- ECONOMIZER CONTROL SHALL BE ENABLED BASED ON OUTSIDE AIR ENTHALPY. IF UNIT IS IN COOLING MODE AND OUTSIDE AIR TEMPERATURE IS LESS THAN THE RETURN AIR TEMPERATURE THE RTU CONTROLLER SHALL ENABLE ECONOMIZER CONTROL. WHEN THE OUTSIDE AIR TEMPERATURE IS GREATER THAN THE RETURN AIR TEMPERATURE FOR 10 MINUTES, THE RTU CONTROLLER SHALL DISABLE ECONOMIZER CONTROL AND SHALL RETURN THE UNIT TO MINIMUM OUTSIDE AIR MODE. ONCE ECONOMIZER CONTROLS HAVE BEEN ENABLED OR DISABLED, THE UNIT SHALL CONTINUE TO OPERATE IN THAT MODE FOR A MINIMUM OF 10 MINUTES (ADJ.) BEFORE BEING ALLOWED TO BE SWITCHED BACK (TO PREVENT SHORT CYCLING).

DEMAND CONTROL VENTILATION (DCV):
- IF THE SPACE CO2 LEVEL IS GREATER THAN OR EQUAL TO THE DESIGN MINIMUM CO2 SETPOINT, THE OUTDOOR AIR DAMPER SHALL OPEN TO THE DESIGN MINMUM OUTDOOR AIR DAMPER SET POINT. IF THERE IS A CALL FOR ECONOMIZER COOLING, THE DAMPER MAY BE OPEN FURTHER TO SATIFY THE COOLING REQUEST.
- IF THE SPACE CO2 LEVEL IS LESS THAN OR EQUAL TO THE DCV MINIMUM CO2 SETPOINT, THE OUTDOOR AIR DAMPER SHALL CLOSE TO THE DVC MINIMUM OUTDOOR AIR DAMPER SETPOINT. IF THERE IS A CALL FOR ECONOMIZER COOLING, THE DAMPER MAY BE OPENED FURTHER TO SATISFY THE COOLING REQUEST.
- IF THE SPACE CO2 LEVEL IS GREATER THAN THE DVC MINIMUM CO2 SETPOINT AND LESS THAN THE DESIGN MINIMUM CO2 SETPOINT, THE OUTDOOR AIR DAMPER POSITION SHALL BE MODULATED PROPORTIONALLY TO THE SPACE CO2 LEVEL RELATIVE TO A TARGET POSITION BETWEEN THE DCV MINIMUM CO2 SETPOINT AND THE DESIGN MINIMUM. IF THERE IS A CALL FOR ECONOMIZER COOLING, THE DAMPER MAY BE OPENED FURTHER TO SATISFY THE COOLING REQUEST.

WHENEVER THE UNIT IS SHUT DOWN, THE UNIT CONTROLLER SHALL COMMAND THE FOLLOWING TO OCCUR:
- THE SUPPLY FAN AND EXHAUST FAN SHALL STOP.
- OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL FULLY CLOSE.
- HEATING AND COOLING SHALL BE DISABLED.
- RETURN AIR DAMPER SHALL FULLY OPEN.

UNOCCUPIED MODE:
- WHEN THE UNIT ENTERS UNOCCUPIED MODE THE FOLLOWING SHALL OCCUR: THE SUPPLY FAN SHALL RUN AS NECESSARY TO MAINTAIN SPACE SETPOINTS. THE OUTSIDE AIR DAMPER SHALL CLOSE.
  - THE RETURN AIR DAMPER SHALL OPEN.
  - THE COOLING CIRCUITS AND HEATING CIRCUITS SHALL MODULATE AS NECESSARY TO MAINTAIN SETPOINTS.
- HEATING OPTIMUM START-UP:
  - THIS CYCLE SHALL OVERRIDE THE UNOCCUPIED CYCLE. IF THE SYSTEM WAS OPERATING AS A RESULT OF THE UNOCCUPIED CYCLE, THE SYSTEM SHALL CONTINUE TO OPERATE. THE FMCS SHALL DETERMINE THE MINIMUM RUNTIME TO WARM THE SPACES TO THEIR SETPOINT. WHEN THE COMPUTED START TIME IS REACHED, THE RTU DISCHARGE AIR TEMPERATURE SHALL BE MAINTAINED AT A SETPOINT OF 85°F (ADJ.). THE SYSTEM SHALL CONTINUE TO OPERATE IN THE MODE UNTIL ALL TEMPERATURES EXCEED A SETPOINT OF 72°F (ADJ.). AT THAT TIME, THE FMCS SHALL SWITCH TO OCCUPIED CONTROL.
- COOLING OPTIMUM START-UP:
  - THIS CYCLE SHALL OVERRIDE THE UNOCCUPIED CYCLE. IF THE SYSTEM WAS OPERATING AS A RESULT OF THE UNOCCUPIED CYCLE, THE SYSTEM SHALL CONTINUE TO OPERATE. THE FMCS SHALL DETERMINE THE MINIMUM RUNTIME TO COOL THE SPACES TO THEIR SETPOINT WHEN THE COMPUTED START TIME IS REACHED. THE RTU DISCHARGE AIR TEMPERATURE SHALL BE MAINTAINED AT A SETPOINT OF 56°F (ADJ.). THE SYSTEM SHALL CONTINUE TO OPERATE IN THE MODE UNTIL ALL TEMPERATURES ARE LESS THAN A SETPOINT OF 72°F (ADJ.). AT THAT TIME, THE FMCS SHALL SWITCH TO OCCUPIED CONTROL

ALARMS, INTERLOCKS AND SAFETIES:
- THE FOLLOWING SAFETIES SHALL BE INSTALLED AND WIRED IN THE FIELD:
  - FIRE ALARM RELAY (WIRED TO UNIT ENABLE/DISABLE TO TURN FANS OFF)
- THE FOLLOWING CONDITIONS SHALL SHUTDOWN THE RTU AND INDICATE AN ALARM CONDITION AT THE FMCS OPERATOR
  - WORKSTATIONTHE SUPPLY FAN IS COMMANDED TO RUN AND THE DIFFERENTIAL PRESSURE SWITCH OR VFD INDICATES INSUFFICIENT CURRENT.
  - A DUCT SMOKE DETECTOR SENDS A SUPERVISORY SIGNAL TO THE FIRE ALARM CONTROL PANEL.
- THE FOLLOWING CONDITIONS SHALL INDICATE AN ALARM CONDITION AT THE FMCS OPERATOR WORKSTATION BUT THE RTU SHALL CONTINUE TO RUN:
  - AN ALARM IS INDICATED AT THE SUPPLY FAN VFD.
  - INSUFFICIENT CURRENT AT THE EXHAUST FAN.
  - THE DIFFERENTIAL PRESSURE SWITCH ACROSS A MERV 8 FILTER EXCEEDS 0.6" W.C. (ADJ.).
- IF SPACE TEMPERATURE IS MORE THAN 10°F (ADJ.) ABOVE OR BELOW SETPOINT THE FOLLOWING SHALL OCCUR:
  - THE EXHAUST AND OUTSIDE AIR DAMPERS SHALL CLOSE.
  - THE RETURN AIR DAMPER SHALL OPEN.
  - AN ALARM SHALL BE GENERATED AT THE FMCS OPERATOR WORKSTATION.
  - NORMAL OPERATION SHALL NOT RESUME UNTIL THE ALARM HAS BEEN ACKNOWLEDGED BY FMCS OPERATOR

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
HVAC DIAGRAMS

SHEET NUMBER:
M4.00

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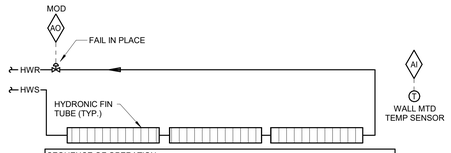


SEQUENCE OF OPERATION:

WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 40°F (ADJ.), THE FMCS SHALL MODULATE THE RADIATION CONTROL VALVE TO MAINTAIN A SPACE TEMPERATURE SETPOINT OF 68°F (ADJ.). ALL PIECES OF RADIATION CONNECTED TO A SINGLE TEMPURATE SENSOR SHALL BE CONNECTED TO A SINGLE CONTROL VALVE.

WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE 60°F (ADJ.), CONTROL VALVE SHALL BE FULLY CLOSED.

FMCS SHALL PERFORM AN AUTO-ZERO FUNCTION EVERY NIGHT DURING UNOCCUPIED TIMES. THE FMCS SHALL STAGGER AUTO-ZERO SEQUENCES SO THAT ALL VALVES DO NOT SIMULTANEOUSLY CLOSE.

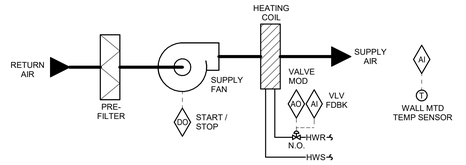
NIGHT SETBACK CONTROL:
OCCUPIED/UNOCCUPIED SCHEDULE SHALL BE SET AT THE OPERATOR INTERFACE FOR THIS ZONE. WHEN THE ZONE IS SCHEDULED UNOCCUPIED, THE SPACE TEMPERATURE SETPOINT SHALL BE RESET TO 55°F (ADJ.).

ALARMS, INTERLOCKS & SAFETIES:

SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF THE SPACE TEMPERATURE FALLS 10°F (ADJ.) BELOW SETPOINT.

1 STAND ALONE RADIATION CONTROL
NO SCALE

ALL CONTROLS WORK TO BE PROVIDED BY TRANE THROUGH OWNER PRE-PRUCHASE. REFER TO SCOPE DOCUMENTS FROM CM FOR ALL WORK/SCOPE TO BE PREPURCHASED THROUGH TRANE.



SEQUENCE OF OPERATION:

THE CABINET HEATER SHALL BE FURNISHED WITH A UNIT MOUNTED FAN SPEED SELECTOR SWITCH (OFF-HIGH-MED-LOW). THE UNIT SHALL MAINTAIN A SPACE TEMPERATURE OF NO MORE THAN 60°F.

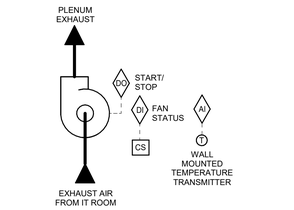
WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE 45°F, THE FMCS SHALL MODULATE THE CONTROL VALVE TO MAINTAIN SETPOINT. FMCS SHALL ENABLE THE FAN WHEN THE CONTROL VALVE IS OPEN AND DISABLE THE FAN WHEN THE CONTROL VALVE IS CLOSED.

WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 45°F, THE FMCS SHALL MODULATE THE CONTROL VALVE TO MAINTAIN SETPOINT AND THE FAN SHALL RUN CONTINUOUSLY.

ALARMS, INTERLOCKS & SAFETIES:

- SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF SPACE TEMPERATURE FALLS 10°F (ADJ.) BELOW SETPOINT.

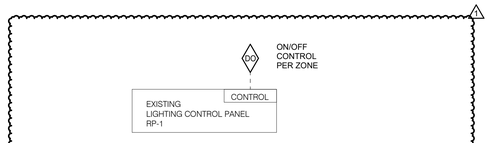
2 CABINET HEATER CONTROL - HYDRONIC
NO SCALE



SEQUENCE OF OPERATION:
EXHAUST FAN SHALL OPERATE WHEN THE ROOM TEMPERATURE RISES ABOVE 78°F(ADJ). WHEN ROOM TEMPERATURE DROPS BELOW 74°F(ADJ.), FMCS SHALL DE-ENERGIZE FAN.

ALARMS, INTERLOCKS AND SAFETIES:
AN ALARM SHALL BE GENERATED AT THE FMCS OPERATOR WORKSTATION IN THE EVENT OF THE FOLLOWING:
- THE FMCS COMMANDS THE EXHAUST FAN TO OPERATE AND THE CURRENT SENSING RELAY DETECTS INSUFFICIENT CURRENT DRAW
- AN ALARM SHALL BE GENERATED AT THE FMCS OPERATOR WORKSTATION WHEN THE ROOM TEMPERATURE REACHES 80°F (ADJ.).

3 FAN - TEMPERATURE CONTROL
NO SCALE



SEQUENCE OF OPERATION:
EXISTING RP-1 IS ALREADY CONNECTED AND CONTROLLED BY FMCS. CONTRACTOR SHALL REVISE THE PROGRAMMING/SCHEDULING DUE TO ADDED ZONES/RELAYS IN THE RP-1.

4 LIGHTING CONTROL DIAGRAM
NO SCALE

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SHEET STATUS: 05/16/2025
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SHEET TITLE:
HVAC DIAGRAMS

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M4.01

5/23/2025 11:56:45 AM

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REF. SCALE IN INCHES
PROJECT #2400544600

SCHEDULE GENERAL NOTES:

A. DISCONNECT AND CONTROLLER STARTER FURNISHED AND INSTALLED BY:
MFR = MANUFACTURER
EC = ELECTRICAL CONTRACTOR
MC = FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR.
MFR/EC = FURNISHED LOOSE BY MANUFACTURER INSTALLED BY ELECTRICAL CONTRACTOR.
TCC = TEMPERATURE CONTROL CONTRACTOR

B. DISCONNECT TYPE:
CB = CIRCUIT BREAKER
F = FUSED
NF = NON-FUSED

C. NO EQUIPMENT SHALL BE SELECTED ABOVE 90% OF MOTOR NAME PLATE RATING.

D. MUST BE WITHIN +/- 10% OF SCHEDULED RPM.

E. CURB TYPE:
MFR = STANDARD CURB BY MANUFACTURER
GC = BY GENERAL CONTRACTOR
SAC = SOUND ATTENUATOR CURB

ROOFTOP UNIT SCHEDULE - GAS-DX - PROVIDED BY OWNER

NOTES:
1.PROVIDE SHAFT GROUNDING AS REQUIRED
2.LAT LISTED IS AT LEAVING SIDE OF COOLING COIL
3.PROVIDE WITH MODULATING HOT GAS REHEAT. HUMIDITY SENSOR PROVIDED WITH UNIT AND FIELD INSTALLED BY CONTRACTOR TO CONTROL THE SPACE RELATIVE HUMIDITY.
~~4.PROVIDE ROOFMOUNT CURB~~
5. REFER TO SCOPE DOCUMENTS FROM CM FOR ALL WORK/SCOPE TO BE PREPURCHASED THROUGH TRANE

					SUPPLY FAN (NOTE 3)						EXHAUST FAN (NOTE 1)					UNIT ELECTRICAL DATA							COOLING COIL - DX								HEATING - GAS									MAX.DIMENSIONS						
																		DISCONNECT(S)		CONTROLLER STARTER(S)																										
TAG NAME	AREA SERVED	NOMINAL TONS	MINIMUM OUTSIDE AIR (CFM)	MAXIMUM OUTSIDE AIR (CFM)	NO. OF FANS	CFM/ TOTAL	EXT S.P. IN W.C.	R P M	BHP/ EACH	MHP/ EACH	FAN CFM	FAN QTY	TYPE	FAN RPM	BHP/ EACH (NOTE C)	MHP/ EACH (NOTE C)	VOLTAGE	PHASES	FLA	MCA	MOCP	BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	SCCR	EAT DB °F	EAT WB °F	LAT DB °F (NOTE 2)	LAT WB °F (NOTE 2)	SENSIBLE MBH	TOTAL MBH	AMB TEMP °F	STAGES	MIN EFF AFUE	MIN INPUT MBH	MIN OUTPUT MBH	TURN DOWN/STEPS	MINIMUM FUEL PRESSURE in. WC	MAXIMUM FUEL PRESSURE in. WC	SEER	FILTER TYPE	CONTROL TYPE	CURB TYPE (NOTE E)	LENGTH	WIDTH	HEIGHT	OPERATING WEIGHT	MANUFACTURER	MODEL	NOTES
RTU-1	EVENT SPACE WEST	17.5	1860	2,800	2	6205	1.75	1350	1.8	3	0	1	DIRECT	1075	0.87	1	460	3	46.1	60	80	MFR	NF	MFR	5,000	81.0	68.0	55.9	55.0	154.4	248.9	95	2	81%	400	324	10:1	7	14	20.50	MERV 8	1/M3.0	MFR	10'-3"	7'-3"	5'-6"	2240	TRANE	YZK210	1,3,4,6
RTU-2	EVENT SPACE EAST	17.5	1815	2,725	2	6050	1.75	1350	1.8	3	0	1	DIRECT	1075	0.87	1	460	3	46.1	60	80	MFR	NF	MFR	5,000	81.0	68.0	55.9	55.0	115.5	154.0	95	2	81%	400	324	10:1	7	14	25.00	MERV 8	1/M3.0	MFR	10'-3"	7'-3"	5'-6"	2130	TRANE	YZK210	1,3,4,6

CABINET HEATER SCHEDULE - HOT WATER

NOTES:
1.COORDINATE COLOR SELECTION WITH ARCHITECT. PRIMED FOR FIELD PAINTING TO MATCH CEILING.

											ELECTRICAL								MAX. DIMENSIONS			WEIGHT				
															DISCONNECT		CONTROLLER/ STARTER									
TAG NAME	AREA SERVED	CONFIGURATION	NOMINAL CFM	MBH	GPM	EWT °F	LWT °F	MAX W.P.D. FT. HD	CONTROL TYPE	FAN HP	RPM	VOLTAGE	PHASES	BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	SCCR	EMERGENCY POWER	LENGTH	WIDTH	HEIGHT	DRY	OPERATING	MANUFACTURER	MODEL	NOTES
CH-1	103 VESTIBULE	HORIZONTALLY RECESSED	600	45	2.4	200	180	5	2/M4.01	0.25	1500	120	1	MFR	NF	TCC	5000	Yes	47	30	11	118	128	TRANE	FFE060	ALL
CH-2	103 VESTIBULE	HORIZONTALLY RECESSED	600	45	2.4	200	180	5	2/M4.01	0.25	1500	120	1	MFR	NF	TCC	5000	Yes	47	30	11	118	128	TRANE	FFE060	ALL
CH-3	101 VESTIBULE	HORIZONTALLY RECESSED	400	30	1.5	200	180	5	2/M4.01	0.25	1500	120	1	MFR	NF	TCC	5000	Yes	33	30	11	68	78	TRANE	FFE030	ALL

FAN SCHEDULE

								ELECTRICAL (NOTE 1)										
												DISCONNECT		CONTROLLER/ STARTER				
TAG NAME	AREA SERVED	CFM	S.P. IN. W.C.	FAN CLASS	WHEEL DIA. INCHES	FAN RPM (NOTE D)	DRIVE TYPE	BHP (NOTE C)	MHP (NOTE C)	VOLTAGE	PHASES	BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	SCCR	EMERGENCY POWER	CONTROL TYPE	MANUFACTURER	MODEL
EF-1	STORAGE 103B	60	0.50	INLINE	12	1330	BELT	0.01	0.03	120	1	MFR	NF	TCC	5000	No	3/4.01	COOK	SQI

RADIATION SCHEDULE

NOTES:
1.REFER TO CONTROL DRAWINGS FOR DESCRIPTION OF CONTROL TYPE.
2.BLACK FINISH.
3.RADIATION TO BE PEDESTAL MOUNTED ELEMENT TO BE 5.7" TALL ON 3" PEDESTAL.
~~4.RADIATION BEING FED FROM REVOLVING SHALL HAVE AN END CAP.~~
5.PROVIDE RADIATION WITH DOUBLE SIDED LOW SURFACE TEMPERATURE ACCESORY

		ELEMENT										
TAG NAME	AREA SERVED	BTU/FT	GPM	MAT'L	LENGTH FT.	PIPE SIZE	ENCLOSURE HEIGHT (NOTE 3)	ENCLOSURE WIDTH	AVERAGE WATER TEMP °F	CONTROL TYPE (NOTE 1)	MANUFACTURER	MODEL	NOTES
RAD-1	EVENT SPACE	480	0.5	ALUMINUM	10' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-2	EVENT SPACE	480	0.5	ALUMINUM	2' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-3	EVENT SPACE	480	0.5	ALUMINUM	6' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-4	EVENT SPACE	480	0.5	ALUMINUM	10' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-5	EVENT SPACE	480	0.5	ALUMINUM	2' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-6	EVENT SPACE	480	0.5	ALUMINUM	3' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-7	CORRIDOR	480	0.5	ALUMINUM	12' - 0"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-8	CORRIDOR	480	0.5	ALUMINUM	12' - 0"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-9	CORRIDOR	480	0.5	ALUMINUM	11' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-10	CORRIDOR	480	0.5	ALUMINUM	11' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-11	CORRIDOR	480	0.5	ALUMINUM	11' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-12	CORRIDOR	480	0.5	ALUMINUM	11' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-13	CORRIDOR	480	0.5	ALUMINUM	11' - 6"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4
RAD-14	CORRIDOR	480	0.5	ALUMINUM	7' - 0"	3/4"	8 3/4"	3 1/2"	190	1/M4.01	RITTLING	R2F-1	1, 2, 3, 4

LINEAR DIFFUSER SCHEDULE

NOTES:
1.CONTRACTOR SHALL DETERMINE PROPER MARGIN STYLE TO MATCH CEILING CONSTRUCTION.
2.PROVIDE WITH CONCEALED FASTENERS.
3.DIFFUSERS WITH MULTIPLE SLOTS SHALL HAVE THE INNER MOST SLOT DIRECTED TOWARDS THE INTERIOR OF THE BUILDING, THE REMAINING SHALL BE DIRECTED TOWARDS THE EXTERIOR UNLESS NOTED OTHERWISE.

TAG NAME	MATERIAL	SLOT WIDTH	NO. OF SLOTS	WIDTH	LENGTH	PLENUM REQUIRED	PLENUM INSULATION TYPE	PLENUM INLET SIZE	PATTERN CONTROL REQUIRED	BALANCING DAMPER REQUIRED	FINISH	MANUFACTURER	MODEL	NOTES
LD-1	STEEL	1 1/2"	4	10"	2'-0"	Yes	LINED	SEE DWG.	Yes	Yes	WHITE	TITUS	TBDI	NOTE 1, 2 , & 3
LD-2	ALUMINIUM	2"	2	10"	4'-0"	Yes	LINED	SEE DWG.	Yes	Yes	WHITE	TITUS	FL-HT	NOTE 1, 2, & 3
LDR-1	ALUMINUM	2"	2	10"	18'-0"	No	N/A	N/A	No	No	WHITE	TITUS	FL-JT	NOTE 1 & 2

AIR TERMINAL SCHEDULE

NOTES:
1.CONTRACTOR SHALL DETERMINE PROPER BORDER TYPE TO MATCH CEILING CONSTRUCTION.
2.REFER TO DRAWINGS FOR NECK SIZE. ALL BRANCH DUCTWORK TO AIR TERMINALS SHALL BE NECK SIZE UNLESS NOTED OTHERWISE.

TAG NAME	FACE SIZE (IN.) (NOTE 2)	TYPE	BORDER (NOTE 1)	MATERIAL	FINISH	VOLUME DAMPER REQUIRED	MANUFACTURER	MODEL	NOTES
CD-1	24x24	PLAQUE	LAY-IN	STEEL	WHITE	NO	TITUS	OMNI	NOTE 1 & 2
EG-1	SEE DWG	35 DEGREE DEFLECTION	SURFACE MOUNT	STEEL	WHITE	NO	TITUS	350	LONG BLADES
RG-1	24x24	PERFORATED	LAY-IN	STEEL	WHITE	NO	TITUS	PAR	NOTE 1 & 2
RG-2	SEE DWG	35 DEGREE DEFLECTION	LAY-IN	ALUMINUM	WHITE	NO	TITUS	350RL	LONG BLADES

GAS REGULATOR SCHEDULE

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
GR-1	GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF. 2 PSI INLET PRESSURE, 11" WC OUTLET PRESSURE, 400 CFH CAPACITY, MINIMUM CONTROLLABLE FLOW OF CFH 40	FISHER (S200 SERIES) OR EQUAL BY ITRON, SENSUS OR MAXITROL
GR-2	GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF. 2 PSI INLET PRESSURE, 11" WC OUTLET PRESSURE, 250 CFH CAPACITY, MINIMUM CONTROLLABLE FLOW OF CFH 25	FISHER (S200 SERIES) OR EQUAL BY ITRON, SENSUS OR MAXITROL

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McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

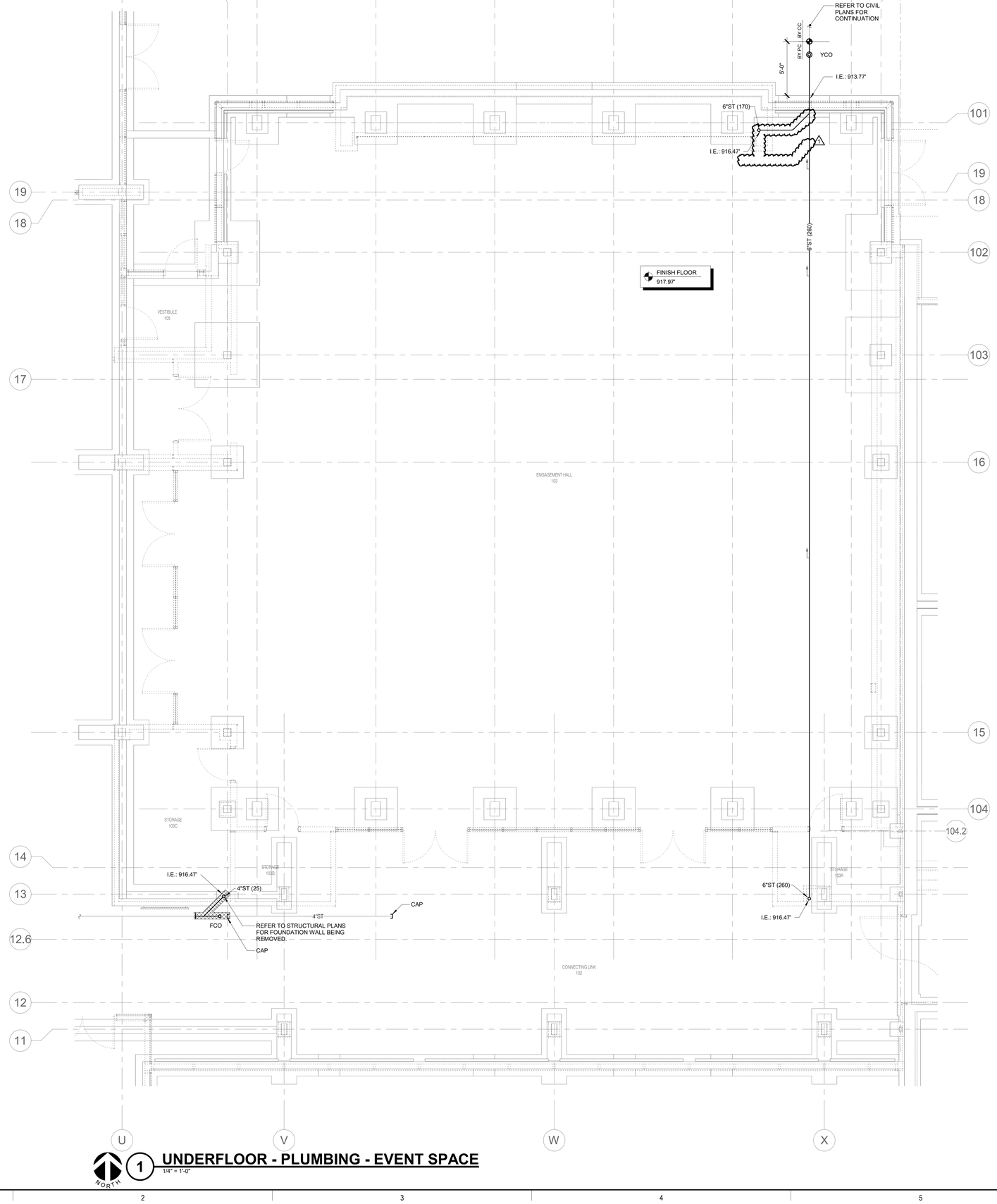
SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
HVAC SCHEDULES

SHEET NUMBER:
M5.00

5/23/2025 11:56:45 AM



NORTH

1 **UNDERFLOOR - PLUMBING - EVENT SPACE**
1/4" = 1'-0"

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
UNDERFLOOR - PLUMBING - EVENT SPACE

SHEET NUMBER:
P1.00

5/23/2025 11:56:22 AM

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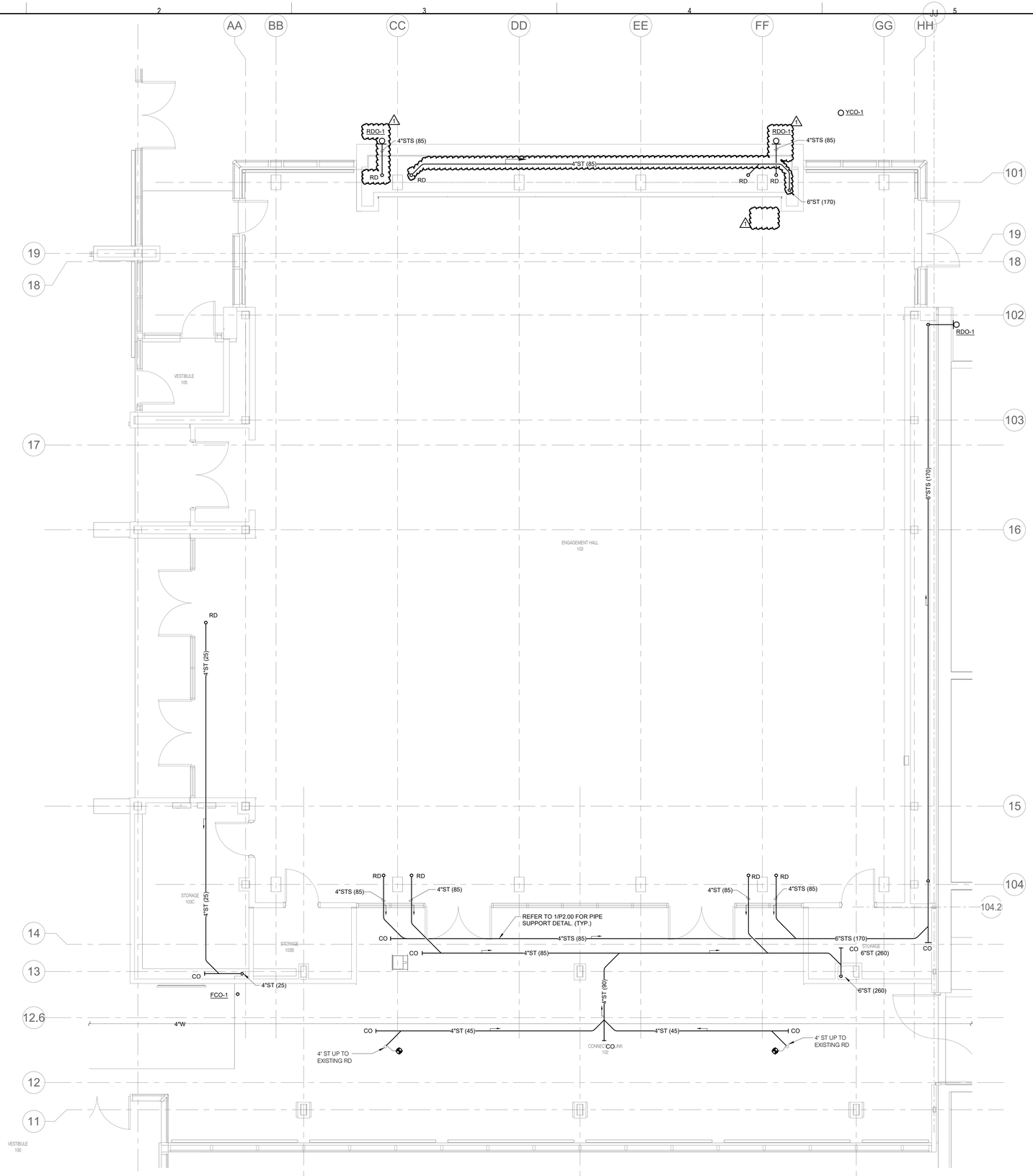
Illinois Design Firm Registration #184008976-0014

0 1 2 3
REF. SCALE IN INCHES

PROJECT #24005446.00



SHEET NOTES:

1. COORDINATE ALL HANGERS AND SUPPORTS IN ENGAGEMENT HALL 103 WITH ARCHITECTUAL WOOD STRUCTURE.

1 FLOOR PLAN - PLUMBING - EVENT SPACE

1/4" = 1'-0"

NORTH

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ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
FLOOR PLAN - PLUMBING - EVENT SPACE

SHEET NUMBER:
P1.01

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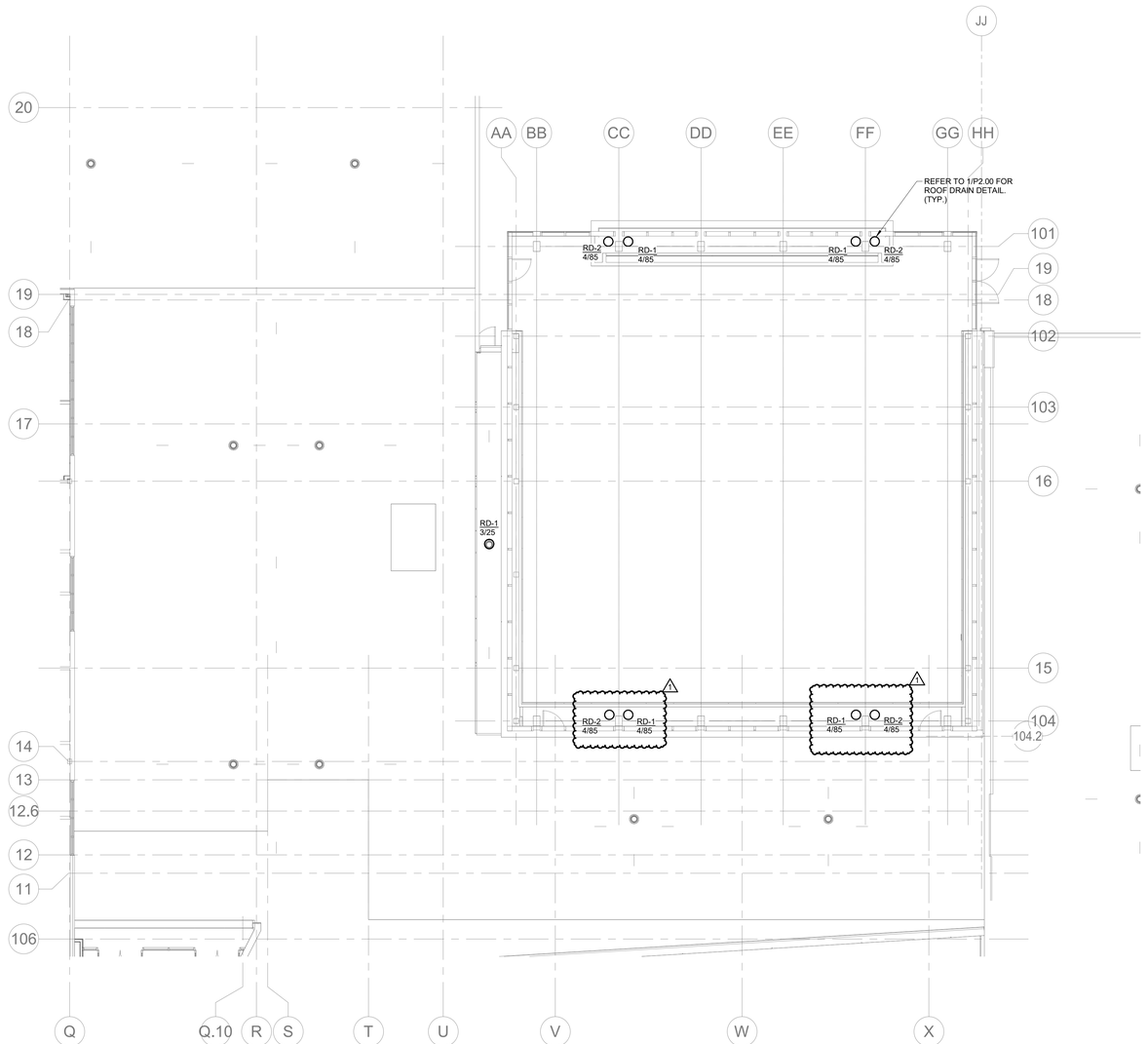
REF. SCALE IN INCHES

PROJECT #24005446.00



NORTH

1 **ROOF PLAN - PLUMBING**

1/8" = 1'-0"

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McHenry County College
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8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:

ROOF PLAN - PLUMBING

SHEET NUMBER:

P1.02

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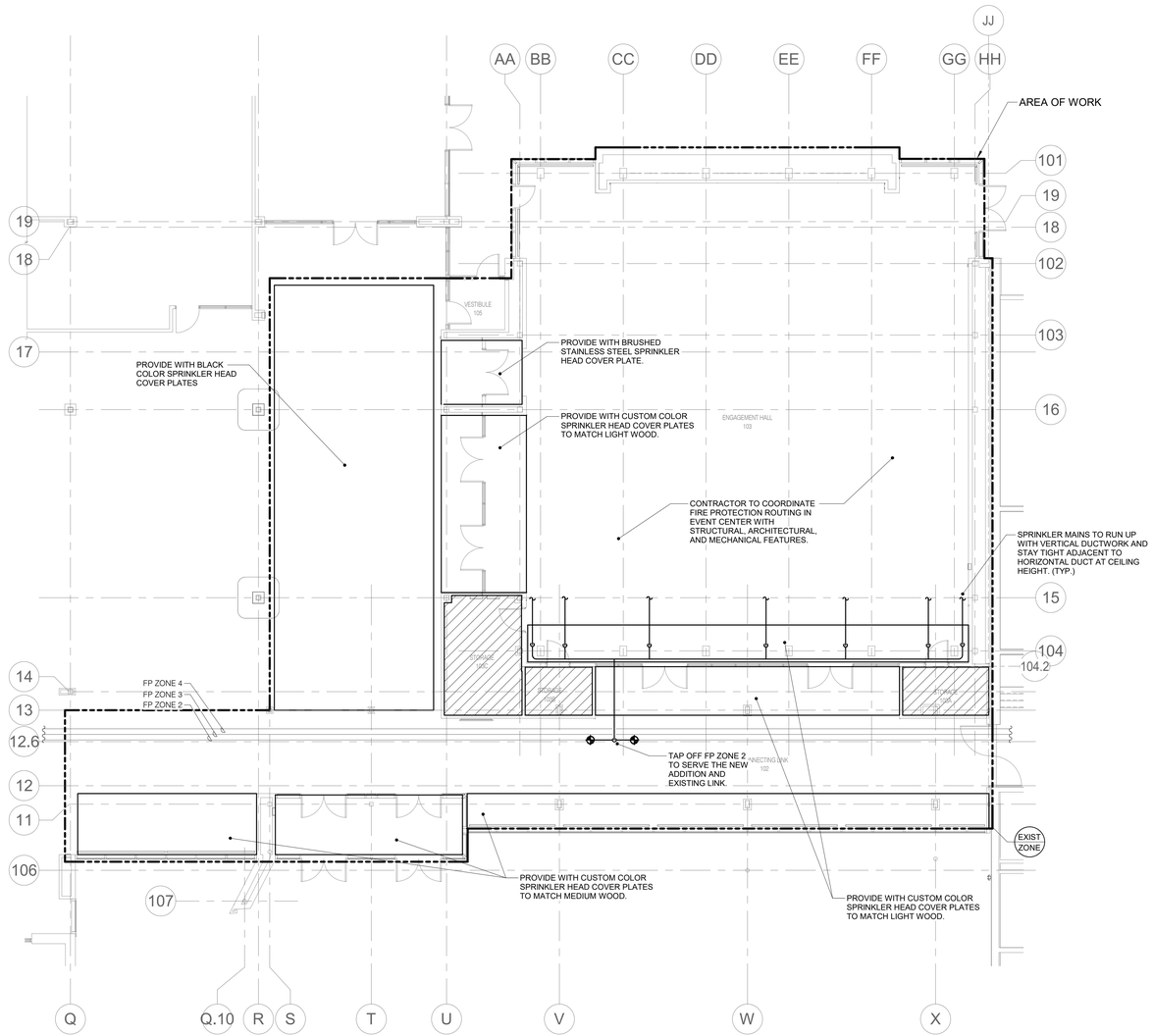
REF. SCALE IN INCHES

PROJECT #24005446.00

GENERAL SHEET NOTES:

1. PROVIDE NEW SPRINKLERS WITHIN AREA OF WORK AS REQUIRED PER NFPA 13. ROUTE AND SIZE SPRINKLER PIPING PER NFPA 13. CONTRACTOR RESPONSIBLE FOR FINAL DESIGN, LAYOUT AND QUANTITY OF SPRINKLER HEADS.
2. REFER TO 1/F2.00 FOR PIPE SUPPORT DETAIL.
3. REFER TO 2/F2.00 FOR SPRINKLER HEAD MOUNTING DETAIL.
4. REFER TO 3/F2.00 FOR NON-FIRE RATED WALL PENETRATION DETAIL.
5. COORDINATE ALL HANGERS AND SUPPORTS IN ENGAGEMENT HALL 103 WITH ARCHITECTUAL WOOD STRUCTURE.



1 FLOOR PLAN - FIRE PROTECTION

1/8" = 1'-0"

NORTH

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McHenry County College ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
FLOOR PLAN - FIRE PROTECTION

SHEET NUMBER:
F1.01

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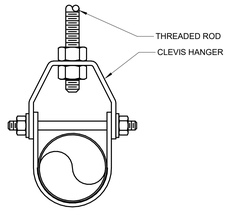
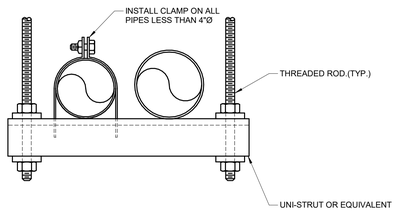
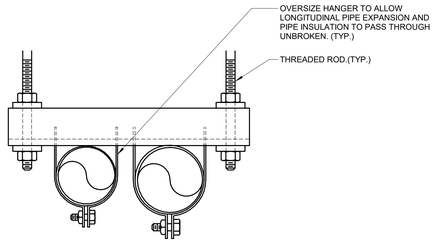


CLEVIS HANGER



TRAPEZE HANGER

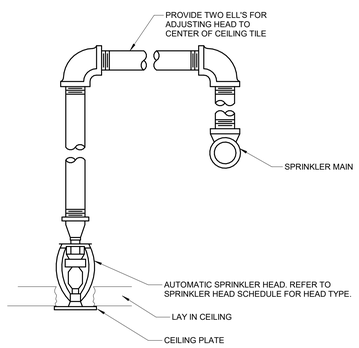


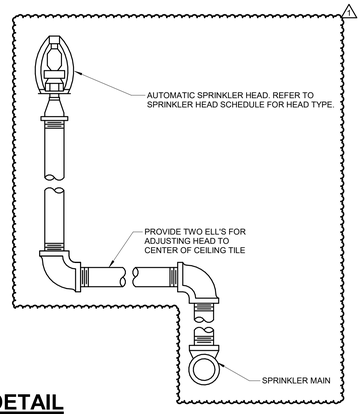
STRUT CLAMP HANGERS

NOTES:

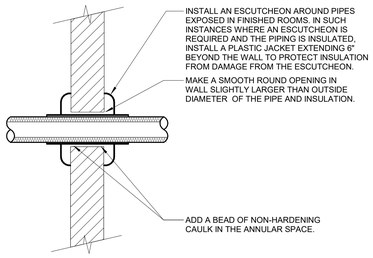
1. REFER TO SPECIFICATION SECTION 21 05 29.

1 PIPE SUPPORT DETAIL
NO SCALE





2 SPRINKLER HEAD MOUNTING DETAIL
NO SCALE



NOTES:

1. THIS DETAIL APPLIES TO ALL PIPES. THE INTENTION IS TO CONTINUE THE INSULATION AND VAPOR BARRIER THROUGH ALL PENETRATIONS, PERMIT THERMAL EXPANSION WITHOUT DAMAGING INSULATION, AND TO SEAL AIRTIGHT AROUND INSULATED AND UNINSULATED PIPES FOR NOISE TRANSMISSION CONTROL.
2. SEE SPECIFICATION SECTIONS SECTION 23 05 29 - HVAC FOR ADDITIONAL INFORMATION.
3. FLOOR OPENINGS ARE SIMILAR, SEE SPECIFICATION SECTION 23 05 29 - HVAC FOR DIFFERENCES BETWEEN FLOOR AND WALL PENETRATIONS.

3 NON-FIRE RATED WALL PENETRATION DETAIL
NO SCALE

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McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:

FIRE PROTECTION DETAILS

SHEET NUMBER:

F2.00

5/23/2025 11:56:19 AM

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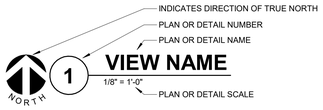
Illinois Design Firm Registration #184006976-0014

0 1 2 3
REF. SCALE IN INCHES

PROJECT #24005446.00

VIEW KEY

(1) — KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL



LINE TYPE AND TAG KEY:

- NEW WORK BY THIS CONTRACTOR (DARK SOLID LINE)
- NEW WORK BY OTHER (LIGHT COLD LINE)
- EQUIPMENT CLEARANCE (DASHED LINE)

LIGHTING SYSTEM DESCRIPTION KEY:

THE DESIGN DOCUMENTS DESCRIBE THE OPERATIONAL PERFORMANCE REQUIREMENTS OF THE LIGHTING CONTROL SYSTEM. THE PROJECT MAY REQUIRE ONE OR MORE LIGHTING CONTROL STRATEGIES FOR THE PROJECT. REFER TO THE ELECTRICAL SYMBOL KEY, SPECIFICATION SECTION 26 09 33 LIGHTING CONTROL SYSTEMS, AND THE DRAWINGS TO DETERMINE THE DESIGN APPLICATION FOR EACH SPACE. THE POTENTIAL STRATEGIES ARE AS FOLLOWS:

1. STANDALONE LIGHTING CONTROL DEVICES: INDEPENDENT (STANDALONE) DEVICES TRADITIONALLY OPERATING AT LINE OR LOW VOLTAGE, FIELD CONFIGURABLE WITH OTHER STANDALONE DEVICES TO PROVIDE AN OVERALL LIGHTING CONTROL SYSTEM.
2. ROOM BASED LIGHTING CONTROLS: INTEGRATED SYSTEM COMPRISED OF SWITCH STATIONS, SENSORS, ROOM CONTROLLERS, CONTROL PANELS, AND ACCESSORIES, OPERATING AT LINE AND/OR LOW VOLTAGE, CONFIGURED AS AN INTEGRATED OVERALL "INTELLIGENT" LIGHTING CONTROL SYSTEM. LIGHTING CONTROL ZONES AND POWER CIRCUITS COMMONLY ALIGN.

LIGHTING CONTROL SYSTEM DESIGNATION: THE FOLLOWING KEY MAY BE USED AS AN EXAMPLE TO DETERMINE THE DESIGNATED LIGHTING CONTROL SYSTEM FOR EACH SPACE. REFER TO ELECTRICAL COVERSHEET FOR ELECTRICAL SYMBOLS LIST AND DEVICE SPECIFICATION TAG. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1. STANDALONE LIGHTING CONTROL DEVICES: CONTROL STATION COMMONLY DEFINED BY AN ALPHA CHARACTER WITH SUBSCRIPTS.
   - A. EXAMPLE SYMBOL "S", SPECIFICATION TAG "SW-1P", DESCRIPTION "SWITCH-SINGLE POLE SWITCH".
   - B. EXAMPLE CONTROL DESIGNATION: a, b, c (WHEN REQUIRED TO CLARIFY DESIGN INTENT).
   - C. SINGLE POLE LIGHT SWITCH "SA" CONTROLS LUMINAIRES WITH THE SUBSCRIPT "a" WITHIN THE SAME SPACE.
   - D. REFER TO THE LIGHT CONTROL SEQUENCE OF OPERATION TAG (L#-##) FOR A COMPLETE DESCRIPTION OF THE LIGHTING CONTROL REQUIREMENTS.

LUMINAIRE CONTROL

2. ROOM BASED LIGHTING CONTROLS: CONTROL STATION COMMONLY DEFINED BY A RECTANGLE SYMBOL.
   - A. EXAMPLE CONTROL STATION: SYMBOL "#B", TAGGED "SW-#B", DESCRIPTION "LIGHTING CONTROL STATION".
   - B. EXAMPLE PANEL/RACK/CABINET: TAGGED "LCPR#", DESCRIPTION "ROOM BASED LIGHTING CONTROL PANEL/RACK/CABINET.
   - C. EXAMPLE CONTROL DESIGNATIONS: a, b, c
   - D. LIGHTING CONTROL STATION "#B" a,b CONTROLS LUMINAIRES WITH THE SUBSCRIPT "a" AND "b" WITHIN THE SAME SPACE
   - E. REFER TO THE LIGHT CONTROL SEQUENCE OF OPERATION TAG (L#-##) FOR A COMPLETE DESCRIPTION OF THE LIGHTING CONTROL AND PRE-PROGRAMMED SCENE SELECTION REQUIREMENTS.

LUMINAIRE LUMINAIRE CONTROL

LIGHTING CONTROL NOTES:

LIGHTING CONTROL NOTES:

"NL" INDICATES LUMINAIRE IS UNSWITCHED FOR NIGHT LIGHT.
"SE" INDICATES LUMINAIRE IS SWITCHED/CONTROLLED DURING NORMAL OPERATION AND OPERATES FROM LIFE SAFETY CIRCUIT UPON LOSS OF POWER. PROVIDE GENERATOR TRANSFER DEVICE.

(L#-##) INDICATES THE LIGHTING SEQUENCE OF OPERATION FOR THE SPACE. REFER TO THE LIGHTING SEQUENCE OF OPERATION MATRIX ON SHEET E5.00.

(#B) LIGHTING CONTROL STATION. THE "#" INDICATES THE MINIMUM QUANTITY OF ZONES/SCENES AS DEFINED IN THE LIGHTING SEQUENCE OF OPERATIONS. THE LIGHTING CONTROL STATION SHALL PROVIDE SEPARATE ON AND OFF AS WELL AS RAISE AND LOWER BUTTON(S). CONTROL SHALL BE CAPABLE OF DIMMING UP/DOWN AND SWITCHING AS DEFINED IN THE LIGHTING SEQUENCE OF OPERATIONS. REFER TO DRAWINGS AND LUMINAIRE SUBSCRIPTS TO DETERMINE IF A ROOM BASED CONTROLLER (a, b, c SUBSCRIPTS).

(z##) INDICATES ZONING AND REFLECTS A LIGHTING CONTROL GROUP. PROVIDE RELAYS AS REQUIRED TO ALLOW LUMINAIRES WITHIN THE DEFINED ZONE TO FUNCTION TOGETHER.

LIGHTING CONTROL SUBSCRIPTS:
1. LOWER CASE ALPHA SUBSCRIPTS "a, b, c" INDICATE LINE VOLTAGE OR ROOM BASED LIGHTING CONTROL SYSTEMS. REFER TO DRAWINGS TO DETERMINE IF LINE VOLTAGE CONTROL (S, S3, S4, ETC) OR (#B) ROOM BASED CONTROLLER SYSTEM (#B) IS REQUIRED.

REFER TO SHEET E5.00 FOR LUMINAIRE SCHEDULE

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
			LINEAR LUMINAIRES
			TROFFER
	REFER TO LUMINAIRE SCHEDULE		PENDANT LUMINAIRE
			DOWNLIGHT LUMINAIRE
			SINGLE FACE EXIT SIGN
			DOUBLE FACE EXIT SIGN

CONDUIT INSTALLATION SCHEDULE

THE FOLLOWING SCHEDULE SHALL BE ADHERED TO UNLESS THEY CONSTITUTE A VIOLATION OF APPLICABLE CODES OR ARE NOTED OTHERWISE ON THE DRAWINGS. THE INSTALLATION OF RMC CONDUIT WILL BE PERMITTED IN PLACE OF ALL CONDUIT SPECIFIED IN THIS SCHEDULE. REFER TO CONDUIT AND BOXES SPECIFICATION 26 05 33 FOR ADDITIONAL INFORMATION.

INSTALLATION TYPE	RMC	IMC	EMT	PVC	PVC CONCRETE ENCASED
FEEDERS: SWITCHBOARDS, DISTRIBUTION PANELS, PANELBOARDS, MOTOR CONTROL CENTERS, ETC.		X	X		
BRANCH CIRCUITS: LIGHTING, RECEPTACLES, CONTROLS, ETC.		X	X		
MECHANICAL EQUIPMENT FEEDERS: PUMPS, CHILLERS, AIR HANDLING UNITS, ETC.		X	X		
FLOOR MOUNTED EQUIPMENT FEEDERS: PUMPS, ETC. (INCLUDE NO MORE THAN 6 FEET OF LFMC TO PUMP)		X	X		
CONTROLS (LIGHTING, POWER, BUILDING AUTOMATION, ETC.)		X	X		
WET AND DAMP LOCATIONS: (CONDUIT, BOXES, FITTINGS, INSTALLED AND EQUIPPED TO PREVENT WATER ENTRY)	X				
INTERIOR LOCATIONS WITH FINISHED CEILING AND WALLS: CONCEALED IN WALLS AND ABOVE FINISHED CEILINGS			X		
INTERIOR LOCATIONS WITHOUT FINISHED CEILINGS: CONCEALED IN WALL, EXPOSED ABOVE CEILINGS		X	X		
EXISTING INTERIOR LOCATIONS WITH FINISHED CEILINGS AND WALLS: CONCEALED IN WALLS AND ABOVE FINISHED CEILING UNLESS OTHERWISE NOTED			X		
UNDERGROUND / UNDER SLABS ON GRADE					
WITHIN 5' FROM THE PERIMETER OF THE BUILDING	X			X	
WITHIN 5' FROM THE PERIMETER OF THE BUILDING WHEN PASSING THROUGH THE PERIMETER OF THE BUILDING FOUNDATION:	X				
UNDERGROUND SITE CONDUITS:					
WITHIN 5' FROM THE PERIMETER OF A BUILDING FOUNDATION	X				
5' OR GREATER FROM THE PERIMETER OF A BUILDING FOUNDATION	X			X	
UNDER ROADS, DRIVES, AND VEHICLE TRAVELED WAYS.					X

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
E / E	ECONN	26 05 33	ELECTRICAL CONNECTION
J	JB	26 05 33	JUNCTION BOX
	HH-#	26 05 33	HANDHOLE
	FB-#	26 27 26	FLOOR BOX
	PANEL '###'	26 24 16	PANELBOARD - SURFACE MOUNT
	REC-DUP	26 27 26	DUPLEX RECEPTACLE, TAMPER RESISTANT, 125V
W	REC-DUP-WP	26 27 26	DUPLEX GFI WEATHERPROOF RECEPTACLE, TAMPER RESISTANT, 125V
U	REC-USB	26 27 26	DUPLEX RECEPTACLE, USB CHARGING, TYPE A AND C, TAMPER RESISTANT, 125V
	REC-QUAD	26 27 26	QUAD RECEPTACLE, TAMPER RESISTANT, 125V
W	REC-QUAD-WP	26 27 26	QUAD WEATHERPROOF RECEPTACLE, TAMPER RESISTANT, 125V
	PB-1	26 27 26	POWER BOLLARD WITH GFI RECEPTACLE AND USB CHARGER
PP			PUSH PAD (BY OTHERS)

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
V / S	SW-V	26 09 33	SWITCH SUBSCRIPTS: V = DUAL TECHNOLOGY VACANCY SENSOR WITH WALL SWITCH
VC	SW-VC-D	26 09 33	VACANCY SENSOR - CEILING MOUNTED SUBSCRIPTS: BLANK = DUAL TECHNOLOGY
TS	SW-LCD	26 09 33	LCD TOUCH SCREEN LIGHTING CONTROL STATION
PB	SW-PB	26 09 33	LOW VOLTAGE CONTROLLER. REFER TO DETAIL 5/E3.00
#B	SW-#B	26 09 33	LIGHTING CONTROL STATION - DEFAULT DIMMED CONTROL - # DEFINES MINIMUM QUANTITY OF CONTROL SCENES, PLUS OFF, REFER TO LIGHTING SEQUENCE OF OPERATIONS WHEN NOT DEFINED. SUBSCRIPTS: BLANK = DIMMING CONTROL
TC	SW-TC	26 09 33	TIME CLOCK SWITCH
	LC-#	26 28 21	LIGHTING CONTACTOR, REFER TO CONTACTOR SCHEDULE

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
COMMON AND SEQUENCE OF OPERATION SUBSCRIPTS			SUBSCRIPTS: TYPE / PROGRAMMING W = WEATHERPROOF DH = DOOR HOLD RELEASE # = 15, 30, 75, 110, 177 CANDELA RATING
S	FA-120	28 31 00	FIRE ALARM SMOKE DETECTOR, CEILING MOUNT BLANK - PHOTOELECTRIC
S	FA-122	28 31 00	FIRE ALARM DUCT SMOKE DETECTOR
F	FA-130	28 31 00	FIRE ALARM MANUAL PULL STATION
#	FA-200	28 31 00	FIRE ALARM VISUAL ALARM DEVICE, CEILING OR WALL MOUNT # = CANDELA RATING.
F # F #	FA-211	28 31 00	COMBINATION HORN AND VISUAL ALARM DEVICE, CEILING OR WALL MOUNTED # = CANDELA RATING W = WEATHER PROOF
RT	FA-242	28 31 00	FIRE ALARM REMOTE INDICATOR WITH TEST SWITCH
CM	FA-161	28 31 00	FIRE ALARM ADDRESSABLE CONTROL MODULE
DH	FA-271	28 31 00	DOOR HOLD OPEN

ELECTRICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL ELECTRICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, LIGHTING, POWER, FIRE ALARM, AND OTHER LOW VOLTAGE SYSTEMS.

1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS. CONTRACTOR SHALL REVIEW EXISTING CONDITIONS AND REPORT CONFLICTS.
2. NOT ALL EXISTING EQUIPMENT, LUMINAIRES, AND CONDUIT ARE SHOWN. CONTRACTOR SHALL REVIEW EXISTING CONDITIONS AND REPORT CONFLICTS.
3. ELECTRICAL CONTRACTOR SHALL REVIEW EXISTING CONDITIONS TO VERIFY ACCESSIBILITY TO THE AREAS OF THEIR WORK INCLUDING WALLS, FLOOR, CEILINGS, CEILING TILES/GRID, AND ROOF. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE CUTTING, REMOVAL, PATCHING, AND REINSTALLATION OF AFFECTED AREAS ASSOCIATED WITH THEIR WORK BY COORDINATING WITH THE GENERAL CONTRACTOR OR QUALIFIED CONTRACTOR.
4. WHERE EXISTING ELECTRICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, CONDUIT, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING ELECTRICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.

ELECTRICAL ABBREVIATION KEY

ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
C	CONDUIT (BRANCH CIRCUIT OR FEEDER CONTEXT)
EGC	EQUIPMENT GROUNDING CONDUCTOR
NEMA #	NEMA RATING
NIC	NOT IN CONTRACTED SCOPE
ROOF	EQUIPMENT LOCATED ON ROOF ABOVE
SM	SURFACE MOUNTED
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
E.C.	ELECTRICAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
A.V.C.	AUDIO VISUAL CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR

RECEPTACLE SUBSCRIPT KEY:

DEVICE KEY:

DEVICE (#) — # = MOUNTING (IF APPLICABLE)
1 = CIRCUIT NUMBER

*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: A / 1

ELECTRICAL MOUNTING SUBSCRIPT KEY:
- C MOUNT AT CEILING (DEVICE OR ROUGH-IN CONTEXT)
- W WEATHERPROOF WIRING DEVICE, NEMA 3R WHILE-IN-USE COVER, WR LISTED

ELECTRICAL INSTALLATION NOTES:

1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN.
2. CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
3. LIFE SAFETY BRANCH WIRING FOR FEEDERS AND BRANCH CIRCUITS SHALL BE ROUTED IN SEPARATE RACEWAY, JUNCTION BOXES, PULL BOXES, AND CABINETS. WIRING FOR EACH BRANCH SHALL BE INDEPENDENT FROM OTHER BRANCHES, INCLUDING THE NORMAL BRANCH.
4. FLUSH MOUNT ALL LIGHTING CONTROL DEVICES AT +42" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED.
5. FLUSH MOUNT ALL DUPLEX RECEPTACLES AND TECHNOLOGY OUTLETS AT +18" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. RECEPTACLES AND OUTLETS MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED. MOUNT EXTERIOR LOCATED RECEPTACLES WITH WHILE-IN-USE COVERS AT +20" FROM FINISHED GRADE (CENTER DIMENSIONS) TO MAINTAIN INSTALLATION ADA COMPLIANCE.
6. ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS. REFER TO 26 05 03 FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING.
7. MOUNT ALL FIRE ALARM PULL STATIONS AT +42" FROM FLOOR (CENTERLINE DIMENSION) EXCEPT WHERE OTHERWISE NOTED.
8. INSTALL ALL WALL MOUNTED FIRE ALARM NOTIFICATION DEVICES AT 90" ABOVE FINISHED FLOOR OR 6" BELOW THE CEILING, WHICHEVER IS LOWER, EXCEPT WHERE OTHERWISE NOTED. HEIGHT SHALL BE MEASURED TO THE TOP OF THE DEVICE.
9. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND EQUIPMENT WITH LUMINAIRES, SPRINKLER, AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS,CARBON MONOXIDE DETECTORS, AND OCCUPANCY/VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE.
10. CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS, OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
11. ELECTRICAL AND TECHNOLOGY EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF, OPERATION OF, AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL AND TELECOMMUNICATIONS EQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
13. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO THE WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
14. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
15. ELECTRICAL IDENTIFICATION. REFER TO SPECIFICATION SECTION 26 05 53 FOR COLOR/LABEL REQUIREMENTS FOR CONDUIT, BOX, CABLE/WIRE, AND EQUIPMENT.

ELECTRICAL SHEET INDEX

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

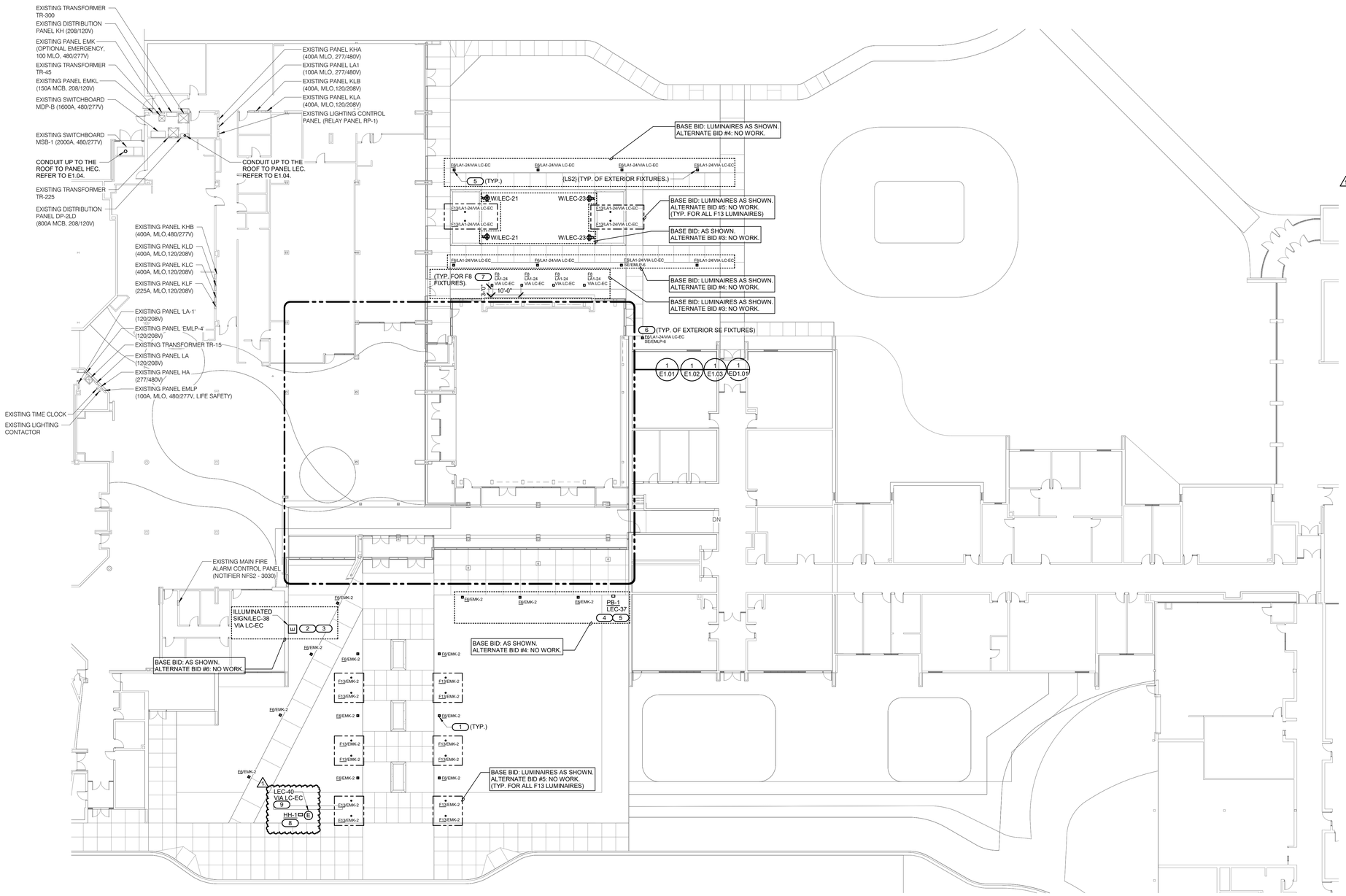
NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
ELECTRICAL COVERSHEET

SHEET NUMBER:
E0.00

0 1 2 3
REF. SCALE IN INCHES
PROJECT #24005446.00

5/23/2025 10:27:45 AM



1 OVERALL PLAN - ELECTRICAL

1/16" = 1'-0"

GENERAL SHEET NOTES:

1. REFER TO SHEET E0.00 FOR GENERAL ELECTRICAL NOTES, SYMBOLS, ELECTRICAL INSTALLATION NOTES, ELECTRICAL RENOVATION NOTES, CONDUIT INSTALLATION SCHEDULE AND OTHER MISCELLANEOUS INFORMATION.
2. REFER TO SHEET E4.00 ELECTRICAL RISER DIAGRAM.
3. REFER TO SHEET E5.00 FOR LUMINAIRE SCHEDULE AND LIGHTING SEQUENCE OF OPERATION.
4. SURFACE MOUNTED CONDUITS ON THE EXTERIOR WALLS ARE NOT ALLOWED.

KEYNOTES:

1. REFER TO BASE DETAIL 3/E3.00. EXTEND EXISTING 277 SITE EMERGENCY LIGHTING CIRCUIT TO NEW FIXTURES. VERIFY CIRCUIT NUMBER IN FIELD. MATCH CONDUIT AND WIRE, MINIMUM (2#8 & 1#8 EGC IN 1 1/4" C.). CIRCUIT IS CURRENTLY CONTROLLED BY TIME CLOCK VIA LIGHTING CONTACTOR.
2. SAW CUT EXISTING WALL AS REQUIRED FOR BACKBOX AND CONDUIT INSTALLATION. PATCH AND REPAIR TO MATCH EXISTING CONDITIONS. COORDINATE EXACT SIGNAGE LOCATION WITH ARCHITECT.
3. PROVIDE 20A, 120V DISCONNECT SWITCH WITH NEMA 3R ENCLOSURE (SQUARE D 2510 SERIES OR APPROVED EQUAL).
4. COORDINATE LOCATION WITH ARCHITECT. USB RECEPTACLE SHALL BE WIRED DOWNSTREAM OF GFCI.
5. REFER TO BASE DETAIL 3/E3.00.
6. PROVIDE WITH GENERATOR TRANSFER DEVICE (ACUITYBRANDS ETS20).
7. INSTALL ON CONCRETE BASE. REFER TO DETAIL 4/E3.00.
8. PROVIDE HANDHOLE FOR FUTURE SIGNAGE CONNECTION. TERMINATE FUTURE SIGNAGE CIRCUIT WITHIN HANDHOLE. PROVIDE LABEL WITHIN HANDHOLE COVER NOTING CONNECTION IS FOR FUTURE SIGNAGE.
9. FUTURE SIGN. PROVIDE 120V, 20A/1P DEDICATED CIRCUIT IN HANDHOLE HH-1. PROVIDE 20A, 120V DISCONNECT SWITCH WITH NEMA 3R ENCLOSURE (SQUARE D 2510 SERIES OR APPROVED EQUAL).

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
OVERALL PLAN - ELECTRICAL

SHEET NUMBER:
E1.00

5/23/2025 10:27:48 AM

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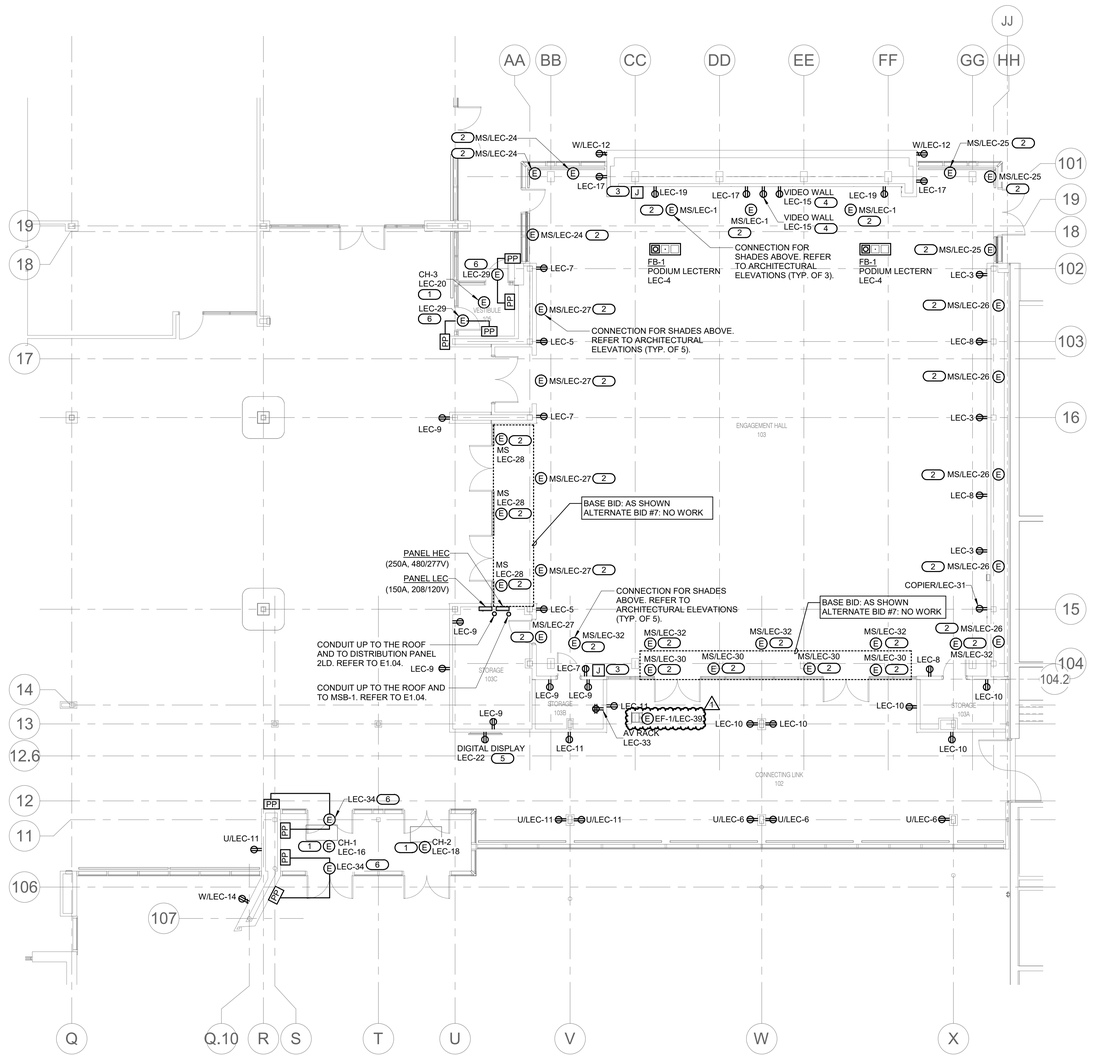
Illinois Design Firm Registration #184008976-0014

REF. SCALE IN INCHES 0 1 2 3

PROJECT #24005446.00



1 FLOOR PLAN - POWER

1/8" = 1'-0"

NORTH

GENERAL SHEET NOTES:

1. REFER TO SHEET E0.00 FOR GENERAL ELECTRICAL NOTES, SYMBOLS, ELECTRICAL INSTALLATION NOTES, ELECTRICAL RENOVATION NOTES, CONDUIT INSTALLATION SCHEDULE AND OTHER MISCELLANEOUS INFORMATION.
2. REFER TO SHEET E4.00 FOR ELECTRICAL RISER DIAGRAM.
3. REFER TO SHEET E6.00 FOR ELECTRICAL PANEL SCHEDULES.
4. COORDINATE FLOOR BOX LOCATION WITH ARCHITECT.
5. CONDUITS IN EVENT CENTER 103 SHALL BE GROUPED TOGETHER. ROUTING TO BE REVIEWED AND APPROVED BY THE ARCHITECT.

KEYNOTES:

1. CONNECT TO MANUFACTURER PROVIDED DISCONNECT/CONTROLLER/STARTER.
2. CONNECTION TO MOTORIZED SHADES. COORDINATE EXACT QUANTITY AND LOCATION OF MOTOR AND WIRING REQUIREMENTS WITH SHADE MANUFACTURER. SHADES SHALL HAVE MANUAL CONTROL. REFER TO 6/E3.00 FOR MOTORIZED SHADE CONTROL DIAGRAM DETAIL.
3. INSTALL SHADE CONTROLLER IN JUNCTION BOX PER MANUFACTURER'S REQUIREMENTS. MOUNT ADJACENT TO LIGHTING WALL CONTROLLER. GROUP INTO THREE ZONES: 1. ALL LOWER SHADES AT INTERIOR WINDOWS 2. HIGH EAST / SOUTH / WEST SHADES 3. FULL HEIGHT EAST / WEST SHADES AND ALL NORTH SHADES.
4. COORDINATE LOCATION WITH AV INSTALLER PRIOR TO ROUGH-IN.
5. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
6. 120V CONNECTION TO DOOR OPERATOR. COORDINATE LOCATION OF POWER SUPPLY WITH DOOR HARDWARE INSTALLER. PUSH PLATES PROVIDED WITH DOOR OPERATORS, INSTALLED AND WIRED BY E.C. FINAL LOCATION OF ADA PUSHPLATES SHALL BE COORDINATED WITH ARCHITECT.

dka

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
FLOOR PLAN - POWER

SHEET NUMBER:
E1.02

5/23/2025 10:27:50 AM

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Illinois Design Firm Registration #184008976-0014

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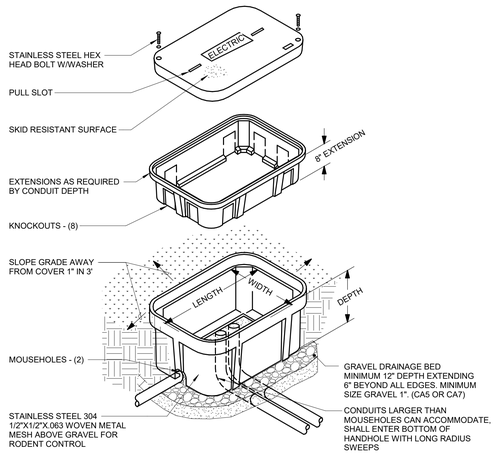
REF. SCALE IN INCHES

PROJECT #D40054460.00



NOTES:
1. ANY SPLICES OR DEVICES IN HANDHOLE SHALL BE SUBMERGIBLE.

1 EXTERIOR HANDHOLE DETAIL

NO SCALE

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
ELECTRICAL DETAILS

SHEET NUMBER:
E3.01

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Illinois Design Firm Registration #184008976-0014

0 1 2 3
REF. SCALE IN INCHES

PROJECT #24005446.00

5/23/2025 10:27:53 AM

EXISTING PANEL EMLP (LIFE SAFETY)

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
FED FROM:
LOCATION: JANITOR B164a

SINGLE TUB
SOLID NEUTRAL
GROUND BUS

MAIN: 100 MLO
VOLTS: 480/277 Wye
PHASE: 3
WIRE: 4
SCCR: 14 kA

NOTES:

KEY	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	WIRE SIZE H	N	G	A	B	C	WIRE SIZE G	N	H	OCPD AMPS	P	LOAD DESCRIPTION	CKT NO.	KEY
--	1	EXISTING LOAD	20	1	--	--	--	0	0		--	--	--	1	20	EXISTING LOAD	2	--
	3	**EXISTING LOAD, *E**	20	1	--	--			0.21	0	--	--	--	1	20	EXISTING LOAD	4	--
--	5	EXISTING LOAD	20	1	--	--	--			0	**0.11**	**10**	**10**	**1**	**20**	**Lighting**	6	
--	7	EXISTING LOAD	20	1	--	--	--	0	0		--	--	--	1	20	EXISTING LOAD	8	--
--	9	EXISTING LOAD	20	1	--	--	--		0	0	--	--	--	1	20	EXISTING LOAD	10	--
--	11	EXISTING SPACE	--	1	--	--	--			--	0	--	--	1	20	EXISTING LOAD	12	--
	13						0	--				--	--	1	--	EXISTING SPACE	14	--
--	15	EXISTING LOAD	20	3	--	--	--		0	--		--	--	1	--	EXISTING SPACE	16	--
	17									0	--	--	--	1	--	EXISTING SPACE	18	--

	A	B	C
Total Load:	0.00 kVA	0.21 kVA	0.11 kVA
Total Amps:	0.00	0.82	0.46

LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Lighting	0.32 kVA	100.00%	0.32 kVA

TOTALS*	
TOTAL CONNECTED LOAD:	0.32 kVA
TOTAL ESTIMATED DEMAND LOAD:	0.32 kVA
TOTAL CONNECTED AMPS:	0.38 A
TOTAL ESTIMATED DEMAND AMPS:	0.4

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: *E = EXTEND EXISTING CIRCUIT TO NEW LIGHTS. MATCH CONDUIT AND WIRE, MINIMUM 2#12 & 1#12 EGC IN 3/4"C.

EXISTING PANEL LA1

MOUNTING: RECESSED
ENCLOSURE: NEMA 1
FED FROM: EXISTING 'MDP-B'
LOCATION: SERVICE CORRIDOR B180A

SINGLE TUB
SOLID NEUTRAL
GROUND BUS

MAIN: 100 MLO
VOLTS: 480/277 Wye
PHASE: 3
WIRE: 4
SCCR: 35 kA

NOTES:

KEY	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	WIRE SIZE H	N	G	A	B	C	WIRE SIZE G	N	H	OCPD AMPS	P	LOAD DESCRIPTION	CKT NO.	KEY
--	1	EXISTING LOAD	20	1	--	--	--	0	0		--	--	--	1	20	EXISTING LOAD	2	--
--	3	EXISTING LOAD	20	1	--	--	--			0	--	--	--	1	20	EXISTING LOAD	4	--
--	5	EXISTING LOAD	20	1	--	--	--			0	0	--	--	1	20	EXISTING LOAD	6	--
--	7	EXISTING LOAD	20	1	--	--	--	0	0.18		--	--	--	1	20	**EXISTING LOAD**	8	**E**
--	9	EXISTING LOAD	20	1	--	--	--			0	0.03			1	20	**EXISTING LOAD**	10	**E**
--	11	EXISTING LOAD	20	1	--	--	--					0	0.21	1	20	**EXISTING LOAD**	12	**E**
--	13	EXISTING SPARE	20	1	--	--	--	0	**0.23**					1	20	Lighting	14	**RP
--	15	EXISTING SPARE	20	1	--	--	--			0	0			1	20	EXISTING SPARE	16	--
--	17	EXISTING SPARE	20	1	--	--	--					0	**0.36**	1	20	Lighting	18	
--	19	EXISTING SPARE	20	1	--	--	--	0	**0.02**					1	20	Lighting	20	**RP
--	21	EXISTING SPARE	20	1	--	--	--			0	**1.16**			1	20	Lighting	22	
--	23	EXISTING SPARE	20	1	--	--	--					0	**0.31**	1	20	Lighting	24	**C
--	25	EXISTING SPARE	20	1	--	--	--	0	0.36					1	20	Lighting	26	
--	27	EXISTING SPARE	20	1	--	--	--			0	0.21			1	20	Lighting	28	
--	29	EXISTING SPARE	20	1	--	--	--					0	0	1	20	EXISTING SPARE	30	--

	A	B	C
Total Load:	0.79 kVA	1.41 kVA	0.88 kVA
Total Amps:	2.84	5.12	3.22

LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Lighting	3.069 kVA	100.00%	3.069 kVA

TOTALS*	
TOTAL CONNECTED LOAD:	3.07 kVA
TOTAL ESTIMATED DEMAND LOAD:	3.069 kVA
TOTAL CONNECTED AMPS:	3.69 A
TOTAL ESTIMATED DEMAND AMPS:	3.7

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: *RP = THROUGH EXISTING RELAY PANEL 'RP-1',
***E = EXTEND EXISTING CIRCUIT TO NEW LIGHTS. MATCH CONDUIT AND WIRE, MINIMUM 2#12 & 1#12 EGC IN 3/4"C.**
***C = ROUTE CIRCUIT VIA LIGHTING CONTACTOR LC-EC, REFER TO DETAIL 2/E1.01**

EXISTING PANEL HA

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
LOCATION: JANITOR B164a

SINGLE TUB
SOLID NEUTRAL
GROUND BUS

MAIN: 150 MCB
VOLTS: 480/277 Wye
PHASE: 3
WIRE: 4

NOTES:

KEY	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	WIRE SIZE H	N	G	A	B	C	WIRE SIZE G	N	H	OCPD AMPS	P	LOAD DESCRIPTION	CKT NO.	KEY
--	1	EXISTING LOAD	20	1	--	--	--	0	0		--	--	--	1	20	EXISTING LOAD	2	--
--	3	EXISTING LOAD	20	1	--	--	--			0	0	--	--	1	20	EXISTING LOAD	4	--
--	5	EXISTING LOAD	20	1	--	--	--					0	0	--	--	1	20	EXISTING LOAD	6	--
--	7	EXISTING LOAD	20	1	--	--	--	0	0					--	--	1	20	EXISTING LOAD	8	--
--	9	EXISTING LOAD	20	1	--	--	--			0	0			--	--	1	20	EXISTING LOAD	10	--
--	11	EXISTING LOAD	20	1	--	--	--					0	0	--	--	1	20	EXISTING LOAD	12	--
--	13	EXISTING LOAD	20	1	--	--	--	0	0					--	--	1	20	EXISTING LOAD	14	--
--	15	EXISTING LOAD	20	1	--	--	--			0	0			--	--	1	20	EXISTING LOAD	16	--
--	17	EXISTING LOAD	20	1	--	--	--					0	0.04	--	--	1	20	**EXISTING SOFFIT LIGHTING, *E**	18	***LC**
--	19	EXISTING LOAD	20	1	--	--	--	0	0					--	--	1	20	EXISTING SPARE	20	--
--	21	EXISTING LOAD	20	1	--	--	--			0	0			--	--	1	20	EXISTING SPARE	22	--
--	23	EXISTING LOAD	20	1	--	--	--					0	0	--	--	1	20	EXISTING SPARE	24	--
--	25	EXISTING SPARE	60	3	--	--	--	0	0					--	--	1	20	EXISTING SPARE	26	--
	27									0	0			--	--	1	20	EXISTING LOAD	28	--
	29											0	0	--	--	1	20	EXISTING LOAD	30	--
--	31	EXISTING SPACE	--	1	--	--	--	--	0								32	
--	33	EXISTING SPARE	20	1	--	--	--			0	0			--	--	--	3	60	EXISTING LOAD	34	--
--	35	EXISTING SPARE	20	1	--	--	--					0	0							36	
--	37	EXISTING SPACE	--	1	--	--	--	--	--					--	--	1	--	EXISTING SPACE	38	--
--	39	EXISTING SPARE	20	1	--	--	--			0	--			--	--	1	--	EXISTING SPACE	40	--
--	41	EXISTING SPARE	20	1	--	--	--					0	--	--	--	1	--	EXISTING SPACE	42	--

	A	B	C
Total Load:	0.00 kVA	0.00 kVA	0.04 kVA
Total Amps:	0.00	0.00	0.16

LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Lighting	0.044 kVA	100.00%	0.044 kVA

TOTALS*	
TOTAL CONNECTED LOAD:	0.04 kVA
TOTAL ESTIMATED DEMAND LOAD:	0.044 kVA
TOTAL CONNECTED AMPS:	0.05 A
TOTAL ESTIMATED DEMAND AMPS:	0.1

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: *LC = ROUTED VIA EXISTING LIGHTING CONTACTOR,
***E = EXTEND EXISTING CIRCUIT TO NEW LIGHTS. MATCH CONDUIT AND WIRE, MINIMUM 2#8 & 1#8 EGC IN 1 1/4"C.**

PANEL HEC

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
FED FROM: EXISTING SWITCHBOARD MSB-1
LOCATION: Room 102

SINGLE TUB
SOLID NEUTRAL
GROUND BUS

MAIN: 250 MCB
VOLTS: 480/277 Wye
PHASE: 3
WIRE: 4
SCCR: 42 kA

NOTES:

KEY	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	WIRE SIZE H	N	G	A	B	C	WIRE SIZE G	N	H	OCPD AMPS	P	LOAD DESCRIPTION	CKT NO.	KEY
	1							13.33	9.07								2	
	3	RTU-1	80	3	3	--	8			13.33	9.07			8	--	3	3	80	RTU-2	4	
	5											13.33	9.07							6	
	7							0	--						--	--	--	1	--	SPACE	8	--
--	9	SPARE	60	3	--	--	--			0	--				--	--	--	1	--	SPACE	10	--
	11											0	--		--	--	--	1	--	SPACE	12	--
--	13	SPACE	--	1	--	--	--	--	--						--	--	--	1	--	SPACE	14	--
--	15	SPACE	--	1	--	--	--			--	--				--	--	--	1	--	SPACE	16	--
--	17	SPACE	--	1	--	--	--					--	--		--	--	--	1	--	SPACE	18	--
--	19	SPACE	--	1	--	--	--	--	--						--	--	--	1	--	SPACE	20	--
--	21	SPACE	--	1	--	--	--			--	--				--	--	--	1	--	SPACE	22	--

	A	B	C
Total Load:	22.40 kVA	22.40 kVA	22.40 kVA
Total Amps:	80.87	80.87	80.87

LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Power	67.2 kVA	100.00%	67.2 kVA

TOTALS*	
TOTAL CONNECTED LOAD:	67.20 kVA
TOTAL ESTIMATED DEMAND LOAD:	67.2 kVA
TOTAL CONNECTED AMPS:	80.83 A
TOTAL ESTIMATED DEMAND AMPS:	80.8

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES:

PANEL LEC

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
FED FROM: EXISTING DIST. PANEL L2D
LOCATION: Room 102

SINGLE TUB
SOLID NEUTRAL
GROUND BUS

MAIN: 150 MCB
VOLTS: 120/208 Wye
PHASE: 3
WIRE: 4
SCCR: 10 kA

NOTES:

KEY	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	WIRE SIZE H	N	G	A	B	C	WIRE SIZE G	N	H	OCPD AMPS	P	LOAD DESCRIPTION	CKT NO.	KEY
	1	MS	20	1	10	10	10	1.14	0.2					12	12	12	1	20	Door Hold Control Module	2	
	3	Receptacles	20	1	12	12	12			0.54	0.36			10	10	10	1	20	Floor Boxes	4	
	5	Receptacles	20	1	12	12	12					0.36	0.54	12	12	12	1	20	Receptacles	6	
	7	Receptacles	20	1	12	12	12	0.54	0.54					12	12	12	1	20	Receptacles	8	
	9	Receptacles	20	1	12	12	12			1.08	0.9			12	12	12	1	20	Receptacles	10	
	11	Receptacles	20	1	12	12	12					0.9	0.36	10	10	10	1	20	Receptacles	12	
	13	Receptacles	20	1	10	10	10	0.36	0.18					10	10	10	1	20	Receptacles	14	
	15	Video Wall	20	1	10	10	10			1	0.67			12	12	12	1	20	CH-1	16	
	17	Receptacles	20	1	10	10	10					0.54	0.67	12	12	12	1	20	CH-2	18	
	19	Receptacles	20	1	10	10	10	0.36	0.67					12	12	12	1	20	CH-3	20	
	21	Receptacles	20	1	10	10	10			0.72	0.3			12	12	12	1	20	DIGITAL DISPLAY	22	
	23	Receptacles	20	1	10	10	10					0.72	1.14	10	10	10	1	20	MS	24	
	25	MS	20	1	10	10	10	1.14	1.9					12	12	12	1	20	MS	26	
	27	MS	20	1	12	12	12			1.9	1.14			12	12	12	1	20	MS	28	
	29	Door Operators	20	1	12	12	12					0.4	1.52	12	12	12	1	20	MS	30	
	31	Receptacles	20	1	12	12	12	1	1.9					12	12	12	1	20	MS	32	
	33	AV Rack	20	1	12	12	12			0.36	0.4			12	12	12	1	20	Door Operators	34	
	35	Lighting	20	1	12	12	12					0.13	0	12	12	12	1	20	LIGHTING CONTACTOR LC-EC	36	
	37	Power Bollard	20	1	10	10	10	0.18	1					8	8	8	1	20	ILLUMINATED SIGN	38	*C
	39	EF-1	20	1	12	12	12			0.5	1			8	8	8	1	20	FUTURE SIGN	40	*C
--	41	SPARE	20	1	--	--	--					0	0	--	--	--	1	20	SPARE	42	--
--	43	SPARE	20	1	--	--	--	0	0					--	--	--	1	20	SPARE	44	--
--	45	SPARE	20	1	--	--	--			0	0			--	--	--	1	20	SPARE	46	--
--	47	SPARE	20	1	--	--	--					0	0	--	--	--	1	20	SPARE	48	--
--	49	SPARE	20	1	--	--	--	0	0					--	--	--	1	20	SPARE	50	--
--	51	SPARE	20	1	--	--	--			0	0			--	--	--	1	20	SPARE	52	--
--	53	SPARE	20	1	--	--	--					0	0	--	--	--	1	20	SPARE	54	--

	A	B	C
Total Load:	11.11 kVA	10.87 kVA	7.28 kVA
Total Amps:	97.18	95.18	60.69

LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Lighting	0.133 kVA	100.00%	0.133 kVA
Other	0.2 kVA	100.00%	0.2 kVA
Power	17.27 kVA	100.00%	17.27 kVA
Receptacles	11.66 kVA	92.88%	10.83 kVA

TOTALS*	
TOTAL CONNECTED LOAD:	29.26 kVA
TOTAL ESTIMATED DEMAND LOAD:	28.433 kVA
TOTAL CONNECTED AMPS:	81.23 A
TOTAL ESTIMATED DEMAND AMPS:	78.9

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: *C = ROUTE CIRCUIT VIA LIGHTING CONTACTOR LC-EC, REFER TO DETAIL 2/E1.01

ARCHITECT OF RECORD
DEMONICA KEMPER ARCHITECTS
125 N. HALSTED STREET, SUITE 301
CHICAGO, IL 60661
P: 312.496.0000

MEP-FP-T-ENGINEERS
IMEG CORP.
263 SHUMAN BLVD, SUITE 550
NAPERVILLE, IL, 60563
P: 630.527.2320

CVIL-LANDSCAPE ENGINEER
HR GREEN
1391 CORPORATE DRIVE, SUITE 203
MCHENRY, IL, 60050
P. 847.381.2760

CONSTRUCTION MANAGER
PEPPER CONSTRUCTION
411 LAKE ZURICH RD.
BARRINGTON, IL 60010
P. 847.381.2760

McHenry County College
ENGAGEMENT HALL
8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
ELECTRICAL PANEL SCHEDULES

SHEET NUMBER:
E6.00

IMEG
263 SHUMAN BOULEVARD
SUITE 550
NAPERVILLE, IL 60563
P: 630.527.2320
www.imegcorp.com

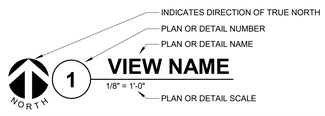
Illinois Design Firm Registration #184008976-0014

REF. SCALE IN INCHES 0 1 2 3 — PROJECT #240054460.00

5/23/2025 10:27:52 AM

VIEW KEY

1 — KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL



LINE TYPE AND TAG KEY:

- NEW WORK BY THIS CONTRACTOR (DARK SOLID LINE)
- NEW WORK BY OTHER (LIGHT COLD LINE)
- EQUIPMENT CLEARANCE (DASHED LINE)

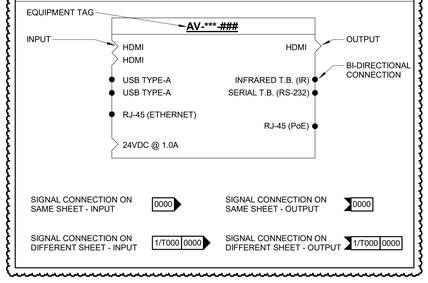
CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
E.C.	ELECTRICAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
A.V.C.	AUDIO VISUAL CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR

TECHNOLOGY ABBREVIATION KEY

ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BFC	BELOW FINISHED CEILING
C	CONDUIT
DE	DELAYED EGRESS
DPDT	DOUBLE POLE DOUBLE THROW
FOV	FIELD OF VIEW
J-BOX	JUNCTION BOX
POE	POWER OVER ETHERNET
PTZ	PAN TILT ZOOM
SIM	SIMILAR
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
+#	MOUNTING HEIGHT ABOVE FINISHED FLOOR
TR-#	TELECOMMUNICATIONS ROOM

AV FUNCTIONAL DIAGRAM KEY



TECHNOLOGY SYMBOL LIST

SYMBOL	TAG	EQUIPMENT LIST ABBREVIATION	DESCRIPTION
CSS			CONTROLLED SECURITY SCHEME SCHEDULE IDENTIFIER
R1		AC-R1-W	SECURITY CREDENTIAL READER (WALL) TYPE 1
R2		AC-R2-W	SECURITY CREDENTIAL READER (WALL) TYPE 2
A	AN1	AV-AN1-C	AV WIRELESS MICROPHONE ANTENNA (CEILING)
	AN2	AV-AN2-C	AV ALS ANTENNA (CEILING)
	AV1	AV-AV1-F	A/V EQUIPMENT CONNECTION IN FLOOR BOX
S	SB1	AV-SB1-C	AV PERFORMANCE SPEAKER (CEILING)
	SP2	AV-SP2-C	AV PERFORMANCE SPEAKER (CEILING)
	SP3	AV-SP3-G	AV PERFORMANCE SPEAKER (GROUND/SURFACE)
S	SP1	AV-SP1-W	AV PERFORMANCE SPEAKER (WALL)
1	TP1	AV-TP1-W	AV TOUCH PANEL (WALL)
◆	WP1	AV-WP1-W	AV WALLPLATE/BACKBOX (WALL)
	WP2	AV-WP2-W	AV WALLPLATE/BACKBOX (WALL)
	CAM-1	AV-CAM-1	CAM-1 SINGLE LENS CAMERA_WALL
1 S			FACILITY PAGING SPEAKER (CEILING) EXISTING
S	S1	PA-S1-C	ENS SPEAKER (PENDANT)
	S2	PA-S2-C	ENS SPEAKER (CEILING)
C#	RI	SC-RI-C	INFORMATION OUTLET ROUGH-IN (CEILING)
	C2-WAP	SC-WAP-C	WIRELESS ACCESS POINT (CEILING)
	WAP		WIRELESS ACCESS POINT (CEILING) EXISTING
C#	C2	SC-IO-F	INFORMATION OUTLET CONNECTION IN FLOOR BOX
C#	C2	SC-IO-W	INFORMATION OUTLET (WALL)
	RI	SC-RI-W	INFORMATION OUTLET ROUGH-IN (WALL)
1			VIDEO SURVEILLANCE CAMERA SINGLE LENS FOV (SURFACE) EXISTING

PATHWAY SYMBOL LIST:

SYMBOL	DESCRIPTION
WIDTH X HEIGHT	CABLE TRAY, CHANNEL TRAY, BASKET TRAY
WIDTH X HEIGHT	LADDER RACK
DIAMETERø C	CONDUIT
	CONDUIT DOWN
	CONDUIT UP OR UP/DOWN
	CONDUIT SLEEVE
	CONTINUATION

TECHNOLOGY SYMBOL LIST GENERAL NOTES:

1. "C#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION. REFER TO INFORMATION OUTLET SCHEDULE ON T5.00 FOR ADDITIONAL INFORMATION.
2. INFORMATION OUTLET INSTALLED IN E.C. PROVIDED FLOOR BOX. "C#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION. REFER TO INFORMATION OUTLET SCHEDULE ON T5.00 FOR ADDITIONAL INFORMATION. REFER TO THE ELECTRICAL FLOOR PLANS AND ELECTRICAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.

SUGGESTED MATRIX OF RESPONSIBILITY

ITEM:	SHOWN ON:	FURNISHED BY:	INSTALLED BY:	NOTES:
TECHNOLOGY ROUGH-IN, REFER TO TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR DEFINITION	T-SERIES	E.C.	E.C.	3. 4.
INFORMATION OUTLET FACEPLATES, JACKS, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
CONDUIT SLEEVES (WHEN SHOWN ON DRAWINGS)	T-SERIES	E.C.	E.C.	
CONDUIT SLEEVES (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	T.C.	2. 4.
TELECOMMUNICATION SYSTEMS ROUGH-IN	T-SERIES	T.C.	E.C.	1.
TELECOMMUNICATION EQUIPMENT, CABLING, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
CABLE TRAY (INCLUDING WIRE BASKET TRAY) REFER TO SPECIFICATION SECTION 27 05 28 FOR DEFINITION	T-SERIES	E.C.	E.C.	
LADDER RACK	T-SERIES	T.C.	T.C.	5.
GROUNDING LUGS ON TECHNOLOGY EQUIPMENT	T-SERIES	T.C.	E.C.	6.
BONDING SYSTEM FOR TECHNOLOGY SYSTEM, REFER TO SPECIFICATION SECTION 27 05 26 FOR DEFINITION	T-SERIES	E.C.	E.C.	7. 8.
CONNECTION OF TECHNOLOGY BONDING SYSTEM TO THE ELECTRICAL GROUND SYSTEM	T-SERIES	E.C.	E.C.	
LINE VOLTAGE POWER (+120V OR GREATER)	E-SERIES	E.C.	E.C.	
LINE VOLTAGE POWER (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	E.C.	2. 4.
LINE VOLTAGE POWER FOR DOOR HARDWARE POWER SUPPLIES	ARCH SPEC	E.C.	E.C.	
LOW VOLTAGE CABLING FOR TECHNOLOGY SYSTEMS	T-SERIES	T.C.	T.C.	
CABLE HANGERS AND SUPPORTS OR OTHER CABLE ROUTING METHODS (OTHER THAN CONDUIT AND CABLE TRAY)	T-SERIES	T.C.	T.C.	5.
TECHNOLOGY SERVICE ENTRANCE CONDUITS, HANDHOLES, AND MANHOLES	T-SERIES	E.C.	E.C.	
FLOOR BOX (ROUGH-IN)	T & E SERIES	E.C.	E.C.	

SUGGESTED MATRIX OF RESPONSIBILITY NOTES

1. LOCATIONS OF TELECOMMUNICATIONS ROUGH-INS SHALL BE INDICATED BY THE INFORMATION OUTLET SYMBOLS ON THE DRAWINGS. REFER TO THE TECHNOLOGY SYMBOL LIST FOR ADDITIONAL INFORMATION.
2. BASED ON THE INHERENT DIFFERENCES IN PRODUCTS FROM VARIOUS MANUFACTURERS, ALL REQUIRED EQUIPMENT MAY NOT BE SHOWN ON THE DRAWINGS FOR ALL ACCEPTABLE MANUFACTURERS.
3. INCLUDES BACKBOXES AND CONDUIT REQUIRED FOR THE TECHNOLOGY SYSTEMS INSTALLATION. THE E.C. SHALL BASE THE BID ON THE BASIS OF DESIGN SHOWN ON THE CONTRACT DOCUMENTS.
4. ALL CHANGES TO THE SLEEVES, BACKBOXES, CONDUITS, AND POWER REQUIRED BECAUSE OF THE T.C.'S SELECTION OF AN ALTERNATE ACCEPTABLE MANUFACTURER OR FROM SYSTEM CONFIGURATIONS THAT ARE LEFT TO THE CHOICE OF THE CONTRACTOR SHALL BE INCLUDED IN THE T.C.'S BID. THIS BID SHALL INCLUDE INSTALLATION BY A LICENSED ELECTRICIAN.
5. UNLESS TRADE RULES DICTATE OTHERWISE.
6. FURNISHED AS PART OF THE EQUIPMENT WHEN POSSIBLE, OR FURNISHED TO THE E.C. FOR INSTALLATION IN THE FIELD.
7. INCLUDES ALL CONDUCTORS, GROUND BARS, AND TERMINATIONS FOR THE COMPLETE BONDING SYSTEM REQUIRED BY THE SPECIFICATIONS.
8. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF PANELS AND SWITCHBOARDS SHOWN IN THE TECHNOLOGY BONDING RISER DIAGRAM AND TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.

TELECOM ROOM REFERENCES

TELECOM ROOM	DETAIL / SHEET REFERENCE	FLOOR PLAN REFERENCE
AV CLOSET	1/T2.00	1/T1.00
EXISTING TR	3/T2.00	1/T1.00

TECHNOLOGY SHEET INDEX

TECHNOLOGY GENERAL NOTES:

1. ##-####-# INDICATES TECHNOLOGY EQUIPMENT SCHEDULE ITEM LABELED AS "EQUIPMENT LIST ABBREVIATION"
2. REFER TO TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR FULL DESCRIPTIONS AND MANUFACTURERS OF ALL DEVICES.

TECHNOLOGY MOUNTING SUBSCRIPT KEY:
- A MOUNT AT +5" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH
- H MOUNT ORIENTED HORIZONTALLY
- L MOUNT IN CASEWORK
- M MOUNT IN MODULAR FURNITURE
- S MOUNT IN SURFACE RACEWAY

A SLASH IS USED BETWEEN TWO SUBSCRIPTS, E.G., A/H.

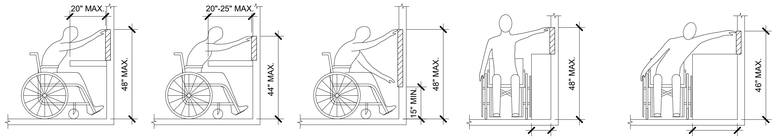
3. REFER TO THE TECHNOLOGY EQUIPMENT SCHEDULE FOR MORE COMPLETE DESCRIPTION AND ITEMS.
4. REFER TO DIAGRAMS ON SHEET(S) T3.00, T4.00 1

TECHNOLOGY INSTALLATION NOTES:

1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN. REFER TO THE ADA GUIDELINES FOR ALL CONFIGURATION DETAILS ON THIS PAGE FOR ADDITIONAL INFORMATION.
2. CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, ABOVE CEILING, IN FLOOR SLAB, ETC. UNLESS OTHERWISE INDICATED ON THE PLANS OR IN THE SPECIFICATIONS. CONDUIT IN MECHANICAL ROOMS AND STORAGE ROOMS WITHOUT CEILINGS MAY BE EXPOSED ON BUILDING STRUCTURE.
3. BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-THE-WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
4. VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL TELECOMMUNICATIONS INSTALLATION, ADJUST OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
5. TELECOMMUNICATIONS EQUIPMENT SHALL BE MOUNTED TO ALLOW ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF TELECOMMUNICATION DEVICES ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
7. ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS. REFER TO 27 05 03 AND 28 05 03 FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING.
8. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF THE CEILINGS, CEILING TILES, AND CEILING GRID ASSOCIATED WITH THE AREAS OF WORK BY ALL CONTRACTORS.
9. ALL LADDER RACK SIZES ARE AS DEFINED ON THE DRAWINGS. REFER TO SPECIFICATION SECTION 27 11 00 FOR APPROVED MANUFACTURERS AND INSTALLATION REQUIREMENTS.
10. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO THE WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.

TECHNOLOGY DEMOLITION NOTES

1. THE DRAWINGS INDICATE EXISTING ITEMS TO BE REMOVED. THE DRAWINGS ARE INTENDED TO INDICATE THE SCOPE OF WORK REQUIRED AND DO NOT INDICATE EVERY BOX, CONDUIT, OR WIRE THAT MUST BE REMOVED. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID AND VERIFY EXISTING CONDITIONS.
2. ITEMS (i.e. SPEAKERS, SWITCHES, ETC.) REMOVED AND NOT RELOCATED REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF MATERIAL THE OWNER DOES NOT WANT TO REUSE OR RETAIN. (i.e., FOR MAINTENANCE PURPOSES).
3. EXISTING TO REMAIN DEVICES WITHIN OR ADJACENT TO THE PATH OF CONSTRUCTION SHALL BE PROTECTED IN PLACE. DEVICES THAT MUST BE REMOVED SHALL BE TESTED PRIOR TO REMOVAL, PROTECTED FROM DAMAGE, AND RE-INSTALLED IN ITS ORIGINAL LOCATION DURING THE NEW CONSTRUCTION PHASE OF THE PROJECT.
4. OBTAIN APPROVAL FROM THE OWNER BEFORE TURNING OFF THE POWER TO EQUIPMENT, SYSTEMS, PANELS, ETC. COORDINATE ALL OUTAGES WITH OWNER. CONDUIT CONCEALED IN WALL CONSTRUCTION MAY BE ABANDONED IN PLACE IF NOT AFFECTED BY OTHER CONSTRUCTION.
5. ALL CONDUIT SHALL BE REMOVED WHERE WALLS ARE BEING REMOVED. WHERE CONDUIT IS IN THE CONCRETE SLAB, CUT OFF FLUSH, PULL OUT WIRE, AND PLUG. WHERE CONDUIT IS RUN EXPOSED, ALL ASSOCIATED CLAMPS, SUPPORTS, HANGERS, ETC., SHALL ALSO BE REMOVED.
6. COORDINATE ALL WORK WITH OTHER CONTRACTORS AT THE JOB SITE BEFORE REMOVING EXISTING EQUIPMENT AND INSTALLING NEW ITEMS.
7. EXISTING CONDUIT IN GOOD CONDITION, MAY BE REUSED IN PLACE. RELOCATING EXISTING CONDUIT SHALL NOT BE ALLOWED. BONDING CONDUCTORS SHALL BE INSTALLED IN ALL REUSED CONDUIT TO ASSURE PROPER GROUND PATH.
8. EQUIPMENT REMOVAL IN CERTAIN LOCATIONS MAY REQUIRE THE INSTALLATION OF A JUNCTION BOX TO RECONNECT CIRCUITS THAT REMAIN IN OPERATION. EXTEND CONDUIT AND WIRING AS REQUIRED TO MAINTAIN POWER TO REMAINING EQUIPMENT.
9. DEVICES TO BE REMOVED SHALL HAVE ALL CONNECTED WIRING REMOVED TO THE SOURCE.
10. DEVICES NOT TO BE REMOVED SHALL BE PROTECTED FROM THE ENVIRONMENT, AND ALL ASSOCIATED CABLE/RACEWAYS ARE TO REMAIN AND BE PROTECTED. T.C. SHALL BE RESPONSIBLE FOR REPAIR OF ANY INTERRUPTIONS TO PROTECTED DEVICES.
11. REFER TO SPECIFICATIONS SECTION 27 05 00 FOR ADDITIONAL INFORMATION.



INSTALL ABOVE COUNTER DEVICE AT 44" ABOVE FINISHED FLOOR.

INSTALL ABOVE COUNTER DEVICE AT 40" ABOVE FINISHED FLOOR.

INSTALL DEVICE AT 18" ABOVE FINISHED FLOOR.

ADA GUIDELINES - FRONT ACCESS

INSTALL DEVICE AT 44" ABOVE FINISHED FLOOR.

INSTALL DEVICE AT 42" ABOVE FINISHED FLOOR.

ADA GUIDELINES - SIDE ACCESS

ADA STANDARDS FOR ACCESSIBLE DESIGN

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McHenry County College
ENGAGEMENT HALL

8900 NORTHWEST HWY #14
CRYSTAL LAKE, IL 60012
DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
TECHNOLOGY COVERSHEET

SHEET NUMBER:
T0.00

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REF. SCALE IN INCHES 0 1 2 3 — PROJECT #24005446.00

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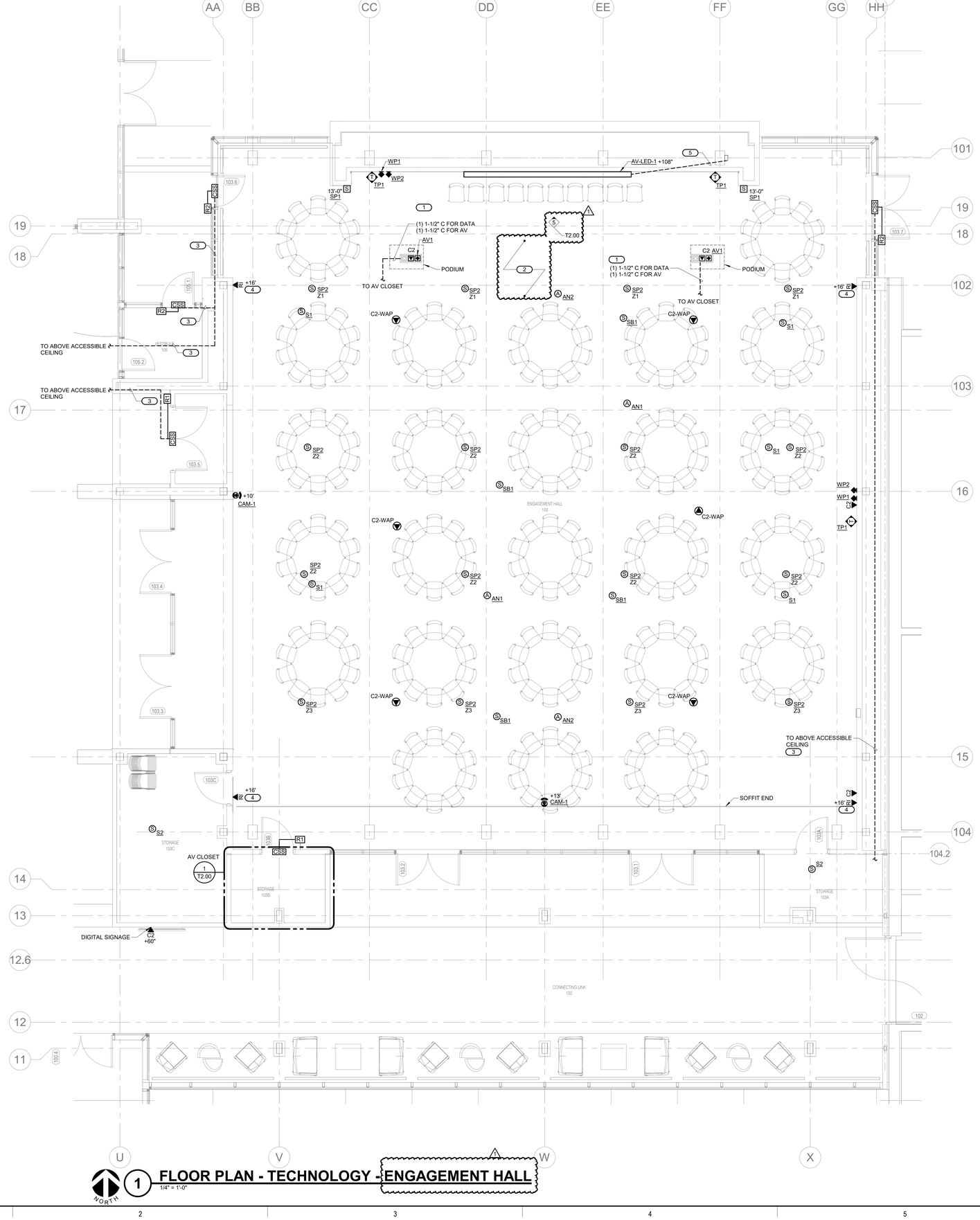

SHEET NOTES:

1. ALL THE AV DEVICES ON THIS SHEET WILL BE SERVED FROM AV CLOSET, REFER TO T1.00 FOR ITS EXACT LOCATION.
2. ALL THE LOW VOLTAGE DEVICES ON THIS SHEET WILL BE SERVED FROM EXISTING TR, REFER TO SHEET T1.00 FOR ITS EXACT LOCATION.
3. ALL THE LOW VOLTAGE CABLING TO BE IN CONDUIT. COORDINATE CONDUIT PATHWAYS WITH ALL TRADES.

KEYNOTES: (#)

1. PROVIDE OUTDOOR RATED CABLES FOR DATA AND AV APPLICATIONS.
2. REFER TO 1/T4.00 AV DIAGRAM - ENGAGEMENT HALL FOR ADDITIONAL INFORMATION.
3. ROUTE CONDUIT BACK TO WALL THROUGH MULLIONS. ROUTE TO NEAREST ACCESSIBLE CEILING.
4. ROUGH-IN FOR SECURITY CAMERA. COORDINATE FINAL LOCATION WITH OWNER.
5. 2" CONDUIT FOR VIDEO MONITOR. CABLING NEEDS TO BE INSTALLED TIGHT TO COLUMN AND RUN ABOVE BAFFLES. FINAL ROUTING TO BE COORDINATE WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.

1 FLOOR PLAN - TECHNOLOGY - ENGAGEMENT HALL

1/4" = 1'-0"

NORTH

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:

FLOOR PLAN - TECHNOLOGY - ENGAGEMENT HALL

SHEET NUMBER:

T1.01

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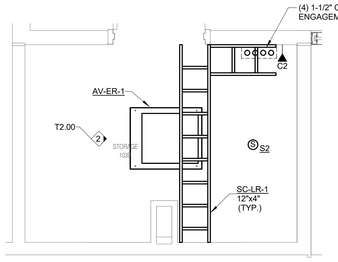
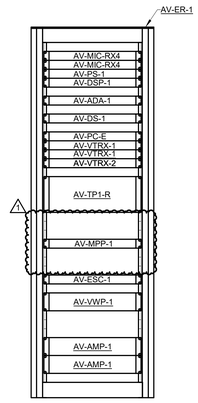
REF. SCALE IN INCHES 0 1 2 3

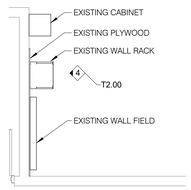
PROJECT #24005446.00



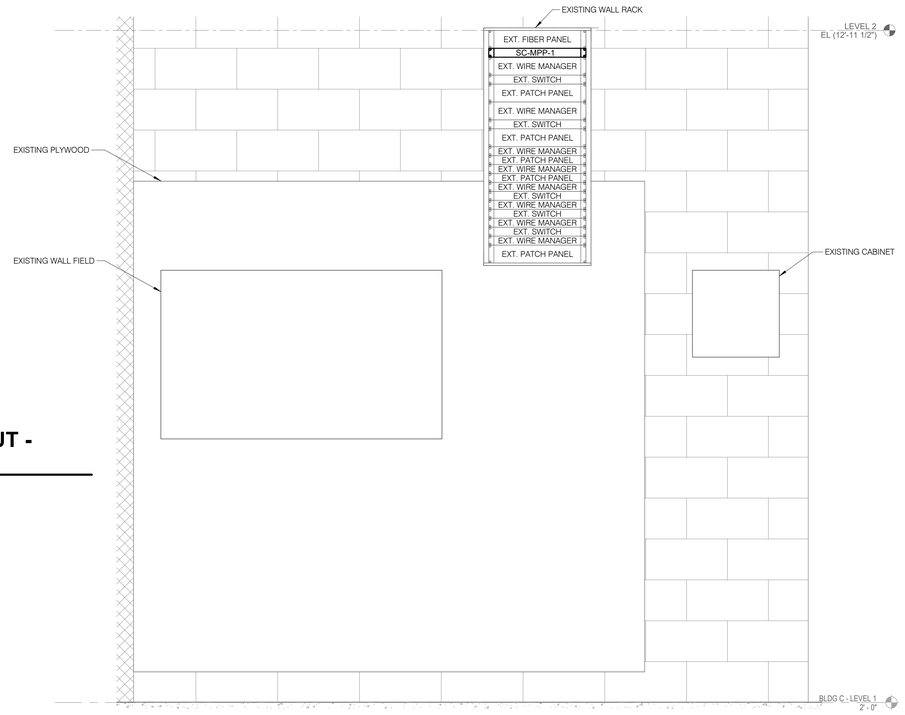
1 EQUIPMENT ROOM LAYOUT - AV CLOSET
1/2" = 1'-0"



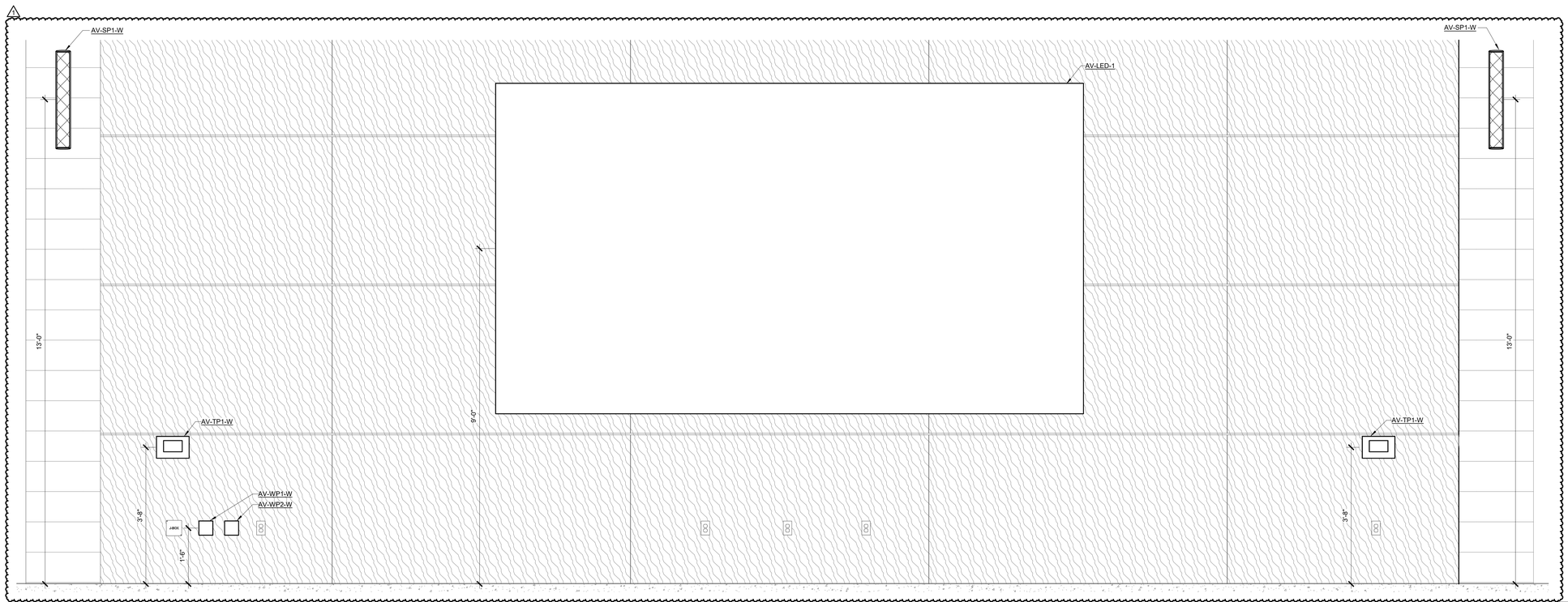
2 AV CABINET ELEVATION
1" = 1'-0"



3 EQUIPMENT ROOM LAYOUT - EXISTING TR
1/4" = 1'-0"



4 EQUIPMENT RACK ELEVATION - EXISTING TR
1" = 1'-0"



5 VIDEO WALL ELEVATION
3/4" = 1'-0"

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DKA PROJECT NO: 24-027

KEY PLAN:

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NO:	DESCRIPTION:	DATE:
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SHEET TITLE:
TECHNOLOGY ENLARGED PLANS

SHEET NUMBER:
T2.00

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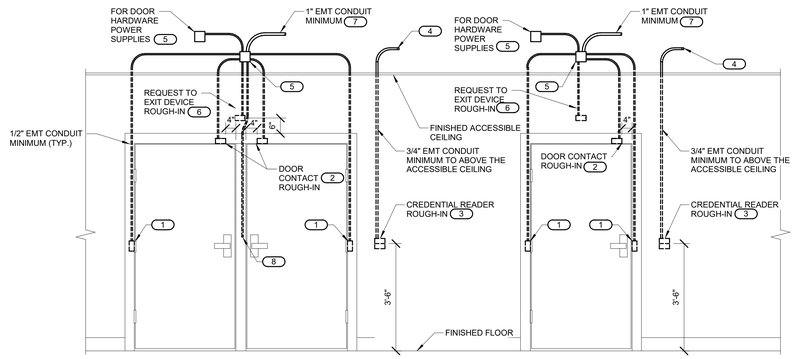


DOOR FRAME ROUGH-IN DIAGRAM
(ALL DOUBLE DOORS WITH OR WITHOUT MULLION)

DOOR FRAME ROUGH-IN DIAGRAM
(ALL SINGLE DOORS)

NOTES:

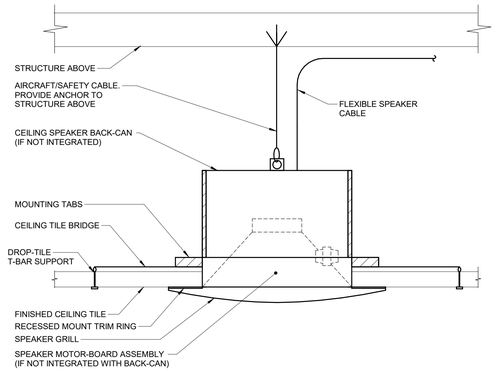
1. CONFIGURATIONS SHOWN IN THE DETAIL ABOVE ARE DIAGRAMMATIC, INTENDED TO DESCRIBE THE CONTROLLED SECURITY SCHEME ROUGH-IN REQUIREMENTS OF THE DOORS. DETAILS ABOVE MAY NOT ACCURATELY REPRESENT DOOR SIZE, DOOR SWING, DOOR HARDWARE, OR DOOR FUNCTIONALITY. REFER TO ARCHITECTURAL DOOR HARDWARE SCHEDULE, DOOR HARDWARE GROUPS AND DOOR HARDWARE SPECIFICATIONS FOR COMPLETE INFORMATION. MIRROR THE DETAIL AS REQUIRED.
2. ROUGH IN SHOWN IN THE DETAIL ABOVE REPRESENTS THE MINIMUM REQUIREMENTS FOR ALL CONTROLLED SECURITY SYSTEM DEVICES AND CABLING UNLESS OTHERWISE NOTED. COORDINATE EXACT REQUIREMENTS WITH SELECTED DOOR MATERIALS, DOOR HARDWARE, AND CONTROLLED SECURITY DEVICES AND CABLING PRIOR TO INSTALLATION.
3. ALL CABLING IN WALLS AND WHERE EXPOSED ON VERTICAL SURFACES SHALL BE INSTALLED IN EMT CONDUIT OR SURFACE MOUNT RACEWAY. CABLING ROUTED HORIZONTALLY ABOVE THE ACCESSIBLE CEILING MAY BE INSTALLED FREE-AIR CABLING PROPERLY RATED FOR THE CEILING ENVIRONMENT.
4. THE ELECTRICAL OR SECURITY CONTRACTOR SHALL NOT MODIFY ANY FIRE RATED DOOR AND/OR DOOR FRAME. REFER TO THE ARCHITECTURAL DOOR SCHEDULE, DOOR HARDWARE SCHEDULE, AND DOOR HARDWARE SPECIFICATION FOR ADDITIONAL INFORMATION. MODIFICATION TO ANY FIRE RATED DOOR AND/OR FRAME WILL REQUIRE A RE-CERTIFICATION OF THE DOOR AND FRAME WITH THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ).
5. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR ALL CONTROLLED SECURITY SCHEME ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
6. REFER TO THE CONTROLLED SECURITY SCHEME SCHEDULE ON T3.00 FOR ADDITIONAL INFORMATION.
7. INSTALLATION SHALL INCLUDE ALL POWER REQUIRED FOR SYSTEM OPERATION INCLUDING +120VAC. REFER TO THE SUGGESTED MATRIX OF SCOPE RESPONSIBILITY FOR ADDITIONAL INFORMATION.

KEYNOTES: (#)

1. PROVIDE JUNCTION BOXES IN THE DOOR FRAME WHERE SHOWN ON THIS DETAIL. ROUGH-IN SHALL BE PROVIDED WHETHER THE CURRENT SECURITY SCHEME UTILIZES THEM OR NOT. ALL CONDUITS SHALL BE EMT CONDUIT UNLESS OTHERWISE NOTED. FLEXIBLE CONDUIT OF ANY TYPE WILL NOT BE ACCEPTED. COORDINATE INSTALLATION WITH ON-SITE DOOR FRAME INSTALLATION CONTRACTOR.
2. ALL DOOR POSITION SWITCHES ARE REQUIRED TO BE RECESSED UNLESS OTHERWISE NOTED. ELECTRIC HINGE MONITORS ARE NOT AN ACCEPTABLE REPLACEMENT FOR THE RECESSED DOOR POSITION SWITCH.
3. 4" SQUARE BACKBOX WITH SINGLE GANG PLASTER RING. PROVIDE 2 1/2" DEEP MASONRY BOX WHERE APPLICABLE. REFER TO FLOOR PLAN(S) FOR ACTUAL CREDENTIAL READER TYPE AND ROUGH-IN LOCATIONS.
4. CONDUIT SHALL ROUTE FROM THE CREDENTIAL READER TO THE SECURED SIDE OF THE DOOR. CONDUIT SHALL ROUTE TO THE NEAREST ACCESSIBLE CEILING. PROVIDE A NYLON BUSHING ON CONDUIT END.
5. MOUNT A MINIMUM 4" SQUARE 2-1/8" DEEP JUNCTION BOX WITH BLANK COVER PLATE ON THE SECURED SIDE OF THE DOOR ABOVE ACCESSIBLE CEILING. INSTALLING CONTRACTOR SHALL SIZE THE JUNCTION BOXES PER SYSTEM INSTALLATION REQUIREMENTS AND APPLICABLE CODES. MAINTAIN ACCESS TO THE JUNCTION BOX.
6. PROVIDE A HORIZONTALLY MOUNTED SINGLE GANG BACKBOX FOR THE REQUEST TO EXIT SENSOR. REFER TO THE CONTROLLED SECURITY SCHEME SCHEDULE ON T3.00 FOR DOORS THAT REQUIRE THIS ROUGH-IN.
7. CONDUIT SHALL ROUTE TO THE NEAREST ACCESSIBLE CEILING. PROVIDE A NYLON BUSHING ON CONDUIT END.

1 CONTROLLED SECURITY SCHEME DOOR ROUGH-IN DETAIL

NO SCALE

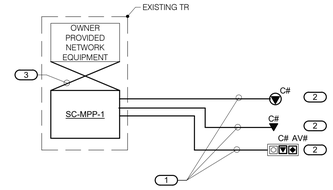


NOTES:

1. WHERE SUPPORTS ATTACH TO METAL ROOF DECKING, EXCLUDING CONCRETE ON METAL DECKING, DO NOT EXCEED 25 LBS. PER HANGAR AND A MINIMUM SPACING OF 2'-0" ON CENTER. THIS 25 LB. LOAD AND 2'-0" SPACING INCLUDE ELECTRICAL AND MECHANICAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, THE ADDITION OF SUPPLEMENTAL FRAMING OFF STEEL FRAMING WILL BE REQUIRED.

2 CEILING SPEAKER MOUNTING DETAIL

NO SCALE



NOTES:

1. THIS RISER IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS SHOWN. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION(S), LOCATIONS AND CABLE TYPE. ALL INFORMATION OUTLETS ARE TYPICAL OF THE OUTLETS IN THE AREA SHOWN. REFER TO FLOOR PLANS FOR MORE SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

KEYNOTES: (#)

1. 23 GAUGE, 4-PAIR, CATEGORY 6, UNSHIELDED TWISTED PAIR CABLE, SEE SPECIFICATIONS.
2. REFER TO INFORMATION OUTLET SCHEDULE ON T5.00 AND THE FLOOR PLANS FOR QUANTITY OF CABLES AND JACKS TO BE INSTALLED AT EACH INFORMATION OUTLET.
3. RJ-45 TO RJ-45 CATEGORY CAT 6 UTP PATCH CORD. SEE SPECIFICATIONS.

3 CONNECTIVITY RISER DIAGRAM - EXISTING TR

NO SCALE

CONTROLLED SECURITY SCHEME (CSS) TYPE SCHEDULE

1. ELECTRONIC DOOR HARDWARE SUCH AS ELECTRIC STRIKES, ELECTRIC LATCH RETRACTION, ETC. SHALL BE PROVIDED AND INSTALLED BY OTHERS.
2. REFER TO THE TECHNOLOGY EQUIPMENT SCHEDULE FOR CREDENTIAL READER TYPE INFORMATION.

DOOR #	ROUGH-IN ONLY	CREDENTIAL READER			INTEGRATION												REQUEST TO EXIT		DOOR HARDWARE / MONITORING										OTHER (REFER TO NOTES)				NOTES
		CREDENTIAL READER TYPE	MULTIPLE CREDENTIAL READERS OPERATES SINGLE DOOR	OPERATES MULTIPLE DOORS	AUTOMATIC DOOR OPERATOR	ELEVATOR	LOCKED BY EMERGENCY DURESS SEQUENCE	INFANT PROTECTION	REMOTE UNLOCK VIA INTERCOM MASTER	REMOTE UNLOCK VIA PUSHBUTTON	INTRUSION DETECTION	REMOTE UNLOCK VIA FIRE COMMAND CENTER	VIDEO SURVEILLANCE	WANDER PREVENTION SYSTEM	MOTION DETECTOR	LOCAL PUSHBUTTON DOOR HARDWARE OVERRIDE	INTERNAL ELECTRIFIED HARDWARE CONNECTION (BY OTHERS)	ELECTRONIC LOCKING HARDWARE (BY OTHERS)	MAG LOCK	LATCH STATUS DETECTION (BY OTHERS)	LOCAL ALARM HORN	MONITOR LATCH BOLT (BY OTHERS)	MONITOR DOOR POSITION SWITCH SPDT	MONITOR DOOR POSITION SWITCH DPDT	MONITOR DOOR POSITION SWITCH - OVERHEAD DOOR	MONITOR DOOR POSITION SWITCH - ROOF HATCH	DELAYED EGRESS (BY OTHERS)	LOCAL 120VAC POWER SUPPLY	SCHEDULE BASED LOCKING	VISUAL STROBE/AUDIBLE ALARM	
100.1	•	R1															•	•					•									
103.5	•	R1															•	•					•									
103.6	•	R2															•	•					•									
103.7	•	R2															•	•					•									
103B	•	R1															•	•					•									
105.1	•	R2															•	•					•									

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KEY PLAN:

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SHEET TITLE:
TECHNOLOGY DETAILS

SHEET NUMBER:
T3.00

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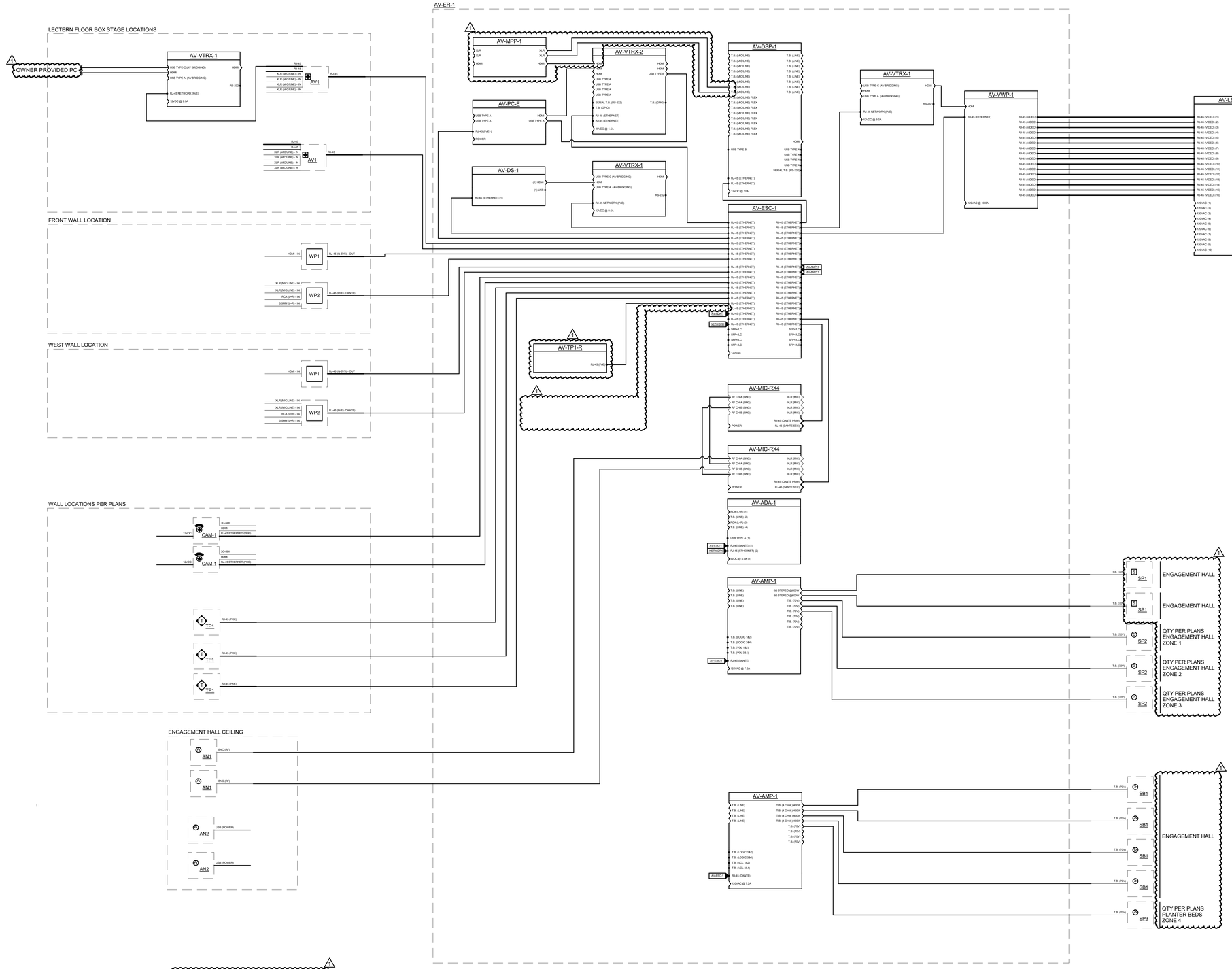

1 AV DIAGRAM ENGAGEMENT HALL
12" = 1'-0"

NORTH

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025
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NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

SHEET TITLE:
TECHNOLOGY DIAGRAMS

SHEET NUMBER:
T4.00

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TECHNOLOGY EQUIPMENT SCHEDULE

THE EQUIPMENT LIST ABBREVIATIONS AND THE TECHNOLOGY EQUIPMENT SCHEDULE ARE FOR THE CONVENIENCE OF THE CONTRACTOR. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF QUANTITIES AND SHALL FURNISH ALL MATERIAL REQUIRED, WHETHER SPECIFIED OR NOT, TO PRODUCE A SATISFACTORY WORKING SYSTEM.

CATALOG NUMBERS ARE NOT TO BE CONSIDERED COMPLETE BUT ARE GIVEN ONLY TO AID THE CONTRACTOR IN THE SEARCH FOR MATERIAL. NO MATERIAL SHALL BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY. EACH CONTRACTOR SHALL FIRST READ THE COMPLETE DESCRIPTION OF THE MATERIAL ON THESE DRAWINGS AND SPECIFICATIONS. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN. "STANDARD COLOR" INDICATES FACTORY FINISH AVAILABLE AT NO ADDITIONAL CHARGE.

EQUIPMENT LIST ABBREVIATION	EQUIPMENT LIST DESCRIPTION	MANUFACTURER AND MODEL
AC-R1-W	CREDENTIAL READER, WALL MOUNT, ROUGH-IN ONLY. OWNER FURNISHED OWNER INSTALLED. PROVIDE 4" SQUARE BACKBOX WITH SINGLE-GANG REDUCER RING WITH (1) 3/4" CONDUIT TO THE NEAREST ACCESSIBLE CEILING IN SUPPORT OF CABLING TO CREDENTIAL READER. REFER TO DETAIL ON 1/T3.00 FOR CONDUIT INFORMATION.	ROUGH-IN ONLY
AC-R2-W	CREDENTIAL READER, MULLION MOUNT, ROUGH-IN ONLY. OWNER FURNISED OWNER INSTALLED. PROVIDE 4" SQUARE BACKBOX WITH SINGLE-GANG REDUCER RING WITH (1) 3/4" CONDUIT TO THE NEAREST ACCESSIBLE CEILING IN SUPPORT OF CABLING TO CREDENTIAL READER. REFER TO DETAIL ON 4/T3.0 FOR CONDUIT INFORMATION.	ROUGH-IN ONLY
AV-ADA-1	ASSISTED LISTENING SYSTEM WI-FI AUDIO SERVER, CAPABLE OF BROADCASTING 2 CHANNELS OF ANALOG AUDIO TO AUDIENCES OF UP TO 500 USERS. DIMENSIONS -H X W X D 1.77IN X 6.69IN X 4.6IN, 1RU 19" RACK (REQUIRES LW-327 RACK MOUNT KIT), POWDER COATED STAINLESS STEEL ENCLOSURE, AUDIO OUTPUT RJ-45 ETHERNET PORT, 2 BALANCED ANALOG AUDIO INPUTS.	LISTEN TECHNOLOGIES LW-110-2 OR PRE-APPROVED EQUAL
AV-AMP-1	ANALOG AUDIO AMPLIFIER, 300 WATTS TOTAL OUTPUT, 4 CHANNELS, SUPPORTING 100 V, 70 V, 8 OHM OR 4 OHM PER CHANNEL, 4 DBU INPUT SENSITIVITY, 75W PER CHANNEL.	BIAMP VOLTERA A 300.4 OR PRE-APPROVED EQUAL
AV-AN1-C	CEILING MOUNTED WIDEBAND ANTENNA WIRELESS MICROPHONE ANTENNA: ACTIVE DIRECTIONAL UHF ANTENNA WITH INTEGRATED AMPLIFIER. FOUR STAGE ADJUSTABLE GAIN, 100 DEGREE RECEPTION PATTERN. PROVIDE RG-8U COAXIAL CABLE FROM MICROPHONE TRANSMITTER. CONTRACTOR TO CALCULATE LOSS PER CABLE DISTANCE AND PROVIDE ANTENNA AMPLIFICATION TO MAINTAIN SIGNAL LEVEL PER ANTENNA CABLE DISTANCE. PROVIDE 2-GANG RECESS BOX WITH 1" CONDUIT TO LOCAL AUDIO RACK.	SHURE UA864
AV-AN2-C	ASSISTED LISTENING BLUETOOTH/IR BEACON. E.C. TO PROVIDE 1 GANG AV WALL BOX FOR MOUNTING , UNO, WITH (1) 1" CONDUIT TO AV RACK LOCATION TO SUPPLY POWER TO DEVICE. CONFIRM DISTANCE AND CABLING REQUIREMENTS.	LISTEN TECHNOLOGIES LA-490-BK-W9
AV-AV1-F	AV FLOOR PLATE: NETWORK AUDIO ENCODER, DANTE WITH (4) XLR FEMALE INPUTS. POE POWERED, +48 V PHANTOM POWER. CUSTOM WALL WALL PLATE WITH (2) NEUTRIK ETHERCON CONNECTORS TO CONNECT DEVICES TO AV-ESC-1. PROVIDE LABEL ENGRAVING. E.C. PROVIDED FLOOR BOX OR POKE THROUGH WITH (1) 1" TO AV-ESC-1. REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR MORE INFORMATION. COORDINATE INSTALLATION WITH E.C.	QSC UNDX4I LIBERTY AV NEUTRIK WHIRLWIND PROCO
AV-CAM-1	PTZ CAMERA: PAN/TILT/ZOOM CAMERA. 12X OPTICAL ZOOM WITH 80 DEGREES WIDE FIELD OF VIEW, 2 MEGAPIXEL 1/2.8-TYPE IMAGING SENSOR, NATIVE HD RESOLUTION OF 1080P/60. HDMI, 3G-SDI, AND STREAMING OUTPUTS, AND NETWORK CONTROL. CONTRACTOR TO PROVIDE ADJUSTABLE MOUNTS AND MOUNTING HARDWARE. E.C. PROVIDED STANDARD 2-GANG RECESS BOX WITH 1" CONDUIT TO AV RACK LOCATION, UNO.	QSC NC-12X80
AV-DS-1	DIGITAL SIGNAGE: HDMI OUTPUT	DIGITAL SIGNAGE OWNER FURNISHED CONTRACTOR CONTRACTOR INSTALLED
AV-DSP-1	EXISTING AUDIO DSP: 24 CHANNELS OF ANALOG I/O (8 INPUT X 8 OUTPUT X 8 FLEX), 128 X 128 NETWORK AUDIO CHANNELS, 16 X 16 USB AUDIO CHANNELS, 16 CHANNELS OF ROUTABLE AEC, VOIP, DANTE DIGITAL AUDIO AND CONTROL OVER LAN. REFER TO SPECIFICATION 27 41 00 FOR CONFIGURATION AND PERFORMANCE REQUIREMENTS.	QSC CORE 110F
AV-ER-1	A/V FREESTANDING EQUIPMENT RACK, 19" EIA RACK SPACING, (38) RU, DIMENSIONS: 70.6"H X 23"W X 25.9"D, 4-POST RACK WITH VENTED LOCKABLE FRONT PANEL. SIDES, REAR VENTED DOORS, AND FANS. PROVIDE ACCESSORIES TO MANAGE ALL CABLING. PROVIDE 4RU RACK DRAWER FOR STORAGE	MIDDLE ATLANTIC BGR-3827-SA LOWELL CPI
AV-ESC-1	PRODUCTION SYSTEM ETHERNET NETWORK SWITCH - COMMERCIAL GRADE DATA SWITCH, LATEST VERSION AVAILABLE. UNITS SHALL BE MANAGED LAYER 2, GIGABIT ETHERNET SWITCHES WITH POE. FOURTY (40) 10/100/1000BASE-T RJ-45 PORTS, 40 WITH POE+. 1 RU RACKMOUNT CHASSIS. PROVIDE FIBER ADAPTERS AS OUTLINED ON RISER DIAGRAMS.	NETGEAR M4250-40G8F-POE+ CISCO EXTREME
AV-LED-1	LED VIDEO WALL: 217" DIAGONAL 4K LED VIDEO WALLS WITH A RESOLUTION OF 3840 X 2160 PIXELS, 1.25 PIXEL PITCH, 16:9 ASPECT RATIO, 600 NITS,8 BIT COLOR, 10000:1 CONTRAST, 3840 HZ REFRESH RATE, SCAN RATE 1/60, 160 DEG VIEWING ANGLE, CABINET SIZE 15' 8" W X 8' 10" H. PROVIDE WITH PROCESSOR(S) AV-VWP-1 AND MANUFACTURER INSTALLATION AND CALIBRATION. VOLUNTARY ALTERNATE MANUFACTURERS REQUIRE PRE-APPROVAL AND AN MUST INCLUDE PRICING COMPARISON TO THE BASIS OF DESIGN. CONTRACTOR TO INCLUDE MOUNTING DRAPER FOUNDATION SYSTEM FOUR YEAR PARTS AND LABOR WARRANTY.	UNILUMIN UMINI W 1.2 DRAPER FOUNDATION MOUNTING SYSTEM NO SUBSTITUTIONS
AV-MIC-RX4	FOUR CHANNEL WIRELESS UHF MICROPHONE SYSTEM: WIRELESS MICROPHONE SYSTEM WITH THREE QUANTITY HANDHELD CARDIOID CONDENSER TRANSMITTER AND ONE QUANTITY BODYPACK TRANSMITTERS. PROVIDE WITH ONE QUANTITY LOW PROFILE OMNI-DIRECTIONAL HEADSET CONDENSER MICROPHONE AND MAX DURABILITY 2mm CABLE. VERIFY FREQUENCY REQUIREMENTS FOR GEOGRAPHIC AREA AND COORDINATE ANTENNAS REQUIREMENTS. REFER TO SPECIFICATIONS DIV 27 41 00 FOR ADDITIONAL REQUIREMENTS AND ACCESSORIES.	SHURE ULXD4Q ULXD1 ULXD2/B87A COUNTRYMAN E6X-O-W5-L-2-SL NO EQUAL
AV-MPP-1	AV PATCH PANEL, RUGGED COLD-ROLLED STEEL CONSTRUCTION, DURABLE BLACK POWDER COAT FINISH, 16 PORTS, MOUNTS XLR TYPE CONNECTORS AND D-SHAPE HDMI CONNECTOR, UNLOADED, BLACK. PROVIDE AND INSTALL (1) HDMI CONNECTOR AND (2) XLR TYPE CONNECTORS IN PANEL.	PANEL: HUBBELL PAV16 XLR: NUETRIK A SERIES HDMI: NEUTRIK NAHDMI-W-B OR PRE-APPROVED EQUAL
AV-PC-E	OWNER PROVIDED PC.	OWNER PROVIDED
AV-PS-1	RACK POWER STRIP: MULTI-STAGE SURGE PROTECTION, (8) REAR OUTLETS, CONTROLLED REAR OUTLETS, (1) FRONT OUTLET, FRONT POWER SWITCH.	MIDDLE ATLANTIC PDX-920R SURGE X
AV-SB1-C	12" CEILING SUBWOOFER, 400 WATTS CONTINUOUS, 1,600 WATTS PEAK POWER, 12" DRIVER WITH LONG THROW COPPER VOICE COIL. PROVIDE WITH CMS 1201SW BACKCAN AND ADDITIONAL REQUIRED ACCESSORIES. PROVIDE 4" SQUARE BACK BOX WITH SINGLE GANG PLASTER RING AND 1" EMT CONDUIT TO AV CLOSET.	TANNOY CMS 1201SW (SPEAKER) CMS 1201 BACKCAN NO SUBSTITUTIONS
AV-SP1-W	PASSIVE COLUMN ARRAY LOUDSPEAKER, 200 WATTS CONTINUOUS, 800 WATTS PEAK POWER, 7 VERTICALLY ARRAYED 3.5" LOW-FREQUENCY DRIVERS, 8 VERTICALLY ARRAYED 1" HIGH-FREQUENCY METAL DOME TWEETERS, EN 54-24 CERTIFIED FOR FIRE DETECTION AND FIRE ALARM SYSTEMS, LOW INSERTION LOSS 150 W, IP65 FOR OUTDOOR USE, TRANSFORMER TAP 150 W (33 Ω) / 75 W (66 Ω) / 37.5 W (133 Ω) / 19 W (265 Ω) / 9.5 W (520 Ω) / 5 W (1000 Ω) OFF & LOW IMPEDANCE OPERATION, DIMENSIONS H X W X D 32.1 X 4.8 X 5.8", ALUMINUM EXTRUSION CONSTRUCTION, POWDER COATED PERFORATED STEEL GRILLE. PROVIDE 4" SQUARE BACK BOX WITH SINGLE GANG PLASTER RING AND 1" EMT CONDUIT TO AV CLOSET.	TANNOY VLS 15 (EN54) NO SUBSTITUTIONS
AV-SP2-C	PERFORMANCE SPEAKER, 8" COAXIAL PENDANT LOUDSPEAKER, 240-WATT, WEATHER-RESISTANT ENCLOSURE, FREQUENCY RANGE 60 HZ - 30 KHZ, SYSTEM SENSITIVITY (1 W @1 M) 88 DB, DISPERSION 90 DEGREES CONICAL, ABS / STEEL ENCLOSURE, STEEL, PLATED AND POWDER COAT PAINTED GRILLE, TRANSFORMER TAPS 60 W / 30 W / 15 W / 7.5 W & LOW IMPEDANCE OPERATION, UL LISTED. PROVIDE 4" SQUARE BACK BOX WITH SINGLE GANG PLASTER RING AND 1" EMT CONDUIT TO AV CLOSET.	TANNOY OCV 8 NO SUBSTITUTIONS
AV-SP3-G	OUTDOOR SPEAKER: WEATHER RESISTANT MUSHROOM STYLE LANDSCAPE LOUDSPEAKER. 8" LF DRIVER AND 1.0" HF DRIVER POLYETHERIMDE DOME. 360 DEGREE COVERAGE NOMINAL, 240 WATTS CONTINUOUS PROGRAM POWER AND 60 HZ TO 15KHZ FREQUENCY RESPONSE. 8 OHMS PLUS 70V/100V TAPS AT 60W, 30W, 15W (AND 7.5W @ 70V). ENCLOSURE 20.1" X 14" X 14. IP-56 RATING. PROVIDE 4" SQUARE BACK BOX WITH SINGLE GANG PLASTER RING AND 1" CONDUIT FROM LOCAL AV RACK FOR SPEAKER LINE TO EACH DISTRIBUTED SPEAKER ZONE WITH CIRCULATING CABLE TO EACH SPEAKER PER PLANS. BASE BID: INCLUDE AV SPEAKERS ALTERNATE #3: REMOVE AV SPEAKERS WIRING AND CONDUIT	JBL CONTROL 88M
AV-TP1-R	TOUCH PANEL-WALL MOUNT: AUDIOVISUAL SYSTEM TOUCH PANEL CONTROL. 10" SCREEN WITH 1920X1080 RESOLUTION AND POE+. PROVIDE WITH RACK MOUNT IN AV-ER-1 RACK.	QSC TSC-101-G3
AV-TP1-W	TOUCH PANEL-WALL MOUNT: AUDIOVISUAL SYSTEM TOUCH PANEL CONTROL. 10" SCREEN WITH 1920X1080 RESOLUTION AND POE+. PROVIDE 4" SQUARE BACKBOX 1" EMT CONDUIT TO AV RACK LOCATION.	QSC TSC-101-G3
AV-VTRX-1	DIGITAL MEDIA TRANSMITTER/RECEIVER: NETWORK BASED VIDEO ENCODER/DECODER. SIGNAL EXTENDER DEVICE WITH HDMI INPUT, USB C, USB A, HDMI OUTPUT AND POE NETWORK PORT. PROVIDE WITH AV BRIDGING. PROVIDE WITH USB C CHARGING POWER SUPPLY AT THE TABLES. SUPPORTS RESOLUTIONS UP TO 4K 60 4:4:4 PASSES CEC, EDID.	QSC NV-21 CRESTRON EXTRON
AV-VTRX-2	DIGITAL MEDIA TRANSMITTER/RECEIVER: NETWORK BASED VIDEO ENCODER/DECODER. SIGNAL EXTENDER DEVICE WITH (3) HDMI INPUTS, USB B, (4) USB A, (2) HDMI OUTPUTS (3)GPIO, AUDIO IN, AUDIO OUT AND (2) NETWORK PORTS. SUPPORTS RESOLUTIONS UP TO 4K 60 4:4:4 PASSES CEC, EDID.	QSC NV-32-H CRESTRON EXTRON
AV-VWP-1	LED VIDEO WALL PROCESSOR: PROVIDED WITH LED VIDEO WALL AV-LED-1. (2) HDMI INPUT AND RJ-45 VIDEO OUTPUT CARDS, PROCESSOR AND CONFIGURATION TO SUPPORT APPLICATION.	NOVASTAR H2 8-BIT
AV-WP1-W	WALL MOUNTED HDMI TRANSMITTER: NETWORK BASED VIDEO ENCODER. SIGNAL EXTENDER DEVICE WITH HDMI INPUT AND POE NETWORK PORT. SUPPORTS RESOLUTIONS UP TO 4K 60 4:4:4 PASSES CEC, EDID. E.C. TO PROVIDE DEEP RECESSED 2 GANG AV WALL BOX AT OUTLET HEIGHT, UNO, WITH (1) 1 1/4" CONDUIT FOR AV CABLE TO FINISHED ACCESSIBLE CEILING.	QSC NV-1-H-WE CRESTRON EXTRON
AV-WP2-W	WALL PLATE RACK MOUNTED: PROVIDE (1) DANTE/AES 67 AUDIO INTERFACE IN 2 GANG FACEPLATE. XLR FEMALE INPUTS, 2 RCA LINE LEVEL INPUTS AND 3.5 MM TRS LINE LEVEL INPUT. E.C. TO PROVIDE DEEP RECESSED 2 GANG AV WALL BOX AT OUTLET HEIGHT, UNO, WITH (1) 1 1/4" CONDUIT FOR AV CABLE TO FINISHED ACCESSIBLE CEILING.	QSC UND6I0 OR APPROVED EQUAL

TECHNOLOGY EQUIPMENT SCHEDULE

THE EQUIPMENT LIST ABBREVIATIONS AND THE TECHNOLOGY EQUIPMENT SCHEDULE ARE FOR THE CONVENIENCE OF THE CONTRACTOR. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF QUANTITIES AND SHALL FURNISH ALL MATERIAL REQUIRED, WHETHER SPECIFIED OR NOT, TO PRODUCE A SATISFACTORY WORKING SYSTEM.

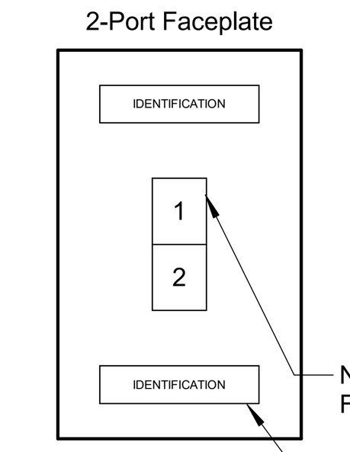
CATALOG NUMBERS ARE NOT TO BE CONSIDERED COMPLETE BUT ARE GIVEN ONLY TO AID THE CONTRACTOR IN THE SEARCH FOR MATERIAL. NO MATERIAL SHALL BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY. EACH CONTRACTOR SHALL FIRST READ THE COMPLETE DESCRIPTION OF THE MATERIAL ON THESE DRAWINGS AND SPECIFICATIONS. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN. "STANDARD COLOR" INDICATES FACTORY FINISH AVAILABLE AT NO ADDITIONAL CHARGE.

EQUIPMENT LIST ABBREVIATION	EQUIPMENT LIST DESCRIPTION	MANUFACTURER AND MODEL
PA-S1-C	PENDANT SPEAKER. WIDE DISPERSION 4-1/2" DRIVER, SELECTABLE POWER TAPS VIA REAR-MOUNTED CONTROL; 32, 16, 8, 4, 2, 1 WATTS @ 70V. 8 oz CERAMIC MAGNET. 70.7 VOLTS. PROVIDE BACK BOX AND MOUNTING HARDWARE AS NECESSARY FOR INSTALLATION IN LAY-IN CEILING. REFER TO SPECIFICATION SECTION 27 51 13 FOR CONDUIT REQUIREMENTS AND ADDITIONAL INFORMATION. PROVIDE COMPLETE WITH HANGING CABLE KIT CK-10B (BLACK).	BOGEN MPS1B ATLAS VALCOM
PA-S2-C	SPEAKER. 8" DUAL-CONE 4 WATT TRANSFORMER. 10 oz CERAMIC MAGNET. 25 AND 70.7 VOLTS. PROVIDE BACK BOX AND MOUNTING HARDWARE AS NECESSARY FOR INSTALLATION IN LAY-IN CEILING. REFER TO SPECIFICATION SECTION 27 51 13 FOR CONDUIT REQUIREMENTS AND ADDITIONAL INFORMATION. PROVIDE 4" SQUARE BACK BOX WITH SINGLE GANG PLASTER RING AND 1" EMT CONDUIT TO AV CLOSET.	BOGEN S10T725PG8WVR ATLAS SOUND VALCOM
SC-IO-F	INFORMATION OUTLET, FLOOR BOX MOUNT, 2-PORT COVERPLATE AS INDICATED ON DRAWINGS, SEE INFORMATION OUTLET SCHEDULE ON T5.00 FOR PIN CONFIGURATION. "#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE PLANS. REFER T5.00 FOR MORE INFORMATION. INSTALL INFORMATION OUTLET IN E.C. PROVIDED FLOOR BOX. PROVIDE 1" EMT CONDUIT TO ABOVE ACCESSIBLE CEILING. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS (HUBBELL SFB10A OR APPROVED EQUAL).	FACEPLATE: HUBBELL IFP12OW (2-PORT) JACK: HUBBELL HXJ6 SERIES NO SUBSTITUTIONS
SC-IO-W	INFORMATION OUTLET, WALL MOUNT, 2-PORT COVERPLATE AS INDICATED ON DRAWINGS, SEE INFORMATION OUTLET SCHEDULE ON T5.00 FOR PIN CONFIGURATION. "#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE PLANS. REFER T5.00 FOR MORE INFORMATION. INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1" EMT CONDUIT TO ABOVE ACCESSIBLE CEILING. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS (HUBBELL SFB10A OR APPROVED EQUAL).	FACEPLATE: HUBBELL IFP12OW (2-PORT) JACK: HUBBELL HXJ6 SERIES NO SUBSTITUTIONS
SC-LR-1	LADDER RACK, 12" WIDE RECTANGULAR STEEL TUBING, RUST RESISTANT ENAMEL FINISH, REMOVE SHARP BURRS FROM LADDER RACK AND REPAINT ALL AREAS THAT HAVE BEEN FIELD MODIFIED, CUT OR EXPOSED. U.L. LISTED.	CPI 10250-712 HOMACO HOFFMAN
SC-MPP-1	MODULAR PATCH PANEL, RACK MOUNT, 24 MODULAR RJ-45 TERMINATIONS, MOUNTS DIRECTLY TO EIA/TIA STANDARD 19" RELAY RACK, PORT IDENTIFICATION NUMBERS, COLOR CODING AND LABEL HOLDER KITS, U.L. LISTED. REQUIRES (1) 1.75" MOUNTING SPACES.	HUBBELL P6E24U OR PRE-APPROVED EQUAL
SC-RI-C	INFORMATION OUTLET ROUGH-IN, CEILING MOUNT. INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1" EMT CONDUIT STUBBED TO ACCESSIBLE CEILING. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS (HUBBELL SFB10A OR APPROVED EQUAL).	ROUGH-IN ONLY
SC-RI-W	INFORMATION OUTLET ROUGH-IN, WALL MOUNT. INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1" EMT CONDUIT TO ABOVE ACCESSIBLE CEILING. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS (HUBBELL SFB10A OR APPROVED EQUAL).	ROUGH-IN ONLY
SC-WAP-C	INFORMATION OUTLET, 2-PORT SURFACE MOUNT BOX AS INDICATED ON DRAWINGS. "#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE PLANS. REFER TO T5.00 FOR INFORMATION OUTLET SCHEDULE FOR PIN CONFIGURATION. INSTALL A 3/4" EMT CONDUIT 6" BEYOND BOX AND TERMINATE WITH A NYLON BUSHING.	FACEPLATE: HUBBELL ISB2BK (2-PORT) JACK: HUBBELL HXJ6 SERIES NO SUBSTITUTIONS

INFORMATION OUTLET SCHEDULE

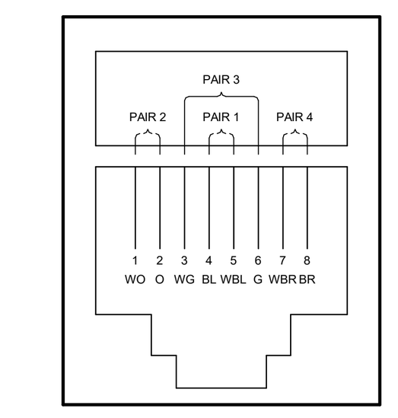
SINGLE GANG WALLPLATES

2-Port Faceplate



NUMBER INDICATES FACEPLATE POSITION (TYP.)

REFER TO SPECIFICATIONS FOR IDENTIFICATION REQUIREMENTS (TYP.)



ANSI/TIA/EIA T568B PIN/PAIR ASSIGNMENT

NOTES:
1. PROVIDE REMOVABLE BLANK INSERT(S) FOR ALL UNUSED PORTS.
2. REFER TO SPECIFICATIONS SECTION 27 05 53 FOR ADDITIONAL INFORMATION ON LABELING REQUIREMENTS.

SCHEDULE NOTES:
1. LOCATION OF FUTURE OR OWNER PROVIDED WIRELESS ACCESS POINT. PROVIDE A 20' SLACK COIL AT THE NEAREST CABLE SUPPORT FOR POSSIBLE RELOCATION AFTER WIRELESS SURVEY.

LEGEND

DATA	CAT 6 RJ-45

CONFIGURATION	FACEPLATE PORTS	FACEPLATE PORT IDENTIFICATION: POSITION 1 JACK TYPE	POSITION 2 JACK TYPE	POSITION 3 JACK TYPE	POSITION 4 JACK TYPE	POSITION 5 JACK TYPE	POSITION 6 JACK TYPE	NOTES
C2	2	DATA	DATA					.
C2-WAP	2	DATA	DATA					1.

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DKA PROJECT NO: 24-027

KEY PLAN:

SHEET STATUS: 05/16/2025

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:
1	ADDENDUM #1	5/27/25

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0 1 2 3
REF. SCALE IN INCHES
PROJECT #24005446.00

SHEET TITLE:

TECHNOLOGY SCHEDULES

SHEET NUMBER:

T5.00

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