ARCADIS

2025-01-30

ADDENDUM NO. 05

Date of Issuance: January 30, 2025

Project: **2024 Cypress Falls HS Renovation**
Cypress-Fairbanks Independent School District

Issued by: Texas Arcadis Inc.
P.O. Box 891209
Houston, Texas 77289
281-286-6605

Texas Arcadis Inc.
Project No.: 202318

Prepared for: Prospective Proposers

PART A: NOTICE TO PROPOSERS:

1. Receipt of this Addendum shall be acknowledged on the Proposal Form. Failure to do so may subject Proposers to disqualification. Each proposer shall make necessary adjustments and submit his proposal with full knowledge of all modifications, clarification, and supplemental data included therein.

2. This Addendum forms part of the Contract Documents and shall be incorporated integrally therewith. Where provisions of the following supplemental data differ from those of previously issued documents, this Addendum shall govern.

3. The following Contract Documents have been issued to date delineating the Work (Project).

Contract Documents	January 13, 2025
Addendum No. 01 (Arch)	January 21, 2025
Addendum No. 02 (Arch)	January 24, 2025
Addendum No. 03 (Civil)	January 27, 2025
Addendum No. 04 (MEP)	January 28, 2025

4. This Addendum consists of: ten (10) 8-1/2x11 written pages, one hundred sixty-three (163) 8-1/2x11 pages Spec Section(s) Table of Contents Vol 1, Table of Contents Vol 2, Form AC, Spec 11 40 00, Spec 27 10 00, Spec 28 20 00, Spec 28 46 00 and eighty-three (83) full-size New or Re-issued Sheets / Drawings as described in PARTS F and G below; as prepared by Texas Arcadis Inc. Total pages: two hundred forty-six (246).

PART B: GENERAL PROJECT CLARIFICATIONS

5. None

PART C: CHANGES TO PRIOR ADDENDUM

6. Form AC – Proposal Forms
    a. Replace this section in its entirety (8 pages). Date shown in form AC issued in addendum 02 had incorrect date in the footer. The proposal date has not changed and remains February 6, 2025.

PART D: CHANGES TO THE PROJECT MANUAL

7. Table of Contents
    a. Reissue entire table of contents into one and two volumes
    Volume 1 (9 pages)
    Volume 2 (8 pages)

8. 11 40 00 FoodService
    a. Page 34, Item NO. 31, quantity updated from 3 to 4

9. 27 10 00 – Structured Cabling System
    a. Replace in its entirety

9. 28 20 00 – Video Surveillance System
    a. Replace in its entirety

10. 28 46 00 – Fire Detection & Alarm System
    a. Replace in its entirety

PART E: CHANGES TO THE DRAWINGS

11. Sheet G0.00 - COVER SHEET
    a. Cover sheet was split into two volumes.
    b. Add sheet to Sheet Index: A8.02 – CASEWORK ELEVATIONS

12. Sheet C1.05 – SITE PLAN – AREA 'S5'
    a. Revise site plan keynote 46 to read "8" CMU 12' TALL BEAT WALL, PAINT WALL PT-9, RE: CS SHEETS & A11.00 FOR PAINT COLOR".

13. Sheet C1.09 – ENLARGED SITE PLAN – PRESSBOXES
    a. Revise and add notes for wall paint color locations to plan for view 6 / C1.09.
    b. Revise alignment of ceiling grid and lights in ceiling plan 10 / C1.09.

14. Sheet S0.05 – Uplift Key Maps
    a. Change Area 'B' roof uplift key map plan to match building addition extents
    b. Change Area 'A' roof uplift key map plan to match building addition extents

15. Sheet SD1.01 – Foundation Demo Plans
    a. Update area 'D' demo plan to show new shovel beam under new CMU walls in room D128

16. Sheet SD1.02 – Foundation Demo Plans
    a. Add demo plan for area 'P'

17. Sheet S1.01 – Area "A" Foundation and Framing Plans

a. Change extents of building near C/7 to match architectural drawings at foundation and framing plans

18. Sheet S3.01 – Area “D” “G” and “K” Foundation and Framing Plans
    a. Change dimensions of the out-to-out of the greenhouse to match architectural drawings
    b. Change brick ledge locations at greenhouse to match architectural drawings
    c. Show shovel beam under new CMU walls in room D128 in the Area “D” foundation plan

19. Sheet A0.04 – AREA ‘D’ – 1ST FLOOR DEMO PLAN
    a. Add ceiling demo scope marked by demo keynote 42.

20. Sheet A0.08 – AREA ‘P’ – 1ST FLOOR DEMO PLAN
    b. Added shelving demo scope to existing music library closet, noted by dash line and demo keynote 2.

21. Sheet A2.01 – AREA ‘A1’ – 1ST FLOOR PLAN
    a. Revise exterior wall at enlarged detail 3 / A3.01 to match detail.
    b. Revise or add casework in A130, A131, and A132 and resize trough sinks in A132 to match changes on A8 series within this addendum 05.

22. Sheet A2.02 – AREA ‘B1’ – 1ST FLOOR PLAN
    a. Revise or add casework in B129 to match changes on A8 series within this addendum 05.

23. Sheet A2.04 – AREA ‘D1’ – 1ST FLOOR PLAN
    a. Revise portion of A82 wall at D134 Material Storage to be F10 wall type.
    b. Revise or add casework in D121 to match changes on A8 series within this addendum 05.
    c. Add “EQUIPMENT NOTES” to provide key for WB1 and PB1

24. Sheet A2.05 – AREA ‘E1’ – 1ST FLOOR PLAN
    a. Add keynote 1 to doors E102-2 and E112-1

25. Sheet A2.06 – AREA ‘F1’ – 1ST FLOOR PLAN
    a. Add keynote 1 to doors F111-1

26. Sheet A2.07 – AREA ‘G1’ – 1ST FLOOR PLAN
    b. Revise or add casework in G121 to match changes on A8 series within this addendum 05.

27. Sheet A2.10 – AREA ‘K1’ – 1ST FLOOR PLAN
    a. Add keynote 1 to doors K109-1

28. Sheet A2.11 – AREA ‘L1’ – 1ST FLOOR PLAN
    a. Add keynote 1 to doors L131-1, L161-1, L161-2, L167-1, L167-2, and L171-1

29. Sheet A2.12 – AREA ‘M1’ – 1ST FLOOR PLAN
    a. Revise casework in M103 SEC. and transaction window system.
    b. Add note for “IMPACT RESISTANT GYP. BELOW 7’ “for new wall in reception desk.

30. Sheet A2.14 – AREA ‘P1’ – 1ST FLOOR PLAN

a. Revise or add casework in P106, P107, P114, and P115 to match changes on A8 series within this addendum 05.
b. Revise to show only (5) relocated Wenger music storage units in P116.
c. Revise keynote 25 in legend to be “3’ LOCKER ROOM BENCHES”
d. Add additional row of benches in P105 on right side of locker room.

31. Sheet A2.15 – AREA ‘Q1’ – 1ST FLOOR PLAN
    a. Remove keynote 26 from door Q100-2.

32. Sheet A2.31 – WINDOW SCHEDULES
    a. Revise window frames for A130-A, A130-B, A132-D, A132-E from “ALUM.” to “H.M.”

33. Sheet A2.32 – ROOM SCHEDULES
    b. Revise floor finish to “MCT-1 for rooms D121, D125, D126, D127, D129 in AREA ‘D1’ – ROOM FINISH SCHEDULE
    c. Revise wall finish to “PT-6,2” for rooms AS102.1 and AS102.2 in PRESSBOXES – ROOM FINISH SCHEDULE
    d. Remove TB-1 from base finish for G120.

34. Sheet A2.33 – DOOR SCHEDULES
    a. Removed duplicate “AREA ‘J1’ – DOOR SCHEDULE” and added missing “AREA ‘L1’ – DOOR SCHEDULE”.
    b. Remove door A121-2 from AREA ‘A1’ – DOOR SCHEDULE
    c. Remove door B100-1 from AREA ‘B1’ – DOOR SCHEDULE
    d. Remove door D148-1 from AREA ‘D1’ – DOOR SCHEDULE
    e. Remove door E102-1 from AREA ‘E1’ – DOOR SCHEDULE
    f. Remove door R101-1 from AREA ‘R1’ – DOOR SCHEDULE
    g. Remove door S102-1 from AREA ‘S1’ – DOOR SCHEDULE
    h. Remove door U100-1 from AREA ‘U1’ – DOOR SCHEDULE
    i. Remove door Q100-2 from AREA ‘Q1’ – DOOR SCHEDULE
    j. Remove door Q102-1 from AREA ‘Q1’ – DOOR SCHEDULE
    k. Add door E102-2 to AREA ‘E1’ – DOOR SCHEDULE
    l. Add door E112-1 to AREA ‘E1’ – DOOR SCHEDULE
    m. Add door F111-1 to AREA ‘F1’ – DOOR SCHEDULE
    n. Add door K109-1 to AREA ‘K1’ – DOOR SCHEDULE

35. Sheet A3.01 – PLAN DETAILS
    a. Add dimension for angled potion of exterior wall in 3 / A3.01
    b. Revise detail 4 / A3.01 to align new CMU wall to existing wall.

36. Sheet A4.02 – ROOF PLAN ENLARGED
    a. Revised roof to match slant of exterior wall shown at enlarged detail 3 / A3.01.

37. Sheet A7.03 – INTERIOR ELEVATIONS:
    a. Revise elevation 5 / A7.03
    b. Revise AWP mount height to 4’ – 0” in elevations 10-19 and 21-22 / A7.03

38. Sheet A7.04 – INTERIOR ELEVATIONS
    a. Change scheduled base on all kitchen elevations 1-4 / A7.04 from “SCHED. BASE” to “TB-3”.

39. Sheet A8.00 – CASEWORK SECTIONS
    a. Revise casework sections 13, 16, 18

b. Add casework sections 20 and 21
c. Revised details 10, 11 and 12. Countertop finish has been changed from P-lam to Quartz.

40. Sheet A8.01 – CASEWORK ELEVATIONS
a. Revise casework and notations in casework elevations 1-5, 7-8, 10, 12-14, 16-27 / A8.01
b. Add casework elevations 28 and 29 / A8.01

41. Sheet A9.01 – FRAME ELEVATIONS
a. Revise frame 5 and revise jamb detail to be only 22 / 9.02
b. Revise sill detail to 6 / 9.02 for frame 4-E

42. Sheet A10.03 – AREA 'D1' 1ST FLOOR RCP
a. Add patch to ACT around new paint booth vent and new CMU walls. Note to reuse existing ceiling tiles. Note for "1-HR RATED CLG. ASSEMBLY".

43. Sheet A11.00 – INTERIOR FINISH LEGEND
a. On the Finish Legend, change the name of PT-6 from Greens to Shamrock, add PT-9, GRTW-1, GRTF-1 HDPE and change the description of TB-3 to include "cove base". Revise TF-1.

44. Sheet A11.03 – AREA 'D1' 1ST FLOOR FINISH PLAN
a. Change flooring from PC-1 to MCT-1 in for rooms D121, D125, D126, D127, D129.

45. Sheet A11.04 – AREA 'G1' 1ST FLOOR FINISH PLAN
a. Remove TB-1 from base finish for G120.

46. Sheet M2.04 – MECHANICAL 1ST FLOOR PLAN – AREA 'D'
a. Revise supply grille mark for all supply grilles to read "G" in CTE Engineering CR D129.
b. Add fire damper to return air grille in CTE Engineer CR D129.
c. Revise supply grille mark for all supply grilles to read "G" in Tech CR D121.
d. Add fire damper to return air grille in Tech CR D121.
e. Revise supply grille mark for all supply grilles to read "G" in Storage D125.
f. Add fire damper to return air grille in Storage D125.
g. Revise supply grille mark for all supply grilles to read "G" in Shop Class D126.
h. Add fire damper to return air grille in Shop Class D126.
i. Revise supply grille mark for all supply grilles to read "G" in Office D127.
j. Add fire damper to return air grille in Office D127.

47. Sheet M2.10 – MECHANICAL 1ST FLOOR PLAN – AREA 'K'
a. Revise supply grille mark to read "G" in Control Room K111.
b. Add fire damper to return air grille in Control Room K111.

48. Sheet M2.14 – MECHANICAL 1ST FLOOR PLAN – AREA 'P'
a. Revise supply grille mark for all supply grilles to read "G" in Drill Team Dressing P105.
b. Add fire damper to return air grille in Drill Team Dressing P105.
c. Revise supply grille mark for all supply grilles to read "G" in Drill Team Storage P106.
d. Add fire damper to return air grille in Drill Team Storage P106.
e. Revise supply grille mark for all supply grilles to read "G" in Office P107.
f. Add fire damper to return air grille in Storage P107.

g. Revise supply grille mark for all supply grilles to read “G” in Pract. P110.
h. Add fire damper to return air grille in Pract. P110.
i. Revise supply grille mark for all supply grilles to read “G” in Pract. P111.
j. Add fire damper to return air grille in Pract. P111.
k. Revise supply grille mark for all supply grilles to read “G” in Pract. P112.
l. Add fire damper to return air grille in Pract. P112.
m. Revise supply grille mark for all supply grilles to read “G” in Ensemble P113.
n. Add fire damper to return air grille in Ensemble P113.
o. Revise supply grille mark for all supply grilles to read “G” in Office P114.
p. Add fire damper to return air grille in Office P114.
q. Revise supply grille mark for all supply grilles to read “G” in Uniform Storage P115.
r. Add fire damper to return air grille in Uniform Storage P115.
s. Revise supply grille mark for all supply grilles to read “G” in Music Library P116.
t. Add fire damper to return air grille in Music Library P116.
u. Revise supply grille mark to read “G” in Corr. S113.

49. Sheet P3.04 – PLUMBING 1ST FLOOR PLAN – AREA ‘D’
    a. Revise emergency eyewash tag in Production Systems D128
    b. to “EEFW-1”.

50. Sheet M5.02 – MECHANICAL DETAILS AND LEGENDS
    a. Refer to revised sheet.

51. Sheet M5.03 – MECHANICAL SCHEDULES
    a. Refer to revised sheet.

52. Sheet E0.01 - ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'A'
    a. Refer to revised sheet.

53. Sheet E0.02 - ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'B'
    a. Refer to revised sheet.

54. Sheet E0.03 - ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'D'
    a. Refer to revised sheet.

55. Sheet E0.04 - ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'E'
    a. Refer to revised sheet.

56. Sheet E0.05 - ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'G'
    a. Refer to revised sheet.

57. Sheet E0.06 - ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'H'
    a. Refer to revised sheet.

58. Sheet E0.07 - ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'K'
    a. Refer to revised sheet.

59. Sheet E0.08 - ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'M'
    a. Refer to revised sheet.

60. Sheet E0.09 - ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'P'
    a. Refer to revised sheet.

61. Sheet E0.10 - ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'R'
    a. Refer to revised sheet.

62. Sheet E0.11 - ELECTRICAL DEMOLITION 2ND FLOOR PLAN - AREA 'A'
    a. Refer to revised sheet.

63. Sheet E0.12 - ELECTRICAL DEMOLITION 2ND FLOOR PLAN - AREA 'D'
    a. Refer to revised sheet.

64. Sheet E0.13 - ELECTRICAL DEMOLITION 2ND FLOOR PLAN - AREA 'U'
    a. Refer to revised sheet.

65. Sheet E1.03 - ELECTRICAL ENLARGED SITE PLANS – PRESSBOXES
    a. Refer to revised sheet.

66. Sheet E1.04 - ELECTRICAL ENLARGED SITE PLANS - PRESSBOXES
    a. Refer to revised sheet.

67. Sheet E2.01 - ELECTRICAL 1ST FLOOR COMPOSITE FLOOR PLAN
    a. Refer to revised sheet.

68. Sheet E2.02 - ELECTRICAL 2ND FLOOR COMPOSITE FLOOR PLAN
    a. Refer to revised sheet.

69. Sheet E3.01 - ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'A'
    a. Refer to revised sheet.

70. Sheet E3.06 - ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'H'
    a. Refer to revised sheet.

71. Sheet E3.07 - ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'K'
    a. Refer to revised sheet.

72. Sheet E3.08 - ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'M'
    a. Refer to revised sheet.

73. Sheet E3.09 - ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'P'
    a. Refer to revised sheet.

74. Sheet E3.13 - ELECTRICAL POWER 2ND FLOOR PLAN - AREA 'K'
    a. Refer to revised sheet.

75. Sheet E3.21 - ELECTRICAL POWER ROOF PLAN
    a. Refer to revised sheet.

76. Sheet E4.02 - ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'B'
    a. Refer to revised sheet.

77. Sheet E4.04 - ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'H'
    a. Refer to revised sheet.

78. Sheet E4.05 - ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'K'
    a. Refer to revised sheet.

79. Sheet E4.06 - ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'P'
    a. Refer to revised sheet.

80. Sheet E5.01 - ELECTRICAL ENLARGED PLANS
    a. Refer to revised sheet.

81. Sheet E5.04 - ELECTRICAL DEMOLITION KITCHEN PLANS
    a. Refer to revised sheet.

82. Sheet E5.05 - ELECTRICAL POWER KITCHEN PLANS
    a. Refer to revised sheet.

83. Sheet E5.06 - ELECTRICAL LIGHTING KITCHEN PLANS
    a. Refer to revised sheet.

84. Sheet E6.01 - ELECTRICAL PARTIAL DEMOLITION ONE-LINE DIAGRAM
    a. Refer to revised sheet.

85. Sheet E6.02 - ELECTRICAL PARTIAL NEW ONE-LINE DIAGRAM
    a. Refer to revised sheet.

86. Sheet E7.02 - ELECTRICAL PANEL SCHEDULES
    a. Refer to revised sheet.

87. Sheet E7.04 - ELECTRICAL PANEL SCHEDULES
    a. Refer to revised sheet.

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    a. Refer to revised sheet.

89. Sheet E7.06 - ELECTRICAL PANEL SCHEDULES
    a. Refer to revised sheet.

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    a. Refer to revised sheet.

92. Sheet T2.14- TECHNOLOGY 1ST FLOOR PLAN - AREA 'P'
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Cypress-Fairbanks Independent School District
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FORM AC
COMPETITIVE SEALED PROPOSAL FORM - BASE PROPOSAL

2024 CY FALLS HS RENOVATION
Cypress-Fairbanks Independent School District
Cypress-Fairbanks I.S.D. Proposal Number: 24-02-5742-R-RFP
Attn: Mr. Jesse Clayburn, Asst. Superintendent of Facilities & Construction

Submitted by:_____

Date:_____ Phone No.:_____

To: Board of Trustees
Cypress-Fairbanks Independent School District
Facilities and Construction
11430-B Perry Road
Houston, Texas 77064

Having examined Proposal and Contract Documents prepared by **Texas Arcadis, Inc.** dated **January 13, 2025,** and having examined site conditions, the undersigned proposes to furnish all labor, equipment and materials and perform all work for the completion of the above-named project for the sum indicated below.

In submitting his Proposal, the undersigned agrees to the following:

1. Hold Base Proposal open for acceptance sixty (60) days.
2. Accept right of Owner to reject any or all proposals, to waive formalities and to accept proposal which Owner considers most advantageous.
3. Enter into and execute the contract, if awarded, for the Base Proposal and accepted Alternate Proposals.
4. Complete work in accordance with the Contract Documents within the stipulated contract time.
5. By signing, the undersigned affirms that, to the best of his knowledge, the Proposals have been arrived at independently and is submitted without collusion with anyone to obtain information or gain any favoritism that would in any way limit competition or give an unfair advantage over respondents in the award of this proposal.

I. BASE PROPOSAL

A. Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

II. ALLOWANCES

Undersigned certifies that the allowances specified in Section 01 21 00 are included in the Base Proposal and agrees that unexpended balance of allowance sums will revert to Owner in the final settlement of the contract.

III. CONTRACT TIME

By submittal of this proposal, the undersigned stipulates that the Base Proposal includes all costs necessary to attain Substantial Completion of the Work on or before the date stipulated in AIA Document A101™–2017.

THIS PAGE OF PROPOSAL FORM MUST BE SUBMITTED BY 2:00 PM, FEBRUARY 6, 2025

IV. ADDENDA

Undersigned acknowledges receipt of Addenda Nos._____ dated

_____, _____.

V. CHANGES IN THE WORK

Undersigned understands that changes in the work shall be performed in accordance with the Supplementary Conditions.

VI. LIQUIDATED DAMAGES

By submittal of this proposal, the undersigned stipulates an agreement that if Substantial Completion of the Work is not attained on or before the date stipulated in AIA Document A101™–2017, the undersigned and his Surety shall be liable for and shall pay the Owner the sums stipulated as Liquidated Damages as defined in AIA Document A201™–2017.

It is understood that the right is reserved by the Owner to reject any or all proposals, or waive any informalities in the proposal process.

_____
Authorized Signature

_____
Printed Name

_____
Title

(Seal, if a Corporation)
State whether Corporation,
Partnership or Individual

_____
Name of Contracting Firm

_____
Address

_____
Telephone

_____
Date

THIS PAGE OF PROPOSAL FORM MUST BE SUBMITTED BY 2:00 PM, FEBRUARY 6, 2025

FORM AC
COMPETITIVE SEALED PROPOSAL FORM - ALTERNATE PROPOSALS

2024 CY FALLS HS RENOVATION
Cypress-Fairbanks Independent School District
Cypress-Fairbanks I.S.D. Proposal Number: 24-02-5742-R-RFP
Attn: Mr. Jesse Clayburn, Asst. Superintendent of Facilities & Construction

Submitted by:_____

Date:_____ Phone No.:_____

To: Board of Trustees
Cypress-Fairbanks Independent School District
Facilities and Construction
11430-B Perry Road
Houston, Texas 77064

Having examined Proposal and Contract Documents prepared by **Texas Arcadis Inc**, dated **January 13, 2025**, and having examined site conditions, the undersigned proposes to furnish all labor, equipment and materials and perform all work for the completion of the above-named project for the sum indicated below.

In submitting his Proposal, the undersigned agrees to the following:

1. Hold Alternate Proposal open for acceptance one hundred twenty (120) days.
2. Accept right of Owner to reject any or all proposals, to waive formalities and to accept proposal which Owner considers most advantageous.
3. Enter into and execute the contract, if awarded, for the Base Proposal and accepted Alternate Proposals.
4. Complete work in accordance with the Contract Documents within the stipulated contract time.
5. By signing, the undersigned affirms that, to the best of his knowledge, the Proposals have been arrived at independently and is submitted without collusion with anyone to obtain information or gain any favoritism that would in any way limit competition or give an unfair advantage over respondents in the award of this proposal.

I. ALTERNATES

If the Owner accepts any or all of the Alternates, the undersigned agrees to modify the Base Proposal as stipulated below:

A. Alternate Number 1 – ***Base Bid Adjustment***

ADD/DEDUCT_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

B. Alternate Number 2A – ***Chillers by Carrier***

ADD/DEDUCT_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

C. Alternate Number 2B – ***Chillers by Daikin***

ADD/DEDUCT_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

THIS PAGE OF PROPOSAL FORM MUST BE SUBMITTED BY 3:00 PM, FEBRUARY 6, 2025

D. Alternate Number 2C – ***Chillers by Trane***

ADD/DEDUCT_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

II. UNIT PRICES

If the Owner accepts any or all of the Alternates, the undersigned agrees to add or subtract the following units of work:

UNIT PRICE 1: ELECTRICAL DUPLEX RECEPTACLE $_____/ each

UNIT PRICE 2: DATA DROP $_____/ each

UNIT PRICE 3: 4 ½" THICK CONCRETE WALK PER SQUARE FOOT $_____/ sq. ft
UNIT PRICE 4: 7" THICK CONCRETE DRIVE PER SQUARE FOOT $_____/sq. ft

UNIT PRICE 5: CHAIN LINK FENCE

1.	4-foot-high fence	$_____/	linear foot
2.	4-foot-high x 3-foot-wide gate	$_____/	per leaf
3.	4-foot-high x 6-foot-wide gate	$_____/	per leaf
4.	6-foot-high fence	$_____/	linear foot
5.	6-foot-high x 3-foot-wide gate	$_____/	per leaf
6.	6-foot-high x 6-foot-wide gate	$_____/	per leaf

UNIT PRICE 6: LIFE SAFETY DEVICES (including all associated cabling and programming)

1.	Exterior Horn to Speaker	$_____	each
2.	Interior Horn to Speaker	$_____	each
3.	Interior Visual Strobe	$_____	each
4.	Interior Speaker/Visual Strobe	$_____	each
5.	Smoke Detector	$_____	each
6.	Heat Detector	$_____	each
7.	Manual Pull Station	$_____	each
8.	Stopper 2 Pull Station Cover	$_____	each
9.	Annunciator Panel	$_____	each
10	Duct Detector	$_____	each
11	Relay	$_____	each
12	Supervisory	$_____	each
13	Waterflow	$_____	each
14	Amplifier	$_____	each

15	Remote Power Supply	$_____	each

UNIT PRICE 7: 4" RESILIENT BASE 100 LINEAR FEET $_____/ linear foot

UNIT PRICE 8: GRAPHIC SIGNS

1.	Sign Type A	$_____/	each
2.	Sign Type B	$_____/	each
3.	Sign Type C	$_____/	each
4.	Sign Type D	$_____/	each
5.	Sign Type E	$_____/	each
6.	Sign Type F	$_____/	each
7.	Max Occupancy Signage	$_____/	each
8.	FDC Connection Signage	$_____/	each
9.	Wayfinding Signage (2 lines text)	$_____/	each
10.	Wayfinding Signage (3 lines text)	$_____/	each
11.	Wayfinding Signage (4 lines text)	$_____/	each

UNIT PRICE 9: PAINTING $_____/sq. ft

UNIT PRICE 10: EXIT SIGN $_____/each

UNIT PRICE 11: ORNAMENTAL FENCE

1.	6-foot-high fence	$_____/	linear foot
2.	6-foot-high x 4-foot-wide gate	$_____/	per leaf
3.	6-foot-high x 6-foot-wide gate	$_____/	per leaf

UNIT PRICE 12: SECURITY FILM.

1.	Armoured One	$_____/	Square foot

UNIT PRICE 13: ACCESS CONTROL/ INTRUSION DEVICES $_____/ each

UNIT PRICE 14: DATA INFRASTRUCTURE $_____/ each

UNIT PRICE 15: REPLACE UNDERREAMED FOOTINGS WITH STRAIGHT SHAFT DRILLED FOOTING

1.	36-inch diameter	$_____/	LF
2.	42-inch diameter	$_____/	LF
3.	48-inch diameter	$_____/	LF
4.	60-inch diameter	$_____/	LF

THIS PAGE OF PROPOSAL FORM MUST BE SUBMITTED BY 3:00 PM, FEBRUARY 6, 2025

UNIT PRICE 16: WALL SLEEVES $_____/ linear foot

III. CONTRACTOR'S PROJECT TEAM MEMBERS

The undersigned proposes the following project team members (include resumes):

Project Manager _____

Superintendent _____

Asst. Superintendent(s) _____

Project Engineer _____

III. PROPOSED SUBCONTRACTORS

The undersigned proposes the following subcontractors. Note – Not all trades listed below will apply to every project.

Paving: _____

Abatement: _____

Dampproofing/insulator: _____

Masonry: _____

Roofing: _____

Drywall: _____

Casework: _____

Concrete: _____

Plumbing: _____

Mechanical: _____

Electrical: _____

Fire Alarm: _____

Sprinkler: _____

Low Voltage/Security: _____

Site Utilities: _____

Earthwork/Site Prep: _____

Fencing: _____

Pre-Engineered Metal Building: _____

Glazing: _____

It is understood that the right is reserved by the Owner to reject any or all proposals, or waive any informalities in proposal process.

_____
Authorized Signature

_____
Printed Name

_____
Title

(Seal, if a Corporation)
State whether Corporation,
Partnership or Individual

_____
Name of Contracting Firm

_____
Address

_____
Telephone

_____
Date

END OF FORM

SECTION 11 40 00 – FOODSERVICE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All drawings, general, special and/or supplementary conditions, Division 01, specifications, and related documents apply to the work specified in this section.

1.2 SUMMARY OF THE WORK

A. Project and Location-The project is:
Cypress Fairbanks CyFalls HS School Renovation
Houston , Texas

B. Acceptance of the Working Surface: Contractor executing work over the work of another contractor shall notify the Architect of any unacceptable conditions. If no notification is made, then beginning any work constitutes contractor's acceptance of the prior work.

C. Field Verification of Dimensions: Prior to procuring materials or executing any work, contractors must site verify all dimensions of the building and are responsible for the accuracy of them. Add-ons or supplements will not be accepted for discrepancies in drawings and in existing conditions or for work executed under this contract. If discrepancies are found, contractor is required to submit them to the Architect or Surcana FSD for directions prior to proceeding.

D. Cutting and Patching: Excessive cutting is not allowed. Contractor is not permitted to cut ANY structural members without the written approval of the Architect. Contractor shall leave all chases and openings straight, true and of appropriate size as may be required for the installation of his as well as other contractors' work. After his work has been installed, he shall neatly fit around, close, repair, patch and point up to the satisfaction of the Architect.

E. Coordination: The GC, contractors and subcontractors shall coordinate their work with all Adjoining work and fully cooperate with all trades to further the overall advancement of the work. Each trade to provide all other trades with reasonable time for completion of their work and the storage of their materials.

F. Observation and Inspection: The Architect, Owner, Surcana FSD and/or their designee are to have acceptable and safe access to the site no matter the stage of the project to observe and/or inspect what they deem necessary.

G. Permits and Inspections: Procure and coordinate ALL permits, licenses and inspections that are necessitated by the work following all laws, codes, regulations, and contract requirements.

1.3 SCOPE

A. Scope to encompass the work specified, indicated, and deduced as part of Foodservice Equipment. If required, because of regional trade agreements and or restrictions, some parts of this work can be subcontracted to qualified contractors.

B. General Contractor is responsible for Related Work specified in other Sections.

C. Work consists of providing ALL necessary services, tools, equipment, material, and labor required for the installation as designated on the food service equipment plan and in specifications including but not limited to uncrating, erecting, setting in place, leveled, trimmed, caulked, anchored, sealed, and made ready for final connection by the appropriate Division contractors. If specifications and drawings differ in any manner or ANY discrepancies are found, bidders must seek clarification from Architect and or Surcana FSD prior to bid. Contractor is responsible for providing equipment and the Work so that equipment is fully operational as designed and intended.

1.4 RELATED WORK OF OTHER CONTRACTORS

A. General Construction by Contractor:

1. All floor assemblies including finishes, openings, depressions, sleeves, curbs, and bases.
2. All wall and/or partition assemblies including finishes, openings, recesses, sleeves, furring and backing.
3. All ceiling assemblies including finishes, openings, soffits, access panels, fire separation and sleeves.
4. All roof assemblies including finishes, openings, curbs, platforms, and dunnage.
5. All structural supports or grounds for hanging or fastening of food service equipment assemblies as may be described in this section.

B. Plumbing by Contractor:

1. Water, gas, and steam supply systems, as required.
2. Sanitary and grease laden drainage systems.
3. Final plumbing connections including mounting of drains, faucets, pre-rinses, hoses and from point of connection on equipment to building plumbing systems and interconnections between equipment components. Install all hoses from utility raceways to connection points on equipment.

C. Grease traps as required.

D. Indirect drain line runs from equipment items to nearest floor drain or floor sink as required.

E. Gas, water, and steam pressure reducing valves and all other fittings as required.

F. Gas shut off valve(s) as required for vent hood fire suppression system and gas regulators on Individual pieces of gas fired equipment in accordance with the manufacturer's recommendations are to be provided by the Kitchen Equipment Contractor and installed by the Contractor.

G. Kitchen equipment contractor to furnish faucets with nipples, elbows, supply lines and valve stops, drains and/or splash mounted vacuum breakers, etc. for each equipment item as specified. Items to be installed by the Contractor.

H. Indirect wastes shall be chrome plated and are to drip over and into floor drains. Where drains and/or supply lines run under equipment provide the proper support from the underside of the equipment to eliminate interference with cleaning and/or maintenance.

I. H.V.A.C.

1. Contractor to provide and install all necessary components as may be required for the exhaust/make- up air system(s) and condensate exhaust air system including but not limited to the fans (unless provided by the Kitchen Equipment Contractor), ducting, gas shut-off valve(s), curbs, penetrations, dampers, controls and/or switches unless otherwise specified herein.
2. Contractor to provide and install as required rated chase(s) as well as other separations as may be required.

J. Contractor to provide and install all heating, ventilating, and air conditioning systems except as otherwise specified in this section.

K. Electrical by Contractor:

1. All electrical distribution, lighting, and power systems except otherwise specified in this section.
2. Final electrical connections and inter-connections including labor and materials from point of connection on equipment to building electrical systems and required interconnections between equipment components.

L. All electrical materials including wire, conduit, over current protection, main switches, safety cut-outs, shunt-trip breakers, disconnect switches, lightning control devices, surge protectors, uninterruptible power units and controllers.

M. Shunt-trip breakers and/or contactors and all conduits for shut down of electrically operated cooking equipment and/or ventilation equipment as required for vent hood fire suppression system.

N. Empty conduit systems for refrigeration system, as specified and/or shown on food service drawings.

O. Empty conduit system for point-of-sale system, as specified and /or shown on food service drawings.

P. Empty conduit system for fire suppression system, as specified and/or shown on food service drawings.

Q. Furnish and install switches and/or disconnects within equipment, contactors, combination Starters with fused disconnects, controls and similar items necessary for the safe and proper operation of the equipment and for compliance with all N.E.C.

R. All switches, disconnects, and/or control devices shall be safely accessible.

S. Kitchen Equipment Contractor to secure cords to the underside of the equipment on portable and/or movable equipment as to allow ease of maintenance or as required by the Owner.

T. Install all electrical cord sets provided by the Kitchen Equipment Contractor as part of the foodservice equipment. Install all cord sets from utility raceways to their connection points on the equipment.

1.5 EQUIPMENT FURNISHED / INSTALLED BY OTHERS

A. Acquire physical info and utility requirements of Owner-Furnished/Owner-Installed equipment. Coordinate requirements with the building utilities and rough-in drawings/provisions and incorporate details into submittal drawings. Same for ALL Vendor or Purveyor furnished equipment.

1.6 WORK INSTALLED BUT FURNISHED BY OTHERS

A. Acquire and coordinate utility requirements of Owner Furnished/Contractor Installed equipment with the building utilities and rough-in drawings/provisions. Coordinate the delivery and installation of such equipment no later than 3 months prior to before equipment is required. Treat equipment receiving / installation as if it is being provided under this 11400 section.

1.7 RE-USED EXISTING EQUIPMENT

A. Utility disconnection and re-connection: under Divisions 22 and 26.

B. Disassembly, removal, transportation, and relocation: under this Section and scheduled with General Contractor. Owner's representative must be present, coordinate date / time with owner.

C. Thoroughly clean inside and out prior to relocation.

D. Review functional parts (e.g., doors, controls, heating elements, compressors, etc.) and submit report of required repairs and estimate of cost.

E. Existing equipment not scheduled for reuse is to be carefully removed under this Section, at the Owner's direction.

F. Removal or replacement of existing equipment is to be scheduled for times of least interruption and inconvenience to the foodservice operation. Submit proposed schedule of time frame, task sequence and operation for approval prior to starting work.

1.8 QUALITY ASSURANCE

A. Equipment and installation of the work must comply with ALL applicable laws, statutes, building codes and regulations of public authorities/local jurisdictions. Equipment must meet individual organizational standards below and bear their labels as applicable. Contractor to furnish proof of listings with initial submittal.

1. National Sanitation Foundation (all equipment).
2. National Electrical Code (on applicable equipment).
3. Underwriter's Laboratories (on applicable equipment).
4. American Gas Association (on applicable equipment).
5. National Fire Protection Association (on applicable equipment).
6. American Disabilities Act (all equipment)
7. Department of Energy (on applicable equipment).
8. Environmental Protection Agency (on applicable equipment).

B. If the project is outside of the US, equipment and the work must comply with any and all governing codes and regulations that may be required by the local Authority Having Jurisdiction.

1.9 ALTERNATES/SUBSTITUTIONS & APPROVED EQUALS

A. Specified items and brands are meant to be the Basis of Bid. Any other brands, including those which may be listed as "Alternates" or "Approved Equal," must conform to the specifications, size, accessories, etc. of the primary brand. Contractor to make any adjustments in space, utilities and construction as necessary for the alternate/substitutions to meet the original brand specs as designed at contractors own expense. Equipment in similar group or category to be same manufacturer brand.

B. Proposed Substitutions:

1. Submit no later than 10 business days before bid date.
2. Submit proposed substitutions with spec sheet and manufacturers drawings detailing any modifications necessary to conform with specified brand.

C. Substitutions with prior approval:

1. Submit on separate proposal form with each item's monetary additions or deletions and the required documentations called out in B-02 of 1.9. Provide all services necessary to make adjustments in space, systems, utilities etc. and all costs associated that will be incurred by acceptance of said substitution ALL at contractor's expense.
2. Owner reserves the right to accept or reject any or all substitution proposals before execution of Contract.

1.10 INTERPRETATION OF DOCUMENTS

A. Specifications and drawings have been prepared to form the basis for procurement, erection, start-up, and adjustment of all equipment in this contract. Plans and specifications are to be considered in conjunction with one another. When items and/or work are required by one but not by the other, contractor is to provide as though required by both. If specifications and drawings differ in any manner or ANY discrepancies are found, bidders must seek clarification from Architect and or Surcana FSD prior to bid. Contractor is responsible for providing equipment and the work so that equipment is fully operational as designed and intended.

B. If the drawings disagree in themselves, or the specifications with the drawings, the higher cost, better quality, and greater quantity of the work, items and or materials shall be completed without additional costs to the Owner.

C. In the course of bidding, contractors', suppliers' or vendors' questions relating to construction documents will be answered by an addendum.

D. Following Award:

1. Confirmation of Construction Document requirements will be provided by Clarification Bulletin.
2. Request for Information Bulletins submitted by Contractor are to include Contractor's proposed resolution.

1.11 WARRANTY

A. All items on project to have a one-year parts and labor written warranty starting from the date of Substantial Completion. Wearable items such as door gaskets, light bulbs and or component replacements due to improper maintenance or cleaning are excluded.

B. Refrigerated Equipment: Provide three-year parts and labor (excludes walk-in assemblies and systems).

C. Compressors: Provide 5-year parts warranty

D. Provide a list of local factory authorized warranty service agents with the corresponding equipment data for all items on project. Include all contact details required to setup a service call.

1.12 SUBMITTALS

A. General Requirements:

1. Submit shop drawings, samples and brochures simultaneously in one complete submittal.
2. Equipment List: Submit an itemized list of equipment to be furnished under this contract, to include manufacturer's name and model number, along with all necessary and/or required options and/or components, for each piece of equipment necessary.

B. Samples:

1. Provide all samples of materials for test purposes/ comparisons and approval. Samples used for testing shall not be used on the work without the written approval of Surcana FSD / Architect. Submit color/pattern selection samples of ALL solid surface finishes, polymer products, laminates, paint, stain, vinyl surfaces and tile for approval prior to use and or fabrication.
2. Samples may be retained by Surcana FSD, the Project Architect or the Owner as a matter of record without any additional compensation to the Contractors.
3. Owner to provide all samples as required to Kitchen equipment contractor to ensure proper sizing of dispensing equipment specified and or warewash and holding equipment as applicable (cups, glasses, pans, trays, dishware, etc.).

C. Brochures:

1. Provide two (2) hard copied complete brochures for review showing each piece of standard manufactured equipment, complete with all details and/or descriptions of the manufacturer's specifications. Contractors will return one (1) brochure (set) with comments noted for further action. Continue submitting until final approval from Surcana FSD is achieved. After approval provide (7) hard copies in a three-ring binder with such details and specifications clearly numbered with the item number as per the food service equipment plans.
2. Hard copy brochures are to be bound in booklet form in three ring binders delivered at the demonstration and start-up to include the following:
   a. A separate data sheet for each component or item of equipment indicating item number, description, quantity, manufacturer, model number, finishes, modifications, options, and utility requirements.
   b. Catalog specification sheet and / or manufacturer's specifications and drawings complete including accessories. Arrange booklets so those items are in numeric order

in accord with the contract documents with each page numbered in relation to that item. Include with each specification sheet and/or drawing a copy of the warranty information, operations manual and service information. Also include a completed contractor's and the food service equipment contractor's guarantee and warranty.

3. Provide (1) complete bound set of operator's manuals and maintenance instructions containing complete description, wiring diagrams, operating data and other information pertaining to the proper operation and up-keep for the specified items of mechanical equipment having motors or other moving parts. After approval provide (3) record copies in a three-ring binder clearly numbered with the item number as per the food service equipment plans. Include names, addresses and telephone numbers of authorized service agencies for all items with mechanical equipment as well as information of local rep.

D. Shop, Rough-in, and/or Mechanical Connection Drawings:

1. Kitchen equipment contractor to provide (1) blueprint and (1) reproducible set of shop drawing prints for review and comments by Surcana FSD. The one (1) reproducible print with comments noted will be returned for correction. Continue resubmitting as noted above until final approval is achieved. Upon final approval submit prints as required per Architect's requirements and one (1) CADD thumb drive of approved prints for distribution.
2. Kitchen equipment contractor to prepare rough-in drawings locating all equipment (new, existing, or as provided by owner) shown on the contract documents. The rough-in requirement drawing included in these documents are provided as an instrument of service and are not to be used for construction and/or reproductions. Provide (7) 1/4" scale drawings on sheets the same size as contract documents showing, with vertical and horizontal dimensions, the required rough ins (including sleeves and conduits) for electric, gas, water, steam, sanitary waste, refrigeration, ventilation, condensation drain lines, air and exhaust connection nd wood backing for wall mounted fixtures and equipment. Show details, sections, and characteristics for slab depressions and/or other features and/or installation including data for all services in each area. Locations of equipment shall allow for traps, switches, and/or other final connection requirements. All drawings shall include floor plans showing equipment as per the contract documents, elevations, details, and sections.
3. Provide complete plans with dimensions showing locations and elevations of all plumbing, electrical and mechanical rough ins each with their own respective sheets. Use same symbols, connection numbers, and dimensioning system as indicated in Contract Documents (scale 1/4"). All engineering requirements are to be updated as required to accommodate the provided equipment and or match the contract documents. Kitchen equipment contractor is responsible for the coordination of any MEP revisions to accommodate the provided and proposed equipment. The kitchen equipment contractor is responsible for any cost associated with equipment substitutions.
4. Provide complete plans and details showing locations and elevations of all depressions, bases, curtain walls and hoods and any critical wall dimensions. Use same dimensioning system as indicated in Contract Documents (scale 1/4").
5. Prior to fabrication, kitchen equipment contractor to submit fabrication shop drawings for approval. Shop drawings showing plan and elevations to be 3/4" scale, sections shall be 1-1/2" scale covering all fabricated items. Drawings to show location of equipment to be coordinated with each item such as boosters mounted below dish table, disposers under sink compartments.
6. Fabrication details must identify all metal gauges, hardware, trim, electrical parts, special fitting and other components by manufacturer's name and model number.

7. Foodservice Submittal Documents are to be signed by the kitchen equipment contractor to

indicate they have been reviewed and coordinated with submittals by electrical, plumbing, mechanical, millwork or other trades and meet all contract requirements. Foodservice Submittal Documents, which are not stamped and approved by the kitchen equipment contractor will be returned to as "NOT REVIEWED". The kitchen equipment contractor will be required to resubmit after review, as stated above.

E. Checking:

1. Checking of rough-in drawings, shop drawing, details, and equipment by Surcana FSD is for design concept only and does not relieve the kitchen equipment contractor or Contractor of responsibility for compliance with design drawings, details and specifications, verification of utilities with equipment requirements for conformity and location and verification of all dimensions of equipment, building conditions or reasonable adjustments due to deviations. Drawings shall be prepared on the Foodservice Equipment Contractor's sheets. Drawings of any part created by photograph, paste-up, or other methods using Surcana FSD and/or Architect's drawing(s) and / or details is a violation and will be returned for re-submittal. Kitchen equipment contractor will assume responsibility for the proper locations and sizing of sleeves, conduits, and depressions for the various equipment requirements. Kitchen equipment contractor is responsible for making multiple field inspections to verify the rough-in locations prior to the pouring of concrete, the closing of walls, etc. Kitchen equipment contractor shall compensate other trades for any relocation of rough-ins.

F. Distribution:

1. All prints are to be delivered in a mailing tube. After checking, supply the specified number of distribution prints for record purposes. All CADD drawings shall be on thumb drive with all drawings formatted as a *.dwg or *.dfx file.

1.13 SERVICE MANUAL

A. Provide (3) complete bound set of operator's manuals and maintenance instructions containing complete description, wiring diagrams, operating data and other information pertaining to the proper operation and up-keep for the specified items. Number with the item number as per the food service equipment plans and include specification sheet and manufacturers shop drawings. Include names, addresses and telephone numbers of authorized service agencies for all items with mechanical equipment as well as information of local rep. If available, provide video recorded instructions explaining operation and maintenance.

1.14 VERIFICATION AND COORDINATION OF PROJECT / DATA

A. Utilities Rough-in Drawings and field verifications to be completed within four weeks after approval to proceed and prior to concrete pour. Review contract drawings and submittal data for correctness and entirety and advise Architect of conflicts and suggested modifications. Coordinate work with other subcontractors and verify the installed utility proportions and locations are accurate and acceptable.

B. Review critical systems/components for application, performance and capacity and submit calculation worksheets with initial submission of brochure/rough-in drawings, with all proposed adjustments noted, including:

1. Exhaust hood removal/supply air volume, velocity, static pressure, duct collar sizes, locations, exhaust hood fire suppression system and its components locations.

2. Refrigeration Systems capacities/sizes, quantities, and refrigerant piping distances/sizes.
3. Locations of Vacuum Breakers and floor troughs/trench drains.
4. Wastewater conservation measures required by applicable guidelines/codes
5. Gas, water and steam/condensate and chilled water line sizes and manifold configurations.
6. Diameter and length of flexible connector lines for fixed movable gas appliances.
7. Fabricated Equipment load center panels (individual and total amperage calculations and circuit balance).
8. ADA compliance of workstations, service positions, walkways, etc.

C. Ceiling suspended equipment or fixtures: verify and coordinate dimensions/location of support framing/hangers with General Contractor. All material and installation below 12'-0" above finished floor to be a part of Section 114000.

D. Dimensional Liability: acquire accurate measurements for exact fit of equipment. Dimensions Indicated in contract documents are as accurate as can be determined at the time. Field verify all measurements and conditions at the site before fabrication or delivery of equipment. Inform the Architect of any variances from the dimensions shown.

E. All equipment must be fabricated to allow delivery and installation thru finished corridors and openings. Clarify and understand site limitations for handling/moving/installing equipment and components within the building and coordinate with General Contractor.

F. Clarify dimensions and layout of walk-in assemblies and dry storage areas to allow for specified shelving/dunnage sections. Advise Architect of any discrepancies between the contract documents and confirmed conditions.

G. Review mobile equipment required to fit into or thru fixed equipment (dollies, pan racks, dispensers etc.) to ensure compatibility at time of initial shop drawing submittal. Stipulate any conflicts and with proposed solution or modifications.

H. If necessary, relocate work as to coordinate associated items at no charge if no extra work is involved.

PART 2 - PRODUCTS

2.1 MATERIALS / COMPONENTS

A. Stainless steel to be Type 304 with a #4 finish.

1. Stainless steel seams/connections are to be TIG welded. The welds are to be ground smooth without deficiencies and polished to match finish of abutting material.
2. Stainless steel grain direction of horizontal stainless-steel surfaces (including backsplashes) to run “East West “.

B. Sound Deadening-Apply NSF gray latex sound deadener for large brushed/rolled sections and Tacky Tape butyl sealant between tops, channels and between all framing members of all fabricated equipment.

C. Laminates/Solid Surfaces/Tile: color, pattern, style, and thickness selected by Architect.

D. ID plates, labels and tags: All to be made of phenolic material and engraved with item function ect. Secure with stainless screws or plastic cement.

E. Casters

1. Fabricated fixtures with "Open Base" construction: Jarvis and Jarvis Model No. 5-405-113P-NSF swivel casters with grease seals on forks and wheels; Zerk fitting in swivel; two casters: Model No. E-75 Vertilock brakes. All casters: B-7" rolling bumpers with stainless steel top discs.

F. Cutting Boards: ¾" thick Read Products, Inc. cutting board, size as indicated.

2.2 PLUMBING / MECHANICAL REQUIREMENTS

A. Plumbing Fittings and Components- Items provided in this section are:

NOTE: FITTINGS AND COMPONENTS EXPRESSED IN ITEMS 1, 2 AND 3 ARE PROVIDED LOOSE FOR INSTALLATION BY DIVISION 22 AND OR 23

1. Control valves, equipment pressure regulators for gas, steam,water and vacuum breakers as needed on foodservice equipment (provide in chrome-plated when exposed).
2. ALL faucets drains without connected overflows (unless specified differently) ,11400 fill faucets and hose assemblies specified / shown on drawings.
3. Properly sized commercial water hammer arrestors for all foodservice equipment with solenoid-operated water valves.
4. Extensions of indirect waste fittings to open-sight floor sink or floor drains from sinks, under bar equipment, and food holding components of serving counters with drains (food wells, cold pans, frost tops ect that do not have condensate evaporators) provided and installed by Division 22.
5. Drains: paint with aluminum paint when exposed, use type "K" copper when concealed with piping brackets and supports beneath/within fabricated equipment.
6. Closed Base Bodies: removable 18 gauge stainless steel closure panel at plumbing penetrations, under top.
7. Control valves on Open Base fixtures: mounted on 14 gauge stainless steel panel with 3½" setback from counter top edge/rim to face of control handle.
8. Fill hose/faucet at support pedestals or Closed Base Body: installed in a 15" x 18" x 5" deep recessed mounting panel. Panel bottom: sloped on a 60^{o} angle, with 3/8" stainless steel rod hanger-bracket for hose.
9. Water filtration system:
   a. Everpure filters for ALL water connected foodservice equipment sized by manufacturer unless specified otherwise.

B. Gas-Heated Equipment Fittings and Components: provided under this section:

1. Fixed Equipment: Dormont brand KIT2S double swivel with restraining cable gas hose kit sized per equipment requirements. Approved equal: T&S. Gas valve sized per equipment requirement.

C. Final Plumbing Connections Provisions.

1. Fabricated equipment containing components, fittings and/or devices indicated on Foodservice connections drawings to be connected to the building systems: each component, fitting or group thereof pre-piped to a utility compartment for final connection by Division 22. Refer to drawings for capacities.
2. Field-assembled equipment (e.g., prefabricated walk-in refrigerator/freezers, exhaust hoods, warewash machines, convection ovens, etc.): plumbing components completely

interconnected under this Section for final connection arrangements indicated on Utility Connection Drawings.

3. All plumbing final connection points of equipment shall be tagged, indicating:
   a. Item number.
   b. Name of devices or components.
   c. Type of utility (water, gas, steam, drain, chilled water).

D. Ducts and Vents.

1. Exhaust hoods which are furred-in to ceiling: 2" high duct collar for final connection to duct system.
2. Warewash machines equipped with integral vent cowls or extended hoods: furnished with 18 gauge stainless steel seamless duct risers to 6" above finish ceiling for final connection. The duct: trimmed at ceiling with 16 gauge stainless steel angle flange with all corners welded.

2.3 FOODSERVICE EQUIPMENT REFRIGERATION SYSTEMS

A. Installed with all the components and fluids needed for the proper operation of the system.

1. Self-contained and manufacturer installed systems: set to proper operating temperature that is required to meet ALL codes.

B. Walk-In Refrigeration System Components:

1. Unit coolers: specified quantity and model, ceiling hung by 1/2" o.d. nylon bolts with stainless steel washers and nuts. Insert hanger bolts through plastic sleeve and seal penetration airtight.
2. Unit cooler drain fittings: positioned as indicated on drawings. Install cast tee fitting on drain-pan outlet with union, clean out plug and extend 1" copper drain-line through wall panel to air gap fitting or floor drain.
3. Slope drain-line 1/2" per foot, trap at exterior of assembly and turndown into drain. Manifold drain lines of adjacent compartments wherever possible.
4. Install plastic sleeve through compartment wall, seal around drain-line and install stainless steel escutcheon with setscrew.
5. Heat exchanger: on all unit coolers; in proper size.
6. Electric drain-line heater cable: on all unit coolers operating below 36 degrees F, installed from drain-line fitting to wall penetration. Heater cables: minimum rating of 30 watts/ lineal foot, 120 volt. Wrap drain line with maximum of 2" loop spacing and wire to unit cooler for continuous operation.
7. One (1) evap fan door activation switch to shut off evap coils when door is opened.

C. Refrigeration System Installation:

1. Refrigerant lines: Type "L" hard copper tubing. Fittings: wrought copper or brass designed for use with high temperature solder. Piping joints: made with silver solder (Sil-Fos). Piping: properly suspended from and anchored to the structure with adjustable hangers 6' o.c. maximum. Suction lines: sized to have maximum pressure drop of two pounds in medium temperature systems; one pound in low temperature systems. Liquid lines: sized to give maximum pressure to prevent trapping of oil. Rigid insulation: 1" thick Armstrong Accotherm (1-1/2" thick at low-temp) with factory applied fire retardant jacket and vapor barrier on all suction lines.
2. Cover exterior refrigeration lines with aluminum jacketing. Seal any openings where

lines pass thru exterior walls with expanding foam. Paint silver to match aluminum jacketing.

D. Evacuation and Charging:

1. After completion of the pressure test, the system should be evacuated using an a method that meets all codes/requirements. Connections for evacuation to meet manufacturer's recommendations.
2. Charging subsequent to the initial charge, which is contained in the condensing unit: given through the charging valve in the high side passing all the liquid refrigerant through a charging dehydrator. All charging lines and gauges: purged of air prior to connection with system. After the system is fully charged: started and placed in full operation.

E. Refrigerant Leak Detection Systems

1. In the City of Houston and any other jurisdiction with similar requirements, when the quantity of refrigerant in the system dictates the necessity for a refrigerant leak detection system, this system shall become the responsibility of the foodservice contractor.

2.4 PLUMBING TRIM

A. Faucets: furnished for all sinks or equipment requiring open water supply.

B. Fill Faucets: furnished for appliances requiring open water supply. Unless otherwise noted in Part 4 – Equipment Schedule, provide T&S B-0167 faucet assembly complete with flex hose, spray head, valves and ect.

1. Drain Fittings: furnished for all sinks or equipment requiring removal of liquids. Install specified chrome-plated or stainless-steel fittings in die-stamped openings with washers and locknuts. Solder may be used as a sealer but shall not be applied to the top surface of the drain fittings.

2.5 ELECTRICAL REQUIREMENTS

A. All electrical systems, components and accessories within the work of this Section: certified to be in accordance with NEC 70 and ALL National and local codes.

B. Electrical Fittings and Components: provided under this section as follows. Coordinate foodservice equipment loads, voltage and phase with building system and confirm any existing or Owner furnished/Owner Installed equipment requirements.

C. Cord and Caps.

1. Coordinate all Foodservice Equipment cord/caps with related receptacles.
2. All 120 volt “plug-in” equipment shall have Type SO or SJO cord and plug with ground wire fastened to frame/body of item.
3. Cord lengths for fixed equipment: adjusted to eliminate loose-hanging excess.
4. All non-fixed plug-in “buy-out” equipment: Hubbell configuration, ratings as required.
5. All mobile electrical support equipment (heated cabinets, dish carts, etc.) and counter appliances mounted on mobile stands (mixers, food cutters, toasters, coffee makers, microwave ovens, etc.): 8’-0” cord length with cord-hanger strap secured to rear of

equipment or mobile stand.

D. Switches and Controls.

1. Each motor-driven appliance or electrically heated unit: equipped with control switch or starter per Underwriters' Laboratories, Inc. with low-voltage and overload protection.
2. Equipment which is not provided with built-in circuit breakers or fused terminal block and is indicated on Utility Connections Drawings to be directly connected to the building electrical system: a NEMA 4 stainless steel disconnect switch furnished and installed by Division 26.
3. All remote manual starters, disconnect switches, magnetic contactors or starters and push-button stations: NEMA Type 4 enclosure; NEMA Type 1 enclosure only when installed in a Closed Base Body.

E. Heating Elements.

1. Electrically heated equipment: thermostatic controls.
2. Water heating equipment: equipped with positive low-water shut-off.

F. Receptacles and Switches.

1. Receptacles installed in vertical panels of support pedestals or Closed Base Bodies: installed in 12" x 8½" x 3" deep recessed mounting panel sloped on 60^{o} angle and turned up to top of opening.
2. Pre-wire receptacles in closed base fixtures to a junction box installed within 6" from bottom of utility or compressor compartments.
3. Receptacles mounted on Open Base fixtures: installed on 12" x 10½" x 4½" deep 14 gauge stainless steel panel with returned ends and sloping recess. Secure panel to underframe of fixture top.
4. Pre-wire receptacles on open base fixtures to a junction box secured to a leg or mounted on underside of lower shelf. Vertical runs of wiring: made in rigid conduit or within the tubular leg (VERIFY which method prior to construction).
5. Receptacles installed in/on fabricated equipment: Hubbell, Inc. assemblies horizontally mounted in a metal box with stainless steel cover plate.
6. Switches installed in/on fabricated equipment: Hubbell, Inc. with metal box and stainless-steel cover plate. Switches: pre-wired to the controlled device and to a junction box installed within 6" from bottom of utility or compressor compartment. All refrigeration system switches: installed within the compressor compartment near the door opening.
7. Load centers installed in/on fabricated equipment to have all fixture components pre-wired to load center with balanced phase loading. Load center: ready for final connection by Division 26 and flush-mounted within utility compartment rear panel, set back 8" from access door. All breaker/device information typewritten on circuit schedule in load center door (number corresponding breaker/device) with enclosed schematic wiring diagram of fixture components.

G. Light Fixtures.

1. Light fixtures with lamps installed in/on fabricated or field-assembled equipment: pre-wired to a junction box for final connection (continuous-run fixtures when indicated).
2. Display Lights: install LED light fixtures full-length of Display Stand and Serving Shelf with stud bolts and pre-wire through support posts to an apron-mounted switch.
3. Heat Lamps: installed to underside of serving shelf assemblies. When multiple 24" heat lamps are specified, provide maximum length heat lamp chassis. Install all switches

remote from lamps.

4. Walk-In Assembly Light Fixtures: electrically connected through the hub fitting located on the top of the fixture. All horizontal conduit: above ceiling panels. Install plastic sleeve through ceiling panels for electrical conduit. Seal sleeved penetrations airtight at both sides of panel. Lights to be LED style provided by Kitchen Equipment Contractor for installation by electrical contractor.

H. Final Electrical Connection Provisions.

1. Fabricated equipment containing electrically operated components or fittings indicated on Utility Connections Drawings: direct connected, with each component, fitting or group pre-wired to a junction box for final connection by Division 26. Refer to drawings for circuit loading.
2. Fabricated equipment containing electrically operated components and/or devices indicated: circuit-breaker load center with each component or device pre-wired to a separate circuit breaker for balanced phase loading and single final connection by Division 26.
3. Field-assembled equipment (e.g., prefabricated cold storage assemblies, exhaust hoods, warewash machines, etc.) shall have electrical components completely interconnected in this Section for final connection arrangements as indicated on Utility Connections Drawings by Division 26.
4. Pre-wire the following groups of cold storage assembly electrical devices to a top-mounted Junction box for final connection by Division 26 per compartment grouping (unless otherwise indicated).
   a. Light fixtures and switches; heated pressure-relief vent.
   b. Door/jamb heaters.
   c. Evaporator fans, defrost elements and drain line heaters.
5. All electrical final connection points of equipment shall be tagged, indicating:
   a. Item number.
   b. Name of devices on circuit.
   c. Total electrical load.
   d. Voltage and phase.

I. Lamps: in all Foodservice Equipment containing light fixtures. Refrigerator or heated cabinets: To be LED style and shatter proof or enclosed in suitable enclosure to eliminate possibility of broken glass coming into contact with food or surfaces around the food zone.

2.6 CUSTOM - FABRICATED / ASSEMBLED UNITS

A. All pieces fabricated under this section are to be built by the same manufacturer.

B. Mechanical or electrical operating components or products integrated into a fabricated fixture: Provide the specified ventilation and service access required or recommended by the manufacturer. The service access panel(s) size and placement is to permit easy lubrication, adjustment or replacement of all moving parts and is to be indicated on fabrication shop drawings.

2.7 COUNTER / TABLE TOPS

A. 14 gauge stainless steel; all free edges turned down 2” with ¾” tight hem at bottom. Free corners: rounded on ¾” radius.

B. Marine edges: turned up ½” on 45^{o} angle and turned down 2” with ¾” tight hem at bottom.

C. Provide stainless steel insulated raised platform in front of hot wells.

D. Tops abutting high fixtures or walls: cove up specified height and slope back 1½" at top on 45° angle; 2½" slope where piping occurs. Turn down 1" at rear of splash and close ends to bottom of top turn- down. Secure splash turndown to wall with 4" long 14 gauge stainless steel "Z" clip anchored to wall, 36" o.c.

E. Freestanding tables and all serving counter splash-risers: turned back on 90° angle with 1" turndown at rear.

F. Understructure materials/bracing of tops to use a 1½" x 1½" x 1/8" galvanized steel angle welded frame with cross bracing at every 20" spacing maximum. Use 12 gauge stainless steel pads where leg gusset welds to frame and paint frame with rust resistant gray semi-gloss enamel. Secure top to frame with ¼" studs welded every 8" maximum with chrome-plated washer, lockwasher and capnut. Studs: such length that cap nuts can be made-up tight, bringing top down snugly on angle frame eliminating all vibrations or "oil-canning".

G. Tops: 1½" overhang at free sides of underframe or Closed Base Body.

H. Mockett Model No. SG5-26D satin chrome grommet assembly or integrally welded stainless steel flange or inverted gusset where service utilities or support posts penetrate or adjacent to tops, ground and polished to match top.

I. Extend underbracing members to wall, turn down 6" and anchor to wall when specified to be mounted on leg/bracket assembly.

J. All openings in tops: 3/16" high raised die-formed edges.

K. All top openings for pans or inserts: 20 gauge stainless steel, watertight liners, 8½" deep, secured to underside of counter top.

L. All "built-in" and "drop-in" counter equipment/appliances: with framing members at perimeter of opening.

2.8 DRAWERS

A. Liners: Component Hardware # S81-2020-C (20" x 20"), easily removable with drawer in fully extended position.

B. Drawer Frame: 16 gauge stainless steel flanged out at top. Weld the frame to double-paneled 16 gauge
stainless steel drawer front with full-length recessed pull at top with closed ends.

C. Channel-formed horizontal pull: ¾" turndown at front and ends with ½" tight hem. Front edge of pull: flush with face of drawer. Recess behind pull: sloped up on 60° angle, terminating 1" below bottom edge of pull.

D. Mount drawer frame on Component Hardware # S52-2022 slides, with solid nylon rollers, full-depth of fixture. Secure slides to body or brackets to eliminate lateral movement in extended position. Refrigerator drawers: Component Hardware Model No. S52-2024 stainless steel slides.

E. Drawer enclosure in an Open Base Fixture: 18 gauge stainless steel flanged out at top for

attachment to underside of table top. Lower edge of enclosure is flanged in toward open bottom. Mount drawer slides to enclosure and brace as required. Face of enclosure is to be same length and height of drawer face. Provide ¾" deep offset in front of enclosure and 2½" from underside of tabletop for flush-fitting appearance. Drawer enclosure on freestanding fixture: full depth of table framing.

F. Drawer enclosure in a Closed Base Fixture: completely partitioned from adjoining area. Drawer front: flush-fitting with face of body.

G. Cash Drawer: integral stainless-steel body, 3" deep.

2.9 HOT WELLS

A. If well model and manufacturer are not specified within detail of that item number, use Wells #BMW-206RTDU. Remote mount well controls to single stainless panel to house it and controls for sneeze guard lights and heat. Provide detail of construction and mounting location prior to construction or KEC will be responsible for any associated cost to modify to Surcana's approval.

2.10 SINKS

A. 14 gauge stainless steel; all interior corners (horizontal/vertical) coved on ¾" radius with 1½" wide double-walled partitions with flat tops between compartments.

B. Continuous exterior panels of multiple-compartment sinks: 14 gauge stainless steel filler panel welded, ground and polished between compartments.

C. Sinks with dimension larger than 20" x 20" (no overflow): score and slope sink bottom ½" to die-stamped opening fitted with Krowne # 22-507 rotary drain with tailpiece. 14 gauge stainless steel bracket: welded to sink bottom for drain stem with 1½" handle clearance.

D. Sinks with overflow: score and slope sink bottom ½" to die-stamped opening fitted with Krowne # 22- 507 rotary drain with connected overflow and tailpiece. 14 gauge stainless steel bracket: welded to sink bottom for drain stem with 1½" handle clearance.

E. Where sinks are installed in fixture with Closed Base Body, provide a Krowne # 22-507 rotary drain with connected overflow and tailpiece. (Sinks with dimension larger than 20" x 20" in Closed Base Body will not have overflow fitting.) 14 gauge stainless steel bracket: welded to sink bottom.

F. When single-hole deck-mounted faucets are specified, install overflow fitting into side wall of sink compartment and provide ell-fitting in connecting tubing.

G. Flush Covers when specified: ½" thick Read Products/ Richlite cutting board with all corners and edges eased and two 1" finger holes. Support clips: ¼" stainless steel rod 2" long, formed at 45^{o} with two ¾" leg ends (¼" long threaded ends). Insert rod-clips through tight-clearance holes in sink, seal watertight and secure with stainless steel acorn-nuts or tack-weld at exterior of sink wall. Set support clips ½" below top. Provide 14 gauge stainless steel channel or angle support frame to store covers when not in use. Cover holder: adjacent to sink compartment, below countertop or under drawer assembly.

2.11 TRAYSLIDES

A. Trayslides: Must meet all ADA requirements.

2.12 DISHTABLES

A. Soiled/clean dishtable: 14 gauge stainless steel; free edges coved up 3" with 1½" diameter rolled rim and bullnosed corners.

B. Edge of dishtables next to high fixtures or walls: coved up 10" and sloped back 1½" on 45° angle; 2½" slope where piping occurs. Turn down 1" at rear of splash and secure to wall with 6" long 14 gauge stainless steel "Z" clips anchored to wall, @ 36" o.c.

C. Exposed rear splash: 16 gauge stainless steel finish panel from top of splash to bottom edge of rolled rim with welded vertical joint at end. Secure panel with concealed attachment and install bracing 24" o.c.

D. Cove all interior corners (horizontal/vertical) on ¾" radius and slope tables 1/8" per foot to sinks, scuppers or warewash machines, maintaining level crown/splash.

E. Brace dishtables with 1" x 4" 12 gauge stainless steel channels down centerline of top and between each pair of legs, with closed ends. Bracing: secured to underside of dishtable with ¼" studs welded 6" o.c. maximum, with chrome-plated washer, lockwasher and cap nut. Studs: such length that the cap nuts can be made up tight, bringing the dishtable down on the channel-members, eliminating all vibration and "oil-canning."

F. Integrally-welded stainless steel flange or inverted gusset where service utilities or support posts penetrate or abut tops; ground and polished to match top.

G. Hose Bibb: T&S #B-0674-BSTP; mounted on 12 gauge stainless steel flange or inverted gusset bracket with 3/8" stainless steel rod hose hanger.

2.13 DISH AND TRAY DEPOSIT ASSEMBLY

A. 14 gauge stainless steel deposit shelf to be sized as indicated on drawings. Extend shelf through opening, flush with public side of partition. Turn shelf down 1" at front with ¾" return at bottom. Shelf: 1" square turndown at rear long side, integral with conveyor slider pan, tray accumulator or dishtable. Extend rear/end splash to align with head of deposit station opening. Cookson CD Series roll down door to fit opening. Use fire rated version when required and coordinate installation with splashes, jambs etc. or dishtable when adjacent.

B. 18 gauge stainless steel window frame with perimeter flange channel formed 1" x ¾" at both sides of the wall. Weld all corners of frame and install with concealed attachment. Align one jamb of frame with end of conveyor slider pan or dishtable when adjacent.

C. Cookson CD Series roll down door to fit opening. Use fire rated version when required and coordinate installation with splashes, jambs ect or dishtable when adjacent.

2.14 DOORS

A. 18 gauge x 1" stainless steel double pan-formed welded construction, insulated with 1" thick polyurethane boards. Seal perimeter joint of pans. Offset lower horizontal framing member of Closed Base Body to align flush access door with bottom of Body.

B. Channel-formed full-length horizontal recessed pull: ¾" turndown at front and ends with ½" tight hem. Front edge of pull: flush with face of door. Recess behind pull: sloped up on 60° angle and terminated 1" below bottom edge of pull.

C. Door Hardware:

1. Two Component Hardware # M75-1002 stainless steel hinges (notch door/jamb at hinge location) with CH #35-2000 and SS door lock.

D. Louvered opening: cut-out opening size as indicated, turn in 1" and weld. All corners: ground and polished.

1. Full-height 18 gauge stainless steel louver with 1" vanes at 45°, ½" spacing. Perimeter channel- formed frame: 1½" x 1". 45° x 1" x ½" x opening width plus ½" 18 gauge stainless steel louver.
2. Tack weld tab of louver flange to back panel of door.

E. Sliding Doors: fabricate same as Paragraph "A."

1. Aluminum Sliding Door Track: Component Hardware Model No. B57-0000 Series, length as required, and secure to angle frame at top of underside.
2. Front/rear door sheaves: stainless steel ¾" side mounted door hangers; two (2) required per door.
3. Recessed Vertical Pull at Upper Corner of Door: Component Hardware Model No. P63-1012.
4. By-Passing Door Guides secured to bottom shelf: Component Hardware Model No. B62-1093.
5. Door Stop at bottom edge of door: Component Hardware Model No. B60-1086.

F. Offset lower horizontal framing member of Closed Base Body/utility compressor compartment to align door flush with bottom of Body.

2.15 CLOSED BASE BODIES

A. Frame Construction to be fully welded 1½" x 1½" x 1/8" galvanized steel angle with cross bracing and 16ga stainless steel panels. Provide layout of frame detail to Surcana FSD for approval prior to construction.

B. Vertical and horizontal channel members at shelf interior or drawer enclosures, such as corners and center mullions: closed and sealed.

C. Closed Base Bodies set on finished masonry platforms: closed and caulked at underside of equipment overhang and bolted to platform. Body overhang of platform: 1" at free ends 2" at front and exposed rear sides.

D. Closed Base Bodies not set on platform to receive Kason# 1752 6" legs spaced at 4'-0" maximum intervals.

2.16 COMPRESSOR COMPARTMENTS

A. Same material as Closed Base Bodies with back and end partitions; omit bottoms only.
B. 10 gauge steel slide out support: channel frame on full extension slides with 125 lb. minimum capacity secured to fixture frame with anti-vibration mountings for maximum sound deadening. Closed Base Body on solid platform: front-to-back slide out support channels set 4" above bottom for air circulation.

C. Access Door: 18 gauge stainless steel double-pan type with channel formed horizontal recessed pull full length of top (similar profile as Garcy Model No. R-1060) with closed ends. Channel-formed horizontal pull: ¾" turndown at front and face of door. Recess behind pull slopes up on 60^{O} angle, terminating 1" below bottom edge of pull. Offset lower horizontal framing member of Closed Base Body to align flush access door with bottom of body. Door hardware: two Component Hardware Model No. M75-1002 stainless steel hinges (notch door/jamb at hinge locations) and Component Hardware Model No. 35-2000 concealed magnetic catch.

D. Louvered Access Doors: design to be submitted via drawing for approval prior to construction.

2.17 UTILITY COMPARTMENTS

A. Closed Base Bodies or Pedestal Supports: fitted with utility compartments wherever piping or wiring is required in/on the fixture.

B. Same material as Closed Base Bodies with full-height back and end partitions. Omit bottoms except at hose-reel locations.

C. Access Doors: 18 gauge stainless steel double-pan type with channel formed horizontal recessed pull full-length of top with closed ends. Channel-formed horizontal pull: ¾" turn down at front of door, recess behind pull slopes up on 60^{O} angle, terminating 1" below bottom edge of pull. Offset the lower horizontal framing member of the Closed Base Fixture to permit flush alignment of door with face and bottom edge of body. Door hardware: two Component Hardware Model No. M75-1002 stainless steel hinges (notch door/jamb at hinge locations) and one Component Hardware Model No. 35-2000 concealed magnetic catch.

D. No shelves of Closed Base Fixtures are to be penetrated.

2.18 POT RACK

A. Pot Rack to be fully welded stainless steel 2"x ¼" flat bar with #4 finish shaped as drawn. 1 5/8" stainless post risers as drawn and installed at 7'6" above finished floor with Component Hardware # J77-4401 hooks every 6".

2.19 CASHIER / SERVING COUNTERS

A. Exterior Body Panels when specified: ¾" thick marine grade hardwood plywood with plastic laminate or solid polymer in Architect's selection of color/pattern at all exposed surfaces; backing sheet where concealed.

B. Position, size and finish horizontal or vertical reveal as directed by Architect.

C. Secure panels to counter body framing in concealed manner. Install removable panels with "Z" clips overlapping body framing members.

D. Hinged doors in exterior body panel(s): Grass Model No. 1200VZ or 1200VZ8 self-closing hinges. Three required per door; Grass Model No. G/HRZ base plate at each hinge; Ives Model No. TM820 concealed push latch at each door. Confirm Model No. and provide samples with submittal.

2.20 OPEN BASE STRUCTURES

A. 1-5/8" o.d. x 16 gauge seamless stainless steel tubing legs beveled at bottom. 1¼" o.d. crossrails fully-welded (360^{O} smooth and polished) to legs at 10" aff, o.c.

B. Top of Leg: inserted in Component Hardware Model No. A20-0206 gusset fully welded to table frame or sink bottom.

C. Bullet Foot: Component Hardware Model No. A10-0851-C

D. Table Bases: maximum leg spacing of 6'-0" o.c.; dishtable and utensil wash counter bases at 5'-0" o.c.

2.21 UNDERSHELVES

A. Open Base Structures: 16 gauge stainless steel turned down 1½" with tight hem at bottom. Notch all corners to fit tubular legs and weld from underside to completely fill gap, grind and polish. Cove up 2" at rear or ends adjacent to wall, columns, refrigerators, etc. The turn up at freestanding fixtures is to be hemmed tight to bottom of turndown. Brace undershelf with 1" x 4" 14 gauge stainless steel channel at longitudinal centerline and at each intermediate pair of legs.

B. Closed Base Fixtures: 16 gauge stainless steel turned down 1½" at front. Front edge of bottom shelf: turned back and sealed to finished masonry platform or boxed for leg application. Center shelf has ¾" tight hem.

1. Shelves: turn up square at ends (coved up at rear only) to the shelf above or countertop flanged out for attachment with no open spaces at interior.
2. All shelf partitions at exposed ends of cabinet bodies or interiors: free of exposed framing members.
3. Reinforce shelves with full-length 1" x 4" x 14 gauge stainless steel closed hat channel.
4. Unless otherwise noted, all closed base undershelves are to be 22" deep, clear.
5. Fully weld smooth and polish, the vertical seam of shelf turndown/turn up with face of body partition.
6. Seal the vertical seam of square turn-in at exposed interior of open shelf sections.

2.22 ANCHOR PLATES / WOOD GROUNDS

A. Behind finish surface wherever building wall, partitions or ceiling construction will not accommodate direct attachment of equipment such as overshelves, wall cabinets, hose reels, utensil racks, exhaust hoods, display cases, etc. Material and installation by General Contractor. Location and coordination with trades by Section 11 40 00.

B. Anchor Plates: not less than 12" x 12" x ¼" thick steel, secured to the structure above or behind the finished surface, positioned at attachment points.

C. Wood Grounds: length required by fixture, component or device, 24" wide x ¾" thick plywood secured to partition system prior to gypsum board installation.

D. Above ceiling supports structural shapes (4" x 8.0 lb. channel) suspended from structure. Maximum height 15'-0" aff. size: width of equipment x length of equipment plus 6'-0". Crossbracing at 6'-0" on center maximum.

2.23 OVERSHELVES

A. 16 gauge stainless steel with free edges turned down 1" with ½" tight hem at bottom. ¾" radius at free corners.

B. Turn up 2" at walls or abutting pieces with horizontal coved corner at rear. Round front corners of turn up on ¾" radius.

C. Where shelf width exceeds 12" width, reinforce with ½" x 4" 14 gauge stainless steel closed hat channel full-length of shelf.

D. Wall-Mounted Shelves: 16 gauge stainless steel brackets 48" o.c. maximum, set in 6" from ends.

E. Freestanding Shelves: where splash is required at free overshelves, turn up square 2" at ends, cove up at rear and hem tight to lower edge of front turndown. Weld exposed corners.

1. Freestanding overshelves: 16 gauge stainless steel cantilevered brackets at rear of table; double-cantilevered brackets at center of table. Posts for cantilevered overshelves are 1-5/8" o.d. x 16 gauge stainless steel secured to underframe, 4'-0" o.c. Ends of shelves: secured to adjacent wall/fixture or mounted on 1¼" diameter stainless steel posts.
2. Freestanding overshelves not on cantilevered brackets: 1¼" o.d. x 16 gauge stainless steel posts, each pair at 4'-0" o.c., maximum.

F. Glass/Cup Rack Overshelf at Dishtables: 14 gauge stainless steel with 1½" deep "V" trough at free long sides with 1" tight hem at inside of trough. Provide a ½" marine edge at free ends 4" splash at wall. Suspend shelf at 18" above dishtable surface on posts/brackets anchored to dishtable frame/wall at rear; 1" o.d. stainless steel tubing supports from structure above ceiling at front edge, 60" o.c./each end.

1. Install at both ends, ½" stainless steel drain-tube (connecting both V-troughs) extended to dishtable surface through splash turnback.
2. Rack-rest: horizontal full-length 1-5/8" o.d. stainless steel tubing supported at 10" o.c. above shelf (8" o.c. for double service shelf) by 1¼" o.d. stainless steel tubing with closed ends. Support tubing: welded, ground and polished, spaced 60" o.c.
3. Rack-rest supports to wall: 4" x 4" x 10 gauge stainless steel flange plates welded to support tubing. Anchor flanged plates to blocking ground with non-corrosive bolts.

2.24 WALL PANELS

A. Wall Panels: 18 gauge stainless steel, double pan-formed ½" thick with internal stiffener members. Fill with USDA approved thermal insulation, full height and width of panels, attach to interior with mastic. Maximum allowable temperature at rear side of panel: 120^{o}F.

1. Height of panels as required: top of tile base to underside of hood, top of tile base to top cap of stub wall or top of splash to underside of hood.
2. Level and square lower edge and sides.
3. Butt joint all panels.

2.25 HIGHLIGHTING

A. Polish the following vertical surfaces to a No. 8 finish:

1. Stainless steel table and counter top turndowns and backsplash returns.
2. Dishtable and utensil wash counter rolled rims (full radius).
3. Overshelf turndowns.
4. Door and drawer horizontal pulls.
5. Conveyor and dish/tray deposit station turndowns/frame.

2.26 SHOP / FIELD JOINTS

A. Field joints: least possible number, used only when equipment size must be limited for access into building or interior space.

B. Stainless steel tops (including edges and splashes): fully welded, ground and polished to match adjacent surface.

C. Vertical field joints of fixture backsplashes that are inaccessible from the back: terminate 1" above the horizontal coved corner. The remaining height of field joint: hairline butt joint with offset draw-angle behind. All horizontal/vertical draw-joints: located and noted on shop drawings. Hairline butt joint: 1½" x 1½" x 1/8" steel angles welded to back/underside of countertop/shelf. Offset angle beyond joining metal edge ½" (min.) to provide flat backing surface for joint with angle of other joining metal edge, set for ½" space between vertical legs of angles. Bolt sections together with 5/16" machine bolts, lock washers, acorn head cap nuts, set 3" o.c.

D. Closed Base Bodies: draw-type with hairline seam fully field-welded.

E. Millwork: plastic laminated material joints shall be doweled, glued and draw-bolted with fasteners.

F. Solid Polymer: surfaces drawn tight, filled, sanded and finished to match adjacent surface.

G. Hairline butt joint: 1 ½" X 1 ½" X 1/8" steel angles welded to back/underside of countertop/shelf. Offset angle beyond beyond joining metal edge, set for ½" space between vertical legs of angles. Bolt sections together with 5/16" machine bolts, lock washers, acorn head cap nuts, set 3" on center.

2.27 DRAIN TROUGHS

A. Liners: 14 gauge stainless steel in sizes as indicated. Interior of liners to be 6" deep with all interior corners (horizontal/vertical) coved on ¾" radius; sloped and scored 1" to integrally welded Component Hardware Model No. D34-Y011 basket drain assemblies @ 48" o.c., fitted with 6" long welded tailpiece. Stainless steel safety chain connected to basket strainer assembly and top of liner wall.

B. Liners: 1" wide perimeter shoulder at the top, turned up flush with finished floor, tight-hemmed back down to the shoulder level and flanged out 2" for attachment to the slab.

C. Underside of sloping portion of liner: 2" long "Z" clips.

D. Grating: Removable (without tools) stainless steel 1 ½" x 3/16" bars spaced every 7/16" with cross bar spacing at 4" on center and full perimeter frame.

2.28 VENTILATION/EXHAUST HOOD

A. Hoods: size/shape as indicated on drawings. All hoods to be built and installed to meet ALL local and national codes. KEC to provide air balance report if/when required to meet ANY local, national requirements / codes or by the Local Authority Having Jurisdiction. Division 22 to install condensate drains as required from hood drain to floor sink. Paint drain line in silver color where exposed.

B. Hang with ½" steel hanger rods provided by the kitchen equipment contractor but anchored to building structure by GC. Hang rods at maximum of 4' spacing. Kitchen equipment contractor to hang and fully trim out hood with stainless trim/closure panels sized to cover from top of hood to a minimum of 6" above finished ceiling.

2.29 EXHAUST HOOD FIRE EXTINGUISHING SYSTEM (FUSIBLE-LINK / LIQUID CHEMICAL)

A. System: installed in accordance with manufacturer's recommendations and applicable codes or standards. Submit Installation certification Form to Architect.

B. Automatic Chemical System: in each filtered exhaust hood/duct assembly and also surface Protection to above/in all equipment required by NFPA Bulletin No. 96 and local Fire Marshall's regulations. Refer to Contract Drawings for quantity of exhaust fan units serving single or multiple exhaust hoods and coordinate with hood/fan controls.

C. Install chemical cylinders as indicated on drawings and install piping to exhaust hoods in totally concealed manner. Set cylinders and cabinets at underside of finished ceiling unless noted otherwise. Exposed piping/fittings within cylinder location and exhaust hood: chrome-plated or sleeved with stainless steel tubing. Exposed pipe threads in/above food zone not acceptable. Submit schematic diagram of installation and confirm critical distances from cylinders to nozzles.

D. System Components: Ansul R-102 system assemblies, in system increments required by dimensions and configuration of equipment and hoods.

E. Remote Manual Release: located in path of egress from protected exhaust hood area. Division 26 to provide 4" Octagon box in wall (at 48" aff) with EMT conduit stub to 6" above finished ceiling.

1. Each System: Ansul Automan cylinder control assembly with electric switch.
2. Fusible links installed in duct collar of filtered hoods/ducts.

F. Fusible links located directly above each cooking device required by Code, in quantity required by length of protected appliance.

G. Ansul K-Guard series fire extinguisher located at each exhaust hood. Install at 36" aff to bottom Of extinguisher.

H. Required quantity and sizes of mechanically operated gas valves.

2.30 PREFABRICATED COLD STORAGE ASSEMBLIES

A. Sectional Assemblies: size/shape indicated on drawings; 8'-6" aff unless otherwise specified. Door locations/size: exactly as shown.

B. Panel Insulation to be Foamed In Place urethane. Panels to meet ALL City of Houston requirements including listings, monitoring systems, leak detectors when required and flame spread. Panels must be NSF listed.

C. Wherever compartment dimension exceeds clear-span ability of ceiling panels, provide I-beam support on exterior of ceiling or spline-hangers. Install ½" diameter steel rods through beam/hangers and secure to structure above. Beams or posts within compartments are not acceptable.

D. Reinforce prefabricated wall panels to rigid support the door assemblies. All door jambs: Furnished with replaceable full-perimeter thermostatically controlled heater cable. Install 2" x 4" 16 gauge stainless steel hat-channel full-width of jamb with 1/8" stainless steel removable flush sill, secured with stainless steel screws and sealed watertight to channel.

E. Floorless Assemblies:

01. 6 mil polyethylene sheets in slab recess with all joints lapped 6 inches and sealed to form a watertight seal.
02. Level and square prefabricated perimeter and partition wall panels, anchored to slab recess. Protect exposed surface of panels.
03. Two layers of 2" thick rigid polyurethane board insulation with staggered joints, set in mastic.
04. 15# felt slip sheet over insulation with 6" lapped joints flashed up the height of finished floor base.
05. Concrete flooring and tile over insulation by Divisions 03/09.

F. Intelligent controller with temperature monitor/alarm with sensor and probe-cord length required to extend from exterior front of assembly to a mounting position of the sensor within evaporators return airstream and Panic-alarm Switch installed in each compartment at 72 aff. Interconnect Hubbell Presswitch to EJS Monitor.

G. Provide cove base at interior and exterior of panels that matches panel finish that it is being installed up to.

H. Kason 1809 LED fixtures, one (1) per 64 square feet of assembly.

I. Light Fixtures: wired to interior and exterior companion 3-way Hubbell Presswitch per compartment, mounted in "FS" boxes with Hypalon covers and pilot lights. Compartments with multiple entrances: 4-way switches.

J. Penetrations of Panels: sealed with silicone foam, full depth of panel. Trim excess flush.

K. 12" x 2" engraved phenolic-plastic compartment identification sign in Architect's selection of color with 1" letters, mounted below respective alarm and thermometer.

L. Install closure panels and/or trim strips to building walls and ceiling with concealed attachment. Closure material: same as wall panels unless noted otherwise.

M. Compartment Entrance Doors: 36" x 78" nominal clearance unless otherwise noted.

01. Mount hinged doors on three polished chrome plated or stainless-steel cam-lift hinges.
02. Swing doors as indicated on drawings.
03. Defrost heater: thermostatically controlled and replaceable at full perimeter of all doors, except when using clear Lexan doors (in addition to door jambs). Defrost heaters to be wired for continuous service.
04. 42" high x door length 16 gauge stainless steel kick plates at front and rear of all hinged doors.
05. 12" x 2" engraved phenolic plastic compartment identification sign in Architect's color selection with 1" letters, mounted above door window.
06. 14" x 24" glass view window with heater and molded non-metallic inner and outer frame. Heater to be wired for continuous service.
07. Padlock/key provisions in door latch with interior safety release.
08. Heated pressure relief ports in freezers to be wired for continuous service.

N. Provide refrigeration calculations and refrigeration alarm to meet local City Health Code if required.

O. Assembly to be installed with no gaps and considered "airtight". Vertical panels to have no more than 1/16" plumb variance on inside or outside. Condensation leaking in between and around panels is not acceptable.

2.31 COLD STORAGE REFRIGERATION SYSTEMS

A. Unit Coolers: specified quantity and model, ceiling-hung by ½" o.d. nylon bolts with stainless steel washers and nuts. Insert hanger bolts through plastic sleeve and seal penetration airtight.

01. Unit cooler drain fittings: positioned as indicated on drawings. Installation of cast tee-fittings on drainpan outlet with union and cleanout plug and extension of 1" Type K copper drain line through wall panel to airgap fitting or floor drain under this Section.
02. Slope drain line ½" per foot, trap at exterior of assembly and turn down into drain. Manifold drain lines of adjacent compartments wherever possible.
03. Install drain line plastic sleeve through compartment wall, seal around drain line and Install stainless steel escutcheon with setscrews.
04. Electric drain line heater cable on all unit coolers operating below 36^{O}F., installed from coil drain line fitting to wall penetration under this Section. Heater cables: minimum rating of 15 watts/lineal foot, 208 volts, single phase. Wrap drain line with maximum 2" loop spacing and interwire to unit cooler for continuous operation.
05. Mounted, pre-piped and pre-wired evaporator components:
    a. Sporlan thermostatic expansion valve with external equalizer.
    b. Shut-off valve at evaporator suction and liquid lines.
    c. Sporlan "Catch-All" refrigerant filter/dehydrator on liquid line.
    d. Adjustable thermostat with remote bulb positioned in return airstream of evaporator.
    e. Electrical disconnect switch in NEMA 4 enclosure.

B. Refrigerant System Installation.

01. Refrigerant Lines; Type "L" hard copper tubing. Fittings: wrought copper or brass designed for use with high temperature solder. Piping joints: made with silver solder (Sil-Fos). Piping: properly suspended from and anchored to the structure with adjustable hangers 6' o.c. maximum. Suction lines: sized to have maximum pressure drop of two

pounds in medium temperature systems; one pound in low temperature system. Liquid lines: sized to give maximum pressure to prevent trapping of oil. Insulation on all suction lines: Insulation ¾" thick at medium temp 1" thick at low-temp. Refrigerant lines in PVC or EMT conduit: sealed at both ends with silicone RTV foam. Exterior Refrigerant Lines to be wrapped by refrigeration system installer in self fastening jacket of Type 3003-H14 aluminum alloy 0.016-inch thick. Provide aluminum strapping and seals for applying aluminum jacket and covers according to manufacturer's recommendations to provide completely weather-tight covering.

C. Evacuation and Charging.

01. After completion of the pressure test, the system shall be evacuated using an approved auxiliary vacuum pump. Connections for evacuation: in accordance with manufacturer's recommendations.
02. Charging subsequent to the initial charge which is contained in the condensing unit (Refrigerant type to meet all current national and local codes and be the most efficient option available by said manufacturer): given through the charging valve in the high side passing all the liquid refrigerant through a charging dehydrator. All charging lines and gauges: purged of air prior to connection with system. Refrigerant: unused and shall be delivered in clean containers. After the system is fully charged: start and place in full operation.

PART 3 - EXECUTION

3.1 DELIVERY AND INSTALLATION

A. Supervision: provide a competent foreman or supervisor who shall remain on the job during the entire installation.

B. Delivery: coordinate with progress of construction and Owner's operation schedules. Unless otherwise instructed and documented by Owner or General Contractor, the following procedures apply:

1. Field-Assembled Fixed Equipment integrated into the structure (e.g., cold storage assemblies, exhaust hoods, drain trench/grate assemblies, conveyor systems, ceiling-mounted utensil racks, etc.) are to be sent to the jobsite when directed by the General Contractor and installed/protected accordingly.
2. All other Fixed Equipment: delivered after completion of work on adjacent finished ceilings, lighting, finished floor and wall systems, including painting.
3. Major Movable Equipment: delivered when possible to inventory in secured area for interim jobsite storage or, if secured area is not available, when fixed equipment installation/clean-up has been completed.
4. Minor appliances and loose items (e.g., pans, covers, flatware containers, etc.) delivered only when Owner is prepared to receive and inventory such items.

C. Installation: performed by manufacturer of custom fabricated fixtures.

1. Assemble, square, level and make ready all items for the final utility connections.
2. Cut neatly around obstructions to provide sanitary conditions.
3. Where gaps of ¼" or less occur adjacent to or between equipment, insert rope backing and smoothly applied construction sealant silicone mastic (white color). Mask both sides of gap for neat application of sealant and remove excess. If space exceeds ¼", neatly install 18 gauge stainless steel trim molding of proper shape with concealed attachment. Use

epoxy cement or "Z" clips wherever possible to secure stainless steel trim. Exposed edges or corners of trim: eased and smooth.

4. Refrigeration coil drain line runs to indirect drain connection greater than 2" from face of wall or panel: either of the following field procedures.
   a. Trench the floor and provide 6" wide x 2" deep 16 gauge stainless steel sloping (-1" to -2") trough from face of cooler/freezer wall to body of floor sink/floor drain. Trough: turned up 4" at wall; ¾" flange with ½" turndown at both long sides. Set trough in waterproof mastic and seal 1" o.d. drain tube penetration into floor sink/floor drain at -2½" bff. Patch the floor to match adjacent material/surface.
   b. Provide 12" x 6" x 2" deep 16 gauge stainless steel condensate pan mounted to cooler/freezer
   wall at 6" aff clear. Trench the floor and install 1" o.d. drain line from bottom of pan to body of floor sink/drain. Slope drain line ¼" per foot and seal all connections watertight. Patch the floor to match adjacent material/surface.

D. Protection of Work:

1. Fabricated fixtures: fiberboard or plywood taped to tops and exposed body panels/components.
2. Manufactured Equipment: fiberboard or plywood taped as required by equipment shape and installation-access requirements.
3. Prohibited use of equipment: tool and materials storage, workbench, scaffold, stacking area, etc.
4. Damaged Equipment: immediately documented and submitted to Owner with Contractor's recommendation of action for repair or replacement and its impact on the Project Schedule and Contract Amount, if any.

3.2 CLEAN AND ADJUST

A. Clean up and remove from the job site, all debris resulting from this Work as the installation progresses.

B. Thoroughly clean and polish interior/exterior of all Foodservice Equipment, prior to demonstration and final observation, ready for Owner's use.

C. Lubricate and adjust drawer slides, hinges, casters.

D. Adjust pressure regulating valves, timed-delay relays, thermostatic controls, temperature sensors, exhaust hood grilles, etc.

E. Clean or replace faucet aerators, line strainers.
F. Touch-up damage to painted finishes.

G. Start up and check operation of all refrigeration systems for at least 72 hours prior to acceptance.

3.3 EQUIPMENT START-UP/DEMONSTRATION

A. Final inspection will be made when the contractor will certify that he has completed his work; made a thorough review of the installation/operation of each item in the contract and found it to be in compliance with the construction documents.

B. Provide the Owner or Foodservice Operators with a thorough operational demonstration of all

equipment and furnish instructions for general and specific care and maintenance. Coordinate and schedule selected items of equipment and attendees with Owner at least two weeks in advance of demonstration periods.

3.4 FINAL OBSERVATION

A. Final observation will be made when the Contractor will certify that he has completed his work, made a thorough review of the installation/operation of each item in the contract and found it to be in compliance with the Construction Documents.

B. Repetitive final observations (more than two) and all costs associated there to which may be incurred due to the Contractor's failure to comply with the requirements of this Article will be invoiced to this Contractor on a time and expense basis.

PART 4 - EQUIPMENT SCHEDULE

4.1 REGULARLY MANUFACTURED EQUIPMENT/COMPONENTS:

A. Standard finishes and accessories unless specifically deleted or superseded by the Contract Documents.

B. AutoQuotes short form spec that is listed below in equipment schedule for some items are for reference example only and not to be used as base for bid. Kitchen Equipment Contractor is responsible for verifying correct quantities, finishes, brands and options by following the 11400 Spec, drawings and specific notes as well as sections 1.1 thru 4.4 of the front end of this contract document.

4.2 FABRICATED AND FIELD-ASSEMBLED EQUIPMENT:

A. Arrangement and configuration as shown on Plans, Elevations and Detail Drawings.

4.3 REFER TO DRAWINGS:

A. For unit quantities and electrical or mechanical provisions required, including manufacturer’s optional voltages, wattages, burner capacities, etc.

4.4 REFER TO PART 2 – PRODUCTS:

A. For accessories, fittings, requirements and procedures related to the listed buy-out and fabricated equipment.

4.5 FOODSERVICE EQUIPMENT:

ITEM NO. 1 WALK-IN REFRIGERATION SYSTEM QUANTITY 1

Manufacturer:	Refrigeration Design Technologies
Model:	ZS Series
Size and Shape:	Refer to drawings
Utilities:	Refer to drawings
Alternate:	Coldzone

01. Cooler to be sized for +35 degrees.
02. Freezer to be sized for -10 degrees.
03. Unit mounted on 36"H galvanized angle iron frame to be anchored to concrete pad.
04. S/S housing and skirting around frame.
05. All exposed piping to be insulated and aluminum wrapped.
06. NEMA 4XS/S disconnect provided and installed by Electrical Contractor.
07. Provide 5 year compressor warranty & 1 year full labor warranty
07. System must meet all Cy-Fair ISD district's standards
    - Locate coil switch on the front of the coil.
    - Electrical controls to be dust proof
    - Provide headmaster controls.
    - Liquid line to be parallel to suction line but separated.
    - Liquid line to covered by aluminum jacket but outside of the insulation.
    - System must have outlet to interconnect to the owner's backup generator.
    - Do not install an evaporator door switch

Specific Notes:

Refer to drawings for specific location to mount remote system. Installation of refrigeration lines and conduit must be coordinated with appropriate trades and GC to seal any building penetrations from installation of lines. Insulate and heat all drain lines. Must coordinate site meeting with Vernon Cyfair ISD Facilities Foreman prior to installation.

ITEM NO. 9 WALK-IN ASSEMBLY QUANTITY 1

Manufacturer:	American Panel
Model:	---
Size and Shape:	Refer to drawings
Utilities:	None
Alternate:	Thermokool

01. Foamed in place urethane panels 4" thick
02. 4" FIP factory floor both compartments to be recessed in 8 ½" pit.
03. Exposed exterior to be S/S smooth finish with aluminum stucco finish unexposed
04. Interior ceiling and wall panels to be smooth white aluminum finish.
05. Three (3) hinges per door with door stop
06. Doors to be S/S smooth finish with 3'H Diamond Tread Kick plate on interior and exterior.
07. Diamond tread plate 3'H AFF along all exposed exterior walls (NO TILE BASE).
08. One (1) Kason 1809 LED fixture for every 64sqft of compartment.
09. Heated viewport 14"X24" on all doors with flush style thresholds.
10. All penetrations for plumbing and electrical to be thru wall NOT thru ceiling.

11. Provide 20ga S/S closure panels above walk-in to extend above finished ceiling.
12. Provide 20ga S/S trim to any abutting walls.
13. Clear Vu bi-parting strip door per each walk-in door
14. In-Wall backing in door panel for strip door mounting.
15. LED temp display with alarm, panic button and 4.5" SS dial thermometer per door.
16. Edwards 340A-N5-120VAC alarm bell
17. Provide & install 6"H SS cove base at all interior walls (NO QUARRY TILE).
18. (1) Door Stop for Cooler door and (1) Door Stop for freezer door.
19. Provide chase/conduit inside panel wall for running building alarm wire to Controller.

Specific Notes:

Evaporators to be mounted 18" from panel wall and temp sensors adjacent to them and NOT behind. Install P trap coming out of evaporator. Electrical for lights to be ran perpendicular to evaporators. Must coordinate site meeting with Cyfair ISD Facilities Foreman prior to installation. Installation must meet CyFair ISD standards

ITEM NO. 12 WALK-IN SHELVING QUANTITY 2

Manufacturer: Metro
Model: MetroMax 'Q'
Size and Shape: Refer to drawings
Utilities: None
Alternate: Cambro Elements

01. Each shelving unit to have four (4) tiers with four (4) post and removable vented mats.
02. Provide four (4) 74" posts per unit.
03. Verify sizes, widths and lengths per drawings.
04. Quantity of two (2) to equal two (2) Lot consisting of all shelving shown in the walk-in assembly.

Specific Notes:

Field verify sizes and quantities. Provide shelving layout submittal to be approved prior to ordering.

ITEM NO. 13 DUNNAGE RACK QUANTITY 12

Manufacturer: Metro
Model: Bowtie Series
Size and Shape: Refer to drawings
Utilities: None
Alternate: Cambro

01. All polymer slotted dunnage sized per drawing.
02. 1500 lbs minimum weight capacity.
03. Include two (2) bowtie connectors per rack.

Specific Notes:

Field verify sizes and quantities. Provide layout submittal to be approved prior to ordering.

ITEM NO. 14 MILK DOLLY QUANTITY 4

Manufacturer: Grainger
Model: AFT-30-NM
Size and Shape: Refer to drawings
Utilities: None

01. Platform truck with aluminum deck
02. 400pd capacity

ITEM NO. 15 AIR SCREEN QUANTITY 1

Manufacturer: Mars
Model: STD-2 Series
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Berner

01. STD-2 Series unheated air door sized to fit kitchen receiving door.
02. Plunger type remote mounted door switch.
03. Verify all mounting clearances to door before installing.
04. Verify finish/color with owner prior to ordering.

Specific Notes:

Electrical contractor to provide and install flex conduit to j-box of air curtain and neatly secure it to the building. Provide door switch to G.C. for installation by electrical contractor.

ITEM NO. 16 DRY STORAGE SHELVING QUANTITY 1

Manufacturer: Metro
Model: MetroMax Q
Size and Shape: Refer to drawings
Utilities: None
Alternate: Cambro Elements

01. Each shelving unit to have five (5) tiers with four (4) post and removable vented mats.
02. Provide four (4) 86" posts per unit.
03. Verify sizes, widths and lengths per drawings.
04. Quantity of one (1) to equal one (1) Lot consisting of all shelving shown in the dry storage area.
05. When floor drain is placed underneath a shelving unit, delete the bottom shelf and provide and install a 3-sided snake frame.

Specific Notes:

Field verify sizes and quantities. Provide shelving layout submittal to be approved prior to ordering.

ITEM NO. 17 CAN RACK QUANTITY 2

Manufacturer: New Age
Model: 1250CK
Size and Shape: Refer to drawings
Utilities: None
Alternate: SPG

01. Rack to hold (162) #10 cans or (216) #5 cans
02. Provide 6" casters, (2) with brakes

ITEM NO. 18 WASHER QUANTITY 1

Manufacturer: BY OWNER
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings

ITEM NO. 19 DRYER QUANTITY 1

Manufacturer: BY OWNER
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings

ITEM NO. 21 CHEMICAL SHELVING QUANTITY 1

Manufacturer: Metro
Model: MetroMax
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Cambro Premium

01. Each shelving unit to have five (5) tiers with four (4) post and removable solid mats.
02. Provide four (4) 86" posts per unit.
03. Verify sizes, widths and lengths per drawings.
04. When shelving is placed over janitor sink, provide Metro Smartwall w/Metroseal finish three (3) tier wall mount shelving or equivalent.
05. Verify mounting height and spacing prior to installation.

Specific Notes:

Field verify sizes and quantities

ITEM NO. 22 JANITOR SINK QUANTITY 1

Manufacturer: BY PLUMBER
Model: ----
Size and Shape: Refer to drawings
Utilities: Refer to drawings

Re-issued in Addendum No. 5

ITEM NO. 23 MOP / BROOM HOLDER QUANTITY 4

Manufacturer: U-Line
Model: H-2841
Size and Shape: Refer to drawings
Utilities: Refer to drawings

01. Mop Hanger, 24" stainless steel
02. Butt end to end and secure to wall

ITEM NO. 24 HAND SINK QUANTITY 10

Manufacturer: BY PLUMBER
Model: ----
Size and Shape: Refer to drawings
Utilities: Refer to drawings

ITEM NO. 25 MOBILE TRANSPORT CART QUANTITY 8

Manufacturer: Cres Cor
Model: 150051
Size and Shape: Refer to drawings
Utilities: none
Alternate: New Age

01. Units to be modified to meet CFISD requirements.
02. Provide five (5) years parts warranty.

ITEM NO. 26 CORNER GUARDS QUANTITY 1 LOT

Manufacturer: Custom Fabricated
Model: ---
Size and Shape: Refer to drawings
Utilities: none

01. 304 series 16ga S/S corner guards 3”X 3” with #4 finish located on all outside corners inside kitchen. Full height from coved base to ceiling. Radius to match wall profile.
02. One (1) to equal One (1) Lot

ITEM NO. 27 WALL BUMPERS QUANTITY 1 LOT

Manufacturer: Pawling Corporation Architectural
Model: MD-1
Size and Shape: Refer to drawings
Utilities: none

01. Install bumper rails at 35” A.F.F.
02. Provide end caps and outside corners as required.
03. Bumper rails to be color black.
04. Quantity One (1) to equal One (1) Lot: provide on all exposed walls throughout kitchen, including exposed walls of the walk-in assembly.

Re-issued in Addendum No. 5

ITEM NO. 31 **SELF CONTAINED WALK-IN ASSEMBLY** **QUANTITY 4**

Manufacturer:	Portabull
Model:	8' x 20' x 9'6"H Outdoor Self Contained WI
Size and Shape:	Refer to drawings
Utilities:	208V 3phase (Step Up Transformer to be used)
Alternate:	Conexwest or Equal

01. Units to be delivered by manufacturer and arrive fully assembled. Units to be ready for Outdoor operation only requiring power to the units electrical disconnect
02. Units to have an exterior ramp for smooth transition into WI Assembly.
03. Units to be delivered to site, unloaded and set in place where located on drawings
04. Units to be picked up from site and returned after usage is completed.
05. Units to be self contained with refrigeration package capable of Low (-10 degrees) and or Medium temps (34 degrees)
06. Single Butcher Entry door to be large enough to accommodate pallet jack & assembly floors to be smooth flat or Diamond tread plated and rated for pallet jack traffic. Units to have manufactured supplied interior lighting.
07. KEC to remove Owners Existing shelving and dunnage and erect inside the temporary WI Assemblies.
08. Each WI Assembly to have a temperature alarm with remote monitoring capability, safety/panic alarms, dry contacts and a data line connection that meets CyFair ISD's requirements. Units must be connected to owners alarms.
09. Manufacturer to provide 24/7 service and warranty products during entire rental period

Specific Notes:

Units to be Rented/Leased during construction renovations and then returned. If manufactures Remote Temp/Alarm monitoring system does not meet CyFair ISD requirements, contractor to provide third party system and temporarily install during rental/lease duration.

ITEM NO. 100 **ICE MACHINE W/BIN** **QUANTITY 1**

Manufacturer:	Manitowoc
Model:	IDT-0450A/D-570
Size and Shape:	Refer to drawing
Utilities:	Refer to drawing
Alternate:	Hoshizaki

01. One (1) filtration system with one (1) pre-filter
02. One (1) ice maker model no. IDT-0450A.
03. One (1) ice bin model no. D-570.
04. Stainless steel legs with flange feet
05. LuminIce II Factory Install
06. K00463 Ice Scoop
07. Minimum water supply line feed to be 3/8"

Specific Notes:

Filtration system to be easily accessible for service and mounted to abutting wall. Supply line to filtration system to be plumbed in copper. Supply line from filter to ice maker to be a flexible line that provides enough length to pull ice maker away from wall 48" without disconnecting. Final connections to be made by plumbing contractor. Attach water filter overflow tube to rear of ice maker/bin and route to floor sink.

Re-issued in Addendum No. 5

Exhaust fan to be installed in ceiling above the ice machine by GC. The use of ground fault circuit interrupters is not recommended for use on Hoshizaki equipment. Product should be installed on independent circuit with properly sized HACR-rated breaker. If local code requires the use of GFCI, the preferred method of protection is a GFCI HACR-rated breaker and not an outlet-type GFCI.

ITEM NO. 107 DISPOSER QUANTITY 4

Manufacturer: Master Disposer
Model: C-3-L
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Red Goat

01. Disposer C Series 3HP
02. 208v/60hz/3ph
03. Model C-BC18 Bowl Cone Assembly
04. Model RAC2-KP RAC2 Disposer Control Panel
05. Two (2) Model 10-5-701 Water Swirl Inlet Valves per disposer
06. Install disposer into table as shown on drawings.

ITEM NO. 113 MOBILE WORKTABLE QUANTITY 4

Manufacturer: Custom Fabricated
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings

01. 304 series S/S 14ga top and 16ga undershelves as drawn with edges turned down 2”
02. Provide and install one (1) S/S drawer assembly with S/S pan insert, slides and lock per table
03. Set of four (4) 5” S/S bodied casters with polyurethane treads two (2) swivel and two (2) Swivel with brake
04. Recess 24”X 24½”D Richlite cutting boards into table tops

Specific Notes:

Match height of abutting tables to height of bottom conveyor

ITEM NO. 116 UTILITY CART QUANTITY 8

Manufacturer: Lakeside
Model: 544
Size and Shape: Refer to drawings
Utilities: None
Alternate: Piper Industries

01. Stainless Steel 3 shelf cart
02. Four (4) casters two (2) with brakes and perimeter bumpers

ITEM NO. 126 PAN RACK QUANTITY 8

Manufacturer: Cres Cor
Model: 207-UA-12AD
Size and Shape: Refer to drawings
Utilities: None
Alternate: New Age, Lakeside

01. Aluminum welded construction.
02. 1405-000 Perimeter bumper and enclosed base
03. Twelve (12) adjustable universal angles.
04. 5" Polyurethane Casters

ITEM NO. 127 THREE COMP PREP SINK W/DISPOSER QUANTITY 2

Manufacturer: Custom Fabricated
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings

01. 304 series S/S 14ga top with ½" Marine edge and 16ga undershelves as drawn.
02. Edges to be turned down 2" at free sides with 10"H splash at abutting walls.
03. Omit rear rail at sink bowls and at disposer when shown.
04. Two (2) T&S model # B-0291, splash mount faucet, 18" swing nozzle
05. Three (3) Krowne 22-507 twist waste valve drains
06. Provide One (1) T&S model #B-0133-cr-b08sk pre-rinse
07. Provide S/S 16ga welded bracket to secure drain handles and S/S 14ga mounting plate for disposer control.
08. Three (3) 24"x26"x15" D 14ga sink bowls
09. S/S 1 5/8" Upright post to extend thru backsplash with a 12" D 16ga perforated overshelf mounted at 18" above work surface. Post to continue vertically then turn out 12" D at 7' AFF. Weld 2" x ¼" S/S flat bar across post and provide Advance Tabco model TA-86 S/S double sided pot hooks every 6".
10. Install disposer and control panel as drawn with fully welded sink cone.
11. Three (3) "Richlite" ½" thick removable sink covers with 1" finger hole left and right installed at each sink. Weld S/S ¼" round bar set 1/2" below work surface at all four corners to support sink covers. Provide S/S channel support storage holder for sink covers at right or left end of counter.
12. Provide raised platform as drawn and mount one (1) Edlund model no. S-11.
13. Provide S/S adjustable flanged feet for front legs and S/S adjustable bullet feet for all others. Anchor flanged feet to floor after leveling.
14. Provide T&S model B-0674-BSTP and rack mount on S/S 12ga bracket.

Specific Notes:

When disposer is shown, provide notch in backsplash to accommodate vacuum breaker.
When overshelf is shown above disposer with pre-rinse, provide cutout in shelf to accommodate pre-rinse.

ITEM NO. 129 MOBILE ISLAND WORKTABLE QUANTITY 17

Manufacturer: Custom Fabricated
Model: ---
Size and Shape: Refer to drawings
Utilities: None

01. 304 series S/S 14ga top and 16ga under shelves as drawn.
02. Edges to be turned down 2" at all sides.
03. Provide and install two (2) S/S drawer assemblies per table with S/S pan insert, slides and lock.
04. Set of four (4) 5" S/S bodied casters with polyurethane treads two (2) swivel and two (2) swivel with brake

ITEM NO. 131 PAN RACK (PIZZA) QUANTITY 4

Manufacturer: New Age
Model: 1461PB
Size and Shape: Refer to drawings
Utilities: None
Alternate: Channel MFG

01. Extruded aluminum fully welded construction
02. Perimeter bumper. Guides welded horizontally and vertically
03. Must hold (38) 18"x26" sheet pans at 1.5" spacing
04. 5" Polyurethane Casters. Lifetime Guarantee against rust and corrosion

Specific Notes:
Must be fully welded and ship fully assembled. Knock down construction is not acceptable

ITEM NO. 132 TILT TRUCK QUANTITY 1

Manufacturer: Rubbermaid
Model: FG131400BLA
Size and Shape: Refer to drawings
Utilities: None
Alternate: Tough Guy

01. Seamless one piece body tilt truck with 850pd 1 cubic yard capacity
02. 12" Inset wheels with 5" swivel stem back casters

ITEM NO. 200 FIRE PROTECTION SYSTEM QUANTITY 4

Manufacturer: Ansul
Model: R102
Size and Shape: Refer to drawings
Utilities: Refer to drawings

01. One (1) fire suppression system for each Type 1 exhaust hood.
02. Provide hood and duct protection and surface protection for all cooking appliances.
03. One (1) wall mounted handheld K Guard fire extinguisher
04. Remote fire pulls as shown on plan with pull guards
05. Provide Mechanical gas shutoff valve to be installed by plumbing contractor.

06. System must meet NFPA 96 standards, Fire Marshal's regulations and UL Standard 300
07. Piping to be unexposed in hood with all exposed drops to be chrome plated.
08. Hood penetrations to be trimmed out in S/S.
09. All hoods, switches and pulls to be properly labeled.

Specific Notes:

Mount fire extinguisher 4' below cabinet.

ITEM NO. 201 EXHAUST HOOD QUANTITY 1

Manufacturer:	Mod-U-Serve
Model:	W-cpb
Size and Shape:	Refer to drawings
Utilities:	Refer to drawings
Alternate:	Accurex

01. All 304 18ga S/S fully welded construction size and shape as drawn.
02. Sloped grease trough with S/S filters.
03. Insulated front air supply plenum with adjustable damper in same materials and finish as hood.
04. LED fixtures with lights to be flush mounted.
05. 18ga S/S closure panels to enclose space from top of hood to finished ceiling and S/S finished back panel when exposed.
06. Suspend hood and components at 6' 10" AFF using ½" threaded rod by KEC.
07. Factory mounted 3" Back Airspace.
08. Provide air balance report as required by Code and or by Local Authority Having Jurisdiction.
09. Exhaust equipment to maintain 18" clearance from combustibles. For clearances less than 18", provide 3" air space with code approved fire barrier/wrap designed and installed to meet ALL local codes and requirements.

Specific Notes:

Hood and components to meet all NSF standards, NFPA 96, UL 710 and current IECC requirements. If hood is installed against a wall made of combustible material, provide 18ga S/S insulated wall panel from bottom of the hood to baseboard/cove base. Electrical contractor to connect light switch to hood as designed and install shunt trip breakers for ALL equipment under hood as required.

ITEM NO. 202 EXHAUST HOOD QUANTITY 1

Manufacturer:	Mod-U-Serve
Model:	W-cpb
Size and Shape:	Refer to drawings
Utilities:	Refer to drawings
Alternate:	Accurex

01. All 304 18ga S/S fully welded construction size and shape as drawn.
02. Sloped grease trough with S/S filters.

03. Insulated front air supply plenum with adjustable damper in same materials and finish as hood.
04. LED fixtures with lights to be flush mounted.
05. 18ga S/S closure panels to enclose space from top of hood to finished ceiling and S/S finished back panel when exposed.
06. Suspend hood and components at 6' 10" AFF using ½" threaded rod by KEC.
07. Factory mounted 3" Back Airspace.
08. Provide air balance report as required by Code and or by Local Authority Having Jurisdiction.
09. Exhaust equipment to maintain 18" clearance from combustibles. For clearances less than 18", provide 3" air space with code approved fire barrier/wrap designed and installed to meet ALL local codes and requirements.

Specific Notes:

Hood and components to meet all NSF standards, NFPA 96, UL 710 and current IECC requirements. If hood is installed against a wall made of combustible material, provide 18ga S/S insulated wall panel from bottom of the hood to baseboard/cove base. Electrical contractor to connect light switch to hood as designed and install shunt trip breakers for ALL equipment under hood as required.

ITEM NO. 203 EXHAUST HOOD QUANTITY 1

Manufacturer: Mod-U-Serve
Model: W-cpb
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Accurex

01. All 304 18ga S/S fully welded construction size and shape as drawn.
02. Sloped grease trough with S/S filters.
03. Insulated front air supply plenum with adjustable damper in same materials and finish as hood.
04. LED fixtures with lights to be flush mounted.
05. 18ga S/S closure panels to enclose space from top of hood to finished ceiling and S/S finished back panel when exposed.
06. Suspend hood and components at 6' 10" AFF using ½" threaded rod by KEC.
07. Factory mounted 3" Back Airspace.
08. Provide air balance report as required by Code and or by Local Authority Having Jurisdiction.
09. Exhaust equipment to maintain 18" clearance from combustibles. For clearances less than 18", provide 3" air space with code approved fire barrier/wrap designed and installed to meet ALL local codes and requirements.

Specific Notes:

Hood and components to meet all NSF standards, NFPA 96, UL 710 and current IECC requirements. If hood is installed against a wall made of combustible material, provide 18ga S/S insulated wall panel from bottom of the hood to baseboard/cove base. Electrical contractor to connect light switch to hood as designed and install shunt trip breakers for ALL equipment under hood as required.

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ITEM NO. 204 EXHAUST HOOD QUANTITY 1

Manufacturer: Mod-U-Serve
Model: W-cpb
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Accurex

01. All 304 18ga S/S fully welded construction size and shape as drawn.
02. Sloped grease trough with S/S filters.
03. Insulated front air supply plenum with adjustable damper in same materials and finish as hood.
04. LED fixtures with lights to be flush mounted.
05. 18ga S/S closure panels to enclose space from top of hood to finished ceiling and S/S finished back panel when exposed.
06. Suspend hood and components at 6' 10" AFF using ½" threaded rod by KEC.
07. Factory mounted 3" Back Airspace.
08. Provide air balance report as required by Code and or by Local Authority Having Jurisdiction.
09. Exhaust equipment to maintain 18" clearance from combustibles. For clearances less than 18", provide 3" air space with code approved fire barrier/wrap designed and installed to meet ALL local codes and requirements.

Specific Notes:

Hood and components to meet all NSF standards, NFPA 96, UL 710 and current IECC requirements. If hood is installed against a wall made of combustible material, provide 18ga S/S insulated wall panel from bottom of the hood to baseboard/cove base. Electrical contractor to connect light switch to hood as designed and install shunt trip breakers for ALL equipment under hood as required.

ITEM NO. 207 CONVECTION OVEN DOUBLE QUANTITY 8

Manufacturer: Vulcan
Model: VC44GD
Size and Shape: Refer to drawings
Utilities: Refer to drawings.
Alternate: Blodgett

01. Solid state controls with 60-minute timer (Dial style temp and timer control)
02. Simultaneous doors both with glass.
03. 1/2 HP 2-speed motor per deck with cool down switch
04. Set of four casters, front swivel with brakes & two rear rigid
05. Five (5) oven racks per compartment
06. Provide S/S backs when exposed.
07. One (1) T&S HG-4D-60SK per oven compartment for independent gas connections

Specific Notes:

Convection ovens to be connected to owners backup generator.

ITEM NO. 211 STEAMER DOUBLE QUANTITY 3

Manufacturer: Accutemp
Model: N6120E DBL
Size and Shape: Refer to drawings
Utilities: Refer to drawings

01. Six (6) pan capacity per compartment
02. Two (2) individual steam generators and compartments.
03. Field reversible insulated doors.
04. SNH-21-01 - Support Stand
05. One (1) 3M SF165 Filtration System per unit.
06. Two (2) T&S HG-4C-60SK quick gas disconnect kits with double swivels per unit.

Specific Notes:

Filter to be mounted near unit and be easily accessible for service. Ensure placement of steamer is not over floor drain. Plumbing to filter to be copper with S/S flex lines plumbed to steamers. Flex lines to allow unit to be pulled out 48" without disconnecting.

ITEM NO. 226 TWO BURNER RANGE QUANTITY 1

Manufacturer: Southbend
Model: P32C-XX
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Vulcan

01. Two (2) 45K BTU burners
02. Cabinet base with removable doors and intermediate shelf.
03. S/S range body on casters.
04. Rear gas connection.
05. PR24-32 Flue Riser
06. External pressure regulator.
07. Cap and cover front gas manifold.
08. 16" S/S work top per 16" (2) burner section located on right with common front rail and common backguard.
09. MODIFICATION-Modify worktop option to accommodate faucet filler and fill handle with control valve built into front panel.
10. Krowne 20-203L incorporated into 16" work top
11. One (1) T&S HG-4E-60SK per unit
12. Spark ignition with flame failure for all open burner sections.
13. 1" Natural Gas Regulator

ITEM NO. 238 PIZZA OVEN QUANTITY 2

Manufacturer: Lincoln
Model: 1180-2G
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Middleby Marshall

01. Double oven on stand with casters
02. Model 1182 Heat Shield
03. Two (2) Model 1140 shelves per oven
04. Reversible conveyor
05. Two (2) T&S HG-4D-60SK per double stack
06. Abutting tables to be height matched to conveyor belts.

Specific Notes:

Conveyor ovens to be connected to owners backup generator.

ITEM NO. 243 RAISED RAIL PIZZA PREP - 2DR QUANTITY 1

Manufacturer: Traulsen
Model: TS072HT
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Delfield

01. S/S exterior and interior including SS back
02. Unit must hold (10) 1/3rd size pans
03. Six (6) years parts and labor and 7-year compressor warranty
04. Full length 18"D Richlite cutting board
05. Stainless steel interior shelving and 6" casters

ITEM NO. 252 TRENCH LINER QUANTITY 1

Manufacturer: Custom
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings

01. Liner to be 14ga 304 S/S fully welded construction.
02. Provided by KEC and Installed by general contractor.
03. Subway style grating 3/16" X 1" solid Aluminum bar with max 7/16" spacing.
04. S/S strainer basket with handle.
05. Coordinate location of trench liner with General Contractor and match pour path of any equipment when applicable.

ITEM NO. 300 REACH-IN REFRIGERATOR - 1DR QUANTITY 2

Manufacturer: Traulsen
Model: AHT132WUT-HHS
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Utility

01. S/S exterior and aluminum interior.
02. LED interior lights
03. Fourteen (14) pair of universal pan slides per full height opening
04. 6" high casters.
05. Six (6) years parts and labor and 7-year compressor warranty

06. Half height doors with locks hinged as shown on drawing.
07. Doors to have field re-hinging option
08. Units to be hardwired and connected to back-up generator.
09. Provide S/S trim around wall openings with removable trim above units.

ITEM NO. 303 PASS-THRU REFRIGERATOR - 1DR QUANTITY 2

Manufacturer: Traulsen
Model: AHT132WPUT-HHS
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Utility

01. S/S exterior and aluminum interior.
02. LED interior lights
03. Fourteen (14) pair of universal pan slides per full height opening
04. 6" high casters.
05. Six (6) years parts and labor and 7-year compressor warranty
06. Half height doors with locks hinged as shown on drawing.
07. Doors to have field re-hinging option
08. Units to be hardwired and connected to back-up generator.
09. Provide S/S trim around wall openings with removable trim above units.

ITEM NO. 304 PASS-THRU REFRIGERATOR - 2DR QUANTITY 1

Manufacturer: Traulsen
Model: AHT232WPUT-HHS
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Utility

01. S/S exterior and aluminum interior.
02. LED interior lights
03. Fourteen (14) pair of universal pan slides per full height opening
04. 6" high casters.
05. Six (6) years parts and labor and 7-year compressor warranty
06. Half height doors with locks hinged as shown on drawing.
07. Doors to have field re-hinging option
08. Units to be hardwired and connected to back-up generator.
09. Provide S/S trim around wall openings with removable trim above units.

ITEM NO. 306 ROLL-IN REFRIGERATOR - 1DR QUANTITY 2

Manufacturer: Traulsen
Model: ARI132HUT-FHS
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Utility

01. S/S exterior and aluminum interior.
02. LED interior lights
03. Six (6) years parts and labor and 7-year compressor warranty

04. Doors to have field re-hinging option
05. Units to be hardwired and connected to back-up generator.
06. Provide stainless steel ramp

ITEM NO. 324 REACH-IN HEATED CABINET - 1DR QUANTITY 1

Manufacturer: Traulsen
Model: AHF132W-HHS
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Utility

01. S/S exterior and aluminum interior
02. LED interior lights
03. Fourteen (14) pair of universal pan slides per full height opening
04. 6" high casters.
05. Six (6) years parts and labor
06. Half height doors with locks hinged as shown on drawing.
07. Doors to have field re-hinging option
08. Units to be hardwired and connected to back-up generator.
09. Provide S/S trim around wall openings with removable trim above units.

ITEM NO. 325 REACH-IN HEATED CABINET - 2DR QUANTITY 2

Manufacturer: Traulsen
Model: AHF232W-HHS
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Utility

01. S/S exterior and aluminum interior
02. LED interior lights
03. Fourteen (14) pair of universal pan slides per full height opening
04. 6" high casters.
05. Six (6) years parts and labor
06. Half height doors with locks hinged as shown on drawing.
07. Doors to have field re-hinging option
08. Units to be hardwired and connected to back-up generator.
09. Provide S/S trim around wall openings with removable trim above units.

ITEM NO. 328 PASS-THRU HEATED CABINET - 2DR QUANTITY 4

Manufacturer: Traulsen
Model: AHF232WP-HHS
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Utility

01. S/S exterior and aluminum interior
02. LED interior lights
03. Fourteen (14) pair of universal pan slides per full height opening
04. 6" high casters.
05. Six (6) years parts and labor

06. Half height doors with locks hinged as shown on drawing.
07. Doors to have field re-hinging option
08. Units to be hardwired and connected to back-up generator.
09. Provide S/S trim around wall openings with removable trim above units.

ITEM NO. 401 SERVING COUNTER QUANTITY 1

Manufacturer: Counter Craft
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Mod-U-Serve, Master Fabricators

01. Serving counter to be open base design with storage shelving on operator side. Shelving compartments to have base and intermediate shelves with open back and sides. Intermediate and base shelves to be easily removable without tools for service.
02. Body to be continuous style construction using fully welded 1.5”x1.5”x1/8” galvanized angle iron frame OR fully welded 1 1/4” S/S tubular frame.
03. Top to be 304 series 14ga S/S turned down 2” at all free sides with 16ga S/S shelving.
04. Trayslide to be 14ga S/S with S/S buttons and LED lights below.
05. All S/S edges to have to have #8 mirror finish including countertop, shelves and raised platforms.
06. All electrical wiring to be hidden and secured neatly in base located inside code approved conduit.
07. All plumbing to be hidden in base and neatly secured. Plumbing to be Type L copper with compression style unions.
08. Supply properly sized load center per counter requirements and wire all electrical components to load center with wiring diagram laminated and attached to door.
09. Provide electrical and plumbing access for service.
10. Countertop to be at 34"H with trayslide at 34”H above finished floor.
11. Provide insulated raised platform at hot wells.
12. Provide and install hardibacker to counter body prepped for tile by GC. Do NOT tile Cashier door.
13. S/S legs with adjustable S/S bullet feet and S/S removable kickplates.
14. Provide dedicated 15amp receptacle recessed in counter body for milk box and one (1) convenience outlet in each control panel.
15. Custom control panel to include controls for drop in equipment, lights and heat strips.
16. Five (5) Wells model BMW-206RTDU individual insulated hot wells spaced as drawn with common manifolded drain and ball valve located in an easily accessible location. Hot well area to have 1” recess to accommodate sheet pans and a deck mounted fill faucet.
17. One (1) Wells model RCP7400 cold pan angled a 5-degree slope towards trayslide with remote switch mounted in custom control panel in counter body. Provide perforated false bottom and divider bars for pans. One (1) Hatco FTB-3 sheet pan frost top mounted above cold pan.
18. Provide louvered doors at compressor compartments on operator side with matching louvered cutout on opposite side of counter to allow proper airflow for condensing units.
19. Breath guard undercounter mount single tier with 3/8” glass top shelf, end panels and fully adjustable half height front glass with LED lights. Mount over cold pan

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and frost top as drawn. Verify finish with owner.

20. Breath guard undercounter mount single tier with 3/8" glass top shelf, end panels and fully adjustable full height front glass for self or full service with LED lights and heat. Mount over hot wells as drawn. Verify finish with owner.
21. Cashier station with locking cashier drawer, S/S open storage and one (1) NEMA 5-15R. Provide 2" grommeted cutout in top for POS wiring to base.
22. Delivery and installation by manufacturer only with final connections by GC.
23. Angle trayslides in corners to provide smoother transition.
24. Mount ALL condensing units on slide out drawer/track system for service access.
25. One (1) Glastender #DI-FR Ice Cream Freezer angled @ 5 degrees with double tier 16g stainless steel angled chip/snack rack.
26. KEC to provide (3) Bonstone Model No. 52004 Tile Inserts, Color Black.

Specific Notes:

Cash registers must be connected to backup generator through counter outlet. Do NOT tile cashier door. Line Item 26 BonChef Bonstone Tiles required for the first (3) Serving counters only for a grand total of (9) required for this project.

ITEM NO. 402 SERVING COUNTER QUANTITY 1

Manufacturer: Counter Craft
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Mod-U-Serve, Master Fabricators

01. Serving counter to be open base design with storage shelving on operator side. Shelving compartments to have base and intermediate shelves with open back and sides. Intermediate and base shelves to be easily removable without tools for service.
02. Body to be continuous style construction using fully welded 1.5"x1.5"x1/8" galvanized angle iron frame OR fully welded 1 1/4" S/S tubular frame.
03. Top to be 304 series 14ga S/S turned down 2" at all free sides with 16ga S/S shelving.
04. Trayslide to be 14ga S/S with S/S buttons and LED lights below.
05. All S/S edges to have to have #8 mirror finish including countertop, shelves and raised platforms.
06. All electrical wiring to be hidden and secured neatly in base located inside code approved conduit.
07. All plumbing to be hidden in base and neatly secured. Plumbing to be Type L copper with compression style unions.
08. Supply properly sized load center per counter requirements and wire all electrical components to load center with wiring diagram laminated and attached to door.
09. Provide electrical and plumbing access for service.
10. Countertop to be at 34"H with trayslide at 34"H above finished floor.
11. Provide insulated raised platform at hot wells.
12. Provide and install hardibacker to counter body prepped for tile by GC. Do NOT tile Cashier door.
13. S/S legs with adjustable S/S bullet feet and S/S removable kickplates.
14. Provide dedicated 15amp receptacle recessed in counter body for milk box and one (1) convenience outlet in each control panel.
15. Custom control panel to include controls for drop in equipment, lights and heat strips.

16. Five (5) Wells model BMW-206RTDU individual insulated hot wells spaced as drawn with common manifolded drain and ball valve located in an easily accessible location. Hot well area to have 1" recess to accommodate sheet pans and a deck mounted fill faucet.
17. One (1) Wells model RCP7400 cold pan angled a 5-degree slope towards trayslide with remote switch mounted in custom control panel in counter body. Provide perforated false bottom and divider bars for pans. One (1) Hatco FTB-3 sheet pan frost top mounted above cold pan.
18. Provide louvered doors at compressor compartments on operator side with matching louvered cutout on opposite side of counter to allow proper airflow for condensing units.
19. Breath guard undercounter mount single tier with 3/8" glass top shelf, end panels and fully adjustable half height front glass with LED lights. Mount over cold pan and frost top as drawn. Verify finish with owner.
20. Breath guard undercounter mount single tier with 3/8" glass top shelf, end panels and fully adjustable full height front glass for self or full service with LED lights and heat. Mount over hot wells as drawn. Verify finish with owner.
21. Cashier station with locking cashier drawer, S/S open storage and one (1) NEMA 5-15R. Provide 2" grommeted cutout in top for POS wiring to base.
22. Delivery and installation by manufacturer only with final connections by GC.
23. Angle trayslides in corners to provide smoother transition.
24. Mount ALL condensing units on slide out drawer/track system for service access.
25. One (1) Glastender #DI-FR Ice Cream Freezer angled @ 5 degrees with double tier 16g stainless steel angled chip/snack rack.
26. KEC to provide (3) Bonstone Model No. 52004 Tile Inserts, Color Black.

Specific Notes:

Cash registers must be connected to backup generator through counter outlet. Do NOT tile cashier door. Line Item 26 BonChef Bonstone Tiles required for the first (3) Serving counters only for a grand total of (9) required for this project.

ITEM NO. 403 SERVING COUNTER QUANTITY 1

Manufacturer:	Counter Craft
Model:	---
Size and Shape:	Refer to drawings
Utilities:	Refer to drawings
Alternate:	Mod-U-Serve, Master Fabricators

01. Serving counter to be open base design with storage shelving on operator side. Shelving compartments to have base and intermediate shelves with open back and sides. Intermediate and base shelves to be easily removable without tools for service.
02. Body to be continuous style construction using fully welded 1.5"x1.5"x1/8" galvanized angle iron frame OR fully welded 1 1/4" S/S tubular frame.
03. Top to be 304 series 14ga S/S turned down 2" at all free sides with 16ga S/S shelving.
04. Trayslide to be 14ga S/S with S/S buttons and LED lights below.
05. All S/S edges to have to have #8 mirror finish including countertop, shelves and raised platforms.
06. All electrical wiring to be hidden and secured neatly in base located inside code approved conduit.

Re-issued in Addendum No. 5

07. All plumbing to be hidden in base and neatly secured. Plumbing to be Type L copper with compression style unions.
08. Supply properly sized load center per counter requirements and wire all electrical components to load center with wiring diagram laminated and attached to door.
09. Provide electrical and plumbing access for service.
10. Countertop to be at 34"H with trayslide at 34”H above finished floor.
11. Provide insulated raised platform at hot wells.
12. Provide and install hardibacker to counter body prepped for tile by GC. Do NOT tile Cashier door.
13. S/S legs with adjustable S/S bullet feet and S/S removable kickplates.
14. Provide dedicated 15amp receptacle recessed in counter body for milk box and one (1) convenience outlet in each control panel.
15. Custom control panel to include controls for drop in equipment, lights and heat strips.
16. Five (5) Wells model BMW-206RTDU individual insulated hot wells spaced as drawn with common manifolded drain and ball valve located in an easily accessible location. Hot well area to have 1” recess to accommodate sheet pans and a deck mounted fill faucet.
17. One (1) Wells model RCP7400 cold pan angled a 5-degree slope towards trayslide with remote switch mounted in custom control panel in counter body. Provide perforated false bottom and divider bars for pans. One (1) Hatco FTB-3 sheet pan frost top mounted above cold pan.
18. Provide louvered doors at compressor compartments on operator side with matching louvered cutout on opposite side of counter to allow proper airflow for condensing units.
19. Breath guard undercounter mount single tier with 3/8” glass top shelf, end panels and fully adjustable half height front glass with LED lights. Mount over cold pan and frost top as drawn. Verify finish with owner.
20. Breath guard undercounter mount single tier with 3/8” glass top shelf, end panels and fully adjustable full height front glass for self or full service with LED lights and heat. Mount over hot wells as drawn. Verify finish with owner.
21. Cashier station with locking cashier drawer, S/S open storage and one (1) NEMA 5-15R. Provide 2” grommeted cutout in top for POS wiring to base.
22. Delivery and installation by manufacturer only with final connections by GC.
23. Angle trayslides in corners to provide smoother transition.
24. Mount ALL condensing units on slide out drawer/track system for service access.
25. One (1) Glastender #DI-FR Ice Cream Freezer angled @ 5 degrees with double tier 16g stainless steel angled chip/snack rack.
26. KEC to provide (3) Bonstone Model No. 52004 Tile Inserts, Color Black.

Specific Notes:

Cash registers must be connected to backup generator through counter outlet. Do NOT tile cashier door. Line Item 26 BonChef Bonstone Tiles required for the first (3) Serving counters only for a grand total of (9) required for this project.

ITEM NO. 404 SERVING COUNTER QUANTITY 1

Manufacturer:	Counter Craft
Model:	---
Size and Shape:	Refer to drawings
Utilities:	Refer to drawings
Alternate:	Mod-U-Serve, Master Fabricators

Re-issued in Addendum No. 5

01. Serving counter to be open base design with storage shelving on operator side. Shelving compartments to have base and intermediate shelves with open back and sides. Intermediate and base shelves to be easily removable without tools for service.
02. Body to be continuous style construction using fully welded 1.5”x1.5”x1/8” galvanized angle iron frame OR fully welded 1 1/4” S/S tubular frame.
03. Top to be 304 series 14ga S/S turned down 2” at all free sides with 16ga S/S shelving.
04. Trayslide to be 14ga S/S with S/S buttons and LED lights below.
05. All S/S edges to have to have #8 mirror finish including countertop, shelves and raised platforms.
06. All electrical wiring to be hidden and secured neatly in base located inside code approved conduit.
07. All plumbing to be hidden in base and neatly secured. Plumbing to be Type L copper with compression style unions.
08. Supply properly sized load center per counter requirements and wire all electrical components to load center with wiring diagram laminated and attached to door.
09. Provide electrical and plumbing access for service.
10. Countertop to be at 34"H with trayslide at 34”H above finished floor.
11. Provide insulated raised platform at hot wells.
12. Provide and install hardibacker to counter body prepped for tile by GC. Do NOT tile Cashier door.
13. S/S legs with adjustable S/S bullet feet and S/S removable kickplates.
14. Provide dedicated 15amp receptacle recessed in counter body for milk box and one (1) convenience outlet in each control panel.
15. Custom control panel to include controls for drop in equipment, lights and heat strips.
16. Five (5) Wells model BMW-206RTDU individual insulated hot wells spaced as drawn with common manifolded drain and ball valve located in an easily accessible location. Hot well area to have 1” recess to accommodate sheet pans and a deck mounted fill faucet.
17. One (1) Wells model RCP7400 cold pan angled a 5-degree slope towards trayslide with remote switch mounted in custom control panel in counter body. Provide perforated false bottom and divider bars for pans. One (1) Hatco FTB-3 sheet pan frost top mounted above cold pan.
18. Provide louvered doors at compressor compartments on operator side with matching louvered cutout on opposite side of counter to allow proper airflow for condensing units.
19. Breath guard undercounter mount single tier with 3/8” glass top shelf, end panels and fully adjustable half height front glass with LED lights. Mount over cold pan and frost top as drawn. Verify finish with owner.
20. Breath guard undercounter mount single tier with 3/8” glass top shelf, end panels and fully adjustable full height front glass for self or full service with LED lights and heat. Mount over hot wells as drawn. Verify finish with owner.
21. Cashier station with locking cashier drawer, S/S open storage and one (1) NEMA 5-15R. Provide 2” grommeted cutout in top for POS wiring to base.
22. Delivery and installation by manufacturer only with final connections by GC.
23. Angle trayslides in corners to provide smoother transition.
24. Mount ALL condensing units on slide out drawer/track system for service access.
25. One (1) Glastender #DI-FR Ice Cream Freezer angled @ 5 degrees with double tier 16g stainless steel angled chip/snack rack.

Re-issued in Addendum No. 5

Specific Notes:

Cash registers must be connected to backup generator through counter outlet. Do NOT tile cashier door.

ITEM NO. 405 SERVING COUNTER QUANTITY 1

Manufacturer: Counter Craft
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Mod-U-Serve, Master Fabricators

01. Serving counter to be open base design with storage shelving on operator side. Shelving compartments to have base and intermediate shelves with open back and sides. Intermediate and base shelves to be easily removable without tools for service.
02. Body to be continuous style construction using fully welded 1.5”x1.5”x1/8” galvanized angle iron frame OR fully welded 1 1/4” S/S tubular frame.
03. Top to be 304 series 14ga S/S turned down 2” at all free sides with 16ga S/S shelving.
04. Trayslide to be 14ga S/S with S/S buttons and LED lights below.
05. All S/S edges to have to have #8 mirror finish including countertop, shelves and raised platforms.
06. All electrical wiring to be hidden and secured neatly in base located inside code approved conduit.
07. All plumbing to be hidden in base and neatly secured. Plumbing to be Type L copper with compression style unions.
08. Supply properly sized load center per counter requirements and wire all electrical components to load center with wiring diagram laminated and attached to door.
09. Provide electrical and plumbing access for service.
10. Countertop to be at 34"H with trayslide at 34”H above finished floor.
11. Provide insulated raised platform at hot wells.
12. Provide and install hardibacker to counter body prepped for tile by GC. Do NOT tile Cashier door.
13. S/S legs with adjustable S/S bullet feet and S/S removable kickplates.
14. Provide dedicated 15amp receptacle recessed in counter body for milk box and one (1) convenience outlet in each control panel.
15. Custom control panel to include controls for drop in equipment, lights and heat strips.
16. Five (5) Wells model BMW-206RTDU individual insulated hot wells spaced as drawn with common manifolded drain and ball valve located in an easily accessible location. Hot well area to have 1” recess to accommodate sheet pans and a deck mounted fill faucet.
17. One (1) Wells model RCP7400 cold pan angled a 5-degree slope towards trayslide with remote switch mounted in custom control panel in counter body. Provide perforated false bottom and divider bars for pans. One (1) Hatco FTB-3 sheet pan frost top mounted above cold pan.
18. Provide louvered doors at compressor compartments on operator side with matching louvered cutout on opposite side of counter to allow proper airflow for condensing units.
19. Breath guard undercounter mount single tier with 3/8” glass top shelf, end panels and fully adjustable half height front glass with LED lights. Mount over cold pan and frost top as drawn. Verify finish with owner.

Re-issued in Addendum No. 5

20. Breath guard undercounter mount single tier with 3/8" glass top shelf, end panels and fully adjustable full height front glass for self or full service with LED lights and heat. Mount over hot wells as drawn. Verify finish with owner.
21. Cashier station with locking cashier drawer, S/S open storage and one (1) NEMA 5-15R. Provide 2" grommeted cutout in top for POS wiring to base.
22. Delivery and installation by manufacturer only with final connections by GC.
23. Angle trayslides in corners to provide smoother transition.
24. Mount ALL condensing units on slide out drawer/track system for service access.
25. One (1) Glastender #DI-FR Ice Cream Freezer angled @ 5 degrees with double tier 16g stainless steel angled chip/snack rack.

Specific Notes:

Cash registers must be connected to backup generator through counter outlet. Do NOT tile cashier door.

ITEM NO. 406 SERVING COUNTER QUANTITY 1

Manufacturer: Counter Craft
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Mod-U-Serve, Master Fabricators

01. Serving counter to be open base design with storage shelving on operator side. Shelving compartments to have base and intermediate shelves with open back and sides. Intermediate and base shelves to be easily removable without tools for service.
02. Body to be continuous style construction using fully welded 1.5"x1.5"x1/8" galvanized angle iron frame OR fully welded 1 1/4" S/S tubular frame.
03. Top to be 304 series 14ga S/S turned down 2" at all free sides with 16ga S/S shelving.
04. Trayslide to be 14ga S/S with S/S buttons and LED lights below.
05. All S/S edges to have to have #8 mirror finish including countertop, shelves and raised platforms.
06. All electrical wiring to be hidden and secured neatly in base located inside code approved conduit.
07. All plumbing to be hidden in base and neatly secured. Plumbing to be Type L copper with compression style unions.
08. Supply properly sized load center per counter requirements and wire all electrical components to load center with wiring diagram laminated and attached to door.
09. Provide electrical and plumbing access for service.
10. Countertop to be at 34"H with trayslide at 34"H above finished floor.
11. Provide insulated raised platform at hot wells.
12. Provide and install hardibacker to counter body prepped for tile by GC. Do NOT tile Cashier door.
13. S/S legs with adjustable S/S bullet feet and S/S removable kickplates.
14. Provide dedicated 15amp receptacle recessed in counter body for milk box and one (1) convenience outlet in each control panel.
15. Custom control panel to include controls for drop in equipment, lights and heat strips.
16. Five (5) Wells model BMW-206RTDU individual insulated hot wells spaced as drawn with common manifolded drain and ball valve located in an easily accessible location. Hot well area to have 1" recess to accommodate sheet pans and a deck

mounted fill faucet.

17. One (1) Wells model RCP7400 cold pan angled a 5-degree slope towards trayslide with remote switch mounted in custom control panel in counter body. Provide perforated false bottom and divider bars for pans. One (1) Hatco FTB-3 sheet pan frost top mounted above cold pan.
18. Provide louvered doors at compressor compartments on operator side with matching louvered cutout on opposite side of counter to allow proper airflow for condensing units.
19. Breath guard undercounter mount single tier with 3/8" glass top shelf, end panels and fully adjustable half height front glass with LED lights. Mount over cold pan and frost top as drawn. Verify finish with owner.
20. Breath guard undercounter mount single tier with 3/8" glass top shelf, end panels and fully adjustable full height front glass for self or full service with LED lights and heat. Mount over hot wells as drawn. Verify finish with owner.
21. Cashier station with locking cashier drawer, S/S open storage and one (1) NEMA 5-15R. Provide 2" grommeted cutout in top for POS wiring to base.
22. Delivery and installation by manufacturer only with final connections by GC.
23. Angle trayslides in corners to provide smoother transition.
24. Mount ALL condensing units on slide out drawer/track system for service access.
25. One (1) Glastender #DI-FR Ice Cream Freezer angled @ 5 degrees with double tier 16g stainless steel angled chip/snack rack.

Specific Notes:

Cash registers must be connected to backup generator through counter outlet. Do NOT tile cashier door.

ITEM NO. 414 MILK COOLER 12 CASE QUANTITY 6

Manufacturer:	Traulsen
Model:	RMC49D6
Size and Shape:	Refer to drawings
Utilities:	Refer to drawings
Alternate:	Beverage Air

01. Forced air milk cooler S/S interior and exterior
02. Holds twelve (12) 13"x13" milk crates with double door access
03. Bumpers/Corner Guards & 6" casters

Specific Notes:

Milk boxes must be connected to backup generator.

ITEM NO. 421 CASH REGISTER QUANTITY 6

Manufacturer:	Owner Furnished
Model:	---
Size and Shape:	Refer to drawings
Utilities:	Refer to drawings

Specific Notes:

Cash registers must be connected to backup generator.

ITEM NO. 422 GUIDE RAILS QUANTITY 1 LOT

Manufacturer: Custom Fabricated
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings

01. 1-5/8" O.D. S/S round tubing guide rails with 1-5/8" upright post.
02. Uprights to be 4' on center with top rail at 34" above finished floor
03. One lot to equal ALL guide rails shown on drawing

Specific Notes:
Upright post to be sleeved and buried in concrete.

ITEM NO. 501 DISHWASHER LOW TEMP QUANTITY 1

Manufacturer: Hobart
Model: CL44-BAS+BUILDUP
Size and Shape: Refer to drawings
Utilities: Refer to drawings
Alternate: Champion

01. Low Temp single tank conveyor dish machine all S/S construction.
02. Electric tank heat with autofill and self-draining pump.
03. Top mount controls with Vent fan control and Vent Stacks with damper
04. Refer to drawings for direction of conveyor.
05. Single point electrical connection & Higher Than Standard Opening
06. Pressure regulator and table limit switch
07. Two (2) 1/2INSHK-ABSRBR shock absorbers & ½" brass pressure regulator
08. Four peg racks, Four combo racks & Four sheet pan racks

ITEM NO. 507 SOILED DISHTABLE QUANTITY 1

Manufacturer: Custom Fabricated
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings

01. 304 series S/S 14ga top with 16ga under shelves as drawn.
02. Free edges to be rolled rim style 3 ½" H X 1 ½" with 10"H splash at abutting walls
03. Omit rear rail at sink bowls and at disposer when shown
04. Provide One (1)T&S model #B-0133-cr-b08skpre-rinse
05. One (1) 20" x 20" pre-rinse sink or disposer cone (verify on drawing).
06. Install disposer and control panel as drawn
07. Provide removable 14ga S/S rack guide assembly when sink is shown.
08. Slope tabletop towards dish machine for drainage.
09. Provide S/S 14ga mounting plate for disposer control.

Specific Notes:
When disposer is shown, provide notch in backsplash to accommodate vacuum breaker. When over shelf is shown above disposer with pre-rinse, provide cutout in shelf to accommodate pre-rinse.

ITEM NO. 508 CLEAN DISHTABLE QUANTITY 1

Manufacturer: Custom Fabricated
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings

01. 304 series S/S 14ga top with 16ga under shelves as drawn.
02. Free edges to be rolled rim style 3 ½" H X 1 ½" with 10"H splash at abutting walls.
03. Omit front rail at booster when shown
04. Provide S/S adjustable flanged feet for front legs and S/S adjustable bullet feet for all others. Anchor flanged feet to floor after leveling
05. Slope tabletop towards dish machine for drainage.

ITEM NO. 510 THREE COMP SINK W/DISPOSER QUANTITY 1

Manufacturer: Custom Fabricated
Model: ---
Size and Shape: Refer to drawings
Utilities: Refer to drawings

01. 304 series S/S 14ga top with 16ga undershelves as drawn.
02. Free edges to be rolled rim style 3 ½" H X 1 ½" with 10"H splash at abutting walls.
03. Omit rear rail at sink bowls and at disposer when shown.
04. Two (2) T&S model # B-0291, splash mount faucet, 18" jointed swing nozzle
05. Three (3) Krowne 22-507 twist waste valve drains
06. Provide One (1) T&S model #B-0133-cr-b08sk pre-rinse
07. Provide S/S 16ga welded bracket to secure drain handles and S/S 14ga mounting plate for disposer control.
08. Two (2) 24"x26"x15" D 14ga sink bowls and one (1) 26"x30"x15" D 14ga sink bowl.
09. S/S 1 5/8" Upright post to extend thru backsplash with a 12" D 16ga perforated overshelf mounted at 18" above work surface. Post to continue vertically then turn out 12" D at 7' AFF. Weld 2" x ¼" S/S flat bar across post and provide Advance Tabco model TA-86 S/S double sided pot hooks every 6".
10. Install disposer and control panel as drawn with fully welded sink cone.
11. Provide S/S adjustable flanged feet for front legs and S/S adjustable bullet feet for all others. Anchor flanged feet to floor after leveling.
12. Provide T&S model B-0674-BSTP and rack mount on S/S 14ga bracket.

Specific Notes:

When disposer is shown, provide notch in backsplash to accommodate vacuum breaker. When overshelf is shown above disposer with pre-rinse, provide cutout in shelf to accommodate pre-rinse. Ensure disposer bracket is recessed enough that control does not protrude past front leg of table.

ITEM NO. 514 MOBILE UTENSIL RACK QUANTITY 8

Manufacturer: Metro
Model: MetroMax PR48VX4
Size and Shape: Refer to drawings
Utilities: None
Alternate: Cambro Premium

01. Four (4) MX74UP per unit
02. Four (4) MX2448G per unit
03. Four Polymer Casters (2) with brake.
04. Two (2) Model XTR2448XEA Pan Drying Rack per unit
05. Two (2) Model XTR2448XE Cutting Board & Tray Drying Rack per unit

ITEM NO. 515 VENT COWL DUCTS QUANTITY 2

Manufacturer: Custom
Model: ---
Size and Shape: Refer to drawings
Utilities: None

01. 16g 304 SS Vent Cowl Ducts sized to fit warewash duct collars
02. Extend 6" past finished ceiling with SS trim ring at ceiling

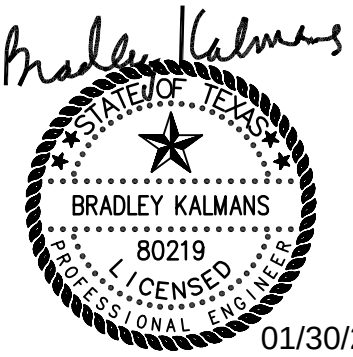
ITEM NO. 601 ICE BARREL MERCHANDISER QUANTITY 6

Manufacturer: Iowa Rotocast Plastics
Model: 3101502
Size and Shape: Refer to drawings
Utilities: None

01. 70 Quart Ice Barrel Merchandiser with lid and casters
02. Color to be black with no graphics

END OF SECTION 11400

Re-issued in Addendum No. 5



01/30/2025

SECTION 27 10 00

STRUCTURED CABLING SYSTEM (SCS)

PART 1 - GENERAL

1.1 RELATED WORK

The following, in their entirety and as applicable, shall apply to this section. Including any associated drawings.

A. Conditions of the Contract
B. Division 1
C. Division 26
D. Division 27
E. Division 28

1.2 DESCRIPTION

A. Summary of Work:
   1. Reference Attachment ‘A’ of this specification for supplemental scope as it relates to the project and the Owner standards.
   2. Provide a complete and tested Structured Cabling System (SCS) for the interconnections of the Local Area Network (LAN). The SCS shall include fully terminated unshielded twisted pair cables, fiber optic cabling, raceways, conduit, back boxes, copper/fiber optic termination components, station mounting hardware, fiber optic enclosures, patch panels, copper/fiber optic patch cables, relay cabinets/cabinets, and other incidental and miscellaneous premises wiring system hardware as required for a complete, tested, and usable system that is in compliance with the latest NEC, ANSI/EIA/TIA, BICSI, and Authorities Having Jurisdiction codes and standards. The installation shall comply with all applicable requirements, design guidelines, and standards in effect at the job site and as indicated in the Drawings and Specifications.
   3. An IDF will be required when the distance between outlet terminations and MDF/IDF exceeds 280’, including service loops. IDF's shall be selected and organized to be minimum in number while still reaching all locations to be wired.
   4. If there are any discrepancies between the drawings and specification or among themselves, the contractor shall request clarification prior to providing pricing for the scope of work. If a request is not issued and a response not provided via a posted addendum, the contractor shall provide pricing for the costliest scenario and obtain clarification during the project.
   5. These documents are conceptual in nature. It shall be the responsibility of the approved installer to furnish a complete and functional system, including the items shown on the drawings, in the specifications, and items not designated in either. The installer’s shop drawings and product data submittals shall represent a complete system and documents accepted do not relieve the installer from being required to provide any materials, equipment, or labor to furnish a complete and functional system as recognized by the Project’s Technology Consultant and the Owner.

1.3 QUALITY ASSURANCE

A. Acceptable manufacturers:
   1. The equipment/products described herein and furnished per these specifications shall be the product of one manufacturer or must be able to obtain the full warranty of the combined solution. All references to model numbers and other detailed descriptive data is intended to establish standards

of design performance, and quality, as required. The contractor shall not deviate from the part numbers listed. Any deviation from specified part numbers will result in the removal of non-specified materials and reinstallation of approved materials at no cost to the project.

2. The approved manufacturers shall provide a complete End-to-End solution with the maximum product and performance warranty offered by the specified manufacturer.
3. Only products listed in Attachment 'B' or approved in compliance with the project manual's approval requirements will be accepted.

B. Installer Qualifications:
1. The Data Cable System Installer shall be licensed and shall meet all applicable regulations of the State Department of Labor insofar as they apply to this type of system. The proposer shall be a firm normally employed in the low voltage and data cabling industry and shall provide a reference list of ten (10) large-scale projects and contact names confirming successful Structure Cabling System installations.
2. The SCS Installer shall be a Certified, local area, integrator of the manufacturer's product and must be able to provide the manufacturer's maximum available warranty for the solution on the entire SCS. The contractor's certification must have been obtained and held within 75 miles of the project's location.
3. The installing contractor must have a full-time employed RCDD (Registered Communications Distribution Designer) on staff. Current RCDD certification shall be provided in the product submittals.
4. All individuals installing the SCS must be employees of the certified installer and at least 25% of the installing staff shall have undergone a training class given by the manufacturer. Current certification indicating the successful completion of the training course shall be available upon request at the project and submitted in the contractor's product submittals.
5. The proposing contractor and the installing contractor must be the same company. No subcontractor to the proposing SCS contractor will be allowed for any portion of the SCS scope of work.

C. Low Voltage Meeting Requirements:
1. The successful Contractor shall attend a mandatory pre-construction meeting with the project's consultant individuals deemed necessary by the Owner's representative prior to the start of the work. No SCS work shall begin prior to this meeting.
2. The successful contractor shall attend a mandatory bi-weekly meeting to discuss the project progress to help aid coordination with the Owner and Other contractors.
3. Prior to the installation of any items required for this scope of work the contractor must provide a purchase order with a detailed material list for all materials to be installed. The purchase order is not required to show cost, but part numbers must be provided. The purchase order will be reviewed during one of the regularly scheduled low voltage meetings.

D. Acceptance: The Owner's representative reserves the right to reject all or a portion of the work performed, either on technical or aesthetic grounds.

E. Warranty:
1. The selected system installer shall be a certified installing contractor of product and hold current certification. Contractor shall provide the specified manufacturer's maximum end-to-end performance warranty on all products installed. The proposer shall provide current certification documentation. The

performance warranty shall be issued by the manufacturer and shall warrant that ALL cable links have been tested bi-directionally (end to end) using a Level IIIe or better tester, per TSB-67, and that all test results conform to the most current ANSI/TIA-568.2-D.

2. The warranty will also cover multimode fiber optic cabling. Performance testing shall be conducted in accordance with ANSI/EIA/TIA-526-14 Standard, method B.
3. The warranty will stipulate that all products used in this installation meet the prescribed mechanical and transmission specifications for such products as described in ANSI/TIA/EIA-568.3-D. Quality and workmanship evaluation shall be solely by the Owner/Designer and designated representatives.

1.4 REGULATORY REQUIREMENTS

A. Standards: All work shall be performed in accordance with the latest revisions of the following standards and codes:
1. Latest Local Codes and Amendments
2. National Electrical Code, current version

B. Other References:
1. ANSI/TIA-568-C.0 – Generic Communications Cabling for Customer Premises...
2. ANSI/TIA-568-C.1 – Commercial Building Communications Cabling Standard Part 1: General Requirements.
3. ANSI/TIA 568-C.2 – Balanced Twisted-Pair Telecommunications Cabling and Components Standards
4. ANSI/TIA 568-C.3 – Optical Fiber Cabling Components Standard
5. ANSI/TIA-568-C.4, Coaxial Cabling Component Standard
6. ANSI/TIA-569-C – Commercial Building Standard for Telecommunications Pathways and Spaces.
7. ANSI/TIA-492.AAAC-B – Detail Specification for 850-nm Laser-Optimized, 50-um Core Diameter/125-um Cladding Diameter Class 1a Graded-index Multimode Optical Fibers (OM3/OM4). Current Edition
8. ANSI/ICEA S-83-596, Fiber Optic Premises Distribution Cable.
9. ANSI/TIA/EIA-598, Color Coding of Optical Fiber Cables
10. ANSI/ICEA S-87-640, Fiber Optic Outside Plant Distribution Cable.
11. ANSI/TIA/EIA-758: Customer-Owned Outside Plant Telecommunications Cabling Standard.
12. ANSI/TIA/EIA-526-7, Optical Power Loss Measurements of Installed Single mode Fiber Plant: OFSTP-7.
13. ANSI/TIA/EIA-526-14-A, Optical Power Loss Measurements of Installed Multimode Fiber Plant: OFSTP-14A
14. ANSI/TIA/EIA-TSB-125, Guidelines for Maintaining Optical Fiber Polarity Through Reverse-Pair Positioning
15. ANSI/TIA/EIA-TSB-140, Additional Guidelines for Field Testing Length, Loss, and Polarity of Optical Fiber Cabling Systems.
16. ANSI/TIA-606-B – Administration Standard for the Commercial Telecommunications Infrastructure
17. TIA/EIA-607-B - 2011 - Commercial Building Grounding and Bonding Requirements for Telecommunications
18. Institute of Electrical and Electronic Engineers (IEEE 802.xLAN)
19. TIA/EIA 942 Data Center Standards
20. Current BICSI Telecommunications Distribution Methods Manual
21. NFPA 70 – National Electrical Code (NEC).
22. BICSI – TDMM, Building Industries Consulting Services International, Telecommunications Distribution Methods Manual (TDMM).

C. Governing Codes and Conflicts: If the requirements of these specifications or the Project Drawings exceed those of the governing codes and regulations, then the requirements of these specifications and the Drawings shall govern. However, nothing in the Drawings or Specifications shall be construed to permit work not conforming to all governing codes, regulations, and manufacturer installation requirements.

1.5 ABBREVIATIONS

A. The following abbreviations are used in this document:

IDF	Intermediate Distribution Frame
MDF	Main Distribution Frame
UTP	Unshielded Twisted Pair
SCS	Structured Cabling System
RCDD	Registered Communications Distribution Designer

1.6 SUBMITTALS

A. Project Initiation: Within fourteen (14) days of Notice to Proceed, the data network system installer shall furnish the following in a single consolidated submittal:

1. Permits: The Contractor shall obtain all required permits and provide copies to the Owner / Architect / Engineer.
2. Product Literature: Complete manufacturer's product literature for all cable, patch panels, cross-connect blocks, cable supports, cable labels, outlet devices, and other products to be used in the installation. In addition, whenever substitutions for recommended products are made, samples (when requested by the Owner / Designer) and the manufacturer's supporting documentation demonstrating compatibility with other related products shall be included. The submittal shall have some type of distinguishing marker or pointer to indicated what specific product is to be provided
3. Construction Schedule: A time-scaled Construction Schedule, using PERT/CPM, indicating general project deadlines and specific dates relating to the installation of the cable distribution system.
4. Testing: Proposed Contractor UTP cable test result forms, fiber optic cable test result forms and a list of instrumentation to be used for systems testing.
5. Specification Compliance: A letter shall be provided stating, by section and subsection, that the SCS installer complies with the entire specification section. If the installer intends to deviate from any portion of the specifications, a detailed explanation of reason in which the installer would like to deviate shall be provided in addition to the specification compliance letter. No deviations shall be acceptable until they have been approved by the Owner.
6. Each Submittal must have a detailed parts list with quantities.
7. Certifications: The contractor shall submit all certifications for approved products and the certifications must contain dates which are valid from the date of proposal and not expirer any sooner than 12 months after substantial completion of the project.
    a. BICSI RCDD Certification: This certification must be held by an on-staff, full-time employee of the SCS installer. The holder must be staffed out of the office that is located within 75 miles of the projected.
    b. Certifications must be obtained by the SCS installer's office that is located within 75 miles of the project and shall be a company certification, not and individual certification.
    c. Certifications must be held by at least 25% of the, on-site, staff and be made available at the site if requested by the owner, architect, and/or project's technology consultant.
    d. Fiber Optic Technician Certification: This certification must be held by

the on-staff/on-site individual that is supervising the fiber optic installation and performing the fiber optic terminations and testing.

B. Shop Drawings: Submit the following items, for Owner review and approval, within twenty-eight (28) days of notice to proceed:
   1. Proposed circuit routing and circuit grouping plan prepared by a BICSI certified RCDD (Registered Communications Distribution Designer). The RCDD certification must be current. Identifiable, separate routing shall be shown for both the station cabling and the MDF-to-IDF tie cabling.
   2. In addition to the cable routing, the submitted drawings shall indicate the following, even if the following is expected to be provided by the project's electrical or general contractor:
      a. Location of wall penetrations (all penetrations shall be sleeved and contain protective bushings at both ends)
      b. Location of sleeved wall pass-thru
      c. Size of sleeve at each location installed
      d. Quantity of cable passing through each sleeve
      e. Location of drops in each room (quantity or labeling of drops are not required in the submittal plans. Labeling shall be provided in the closeout plans and quantities shall be as per the contract documents, addendums, and issued changes. Each drop shall be labeled for the type of outlet that it is)
      f. Conduit routing, size, quantity, and stub-up locations for all floor mounted outlets.
   3. Drawing Compliance: A letter shall be provided stating that the SCS installer complies with the entire project drawing, including all general, keyed, and notes to contractor. If the installer intends to deviate from any portion of the specifications, a detailed explanation of reason in which the installer would like to deviate shall be provided in addition to the specification compliance letter. No deviations shall be acceptable until they have been approved by the Owner.
   4. All subcontractors shall provide submittals to general contractor for normal distribution to Architects, Engineers and the Owner's project managers.

C. At Substantial Completion: Provide drawings, to the Owner, to reflect installed cabling with correct labeling and cable routing.

D. Close-out Procedures: Two (2) copies of the following documents shall be delivered to the building owner's representative at the time of system acceptance. Close out technology documents shall be separated from all other trade's documents. The close out finals shall include:
   1. Inspection and Test Reports: During the course of the Project, the Contractor shall maintain an adequate inspection system to ensure that the materials supplied, and the work performed, conform to contract requirements. The Contractor shall provide written documentation that indicates that materials acceptance testing was conducted as specified. The Contractor shall also provide documentation, which indicates that all cable termination testing was completed and that all irregularities were corrected prior to job completion.
   2. Provide complete test reports for all cabling and devices that comprise system as outlined in this document.
   3. Include the Name, address and telephone of the authorized factory representative with a 24-hour emergency service number.
   4. The manual shall also include Manufacturer's data sheets and installation manuals/instructions for all equipment installed a list of recommended spare parts.
   5. Generic or typical owner's instruction and operation manual shall not be acceptable to fulfill this requirement.

6. An up-to-date record ("as-built") set of approved shop drawing prints that have been revised to show each and every change made to the structure cabling system from the original approved shop drawings. Drawings shall consist of a scaled plan of each building showing the placement of each individual item of the technical cabling system equipment as well as raceway size and routing, junction boxes, and conductor size, quantity, and color in each raceway.
7. As-built Drawings shall include cable pathways, camera locations with correct labeling and MDF/IDF locations. A copy of the As-Built drawings reflecting the final locations of all cabling shall be given to the designated Owner's representative. The as-built drawings shall be prepared using AutoCAD 2012 or later. Provide the Owner with electronic versions of the as-builts on CD media.
8. All drawings must reflect final graphic numbering, point to point wiring, device address and programmed characteristics as verified in the presence of the engineer and/or the end user unless device addressing is electronically generated, and automatically graphically self-documented by the system.
9. A copy of the manufacturer's warranty on the installed system.
10. Any keys to cabinets and/or equipment and special maintenance tools required to repair, maintain, or service the system.
11. Operating and Maintenance Instructions for all devices within the system. These instructions shall reflect any changes made during the course of construction, and shall be provided to the Owner, for their use, in a three-ring binder labeled with the project name and description. (4 copies)
12. Upon completion of the work and at a time designated by the Architect or owner, provide formal training sessions for the Owner's operating personnel to include location, operation, and maintenance of all included systems and equipment. Minimum amount of training time shall be at least 4 hours.
13. One (1) 30" x 42" laminated floor plan sheets illustrating technology drops and cable designation with final graphic numbering. Contractor shall provide one complete floor plan sheet for each telecommunications room (MDF or IDF)

PART 2 - PRODUCTS

2.1 GENERAL

A. Reference Attachment 'B' to this specification, which contains the minimum materials list for this specific project.

B. Installation: The cabling shall be installed per requirements of the manufacturer and the Project Documents utilizing materials meeting all applicable TIA/EIA standards. The Contractor is responsible for providing all incidental and/or miscellaneous hardware not explicitly specified below as required for a complete and operational system.

C. Materials shall be as listed or shall be approved equivalent products of other manufacturers meeting the intent and quality level of the TIA/EIA specifications.

D. Testing: All installed cabling shall be tested 100% good after installation by the Contractor. All final test results shall be delivered to owner at completion of project. Refer to closeout requirements.

E. Ratings: All products shall be new and brought to the job site in the original manufacturer's packaging. Electrical components (including innerduct) shall bear the Underwriter's Laboratories label. All communications cable shall bear flammability testing ratings as follows:

CM Communications Cable

CMP Plenum Rated Communications Cable
CMR Riser-Rated Communications Cable

F. Initial Cable Inspection: The Contractor shall inspect all cable prior to installation to verify that it is identified properly on the reel identification label, that it is of the proper gauge, containing the correct number of pairs, etc. Note any buckling of the jacket that would indicate possible problems. Damaged cable or any other components failing to meet specifications shall not be used in the installation.

G. Cable Lubricants:
1. Lubricants specifically designed for installing communications cable may be used to reduce pulling tension as necessary when pulling cable into conduit.
2. Approved Products
a. Twisted-pair cable: Dyna-Blue
b. American Polywater

H. Fire Wall Sealant:
1. Any penetration through firewalls (including those in sleeves) will be resealed with an Underwriter Laboratories (UL) approved sealant.
2. Approved Products
a. 3M or
b. Pre-approved equal

2.2 DATA CLOSET (MDF/IDF) HARDWARE

A. Equipment Cabinets/Cabinets: Provide and install equipment cabinets and/or cabinets in locations indicated on the attached drawings for the following areas.
1. For all MDF/IDF locations: Contractor shall provide and install a new floor mounted cabinet/rack system or a wall mounted cabinet where indicated on plans. Refer to floor plan and enlarged MDF/IDF room layouts for number of cabinets/racks to provide at each location. If an enlarged detail is not available, the contractor shall provide the required number of racks to accommodate 100% of all termination components and an equal amount of owner equipment; as well as (1) spare rack. If an MDF/IDF is located in shared space, the contractor shall provide a floor supported, wall mounted cabinet system with all required doors and side panels to secure the equipment and termination components.

B. Distribution Cabinet/Cabinet Grounding: All Cabinets and/or Cabinets shall be grounded using stranded #6 AWG insulated copper conductor. Connect to service entrance grounding electrode. Provide all required bonding materials and hardware and bond to building grounding electrode subsystem at building electrical service entrance.

C. Fiber Optic Patch Panels:
1. The enclosures used shall provide termination panels for the specified type of connectors and be of sufficient size and capacity to terminate 110% of the fiber count of the inside of outside fiber optic cables. Patch panels must be 19” cabinet mountable. Provide all termination accessories, fiber patch cords, enclosures and test for a complete fiber optic distribution system.
2. Provide closet connector housing panels, size for 110% of total fiber count to be terminated.
3. ALL fiber strands must be terminated in fiber housing.

D. Patch Panels:
1. All patch cables shall be modular type patch panels to allow individual jacks to be inserted. All patch panels shall be fully populated with Jacks. Provide dust

caps for all unused jacks. Furnish units that adhere to the performance requirements TIA/EIA-568A standards.

2. Provide cable support bars at the back of all patch panels to provide additional support at rear of panels. Provide one (1) support bar for each row of 24-ports. Support bars will not be required if the closet design consist of rear horizontal cable management above and below each patch panel.

E. Rack Electrical:
   1. A power strip shall be installed vertical at the back of each data relay rack.
   2. Project electrical contractor to provide and install one electrical receptacle for each UPS installed on the entire project. Coordinate receptacle type and location with the installed product requirements and the technology consultant prior to installation.

F. Cable Management Panels:
   1. Provide cable management panels as required for vertical cable management on ends and in between all racks on entire project.
   2. Provide Velcro straps for cable dressing in MDF/IDF rooms.

G. MDF/IDF Patch Cables:
   1. Cabling Contractor shall provide owner with one (1) patch cable for each data drop on entire project. These cables will provide connectivity from the front of the network patch panels to the network equipment. The patch cables are to be terminated properly with RJ-45 connections on each end with the proper pin-out assignments per project configuration.
   2. All patch cables shall be factory terminated. NO EXCEPTIONS.

2.3 CABLE ROUTING/PATHWAY

A. Cable Tray:
   1. Metal cable tray shall be provided to affix to the top of all floor mount cabinets. Cable tray shall be used to brace cabinets to walls and to route cable from walls to cabinets in communication closets.
   2. Contractor to provide and install all applicable installation accessories.

B. Cable Support System:
   1. All low voltage cabling shall be installed and supported using an approved cable support system installed at 48” intervals unless installed in conduit. Do not exceed manufacturer’s recommendation for the quantity of cables supported in an individual support.
   2. Cable supports shall not connect to any ceiling grid wire or on any support attached to the ceiling grid.
   3. Cable supports shall not exceed a serviceable height of more than 5’, but no closer than 2’, above the finished ceiling.
   4. Cable supports can be attached to vertical walls or the building’s structure.
   5. If attached to the building’s structure, 3/8” threaded rod shall be utilized to extend down within the serviceable heights mentioned above. Grid wire hangers will not be accepted.

C. All cable bundles shall be grouped together using plenum rated Velcro for the entire run above and below the ceilings.

D. Conduit Bushings shall be installed prior to the installation of any cable. If cable is found to be installed without the bushing the cable will have to be removed and re-installed. No cut bushings will be accepted. If cable damage occurs during any portion of the installation, the cable will be removed and replaced at no cost to the project. This item

will be strictly enforced and adhered too.

E. The projects electrical contractor shall provide and install all metallic conduit and backboxes indicated to be installed on the drawings. It is the SCS installer's responsibility to coordinate all conduit requirements with the electrical contractor to ensure that all conduit sizes and locations are correctly installed. If box locations and conduit sizes are found to vary from the project documents after installation the SCS installer will bare all financial responsibility to ensure these items are installed correctly. The RCDD for the SCS will be responsible for ensuring conduit sizes are sufficient for cable count while maintaining a 40% fill ratio. If there is not electrical contractor on the project, the SCS Installer shall bear responsibility for the provision and installation of all required raceways.

2.4 STATION WIRING

A Wire: The data and voice wire provided for all outlets shall be four-pair, solid copper conductor, meeting the intent and quality level of the TIA/EIA-568 Commercial Building Wiring Standard.

B. Testing: The four-pair UTP cable must be UL Performance Level tested. Each 1000-foot spool must be individually tested with test results affixed to the spool. All cable must be provided on new 1000-foot spools. No shorts will be allowed.

C. Rating: Cable installed in conduit shall be non-plenum rated. Cable not installed in conduit shall be plenum rated if installed in plenum ceiling space, non-plenum rated otherwise.

D. All cable shall be routed to the center of the room in which it is serving and then route to the outlet location that it is intended for. Provide a 5' service loop in the center of the room and 5' service loop at each workstation outlet properly supported above ceiling. All workstation service loops shall be made in figure eight configurations, no exceptions.

E. Provide minimum of 10' service loop at all headend locations properly supported above ceiling.

F. Provide indoor/outdoor, plenum rated category cable at any outdoor data outlet or data outlets served by cabling that travels through subsurface conduit. This applies to station or horizontal cable runs only.

2.5 STATION HARDWARE

A. Information Outlet / Jack Modules:
1. Shall be high quality 8p/8c modular jacks with circuit board construction and IDC style or 110-style wire, T568B terminations. Jacks shall meet EIA/TIA TSB40 recommendations for connecting hardware
2. Shall be standard 8-position, RJ-45 Style, FCC compliant
3. Shall be designed for 4-pair, 100 Ohm balanced UTP Cable
4. Shall terminate 26-22 AWG solid or stranded conductors
5. Shall accept FCC compliant 6 position plugs.
6. Shall have attached wiring instruction labels to permit either T568A or T568B wiring configurations.
8. Shall meet or exceed transmission requirements for connecting hardware, as specified in ANSI/TIA/EIA-568-C2, Transmission Performance Specifications for 4-Pair 100 Ohm.
9. Shall be UL Listed and CSA certified.
10. Each jack shall have category rating identified on the front face.

B. Faceplates:
   1. Standard faceplates shall be a minimum of 4-port.
   2. Wall mounted telephone faceplates shall be 1-port.
   3. All faceplates shall be single gang.
   4. All blank inserts color shall be coordinated prior to procurement.

C. Outlet Patch Cables: Cabling Contractor shall provide owner with patch cable for each data drop on entire project. Each cable will be terminated properly with RJ45 connections on each end with appropriate pin-out assignments per project configuration.
   1. Cabling Contractor shall provide owner with patch cable for each data drop on entire project. Each cable will be terminated properly with RJ45 connections on each end with appropriate pin-out assignments per project configuration.
   2. Patch cords shall be stranded copper, matching the category of the installed cable.
   3. All patch cables shall be factory terminated. No exceptions

2.6 FIBER OPTIC PRODUCTS

A. Multimode: 50/125um, OM4+, multimode fibers, each with a color-coded PVC tight buffer shall have a maximum attenuation of 3.5 dB/km at 850 nm and 1.5 dB/km at 1300 nm. Minimum bandwidth shall be 2000 MHz/km at 850 nm and 500 MHz/km at 1300 nm.

B. Singlemode: Single mode fibers, each with a color-coded PVC tight buffer shall have a maximum attenuation of 1.0 dB/km at 1310 nm and 1.0 dB/km at 1550 nm.

PART 3 - EXECUTION

3.1 GENERAL

A. Fire Wall Penetrations: The contractor shall avoid penetration of fire-rated walls and floors wherever possible. Where penetrations are necessary, they shall be sleeved with metallic conduit and resealed with an Underwriter Laboratories (UL) approved sealant. Contractor shall also seal all floor, ceiling and wall penetrations in fire or smoke barriers and in the wiring closet.

B. Allowable Cable Bend Radius and Pull Tension: In general, communications cable cannot tolerate sharp bends or excessive pull tension during installation. Refer to the cable manufacturers allowable bend radius and pull tension data for the maximum allowable limits.

C. Cable Lubricants: After installation, exposed cable and other surfaces must be cleaned free of lubricant residue.

D. Pull Strings: Provide pull strings in all new conduits, including all conduits with cable installed as part of this contract. Pull test is not to exceed 200 pounds. Data and video cables can be pulled together with pull strings.

E. Conduit fill shall not exceed 40%.

F. Damage:
   1. The Contractor shall replace or rework cables showing evidence of improper handling including stretches, kinks, short radius bends, over-tightened bindings, loosely twisted and over-twisted pairs at terminals and cable sheath removed too far (over 1-1/2 inches).

2. The Contractor shall replace any damaged ceiling tiles that are broken during cable installation.

G. Clean Up: All clean up activity related to work performed will be the responsibility of the Contractor and must be completed daily before leaving the facility.

H. Conduit and Back Boxes:
1. The Contractor shall ensure that the appropriate back boxes and conduits, for the project, are provided as required.
2. One (1) 1" conduit will be required each outlet that serves one to a maximum six (6) category 6 or a maximum of four (4) category 6A cables. Provide additional conduit for cable counts that exceed this number.
3. One (1) double gang deep box will be required for each technology outlet. All boxes except Presentation outlets will be required to have a single gang reducer ring.

3.2 EQUIPMENT CABINET CONFIGURATION

A. Equipment Cabinets: Equipment racks shall be assembled and mounted in locations shown on the Drawings and as detailed. Each rack shall be securely mounted to the floor and braced to the wall with cable tray in accordance with the manufacturer's instructions and recommendations. Racks shall be mounted such that the side rails are plumb with vertical cable management panels. Racks to be located such that future expansion can occur without relocating existing racks. Racks shall be grounded in accordance with NEC requirements.

B. Wire Management Components: Horizontal cable management panels shall be installed directly above and below each patch panel. Vertical cable management panels shall be installed on each side of the cabinet.

C. Cable Placement: Cable installation in the Wiring Closet must conform to the Project Drawings. All cabling shall be routed so as to avoid interference with any other service or system, operation, or maintenance location. Avoid crossing area horizontally just above or below any riser conduit. Lay and dress cables to allow other cables to enter the conduit/riser without difficulty at a later time by maintaining a working distance from these openings.

D. Cable Routing: Cable shall be routed as close as possible to the ceiling, floor or corners to ensure that adequate wall or backboard space is available for current and future equipment. All cable runs within the Wiring Closet shall be horizontal or vertical within the constraints of minimum cable bending radii. Minimum bend radius shall be observed. Cables shall not be tie-wrapped to electrical conduit or other equipment.

E. Installation: All incoming cables shall be routed on the cable tray and neatly dressed down to the patch panels. Cable bundles shall not exceed more than 48 cables to patch panel.

F. Hardware: Provide cabinet and jack panel hardware as required for all data station wiring.

3.3 STATION WIRING INSTALLATION

A. General:
1. Cabling between wiring closet and workstation locations shall be made as individual home runs. No intermediate punch down blocks or splices may be installed or utilized between the wiring closet and the communications outlet at

the workstation location.

2. All cable must be handled with care during installation so as not to change performance specifications. Factory twists of each individual pair must be maintained up to the connection points at both ends of the cable. There shall never be more than one and one-half inches of unsheathed UTP cable at either the wiring closet or the workstation termination locations.
3. All cable shall be routed to the center of the room in which it serves before routing to the outlet location and a 5' service loop shall be provide. An addition 5' service loop shall be provided above ceiling at the outlet location. All service loops shall be figure 8 loops.

B. Exposed Cable:
1. All cabling shall be installed inside walls or ceiling spaces whenever possible. Exposed cables and/or cables routing through mechanical rooms, electrical rooms, or restrooms shall be installed inside conduits, unless noted otherwise on the project drawings.
2. Additional exposed cable runs will require Owner approval and will only be allowed when no other options exist.
3. All cable routing through conduits and sleeves shall maintain a 40% maximum conduit fill ratio.

C. Placement: All cabling and associated hardware shall be placed so as to make efficient use of available space. All cabling and associated hardware shall be placed so as not to impair the Owner's efficient use of their full capacity.

D. Cable Routes:
1. All cabling placed in ceiling areas must be in conduit, or Panduit Corp. J-MOD modular cable support with Velcro cable wrap at each location. Cable supports shall be permanently anchored to building structure or substrates. Provide attachment hardware and anchors designed for the structure to which attached and that are suitably sized to carry the weight of the cables to be supported. Do not route cable through webbing of structural steel. Cabling must be supported in dedicated supports intended to support cabling as described in this section. Contractor shall adhere to the manufacturer's suggested fill ratio for each size cable support installed. No support shall have more than 48 cables.
2. Attaching cable to pipes or other mechanical items is not permitted. Communications cable shall be rerouted so as to provide a minimum of 18 inches spacing from light fixtures, sources of heat, power feeder conduits and EMI sources. Cabling shall not be attached to ceiling grid support wires. Cable runs shall be routed down the corridors; parallel or perpendicular to building structure. Multiple cables to be bundled together at and between each cable support installed.
3. Contractor shall be responsible for coordinating with other trades on the project so that the installed cable pathway does not interfere with the installation of other systems to insure that mechanical ducts, pipes, conduits, or any other above ceiling systems are not putting unnecessary stress on any portion of the install SCS.
4. All (48) cable bundles shall be routed directly to the MDF or IDF that serves the area. All bundles shall remain separated for the length of the cable run.
    a. Provide data outlet for irrigation controllers. Coordinate location with landscape consultant.
    b. Provide data outlet for time clock appliance in main custodian office.
    c. Provide OSP or flooded/gel filled cat6 cable at any outdoor data outlet or data outlets served by cabling that travels through subsurface conduit. This applies to station or horizontal cable runs only.

3.4 STATION HARDWARE

A. Flush Mount Jacks shall be mounted in a faceplate with back box.

B. Placement:
   1. Where possible, the communications outlet shall be located so that its centerline is 18 inches above floor level or 12 inches above permanent bench surfaces. Outlets shall not be mounted on temporary, movable, or removable surfaces, doors, or access hatches.
   2. Outlets shall be installed within 3’-0” of power outlets

C. RJ-45 Jack Pin Assignments:
   1. Pin connections for data station cable outlets and patch panels shall match EIA/TIA 568 modular jack wiring recommendation T568B.
   2. Pin connections at data jack panels shall match pin connections at outlets (straight through wiring)

3.5 CABLE TESTING REQUIREMENTS

A. Notification: The Owner and Engineer shall be notified one week prior to any testing so that the testing may be witnessed.

B. Inspection: Before requesting a final inspection, the Contractor shall perform a series of end-to-end installation performance tests. The Contractor shall submit for approval a proposal describing the test procedures, test result forms and timetable for all copper and fiber optic cabling.

C. Procedures:
   1. Trained personnel shall perform all testing. Acceptance of the test procedures discussed below is predicated on the Contractor’s use of the recommended products and adherence to the inspection requirements and practices set forth. Acceptance of the completed installation will be evaluated in the context of each of these factors.
   2. Acceptance shall be subject to completion of all work, successful post-installation testing which yields 100% PASS rating, and submittal and approval of full documentation as described above. Tests with the "* PASS" (asterisk) will not be acceptable. These circuits must be repaired to meet "PASS".

E. Errors: When errors are found, the source of each shall be determined, corrected and the cable retested. All defective components shall be replaced and retested. Re-test results must be provided on Owner approved forms and witnessed by Owner.

F. Twisted Pair Cable Testing:
   1. At a minimum, the Contractor shall test all station drop cable pairs from Data Closet termination patch panels to outlet device RJ45 jacks. Products shall be tested for compliance with ANSI/TIA/EIA 568A and ISO/IES 11801. Test equipment used shall meet TIA/EIA TSB-67, Level II accuracy. Further, the contractor shall have a copy of TSB-67 in their possession and be familiar with its contents.
   2. Each wire/pair shall be tested at both ends for the following:
      a. Wire map (pin to pin connectivity)
      b. Length (in feet)
      c. Attenuation
      d. Near end cross talk (NEXT)
      e. Power Sum
   3. Test equipment shall provide an electronic and printed record of these tests.

4. Test results for each four-pair UTP cable must be submitted with identification to match labels on all patch panel ports and RJ45 jacks and must match as-builts associated with that cable.

G. Fiber Optic Cable Testing:
1. Testing device for fiber optic cables shall be a high quality OTDR (Optical Time-Domain Reflectometer) equipped with a printer. The printed data shall show, in addition to any summary information, the complete test t0.and all relevant scale settings. The OTDR must have the capability to take measurements from bare fiber strands as well as SC connector terminations.
2. All fiber optic cable shall be tested on the reel before installation to ensure that it meets the specifications outlined herein.
3. After installation the Contractor shall test each fiber strand in accordance the EIA 455-171 Method D procedures (bi-directional testing) at both 850nm and 1300nm for multimode or 1310nm and 1550nm for single mode. A form shall be completed for each cable showing data recorded for each strand including length, total segment (end-to-end) loss (dB) and connector losses (dB) at each end. In addition, the printed data strip for each strand shall be attached to the form. Patch cables shall also be tested.
4. Acceptable fiber optic connector loss shall not exceed .75dB per mated pair. The Contractor is responsible for obtaining minimum loss in fiber connections and polishing per manufacturer specifications.
5. Singlemode fibers shall have a maximum attenuation of 1.0 dB/km at 1310 nm and 1.0 dB/km at 1550 nm.
6. Multimode: 50/125um micron multimode fibers shall have a maximum attenuation of 3.5 dB/km at 850 nm and 1.5 dB/km at 1300 nm. Minimum bandwidth shall be 2000 MHz/km at 850 nm and 500 MHz/km at 1300 nm.

3.6 INSPECTION

A. Conformance to the installation practices covered above is to be verified when completed. In some cases, the Owner/Designer may inspect before acceptance.
1. Written Test Report:
a. Complete test results, including actual values associated with tests.
b. Show all certifications for telecommunications wiring systems.
c. Include cable maps showing each cable route and keyed to cable labels. Provide owner with complete floor plans identifying outlet location and cable routing drawing in AutoCAD format. Provide electronic copy of drawings to owner in AutoCAD version 2012 or greater.
d. Documentation of outlet, cable and cabinet labeling system.

B. After performing all tests, tabulate results and bind together in format acceptable to Owner. Installer shall provide written certification in the test report that telecommunications cable is properly installed, and test results certify system to all specified standards.

ATTACHMENT 'A'

PROJECT SPECIFIC SCOPE OF WORK AND INSTRUCTIONS

PART 1 – SUMMARY OF WORK

1.1 DESCRIPTION OF WORK

A. This project consists of the provision and installation of a Structured Cabling System (SCS) as required to support network connectivity to workstations, telephones, video surveillance, access control, building automation, electrical lighting, and any other system requiring network connectivity. The project is a renovation of Cy Falls HS.

B. The work includes provision and installation of a complete Cabling System (SCS) in compliance with these specifications and associated drawings, pre-proposal addenda, change orders, change directives and any other documents issued both pre-proposal and during the project.

C. The SCS Installer shall comply with all conditions of the contract and "Division 1 – General Requirements" as they apply to the SCS Scope of Work. It shall be the responsibility of the SCS Contractor to make themselves familiar with all documents.

D. It should not be assumed that any portions of a complete and functional system are to be *furnished and/or provided by anyone, other than the SCS installer, unless specifically stated otherwise.*

E. Division of responsibilities:
OFOI = OWNER FURNISHED AND OWNER INSTALLED
CFCI = CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED
1. CATEGORY 6A CABLING – OFOI
2. MDF/IDF NETWORK EQUIPMENT – OFOI
3. VOIP TELEPHONES – OFOI
4. WIRELESS ACCESS POINTS – OFOI
5. UNINTERRUPTIBLE POWER SUPPLIES – OFOI
6. RACEWAY: CONDUIT, BACK BOXES, SLEEVES, ETC – CFCI

1.2 STRUCTURED CABLING SYSTEM – ADDITIONAL INSTRUCTIONS

A. Base Proposal:
1. The SCS Installer shall provide and install a Commscope/Systimax End-to-End Structured Cabling System as per these specifications and associated drawings. The Base bid SCS shall consist of:
    a. Category 6A cable and connectivity to each Video Surveillance Camera, Voice/Data Outlet, Access Controlled Door, and any other locations requiring Local Area Network Connectivity.
    b. Category 6A cable and connectivity to each Wireless Access Points.
    c. Each connectivity solution be a complete Channel Solution; consisting of jacks, patch panel, and patch cables.
    d. Each channel solution shall be color coded to the system in which it serves.
2. The products specified in Attachment 'B' are intended to establish quality, functionality, color, and standards. The following shall be considered preapproved equivalent for each specific portion of the SCS.
    a. Category 6A copper cable
        1) Commscope/Systimax

b. Category 6A copper cabling, termination components, and patch cables
    1) Commscope/Systimax
c. Fiber Optic Cabling and Components:
    1) Commscope
d. Metals (racks, cable managers, and cable tray):
    1) Commscope
e. Manufacturer approval request must be submitted in compliance with the Division 1 instructions and must be received no less than ten (10) business days prior to the posted proposal submission date. No substitutions will be allowed if not submitted per these instructions and approved via official pre-bid addendum.

1.3 COPPER PATCH PANELS

A. The SCS Installer shall provide and install patch panels as per the instructions below.
    1. 24-port patch panels shall only be used for copper tie cables and demarcation extensions.
    2. Provide dedicated, 48-port patch panels for each of the following system (reference color code chart for designated insert and patch panel color coding per system):
        a. LAN and IP Telephones
        b. Wireless Access Points
        c. IP Intercom
        d. Video Surveillance Cameras

1.4 COPPER AND FIBER OPTIC PATCH CABLE LENGTHS

A. The SCS Installer shall provide copper and fiber optic patch cables as per the instructions below. All patch cables shall be factory terminated and warrantied for the copper and fiber solutions specified.
    1. MDF/IDF Copper Patch Cables:
        a. Patch cables shall be category 6A
        b. Provide one patch cable for each port on the entire project
        c. Patch cables to be installed by network equipment installer/programmer
        d. Patch cable lengths
            1) 95% shall be 5’
            2) 5% shall be 7’

    2. Work Area Outlet Copper Patch Cables:
        a. Patch cables shall be category 6A
        b. Provide one patch cable for each port on the entire project
        c. Patch cables to be installed by the owner.
        d. Patch cable lengths
            1) 90% shall be 10’
            2) 10% shall be 15’

    3. Wireless Access Point Copper Patch Cables:
        a. Patch cables shall be category 6A
        b. Provide one patch cable for each port on the entire project
        c. Patch cables to be installed by wireless system installer.
        d. Patch cable lengths
            1) Interior Ceiling Access Points: 100% shall be 1.5’
            2) Interior Wall Mounted Access Points: 100% 1’
            3) Exterior Access Points: 100% shall be 15’

4. Video Surveillance Camera Copper Patch Cables:
   a. Patch cables shall be category 6A
   b. Provide one patch cable for each port on the entire project
   c. Patch cables to be installed by the Video Surveillance System Installer.
   d. Patch cable lengths
      1) Interior Ceiling Cameras: 100% shall be 1.5’
      2) Interior Wall Mounted Cameras: 100% 3’
      3) Exterior Cameras: 100% shall be 15’

5. IP Intercom Copper Patch Cables:
   a. Patch cables shall be category 6A
   b. Provide one patch cable for each IP Intercom device on the entire project, plus an additional twenty (20) for future use.
   c. Patch cables to be installed by the IP Intercom System Installer.
   d. Patch cable lengths
      1) Interior Ceiling Speakers: 100% shall be 1.5’
      2) Interior Wall Mounted Speakers: 100% 1’
      3) Exterior Speakers: 100% shall be 15’

6. MDF/IDF Fiber Optic Patch Cables:
   a. Patch cables shall be OS2 (Single-mode).
   b. Patch cable shall be duplex, LC to LC
   c. Provide quantity sufficient for connecting all network equipment plus 20% for growth.
   d. Patch cables to be installed by network equipment installer/programmer
   e. Patch cable lengths
      1) 100% shall be 3 meters

7. Prior to submittal and procurement of fiber optic and copper patch cables, the contractor shall coordinate with the project Consultant and Owner of final requirement for cable lengths on the specific project.

1.5 SYSTEM SPECIFIC COLOR REQUIREMENTS

A. The following information shall apply to the complete SCS Channel. All cable, patch cables, outlet terminations, and closet terminations shall be provided in the colors designated below:

Item	Description	Horizontal Cable	Insert	Patch Cables
1	Data	Blue	Blue	Blue
2	VoIP Telephone	Blue	Blue	Blue
3	Wireless	Orange	Orange	Orange
4	Camera	Lilac	Lilac	Lilac
5	Access Control	Lilac	Lilac	Lilac
6	Intrusion Detection	Lilac	Lilac	Lilac
7	PA System	White	White	White

1.6 DOCUMENTATION

A. Labels:

The Contractor will label all outlets using permanent / legible typed or machine engraved labels approved by the Owner (no handwritten labels permitted). Label patch panels in the wiring closet to match those on the corresponding data outlets. The font shall be at least one-eighth inch (1/8") in height, block. All labels shall correspond to as-builts and to final test reports.

1. The following nomenclature shall be used when labeling data/voice jacks:
    a. All cables being served by MDF closet shall begin with 'A' all IDF served cables shall begin with numerical digit 'B' thru 'Z') designating the specific IDF's identification.
    b. Next identification character shall be a numeric digit identifying the specific patch panel that is serving outlet (1, 2, 3…)
    c. Next identification shall note what # data port on patch panel (01 thru 48).

Example:
Label of an outlet from 23rd port of the third patch panel from top of rack located at IDF-2 shall read: C-3-23
Label of an outlet from the 5th port of the second patch panel from the top of rack located in the MDF shall read: A-2-05

B. Floor Plan:
A floor plan clearly labeled with all outlet jack numbers shall be included in the as-built plans.

C. Cables: All cables shall be labeled at both ends. This includes but not limited to horizontal voice and data cabling, copper backbone tie cables, and fiber optic cables.

D. Fiber Optics: Fiber optic strands shall be labeled at both ends on the fiber distribution panel.

E. Equipment racks: Equipment racks shall bear at least one indicating label indicated MDF or IDF. If rack is installed in IDF, label shall include IDF #.

F. Access Points: Label ceiling grid with digital label according to location installed and a bright orange ¾" round dot sticker.

ATTACHMENT 'B'
MANUFACTURER AND MATERIAL LIST

The Communications Contractor shall perform no portion of the work requiring submittal and review of record drawings, shop drawings, product data, or samples until the respective documentation has been approved by project's Technology Consultant.

MATERIAL LIST

MANUFACTURER	DESCRIPTION	PRODUCT NUMBER	NOTES
Commscope	4-post Equipment Rack (45U) 12-24 Tapped Rails, Black	760082560 | RK4P45-36A	Provide as shown on Drawing, minimum of one (1) in the Building's MDF.
Commscope	2-post Equipment Rack (45U) 12-24 Tapped Rails, Black	760082479 | RK3-45A	Provide as shown on Drawing, minimum of one (1) in the Building's MDF and each IDF.
Chatsworth	12U-21U wall mount cabinet	11996-7**	CUBE-iT wall-mount cabinet. Replace ** with 24 for tempered glad door for Press box application. Replace ** with 36 for IDF application.
Commscope	Vertical Cable Management Kit, 8in W X 84in H Single Sided, Black	760244816	Provide and install between each rack and at both ends of all rack systems
Commscope / Systimax	GigaSPEED X10D® XL® M4800 1U Modular Panel, 48 port, for SYSTIMAX Category 6A and 6 Jacks	760105429 | M4800-1U-GS	Provide in quantities as required to terminate 100% of all distribution structured cabling, plus 25% for future growth. Reference project drawings. Voice/Data, Security, and WLAN shall have dedicated panels per system.
Commscope / Systimax	GigaSPEED X10D® XL® M2400 1U Modular Panel, 24 port, for SYSTIMAX Category 6A and 6 Jacks	760118323 | M2400-1U-GS	Provide in quantities as required to terminate 100% of all distribution structured cabling, plus 25% for future growth. Reference project drawings. Voice/Data, Security, and WLAN shall have dedicated panels per system.
Commscope	Copper Ground Buss Bar, 1/4 in x 4 in x 12 in	UGBKIT-0412	Provide one (1) in each MDF and IDF on the entire project
Commscope / Systimax	High Density 1U modular cassette sliding Panel, accepts (4) G2 modules or MPO panels, providing up to 48 duplex LC ports, or up to 32 MPO ports	760209940 | HD-1U	Provide as per the project drawings. Or as required, to accommodate all fiber optics in the IDFs, if not shown on drawings
Commscope / Systimax	High Density 2U modular cassette sliding Panel, accepts (8) G2 modules or MPO panels, providing up to 96 duplex LC ports or up to 64 MPO ports	760209957 | HD-2U	Provide as per the project drawings. Or as required, to accommodate all fiber optics in the MDF/IDFs, if not shown on drawings

MANUFACTURER	DESCRIPTION	PRODUCT NUMBER	NOTES
Commscope / Systimax	High Density 4U modular cassette sliding Panel, accepts (16) G2 modules or MPO panels, providing up to 192 duplex LC ports or up to 128 MPO ports	760209965 | HD-4U	Provide as per the project drawings. Or as required, to accommodate all fiber optics in the MDF/IDFs, if not shown on drawings
CommScope	Rear cable management, rack moutnable	360-RCM-RM (760104737	
CommScope	Rear cable manager bar, 19in, 5in deep	NETCONNECT (557548-1)	
Commscope / Systimax	360 Distribution Adapter Pack, Singlemode, 12 LC with internal shutters	760109389 | 360DP-12LC-SM	Provide as required to accommodate 110% of all fiber terminated in each MDF/IDF
Commscope / Systimax	360 Distribution Adapter Pack, Singlemode, 24 LC with internal shutters	760115915 | 360DP-24LC-SM	Provide as required to accommodate 110% of all fiber terminated in each MDF/IDF
Commscope / Systimax	Category 5e PowerSUM 1100 U/UTP Patch Pane, 24-port	760182907 | 1100-U-PS-24	Provide in quantities as required to terminate 100% of all copper backbone cable. Reference project drawings.
Commscope / Systimax	GigaSPEED X10D® 360GS10E Solid Cordage Modular Patch Cord	CPCSSX2-0xFyyy	x' to be replaced with alpha or numeric character depicting the color of the patch cable. 'yyy' to be replaced with a numeric value depicting the patch cable length, in feet. Colors shall comply with designated color of the system each cable is provided for. Length to comply as stated in these specifications and coordinated with the Owner's Technology department
Commscope / Systimax	CommScope® Category 6A U/UTP Cord, Plenum , RJ45 to Ceiling connector, 1.5 ft, WHITE	CCA-CAT6A-PLENUM-WHITE-N018	Provide for all above ceiling terminations (IP Intercom Speakers, Wireless Access Points, Video Surveillance Cameras, etc.)
Commscope	10 ft. x 12 in Ladder Rack Straight Section, Black	760085647 | CR-SLR-10L12W	Provide as shown on drawings. Tray shall route to and between all racks, in each MDF/IDF, on the entire project.
Commscope	Ladder Rack, 90° radius, Horizontal E-Bend Section, 12", Black	760085530 | CR90FCB-12W	
Commscope	Ladder Rack Inside Curved Section, 12", Black	760085688 | CR90ICB-12W	

MANUFACTURER	DESCRIPTION	PRODUCT NUMBER	NOTES
Commscope	Ladder Rack Outside Curved Section, 12", Black	760086082 | CR90OCB-12W	
Commscope	Rack-to-Runway Mounting Kit, black in color	760084053 | CRR2RRMK	Provide one (1) at the top of each rack and/or cabinet on the entire project.
Commscope	Ladder Rack wall angle support kit, 12", black	760084145 | CR6-12WRSK	Provide one (1) at each location where the ladder tray system terminates at a wall
Commscope	Ladder Tray Triangle Support Bracket, 12", Black	760084095 | CRTWSBK-12W	Provide every 5' of horizontal ladder tray section routing along the communication room walls.
Commscope	Vertical Wall Bracket	760084137 | CRVWBK	Provide one kit every 5' of vertical wall ladder rack, minimum of two kits at top and bottom. Contractor to provide vertical wall cable tray section at locations where the service entrance and backbone thru-floor sleeves are located
Commscope	Ladder Rack protective end cap kit (2 caps), black	760084012 | CRPECK	Provide one kit at each exposed end of ladder rack
Commscope	Ladder Tray, junction splice kit, black	760084046 | CRTJSK	
Commscope	Ladder Rack, butt splice kit, black	760083899 | CRBSK	
Commscope	Ladder Tray Radius Drop Kit, 12", Black	760083956 | CRDK-12W	Provide one (1) at each location where cable drops to the rack associated rack.
Commscope	Ladder Rack Retaining Post Kit	760083980 | CRRP-8H	Provide one (1) set at all ladder rack junctions and horizontal bends to prevent cable from dropping off thru ladder rack system.
Commscope / Systimax	GigaSPEED X10D® 2091B ETL Verified Category 6A U/UTP Cable, 4 pair count, 1000 ft length, WE TOTE® box	2091B ** 4/23 W1000	** to be replaced with numeric character depicting the color of the cable. Colors shall comply with designated color of the system each cable is provided for. **=Blue for voice/data **=Purple for security cameras, door access **=Orange for wireless **=White for intercom
Commscope / Systimax	GigaSPEED X10D® MGS600 Series Information Outlet	MGS600-yyy	yyy' to be replaced with numeric character depicting the color of the Information Outlet (IO). Colors shall comply with designated color of the system each IO is provided for. Yyy=262 for white for intercom Yyy=318 for blue for data yyy=361 for violet for cameras, access control

MANUFACTURER	DESCRIPTION	PRODUCT NUMBER	NOTES
			yyy=112 for orange for wireless
Commscope / Systimax	Single Gang, Stainless Steel, M-Series Faceplate	M1*SP	* to be replaced with a numeric character that depicts the port quantity of the faceplate. All faceplates shall be a minimum of 4-ports, with the exception of specialty outlets such as Wall Phones, Wireless Access Points, Video Surveillance Cameras, etc.
Commscope	TeraSPEED® Plenum Distribution Cable, interlocking aluminum armored with plenum jacket, 12 fiber	760127803 | P-012-DZ-8W-FSUYL	
Commscope	48 Fiber, Single Jacker/Single Armor, Gel-Free, Outdoor stranded Loose Tube Cable, Single Mode	760053280 | D-012-LA-8W-F12NS	
Commscope	12 Fiber, Riser Rated, Distribution cable, SM	760086371 | R-012-LN-8W-F12BK/25D	
Commscope	Field Installable LC Connector, SM-UPC, Blue, for 250/900u	760117895 | SFC-LCF-09-8X	1 per pack
Commscope	Field Installable LC Connector, SM-UPC, Blue, for 250/900u	760117895 | SFC-LCF-09-8X-25	25 per pack
Commscope	Singlemode LC to LC, Fiber Patch Cord, 1.6 mm Duplex, Riser	FEWLCLC42-JXM***	*** to be replaced with a numeric value depicting the cable length in meters
Commscope	25-Pair PowerSUM U/UTP 2061F Series Plenum Cables	2010B WH 25/24 R#####	Provide one (1) from the MDF to each IDF on the entire project. #### to be replaced with numeric characters that depict the cable length
Panduit	LD non-metallic series low voltage, one-piece hinged design, single channel surface raceway includes adhesive backing and is made of impact resistant material with a smooth finish that will not scratch, peel, or corrode. The raceway includes an assortment of bend radius and standard fittings that complement the offering to help route, protect, and conceal low voltage data, voice, and video cabling	Pan-Way LD surface raceway system.	Coordinate with architect and owner on color.

MANUFACTURER	DESCRIPTION	PRODUCT NUMBER	NOTES
Dynacom	Unwired, 66-Style Termination Block with clear, hinged cover	66M1-50	Provide one (1) for each 25-pair demarcation extension cable
Dynacom	66 wiring block, metal backboard, blue in color	183C*M	* to be replaced with a numeric value depicting the board size. Provide at each demarcation point for the mounting of the 66 wiring blocks. Board size shall consist two (2) mounting brackets per 25-pair cable installed.
Ditek	10GbE, Single Channel, RJ45/RJ45, PoE Surge Protector, STP Category 6/6A	DTK-MRJPOES	Provide one for each copper network cable associated with an exterior device, up to two (2) cables. Bond to TGBB per manufacturer's instructions
Ditek	Rack Mount,10GbE, 12-Channel, RJ45/RJ45, PoE Surge Protector, STP Category 6/6A	DTK-RM12NETS	Provide one for every four (4) to ten (12) copper network cables associated with an exterior device and originating at the same MDF/IDF. Bond to TGBB per manufacturer's instructions
Ditek	Rack Mount,10GbE, 24-Channel, RJ45/RJ45, PoE Surge Protector, STP Category 6/6A	DTK-RM24NETS	Provide one for every Thirteen (13) to Twenty-Four (24) copper network cables associated with an exterior device and originating at the same MDF/IDF. Bond to TGBB per manufacturer's instructions
EXTENDED DISTANCE POWERED FIBER FOR WIRELESS AP AND VIDEO SURVEILLANCE CAMERAS			
CommScope	Power Express Distribution shelf with alarm module	PFP-PX-S1	Power Express Class 2 shelf and starter kit, accommodates up to 4 modules of 8 SELV/Class 2 outputs, 1U
CommScope	Power Express Distribution module.	PFP-PX-8M	
CommScope	Power Express Blank Slot Panel	PFP-PX-SF	Provide one (1) for every empty slot.
CommScope	SPS Rectifier Power Distribution Shelf	PFP-SPS-1	
CommScope	1600W SPS Power Rectifier module	PFP-SPS-1600M	
CommScope	SPS Rectifier Controller Display	PFP-SPS-C1	Provide one per SPS Rectifier Power Distribution Shelf
CommScope	SPS Rectifier Blank Slot Panel	PFP-SPS-SF	Provide one (1) for every empty slot.
CommScope	CS34O Category 6 U/UTP filled Cable, outdoor direct burial, black jacket, 4 pair count, 1000 ft (305 m) length, reel	UN884019904/10 | CS34O BLK C6 4/24 U/UTP RL 1KFT	
CommScope	OS2, Outdoor, 4-Strand Fiber	PFC-S04012	
Transition Networks	Gigabit SFP Module	TN-GLC-LH-SM.	Provide one (1) for each POE extender.

MANUFACTURER	DESCRIPTION	PRODUCT NUMBER	NOTES
CommScope	PoE Extender, 2 Port Universal Mount, Outdoor, 60 Watt, 2-Port	PFU-P-C-0-060-02	
Hoffman	22” X “22” back panel	CP2424	
Hoffman	24”x24”x8” NEMA-4 junction box.	CSD24248	
Hoffman	Padlock Handle	CWHPTO	

END OF SECTION

01/30/2025

SECTION 28 20 00

VIDEO SURVEILLANCE SYSTEM (VSS)

PART 1 - GENERAL

1.1 RELATED WORK

A. The following, in their entirety and as applicable, shall apply to this section. Including any associated drawings.
   1. Conditions of the Contract
   2. Division 1
   3. Division 26
   4. Division 27
   5. Division 28

1.2 DESCRIPTION OF WORK

A. Expand existing IP based digital video surveillance system (VSS) including cameras, cabling, digital image storage, integration and accessibility with Owner's Local/Wide Area Network (LAN/WAN), Internet accessibility thru remote view application software and simultaneous user access capability. Provide fully terminated unshielded twisted pair (UTP) cable, UTP terminations, racks, raceways, conduit, and other incidental and miscellaneous premises wiring system hardware as required for a complete and useable system. The installation shall comply with applicable codes and standards in effect at the job site and as indicated in the Specifications and Drawings. Provide all necessary equipment and programming for a complete and functional system.

B. The system shall be Non-Proprietary in nature and be available through multiple distribution channels in the nearest metropolitan marketplace. Systems that are manufactured and installed by a factory office and are not available through multiple distribution channels will not be accepted.

C. Provide all electronic hardware and coordinate with the building's LAN/WAN. The contractor shall coordinate with other system vendors, where appropriate, to facilitate equipment installation, scheduling, protection of equipment and access to the project site in order to provide the Owner a substantially complete project in a timely manner.

D. Acceptable manufacturers of NVR equipment shall be GCON Systems Enterprise Class NVR System or BCD Video Network Video Recorder only. Contractor must be a current Exacq Enterprise Certified integrator of the solution in the Houston marketplace and be able to include information on current support staff to be able to service this client. Seneca NVR part numbers and configuration are listed in the specification to define equipment capabilities and requirements for this project.

E. Contractor must be a current integrator of solution in the Houston marketplace and be able to include information on current support staff to be able to service this client as needed 24x7 for emergency support.

F. Contractor shall provide a complete turnkey solution to the owner and be responsible for the complete installation of a security camera system.

G. The contractor must be in good standing with the district and have no outstanding

performance or warranty items at the time of bid. Any outstanding items or issues is grounds to disqualify the contractors bid.

1.3 QUALITY ASSURANCE

A. Installer Qualifications:
   1. The Video Surveillance System Installer shall be Exacq Enterprise certified and shall meet all applicable regulations. The Contractor shall be a firm normally employed in the security and surveillance industry.
   2. The contractor shall be certified by the manufacturing company in all aspects of design, installation and testing of the products described herein. Each contractor shall furnish with their submittal a letter from the manufacture indicating they are a dealer in good standing.
   3. The contractor must be certified by the manufacturer of the products, adhere to the engineering, installation and testing procedures and utilize the authorized manufacturer components and distribution channels.
   4. The contractor shall be experienced in all aspects of this work and shall be required to demonstrate direct experience on recent systems of similar type and size. The contractor shall own and maintain tools and equipment necessary for successful installation and testing of video surveillance distribution systems and have personnel who are adequately trained in the use of such tools and equipment.
   5. A resume of qualifications shall be submitted with the Contractor's proposal indicating the following:
      a. A list of five recently completed projects using the product proposed of similar type and size with contact names and telephone numbers for each.
      b. A list of test equipment proposed for use in verifying the installed integrity of metallic cable systems on this project.
      c. A technical resume of experience for the contractor's Project Manager and on-site installation supervisor who shall be assigned to this project.
      d. A list of technical product training attended by the contractor's personnel that shall install the video surveillance system shall be submitted.
      e. Any subcontractor who shall assist the video surveillance contractor in performance of this work shall have the same training and certification as the video surveillance contractor.

B. The Owner's representative reserves the right to reject all or a portion of the work performed, either on technical or aesthetic grounds.

1.4 REGULATORY REQUIREMENTS

A. Standards: All work shall be performed in accordance with the latest revisions of the following standards and codes:
   1. Local Building Code
   2. Local Electrical Code
   3. NEC National Electrical Code

B. Other references:
   1. TIA/EIA-568-A - Commercial Building Telecommunications Wiring Standard
   2. EIA/TIA-569 - Commercial Building Standard for Telecommunications Pathways and Spaces.
   3. TIA/EIA-606 - The Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
   4. TIA/EIA-607 - Commercial Building Grounding and Bonding Requirements for Telecommunications

5. TIA/EIA TSB 67 - Transmission Performance Specification for Field Testing of Unshielded Twisted-Pair Cabling Systems.
6. ISO/IEC 11801 - Generic Cabling Standard
7. EN 50173 - Generic Cabling Standards for Customer Premises

C. Governing Codes and Conflicts: If the requirements of these specifications or the Project Drawings exceed those of the governing codes, regulations, and manufacturer installation requirements, then the requirements of these specifications and the drawings shall govern. However, nothing in the drawings or specifications shall be construed to permit work not conforming to all governing codes, regulations, and manufacturer installation requirements.

1.5 SUBMITTALS

A. Project Initiation: Within fourteen (14) days of Notice to Proceed, the data network system installer shall furnish the following in a single consolidated submittal:
1. Permits: The Contractor shall obtain all required permits and provide copies to the Owner / Architect / Engineer.
2. Product Literature: Complete manufacturer's product literature for all material, hardware, and equipment to be used in the installation of the specified system. In addition, whenever substitutions for recommended products are made, samples (when requested by the Owner / Designer) and the manufacturer's supporting documentation demonstrating compatibility with other related products shall be included. The submittal shall have some type of distinguishing marker or pointer to indicated what specific product is to be provided
3. Construction Schedule: A time-scaled Construction Schedule, indicating general project deadlines and specific dates relating to the installation of the cable distribution system.
4. Specification Compliance: A letter shall be provided stating, by section and subsection, that the SCS installer complies with the entire specification section. If the installer intends to deviate from any portion of the specifications, a detailed explanation of reason in which the installer would like to deviate shall be provided in addition to the specification compliance letter. No deviations shall be acceptable until they have been approved by the Owner.
5. Each Submittal must have a detailed parts list. Quantities will not be required as the quantity of any portion of this system shall be as required for a complete and functional system and in conjunction with the contract documents.
6. Certifications: The contractor shall submit all certifications for approved products and the certifications must contain dates which are valid from the date of proposal and not expirer any sooner than 12 months after substantial completion of the project.
    a. Physical Security Professional (PSP) Certification: This certification must be held by an on-staff, full-time employee of the system installer. The holder must be staffed out of the office that is located within 75 miles of the projected.
    b. Manufacturer Authorized Dealer Certification must be held by the system installer's office that is located within 75 miles of the project and shall be a company certification, not and individual certification.
    c. Installer Certifications: Certification indicating that an individual has successfully completed installer training, issued by the VMS and Cameras Manufacturers specified herein, must be held by at least 25% of the, on-site, staff and be made available at the site if requested by the owner, architect, and/or project's technology consultant.

B. Shop Drawings: Submit the following items, for Owner review and approval, within twenty-eight (28) days of notice to proceed:
1. Proposed cable routing and grouping plan.

2. In addition to the cable routing, the submitted drawings shall indicate the following, even if the following is expected to be provided by the project's electrical or general contractor:
    a. Location of sleeved wall and floor pass-thru
    b. Size of sleeve at each location installed
    c. Quantity of cable passing through each sleeve
    d. Location of devices and head end equipment.
    e. Conduit routing, size, and quantity
3. Drawing Compliance: A letter shall be provided stating that the system installer complies with the entire project drawing, including all general, keyed, and notes to contractor. If the installer intends to deviate from any portion of the specifications, a detailed explanation of reason in which the installer would like to deviate shall be provided in addition to the specification compliance letter. No deviations shall be acceptable until they have been approved by the Owner.
4. All subcontractors shall provide submittals to general contractor for normal distribution to Architects, Engineers and the Owner's project managers.

C. At Substantial Completion: Provide drawings, to the Owner, to reflect installed cabling with correct labeling and cable routing.

D. Close-out Procedures: Two (2) copies of the following documents shall be delivered to the building owner's representative at the time of system acceptance. Close out technology documents shall be separated from all other trade's documents. The close out finals shall include:
1. Inspection and Test Reports: During the course of the Project, the Contractor shall maintain an adequate inspection system to ensure that the materials supplied, and the work performed, conform to contract requirements. The Contractor shall provide written documentation that indicates that materials acceptance testing was conducted as specified. The Contractor shall also provide documentation, which indicates that all cable termination testing was completed and that all irregularities were corrected prior to job completion.
2. Include the Name, address and telephone of the authorized factory representative with a 24-hour emergency service number.
3. The manual shall also include Manufacturer's data sheets and installation manuals/instructions for all equipment installed a list of recommended spare parts.
4. Generic or typical owner's instruction and operation manual shall not be acceptable to fulfill this requirement.
5. An up-to-date record ("as-built") set of approved shop drawing prints that have been revised to show each and every change made to the structure cabling system from the original approved shop drawings. Drawings shall consist of a scaled plan of each building showing the placement of each individual item of the technical cabling system equipment as well as raceway size and routing, junction boxes, and conductor size, quantity, and color in each raceway.
6. As-built Drawings shall include cable pathways, camera locations with correct labeling and MDF/IDF locations. A copy of the As-Built drawings reflecting the final locations of all cabling shall be given to the designated Owner's representative. The as-built drawings shall be prepared using AutoCAD 2012 or later. Provide the Owner with electronic versions of the as-builts on CD media.
7. All drawings must reflect final graphic numbering, point to point wiring, device address and programmed characteristics as verified in the presence of the engineer and/or the end user unless device addressing is electronically generated, and automatically graphically self-documented by the system.
8. A copy of the manufacturer's warranty on the installed system.
9. Any keys to cabinets and/or equipment and special maintenance tools required to repair, maintain, or service the system.
10. Operating and Maintenance Instructions for all devices within the system. These

instructions shall reflect any changes made during the course of construction, and shall be provided to the Owner, for their use, in a three-ring binder labeled with the project name and description. (4 copies)

11. Upon completion of the work and at a time designated by the Architect or owner, provide formal training sessions for the Owner's operating personnel to include location, operation, and maintenance of all included systems and equipment. Minimum amount of training time shall be at least 4 hours.

1.6 QUALITY ASSURANCE

A. Contractor Qualifications:

1. The system installer shall be the authorized representative of the manufacturer to sell, install, and service the proposed manufacturer's equipment. The system installer shall have represented the security alarm manufacturer's product for a minimum of five (5) years' with experience installing and servicing systems of similar scope and complexity and evidence that is completed at least three (3) projects of similar design and is currently engaged in the installation and maintenance of systems herein described.
2. The system installer shall be licensed as required, by the State in which the project is located in, as a security services contractor to design, sell, install, and service security alarm systems.
3. The system installer shall provide 24-hour, 365 days per year emergency service with factory trained service technicians.
4. The installing firm shall have personnel on their staff that has been actively engaged in the business of designing, selling, installing, and servicing security systems for at least ten (10) years.
5. The proposing contractor for this system and the installing contractor of this system shall be of the same organization. Absolutely no subcontracting of any portion of this system by the proposing contractor will be allowed.
6. The proposing/installing contractor of this system must be an authorized dealer / integrator for the project's specified Access Control, Audio / Video Intercom, and the Intrusion Detection systems as well as the system specified in this section.
7. Contractor must be a current integrator of solution in the closest major metropolitan area marketplace, have a permanent office located within 75-miles of the project, and be able to include information on current support staff to be able to service this client.
8. All installation, configuration, setup, program and related work shall be performed by electronic technicians thoroughly trained by the manufacturer in the installation and service of the equipment provided.
9. The system installer shall submit credentials of completed manufacturer certification, verified by a third-party organization, as proof of the knowledge.
10. The Contractor shall provide four (4) current references from clients with systems of similar scope and complexity that became operational in the past three (3) years. At least three (3) of the references shall be utilizing the same system components, in a similar configuration as the proposed system
11. Contractor must be in good standing with the Owner and have no outstanding performance or warranty items at the time of bid. Any outstanding items or issues is grounds to disqualify the Contractor for performing any work on the project.

1.7 PRE-INSTALLATION MEETINGS

A. No less than a minimum of two weeks prior to rough-in or installation of any system devices, the Installer will be required to attend a pre-construction meeting with the Owner, Architect, and Security Consultant.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.

B. Handling: Handle materials to avoid damage.

1.9 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.10 SEQUENCING

A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.11 WARRANTY

A. The VSS furnished by the System Integrator including wiring, software, hardware and third-party products shall be fully warranted for parts, materials and labor for a minimum of 1 year from date of the final acceptance.

B. Manufacturer shall provide a limited 3-year warranty for the product to be free of defects in material and workmanship.

PART 2 -PRODUCTS

2.1 GENERAL

A. The data cabling to each camera location on this project shall be provided and installed by the data cabling contractor. The security camera installing contractor shall be responsible for the installation of all power wiring for exterior PTZ domes and power supplies.

B. The Contractor is responsible for providing all incidental and/or miscellaneous hardware not explicitly specified below as required for a complete and operational system.

C. Materials shall be as listed no alternate products will be allowed without prior consent of the projects security consultant. Any items approved as equivalent products shall be published by addendum ten days prior to proposal for Architect/Engineer review.

D. All equipment and materials used shall be standard components, regularly manufactured, regularly utilized in the manufacturer’s system.

E. All systems and components shall have been thoroughly tested and proven in actual use.

F. All systems and components shall be provided with the availability of a toll free 24-hour technical support phone number from the manufacturer. The phone number shall allow for immediate technical assistance for either the dealer/installer or the end user at no charge.

G. All systems and components shall be provided with an explicit manufacturer warranty.

2.2 DATA CLOSET (MDF/IDF) TERMINATION HARDWARE

A. Provide and Install new Tripplite, #B030-008-17-IP, NetDirector 8-Port 1U Rack-Mount Console HDMI KVM Switch with 17 in. LCD and IP Remote Access, Dual Rail.

B. Security contractor is responsible to coordinate with district police technology department on acquiring network connections as well as any network configuration information such as IP numbers that will be required to connect NVR servers to district network.

C. Security contractor is responsible to provide network cabling connection, either fiber or category 6A, to owner provided network equipment. This connection allows NVR to be connected to owner's local area network.

D. Security contractor shall provide (1) Minuteman – E2000RTXL2U ups per NVR unit at each rack location to support NVR equipment. Provide 120v. electrical connection at location where NVR is installed.

2.3 CABLE AND INSTALLATION

A. The Contractor shall provide and install all low voltage plenum rated power cable to exterior PTZ dome camera locations from a central power supply(s). Each power cable shall be individually fused at the power supply so a short in one power cable will blow that fuse and not affect the other cameras. The power supply will be UL listed in an approved enclosure. It is the responsibly of the Contractor to size the power supply to handle the full load of the cameras.

B. The data cabling to each camera location on this project will be provided and installed by cabling contractor certified by Systimax and authorized to install the cable plant and connectivity products. All category 6A cable shall be Systimax Purple 2071 CAT6A.

C. Camera contractor is responsible to request and oversee all penetrations and all conduit runs as necessary for installation of CCTV installation.

D. All exterior penetrations require necessary weatherproofing to avoid moisture penetration.

E. All Cameras will require 10ft purple Cat6A patch chord at camera location and 7ft purple Cat6A patch chord at panel location provided by certified Systimax Data contractor.

F. All outdoor cable runs underground shall be in fiber rated for underground use according to Technology specs.

G. All power circuits required for the NVR servers are to originate as emergency power from its provided UPS.

H. Contractor shall not run any power cabling for any security equipment on rack tray system due to EMI considerations. Contractor shall provide individual cabling support for all low voltage power cabling.

I. All cabling for entire project shall be installed at 5'-0" intervals in dedicated support system using a j-hooks support system. Cable supports will be securely attached directly to building structure. Do not attach cabling or supports to ductwork, piping, grid hangers, conduit, or equipment.

J. Refer to CFISD structured cabling specifications for Category 6A materials and methods.

K. All category 6A cabling shall be routed to existing MDF and IDF locations and be terminated on existing racks. Provide additional patch panels as required and label ports using existing labeling scheme.

L. For all cameras that will exceed the maximum category 6A cable limitation the contractor shall provide and install Veracity Outreach Max universal Ethernet and Poe Extender and clearly identify on as-builts. If installed a spare unit will be provided to the owner.

2.4 PROPOSALS

A. All proposals shall be in the format as shown in the General Conditions Section of the Specification.

2.5 DIGITAL VIDEO RECORDING, MANAGEMENT AND TRANSMISSION SYSTEM

A. The contractor shall provide and install Network Video Recorders for this project.

B. Final connection for all new IP cameras shall be provided by the camera contractor. Coordinate all recording settings and functions with owner prior to programming.

C. Network Video Recorders shall be preprogrammed to include a floor plan graphic of each school and the exact camera locations and name of cameras. Field verification of camera names is required to complete this task.

2.6 EQUIPMENT REQUIRED

A. Provide a 5-year warranty for all NVR equipment.

B. Digital Video Recorders:
1. Provide one GCON Systems Enterprise Class NVR System or BCD Video Network Video Recorder, per 50 cameras to be installed unless stated otherwise by the owner.
2. The contractor shall coordinate correct Exacq software version prior to submitting or procuring equipment.
3. NVR must have SSA agreement in place for two years at time of install.
4. In response to proposal, contractor shall provide owner with amounts for annual service maintenance agreement that can be purchased after warranty period has expired.

2.7 CAMERAS

A. Camera Types: provide all specified camera models or latest version with equal or improved performance specifications for obsolete or end-of-life models at no additional cost to this project.
1. All ceiling mounted cameras shall be surface mounted on the ceiling using ceiling mounting kit and accessible by 10ft ladder.
2. All cameras shown on the drawings to be corner mounted shall receive corner mount kit by specified camera manufacturer, no exception.
3. Interior Fixed cameras shall be Bosch Flexidome 5000i or AXIS P3265LV if primary is not available. – TYPE C
4. Exterior Fixed cameras shall be Bosch Flexidome 5000i or Axis P3265-LVE if primary is not available. – TYPE B
5. Interior Fish Eye cameras shall be Bosch Flexidome 5100I 6mp. – TYPE E
6. Multi sensor Interior/Exterior Camera shall be Axis P3727-PLE or Wisenet PNM-C16083RVQ– TYPE A
7. Duo Cameras shall be AXIS P4707-PLVE Platform with IR or Wisenet PNM-

7082RVD if Axis is unavailable. – TYPE D

8. Axis F9114 and Axis F4105-LRE sensors shall be provided to view around a column or skylight where a center mounted single camera cannot be employed. All F4105-LRE lens must be installed with Axis TU6005 plenum cable accessory. – TYPE F
9. Specialty PTZ camera will be Axis Q6318-LE PTZ if specifically called for by owner-TYPE G

B. Field of View Determination by the contractor as necessary for fixed camera locations shall be performed at no additional cost to provide the view desired by the owner. Contractor shall coordinate all final camera views and locations with owner for final approval.

C. IP camera address scheme will be provided to contractor by the owner. All Camera addresses shall follow the provided scheme and be sequential.

D. Refer to Drawings for additional camera part numbers, Quantities.

E. Confirmation of camera type per location requires customer verification.

2.8 ADDITIONAL HARDWARE OR EQUIPMENT REQUIRED

A. Licensing to be provided for all necessary equipment.

B. Camera mounts and brackets shall be per camera manufacturer.

C. One ViewSonic VX3211-2K-MHD 32” LED Monitor is required per NVR.

D. One of each type of camera used on the project is required upon final inspection for spare replacement equipment.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Fire Wall Penetrations: The Contractor shall avoid penetration of fire rated walls and floors wherever possible. Contractor shall also seal all floor, ceiling and wall penetrations in fire or smoke barriers and in the wiring closet.

B. Provide three sided pre-finished metal hood and seal to wall where conduit penetrates exterior wall.

C. Install new conduit on portable pipe supports- (low profile type), as manufactured by Portable Pipe Hangers or Advanced Support Products. Provide roof protection pads under each support. Coordinate location and routing with design engineer prior to rough-in or installation of system.

D. Do not install wall mounted cameras into metal fascia. Ensure they are mounted into brick, and sealed top sides (Not bottom)

E. Wall Penetrations:
1. Exterior Penetrations- shall be performed by a certified electrical contractor and be sleeved with metallic conduit and resealed with an Underwriter Laboratories (UL) approved sealant.
2. Interior Penetrations- shall be sleeved with metallic conduit and resealed with an Underwriter Laboratories (UL) approved sealant.

F. Cable Pathway:
   1. In suspended ceiling and raised floor areas where duct, cable trays or conduit are not available, the Contractor shall bundle, in bundles of 25 cables or less, with cable ties snug, but not deforming the cable geometry. Cable bundles shall be supported via “J” hooks attached to the existing building structure and framework at a maximum of five (5) foot intervals. Plenum rated cable ties shall be used in all appropriate areas. The Contractor shall adhere to the manufacturer’s requirements for bending radius and pulling tension of all cables.
   2. Cables shall not be attached to lift out ceiling grid supports or laid directly on the ceiling grid.
   3. Cables shall not be attached to or supported by fire sprinkler heads or delivery systems or any environmental sensor located in the ceiling air space.

3.2 EQUIPMENT RACK CONFIGURATION

A. Cable Placement: Cable installation in the wiring closet must conform to the Project Drawings. All cabling shall be routed so as to avoid interference with any other service or system, operation, or maintenance location. Avoid crossing areas horizontally just above or below any riser conduit. Lay and dress cables to allow other cables to enter the conduit/riser without difficulty at a later time by maintaining a working distance from these openings.

B. All incoming cables shall be routed on the cable tray and neatly dressed down to the patch panels

C. Cable shall be routed as closely as possible to the ceiling, floor or corners to ensure that adequate wall or backboard space is available for current and future equipment. All cable runs within the wiring closet shall be horizontal or vertical within the constraints of minimum cable bending radii. Minimum bend radius shall be observed. Cables shall not be tie-wrapped to electrical conduit or other equipment.

3.3 WIRING INSTALLATION

A. General:
   1. Cabling between wiring closet and camera locations shall be made as individual home runs. No intermediate splices may be installed or utilized between the wiring closet and the camera location.
   2. All cable must be handled with care during installation so as not to change performance specifications.

B. Exposed Cable: All cabling shall be installed inside walls or ceiling spaces whenever possible. Exposed cable shall only be run where indicated on the Drawings. Additional exposed cable runs shall require Owner approval, and shall only be allowed when no other options exist. Cabling shall be installed concealed at all times, except in unfinished mechanical rooms or wiring closets where cable shall be installed exposed and located to avoid conflicts with pass-through cabling, etc. Tie wraps shall be used to provide a neat appearance. Provide “D” rings or the appropriate cable guides to dress the cable.

C. Placement: All cabling and associated hardware shall be placed so as to make efficient use of available space. All cabling and associated hardware shall be placed so as not to impair the Owner’s efficient use of their full capacity.

D. Cable Routes: All cabling placed in ceiling areas must be in conduit, cable tray, or J-Hooks. Cable supports shall be permanently anchored to building structure or substrates. Provide attachment hardware and anchors designed for the structure to which attached and that are suitably sized to carry the weight of the cables to be supported. Attaching

cable to pipes or other mechanical items is not permitted. Use J-Hooks for up to 15 cables (Caddy CAT 21 or CAT 32 hooks with appropriate brackets). All runs of sixteen (16) or more cables, provide cable rings on 36” maximum centers to hang cable. Cable shall be routed so as to provide a minimum of 18” spacing from light fixtures, sources of heat, power feeder conduits and EMI sources. Cabling shall not be attached to ceiling grid support wires. Cable runs shall be parallel or perpendicular to building structure. Multiple cables to be banded together every 6 feet.

3.4 DOCUMENTATION

A. Labels: The Contractor shall label all outlets using permanent machine engraved labels approved by the Owner. Label patch panels in the wiring closet to match those on corresponding camera locations. The font shall be at least one-eighth inch (1/8”) in height, block. All labels shall correspond to as-builts and to final test reports.

B. Contractor shall ensure complete typed labeling of all cameras with numbers that correspond to locations on video server. Labeling system shall correspond to the Owner’s labeling system. Verify with Owner. Provide tags (black letters on white labels, plastic coated) on all cables and outlets.

C. All cables shall be labeled at both ends with a machine label and all terminations shall be stenciled with a typed label for quick circuit identification. Labeling shall conform to TIA/EIA standard 606 and include interconnect cable identification numbers.

D. A floor plan, clearly labeled with all numbered camera locations, shall be included in the as-built plans.

3.5 CABLE TESTING - BY MANUFACTURER’S REQUIREMENTS

A. Notification: The Owner/Architect/Engineer shall be notified one week prior to any testing so that the testing may be witnessed.

B. Final Acceptance: Before requesting a final acceptance, the Contractor shall perform a series of end-to-end installation performance tests. The Contractor shall submit for approval a proposal describing the test procedures, test result forms and time table for all copper and fiber optic cabling.

C. Procedures: Trained personnel shall perform all testing. Acceptance of the test procedures discussed below is predicated on the Contractor’s use of the recommended products and adherence to the inspection requirements and practices set forth. Acceptance of the completed installation shall be evaluated in the context of each of these factors.

D. Errors: When errors are found, the source of each error shall be determined, corrected and the cable retested. All defective components shall be replaced and retested. Retest results must be entered on the test results form. All corrections shall be made prior to final acceptance test.

3.6 INSPECTION

A. Conformance to the installation practices covered above are to be verified when completed. In some cases, the Owner / Architect / Engineer may observe before acceptance.

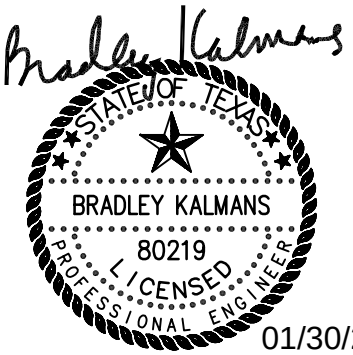
3.7 WARRANTY

A. Labor and all other costs as necessary to maintain the equipment in operating condition

as intended by the product manufacturer after a period of 1 year shall be negotiated with the owner upon project completion.

B. Guarantee and warrant all equipment provided for a period of 3 years following date of substantial completion, or a period equal to the stated guaranty/warranty offered by the product manufacturer, whichever is the longest in duration. All such warranties shall include all parts (NVR's, and Cameras).

END OF SECTION



01/30/2025

SECTION 28 46 00

FIRE DETECTION AND ALARM SYSTEM

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Provide all detailed engineering, documentation, materials and devices, installation, calibration, software programming and check-out necessary for a complete and fully operational fire detection and alarm system in accordance with the full intent and meaning of the drawings and specifications including, but not limited to, the following:
   1. Supply, install and connect all hardware necessary to provide a complete and operational fire detection and alarm system.
   2. Supply, install and wire all field hardware, fire alarm control panel, power supplies, power circuits, alarm initiating devices, audible and visual alarm devices, auxiliary control relays, signal initiating and signaling devices, conduits, wires, fittings and all accessories required for the system to perform as specified as required.
   3. Supply, install, debug and test all software required to provide all software functions described in accordance with the full intent and meaning of the drawings and specifications.
   4. Coordinate the work specified under this Section with other trades and contractors to assure a complete and fully operational system.

B. The intent of fire detection and alarm system work is specified in this section and indicated on the drawings. The installing contractor shall design and provide a complete system, meeting the requirement of this specification. The Contractor shall provide all fire alarm and initiation devices required for a complete system acceptable to all governing authorities. Provide proper spacing and coverage of all devices.

C. Expand existing system fire alarm and voice evacuation system as required by the AHJ in its entirety to current district standards and code requirements. Verify Point-ID reporting to monitoring station and/or provide necessary equipment and programming to provide Point-ID reporting.

1.2 RELATED SECTIONS

A. Division 22 and Division 23

B. Sprinkler Systems

C. Elevators

D. Food Service

1.3 CODES / STANDARDS / REFERENCES (LATEST EDITIONS)

A. National Fire Protection Association (NFPA):

1.	NFPA1	Fire Code
2.	NFPA 13	Systems, Installation
3.	NFPA 17	Dry Chemical Extinguishing Systems
4.	NFPA 70	National Electrical Code
5.	NFPA 72	National Fire Alarm and Signaling Code.
6.	NFPA 80	Fire Doors and Fire Windows
7.	NFPA 90A	Standard for the Installation of Air Conditioning and

Ventilating Systems.

8. NFPA 92A Smoke Control Systems
9. NFPA 101 Life Safety code.
10. NFPA 105 Smoke Control Door Assemblies
11. NFPA 1221 Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems.
12. NFPA 2001 Fire Extinguishing Systems, Clean Agent

B. UL: Underwriters Laboratories, Inc.
1. 217 Single and Multiple Station Smoke Detectors.
2. 268 Smoke Detectors for Fire Protective Signaling Services.
3. 864 Control Units for Fire Protective Signaling Services, 9th Edition.
4 864 Transient protection
5. 1480 Speakers for Fire Protective Signaling Systems
6. UL Fire Protection Equipment Directory.
7. UL Electrical Construction Materials Directory.

C. Uniform Federal Accessibility Standards (UFAS).

D. Factory Mutual P7825 Approval Guide

E. American National Standards Institute (ANSI).

F. National Electrical Manufacturer's Association (NEMA).

G. Institute of Electrical and Electronic Engineers (IEEE).

H. Electronic Industries Association (EIA-232-C): Interface between Data Terminal Equipment and Data Communication Equipment Employing Serial Binary Data Interchange.

I. Requirements of American Disabilities Act (Public Law 101-336).

J. Local Accessibility Standards

K. State Fire Marshall or Requirements of Local Authorities having Jurisdiction

L. State Insurance Code

M. International Building and Fire Code Adopted by Local Authority Having Jurisdiction

N. Local & State Building Codes

O. In addition the above requirements, comply with all local codes. Where discrepancies exist between codes, drawings or specifications, the more stringent requirement shall prevail. Installation shall be subject to approval, inspection and test of applicable regulatory agencies.

1.4 MANUFACTURER'S, PLANNER'S AND INSTALLER'S QUALIFICATIONS

A. The manufacturer shall regularly and presently produce, as the manufacturer's principle products, the equipment and material of the type and design specified for this project, and shall have manufactured the item for at least 5 years.

B. Manufacturer's product shall have been in satisfactory operation on three installations of similar size, type and design as this project, for approximately 3 years.

C. Manufacturer shall submit at the time of bid a list of installations where the products have been in operation.

D. The installing contractor shall have been actively engaged in the business of designing, selling, installing, and servicing fire alarm systems for at least ten (10) years.

E. The entire Fire Detection and Alarm System shall be installed by an authorized representative of the Fire Alarm Manufacturer and certified by the manufacturer to distribute, sell, and install the specified fire alarm and smoke detection system. Include all components, elements, and testing and acceptance procedures.

F. If the submitted system is being supplied by an authorized distributor of the equipment manufacturer, the distributor shall have been actively engaged in the sale, installation and service of the type of system proposed for this project for a minimum of 10 years.

G. Any proposed installer who cannot show evidence of such qualifications may be rejected. The services of a technician provided and certified by the equipment manufacturer shall be provided to supervise the installation and tests of the system.

H. Furnish evidence there is an experienced and effective service organization, which carries a stock of repair parts for the system to be furnished.

I. The installing contractor shall be licensed by the State Fire Marshall to design, sell, install, and service fire alarm systems as required by the State Insurance Code.

J. The installing contractor shall have on his staff a minimum of two (2) Fire Alarm Planning Superintendent (APS) licensed by the State Fire Marshall's office for such purpose and under whose supervision installation, final connections, and check out will take place as required by the State Insurance Code.

K. The APS shall be a certified NICET Level III state licensed fire alarm planner under whose supervision system design shall take place. In lieu of a NICET certified state licensed fire alarm planner, the contractor or supplier may provide design supervision by a registered professional engineer, who regularly engages in the design of fire alarm systems as required by the Texas Board of Professional Engineers.

L. The installing contractor shall provide 24-hour, 365 days per year emergency service with factory trained, state licensed service technicians.

M. Material shall be new and in perfect condition when installed.

N. Electrical or electronic equipment provided under this Division which has been damaged, exposed to weather, or is, in the opinion of the Architect/Engineer otherwise unsuitable because of improper fabrication, storage, or installation, shall be removed and replaced with new equipment, at no additional cost to the owner.

O. Quality Control Assurance:
   1. All components of the fire alarm system shall be products of an Underwriters Laboratories, Inc. listed fire alarm manufacturer, and shall bear the UL Label. Partial listing shall not be acceptable.
   2. All components of the fire alarm systems shall use the most current technology available.
   3. Only new parts shall be installed at the time of initial installation and to repair the system during the warranty period. No reconditioned parts shall be used.

4. All devices shall be tested and certified that they meet or exceed the “Service Life Expectancy Rating” as outlined by UL and NFPA.

1.5 COORDINATION

A. It shall be the responsibility of the installing contractor to coordinate all requirements surrounding installation of the fire alarm system with all other trades.

B. Contractor shall schedule a pre-construction meeting with Owner/Architect regarding the Fire Detection and Alarm System.

1.6 DEFINITIONS

A. General: Wherever mentioned in this specification or on the drawings, the equipment, devices and functions shall be defined as follows:
   1. Alarm Signal: A signal, which signifies a state of emergency requiring immediate action and immediate notification of the Fire Department. These are signals such as:
      a. The operation of a manual station.
      b. The operation of a fire suppression system switch.
   2. Pre-Alarm Signal: A signal, which indicates a detection device, has operated. These signals require and immediate response, but do not require immediate notification of the Fire Department.
   3. Supervisory Signal: A signal, which signifies the impairment of fire protection system, which may prevent its normal operation.
   4. Trouble Signal: A signal, which indicates that a fault, such as an open circuit or ground, has occurred in the system.
   5. Alarm Zone: An alarm initiating device or combination of devices connected to a single alarm initiating device circuit.
   6. Pre-Alarm Zone: A detector or group of detectors connected to a single detector circuit, which can send an alarm to the central control panel.
   7. Supervision Zone: A supervisory signal initiating device or combination of such devices connected to a single supervisory signal circuit.
   8. Communication Zone: A fire alarm indicating device or series of devices arranged to visually and/or audibly indicate a fire alarm signal.

1.7 SUBMITTALS

A. Contractor shall meet with Owner’s Fire Alarm System representative prior to submission of formal/final shop drawings to Architect to allow the Owner and Architect to review a preliminary draft copy of the submittal to verify compliance with the specifications and any detailed requirements of the project. After the draft submittal has been reviewed by the Architect / Owner / Engineer, and formal shop drawings have been reviewed by Architect and returned to the Contractor, the required pre-construction meeting shall take place with Owner / Architect / Engineer.

B. Before the final set of shop drawings are submitted to Architect / Engineer, submit drawings to the jurisdictions for approval. All approvals shall be noted on the drawings or by letter from the authorities having jurisdiction (AHJ).

C. All preliminary and as-built design drawings and supporting documentation shall include: Floor Plan Drawings, riser diagrams, control unit wiring diagrams, point to point wiring diagrams, and typical wiring diagrams as described herein.
   1. Name of Owner and Occupant
   2. Date
   3. Location, including street address.

4. Provide a complete written, item-by-item, line-by-line, specification review stating compliance or deviation in full description.
5. Device Legend
6. Input/output programming matrix
7. Licensed Designer Information – Registered Professional Engineer or Alarm Planning Superintendent (APS)
8. Battery calculations
9. Notification appliance circuit voltage drop calculations
10. Floor Plan
    a. Floor identification
    b. Point of compass
    c. Correct graphic scale
    d. All walls and doors
    e. All partitions extending to within 15 percent of ceiling height
    f. Room descriptions
    g. Fire alarm device / component locations
        1) Signal notification devices
        2) Initiation devices
        3) Smoke control systems
        4) Initiation of automatic extinguishing equipment
        5) Doors that unlock or close automatically
        6) Zone verification for detection devices
        7) Fire/Smoke damper control
        8) Fire alarm panel location
        9) Fire alarm annunciators
        10) Control valves to Fire Protection System
        11) Duct smoke detectors
        12) Supervisory devices
        13) Elevator location
        14) Elevator recall system location
    h. Location of fire alarm primary power connections
    i. Location of monitor/control interfaces to other systems
    j. Riser locations
    k. Methods for compliance with NFPA 72 24.3.13 for survivability (emergency voice systems) as required in NFPA 72 12.4 where applicable.
    l. Ceiling height and ceiling construction details
    m. Fire alarm system riser diagram
        1) General arrangement of the system, in building cross-section
        2) Number of risers
        3) Type and number of circuits in each riser
        4) Type and number of fire alarm components/devices on each circuit, on each floor or level
11. Control unit wiring diagrams shall be provided for all control equipment, power supplies, battery chargers, and annunciators and shall include the following:
    a. Identification of control equipment depicted
    b. Location(s)
    c. All field wiring terminals and terminal identification
    d. All indicators and manual controls, including the full text of all labels
    e. All field connections to supervising station signaling equipment, releasing equipment, and fire safety control.
    f. Typical Wiring Diagram shall be provided for all initiating devices, notification appliances, remote light emitting diodes (LEDs), remote test stations, and end-of-line and power supervisory devices.
12. Complete system bill of material of all hardware components.
13. Detailed system operational description. Any specification differences and

deviations shall be clearly noted and marked.

14. Submittal sheets sequentially numbered with the format: sheet number of number total. For example: 1 of 3.
15. Complete set of manufacturer's operating instructions, circuit diagrams and the information necessary for proper installation, operation and maintenance.
16. Manufacturers catalog cut sheets shall be provide for each piece of equipment with the appropriate model or part number highlighted in cases where multiple model numbers or part numbers are shown.
17. Fire detection and alarm system's panel configuration complete with peripheral devices, batteries, power supplies, and interconnection diagrams.
18. Submit sound and visual level to confirm that number and location of signaling devices will provide required sound and visual levels throughout the building.
19. Sample of proposed graphic/text annunciation.

1.8 OPERATION AND MAINTENANCE MANUALS

A. Submit complete sets of operation and maintenance manuals. Manual, less as-builts, and sign-off sheets, shall be provided upon completion of the work. Approval of the manual will be required prior to substantial completion.

B. The Operation and Maintenance Manual shall consist of the following:

1. The manual shall include the names, addresses and telephone numbers of each Contractor installing products, and of the nearest service representative for each product. The manual shall have a Table of Contents and tab sheets. Update manuals to include modifications made during installation, checkout and acceptance. The manual shall include the sections described in the following paragraphs.
2. The Functional Design Section shall identify the operational requirements for the system and explain the theory of operation, design philosophy, and specific functions. Hardware and software functions, interfaces, and requirements shall be provided for system operating modes.
3. The Hardware Section shall describe equipment provided, including general description and specifications, installation and checkout procedure, electrical schematics and layout drawings. Alignment and calibration procedures, manufacturer's repair parts list indicating source of supply, interface definition, signal identification and wiring diagrams. Also, include a complete parts list of all components as well as a list of recommended spare parts. The spare parts list shall include, for each item, the manufacturer's name, the model of the part, and serial number, if appropriate, and a physical and electrical description of the part.
4. The Software Section shall describe programming and testing, starting with a system overview and proceeding to a detailed description of each software module, to instruct the user on programming or reprogramming any portion of the system and other information necessary to enable proper system usage.
5. The Operation Section shall provide instructions for operation of the system, including system start-up procedures, use of system and applications software, alarm presentation (where applicable), failure and recovery procedures, preventive maintenance schedule, parameter schedules and sequence definition, and system access requirements.
6. The Maintenance Section shall provide descriptions of maintenance for equipment including inspection, periodic preventive maintenance, fault diagnosis, and repair or replacement of defective components.
7. The Shop Drawings section shall include copies of all approved shop drawings and submittal materials updated to "AS BUILT".

1.9 AS-BUILT DRAWINGS

A. Prepare and submit detailed “As-Built” drawings. The drawings shall include certified test of the system, testing and acceptance sign-off sheets, and other items specified elsewhere to be performed after initial submission of operation and maintenance manuals, complete wiring diagrams showing connections between all devices and equipment, both factory and field wired. Include a riser diagram and drawings showing the as built location of all devices and equipment. The drawings shall show the system as installed, including all deviations from both the project drawings and the approved shop drawings. The drawings shall be prepared on uniform sized sheets, the same size as the project drawings. The plan drawings shall be 11x17 inch and inserted in the specified Operations and Maintenance Manuals. Provide electronic copies in PDF and Autocad.dwg format.

1.10 OPERATIONAL INSTRUCTIONS

A. Provide a typeset printed or a laser jet printed instruction card mounted behind a lexan plastic or glass cover in a stainless steel or aluminum frame. Install the frame in a conspicuous location observable from the Fire Alarm Control Panel (FACP). The card shall show those steps to be taken by an operator when a signal is received as well as the functional operation of the system under all conditions, normal, alarm, and trouble. The instructions shall be approved by the Architect/Engineer before being posted.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Manufacturers acceptable contingent upon Products’ compliance with the specifications:
   1. Notifier INSPIRE series or its successor
   2. Siemens-Cerberus PRO Modular

B. Additional Instructions
   1. All equipment, materials, accessories, devices, etc. covered by this standard and/or noted on the contract drawings shall be new and unused and be U.L. listed for their intended use.
   2. All equipment provided shall be available for purchase from at least two authorized distributors within the greater Houston metropolitan area. Single source proprietary equipment is prohibited unless approved by CFISD.

2.2 SYSTEM DESCRIPTION

A. System shall be a completely multiplexed addressable fire detection and alarm system, tested and left in first class operating condition. Voice evacuation systems where required or specified, shall have voice alarm notification wherever audible notification is required.

B. The system shall provide communication with initiating and control devices individually. All of these devices shall be individually annunciated at the fire alarm control panel. Annunciation shall include the following conditions for each point:
   1. Alarm
   2. Trouble.
   3. Open
   4. Short
   5. Device missing/failed.

C. System circuits shall be wired as follows: Notification Appliance Circuit (NAC) shall be Style B supervised and signal line circuit (SLCs) shall be Style 4 as describe in NFPA 72.

D. The system shall contain independently supervised initiating device circuits. The alarm activation of any initiation circuit shall not prevent the subsequent alarm operation of any other initiation circuit. All addressable loops shall have loop isolation protection devices to maintain partial fire alarm system integrity should a fault occur. A loop isolation device shall not exceed a maximum of 20 devices.

E. There shall be supervisory service initiation device circuits for connection of all sprinkler water flow switches and valves. Device activation shall cause a general alarm at the fire alarm control panel. Each flow and tamper switch shall have an individual address.

F. There shall be independently supervised and independently fused indicating appliance circuits for all alarm signaling devices. Disarrangement conditions of any circuit shall not affect the operation of other circuits.

G. Auxiliary manual controls shall be supervised so that an “off normal” position of any switch shall cause an “off normal” system trouble.

H. The incoming power to the system shall be supervised so that any power failure must be audibly and visually indicated at the fire alarm control panel. A green “power on” LED shall be displayed continuously while incoming power is present at the building fire alarm control panel.

I. The system batteries shall be supervised so that a low battery condition or disconnection of the battery shall be audibly and visually indicated at the building fire alarm control panel.

J. The system modules shall be electrically supervised for module placement. Should a module become disconnected, the system trouble indicator shall illuminate and the audible trouble signal shall sound.

K. The system shall have provisions for disabling and enabling all circuits individually for maintenance or testing purposes.

L. The system shall be provided with sufficient battery capacity to operate the entire system upon loss of normal 120 VAC power in a normal or supervisory mode for a period of 24 hours with 20 minutes of alarm operation at the end of this period as a minimum. The system shall automatically transfer to the standby batteries upon power failure. All battery charging and recharging operations shall be automatic. If batteries are fully discharged, the charger shall recharge them back to full charge in four hours.

M. All external circuits requiring system operating power shall be 24 VDC and shall be individually fused at the respective fire alarm control panel.

N. All addressable devices shall have the capability of being disabled or enabled individually from the fire alarm control panel.

O. A maximum of 75 percent capacity of addressable devices shall be multi-dropped from a single pair of wires. Systems that require factory reprogramming to add or delete devices within the capability of the designed system are unacceptable. Expansion of the designed system shall be accomplished by factory reprogramming.

P. The communication format to the addressable devices shall be a completely digital poll/response protocol to allow t-tapping of the circuit wiring. A high degree of communication reliability must be obtained by using parity data bit error checking routines for address codes and check sum routines for the data transmission portion of the protocol.

Q. Each addressable device must be uniquely identified by an address code. The system must verify that proper type device is in place and matches the desired software configuration. All remote or external panels shall have an individual address for monitoring.

R. Wiring type, distances, survivability, and wiring configuration types shall be approved by the equipment manufacturer. The system shall allow a line distance of up to 2,500 feet to the furthest addressable device on a Style B circuit. Plenum rated fire alarm cable shall have an outer jacket insulation color of red.

Minimum wire size shall be:

Initiating Circuits: 18 AWG
Strobe Circuits: 14 AWG
Relay Control Circuits: 18 AWG
Voice/Speaker Circuits: 16 AWG

S. Each panel extender shall have an individual address.

2.3 FIRE ALARM CONTROL PANEL (FACP)

A. The FACP shall be capable of communicating with the types of addressable devices specified below. It shall display only those primary controls and displays essential to operation during a fire alarm condition. Keyboards or keypads shall not be required to operate the system during fire alarm conditions. Panel shall support a minimum of 500 addressable points.

B. The fire alarm control panel (FACP) shall be fully enclosed in a lockable steel enclosure as specified herein. All operations required for testing or for normal care and maintenance of the system shall be performed from the front of the enclosure. If more than a single unit is required to form a complete control panel, the unit enclosures shall match exactly. The system shall operate at 24 VDC.

C. Panel shall be large enough to accommodate all components and also to allow ample gutter space for interconnection of all panels as well as all field wiring. Each enclosure and each component shall be identified by an engraved red laminated phenolic resin nameplate. Lettering on the nameplate shall not be less than 1" high. Individual components and modules within the cabinets shall be identified by engraved laminated phenolic resin nameplates.

D. A local audible device shall sound during alarm, trouble, or supervisory conditions. This audible device shall sound differently during each condition to distinguish one condition from another without having to view the panel. This audible device shall also sound during each key press to provide an audible feedback to ensure that the key has been pressed properly.

E. The following primary controls shall be visible through a front access panel:
1. Minimum 3-lines, minimum 40 alphanumeric characters per line display.
2. Individual red system alarm LED.
3. Individual yellow supervisory service LED.
4. Individual yellow trouble LED.
5. Green “power on” LED.

6. Alarm acknowledge key.
7. Trouble acknowledge key.
8. Alarm silence key.
9. System reset key.

F. Under normal condition, the front panel shall display a “SYSTEM IS NORMAL” message and the current time and date.

G. Should an abnormal condition be detected, the appropriate LED (Alarm, Supervisory or Trouble) shall flash. The panel audible signal shall pulse for alarm conditions and sound steady for trouble and supervisory conditions.

H. System Display:
1. The system shall support the following display mode options:
2. The display shall include a minimum 80-character backlit alphanumeric Liquid Crystal Display (LCD) or comprehensive LCD wide format display or graphic user interface (GUI).
3. The display shall annunciate status information and custom alphanumeric labels for all intelligent detectors, addressable modules, internal panel circuits, and software zones.
4. The display shall also provide Light-Emitting Diodes.
   a. The display shall provide minimum 8 Light-Emitting-Diodes (LEDs) that indicate the status of the following system parameters:
      AC POWER
      FIRE ALARM
      PRE-ALARM WARNING
      SECURITY ALARM
      SUPERVISORY SIGNAL
      SYSTEM TROUBLE
      DISABLED POINTS
      ALARM SILENCED
5. The display shall also provide keypad functions.
   a. The display keypad shall be an easy to use QWERTY type keypad, similar to a lap-top PC keyboard. This shall be part of the standard system and have the capability to command all system functions, entry of any alphabetic or numeric information, and field programming. Two different password levels shall be provided to prevent unauthorized system control or programming.

I. Alarm conditions shall be displayed on the alphanumeric display. The top line of 40 characters shall be the point label and the second line shall be the device type identifier. The system alarm LED shall flash on the control panel until the alarm has been acknowledged. Once acknowledged, this same LED shall latch on. A subsequent alarm received from another zone shall flash the system alarm LED on the control panel. The alphanumeric display shall show the new alarm information.

J. Each independently supervised circuit shall include a discrete readout to indicate disarrangement conditions per circuit.

K. Acknowledgment for each abnormal condition shall be provided. Acknowledge keys shall not be pass code protected. Acknowledge keys shall be protected by the locked enclosure only. After all points have been acknowledged, the LEDs shall glow steady and the audible device be silenced. The total number of alarms, supervisory and trouble conditions shall be displayed, along with a prompt to review each list chronologically. The end of the list shall be indicated by the message, “END of LIST”.

L. Pressing the appropriate acknowledge button shall display the first unacknowledged condition in the appropriate list (either alarm, supervisory or trouble), and shall require another acknowledge button for each subsequent alarm condition. Press to acknowledge shall only silence the displayed point.

M. Alarm silencing:
1. Should the “Alarm Silence” button be pressed, all audible alarm signals shall cease operation.
2. Visual signals shall not be extinguished during alarm silence inhibit mode.

N. System reset:
1. The “System Reset” button shall be used to return the system to its normal state after an alarm condition has been remedied. The alphanumeric display or reset LED shall step the user through the reset process with simple English Language messages.
2. Should an alarm condition continue to exist, the system shall remain in an abnormal state. System control relays shall not reset. The audible device and the alarm LED shall be on.
3. Should the alarm silence inhibit function be active, the System Reset and alarm silence key shall be ignored.

O. Additional function keys, or their equivalent, shall be provided to access status data and control the function for the following points:
1. HVAC - Bypass
2. Indicating appliance circuits bypass
3. Auxiliary relays points bypass
4. All other input/output points.

P. The following status data or their equivalent shall be available:
1. Primary state of point.
2. Device, PID and card type information.
3. Current priority of outputs.
4. Disable/enable status.
5. Verification tallies of initiating devices.
6. Automatic/manual control status of output points.
7. Acknowledge status.
8. Relay status.

Q. LED supervision: Where provided, all slave module LEDs shall be supervised for burnout or disarrangement. Should a problem occur the alphanumeric display shall display the module and LED location numbers to facilitate location of that LED.

R. System trouble reminder: should a trouble condition be present within the system and the audible trouble signal silenced, the trouble signal shall resound at pre-programmed time intervals to act as a reminder that the fire alarm system is not 100% operational. Both the time interval and the trouble reminder signal shall be programmable.

S. The fire alarm control panel features shall include, but not be limited to:
1. Setting of time and date.
2. LED testing.
3. Alarm, trouble, and abnormal condition listing.
4. Enabling and disabling of each monitor point separately.
5. Activation and deactivation of each control point separately.
6. Changing operator access levels.
7. Walk test enable.

8. Running diagnostic function.
9. Displaying software revision level.
10. Displaying historical logs.
11. Displaying card status.
12. Point listing.
13. For maintenance purposes, the following lists, or their equivalent, shall be available from the system program and/or the point lists menu:
    a. All points list by address.
    b. Monitor point list.
    c. Signal list.
    d. Auxiliary control list.
    e. Feedback point list.
    f. LED/switch status list.
14. Fire Drill:
    a. Fire drill activation switch shall activate all audio/visual devices only. Fire drill shall not enter into the alarm sequence of operation, shall not close smoke or fire/smoke dampers, shall not deactivate any HVAC systems, kitchen hoods, etc.
    b. Activation of any trouble or alarm condition shall supercede the evacuation drill.
    c. Fire drill shall be canceled by the system reset key, alarm silence, or drill key.
15. Scrolling through menu options or lists shall be accomplished in a self-directing manner. These controls shall be located behind an access door.
16. The alphanumeric display shall have an alpha numeric, back-lighted LCD, LED, or gas plasma display. The display shall support numeric and both upper and lower case letters. Lower case letters shall be used for soft key titles and prompting the user. Upper case letters shall be used for system status information. A cursor shall be visible when entering information.
17. The system shall be capable of being tested by one person. The actuation of the “enable walk test” program at the fire alarm control panel shall activate the “Walk Test” mode of the system, which shall cause the following to occur:
    a. The remote monitoring circuit connection shall be bypassed.
    b. Control relay functions shall be bypassed.
    c. The control panels shall show a trouble condition.
    d. The panel shall be capable of selecting either: the alarm activation of any initiation device causing the audible signals to activate for two seconds or the alarm activation of any initiation devices causing the audible signals to code a number of pulses to match the zone number.
    e. The panel shall automatically reset itself after signaling is complete.
    f. Any momentary opening of an initiating or indicating appliance circuit wiring shall cause the audible signals to sound for 4 seconds indicating a trouble condition.
    g. The control panel shall be capable of supporting up to 8 separate testing groups whereby one group of points may be in a testing mode and the other (non-testing) groups may be active and operate as programmed per normal system operation. After testing is considered complete, testing data may be retrieved from the system in chronological order to ensure device/circuit activation.
    h. Should the walk test feature be on for an inappropriate amount of time, it shall revert to the normal mode automatically.
18. Provide three (3) access levels with level 3 being the highest level. Level 1 action shall not require a pass code. Pass codes shall consist of up to ten (10) digits. Changes to pass codes shall only be made by Level 3 authorized personnel.

a. When entering a pass code, the digits entered shall not be displayed. All key presses shall be acknowledged by a local audible sound and/or visual "*" in the 80 character display.
b. When a correct pass code is entered, the new access level shall be in effect until the operator manually logs out or the keypad has been inactive for ten (10) minutes.
c. Should an invalid code be input, access shall be denied.
d. Access to a level shall only allow the operator to perform all actions within that level plus all actions of lower levels, not higher levels.
e. The following keys/switches, or their equivalent shall have access levels associated with them:
Set time/date.
Manual control
Disable/enable
Clear historical alarm log
Clear historical trouble log
Walk test
Change alarm verification
f. The following keys/switches shall not be pass code protected and shall be protected by the lockable enclosure:
Alarm Silence
System Reset
Acknowledge

19. The fire alarm system shall allow for loading and editing special instructions and operating sequences as required. The system shall be capable of being reprogrammed to accommodate system expansion and facilities changes in operation. All software operations shall be stored in a non-volatile programmable memory within the fire alarm control panel. Loss of primary and secondary power shall not erase the instructions stored in memory.
20. Resident software shall allow for full configuration of initiating circuits so that additional hardware shall not be necessary to accommodate changes in, for instance, sensing of normally open contact devices to sensing of normally closed contact devices, or from sensing of normally open contact devices to sensing a combination of current limited and non-current limited devices on the same circuit and being able to differentiate between the two, or changing from a non-verification circuit to a verification circuit or vice-versa.
21. Resident software shall also allow for configuration of indicating appliance and control circuits so that additional hardware shall not be necessary to accommodate change in, for instance changing a non-coded indicating appliance circuit to a coded circuit.
22. The main fire alarm panel shall have the resident ability to store a minimum of 600 system events in chronological order of occurrence. Event history shall include all system alarms, troubles, operator actions, unverified alarms, circuit/point alterations, and component failures. Events shall be time and date stamped. Events shall be stored in non-volatile buffer memory. Access to history buffer shall be secured via 5-digit password security code. The system shall have the capability of recalling alarms and trouble conditions in chronological order for the purpose of recreating an event history. Loss of primary or secondary power shall not erase the events stored in the memory. Each recorded event shall include the time and date of that event's occurrence.
a. The following Historical Alarm log events shall be stored:
Alarms
Alarm acknowledgment
Alarm silence
System reset

Alarm historical log cleared

b. The following historical trouble log events shall be stored:
Trouble conditions
Supervisory alarms
Trouble acknowledgment
Supervisory acknowledgment
Alarm verification tallies
Walk tests results
Trouble historical log cleared

23. Alarm verification shall be by device, whereby only verification from the same device will confirm the first activation and cause the alarm sequence to occur.
24. The control panel shall have the capability to display the number of times (tally) a device has gone into a verification mode. Should this verification tally reach a pre-programmed number, a trouble condition shall occur.
25. The control panel shall have a dedicated supervisory service LED and a dedicated supervisory service acknowledge key. Pressing the supervisory service acknowledge key shall silence the supervisory audible signal while maintaining the supervisory service LED “ON” indicating the off-normal condition.
26. Activation of an auxiliary bypass key shall override the selected automatic functions.
27. The system shall have keys that will allow the operator to display all alarms, troubles, and supervisory service conditions including the time of each occurrence.
28. RS-232-C output: the fire alarm control panel shall be capable of operating remote generic consumer type printers; output shall be ASCII from an EIA RS-232-C connection with an adjustable baud rate. Each RS-232-C port shall be capable of supporting and supervising a remote display and printer. Data amplifiers shall be used to increase data line distance when required.
29. Panel shall be sized to accommodate all required equipment. Panel shall be equipped with locks and transparent door, providing freedom from tampering yet allowing full view of the various displays and controls.

T. The fire alarm control panel shall have a 25% spare initiating point and battery capacity for future use.

U. The power supply shall provide all control panel and peripheral power needs with filtered power as well as unregulated 24VDC power for external audio-visual devices. The audio-visual power shall be increased as needed by adding additional modular expansion power supplies. All power supplies shall be designed to meet UL and NFPA requirements for POWER-LIMITED operation on all external signaling lines, including initiating circuits and indicating circuits. Design the system power supplies and power trunk wiring for all annunciation devices required, and to add a minimum of five (5) 110cd visual devices in the future. Individual design loading shall not exceed 70% of power supply and system wiring capacity.
1. Input power shall be 120VAC 60Hz. The power supply shall provide internal supervised batteries and automatic charger. The power supply shall provide positive and negative ground fault supervision, battery/charger fail condition, AC power fail indicators. The power supply shall also provide supervision of modular expansion power supplies as may be required.
2. Surge protection shall be integral to the control panels.
3. Each power supply shall be monitored and have an individual address.

V. Network (IP) Interface Card:
1 IP Communicator module for fire alarm panel
2. Programmed for remote monitoring of system

3. Supervise IP Ethernet connection every 90-seconds or less
4. Coordinate with owner for address for campus data network
5. Program for Point ID, providing point address/description reporting

W. Cellular Communicator:
1. UL 864 listed
2. Panel powered
3. Upload/Download capable
4. Transmit all signals and information from the DTMF communicator
5. Program for Point ID, providing point address/description reporting

X. Detector sensitivity shall be programmable from the control panel from the following sensitivities: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0 and 3.7% obstruction. Detectors shall be able to be programmed to alert a trouble signal at a lower obstruction and shall report an alarm if the smoke density increases to a predetermined set point. Control Panel and Detectors shall be capable of “Day-Night” automatic sensitivity adjustments.

Y. Control Switches:
1. Acknowledge/step Switch
2. Signal Silence Switch
3. System Reset Switch
4. System Test Switch
5. Lamp Test

Z. Automatic Detector Test: The system shall include a special automatic detector test feature, which permits reading and adjustment of the sensitivity of all intelligent detectors from the main control panel. An automatic detector test shall occur automatically fourteen times each twenty-four hour period or be initiated manually from the FACP as desired. In addition, the automatic test feature shall also permit the functional testing of any "intelligent" detector or addressable interface device individually from the main control panel. Automatic detector test sequencing shall be terminated upon receipt of an alarm condition. Detector test shall report all unprogrammed devices installed and report all programmed devices not installed.

AA. Emergency voice alarm communication system:
1. The emergency voice and tone communication system shall be a pre-built system and shall only require two wires from a polarity reversal circuit or a dry contact for activation. It shall supervise the NO dry contact (if used) and provide a form C trouble relay activation in the event of a system fault. The Voice Communication System shall incorporate minimum 50 watts true RMS amplifiers for both tone and speech amplification. The system shall have a load capacity of up to 100 watts. Optionally, the Voice Communication System shall be capable of providing 50 watts of audio with full backup. The Voice Communication System shall be capable of operating as a stand-alone system or follow the activation of the fire alarm/suppression system. The Voice Communication System shall include a regulated power supply and shall be capable of charging and housing its own batteries. There shall be no need to calculate the load requirements or draw any energy from the fire alarm/suppression system. The Voice Communication System shall come with one speaker supervisory zone as a standard and shall be capable of supervising any combination of up to 11 speaker and/or strobe monitoring modules.
2. A full set of control switches including an all call, tone interrupt, trouble silence and reset shall be available at the Voice Communications System. The Voice Communications System control panel shall also have a green POWER ON LED, a red ALARM LED, a yellow BROWN OUT LED and a yellow SYSTEM

TROUBLE LED.

3. The Voice Communication System shall be able to detect a short on any speaker or strobe zone during the normal and alarm mode. The shorted zone shall be isolated from the system and a dedicated LED on the supervised zone shall indicate the short circuit condition. The system shall produce an audible and visual signal indicating that a trouble condition has occurred. Similarly an open circuit shall create a trouble condition and corresponding LED annunciation at the affected zone and at the main control module. Zones that are not shorted or opened shall remain operational.
4. The Voice Communications System shall be able to detect a brownout condition on the AC supply. In the brownout condition the Voice Communication System shall activate a dedicated LED and an audible trouble signal. Ground faults shall activate the system trouble LED and the audible trouble signal, as well as specific LEDs indicating negative and positive ground faults.
5. The Voice Communication System shall be field configurable for 25 or 70.7 volt RMS audio output via program jumpers.
6. The Voice Communication System shall have a digital message player / recorder. The digital message player / recorder shall be capable of storing alert and evacuation tones as well as an emergency voice message. It shall be possible to modify the digital message and tones in the field using a built-in acoustic microphone or headphone jack connected to an audio device. There shall be no need for the burning of eproms in order to program the digital message player / recorder. The digital message player / recorder shall be supervised by the Voice Communication System. The Voice Communications System shall provide a backup evacuation tone in the event of a digital message player / recorder failure.
7. An alarm condition shall cause an audible signal and a red LED to activate. A Voice Communication System with a digital message player / recorder shall produce an ALERT tone followed by an emergency voice message, and in turn followed by an ALARM tone. The number of tone repetitions shall be configurable by the setting of DIP switches on the digital message player / recorder.
8. The sheet metal enclosure shall include a hinged deadfront allowing easy access to all the Voice Communication System components for the purposes of wiring, setting the system configuration and servicing. A door with a key lock shall be part of the Voice Communication System enclosure.

2.4 FIELD DEVICES

A. All devices shall be supervised for trouble conditions. The fire alarm control panel shall be capable of displaying the type of trouble condition (open, short, device missing/failed). Should a device fail, it shall not hinder the operation of other system devices.

B. Visual Signals:
   1. Strobe lights shall be of the electronic flashing xenon strobe type and operate on 24 VDC. The strobe light shall be capable of producing 75 candela on axis to comply with ADA and UL 1638 requirements, and 15, 30, or 110 candela to comply with UL 1971 requirements. Visual signals in common areas of illumination shall have synchronized flash. Provide white with red letters.
   2. If required to be mounted in student toilets / restrooms, gymnasiums, student locker / dressing rooms shall have a protective cover.

C. Combination Alarm Signal and High Intensity Visual Signals:
   1. Strobe lights shall be of the electronic flashing xenon strobe type and operate

on 24 VDC. The strobe light shall be capable of producing 75 candela on axis to comply with ADA requirements, and 15, 30 or 110 candela to comply with UL 1971 requirements. Visual signals in common areas of illumination shall have synchronized flash. Each unit shall provide a Code 3 Temporal tone. The horn shall be capable of an output of 95dB at 10', and intensity adjusted accordingly for the area of coverage. Electronic Mini-Sounder or horn set on low setting shall be provided in interior rooms 900 square feet or less. Mini-sounder shall not be used in any corridors, mechanical electrical rooms and similar large spaces and areas of high ambient noise level. Provide white with red letters.

2. All combination audio / visual devices mounted in student toilets / restrooms, gymnasiums, and student locker / dressing rooms shall have a protective cover.
3. The audible emergency alarms shall produce a sound that exceeds the prevailing sound level in the room or space by at least 15 dba or shall exceed any maximum sound level with a duration of 60 seconds by 5 dba, whichever is louder with or without protective cover. Sound levels for alarm signals shall not exceed 110 dba at the minimum hearing distance from the audible appliance.

D. Exterior Audible / Visual Signal:
1. Provide semi-flush mounted, molded of high impact red thermoplastic and listed for exterior weatherproof locations.

E. Combination Voice Signal and High Intensity Visual Signals:
1. Strobe lights shall be of the electronic flashing xenon strobe type and operate on 24 VDC. The strobe light shall be capable of producing 75 candela on axis to comply with ADA requirements, and 15, 30 or 110 candela to comply with UL 1971 requirements. Visual signals in common areas of illumination shall have synchronized flash.
2. If required to be wall mounted in student toilets, gymnasiums, corridors, student locker / dressing rooms, provide wire guard protective cover.
3. The visual signal lens housing shall be white with red lettered FIRE or as approved by Architect. The speaker and visual signal shall be mounted to a common white speaker baffle. The visual signal shall flash at a rate of minimum of 1 Hz and maximum of 3 Hz, and shall use a xenon strobe type lamp or other high intensity long life light source. The lamp intensity shall be a minimum of 75 candela.
4. The speaker shall be UL 1480 compatible with the control equipment. Unit shall operate within a temperature range of 150°F to -30°F. High output speakers, UL minimum 87dB at 10 feet with speaker taps of .33.66/1.25/2.5 watts. Standard output speakers, UL 75-81 dB at 10 feet with speaker taps of .5/1/1.75/2.75 watts. Capacitor for line supervision.

F. Ceiling mounted recessed mounted speakers shall be UL 1480 compatible with the control equipment. Unit shall operate within a temperature range of 150°F to -30°F. UL minimum 78-87 dB at 10 feet with speaker taps of .25, .5/1.0/2.0 watts. Round, white baffle in gypboard or plaster ceilings, provide 2x2 lay-in grid with UL enclosure, tile bridge supports when recessed in lay-in ceiling tiles Capacitor for line supervision.

G. Surface mounted speakers shall be UL 1480 compatible with the control equipment. Unit shall operate within a temperature range of 150°F to -30°F UL minimum 100 dB at 15 watts at 10 feet. Speaker taps via 7-position selector switch, 25-vol., .48/.94/1.8/7.5/15 watts. Fully enclosed wiring terminals. Capacitor for line supervision. Raco #911 Series Life Safety Appliance back box and adapter, or appliance manufacturer back box.

H. Addressable Manual Pull Stations:
   1. The manual station shall provide address-setting means using rotary decimal switches. No binary coding shall be required.
   2. Manual stations shall be designed for semi-flush mounting on standard electrical box. The station shall be constructed of hi-impact red molded Lexan with instructions for station operation in raised white letters. Stations shall be of the dual action type.
   3. Install Stopper STI1100 series covers with horns on all manual pull stations, except at the FACP and Remote Annunciator.
   4. Do not specify or use ionization only type detectors unless reviewed and approved by CFISD. Multi-criteria detectors that include ionization detection as one of the criteria to initiate and alarm are acceptable.
   5.

I. Intelligent Photoelectric Smoke Detectors:
   1. The detectors shall use the photoelectric principal to measure smoke density and shall, on command from the control panel, send data to the panel representing the ANALOG level of smoke density. The detector shall provide automatic sensitivity "drift" compensation. The detector shall also provide a "maintenance alert" feature whereby the detector shall initiate a trouble condition should the unit's sensitivity approach the outside limits of the normal sensitivity window.
   2. The detectors shall provide address-setting means electronically and automatically at the control panel and programmed for alarm verification.
   3. The detectors shall provide operational status and alarm state LED. Under normal conditions, the LED shall flash, indicating the detector is operational and in regular communication with the control panel. An output connection shall also be provided in the base for connecting an external remote alarm LED.
   4. The detector shall be semi-flush ceiling mounted and be provided with modular detector head with twist-lock base. No radioactive material shall be used.
   5. Voltage and RF transient suppression techniques shall be employed as well as smoke signal verification circuit and an insect screen.

J. Duct photoelectric smoke detectors:
   1. Detectors shall be analog addressable type.
   2. To minimize nuisance alarms, detectors shall have an insect screen and be designed to ignore invisible airborne particles or smoke densities that are below the factory set alarm point. No radioactive material shall be used.
   3. Removal of the detector head shall interrupt the supervisory circuit of the fire alarm detection loop and cause a trouble signal at the control panel.
   4. Voltage and RF transient suppression techniques shall be employed as well as smoke signal verification circuit and an insect screen.
   5. Remote alarm/power LED indicator with test switch shall be provided. Unit shall be wall or ceiling mounted in readily visible and accessible area near the location of detector; exact location of unit to be approved by the Architect/Engineer.
   6. Detectors shall operate on the same principles and exhibit the same basic characteristics as area type photoelectric smoke sensors. The detector shall operate in air velocities of 300 FPM to 4,000 FPM. Each detector shall interface directly to the system SLC loop without the requirement of interface zone modules.
   7. The unit shall consist of a clear molded plastic enclosure (or remote mounted LED status indicator shall be provided next to the smoke detector) with

integral conduit knockouts to provide visual viewing of detector/sensor for monitoring sensor operation and chamber condition. The duct housing shall be provided with gasket seals to insure proper seating of the housing to the associated ductwork. Each unit's sampling tubes shall extend the width of the duct and be provided with porosity filters to reduce sensor/chamber contamination.

8. The detectors shall provide alarm and power status indication by LED. Under normal conditions, the LED shall flash, indicating the detector is operational and in regular communication with the control panel. Steady illumination of the LED shall indicate that the control panel has detected and verified an alarm condition. An output connection shall also be provided in the base for connecting an external remote alarm LED.
9. The detectors shall provide address setting means electronically and automatically from the control panel and programmed for alarm verification.

K. Intelligent Thermal Detectors:
1. The detectors shall use dual electronic thermostats to measure temperature levels in its chamber and shall, on command from the control panel, send data to the panel representing the analog temperature level.
2. The detectors shall provide address-setting means electronically and automatically at the control panel.
3. The detectors shall provide operational status and alarm state LED. Under normal conditions, the LED shall flash, indicating the detector is operational and in regular communication with the control panel. An output connection shall also be provided in the base for connecting an external remote alarm LED.
4. The detector shall be semi-flush ceiling mounted and be provided with modular detector head with twist-lock base.
5. Thermal Detectors shall be combination rate-of-rise and fixed-temperature-rated at 135°F for areas where ambient temperatures do not exceed 100°F and shall be 200°F for areas where ambient temperatures exceed 100°F but not 150°F. The fixed temperature element shall consist of a fusible alloy retainer and actuator shaft. Detectors shall have a smooth ceiling rating of 2,500 square feet. Detectors shall be located as specified and where required by local code authority.
6. Provide fixed temperature 190°F detector in kitchen and kiln room in lieu of combination rate-of-rise / fixed-temperature type.

L. Addressable Carbon Monoxide Detection:
1. System sensor #CO1224 with addressable identification of the CO Detector’s alarm and trouble contact status. UL listed to Standard 2075 Standard for Gas and Vapor Detectors and Sensors.
2. Unit to be powered by the fire alarm system non-resettable 24 VDC supervised power supply.
3. Electro-chemical CO detection.
4. Integral 85db local alarm with local hush/test switch for silence or test.
5. Alarm contacts and trouble contacts for detector trouble, loss of power, and end of life.

M. Auxiliary AHU Relays: Air Products model MR-101C relays shall be provided for HVAC and AHU control and interface. Relays shall be heavy-duty type with contacts rated up to 10 amps at 120V AC, 60 HZ. Relays shall be provided with NEMA I dust cover assembly and be provided with DPDT contacts as well as activated LED indicator.

N. Voltage sensing relays: Addressable control modules for voltage sensing relay interface shall be FCM-1.

O. Monitor Module:
1. Addressable monitor modules shall be provided where required to interface to contact alarm devices.
2. The monitor module shall provide address-setting means electronically and automatically at the control panel. A status/alarm LED shall be provided which shall indicate that the monitor module is operational and in regular communication with the control panel, and indicate detection of an alarm condition.

P. Control Module
1. Control/relay modules shall be provided where required to provide audible alarm interface and/or relay control interface. The control module may be optionally wired as dry contact (form C) relay.
2. The control module shall provide address-setting means electronically and automatically at the control panel. A status/alarm LED shall be provided which shall indicate that the control module is operational and in regular communication with the control panel and indicate when the device is actuated via the fire alarm control panel.

Q. Auxiliary Interface Points: All auxiliary input points (fire suppression hoods, water flow, fire pump, AHU shut-down points, tamper switches, fire extinguishing systems etc.) shall be connected as required, and addressed as a separate initiating point of annunciation at the fire alarm panel and any remote annunciator as required.

R. Water flow switches / Valve supervisory switches shall be provided and installed by the fire protection contractor and connected by the fire alarm contractor. Wiring of these field devices to the fire alarm system shall be the responsibility of the fire alarm contractor. It is the responsibility of this contractor to ensure the proper function of the system. Each fire protection zone (flow switch) and (Valve switch) shall be addressed electronically and automatically at the control panel as a separate point of annunciation at the fire alarm panel. Coordinate exact location with fire protection contractor and civil drawings.

2.5 VESDA – VERY EARLY WARNING ASPIRATING SMOKE DETECTION SYSTEM

A. Approved Manufacturers:
1. System Sensor (FASAST) – Detection devices for Cooler / Freezer areas 200 square feet or larger, atriums / high ceiling areas with difficult access.
2. Xtralis (VESDA) – Detection devices for Cooler / Freezer areas 200 square feet or larger, atriums / high ceiling areas with difficult access.

B. A Very Early Warning Smoke Detection System similar to the VESDA VLI System shall be installed throughout the cooler and freezer storage areas 200 square feet and larger, and as an alternative to beam type detectors at high ceiling areas with difficult access.. The system shall consist of highly sensitive LASER-based Smoke Detectors with aspirators connected to networks of sampling pipes, intelligent filtration arrangement with fail-safe operation, sub-sampling probe (inertial separator), built-in clean air zero capability, local USB configuration port and Ethernet networking port. VESDA detection system shall be networked with the specified Notifier Fire Alarm Control Panel.

C. Design Requirements
1. The system shall consist of an air sampling pipe network to transport air to the detection system, supported by calculations from a computer-based design

modeling tool.

2. It shall be tested and approved to cover up to 2,000m^2 (20,000 sq.ft).
3. It shall have a built-in simple user interface indicating alarm and fault status and include a reset / disable button.
4. It shall provide absolute smoke detection.
5. It shall be approved to provide very early warning smoke detection and provide four alarm levels corresponding to Alert, Action, Fire 1 and Fire 2. These levels shall be programmable and able to be set at sensitivities ranging from 0.05-20% obs/m (0.016–6.4% obs/ft.).
6. The detector shall be specifically designed for industrial applications.
7. It shall consist of a highly sensitive LASER-based smoke detector with in-field clean air zero capability, aspirator, intelligent filter and secondary filter.
8. It shall be modular, with field replaceable detection chamber, aspirator, intelligent filter and secondary filter.
9. It shall have four pipe inlets for sample air.
10. It shall incorporate per pipe ultrasonic flow monitoring and provide staged airflow faults.
11. It shall have a built-in and field replaceable intelligent filter placed after the flow monitoring circuitry.
12. Intelligent filter shall:
    a. Dilute the sampled air for prolonged detector life.
    b. Combine sample air from all pipe inlets.
    c. Divide sampled air into filtered clean air and unfiltered air before mixing them together.
    d. Use HEPA filter with more than 99% efficiency for filtered clean air i.e. removing more than 99% of contaminant particles of 0.1microns or larger, to provide clean air for dilution.
    e. Use a mesh/screen for the unfiltered air for protection against lint type of particles.
    f. Be fail-safe and supervised for correct operation with built-in capability to alert for when replacement is required.
    g. Maintain consistent detector sensitivity over time.
    h. Have ultrasonic airflow monitoring of the unfiltered sampled air through the intelligent filter.
13. It shall have a field replaceable aspirator after the intelligent filter where the diluted sampled air flows through the aspirator prolonging its life.
14. The aspirator shall be a purpose-designed rotary vane air pump. It shall be capable of allowing for multiple sampling pipe runs up to 360m (1,200ft) in total, (4 pipe runs per detector) with a transport time per applicable local codes.
15. It shall have a sub-sampling probe (inertial separator) after the aspirator for reduced dust intake in to the detection chamber.
16. It shall have a secondary foam filter after the sub-sampling probe (inertial separator) where the sub-sampled air flows through the foam filter prolonging detection chamber life. The foam filter shall be capable of filtering particles in excess of 20 microns from the sampled air.
17. It shall have a field replaceable smoke detection chamber which stores the calibration values with the chamber assembly.
18. It shall have capability for in-field clean air zero to provide absolute smoke detection.
19. It shall have capability to measure blockages in the air path in to or out of the detection chamber.
20. It shall have an enclosure rating of IP54.
21. The detector shall allow for direct wall mounting or using a supplied mounting plate.
22. It may be inverted as required in specific applications.

23. It shall be self-monitoring for filter contamination.
24. It shall be configured via local USB port with Ethernet port for remote monitoring.
25. It shall have Fire and Fault relay outputs in addition to three configurable relays. The relays shall be software programmable to the required functions and must be rated at 2 AMP at 30 VDC.
26. It shall have at least one general purpose input (GPI).
27. It shall have Power In and Power Out connections to allow powering more than one detector from one power supply.
28. Optional equipment may include a dedicated Xtralis VSM graphics package.
29. It shall report any fault on the unit by using configurable fault relay outputs or via PC based configuration and monitoring system.
30. The detector shall have built-in event and smoke logging. It shall store smoke levels, alarm conditions, operator actions and faults. The date and time of each event shall be recorded. Each detector (zone) shall be capable of storing up to 18,000 events.

D. Programming Requirements

Using either USB or Ethernet port the detector shall allow programming of:

1. IP address and related fields to support Ethernet based networking
2. Four smoke threshold alarm levels
3. Time delays
4. Configurable relay outputs for remote indication of detector conditions
5. Holidays and day/night changeover times
6. Major and minor airflow fault limits
7. Aspirator speed
8. General purpose input function
9. Alarm and fault latching

E. Sampling Pipe

1. The sampling pipe shall be smooth bore. Normally, pipe with an outside diameter (OD) of 25mm or 1.05” and internal diameter (ID) of 21mm or ¾” should be used.
2. The pipe material should be suitable for the environment in which it is installed. VESDA pipe material shall be UL 1887 Plenum rated CPVC).
3. All joints in the sampling pipe must be air tight and made by using solvent cement, except at entry to the detector.
4. The pipe shall be identified as Air Sampling/Aspirating Smoke Detector Pipe along its entire length at regular intervals not exceeding the manufacturer’s recommendation or that of local codes and standards.
5. All pipes shall be supported at not less than 1.5m (5ft) centres, or that of the local codes or standards.
6. The far end of each trunk or branch pipe shall be fitted with an end-cap and made air-tight by using solvent cement. Use of an end-cap will be dependent on ASPIRE2 calculations.

F. Sampling Holes

1. Sampling holes shall not be separated by more than allowed for conventional point detectors as required by 30 feet as local codes and standards. Intervals may vary according to calculations. For NFPA the maximum allowable distance is 30ft.
2. Each sampling point port shall be identified in accordance with Codes or Standards.
3. Provide per manufacturer’s recommendations and standards in relation to the number of sampling points and the distance of the sampling points from the

ceiling or roof structure and forced ventilation systems.

4. Sample port size shall be as specified by ASPIRE2 calculations.

G. Detection Alarm Levels:

The laser-based ASD system shall have four (4) independently programmable alarm thresholds. The four alarm levels may be used as follows:

Alarm Level 1 (Alert)

Activate a visual and audible alarm in the fire risk area.

Alarm Level 2 (Action)

Activate the electrical/electronic equipment shutdown relay and activate visual and audible alarms in the Security Office or other appropriate location.

Alarm Level 3 (Fire 1)

Activate an alarm condition in the Fire Alarm Control Panel to call the Fire Monitoring Service and activate all warning systems.

Alarm Level 4 (Fire 2)

Activate a suppression system and/or other suitable countermeasures.

The alarm level functions as listed are possible scenarios. Program as directed by Owner to the best utilization of these facilities for each application and the requirements of local A.H.J.

H. Initial Detection Alarm Settings

1. Alarm Level 1 (Alert) 0.2% obs/m (0.064% obs/ft.)
2. Alarm Level 2 (Action) 0.3% obs/m (0.096% obs/ft.)
3. Alarm Level 3 (Fire 1) 0.40% obs/m (0.128% obs/ft.)
4. Alarm Level 4 (Fire 2) 2.0% obs/m (0.64% obs/ft.)

I. Initial (factory default) Alarm Delay Thresholds

Initial (factory default) settings for the alarm delay threshold shall be:

1. Alarm Level 1 (Alert) 10 seconds
2. Alarm Level 2 (Action) 10 seconds
3. Alarm Level 3 (Fire 1) 10 seconds
4. Alarm Level 4 (Fire 2) 10 seconds

J. Fault Alarms: The Detector Fault relay shall be connected to the appropriate alarm zone on the Fire Alarm Control Panel (FACP) in such a way that a Detector Fault would register a fault condition on the FACP. The Minor Fault and Isolate relays shall also be connected to the appropriate control system. Provide as required by local Codes, Standards or Regulations.

K. Power Supply and Batteries: The system shall be powered from a regulated supply of nominally 24V DC. The battery charger and battery shall comply with the relevant Codes, Standards or Regulations. Typically 24 hours standby battery backup is required followed by 30 minutes in an alarm condition.

1. UL 1481 Listed -provided the power supply and standby batteries have been appropriately sized / rated to accommodate the system's power requirements.
2. Provide 120-volt 20-amp circuit from the life safety branch panel to each power supply.

2.6 AUXILIARY EQUIPMENT MONITORING

A. The fire alarm system shall monitor for alarm, supervisory, and trouble conditions; and annunciate the status of the following equipment when provided, or is existing to remain, as part of this project. A failed status shall activate the trouble alarm.

1. Emergency Generator: Run Status
2. Emergency Generator: Trouble Signal
3. Fire Pump: Run Status

4. Fire Pump: Trouble Signal
5. Emergency Service Communications Systems, as required by NFPA 72 and NFPA 1221.

2.7 MAGNETIC DOOR HOLDERS, AUTOMATIC FIRE DOORS / SHUTTERS, AND SECURITY GRILLES AND INTERIOR SPACE CONTROLLED ACCESS EGRESS DOORS WITH AUTOMATIC EMERGENCY EGRESS ELECTRIC LOCK EMERGENCY RELEASE

A. Magnetic fire door hold open devices, interface for automatic roll down fire doors/shutters, and interface for security grilles and controlled access egress doors with emergency egress shall be provided. Coordinate with Division 8 and Architectural Drawings for exact location.

B. The operation of any alarm in the fire alarm system shall cause the following:
1. Release of the magnetic fire door holding devices, permitting the fire doors to be closed by the door closer.
2. Permit the automatic roll down fire doors/shutters to close automatically.
3. Permit the security grilles with emergency egress to open automatically.
4. Unlock the electrically controlled access doors in all interior spaces.

C. The magnetic door holders, automatic roll down fire doors/shutters, security grilles, and interior electrically controlled access doors with emergency egress, shall be associated with two smoke detectors located on the ceiling with one on either side of the fire door/shutter, security grille opening, or interior egress path electrically controlled door. The operation of either of these detectors shall also cause the magnetic holder to release the fire door, the automatic fire door/shutter to close, and the security grille with emergency egress to open.

D. The operation of smoke detectors associated with a magnetic door holder, automatic roll down fire door, security grille, or electrically controlled access door shall transmit a pre-alarm signal to the fire alarm panel.

2.8 REMOTE ALPHA-NUMERIC DISPLAY ANNUNCIATORS

A. Remote alpha-numeric annunciator(s) to annunciate all system events and duplicate the displayed status at the main FACP. The annunciator(s) shall be an alphanumeric display similar to the main FACP and operate via the system RS485 or RS232 serial output terminal from the main FACP. The unit shall operate from FACP 24VDC power and function during system power failure while the system resides on standby batteries. The remote annunciator(s) shall include:
1. Integral time-date clock
2. System reset
3. System silence
4. System acknowledge
5. Display/step switch
6. Integral trouble buzzer
7. LCD contrast adjust
8. Fire Drill Operation

B. Annunciator shall upon command display the first system alarm, last alarm, and system alarm count. The following primary controls shall be visible through a front access panel:
1. 80 character alphanumeric display, LCD, LED, or gas plasma
2. Individual red system alarm LED
3. Individual yellow supervisory service LED
4. Individual yellow trouble LED

5. Green “POWER ON” LED
6. Alarm acknowledge key
7. Trouble acknowledge key
8. Alarm silence key
9. System reset key
10. LED test

2.9 REMOTE PAGING UNIT

A. Remote all-call paging unit or to activate one of the pre-recorded messages over the speaker circuits.

2.10 PRINTER AND PRINTER STAND

A. Printer and printer stand not required by owner.

PART 3 – EXECUTION

3.1 GENERAL REQUIREMENTS

A. Installation shall include the delivery, storage, setting in place, fastening to the building structure, interconnection of the system components, alignment, adjustment and all other work, whether or not expressly specified, which is necessary to result in a tested and operational system.

B. All installation practices shall be in accordance with, but not limited to, the specifications and drawings. Installation shall be performed in accordance with the applicable standards, requirements and recommendations of NFPA 72 and the National Electrical Code and any authorities having jurisdiction. Proper protection against corrosion shall be provided on all electrical equipment in accordance with the requirements of the National Electrical Code. The installation shall conform to all manufacturers’ recommendations.

C. All equipment shall be firmly secured in place unless requirements of portability dictate otherwise. Fastenings and support shall be adequate to support their loads with a safety factor of at least three.

D. All boxes, equipment, etc., shall be plumb and square. The contractor must take such precautions as are necessary to prevent and guard against electrostatic hum, to supply adequate ventilation, and to install the equipment to provide reasonable safety for the operator.

E. In the installation of equipment and cables, coordinate with Architectural drawings for possible conflicts with millwork, casework, marker boards, furniture, lockers, etc., and notify the architect of any discrepancies. Verify modifications before proceeding with installation.

F. Mount end-of-line resistor for each box circuit in backbox located at the last manual alarm station or automatic initiating device in a circuit. Mark device accordingly in the field.

G. Provide three dedicated Cat 6 cables from MDF/IDF to fire alarm panel. Cable shall be installed in 3/4" conduit. Two cables for phone POT lines and one Ethernet data connection.

H. Upright and/or Wall Post-Indicating Valve: Provide conduit and wiring from fire alarm control panel to post-indicating valve if electronically supervised, coordinate exact

location of PIV with fire sprinkler contractor prior to rough-in. Coordinate final location with Civil Drawings and Fire Protection Contractor. Where equipment is located inside a vault, stub required conduit inside vault, turn up and cap.

I. Contractor shall submit on completion of system verification, a point-by-point check list indicating the date and time of each item inspected and issue a certificate confirming that the inspection has been completed and the system is installed and functioning in accordance with the Specifications prior to date of substantial completion.

J. Provide remote alphanumeric display annunciators in the administrative area in constantly attended area and additional annunciators where indicated on the drawings.

K. Provide remote paging units adjacent to each remote alphanumeric display annunciator for voice alarm systems.

L. Alarm devices shall be ceiling mounted unless indicated specifically otherwise. Alarm devices in Mechanical, Electrical, Communications, IDF / MDF Rooms and Central Plant shall be wall mounted and coordinated with other equipment, piping and ductwork.

M. Provide combination speaker strobes. Provide strobe only alarms when additional speaker placement will compromise voice intelligibility. Provide horn/strobes in coolers and freezers.

N. Detectors shall be installed per NFPA 90A and be listed with the fire alarm control panel.

O. Auxiliary Equipment Monitoring Wiring and connection to equipment shall be the responsibility of the fire alarm contractor.

P. Power for magnetic door holders shall be wired through fire alarm relay.

Q. Smoke detectors shall be mounted to a 4-inch octagon box with hanger bar or with box secured to building structure.

R. Provide power via 120-volt, 20-Amp dedicated circuits with lock-on provisions at the respective circuit breaker for the main fire alarm control panel, each panel extender and each remote power supply at no additional cost to the Owner. The complete fire alarm system shall be powered under emergency power when emergency life safety power is available at the project site. When emergency life safety power is not available at the project site, power shall originate from the nearest available 120-volt panel. Label 120V circuit origination (i.e.: “120-Volt Circuit ELA-3”)

S. Provide smoke detectors in the following locations:
   1. All paths of egress and adjoining spaces within the same HVAC envelope including but not limited to: corridors, hallways, stairs, lobbies, and elevator landings.
   2. At each electrical room, telecommunications/data room, elevator machine room, kiln room, and mechanical room not subject to un-treated or un-filtered outside air.
   3. At each computer lab/room.
   4. At each library, library office and library ancillary areas.
   5. At each storage room, stock room, or warehouse space.
   6. At each pre-K and kindergarten classrooms.

7. At nurse's area/clinic and patient care/cot areas.
8. At each men's and women's restroom/toilet
9. At each administrative work room or copy room.
10. At each student toilet / restroom. Provide STI protective cover. Do not locate over plumbing fixtures or near partitions.
11. At each special needs, life skills, adaptive behavior, developmental classrooms or similar designated areas without food preparation or cooking equipment.

T. Provide heat/thermal detectors in the following locations:
1. At each electrical room, telecommunications/data room, elevator machine room and mechanical room subject to un-treated or un-filtered outside air.
2. At each janitor's/custodial closets and laundry rooms.
3. At each commercial kitchen and adjoining storage rooms; at each food preparation area.
4. At each employee break room/lounge.
5. At each vocational shop.
6. At each science, physics, chemistry, or biology classroom and their associated preparation and storage rooms.
7. At each special needs, life skills, adaptive behavior, developmental classrooms or similar designated areas with food preparation or cooking equipment.

U. Provide carbon monoxide detection and smoke detection devices in all areas designated as day-care for minors.

V. Provide duct smoke detectors in all air handling units with air volumes of 2,000 cfm or larger. Where duct smoke detectors are installed above ceilings, provide external remote status/alarm LED mounted flush with ceiling in close proximity to the duct detector location. If space is open without ceiling, wall mount remote status/alarm LED in close proximity to the detector between 96 and 108-inches AFF, or as directed by Owner.

W. Provide duct smoke detectors on outside air units only as required by local Code and / or A.H.J.

X. Provide VESDA type detectors at the following locations when appropriate:
1. Atriums.
2. High ceiling corridors where maintenance of spot type detectors may be difficult.
3. Areas with skylights.
4. Auditorium Stage
5. Auditorium Seating
6. Main corridor in front of Auditorium

Y. Provide manual pull stations at FACP in MDF and adjacent to Fire Alarm Annunciator(s) and Greenhouse only, unless required by code otherwise.

Z. Provide weatherproof exterior audio/visual alarm devices mounted on the building at the exact location as directed by Architect:
1. Main entry.
2. Courtyards and outdoor assembly areas adjacent to the building.
3. Mechanical yards adjacent to the building.
4. Covered playgrounds or covered assembly areas adjacent to the building.
5. Additional locations where indicated on drawings.
6. Outdoor paved play areas.

7. Greenhouse interior (2 speaker/strobes)

AA. Provide audio and visual alarm devices in all areas normally occupied by students or minors and all common use areas.

BB. Provide carbon monoxide detection in classrooms and other instructional spaces served by a fuel-burning appliance, fuel-burning HVAC equipment (including roof mounted equipment), or with gas fuel outlets for connection to portable fuel-burning space heaters and appliances such as Bunsen burners which are typically used in laboratories or science classrooms.

CC. Provide smoke detectors, pull stations with stopper covers, and speaker strobes in each classroom in all portable buildings, tied into the main campus fire alarm control panel.

DD. Provide properly rated and grounded surge suppression for all circuits leaving and entering the building.

3.2 CABLE AND BOXES INSTALLATION

A. All fire alarm wiring to be red. All fire alarm circuits shall be identified at each termination and at each 25 feet between terminations. Minimum Wire size shall be as follows:
1. Initiating Circuits: 18 AWG
2. Strobe Circuits: 14 AWG
3. Relay Control Circuits: 18AWG
4. Voice/Speaker Circuits: 16 AWG

B. All circuits shall be protected to avoid interruption of service due to short-circuiting or other conditions, which might adversely affect the connected devices. Each individual signaling circuit shall be classified as a circuit pair.

C. All cabling in racks, cabinets and junction boxes shall be neatly strapped, dressed and adequately supported. Cable installation shall conform to good engineering practices and to the standards of the National Electrical Code.

D. Cables shall be terminated with the proper connector required for the associated operation of the equipment to which it is connected. Screw terminal blocks shall be furnished for all cables, which interface with racks, cabinets, consoles or equipment modules.

E. All cables within a rack, console or junction box shall be grouped according to the signals being carried to reduce signal contamination.

F. Where shielded conductors enter a panel or enclosure, and where power wiring exists, provision shall be made to provide physical isolation of signal and power conductors.

G. Supply and install all fittings and accessories whether or not they are specified, required for proper, safe and reliable operation of the system.

H. All wire shall be installed in an approved conduit/raceway system (except where permitted by NEC and the local authority having jurisdiction). Maximum conduit fill shall not exceed 40%.

I. Minimum conduit size shall be 3/4" EMT with insulated bushings. Install conduit per engineered shop drawings. All conduit terminations in all boxes shall have insulated

bushings.

J. Systems utilizing open wiring techniques with low smoke plenum cable shall provide conduit in all inaccessible locations, inside concealed walls, all mechanical/electrical rooms, or other areas where wiring might be exposed to view and or subject to damage.

K. All vertical wiring and all main trunk/riser wiring shall be installed in a complete raceway/conduit system. All riser boxes shall be adequately sized for the number of conductors transversing the respective box as well as the number of terminations required.

L. All junction boxes containing fire alarm wiring are to be painted red and labeled.

M. All plenum wiring is to be installed parallel and perpendicular to the building structure. Cable shall be bundled with plenum rated cable zip ties on a maximum of 2'-6". Install cable in D-ring hangers, secured to the structure at a maximum of 5' on center. Cable shall not lie on ceiling grid or ceiling tiles, light fixtures, piping, ductwork, or foreign equipment.

N. The system ground is to be connected to the local ground bus. Under no conditions shall the AC neutral either in a power panel or in receptacle outlets be used for a reference ground.

O. All wiring shall be in accordance with NFPA 72, the National Electrical Code, and Local Codes. All wiring sizes shall conform to recommendations of the equipment manufacturer, and as indicated on the engineered shop drawings.

P. All wire shall be UL Listed FPL for limited energy (300V) and fire alarm applications and shall be installed in conduit. Limited energy FPLP or MPP wire may be run open in return air ceiling plenums provided such wire is UL Listed for such applications and is of the low smoke producing fluorocarbon type and complies with NEC Article 760 and approved by the local authority having jurisdiction.

Q. No other wiring shall be run in the same conduit as fire alarm wiring.

3.3 FINISHES

A. Main Fire Alarm Panel color shall be approved by Owner / Architect.

3.4 ALARM SYSTEM SEQUENCE OF OPERATION

A. General:
   1. All fire alarm circuits shall be electrically supervised.
   2. Automatic response functions shall be accomplished by the first device initiated. Alarm functions resulting from initiation by the first device shall not be altered by subsequent alarms. An alarm signal shall be the highest priority. A pre-alarm signal shall have second priority and supervisory or trouble signals shall have third and fourth level priority. Signals of a higher level priority shall take precedence over signals of lower priority even though the lower priority condition occurred first.

B. Fire alarm operating sequences shall be as follows:
   1. Activation of any automatic detector, manual station, fire suppression system, sprinkler flow switch or any other system required by NFPA 72 to be monitored to initiate an alarm condition shall cause the location of the alarm to

be identified in an audible and visual manner at the building fire alarm control panel (FACP), and shall initiate the following events:

a. The system common alarm LED on the CPU Module shall flash. The internal audible trouble device shall sound. Acknowledging the alarm condition shall silence the audible trouble device and revert the flashing common alarm LED to a steady state.
b. The alphanumeric display shall indicate all applicable information associated with the alarm condition including: zone, device type, device location, and time of alarm. Location and zoning messages shall be custom field programmed to respective premises.
c. Any remote or local annunciator LED's associated with the alarm point shall be illuminated as herein specified.
d. The remote signaling connection shall be activated relaying the alarm signal to an approved central station (central station connection and service provided by Owner). Point ID and descriptor must be sent and received.
e. All automatic events programmed to the alarm point shall be executed and the associated indicating devices and/or outputs activated.
f. Activate all audible/visual alarm devices. Where prerecorded voice announcement is required or specified, the prerecorded announcement shall be preceded with attention tone(s), followed by the approved prerecorded announcement and continue in a cycle until the system is reset. Manual voice announcement shall interrupt the prerecorded cycle and the prerecorded cycle shall resume automatically after three minutes.
g. De-activate all HVAC systems including low speed high volume (LSHV) circulating blade type fans.
h. De-energize the kitchen hood supply/exhaust fans as required by local authority having jurisdiction.
i. Close all related smoke dampers.
j. Close all related smoke/fire dampers.
k. Release all magnetic door hold open devices.
l. Release the electric strike, unlocking, but not unlatching, locked doors controlled by an access control system.
m. Release Counter Shutters and hold-open devices on all fire and smoke doors.
n. Open all security grilles with emergency egress.
o. Activate to close all related fire and smoke doors and shutters.
p. Activate signaling connection to the elevator as required by the local authority having jurisdiction.
q. Signal the building automation system and Owner’s security/police personnel as directed by Owner/Architect. The audible alarms shall be inhibited from being silenced for a period of 3 minutes after commencing operation unless alarm is acknowledged and appropriate action has been taken.
r. Activate automatic recall operation of elevators as required by local authority having jurisdiction.
s. Record all events on the system printer.

2. Activation of duct mounted smoke detector on the HVAC equipment, or a smoke detector mounted in the return/supply air stream of any fan shall shut down all units as required by NFPA. The activation of one of these detectors shall send an alarm signal to the control panel and also initiate the Alarm Sequence of Operation.
3. Activation of a control valve supervisory switch shall initiate the following events:

a. The activation of any sprinkler valve supervisory (tamper) switch shall activate the system supervisory service audible signal and illuminate the LED at the building fire alarm control panel (FACP). Differentiation between valve tamper activation and opens and/or grounds on the initiation circuit wiring shall be provided.
b. Activation of a sprinkler system control valve supervisory switch shall not prevent the events listed under Article 3.4.
c. Restoring the valve to the normal position shall cause the supervisory service audible signal to pulse, indicating the restoration to normal position. The supervisory service reset key shall be provided to silence the audible signal.

4. Activation of the smoke detector and heat detector in the elevator machine room and at top of elevator shaft shall cause the elevators' controllers to be tripped by way of the shut trip breaker, and shall also initiate the events listed under Article 3.4.
5. Any subsequent fire alarm shall reactivate the alarm indicating appliances and activate the respective control sequences described above.
6. Upon reset of the fire alarm control panel, HVAC units shall be capable of being started, and resume normal operation.
7. When the fire alarm panel is in alarm, the fire alarm panel shall signal the digital lighting control system, as required, to activate and turn all lights to full bright in all NFPA 101 paths of egress and as required by the Fire Marshall. Once the fire alarm (or drill) is cleared, the fire alarm panel shall signal the digital lighting control system as required to enable the digital lighting control system to revert to normal operation with the lights to remain illuminated until manually turned off using the digital lighting control system.

C. Activation of the manual evacuation (drill) switch shall operate the alarm indicating appliances without causing other control circuits to be activated. However, should true alarm occur, all alarm functions should occur as described.

D. ALARM VERIFICATION shall be field programmed for each respective detector. Global verification will not be acceptable. The verification sequence is activated after a "check" procedure and the panel will wait a field programmable delay period (0-50 seconds) then proceed to re-sample the detector for continued presence of smoke. If the alarm condition still exists or a non-verified device is actuated during the verification period, the system will then initiate all alarm sequences specified herein. The system shall incorporate the ability to log in memory the number of verification events that have occurred for each selected device.

3.5 EQUIPMENT IDENTIFICATION

A. Each panel or equipment enclosure shall be provided with a permanently engraved or embossed or silkscreen identification tag. The tag shall include the following information:
1. Name of manufacturer.
2. Manufacturer's equipment description.
3. Serial number and model number.
4. Voltage and current rating.

B. All addressable devices shall be labeled with point and module number. Provide label maker style label on base of device. Verify exact requirements with Owner.

3.6 SPARE PARTS AND TOOLS

A. Interchangeable Parts: All spare parts furnished shall be directly interchangeable with

the corresponding components of the installed system. Spare parts shall be packaged and identified by nameplate, tagging, or stamping. Spare parts shall be delivered to the site in unopened cartons for storage as directed by the Owner.

B. Spare Parts: Provide minimum of two, or 5% of building total, whichever is greater unless noted otherwise.
   1. Spare shut down modules
   2. Spare detectors of each type in the system
   3. Spare alarm indicating devices of each type in the system
   4. Spare manual pull stations
   5. Spare protective covers of each type in the system.
   6. Spare relays/controls required for connection to smoke and fire/smoke dampers
   7. Devices listed above are to be installed as directed by Architect/Engineer or local code authorities at no additional cost to the Owner. Unused spare parts are to be parts for Owner's cabinet.

C. Provide one smoke, heat and carbon monoxide detector testing kit. SDfire #TF2823 with Solo Testfire #2001 tester with 15-foot access pole and three 4-foot pole extensions, detector removal tool, and carrying bag.

D. Provide two copies of the final software programmed into the fire alarm system.

E. Parts list: Furnish a list, in duplicate, of all other parts and accessories the manufacturer of the system recommends to be stocked for maintenance.

3.7 KEYS

A. Keys and locks for all equipment shall be identical. Provide not less than six keys of each type required. Identify keys by an appropriate number stamped on each key or on a metal tag attached thereto. Provide a key numbering chart in each operation and maintenance manual furnished.

3.8 SMOKE DAMPERS AND FIRE/SMOKE DAMPERS

A. Smoke dampers and combination fire/smoke dampers shall be controlled by an automatic alarm initiating device. Smoke dampers installed to isolate the air handling system shall be arranged to close automatically when the system is in alarm.

B. Coordinate motor operator voltage with supplier.

C. Open all dampers prior to starting air handling equipment.

D. Provide 120V power from nearest general purpose 20A receptacle circuit as required, or as noted otherwise.

3.9 GRAPHIC FLOOR PLANS

A. Provide two (2) color coded floor plan detailed with project name, actual room names, actual graphic room numbers as directed by the Owner and adequate information to direct people to the fire alarm devices in alarm and to exits with non-fading floor plan media. Do not use architectural plan room names and numbers.

B. Each plan shall clearly relate the room numbers on the annunciator to the area description on the floor plan. All fire alarm devices located to correspond with the annunciator. Indicate location of all end-of-line resistors.

C. Provide graphic floor plans with all fire alarm devices and equipment, with labels and addresses matching system programming and reporting. The floor plan shall be provided in lexan protective covering and framed.
   1. Minimum size 30x42 inches, mounted adjacent to FACP in MDF and at remote annunciator.
   2. Provide digital copy of graphic floor plan in AutoCAD (.dwg) format.

D. Provide and mount framed signed FML certificate adjacent to FACP.

3.10 OPERATING INSTRUCTIONS

A. Coordinate with Owner for appropriate off-site monitoring service and communication technology to be used. Provide all necessary programming for interfacing with the Owner's on-site and off-site remote signaling receiving station, including programming of descriptors and addresses at the receiving station.

B. Provide Fire Alarm System Operating Instructions for the following items including, but not limited to:
   1. Alarm Signal
      a. How to open panel door
      b. What to read and follow the instruction on display
      c. How to acknowledge alarm
      d. How to silence the signals
      e. How and when to reset the system
      f. How to return system to normal operation
   2. Trouble / Supervisory
      a. How to open panel door.
      b. What to read and follow the instruction on display
      c. How to acknowledge trouble condition
      d. Appropriate personnel to respond

C. Provide laminated instructions in extruded aluminum frame. Mount adjacent to the Fire Alarm Control Panel and remote annunciator panel(s) for ready reference.

3.11 ADDITIONAL REQUIREMENTS

A. For campuses with existing fire alarm systems, the existing fire alarm system shall remain fully functional and monitored until the new system is fully installed, inspected, and accepted by the AHJ and owner.

B. The contractor is to ensure all areas of the building are covered with visual and audio alarm devices for occupant notification of a fire alarm, including remote portable or temporary buildings.

C. Coordinate door hold devices with door and door hardware.

D. Provide interface with and coordinate shunt-trip circuit breakers and control devices with kitchen hood fire control systems and elevator equipment.

E. Alarm circuit power supplies and circuiting shall be designed and installed to accept an additional five (5) 110cd visual devices for future expansion. The initial design shall not exceed 70% of the rated power supply and circuit capability.

F. Install system event printer as directed by Owner/Architect.

G. Provide programming or re-programming of all hot keys as directed by Owner including, but not limited to, fire drill, AHU shutdown bypass, horn/strobe disable, elevator test.

H. Provide one dedicated alarm circuit for (future) portable (temporary) building(s) to the nearest main building egress exit discharge to the designated portable building location. Provide 100 feet of cable coiled and marked “FACP-ALARM-PORTABLES” above an accessible ceiling.

I. Provide one dedicated addressable initiating device circuit with a minimum capacity of 50 devices for (future) portable (temporary) building(s) to the nearest man building egress discharge to the designated portable building location. Provide 100 feet of cable coiled and marked “FACP-INITIATING PORTABLES” above an accessible ceiling.

J. Provide printer and printer stand at main FACP; exact location as directed by Owner / Architect.

K. Provide control module relays to interface with the digital lighting control system; refer to specification Section 26 09 28 Digital Lighting Control System. Provide Form C dry contacts to indicate1) Fire alarm (including fire drill activation) and 2) Fire Alarm cleared.

L. Provide 40 initiating devices and two audible circuits for portable buildings. These shall be used to service existing portable buildings and remainder shall be left as spare above accessible ceiling.

3.12 COMMISSIONING THE SYSTEM

A. The installing contractor shall be responsible for verifying that each component of the system is fully operational and in conformity with the specifications. He shall also be responsible for insuring that all elements function together as a system in accordance with the specifications.

B. A state licensed NICET II minimum and factory trained technical representative of the manufacturer shall supervise the final control panel connections and testing of the system. Upon completion of the acceptance tests, the owner and/or his representatives shall be instructed in the proper operation of the system.

C. The installing contractor shall functionally test each and every device in the entire system for proper operation and response. Field testing shall include voice intelligibility as required by the latest edition of NFPA 72 Any items found not properly installed or non-functioning shall be replaced or repaired and retested. The final test indicating a fully functional fire alarm system shall be recorded and an electronic Excel and printed copy submitted to the Architect, Engineer and Owner.

D. The installing contractor shall provide a complete written report in electronic form and printout of the functional test and intelligibility test of the entire system. A copy of the test report shall be provided with the Maintenance and Operation Manuals. The test report shall be signed and dated by the licensed fire alarm superintendent responsible for supervising the final system test and checkout. This test shall be witnessed and accepted by the Owner prior to testing for the local Fire Marshall.

E. The installing contractor's fire alarm superintendent shall test the entire system in the presence of the local authorities having jurisdiction. The contractor shall be responsible for making any changes, adjustments, or corrections, as may be required by the local authorities. The Contractor shall affix his certification label and installation

certificate to the interior of the main fire alarm control panel.

F. The testing and acceptance shall be performed within 30 days after the fire alarm installation is completed. The test shall be performed by a minimum of two qualified fire alarm system technicians acceptable to the authority having jurisdiction. The test which is a comprehensive 100 percent inspection and test of all fire alarm system equipment shall include the following:
   1. Fire alarm control equipment: a visual and functional test of the fire alarm control and auxiliary control equipment.
   2. A visual inspection shall be conducted to establish that all electrical connections and equipment, as required, are properly installed and operating.
   3. A functional fault simulation test shall be conducted on all relevant field wiring terminations to ensure that wiring is properly supervised as required.
   4. Indicators shall be tested to ensure proper function and operation.
   5. Control panel auxiliary functions shall be functionally tested to verify proper operation.
   6. Control panel supervisory and alarm current readings shall be taken to verify that the control panel has the appropriate power supplies and standby batteries to operate the system as required. A three-minute general alarm stress test, both under AC power and standby power, shall be conducted to further ensure complete operation of the system.
   7. Fire alarm peripheral devices; All fire alarm peripheral devices shall be functionally tested and the location and testing information recorded for each device.
   8. Manual initiating devices:
      a. Each manual fire alarm station shall be functionally tested for alarm operation.
      b. Each manual fire alarm station shall be functionally tested for proper wiring supervision.
   9. Automatic initiating devices:
      a. Each automatic initiating device shall be activated in accordance with manufacturer’s instructions to ensure proper operation.
      b. Each automatic initiating device shall be functionally tested for proper wiring supervision.
      c. Each automatic initiating device shall be inspected to ensure proper placement and mounting as required by specifications.
   10. Alarm signaling devices:
      a. Each alarm signaling device shall be tested and decibel reading taken at 10' from the device and recorded to ensure proper operation. Each area’s voice alarm signaling devices shall be tested for intelligibility.
      b. Each alarm signaling device shall be functionally tested for proper wiring supervision.
      c. Decibel reading shall be taken to ensure that the alarm signal level can be clearly heard in all areas of the facility.
      d. All visual alarm indicators shall be functionally tested to ensure proper operation and that they are clearly visible.
   11. Elevators: Each elevator shall be tested and automatic recall function verified.
   12. Reporting: Upon completion of the initial verification audit, a report shall be sent to the Architect/Engineer indicating that all fire alarm equipment has been tested and is in 100 percent operation. The report shall also contain the audit testing information as to the location and operational status of each peripheral device. The 100 percent audit shall be performed by a factory-trained representative. The report shall include the voice intelligibility performance in each area and indicate compliance with NFPA and local AHJ requirements.

G. It is the intent of these specifications and of the Architect/Engineer that a continued program of system maintenance is to be provided by the Owner in compliance with NFPA 72. It is mandatory that the installing Contractor provide such services and make available these services to the Owner upon completion of the project.

H. Upon completion of installation and full acceptance testing, submit NFPA 72 certificate of compliance that the total fire alarm system, including any subsystems, is fully functional and that the components are UL listed for function intended.

3.13 SUBSTANTIAL COMPLETION

A. Final acceptance of the FIRE ALARM SYSTEM by the owner, local code authorities and Occupancy Permit has been issued.

B. All fire alarm system shop drawings, test reports, operating and maintenance manuals, maps and as-built drawings shall be submitted in electronic format to and accepted by the Architect / Owner prior to date of substantial completion.

C. Acceptance by County or Local Fire Marshall.

3.14 WARRANTY

A. The fire alarm system, including labor and material, shall be free from defects in workmanship and materials, under normal use and service, for a period of one year from the date of substantial completion. Major components including but not limited to the main fire alarm panel, sub-panels, panel extenders, power supplies and emote annunciators. Any equipment or workmanship shown to be defective shall be repaired, replaced or adjusted during normal working hours at no cost to the owner within 4-hour notification. Any equipment replaced shall be complete with full factory warranty for that part beginning on the date of installation.

B. Repair services and replacement parts for the system to be furnished under this Contract shall be available for a period of ten years after the date of final acceptance. Service during the warranty period shall be provided within four hours after notification and all repairs shall be corrected within 24 hours after notification throughout the warranty specified in this section.

C. The installing contractor shall provide 24 hour, 365 days per year emergency service with factory trained, state licensed service technicians.

D. The equipment manufacturer shall be represented by a local service organization and the name of such shall be furnished to the Owner, Architect, and Engineer.

E. Provide a certified fire alarm test of the complete system no earlier than 30 days prior to the end of the warranty period and correct any and all items to bring the system to an approved status at no cost to the Owner. Clean all smoke detectors and replace all defective parts at no cost to the Owner.

F. Guarantee labor, materials, and equipment provided under this contract against all defects for a period of one year after the date of final acceptance and receipt and approval of “As-Built” drawings and schematics of all equipment.

G. All manufacturer’s warranties which extend past final completion shall be fully transferred to the Owner.

3.15 TRAINING

A. Provide training course to all fire personnel assigned by Owner's Representative. The training shall include a course syllabus and hands-on participation. Training shall be conducted on a system identical to the one being installed on this project. The system shall be able to perform all system operations and simulate all types or forms of alarm conditions.

B. Provide a video of the training program to the Owner's Representative to be used for periodic refresher course, training of the local fire department and for training of new employees.

C. The training course shall include, in addition to the above, a system overview, and a review of the operation and maintenance manual.

D. The instructor shall be factory trained and shall be thoroughly familiar with all parts of the installation on which instruction is to be given. The instructor shall be trained in operating theory as well as in practical operation and maintenance work.

END OF SECTION

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

2024 CYPRESS FALLS HIGH SCHOOL RENOVATIONS
CYPRESS-FAIRBANKS INDEPENDENT SCHOOL DISTRICT
CYPRESS-FAIRBANKS I.S.D. PROPOSAL NUMBER.: 24-02-5742-R-RFP

VOLUME 1 B

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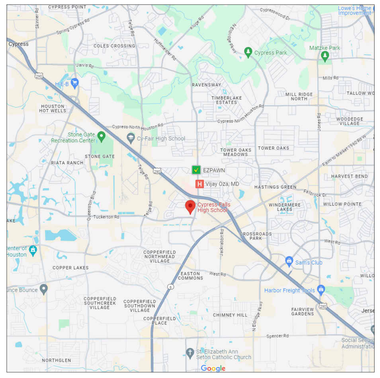

SITE LOCATION MAP

NORTH

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G0.01B	HC FIRE CODE REVIEW SHEET VOCATIONAL BLDG
G0.01C	HC FIRE CODE REVIEW SHEET PRESSBOXES
G0.01D	HC FIRE CODE REVIEW SHEET STORAGE BLDG
G0.01E	HC FIRE CODE REVIEW SHEET GREENHOUSE
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LANDESIGN GROUP
LANDSCAPE CONSULTANT

REGISTERED ARCHITECT 27126 STATE OF TEXAS

2025-01-13

PROJECT NO. 202318
DATE: 2025-01-13

DATE	ISSUE
ISSUE	PERMIT AND PROPOSAL
2025-01-24	ADDENDUM No. 02 A
2025-01-30	ADDENDUM No. 05 B

SET NO.

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

2024 CYPRESS FALLS HIGH SCHOOL RENOVATIONS
CYPRESS-FAIRBANKS INDEPENDENT SCHOOL DISTRICT
CYPRESS-FAIRBANKS I.S.D. PROPOSAL NUMBER.: 24-02-5742-R-RFP

VOLUME 2 A

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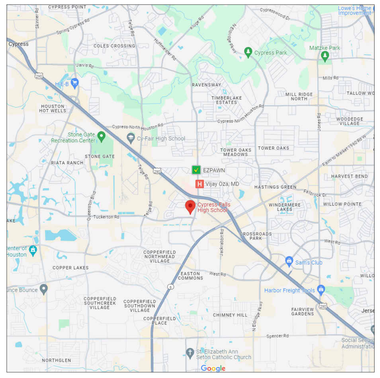

SITE LOCATION MAP

NORTH

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M0.00	MECHANICAL DEMOLITION COMPOSITE 1ST FLOOR PLAN
M0.01	MECHANICAL DEMOLITION FLOOR PLANS - AREA A & H
M0.02	MECHANICAL DEMOLITION FLOOR PLAN - AREA D
M0.03	MECHANICAL DEMOLITION FLOOR PLAN - AREA G
M0.04	MECHANICAL DEMOLITION FLOOR PLANS - AREA P & K
M0.05	MECHANICAL DEMOLITION 2ND FLOOR PLAN - AREA A
M0.06	MECHANICAL DEMOLITION 2ND FLOOR PLANS - AREA N
M0.07	MECHANICAL DEMOLITION 2ND FLOOR PLANS - AREA Y
M2.01	MECHANICAL 1ST FLOOR PLAN - AREA 'A'
M2.02	MECHANICAL 1ST FLOOR PLAN - AREA 'B'
M2.03	MECHANICAL 1ST FLOOR PLAN - AREA 'C'
M2.04	MECHANICAL 1ST FLOOR PLAN - AREA 'D'
M2.07	MECHANICAL 1ST FLOOR PLAN - AREA 'G'
M2.08	MECHANICAL 1ST FLOOR PLAN - AREA 'H'
M2.09	MECHANICAL 1ST FLOOR PLAN - AREA 'J'
M2.10	MECHANICAL 1ST FLOOR PLAN - AREA 'K'
M2.12	MECHANICAL 1ST FLOOR PLAN - AREA 'M'
M2.14	MECHANICAL 1ST FLOOR PLAN - AREA 'P'
M2.18	MECHANICAL 1ST FLOOR PLAN - AREA 'T'
M2.21	MECHANICAL 1ST FLOOR PLAN - AREA 'W'
M2.24	MECHANICAL 2ND FLOOR PLAN - AREA 'A'
M2.26	MECHANICAL 2ND FLOOR PLAN - AREA 'F'
M2.31	MECHANICAL 2ND FLOOR PLAN - AREA 'N'
M2.36	MECHANICAL 2ND FLOOR PLAN - AREA 'X'
M2.37	MECHANICAL 2ND FLOOR PLAN - AREA 'Y'
M3.01	MECHANICAL ENLARGED FLOOR PLANS - PRESSBOXES
M3.02	MECHANICAL ENLARGED FLOOR PLANS - KITCHEN
M4.01	MECHANICAL PIPING DIAGRAM
M5.01	MECHANICAL DETAILS AND LEGENDS
M5.02	MECHANICAL DETAILS AND LEGENDS
M5.03	MECHANICAL SCHEDULES
E0.01	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'A'
E0.02	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'B'
E0.03	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'D'
E0.04	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'E'
E0.05	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'G'
E0.06	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'H'
E0.07	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'K'
E0.08	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'M'
E0.09	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'P'
E0.10	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'R'
E0.11	ELECTRICAL DEMOLITION 2ND FLOOR PLAN - AREA 'A'
E0.12	ELECTRICAL DEMOLITION 2ND FLOOR PLAN - AREA 'D'
A E0.13	ELECTRICAL DEMOLITION 2ND FLOOR PLAN - AREA 'U'
E0.14	ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'C'
E1.01	ELECTRICAL SITE PLAN
E1.02	ELECTRICAL ENLARGED SITE PLANS
E1.03	ELECTRICAL ENLARGED SITE PLANS - PRESSBOXES
E1.04	ELECTRICAL ENLARGED SITE PLANS - PRESSBOXES
E2.01	ELECTRICAL 1ST FLOOR COMPOSITE FLOOR PLAN
E2.02	ELECTRICAL 2ND FLOOR COMPOSITE FLOOR PLAN
E3.01	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'A'
E3.02	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'B'
E3.03	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'D'
E3.04	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'E'
E3.05	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'G'
E3.06	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'H'
E3.07	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'K'
E3.08	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'M'
E3.09	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'P'
E3.10	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'R'
E3.11	ELECTRICAL POWER 2ND FLOOR PLAN - AREA 'A'
E3.12	ELECTRICAL POWER 2ND FLOOR PLAN - AREA 'D'
E3.13	ELECTRICAL POWER 2ND FLOOR PLAN - AREA 'K'
A E3.14	ELECTRICAL POWER 2ND FLOOR PLAN - AREA 'U'
A E3.15	ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'C'
E3.21	ELECTRICAL POWER ROOF PLAN
E3.22	ELECTRICAL POWER ROOF PLAN
E3.23	ELECTRICAL POWER ROOF PLAN
E4.01	ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'A'
E4.02	ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'B'
E4.03	ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'D'
E4.04	ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'H'
E4.05	ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'K'
E4.06	ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'P'
E5.01	ELECTRICAL ENLARGED PLANS
E5.02	ELECTRICAL ENLARGED PLANS
E5.04	ELECTRICAL DEMOLITION KITCHEN PLANS
E5.05	ELECTRICAL POWER KITCHEN PLANS
E5.06	ELECTRICAL LIGHTING KITCHEN PLANS
E5.07	ELECTRICAL ENLARGED POWER PLAN - TEMP KITCHEN
E6.01	ELECTRICAL PARTIAL DEMOLITION ONE-LINE DIAGRAM
E6.02	ELECTRICAL PARTIAL NEW ONE-LINE DIAGRAM
E7.01	ELECTRICAL PANEL SCHEDULES
E7.02	ELECTRICAL PANEL SCHEDULES
E7.03	ELECTRICAL PANEL SCHEDULES
E7.04	ELECTRICAL PANEL SCHEDULES
E7.05	ELECTRICAL PANEL SCHEDULES
E7.06	ELECTRICAL PANEL SCHEDULES
A E7.07	ELECTRICAL PANEL SCHEDULES
E8.01	ELECTRICAL SYMBOL LEGEND & DETAILS
E8.02	ELECTRICAL LIGHTING CONTROL DETAILS
E8.03	ELECTRICAL SCHEDULES
P0.01	PLUMBING DEMOLITION 1ST FLOOR PLAN - AREA 'A'
P0.02	PLUMBING DEMOLITION 1ST FLOOR PLAN - AREA 'B'
P0.03	PLUMBING DEMOLITION 1ST FLOOR PLAN - AREA 'D'
P0.04	PLUMBING DEMOLITION 1ST FLOOR PLAN - AREA 'G'
P0.05	PLUMBING DEMOLITION 1ST FLOOR PLAN - AREA 'H'
P0.06	PLUMBING DEMOLITION 1ST FLOOR PLAN - AREA 'P'
P0.07	PLUMBING DEMOLITION 1ST FLOOR PLAN - AREA 'R'
P1.01	PLUMBING SITE PLAN
P1.02	PLUMBING SITE ENLARGED PLANS
P2.01	PLUMBING UNDERFLOOR 1ST FLOOR PLAN - AREA 'A'
P2.02	PLUMBING UNDERFLOOR 1ST FLOOR PLAN - AREA 'B'
P2.03	PLUMBING UNDERFLOOR 1ST FLOOR PLAN - AREA 'D'
P2.04	PLUMBING UNDERFLOOR 1ST FLOOR PLAN - AREA 'G'

SHEET INDEX VOL. 2

SHEET #	SHEET NAME
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P2.06	PLUMBING UNDERFLOOR 1ST FLOOR PLAN - AREA 'K'
P3.01	PLUMBING 1ST FLOOR PLAN - AREA 'A'
P3.02	PLUMBING 1ST FLOOR PLAN - AREA 'B'
P3.03	PLUMBING 1ST FLOOR PLAN - AREA 'C'
P3.04	PLUMBING 1ST FLOOR PLAN - AREA 'D'
P3.05	PLUMBING 1ST FLOOR PLAN - AREA 'F'
P3.06	PLUMBING 1ST FLOOR PLAN - AREA 'G'
P3.07	PLUMBING 1ST FLOOR PLAN - AREA 'H'
P3.08	PLUMBING 1ST FLOOR PLAN - AREA 'K'
P3.09	PLUMBING 1ST FLOOR PLAN - AREA 'N'
P3.10	PLUMBING 1ST FLOOR PLAN - AREA 'P'
P3.11	PLUMBING 1ST FLOOR PLAN - AREA 'R'
P3.12	PLUMBING 1ST FLOOR PLAN - AREA 'T'
P3.13	PLUMBING 1ST FLOOR PLAN - AREA 'U'
P3.14	PLUMBING 1ST FLOOR PLAN - AREA 'W'
P3.15	PLUMBING 2ND FLOOR PLAN - AREA 'A'
P3.16	PLUMBING 2ND FLOOR PLAN - AREA 'F'
P3.17	PLUMBING 2ND FLOOR PLAN - AREA 'N'
P3.18	PLUMBING 2ND PLAN - AREA 'U'
P3.19	PLUMBING 2ND PLAN - AREA 'X'
P3.20	PLUMBING 2ND FLOOR PLAN - AREA 'Y'
P3.21	PLUMBING COMPOSITE FLOOR PLANS
P3.22	PLUMBING ROOF PLAN - AREA 'A'
P3.23	PLUMBING ROOF PLAN - AREA 'B'
P3.24	PLUMBING ROOF PLAN - AREA 'C WEST'
P3.25	PLUMBING ROOF PLAN - AREA 'F'
P3.26	PLUMBING ROOF PLAN - AREA 'G'
P3.27	PLUMBING ROOF PLAN - AREA 'H'
P3.28	PLUMBING ROOF PLAN - AREA 'K'
P3.29	PLUMBING ROOF PLAN - AREA 'N'
P3.30	PLUMBING ROOF PLAN - AREA 'Q'
P3.31	PLUMBING ROOF PLAN - AREA 'R'
P3.32	PLUMBING ROOF PLAN - AREA 'T'
P3.33	PLUMBING ROOF PLAN - AREA 'W'
P3.34	PLUMBING ROOF PLAN - AREA 'X'
P3.35	PLUMBING ROOF PLAN - AREA 'Y'
P4.01	PLUMBING ENLARGED KITCHEN PLAN - UNDERFLOOR
P4.02	PLUMBING ENLARGED KITCHEN PLAN - FLOOR PLAN
P5.01	PLUMBING DETAILS
P5.02	PLUMBING DETAILS
P5.03	PLUMBING DETAILS
P6.01	PLUMBING SCHEDULES
P6.02	PLUMBING LEGEND AND SCHEDULE
T0.00	TECHNOLOGY NOTES AND LEGENDS
T0.01	TECHNOLOGY DEMOLITION COMPOSITE 1ST FLOOR PLAN
T1.01	TECHNOLOGY SITE PLAN
T1.11	TECHNOLOGY COMPOSITE 1ST FLOOR PLAN
T1.12	TECHNOLOGY COMPOSITE 2ND FLOOR PLAN
T2.01	TECHNOLOGY 1ST FLOOR PLAN - AREA 'A'
T2.02	TECHNOLOGY 1ST FLOOR PLAN - AREA 'B'
T2.03	TECHNOLOGY 1ST FLOOR PLAN - AREA 'C'
T2.04	TECHNOLOGY 1ST FLOOR PLAN - AREA 'D'
T2.05	TECHNOLOGY 1ST FLOOR PLAN - AREA 'E'
T2.06	TECHNOLOGY 1ST FLOOR PLAN - AREA 'F'
T2.07	TECHNOLOGY 1ST FLOOR PLAN - AREA 'G'
T2.08	TECHNOLOGY 1ST FLOOR PLAN - AREA 'H'
T2.09	TECHNOLOGY 1ST FLOOR PLAN - AREA 'J'
T2.10	TECHNOLOGY 1ST FLOOR PLAN - AREA 'K'
T2.11	TECHNOLOGY 1ST FLOOR PLAN - AREA 'L'
T2.12	TECHNOLOGY 1ST FLOOR PLAN - AREA 'M'
T2.13	TECHNOLOGY 1ST FLOOR PLAN - AREA 'N'
T2.14	TECHNOLOGY 1ST FLOOR PLAN - AREA 'P'
T2.15	TECHNOLOGY 1ST FLOOR PLAN - AREA 'Q'
T2.16	TECHNOLOGY 1ST FLOOR PLAN - AREA 'R'
T2.17	TECHNOLOGY 1ST FLOOR PLAN - AREA 'S'
T2.18	TECHNOLOGY 1ST FLOOR PLAN - AREA 'T'
T2.19	TECHNOLOGY 1ST FLOOR PLAN - AREA 'U'
T2.20	TECHNOLOGY 1ST FLOOR PLAN - AREA 'V'
T2.21	TECHNOLOGY 1ST FLOOR PLAN - AREA 'W'
T2.22	TECHNOLOGY 1ST FLOOR PLAN - AREA 'X'
T2.23	TECHNOLOGY 1ST FLOOR PLAN - AREA 'Y'
T3.01	TECHNOLOGY ENLARGED PLAN
T3.02	TECHNOLOGY ENLARGED PLAN
T5.01	TECHNOLOGY DETAILS
T5.02	TECHNOLOGY DETAILS
T5.03	TECHNOLOGY DETAILS
T5.04	TECHNOLOGY DETAILS
T5.05	TECHNOLOGY DETAILS
AV0.01	AUDIOVISUAL LEGEND, NOTES, AND COORDINATION ADVISORIES
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AV2.10	AREA 'K1' 1ST FLOOR AUDIOVISUAL PLAN
AV3.10	AREA 'K1' 1ST FLOOR AUDIOVISUAL RCP
AV4.01	AUDIOVISUAL BUILDING SECTIONS
AV5.01	AUDIOVISUAL CONNECTOR LEGEND AND PLATE NOTES
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TL2.19	AREA 'J1' 2ND FLOOR PLAN
TL2.29	ENLARGED FLOOR PLANS & SCHEDULES
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TR2.09	AREA 'J1' 1ST FLOOR PLAN
TR6.09	SECTIONS

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REGISTERED ARCHITECT 97126 STATE OF TEXAS

2025-01-13

PROJECT NO. 202318
DATE: 2025-01-13

DATE	ISSUE
ISSUE	PERMIT AND PROPOSAL
2025-01-30	ADDENDUM No. 05 A

SET NO.

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

GENERAL SITE PLAN NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING SITE CONDITIONS, DIMENSION, UTILITIES, ETC. WHERE NEW CONSTRUCTION JOINS EXISTING CONDITIONS, THE EXISTING CONDITIONS SHALL CONTROL. ALL DISCREPANCIES SHALL BE SUBMITTED TO THE ARCHITECT FOR CONSIDERATION BEFORE PROCEEDING WITH THE WORK.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND MODIFYING EXISTING UTILITY LINES ABOVE AND BELOW GRADE DURING THE ENTIRE CONSTRUCTION PERIOD, INCLUDING ALL NECESSARY TIE-INS AND ELEVATION ADJUSTMENTS, RELOCATION OF ALL UTILITY POLES, LINES AND OTHER EXISTING SERVICES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE WORK INCLUDING VERIFICATION AND COORDINATION WITH THE APPROPRIATE AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES IMMEDIATELY TO INSURE NO INTERRUPTION OF SERVICE. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH APPROPRIATE AGENCIES ALL BURIED LINES THAT APPROACH THE CONSTRUCTION AREA.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, AQUISITION OF ALL NECESSARY PERMITS, ETC. AND IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN WITH THE APPROPRIATE AGENCIES.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL VEGETATION, SHRUBS, TREES, ETC. INDICATED TO REMAIN FROM ALL CONSTRUCTION ACTIVITIES. DAMAGED LANDSCAPING SHALL BE REPLACED WITH LIKE MATERIALS AND SIZE(S) AT THE DIRECTION OF THE ARCHITECT.

5. THE OWNER HAS NEED TO OCCUPY THE FACILITIES DURING THE ENTIRE CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OWNER AND ARHITECT WITH REGARD TO THE CONSTRUCTION AREA. NO DISRUPTIVE WORK WILL BE PERMITTED AT THE FACILITY DURING SCHOOL HOURS. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE CONSTRUCTION AREA CLEAN OF DEBRIS AND EXCESSIVE DUST. CONTRACTOR SHALL BE RESPONSIBLE FOR IMMEDIATELY CORRECTING ANY INTERRUPTED USE TO THE FACILITY AT NO COST TO THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF ANY DAMAGE TO EXISTING FACILITY MATERIALS AT THE DIRECTION OF THE ARCHITECT AND AT NO COST TO THE OWNER.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL MEANS OF SECURITY INSIDE AND OUTSIDE REQUIRED AND APPROVED BY THE OWNER.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL MEANS OF ACCESSING THE CONSTRUCTION AREA REQUIRED AND APPROVED BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND RESTORATION OF THE EXISTING AREA(S) UPON COMPLETION OF THE CONSTRUCTION.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING UNDERGROUND STORM LINES DURING ALL CONSTRUCTION, INCLUDING NEW TIES-INS. CONTRACTOR SHALL REPAIR DAMAGE TO EXISTING SYSTEM (PIPE, GRATES, ETC.) IMMEDIATELY TO INSURE NO INTERRUPTION. CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT SEDIMENT INFILTRATION AND SHALL JET CLEAN ALL LINES AS NECESSARY UPON COMPLETION OF CONSTRUCTION.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFYING EXISTING SWALES AND/OR CREATING NEW TEMPORARY SWALES OR BERMS AS REQUIRED TO PROVIDE POSITIVE DRAINAGE AWAY FROM CONSTRUCTION AREA(S).

10. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE FOLLOWING AMERICANS WITH DISABILITIES ACT (A.D.A.) AND TEXAS ACCESSIBILITIES STANDARDS (T.A.S.) ACCESSIBLE ROUTE REQUIREMENTS:
    *ACCESSIBLE ROUTE (PARKING LOT AND WALKS):
    SLOPE SHALL NOT EXCEED 5% (5/8"/1 FOOT)
    CROSS-SLOPE SHALL NOT EXCEED 2% (1/4"/1 FOOT)
    *ACCESSIBLE APPROACH TO EXTERIOR DOOR(S)
    IMMEDIATELY OUTSIDE OF DOOR AND FOR A DISTANCE OF 5'-0" MIN. SHALL NOT EXCEED A SLOPE OF 2% (1/4"/1 FOOT)
    MAXIMUM RISE AT THRESHOLD SHALL NOT EXCEED 1/2", INCLUDING DOOR THRESHOLD.

11. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CONCRETE WALKS AS INDICATED ON THE SITE PLAN AND DETAILED ON THE DETAIL SHEET(S) (EXPANSION JOINTS AT 20'-0" MAX. WITH CONTROL JOINTS AT 5'-0" MAX. AND EQUAL SPACES). CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING JOINT LAYOUT WITH ARCHITECT IN THE FIELD PRIOR TO FORMING.

12. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING HYDROMULCH AT ALL LANDSCAPE AND PLANTING AREA, ETC. DISTURBED DURING CONSTRUCTION AND AT ALL AREAS NOTED AS FILL AND GRADE, UNLESS NOTED OTHERWISE ON PLANS. PROVIDE TEMPORARY BARRICADE ALONG MAIN ACCESS PATHS TO BUILDING UNTIL SUCH TIME THE GRASS HAS STABILIZED THE FINISH GRADE.

13. CONTRACTOR SHALL PROVIDE EXPANSION JOINTS AT THE PROPERTY LINE AT ALL DRIVES.

14. CONTRACTOR SHALL GRADE ALL LANDSCAPE ISLAND TO AVOID WATER PONDING INSIDE OF CURBS.

15. CONTRACTOR SHALL PROVIDE FILL AND SOLID SOD AT 5'-0" MIN. FROM ALL CONSTRUCTION AREAS INCLUDING NEW FOUNDATIONS, SIDEWALKS, FLATWORK, AND PAVING UNLESS NOTED OTHERWISE.

16. CONTRACTOR SHALL REFER TO CIVIL DRAWINGS FOR ALL SITE GRADING AND SUB-SURFACE DRAINAGE SYSTEMS, MODIFICATIONS TO EXISTING SYSTEMS AND UTILITIES.

17. CONTRACTOR SHALL REFER TO PAVING SCHEDULE FOR THICKNESS OF SURFACES.

18. ALL DIMENSIONS ARE TO EDGE OF WALK OR PAVING, BACK OF CURB, FACE OF BUILDING OR PROPERTY LINE, UNLESS NOTED OTHERWISE.

19. PARKING LOT PAINTING STANDARDS:
    *TYPICAL PARKING LINE SHALL BE 4" WIDE x 18'-0" LONG PER STALL, UNLESS NOTED OTHERWISE.
    *TYPICAL A.D.A. SYMBOL AND LOADING AREA SHALL BE PER DETAIL ON DETAIL SHEET.
    *TYPICAL FIRE LANE CURB SHALL BE OF APPROVED COLOR WITH STENCILED CONTRASTING GRAPHICS AT 50'-0" SPACING THAT READS: "FIRE LANE - NO PARKING - TOW AWAY ZONE"

20. AT ALL FIRE LANE CURBS, PROVIDE FIRE LANE SIGNS, SIMILAR TO ACCESSIBLE SIGN ON 26/C2.00, EXCEPT LOCATION EVERY 50'-0" O.C. ALONG FIRE LANE CURBS. SIGN TO READ: "FIRE LANE", "NO PARKING", "TOW AWAY ZONE". COORDINATE THE LOCATIONS IN THE FIELD WITH ARCHITECT.

21. REFER TO CS SHEETS FOR ALL PAVEMENT JOINT SEALANT REMOVAL AND REPLACEMENT SCOPE.

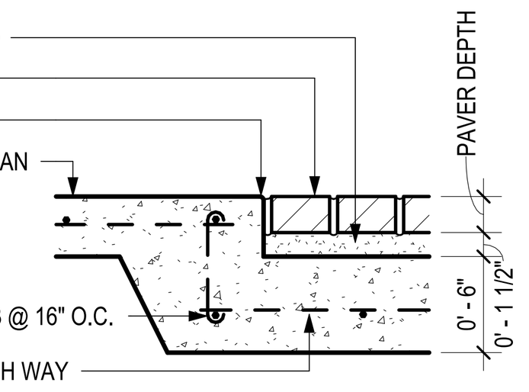
GENERAL SITE PLAN NOTES
1/4" = 1'-0"

(1) -
(2) -
(3) -
(4) NEW CARD READER, RE: SPECS (A)
(5) REMOVABLE BOLLARD, RE: 1 / C1.11
(6) FIXED BOLLARD, RE: 2 / C1.11
(7) -
(8) REPLACE MECHANICAL YARD FENCING TO INSTALL CHILLER
(9) -
(10) NEW ACCESSIBLE RAMP, RE: CS SHEETS
(11) NEW CONCRETE CURB, RE: 6 / C1.11
(12) -
(13) -
(14) NEW CURB RAMP, RE: CS SHEETS (A)
(15) NEW KNOX BOX
(16) TYPE 2 BRICK SOLIDER COURSE PAVER, TYP. RE: 3 / C1.05
(17) EXISTING BENCHES RELOCATED AND REINSTALLED
(18) NEW DETENTION POND, RE: CIVIL
(19) NEW TENNIS LIGHT POLE, RE: ELEC. & RE: 13/ C1.11
(20) TENNIS BLEACHER AND CANOPY, RE: SPECS & RE: 11/C1.10
(21) NEW FLATWORK, RE: CS SHEETS
(22) NEW PAVING, RE: CS SHEETS
(23) NEW ALUMINUM CANOPY; RE: C1.10 SHEET, SPECS
(24) -
(25) REPLACE SIDEWALK IMPACTED BY UTILITY LINES, RE: CS SHEETS
(26) EXISTING CAN WASH TO REMAIN
(27) NEW GREASE TRAP TO REPLACE EXISTING, RE: MEP, CS SHEETS
(28) TRAFFIC GRADE GRATES FOR GREASE TRAP
(29) NEW REFRIDGERATION UNIT AND HOUSEKEEPING PAD, RE: FOODSERVICE SHEETS AND SPECS
(30) -
(31) NEW BRICK SCREEN WALL, RE: 14/ C1.11
(32) TENNIS LIGHTS CONTROL PANEL, RE: MEP
(33) TEAM BENCH, RE: SPECS
(34) NEW LONG JUMP/TRIPLE JUMP, RE: CS SHEETS
(35) NEW SHOT PUT, RE: CS SHEETS
(36) NEW POLE VAULT, RE: CS SHEETS
(37) TWO NEW TENNIS COURTS, RE: CS SHEETS
(38) 4" PARKING STRIPING (A)
(39) NEW CHILLER, RE: MEP AND HOUSEKEEPING PAD, RE: STRUCTURE
(40) NEW FLATWORK WITH INSET TYPE II BRICK, RE: 2 / C1.05 & CS SHEETS
(41) PROVIDE PROTECTIVE COVER ON FIXED BOLLARD. RE: SPECS & RE: 9 / C1.12
(42) -
(43) NEW LAYDOWN CURB, RE: CS SHEETS
(44) REUSE EXISTING DEC. FENCE PANELS WITH NEW POSTS, IF POSSIBLE. PROVIDE NEW FENCING AS NEEDED.
(45) NEW FENCING WITH REMOVABLE POSTS RE: 9 / C1.11
(46) 8" CMU 12' TALL BEAT WALL, PAINT WALL PT-9, RE: CS SHEETS & A11.00 FOR PAINT COLOR (B)

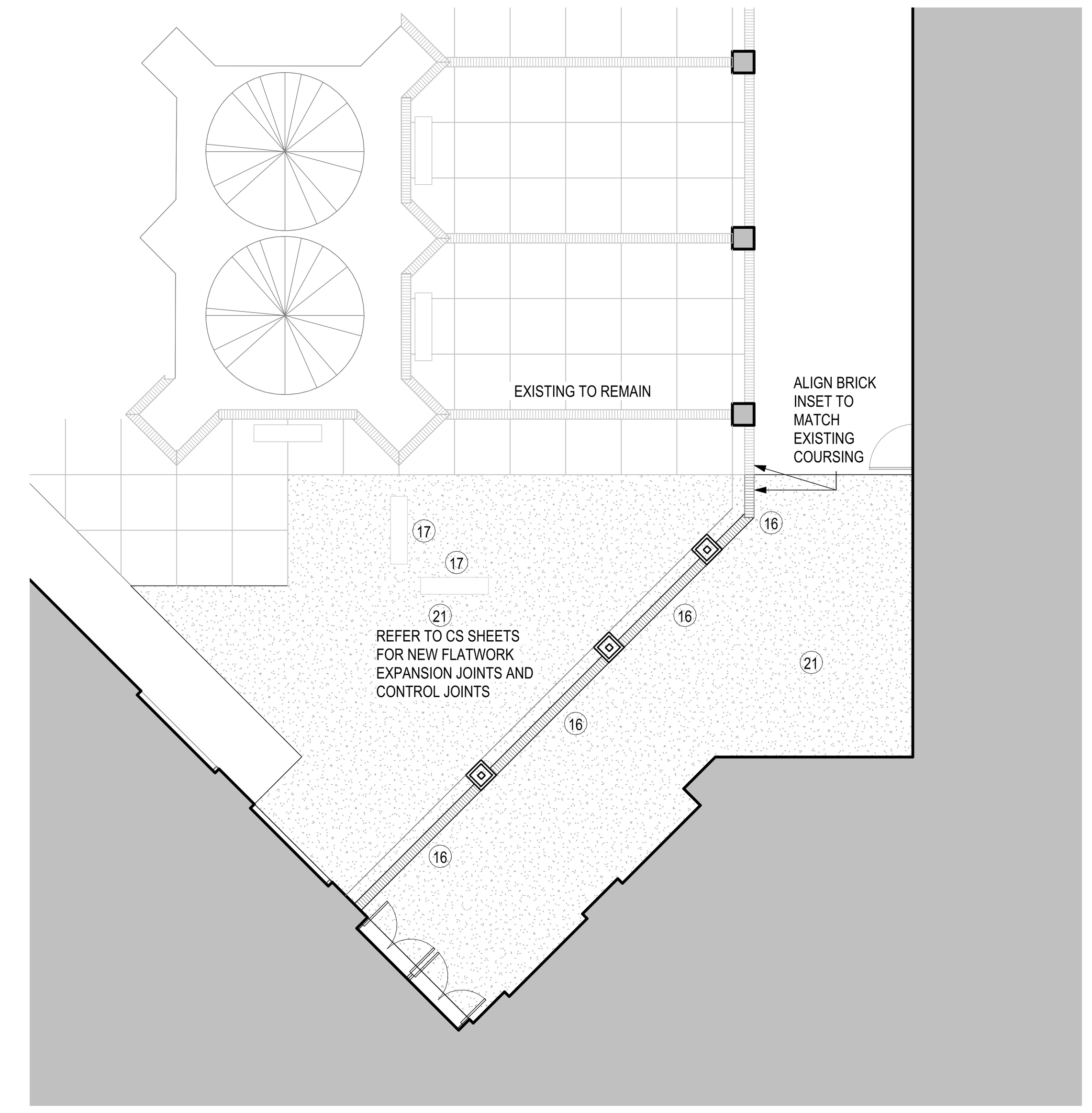
SITE PLAN KEYNOTES
1/4" = 1'-0"

NOTE: ALL PAVING EXPANSION JOINTS TO BE REPLACED WITH NEW. AT ALL EXISTING JOINTS WITH SEALANT CAP, REMOVE AND REPLACE BACKER ROD AND SEALANT IN PAVING AND WALKS, TYP. REFER TO CS SERIES.

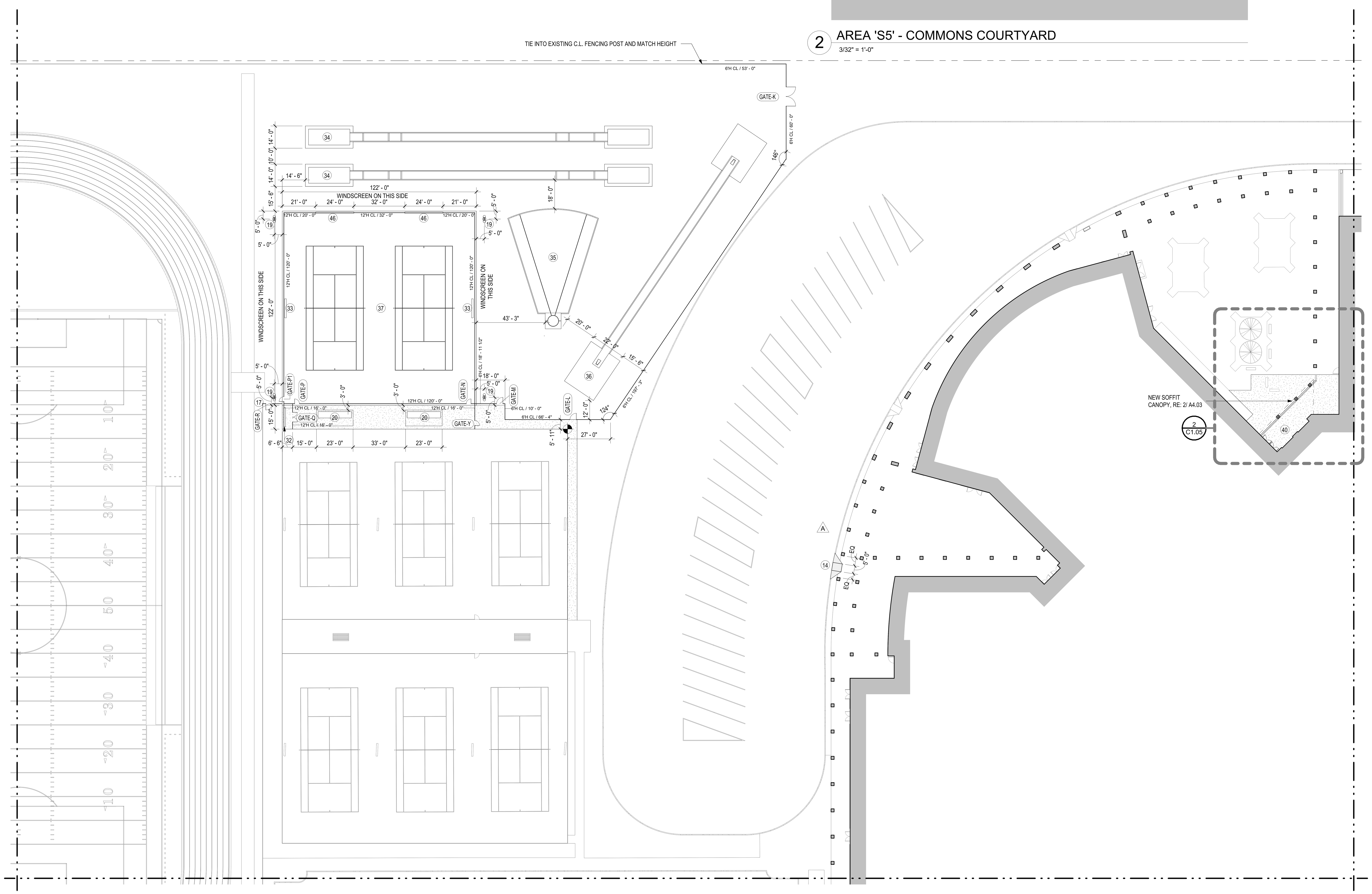
PAVING NOTES
1/4" = 1'-0"



3 PAV'G - PAVER @ CONC EDGE
1" = 1'-0"



2 AREA 'S5' - COMMONS COURTYARD
3/32" = 1'-0"



1 SITE PLAN - AREA 'S5'
1" = 30'-0"

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Tel: 281.486.4040

S6	S5	S4
S3	S2	S1

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD
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ARCADIS
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HOUSTON, TX 77056
tel 281.286.6605, fax 713.977.4620

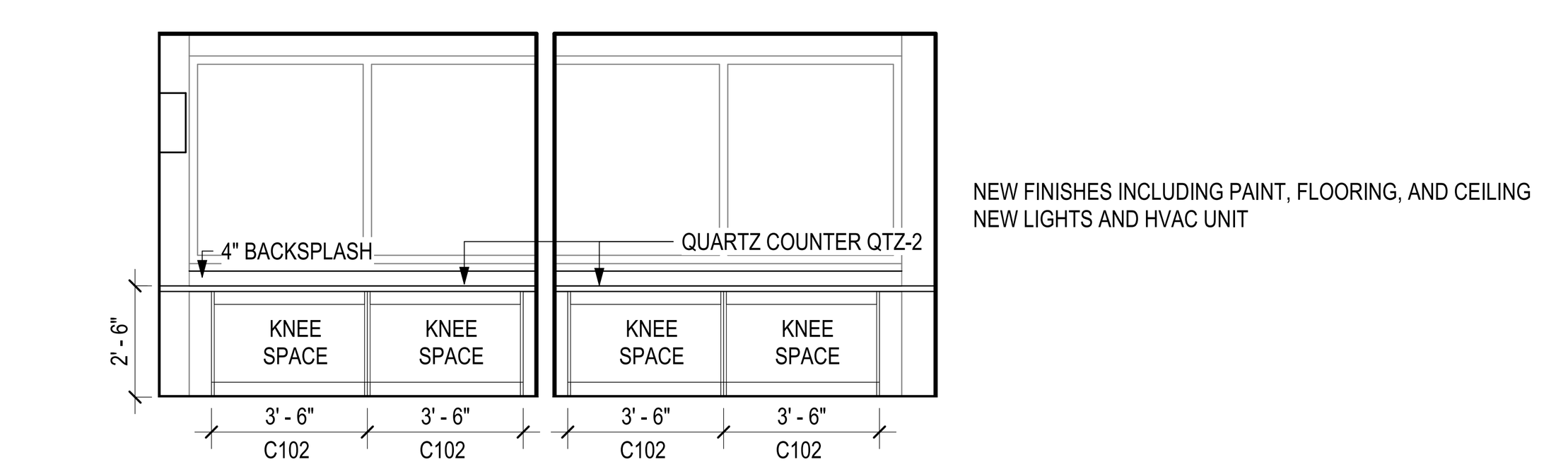
REGISTERED ARCHITECT 27120 STATE OF TEXAS
01/30/2025

PROJECT #: 202318
DATE: 2025-01-13
DRAWN: BN
CHECKED: CA

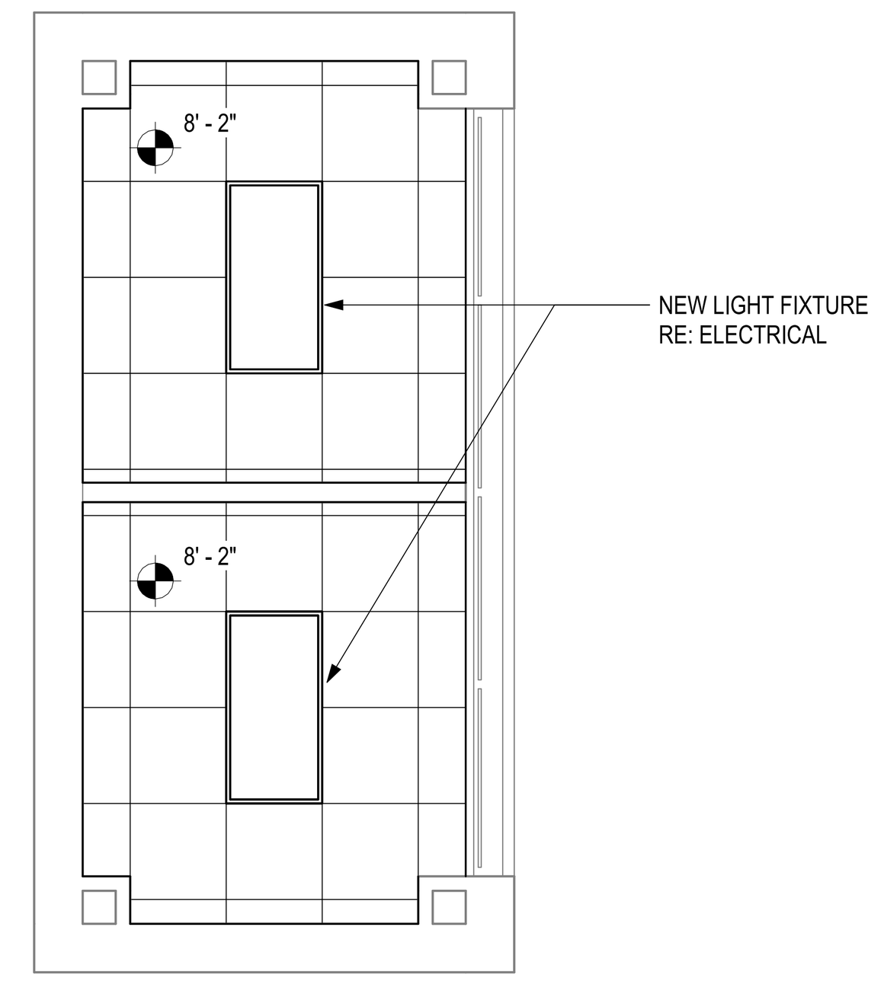
DATE	ISSUE	#
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

C1.05

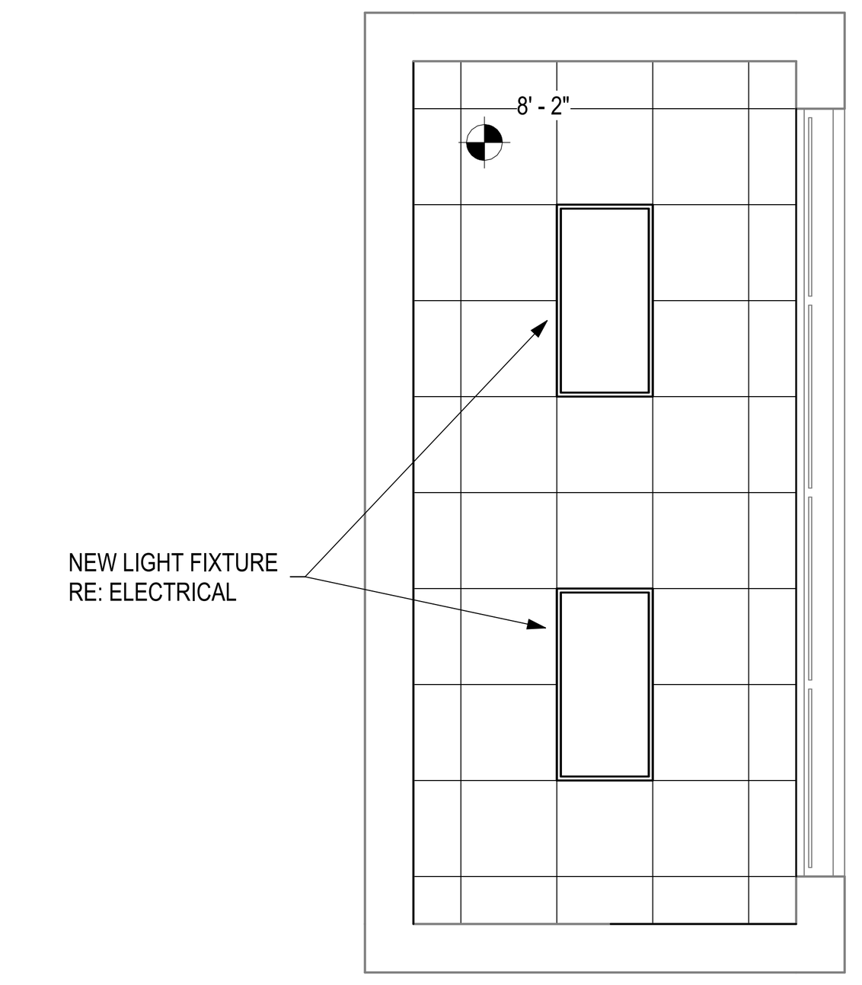
SITE PLAN - AREA 'S5'



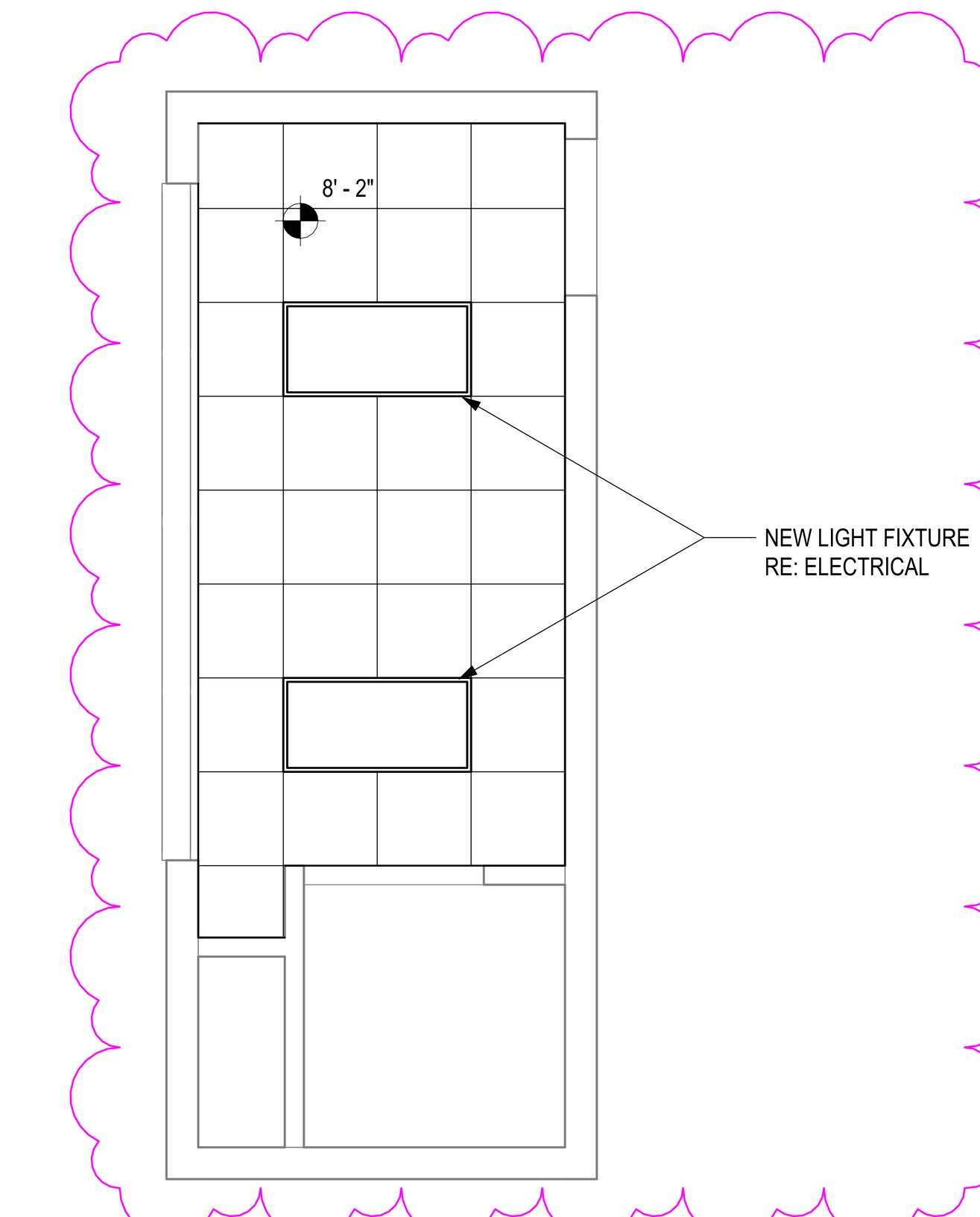
16 CSK ELEVATION - FOOTBALL PRESSBOX
1/4" = 1'-0"



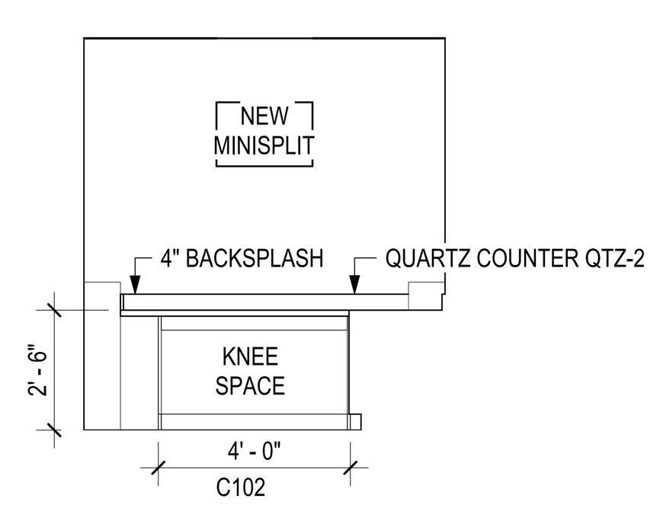
12 CEILING PLAN - FOOTBALL PRESSBOX LEVEL 2
1/4" = 1'-0"



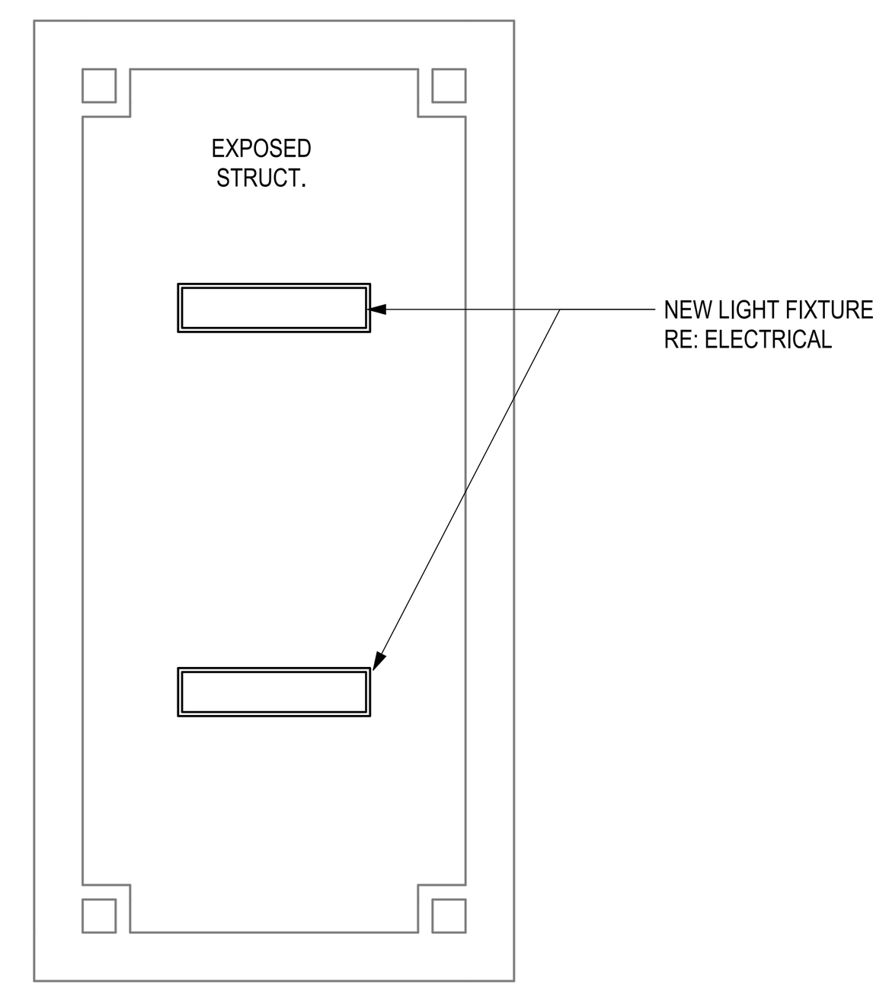
11 CEILING PLAN - BASEBALL PRESSBOX LEVEL 2
1/4" = 1'-0"



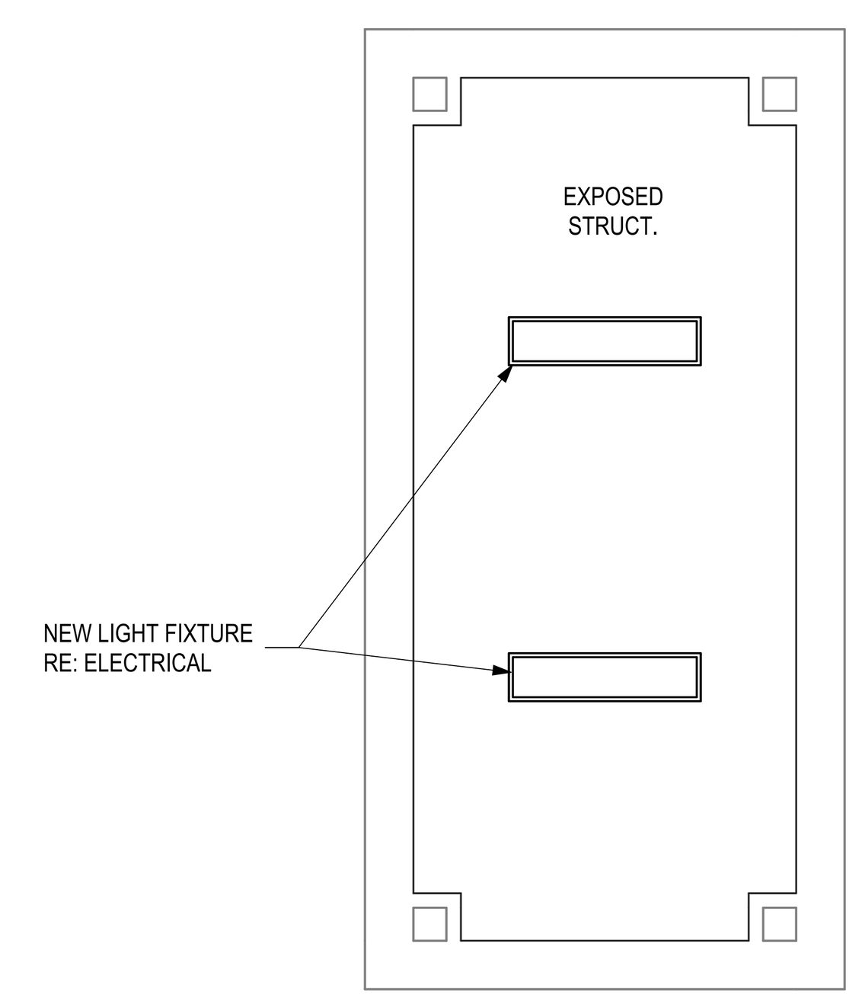
10 CEILING PLAN - SOFTBALL PRESSBOX LEVEL 2
1/4" = 1'-0"



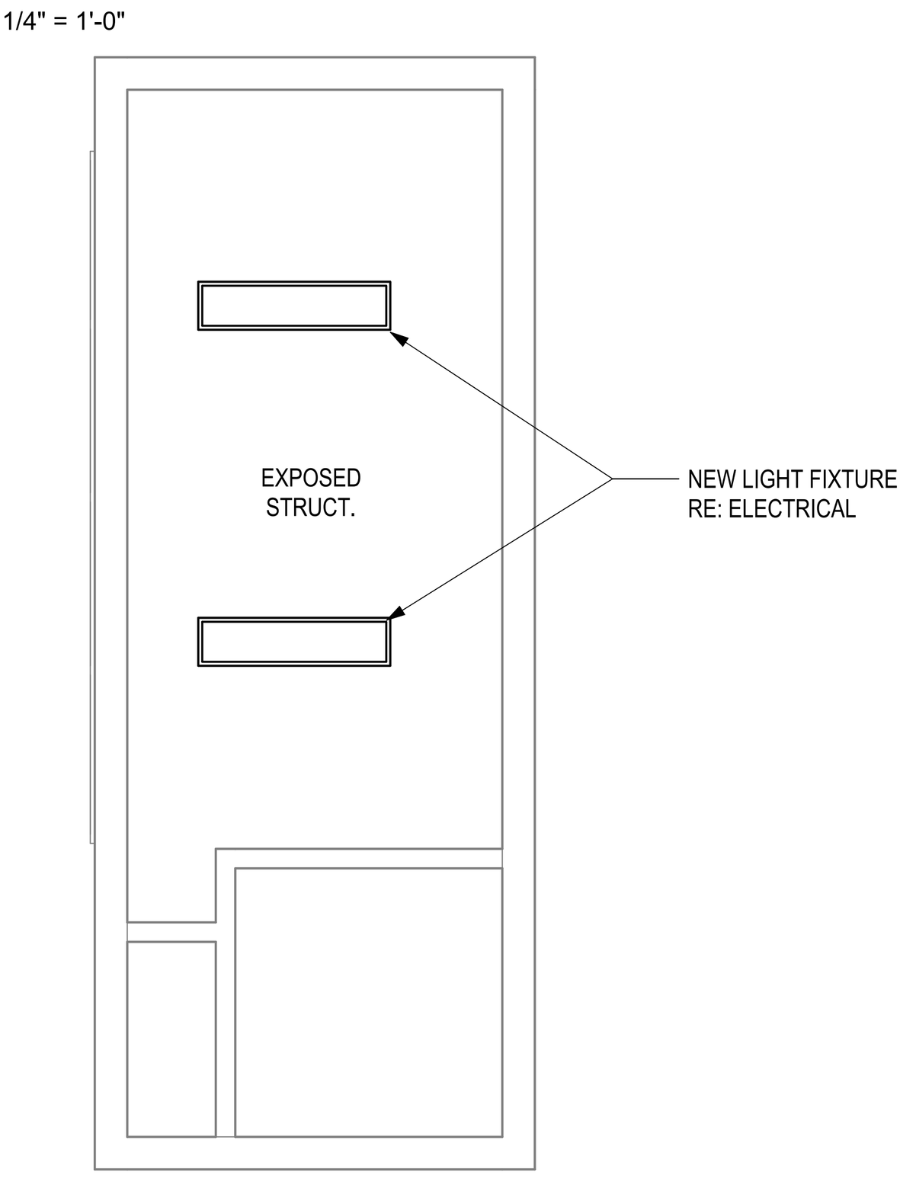
15 CSK ELEVATION - BASEBALL PRESSBOX - SW
1/4" = 1'-0"



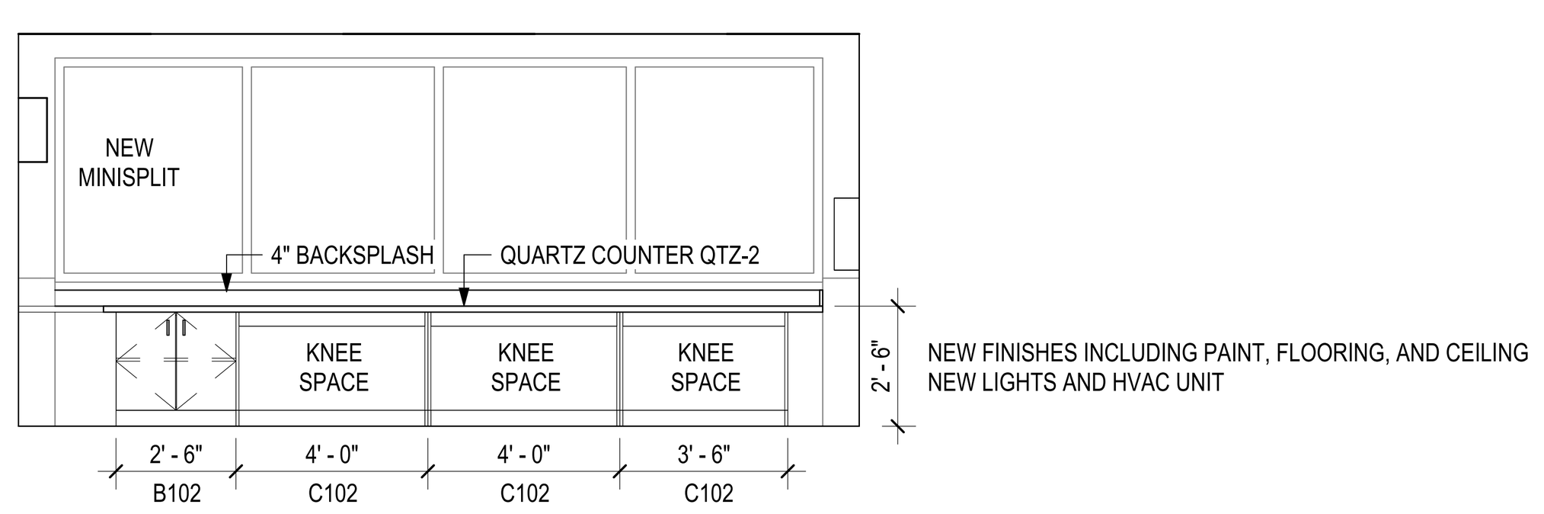
9 CEILING PLAN - FOOTBALL PRESSBOX STOR. LEVEL 1
1/4" = 1'-0"



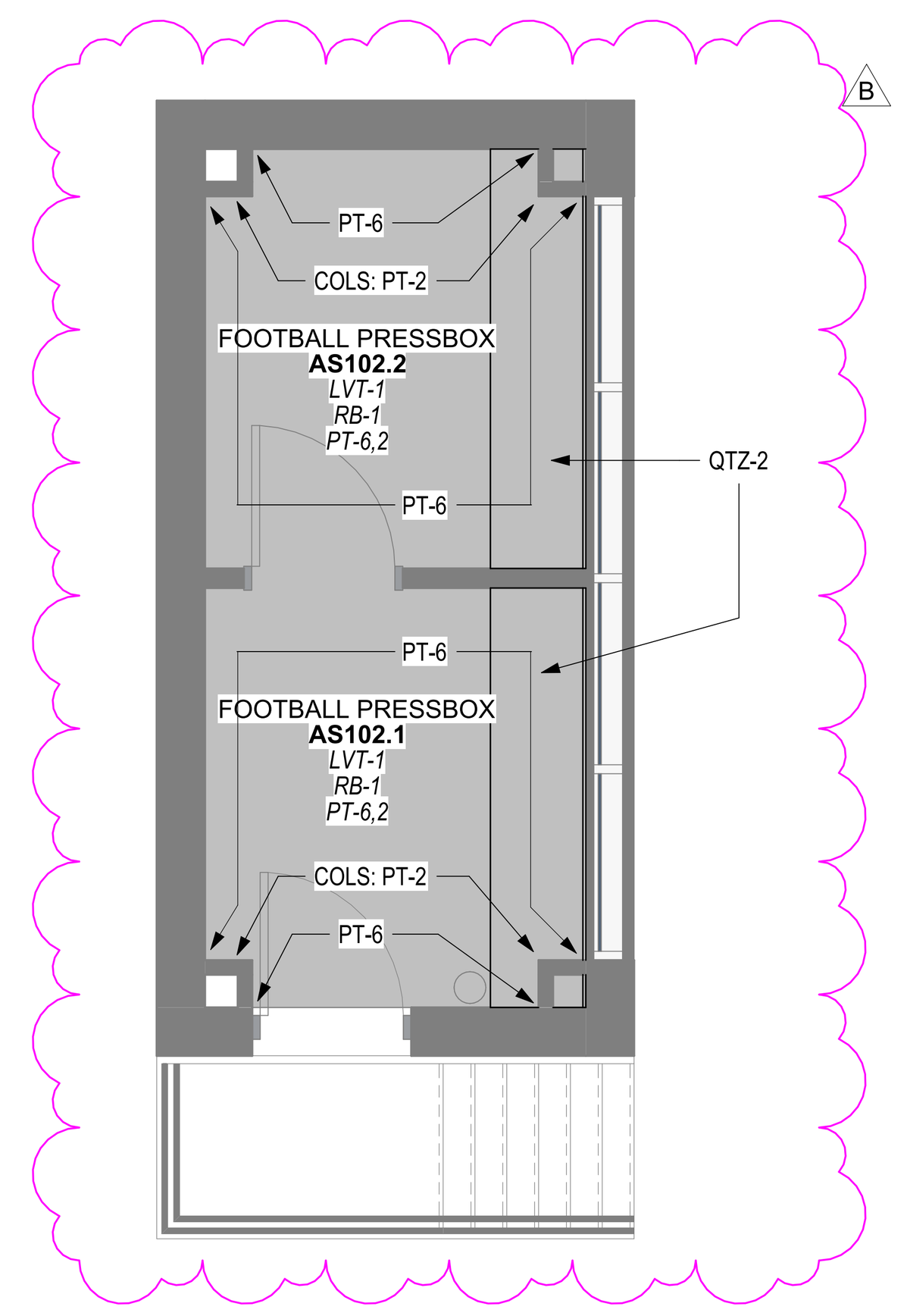
8 CEILING PLAN - BASEBALL PRESSBOX STOR. LEVEL 1
1/4" = 1'-0"



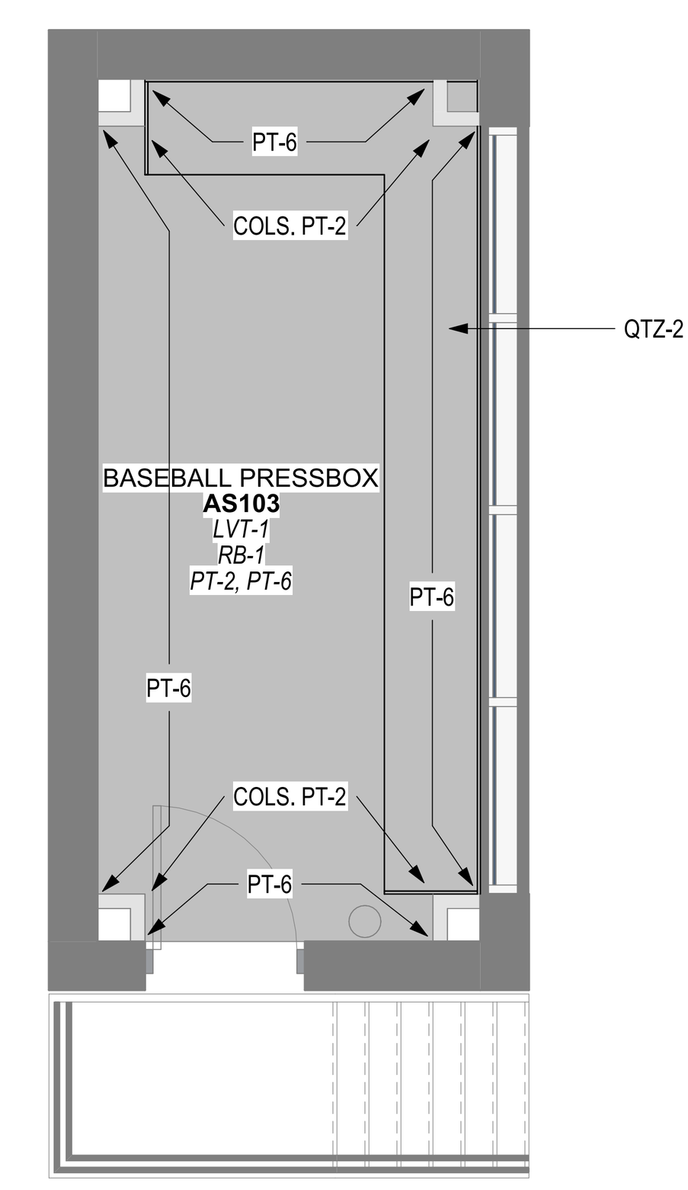
7 CEILING PLAN - SOFTBALL PRESSBOX STOR. LEVEL 1
1/4" = 1'-0"



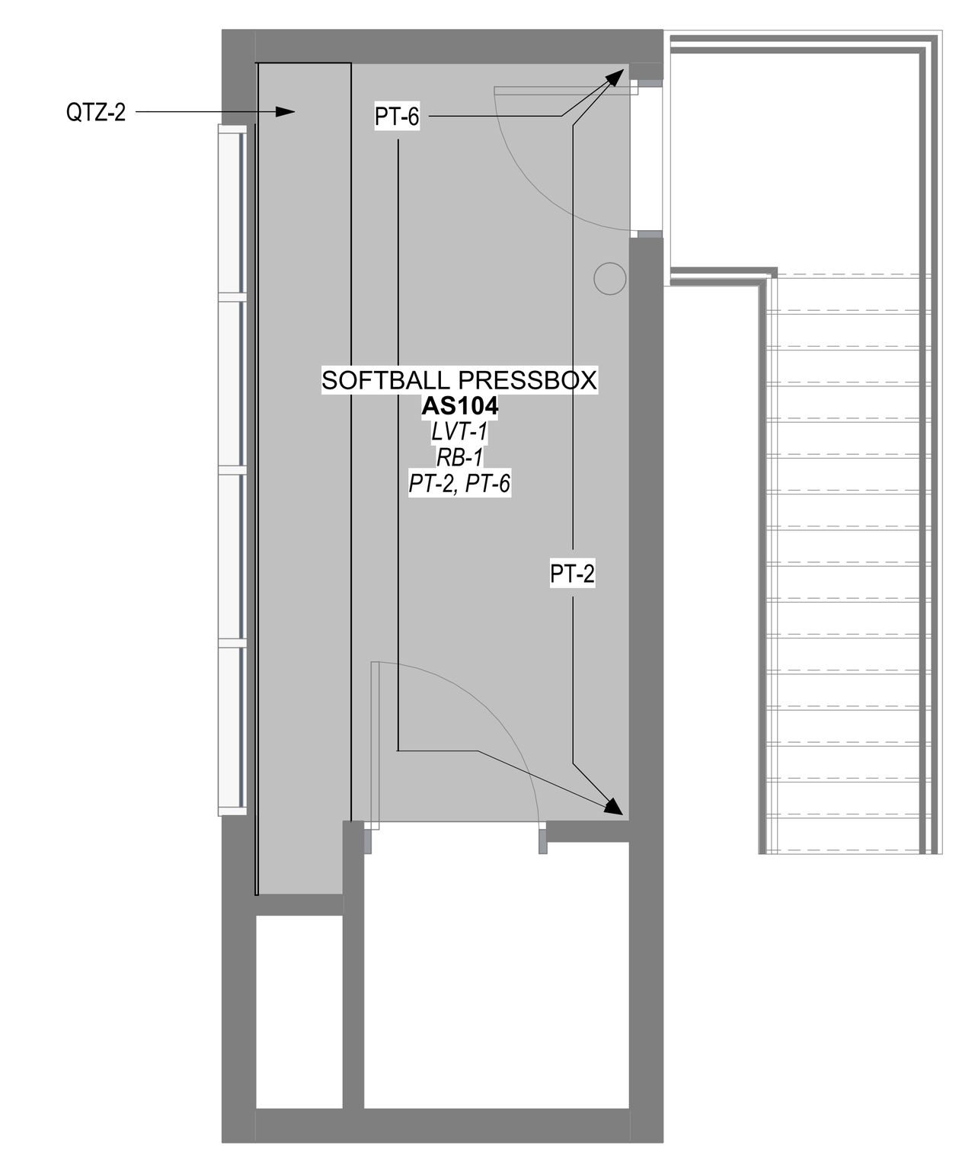
13 CSK ELEVATION - BASEBALL PRESSBOX - NW
1/4" = 1'-0"



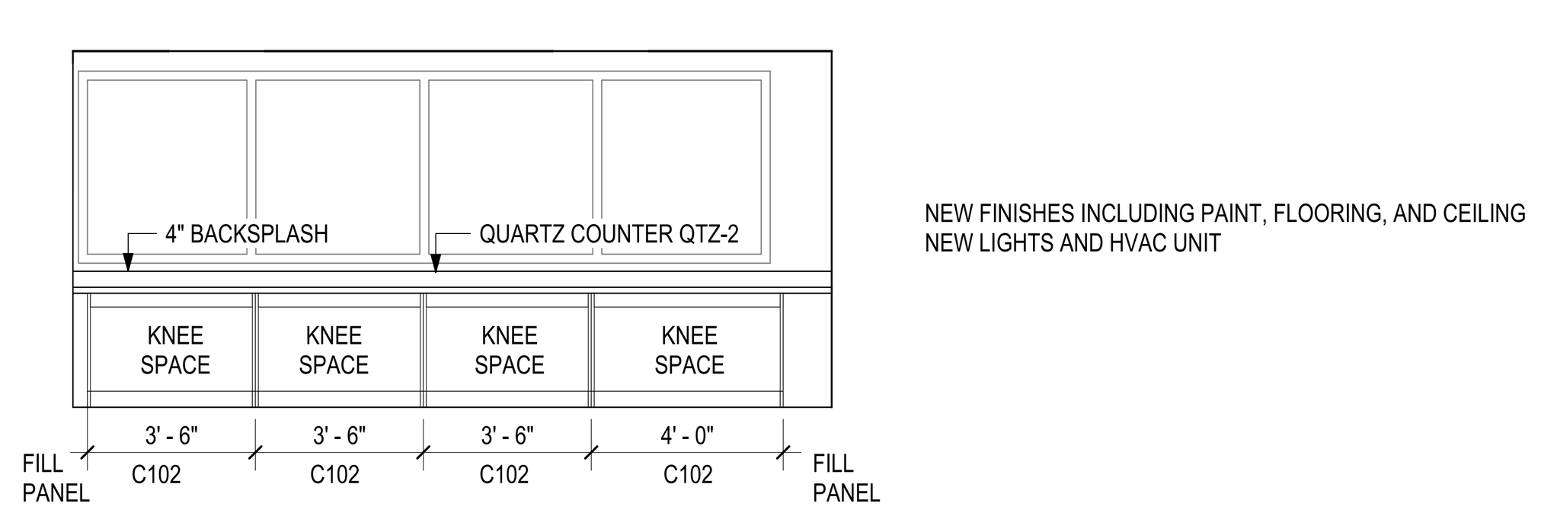
6 FOOTBALL PRESSBOX - FLOOR FINISH PLAN
1/4" = 1'-0"



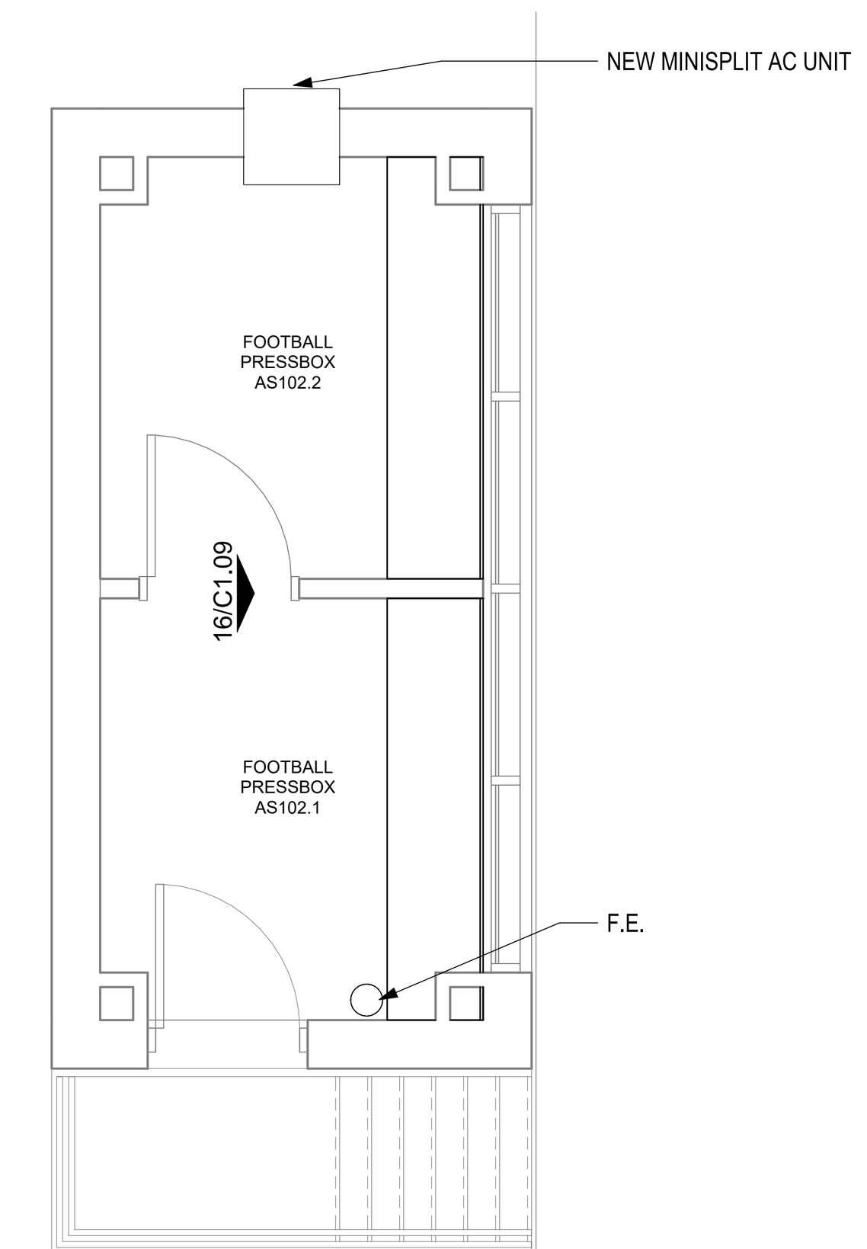
5 BASEBALL PRESSBOX - FLOOR FINISH PLAN
1/4" = 1'-0"



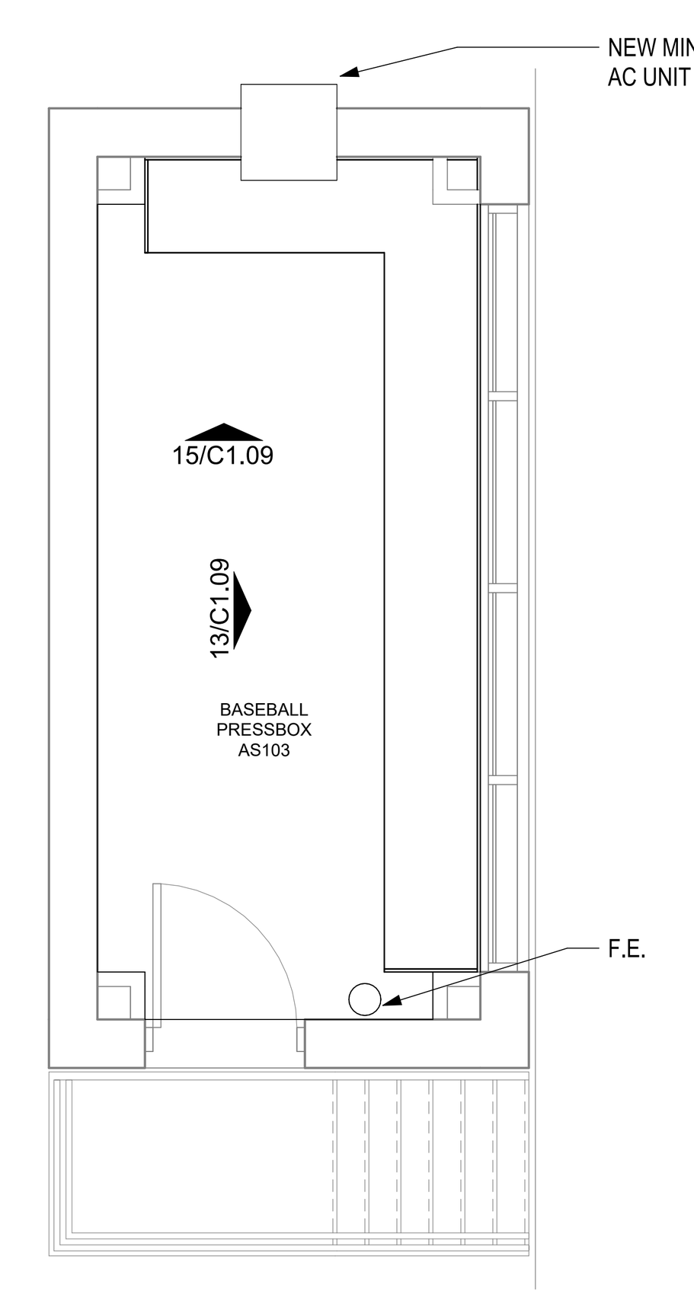
4 SOFTBALL PRESSBOX - FLOOR FINISH PLAN
1/4" = 1'-0"



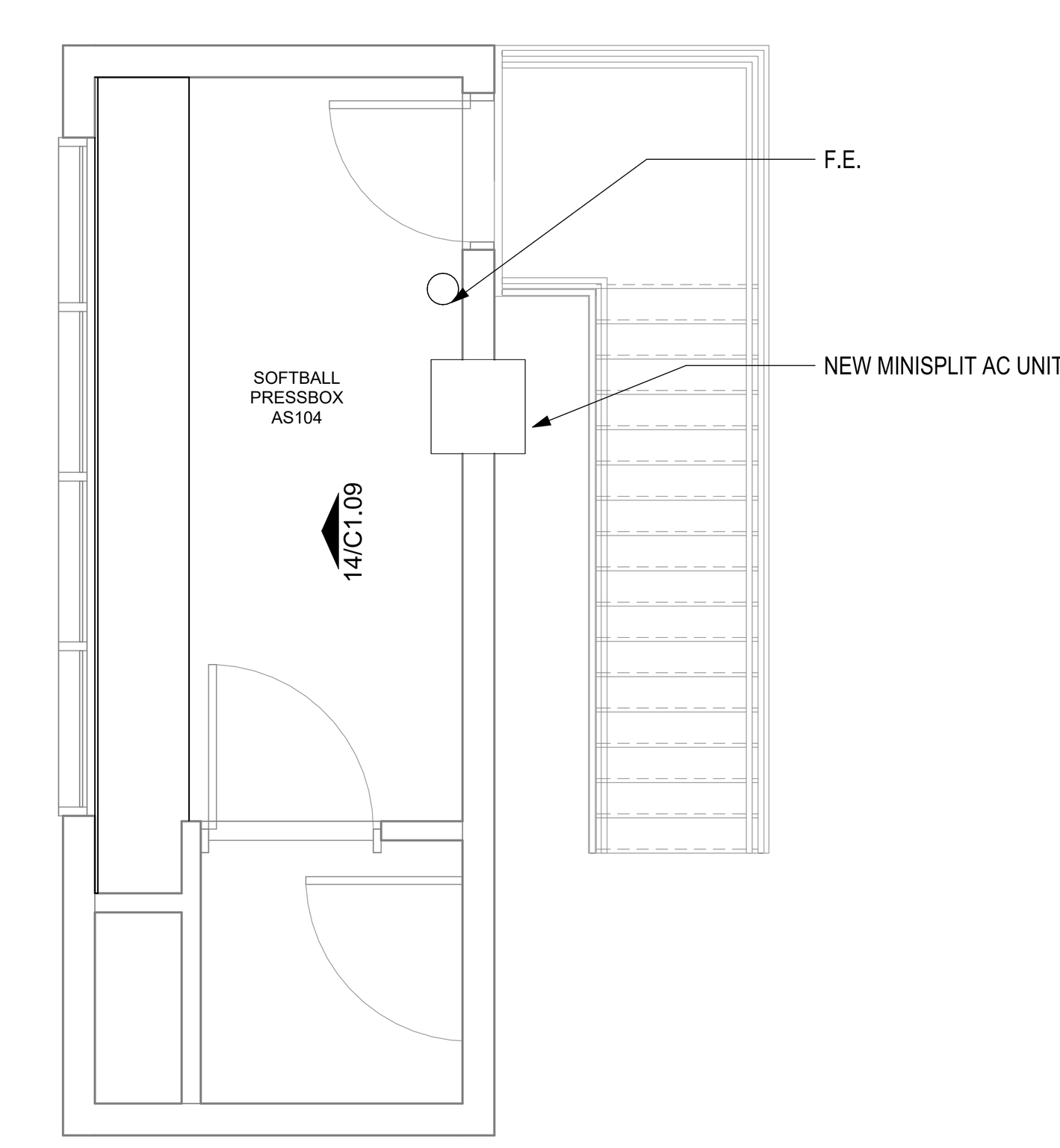
14 CSK ELEVATION - SOFTBALL PRESSBOX
1/4" = 1'-0"



3 FOOTBALL PRESSBOX LEVEL 2
1/4" = 1'-0"



2 BASEBALL PRESSBOX LEVEL 2
1/4" = 1'-0"



1 SOFTBALL PRESSBOX LEVEL 2
1/4" = 1'-0"

PLAN NORTH

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S6	S5	S4
S3	S2	S1

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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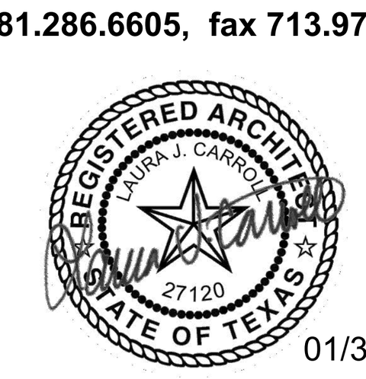


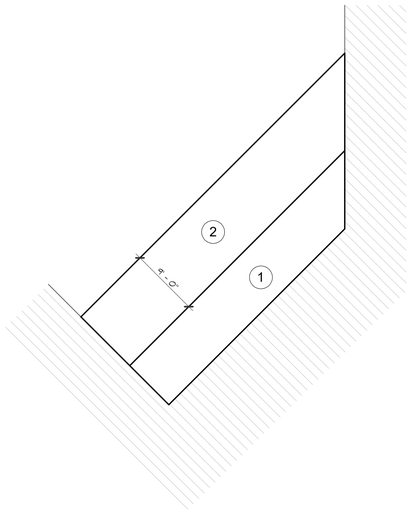
01/30/2025

PROJECT #: 202318
DATE: 2025-01-13
DRAWN: VP
CHECKED: MRF

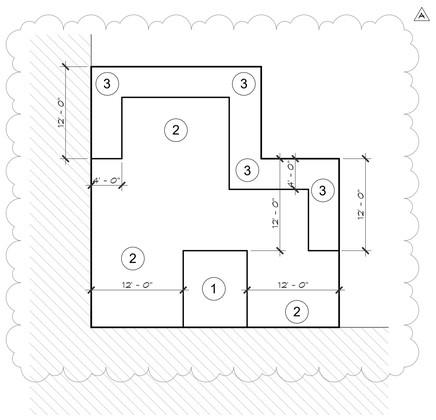
DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM No. 05	B

C1.09

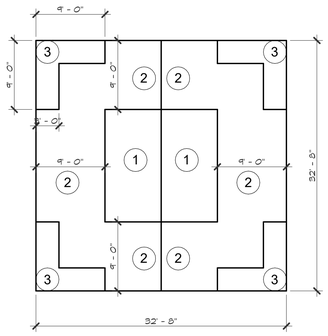
ENLARGED SITE PLAN - PRESSBOXES



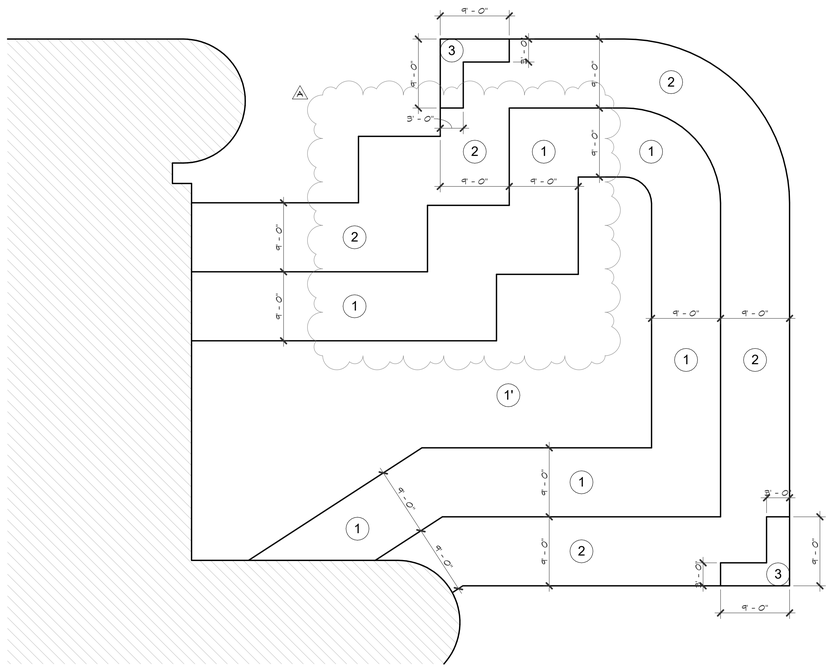
4 AREA 'K' ROOF UPLIFT KEY MAP
SCALE: 1/8" = 1'-0"



3 AREA 'B' ROOF UPLIFT KEY MAP
SCALE: 1/8" = 1'-0"



2 ATHLETIC STORAGE UPLIFT KEY MAP
SCALE: 1/8" = 1'-0"



1 AREA 'A' ROOF UPLIFT KEY MAP
SCALE: 1/8" = 1'-0"

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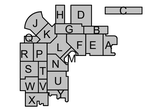

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD

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STATE OF TEXAS
HUNTER KORNEGAY
91030
LICENSED
PROFESSIONAL ENGINEER

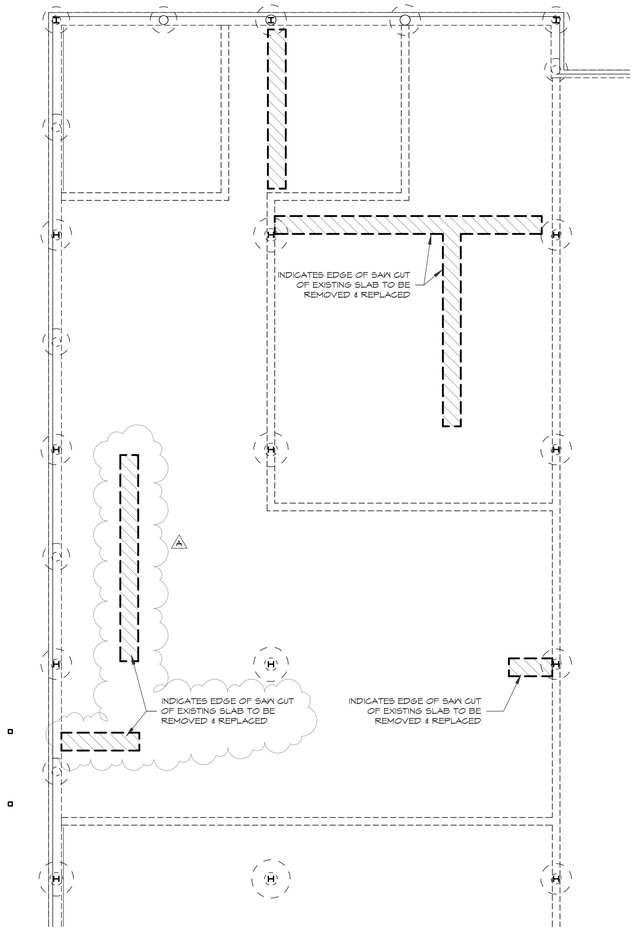
29 January 2025
Texas Engineering Firm No. F-170

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	CM
CHECKED:	MB/HK

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM NO. 05	A

S0.05

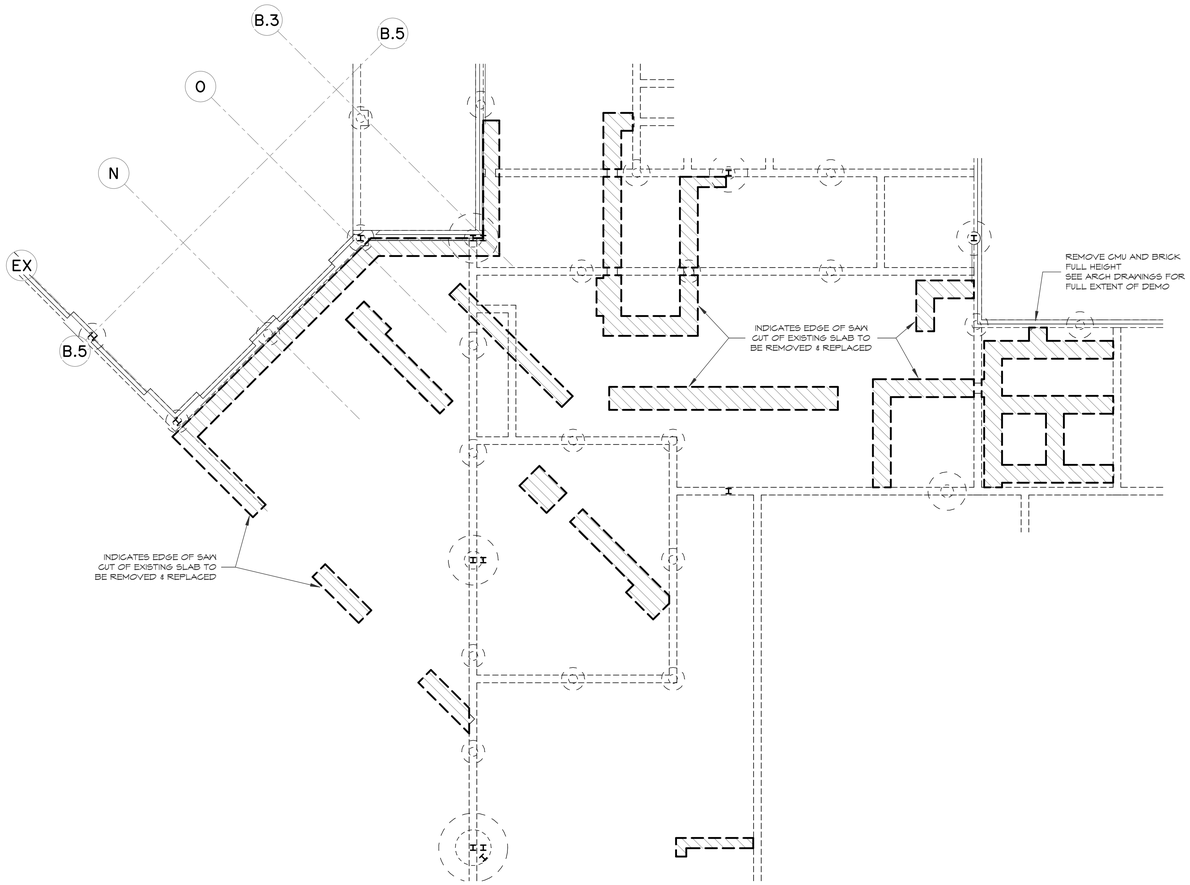
UPLIFT KEY MAPS



NORTH

AREA "D" DEMO FOUNDATION PLAN

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



NORTH

AREA "G" & "K" DEMO FOUNDATION PLAN

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

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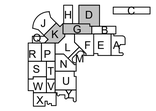

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD

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29 January 2025

Texas Engineering Firm No. F-170

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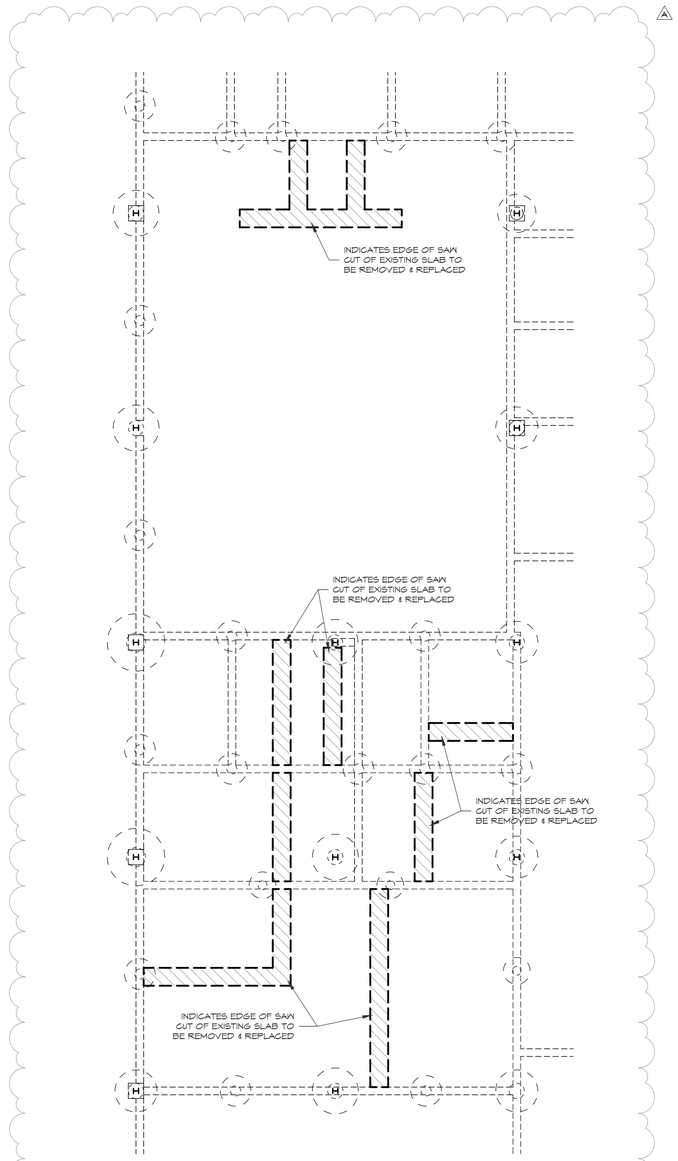
2025-01-30	ADDENDUM NO. 05 A

SD1.01

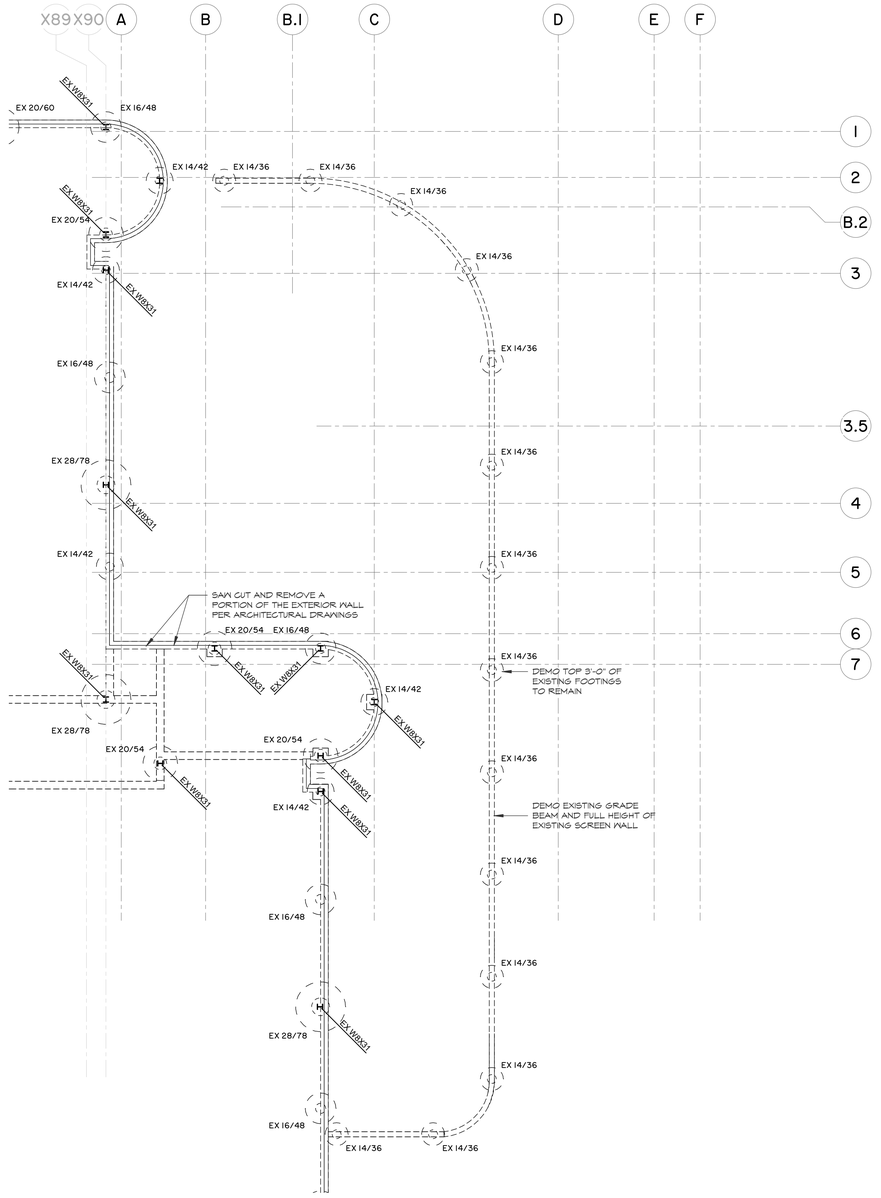
FOUNDATION DEMO PLANS



NORTH

AREA "P" DEMO FOUNDATION PLAN

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



NORTH

AREA "A" DEMO FOUNDATION PLAN

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

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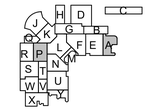

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD
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29 January 2025
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PROJECT #:	202318
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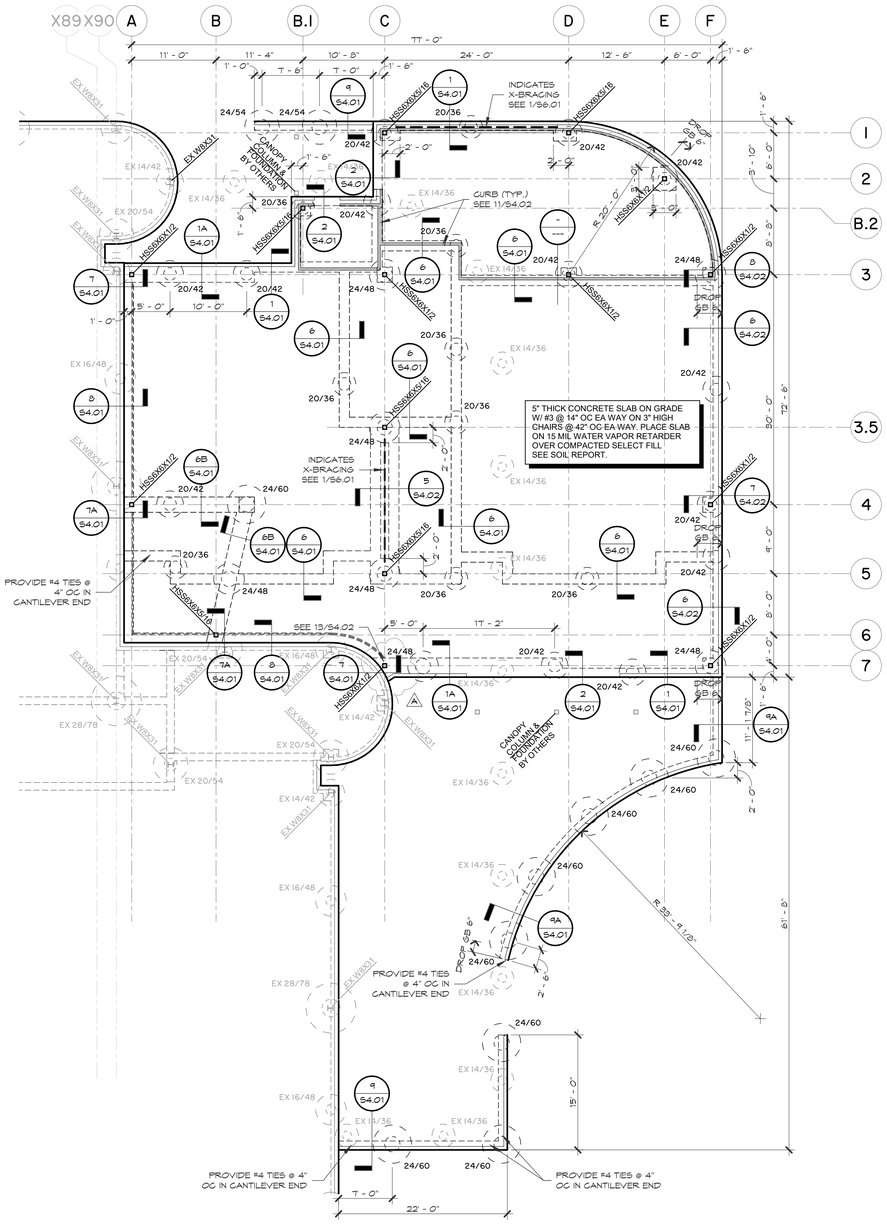
SD1.02

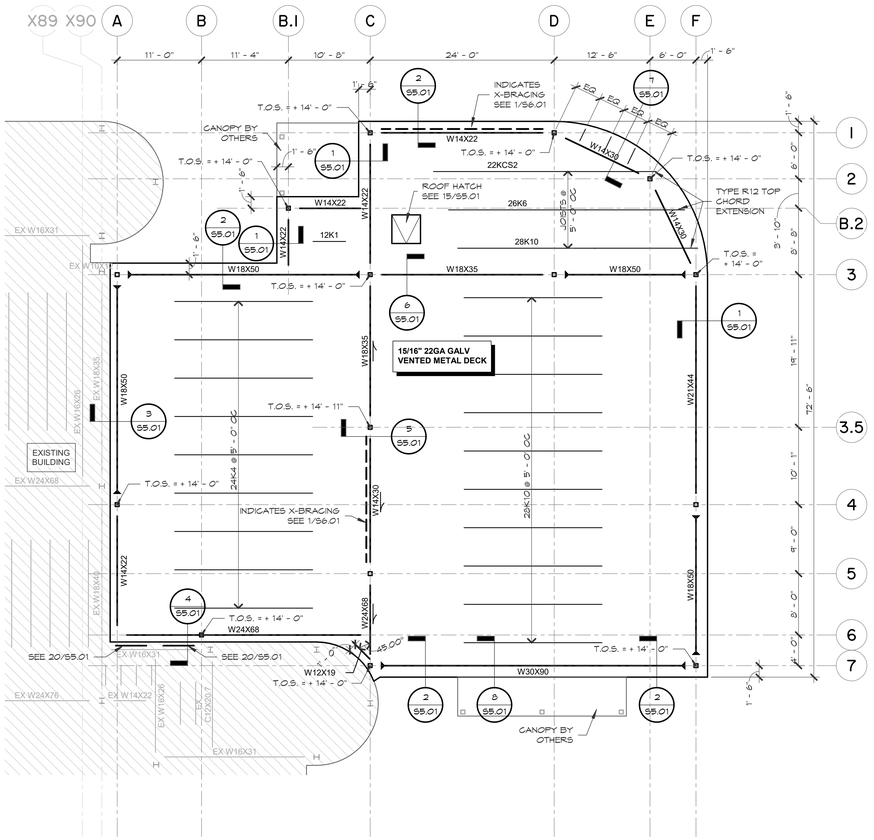
FOUNDATION DEMO PLANS



NORTH

AREA "A" FOUNDATION PLAN

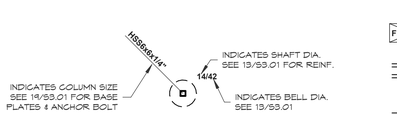
SCALE: 1/8" = 1'-0"



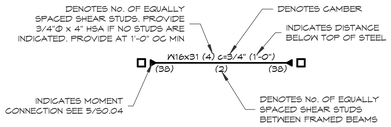
NORTH

AREA "A" ROOF FRAMING PLAN

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



LEGEND



BEAM LEGEND

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29 January 2025

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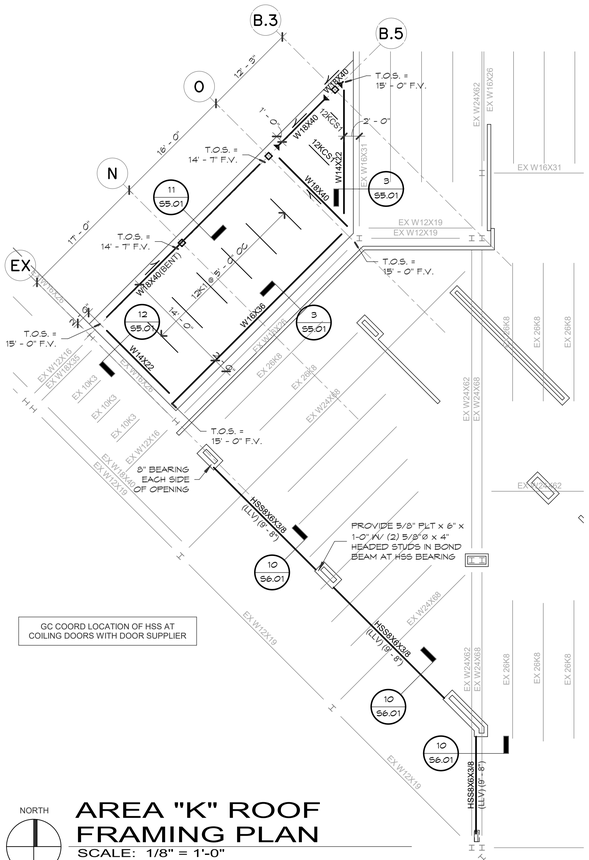
S1.01

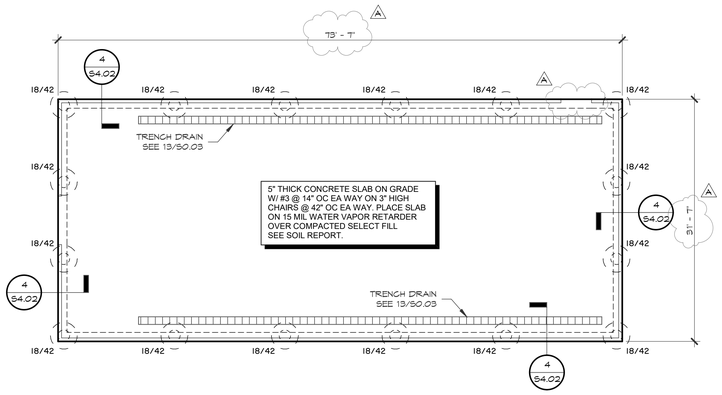
AREA "A" FOUNDATION AND FRAMING PLANS



NORTH

AREA "K" ROOF FRAMING PLAN

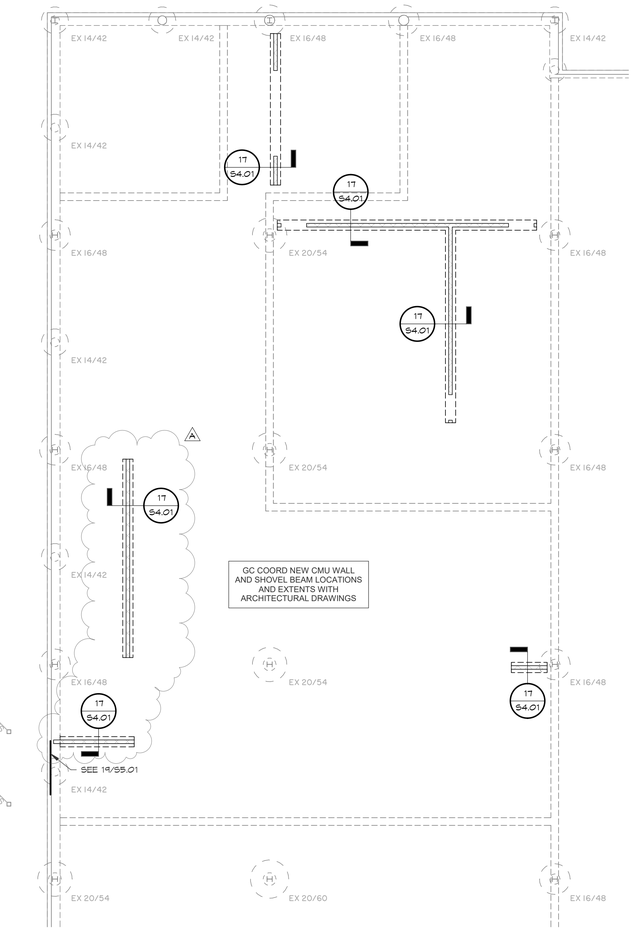
SCALE: 1/8" = 1'-0"



NORTH

GREENHOUSE FOUNDATION PLAN

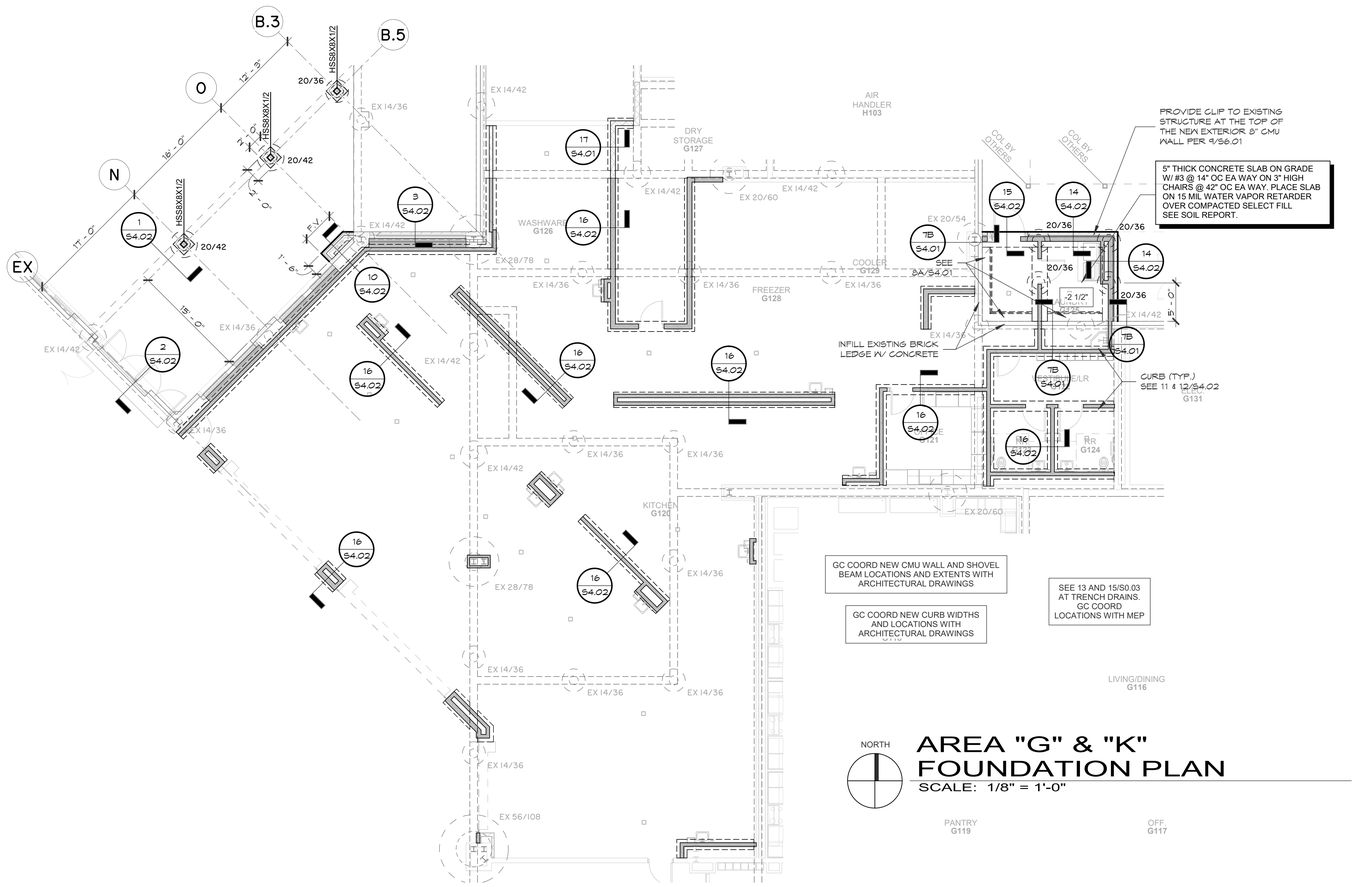
SCALE: 1/8" = 1'-0"



NORTH

AREA "D" FOUNDATION PLAN

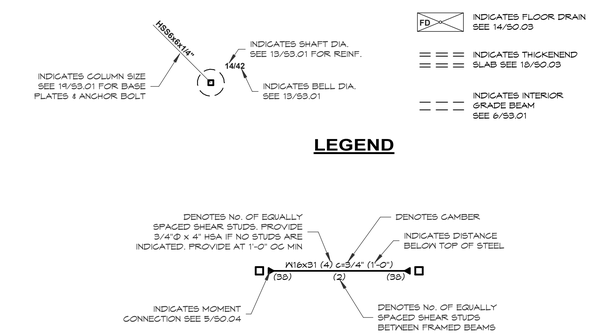
SCALE: 1/8" = 1'-0"



NORTH

AREA "G" & "K" FOUNDATION PLAN

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



LEGEND

BEAM LEGEND

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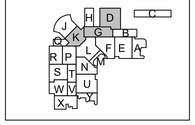


2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD

9811 Huffmeister Rd, Houston, TX 77095

ARCADIS

TEXAS ARCADIS INC.
1330 POST OAK BOULEVARD, SUITE 2250
HOUSTON, TX 77056
tel 281.286.6605, fax 713.977.4620

STATE OF TEXAS
HUNTER KORNEGAY
91030
LICENSED PROFESSIONAL ENGINEER

29 January 2025
Texas Engineering Firm No. F-170

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	CM
CHECKED:	MB/HK

DATE	ISSUE
2025-01-13	PERMIT AND PROPOSAL
2025-01-30	ADDENDUM NO. 05 A

S3.01

AREA "D" "G" AND "K" FOUNDATION AND FRAMING PLANS

1. DEMOLITION DWGS. INDICATE GENERAL DEMOLITION REQ'D. HOWEVER, THEY DO NOT SHOW SPECIFIC DETAILS OF DEMOLITION. CONTRACTOR SHALL VISIT PROJECT SITE / BLDG. PRIOR TO BIDDING TO ASCERTAIN EXISTING CONDITIONS & SPECIFIC REQ'MNTS FOR DEMOLITION WORK & SHALL INCLUDE ALL COSTS ASSOCIATED W/ DEMOLITION. EXCEPTING CONDITIONS THAT COULD NOT BE DETERMINED WITHOUT DESTRUCTIVE INVESTIGATION. COORDINATE W/ ARCH & OWNER W/ RESPECT TO VISITATION SCHEDULE.
2. RE: CIVIL, STRUC., & MEP DWGS. FOR DEMOLITION REQ'D PARTICULAR TO THE OTHER CONSULTING DISCIPLINES. THE CONTRACTOR SHALL BE RESPONSIBLE TO ASCERTAIN THE INTERRELATIONSHIPS OF ALL REQ'D. DEMOLITION & INCLUDE ALL ASSOCIATED COSTS IN THE PROPOSAL.
3. PRIOR TO STARTING DEMOLITION WORK, FIELD VERIFY ALL EXISTING CONDITIONS. NOTIFY THE ARCH. OF ANY ISSUES AND/ OR CONCEALED CONDITIONS THAT MAY PREVENT IMPLEMENTATION & PROGRESS OF DEMOLITION WORK. DO NOT PROCEED UNTIL SUCH ISSUES ARE FULLY RESOLVED.
4. FOR DEMOLITION CONDUCTED WITHIN AN OPERATIONAL BLDG., CONTRACTOR SHALL COORD. W/ ARCH. & OWNER REGARDING SCHEDULING AND/ OR DISRUPTIVE NOISE ISSUES. IF REQ'D, TO MAINTAIN ONGOING OPERATION OF THE BLDG., CONTRACTOR SHALL BE PREPARED TO PERFORM DISRUPTIVE DEMOLITION OUTSIDE NORMAL HOURS OF OPERATION.
5. IF NOT INDICATED IN THE CONTRACT DOCUMENTS, COORD. W/ ARCH. & OWNER FOR DISPOSITION OF EXISTING FIXTURES, FURNITURE & EQUIP. (FF&E).
6. OWNER SHALL RETAIN THE RIGHT TO RECEIVE & SALVAGE ANY EXISTING WORK SHOWN TO BE DEMOLISHED AND/ OR REMOVED. CONFIRM W/ OWNER IF ANY MATERIALS ARE TO BE SALVAGED PRIOR TO THE START OF ANY DEMOLITION WORK. COORD. W/ OWNER FOR TRANSFER OF SALAVAGED MATERIALS.
7. CONTRACTOR SHALL USE ALL MEANS NECESSARY TO PROTECT EXISTING WORK TO REMAIN. IN CASE OF DAMAGE DURING DEMOLITION AND/ OR NEW WORK CONSTRUCTION, CONTRACTOR SHALL REPAIR AND/ OR REPLACE SUCH EXISTING WORK BACK TO ORIGINAL CONDITION, SUBJECT TO ACCEPTANCE BY THE ARCH. SIMILARLY, CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF RESTRICTING DISTRIBUTION OF DUST & OTHER DEMOLITION CONTAMINANTS FROM SPREADING INTO AREAS OUTSIDE OF DEMOLITION AREA(S).
8. WHERE EXISTING WORK IS INDICATED TO BE REMOVED & REINSTALLED, CONTRACTOR SHALL USE ALL MEANS NECESSARY TO REMOVE THE WORK WITHOUT DAMAGE, SUFFICIENTLY STORE THE WORK TO PREVENT LOSS OR DAMAGE & CAREFULLY REINSTALL THE WORK AS INDICATED ON THE DWGS. IN CASE OF DAMAGE, CONTRACTOR SHALL REPAIR AND/ OR REPLACE SUCH EXISTING WORK BACK TO ORIGINAL CONDITION, SUBJECT TO ACCEPTANCE BY THE ARCH.
9. ALL EXISTING CONCRETE SLABS TO BE REMOVED IN ORDER FOR DEMOLITION OF UNDER-SLAB WORK SHALL BE SAW-CUT. MAINTAIN INTEGRITY OF EXISTING VAPOR MEMBRANE AND REINFORCING AS REQ'D. FOR RECONNECTION TO NEW VAPOR BARRIER AND REINFORCING UNDER SAW-CUT AREA.
10. ALL EXISTING PLUMBING WORK SHOWN TO BE ABANDONED SHALL BE REMOVED & CAPPED 2 " BELOW SLAB OR BACK WITHIN A WALL. SLABS & WALLS SHALL BE REPAIRED FLUSH W/ ADJACENT SURFACES.
11. WHERE NEW OPENING ARE TO BE INSTALLED IN EXISTING WALLS / PARTITIONS, LIMITS OF DEMOLITION SHALL BE BEYOND OPENING SIZE AS REQ'D TO PROPERLY CONSTRUCT ROUGH OPENINGS IN ACCORNACE W/ NEW OPENING DETAILS INDICATED ON THE DWGS. REBUILD & OR PATCH ADJACENT AREAS TO NEW OPENING AS REQ'D FOR FLUSH INTERFACE W/ EXISTING WORK TO REMAIN.
12. IN AREAS WHERE EXISTING FINISH FLOORING IS TO BE REMOVED, REMOVE FLOORING MATERIALS & ANY ADHESIVES DOWN TO THE CONCRETE SLAB. MAINTAIN SLAB IN A SUITABLE CONDITION FOR INSTALLATION OF NEW SCHEDULED FLOORING MATERIALS.
13. IN AREAS WHERE EXISTING WORK IS TO RECEIVE A NEW FINISH, CONTRACTOR SHALL REPAIR, PATCH AND/ OR PREP EXISTING WORK AS REQ'D FOR PROPER INSTALLATION OF NEW FINISHES IN ACCORDANCE W/ NEW FINISH MANUFR 'S REQ'MNTS. VERIFY ALL CONDITIONS & COORD. AS REQ'D.
14. CONTRACTOR SHALL BE CAUTIOUS ON REMOVING EXISTING FRAMES. ANY DAMAGE TO THE EXISTING MASONRY MUST BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NOTES - GENERAL FLOOR PLAN - DEMO

1/4" = 1'-0"

1. REMOVE PORTION OF EXISTING PARTITION. CLEAN/ PREP/ FINISH REMAINING SURFACES FOR NEW OPENING.
2. REMOVE EXISTING CASEWORK IN ITS ENTIRETY
3. REMOVE EXISTING FLOORING AND BASE IN ITS ENTIRETY, CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS.
4. REMOVE EXISTING LOCKERS AND STORE FOR REINSTALLATION
5. REMOVE EXISTING PARTITIONS
6. WALL MOUNTED EQUIPMENT SHALL BE REMOVED BY THE OWNER BEFORE CONSTRUCTION BEGINS. RE: 2 / A0.05
7. REMOVE EXISTING DOOR AND FRAME IN ITS ENTIRETY
8. RE: C SERIES FOR DEMO SCOPE OF COURTYARD
9. REMOVE EXISTING FLOORING, CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS. (A)
10. REMOVE EXISTING WINDOW, FRAME, AND MASONRY BELOW SILL IN ITS ENTIRETY. CLEAN/PREP EXISTING FINISHES FOR NEW CONSTRUCTION
11. REMOVE PORTION OF EXISTING WALL
12. REMOVE EXISTING PAINT BOOTH IN ITS ENTIRETY, CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS.
13. REMOVE AND STORE PLUMBING FIXTURES, MIRROR AND ACCESSORIES FOR REINSTALLATION (A)
14. REMOVE EXISTING MATERIAL STORAGE CAGE AND DOOR IN ITS ENTIRETY.
15. REMOVE AND REINSTALL OF EXIST. HOOD, RE: MEPT
16. REMOVE EXISTING ACOUSTICAL PANELS CLEAN AND PREP SURFACES FOR NEW.
17. PROTECT INSTRUMENT STORAGE DURING CONSTRUCTION
18. PROTECT MARKER BOARD DURING CONSTRUCTION
19. REMOVE EXISTING MARKER BOARD
20. REMOVE EXISTING MIRRORS
21. REMOVE EXISTING POWER POLES; RE: MEP
22. REMOVE EXISTING MUSIC STORAGE
23. REMOVE AND STORE EXISTING SHOP EQUIPMENT/STORAGE DURING CONSTRUCTION
24. REMOVE EXISTING PORTION OF WALL, RE: MEP SHEETS FOR SCOPE (A)
25. REMOVE EXISTING CEILING AND CAREFULLY REMOVE AND TURN OVER EXISTING LIGHT FIXTURES TO THE DISTRICT FOR THEIR USE
26. REMOVE PLUMBING FIXTURE IN ITS ENTIRETY. RE: PLUMBING
27. CONTRACTOR TO REMOVE KITCHEN EQUIPMENT AND STORE AT OWNER'S REQUEST
28. PROTECT PLUMBING FIXTURES DURING CONSTRUCTION
29. PROTECT SHOP EQUIPMENT DURING CONSTRUCTION
30. REMOVE EXISTING BENCHES
31. REMOVE EXISTING SIDEWALK/FLATWORK. CLEAN AND PREPARE FOR RENOVATION
32. REMOVE PORTION OF EXISTING EXTERIOR PARTITION. CLEAN/ PREP/ FINISH REMAINING SURFACES FOR NEW WINDOW.
33. REMOVE EXISTING WINDOW AND PREP SPACE FOR NEW CMU FILL
34. PROTECT EXISTING SPEAKERS DURING CONSTRUCTION
35. PROTECT EXISTING MICROPHONES IN THE CEILING DURING CONSTRUCTION
36. REMOVE EXISTING SEALANT AROUND POOL EDGE AND PREP FOR NEW
37. REMOVE EXISTING PIPE GRID AND LIGHTING. RETURN LIGHTING TO OWNER
38. DEMO WALL TILE AND WALL MOUNTED ACCESSORIES. PREPARE WALL FINISH LIKE NEW FOR RENOVATION.
39. REMOVE EXISTING ELECTRICAL PANELS, RE: MEP
40. REMOVE CEILING FURR DOWN AND ASSOCIATED LIGHTING
41. REMOVE CEILING, CAREFULLY REMOVE AND STORE EXISTING LIGHT FIXTURES FOR REUSE IN RENOVATION
42. REMOVE EXISTING GRID AND TILE TO CLOSEST RUNNER. PREP SPACE FOR NEW CEILING FINISH. REFER TO RENOVATION FOR SCOPE OF WORK.
43. DEMO EXISTING LOCKERS
44. REMOVAL OF EXISTING DEPTH MARKER TILING
45. DEMO EXISTING THEATRICAL SET, STAGE AND/OR EQUIPMENT.
46. REMOVE GLAZING, FRAME EXISTING TO REMAIN. PREPARE FRAME TO RECEIVE NEW GLAZING PER WINDOW/DOOR SCHEDULE.

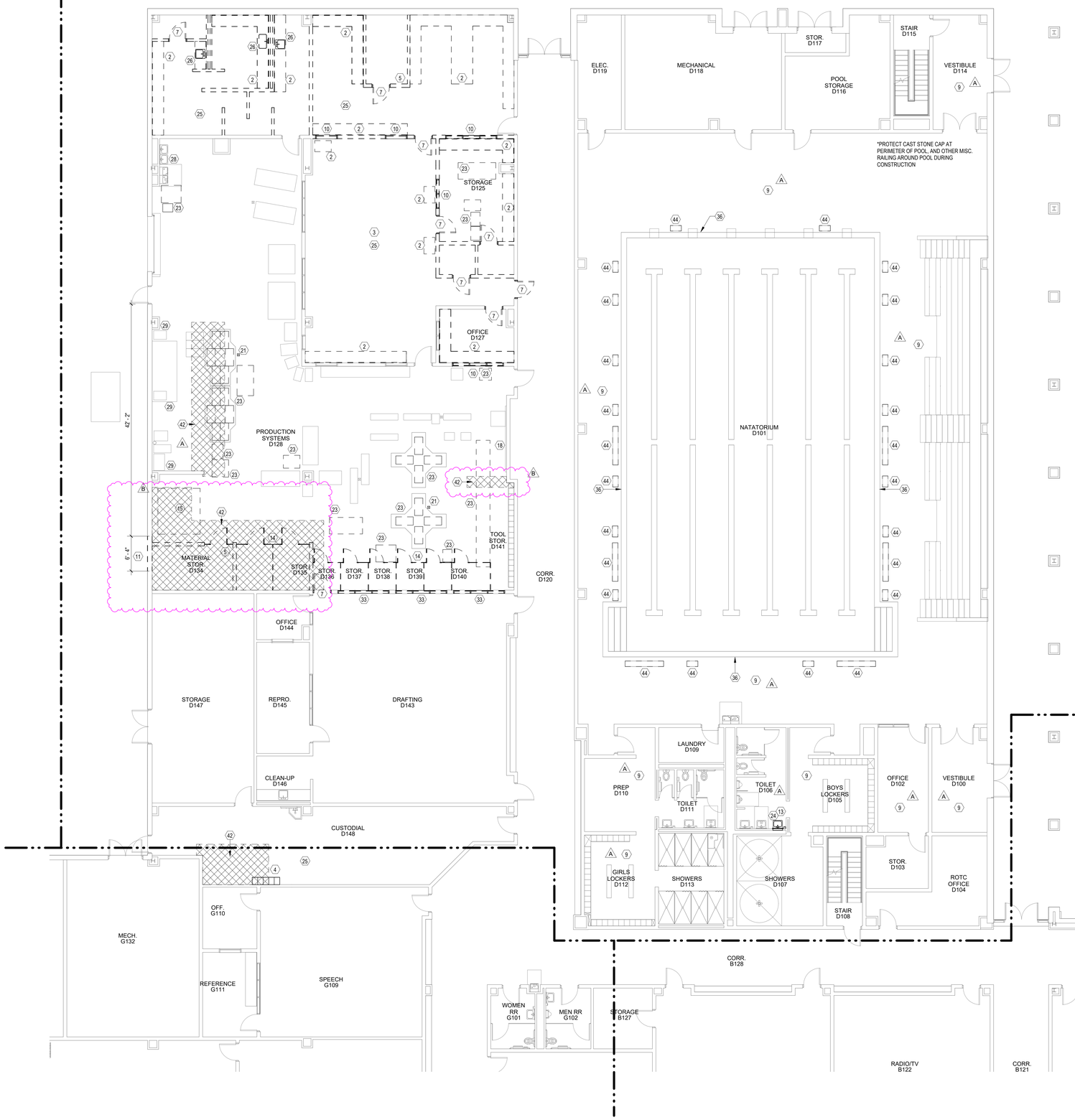
KEYNOTES - FLOOR PLAN - DEMO

1/4" = 1'-0"

1. PRIOR TO COMMENCEMENT OF FLOORING WORK, CONTRACTOR TO CONFIRM PH LEVELS OF POOL, THAT FILTRATION SYSTEM IS FUNCTIONING PROPERLY, THE CONDITION OF RAILING, BLEACHERS AND DIVING BOARDS, AND THAT THERE IS NO DAMAGE TO CAST STONE AND GUTTER SYSTEM AT POOL PERIMETER. CONTRACTOR SHALL NOTIFY CFISD PROJECT MANAGER AND ARCHITECT OF ANY ISSUES OR CONCERNS.
2. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE POOL, RAILINGS, BLEACHERS, DIVING BOARDS, WALL BASE, SCOREBOARD(S)/TIME CLOCK(S), AND ANY OTHER ITEM THAT IS TO REMAIN IN PLACE WHILE RENOVATION WORK IS BEING COMPLETED.
3. DEEP CLEAN ALL SURFACES WITHIN THE NATATORIUM AFTER WORK IS COMPLETE, INCLUDING POOL AND ROOF DECK. IF ANY DIRT OR DAMAGE OCCURS TO THE ACOUSTICAL BAFFLES OR LIGHTING THE CONTRACTOR IS RESPONSIBLE FOR CLEANING OR REPAIRING THEM.

NOTES - GENERAL NOTES FOR POOL

1/4" = 1'-0"



1 AREA 'D1' - 1ST FLOOR DEMO PLAN

1/8" = 1'-0"

PLAN NORTH

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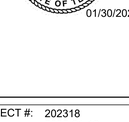

01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	BN/VP
CHECKED:	CA

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A0.04

AREA 'D' - 1ST FLOOR DEMOLITION PLAN

1. DEMOLITION DWGS. INDICATE GENERAL DEMOLITION REQ'D. HOWEVER, THEY DO NOT SHOW SPECIFIC DETAILS OF DEMOLITION. CONTRACTOR SHALL VISIT PROJECT SITE / BLDG. PRIOR TO BIDDING TO ASCERTAIN EXISTING CONDITIONS & SPECIFIC REQ'MNTS FOR DEMOLITION WORK & SHALL INCLUDE ALL COSTS ASSOCIATED W/ DEMOLITION. EXCEPTING CONDITIONS THAT COULD NOT BE DETERMINED WITHOUT DESTRUCTIVE INVESTIGATION. COORDINATE W/ ARCH & OWNER W/ RESPECT TO VISITATION SCHEDULE.
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14. CONTRACTOR SHALL BE CAUTIOUS ON REMOVING EXISTING FRAMES. ANY DAMAGE TO THE EXISTING MASONRY MUST BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NOTES - GENERAL FLOOR PLAN - DEMO

1/4" = 1'-0"

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2. REMOVE EXISTING CASEWORK IN ITS ENTIRETY
3. REMOVE EXISTING FLOORING AND BASE IN ITS ENTIRETY, CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS.
4. REMOVE EXISTING LOCKERS AND STORE FOR REINSTALLATION
5. REMOVE EXISTING PARTITIONS
6. WALL MOUNTED EQUIPMENT SHALL BE REMOVED BY THE OWNER BEFORE CONSTRUCTION BEGINS. RE: 2 / A0.05
7. REMOVE EXISTING DOOR AND FRAME IN ITS ENTIRETY
8. RE: C SERIES FOR DEMO SCOPE OF COURTYARD
9. REMOVE EXISTING FLOORING, CLEAN/ PREP/ FINISH REMAINING SURFACES TO MATCH ADJACENT CONDITIONS.
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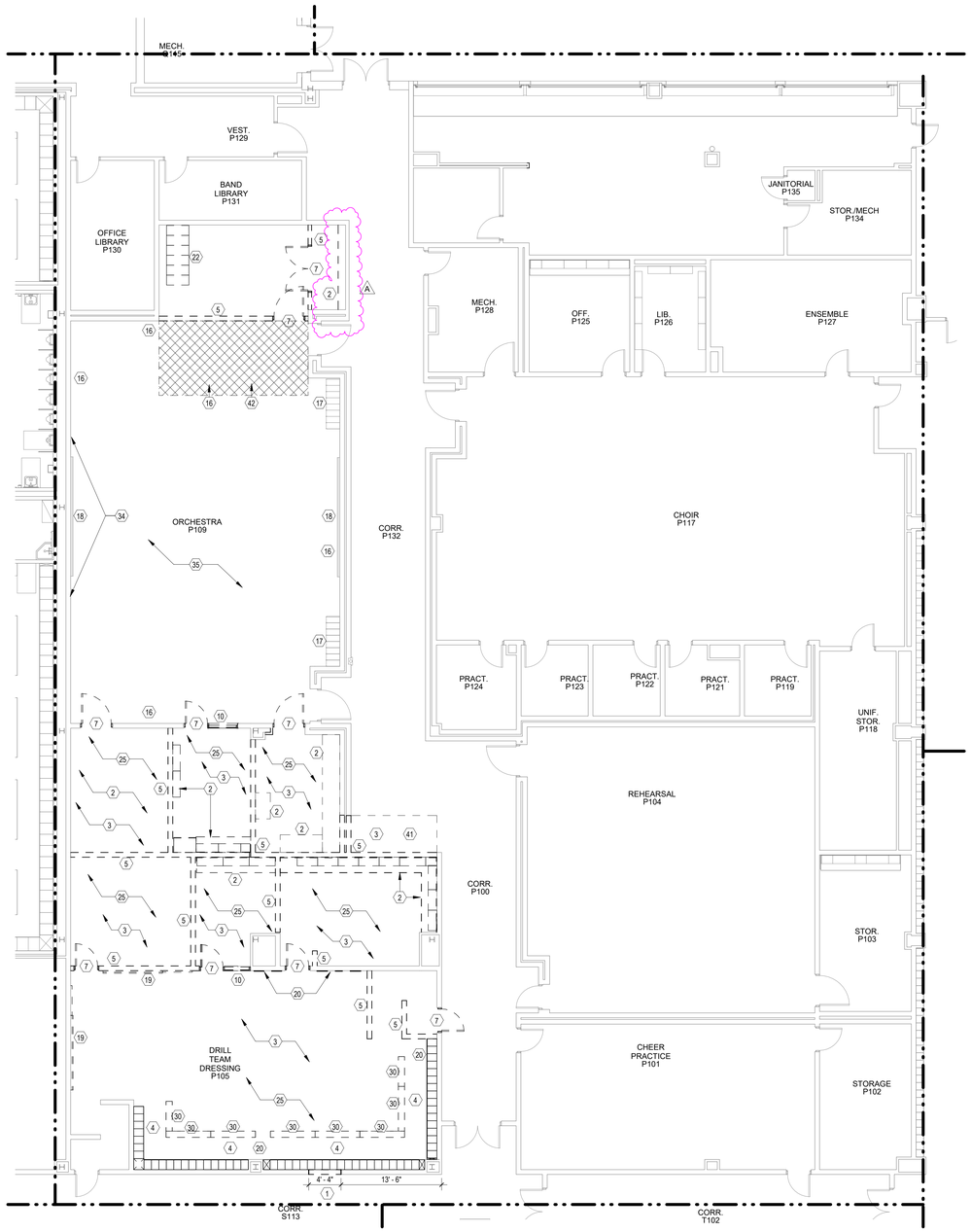
45. DEMO EXISTING THEATRICAL SET, STAGE AND/OR EQUIPMENT.
46. REMOVE GLAZING, FRAME EXISTING TO REMAIN. PREPARE FRAME TO RECEIVE NEW GLAZING PER WINDOW/DOOR SCHEDULE.

KEYNOTES - FLOOR PLAN - DEMO

1/4" = 1'-0"



1 AREA 'P1' - 1ST FLOOR DEMO PLAN

1/8" = 1'-0"

PLAN NORTH

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REGISTERED ARCHITECT — JASON T. CANNON — 27120 — STATE OF TEXAS

01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	BN/VP
CHECKED:	CA

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM No. 05	A

A0.08

AREA 'P' - 1ST FLOOR DEMOLITION PLAN

1. RE: G1 SERIES SHEETS FOR ACCESSIBLE MOUNTING HEIGHTS
2. RE: A6 SERIES SHEETS FOR PARTITION TYPES
3. RE: A9 SERIES SHEETS FOR DOOR & FRAME ELEVATIONS
4. RE: A11 SERIES SHEETS FOR FINISH SELECTIONS IN FINISH LEGEND
5. ALL CMU COLUMN FURROUTS SHALL BE 1' - 0" OFF COLUMN CENTER LINE, UNLESS NOTED OTHERWISE
6. MASONRY DIMENSIONS ARE NOMINAL.
7. ALL DIMENSIONS ARE TO FINISH FACE OF EXTERIOR WALLS, FOUNDATION, MASONRY, METAL STUD FRAMING OR TO CENTER LINE OF COLUMN, UNLESS NOTED OTHERWISE
8. ALL WALL FINISH GOES TO DECK IN ROOMS WITHOUT CEILINGS
9. ALL EXTERIOR WALLS EXTEND TO BOTTOM OF ROOF DECK
10. PROVIDE EXPANSION JOINT COVERS ON INTERIOR WALLS @ BUILDING EXPANSION JOINTS RE:SPECS
11. ALL SPACES W/ FLOOR DRAINS SHALL HAVE FINISHED FLOOR SLOPE TO DRAIN. VERIFY W/ ARCH. IN FIELD
12. ALL EQUIP. PADS SHALL BE AS PER STRUC. DWGS. COORDINATE SIZES, THICKNESS & LOCATIONS W/ MECH. CHAMFER EDGES
13. ALL EXTERIOR DOORS SHALL RECEIVE A THRESHOLD. THRESHOLD TO BE OF SUFFICIENT WIDTH TO COVER SIDEWALK TO FOUNDATION EXPANSION JOINT TO MAINTAIN ONLY 1/2" RISE & BE ADA COMPLIANT
14. PROVIDE TRANSITION STRIPS @ ALL FLOOR FINISH TRANSITIONS PER SPECS., UNLESS NOTED OTHERWISE
15. ALL FLOOR MATERIAL CHANGES SHALL OCCUR @ CENTERLINE OF DOOR, UNLESS NOTED OTHERWISE
16. F.E.C. DENOTES FIRE EXTINGUISHER & CABINET
17. DASHED EQUIPMENT/ FURNITURE IS NOT IN CONTRACT (N.I.C.)
18. PROVIDE HORIZONTAL BLINDS @ ALL EXTERIOR WINDOWS, EXCEPT SIDELITES ADJACENT TO EXIT/ ENTRY DOORS. PROVIDE HORIZONTAL BLINDS @ ALL INTERIOR WINDOW LOCATIONS
19. SAWTOOTH ALL NEW MASONRY INTO EXISTING CMU OR BRICK
20. REPLACE ANY DAMAGED CEILING TILES IN THE INSTALLATION OF SPEAKERS AS SHOWN ON THE T SERIES DRAWINGS.
21. REPLACE THE PLASTER SOFFIT AS REQUIRED FOR THE INSTALLATION OF THE SPEAKERS AS SHOWN ON THE T SERIES DRAWINGS.
22. GENERAL NOTE: AN * INDICATED CURB AT BASE OF PARTITION. FOR BASE CONDITION, RE: 4 / A2.01
23. THE CONTRACTOR SHALL REMOVE CEILINGS (GYPSUM BOARD CEILINGS AND/OR CEILING TILES) AS NECESSARY TO INSTALL CONDENSATION LINES THROUGHOUT THE BUILDING. ONCE INSTALLED THE CONTRACTOR SHALL REPAIR, PATCH, OR REPLACE THE CEILINGS AS REQUIRED. THE CONTRACTOR SHALL REFER TO THE MECHANICAL SHEETS TO DETERMINE THE PATHS.
24. AN * INDICATED CURB AT THE BASE OF THE PARTION. RE: STRUCT.

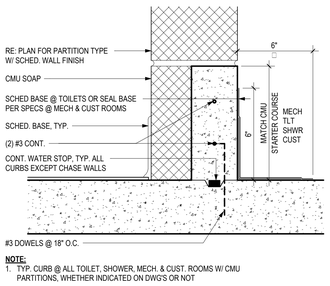
NOTES - GENERAL FLOOR PLAN

1/4" = 1'-0"

1. REPLACE DOOR HARDWARE; RE: SPECS
2. EXISTING GLAZING TO RECEIVE IMPACT FILM; RE: SPECS
3. DISPLAY CASES; RE: SPECS.
4. SAWTOOTH 8" CMU AND TILE TO MATCH EXISTING WALL, REINSTALL STORED PLUMBING FIXTURE , MIRROR AND ACCESSORIES
5. PIPE RACK MATERIAL STORAGE; RE: 2 / A2.04
6. WALK IN PAINT BOOTH
7. REINSTALL STORED EXISTING PLUMBING FIXTURE
8. EXISTING SHOP EQUIPMENT
9. RELOCATED EXISTING BEWO WET METAL SAW
10. RELOCATED EXISTING FOREST CNC ROUTER
11. RELOCATED EXISTING HELIX EPILOG LASER
12. RELOCATED EXISTING ROCKWELL-INVICTA PLANER
13. RELOCATED EXISTING PERFORMAX DRUM SANDER
14. RELOCATED EXISTING DELTA SHAPER
15. RELOCATED EXISTING DELTA SHAPER
16. RELOCATED STORAGE FURNITURE
17. CORD REELS; RE: RCP
18. RELOCATED SHOP DESK/TABLE
19. CUBICLE CURTAIN
20. RELOCATED WENGER MUSIC STORAGE
21. REMOVE AND REPLACE GLAZING WITH G11 GLAZING RE: A9 DOOR ELEVATION AND SPECS
22. RELOCATED LOCKERS, FOR NEW BASE DETAIL AS NEEDED; RE: 3 / A2.01
23. RELOCATED LOCKERS, PROVIDE NEW FILL PANEL AND TOP AS REQ'D; RE: SPECS
24. NEW 6' LOCKER ROOM BENCHES, RE: 2 / A2.14
25. NEW 3' LOCKER ROOM BENCHES, RE: 2 / A2.14
26. PROVIDE NEW CARD READER AND ASSOCIATED HARDWARE, RE: ELEC & TECH & HARDWARE SPECS
27. RELOCATED PLOTTER/3D PRINTER
28. ADA BENCH; RE: 4 / A6.01
29. REINSTALL MICROPHONES
30. NEW EYE WASH STATION; RE: MEP
31. PAPER TOWER AND SOAP DISPENSER
32. NEW STORAGE SHELVING, 36" WIDE, RE: SPECS
33. NEW STORAGE SHELVING, 48" WIDE, RE: SPECS
34. NEW 2-TIER TYPE 'B' LOCKERS, RE: 2 / A2.01 & SPECS
35. PROVIDE NEW SEALANT AROUND POOL EDGE
36. DRYING RACK, RE: SPECS
37. NEW DOOR STATION AND ASSOCIATED HARDWARE, RE: ELEC & TECH & HARDWARE SPECS
38. NEW SCREEN WALL, RE: 14 / C1.11, 15 / C1.11, 16 / C1.11

KEYNOTES - FLOOR PLAN

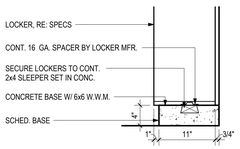
1/4" = 1'-0"



NOTE:
1. TYP. CURB @ ALL TOILET, SHOWER, MECH. & CUST. ROOMS W/ CMU PARTITIONS, WHETHER INDICATED ON DWG'S OR NOT

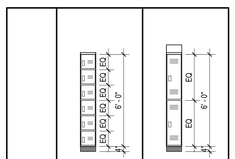
4 WALL - INT CURB @ CMU (MECH)

3" = 1'-0"



3 LCKR - BASE @ WALL

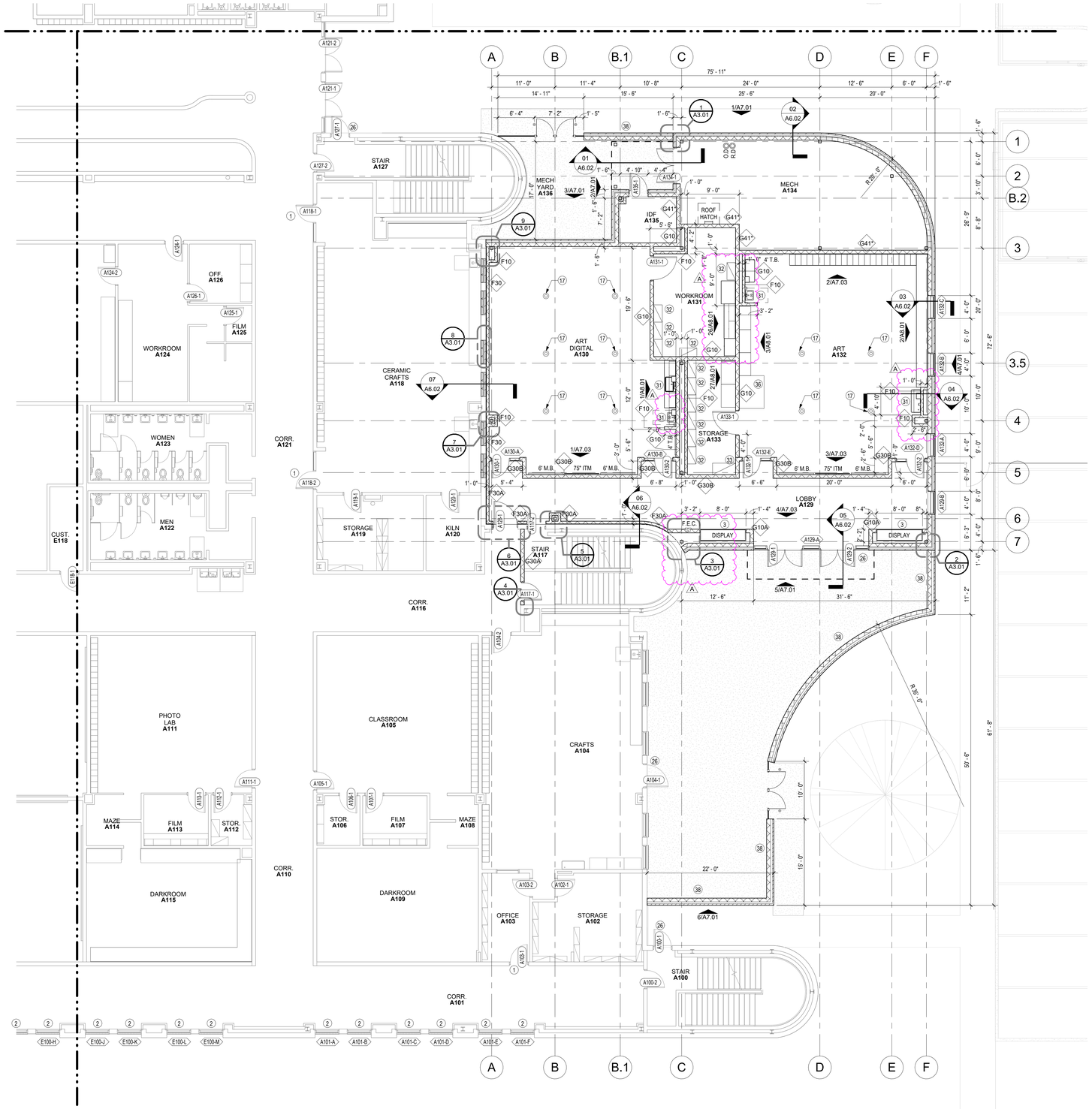
1" = 1'-0"



TYPE	A	B
SIZE	12"W x 24"D 6 - TIER 76" HIGH	12"W x 12"D 2 - TIER 76" HIGH
BASE/TOP	4" CONC. BASE & FLAT HDPE TOP	4" CONC. BASE & SLOPED MTL TOP

2 LCKR - TYPES

1/4" = 1'-0"



1 AREA 'A1' - 1ST FLOOR PLAN

1/8" = 1'-0"

PLAN NORTH

CONSULTANTS

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CJG Engineers
6051 North Course Dr. Suite 375
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REGISTERED ARCHITECT — #71201 — STATE OF TEXAS

01/30/2025

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A2.01

AREA 'A1' 1ST FLOOR PLAN

1. RE: G1 SERIES SHEETS FOR ACCESSIBLE MOUNTING HEIGHTS
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KEYNOTES - FLOOR PLAN

1/4" = 1'-0"

AREA 'B1' - 1ST FLOOR PLAN

1/8" = 1'-0"

PLAN NORTH

CONSULTANTS

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01/30/2025

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DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A2.02

AREA 'B1' 1ST FLOOR PLAN

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KEYNOTES - FLOOR PLAN

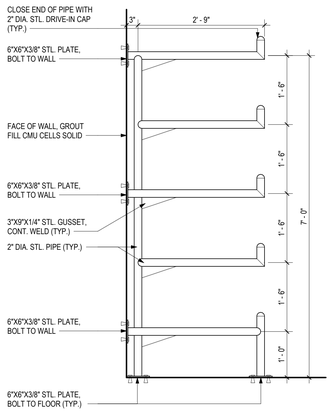
1/4" = 1'-0"

^A EQUIPMENT NOTES:
WB1: WELDING BOOTH WITH WELDING FUME HOOD TABLE, RE: SPECS
PB1: PAINT BOOTH, RE: SPECS

1. PRIOR TO COMMENCEMENT OF FLOORING WORK, CONTRACTOR TO CONFIRM PH LEVELS OF POOL. THAT FILTRATION SYSTEM IS FUNCTIONING PROPERLY, THE CONDITION OF RAILING, BLEACHERS AND DIVING BOARDS, AND THAT THERE IS NO DAMAGE TO CAST STONE AND GUTTER SYSTEM AT POOL PERIMETER. CONTRACTOR SHALL NOTIFY CFISD PROJECT MANAGER AND ARCHITECT OF ANY ISSUES OR CONCERNS.
2. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE POOL, RAILINGS, BLEACHERS, DIVING BOARDS, WALL BASE, SCOREBOARD(S)/TIME CLOCK(S), AND ANY OTHER ITEM THAT IS TO REMAIN IN PLACE WHILE RENOVATION WORK IS BEING COMPLETED.
3. DEEP CLEAN ALL SURFACES WITHIN THE NATATORIUM AFTER WORK IS COMPLETE. INCLUDING POOL AND ROOF DECK. IF ANY DIRT OR DAMAGE OCCURS TO THE ACOUSTICAL BAFFLES OR LIGHTING THE CONTRACTOR IS RESPONSIBLE FOR CLEANING OR REPAIRING THEM.

NOTES - GENERAL NOTES FOR POOL

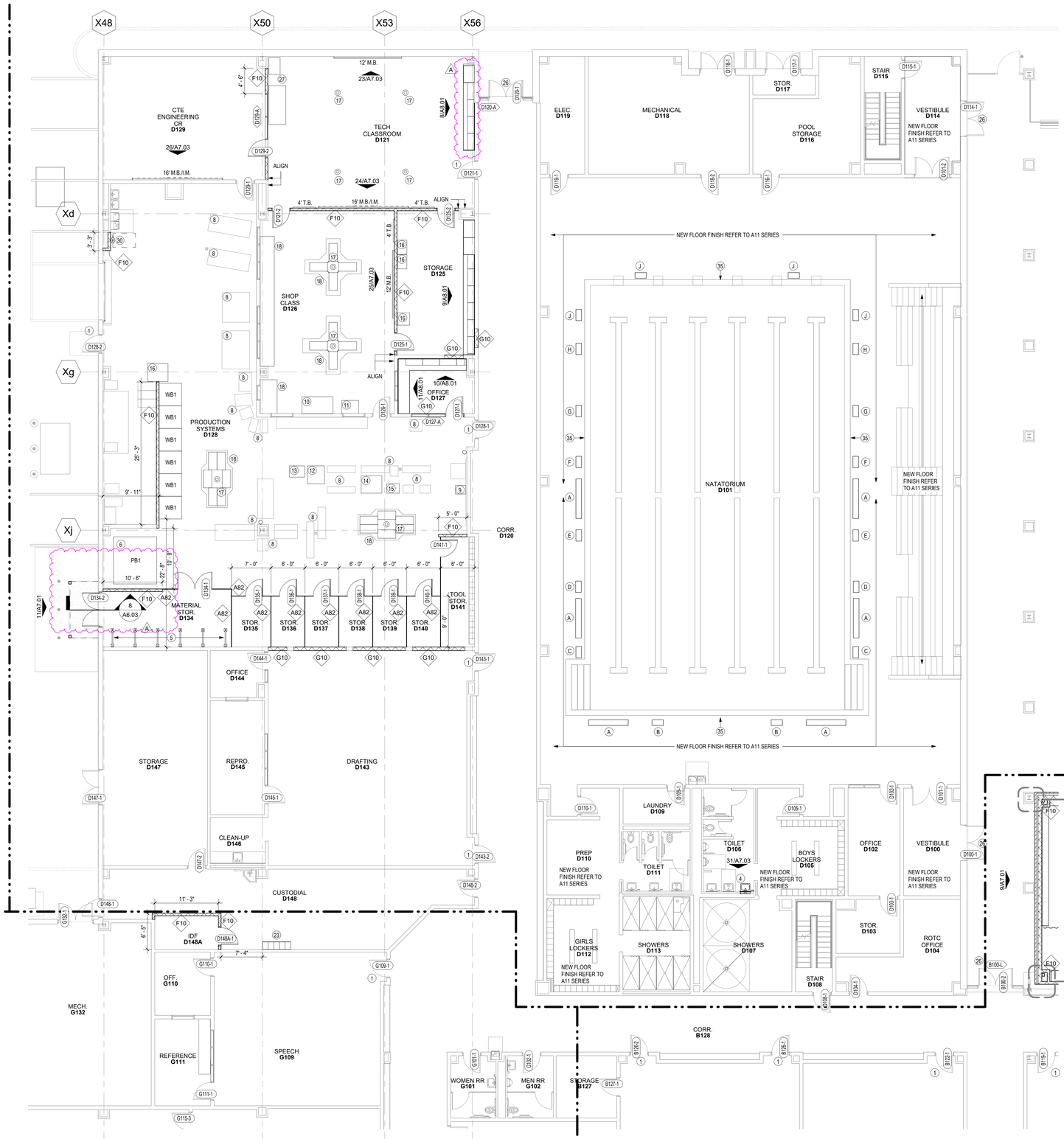
1/4" = 1'-0"



NOTE: GRIND ALL WELDS SMOOTH, HOT DIP GALVANIZE RACKS AFTER FABRICATION PROCESS. PLACE VERTICAL PIPE @ 4'-0" O.C. MAX

2 PIPE RACK - HORIZONTAL

3/4" = 1'-0"



1 AREA 'D1' - 1ST FLOOR PLAN

1/8" = 1'-0"

3 POOL SIGNAGE DETAIL

1/2" = 1'-0"

DEPTH AND WARNING SIGNAGE SCHEDULE

ID	SIGNAGE
A	NO DIVING
B	3 FT 6 IN
C	4 FT
D	4 FT 6 IN
E	5 FT
F	6 FT
G	8 FT
H	10 FT 10 IN
J	11 FT

4 POOL SIGNAGE SCHEDULE

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2024 CYPRESS FALLS HIGH SCHOOL POOL RENOVATION

CYPRESS-FAIRBANKS ISD
9811 Huffmeister Rd, Houston, TX 77095

ARCADIS
TEXAS ARCADIS INC.
1330 POST OAK BOULEVARD, SUITE 2250
HOUSTON, TX 77056
tel 281.286.6605, fax 713.977.4620

REGISTERED ARCHITECT JASON A. CARMICHAEL 27120 STATE OF TEXAS

01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	DS/BN
CHECKED:	CA

DATE	ISSUE
2025-01-13	PERMIT AND PROPOSAL
2025-01-30	ADDENDUM No. 05 A

A2.04

AREA 'D1' 1ST FLOOR PLAN

PLAN NORTH

1. RE: G1 SERIES SHEETS FOR ACCESSIBLE MOUNTING HEIGHTS
2. RE: A6 SERIES SHEETS FOR PARTITION TYPES
3. RE: A9 SERIES SHEETS FOR DOOR & FRAME ELEVATIONS
4. RE: A11 SERIES SHEETS FOR FINISH SELECTIONS IN FINISH LEGEND
5. ALL CMU COLUMN FURROUTS SHALL BE 1" - 0" OFF COLUMN CENTER LINE, UNLESS NOTED OTHERWISE
6. MASONRY DIMENSIONS ARE NOMINAL.
7. ALL DIMENSIONS ARE TO FINISH FACE OF EXTERIOR WALLS, FOUNDATION, MASONRY, METAL STUD FRAMING OR TO CENTER LINE OF COLUMN, UNLESS NOTED OTHERWISE
8. ALL WALL FINISH GOES TO DECK IN ROOMS WITHOUT CEILINGS
9. ALL EXTERIOR WALLS EXTEND TO BOTTOM OF ROOF DECK
10. PROVIDE EXPANSION JOINT COVERS ON INTERIOR WALLS @ BUILDING EXPANSION JOINTS RE:SPECS
11. ALL SPACES W/ FLOOR DRAINS SHALL HAVE FINISHED FLOOR SLOPE TO DRAIN. VERIFY W/ ARCH. IN FIELD
12. ALL EQUIP. PADS SHALL BE AS PER STRUC. DWGS. COORDINATE SIZES, THICKNESS & LOCATIONS W/ MECH. CHAMFER EDGES
13. ALL EXTERIOR DOORS SHALL RECEIVE A THRESHOLD. THRESHOLD TO BE OF SUFFICIENT WIDTH TO COVER SIDEWALK TO FOUNDATION EXPANSION JOINT TO MAINTAIN ONLY 1/2" RISE & BE ADA COMPLIANT.
14. PROVIDE TRANSITION STRIPS @ ALL FLOOR FINISH TRANSITIONS PER SPECS., UNLESS NOTED OTHERWISE
15. ALL FLOOR MATERIAL CHANGES SHALL OCCUR @ CENTERLINE OF DOOR, UNLESS NOTED OTHERWISE
16. F.E.C. DENOTES FIRE EXTINGUISHER & CABINET
17. DASHED EQUIPMENT/ FURNITURE IS NOT IN CONTRACT (N.I.C.)
18. PROVIDE HORIZONTAL BLINDS @ ALL EXTERIOR WINDOWS, EXCEPT SIDELITES ADJACENT TO EXIT/ ENTRY DOORS. PROVIDE HORIZONTAL BLINDS @ ALL INTERIOR WINDOW LOCATIONS
19. SAWTOOTH ALL NEW MASONRY INTO EXISTING CMU OR BRICK
20. REPLACE ANY DAMAGED CEILING TILES IN THE INSTALLATION OF SPEAKERS AS SHOWN ON THE T SERIES DRAWINGS.
21. REPLACE THE PLASTER SOFFIT AS REQUIRED FOR THE INSTALLATION OF THE SPEAKERS AS SHOWN ON THE T SERIES DRAWINGS.
22. GENERAL NOTE: AN * INDICATED CURB AT BASE OF PARTITION. FOR BASE CONDITION, RE: 4 / A2.01
23. THE CONTRACTOR SHALL REMOVE CEILINGS (GYPSUM BOARD CEILINGS AND/OR CEILING TILES) AS NECESSARY TO INSTALL CONDENSATION LINES THROUGHOUT THE BUILDING. ONCE INSTALLED THE CONTRACTOR SHALL REPAIR, PATCH, OR REPLACE THE CEILINGS AS REQUIRED. THE CONTRACTOR SHALL REFER TO THE MECHANICAL SHEETS TO DETERMINE THE PATHS.
24. AN * INDICATED CURB AT THE BASE OF THE PARTION. RE: STRUCT.

NOTES - GENERAL FLOOR PLAN

1/4" = 1'-0"

1. REPLACE DOOR HARDWARE; RE: SPECS
2. EXISTING GLAZING TO RECEIVE IMPACT FILM; RE: SPECS
3. DISPLAY CASES; RE: SPECS.
4. SAWTOOTH 8" CMU AND TILE TO MATCH EXISTING WALL, REINSTALL STORED PLUMBING FIXTURE , MIRROR AND ACCESSORIES
5. PIPE RACK MATERIAL STORAGE; RE: 2 / A2.04
6. WALK IN PAINT BOOTH
7. REINSTALL STORED EXISTING PLUMBING FIXTURE
8. EXISTING SHOP EQUIPMENT
9. RELOCATED EXISTING BEWO WET METAL SAW
10. RELOCATED EXISTING FOREST CNC ROUTER
11. RELOCATED EXISTING HELIX EPILOG LASER
12. RELOCATED EXISTING ROCKWELL-INVICTA PLANER
13. RELOCATED EXISTING PERFORMAX DRUM SANDER
14. RELOCATED EXISTING DELTA SHAPER
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16. RELOCATED STORAGE FURNITURE
17. CORD REELS; RE: RCP
18. RELOCATED SHOP DESK/TABLE
19. CUBICLE CURTAIN
20. RELOCATED WENGER MUSIC STORAGE
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23. RELOCATED LOCKERS, PROVIDE NEW FILL PANEL AND TOP AS REQ'D; RE: SPECS
24. NEW 6' LOCKER ROOM BENCHES, RE: 2 / A2.14
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38. NEW SCREEN WALL, RE: 14 / C1.11, 15 / C1.11, 16 / C1.11

KEYNOTES - FLOOR PLAN

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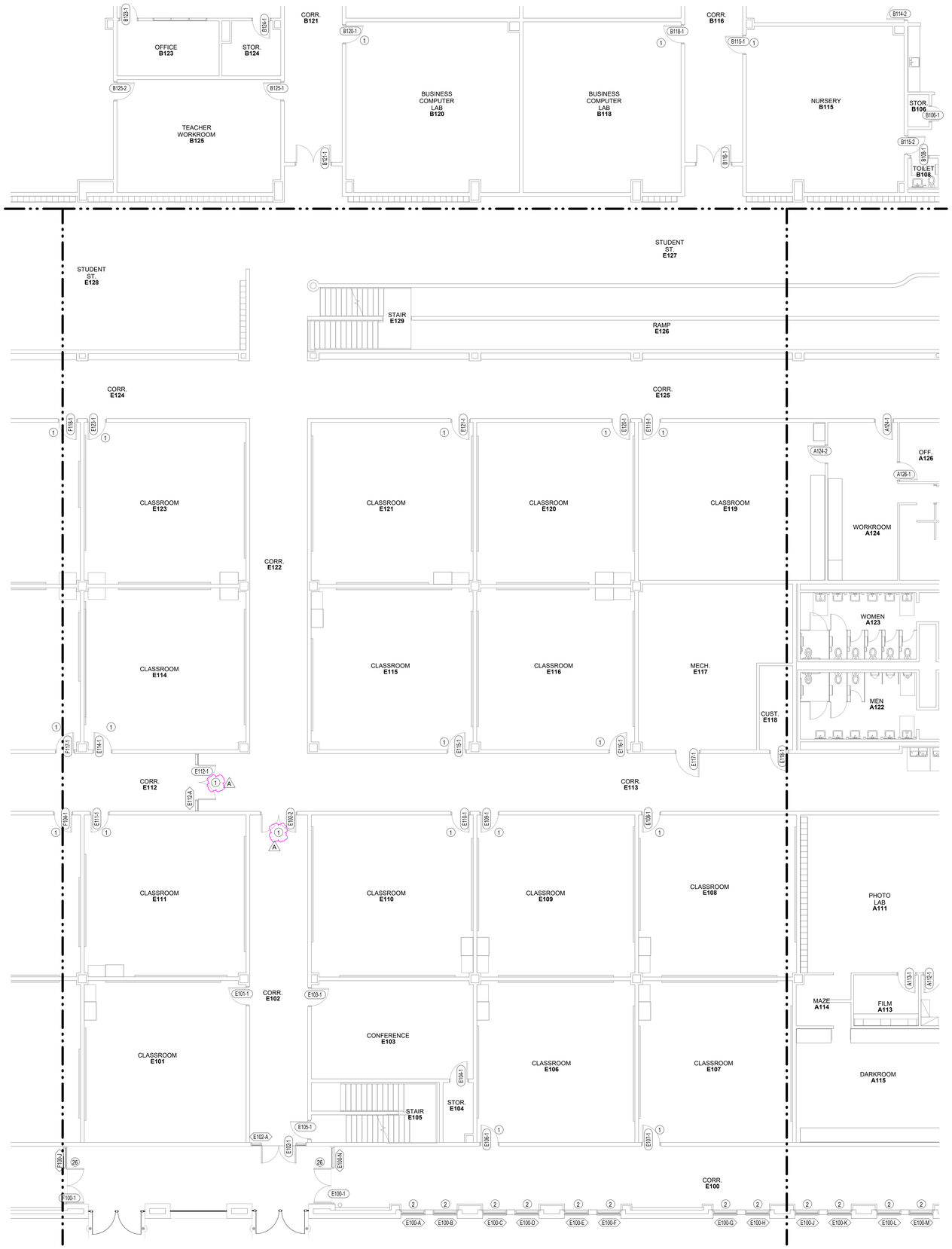

AREA 'E1' - 1ST FLOOR PLAN

1/8" = 1'-0"

PLAN NORTH

CONSULTANTS

STRUCTURAL
CJG Engineers
6051 North Course Dr. Suite 375
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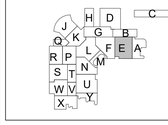

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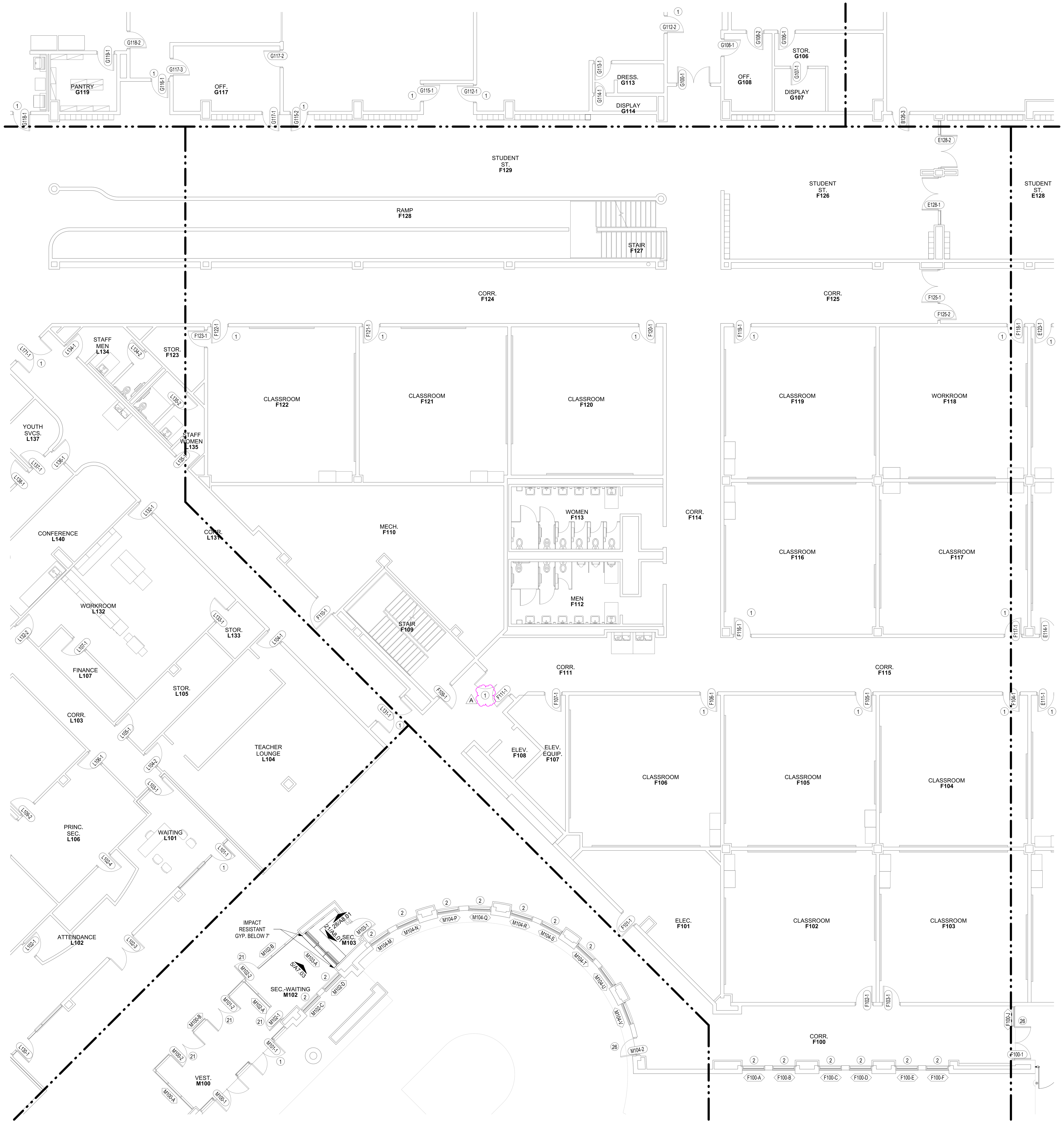

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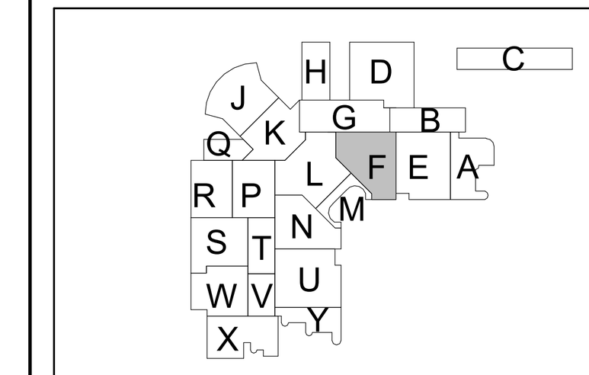

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KEYNOTES - FLOOR PLAN

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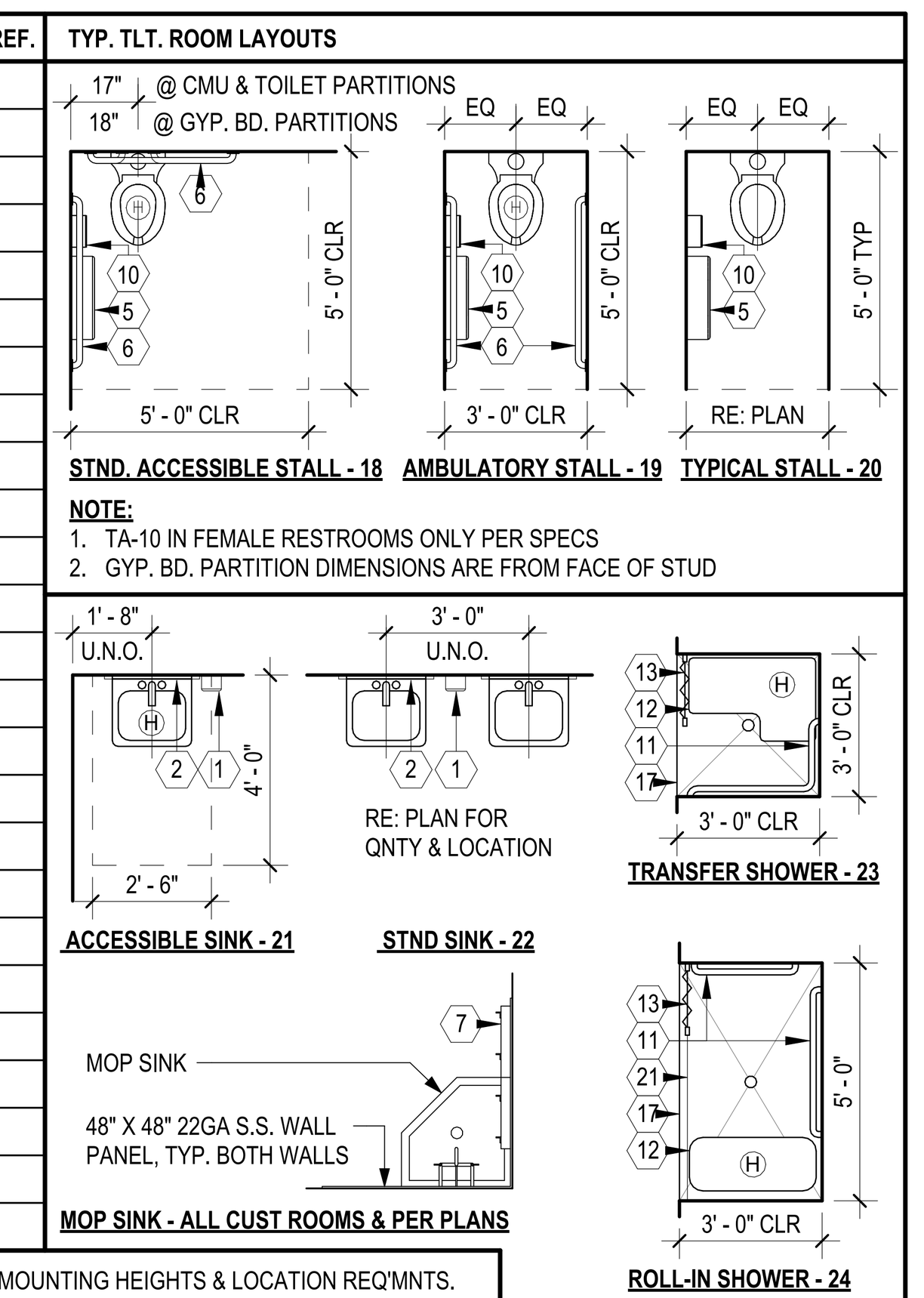
MARK	DESCRIPTION	SPEC REF.
1	SOAP DISPENSER	TA-1
2	MIRROR	TA-2
3	PAPER TOWEL DISPENSER	TA-3
4	RECESSED WASTE RECEPTACLE	TA-4
5	TOILET TISSUE DISPENSER	TA-5
6	GRAB BARS	TA-6
7	MOP & BROOM HOLDER	TA-7
8	CLOTHES/ TOWEL HOOKS	TA-8
9	FEMININE NAPKIN DISPENSER	TA-9
10	FEMININE NAPKIN DISPOSAL	TA-10
11	SHOWER GRAB BARS	TA-11
12	FOLDING BENCH - SHOWER COMPARTMENTS	TA-12
13	SHOWER CURTAINS & RODS	TA-13
14	ELECTRIC HAIR DRYERS	TA-14
15	ELECTRIC HAND DRYERS	TA-15
16	BABY CHANGING STATION	TA-16
17	SHOWER WATER RETAINER	TA-17
18	ACCESSIBLE TOILET STALL	TA-18
19	AMBULATORY TOILET STALL	TA-19
20	STANDARD TOILIET STALL	TA-20
21	ACCESSIBLE SINK	TA-21
22	STANDARD SINK	TA-22
23	TRANSFER TYPE SHOWER COMPARTMENTS	TA-23
24	ROLL-IN SHOWER COMPARTMENTS	TA-24
25	MARBLE THRESHOLD	

TYP. TLT. ROOM LAYOUTS



NOTE:
1. TA-10 IN FEMALE RESTROOMS ONLY PER SPECS
2. GYP. BD. PARTITION DIMENSIONS ARE FROM FACE OF STUD

1. (H) INDICATES HANDICAP MOUNTING HEIGHT, RE: G1.00 FOR ALL MOUNTING HEIGHTS & LOCATION REQ'MNTS.
2. VERIFY LOCATION OF ACCESSORIES W/ OWNER PRIOR TO INSTALLATION
3. RE: FLOOR PLANS FOR ADDITIONAL TOILET ACCESSORIES
4. "O.F.C.I." INDICATES OWNER FURNISHED, CONTRACTOR INSTALLED ACCESSORIES
5. ALL MOP SINKS TO RECEIVE MOP & BROOM HOLDER (TA-7) @ MOP SINK WHETHER SHOWN IN PLAN OR NOT

NOTE: TA-13 ONLY IN ALL NON-ACCESSIBLE SHOWERS WHETHER SHOWN IN PLAN OR NOT

LEGEND - TOILET ACCESSORIES

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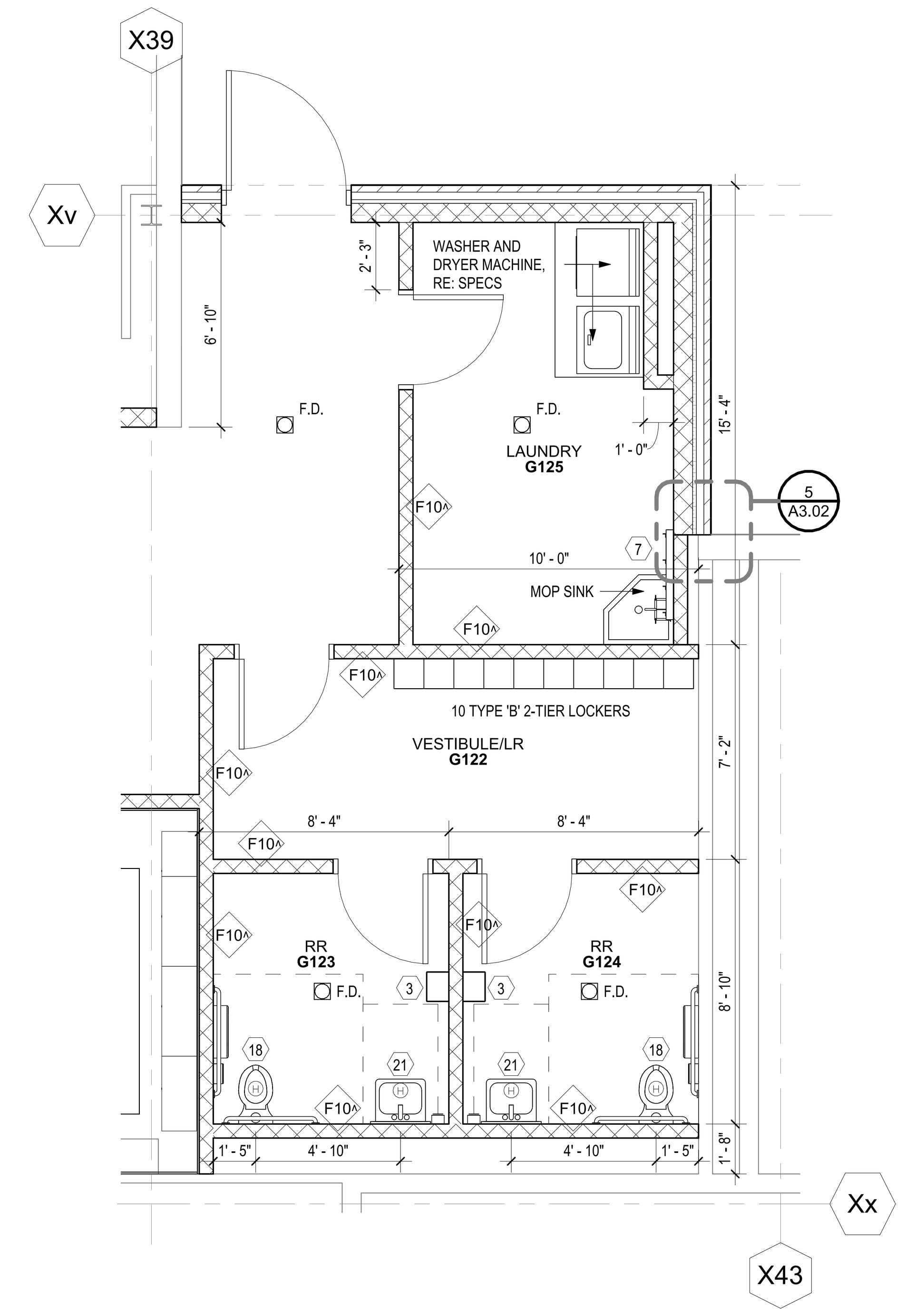

2 G123/124 ENLARGED KITCHEN RESTROOM

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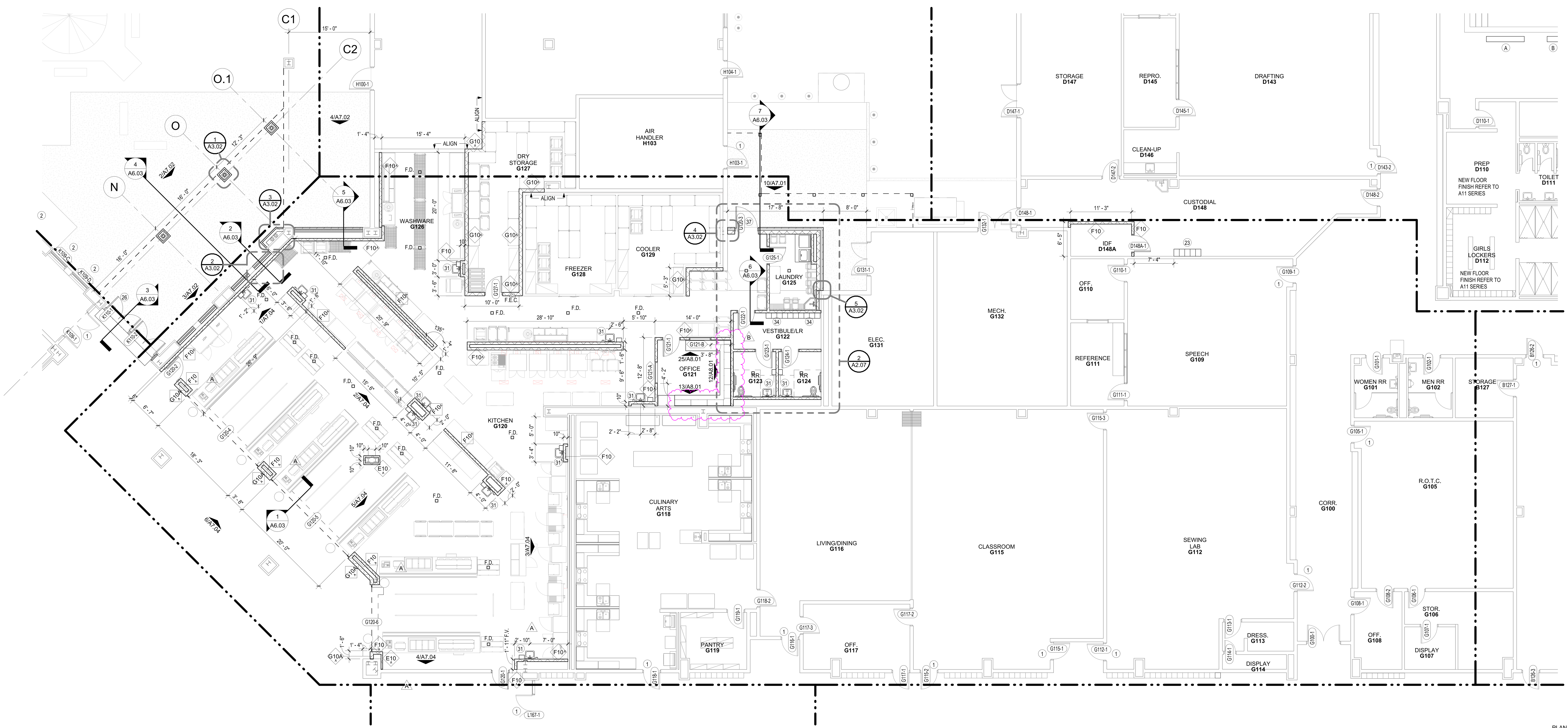

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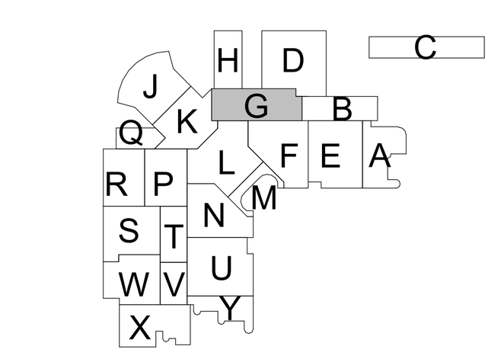

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD
9811 Huffmeister Rd, Houston, TX 77095

ARCADIS

TEXAS ARCADIS INC.
1330 POST OAK BOULEVARD, SUITE 2250
HOUSTON, TX 77056
tel 281.286.6605, fax 713.977.4620

01/30/2025

PROJECT #: 202318
DATE: 2025-01-13
DRAWN: BN/VP
CHECKED: CA

DATE	ISSUE	#
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A2.07

AREA 'G1' 1ST FLOOR PLAN

1. RE: G1 SERIES SHEETS FOR ACCESSIBLE MOUNTING HEIGHTS
2. RE: A6 SERIES SHEETS FOR PARTITION TYPES
3. RE: A9 SERIES SHEETS FOR DOOR & FRAME ELEVATIONS
4. RE: A11 SERIES SHEETS FOR FINISH SELECTIONS IN FINISH LEGEND
5. ALL CMU COLUMN FURROUTS SHALL BE 1" - 0" OFF COLUMN CENTER LINE, UNLESS NOTED OTHERWISE
6. MASONRY DIMENSIONS ARE NOMINAL
7. ALL DIMENSIONS ARE TO FINISH FACE OF EXTERIOR WALLS, FOUNDATION, MASONRY, METAL STUD FRAMING OR TO CENTER LINE OF COLUMN, UNLESS NOTED OTHERWISE
8. ALL WALL FINISH GOES TO DECK IN ROOMS WITHOUT CEILINGS
9. ALL EXTERIOR WALLS EXTEND TO BOTTOM OF ROOF DECK
10. PROVIDE EXPANSION JOINT COVERS ON INTERIOR WALLS @ BUILDING EXPANSION JOINTS RE:SPECS
11. ALL SPACES W/ FLOOR DRAINS SHALL HAVE FINISHED FLOOR SLOPE TO DRAIN. VERIFY W/ ARCH. IN FIELD
12. ALL EQUIP. PADS SHALL BE AS PER STRUC. DWGS. COORDINATE SIZES, THICKNESS & LOCATIONS W/ MECH. CHAMFER EDGES
13. ALL EXTERIOR DOORS SHALL RECEIVE A THRESHOLD. THRESHOLD TO BE OF SUFFICIENT WIDTH TO COVER SIDEWALK TO FOUNDATION EXPANSION JOINT TO MAINTAIN ONLY 1/2" RISE & BE ADA COMPLIANT.
14. PROVIDE TRANSITION STRIPS @ ALL FLOOR FINISH TRANSITIONS PER SPECS., UNLESS NOTED OTHERWISE
15. ALL FLOOR MATERIAL CHANGES SHALL OCCUR @ CENTERLINE OF DOOR, UNLESS NOTED OTHERWISE
16. F.E.C. DENOTES FIRE EXTINGUISHER & CABINET
17. DASHED EQUIPMENT/ FURNITURE IS NOT IN CONTRACT (N.I.C.)
18. PROVIDE HORIZONTAL BLINDS @ ALL EXTERIOR WINDOWS, EXCEPT SIDELITES ADJACENT TO EXIT/ ENTRY DOORS. PROVIDE HORIZONTAL BLINDS @ ALL INTERIOR WINDOW LOCATIONS
19. SAWTOOTH ALL NEW MASONRY INTO EXISTING CMU OR BRICK
20. REPLACE ANY DAMAGED CEILING TILES IN THE INSTALLATION OF SPEAKERS AS SHOWN ON THE T SERIES DRAWINGS.
21. REPLACE THE PLASTER SOFFIT AS REQUIRED FOR THE INSTALLATION OF THE SPEAKERS AS SHOWN ON THE T SERIES DRAWINGS.
22. GENERAL NOTE: AN * INDICATED CURB AT BASE OF PARTITION. FOR BASE CONDITION, RE: 4 / A2.01
23. THE CONTRACTOR SHALL REMOVE CEILINGS (GYPSUM BOARD CEILINGS AND/OR CEILING TILES) AS NECESSARY TO INSTALL CONDENSATION LINES THROUGHOUT THE BUILDING. ONCE INSTALLED THE CONTRACTOR SHALL REPAIR, PATCH, OR REPLACE THE CEILINGS AS REQUIRED. THE CONTRACTOR SHALL REFER TO THE MECHANICAL SHEETS TO DETERMINE THE PATHS.
24. AN * INDICATED CURB AT THE BASE OF THE PARTION. RE: STRUCT.

NOTES - GENERAL FLOOR PLAN

1/4" = 1'-0"

1. REPLACE DOOR HARDWARE; RE: SPECS
2. EXISTING GLAZING TO RECEIVE IMPACT FILM; RE: SPECS
3. DISPLAY CASES; RE: SPECS.
4. SAWTOOTH 8" CMU AND TILE TO MATCH EXISTING WALL, REINSTALL STORED PLUMBING FIXTURE , MIRROR AND ACCESSORIES
5. PIPE RACK MATERIAL STORAGE; RE: 2 / A2.04
6. WALK IN PAINT BOOTH
7. REINSTALL STORED EXISTING PLUMBING FIXTURE
8. EXISTING SHOP EQUIPMENT
9. RELOCATED EXISTING BEWO WET METAL SAW
10. RELOCATED EXISTING FOREST CNC ROUTER
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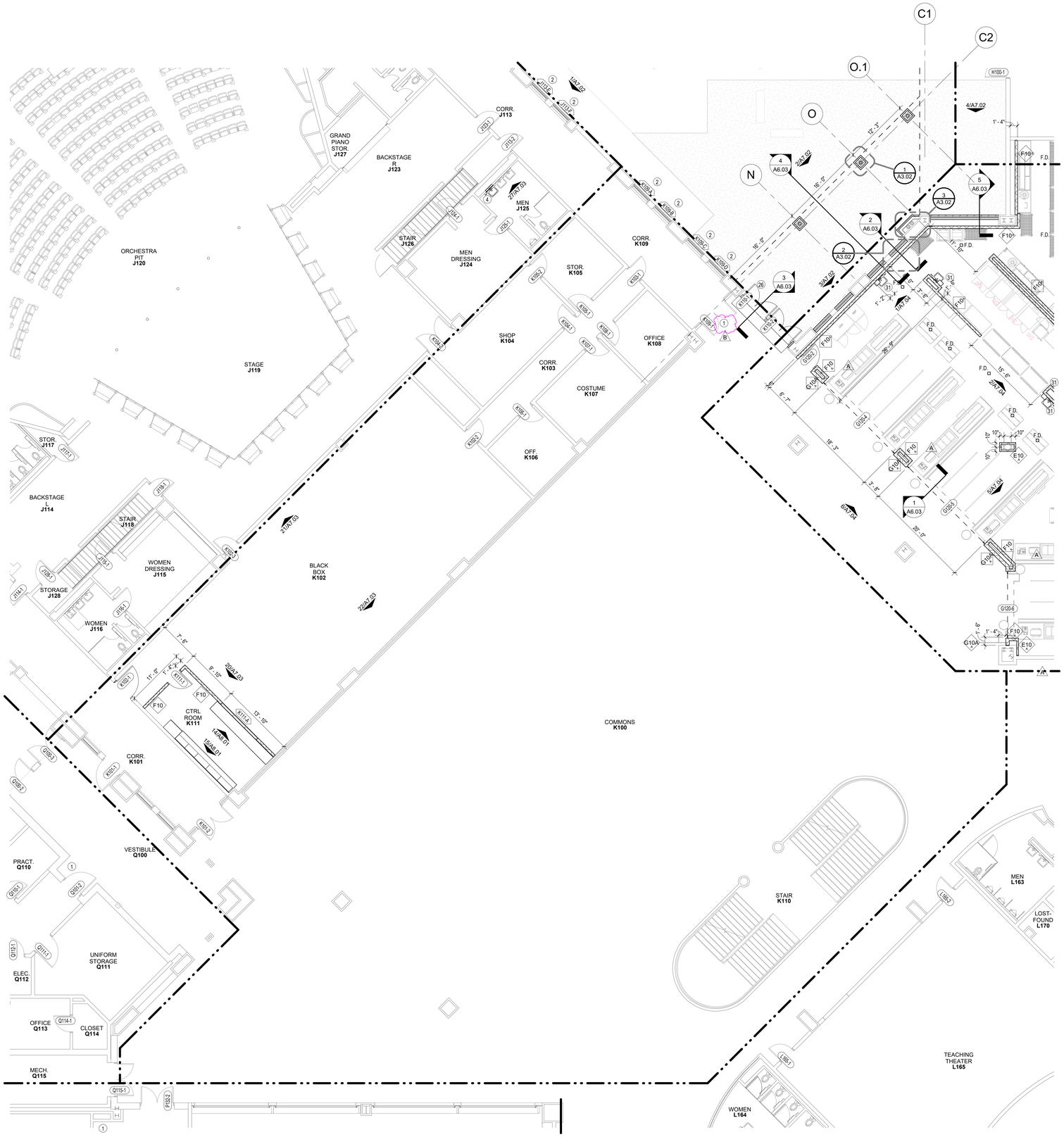

1 AREA 'K1' - 1ST FLOOR PLAN

1/8" = 1'-0"

PLAN NORTH

CONSULTANTS

STRUCTURAL
CJG Engineers
6051 North Course Dr. Suite 375
Houston, TX 77042
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REGISTERED ARCHITECT — STATE OF TEXAS

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A2.10

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KEYNOTES - FLOOR PLAN

1/4" = 1'-0"

AREA 'L1' - 1ST FLOOR PLAN

1/8" = 1'-0"

PLAN NORTH

CONSULTANTS

STRUCTURAL
CJG Engineers
6051 North Course Dr. Suite 375
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REGISTERED ARCHITECT JASON P. CAMPBELL 27120 STATE OF TEXAS

01/30/2025

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A2.11

AREA 'L1' 1ST FLOOR PLAN

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NOTES - GENERAL FLOOR PLAN

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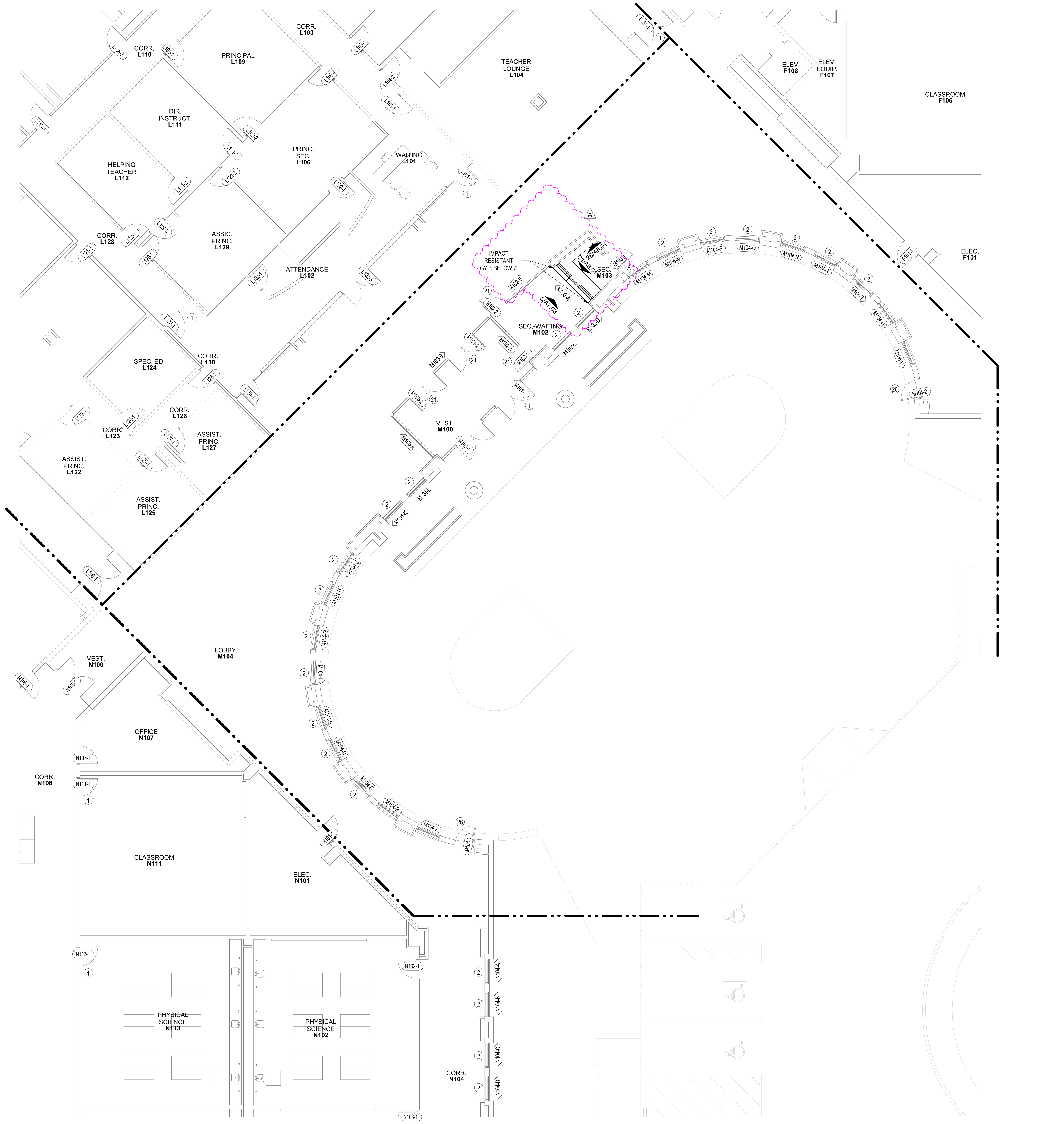

1 AREA 'M1' - 1ST FLOOR PLAN

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A2.12

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22. GENERAL NOTE: AN " INDICATED CURB AT BASE OF PARTITION. FOR BASE CONDITION, RE: 4 / A2.01
23. THE CONTRACTOR SHALL REMOVE CEILINGS (GYPSUM BOARD CEILINGS AND/OR CEILING TILES) AS NECESSARY TO INSTALL CONDENSATION LINES THROUGHOUT THE BUILDING. ONCE INSTALLED THE CONTRACTOR SHALL REPAIR, PATCH, OR REPLACE THE CEILINGS AS REQUIRED. THE CONTRACTOR SHALL REFER TO THE MECHANICAL SHEETS TO DETERMINE THE PATHS.
24. AN * INDICATED CURB AT THE BASE OF THE PARTION. RE: STRUCT. A

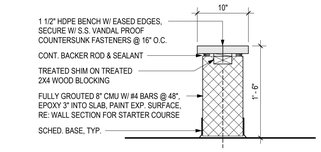
NOTES - GENERAL FLOOR PLAN

1/4" = 1'-0"

1. REPLACE DOOR HARDWARE; RE: SPECS
2. EXISTING GLAZING TO RECEIVE IMPACT FILM; RE: SPECS
3. DISPLAY CASES; RE: SPECS. A
4. SAWTOOTH 8" CMU AND TILE TO MATCH EXISTING WALL, REINSTALL STORED PLUMBING FIXTURE , MIRROR AND ACCESSORIES
5. PIPE RACK MATERIAL STORAGE; RE: 2 / A2.04
6. WALK IN PAINT BOOTH
7. REINSTALL STORED EXISTING PLUMBING FIXTURE
8. EXISTING SHOP EQUIPMENT
9. RELOCATED EXISTING BEWO WET METAL SAW
10. RELOCATED EXISTING FOREST CNC ROUTER
11. RELOCATED EXISTING HELIX EPILOG LASER
12. RELOCATED EXISTING ROCKWELL-INVICTA PLANER
13. RELOCATED EXISTING PERFORMAX DRUM SANDER
14. RELOCATED EXISTING DELTA SHAPER
15. RELOCATED EXISTING DELTA SHAPER
16. RELOCATED STORAGE FURNITURE
17. CORD REELS; RE: RCP
18. RELOCATED SHOP DESK/TABLE
19. CUBICLE CURTAIN
20. RELOCATED WENGER MUSIC STORAGE
21. REMOVE AND REPLACE GLAZING WITH G11 GLAZING RE: A9 DOOR ELEVATION AND SPECS
22. RELOCATED LOCKERS, FOR NEW BASE DETAIL AS NEEDED; RE: 3 / A2.01
23. RELOCATED LOCKERS, PROVIDE NEW FILL PANEL AND TOP AS REQ'D; RE: SPECS
24. NEW 6' LOCKER ROOM BENCHES, RE: 2 / A2.14
25. NEW 3' LOCKER ROOM BENCHES, RE: 2 / A2.14 B
26. PROVIDE NEW CARD READER AND ASSOCIATED HARDWARE, RE: ELEC & TECH & HARDWARE SPECS
27. RELOCATED PLOTTER/3D PRINTER
28. ADA BENCH; RE: 4 / A6.01
29. REINSTALL MICROPHONES
30. NEW EYE WASH STATION; RE: MEP
31. PAPER TOWER AND SOAP DISPENSER
32. NEW STORAGE SHELVING, 36" WIDE, RE: SPECS
33. NEW STORAGE SHELVING, 48" WIDE, RE: SPECS
34. NEW 2-TIER TYPE 'B' LOCKERS, RE: 2 / A2.01 & SPECS
35. PROVIDE NEW SEALANT AROUND POOL EDGE
36. DRYING RACK, RE: SPECS
37. NEW DOOR STATION AND ASSOCIATED HARDWARE, RE: ELEC & TECH & HARDWARE SPECS
38. NEW SCREEN WALL, RE: 14 / C1.11, 15 / C1.11, 16 / C1.11

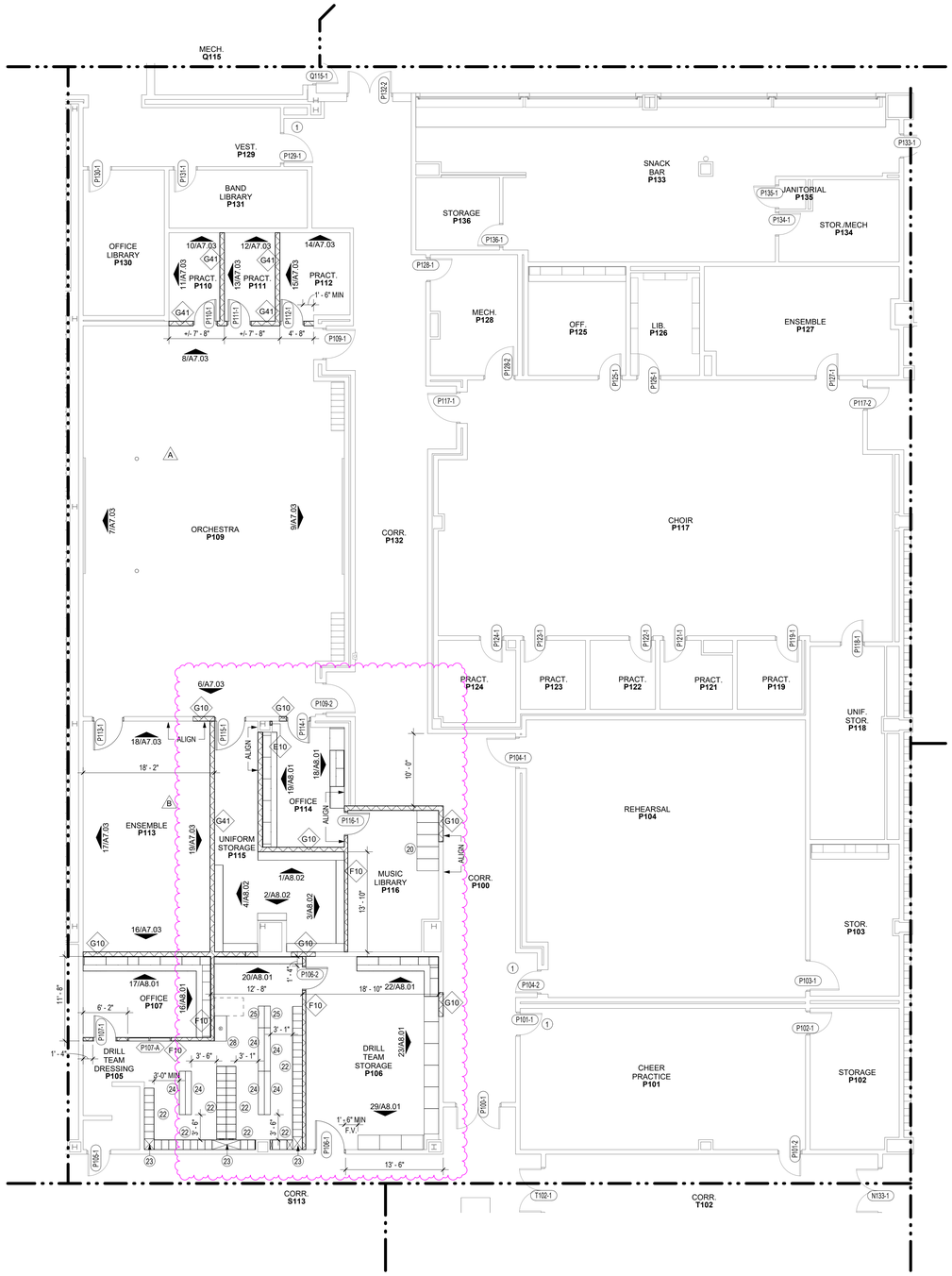
KEYNOTES - FLOOR PLAN

1/4" = 1'-0"



2 LCKR - BENCH HDPE-CMU

1" = 1'-0"



1 AREA 'P1' - 1ST FLOOR PLAN

1/8" = 1'-0"

PLAN NORTH

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CJG Engineers
6051 North Course Dr. Suite 375
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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD
9811 Huffmeister Rd, Houston, TX 77095

ARCADIS
TEXAS ARCADIS INC.
1330 POST OAK BOULEVARD, SUITE 2250
HOUSTON, TX 77056
tel 281.286.6605, fax 713.977.4620

01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	BN/VP
CHECKED:	CA

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A2.14

AREA 'P1' 1ST FLOOR PLAN

1. RE: G1 SERIES SHEETS FOR ACCESSIBLE MOUNTING HEIGHTS
2. RE: A6 SERIES SHEETS FOR PARTITION TYPES
3. RE: A9 SERIES SHEETS FOR DOOR & FRAME ELEVATIONS
4. RE: A11 SERIES SHEETS FOR FINISH SELECTIONS IN FINISH LEGEND
5. ALL CMU COLUMN FURROUTS SHALL BE 1' - 0" OFF COLUMN CENTER LINE, UNLESS NOTED OTHERWISE
6. MASONRY DIMENSIONS ARE NOMINAL
7. ALL DIMENSIONS ARE TO FINISH FACE OF EXTERIOR WALLS, FOUNDATION, MASONRY, METAL STUD FRAMING OR TO CENTER LINE OF COLUMN, UNLESS NOTED OTHERWISE
8. ALL WALL FINISH GOES TO DECK IN ROOMS WITHOUT CEILINGS
9. ALL EXTERIOR WALLS EXTEND TO BOTTOM OF ROOF DECK
10. PROVIDE EXPANSION JOINT COVERS ON INTERIOR WALLS @ BUILDING EXPANSION JOINTS RE:SPECS
11. ALL SPACES W/ FLOOR DRAINS SHALL HAVE FINISHED FLOOR SLOPE TO DRAIN. VERIFY W/ ARCH. IN FIELD
12. ALL EQUIP. PADS SHALL BE AS PER STRUC. DWGS. COORDINATE SIZES, THICKNESS & LOCATIONS W/ MECH. CHAMFER EDGES
13. ALL EXTERIOR DOORS SHALL RECEIVE A THRESHOLD. THRESHOLD TO BE OF SUFFICIENT WIDTH TO COVER SIDEWALK TO FOUNDATION EXPANSION JOINT TO MAINTAIN ONLY 1/2" RISE & BE ADA COMPLIANT
14. PROVIDE TRANSITION STRIPS @ ALL FLOOR FINISH TRANSITIONS PER SPECS., UNLESS NOTED OTHERWISE
15. ALL FLOOR MATERIAL CHANGES SHALL OCCUR @ CENTERLINE OF DOOR, UNLESS NOTED OTHERWISE
16. F.E.C. DENOTES FIRE EXTINGUISHER & CABINET
17. DASHED EQUIPMENT/ FURNITURE IS NOT IN CONTRACT (N.I.C.)
18. PROVIDE HORIZONTAL BLINDS @ ALL EXTERIOR WINDOWS, EXCEPT SIDELITES ADJACENT TO EXIT/ ENTRY DOORS. PROVIDE HORIZONTAL BLINDS @ ALL INTERIOR WINDOW LOCATIONS
19. SAWTOOTH ALL NEW MASONRY INTO EXISTING CMU OR BRICK
20. REPLACE ANY DAMAGED CEILING TILES IN THE INSTALLATION OF SPEAKERS AS SHOWN ON THE T SERIES DRAWINGS.
21. REPLACE THE PLASTER SOFFIT AS REQUIRED FOR THE INSTALLATION OF THE SPEAKERS AS SHOWN ON THE T SERIES DRAWINGS.
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24. AN ^ INDICATED CURB AT THE BASE OF THE PARTION. RE: STRUCT.

NOTES - GENERAL FLOOR PLAN

1/4" = 1'-0"

(1) REPLACE DOOR HARDWARE; RE: SPECS
(2) EXISTING GLAZING TO RECEIVE IMPACT FILM; RE: SPECS
(3) DISPLAY CASES; RE: SPECS.
(4) SAWTOOTH 8" CMU AND TILE TO MATCH EXISTING WALL, REINSTALL STORED PLUMBING FIXTURE , MIRROR AND ACCESSORIES
(5) PIPE RACK MATERIAL STORAGE; RE: 2 / A2.04
(6) WALK IN PAINT BOOTH
(7) REINSTALL STORED EXISTING PLUMBING FIXTURE
(8) EXISTING SHOP EQUIPMENT
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(14) RELOCATED EXISTING DELTA SHAPER
(15) RELOCATED EXISTING DELTA SHAPER
(16) RELOCATED STORAGE FURNITURE
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(20) RELOCATED WENGER MUSIC STORAGE
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(23) RELOCATED LOCKERS, PROVIDE NEW FILL PANEL AND TOP AS REQ'D; RE: SPECS
(24) NEW 6' LOCKER ROOM BENCHES, RE: 2 / A2.14
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(32) NEW STORAGE SHELVING, 36" WIDE, RE: SPECS
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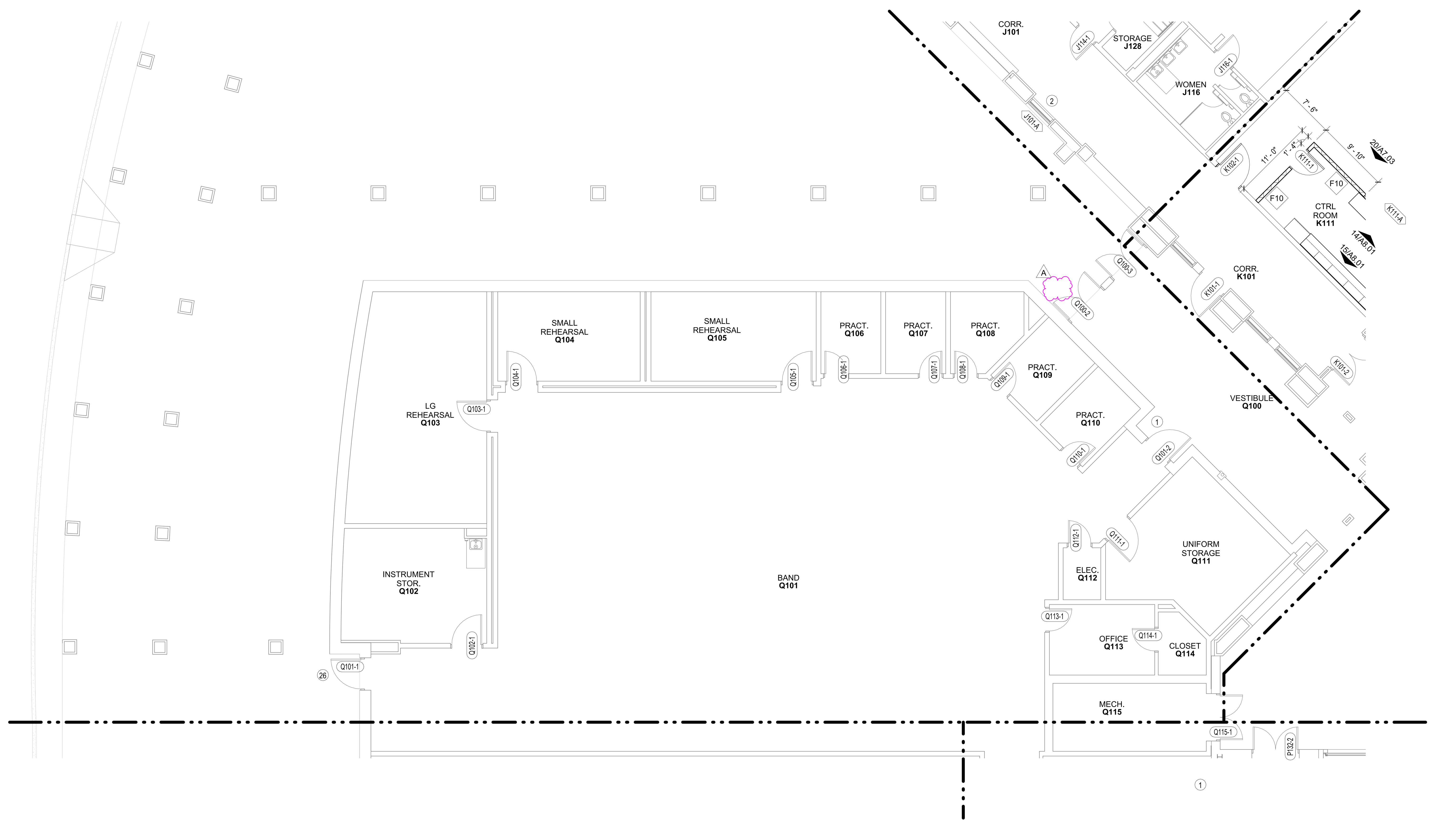
(38) NEW SCREEN WALL, RE: 14 / C1.11, 15 / C1.11, 16 / C1.11

KEYNOTES - FLOOR PLAN

1/4" = 1'-0"



1 AREA 'Q1' - 1ST FLOOR PLAN

1/8" = 1'-0"

PLAN NORTH

CONSULTANTS

STRUCTURAL
CJG Engineers
6051 North Course Dr. Suite 375
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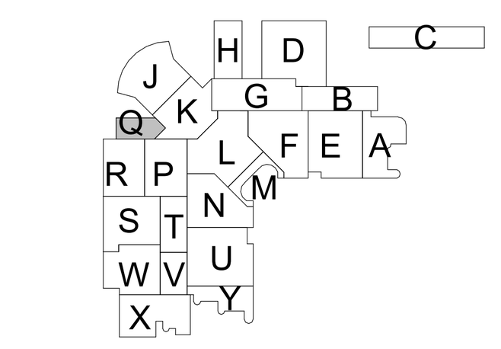

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD

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ARCADIS

TEXAS ARCADIS INC.
1330 POST OAK BOULEVARD, SUITE 2250
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tel 281.286.6605, fax 713.977.4620

REGISTERED ARCHITECT
STATE OF TEXAS
27120

01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	BN/VP
CHECKED:	CA

DATE	ISSUE	#
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM No. 05	A

A2.15

AREA 'Q1' 1ST FLOOR PLAN

AREA 'M1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
M100-A	E.T.R.	E.T.R.	13	E.T.R.	G11	REPLACE GLAZING WITH SECURITY GLAZING G11, EXISTING FRAME TO REMAIN	M100-A
M100-B	E.T.R.	E.T.R.	12	E.T.R.	G11	REPLACE GLAZING WITH SECURITY GLAZING G11, EXISTING FRAME TO REMAIN	M100-B
M102-A	E.T.R.	E.T.R.	10	E.T.R.	G11	REPLACE GLAZING WITH SECURITY GLAZING G11, EXISTING FRAME TO REMAIN	M102-A
M102-B	E.T.R.	E.T.R.	11	E.T.R.	G11	REPLACE GLAZING WITH SECURITY GLAZING G11, EXISTING FRAME TO REMAIN	M102-B
M102-C	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M102-C
M102-D	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M102-D
M103-A	2"	4 1/2"	5	ALUM.	G11	NEW WINDOW, PROVIDE BLINDS, SECURITY GLAZING	M103-A
M104-C	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-C
M104-D	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-D
M104-E	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-E
M104-F	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-F
M104-G	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-G
M104-H	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-H
M104-J	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-J
M104-K	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-K
M104-L	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-L
M104-M	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-M
M104-N	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-N
M104-P	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-P
M104-Q	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-Q
M104-R	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-R
M104-S	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-S
M104-T	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	M104-T

AREA 'N1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
N104-A	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	N104-A
N104-B	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	N104-B
N104-C	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	N104-C
N104-D	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	N104-D
N104-E	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	N104-E
N104-F	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	N104-F

AREA 'P1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
P107-A	2"	6"	9	H.M.	G2	NEW WINDOW, PROVIDE BLINDS	P107-A

AREA 'S1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
S109-A	E.T.R.	E.T.R.	7-E	E.T.R.	G4.	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	S109-A

AREA 'U1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
U105-A	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-A
U105-B	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-B
U105-C	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-C
U105-D	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-D
U105-E	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-E
U105-F	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-F
U105-G	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-G
U105-H	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-H
U105-J	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-J
U105-K	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-K
U105-L	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-L
U105-M	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	U105-M

AREA 'W1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
W100-1	E.T.R.	E.T.R.	7R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	W100-1
W108-2	E.T.R.	E.T.R.	7-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	W108-2

AREA 'X1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
X117-C	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	X117-C

AREA 'Y1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
Y101-A	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y101-A
Y101-B	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y101-B
Y101-C	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y101-C
Y101-D	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y101-D
Y101-E	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y101-E
Y101-F	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y101-F
Y122-A	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y122-A
Y122-B	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y122-B
Y122-C	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y122-C
Y122-D	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y122-D
Y122-E	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y122-E
Y122-F	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y122-F
Y122-G	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	Y122-G

AREA 'A2' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
A208-A	2 1/2"	6" "	4-E	ALUM.	G4	NEW WINDOW, PROVIDE BLINDS	A208-A
A208-B	2 1/2"	6" "	4-E	ALUM.	G4	NEW WINDOW, PROVIDE BLINDS	A208-B
A213-A	2 1/2"	6" "	4-E	ALUM.	G4	NEW WINDOW, PROVIDE BLINDS	A213-A
A213-B	2 1/2"	6" "	4-E	ALUM.	G4	NEW WINDOW, PROVIDE BLINDS	A213-B
A213-C	2 1/2"	6" "	4-E	ALUM.	G4	NEW WINDOW, PROVIDE BLINDS	A213-C
A213-D	2 1/2"	6" "	4-E	ALUM.	G4	NEW WINDOW, PROVIDE BLINDS	A213-D

AREA 'A1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
A101-A	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	A101-A
A101-B	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	A101-B
A101-C	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	A101-C
A101-D	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	A101-D
A101-E	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	A101-E
A101-F	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	A101-F
A129-A	2 1/2"	7 1/4"	2-E	ALUM.	G12	NEW WINDOW, PROVIDE BLINDS, IR FILM, RE: SPECS	A129-A
A129-B	2 1/2"	7 1/4"	3-E	ALUM.	G12	NEW WINDOW, PROVIDE BLINDS, IR FILM, RE: SPECS	A129-B
A130-A	2"	6"	3R	H.M.	G14	120 MIN. RATED GLAZING, PROVIDE BLINDS	A130-A
A130-B	2"	6"	3	H.M.	G14	120 MIN. RATED GLAZING, PROVIDE BLINDS	A130-B
A132-A	2 1/2"	7 1/4"	3-E	ALUM.	G4	NEW WINDOW, PROVIDE BLINDS	A132-A
A132-B	2 1/2"	7 1/4"	3-E	ALUM.	G4	NEW WINDOW, PROVIDE BLINDS	A132-B
A132-C	2 1/2"	7 1/4"	3-E	ALUM.	G4	NEW WINDOW, PROVIDE BLINDS	A132-C
A132-D	2"	6"	3	H.M.	G14	120 MIN. RATED GLAZING, PROVIDE BLINDS	A132-D
A132-E	2"	6"	3R	H.M.	G14	120 MIN. RATED GLAZING, PROVIDE BLINDS	A132-E

AREA 'B1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
B100-E	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	B100-E
B100-F	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	B100-F
B100-G	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	B100-G
B100-H	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	B100-H
B100-J	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	B100-J
B100-K	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	B100-K

AREA 'C1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
C100-A	E.T.R.	E.T.R.	5-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	C100-A
C100-B	E.T.R.	E.T.R.	5-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	C100-B
C100-C	E.T.R.	E.T.R.	5-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	C100-C
C100-F	E.T.R.	E.T.R.	5-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	C100-F
C100-G	E.T.R.	E.T.R.	5-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	C100-G
C100-H	E.T.R.	E.T.R.	5-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	C100-H

AREA 'D1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
D127-A	2"	6"	2	H.M.	G2	NEW WINDOW, PROVIDE BLINDS	D127-A
D129-A	2"	6"	7	H.M.	G2	NEW WINDOW, PROVIDE BLINDS	D129-A

AREA 'E1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
E100-A	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-A
E100-B	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-B
E100-C	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-C
E100-D	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-D
E100-E	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-E
E100-F	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-F
E100-G	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-G
E100-H	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-H
E100-J	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-J
E100-K	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-K
E100-L	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-L
E100-M	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	E100-M

AREA 'F1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
F100-A	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	F100-A
F100-B	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	F100-B
F100-C	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	F100-C
F100-D	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	F100-D
F100-E	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	F100-E
F100-F	E.T.R.	E.T.R.	6-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	F100-F

AREA 'G1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
G121-A	2"	6"	8	H.M.	G2	NEW WINDOW, PROVIDE BLINDS	G121-A
G121-B	2"	6"	8	H.M.	G2	NEW WINDOW, PROVIDE BLINDS	G121-B

AREA 'J1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
J101-A	E.T.R.	E.T.R.	12R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J101-A
J101-C	E.T.R.	E.T.R.	12-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J101-C
J101-D	E.T.R.	E.T.R.	12R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J101-D
J103-B	E.T.R.	E.T.R.	12R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J103-B
J103-C	E.T.R.	E.T.R.	12-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J103-C
J103-D	E.T.R.	E.T.R.	12R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J103-D
J104-B	E.T.R.	E.T.R.	10R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J104-B
J109-A	E.T.R.	E.T.R.	11-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J109-A
J109-B	E.T.R.	E.T.R.	11R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J109-B
J113-A	E.T.R.	E.T.R.	12-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J113-A
J113-B	E.T.R.	E.T.R.	12R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J113-B
J113-C	E.T.R.	E.T.R.	12-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J113-C
J113-D	E.T.R.	E.T.R.	12R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J113-D
J113-E	E.T.R.	E.T.R.	12-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J113-E
J113-F	E.T.R.	E.T.R.	12R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	J113-F

AREA 'K1' - WINDOW SCHEDULE

MARK	FRAME WIDTH	FRAME DEPTH	FRAME ELEV.	FRAME MATERIAL	GLASS TYPE	COMMENTS	MARK
K109-A	E.T.R.	E.T.R.	12-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	K109-A
K109-B	E.T.R.	E.T.R.	12R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	K109-B
K109-C	E.T.R.	E.T.R.	12-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	K109-C
K109-D	E.T.R.	E.T.R.	12R-E	E.T.R.	IR	EXISTING TO REMAIN, NEW IR FILM ON EXIST. GLAZING	K109-D
K111-A	2"	6"	6	H.M.	G2	NEW WINDOW, PROVIDE BLINDS	K111-A

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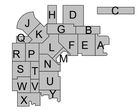

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD

9811 Huffmeister Rd, Houston, TX 77095

ARCADIS

TEXAS ARCADIS INC.
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REGISTERED ARCHITECT — JASON K. CAMPBELL — 27120 — STATE OF TEXAS

01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	BN
CHECKED:	CA

DATE	ISSUE
2025-01-13	PERMIT AND PROPOSAL
2025-01-30	ADDENDUM No. 05 A

A2.31

WINDOW SCHEDULES

PRESSBOXES - ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISHES: FLOOR	FLOOR FINISHES: BASE	WALL FINISH(S) COOR. W/ A7 & A11	COMMENTS	ROOM #
AS102.1	FOOTBALL PRESSBOX	LVT-1	RB-1	PT-6,2 A		AS102.1
AS102.2	FOOTBALL PRESSBOX	LVT-1	RB-1	PT-6,2		AS102.2
AS103	BASEBALL PRESSBOX	LVT-1	RB-1	PT-2, PT-6		AS103
AS104	SOFTBALL PRESSBOX	LVT-1	RB-1	PT-2, PT-6		AS104

AREA 'A1' - ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISHES: FLOOR	FLOOR FINISHES: BASE	WALL FINISH(S) COOR. W/ A7 & A11	COMMENTS	ROOM #
A117	STAIR	E.T.R, TRZ-1	E.T.R	PT-1		A117
A129	LOBBY	PC-1	SGTB-1	PT-1		A129
A130	ART DIGITAL	PC-1	RB-1	PT-1, 2		A130
A131	WORKROOM	PC-1	RB-1	PT-1		A131
A132	ART	PC-1	RB-1	PT-1, 2		A132
A133	STORAGE	PC-1	RB-1	PT-1		A133
A134	MECH	SC-1	RB-1	PT-1		A134
A135	IDF	SC-1	RB-1	PT-1		A135

AREA 'B1' - ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISHES: FLOOR	FLOOR FINISHES: BASE	WALL FINISH(S) COOR. W/ A7 & A11	COMMENTS	ROOM #
B129	ROTC. STOR/DRESSING	MCT-1	RB-1	PT-1		B129
B130	SECURE STOR.	MCT-1	RB-1	PT-1		B130

AREA 'D1' - ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISHES: FLOOR	FLOOR FINISHES: BASE	WALL FINISH(S) COOR. W/ A7 & A11	COMMENTS	ROOM #
D100	VESTIBULE	EPX-1	E.T.R	E.T.R		D100
D101	NATATORIUM	EPX-1	E.T.R	E.T.R		D101
D102	OFFICE	EPX-1	E.T.R	E.T.R		D102
D105	BOYS LOCKERS	EPX-1	E.T.R	E.T.R		D105
D110	PREP	EPX-1	E.T.R	E.T.R		D110
D112	GIRLS LOCKERS	EPX-1	E.T.R	E.T.R		D112
D114	VESTIBULE	EPX-1	E.T.R	E.T.R		D114
D121	TECH CLASSROOM	MCT-1	RB-1	PT-1		D121
D125	STORAGE	MCT-1 A	RB-1	PT-1		D125
D126	SHOP CLASS	MCT-1	RB-1	PT-1		D126
D127	OFFICE	MCT-1	RB-1	PT-1		D127
D128	PRODUCTION SYSTEMS	PC-1	RB-1	PT-1, PT-4		D128
D129	CTE ENGINEERING CR	MCT-1 A	RB-1	PT-1		D129
D134	MATERIAL STOR.	PC-1	RB-1	PT-1		D134
D135	STOR.	PC-1	RB-1	PT-1		D135
D136	STOR.	PC-1	RB-1	PT-1		D136
D137	STOR.	PC-1	RB-1	PT-1		D137
D138	STOR.	PC-1	RB-1	PT-1		D138
D139	STOR.	PC-1	RB-1	PT-1		D139
D140	STOR.	PC-1	RB-1	PT-1		D140
D141	TOOL STOR.	PC-1	RB-1	PT-1		D141
D148	CUSTODIAL	E.T.R	E.T.R	E.T.R		D148
D148A	IDF	SC-1	RB-1	PT-1		D148A

AREA 'G1' - ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISHES: FLOOR	FLOOR FINISHES: BASE	WALL FINISH(S) COOR. W/ A7 & A11	COMMENTS	ROOM #
G120	KITCHEN	TF-1, TF-3 A	TB-3	TW-1A, 1B, 2, 3, 4, 5, 6, PT-1		G120
G121	OFFICE	TF-3	TB-3	PT-1		G121
G122	VESTIBULE/LR	TF-3	TB-3	PT-1		G122
G123	RR	TF-3	TB-3	PT-1		G123
G124	RR	TF-3	TB-3	PT-1		G124
G125	LAUNDRY	TF-3	TB-3	PT-1		G125
G126	WASHWARE	TF-3	TB-3	PT-1		G126
G127	DRY STORAGE	TF-3	TB-3	PT-1		G127
G128	FREEZER	TF-3	-	PT-1	STAINLESS STEEL BASE; REFER TO 11/FS101.1	G128
G129	COOLER	TF-3	-	PT-1	STAINLESS STEEL BASE; REFER TO 11/FS101.1	G129

AREA 'K1' - ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISHES: FLOOR	FLOOR FINISHES: BASE	WALL FINISH(S) COOR. W/ A7 & A11	COMMENTS	ROOM #
K102	BLACK BOX	MCT-2	RB-1	PT-8		K102
K111	CTRL ROOM	MCT-2	RB-1	PT-8		K111

AREA 'P1' - ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISHES: FLOOR	FLOOR FINISHES: BASE	WALL FINISH(S) COOR. W/ A7 & A11	COMMENTS	ROOM #
P105	DRILL TEAM DRESSING	EPX-1	RB-1	PT-2,4		P105
P106	DRILL TEAM STORAGE	MCT-1	RB-1	PT-1		P106
P107	OFFICE	MCT-1	RB-1	PT-1		P107
P109	ORCHESTRA	CPT-1	RB-1	PT-2,3,4,5		P109
P110	PRACT.	CPT-1	RB-1	PT-2		P110
P111	PRACT.	CPT-1	RB-1	PT-2		P111
P112	PRACT.	CPT-1	RB-1	PT-2		P112
P113	ENSEMBLE	CPT-1	RB-1	PT-2		P113
P114	OFFICE	CPT-1	RB-1	PT-2		P114
P115	UNIFORM STORAGE	MCT-1	RB-1	PT-1		P115
P116	MUSIC LIBRARY	MCT-1	RB-1	PT-1		P116
P132	CORR.	E.T.R	E.T.R	PT-1		P132

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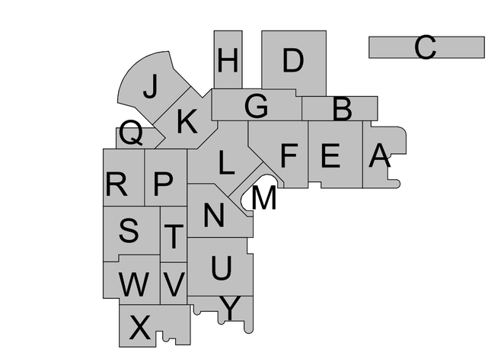

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01/30/2025

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DATE	ISSUE
2025-01-13	PERMIT AND PROPOSAL
2025-01-30	ADDENDUM No. 05 A

A2.32

ROOM FINISH SCHEDULES

PLAN NORTH

AREA 'Q1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
Q101-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	Q101-1
Q101-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	Q101-2

AREA 'R1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
R100-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	R100-1
R119-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	R119-1
R119-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	R119-2
R121-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	R121-1

AREA 'S1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
S107-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	S107-1
S107-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	S107-2
S107-3	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	S107-3
S107-4	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	S107-4
S109-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	S109-2

AREA 'T1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
T101-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	T101-1
T133-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	T133-1
T134-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	T134-1

AREA 'U1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
U105-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	U105-1
U106-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	U106-1
U107-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	U107-1
U109-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	U109-1
U110-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	U110-1
U113-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	U113-1
U115-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	U115-1
U119-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	U119-1
U120-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	U120-1
U121-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	U121-1
U126-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	U126-1
U129-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	U129-1
U131-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	U131-1

AREA 'V1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK

AREA 'W1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
W100-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	W100-2
W101-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	W101-1
W101-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	W101-2
W101-3	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	W101-3
W101-4	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	W101-4
W101-5	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	W101-5
W101-6	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	W101-6
W108-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	W108-2

AREA 'X1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
X100-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	X100-1
X100-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	X100-2
X101-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	X101-1
X102-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	X102-1
X111-3	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	X111-3
X117-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	X117-1

AREA 'Y1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
Y100-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	Y100-1
Y102-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	Y102-1
Y103-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	Y103-1
Y109-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	Y109-1
Y116-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	Y116-1
Y116-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	Y116-2
Y121-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	Y121-2

AREA 'F1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
F100-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	NEW CARD READER, RE: SPECS	F100-1
F104-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F104-1
F105-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F105-1
F106-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F106-1
F111-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F111-1
F116-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F116-1
F117-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F117-1
F118-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F118-1
F119-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F119-1
F120-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F120-1
F121-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F121-1
F122-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	F122-1

AREA 'G1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
G105-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	G105-1
G109-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	G109-1
G112-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	G112-1
G112-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	G112-2
G115-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	G115-1
G115-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	G115-2
G116-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	G116-1
G118-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	G118-1
G120-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR & FRAME FOR NEW SWING	G120-1
G120-2	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	G120-2
G120-3	4' - 0"	7' - 2"	S	B	H.M.	-	2"	6"	1-E	H.M.	-	NEW EXTERIOR DOOR WITH DOOR STATION, RE: TECH, SPECS	G120-3
G120-4	18' - 3"	9' - 0"	-	Q	RE-SPECS	-			-	ALUM.	-	NEW OVERHEAD COILING PERFORATED SLAT DOOR	G120-4
G120-5	20' - 0"	9' - 0"	-	Q	RE-SPECS	-			-	ALUM.	-	NEW OVERHEAD COILING PERFORATED SLAT DOOR	G120-5
G120-6	12' - 0"	9' - 0"	-	Q	RE-SPECS	-			-	ALUM.	-	NEW OVERHEAD COILING PERFORATED SLAT DOOR	G120-6
G121-1	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	-	NEW DOOR	G121-1
G122-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	G122-1
G123-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	G123-1
G124-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	G124-1
G125-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	G125-1
G127-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	G127-1

AREA 'J1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
J100-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	J100-1
J100-3	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	J100-3
J110-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	J110-1
J110-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	J110-2
J110-4	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	J110-4
J121-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	J121-1
J121-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	J121-2
J121-3	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	J121-3
J121-4	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	J121-4

AREA 'K1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
K102-1	4' - 0"	7' - 2"	S	B	H.M.	-	2"	6"	1	H.M.	-	NEW DOOR	K102-1
K109-1	3' - 0"	7' - 0"	PR	AA	ALUM.	G2	1 3/4"	4 1/2"	1	ALUM.	FR	REPLACE DOOR HARDWARE; RE: SPECS	K109-1
K110-1	3' - 0"	8' - 8"	PR	AA	ALUM.	G12	2 1/2"	7 1/4"	1-E	ALUM.	-	NEW EXTERIOR DOOR AND CARD READER	K110-1
K110-2	3' - 0"	8' - 8"	PR	AA	ALUM.	G12	2 1/2"	7 1/4"	1-E	ALUM.	-	NEW EXTERIOR DOOR	K110-2
K111-1	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	-	NEW DOOR	K111-1

AREA 'L1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
L101-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	L101-1
L128-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	L128-1
L131-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	L131-1
L161-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	L161-1
L161-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	L161-2
L167-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	L167-1
L167-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	L167-2
L171-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	L171-1

AREA 'M1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
M100-2	3' - 0"	8' - 6"	PR	A1A1	E.T.R.	G11	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE GLAZING WITH G11 GLAZING, DOOR AND FRAME TO REMAIN	M100-2
M101-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	M101-1
M101-2	3' - 0"	8' - 6"	PR	A1A1	E.T.R.	G11	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE GLAZING WITH G11 GLAZING, DOOR AND FRAME TO REMAIN	M101-2
M102-1	3' - 0"	8' - 6"	S	A1	E.T.R.	G11	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE GLAZING WITH G11 GLAZING, DOOR AND FRAME TO REMAIN, E.T.R. CARD READER	M102-1
M102-2	3' - 0"	8' - 6"	S	A1	E.T.R.	G11	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE GLAZING WITH G11 GLAZING, DOOR AND FRAME TO REMAIN, E.T.R. CARD READER	M102-2
M104-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	M104-1
M104-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	M104-2

AREA 'N1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
N104-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	N104-1
N111-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	N111-1
N113-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	N113-1
N116-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	N116-1
N118-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	N118-1
N118-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	N118-2
N120-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	N120-1
N126-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	N126-1

AREA 'P1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
P101-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	P101-1
P104-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	P104-2
P106-1	4' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	FR	NEW DOOR	P106-1
P106-2	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	P106-2
P107-1	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	-	NEW DOOR	P107-1
P110-1	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	SOUND CONTROL	NEW SOUND CONTROL DOOR	P110-1
P111-1	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	SOUND CONTROL	NEW SOUND CONTROL DOOR	P111-1
P112-1	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	SOUND CONTROL	NEW SOUND CONTROL DOOR	P112-1
P113-1	4' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	SOUND CONTROL	NEW SOUND CONTROL DOOR	P113-1
P114-1	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	SOUND CONTROL	NEW SOUND CONTROL DOOR	P114-1
P115-1	4' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	P115-1
P116-1	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	-	NEW DOOR	P116-1
P129-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	P129-1

NOTE: 1. IF A DOOR TAG IS SHOWN ON THE PLAN BUT IT IS NOT SHOWN ON THE DOOR SCHEDULE NOR DOES IT HAVE A KEYNOTE NEXT TO THE DOOR TAG, THEN IT IS SHOWN ONLY FOR REFERENCE.
2. FR = EXISTING FIRE RATED DOOR
3. GATE AND DOOR SCOPE FOR SITE LISTED ON SHEET C1.12

AREA 'A1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
A100-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER	A100-1
A103-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	A103-1
A104-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER	A104-1
A117-1	3' - 0"	7' - 2"	S	X	S.C.P.L.	G15	2"	6"	1	H.M.	90	NEW DOOR, FIRE RATED	A117-1
A117-2	0"	0"	-	-	-	-	2"	6"	1	H.M.	-	NEW CASED OPENING	A117-2
A118-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	A118-1
A118-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	A118-2
A127-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER	A127-1
A128-1	4' - 0"	7' - 2"	S	X	H.M.	G15	2"	6"	1	H.M.	90	NEW DOOR, FIRE RATED	A128-1
A129-1	3' - 0"	7' - 0"	PR	AA	ALUM.	G12			-	-	-	NEW EXTERIOR DOOR, RE: WINDOW SCHED. FOR FRAME SIZE AND MATERIAL	A129-1
A129-2	3' - 0"	7' - 0"	PR	AA	ALUM.	G12			-	-	-	NEW EXTERIOR DOOR, NEW CARD READER, RE: WINDOW SCHED. FOR FRAME SIZE AND MATERIAL	A129-2
A130-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-			-	ALUM.	90	NEW DOOR, FIRE RATED. FRAME TO BE PROVIDED BY FIRE-GLAZING MANUF. AS NEEDED TO ACHIEVE REQUIRED RTG	A130-1
A130-2	3' - 0"	7' - 2"	S	B	S.C.P.L.	-			-	ALUM.	90	NEW DOOR, FIRE RATED. FRAME TO BE PROVIDED BY FIRE-GLAZING MANUF. AS NEEDED TO ACHIEVE REQUIRED RTG	A130-2
A131-1	4' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	A131-1
A132-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-			-	ALUM.	90	NEW DOOR, FIRE RATED. FRAME TO BE PROVIDED BY FIRE-GLAZING MANUF. AS NEEDED TO ACHIEVE REQUIRED RTG	A132-1
A132-2	3' - 0"	7' - 2"	S	B	S.C.P.L.	-			-	ALUM.	90	NEW DOOR, FIRE RATED. FRAME TO BE PROVIDED BY FIRE-GLAZING MANUF. AS NEEDED TO ACHIEVE REQUIRED RTG	A132-2
A133-1	4' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	A133-1
A134-1	3' - 0"	8' - 6"	PR	BB	H.M.	-	2"	6"	1-E	H.M.	-	NEW EXTERIOR DOOR	A134-1
A135-1	3' - 0"	8' - 6"	S	B	H.M.	-	2"	6"	1-E	H.M.	-	NEW EXTERIOR DOOR	A135-1

AREA 'B1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
B100-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	B100-2
B101-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	B101-1
B104-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER	B104-1
B114-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	B114-1
B115-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	B115-1
B117-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	B117-1
B118-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	B118-1
B119-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	B119-1
B120-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	B120-1
B122-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	B122-1
B126-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	B126-1
B126-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	B126-2
B129-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	B129-1
B130-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	B130-1

AREA 'C1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
C100-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	C100-1
C101-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	C101-2
C106-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	C106-2
C115-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	C115-1
C115-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	C115-2
C116-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	C116-1
C116-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	C116-2
C120-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	C120-1
C124-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	C124-1

AREA 'D1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
D100-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	D100-1
D114-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	D114-1
D120-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	D120-1
D121-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	D121-1
D121-2	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	-	NEW DOOR	D121-2
D125-1	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	-	NEW DOOR	D125-1
D125-2	3' - 0"	7' - 2"	S	C	S.C.P.L.	G2	2"	6"	1	H.M.	-	NEW DOOR	D125-2
D127-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-			-	ALUM.	-	NEW DOOR	D127-1
D128-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	D128-1
D128-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	D128-2
D129-2	3' - 0"	7' - 2"	S	B	S.C.P.L.	-			-	ALUM.	-	NEW DOOR	D129-2
D134-1	3' - 0"	7' - 9"	PR	LL	WIRE MESH	-			-	GALV.	-	NEW WIRE MESH DOOR	D134-1
D134-2	3' - 0"	8' - 6"	PR	BB	H.M.	-	2"	6"	1-E	H.M.	-	NEW EXTERIOR DOOR	D134-2
D135-1	3' - 0"	7' - 0"	S	L	WIRE MESH	-			-	GALV.	-	NEW WIRE MESH DOOR	D135-1
D136-1	3' - 0"	7' - 0"	S	L	WIRE MESH	-			-	GALV.	-	NEW WIRE MESH DOOR	D136-1
D137-1	3' - 0"	7' - 0"	S	L	WIRE MESH	-			-	GALV.	-	NEW WIRE MESH DOOR	D137-1
D138-1	3' - 0"	7' - 0"	S	L	WIRE MESH	-			-	GALV.	-	NEW WIRE MESH DOOR	D138-1
D139-1	3' - 0"	7' - 0"	S	L	WIRE MESH	-			-	GALV.	-	NEW WIRE MESH DOOR	D139-1
D140-1	3' - 0"	7' - 0"	S	L	WIRE MESH	-			-	GALV.	-	NEW WIRE MESH DOOR	D140-1
D141-1	3' - 0"	7' - 0"	S	L	WIRE MESH	-			-	GALV.	-	NEW WIRE MESH DOOR	D141-1
D143-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	D143-1
D143-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	D143-2
D148A-1	3' - 0"	7' - 2"	S	B	S.C.P.L.	-	2"	6"	1	H.M.	-	NEW DOOR	D148A-1

AREA 'E1' - DOOR SCHEDULE

	DOOR SLAB						DOOR FRAME						
MARK	WIDTH	HEIGHT	S/ PR	ELEV.	MATERIAL	GLASS	WIDTH	DEPTH	ELEV.	MATERIAL	FIRE R.	COMMENTS	MARK
E100-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	NEW CARD READER, RE: SPECS	E100-1
E102-2	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	E102-2
E106-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	E106-1
E107-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	E107-1
E108-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E108-1
E109-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E109-1
E110-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E110-1
E111-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E111-1
E112-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	-	REPLACE DOOR HARDWARE; RE: SPECS	E112-1
E114-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E114-1
E115-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E115-1
E116-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E116-1
E119-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E119-1
E120-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E120-1
E121-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E121-1
E123-1	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	E.T.R.	FR	REPLACE DOOR HARDWARE; RE: SPECS	E123-1

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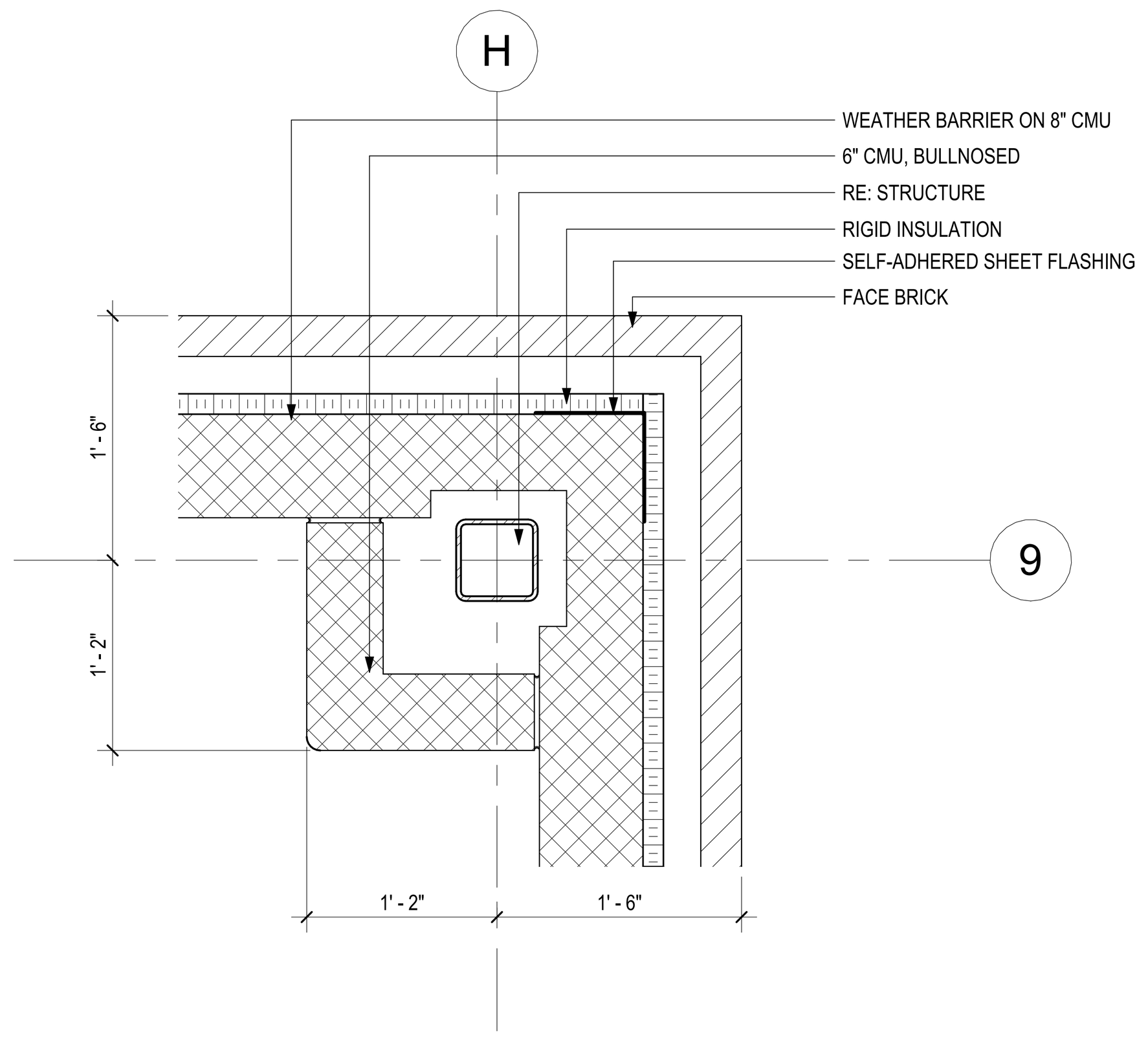
LAURA J. CARROLL
27120
01/30/2025

PROJECT #: 202318
DATE: 2025-01-13
DRAWN: BN
CHECKED: -

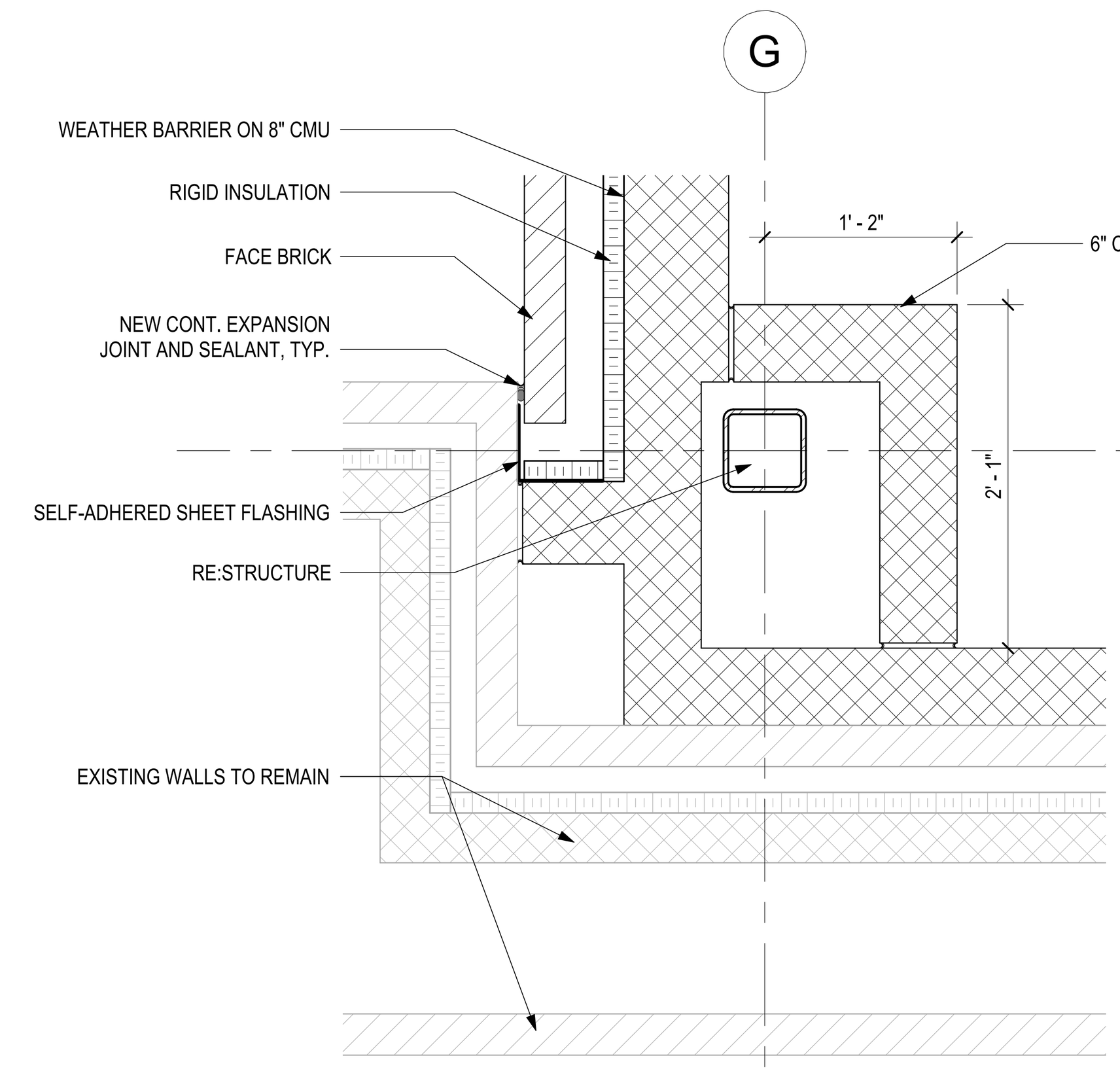
DATE	ISSUE	#
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A2.33

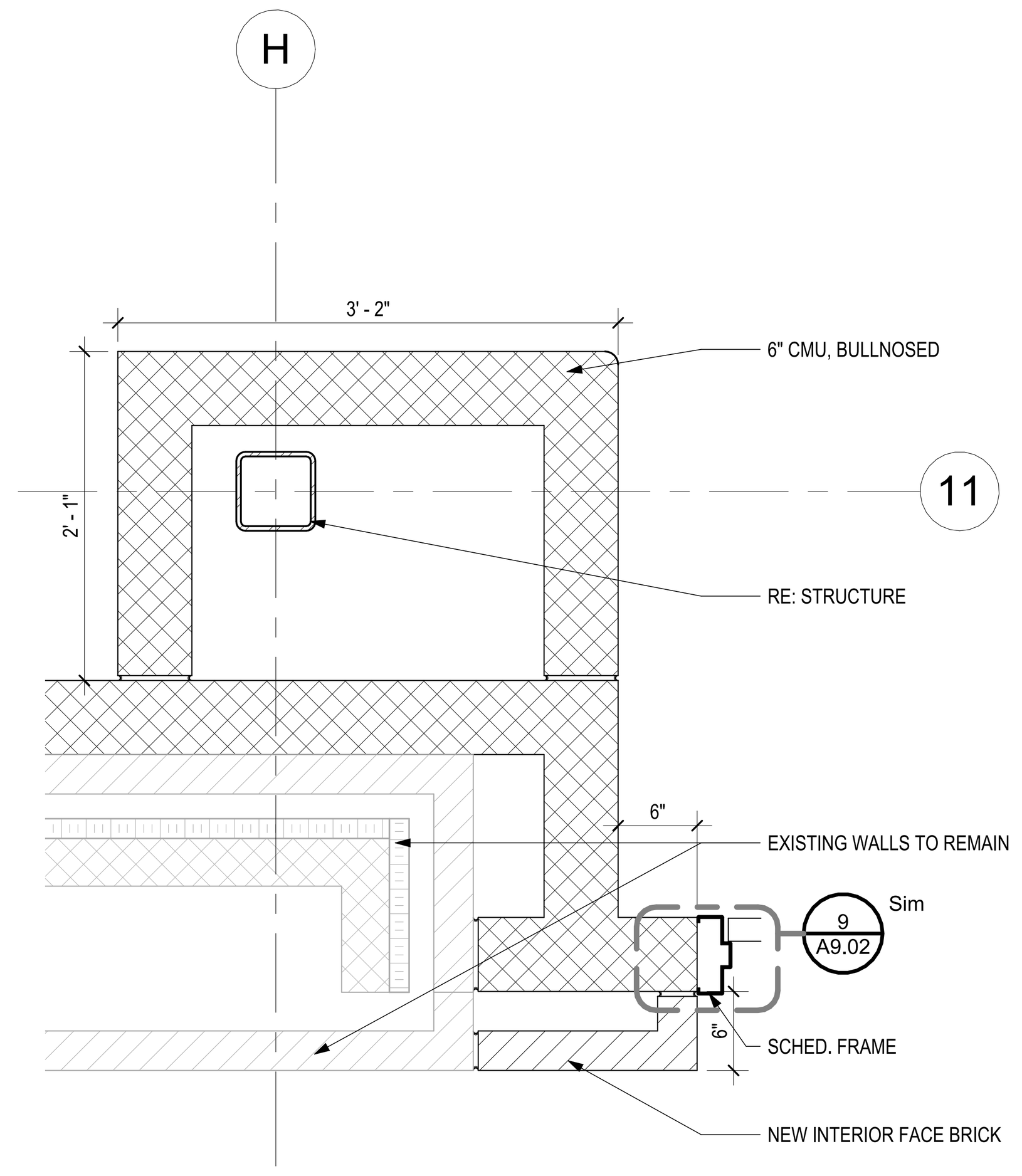
DOOR SCHEDULES



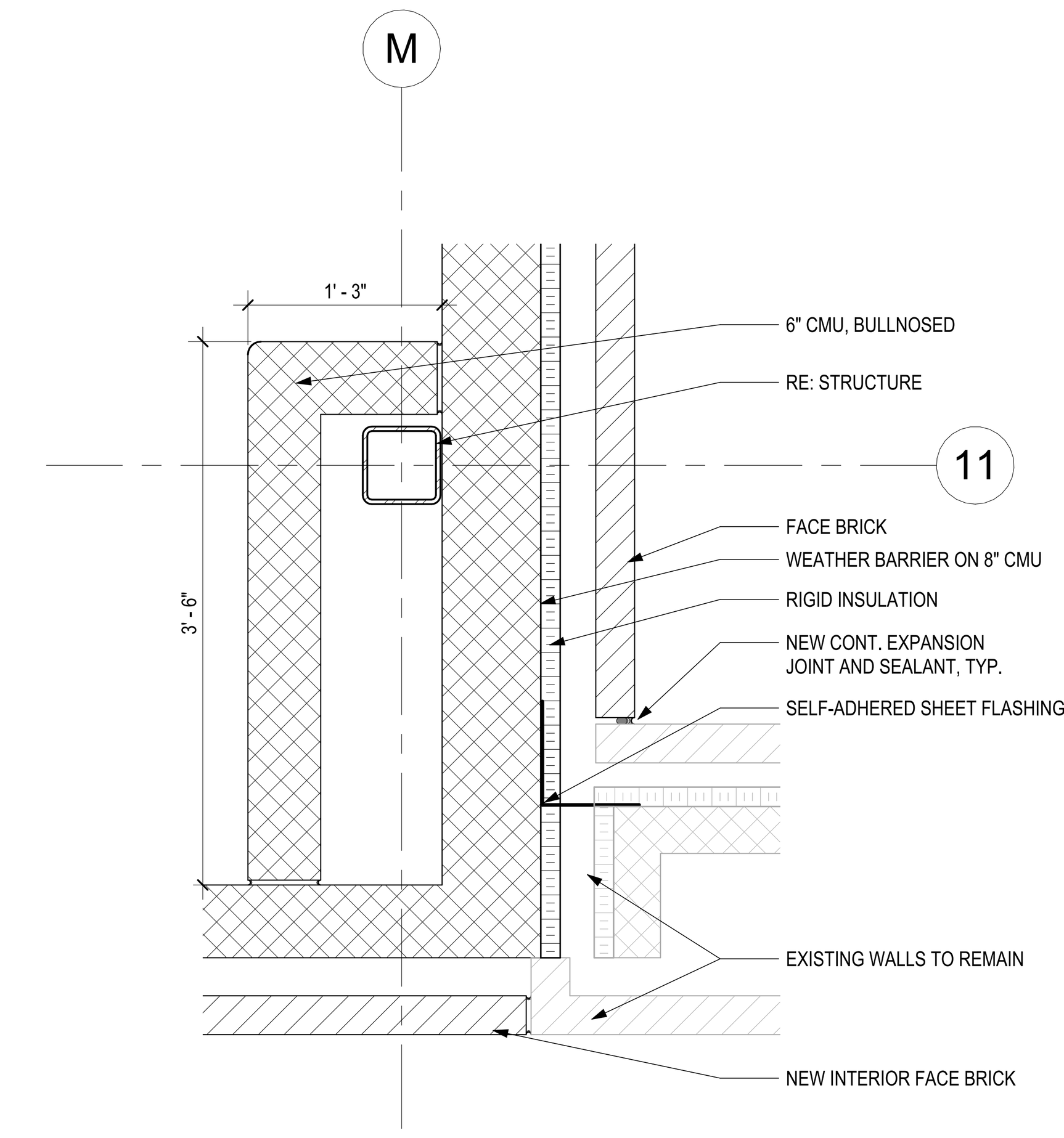
14 COL H-9 - PLAN DETAIL
1" = 1'-0"



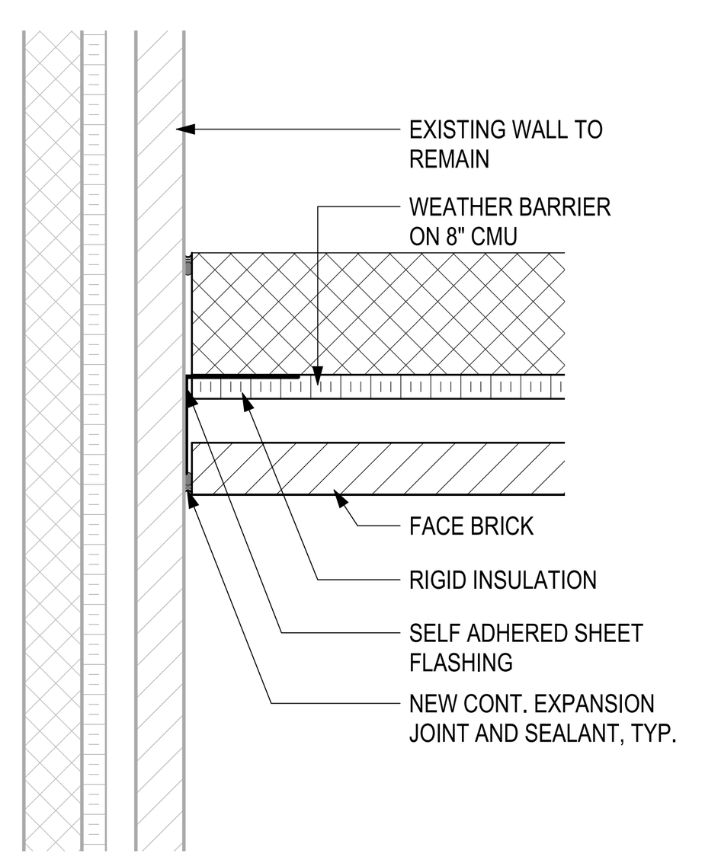
13 COL G-11 - PLAN DETAIL
1" = 1'-0"



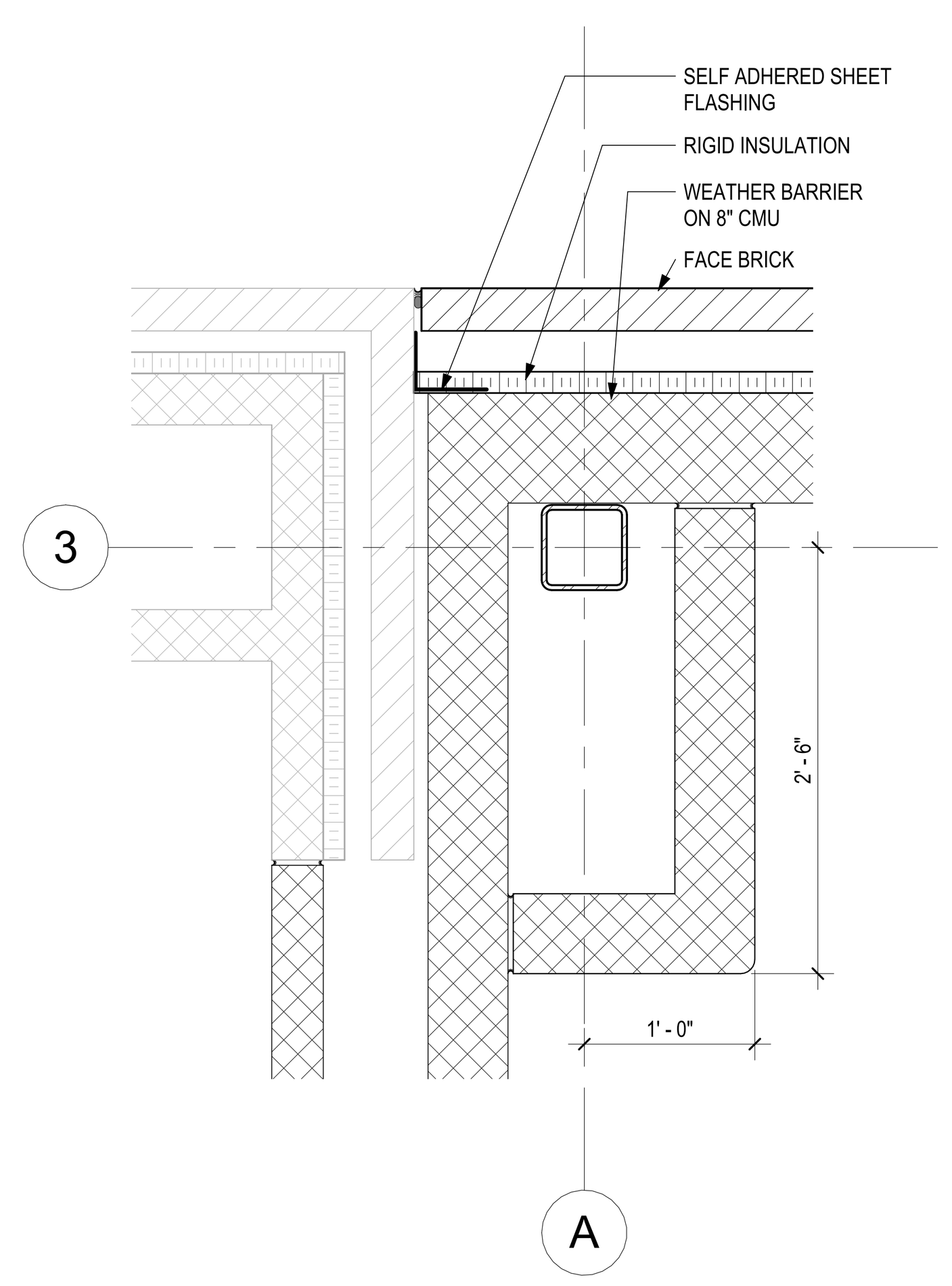
12 COL H-11 - PLAN DETAIL
1" = 1'-0"



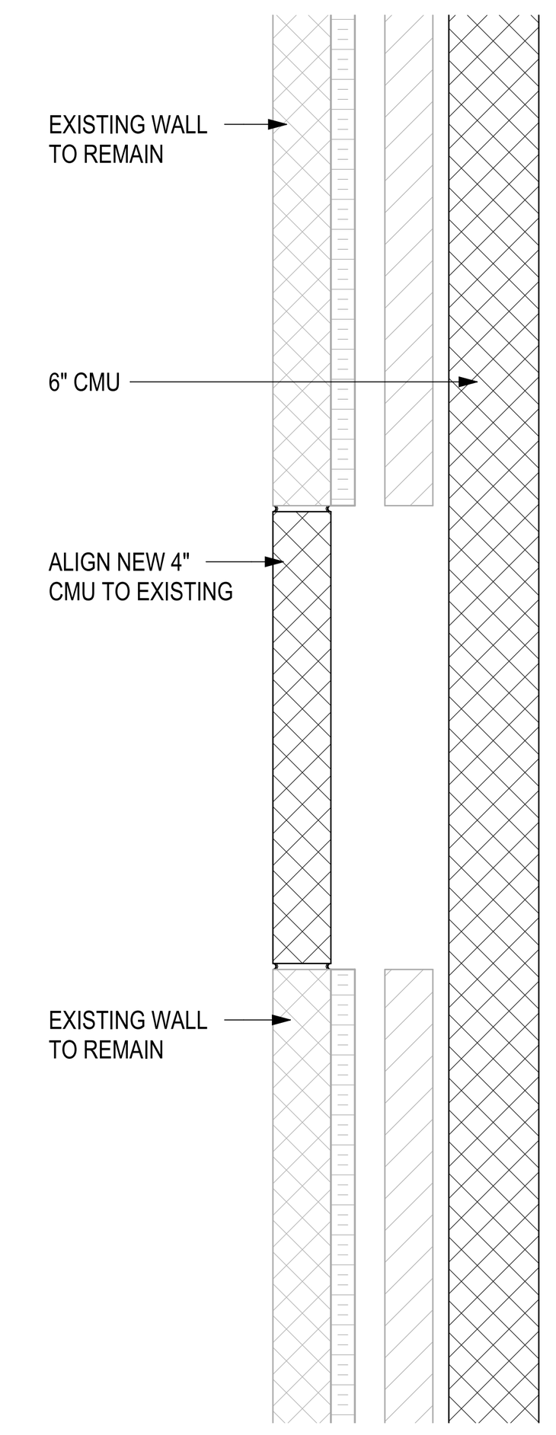
11 COL M-11 - PLAN DETAIL
1" = 1'-0"



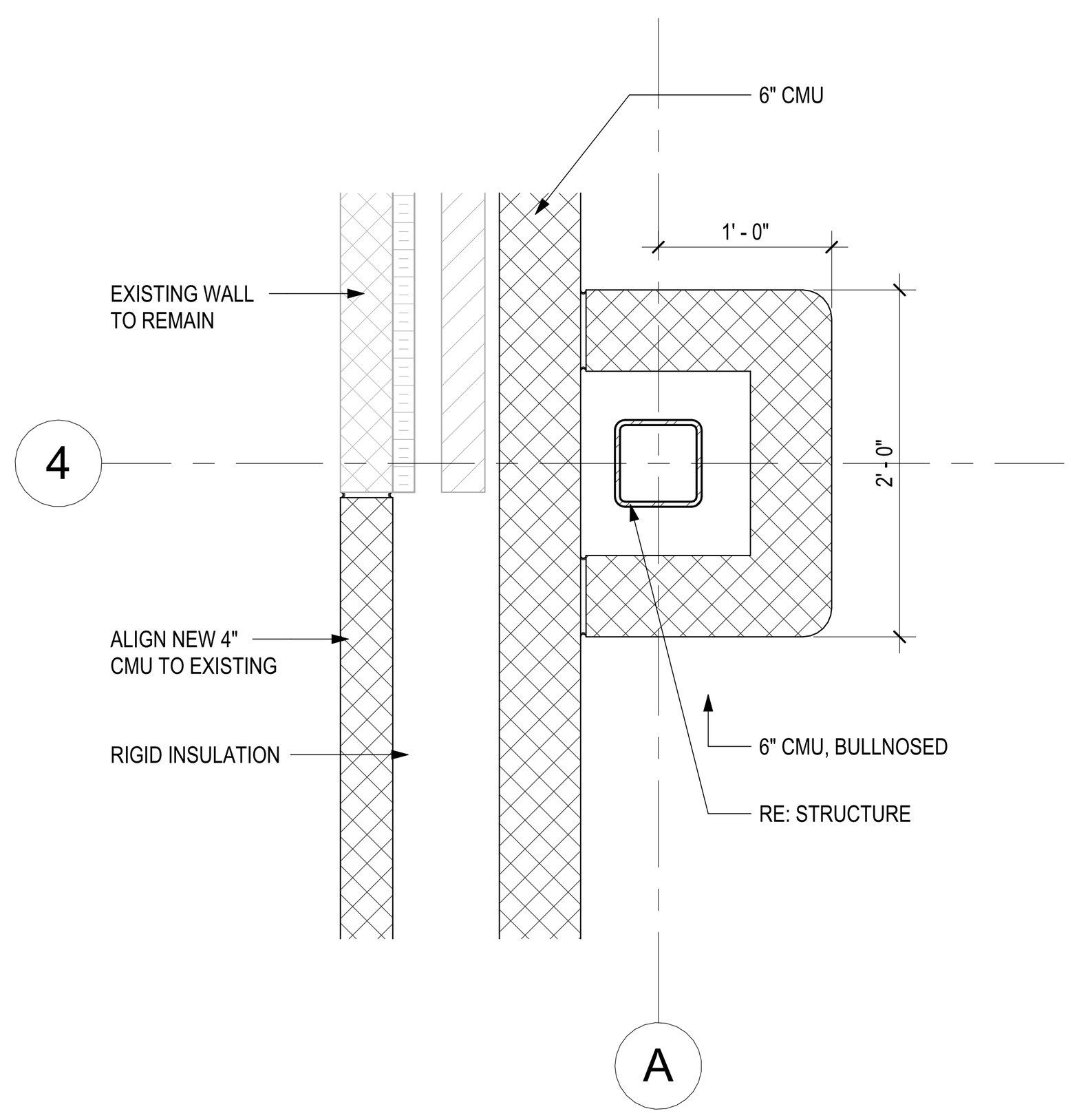
10 EXT/ NEW @ COL EF - PLAN DETAIL
1" = 1'-0"



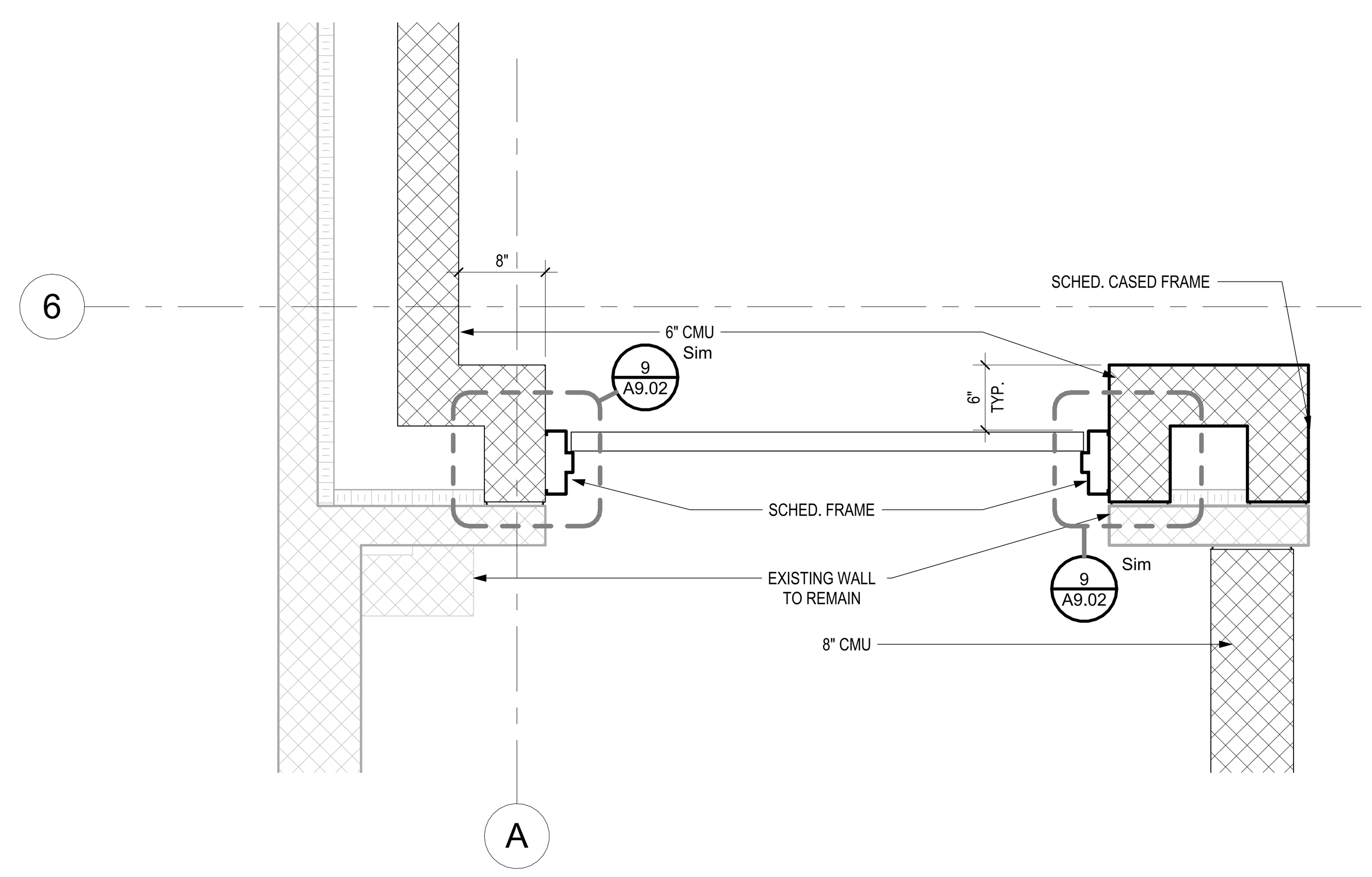
9 COL A-3 - PLAN DETAIL
1" = 1'-0"



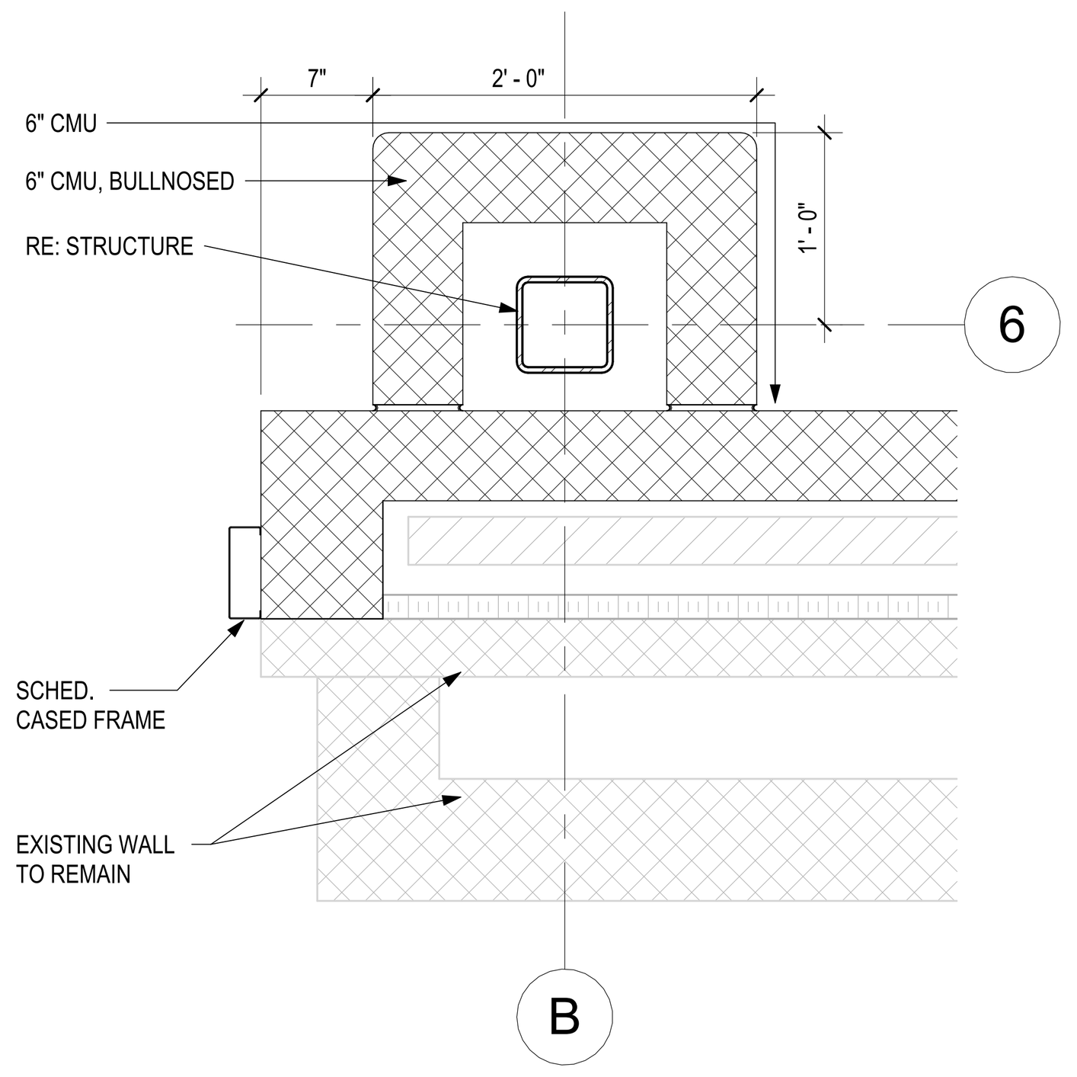
8 A119 - PLAN DETAIL
1" = 1'-0"



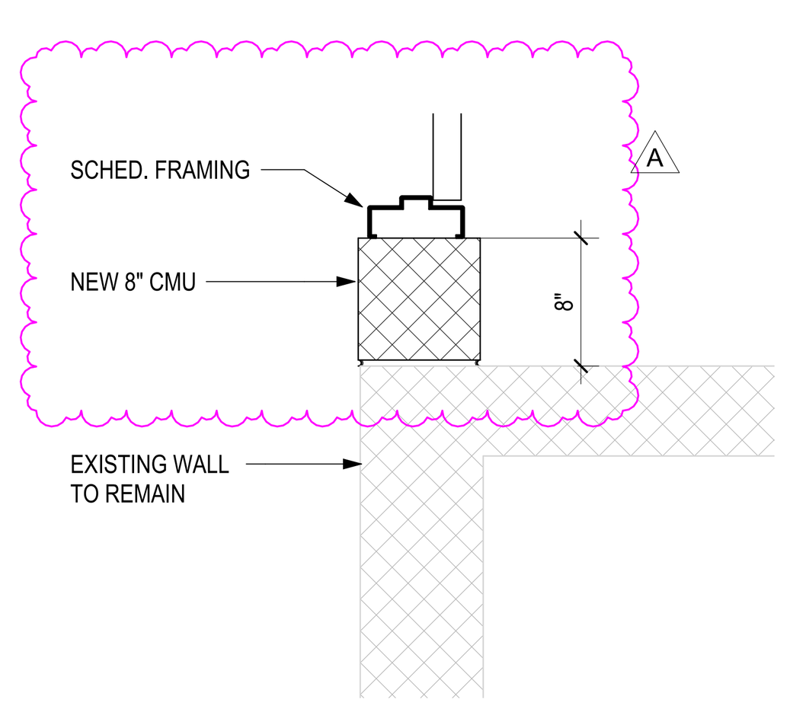
7 COL A-4 - PLAN DETAIL
1" = 1'-0"



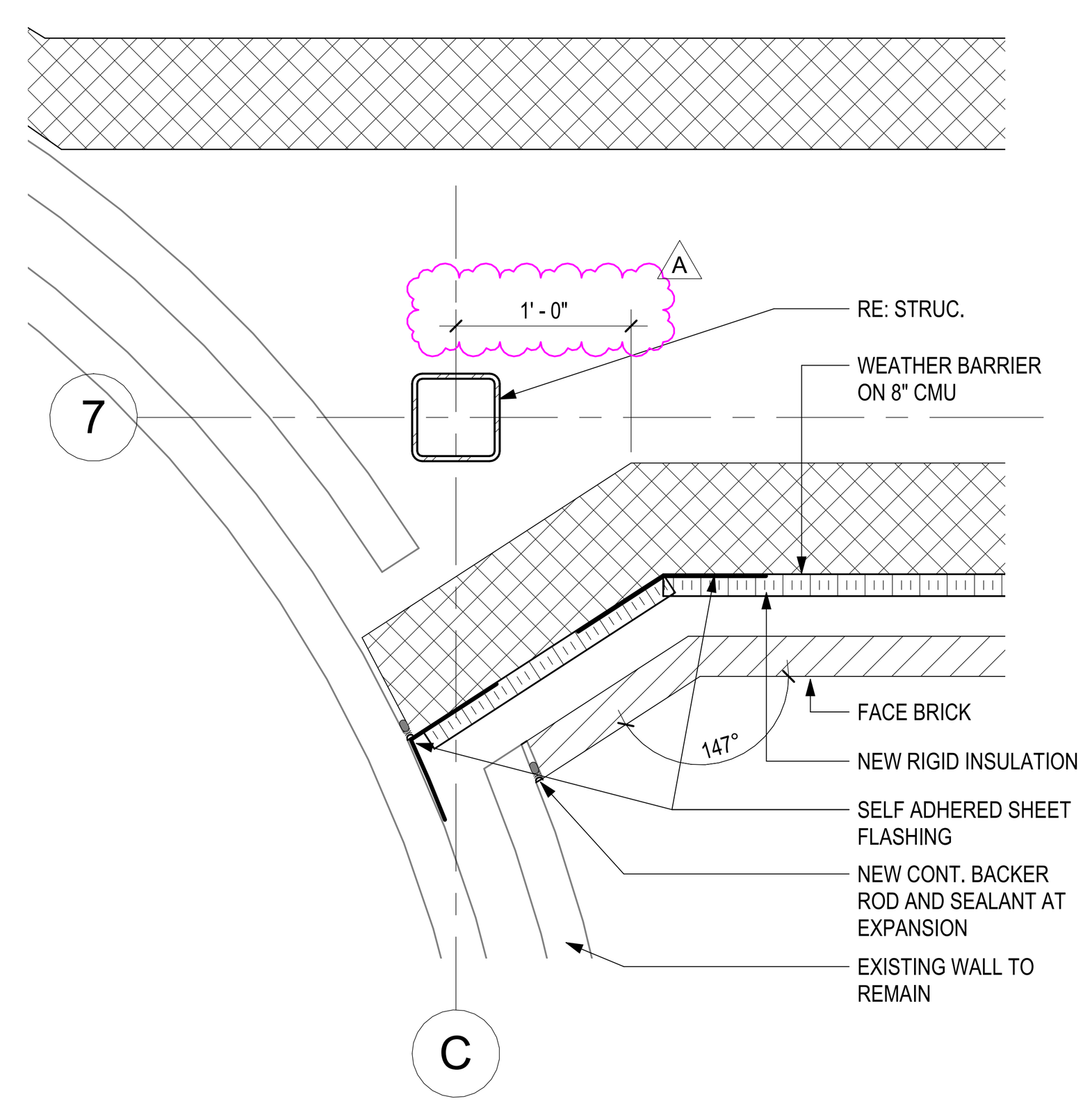
6 A128 - PLAN DETAIL
1" = 1'-0"



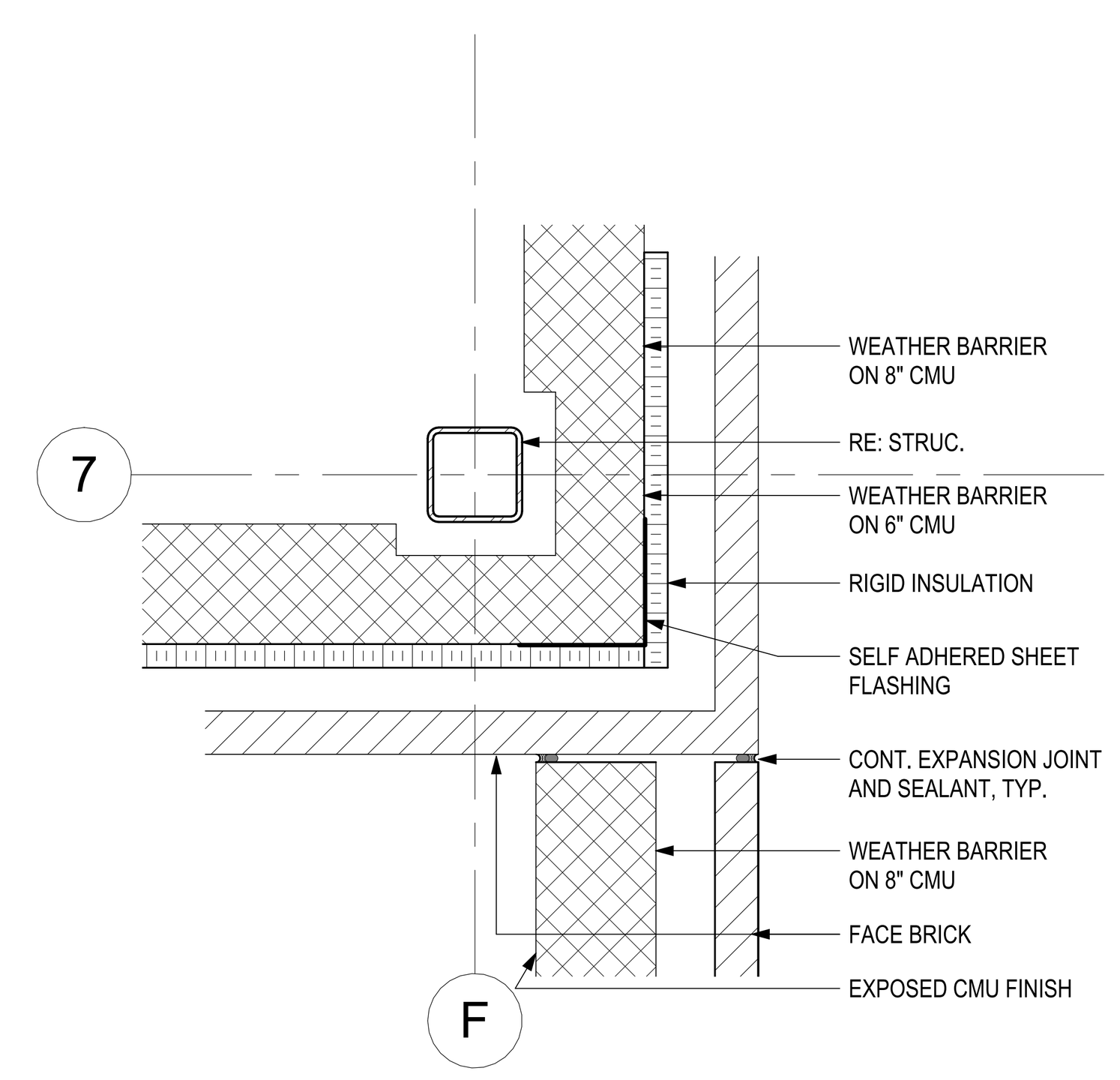
5 COL B-6 - PLAN DETAIL
1" = 1'-0"



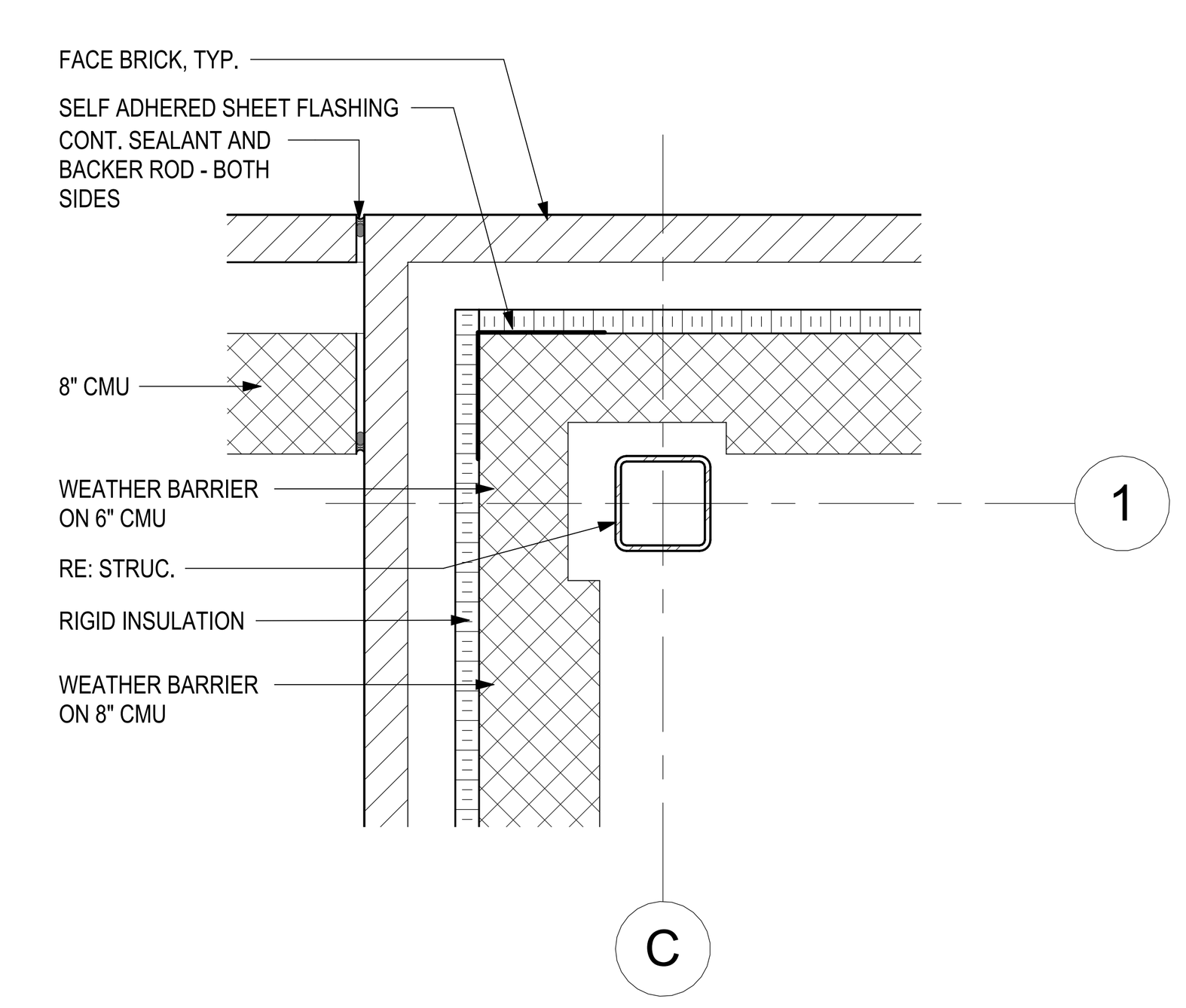
4 EXIST/ NEW CMU - PLAN DETAIL
1" = 1'-0"



3 COL C-7 - PLAN DETAIL
1" = 1'-0"



2 COL F-7 - PLAN DETAIL
1" = 1'-0"



1 COL C-1 - PLAN DETAIL
1" = 1'-0"

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01/30/2025

PROJECT #: 202318
DATE: 2025-01-13
DRAWN: DS
CHECKED: CA

DATE	ISSUE	#
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM No. 05	A

A3.01

PLAN DETAILS

- (arrow) ADDITIONAL RIGID INSULATION SLOPE (DOWN), SLOPE TO DRAIN MIN 1/4" PER FOOT, TYP.
- SLOPE (chevron) STRUCTURE SLOPE (DOWN), SLOPE TO DRAIN MIN 1/4" PER FOOT, TYP.
- R.D. / O.R.D. ROOF DRAIN & OVERFLOW ROOF DRAIN, RE: A4 SERIES DETAILS
- HIGH ROOF / LOW ROOF HIGH TO LOW ROOF TRANSITION
- (shaded box) ADDITIONAL RIGID INSULATION AS REQ'D TO PROVIDE SLOPE
- (dashed bold line) INDICATES REPLACEMENT OF THRU-WALL FLASHING

LEGEND - ROOF PLAN

1/4" = 1'-0"

1. MEP ITEMS SHOWN ON ROOF PLAN ARE FOR REFERENCE ONLY. RE: MEP DWGS. FOR LOCATIONS OF ROOF MOUNTED EQUIP. & PENETRATING ELEMENTS NOT SHOWN ON THIS SHEET.
2. ROOF IS MODIFIED BITUMEN ROOFING SYSTEM ON LIGHT WEIGHT CONC. ON INSULATION ON STL. DECK UNLESS NOTED OTHERWISE.
3. PROVIDE PORTABLE PIPE HANGERS TO SUPPORT ALL ROOF TOP PIPING. RE: MEP DWGS. PROVIDE 18"X18" WALK PAD UNDER ALL PIPE HANGERS.
4. PROVIDE 4" LAP JOINTS FOR ALL SHEET METAL FLASHING RECEIVERS.
5. RE: A4 SERIES FOR TYP. ROOF PENETRATION DETAILS.
6. PROVIDE WALK PADS UNDER ALL LADDERS & EQUIPMENT.
7. THE ROOF WILL NOT SERVE AS A LAY-DOWN AREA DURING CONSTRUCTION. ANY DAMAGE THAT OCCURS TO THE EXISTING ROOF EQUIPMENT WILL NEED TO BE REPLACED AT THE CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL THE NECESSARY MISCELLANEOUS STEEL NEEDED TO INSTALL THE MAPA PEDESTAL MOUNTS FOR DISCONNECTS, RECEPTACLES, MINI SPLITS AND ROOF HYDRANTS AND ANY OTHER MISCELLANEOUS MEP ITEMS PER THE MANUFACTURER'S INSTRUCTIONS.
9. FOR ANY ELECTRICAL PEDESTALS THE CONTRACTOR IS TO PROVIDE INSULATION WITHIN THE CAVITY.

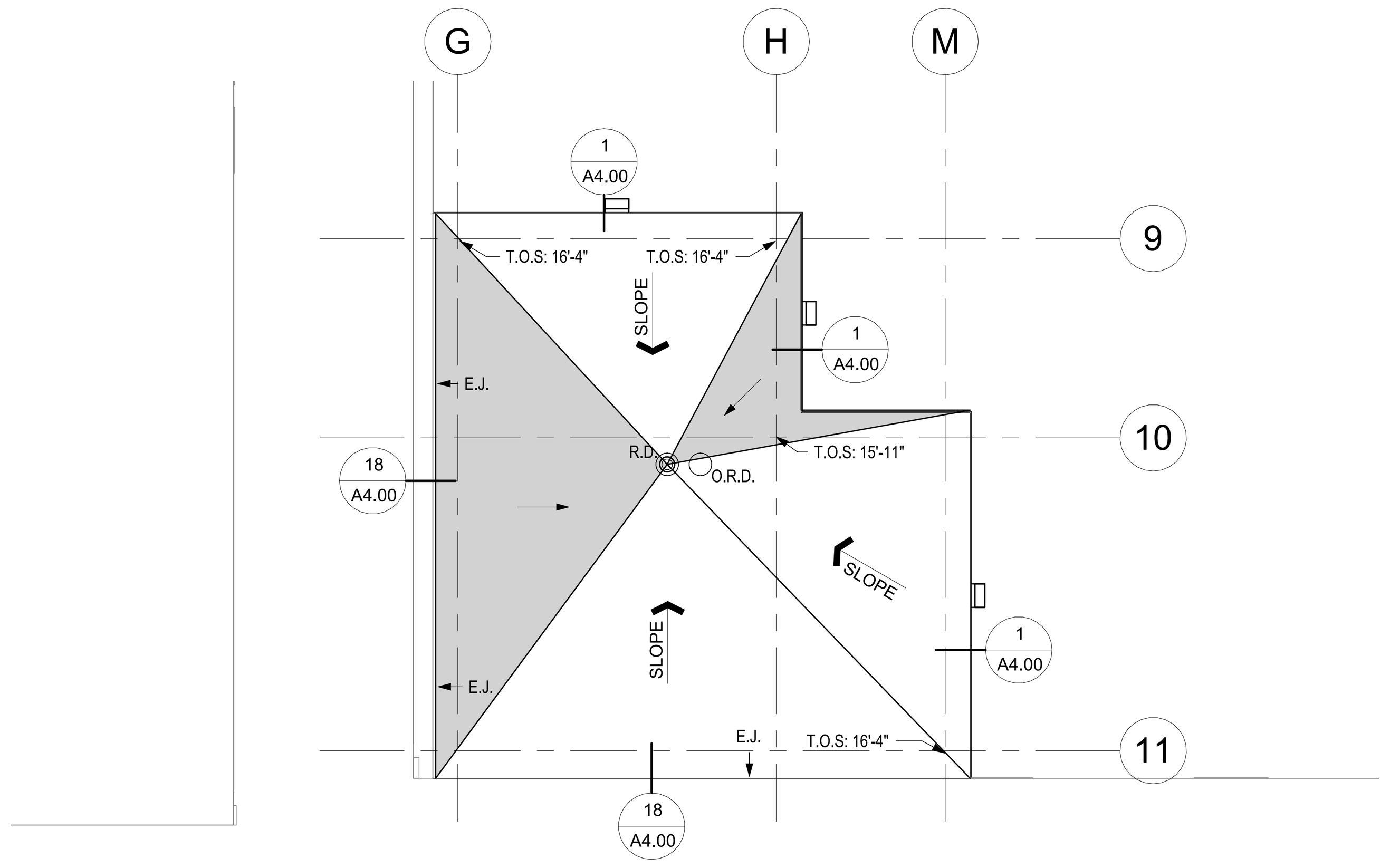
NOTES - GENERAL ROOF PLAN

1/4" = 1'-0"

(1) ROOF HATCH W/ LADDER, RE: 17 / A4.00
(2) ALUM. WALKWAY COVER, RE: C1.10
(3) CANTILEVER ALUM. WALKWAY COVER
(4) NEW MECH EQUIPMENT, RE: MEP SHEETS
(5) EXISTING CANOPY TO REMAIN

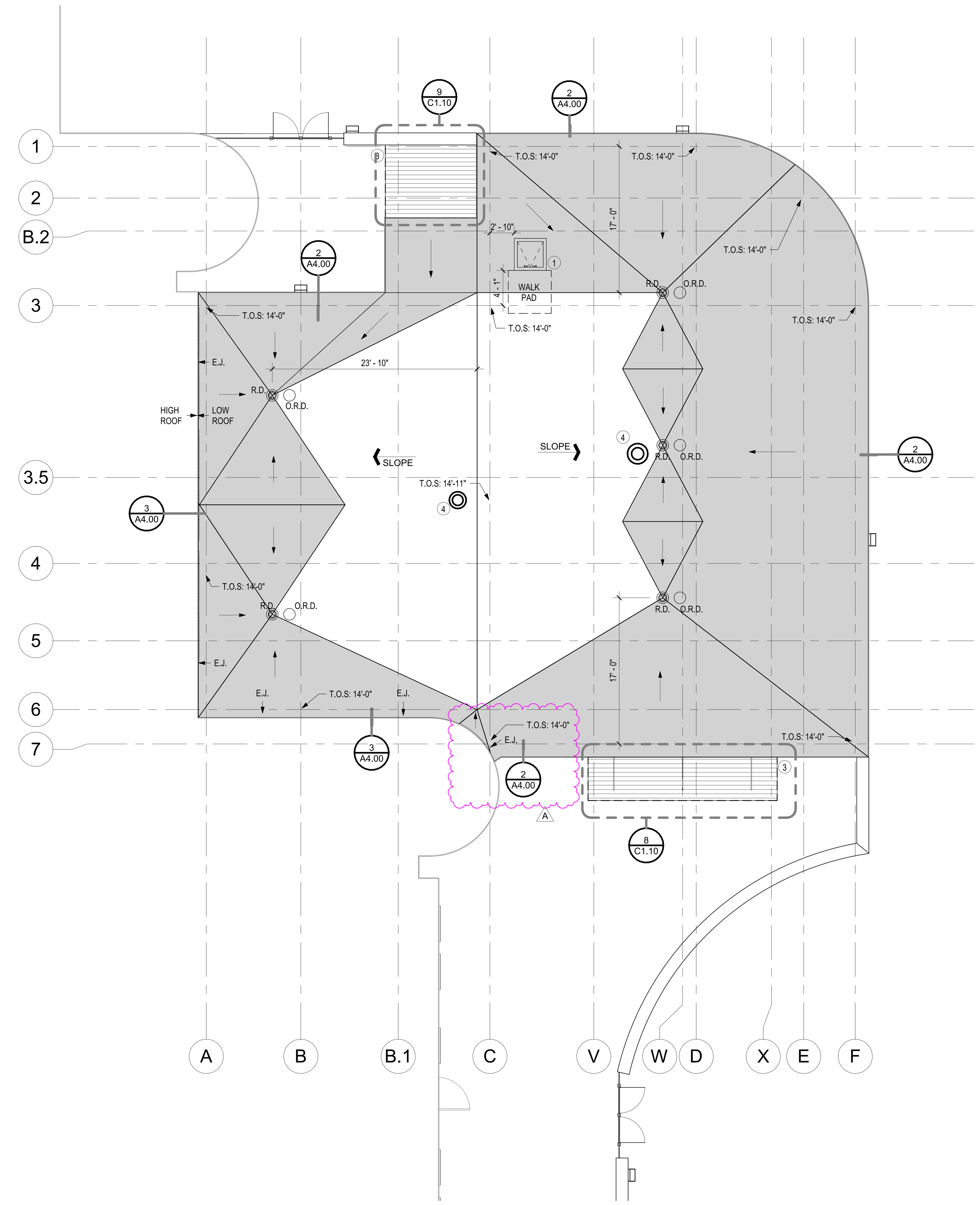
KEYNOTES - ROOF PLAN

1/4" = 1'-0"



2 ROOF PLAN ENLARGED - AREA B

1/8" = 1'-0"



1 ROOF PLAN ENLARGED - AREA A

1/8" = 1'-0"

PLAN NORTH

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REGISTERED ARCHITECT — STATE OF TEXAS — 27120
01/30/2025

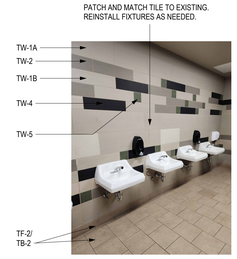
PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	DS
CHECKED:	CA

DATE	ISSUE
2025-01-13	PERMIT AND PROPOSAL
2025-01-30	ADDENDUM No. 05 A

A4.02

ROOF PLAN ENLARGED

31 INT - D106 RR TILE PATCH
3/8" = 1'-0"

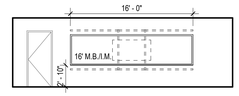


30 INT - A221 RR TILE PATCH
3/8" = 1'-0"

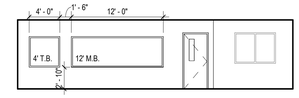
29 INT - Y220 RR TILE PATCH
3/8" = 1'-0"

28 INT - T107 RR TILE PATCH
3/8" = 1'-0"

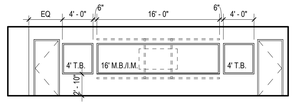
27 INT - J125 RR TILE PATCH
3/8" = 1'-0"



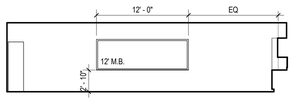
26 INT - D129 CTE CR - S
1/8" = 1'-0"



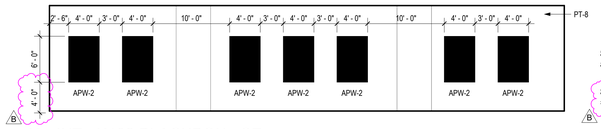
25 INT - D128 PRODUTION SYSTEMS - E
1/8" = 1'-0"



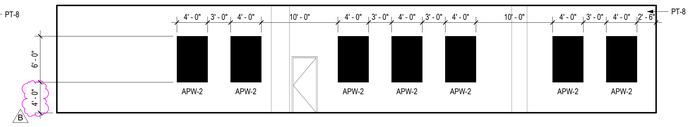
24 INT - D121 TECH CLASSROOM - S
1/8" = 1'-0"



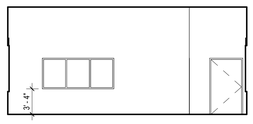
23 INT - D121 TECH CLASSROOM - N
1/8" = 1'-0"



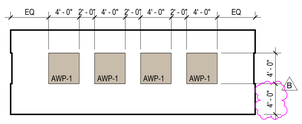
22 INT - K102 BLACKBOX - SE
1/8" = 1'-0"



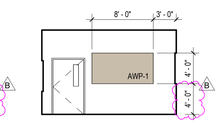
21 INT - K102 BLACKBOX - NW
1/8" = 1'-0"



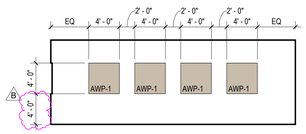
20 INT - K102 BLACKBOX - SW
1/8" = 1'-0"



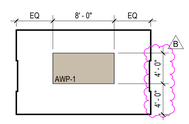
19 INT - P113 ENSEMBLE - E
1/8" = 1'-0"



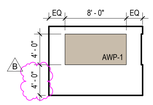
18 INT - P113 ENSEMBLE - N
1/8" = 1'-0"



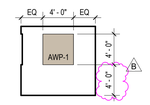
17 INT - P113 ENSEMBLE - W
1/8" = 1'-0"



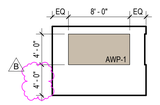
16 INT - P113 ENSEMBLE - S
1/8" = 1'-0"



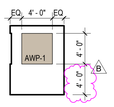
15 INT - P112 PR. - W
1/8" = 1'-0"



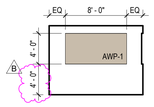
14 INT - P112 PR. - N
1/8" = 1'-0"



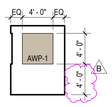
13 INT - P111 PR. - W
1/8" = 1'-0"



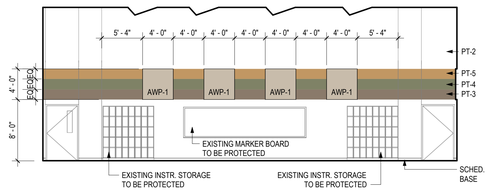
12 INT - P111 PR. - N
1/8" = 1'-0"



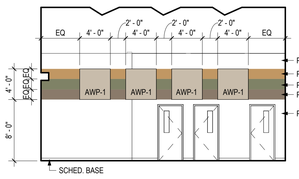
11 INT - P110 PR. - W
1/8" = 1'-0"



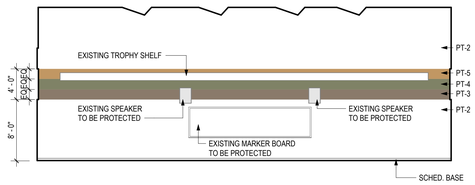
10 INT - P110 PR. - N
1/8" = 1'-0"



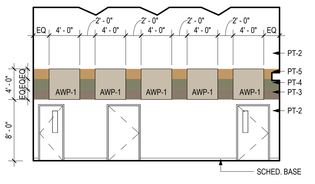
9 INT - P109 ORCHESTRA - E
1/8" = 1'-0"



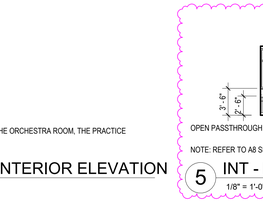
8 INT - P109 ORCHESTRA - N
1/8" = 1'-0"



7 INT - P109 ORCHESTRA - W
1/8" = 1'-0"

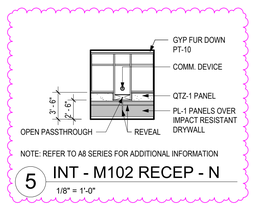


6 INT - P109 ORCHESTRA - S
1/8" = 1'-0"

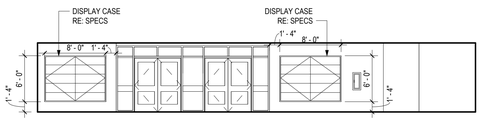


1. THE REVERBERATION NEEDS TO BE 0.08 IN THE ORCHESTRA ROOM, THE PRACTICE ROOMS, AND THE ENSEMBLE ROOM.

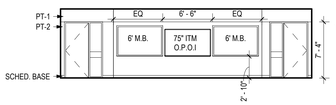
NOTES - GENERAL INTERIOR ELEVATION
1/4" = 1'-0"



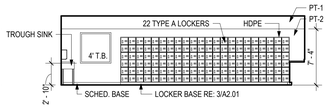
5 INT - M102 RECEP - N
1/8" = 1'-0"



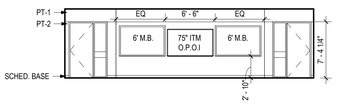
4 INT - A129 LOBBY - S
1/8" = 1'-0"



3 INT - A132 ART - S
1/8" = 1'-0"



2 INT - A132 ART - N
1/8" = 1'-0"



1 INT - A130 ART - S
1/8" = 1'-0"

PLAN NORTH

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6051 North Course Dr. Suite 375
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1401 El Camino Real, Suite 204
Houston, TX 77058
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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD
9811 Huffmeister Rd, Houston, TX 77095

ARCADIS
TEXAS ARCADIS INC.
1330 POST OAK BOULEVARD, SUITE 2250
HOUSTON, TX 77056
tel 281.286.6605, fax 713.977.4620

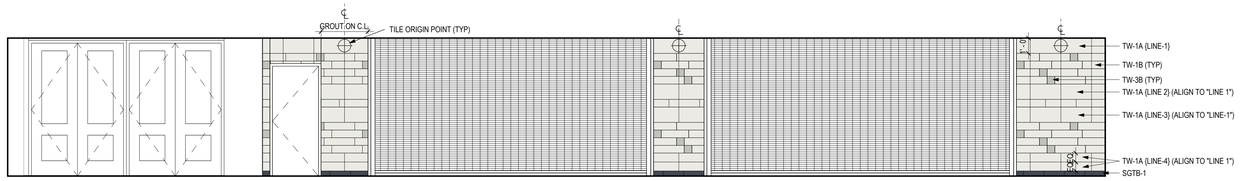
01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	DS
CHECKED:	CA

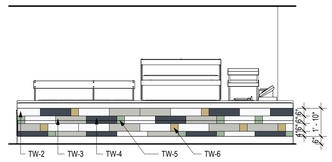
DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A7.03

INTERIOR ELEVATIONS

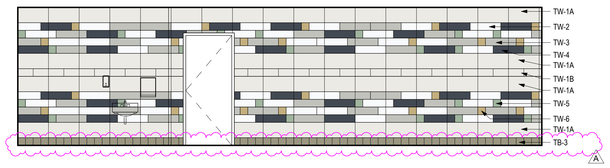


6 INT - K100 COMMONS - NE
1/4" = 1'-0"

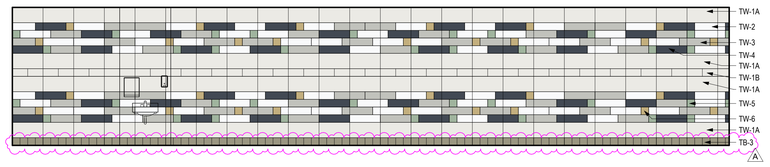


NOTE: TILE OCCURS ON THE FRONT OF (4) SRVING LINES

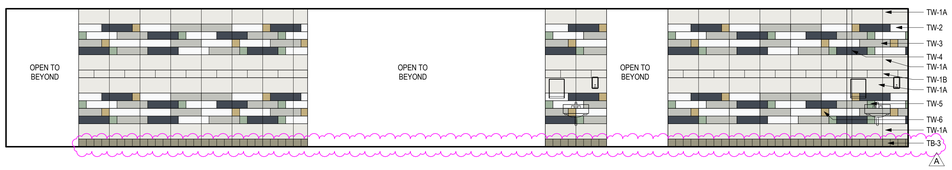
5 INT - G120 KITCHEN - COUNTER
1/4" = 1'-0"



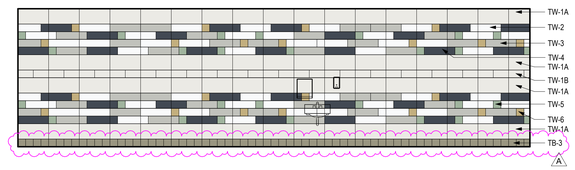
4 INT - G120 KITCHEN - S
1/4" = 1'-0"



3 INT - G120 KITCHEN - E
1/4" = 1'-0"



2 INT - G120 KITCHEN - NE
1/4" = 1'-0"



1 INT - G120 KITCHEN - NW
1/4" = 1'-0"

PLAN NORTH

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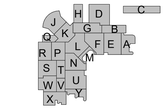

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tel 281.286.6605, fax 713.977.4620

REGISTERED ARCHITECT
JASON T. CANNON
27120
STATE OF TEXAS

01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	LP
CHECKED:	CA

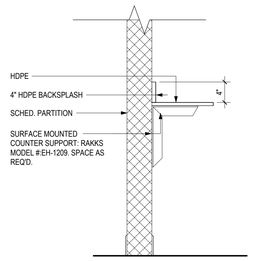
DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM No. 05	A

A7.04

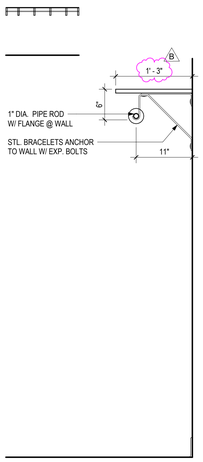
INTERIOR ELEVATIONS

1. PROVIDE LOCKS ON ALL DOORS & DRAWERS. LOCKS ARE TO BE MASTER KEYED PER SPECS.
2. PROVIDE KEYBOARD TRAY & 2" GROMMET @ ALL KNEESPACES.
3. RE: MEP DWGS. FOR OTHER DEVICES. ONLY UNIQUE CONDITIONS ARE SHOWN ON THESE DRAWINGS.
4. FINISH TOE SPACE OF ALL CABINETS W/ SCHEDULED BASE FINISH.
5. ALL COUNTERTOPS ARE 24" DEEP UNLESS INDICATED OTHERWISE.
6. PROVIDE REMOVABLE BACK PANEL ON ALL SINK CASEWORK & FUME HOOD CASEWORK.
7. ALL CASEWORK IS EDUCATIONAL CASEWORK UNLESS NOTED OTHERWISE.
8. ALL SINKS IN CASEWORK SHOULD BE SUPPLIED & INSTALLED BY PLUMB. CONTRACTOR & SHOULD INCLUDE STRAINER & TAIL PIECE. RE: PLUMB. DWGS. FOR SINK TYPES.
9. ALL COUNTERTOPS ARE 1 1/2" THK PLASTIC LAMINATE W/ 4" HIGH BACKSPLASH & SPLASH RETURN UNLESS NOTED OTHERWISE ON CASEWORK ELEVATION.
10. ALL EXPOSED BACKS & ENDS SHALL BE FINISHED W/ LAMINATE.
11. PROVIDE FILLER & CLOSER PANELS AS REQ'D. TO MATCH UNITS.
12. PROVIDE RADIUS EDGE @ ALL OUTSIDE COUNTERTOP CORNERS.
13. FILE DRAWERS TO INCLUDE INTEGRAL FILE HANGING SYSTEM.
14. 'H' INDICATES ACCESSIBLE PLUMBING FIXTURE @ ACCESSIBLE MOUNTING HEIGHT, RE: G1 SERIES.
15. ALL UPPER WALL CABINETS ARE 14" DEEP UNLESS NOTED OTHERWISE.
16. TEACHERS CABINET TO INCLUDE (1) FIXED SHELF & ROD, (2) ADJUSTABLE SHELVES, (2) LETTER SIZE FILE DRAWERS, & (1) 10"X12" MIRROR & PIN TRAY.
17. CASEWORK ELEVATIONS ARE INTENDED TO SHOW CASEWORK & MILLWORK ONLY. ANY OTHER ELEMENTS SUCH AS WALLS, WINDOWS, & DOORS ARE FOR REFERENCE ONLY. RE: FLOOR PLANS, SCHEDULES & RELATED ELEVATIONS FOR SPECIFIC INFO RELATED TO THESE ELEMENTS.

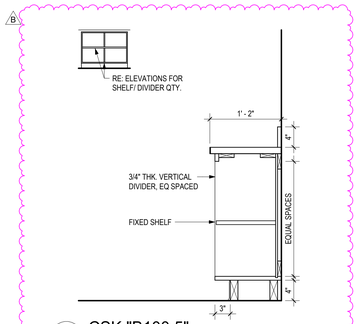
NOTES - GENERAL CASEWORK
1/4" = 1'-0"



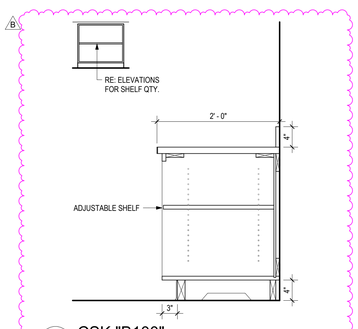
19 MISC - COUNTER SUPPORT
1" = 1'-0"



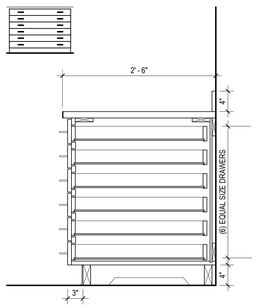
18 CSK "U330"
1" = 1'-0"



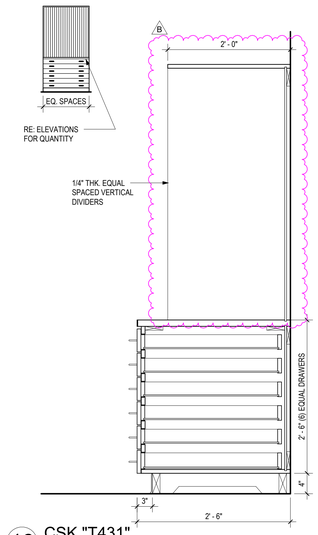
20 CSK "B100.5"
1" = 1'-0"



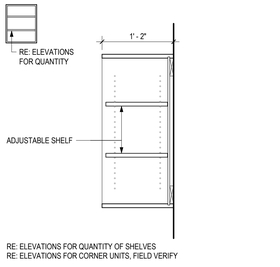
21 CSK "B100"
1" = 1'-0"



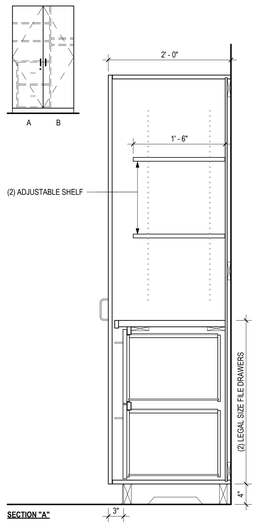
17 CSK "B260"
1" = 1'-0"



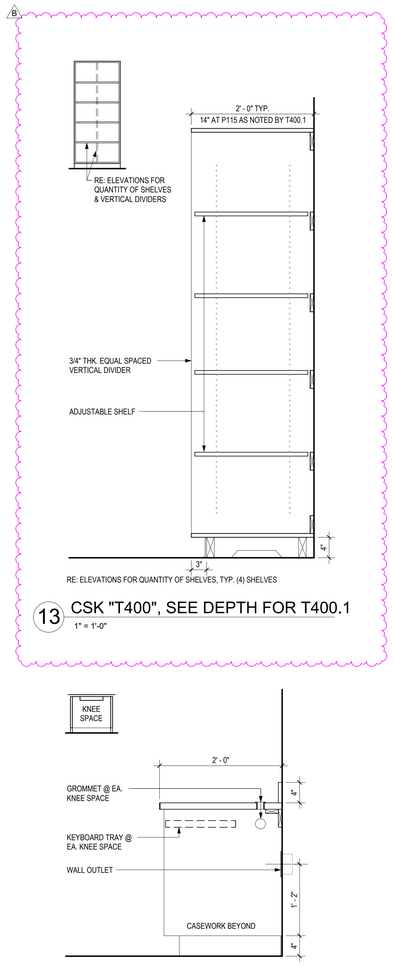
16 CSK "T431"
1" = 1'-0"



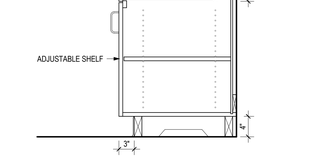
15 CSK "U300"
1" = 1'-0"



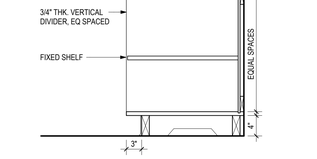
14 CSK "T401"
1" = 1'-0"



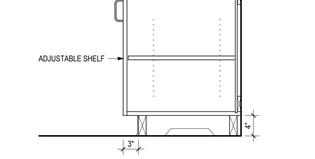
13 CSK "T400", SEE DEPTH FOR T400.1
1" = 1'-0"



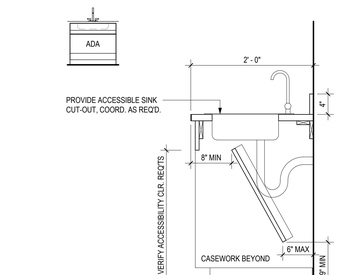
12 MILL "RD4" QRTZ-PLAM RECEP
1" = 1'-0"



11 MILL "RD3" QRTZ-PLAM RECEP
1" = 1'-0"

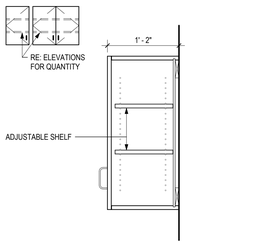


10 MILL "RD2" QRTZ-PLAM RECEP
1" = 1'-0"

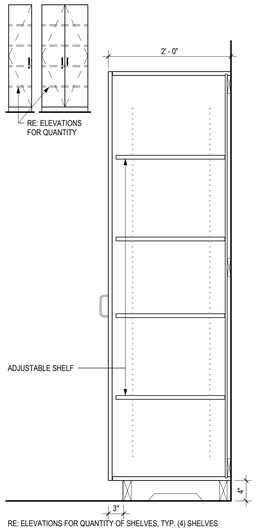


9 CSK "B230"
1" = 1'-0"

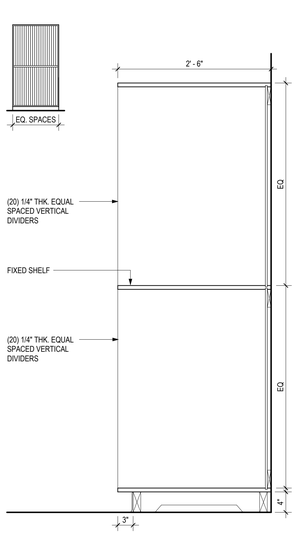
8 CSK "C105"
1" = 1'-0"



7 CSK "U301"
1" = 1'-0"



6 CSK "T402"
1" = 1'-0"



5 CSK "T433"
1" = 1'-0"

4 CSK "C102"
1" = 1'-0"

3 CSK "B201"
1" = 1'-0"

2 CSK "B110"
1" = 1'-0"

1 CSK "B102"
1" = 1'-0"

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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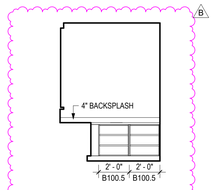
01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	DS
CHECKED:	CA

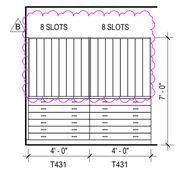
DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A8.00

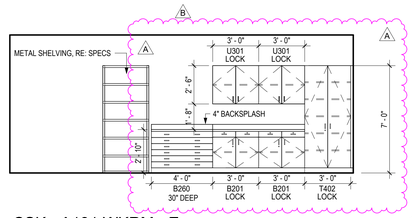
CASEWORK SECTIONS



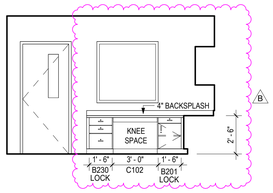
28 CSK- M103 SEC
1/4" = 1'-0"



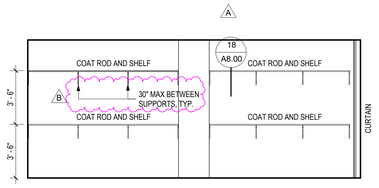
27 CSK - A133 STO - E
1/4" = 1'-0"



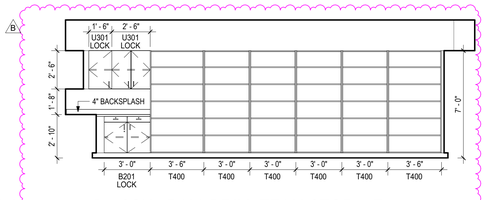
26 CSK - A131 WKRM - E
1/4" = 1'-0"



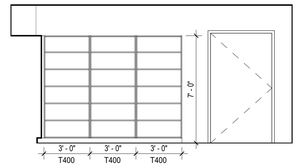
25 CSK - G121 OFFICE - N
1/4" = 1'-0"



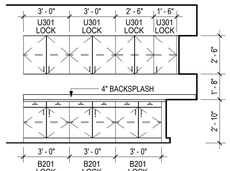
24 CSK - B129 ROTC STOR. - DOUBLE CLOTHING RODS 2
1/4" = 1'-0"



23 CSK - P106 DRILL TEAM STOR. - E
1/4" = 1'-0"



29 CSK - P106 DRILL TEAM STOR. - S
1/4" = 1'-0"



22 CSK - P106 DRILL TEAM STOR. - N
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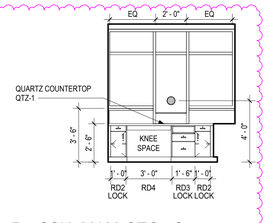
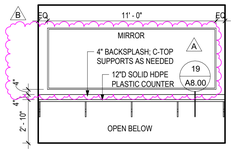
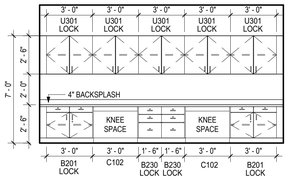


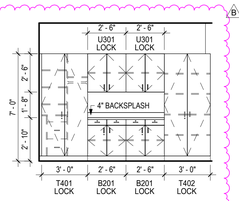
21 CSK- M103 SEC - S
1/4" = 1'-0"



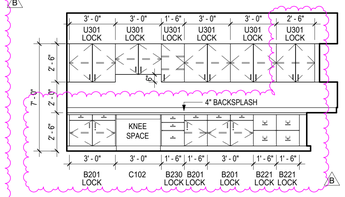
20 CSK- P105 DRILL TEAM L.R. COUNTERTOP
1/4" = 1'-0"



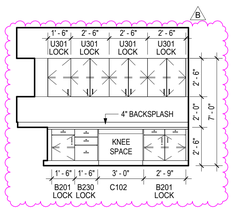
19 CSK - P114 OFFICE - W
1/4" = 1'-0"



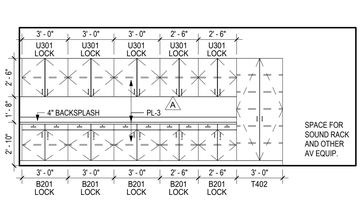
18 CSK - P114 OFFICE - E
1/4" = 1'-0"



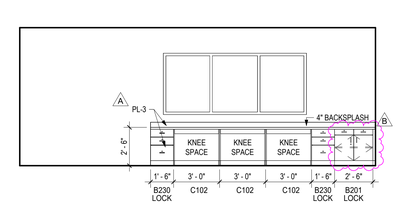
17 CSK - P107 OFFICE - N
1/4" = 1'-0"



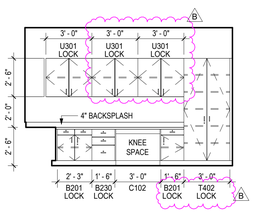
16 CSK - P107 OFFICE - E
1/4" = 1'-0"



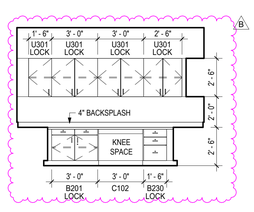
15 CSK - K111 CTRL RM - SW
1/4" = 1'-0"



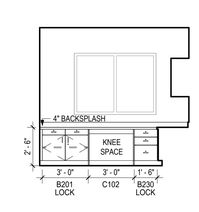
14 CSK - K111 CTRL RM - NE
1/4" = 1'-0"



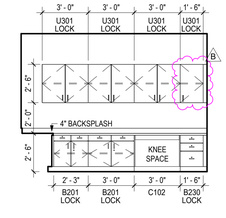
13 CSK - G121 OFFICE - S
1/4" = 1'-0"



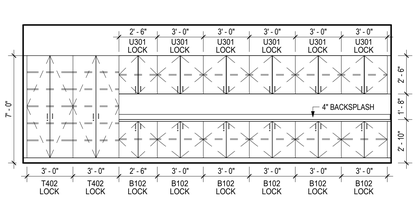
12 CSK - G121 OFFICE - E
1/4" = 1'-0"



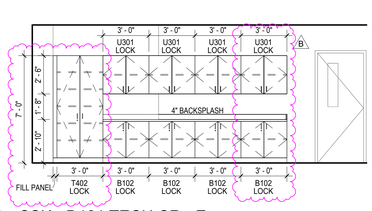
11 CSK - D127 CTE OFFICE - W
1/4" = 1'-0"



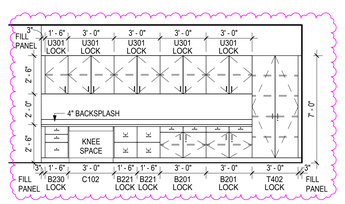
10 CSK - D127 CTE OFFICE - N
1/4" = 1'-0"



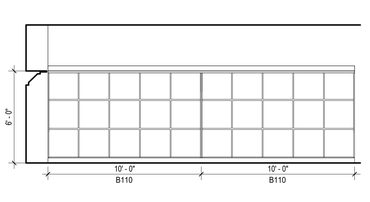
9 CSK - D125 CTE STORAGE - E
1/4" = 1'-0"



8 CSK - D121 TECH CR - E
1/4" = 1'-0"



7 CSK - B129 ROTC STORAGE - S
1/4" = 1'-0"



6 CSK - B129 ROTC STOR. - CUBBIES
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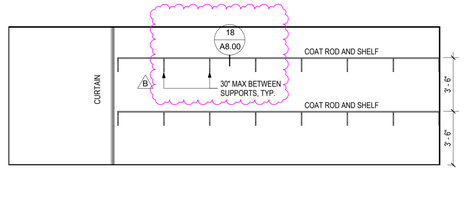
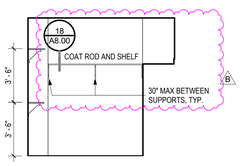
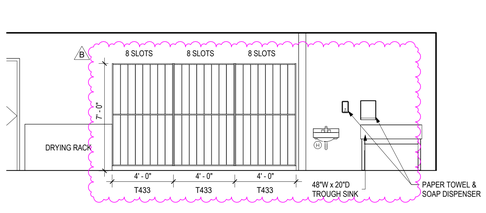


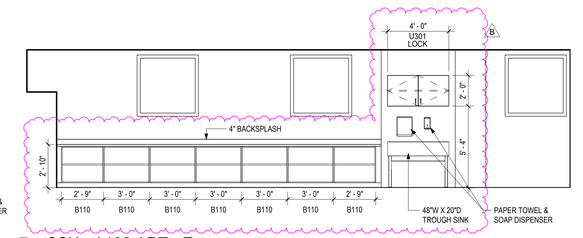
5 CSK - B129 ROTC STOR. - DOUBLE CLOTHING RODS
1/4" = 1'-0"



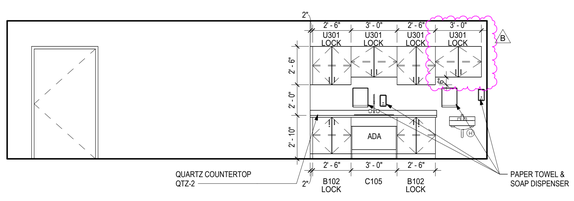
4 CSK - B129 ROTC STOR. - SINGLE RODS
1/4" = 1'-0"



3 CSK - A132 ART - W
1/4" = 1'-0"



2 CSK - A132 ART - E
1/4" = 1'-0"



1 CSK - A130 ART - E
1/4" = 1'-0"

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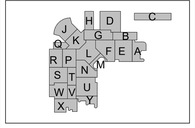

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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01/30/2025

PROJECT #:	202318
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CHECKED:	CA

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A8.01

CASEWORK ELEVATIONS

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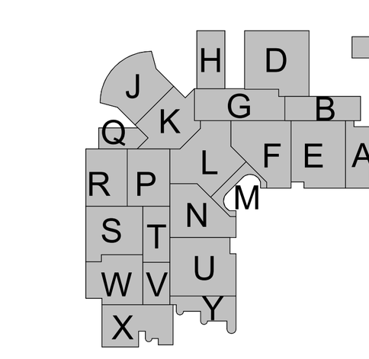

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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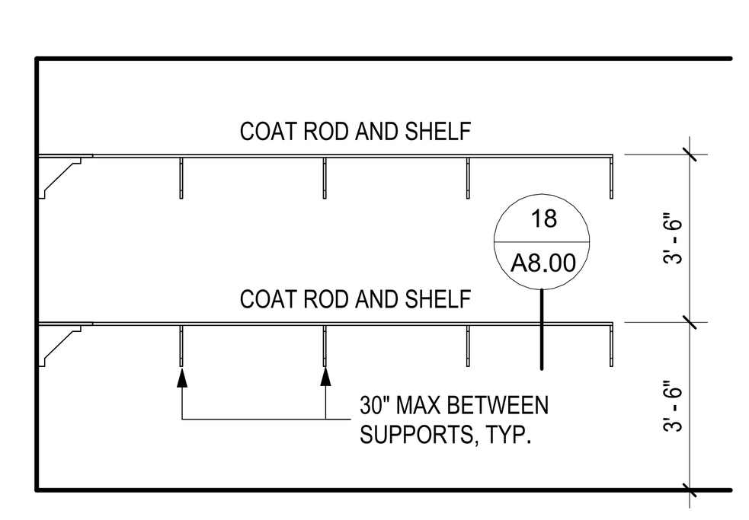
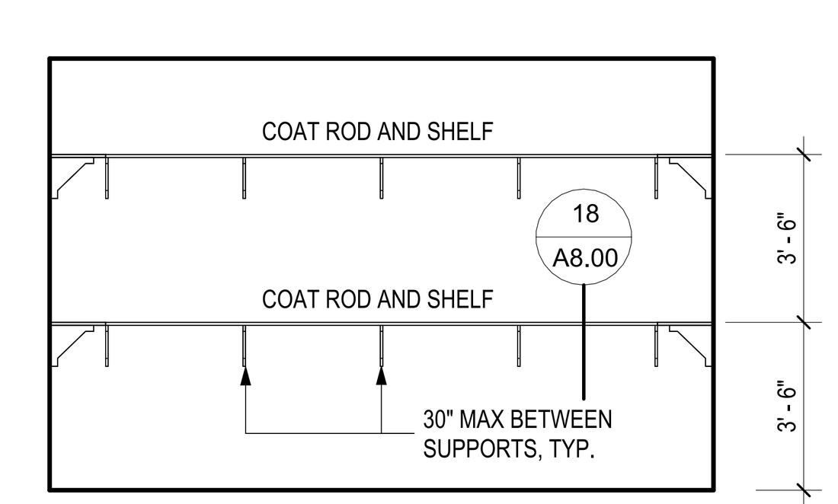
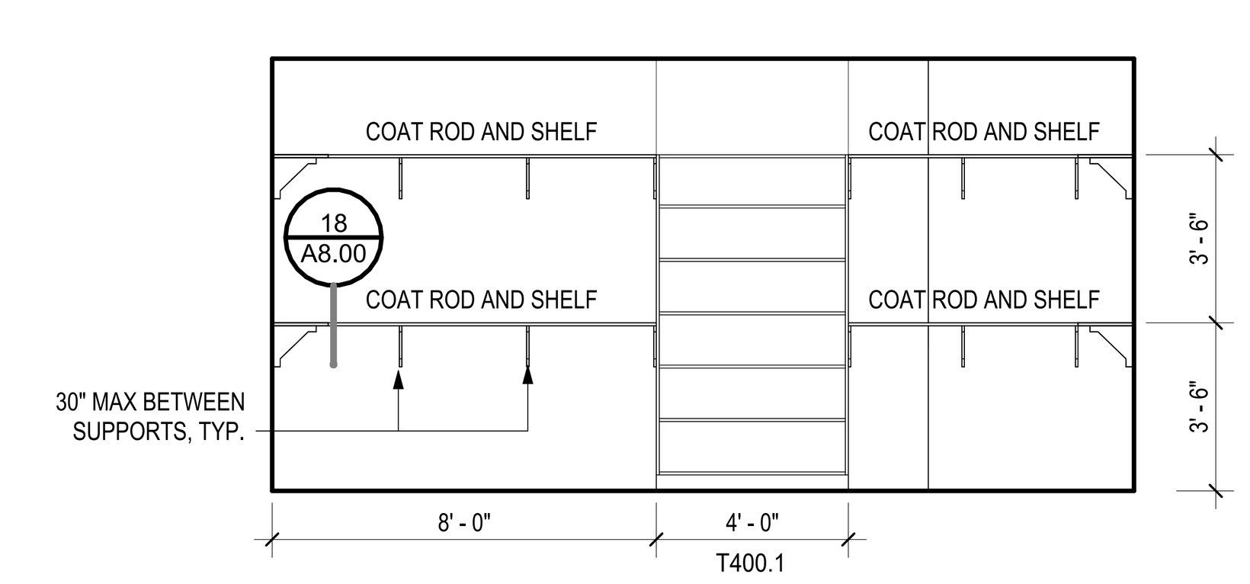
REGISTERED ARCHITECT
27120
STATE OF TEXAS
01/30/2025



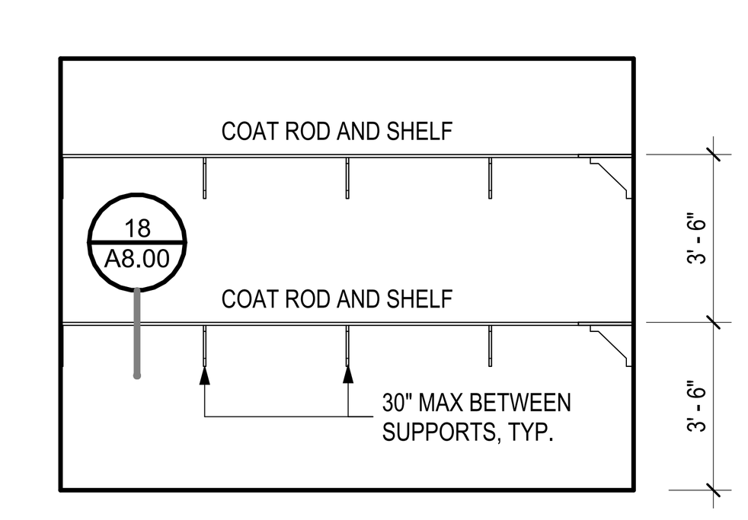
4 CSK - P115 UNIFORM STG - W
1/4" = 1'-0"



3 CSK - P115 UNIFORM STG - E
1/4" = 1'-0"



2 CSK - P115 UNIFORM STG - S
1/4" = 1'-0"



1 CSK - P115 UNIFORM STG - N
1/4" = 1'-0"

PROJECT #: 202318
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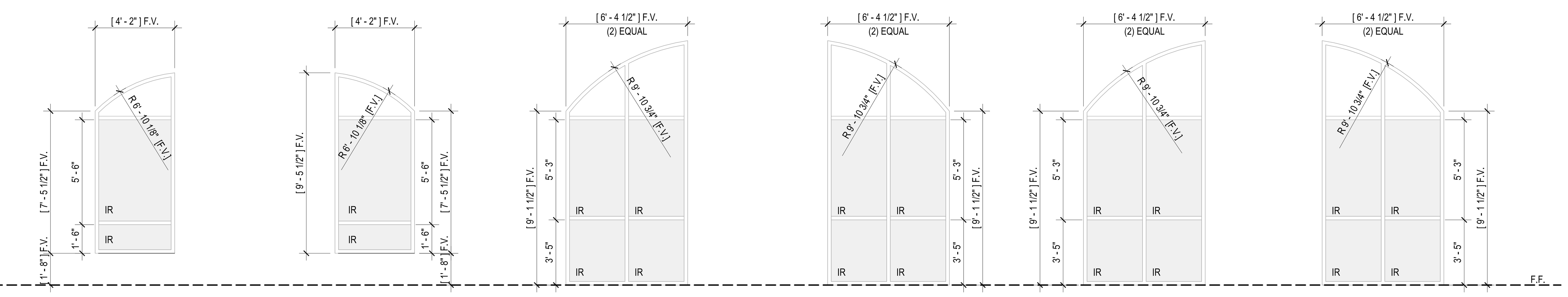
DRAWN: DS
CHECKED: CA

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM No. 05	A

A8.02

CASEWORK ELEVATIONS



12R-E (EXISTING)

SILL	JAMB	HEAD	CONDITION

12-E (EXISTING)

SILL	JAMB	HEAD	CONDITION

11R-E (EXISTING)

SILL	JAMB	HEAD	CONDITION

11-E (EXISTING)

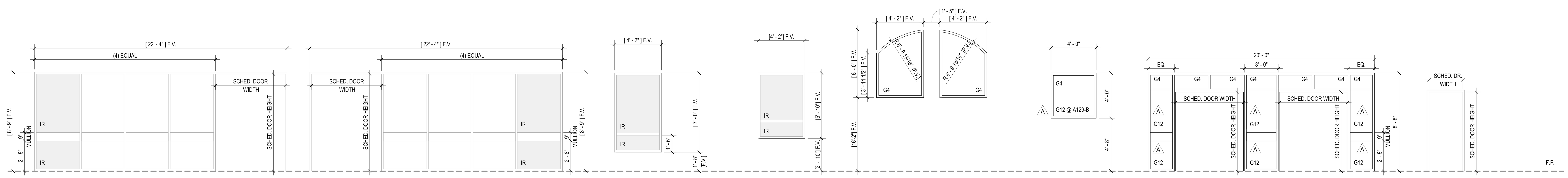
SILL	JAMB	HEAD	CONDITION

10R-E (EXISTING)

SILL	JAMB	HEAD	CONDITION

10-E (EXISTING)

SILL	JAMB	HEAD	CONDITION



7R-E (EXISTING)

SILL	JAMB	HEAD	CONDITION

7-E (EXISTING)

SILL	JAMB	HEAD	CONDITION

6-E (EXISTING)

SILL	JAMB	HEAD	CONDITION
- /---	12 / A9.02	- /---	ALUM. @ EXIST.

5-E (EXISTING)

SILL	JAMB	HEAD	CONDITION

4-E

B

SILL	JAMB	HEAD	CONDITION
6 / A9.02	12 / A9.02	17 / A9.02	ALUM. @ EXIST.

3-E

SILL	JAMB	HEAD	CONDITION
18 / A9.02	7 / A9.02	13 / A9.02	ALUM. @ BRK/CMU

2-E

SILL	JAMB	HEAD	CONDITION
19 / A9.02	7 / A9.02	25 / A9.02	ALUM. @ BRK/CMU/GYP
2 / A9.02			

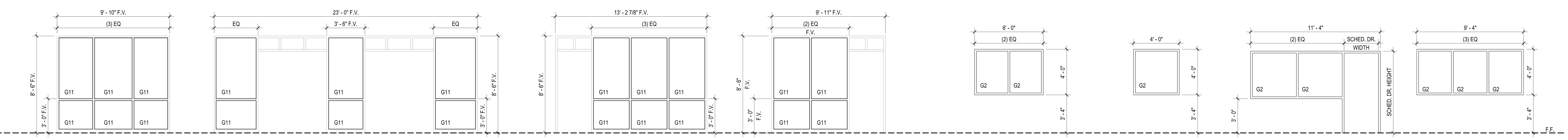
1-E

SILL	JAMB	HEAD	CONDITION
2 / A9.02	8 / A9.02	14 / A9.02	H.M. @ BRK/ CMU
2 / A9.02	12 / A9.02	28 / A9.02	ALUM. @ EXIST.

GENERAL NOTES:
1. "00-E" DESIGNATES EXTERIOR FRAMES
2. RE: WINDOW ELEVATIONS FOR DOOR FRAMES WHICH ARE PART OF A WINDOW ASSEMBLY
3. "IR" DESIGNATES IMPACT (SAFETY & SECURITY) FILM ON EXISTING GLAZING; RE: SPECS.

ELEVATIONS - EXTERIOR FRAMES

1/4" = 1'-0"



13

SILL	JAMB	HEAD	CONDITION

NOTE: EXISTING FRAME TO REMAIN, REPLACE GLAZING

12

SILL	JAMB	HEAD	CONDITION

NOTE: EXISTING FRAME TO REMAIN, REPLACE GLAZING

11

SILL	JAMB	HEAD	CONDITION

NOTE: EXISTING FRAME TO REMAIN, REPLACE GLAZING

10

SILL	JAMB	HEAD	CONDITION

NOTE: EXISTING FRAME TO REMAIN, REPLACE GLAZING

9

SILL	JAMB	HEAD	CONDITION
3 / A9.02	9 / A9.02	15 / A9.02	H.M. @ CMU

8

SILL	JAMB	HEAD	CONDITION
3 / A9.02	9 / A9.02	15 / A9.02	H.M. @ CMU

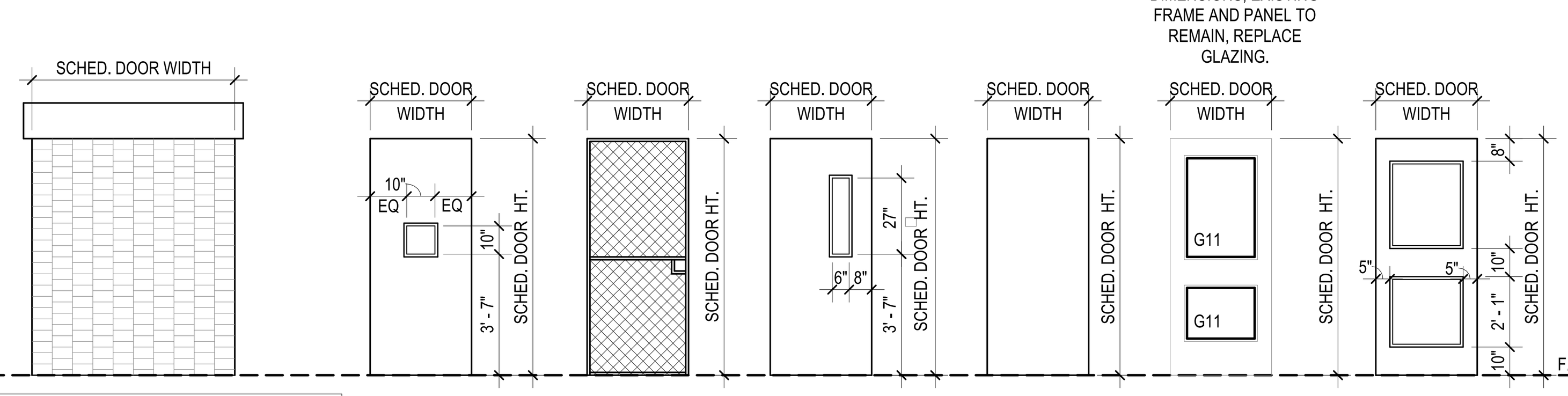
7

SILL	JAMB	HEAD	CONDITION
3 / A9.02	9 / A9.02	15 / A9.02	H.M. @ CMU

6

SILL	JAMB	HEAD	CONDITION
3 / A9.02	9 / A9.02	15 / A9.02	H.M. @ CMU

A1 NOTE: VERIFY ALL DIMENSIONS, EXISTING FRAME AND PANEL TO REMAIN, REPLACE GLAZING.



Q OVERHEAD COILING PERFORATED SLAT GRILLE W/ HOOD

SILL	JAMB	HEAD	CONDITION
	04 / A9.02	10 / A9.02	@ CMU

X FLUSH DOOR

L WIRE MESH DOOR

C FLUSH DOOR

B FLUSH DOOR

A1 STOREFRONT DOOR GLAZING REPLACEMENT

A STOREFRONT DOOR

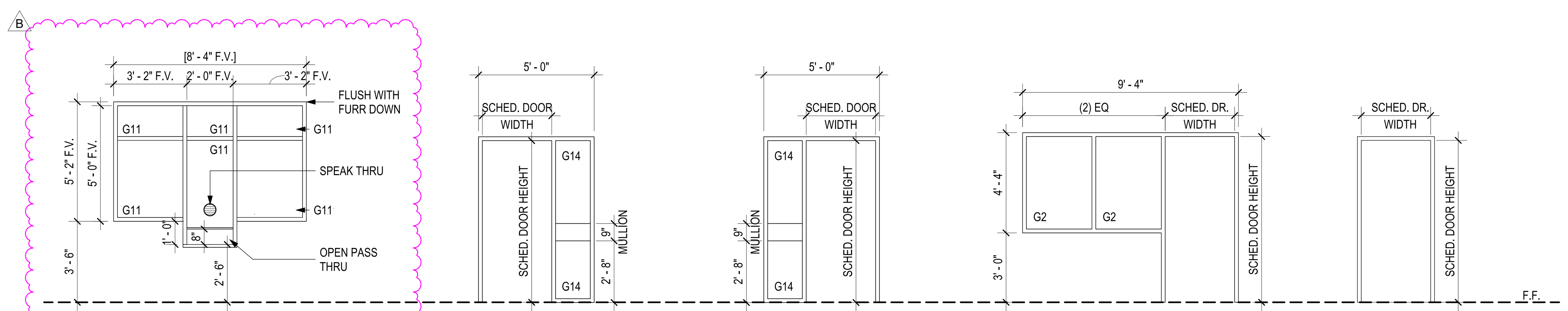
ELEVATIONS - DOORS

1/4" = 1'-0"

G1: -
G2: FULLY TEMPERED CLEAR GLASS
G3: -
G4: INSULATED GLASS
G5: -
G6: -
G7: -
G8: -
G9: -
G10: -
G11: MONOLITHIC INTERIOR ENHANCED SECURITY GLAZING
G12: EXTERIOR SECURITY GLAZING
G13: -
G14: 120-MINUTE FIRE-RATED GLASS
G15: 90-MINUTE FIRE-RATED GLASS
IR: IMPACT RESISTANT (SAFETY & SECURITY) FILM RE: SPECS

LEGEND - GLAZING

1/4" = 1'-0"



5

B

SILL	JAMB	HEAD	CONDITION
21 / A9.02	22 / A9.02	26 / A9.02	ALUM. @ TRANS.

3R

SILL	JAMB	HEAD	CONDITION
5 / A9.02	9 / A9.02	15 / A9.02	H.M. @ CMU

3

SILL	JAMB	HEAD	CONDITION
5 / A9.02	9 / A9.02	15 / A9.02	H.M. @ CMU

2

SILL	JAMB	HEAD	CONDITION
3 / A9.02	9 / A9.02	15 / A9.02	H.M. @ CMU

1

SILL	JAMB	HEAD	CONDITION
	9 / A9.02	15 / A9.02	H.M. @ CMU
	11 / A9.02	16 / A9.02	H.M. @ BRK/CMU
	20 / A9.02	20 / A9.02	H.M. @ EX. CMU

ELEVATIONS - INTERIOR FRAMES

1/4" = 1'-0"

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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01/30/2025

PROJECT #: 202318
DATE: 2025-01-13
DRAWN: VP
CHECKED: CA

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A9.01

FRAME ELEVATIONS

1'-0" X 4'-0" LIGHT FIXTURE

2'-0" X 4'-0" LIGHT FIXTURE

RECESSED LIGHT

6" WIDE LIGHT FIXTURE

CORD REELS

CEILING MOUNTED PROJECTOR

WALL MOUNTED SHORT THROW PROJECTOR

SUSPENDED GRID W/ ACOUSTICAL CEILING TILE, RE: SCHED. & SPECS.

4'-0" X 4'-0" ACOUSTICAL DIFFUSER

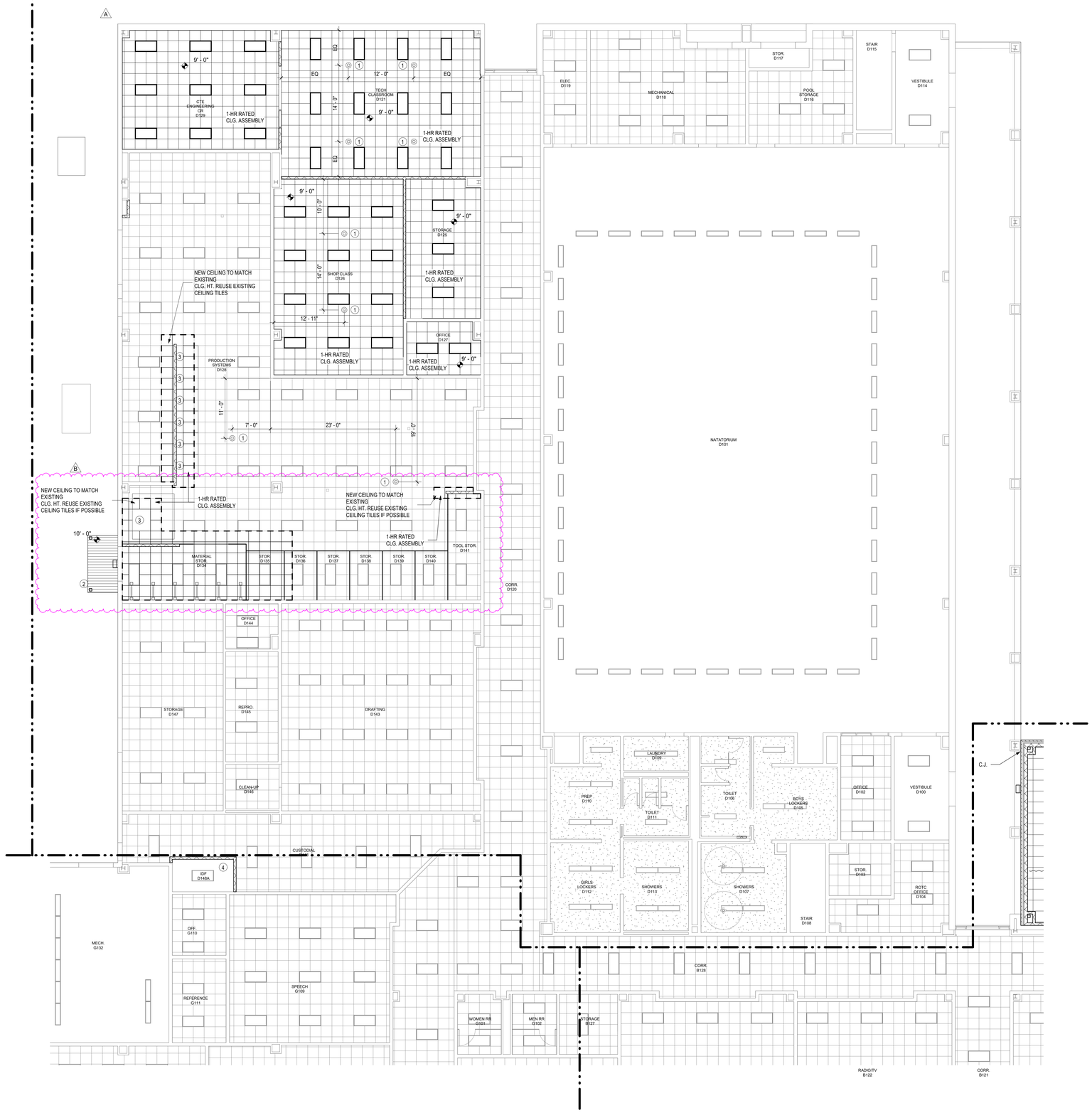
LEGEND - RCP

1/4" = 1'-0"

1. CORD REELS
2. CANOPY
3. EXHAUST HOOD (A)
4. EXPOSED STRUCTURE

KEYNOTES - RCP

1/4" = 1'-0"



1 AREA 'D1' - RCP

1/8" = 1'-0"

PLAN NORTH

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REGISTERED ARCHITECT JOHN A. CAMPBELL 27120 STATE OF TEXAS

01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	LP
CHECKED:	CA

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A10.03

AREA 'D1' 1ST FLOOR RCP

FLOORS		WALLS		WALLS		BASE		DOORS + CASEWRK. + COUNTERTPS.		CEILINGS	
CPT-1	CARPET (FIELD) MFR: TARKETT SERIES: AFTERMATH II 03026 COLOR: POTPOURRI 23510 BACKING: POWERBOND RS SIZE: ROLL	AWP-1	ACOUSTICAL WALL PANEL MFR: GUILFORD OF MAINE SERIES: ANCHORAGE COLOR: BIRCH 2129	TW-1A	TILE WALLS MFR: CROSSVILLE SERIES: SHADES COLOR: FOG SIZE: 12" X 24" TYPE: PORCELAIN	RB-1	RUBBER BASE MFR: ROPPE COLOR: BLACK BROWN	PL-1	PLASTIC LAMINATE (DOORS & CASEWORK) MFR: WILSONART COLOR: WALNUT HEIGHTS 7965	PT-10	PAINT MFR: SHERWIN WILLIAMS COLOR: MINDFUL GRAY 7016 LOCATION: GYPSUM CEILINGS
EPX-1	URETHANE FLOORING MFR: DEX-O-TEX SERIES: TEK-CRETE SL-CQ COLOR: DFS-B-10	AWP-2	ACOUSTICAL WALL PANEL MFR: GUILFORD OF MAINE SERIES: ANCHORAGE COLOR: ONYX 2016 LOCATION: BLACK BOX	TW-1B	TILE WALLS MFR: CROSSVILLE SERIES: SHADES COLOR: FOG SIZE: 6" X 24" TYPE: PORCELAIN	TB-1	TILE BASE MFR: CROSSVILE SERIES: SHADES COLOR: FOG SIZE: 6" X 12" COVE TRIM TYPE: PORCELAIN	PL-2	PLASTIC LAMINATE (COUNTERTOPS) MFR: WILSONART COLOR: DESERT ZEPHYR 4841		
LVT-1	LUXURY VINYL TILE (RESILIENT FLOORING) MFR: MOHAWK SERIES: MOLVENO WOODS C0110 COLOR: TOUCH OF SAND 121 SIZE: 8" X 60" PLANK	CC-1	CLINIC CURTAIN MFR: CONSTRUCTION SPECIALTIES LINE: CSELECT FABRIC PATTERN: SEAGRASS COLOR: TBD	TW-2	TILE WALLS MFR: CROSSVILLE SERIES: SHADES COLOR: FROST SIZE: 6" X 24" TYPE: PORCELAIN	TB-2	TILE BASE MFR: CROSSVILE SERIES: ARGENT 2.0 COLOR: MARBLE FAUN SIZE: 6" X 12" COVE TRIM TYPE: PORCELAIN	PL-3	PLASTIC LAMINATE (CASEWORK + COUNTERTOPS) MFR: WILSONART COLOR: BLACKBIRD 5024K-19 LOCATION: CONTROL ROOM	A	
MCT-1	MARMOLEUM COMPOSITE TILE (RESILIENT FLOORING) MFR: FORBO SERIES: MCT COLOR: SPARROW 3252 SIZE: 13" X 13"	SGTW-1	STRUCTURAL GLAZED TILE MFR: SPECTRA GLAZE SIZE: 8" (FIELD VERYIFY) COLOR: SPECIAL BLACK	TW-3A	TILE WALLS MFR: CROSSVILLE SERIES: SHADES COLOR: CLAY SIZE: 6" X 24" TYPE: PORCELAIN	TB-3	TILE BASE MFR: DALTILE SERIES: QUARRY TILE COVE BASE Q3565 COLOR: ARID GRAY 0Q42 SIZE: 6" X 6" TYPE: QUARRY B	QTZ-1	QUARTZ COUNTERTOPS MFR: SILESTONE COLOR: ALPINA WHITE 08 LOCATION: RECEPTION		
MCT-2	MARMOLEUM COMPOSITE TILE (RESILIENT FLOORING) MFR: FORBO SERIES: MCT COLOR: BLACK 2939 SIZE: 13" X 13"	SGTW-2	STRUCTURAL GLAZED TILE MFR: SPECTRA GLAZE SIZE: 8" (FIELD VERYIFY) COLOR: TBD. ALLOW FOR SELECTION FROM FULL LINE OF COLORS INCLUDING STANDARD, VARI-TONE, AND DESIGNER.	TW-3B	TILE WALLS MFR: CROSSVILLE SERIES: SHADES COLOR: CLAY SIZE: 6" X 6" TYPE: PORCELAIN	TB-4	TILE BASE MFR: CROSSVILLE SERIES: COLOR BLOX 2.0 COLOR: MATCH EXISTING CORRIDOR SIZE: 6" X 6" TYPE: PORCELAIN	QTZ-2	QUARTZ COUNTERTOPS MFR: CAMBRIA COLOR: FAIRBORNE LOCATION: ART AND PRESS BOX B		
SC-1	SEALED CONCRETE RE: SPECS	SGTW-3	STRUCTURAL GLAZED TILE MFR: SPECTRA GLAZE SIZE: 8" (FIELD VERYIFY) COLOR: TBD. ALLOW FOR SELECTION FROM FULL LINE OF COLORS INCLUDING STANDARD, VARI-TONE, AND DESIGNER.	TW-4	TILE WALLS MFR: CROSSVILLE SERIES: SHADES COLOR: INK SIZE: 6" X 24" TYPE: PORCELAIN	SGTB-1	STRUCTURAL GLAZED TILE BASE MFR: SPECTRA GLAZE SIZE: 4 X 4 X 16 COLOR: SPECIAL BLACK	HDPE	LOCKER TOPS MFR: ASI COLOR: CONFETTI 9217 LOCATION: ART ROOM (LOCKER TOPS ONLY) & DRILL TEAM LOCKER ROOM (BENCHES AND COUNTER)		
PC-1	POLISHED CONCRETE RE: SPECS	SGTW-4	STRUCTURAL GLAZED TILE MFR: SPECTRA GLAZE SIZE: 8" (FIELD VERYIFY) COLOR: TBD. ALLOW FOR SELECTION FROM FULL LINE OF COLORS INCLUDING STANDARD, VARI-TONE, AND DESIGNER.	TW-5	TILE WALLS MFR: AMERICAN OLEAN SERIES: THEORETICAL BOLD COLOR: GENUINE GREEN SIZE: 6" X 6" TYPE: PORCELAIN						
TRZ-1	TERRAZZO (MATCH EXISTING LIGHT COLOR) RE: SPECS	PT-1	PAINT (FIELD) MFR: SHERWIN WILLIAMS COLOR: SHIITAKE SW 9173	TW-6	TILE WALLS MFR: AMERICAN OLEAN SERIES: THEORETICAL BOLD COLOR: PRIMARY YELLOW SIZE: 6" X 6" TYPE: PORCELAIN	A					
TRZ-2	TERRAZZO (MATCH EXISTING MEDIUM COLOR) RE: SPECS	PT-2	PAINT MFR: SHERWIN WILLIAMS COLOR: TONY TAUPE SW 7038	TW-7	TILE WALLS MFR: DALTILE SERIES: COLORMATCH COLOR: CUSTOM MATCH TO EXISTING NEUTRAL FIELD TILE (SEMI-GLOSS FINISH) SIZE: MATCH EXISTING 4" X 4" (FIELD VERIFY) TYPE: CERAMIC						
TF-1	TILE FLOORS MFR: CROSSVILLE SERIES: SHADES COLOR: FOG SIZE: 24" X 24" TYPE: PORCELAIN B	PT-3	PAINT MFR: SHERWIN WILLIAMS COLOR: VIRTUAL TAUPE SW 7039								
TF-2	TILE FLOORS MFR: CROSSVILLE SERIES: ARGENT 2.0 COLOR: MARBLE FAUN SIZE: 12" X 12" TYPE: PORCELAIN	PT-4	PAINT MFR: SHERWIN WILLIAMS COLOR: ARTICHOKE SW 6179	GRTW-1	GROUT-WALLS MFR: LATICRETE COLOR: 40 LATTE LOCATION: KITCHEN AND COMMONS WALLS B						
TF-3	TILE FLOORS MFR: DALTILE SERIES: QUARRY TILE COLOR: ARID GRAY 0Q42 SIZE: 6" X 6" TYPE: QUARRY	PT-5	PAINT MFR: SHERWIN WILLIAMS COLOR: MANNERED GOLD SW 6130								
TF-4	TILE FLOORS MFR: CROSSVILLE SERIES: COLOR BLOX 2.0 COLOR: MATCH EXISTING CORRIDOR SIZE: 12" X 12" TYPE: PORCELAIN	PT-6	PAINT MFR: SHERWIN WILLIAMS COLOR: SHAMROCK 6454 B								
WM-1	WALK-OFF MAT MFR: TARKETT SERIES: ASSERTIVE ACTION 04837 COLOR: CHROMIUM 26201 BACKING: POWERBOND RS SIZE: ROLL	PT-7	PAINT (HOLLOW METAL FRAMES) MFR: SHERWIN WILLIAMS COLOR: BLACK FOX SW 7020								
GRTF-1	GROUT-FLOORS MFR: LATICRETE COLOR: 60 DUSTY GREY LOCATION: KITCHEN & SERVING LINE FLOOR B	PT-8	PAINT (BLACK BOX) MFR: SHERWIN WILLIAMS COLOR: BLACK MAGIC SW 6991								
		PT-9	PAINT MFR: SHERWIN WILLIAMS COLOR: GREENS SW 6748 B								

NOTE: ALL OPTIONS, SIZES, AND PATTERNS ARE SUBJECT TO CHANGE UPON OWNER APPROVAL

1 INTERIOR FINISH LEGEND
3/8" = 1'-0"

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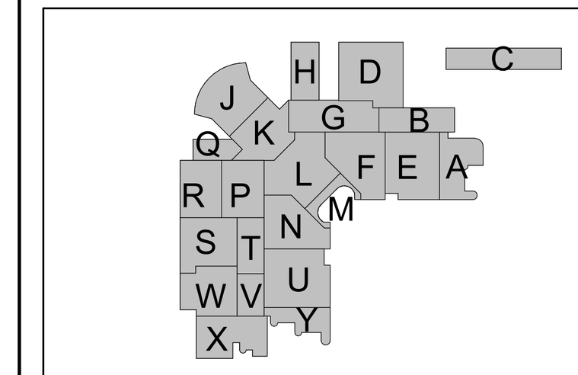

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REGISTERED ARCHITECT
STATE OF TEXAS
27120
01/30/2025

PROJECT #: 202318
DATE: 2025-01-13
DRAWN: DS
CHECKED: CA

DATE	ISSUE	#
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

A11.00

INTERIOR FINISH LEGEND

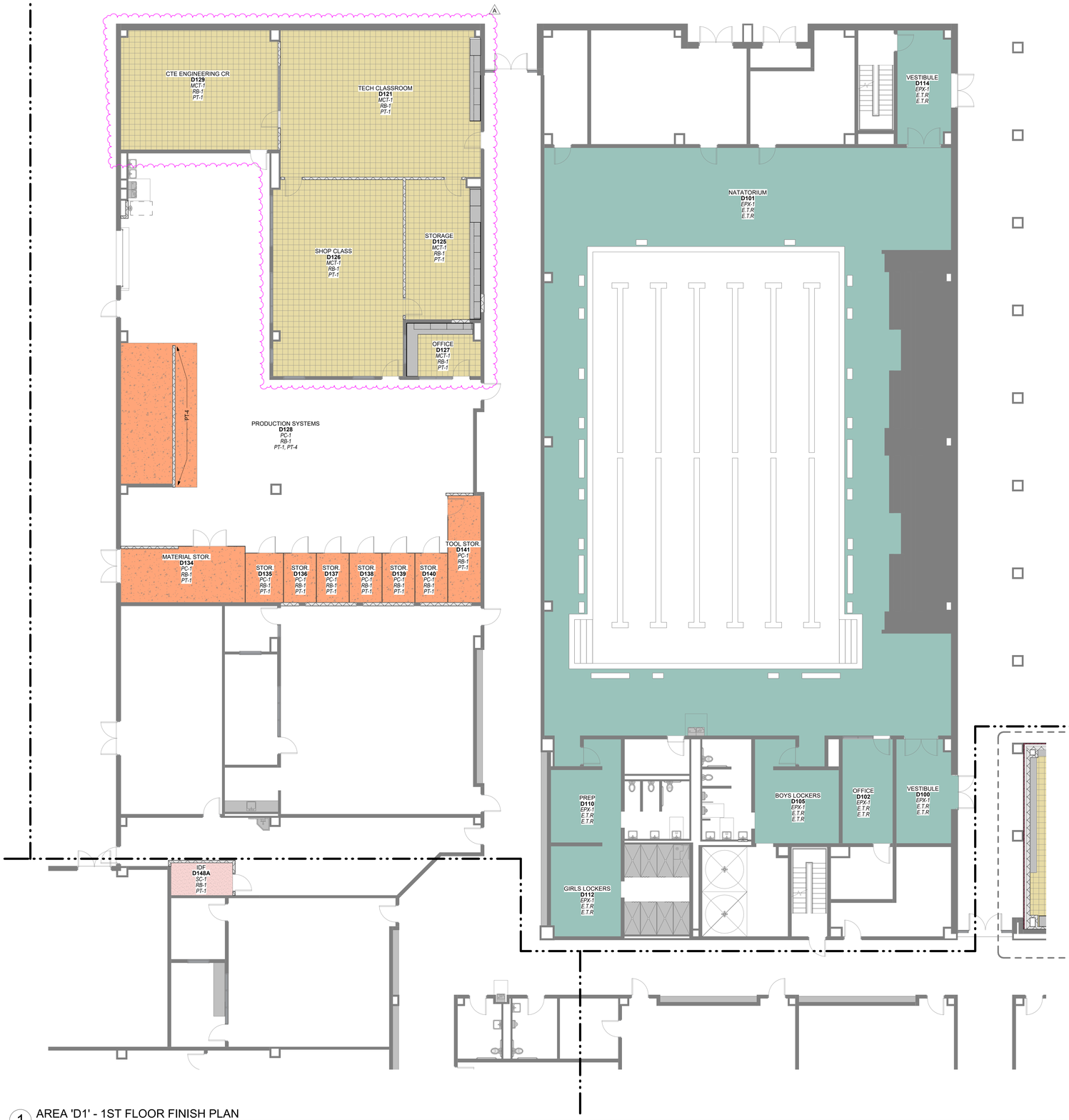
ROOM NAME — ROOM NAME
101 — ROOM NUMBER
CPT-1 — FLOOR FINISH
RB-1 — BASE FINISH
PT-1 — WALL FINISH

1. RE: ROOM FINISH SCHEDULES FOR MATERIAL LOCATIONS.
2. RE: A11 SERIES DWGS. FOR TILE PATTERN ORIGIN POINTS.
3. ALL CHANGES IN FLOOR MATERIAL BETWEEN ROOMS SHALL OCCUR @ CENTERLINE OF DOORWAY UNLESS OTHERWISE NOTED.

NOTES - GENERAL FINISH PLAN
1/4" = 1'-0"

FLOOR FINISH LEGEND

CPT-1	TF-1
EPX-1	TF-2
LVT-1	TF-3
MCT-1	TF-4
MCT-2	TRZ-1
PC-1	TRZ-2
SC-1	WM-1



1 AREA 'D1' - 1ST FLOOR FINISH PLAN
1/8" = 1'-0"

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REGISTERED ARCHITECT — JOHN T. CAMPBELL — 27120 — STATE OF TEXAS

2 A11.02

01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	DS/LP
CHECKED:	CA

DATE	ISSUE
2025-01-13	PERMIT AND PROPOSAL
2025-01-30	ADDENDUM No. 05 A

A11.03

AREA 'D1' 1ST FLOOR FINISH PLAN

PLAN NORTH

ROOM NAME	ROOM NAME
101	ROOM NUMBER
CPT-1	FLOOR FINISH
RB-1	BASE FINISH
PT-1	WALL FINISH

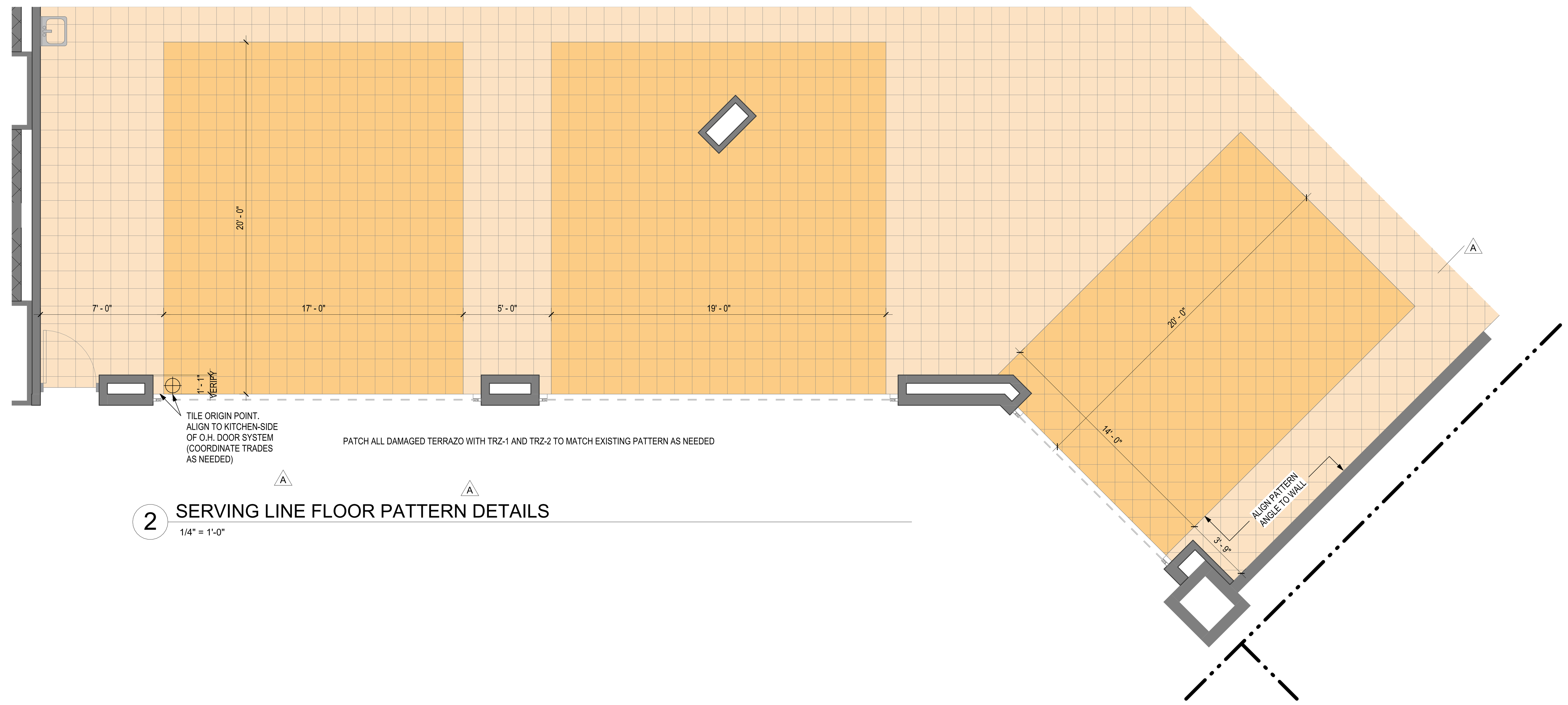
1. RE: ROOM FINISH SCHEDULES FOR MATERIAL LOCATIONS.
2. RE: A11 SERIES DWGS. FOR TILE PATTERN ORIGIN POINTS.
3. ALL CHANGES IN FLOOR MATERIAL BETWEEN ROOMS SHALL OCCUR @ CENTERLINE OF DOORWAY UNLESS OTHERWISE NOTED.

NOTES - GENERAL FINISH PLAN

1/4" = 1'-0"

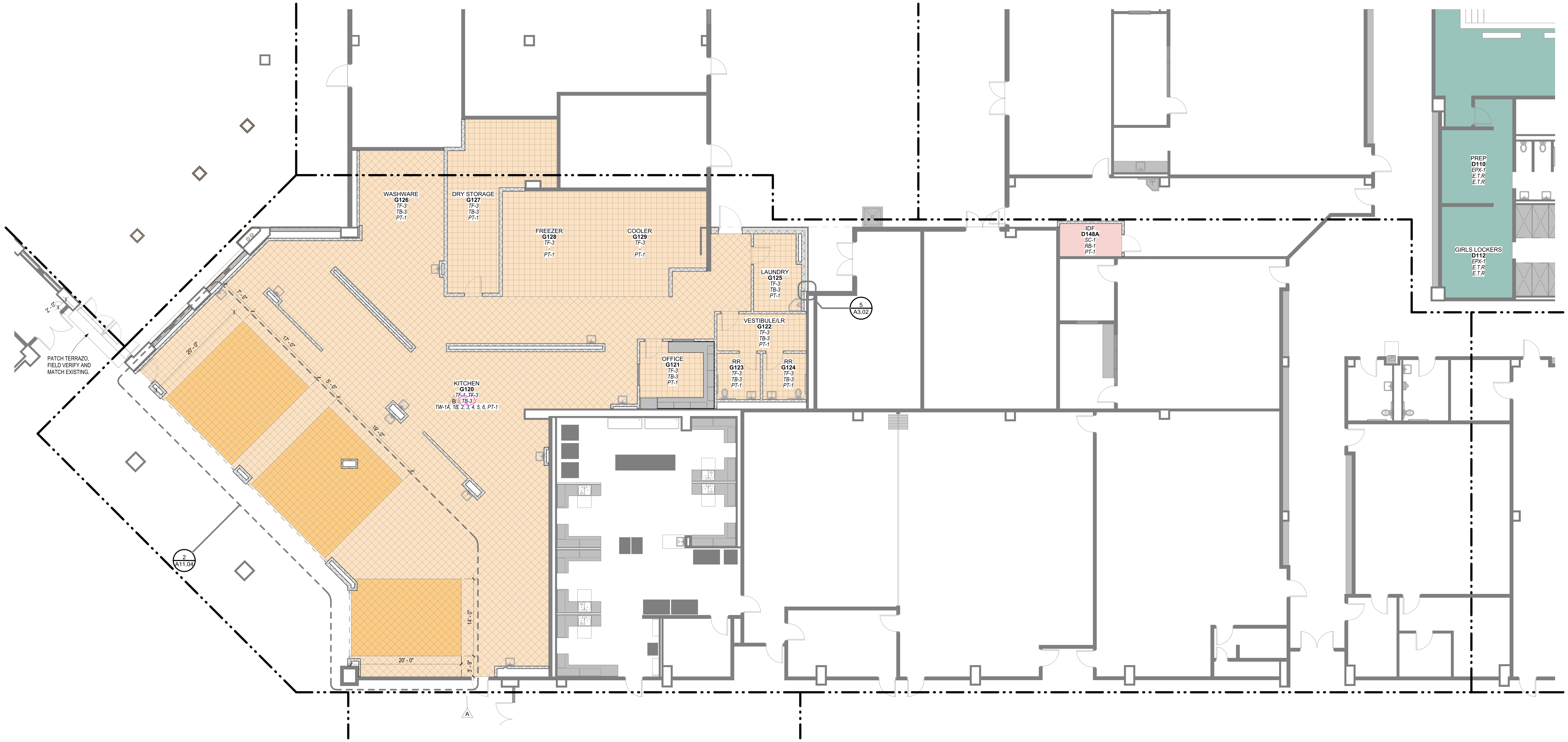
FLOOR FINISH LEGEND

CPT-1	TF-1
EPX-1	TF-2
LVT-1	TF-3
MCT-1	TF-4
MCT-2	TRZ-1
PC-1	TRZ-2
SC-1	WM-1



2 SERVING LINE FLOOR PATTERN DETAILS

1/4" = 1'-0"



1 AREA 'G1' - 1ST FLOOR FINISH PLAN

1/8" = 1'-0"

PLAN NORTH

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1401 El Camino Real, Suite 204
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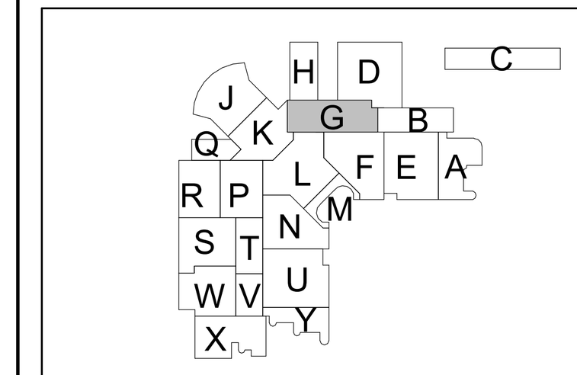


2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD

9811 Huffmeister Rd, Houston, TX 77095

ARCADIS

TEXAS ARCADIS INC.
1330 POST OAK BOULEVARD, SUITE 2250
HOUSTON, TX 77056
tel 281.286.6605, fax 713.977.4620

01/30/2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	DS/LP
CHECKED:	CA

DATE	ISSUE	#
2025-01-13	PERMIT AND PROPOSAL	
2025-01-24	ADDENDUM No. 02	A
2025-01-30	ADDENDUM No. 05	B

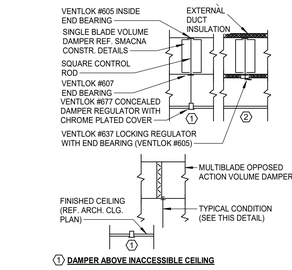
A11.04

AREA 'G1' 1ST FLOOR FINISH PLAN

SYMBOL LEGEND

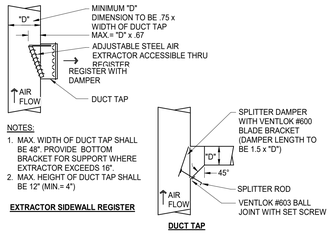
SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
A	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
SD	SMOKE DAMPER (VERTICAL)
SD	SMOKE DAMPER (HORIZONTAL)
FD SD	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
FS	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
M	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	GRILLE SIZE TAG (REFER TO GRILLE SIZE LEGEND)
	SUPPLY AIR GRILLE WITH FOUR-WAY THROW
	SUPPLY AIR GRILLE WITH THREE-WAY THROW
	SUPPLY AIR GRILLE WITH TWO-WAY THROW
	SUPPLY AIR GRILLE WITH TWO-WAY CORNER THROW
	SUPPLY AIR GRILLE WITH ONE-WAY THROW
	RETURN AIR GRILLE
	RETURN AIR GRILLE WITH SOUND BOOT
	EXHAUST AIR GRILLE
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWS&R-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CWS-	CONDENSER WATER SUPPLY
-CWR-	CONDENSER WATER RETURN
-CHWS&R-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CHWS-	CHILLED WATER SUPPLY
-CHWR-	CHILLED WATER RETURN
-HWS&R-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-HWS-	HOT WATER FOR HYDRONIC HEATING SUPPLY
-HWR-	HOT WATER FOR HYDRONIC HEATING RETURN
-D-	CONDENSATE DRAIN LINE
-AD-	AUXILLARY CONDENSATE DRAIN LINE
-RLR-	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-RL-	REFRIGERANT LIQUID LINE
-HG-	REFRIGERANT HOT GAS LINE
-RS-	REFRIGERANT SUCTION LINE
-O	ELBOW UP
-O	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
PR	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
G.C.	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
RENOVATIONS	
	POINT OF CONNECTION FROM NEW TO EXISTING
	ITEM TO REMAIN
	ITEM TO BE REMOVED

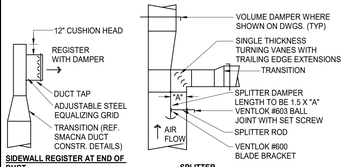
DUCTWORK CONSTRUCTION DETAILS



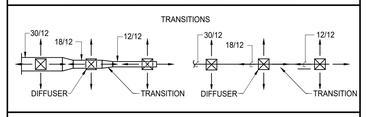
1 **DAMPER ABOVE INACCESSIBLE CEILING**

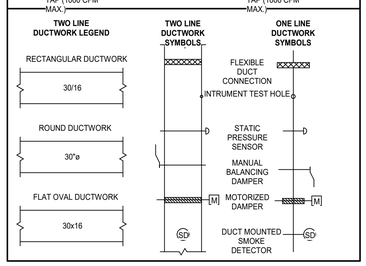
2 **DAMPER ABOVE LIFT-OUT CEILING**





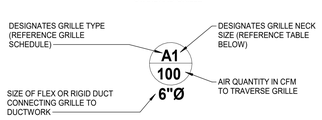
DUCTWORK SYMBOLS LEGEND





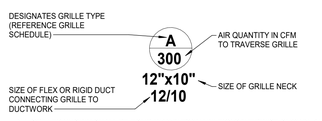
GRILLE SIZING SCHEDULE

STANDARD GRILLE



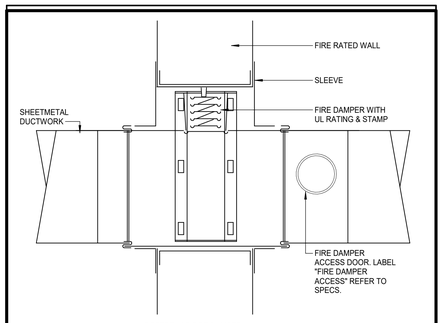
ALL GRILLES SHOWN SHALL BE FOUR-WAY THROW UNLESS OTHERWISE SHOWN.

REGISTER OR NONSTANDARD GRILLE

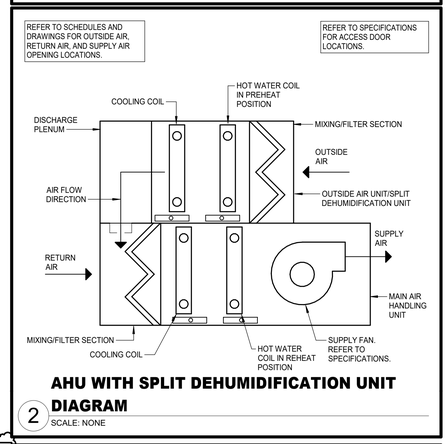


ALL GRILLES SHOWN SHALL BE FOUR-WAY THROW UNLESS OTHERWISE SHOWN. ALL REGISTERS SHALL HAVE A 45° HORIZONTAL DEFLECTION UNLESS OTHERWISE SHOWN.

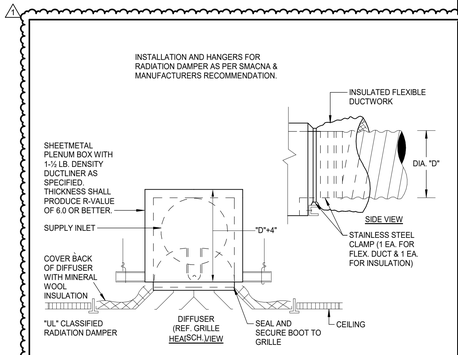
GRILLE SIZE DESIGNATION	GRILLE NECK SIZE	GRILLE SIZE DESIGNATION	GRILLE NECK SIZE
1	6" x 6"	7	15" x 15"
2	8" x 8"	8	16" x 16"
3	9" x 9"	9	18" x 18"
4	10" x 10"	10	20" x 20"
5	12" x 12"	11	22" x 22"
6	14" x 14"	12	24" x 24"



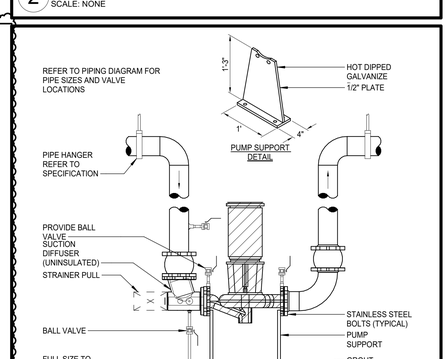
3 **FIRE DAMPER**
SCALE: NONE



AHU WITH SPLIT DEHUMIDIFICATION UNIT DIAGRAM
2 SCALE: NONE



"UL" CLASSIFIED CEILING RADIATION DAMPER WITH ADAPTER FOR FLEXIBLE DUCT
4 SCALE: NONE



VERTICAL INLINE PUMP SUPPORT
1 SCALE: NONE

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salasobrien.com 281-664-1900
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Registration: F-4111
Project No: 2023-05945-00

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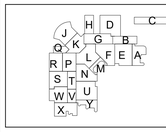

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	MR
CHECKED:	VP

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

M5.02

MECHANICAL DETAILS AND LEGENDS

AIR HANDLING UNIT

MARK	FAN							COOLING							HEATING					PIPE SIZE TO COIL (IN.)		REMARKS
	SUPPLY AIR CFM	OUTSIDE AIR CFM	EXT. STATIC PRESSURE (IN. W.C)	HORSE POWER	CURRENT			AIR TEMPERATURE (°F)				WATER			ENTERING AIR TEMPERATURE (°F)	MIN. HEATING CAPACITY	WATER			CHILLED WATER	HOT WATER	
					V	PH	F	ENTERING DRY BULB	ENTERING WET BULB	LEAVING DRY BULB	LEAVING WET BULB	ENTERING TEMP (°F)	GPM	PRESSURE DROP (FT.)			ENTERING TEMP. (°F)	GPM	PRESSURE DROP (FT.)			
AHU-4	10,000	2,700	1.50	10.0	480	3	60	75.0	62.5	53.0	52.5	45	52.2	15.0	60.0	378,000	160.0	37.8	10.0	2 1/2"	2"	1,3,5,6,7,10,11
AHU-4-A	2,700	2,700						98.0	80.0	53.0	52.5	45	44.1	15.0	27.0	81,648	160.0	8.2	10.0	2 1/2"	1 1/4"	2,3,6,8,9,11,12,13
AHU-A-5	4,000	1,000	1.50	5.0	480	3	60	75.0	62.5	53.0	52.5	45	20.9	15.0	0.0	0	0.0	0.0	0.0	2"	0"	1,3,4,6,11
AHU-A-5-A	1,000	1,000						98.0	80.0	53.0	52.5	45	16.3	15.0	27.0	30,240	160.0	3.1	10.0	1 1/2"	3/4"	2,3,6,8,9,11,14,15

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MAINTAIN MINIMUM CLEARANCE FOR COIL PULL AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. VELOCITY NOT TO EXCEED 500 FPM ON COOLING COIL.
2. VELOCITY NOT TO EXCEED 450 FPM ON COOLING COIL.
3. PROVIDE HORIZONTAL UNIT.
4. PROVIDE VARIABLE VOLUME UNIT WITH VARIABLE FREQUENCY DRIVE.
5. PROVIDE CONSTANT VOLUME UNIT WITH VARIABLE FREQUENCY DRIVE.PROVIDE TOP DISCHARGE.
6. PROVIDE TWO-WAY COOLING CONTROL VALVES.
7. PROVIDE TWO-WAY HEATING CONTROL VALVES.
8. PROVIDE THREE-WAY HEATING CONTROL VALVES.
9. PROVIDE HOT WATER COIL IN PRE-HEAT POSITION.
10. PROVIDE HOT WATER COIL IN REHEAT POSITION.
11. PROVIDE UNIT WITH ANGLED FILTER SECITON.
12. THIS UNIT IS THE SPLIT DEHUMIDIFICATION OUTSIDE AIR UNIT FOR THE AIR HANDLING UNIT LISTED ABOVE (AHU-4). SPLIT DEHUMIFICATION UNIT TO BE MOUNTED ON TOP OF AHU AND BE CONFIGURED TO SUPPLY AIR IN THE MIXING BOX SECTION OF THE MAIN AHU.
13. UNIT INDICATED SHALL BE STACKED OAHU FURNISHED WITH ASSOCIATED AHU LISTED ABOVE (AHU-4). UNIT INCLUDES FLAT FILTER MIXING BOX, PREHEAT COIL, AND DISCHARGE PLENUM. UNIT DOES NOT HAVE FAN SECTION.
14. THIS UNIT IS THE SPLIT DEHUMIDIFICATION OUTSIDE AIR UNIT FOR THE AIR HANDLING UNIT LISTED ABOVE (AHU-A-5). SPLIT DEHUMIFICATION UNIT TO BE MOUNTED ON TOP OF AHU AND BE CONFIGURED TO SUPPLY AIR IN THE MIXING BOX SECTION OF THE MAIN AHU.
15. UNIT INDICATED SHALL BE STACKED OAHU FURNISHED WITH ASSOCIATED AHU LISTED ABOVE (AHU-A-5). UNIT INCLUDES FLAT FILTER MIXING BOX, PREHEAT COIL, AND DISCHARGE PLENUM. UNIT DOES NOT HAVE FAN SECTION.

CHILLED & HOT WATER FAN/COIL UNIT

MARK	FAN							COOLING					HEATING					PIPE SIZE TO COIL (IN.)		REMARKS
	SUPPLY AIR CFM	OUTSIDE AIR CFM	EXT.STATIC PRESSURE (IN. W.C.)	HORSE POWER	CURRENT			AIR TEMPERATURE (°F)		WATER			ENTERING AIR TEMPERATURE (°F)	MIN. CAPACITY (BTUH)	WATER			CHILLED WATER	HOT WATER	
					V	P	F	ENTERING DRY BULB	ENTERING WET BULB	ENTERING TEMP(°F)	GPM	PRESSURE DROP (FT.)			ENTERING TEMP.(°F)	GPM	PRESSURE DROP (FT.)			
CHFCU-B-1	1,000	80	0.50	1.0	277	1	60	77.1	64.4	45	11	15.0	68.0	34,992	160	3.5	10.0	1 1/4"	1"	1,2,3,4,5,6,7,8,9,10,11

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MAINTAIN MINIMUM CLEARANCE FOR COIL PULL AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. VELOCITY NOT TO EXCEED 500 FPM ON COOLING COIL.
2. PROVIDE HORIZONTAL UNIT.
3. PROVIDE CONSTANT VOLUME UNIT.
4. PROVIDE HOT WATER COIL IN REHEAT POSITION.
5. PROVIDE WITH LOW VELOCITY ANGLED FILTER SECTION.
6. PROVIDE WITH FLOAT SWITCH AUTOMATIC SHUT OFF.
7. SUSPEND UNIT WITH FOUR THREADED HANGER RODS ATTACHED TO TWO UNISTRUT RUNNERS SECURED TO STRUCTURE. PROVIDE SPRING ISOLATION
8. REFER TO MANUFACTURER FOR MORE DETAILS.
9. PROVIDE 2-WAY COOLING CONTROL VALVES.
10. PROVIDE 2-WAY HYDRONIC HOT WATER CONTROL VALVES.
11. PROVIDE WITH DIRECT DRIVE EC MOTOR WITH 0-10 VDC MODULATING CONTROL

GRILLE

MARK	SERVICE	TYPE	DAMPER	CONSTRUCTION MATERIAL	FINISH COLOR	MANUFACTURER	MODEL NUMBER	DESCRIPTION
A	SUPPLY AIR	DIFFUSER	-	STEEL	WHITE	TITUS	TMS	EXPOSED T-BAR CEILING FRAME STYLE WITH 24"X24" OR 12"X12" FACE. LOUVERED FACE
B	RETURN AIR	DIFFUSER	-	STEEL	WHITE	TITUS	350RL	SINGLE DEFLECTION GRILLE WITH HORIZONTAL FRONT BARS. LAY-IN 24"X24" FACE.
D	GRILLE	SUPPLY AIR	-	STEEL	WHITE	TITUS	300RL	DOUBLE DEFLECTION SIDEWALL GRILLE WITH HORIZONTAL FRONT BARS. SURFACE MOUNTED
E	GRILLE	EXHAUST AIR	-	STEEL	WHITE	TITUS	350RL	SINGLE DEFLECTION SIDEWALL GRILLE WITH HORIZONTAL FRONT BARS. SURFACE MOUNTED
F	EXHAUST AIR	DIFFUSER	-	STEEL	WHITE	TITUS	350RL	SINGLE DEFLECTION GRILLE WITH HORIZONTAL FRONT BARS. LAY-IN 24"X24" FACE.
G	SUPPLY AIR	DIFFUSER	U.L.	STEEL	WHITE	TITUS	TMS-FR	EXPOSED T-BAR CEILING FRAME STYLE WITH 24"X24" OR 12"X12" FACE. LOUVERED FACE

GENERAL NOTES:
1. DAMPERS NOTED AS U.L. SHALLBE A 'U.L.' CLASSIFIED CEILING RADIATION DAMPER WITH THERMAL BLANKET.
2. COORDINATE FINAL AIR DEVICE LOCATION AND FINISH COLOR WITH ARCHITECT.

REMARKS:
1. N/A

DAMPER

MARK	ACTUATOR	DUTY	BLADE ACTION	MANUFACTURER	MODEL NUMBER	REMARKS
D-1	MANUAL BALANCING	UNDER 9" WIDE	N/A	N/A	N/A	SEE SMACNA CONSTRUCTION DETAILS REFERENCED "TYPICAL CONSTRUCTION DETAILS FOR LOW VELOCITY DUCTS."
D-2	MANUAL BALANCING	OVER 9" WIDE	OPPOSED	RUSKIN	MD-35	MANUAL DAMPER WITH STANDARD CONSTRUCTION FEATURES AND VENTLOCK #639 LOCKING REGULATOR.
D-3	MOTORIZED	OVER 9" WIDE	OPPOSED	RUSKIN	CD-60	LOW LEAKAGE DAMPER WITH BLADE SEALS

NOTES:
N/A - NOT APPLICABLE

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MOTOR HORSE POWER	MAX. RPM	CURRENT CHARAC.			MANUFACTURER	MODEL NUMBER	REMARKS
							V	P	F			
P-17	CHILLED WATER	VERTICAL INLINE	232	50.00	7.5	1800	480	3	60	ARMSTRONG	4300	1,2,3

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
2. PROVIDE SUCTION DIFFUSER AT PUMP INLET.
3. PROVIDE PUMP AND SUCTION DIFFUSER WITH GAUGE TRAPPINGS

WALL MOUNTED UNIT SCHEDULE

MARK	EVAPORATOR FAN				COOLING						HEATING	ELECTRICAL REQUIREMENTS			UNITS BASED ON AMANA	REMARKS
	SUPPLY AIR CFM HIGH/LOW	OUTSIDE AIR CFM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER WATTS	AIR TEMPERATURE (°F)			MIN. TOTAL CAPACITY (BTUH)	MIN. SENSIBLE CAPACITY (BTUH)	MINIMUM EER	MINIMUM CAPACITY (BTUH)	CURRENT CHARAC.	MCA	MOCP		
					ENTERING DRY BULB	ENTERING WET BULB	OUTDOOR AMBIENT									
WU-1	265	0	-	-	77.0	63.0	98.0	12,000	11,800	9.8	11,000	208/1/60	14.2	15	PBE123G	1,2,3,4,5
WU-2	265	0	-	-	77.0	63.0	98.0	12,000	11,800	9.8	11,000	208/1/60	14.2	15	PBE123G	1,2,3,4,5
WU-3	265	0	-	-	77.0	63.0	98.0	12,000	11,800	9.8	11,000	208/1/60	14.2	15	PBE123G	1,2,3,4,5

REMARKS:
1. PROVIDE UNIT WITH WALL SLEEVE AND ALUMINUM ARCHITECTURAL GRILLE.
2. PROVIDE UNIT WITH MANUFACTURER SUB BASE.
3. PROVIDE UNIT WITH WALL MOUNTED WIRED THERMOSTAT.
4. PROVIDE UNIT WITH N6-20P CONNECTION TO UTILIZE EXISTING PLUG.
5. PROVIDE UNIT WITH SLINGER RING FOR CONDENSATION WATER.

RELIEF VENT & O.A. INTAKE

MARK	CFM	MAX. S.P. (IN.WC.)	MIN. THROAT AREA	MODEL	SERVES	REMARKS
OAI-26	5500	0.05	11.00 SF	GI	(E)EF-72	1,2,3
OAI-27	1500	0.05	3.00 SF	GI	EF-84	1,2,3
OAI-28	4200	0.05	8.40 SF	GI	EF-83	1,2,3
OAI-29	4200	0.05	8.40 SF	GI	EF-83	1,2,3
OAI-B -1	80	0.05	0.16 SF	GI	CHFCU-B-1	1,2,3

REMARKS:
1. PROVIDE WITH ROOF CURB.
2. PROVIDE WITH BIRD SCREEN.
3. PROVIDE WITH LOW LEAKAGE MOTORIZED DAMPER THAT SHALL CLOSE WHEN UNIT IS NOT OPERATING. PROVIDED BY BMCS INSTALLED IN DUCTWORK BY MECHANICAL CONTRACTOR.

CONSTANT VOLUME TERMINAL BOX

MARK	MAXIMUM CFM	MINIMUM CFM	INLET DIAMETER SIZE (IN.)	CURRENT CHARAC.			HOT WATER COIL			REMARKS
				V	P	F	ENTERING WATER TEMP. (°F)	GPM	CONNECTING PIPE SIZE (IN.)	
CVB-A5-1	1,135	300	12	277	1	60	160	3.1	3/4"	-
CVB-A5-2	1,740	480	14	277	1	60	160	4.8	1"	-
CVB-A5-3	1,735	400	14	277	1	60	160	4.6	1"	-

GENERAL NOTES:
1. MAXIMUM STATIC PRESSURE DROP OF AIR THROUGH THE TERMINAL BOX SHALL BE 0.2" ESP.
2. MAXIMUM VELOCITY THROUGH DUCT INLET SHALL BE 2,000 FPM.
3. MAXIMUM STATIC PRESSURE DROP THROUGH HEATER COIL SHALL BE 0.25" ESP.
4. MAXIMUM STATIC PRESSURE DROP OF WATER THROUGH HEATER COIL SHALL BE 10' W.G.
5. BTUH REQUIRED FOR HOT WATER HEATING IS HEATING GPM MULTIPLIED BY 10,000.
6. SUSPEND UNIT WITH FOUR THREADED HANGER RODS ATTACHED TO TWO UNISTRUT RUNNERS SECURED TO STRUCTURE. PROVIDE SPRING ISOLATION. REFER TO MANUFACTURER FOR MORE DETAILS.
7. UNITS TO BE MOUNTED BETWEEN BEAMS AND 18" MAXIMUM ABOVE CEILING. AVOID MOUNTING OVER LIGHTS WHEREVER POSSIBLE.
8. REFER TO PIPING AT HOT WATER COIL DETAILS. PROVIDE WITH 2-WAY CONTROL VALVE UNLESS OTHERWISE SCHEDULED.
9. CVB MOTOR SIZE, BASED ON 0.35" ESP, AS FOLLOWS:
   - A. 0-400 CFM REQUIRE 1/10 HORSEPOWER MOTOR
   - B. 401-700 CFM REQUIRE A 1/4 HORSEPOWER MOTOR
   - C. 701-1100 CFM REQUIRE A 1/2 HORSEPOWER MOTOR
   - D. 1101-1500 CFM REQUIRE A 3/4 HORSEPOWER MOTOR

REMARKS:
1. N/A

FAN SCHEDULE

TAG	LOCATION	CFM	EXT. STATIC PRESSURE (IN.W.C.)	MAX RPM	HORSE POWER	CURRENT CHAR			LOCALLY SWITCHED	INTERLOCK WITH	FAN TYPE	DRIVE TYPE	MANUFACTURER	MODEL NUMBER	REMARKS
						V	P	F							
EF-70	TOILET	210	0.50	1550	0.13	120	1	60	-	SF-A-4	ROOF MOUNTED	DIRECT	COOK	ACED	1,2,3,5
EF-83	PRODUCTION SYSTEMS	-8400	4.00	1455	7.5	480	3	60	SWITCH	-	VENT SET	DIRECT	COOK	CPS	1,8,10,11
EF-84	PRODUCTION SYSTEMS	3000	1.25	1200	0.5	120	1	60	TIMER	-	ROOF MOUNTED	DIRECT	COOK	ACED	1,2,3,5,6
EF-85	ICE MACHINE	100	0.50	1550	0.13	120	1	60	T-STAT	-	ROOF MOUNTED	DIRECT	COOK	ACED	1,2,3,5
EF-86	DRILL TAM	300	0.50	1550	0.13	120	1	60	-	(E)AHU-15	ROOF MOUNTED	DIRECT	COOK	ACED	1,2,3,5
EF-A5-1	ART	850	0.63	1550	0.25	120	1	60	TIMER	-	ROOF MOUNTED	DIRECT	COOK	ACED	1,2,3,5,6
EF-A5-2	WORKROOOM	200	0.50	1550	0.13	120	1	60	-	SF-A-5-1	ROOF MOUNTED	DIRECT	COOK	ACED	1,2,3,5
EF-FH-1	FIELD STORAGE	1000	0.50	1868	0.5	120	1	60	H-STAT	-	INLINE	DIRECT	COOK	SQN	1,2,3,4
KEF-1	KITCHEN	2630	1.00	1339	1	480	3	60	HOOD SWITCH		ROOF MOUNTED	DIRECT	COOK	VCR	1,9
KEF-2	KITCHEN	2630	1.00	1339	1	480	3	60	HOOD SWITCH		ROOF MOUNTED	DIRECT	COOK	VCR	1,9
KEF-3	KITCHEN	3780	1.00	1160	1.5	480	3	60	HOOD SWITCH		ROOF MOUNTED	DIRECT	COOK	VCR	1,9
KEF-4	DISHWASHER	1200	1.00	1640	0.5	120	1	60	HOOD SWITCH	-	ROOF MOUNTED	DIRECT	COOK	ACED	1,5
KEF-5	KITCHEN	1680	1.00	1550	0.75	480	3	60	HOOD SWITCH		ROOF MOUNTED	DIRECT	COOK	VCR	1,9
KEF-6	KITCHEN	1680	1.00	1550	0.75	480	3	60	HOOD SWITCH		ROOF MOUNTED	DIRECT	COOK	VCR	1,9
KSF-1	KITCHEN	2500	0.75	996	1.5	480	3	60	-	KEF-1, KEF-2	ROOF MOUNTED	BELT	COOK	APS	1,2,5,7
KSF-2	KITCHEN	1800	0.75	1078	0.75	480	3	60	-	KEF-3	ROOF MOUNTED	BELT	COOK	APS	1,2,5,7
KSF-3	KITCHEN	800	1.00	2274	0.5	120	1	60	-	KEF-5	ROOF MOUNTED	BELT	COOK	QMXS	1,2,5
KSF-4	KITCHEN	800	1.00	2274	0.5	120	1	60	-	KEF-6	ROOF MOUNTED	BELT	COOK	QMXS	1,2,5
SF-4-A	MECH H103	2700	0.75	1158	0.75	480	3	60	-	AHU-4-A	ROOF MOUNTED	BELT	COOK	CFS	1,2,5,7,8
SF-A-5-1	MECH A134	1000	0.60	1141	0.75	480	3	60	-	AHU-A-5-A	ROOF MOUNTED	BELT	COOK	CFS	1,2,5,7,8
SF-WELD	PRODUCTION SYSTEMS	8000	0.75	1140	3	480	3	60	-	SPRAY BOOTH	ROOF MOUNTED	DIRECT	COOK	HEF	1,2,5,7,8

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH DISCONNECT.
2. PROVIDE WITH LOW LEAKAGE MOTORIZED DAMPER THAT SHALL CLOSE WHEN UNIT IS NOT OPERATING. PROVIDED BY BMCS INSTALLED IN DUCTWORK BY MECHANICAL CONTRACTOR.
3. PROVIDE MOTOR WITH FAN SPEED CONTROLLER.
4. SUSPEND FAN WITH THREADED HANGER RODS ATTACHED TO UNISTRUT RUNNERS SECURED TO STRUCTURE. PROVIDE SPRING ISOLATION. REFER TO MANUFACTURER FOR MORE DETAILS.
5. PROVIDE WITH ROOF CURB AND BIRD SCREEN.
6. PROVIDE WITH 60 MINUTE NO HOLD TIMER.
7. PROVIDE WITH 1" WASHABLE ALUMINUM FILTER.
8. PROVIDE WITH VARIABLE FREQUENCY DRIVE (VFD).
9. PROVIDE FAN WITH VENTED CURB EXTENSION, HINGE KIT, GREASE TRAP. DRAIN CONNECTION, AND CLEANOUT PORT.
10. PROVIDE WITH SPRING ISOLATION RAIL.
11. PROVE WITH ON/OFF SWITCH. REFER TO ELECTRICAL.

PACKAGED AIR COOLED SCROLL CHILLER

MARK	ACTUAL CAPACITY (TONS)	LEAVING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	AMBIENT AIR TEMP. (°F)	CURRENT CHARAC.			BASIS OF DESIGN		REMARKS
						V	P	F	MOCP	MCA	
ACCH-5	125	42	232	20.0	105 °F	480	3	60	400	326	1,2,3,4,5,6

GENERAL NOTES:
1. MAXIMUM FOULING FACTOR FOR THE EVAPORATOR IS 0.0001
2. MAINTAIN MINIMUM CLEARANCES REQUIRED BY CHILLER MANUFACTURER FOR PROPER AIRFLOW TO FANS AND UNIT. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON EQUIPMENT FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.
3. CHILLER SHALL MEET OR EXCEED BOTH MINIMUM AHRI STANDARDIZED FULL-LOAD AND PART-LOAD EFFICIENCIES INDICATED IN IECC 2015.

REMARKS:
1. PROVIDE WITH LOW AMBIENT HEAD PRESSURE CONTROL.
2. PROVIDE WITH INTEGRAL MAIN ELECTRICAL DISCONNECT SWITCH.
3. PROVIDE WITH INSULATION ON ALL SUCTION LINES.
4. PROVIDE CARRIER CHILLER WITH A MINIMUM FULL LOAD EFFICIENCY OF 10.22 EER AND MINIMUM IPLV OF 19.20.
5. PROVIDE DAIKIN CHILLER WITH A MINIMUM FULL LOAD EFFICIENCY OF 10.68 EER AND MINIMUM IPLV OF 19.00.
6. PROVIDE TRANE CHILLER WITH A MINIMUM FULL LOAD EFFICIENCY OF 10.28 EER AND MINIMUM IPLV OF 19.00.

HOT WATER COIL (DUCT ACCESSORY)

MARK	CFM	ENTERING AIR TEMP.(°F)	GPM	MINIMUM CAPACITY (BTUH)	MAXIMUM PRESSURE DROP		MIN. FACE AREA (SQ.FT.)	HW PIPE SIZE (IN.)	SERVES	REMARKS
					AIR (IN. W.G.)	WATER (FT.)				
HWC-1	1,800	27	7.4	73,872	0.25	10.0	2.6	1 1/4"	KSF-1	1
HWC-2	2,500	27	10.3	102,600	0.25	10.0	3.6	1 1/4"	KSF-2	1
HWC-3	800	27	3.3	32,832	0.25	10.0	1.1	3/4"	KSF-3	1
HWC-4	800	27	3.3	32,832	0.25	10.0	1.1	3/4"	KSF-4	1

REMARKS:
1. PROVIDE WITH FLANGE FOR MOUNTING IN DUCTWORK.
2. PROVIDE WITH 3-WAY CONTROL VALVE.
3. ENTERING TEMP OF HOT WATER IS 160 DEG F.

DUCTLESS MINI-SPLIT - INDOOR UNIT

MARK	FAN						AIR TEMPERATURE (°F)		COOLING			HEATING	REMARKS
	SUPPLY AIR CFM	EXT.STATIC PRESSURE (IN. W.C.)	HORSE POWER (WATTS)	CURRENT CHARAC.			ENTERING DRY BULB	ENTERING WET BULB	MIN. TOTAL CAPACITY (BTUH)	MIN. SENS. CAPACITY (BTUH)	MINIMUM EER/ SEER	MINIMUM CAPACITY (BTUH)	
				V	P	F							
DMS-1	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4,5)
DMS-2	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4,5)
DMS-3	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4,5)
DMS-4	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4)
DMS-5	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4,5)
DMS-6	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4)
DMS-7	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4,5)
DMS-8	775	0.10	86.0	208	1	60	75.0	62.5	24,000	19,200	-/21	NO HEATING	(1,2,3,4)
DMS-9	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4,5)
DMS-10	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4,5)
DMS-11	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4)
DMS-12	450	0.10	46.0	208	1	60	75.0	62.5	18,000	14,400	-/20	NO HEATING	(1,2,3,4,5)

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MAINTAIN MINIMUM CLEARANCE FOR COIL PULL AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. UNIT TO BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. CONTROLLED BY PROGRAMMABLE WIRED THERMOSTAT.
3. REFRIGERANT LINES TO BE SIZED PER MANUFACTURER'S REQUIREMENTS.
4. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT.
5. PROVIDE WITH LITTLE GIANT CONDENSATE PUMP MODEL 554652 VCMA-20ULS-C-PRO, 1/30 HP, 115V/1PH/60HZ.

VARIABLE VOLUME TERMINAL BOX

MARK	MAXIMUM CFM	MINIMUM CFM	INLET DIAMETER SIZE (IN.)	HOT WATER COIL		REMARKS
				GPM	CONNECTING PIPE SIZE	
VAV-6-1	360	100	6	1.1	3/4"	-

GENERAL NOTES:
1. MAXIMUM STATIC PRESSURE DROP OF AIR THROUGH THE TERMINAL BOX SHALL BE 0.2" ESP.
2. MAXIMUM VELOCITY THROUGH DUCT INLET SHALL BE 2,000 FPM.
3. MAXIMUM STATIC PRESSURE DROP THROUGH HEATER COIL SHALL BE 0.25" ESP.
4. MAXIMUM STATIC PRESSURE DROP OF WATER THROUGH HEATER COIL SHALL BE 10' W.G.
5. BTUH REQUIRED FOR HOT WATER HEATING IS HEATING GPM MULTIPLIED BY 10,000.
6. SUSPEND UNIT WITH FOUR THREADED HANGER RODS ATTACHED TO TWO UNISTRUT RUNNERS SECURED TO STRUCTURE. REFER TO MANUFACTURER FOR MORE DETAILS.
7. UNITS TO BE MOUNTED BETWEEN BEAMS AND 18" MAXIMUM ABOVE CEILING. AVOID MOUNTING OVER LIGHTS WHEREVER POSSIBLE.
8. REFER TO PIPING AT HOT WATER COIL DETAILS. PROVIDE WITH 2-WAY CONTROL VALVE UNLESS OTHERWISE SCHEDULED.

REMARKS:
1. N/A

DUCTLESS MINI-SPLIT - OUTDOOR UNIT

MARK	MIN. TOTAL CAPACITY (BTUH)	OUTDOOR AIR TEMP (°F)	MINIMUM EER/ SEER	MIN HEAT CAPACITY (BTUH)	CURRENT CHARAC.			RELATED UNIT MARK	REMARKS
					V	PH	F		
DMSCU-1	18,000	95	-/20	NO HEATING	208	1	60	DMS-1	(1,2,3)
DMSCU-2	18,000	95	-/20	NO HEATING	208	1	60	DMS-2	(1,2,3)
DMSCU-3	18,000	95	-/20	NO HEATING	208	1	60	DMS-3	(1,2,3)
DMSCU-4	18,000	95	-/20	NO HEATING	208	1	60	DMS-4	(1,2,3)
DMSCU-5	18,000	95	-/20	NO HEATING	208	1	60	DMS-5	(1,2,3)
DMSCU-6	18,000	95	-/20	NO HEATING	208	1	60	DMS-6	(1,2,3)
DMSCU-7	18,000	95	-/20	NO HEATING	208	1	60	DMS-7	(1,2,3)
DMSCU-8	24,000	95	-/21	NO HEATING	208	1	60	DMS-8	(1,2,3)
DMSCU-9	18,000	95	-/20	NO HEATING	208	1	60	DMS-9	(1,2,3)
DMSCU-10	18,000	95	-/20	NO HEATING	208	1	60	DMS-10	(1,2,3)
DMSCU-11	18,000	95	-/20	NO HEATING	208	1	60	DMS-15	(1,2,3)
DMSCU-12	18,000	95	-/20	NO HEATING	208	1	60	DMS-10	(1,2,3)

GENERAL NOTES:
1. MINIMUM RECOMMENDED CLEARANCE AROUND ROOFTOP UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE FOR CONDENSER AIR FLOW AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH LOW AMBIENT CONTROL DOWN TO 20°F.
2. PROVIDE WITH DISCONNECT SWITCH.
3. REFRIGERANT LINES TO BE SIZED PER MANUFACTURER'S REQUIREMENTS.

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Registration: F-4111
Project No: 2023-05945-00

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BRADLEY KALMANS
80219
01-30-2025

PROJECT #: 202318
DATE: 2025-01-13
DRAWN: MR
CHECKED: VP

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

M5.03

MECHANICAL SCHEDULES

REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE. FOR ALL EQUIPMENT TO BE DEMOLISHED, DISCONNECT EQUIPMENT, DEMOLISH CONDUIT AND PULL CONDUCTORS BACK TO SOURCE OR NEAREST DEVICE TO REMAIN. 1

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SYMBOL LEGEND	
⌖	POINT OF CONNECTION TO EXISTING
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED

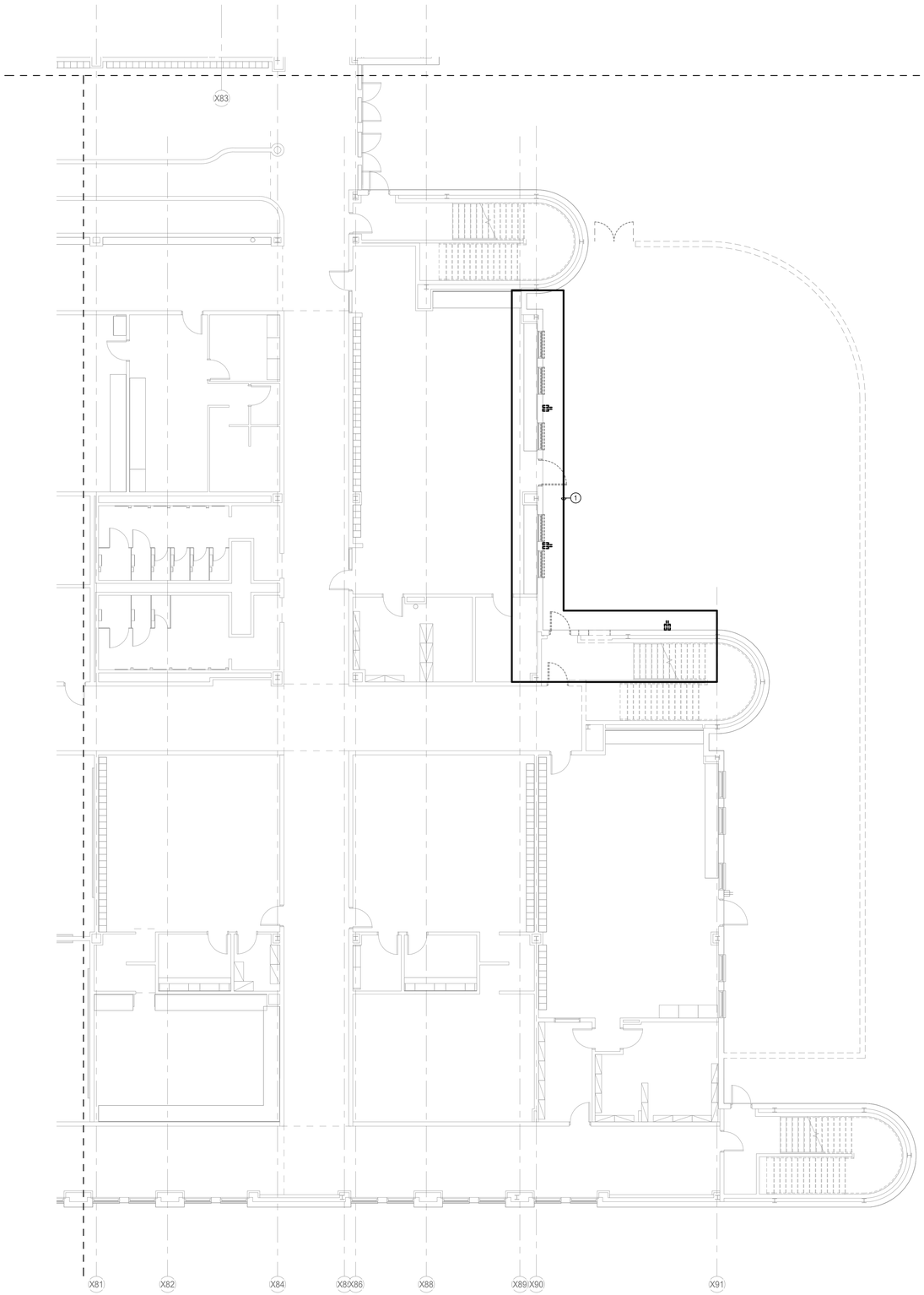
DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION. OWNER OR ITS REPRESENTATIVE SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED FROM THIS PROJECT. CONTRACTOR SHALL NOTIFY CAREY RAMSEY WITH THE DISTRICT PRIOR TO DEMOLITION WORK TO DISCUSS ALL RETURNED ITEMS TO DISTRICT.

ELECTRICAL GENERAL NOTES

1. VERIFY ALL DEMOLITION WORK WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK.
2. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL DEVICES, LIGHT FIXTURES, LIGHTING CONTROLS, SWITCHBOARDS, PANELBOARDS & TRANSFORMERS SHALL REMAIN.
3. DISCONNECT & REMOVE ALL ELECTRICAL POWER DEVICES FROM WALLS SCHEDULED TO BE DEMOLISHED. UNLESS INDICATED OTHERWISE, PULL EXISTING CONDUCTORS BACK TO CEILING AND LEAVE IN PLACE FOR RE-USE. REFER TO ARCHITECURAL DRAWINGS FOR EXISTING WALL DEMOLITION.
4. RETURN ANY REMOVED LIGHTING CONTROL PANELS & RELAY PANELS TO THE OWNER.
5. PROVIDE COVER PLATE FOR ANY REMOVED ELECTRICAL EQUIPMENT SUCH AS BUT NOT LIMITED TO RECEPTACLES OR SWITCHES ON EXISTING TO REMAIN WALLS.
6. UNLESS NOTED OTHERWISE, PULL CONDUCTORS FOR DEMOLISHED RECEPTACLES BACK TO CEILING AND LEAVE IN PLACE FOR RE-USE.
7. ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.

ELECTRICAL KEYED NOTES

1. DISCONNECT ALL EXISTING EQUIPMENT/FIXTURES ON EXTERIOR WALL. REMOVE EXISTING CONDUIT AND PULL EXISTING CIRCUITS BACK TO SOURCE OR NEAREST DEVICE TO REMAIN. CONTRACTOR TO MAINTAIN CONTINUITY OF BRANCH CIRCUITS/FEEDERS TO ALL EXISTING DEVICES/LOADS TO REMAIN.



N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - AREA 'A'**
Scale: 1/8" = 1'-0"

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BRADLEY KALMANS
80219
LICENSED
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	1
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E0.01

ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'A'

PLAN NORTH

REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE. FOR ALL EQUIPMENT TO BE DEMOLISHED, DISCONNECT EQUIPMENT, DEMOLISH CONDUIT AND PULL CONDUCTORS BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.

Salas O'Brien

salasobrien.com 281-664-1900
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10930 W. Sam Houston Pkwy North, Suite 900
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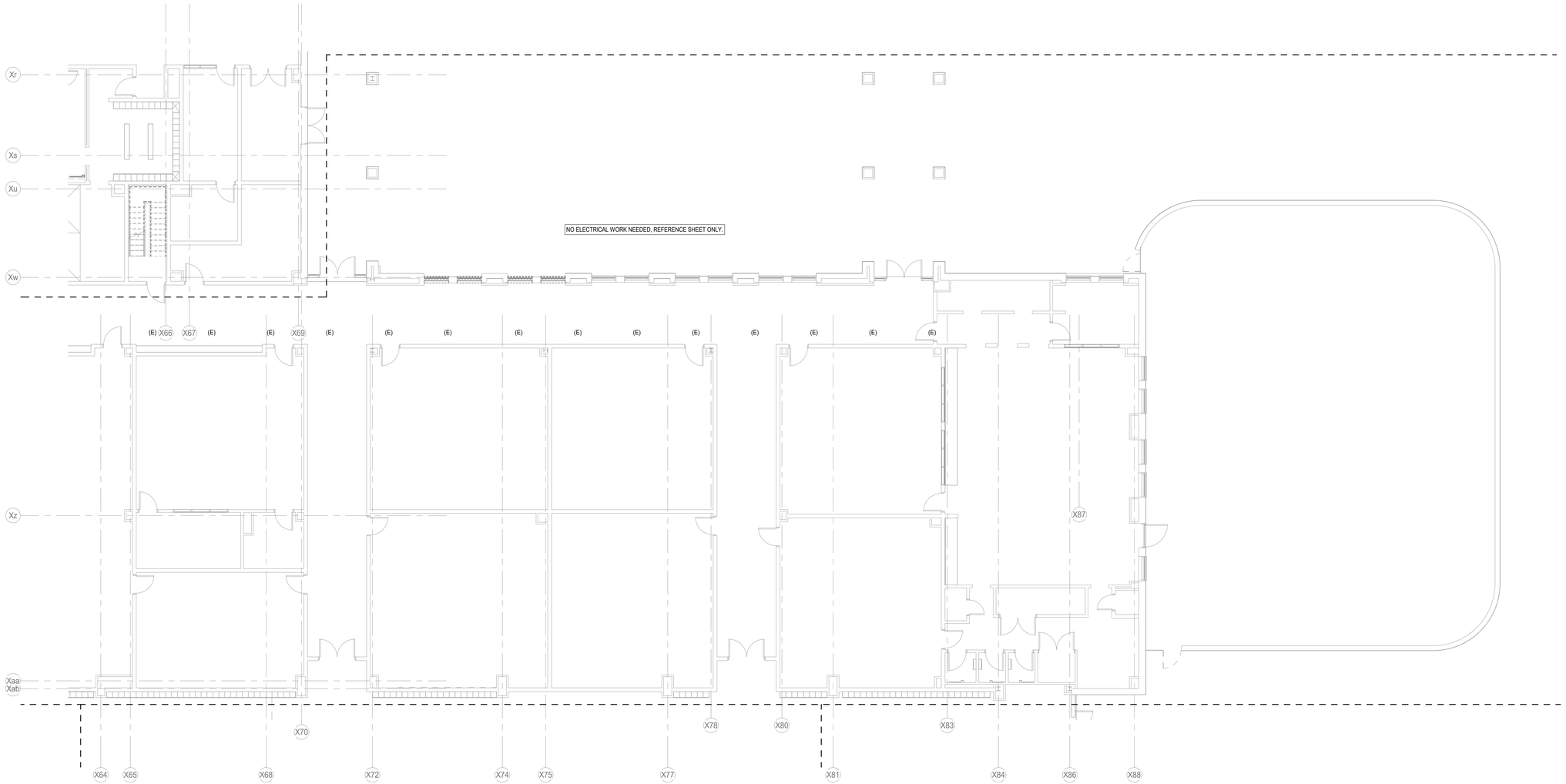
Registration: F-6111
Project No: 2023-05945-00

SYMBOL LEGEND	
	POINT OF CONNECTION TO EXISTING
	ITEM TO REMAIN
	ITEM TO BE REMOVED

DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION. OWNER OR ITS REPRESENTATIVE SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED FROM THIS PROJECT. CONTRACTOR SHALL NOTIFY CAREY RAMSEY WITH THE DISTRICT PRIOR TO DEMOLITION WORK TO DISCUSS ALL RETURNED ITEMS TO DISTRICT.

ELECTRICAL GENERAL NOTES

1. VERIFY ALL DEMOLITION WORK WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK.
2. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL DEVICES, LIGHT FIXTURES, LIGHTING CONTROLS, SWITCHBOARDS, PANELBOARDS & TRANSFORMERS SHALL REMAIN.
3. DISCONNECT & REMOVE ALL ELECTRICAL POWER DEVICES FROM WALLS SCHEDULED TO BE DEMOLISHED. UNLESS INDICATED OTHERWISE, PULL EXISTING CONDUCTORS BACK TO CEILING AND LEAVE IN PLACE FOR RE-USE. REFER TO ARCHITECURAL DRAWINGS FOR EXISTING WALL DEMOLITION.
4. RETURN ANY REMOVED LIGHTING CONTROL PANELS & RELAY PANELS TO THE OWNER.
5. PROVIDE COVER PLATE FOR ANY REMOVED ELECTRICAL EQUIPMENT SUCH AS BUT NOT LIMITED TO RECEPTACLES OR SWITCHES ON EXISTING TO REMAIN WALLS.
6. UNLESS NOTED OTHERWISE, PULL CONDUCTORS FOR DEMOLISHED RECEPTACLES BACK TO CEILING AND LEAVE IN PLACE FOR RE-USE.
7. ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.



N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - AREA 'B'**
Scale: 1/8" = 1'-0"

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PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E0.02

ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'B'

PLAN NORTH

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ELECTRICAL GENERAL NOTES

1. VERIFY ALL DEMOLITION WORK WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK.
2. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL DEVICES, LIGHT FIXTURES, LIGHTING CONTROLS, SWITCHBOARDS, PANELBOARDS & TRANSFORMERS SHALL REMAIN.
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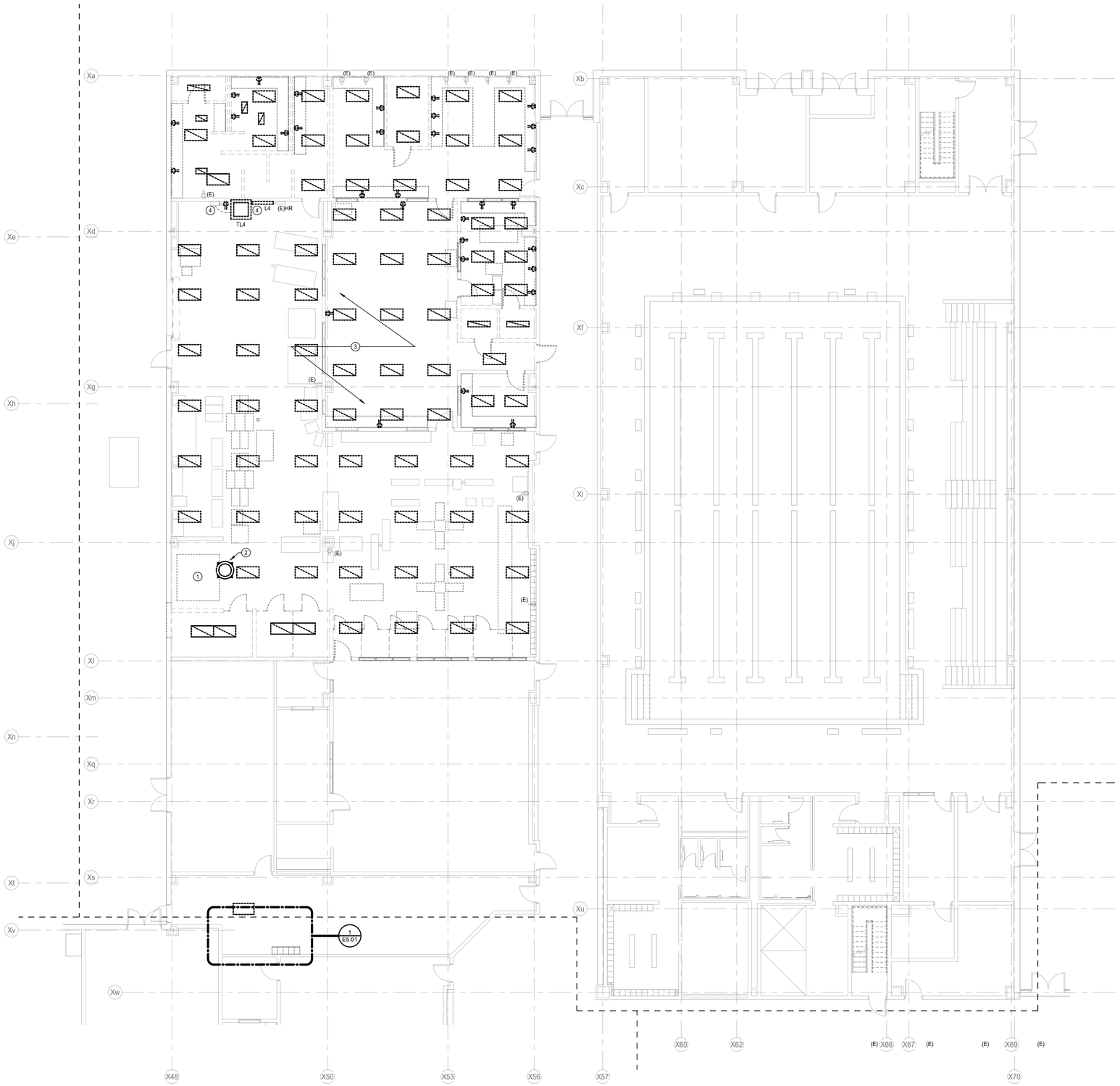
4. RETURN ANY REMOVED LIGHTING CONTROL PANELS & RELAY PANELS TO THE OWNER.
5. PROVIDE COVER PLATE FOR ANY REMOVED ELECTRICAL EQUIPMENT SUCH AS BUT NOT LIMITED TO RECEPTACLES OR SWITCHES ON EXISTING TO REMAIN WALLS.
6. CONTRACTOR SHALL DISCONNECT AND REMOVE ANY MECHANICAL, ELECTRICAL, OR PLUMBING ITEMS IN THE WAY OF NEW CONSTRUCTION AND NOT BEING REUSED.
7. ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDNED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.

ELECTRICAL KEYED NOTES

1. DISCONNECT ALL EXISTING EQUIPMENT AND ASSOCIATED DISCONNECTS FOR EXISTNG PAINTING BOOTH. REMOVE EXISTING CONDUIT AND PULL EXISTING CIRCUITS BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.
2. REMOVE EXISTING MECHANICAL EQUIPMENT AND ASSOCIATED DISCONNECTS, STARTERS OR ACCESSORIES. PULL CIRCUIT BACK TO SOURCE.
3. REMOVE ALL EXISTING LIGHTING CONTROLS, AND DEVICES INCLUDING BUT NOT LIMITED TO SWITCH-LEGS RELAYS, LIGHTING CABINETS, I-LINK/WEB LINK, CONTACTORS, AND SENSORS. DO NOT RE-USE UNUSED LIGHTING CABINETS AS J-BOXES PART OF THE NEW LIGHTING SYSTEM CONTROLS. CONTRACTOR TO MAINTAIN CONTINUITY OF BRANCH CIRCUITS/FEEDERS TO ALL EXISTING DEVICES/LOADS TO REMAIN. PRESERVE EXISTING FIXTURES FOR RE-USE. REMOVE AND PRESERVE EXISTING LIGHTING FIXTURES. PRESERVE EXISTING CIRCUITS IN CEILING FOR RE-USE.
4. EXISTING PANEL 'L4' AND RELATED TRANSFORMER TO BE UPSIZED. REMOVE EXISTING PANEL, TRANSFORMER, WIRES, AND CONDUITS. EXISTING BRANCH CIRCUITS AND TRANSFORMER DISCONNECT TO REMAIN.



N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - AREA 'D'**
Scale: 1/8" = 1'-0"

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E0.03

ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'D'

PLAN NORTH

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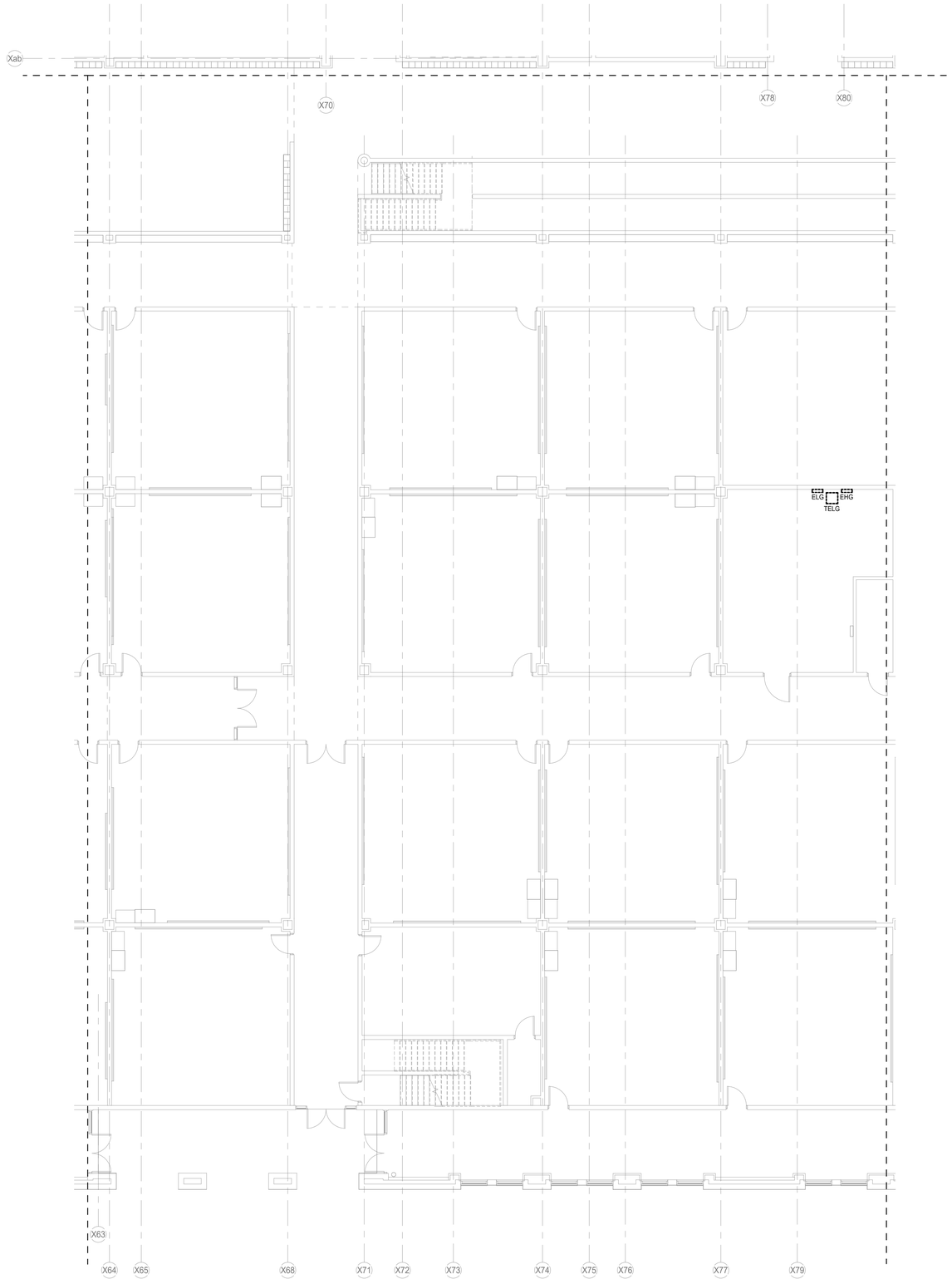

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BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE
2025-01-13	PERMIT AND PROPOSAL
2025-01-30	ADDENDUM #5 1

E0.04

ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'E'

PLAN NORTH

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1

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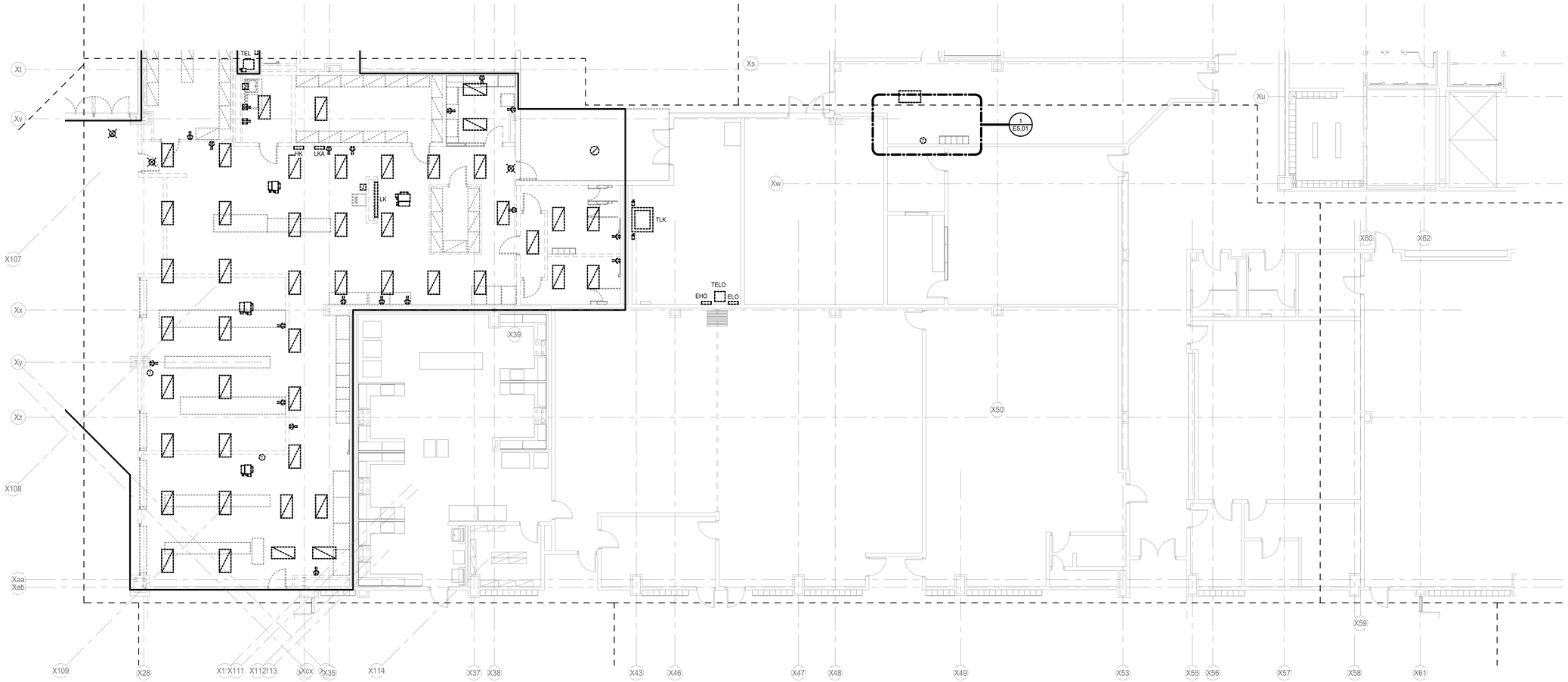

N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - AREA 'G'**
Scale: 1/8" = 1'-0"

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E0.05

ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'G'

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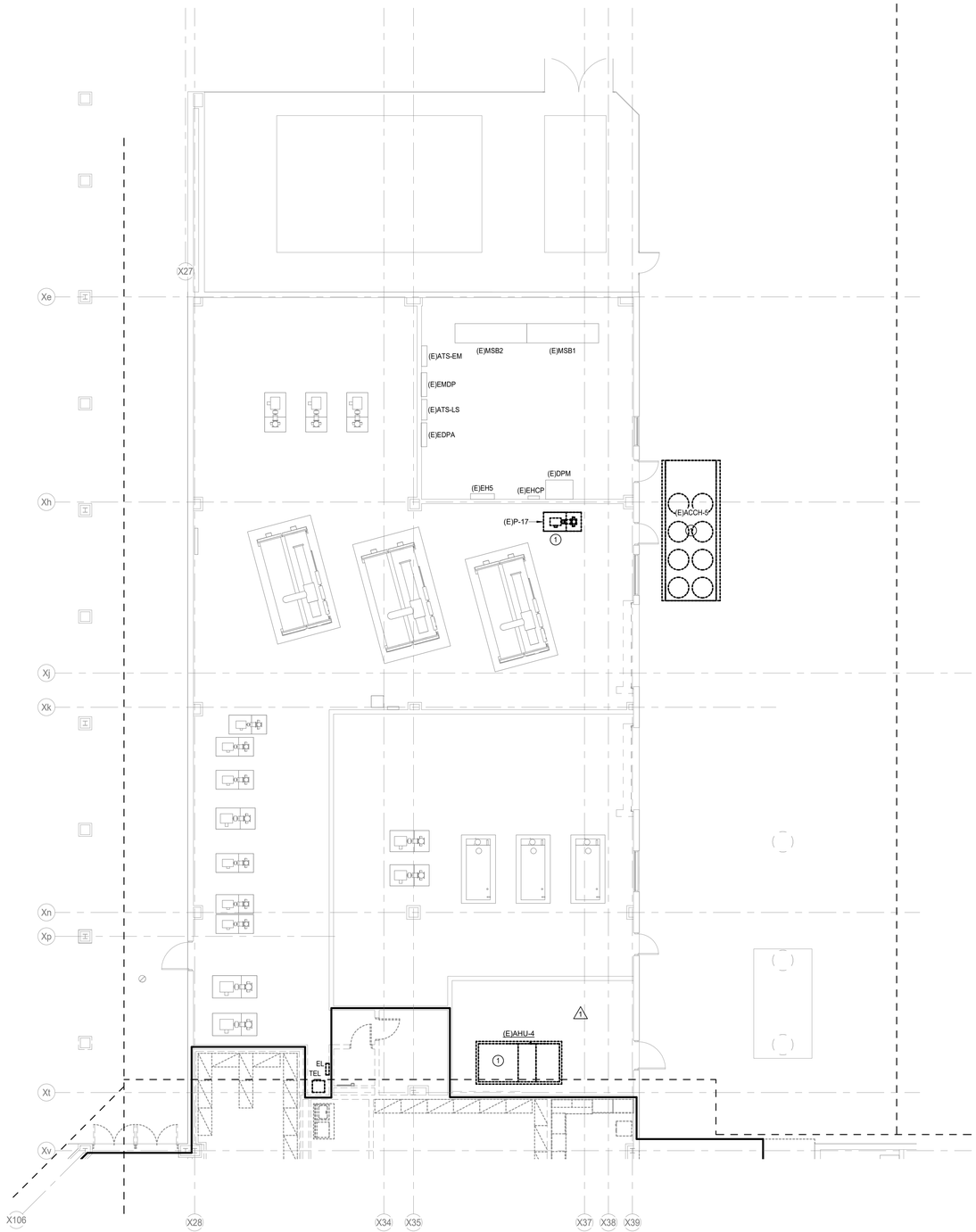
ELECTRICAL KEYED NOTES

1. REMOVE EXISTING MECHANICAL EQUIPMENT AND ASSOCIATED DISCONNECTS, STARTERS OR ACCESSORIES. PULL CIRCUIT BACK TO SOURCE.
2. EXISTING PANEL/TRANSFORMER TO BE REMOVED. REMOVE EXISTING WIRES AND CONDUITS BACK TO SOURCE.

1



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1 ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - AREA 'H'
Scale: 1/8" = 1'-0"

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BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	△
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E0.06

ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'H'

PLAN NORTH

REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE. FOR ALL EQUIPMENT TO BE DEMOLISHED, DISCONNECT EQUIPMENT, DEMOLISH CONDUIT AND PULL CONDUCTORS BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.

1

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Project No: 2023-05945-00

SYMBOL LEGEND	
	POINT OF CONNECTION TO EXISTING
	ITEM TO REMAIN
	ITEM TO BE REMOVED

ELECTRICAL WORK SHOWN AS A PART OF THIS PROJECT WILL REQUIRE INCIDENTAL FIRE ALARM SYSTEM WORK. ALL SUCH WORK SHALL BE INCLUDED IN THE CONTRACTORS PROPOSAL. THIS WORK SHALL BE PERFORMED WITHOUT ANY IMPACT TO THE CONSTRUCTION SCHEDULE AND AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE ANY FIRE ALARM DEVICES THAT ARE REQUIRED TO BE REMOVED, PROTECTED, AND RE-INSTALLED. FIRE ALARM SYSTEM SHALL BE TESTED PRIOR TO COMMENCEMENT OF WORK AND UPON COMPLETION. REFER TO SPECIFICATION 26 31 02 EXPANSION OF EXISTING FIRE DETECTION AND ALARM SYSTEM FOR ADDITIONAL REQUIREMENTS.

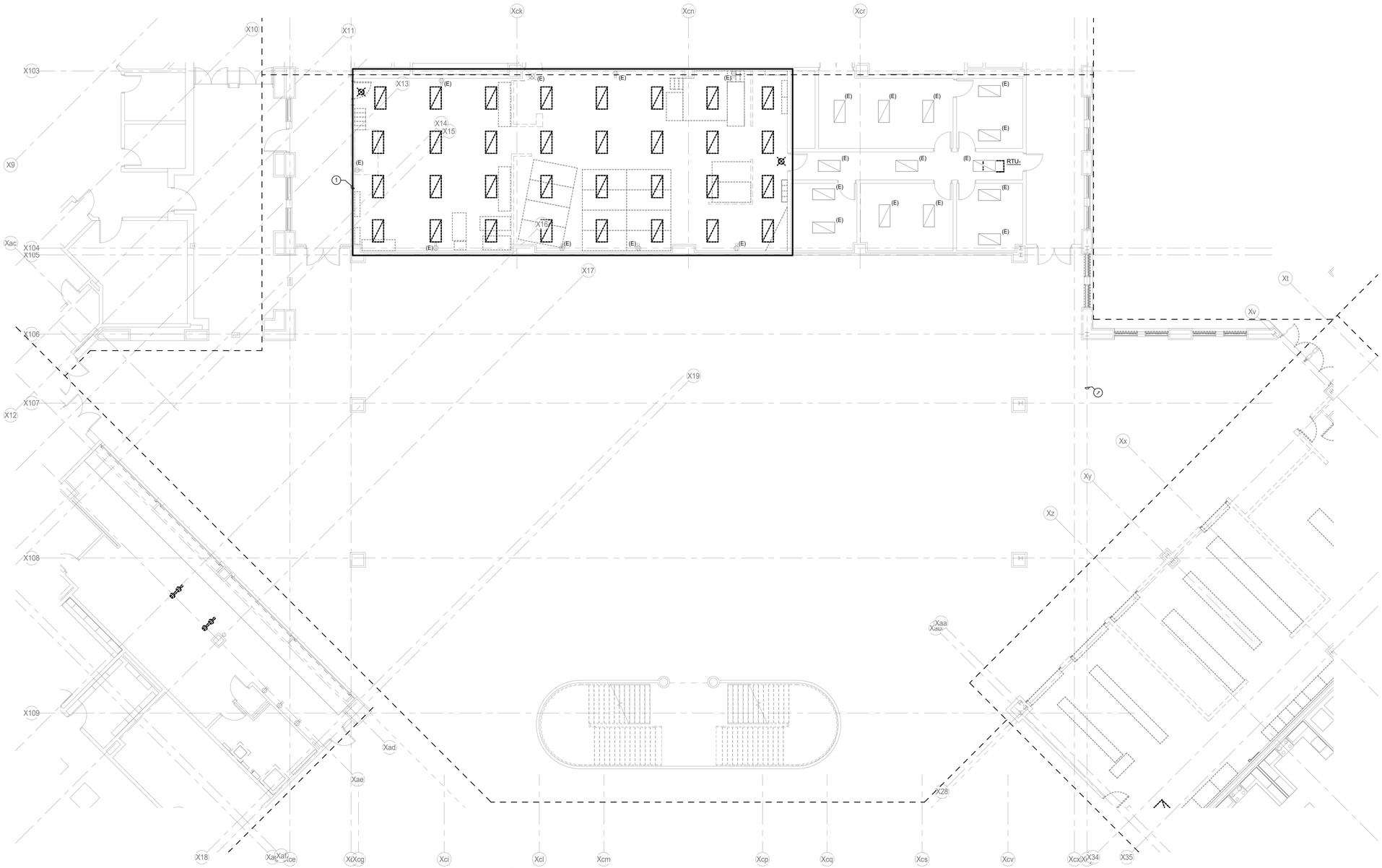
DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION. OWNER OR ITS REPRESENTATIVE SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED FROM THIS PROJECT. CONTRACTOR SHALL NOTIFY CAREY RAMSEY WITH THE DISTRICT PRIOR TO DEMOLITION WORK TO DISCUSS ALL RETURNED ITEMS TO DISTRICT.

ELECTRICAL GENERAL NOTES

1. VERIFY ALL DEMOLITION WORK WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK.
2. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL DEVICES, LIGHT FIXTURES, LIGHTING CONTROLS, SWITCHBOARDS, PANELBOARDS & TRANSFORMERS SHALL REMAIN.
3. DISCONNECT & REMOVE ALL ELECTRICAL POWER DEVICES FROM WALLS SCHEDULED TO BE DEMOLISHED. UNLESS INDICATED OTHERWISE, PULL EXISTING CONDUCTORS BACK TO CEILING AND LEAVE IN PLACE FOR RE-USE. REFER TO ARCHITECURAL DRAWINGS FOR EXISTING WALL DEMOLITION.
4. RETURN ANY REMOVED LIGHTING CONTROL PANELS & RELAY PANELS TO THE OWNER.
5. PROVIDE COVER PLATE FOR ANY REMOVED ELECTRICAL EQUIPMENT SUCH AS BUT NOT LIMITED TO RECEPTACLES OR SWITCHES ON EXISTING TO REMAIN WALLS.
6. CONTRACTOR SHALL DISCONNECT AND REMOVE ANY MECHANICAL, ELECTRICAL, OR PLUMBING ITEMS IN THE WAY OF NEW CONSTRUCTION AND NOT BEING REUSED.
7. ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CD CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.

ELECTRICAL KEYED NOTES

1. REMOVE ALL EXISTING LIGHTING CONTROLS, AND DEVICES INCLUDING BUT NOT LIMITED TO SWITCH-LEGS RELAYS, LIGHTING CABINETS, H-LINK/WEB LINK, CONTACTORS, AND SENSORS. DO NOT RE-USE UNUSED LIGHTING CABINETS AS J-BOXES PART OF THE NEW LIGHTING SYSTEM CONTROLS. CONTRACTOR TO MAINTAIN CONTINUITY OF BRANCH CIRCUITS/FEEDERS TO ALL EXISTING DEVICES/LOADS TO REMAIN. PRESERVE EXISTING FIXTURES FOR RE-USE. REMOVE AND PRESERVE EXISTING LIGHTING FIXTURES. PRESERVE EXISTING CIRCUITS IN CEILING FOR RE-USE.



N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - AREA 'K'**
Scale: 1/8" = 1'-0"

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LICENSED
01-30-2025

PROJECT #:	202318
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DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E0.07

ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'K'

PLAN NORTH

REFER TO MECHANICAL AND PLUMBING DRAWNGS FOR ADDITIONAL DEMOLITION SCOPE. FOR ALL EQUIPMENT TO BE DEMOLISHED, DISCONNECT EQUIPMENT, DEMOLISH CONDUIT AND PULL CONDUCTORS BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.

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SYMBOL LEGEND	
⌖	POINT OF CONNECTION TO EXISTING
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED

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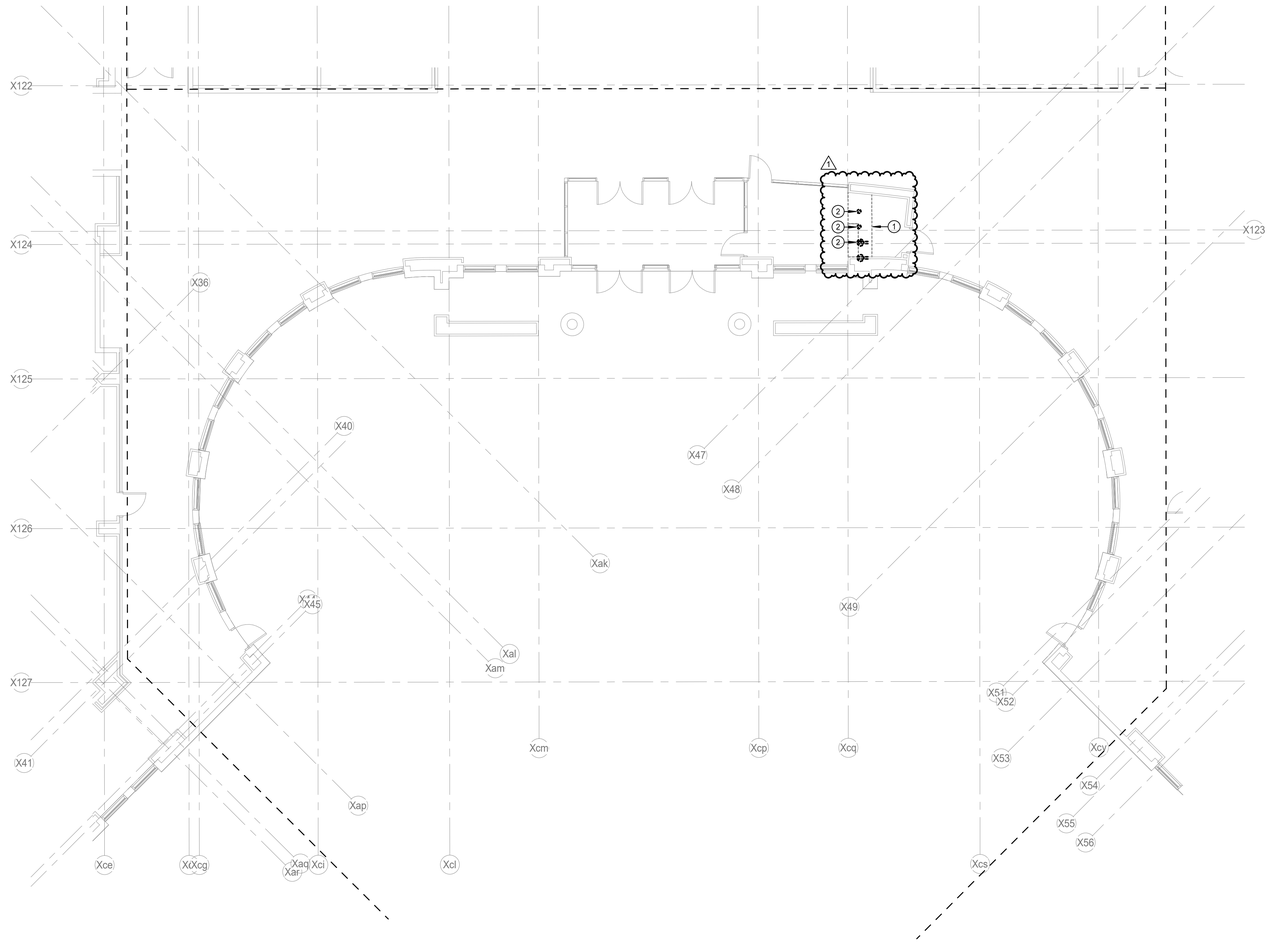
ELECTRICAL GENERAL NOTES

1. VERIFY ALL DEMOLITION WORK WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK.
2. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL DEVICES, LIGHT FIXTURES, LIGHTING CONTROLS, SWITCHBOARDS, PANELBOARDS & TRANSFORMERS SHALL REMAIN.
3. DISCONNECT & REMOVE ALL ELECTRICAL POWER DEVICES FROM WALLS SCHEDULED TO BE DEMOLISHED. UNLESS INDICATED OTHERWISE, PULL EXISTING CONDUCTORS BACK TO CEILING AND LEAVE IN PLACE FOR RE-USE. REFER TO ARCHITECURAL DRAWINGS FOR EXISTING WALL DEMOLITION.
4. RETURN ANY REMOVED LIGHTING CONTROL PANELS & RELAY PANELS TO THE OWNER.
5. PROVIDE COVER PLATE FOR ANY REMOVED ELECTRICAL EQUIPMENT SUCH AS BUT NOT LIMITED TO RECEPTACLES OR SWITCHES ON EXISTING TO REMAIN WALLS.
6. UNLESS NOTED OTHERWISE, PULL CONDUCTORS FOR DEMOLISHED RECEPTACLES BACK TO CEILING AND LEAVE IN PLACE FOR RE-USE.
7. ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.

ELECTRICAL KEYED NOTES

1. DEMOLISH ALL EXISTING RECEPTACLES/DEVICES ASSOCIATED WITH CASEWORK. PRESERVE EXISTING CIRCUIT FOR RE-USE.
2. DEMOLISH LIGHT FIXTURE AND PULL CIRCUITING BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.



N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - AREA 'M'**
Scale: 1/8" = 1'-0"

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BRADLEY KALMANS
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CENSED
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	⚠
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E0.08

ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'M'

PLAN NORTH

REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE. FOR ALL EQUIPMENT TO BE DEMOLISHED, DISCONNECT EQUIPMENT, DEMOLISH CONDUIT AND PULL CONDUCTORS BACK TO SOURCE OR NEAREST DEVICE TO REMAIN. 1

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SYMBOL LEGEND	
⌖	POINT OF CONNECTION TO EXISTING
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED

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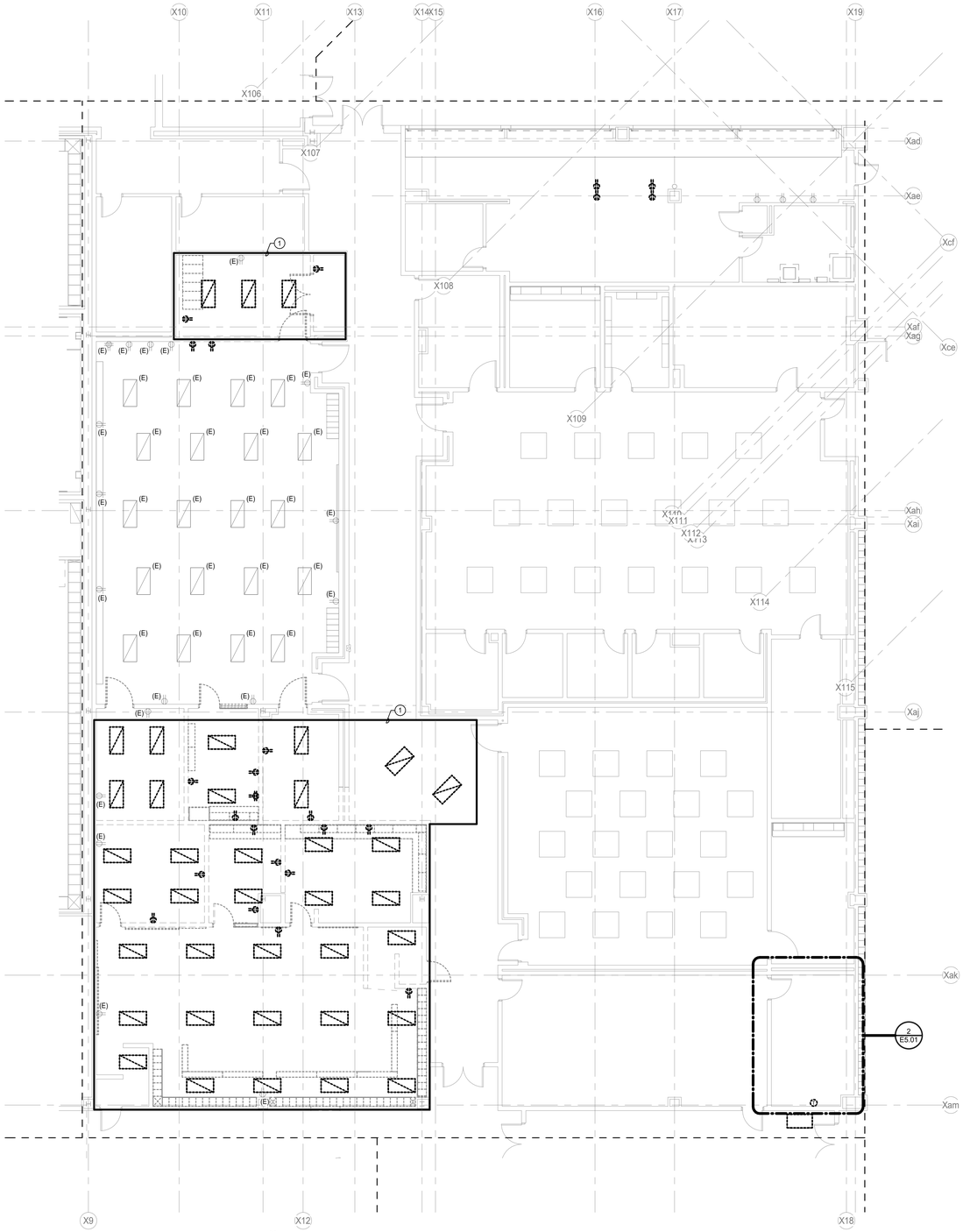
ELECTRICAL KEYED NOTES

1 REMOVE AND PRESERVE EXISTING LIGHT FIXTURES FOR RE-INSTALL. PULL FIXTURES BACK TO CEILING FOR RE-USE.



N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - AREA 'P'**
Scale: 1/8" = 1'-0"

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BRADLEY KALMANS
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LICENSED
PROFESSIONAL ENGINEER
01-30-2025

PROJECT #:	202318
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DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	1
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E0.09

ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'P'

PLAN NORTH

REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE. FOR ALL EQUIPMENT TO BE DEMOLISHED, DISCONNECT EQUIPMENT, DEMOLISH CONDUIT AND PULL CONDUCTORS BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.

1

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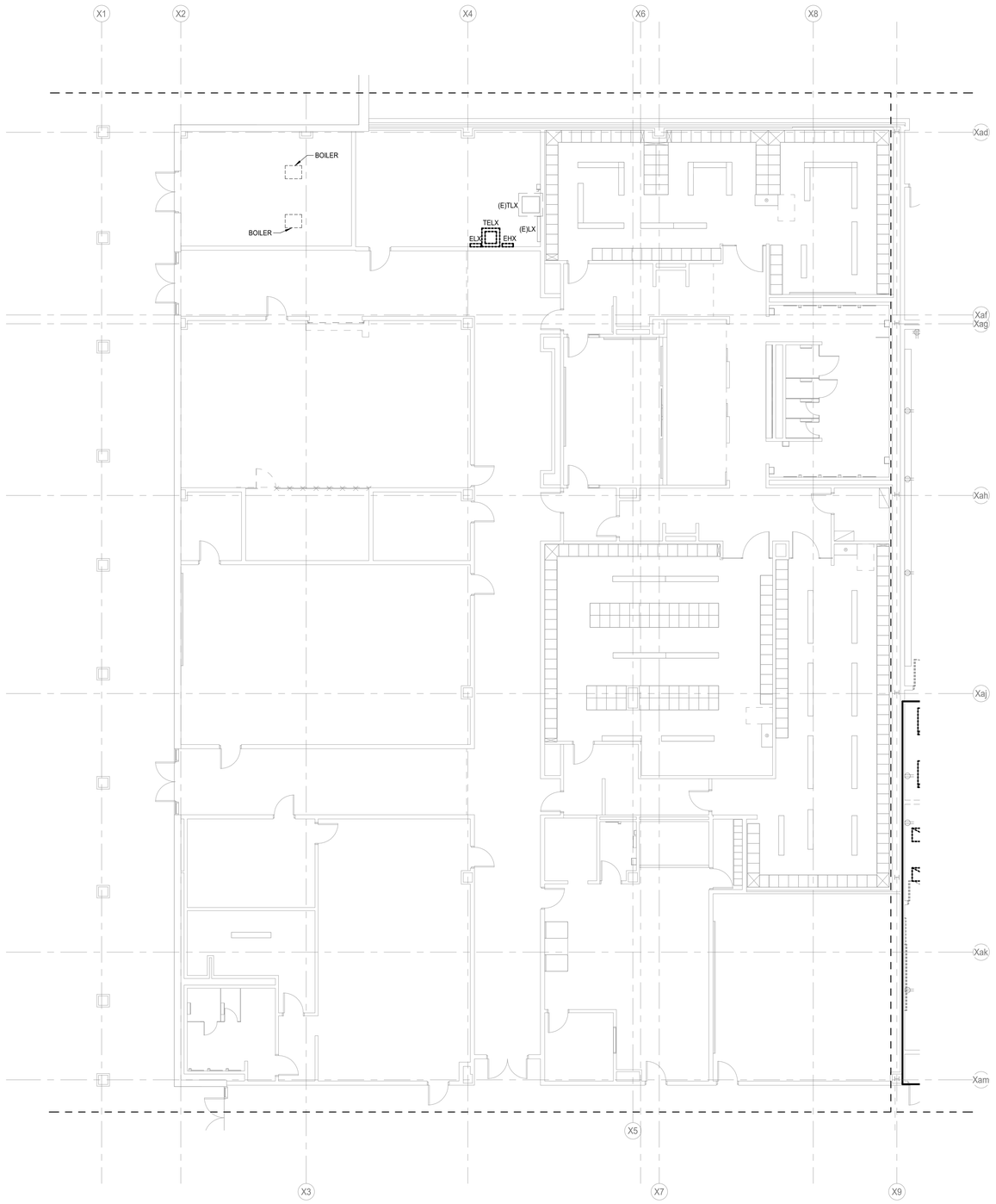

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - AREA 'R'**
Scale: 1/8" = 1'-0"

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DATE	ISSUE	1
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E0.10

ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'R'

PLAN NORTH

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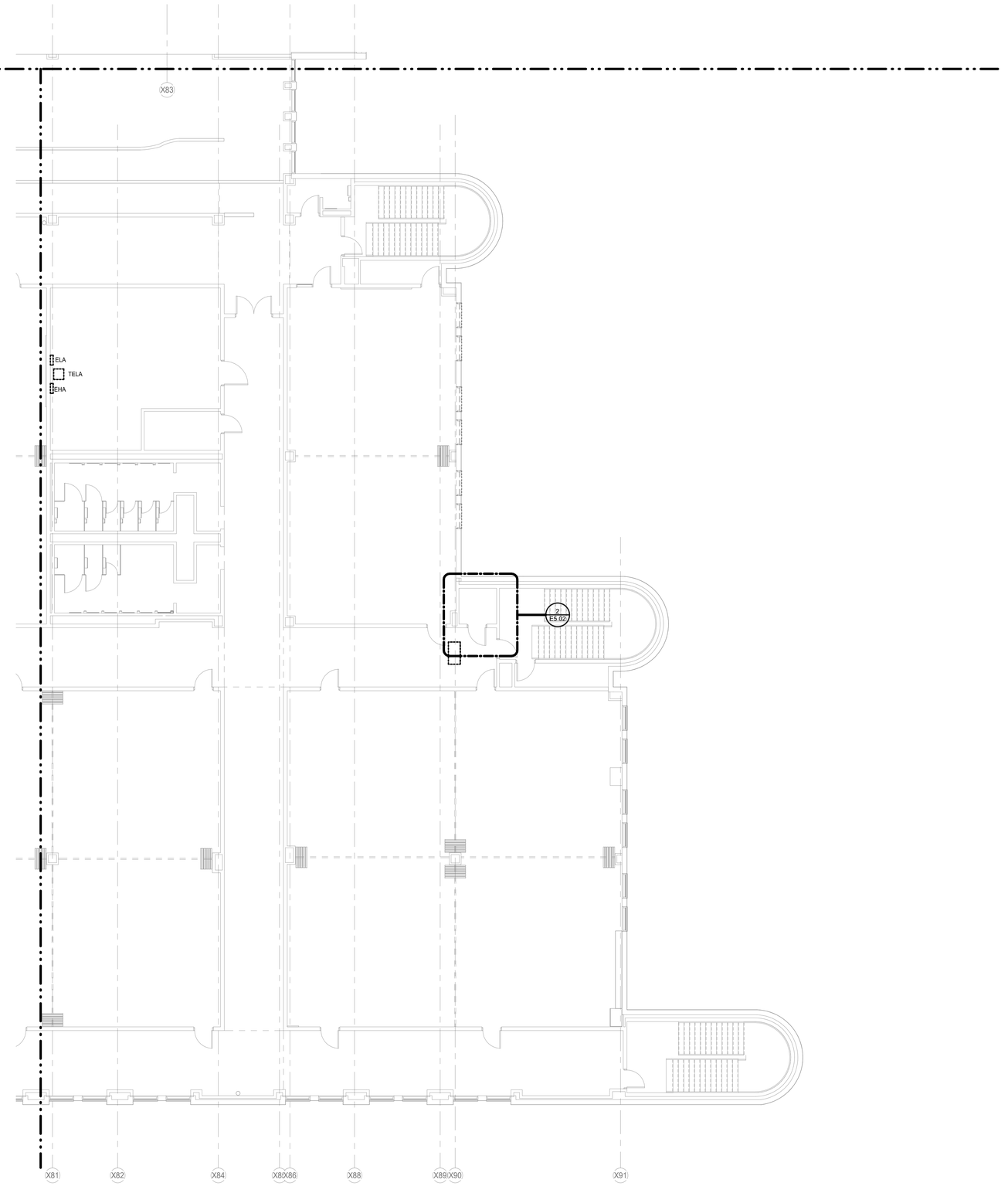

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ELECTRICAL GENERAL NOTES

1. VERIFY ALL DEMOLITION WORK WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK.
2. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL DEVICES, LIGHT FIXTURES, LIGHTING CONTROLS, SWITCHBOARDS, PANELBOARDS & TRANSFORMERS SHALL REMAIN.
3. DISCONNECT & REMOVE ALL ELECTRICAL POWER DEVICES FROM WALLS SCHEDULED TO BE DEMOLISHED. UNLESS INDICATED OTHERWISE, PULL EXISTING CONDUCTORS BACK TO CEILING AND LEAVE IN PLACE FOR RE-USE. REFER TO ARCHITECURAL DRAWINGS FOR EXISTING WALL DEMOLITION.
4. RETURN ANY REMOVED LIGHTING CONTROL PANELS & RELAY PANELS TO THE OWNER.
5. PROVIDE COVER PLATE FOR ANY REMOVED ELECTRICAL EQUIPMENT SUCH AS BUT NOT LIMITED TO RECEPTACLES OR SWITCHES ON EXISTING TO REMAIN WALLS.
6. CONTRACTOR SHALL DISCONNECT AND REMOVE ANY MECHANICAL, ELECTRICAL, OR PLUMBING ITEMS IN THE WAY OF NEW CONSTRUCTION AND NOT BEING REUSED.
7. ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.

1

N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 2 - AREA 'A'**
Scale: 1/8" = 1'-0"

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	1
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E0.11

ELECTRICAL DEMOLITION 2ND FLOOR PLAN - AREA 'A'

PLAN NORTH

REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE. FOR ALL EQUIPMENT TO BE DEMOLISHED, DISCONNECT EQUIPMENT, DEMOLISH CONDUIT AND PULL CONDUCTORS BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.

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Project No: 2023-05945-00

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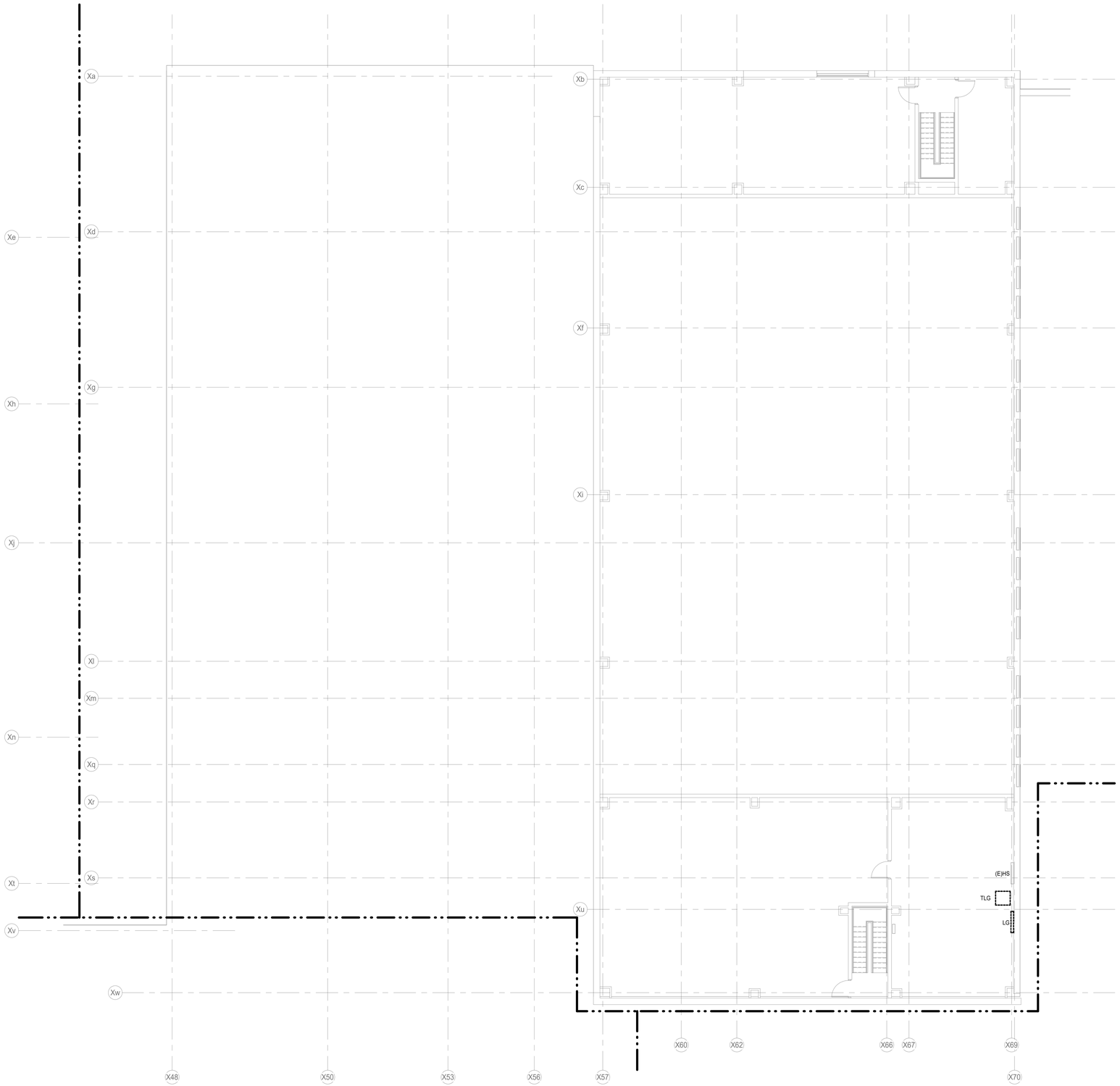

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ELECTRICAL GENERAL NOTES

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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PROJECT #:	202318
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2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

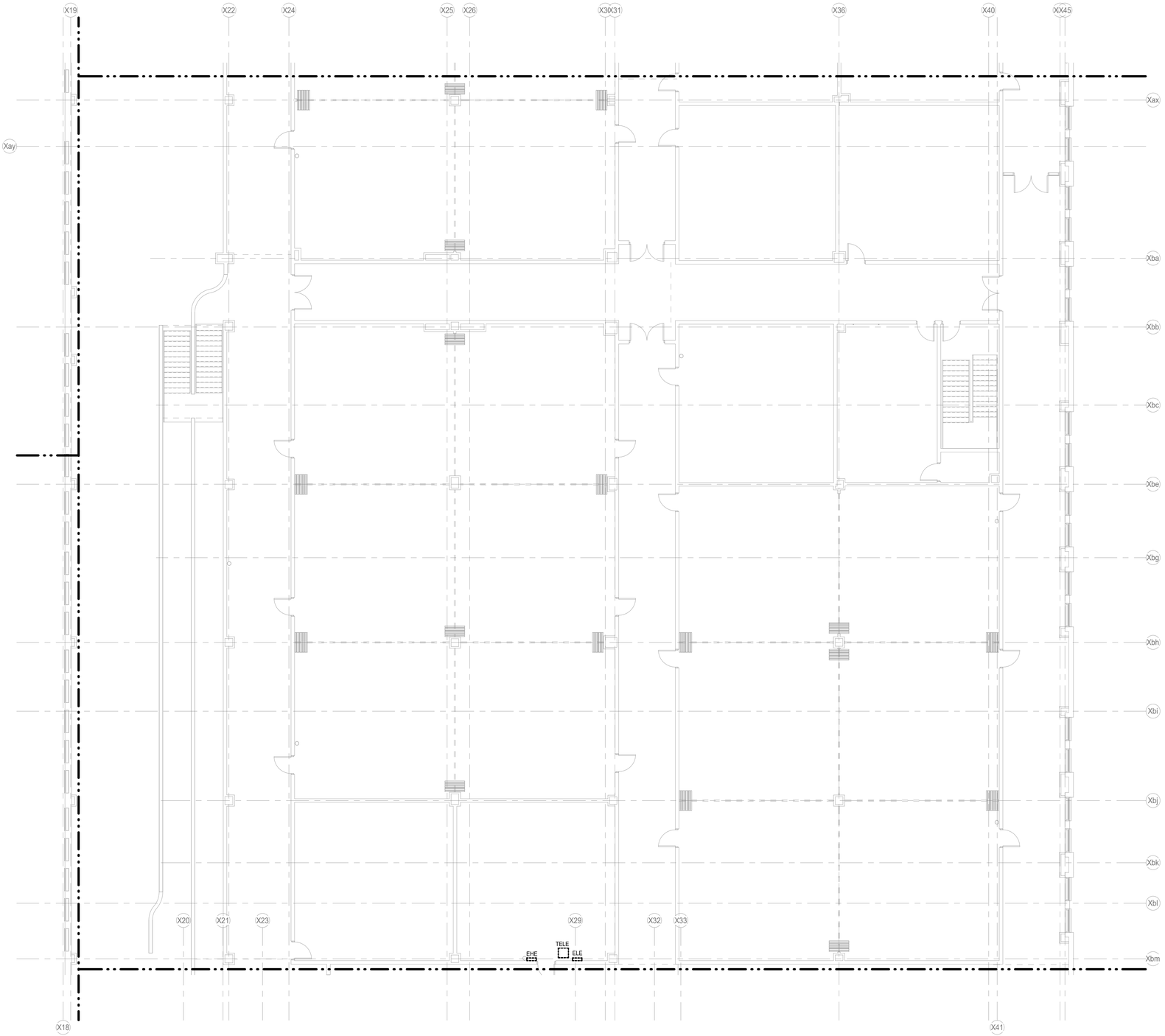
E0.12

ELECTRICAL DEMOLITION 2ND FLOOR PLAN - AREA 'D'

N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 2 - AREA 'D'**
Scale: 1/8" = 1'-0"

PLAN NORTH



1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 2 - AREA 'U'**
Scale: 1/8" = 1'-0"

REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE. FOR ALL EQUIPMENT TO BE DEMOLISHED, DISCONNECT EQUIPMENT, DEMOLISH CONDUIT AND PULL CONDUCTORS BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.

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Registration: F-6111
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DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E0.13

ELECTRICAL DEMOLITION 2ND FLOOR PLAN - AREA 'U'

PLAN NORTH

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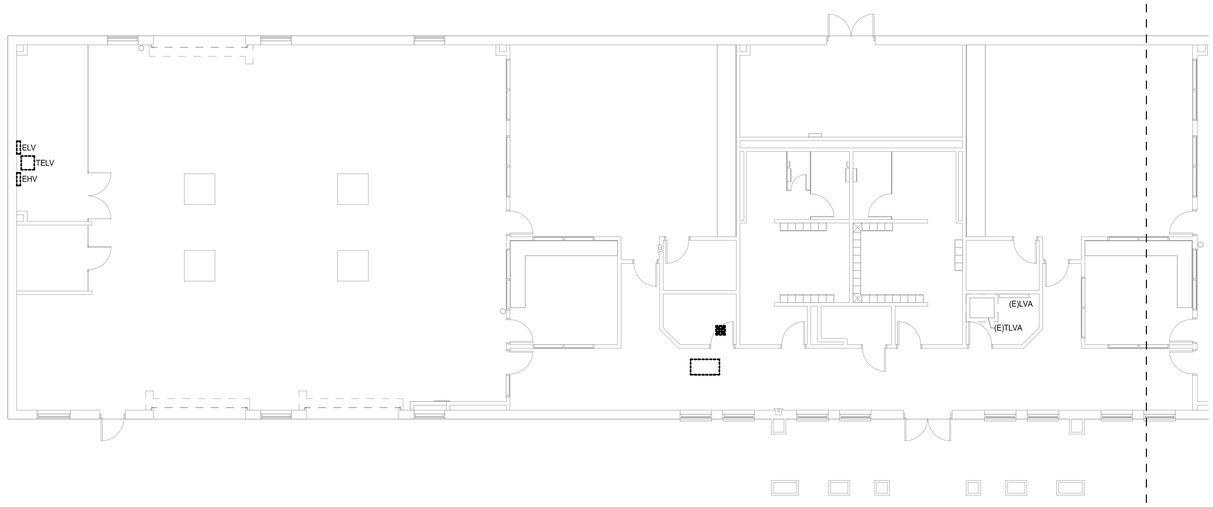

N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - AREA 'C' WEST**
Scale: 1/8" = 1'-0"

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PROJECT #:	202318
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DATE	ISSUE	⚠
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E0.14
ELECTRICAL DEMOLITION 1ST FLOOR PLAN - AREA 'C'

PLAN NORTH

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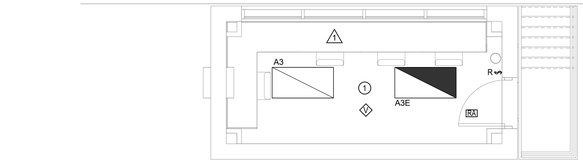
Registration: F-6111
Project No: 2023-05945-00

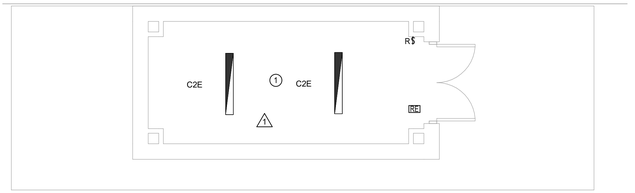
ELECTRICAL KEYED NOTES

1. CONNECT NEW LIGHTING FIXTURES/ CONTROLS TO EXISTING CIRCUIT PRESERVED IN CEILING.
2. DEMOLISH EXISTING RECEPTACLES, LIGHTING AND LIGHTING CONTROLS. PULL EXISTING CIRCUITS BACK TO CEILING FOR RE-USE.
3. CONNECT NEW RECEPTACLE TO CIRCUIT PRESERVED IN CEILING.
4. DEMOLISH EXISTING LIGHTING AND LIGHTING CONTROLS. PULL EXISTING CIRCUITS BACK TO CEILING FOR RE-USE.



N

6 **ELECTRICAL ENLARGED LIGHTING SITE PLAN - BASEBALL PRESSBOX -LEVEL 2**
Scale: 1/4" = 1'-0"



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3 **ELECTRICAL ENLARGED LIGHTING SITE PLAN - BASEBALL PRESSBOX -LEVEL 1**
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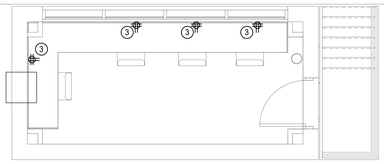

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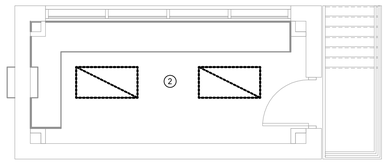
5 **ELECTRICAL ENLARGED POWER SITE PLAN - BASEBALL PRESSBOX - LEVEL 2**
Scale: 1/4" = 1'-0"

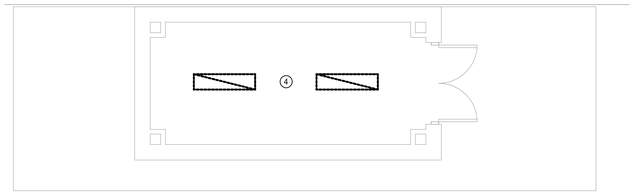
N

2 **ELECTRICAL ENLARGED POWER SITE PLAN - BASEBALL PRESSBOX - LEVEL 1**
Scale: 1/4" = 1'-0"



N

4 **ELECTRICAL DEMOLITION ENLARGED SITE PLAN - BASEBALL PRESSBOX - LEVEL 2**
Scale: 1/4" = 1'-0"



N

1 **ELECTRICAL DEMOLITION ENLARGED SITE PLAN - BASEBALL PRESSBOX - LEVEL 1**
Scale: 1/4" = 1'-0"

PLAN NORTH

CONSULTANTS

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BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
01-30-2025

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2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E1.03

ELECTRICAL ENLARGED SITE PLANS - PRESSBOXES

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ELECTRICAL KEYED NOTES

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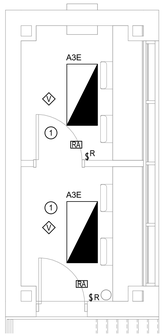
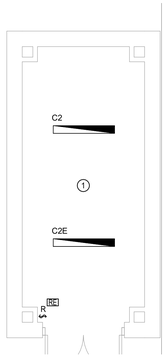
2. DEMOLISH EXISTING RECEPTACLES, LIGHTING AND LIGHTING CONTROLS. PULL EXISTING CIRCUITS BACK TO CEILING FOR RE-USE.
3. CONNECT NEW RECEPTACLE TO CIRCUIT PRESERVED IN CEILING.
4. DEMOLISH EXISTING LIGHTING AND LIGHTING CONTROLS. PULL EXISTING CIRCUITS BACK TO CEILING FOR RE-USE.

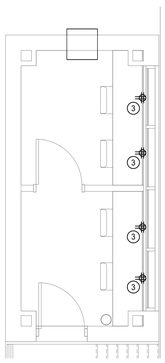
1



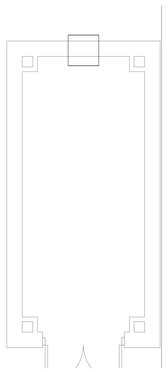
ELECTRICAL ENLARGED LIGHTING SITE PLAN - FOOTBALL PRESSBOX - LEVEL 2
12 Scale: 1/4" = 1'-0"



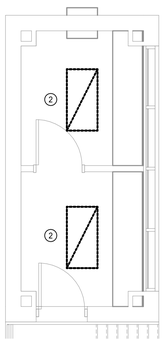
ELECTRICAL ENLARGED LIGHTING SITE PLAN - FOOTBALL PRESSBOX - LEVEL 1
9 Scale: 1/4" = 1'-0"



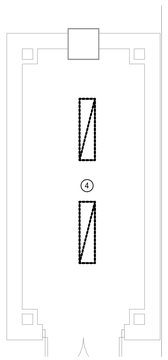
ELECTRICAL ENLARGED POWER SITE PLAN - FOOTBALL PRESSBOX - LEVEL 2
11 Scale: 1/4" = 1'-0"



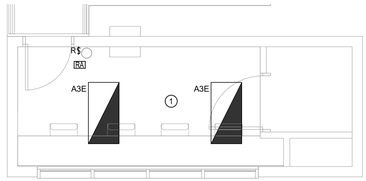
ELECTRICAL ENLARGED POWER SITE PLAN - FOOTBALL PRESSBOX - LEVEL 1
8 Scale: 1/4" = 1'-0"



ELECTRICAL DEMOLITION ENLARGED SITE PLAN - FOOTBALL PRESSBOX - LEVEL 2
10 Scale: 1/4" = 1'-0"



ELECTRICAL DEMOLITION ENLARGED SITE PLAN - FOOTBALL PRESSBOX - LEVEL 1
7 Scale: 1/4" = 1'-0"



ELECTRICAL ENLARGED LIGHTING SITE PLAN - SOFTBALL PRESSBOX - LEVEL 2
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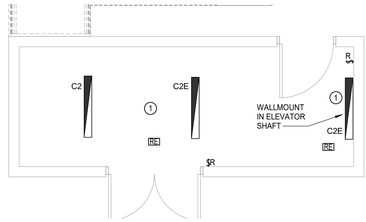
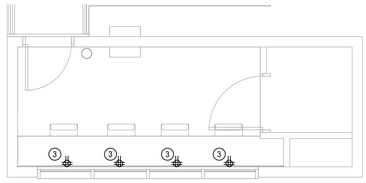
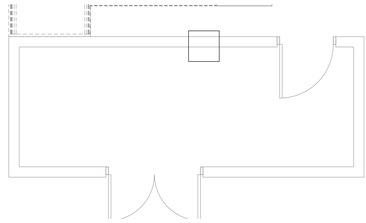


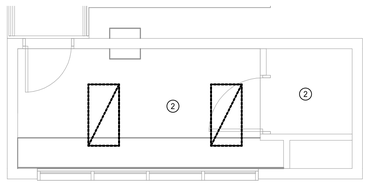
ELECTRICAL ENLARGED LIGHTING SITE PLAN - SOFTBALL PRESSBOX - LEVEL 1
3 Scale: 1/4" = 1'-0"



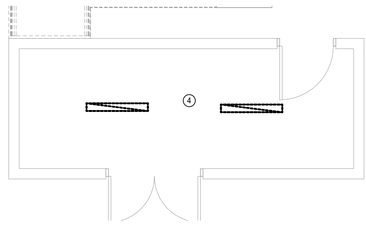
ELECTRICAL ENLARGED POWER SITE PLAN - SOFTBALL PRESSBOX - LEVEL 2
5 Scale: 1/4" = 1'-0"



ELECTRICAL ENLARGED POWER SITE PLAN - SOFTBALL PRESSBOX - LEVEL 1
2 Scale: 1/4" = 1'-0"



ELECTRICAL DEMOLITION ENLARGED SITE PLAN - SOFTBALL PRESSBOX - LEVEL 2
4 Scale: 1/4" = 1'-0"



ELECTRICAL DEMOLITION ENLARGED SITE PLAN - SOFTBALL PRESSBOX - LEVEL 1
1 Scale: 1/4" = 1'-0"

PLAN NORTH

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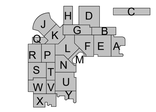

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD
9811 Huffmeister Rd, Houston, TX 77095

ARCADIS
TEXAS ARCADIS INC.
1330 POST OAK BOULEVARD, SUITE 2250
HOUSTON, TX 77056
tel 281.286.6605, fax 713.977.4620

BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER 01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	△
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E1.04

ELECTRICAL ENLARGED SITE PLANS - PRESSBOXES

1 **ELECTRICAL COMPOSITE FLOOR PLAN - LEVEL 1**
Scale: 1" = 30'-0"

PLAN NORTH

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Registration: F-4111
Project No: 2023-05945-00

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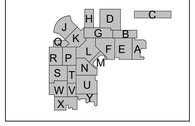

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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BRADLEY KALMANS 80219 LICENSED 01-30-2025

PROJECT #:	202318
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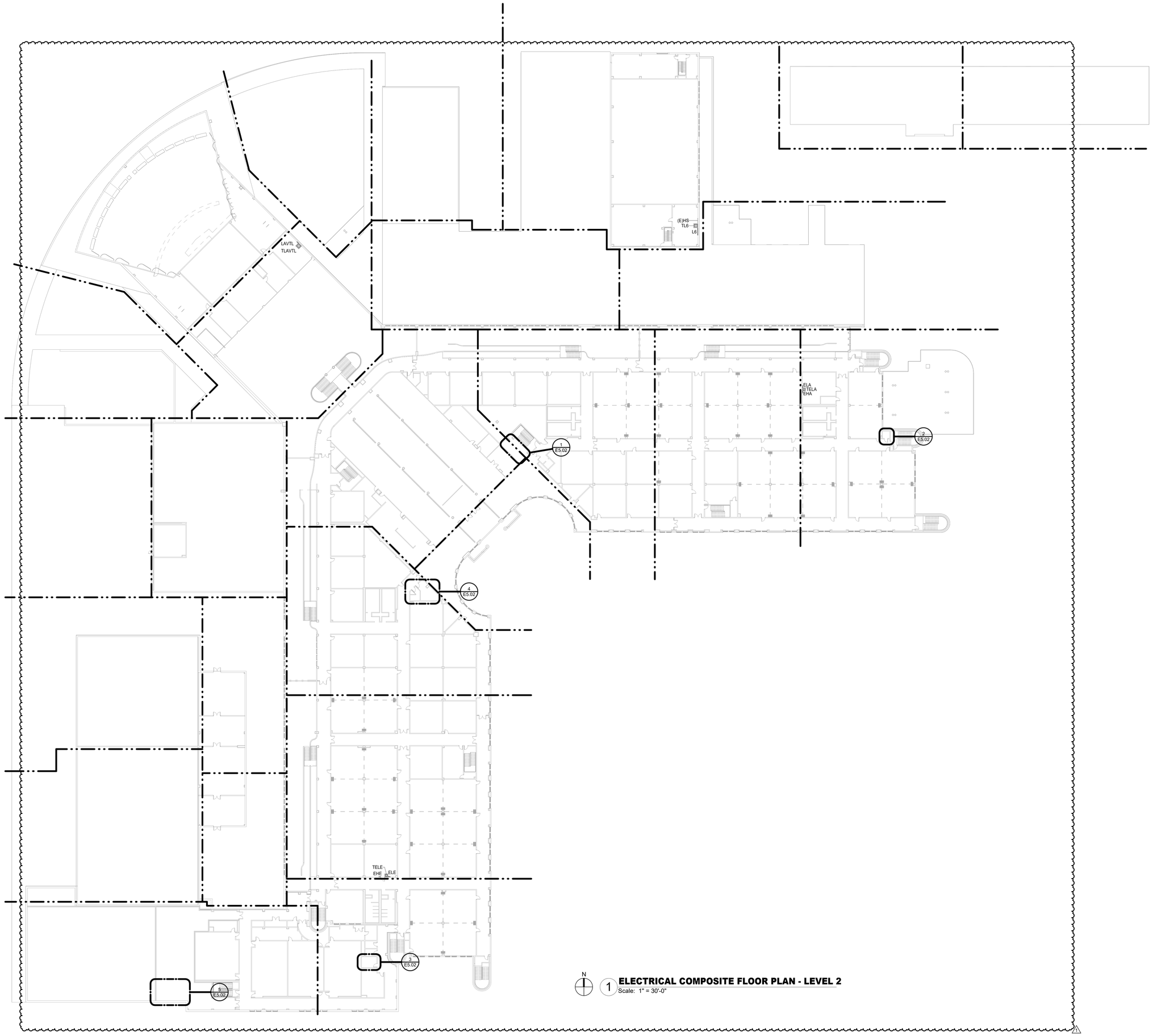
DATE	ISSUE	△
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E2.01

ELECTRICAL 1ST FLOOR COMPOSITE FLOOR PLAN



N

1 **ELECTRICAL COMPOSITE FLOOR PLAN - LEVEL 2**
Scale: 1" = 30'-0"

PLAN NORTH

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Registration: F-4111
Project No: 2023-05945-00

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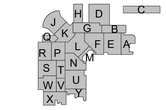

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BRADLEY KALMANS
80219
LICENSED
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	△
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E2.02

ELECTRICAL 2ND FLOOR COMPOSITE FLOOR PLAN

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

CONNECT ALL NEW RECEPTACLES TO EXISTING CIRCUITS LEFT IN PLACE AFTER DEMOLITION. EXTEND CONDUCTORS / CONDUIT WITH MATCHING SIZE TO NEW LOCATION. FIELD VERIFY CONNECTED LOAD NOT TO EXCEED 1500 W @ 120 V UNLESS INDICATED OTHERWISE.

WHERE ANY EXISTING JUNCTION BOX AND/OR PULLBOX IS LOCATED AT A NEW NON-ACCESSIBLE CEILING AREA, CONTRACTOR SHALL RELOCATE DEVICE AND EXTEND WIRING AND CONDUIT ABOVE NEAREST ACCESSIBLE CEILING AS INSTRUCTED BY OWNER OR ITS REPRESENTATIVE. SEE ARCHITECTURAL DRAWINGS FOR AREAS AFFECTED.

ELECTRICAL GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT AND SCHEDULES. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DISCONNECTS, BRANCH CIRCUITRY, STARTERS/CONTROLS, CIRCUIT BREAKERS AND CONNECTIONS REQUIRED TO POWER EQUIPMENT.
3. CONTRACTOR TO COORDINATE EXACT LOCATION OF DISCONNECT SWITCHES, JUNCTION BOXES AND SINGLE POLE TOGGLE SWITCHES FOR MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
4. ALL RECEPTACLES LOCATED WITHIN 6'-0" OF SINK SHALL BE HAVE GFCI PROTECTION.
5. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF RECEPTACLES AND SWITCHES WITH ARCHITECTURAL ELEVATIONS PRIOR TO ELECTRICAL ROUGH-IN. ADJUST DEVICES AS REQUIRED SO THAT NO DEVICES ARE INSTALLED BEHIND CABINETS OR SHELVES.
6. ALL BLANK FACE GFCI DEVICES SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION AND NOT BEHIND EQUIPMENT.
7. CONTRACTOR SHALL REFER TO TECHNOLOGY SERIES CONSTRUCTION DOCUMENTS FOR EXACT LOCATION AND REQUIREMENTS OF ALL LOW VOLTAGE BACK BOXES, FITTINGS, AND CONDUITS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
8. ALL EXTERIOR OUTLETS SHALL BE WP GFI IN METAL WHILE-IN-USE LOCKABLE ENCLOSURE WITH EXCEPTION TO INTEGRAL RTU RECEPTACLES.
9. CONTRACTOR TO MAINTAIN CONTINUITY OF CIRCUITS TO ALL EXISTING LOADS TO REMAIN.

ELECTRICAL KEYED NOTES

1. PROVIDE POWER TO LOCAL SPEAKER SYSTEM. COORDINATE FINAL LOCATION WITH DIVISION 27.
2. PROVIDE AND MAKE FINAL CONNECTION TO NEW DROP CORD. REFER TO SPECS FOR MODEL NUMBER. COORDINATE FINAL LOCATION WITH ARCHITECTURAL DRAWINGS.
3. PROVIDE CONNECTION TO BMCS PANEL(S). DIVISION 26 TO MAKE FINAL CONNECTION. COORDINATE FINAL LOCATION AND POWER REQUIREMENTS WITH DIVISION 23 PRIOR TO ROUGH-IN AND INSTALLATION.
4. PROVIDE UNISTRUT RACK TO SUPPORT ELECTRICAL PANEL.
5. MOUNT RECEPTACLES ABOVE COORDINATE FINAL LOCATION WITH EXISTING OVERHEAD EQUIPMENT AND LIGHTS. COORDINATE FINAL LOCATION AND PLUG CONFIGURATION WITH TECHNOLOGY DRAWINGS AND DISTRICT IT. REFER TO ELECTRICAL DETAIL.
6. PROVIDE 24HR PROGRAMMABLE AUTO/MANUAL TIMER SWITCH FOR CIRCULATING PUMP.
7. PROVIDE GROUNDING BUS BAR. REFER TO GROUNDING SPECIFICATIONS AND TECHNOLOGY DRAWINGS FOR ADDITIONAL SCOPE OF WORK

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD
9811 Huffmeister Rd, Houston, TX 77095

Branch Panel: LAR

Location: MECH A134
Supply From: TLAR
Mounting: Surface
Volts: 120/208 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10,000
Enclosure: Type 1
Mains: 150A MCB

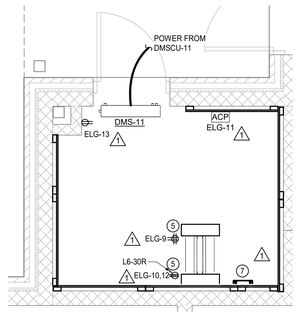
Phase in kVA

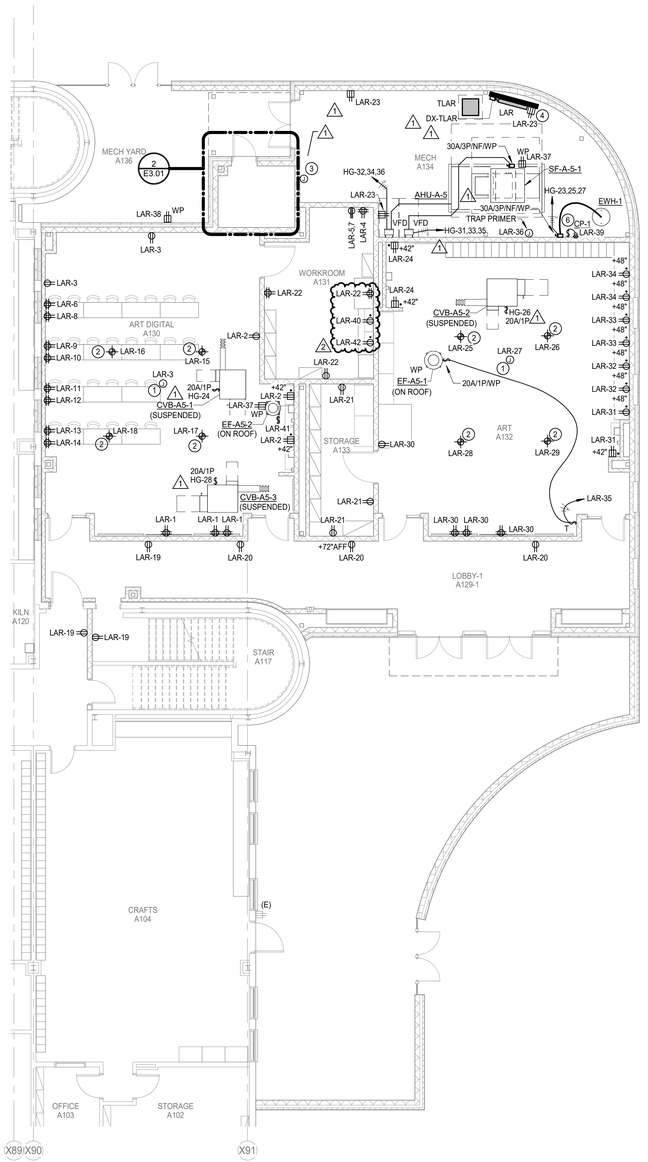
Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker	Wire	Circuit Description	CKT	Note
	1	Receptacles ART DIGITAL A130	#12	20	1	1.1 / 0.5			1	20	#12 Receptacles ART DIGITAL A130	2	
	3	Receptacles ART DIGITAL A130	#12	20	1		0.9 / 0.4		1	20	#12 Receptacles ART DIGITAL A130	4	
	5	PRINTER	#10	30	2	1.6 / 0.4		1.6 / 0.4	1	20	#12 Receptacles	6	
	7								1	20	#12 Receptacles	8	
	9	Receptacles	#12	20	1		0.4 / 0.4		1	20	#12 Receptacles	10	
	11	Receptacles	#12	20	1			0.4 / 0.4	1	20	#12 Receptacles	12	
	13	Receptacles	#12	20	1	0.4 / 0.4			1	20	#12 Receptacles	14	
	15	CORD REEL	#12	20	1		0.4 / 0.4		1	20	#12 CORD REEL	16	
	17	CORD REEL	#12	20	1			0.4 / 0.4	1	20	#12 CORD REEL	18	
	19	Receptacles Room A128, A117, A116	#12	20	1	0.5 / 0.5			1	20	#12 Receptacles LOBBY A129	20	
	21	Receptacles STORAGE A133	#12	20	1		0.5 / 0.9		1	20	#12 Receptacles WORKROOM A131	22	
	23	Receptacles MECH A134	#12	20	1			0.5 / 0.4	1	20	#12 Receptacles ART A132	24	
	25	CORD REEL	#12	20	1	0.4 / 0.4			1	20	#12 CORD REEL	26	
	27	LOACAL SOUND SYSTEM	#12	20	1		0.5 / 0.4		1	20	#12 CORD REEL	28	
	29	CORD REEL	#12	20	1			0.4 / 1.3	1	20	#12 Receptacles ART A132	30	
	31	Receptacles ART A132	#12	20	1	0.4 / 0.4			1	20	#12 Receptacles ART A132	32	
	33	Receptacles ART A132	#12	20	1		0.4 / 0.4		1	20	#12 Receptacles ART A132	34	
	35	EF-A5-1	#12	20	1			0.2 / 0.5	1	20	#12 TRAP PRIMER	36	
	37	ROOFTOP RECEPTACLES	#12	20	1	0.5 / 0.2			1	20	#12 Receptacle outdoor	38	
	39	CP-1	#12	20	1		0.1 / 0.2		1	20	Receptacles WORKROOM A131	40	
	41	EF-A5-2	#12	20	1			0.1 / 0.2	1	20	Receptacles WORKROOM A131	42	
--	43	SPARE	--	20	1	0.0 / 0.0			1	--	-- SPACE	44	--
--	45	SPARE	--	20	1		0.0 / 0.0		1	--	-- SPACE	46	--
--	47	SPARE	--	20	1			0.0 / 0.0	1	--	-- SPACE	48	--
--	49	SPARE	--	20	1	0.0 / 0.0			1	--	-- SPACE	50	--
--	51	SPARE	--	20	1		0.0 / 0.0		1	--	-- SPACE	52	--
--	53	SPARE	--	20	1			0.0 / 0.0	1	--	-- SPACE	54	--
--	55	SPARE	--	20	1	0.0 / 0.0			1	--	-- SPACE	56	--
--	57	SPARE	--	20	1		0.0 / 0.0		1	--	-- SPACE	58	--
--	59	SPARE	--	20	1			0.0 / 0.0	1	--	-- SPACE	60	--
--	61	SPARE	--	20	1	0.0 / 0.0			1	--	-- SPACE	62	--
--	63	SPARE	--	20	1		0.0 / 0.0		1	--	-- SPACE	64	--
--	65	SPARE	--	20	1			0.0 / 0.0	1	--	-- SPACE	66	--
--	67	SPACE	--	--	1	0.0 / 0.0			1	--	-- SPACE	68	--
--	69	SPACE	--	--	1		0.0 / 0.0		1	--	-- SPACE	70	--
--	71	SPACE	--	--	1			0.0 / 0.0	1	--	-- SPACE	72	--
--	73	SPACE	--	--	1	0.0 / 0.0			1	--	-- SPACE	74	--
--	75	SPACE	--	--	1		0.0 / 0.0		1	--	-- SPACE	76	--
--	77	SPACE	--	--	1			0.0 / 0.0	1	--	-- SPACE	78	--
--	79	SPACE	--	--	1	0.0 / 0.0						80	
--	81	SPACE	--	--	1		0.0 / 0.0		3	30	-- SPDL	82	--
--	83	SPACE	--	--	1			0.0 / 0.0				84	
		Total Load:				7.5 kVA	6.0 kVA	6.8 kVA					
		Total Amps:				64 A	50 A	58 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0.4 kVA	100.00%	0.4 kVA		
Miscellaneous	4.6 kVA	100.00%	4.6 kVA	**Total Conn. Load:**	20.3 kVA
Receptacles	15.3 kVA	82.68%	12.7 kVA	**Total Est. Demand:**	17.7 kVA
				Total Conn. Current:	56 A
				Total Est. Demand Current:	49 A

Notes:

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE





N
2 ELECTRICAL ENLARGED FLOOR PLAN - LEVEL 1 - IDF - ART
Scale: 3/8" = 1'-0"

N
1 ELECTRICAL POWER FLOOR PLAN - LEVEL 1 - AREA 'A'
Scale: 1/8" = 1'-0"

PLAN NORTH

ARCADIS
TEXAS ARCADIS INC.
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PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E3.01

ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'A'

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

CONNECT ALL NEW RECEPTACLES TO EXISTING CIRCUITS LEFT IN PLACE AFTER DEMOLITION. EXTEND CONDUCTORS / CONDUIT WITH MATCHING SIZE TO NEW LOCATION. FIELD VERIFY CONNECTED LOAD NOT TO EXCEED 1500 W @ 120 V UNLESS INDICATED OTHERWISE.

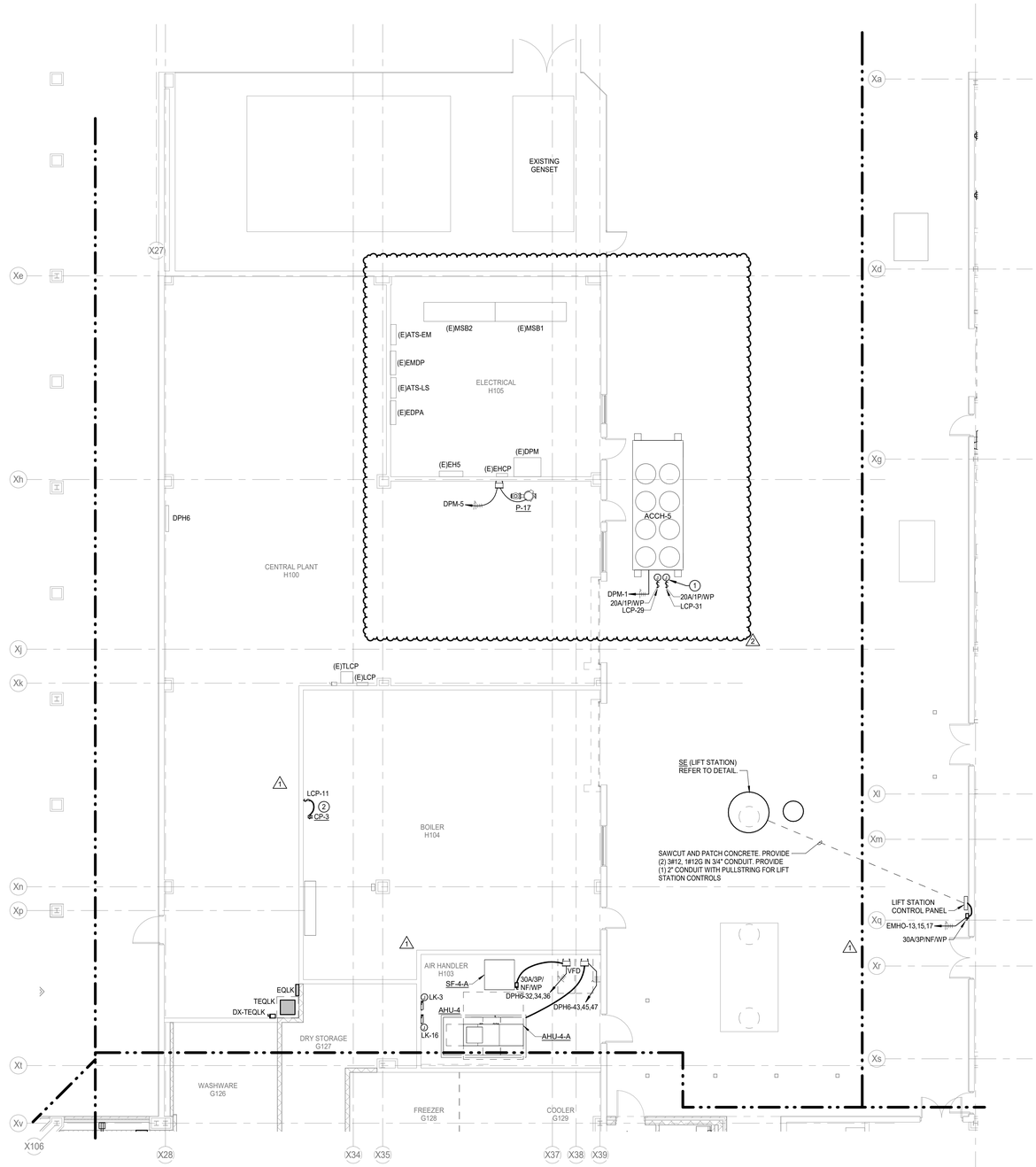
WHERE ANY EXISTING JUNCTION BOX AND/OR PULLBOX IS LOCATED AT A NEW NON-ACCESSIBLE CEILING AREA, CONTRACTOR SHALL RELOCATE DEVICE AND EXTEND WIRING AND CONDUIT ABOVE NEAREST ACCESSIBLE CEILING AS INSTRUCTED BY OWNER OR ITS REPRESENTATIVE. SEE ARCHITECTURAL DRAWINGS FOR AREAS AFFECTED.

ELECTRICAL GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT AND SCHEDULES. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DISCONNECTS, BRANCH CIRCUITRY, STARTERS/CONTROLS, CIRCUIT BREAKERS AND CONNECTIONS REQUIRED TO POWER EQUIPMENT.
3. CONTRACTOR TO COORDINATE EXACT LOCATION OF DISCONNECT SWITCHES, JUNCTION BOXES AND SINGLE POLE TOGGLE SWITCHES FOR MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
4. ALL RECEPTACLES LOCATED WITHIN 6'-0" OF SINK SHALL BE HAVE GFCI PROTECTION.
5. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF RECEPTACLES AND SWITCHES WITH ARCHITECTURAL ELEVATIONS PRIOR TO ELECTRICAL ROUGH-IN. ADJUST DEVICES AS REQUIRED SO THAT NO DEVICES ARE INSTALLED BEHIND CABINETS OR SHELVES.
6. ALL BLANK FACE GFCI DEVICES SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION AND NOT BEHIND EQUIPMENT.
7. CONTRACTOR SHALL REFER TO TECHNOLOGY SERIES CONSTRUCTION DOCUMENTS FOR EXACT LOCATION AND REQUIREMENTS OF ALL LOW VOLTAGE BACK BOXES, FITTINGS, AND CONDUITS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
8. ALL EXTERIOR OUTLETS SHALL BE WP GFI IN METAL WHILE-IN-USE LOCKABLE ENCLOSURE WITH EXCEPTION TO INTEGRAL RTU RECEPTACLES.
9. CONTRACTOR TO MAINTAIN CONTINUITY OF CIRCUITS TO ALL EXISTING LOADS TO REMAIN.

ELECTRICAL KEYED NOTES

1. PROVIDE 120V ACCESSORY POWER FOR NEW AIRCOOLED CHILLER. COORDINATE FINAL CONNECTION WITH DIV23. PROVIDE NEW 20A/AP BREAKER AND ROUTE 2#10, 1#10G, IN 3/4"C. FROM THE NEAREST 120/208V PANEL.
2. PROVIDE 24HR PROGRAMMABLE AUTO/MANUAL TIMER SWITCH FOR CIRCULATING PUMP.
3. RUN NEW WIRES AND CONDUITS TO SAME EXISTING PANEL FEEDING THE PUMP. MAKE ALL FINAL CONNECTIONS.



N

1 **ELECTRICAL POWER FLOOR PLAN - LEVEL 1 - AREA 'H'**
Scale: 1/8" = 1'-0"

Salas O'Brien
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Houston, TX 77064

Registration: F-4111
Project No: 2023-05945-00

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2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E3.06

ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'H'

PLAN NORTH

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Registration: F-6111
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CONNECT ALL NEW RECEPTACLES TO EXISTING CIRCUITS LEFT IN PLACE AFTER DEMOLITION. EXTEND CONDUCTORS / CONDUIT WITH MATCHING SIZE TO NEW LOCATION. FIELD VERIFY CONNECTED LOAD NOT TO EXCEED 1500 W @ 120 V UNLESS INDICATED OTHERWISE.

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COORDINATE WITH THEATRICAL AND AV DRAWINGS FOR REQUIREMENTS

ELECTRICAL GENERAL NOTES

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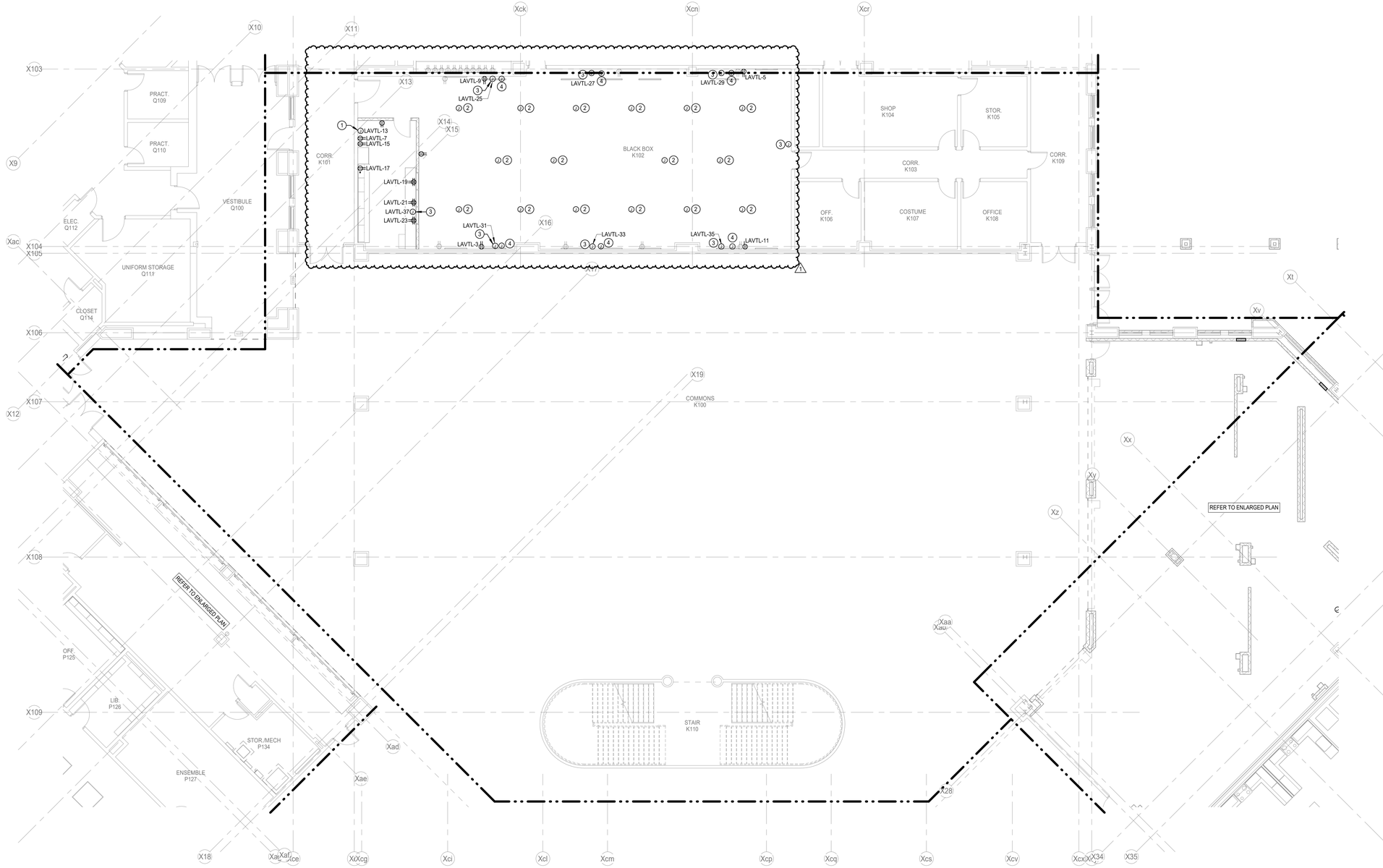
ELECTRICAL KEYED NOTES

1. COORDINATE WITH AV TO TERMINATE POWER FOR WALL MOUNTED RACK INSIDE RACK.
2. PROVIDE (2) 2#12 AND 1#12G FROM MOTORIZED BREAKER PANEL TO THEATRICAL MULTICIRCUIT PLUGGING BOX.
3. MAKE FINAL CONNECTION FOR CONTROLLED RECEPTACLE WALL BOX. COORDINATE EXACT LOCATION WITH THEATRICAL DRAWINGS (TL - SERIES).
4. MAKE FINAL CONNECTION FOR MULTI-CIRCUIT WALL BOX. COORDINATE EXACT LOCATION WITH THEATRICAL DRAWINGS (TL - SERIES). ROUTE (2) 2#12 AND 1#12G FROM MOTORIZED BREAKER PANEL.



N

1 **ELECTRICAL POWER FLOOR PLAN - LEVEL 1 - AREA 'K'**
Scale: 1/8" = 1'-0"

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BRADLEY KALMANS
80219
LICENSED
01-30-2025

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2025-01-30	ADDENDUM #5	1

E3.07

ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'K'

PLAN NORTH

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

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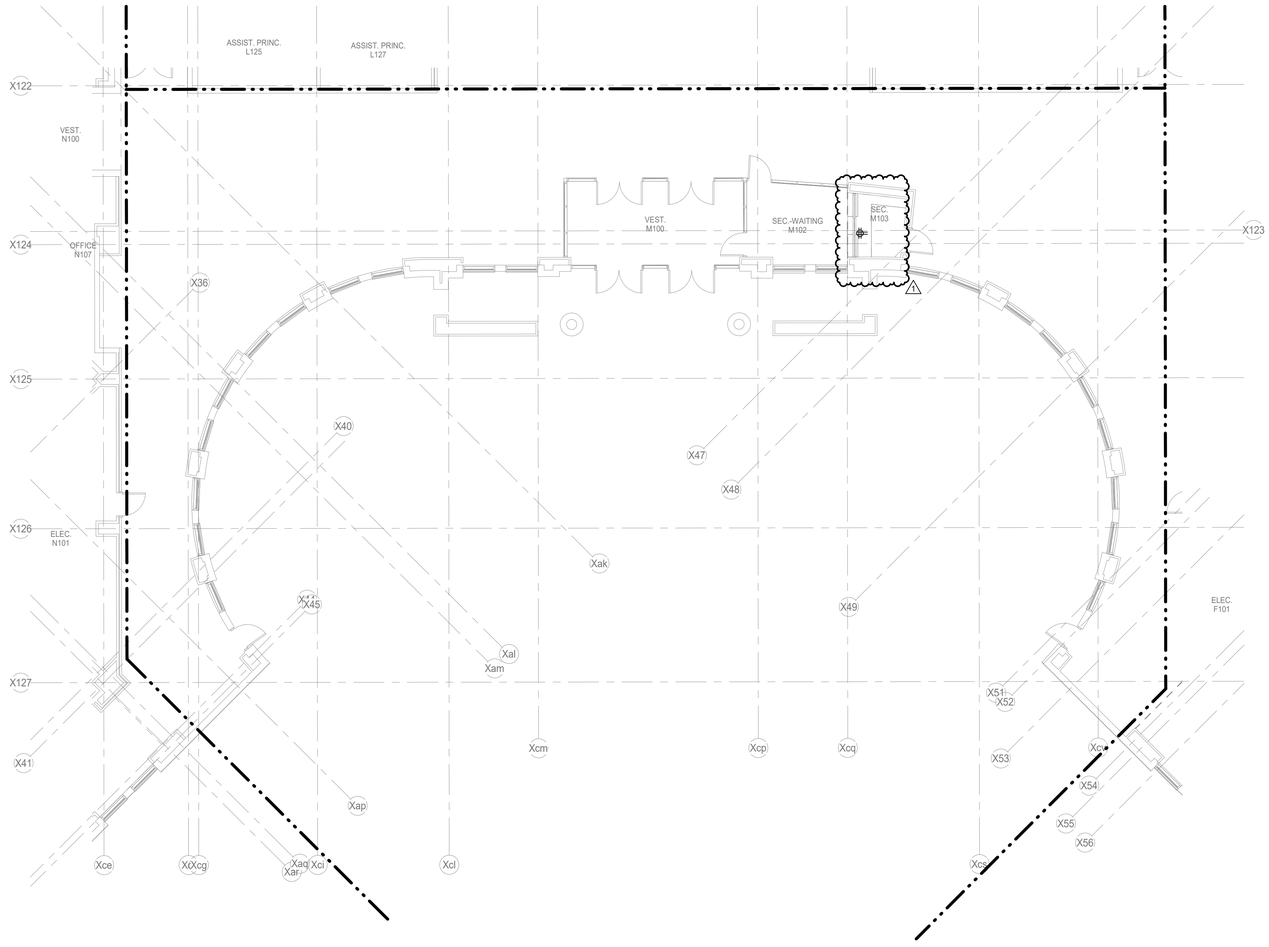

N

1 **ELECTRICAL POWER FLOOR PLAN - LEVEL 1 - AREA 'M'**
Scale: 1/8" = 1'-0"

PLAN NORTH

Salas O'Brien
salasobrien.com 281-664-1900
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Houston, TX 77064

Registration: F-6111
Project No: 2023-05945-00

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E3.08

ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'M'

ELECTRICAL KEYED NOTES

1. CONNECT PLUG TO EXISTING CIRCUIT LEFT IN PLACE DURING DEMOLITION WITH NO EXISTING RECEPTACLES TO REMAIN. DO NOT CONNECT ANY OTHER RECEPTACLES TO THIS CIRCUIT. FINAL PRODUCT SHOULD BE A DEDICATED CIRCUIT FOR MICROWAVE RECEPTACLE. COORDINATE FINAL MOUNTING WITH ARCHITECTURAL DETAILS AND CASEWORK.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

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ELECTRICAL GENERAL NOTES

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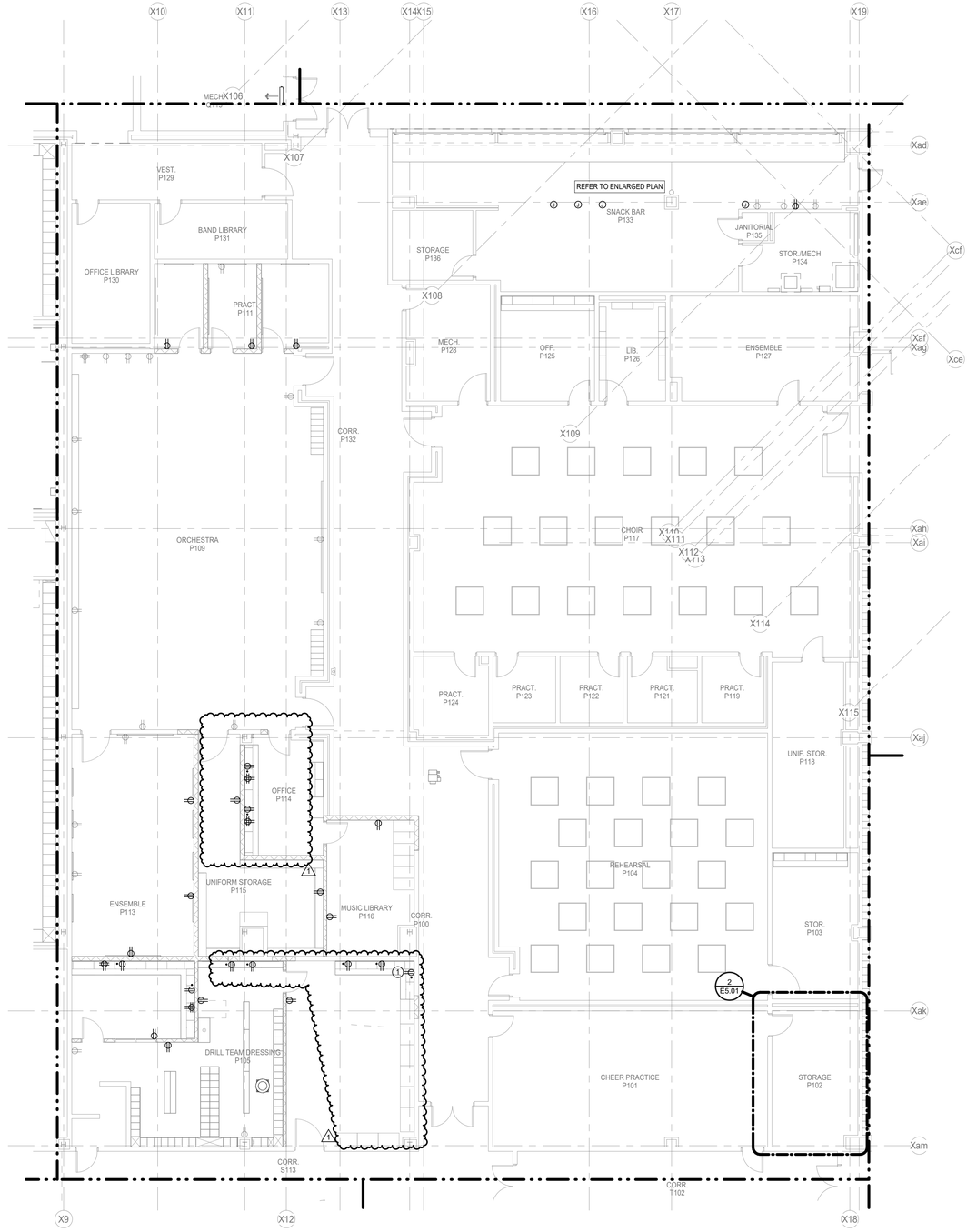

N

1 **ELECTRICAL POWER FLOOR PLAN - LEVEL 1 - AREA 'P'**
Scale: 1/8" = 1'-0"

PLAN NORTH

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Registration: F-4111
Project No: 2023-05945-00

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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BRADLEY KALMANS 80219 LICENSED 01-30-2025

PROJECT #:	202318
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2025-01-30	ADDENDUM #5	1

E3.09

ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'P'

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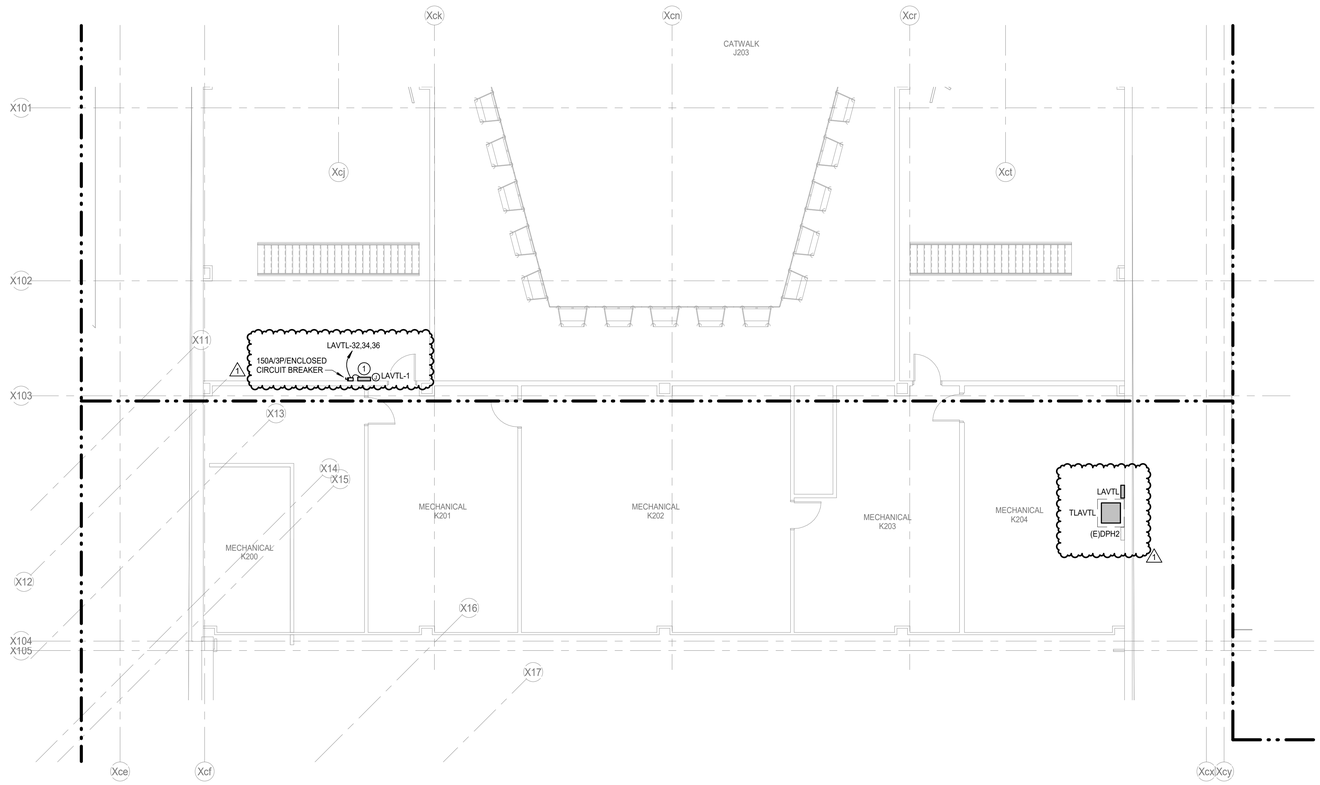
ELECTRICAL KEYED NOTES

(1) MOTORIZED BREAKER PANEL. COORDINATE WITH THEATRICAL LIGHTING.



N

1 **ELECTRICAL POWER FLOOR PLAN - LEVEL 2 - AREA 'K'**
Scale: 1/8" = 1'-0"

PLAN NORTH

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BRADLEY KALMANS
80219
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2025-01-30	ADDENDUM #5	1

E3.13

ELECTRICAL POWER 2ND FLOOR PLAN - AREA 'K'

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Registration: F-4111
Project No: 2023-05945-00

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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ARCADIS
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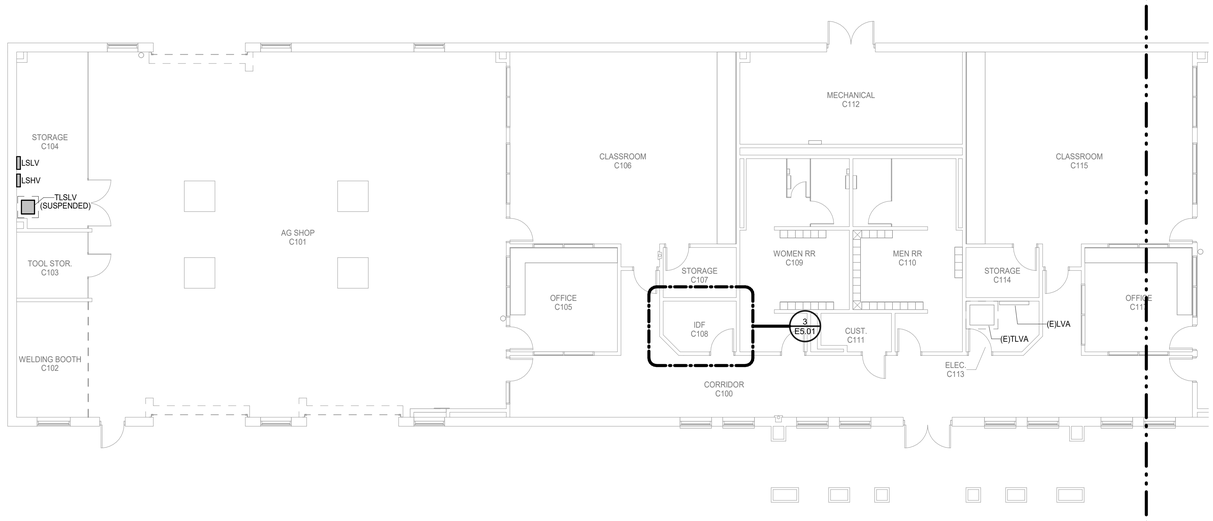


N

1 **ELECTRICAL POWER FLOOR PLAN - LEVEL 1 - AREA 'C' WEST**
Scale: 1/8" = 1'-0"

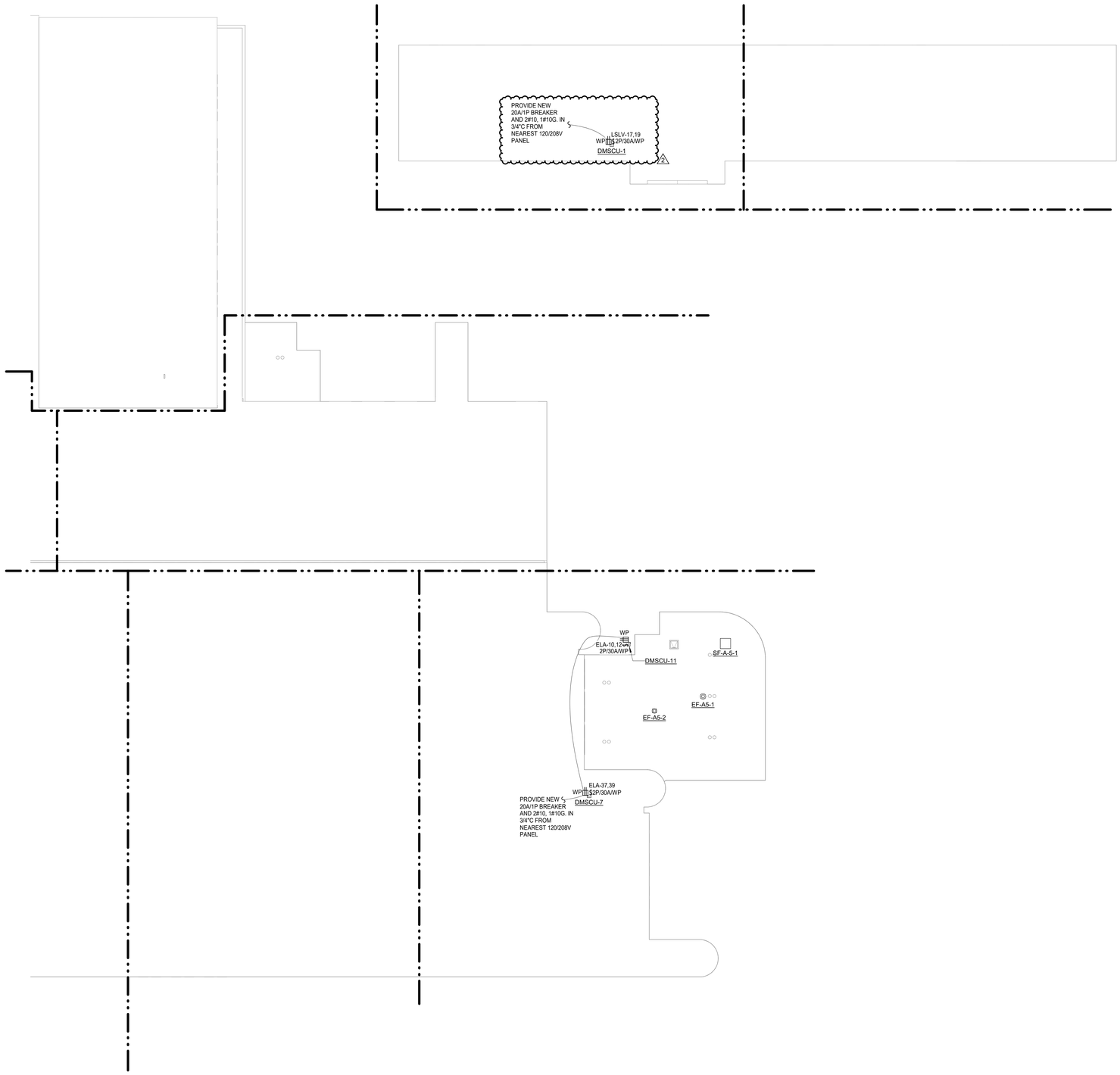
PLAN NORTH

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E3.15

ELECTRICAL POWER 1ST FLOOR PLAN - AREA 'C'



N

1 **ELECTRICAL POWER ROOF PLAN - AREAS A,B,C,D,E**

Scale: 1" = 20'-0"

ELECTRICAL GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT AND SCHEDULES. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DISCONNECTS, BRANCH CIRCUITRY, STARTERS/CONTROLS, CIRCUIT BREAKERS AND CONNECTIONS REQUIRED TO POWER EQUIPMENT.
3. CONTRACTOR TO COORDINATE EXACT LOCATION OF DISCONNECT SWITCHES, JUNCTION BOXES AND SINGLE POLE TOGGLE SWITCHES FOR MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
4. ALL RECEPTACLES LOCATED WITHIN 6'-0" OF SINK SHALL BE HAVE GFCI PROTECTION.
5. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF RECEPTACLES AND SWITCHES WITH ARCHITECTURAL ELEVATIONS PRIOR TO ELECTRICAL ROUGH-IN. ADJUST DEVICES AS REQUIRED SO THAT NO DEVICES ARE INSTALLED BEHIND CABINETS OR SHELVES.
6. ALL BLANK FACE GFCI DEVICES SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION AND NOT BEHIND EQUIPMENT.
7. CONTRACTOR SHALL REFER TO TECHNOLOGY SERIES CONSTRUCTION DOCUMENTS FOR EXACT LOCATION AND REQUIREMENTS OF ALL LOW VOLTAGE BACK BOXES, FITTINGS, AND CONDUITS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
8. ALL EXTERIOR OUTLETS SHALL BE WP GFI IN METAL WHILE-IN-USE LOCKABLE ENCLOSURE WITH EXCEPTION TO INTEGRAL RTU RECEPTACLES.
9. CONTRACTOR TO MAINTAIN CONTINUITY OF CIRCUITS TO ALL EXISTING LOADS TO REMAIN.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

CONNECT ALL NEW RECEPTACLES TO EXISTING CIRCUITS LEFT IN PLACE AFTER DEMOLITION, EXTEND CONDUCTORS / CONDUIT WITH MATCHING SIZE TO NEW LOCATION. FIELD VERIFY CONNECTED LOAD NOT TO EXCEED 1500 W @ 120 V UNLESS INDICATED OTHERWISE.

WHERE ANY EXISTING JUNCTION BOX AND/OR PULLBOX IS LOCATED AT A NEW NON-ACCESSIBLE CEILING AREA, CONTRACTOR SHALL RELOCATE DEVICE AND EXTEND WIRING AND CONDUIT ABOVE NEAREST ACCESSIBLE CEILING AS INSTRUCTED BY OWNER OR ITS REPRESENTATIVE. SEE ARCHITECTURAL DRAWINGS FOR AREAS AFFECTED.

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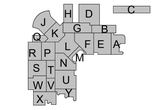

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD

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PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	△
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E3.21

ELECTRICAL POWER ROOF PLAN

PLAN NORTH

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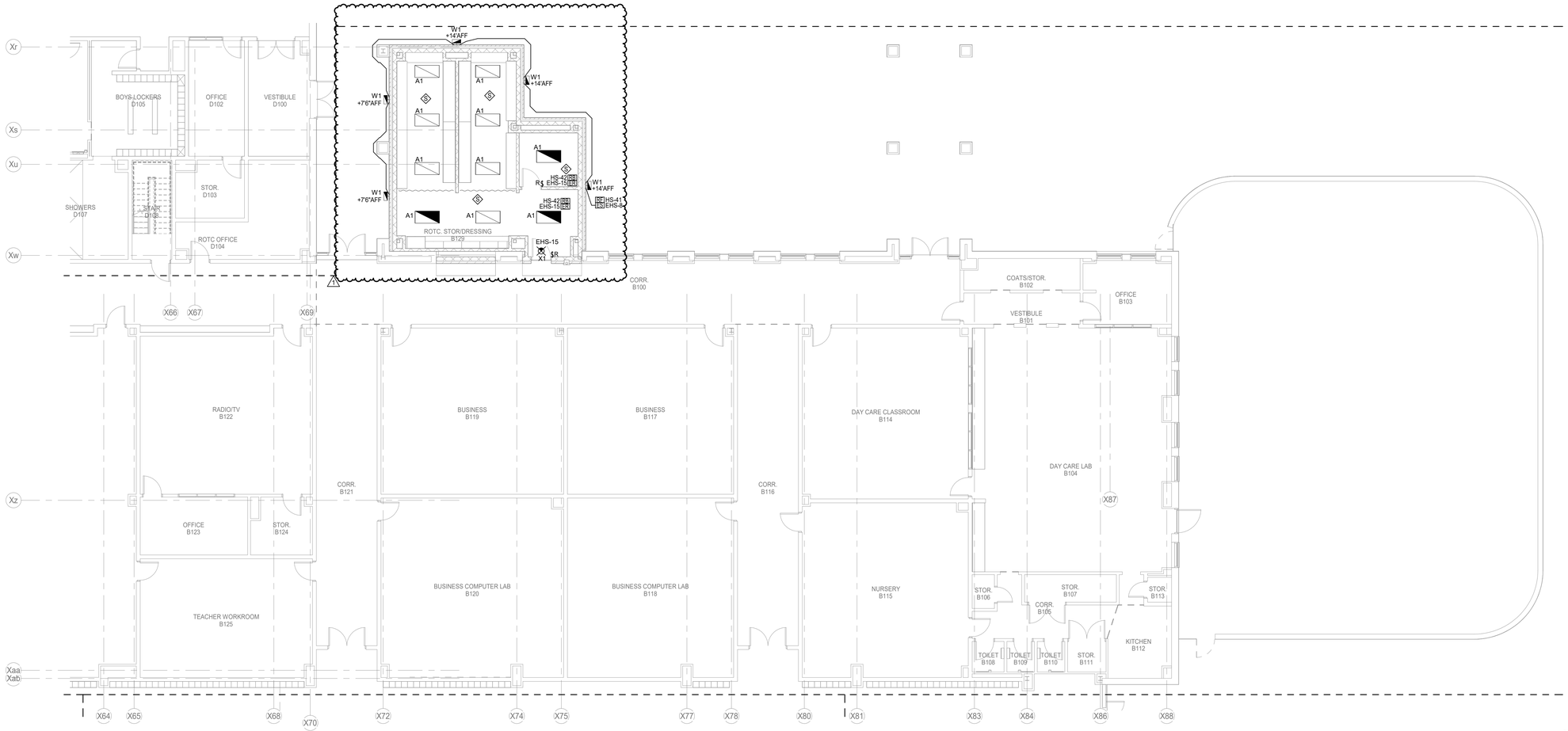
Registration: F-6111
Project No: 2023-05945-00

LIGHTING CONTROLS SCHEDULE

Type	Sensor Operation	Description
RA	VACANCY - MANUAL ON / AUTO OFF	ROOM CONTROLLER, 0-10V DIMMING. REFER TO SINGLE ZONE (DIMMING) DETAIL.
RB	VACANCY - MANUAL ON / AUTO OFF	ROOM CONTROLLER, NO DIMMING. REFER TO SINGLE ZONE DETAIL
RC	VACANCY - MANUAL ON / AUTO OFF	ROOM CONTROLLER, 0-10V DIMMING. REFER TO CLASSROOM DETAIL.
RD	OCCUPIED STATE - OCCUPANCY - AUTO ON ONLY UNOCCUPIED STATE - OCCUPANCY AUTO ON / AUTO OFF	BMCS INTERFACE FOR OCCUPIED / UNOCCUPIED BUILDING OPERATION & KEYPAD SWITCH LOCATED IN CORIDOR NEAR FRONT OFFICE. REFER TO TYPICAL CORRIDOR WITH KEYPAD DETAIL.
RE	NONE	MECHANICALLY WOUND TIMER SWITCH. WHERE MULTIPLE SWITCHES ARE USED, THESE SHALL BE LINKED TOGETHER FOR SIMULTANEOUS OPERATION WITHIN THE SPACE.
RF	PHOTOSENSOR	'CONTACTOR CONTROLLED BY BMCS;ON/OFF PHOTOSENSOR/SCHEDULE; POWER CONTACTOR FROM NEAREST RECEPTACLE CIRCUIT
RG	OCCUPANCY - AUTO ON / AUTO OFF	ROOM CONTROLLER, NO DIMMING.
RH	OCCUPANCY - AUTO ON / AUTO OFF	BMCS ON/OFF INTERFACE FOR OCCUPIED / UNOCCUPIED BUILDING OPERATION. LOCAL ON/OFF SWITCH. BMCS INTERFACE SHALL TURN LIGHTS OFF ONLY.



N

1 **ELECTRICAL LIGHTING FLOOR PLAN - LEVEL 1 - AREA 'B'**
Scale: 1/8" = 1'-0"

PLAN NORTH

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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PROJECT #:	202318
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DATE	ISSUE
2025-01-13	PERMIT AND PROPOSAL
2025-01-30	ADDENDUM #5 1

E4.02

ELECTRICAL
LIGHTING 1ST FLOOR
PLAN - AREA 'B'

ELECTRICAL KEYED NOTES

2 / 1 CONNECT NEW FIXTURE TO EXISTING UNSWITCHED EMERGENCY CIRCUITING.

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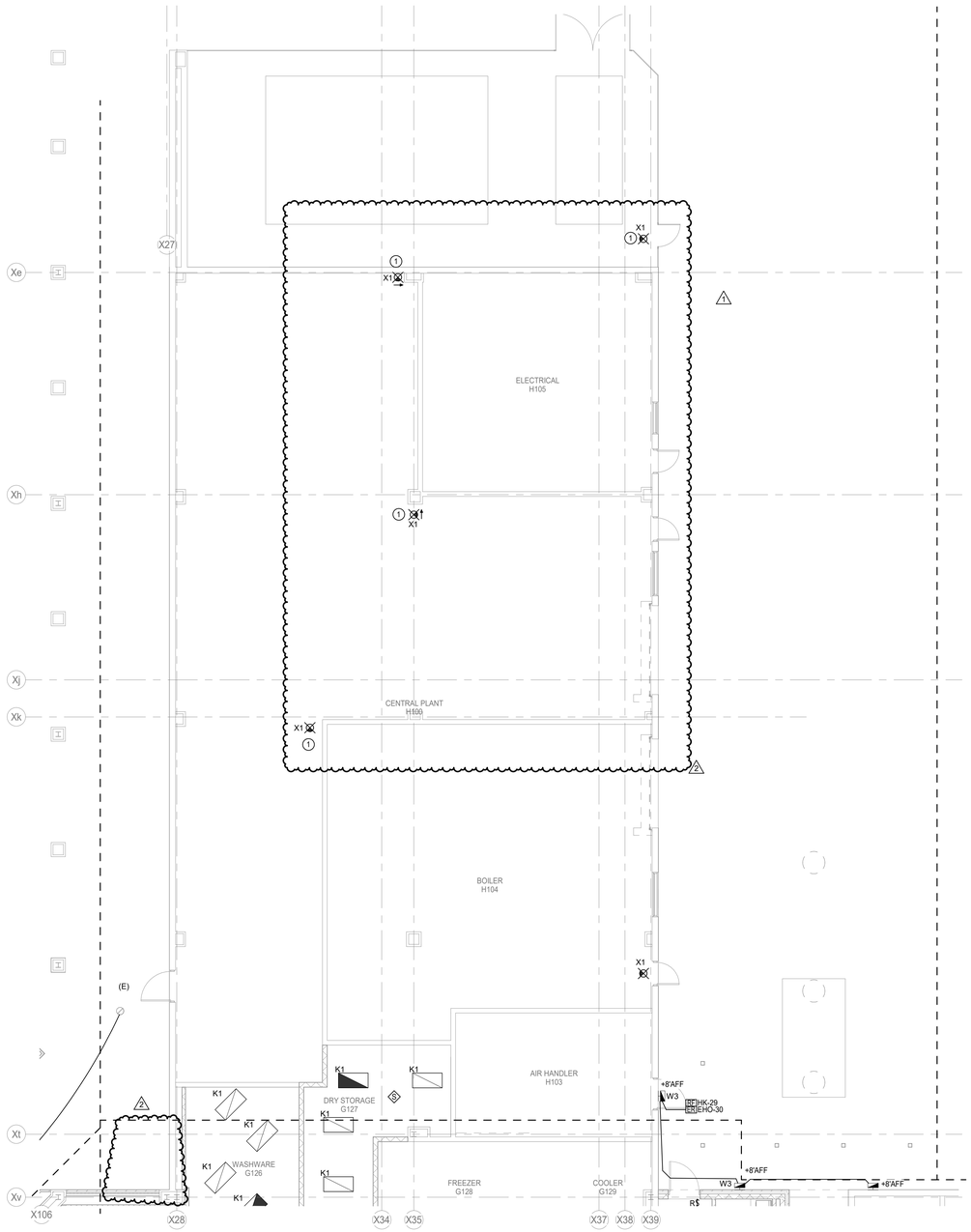
Project No: 2023-05945-00



N

1 **ELECTRICAL LIGHTING FLOOR PLAN - LEVEL 1 - AREA 'H'**
Scale: 1/8" = 1'-0"

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BRADLEY KALMANS
80219
LICENSED
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	△
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E4.04

ELECTRICAL
LIGHTING 1ST FLOOR
PLAN - AREA 'H'

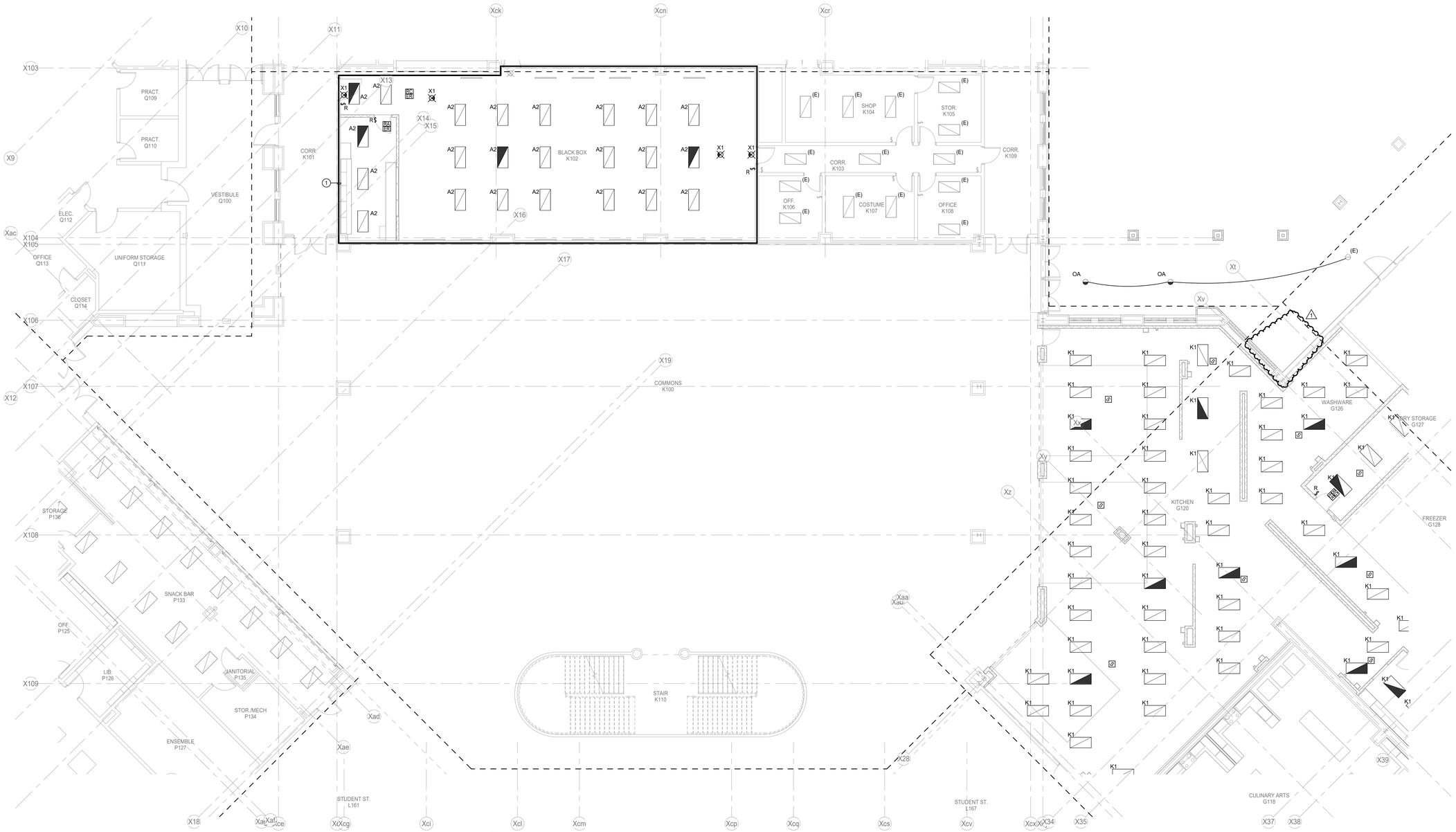
PLAN NORTH

ELECTRICAL KEYED NOTES

1. REFEED/EXTEND CIRCUITS AND CONDUITS PRESERVED DURING DEMOLITION AS NEEDED FOR NEW LAYOUT AND CONTROLS.

LIGHTING CONTROLS SCHEDULE

Type	Sensor Operation	Description
RA	VACANCY - MANUAL ON / AUTO OFF	ROOM CONTROLLER, 0-10V DIMMING. REFER TO SINGLE ZONE (DIMMING) DETAIL.
RB	VACANCY - MANUAL ON / AUTO OFF	ROOM CONTROLLER, NO DIMMING. REFER TO SINGLE ZONE DETAIL
RC	VACANCY - MANUAL ON / AUTO OFF	ROOM CONTROLLER, 0-10V DIMMING. REFER TO CLASSROOM DETAIL
RD	OCCUPIED STATE - OCCUPANCY - AUTO ON ONLY UNOCCUPIED STATE - OCCUPANCY AUTO ON / AUTO OFF	BMCS INTERFACE FOR OCCUPIED / UNOCCUPIED BUILDING OPERATION & KEYPAD SWITCH LOCATED IN CORIDOR NEAR FRONT OFFICE. REFER TO TYPICAL CORRIDOR WITH KEYPAD DETAIL
RE	NONE	MECHANICALLY WOUND TIMER SWITCH. WHERE MULTIPLE SWITCHES ARE USED, THESE SHALL BE LINKED TOGETHER FOR SIMULTANEOUS OPERATION WITHIN THE SPACE.
RF	PHOTOSENSOR	'CONTACTOR CONTROLLED BY BMCS;ON/OFF PHOTOSENSOR/SCHEDULE; POWER CONTACTOR FROM NEAREST RECEPTACLE CIRCUIT
RG	OCCUPANCY - AUTO ON / AUTO OFF	ROOM CONTROLLER, NO DIMMING.
RH	OCCUPANCY - AUTO ON / AUTO OFF	BMCS ON/OFF INTERFACE FOR OCCUPIED / UNOCCUPIED BUILDING OPERATION. LOCAL ON/OFF SWITCH. BMCS INTERFACE SHALL TURN LIGHTS OFF ONLY.



N

1 **ELECTRICAL LIGHTING FLOOR PLAN - LEVEL 1 - AREA 'K'**
Scale: 1/8" = 1'-0"

PLAN NORTH

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Registration: F-4111
Project No: 2023-05945-00

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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BRADLEY KALMANS
80219
LICENSED
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	△
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E4.05

ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'K'

ELECTRICAL KEYED NOTES

1. REFEED/EXTEND CIRCUITS AND CONDUITS PRESERVED DURING DEMOLITION AS NEEDED FOR NEW LAYOUT AND CONTROLS.
2. CONNECT TO CORRIDOR FIXTURES AND CONTROLS.

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Registration: F-4111
Project No: 2023-05945-00

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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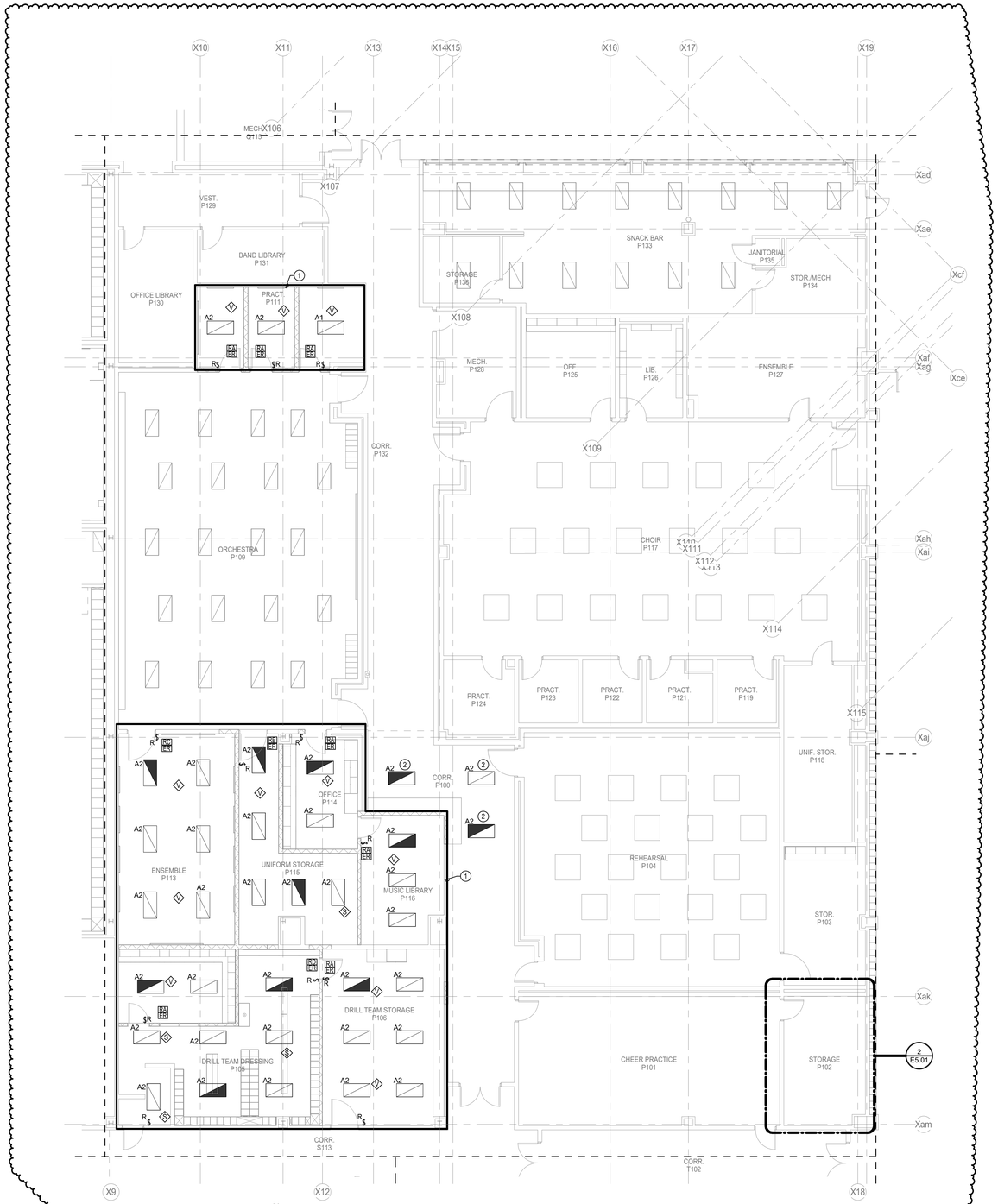
BRADLEY KALMANS — 80219 — LICENSED — 01-30-2025



N

1 **ELECTRICAL LIGHTING FLOOR PLAN - LEVEL 1 - AREA 'P'**
Scale: 1/8" = 1'-0"

PLAN NORTH

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

E4.06

ELECTRICAL LIGHTING 1ST FLOOR PLAN - AREA 'P'

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

CONNECT ALL NEW RECEPTACLES TO EXISTING CIRCUITS LEFT IN PLACE AFTER DEMOLITION, EXTEND CONDUCTORS / CONDUIT WITH MATCHING SIZE TO NEW LOCATION. FIELD VERIFY CONNECTED LOAD NOT TO EXCEED 1500 W @ 120 V UNLESS INDICATED OTHERWISE.

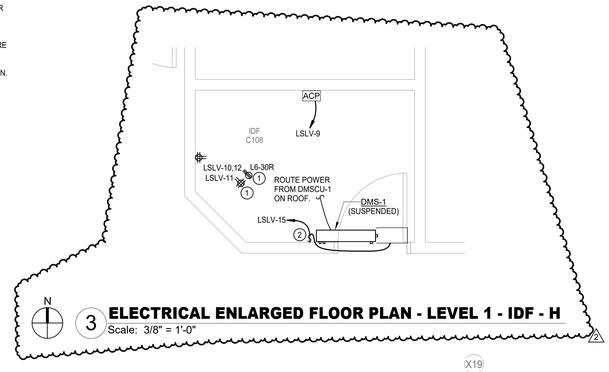
WHERE ANY EXISTING JUNCTION BOX AND/OR PULLBOX IS LOCATED AT A NEW NON-ACCESSIBLE CEILING AREA, CONTRACTOR SHALL RELOCATE DEVICE AND EXTEND WIRING AND CONDUIT ABOVE NEAREST ACCESSIBLE CEILING AS INSTRUCTED BY OWNER OR ITS REPRESENTATIVE. SEE ARCHITECTURAL DRAWINGS FOR AREAS AFFECTED.

ELECTRICAL GENERAL NOTES

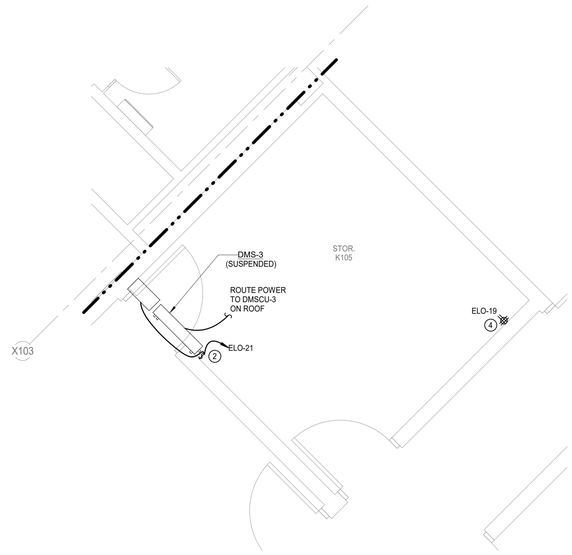
1. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT AND SCHEDULES. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DISCONNECTS, BRANCH CIRCUITRY, STARTERS/CONTROLS, CIRCUIT BREAKERS AND CONNECTIONS REQUIRED TO POWER EQUIPMENT.
3. CONTRACTOR TO COORDINATE EXACT LOCATION OF DISCONNECT SWITCHES, JUNCTION BOXES AND SINGLE POLE TOGGLE SWITCHES FOR MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
4. ALL RECEPTACLES LOCATED WITHIN 6'-0" OF SINK SHALL BE HAVE GFCI PROTECTION.
5. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF RECEPTACLES AND SWITCHES WITH ARCHITECTURAL ELEVATIONS PRIOR TO ELECTRICAL ROUGH-IN. ADJUST DEVICES AS REQUIRED SO THAT NO DEVICES ARE INSTALLED BEHIND CABINETS OR SHELVES.
6. ALL BLANK FACE GFCI DEVICES SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION AND NOT BEHIND EQUIPMENT.
7. CONTRACTOR SHALL REFER TO TECHNOLOGY SERIES CONSTRUCTION DOCUMENTS FOR EXACT LOCATION AND REQUIREMENTS OF ALL LOW VOLTAGE BACK BOXES, FITTINGS, AND CONDUITS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
8. ALL EXTERIOR OUTLETS SHALL BE WP GFI IN METAL WHILE-IN-USE LOCKABLE ENCLOSURE WITH EXCEPTION TO INTEGRAL RTU RECEPTACLES.
9. CONTRACTOR TO MAINTAIN CONTINUITY OF CIRCUITS TO ALL EXISTING LOADS TO REMAIN.

ELECTRICAL KEYED NOTES

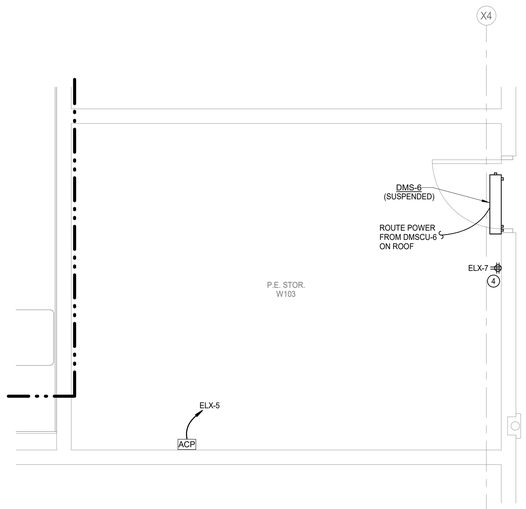
1. MOUNT RECEPTACLES ABOVE RACK. COORDINATE FINAL LOCATION WITH EXISTING OVERHEAD EQUIPMENT AND LIGHTS. COORDINATE FINAL LOCATION AND PLUG CONFIGURATION WITH DISTRICT IT. REFER TO ELECTRICAL DETAIL.
2. COORDINATE WITH DIVISION 26 TO PROVIDE/CONNECT CIRCUIT AND 20A/1P DISCONNECT FOR DMS CONDENSATE PUMP.
3. PROVIDE GROUNDING BUS BAR, REFER TO TECHNOLOGY DRAWINGS FOR ADDDITIONAL SCOPE OF WORK.
4. COORDINATE FINAL MOUNTING HEIGHT AND LOCATION WITH DISTRICT TECHNOLOGY.



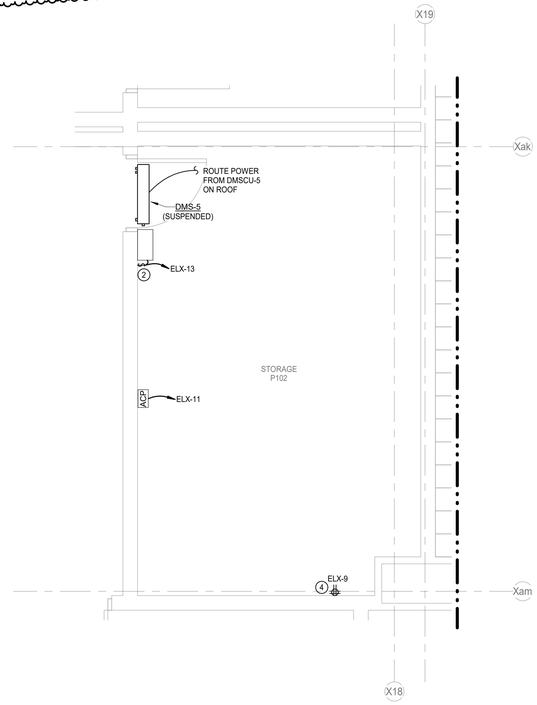
N 3 **ELECTRICAL ENLARGED FLOOR PLAN - LEVEL 1 - IDF - H**
Scale: 3/8" = 1'-0"



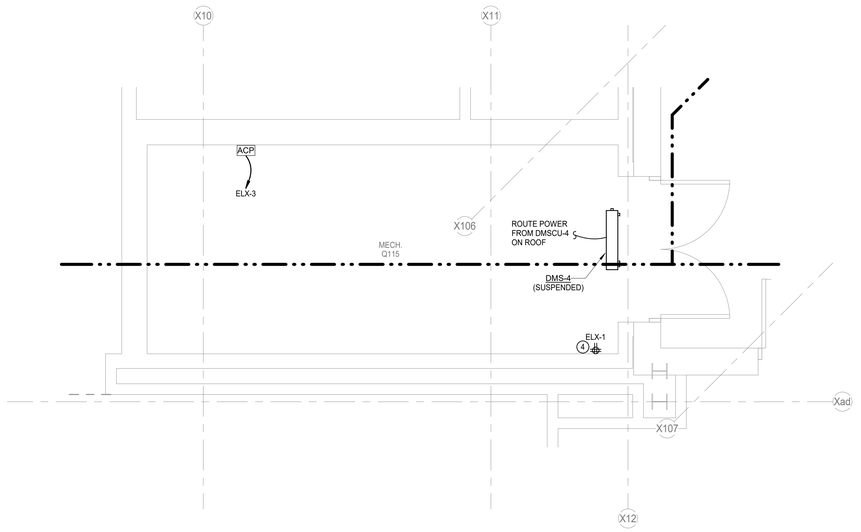
N 6 **ELECTRICAL ENLARGED FLOOR PLAN - LEVEL 1 - IDF - F**
Scale: 3/8" = 1'-0"



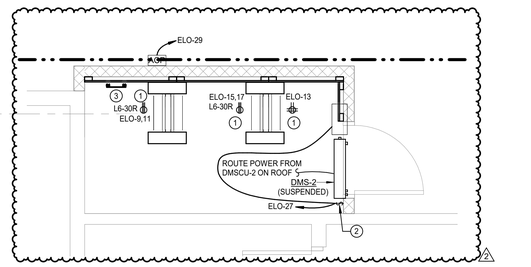
N 5 **ELECTRICAL ENLARGED FLOOR PLAN - LEVEL 1 - IDF - L**
Scale: 3/8" = 1'-0"



N 2 **ELECTRICAL ENLARGED FLOOR PLAN - LEVEL 1 - IDF - G**
Scale: 3/8" = 1'-0"



N 4 **ELECTRICAL ENLARGED FLOOR PLAN - LEVEL 1 - IDF - J**
Scale: 3/8" = 1'-0"



N 1 **ELECTRICAL ENLARGED FLOOR PLAN - LEVEL 1 - IDF - E**
Scale: 3/8" = 1'-0"

△1

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Project No: 2023-05945-00

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	△
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E5.01

ELECTRICAL ENLARGED PLANS

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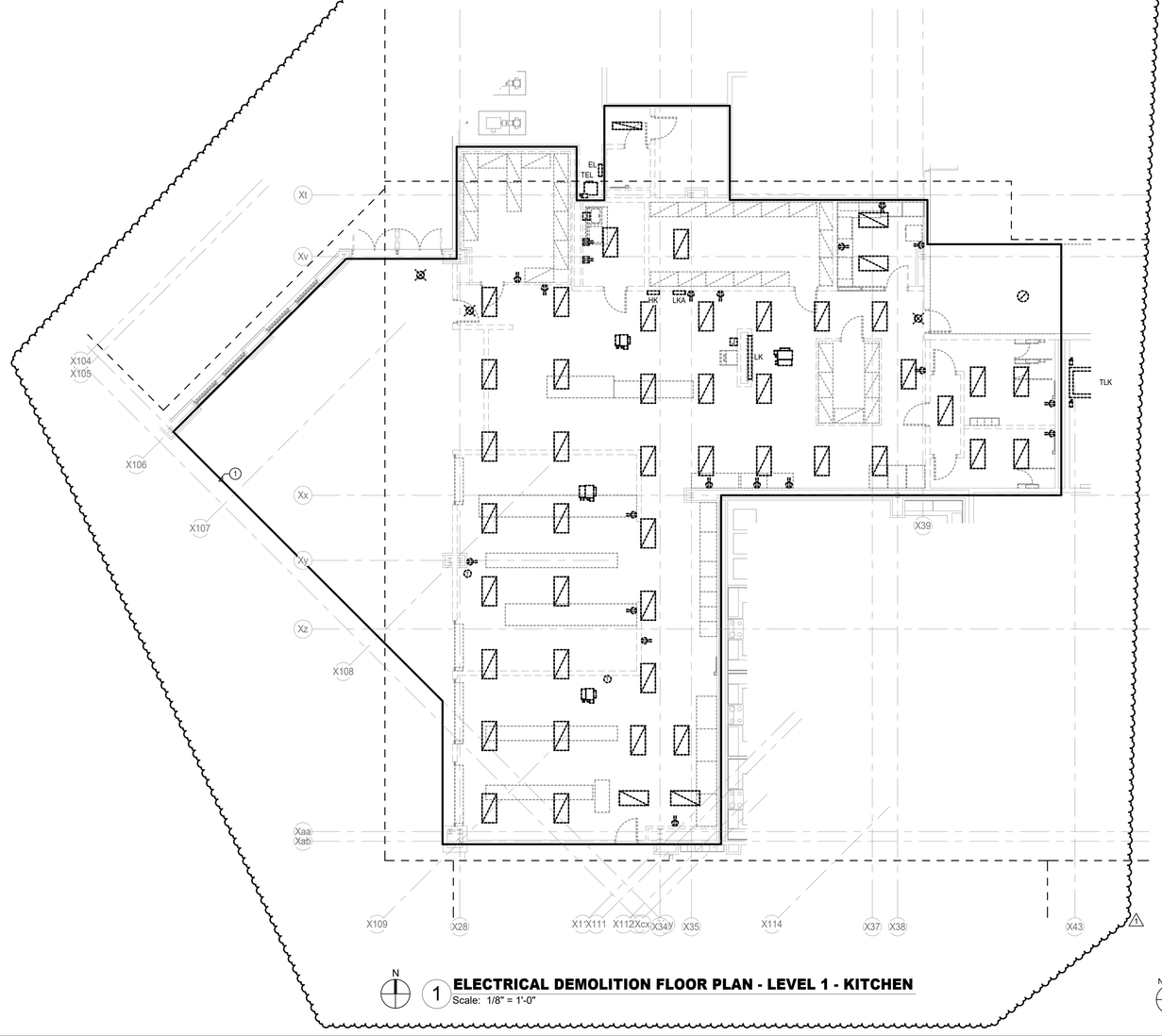
Project No: 2023-05945-00

ELECTRICAL KEYED NOTES

1. DEMOLISH ALL EXISTING LIGHTING FIXTURES, CONTROLS AND ELECTRICAL DEVICES INSIDE MARKED AREA.



N

1 **ELECTRICAL DEMOLITION FLOOR PLAN - LEVEL 1 - KITCHEN**
Scale: 1/8" = 1'-0"

PLAN NORTH

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BRADLEY KALMANS
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LICENSED
PROFESSIONAL ENGINEER
01-30-2025

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E5.04

ELECTRICAL
DEMOLITION
KITCHEN PLANS

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

CONNECT ALL NEW RECEPTACLES TO EXISTING CIRCUITS LEFT IN PLACE AFTER DEMOLITION. EXTEND CONDUCTORS / CONDUIT WITH MATCHING SIZE TO NEW LOCATION. FIELD VERIFY CONNECTED LOAD NOT TO EXCEED 1500 W @ 120 V UNLESS INDICATED OTHERWISE.

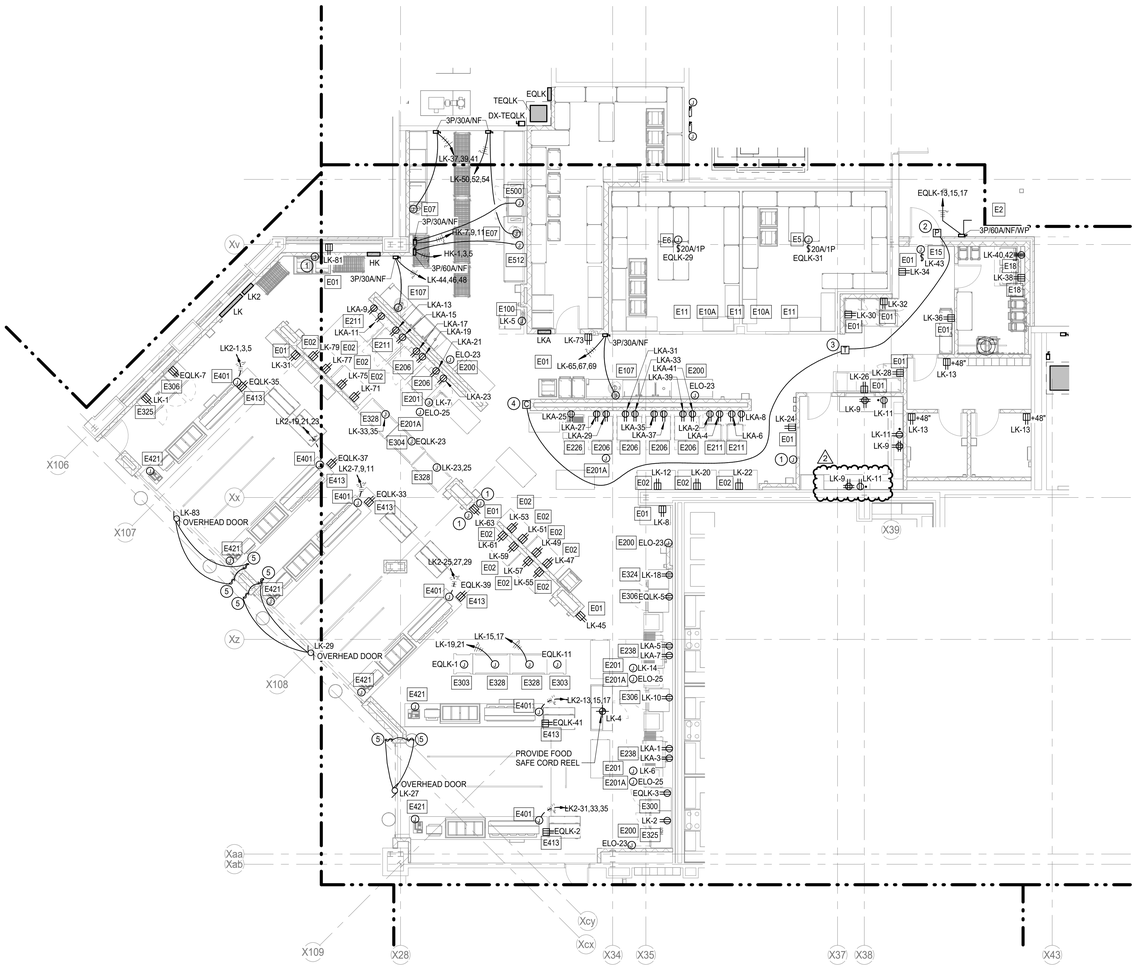
WHERE ANY EXISTING JUNCTION BOX AND/OR PULLBOX IS LOCATED AT A NEW NON-ACCESSIBLE CEILING AREA, CONTRACTOR SHALL RELOCATE DEVICE AND EXTEND WIRING AND CONDUIT ABOVE NEAREST ACCESSIBLE CEILING AS INSTRUCTED BY OWNER OR ITS REPRESENTATIVE. SEE ARCHITECTURAL DRAWINGS FOR AREAS AFFECTED.

ELECTRICAL GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT AND SCHEDULES. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DISCONNECTS, BRANCH CIRCUITRY, STARTERS/CONTROLS, CIRCUIT BREAKERS AND CONNECTIONS REQUIRED TO POWER EQUIPMENT.
3. CONTRACTOR TO COORDINATE EXACT LOCATION OF DISCONNECT SWITCHES, JUNCTION BOXES AND SINGLE POLE TOGGLE SWITCHES FOR MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
4. ALL RECEPTACLES LOCATED WITHIN 6'-0" OF SINK SHALL BE HAVE GFCI PROTECTION.
5. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF RECEPTACLES AND SWITCHES WITH ARCHITECTURAL ELEVATIONS PRIOR TO ELECTRICAL ROUGH-IN. ADJUST DEVICES AS REQUIRED SO THAT NO DEVICES ARE INSTALLED BEHIND CABINETS OR SHELVES.
6. ALL BLANK FACE GFCI DEVICES SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION AND NOT BEHIND EQUIPMENT.
7. CONTRACTOR SHALL REFER TO TECHNOLOGY SERIES CONSTRUCTION DOCUMENTS FOR EXACT LOCATION AND REQUIREMENTS OF ALL LOW VOLTAGE BACK BOXES, FITTINGS, AND CONDUITS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
8. ALL EXTERIOR OUTLETS SHALL BE WP GFI IN METAL WHILE-IN-USE LOCKABLE ENCLOSURE WITH EXCEPTION TO INTEGRAL RTU RECEPTACLES.
9. CONTRACTOR TO MAINTAIN CONTINUITY OF CIRCUITS TO ALL EXISTING LOADS TO REMAIN.

ELECTRICAL KEYED NOTES

1. KITCHEN HOOD PULL STATION.
2. PROVIDE EDWARDS #852 WEATHERPROOF PUSHBUTTON.
3. PROVIDE EDWARDS #592 CLASS II SIGNALING TRANSFORMER LOCATED ABOVE CEILING WITH EDWARDS #593 MOUNTING PLATE.
4. PROVIDE EDWARDS #340-G5 BUZZER MOUNTED 12" BELOW FINISHED CEILING.
5. COORDINATE WITH OVERHEAD DOOR MANUFACTURER, ARCHITECT AND OWNER TO PROVIDE KEYED CONTROL SWITCH. COORDINATE WITH EQUIPMENT MANUFACTURER INSTRUCTIONS TO ROUTE CONTROL WIRE OR POWER MOTOR VIA CONTROLLER AS NEEDED FOR A FUNCTIONAL INSTALL.



N

1 **ELECTRICAL POWER FLOOR PLAN - LEVEL 1 - KITCHEN**
Scale: 1/8" = 1'-0"

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E5.05

ELECTRICAL POWER KITCHEN PLANS

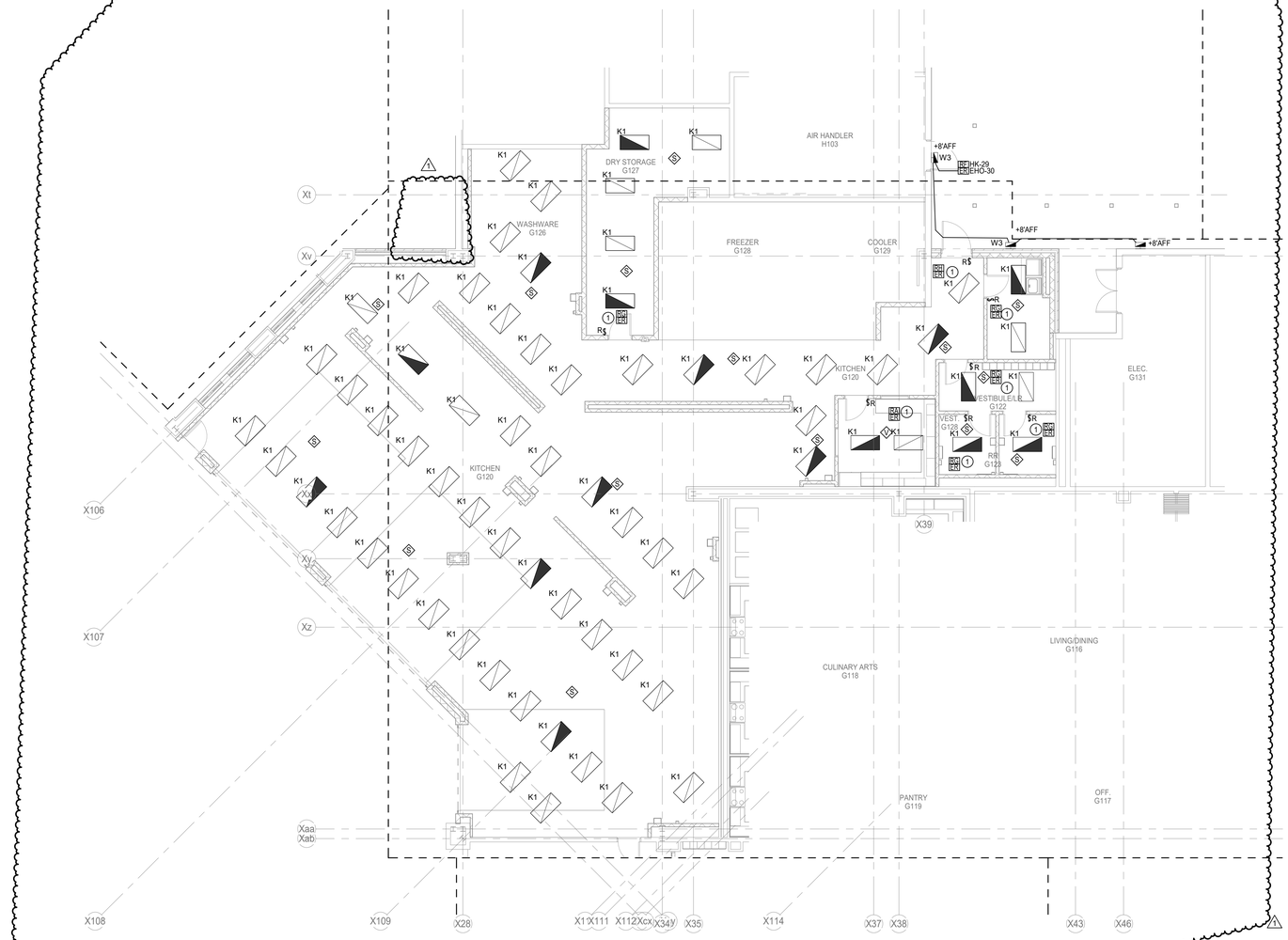
△

ELECTRICAL KEYED NOTES

1. REFEED/EXTEND CIRCUITS AND CONDUITS PRESERVED DURING DEMOLITION AS NEEDED FOR NEW LAYOUT AND CONTROLS.

LIGHTING CONTROLS SCHEDULE

Type	Sensor Operation	Description
RA	VACANCY - MANUAL ON / AUTO OFF	ROOM CONTROLLER, 0-10V DIMMING. REFER TO SINGLE ZONE (DIMMING) DETAIL.
RB	VACANCY - MANUAL ON / AUTO OFF	ROOM CONTROLLER, NO DIMMING. REFER TO SINGLE ZONE DETAIL
RC	VACANCY - MANUAL ON / AUTO OFF	ROOM CONTROLLER, 0-10V DIMMING. REFER TO CLASSROOM DETAIL.
RD	OCCUPIED STATE - OCCUPANCY - AUTO ON ONLY UNOCCUPIED STATE - OCCUPANCY AUTO ON / AUTO OFF	BMCS INTERFACE FOR OCCUPIED / UNOCCUPIED BUILDING OPERATION & KEYPAD SWITCH LOCATED IN CORRIDOR NEAR FRONT OFFICE. REFER TO TYPICAL CORRIDOR WITH KEYPAD DETAIL.
RE	NONE	MECHANICALLY WOUND TIMER SWITCH. WHERE MULTIPLE SWITCHES ARE USED, THESE SHALL BE LINKED TOGETHER FOR SIMULTANEOUS OPERATION WITHIN THE SPACE.
RF	PHOTOSENSOR	'CONTACTOR CONTROLLED BY BMCS;ON/OFF PHOTOSENSOR/SCHEDULE; POWER CONTACTOR FROM NEAREST RECEPTACLE CIRCUIT
RG	OCCUPANCY - AUTO ON / AUTO OFF	ROOM CONTROLLER, NO DIMMING.
RH	OCCUPANCY - AUTO ON / AUTO OFF	BMCS ON/OFF INTERFACE FOR OCCUPIED / UNOCCUPIED BUILDING OPERATION. LOCAL ON/OFF SWITCH. BMCS INTERFACE SHALL TURN LIGHTS OFF ONLY.



N

1 **ELECTRICAL LIGHTING FLOOR PLAN - LEVEL 1 - KITCHEN**
Scale: 1/8" = 1'-0"

PLAN NORTH

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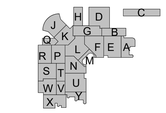

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
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2025-01-13	PERMIT AND PROPOSAL	
2025-01-30	ADDENDUM #5	1

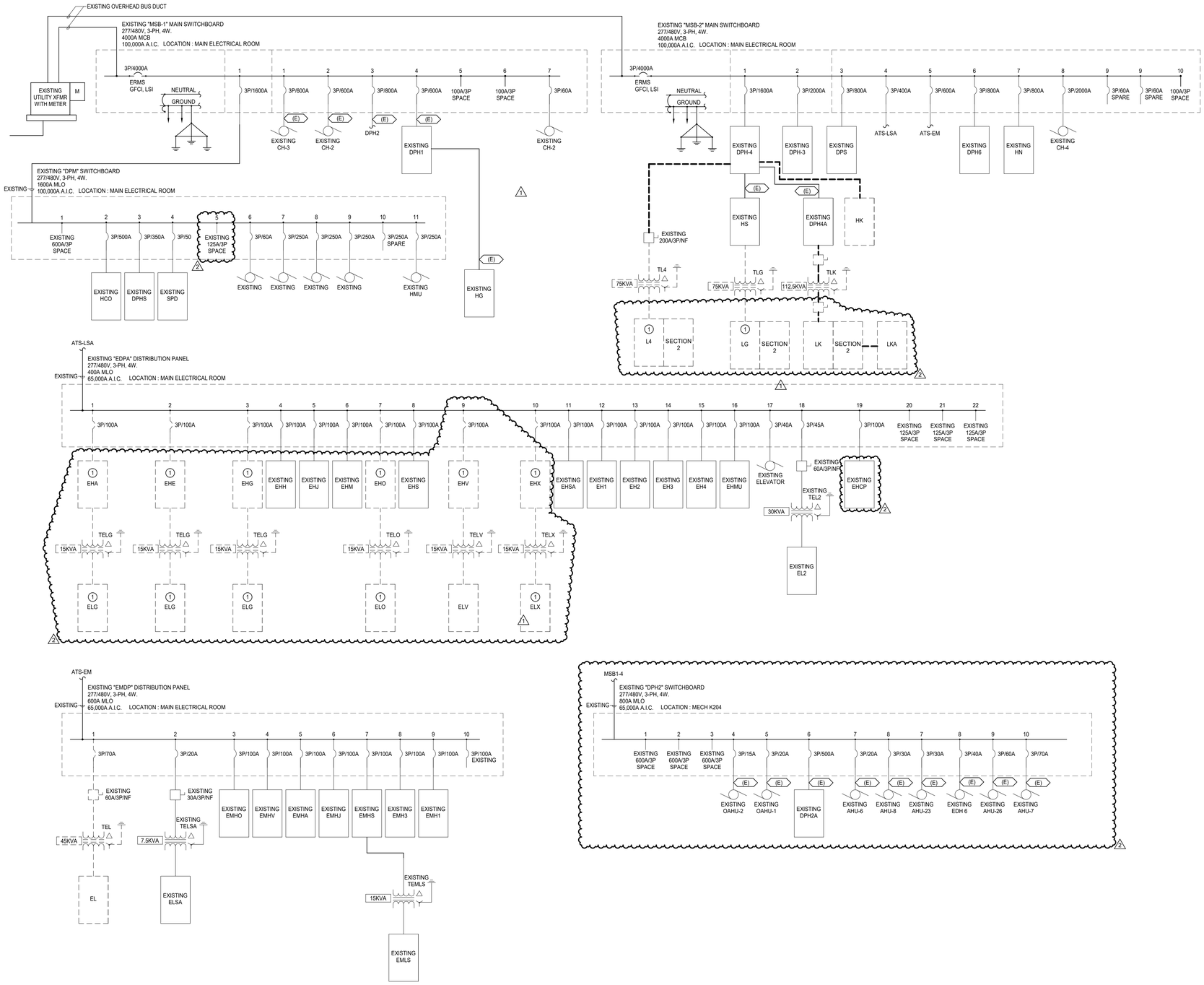
E5.06

ELECTRICAL LIGHTING KITCHEN PLANS

ELECTRICAL KEYED NOTES

⚠1 (1) PRESERVE EXISTING BRANCH CIRCUITS FOR RECONNECTION TO NEW PANEL.

SYMBOL LEGEND	
	POINT OF CONNECTION
	EXISTING ITEM TO REMAIN
	NEW ITEM
	ITEM TO BE REMOVED



N

1 **DEMOLITION ONE LINE DIAGRAM**
Scale: N.T.S.

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BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER 01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	⚠
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E6.01

ELECTRICAL PARTIAL DEMOLITION ONE-LINE DIAGRAM

ELECTRICAL KEYED NOTES

1. PROVIDE NEW 15kVA SQUARE D MINIPOWERZONE TRANSFORMER/PANEL COMBINATION OR EQUIVALENT FROM AN APPROVED MANUFACTURER
2. RECONNECT PRESERVED BRANCH CIRCUITS.
3. PROVIDE 2-HOUR FIRE RATED CABLE.

INSULATION FOR 2-HOUR FIRE RATED POWER CABLES: INSULATION SHALL MEET OR EXCEED THE REQUIREMENTS OF UL 2196 FIRE TEST FOR ELECTRICAL CIRCUIT PROTECTION SYSTEMS, AND UL 44, STANDARDS FOR FIRE RESISTIVE CABLE. CONDUCTOR AMPACITY SHALL BE BASED ON 75C. COMBINATION UL TYPE INSULATION TYPES ARE PERMISSIBLE WHERE THE REQUIRED UL TYPE IS PART OF THE COMBINATION UL LISTING.
1. CONDUCTORS INSTALLED UNDERGROUND: INSULATION FOR UNDERGROUND FIRE RATED CONDUCTORS SHALL BE WET LOCATION, UL TYPE RHW 75 DEGREES C, OR UL RHW-2 90 DEGREES C.
2. CONDUCTORS INSTALLED ABOVE GROUND: INSULATION FOR ABOVE GROUND FIRE RATED CONDUCTORS SHALL BE UL TYPE RHH 90C OR RHW 75C OR UL RHW-2 90C.
3. ELECTRICAL CIRCUIT PROTECTIVE SYSTEMS (FHIT) – SYSTEM 27 OF THE UL FIRE RESISTANCE DIRECTORY

TRANSFORMER SCHEDULE

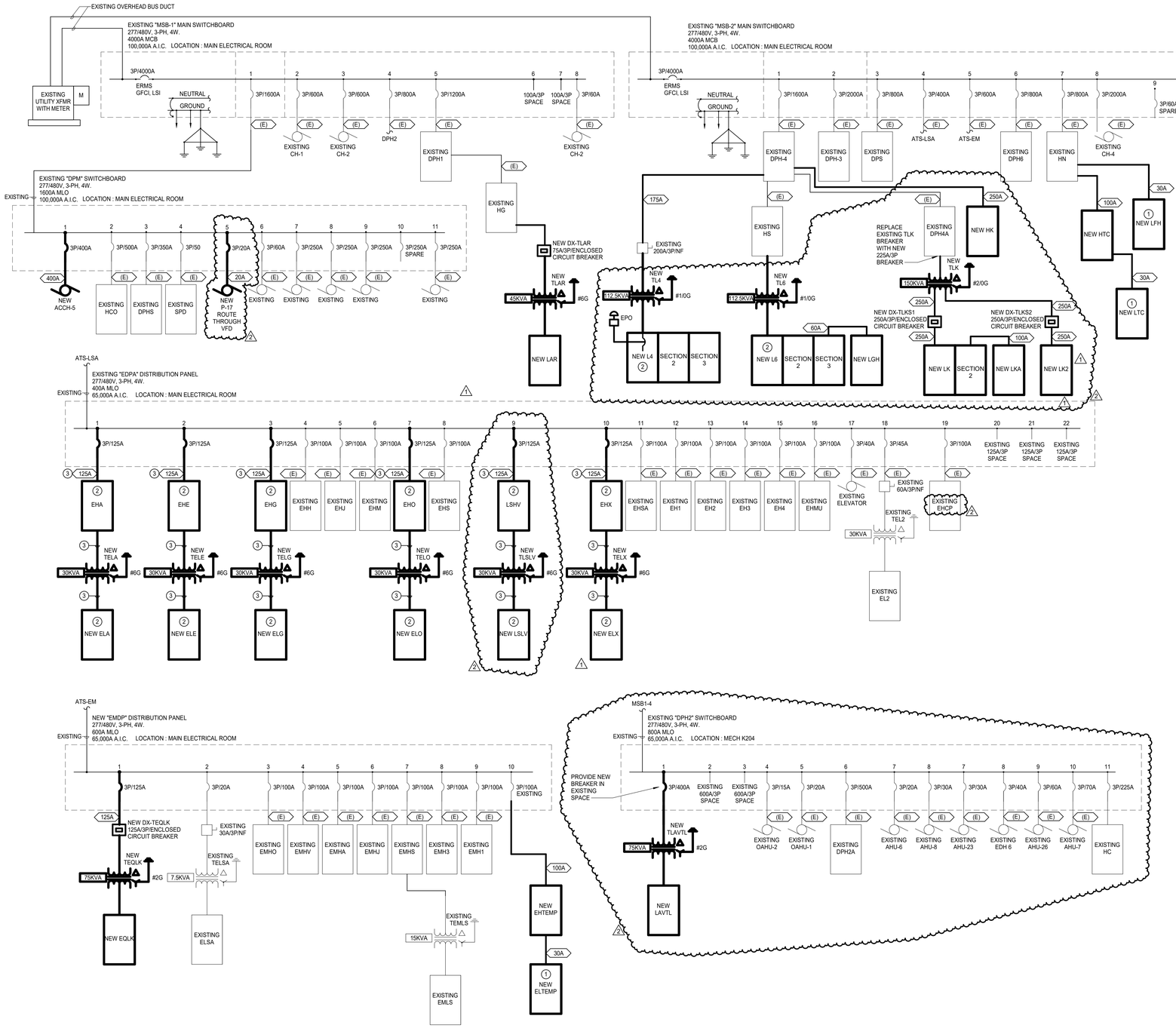
PRIMARY (480V 3PH 3W)	SECONDARY (208V 3PH 4W)
KVA	WIRE & CONDUIT	WIRE & CONDUIT
7.5KVA	3#4, 1"C, 1#8G	4#1/0, 2"C, 1#6G
15KVA	3#10, 3/4"C, 1#12G	4#6, 1-1/4", 1#10G
30KVA	3#6, 1"C, 1#10G	4#1, 2"C, 1#6G
45KVA	3#4, 1"C, 1#8G	4#1/0, 2"C, 1#6G
75KVA	3#1, 1-1/4"C, 1#6G	4#250KCMIL, 3"C, 1#4G
112.5KVA	3#2/0, 1-1/2"C, 1#6G	(2) SETS: 4#3/0, 2-1/2"C, 1#1/0G
150KVA	3#4/0, 2"C, 1#6G	(2) SETS: 4#250KCMIL, 2-1/2"C, 1#1/0G

FEEDER SCHEDULE

AMPERAGE	# SETS	CONDUCTOR (QTY.)/SIZE	GROUND (QTY.)/SIZE	CONDUIT
(E)	1	(E)	(E)	(E)
20A	1	(4) #12	#12	3/4"C
30A	1	(4) #10	#10	3/4"C
60A	1	(4) #4	#10	1-1/4"C
100A	1	(4) #3	#8	1-1/4"C
125A	1	(4) #1	#6	2"C
175A	1	(4) #2/0	#6	2"C
250A	1	(4) #250KCMIL	#4	3"C
400A	2	(4) #3/0	#3	2-1/2"C

SYMBOL LEGEND

- POINT OF CONNECTION
- EXISTING ITEM TO REMAIN
- NEW ITEM
- ITEM TO BE REMOVED



N

1 **NEW ONE LINE DIAGRAM**
Scale: N.T.S.

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BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER 01-30-2025

2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD
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E6.02

ELECTRICAL PARTIAL NEW ONE-LINE DIAGRAM

NEW PANEL

Branch Panel: HK

Location: KITCHEN G120 | **Volts:** 277/480 Wye | **A.I.C. Rating:** 10,000
Supply From: | **Phases:** 3 | **Enclosure:** Type 1
Mounting: Recessed | **Wires:** 4 | **Mains:** 400A SHUNT TRIP MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker	Wire		Circuit Description	CKT	Note
	1					12.0 / 0.0			1	--	--	SPACE	2	--
	3	BOOSTER HEATER	#6	60	3		12.0 / 0.0		1	--	--	SPACE	4	--
	5							12.0 / 0.0	1	--	--	SPACE	6	--
	7					7.7 / 0.0			1	--	--	SPACE	8	--
	9	DISH WASHER	#10	30	3		7.7 / 0.0		1	--	--	SPACE	10	--
	11							7.7 / 0.0	1	--	--	SPACE	12	--
	13					0.8 / 0.0			1	--	--	SPACE	14	--
ST	15	KSF-1	#12	20	3		0.8 / 0.0		1	--	--	SPACE	16	--
	17							0.8 / 0.0	1	--	--	SPACE	18	--
--	19	SHUNT TRIP SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	20	--
	21						0.8 / 0.0		1	--	--	SPACE	22	--
ST	23	KSF-2	#12	20	3			0.8 / 0.0	1	--	--	SPACE	24	--
	25					0.8 / 0.0			1	--	--	SPACE	26	--
	27	SHUNT TRIP SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	28	--
	29	Loading Capture	#12	20	1			0.0 / 0.0	1	--	--	SPACE	30	--
--	31	SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	32	--
--	33	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	34	--
--	35	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	36	--
--	37	SPACE	--	--	1	0.0 / 0.0								
--	39	SPACE	--	--	1		0.0 / 0.0		3	30	--	SPDL	40	--
--	41	SPACE	--	--	1			0.0 / 0.0					42	
			Total Load:			21.4 kVA	21.4 kVA	21.4 kVA						
			Total Amps:			77 A	77 A	77 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	5.0 kVA	100.00%	5.0 kVA		
Kitchen Equipment	59.2 kVA	100.00%	59.2 kVA	**Total Conn. Load:**	64.2 kVA
Lighting	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	64.2 kVA
Miscellaneous	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	77 A
				Total Est. Demand Current:	77 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
ST - PROVIDE SHUNT TRIP BREAKER

NEW PANEL

Branch Panel: LK2

Location: KITCHEN G120 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10,000
Supply From: | **Phases:** 3 | **Enclosure:** N1 WITH SS COVER
Mounting: Recessed | **Wires:** 4 | **Mains:** 250A MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker	Wire		Circuit Description	CKT	Note
	1					7.2 / 0.0			1	--	--	SPACE	2	--
	3	LOAD CENTER	#1/0	100	3		7.2 / 0.0		1	--	--	SPACE	4	--
	5							7.2 / 0.0	1	--	--	SPACE	6	--
	7					7.2 / 0.0			1	--	--	SPACE	8	--
	9	LOAD CENTER	#1/0	100	3		7.2 / 0.0		1	--	--	SPACE	10	--
	11							7.2 / 0.0	1	--	--	SPACE	12	--
	13					7.2 / 0.0			1	--	--	SPACE	14	--
	15	LOAD CENTER	#1/0	100	3		7.2 / 0.0		1	--	--	SPACE	16	--
	17							7.2 / 0.0	1	--	--	SPACE	18	--
	19					7.2 / 0.0			1	--	--	SPACE	20	--
	21	LOAD CENTER	#1/0	100	3		7.2 / 0.0		1	--	--	SPACE	22	--
	23							7.2 / 0.0	1	--	--	SPACE	24	--
	25					7.2 / 0.0			1	--	--	SPACE	26	--
	27	LOAD CENTER	#1/0	100	3		7.2 / 0.0		1	--	--	SPACE	28	--
	29							7.2 / 0.0	1	--	--	SPACE	30	--
	31					7.2 / 0.0			1	--	--	SPACE	32	--
	33	LOAD CENTER	#1/0	100	3		7.2 / 0.0		1	--	--	SPACE	34	--
	35							7.2 / 0.0	1	--	--	SPACE	36	--
--	37	SPACE	--	--	1	0.0 / 0.0								
--	39	SPACE	--	--	1		0.0 / 0.0		3	30	--	SPDL	40	--
--	41	SPACE	--	--	1			0.0 / 0.0					42	
			Total Load:			43.2 kVA	43.2 kVA	43.2 kVA						
			Total Amps:			360 A	360 A	360 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Kitchen Equipment	129.6 kVA	65.00%	84.2 kVA		
				Total Conn. Load:	129.6 kVA
				Total Est. Demand:	84.2 kVA
				Total Conn. Current:	360 A
				Total Est. Demand Current:	234 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

NEW PANEL

Branch Panel: LK

Location: KITCHEN G120 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10,000
Supply From: | **Phases:** 3 | **Enclosure:** N1 WITH SS COVER
Mounting: Recessed | **Wires:** 4 | **Mains:** 400A MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker	Wire		Circuit Description	CKT	Note
	1	CONVENIENCE RECEPTACLE	#12	20	1	1.9 / 1.9			1	20	#12	CONVENIENCE RECEPTACLE	2	G
LF	3	TRAP PRIMER H103	#12	20	1		0.1 / 0.2		1	20	#12	TRAP PRIMER H103	4	LF
	5	ICE MACHINE	#12	20	1			1.5 / 1.2	1	20	#12	EXHAUST LIGHTS	6	
	7	EXHAUST LIGHTS	#12	20	1	1.2 / 0.2			1	20	#12	CONVENIENCE RECEPTACLE	8	
	9	Receptacles OFFICE G121	#12	20	1		1.1 / 1.3		1	20	#12	ROLL-IN REFERIGERATOR	10	G
	11	Receptacles OFFICE G121	#12	20	1			0.5 / 0.2	1	20	#12	CONVENIENCE RECEPTACLE	12	
	13	Kitchen Equipment Room G123, G124, G122	#12	20	1	5.8 / 1.2			1	20	#12	EXHAUST LIGHTS	14	
	15	PASS THROUGH HEATED CABINET	#12	20	2		1.0 / 0.1		1	20	#12	TRAP PRIMER H103	16	LF
	17							1.0 / 1.3	1	20	#12	CONVENIENCE RECEPTACLE	18	G
	19	PASS THROUGH HEATED CABINET	#12	20	2	1.0 / 0.2			1	20	#12	CONVENIENCE RECEPTACLE	20	
	21						1.0 / 0.2		1	20	#12	CONVENIENCE RECEPTACLE	22	
	23	PASS THROUGH HEATED CABINET	#12	20	2			1.0 / 0.2	1	20	#12	CONVENIENCE RECEPTACLE	24	
	25					1.0 / 0.2			1	20	#12	CONVENIENCE RECEPTACLE	26	
	27	OVERHEAD DOOR	#12	20	1		0.5 / 0.2		1	20	#12	CONVENIENCE RECEPTACLE	28	
	29	OVERHEAD DOOR	#12	20	1			0.5 / 0.2	1	20	#12	CONVENIENCE RECEPTACLE	30	
	31	CONVENIENCE RECEPTACLE	#12	20	1	0.2 / 0.2			1	20	#12	CONVENIENCE RECEPTACLE	32	
	33	PASS THROUGH HEATED CABINET	#12	20	2		1.0 / 0.2		1	20	#12	CONVENIENCE RECEPTACLE	34	
	35							1.0 / 0.2	1	20	#12	CONVENIENCE RECEPTACLE	36	
	37					1.3 / 1.9			1	20	#12	WASHER	38	
	39	DISPOSER	#12	20	3		1.3 / 1.0		2	40	#8	DRYER	40	G
	41							1.3 / 1.0					42	
	43	AIR CURTAIN	#12	20	1	1.3 / 1.3							44	
	45	CONVENIENCE RECEPTACLE	#12	20	1		0.2 / 1.3		3	20	#12	DISPOSER	46	
	47	CONVENIENCE RECEPTACLE	#12	20	1			0.2 / 1.3					48	
	49	CONVENIENCE RECEPTACLE	#12	20	1	0.2 / 1.3							50	
	51	CONVENIENCE RECEPTACLE	#12	20	1		0.2 / 1.3		3	20	#12	DISPOSER	52	
	53	CONVENIENCE RECEPTACLE	#12	20	1			0.2 / 1.3					54	
	55	CONVENIENCE RECEPTACLE	#12	20	1	0.2 / 0.4			1	20	#12	ROOFTOP RECEPTACLES	56	
	57	CONVENIENCE RECEPTACLE	#12	20	1		0.2 / 0.4		1	20	#12	ROOFTOP RECEPTACLES	58	
	59	CONVENIENCE RECEPTACLE	#12	20	1			0.2 / 0.0	1	20	#12	EF-70	60	
	61	CONVENIENCE RECEPTACLE	#12	20	1	0.2 / 0.0			1	20	#12	KEF-4	62	
	63	CONVENIENCE RECEPTACLE	#12	20	1		0.2 / 0.0		1	#12		EF-85	64	
	65							1.3 / 0.0	1	20	--	SPARE	66	--
	67	DISPOSER	#12	20	3	1.3 / 0.0			1	20	--	SPARE	68	--
	69						1.3 / 0.0		1	20	--	SPARE	70	--
	71	CONVENIENCE RECEPTACLE	#12	20	1			0.2 / 0.0	1	20	--	SPARE	72	--
	73	CONVENIENCE RECEPTACLE	#12	20	1	0.2 / 8.6							74	
	75	CONVENIENCE RECEPTACLE	#12	20	1		0.2 / 7.9		3	100	1L	LKA	76	
	77	CONVENIENCE RECEPTACLE	#12	20	1			0.2 / 7.9					78	
	79	CONVENIENCE RECEPTACLE	#12	20	1	0.2 / 0.0							80	
	81	CONVENIENCE RECEPTACLE	#12	20	1		0.2 / 0.0		3	30	--	SPDL	82	--
	83	OVERHEAD DOOR	#12	20	1			0.5 / 0.0					84	
			Total Load:			33.2 kVA	22.3 kVA	24.2 kVA						
			Total Amps:			279 A	185 A	204 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Kitchen Equipment	70.7 kVA	65.00%	46.0 kVA		
Miscellaneous	1.6 kVA	100.00%	1.6 kVA	**Total Conn. Load:**	79.7 kVA
Receptacles	7.4 kVA	100.00%	7.4 kVA	**Total Est. Demand:**	55.0 kVA
				Total Conn. Current:	221 A
				Total Est. Demand Current:	153 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

PANELBOARD CIRCUIT DIRECTORY:
CONTRACTOR SHALL RECORD AND/OR PRESERVE THE EXISTING CIRCUIT DIRECTORY. IF ANY, FOR THE SOLE PURPOSE UPON COMPLETION OF NEW WORK OF PRODUCING A NEW DIRECTORY.
CONTRACTOR SHALL PROVIDE AS PART OF THE CONSTRUCTION DOCUMENTS A NEW, NEATLY TYPED DIRECTORY. CONTRACTOR SHALL TRACE EXISTING CIRCUITS AND SHALL LEGIBLY IDENTIFY AS TO IT'S CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE. LOADS SERVED, LOCATION AND/OR THE PANELBOARD SCHEDULE ON THE DRAWINGS. THE WORD "EXISTING" SHALL NOT BE USED ON PANELBOARD DIRECTORIES. SPARE BREAKERS ARE TO BE LISTED AS "SPARE" AND SWITCHED TO THE OFF POSITION. SPACES WITH NO BREAKERS ARE TO BE LEFT BLANK. REFER TO NEC-2023: 408.4(A) FOR DETAILS.
CONTRACTOR SHALL PERMANENTLY LABEL AS PART OF THE CONSTRUCTION DOCUMENTS ALL SWITCHBOARDS, SWITCHGEAR AND PANELBOARDS TO INDICATE EACH POWER SOURCE. REFER TO NEC-2023: 408.4(A) FOR DETAILS.

1

NEW PANEL

Branch Panel: LKA

Location: KITCHEN G120 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10,000
Supply From: LK | **Phases:** 3 | **Enclosure:** N1 WITH SS COVER
Mounting: Recessed | **Wires:** 4 | **Mains:** 100A SHUNT TRIP MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker	Wire		Circuit Description	CKT	Note
G	1	PIZZA OVEN	#12	20	1	0.9 / 1.0			1	20	#12	STEAMER	2	G
G	3	PIZZA OVEN	#12	20	1		0.9 / 1.0		1	20	#12	STEAMER	4	G
G	5	PIZZA OVEN	#12	20	1			0.9 / 1.0	1	20	#12	STEAMER	6	G
G	7	PIZZA OVEN	#12	20	1	0.9 / 1.0			1	20	#12	STEAMER	8	G
G	9	STEAMER	#12	20	1		1.0 / 0.0		1	20	#12	KSF-3	10	
G	11	STEAMER	#12	20	1			1.0 / 0.0	1	20	#12	KSF-3	12	
G	13	STEAMER	#12	20	1	1.0 / 0.0			1	20	--	SPARE	14	--
G	15	STEAMER	#12	20	1		1.0 / 0.0		1	20	--	SPARE	16	--
G	17	CONVECTION OVEN	#12	20	1			1.0 / 0.0	1	20	--	SPARE	18	--
G	19	CONVECTION OVEN	#12	20	1	1.0 / 0.0			1	20	--	SPARE	20	--
G	21	CONVECTION OVEN	#12	20	1		1.0 / 0.0		1	20	--	SPARE	22	--
G	23	CONVECTION OVEN	#12	20	1			1.0 / 0.0	1	20	--	SPARE	24	--
G	25	RANGE	#12	20	1	0.8 / 0.0			1	20	--	SPARE	26	--
G	27	CONVECTION OVEN	#12	20	1		1.0 / 0.0		1	20	--	SPARE	28	--
G	29	CONVECTION OVEN	#12	20	1			1.0 / 0.0	1	20	--	SPARE	30	--
G	31	CONVECTION OVEN	#12	20	1	1.0 / 0.0			1	20	--	SPARE	32	--
G	33	CONVECTION OVEN	#12	20	1		1.0 / 0.0		1	20	--	SPARE	34	--
G	35	CONVECTION OVEN	#12	20	1			1.0 / 0.0	1	20	--	SPARE	36	--
G	37	CONVECTION OVEN	#12	20	1	1.0 / 0.0							38	
G	39	CONVECTION OVEN	#12	20	1		1.0 / 0.0		3	30	--	SPDL	40	--
G	41	CONVECTION OVEN	#12	20	1			1.0 / 0.0					42	
			Total Load:			8.6 kVA	7.9 kVA	7.9 kVA						
			Total Amps:			72 A	66 A	66 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Kitchen Equipment	24.4 kVA	65.00%	15.9 kVA		
Miscellaneous	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Load:**	24.4 kVA
				Total Est. Demand:	15.9 kVA
				Total Conn. Current:	68 A
				Total Est. Demand Current:	44 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

NEW PANEL

Branch Panel: EQLK

Location: CENTRAL PLANT H100 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10,000
Supply From: TEQLK | **Phases:** 3 | **Enclosure:** Type 1
Mounting: Surface | **Wires:** 4 | **Mains:** 400A
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker	Wire		Circuit Description	CKT	Note
	1	PASS THROUGH REFRIGERATOR	#12	20	1	0.9 / 0.9			1	20	#12	MILK BOX	2	
G	3	ROLL-IN REFERIGERATOR	#12	20	1		1.9 / 0.0		1	20	--	SPARE	4	--
G	5	ROLL-IN REFERIGERATOR	#12	20	1			1.3 / 0.0	1	20	--	SPARE	6	--
	7	ROLL-IN REFRIGERATOR	#12	20	1	1.9 / 0.0			1	20	--	SPARE	8	--
--	9	SPARE	--	20	1		0.0 / 0.0		1	20	--	SPARE	10	--
	11	PASS THROUGH REFRIGERATOR	#12	20	1			0.9 / 0.0	1	20	--	SPARE	12	--
	13					6.3 / 0.0			1	20	--	SPARE	14	--
	15	REFRIGERATION RACK	#6	60	3		6.3 / 0.0		1	20	--	SPARE	16	--
	17							6.3 / 0.0	1	20	--	SPARE	18	--
--	19	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	20	--
--	21	SPARE	--	20	1		0.0 / 0.0		1	20	--	SPARE	22	--
	23	PASS THROUGH REFRIGERATOR	#12	20	1			1.1 / 0.0	1	20	--	SPARE	24	--
--	25	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	26	--
--	27	SPARE	--	20	1		0.0 / 0.0		1	20	--	SPARE	28	--
	29	FREEZER EVAPORATOR	#12	20	1			1.9 / 0.0	1	20	--	SPARE	30	--
	31	COOLER EVAPORATOR	#12	20	1	0.6 / 0.0			1	20	--	SPARE	32	--
	33	MILK BOX	#12	20	1		0.9 / 0.0		1	20	--	SPARE	34	--
	35	MILK BOX	#12	20	1			0.9 / 0.0	1	20	--	SPARE	36	--
	37	MILK BOX	#12	20	1	0.9 / 0.0							38	
	39	MILK BOX	#12	20	1		0.9 / 0.0		3	30	--	SPDL	40	--
	41	MILK BOX	#12	20	1			0.9 / 0.0					42	
			Total Load:			11.5 kVA	10.0 kVA	13.3 kVA						
			Total Amps:			98 A	83 A	113 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Kitchen Equipment	16.0 kVA	65.00%	10.4 kVA		
Miscellaneous	18.9 kVA	100.00%	18.9 kVA	**Total Conn. Load:**	34.8 kVA
				Total Est. Demand:	29.2 kVA
				Total Conn. Current:	97 A
				Total Est. Demand Current:	81 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

EXISTING PANEL

Branch Panel: EHG

Location: MECH. E117 | **Volts:** 277/480 Wye | **A.I.C. Rating:** 18,000
Supply From: | **Phases:** 3 | **Enclosure:** Type 1
Mounting: Surface | **Wires:** 4 | **Mains:** 125A MLO
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker	Wire		Circuit Description	CKT	Note
1	1	LIGHTING	#12	20	1	1.2 / 1.2			1	20	#12	LIGHTING	2	
1	3	LIGHTING	#12	20	1		1.2 / 1.2		1	20	#12	LIGHTING	4	
1	5	LIGHTING	#12	20	1			1.2 / 0.6	1	20	#12	LIGHTING	**6**	
	7	EXTERIOR EM LIGHTS		20	1	0.4 / 0.0			1	--	--	SPACE	8	--
--	9	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	10	--
--	11	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	12	--
--	13	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	14	--
--	15	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	16	--
--	17	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	18	--
--	19	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	20	--
--	21	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	22	--
--	23	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	24	--
--	25	SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	26	--
--	27	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	28	--
--	29	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	30	--
--	31	SPACE	--	--	1	0.0 / 0.8							32	
--	33	SPACE	--	--	1		0.0 / 2.5		3	50	1L	TELG	34	
--	35	SPACE	--	--	1			0.0 / 2.3					36	
--	37	SPACE	--	--	1	0.0 / 0.4							38	
--	39	SPACE	--	--	1		0.0 / 0.4		3	30	#10	SPDL	40	
--	41	SPACE	--	--	1			0.0 / 0.4					42	
			Total Load:			4.0 kVA	5.3 kVA	4.5 kVA						
			Total Amps:			15 A	20 A	17 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	8.2 kVA	125.00%	10.2 kVA		
Miscellaneous	5.1 kVA	100.00%	5.1 kVA	**Total Conn. Load:**	13.8 kVA
Receptacles	0.5 kVA	100.00%	0.5 kVA	**Total Est. Demand:**	15.9 kVA
				Total Conn. Current:	17 A
				Total Est. Demand Current:	19 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
1L - REFER TO ONELINE

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Registration: F-4111
Project No: 2023-05945-00

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PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E7.02
ELECTRICAL PANEL SCHEDULES

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10930 W. Sam Houston Pkwy North, Suite 900
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Registration: F-4111
Project No: 2023-05945-00

NEW PANEL

Branch Panel: EHG

Location: MECH. E117 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 125A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
1	1	LIGHTING	#12	20	1	1.2 / 1.2			1	20	#12	LIGHTING	2	
1	3	LIGHTING	#12	20	1		1.2 / 1.2		1	20	#12	LIGHTING	4	
1	5	LIGHTING	#12	20	1			1.2 / 0.6	1	20	#12	LIGHTING	6	
	7	EXTERIOR EM LIGHTS		20	1	0.4 / 0.0			1	--	--	SPACE	8	--
--	9	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	10	--
--	11	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	12	--
--	13	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	14	--
--	15	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	16	--
--	17	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	18	--
--	19	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	20	--
--	21	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	22	--
--	23	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	24	--
--	25	SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	26	--
--	27	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	28	--
--	29	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	30	--
--	31	SPACE	--	--	1	0.0 / 0.8							32	
--	33	SPACE	--	--	1		0.0 / 2.5		3	50	1L	TELG	34	
--	35	SPACE	--	--	1			0.0 / 2.3					36	
--	37	SPACE	--	--	1	0.0 / 0.4							38	
--	39	SPACE	--	--	1		0.0 / 0.4		3	30	#10	SPDL	40	
--	41	SPACE	--	--	1			0.0 / 0.4					42	
			Total Load:			4.0 kVA	5.3 kVA	4.5 kVA						
			Total Amps:			15 A	20 A	17 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	8.2 kVA	125.00%	10.2 kVA		
Miscellaneous	5.1 kVA	100.00%	5.1 kVA	**Total Conn. Load:**	13.8 kVA
Receptacles	0.5 kVA	100.00%	0.5 kVA	**Total Est. Demand:**	15.9 kVA
				Total Conn. Current:	17 A
				Total Est. Demand Current:	19 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
1L - REFER TO ONELINE

NEW PANEL

Branch Panel: EHX

Location: MECH. R102 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 125A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
--	1	SPARE	--	20	1	0.0 / 2.0			1	20	(E)	MECH RM LIGHTS	2	1
1	3	EM LIGHTS 1402	(E)	20	1		2.0 / 2.0		1	20	(E)	MECH RM 1504 & 1505 LIGHTS	4	1
1	5	CORR EM LIGHTS	(E)	20	1			2.0 / 0.0	1	--	--	SPACE	6	--
1	7	EXIT SIGN	(E)	20	1	2.0 / 0.0			1	--	--	SPACE	8	--
--	9	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	10	--
--	11	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	12	--
--	13	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	14	--
--	15	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	16	--
--	17	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	18	--
--	19	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	20	--
--	21	SPACE	--	20	1		0.0 / 0.0		1	--	--	SPACE	22	--
--	23	SPACE	--	20	1			0.0 / 0.0	1	--	--	SPACE	24	--
--	25	SPACE	--	20	1	0.0 / 0.0			1	--	--	SPACE	26	--
--	27	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	28	--
--	29	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	30	--
--	31	SPACE	--	--	1	0.0 / 1.4							32	
--	33	SPACE	--	--	1		0.0 / 0.6		3	75	1L	TELX	34	
--	35	SPACE	--	--	1			0.0 / 0.2					36	
--	37	SPACE	--	--	1	0.0 / 0.7							38	
--	39	SPACE	--	--	1		0.0 / 0.7		3	30	#10	SPDL	40	
--	41	SPACE	--	--	1			0.0 / 0.7					42	
			Total Load:			6.1 kVA	5.2 kVA	2.9 kVA						
			Total Amps:			23 A	20 A	10 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	12.0 kVA	125.00%	15.0 kVA		
Miscellaneous	0.6 kVA	100.00%	0.6 kVA	**Total Conn. Load:**	14.2 kVA
Other	0.6 kVA	100.00%	0.6 kVA	**Total Est. Demand:**	17.2 kVA
Receptacles	1.1 kVA	100.00%	1.1 kVA	**Total Conn. Current:**	17 A
				Total Est. Demand Current:	21 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbreviations:
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LO - PROVIDE PERMANENT LOCK-ON DEVICE
1L - REFER TO ONELINE

PANELBOARD CIRCUIT DIRECTORY:
CONTRACTOR SHALL RECORD AND/OR PRESERVE THE EXISTING CIRCUIT DIRECTORY, IF ANY, FOR THE SOLE PURPOSE UPON COMPLETION OF NEW WORK OF PRODUCING A NEW DIRECTORY.
CONTRACTOR SHALL PROVIDE AS PART OF THE CONSTRUCTION DOCUMENTS A NEW, NEATLY TYPED DIRECTORY. CONTRACTOR SHALL TRACE EXISTING CIRCUITS AND SHALL LEGIBLY IDENTIFY AS TO IT'S CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE, LOADS SERVED, LOCATION AND/OR THE PANELBOARD SCHEDULE ON THE DRAWINGS. THE WORD "EXISTING" SHALL NOT BE USED ON PANELBOARD DIRECTORIES. SPARE BREAKERS ARE TO BE LISTED AS "SPARE" AND SWITCHED TO THE OFF POSITION. SPACES WITH NO BREAKERS ARE TO BE LEFT BLANK. REFER TO NEC-2023: 408.4(A) FOR DETAILS.
CONTRACTOR SHALL PERMANENTLY LABEL AS PART OF THE CONSTRUCTION DOCUMENTS ALL SWITCHBOARDS, SWITCHGEAR AND PANELBOARDS TO INDICATE EACH POWER SOURCE. REFER TO NEC-2023: 408.4(A) FOR DETAILS.

NEW PANEL

Branch Panel: EHO

Location: ELEC. G131 **Volts:** 277/480 Wye **A.I.C. Rating:** 10,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 125A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
--	1	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	2	--
--	3	SPARE	--	20	1		0.0 / 0.0		1	20	--	SPARE	4	--
--	5	SPARE	--	20	1			0.0 / 0.0	1	20	--	SPARE	6	--
1	7	CLRM EM LTS	(E)	20	1	0.5 / 0.5			1	20	(E)	CLRM EM LTS	8	1
1	9	CLRM EM LTS	(E)	20	1		0.5 / 0.0		1	20	--	SPARE	10	--
--	11	SPARE	--	20	1			0.0 / 0.0	1	20	--	SPARE	12	--
--	13	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	14	--
--	15	SPARE	--	20	1		0.0 / 0.5		1	20	(E)	EXTERIOR EM LIGHTS	16	1
--	17	SPARE	--	20	1			0.0 / 0.8					18	
1	19	EXIT SIGNS	(E)	20	1	0.5 / 0.8			3	20	#10	KEF-1	20	LO
	21						0.8 / 0.8						22	
LO	23	KEF-2	#12	20	3			0.8 / 0.8					24	
	25					0.8 / 0.8			3	20	#10	KEF-3	26	LO
	27						0.8 / 0.8						28	
LO	29	KEF-5	#10	20	3			0.8 / 0.1	1	20	#12	KITCHEN LOADING Lighting	30	2
	31					0.8 / 2.2							32	
	33						0.8 / 3.9		3	50	1L	TELO	34	
LO	35	KEF-6	#10	20	3			0.8 / 61.6					36	
	37					0.8 / 0.2							38	
--	39	SPACE	--	--	1		0.0 / 0.2		3	30	#10	SPDL	40	
--	41	SPACE	--	--	1			0.0 / 0.2					42	
			Total Load:			8.0 kVA	9.2 kVA	66.0 kVA						
			Total Amps:			29 A	34 A	239 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	12.5 kVA	100.00%	12.5 kVA		
Kitchen Equipment	59.0 kVA	65.00%	38.4 kVA	**Total Conn. Load:**	83.3 kVA
Lighting	0.1 kVA	125.00%	0.1 kVA	**Total Est. Demand:**	62.6 kVA
Miscellaneous	10.4 kVA	100.00%	10.4 kVA	**Total Conn. Current:**	100 A
Other	0.6 kVA	100.00%	0.6 kVA	**Total Est. Demand Current:**	75 A
Receptacles	0.7 kVA	100.00%	0.7 kVA		

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
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NEW PANEL

Branch Panel: EHE

Location: MECH. U220 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 125A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
--	1	SPARE	--	20	1	0.0 / 0.5			1	20	(E)	CORRIDOR EM LIGHTS	2	1
1	3	CORRIDOR EM LIGHTS	(E)	20	1		0.5 / 0.0		1	20	--	SPARE	4	--
1	5	CORRIDOR EM LIGHTS	(E)	20	1			0.5 / 0.0	1	--	--	SPACE	6	--
--	7	SPACE	--	--	1	0.0 / 0.5			1	20	(E)	EMERGENCY LIGHTS 2217	8	1
--	9	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	10	--
1	11	EXIT LIGHTS	(E)	20	1			0.5 / 0.0	1	--	--	SPACE	12	--
1	13	EMERGENCY LIGHTING STUDENT STREET	(E)	20	1	0.5 / 0.0			1	--	--	SPACE	14	--
--	15	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	16	--
--	17	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	18	--
--	19	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	20	--
--	21	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	22	--
--	23	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	24	--
--	25	SPACE	--	20	1	0.0 / 0.0			1	--	--	SPACE	26	--
--	27	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	28	--
--	29	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	30	--
--	31	SPACE	--	--	1	0.0 / 6.5							32	
--	33	SPACE	--	--	1		0.0 / 8.0		3	50	1L	TELE	34	
--	35	SPACE	--	--	1			0.0 / 6.7					36	
--	37	SPACE	--	--	1	0.0 / 0.2							38	
--	39	SPACE	--	--	1		0.0 / 0.2		3	30	#10	SPDL	40	
--	41	SPACE	--	--	1			0.0 / 0.2					42	
			Total Load:			8.1 kVA	8.6 kVA	7.9 kVA						
			Total Amps:			30 A	31 A	28 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	12.0 kVA	100.00%	12.0 kVA		
Miscellaneous	11.2 kVA	100.00%	11.2 kVA	**Total Conn. Load:**	24.7 kVA
Receptacles	1.4 kVA	100.00%	1.4 kVA	**Total Est. Demand:**	24.7 kVA
				Total Conn. Current:	30 A
				Total Est. Demand Current:	30 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

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NEW PANEL

Branch Panel: EHA

Location: MECH. A224 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 125A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
1	1	CORRIDOR 1900 EM LIGHTS	(E)	20	1	1.0 / 0.0			1	--	--	SPACE	2	--
1	3	EAST WING CORRIDOR LIGHTS	(E)	20	1		1.0 / 0.0		1	--	--	SPACE	4	--
1	5	EAST WING CORRIDOR LIGHTS	(E)	20	1			1.0 / 0.0	1	--	--	SPACE	6	--
1	7	EXIT SIGNS	(E)	20	1	1.0 / 0.0			1	--	--	SPACE	8	--
1	9	EXTERIOR EM LIGHTS	(E)	20	1		1.0 / 0.0		1	--	--	SPACE	10	--
--	11	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	12	--
--	13	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	14	--
--	15	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	16	--
--	17	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	18	--
--	19	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	20	--
--	21	SPARE	--	20	1		0.0 / 0.0		1	20	--	SPARE	22	--
--	23	SPARE	--	20	1			0.0 / 0.0	1	20	--	SPARE	24	--
--	25	SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	26	--
--	27	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	28	--
--	29	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	30	--
--	31	SPACE	--	--	1	0.0 / 9.9							32	
--	33	SPACE	--	--	1		0.0 / 9.6		3	50	1L	TELA	34	
--	35	SPACE	--	--	1			0.0 / 9.1					36	
--	37	SPACE	--	--	1	0.0 / 0.0							38	
--	39	SPACE	--	--	1		0.0 / 0.0		3	30	#10	SPDL	40	
--	41	SPACE	--	--	1			0.0 / 0.0					42	
			Total Load:			11.9 kVA	11.6 kVA	10.1 kVA						
			Total Amps:			44 A	43 A	36 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	10.0 kVA	100.00%	10.0 kVA		
Lighting	5.0 kVA	125.00%	6.3 kVA	**Total Conn. Load:**	33.5 kVA
Miscellaneous	17.1 kVA	100.00%	17.1 kVA	**Total Est. Demand:**	34.8 kVA
Receptacles	1.4 kVA	100.00%	1.4 kVA	**Total Conn. Current:**	40 A
				Total Est. Demand Current:	42 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbreviations:
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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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tel 281.286.6605, fax 713.977.4620

STATE OF TEXAS
BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E7.04

ELECTRICAL PANEL SCHEDULES

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Project No: 2023-05945-00

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BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER 01-30-2025

PROJECT #:	202318
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DATE	ISSUE	
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E7.05
ELECTRICAL PANEL SCHEDULES

⚠

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CONTRACTOR SHALL PERMANENTLY LABEL AS PART OF THE CONSTRUCTION DOCUMENTS ALL SWITCHBOARDS, SWITCHGEAR AND PANELBOARDS TO INDICATE EACH POWER SOURCE. REFER TO NEC-2023: 408.4(A) FOR DETAILS.

EXISTING PANEL

Branch Panel: DPH6

Location: CENTRAL PLANT H100 **Volts:** 277/480 Wye **A.I.C. Rating:** 65,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 800A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker	A	B	C	Breaker	Wire	Circuit Description	CKT	Note
	1				0.0 / 0.0						2	
--	3	SPARE	--	125	3	0.0 / 0.0		3	20	-- SPARE	4	--
	5						0.0 / 0.0				6	
--	7				18.0 / 15.2						8	
	9	HWP-1	--	100	3	18.0 / 13.3		3	70	-- TLCP	10	--
	11						18.0 / 14.0				12	
	13				18.0 / 9.4						14	
--	15	HWP-2	--	100	3	18.0 / 9.4		3	70	-- P12	16	--
	17						18.0 / 9.4				18	
	19				5.8 / 9.4						20	
--	21	P-19	--	40	3	5.8 / 9.4		3	70	-- P13	22	--
	23						5.8 / 9.4				24	
	25				0.0 / 9.4						26	
--	27	SPARE	--	30	3	0.0 / 9.4		3	70	-- P14	28	--
	29						0.0 / 9.4				30	
	31				0.0 / 0.5						32	
--	33	SPARE	--	20	3	0.0 / 0.5		3	**15**	**#12 SF-4-A (SEE NOTES)**	34	
	35						0.0 / 0.5				36	
	37				0.0 / 0.0						38	
--	39	SPARE	--	20	3	0.0 / 0.0		3	20	-- SPARE	40	--
	41						0.0 / 0.0				42	
	43				2.5 / 0.0			1	--	-- SPACE	44	--
	45	**AHU-4**	**#12**	**20**	3	2.5 / 0.0		1	--	-- SPACE	46	--
	47						2.5 / 0.0	1	--	-- SPACE	48	--
--	49	SPACE	--	--	1	0.0 / 0.0		1	--	-- SPACE	50	--
--	51	SPACE	--	--	1		0.0 / 0.0	1	--	-- SPACE	52	--
--	53	SPACE	--	--	1	0.0 / 0.0		1	--	-- SPACE	54	--
	55				3.9 / 18.0						56	
--	57	P1	--	30	3	3.9 / 18.0		3	100	-- P3	58	--
	59						3.9 / 18.0				60	
	61				3.9 / 5.8						62	
--	63	P2	--	30	3	3.9 / 5.8		3	40	-- CT-2	64	--
	65						3.9 / 5.8				66	
	67				5.8 / 5.8						68	
--	69	P4	--	50	3	5.8 / 5.8		3	40	-- CT-1	70	--
	71						5.8 / 5.8				72	
	73				3.9 / 5.8						74	
--	75	P6	--	30	3	3.9 / 5.8		3	40	-- P11	76	--
	77						3.9 / 5.8				78	
	79				5.8 / 5.8						80	
--	81	P7	--	40	3	5.8 / 5.8		3	40	-- P10	82	--
	83						5.8 / 5.8				84	
	85				5.8 / 5.8						86	
--	87	P8	--	40	3	5.8 / 5.8		3	40	-- P9	88	--
	89						5.8 / 5.8				90	
	91				14.4 / 0.0			1	--	-- SPACE	92	--
--	93	P5	--	90	3	14.4 / 0.0		1	--	-- SPACE	94	--
	95						14.4 / 0.0	1	--	-- SPACE	96	--
--	97	SPACE	--	--	1	0.0 / 0.0		1	--	-- SPACE	98	--
--	99	SPACE	--	--	1		0.0 / 0.0	1	--	-- SPACE	100	--
--	101	SPACE	--	--	1		0.0 / 0.0	1	--	-- SPACE	102	--
--	103	SPACE	--	--	1	0.0 / 0.0		1	--	-- SPACE	104	--
--	105	SPACE	--	--	1		0.0 / 0.0	1	--	-- SPACE	106	--
--	107	SPACE	--	--	1		0.0 / 0.0	1	--	-- SPACE	108	--
				Total Load:		178.7 kVA	176.8 kVA	177.5 kVA				
				Total Amps:		645 A	638 A	641 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	9.0 kVA	100.00%	9.0 kVA		
Spare	524.0 kVA	100.00%	524.0 kVA	**Total Conn. Load:**	533.0 kVA
				Total Est. Demand:	533.0 kVA
				Total Conn. Current:	641 A
				Total Est. Demand Current:	641 A

Notes:
- NEW WORK IN BOLD
- USE EXISTING 'SPARE' CIRCUIT BREAKER

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

NEW PANEL

Branch Panel: ELX

Location: MECH. R102 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: TELX **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 100A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker	A	B	C	Breaker	Wire	Circuit Description	CKT	Note
	1	WALL MOUNTED RACK IDF J	#10	20	1	0.4 / 0.1		1	20	(E) F/A AMPLIFIER	2	1, LO
	3	ACP IDF J	#10	20	1		0.1 / 0.1	1	20	(E) F/A AMPLIFIER	4	1, LO
	5	ACP IDF L	#10	20	1			1	--	-- SPACE	6	--
	7	WALL MOUNTED RACK IDF L	#10	20	1	0.4 / 0.0		1	--	-- SPACE	8	--
	9	WALL MOUNTED RACK IDF G	#12	20	1		0.4 / 0.0	1	--	-- SPACE	10	--
	11	ACP IDF G	#12	20	1			1	--	-- SPACE	12	--
	13	DMS-5 CONDENSATE PUMP	#12	20	1	0.6 / 0.0		1	--	-- SPACE	14	--
--	15	SPARE	--	20	1		0.0 / 0.0	1	--	-- SPACE	16	--
--	17	SPARE	--	20	1			1	--	-- SPACE	18	--
--	19	SPARE	--	20	1	0.0 / 0.0		1	--	-- SPACE	20	--
--	21	SPARE	--	20	1		0.0 / 0.0	1	--	-- SPACE	22	--
--	23	SPARE	--	20	1			1	--	-- SPACE	24	--
--	25	SPARE	--	20	1	0.0 / 0.0		1	--	-- SPACE	26	--
--	27	SPARE	--	20	1		0.0 / 0.0	1	--	-- SPACE	28	--
--	29	SPARE	--	20	1			1	--	-- SPACE	30	--
--	31	SPARE	--	20	1	0.0 / 0.0		1	--	-- SPACE	32	--
--	33	SPARE	--	20	1		0.0 / 0.0	1	--	-- SPACE	34	--
--	35	SPARE	--	20	1			1	--	-- SPACE	36	--
--	37	SPARE	--	20	1	0.0 / 0.0					38	
--	39	SPARE	--	20	1		0.0 / 0.0	3	30	#10 SPDL	40	
--	41	SPARE	--	20	1			0.0 / 0.0			42	
				Total Load:		1.4 kVA	0.6 kVA	0.2 kVA				
				Total Amps:		12 A	5 A	2 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Miscellaneous	0.6 kVA	100.00%	0.6 kVA		
Other	0.6 kVA	100.00%	0.6 kVA	**Total Conn. Load:**	2.2 kVA
Receptacles	1.1 kVA	100.00%	1.1 kVA	**Total Est. Demand:**	2.2 kVA
				Total Conn. Current:	6 A
				Total Est. Demand Current:	6 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

NEW PANEL

Branch Panel: ELO

Location: ELEC. G131 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: TELO **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 100A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker	A	B	C	Breaker	Wire	Circuit Description	CKT	Note
1, LO	1	FIRE ALARM	(E)	20	1	0.5 / 0.0		1	20	-- SPARE	2	--
--	3	SPARE	--	20	1		0.0 / 0.0	1	20	-- SPARE	4	--
--	5	SPARE	--	20	1			1	20	-- SPARE	6	--
--	7	SPARE	--	20	1	0.0 / 0.0		1	20	-- SPARE	8	--
	9						1.6 / 0.0	1	--	-- SPACE	10	--
	11	IT RACK RECEPTACLE	#8	30	2			1	--	-- SPACE	12	--
	13	IT RACK RECEPTACLE IDF D148A	#12	20	1	0.4 / 0.0		1	--	-- SPACE	14	--
	15						1.6 / 0.0	1	--	-- SPACE	16	--
	17	IT RACK RECEPTACLE IDF D148A	#10	30	2			1	--	-- SPACE	18	--
	19	WALL MOUNTED IT RACK K105	#10	20	1	0.4 / 0.0		1	--	-- SPACE	20	--
	21	DMS-3 CONDENSATE PUMP	#10	20	1		0.0 / 0.0	1	--	-- SPACE	22	--
LO	23	KITCHEN FIRE PROTECTION SYSTEM	#10	20	1			1	--	-- SPACE	24	--
LO	25	HOOD TEMPERATURE SENSOR	#10	20	1	0.8 / 0.0		1	--	-- SPACE	26	--
	27	DMS-2 CONDENSATE PUMP	#12	20	1		0.6 / 0.0	1	--	-- SPACE	28	--
	29	ACP L	#12	20	1			1	--	-- SPACE	30	--
	31	SPARE	--	20	1	0.0 / 0.0		1	--	-- SPACE	32	--
--	33	SPARE	--	20	1		0.0 / 0.0	1	--	-- SPACE	34	--
--	35	SPARE	--	20	1			1	--	-- SPACE	36	--
--	37	SPARE	--	20	1	0.0 / 0.2					38	
--	39	SPARE	--	20	1		0.0 / 0.2	3	30	#10 SPDL	40	
--	41	SPARE	--	20	1			0.0 / 0.2			42	
				Total Load:		2.2 kVA	3.9 kVA	61.6 kVA				
				Total Amps:		18 A	35 A	516 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Kitchen Equipment	59.0 kVA	65.00%	38.4 kVA		
Miscellaneous	7.4 kVA	100.00%	7.4 kVA	**Total Conn. Load:**	67.7 kVA
Other	0.6 kVA	100.00%	0.6 kVA	**Total Est. Demand:**	47.0 kVA
Receptacles	0.7 kVA	100.00%	0.7 kVA	**Total Conn. Current:**	188 A
				Total Est. Demand Current:	131 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

NEW PANEL

Branch Panel: ELE

Location: MECH. U220 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: TELE **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 100A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker	A	B	C	Breaker	Wire	Circuit Description	CKT	Note
--	1	SPARE	--	20	1	0.0 / 0.0		1	20	-- SPARE	2	--
--	3	SPARE	--	20	1		0.0 / 0.0	1	20	-- SPARE	4	--
1, LO	5	FIRE ALARM AMPLIFIER	(E)	20	1			1	20	-- SPARE	6	--
--	7	SPARE	--	20	1	0.0 / 0.0		1	20	-- SPARE	8	--
1, LO	9	FIRE ALARM AMPLIFIER	(E)	20	1		0.5 / 1.0				10	
1, LO	11	FIRE ALARM AMPLIFIER	(E)	20	1			2	30	#8 DMSCU-9	12	
	13					1.6 / 1.0					14	
	15	IT RACK RECEPTACLE STORAGE Y221	#10	30	2		1.6 / 1.0	2	30	#8 DMSCU-6	16	
	17	IT RACK RECEPTACLE STORAGE Y221	#12	20	1						18	
	19						0.4 / 1.0	2	30	#8 DMSCU-12	20	
	21	IT RACK RECEPTACLE STORAGE Y221	#10	30	2	1.6 / 1.0					22	
	23	Receptacles STORAGE Y221	#12	20	1		1.6 / 1.0				24	
	25	DMS-10 CONDENSATE PUMP	#12	20	1	0.0 / 0.0					26	
	27	WALL MOUNT RACK MECH./ELEC. X203	#10	20	1		0.4 / 0.0	2	30	#10 DMSCU-10	28	
	29	DMS-12 CONDENSATE PUMP	#10	20	1			1	20	-- SPARE	30	--
	31	WALL MOUNT RACK BOOKROOM N207	#10	20	1	0.4 / 0.0		1	20	-- SPARE	32	--
	33	DMS-9 CONDENSATE PUMP	#10	20	1		0.0 / 0.0	1	20	-- SPARE	34	--
	35	DMSCU-4	#8	30	2			1	20	-- SPARE	36	--
	37					1.0 / 0.0					38	
	39	DMSCU-5	#8	30	2		1.0 / 0.0	3	30	#10 SPDL	40	
	41						1.0 / 0.0				42	
				Total Load:		6.5 kVA	8.0 kVA	6.7 kVA				
				Total Amps:		54 A	67 A	56 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	12.0 kVA	100.00%	12.0 kVA		
Miscellaneous	7.7 kVA	100.00%	7.7 kVA	**Total Conn. Load:**	21.2 kVA
Receptacles	1.4 kVA	100.00%	1.4 kVA	**Total Est. Demand:**	21.2 kVA
				Total Conn. Current:	59 A
				Total Est. Demand Current:	59 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

NEW PANEL

Branch Panel: ELA

Location: MECH. A224 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: TELA **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 100A MCB

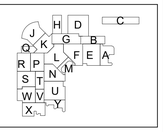
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker	A	B	C	Breaker	Wire	Circuit Description	CKT	Note
	1	IT RACK STOR. A209	#10	30	2	1.6 / 0.0		1	20	-- SPARE	2	--
	3						1.6 / 0.0	1	20	-- SPARE	4	--
1, LO	5	FIRE ALARM	(E)	20	1			1	20	-- SPARE	6	--
1, LO	7	FIRE ALARM	(E)	20	1	0.5 / 0.0		1	20	-- SPARE	8	--
--	9	SPARE	--	20	1		0.0 / 1.0				10	
	11	IT RACK Receptacles STOR. A209	#12	20	1			2	30	#10 DMSCU-11	12	
	13	DMS-7 CONDENSATE PUMP	#12	20	1	0.0 / 1.0					14	
	15	Receptacles STOR. A209	#12	20	1		0.4 / 1.0	2	30	#8 DMSCU-8	16	
	17						1.6 / 1.0				18	
	19	IT RACK MECH. F202	#8	30	2	1.6 / 1.0		2	30	#8 DMSCU-2	20	
	21						1.6 / 1.0				22	
	23	IT RACK MECH. F202	#8	30	2			2	30	#8 DMSCU-3	24	
	25					1.6 / 0.0					26	
	27	IT RACK MECH. F202	#8	30	2		1.6 / 0.0	1	20	-- SPARE	28	--
	29							1	20	-- SPARE	30	--
	31	IT RACK MECH. F202	#8	30	2	1.6 / 0.0		1	20	-- SPARE	32	--
	33	IT RACK MECH. F202	#10	20	1		0.4 / 0.0	1	20	-- SPARE	34	--
	35	Receptacles MECH. F202	#10	20	1			1	20	-- SPARE	36	--
	37	DMSCU-7	#10	30	2	1.0 / 0.2					38	
	39						1.0 / 0.2	3	30	#10 SPDL	40	
--	41	SPARE	--	20	1		0.0 / 0.2				42	
				Total Load:		9.9 kVA	9.6 kVA	9.1 kVA				
				Total Amps:		83 A	80 A	76 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	10.0 kVA	100.00%	10.0 kVA		
Miscellaneous	17.1 kVA	100.00%	17.1 kVA	**Total Conn. Load:**	28.5 kVA
Receptacles	1.4 kVA	100.00%	1.4 kVA	**Total Est. Demand:**	28.5 kVA
				Total Conn. Current:	79 A
				Total Est. Demand Current:	79 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE



EXISTING PANEL

Branch Panel: HR

Location: PRODUCTION SYSTEMS D128 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 400A

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
--	1	MIG PLASMA	--	20	3	2.0 / 2.1			3	20	--	MIG PLASMA	2	--
	3						2.0 / 2.1						4	
	5							2.0 / 2.1					6	
--	7	WELDER	--	50	3	4.0 / 11.0			3	70	--	DUST COLLECTOR	8	--
	9						4.0 / 11.0						10	
	11							4.0 / 11.0					12	
--	13	WELDER	--	50	3	4.0 / 5.2			3	60	--	WELDER	14	--
	15						4.0 / 5.2						16	
	17							4.0 / 5.2					18	
--	19	MIG PLASMA	--	20	3	2.1 / 5.2			3	60	--	WELDER	20	--
	21						2.1 / 5.2						22	
	23							2.1 / 5.2					24	
LF	25	**PAINT BOOTH**	**#12**	**20**	3	2.0 / 5.2			3	60	--	WELDER	26	--
	27						2.0 / 5.2						28	
	29							2.0 / 5.2					30	
	31	**EF-83**	**#12**	**20**	3	3.0 / 21.2			3	125	--	EXISTING LOAD	32	--
	33						3.0 / 21.2						34	
	35							3.0 / 21.2					36	
	37	**SF-WELD**	**#12**	**20**	3	2.1 / 0.0			1	--	--	SPACE	38	--
	39						2.1 / 0.0		1	--	--	SPACE	40	--
	41							2.1 / 0.0	1	--	--	SPACE	42	--
		Total Load:				69.1 kVA	69.1 kVA	69.1 kVA						
		Total Amps:				250 A	250 A	250 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	15.4 kVA	100.00%	15.4 kVA		
Miscellaneous	6.0 kVA	100.00%	6.0 kVA	Total Conn. Load:	207.4 kVA
Spare	186.0 kVA	100.00%	186.0 kVA	Total Est. Demand:	207.4 kVA
				Total Conn. Current:	249 A
				Total Est. Demand Current:	249 A

Notes:
- NEW WORK IN BOLD

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

EXISTING PANEL

Branch Panel: LCP

Location: CENTRAL PLANT H100 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 150A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
--	1	BOILER PUMP	--	15	2	0.8 / 0.8			2	15	--	BOILER PUMP	2	--
	3						0.8 / 0.8						4	
--	5	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	6	--
--	7	BOILER PUMP	--	15	2	0.8 / 0.0			1	20	--	SPARE	8	--
	9						0.8 / 0.2		1	20	--	DDC PANEL	10	--
1	11	**CP-3 BOILER H104**	**#12**	**20**	1			0.1 / 1.2	1	20	--	GHW-2	12	--
--	13	SPARE	--	20	1	0.0 / 2.3			2	30	--	WATER HEATER	14	--
--	15	GHW-4	--	20	1		1.2 / 2.3						16	
--	17	SPARE	--	20	1			0.0 / 1.5	1	20	--	AIR CONDITIONING	18	--
--	19	B-3	--	30	2	2.0 / 0.6			1	20	--	BATTERY CHARGER	20	--
	21						2.0 / 0.0		1	20	--	SPARE	22	--
--	23	SPARE	--	20	1			0.0 / 0.0	1	20	--	SPARE	24	--
--	25	B-2	--	30	2	2.0 / 2.0			2	30	--	B-1	26	--
	27						2.0 / 2.0						28	
1	29	ACCH-5 CONTROLS/ACCESSORIES		20	1			0.0 / 0.0	1	20	--	SPARE	30	--
1,EG	31	ACCH-5 HEAT TRACE		20	1	0.0 / 0.0			1	20	--	SPARE	32	--
--	33	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	34	--
--	35	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	36	--
--	37	SPARE	--	20	1	0.0 / 0.0			3	30	--	SPDL	38	--
--	39	SPARE	--	20	1		0.0 / 0.0						40	
--	41	SPARE	--	20	1			0.0 / 0.0					42	
		Total Load:				11.3 kVA	12.1 kVA	2.8 kVA						
		Total Amps:				105 A	111 A	23 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Miscellaneous	0.1 kVA	100.00%	0.1 kVA		
Spare	26.0 kVA	100.00%	26.0 kVA	Total Conn. Load:	26.1 kVA
				Total Est. Demand:	26.1 kVA
				Total Conn. Current:	72 A
				Total Est. Demand Current:	72 A

Notes: NEW WORK IN BOLD
1) PROVIDE NEW BREAKER

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
EG - PROVIDE 20mA EQUIPMENT GFCI BREAKER

EXISTING PANEL

Branch Panel: HG

Location: MECH. E117 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 225A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	LIGHTS	(E)	20	1	1.2 / 1.2			1	20	(E)	LIGHTS	2	
	3	LIGHTS	(E)	20	1		1.2 / 1.2		1	20	(E)	LIGHTS	4	
	5	LIGHTS	(E)	20	1			1.2 / 1.2	1	20	(E)	LIGHTS	6	
	7	LIGHTS	(E)	20	1	1.2 / 1.2			1	20	(E)	LIGHTS	8	
	9	LIGHTS	(E)	20	1		1.2 / 1.2		1	20	(E)	LIGHTS	10	
	11	LIGHTS	(E)	20	1			1.2 / 1.2	1	20	(E)	LIGHTS	12	
--	13	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	14	--
	15	LIGHTS	(E)	20	1		1.2 / 1.2		1	20	(E)	EXTERIOR LIGHTS	16	
	17	AHU-1	(E)	60	3			21.3 / 4.0	3	20	(E)	WH-5	18	
	19					21.3 / 4.0							20	
	21						21.3 / 4.0						22	
1	23	**EWH-1 MECH A134**	**#12**	**20**	**3**			8.2 / 0.7	**1**	**20**	**#12**	**CVB-A5-1 ART DIGITAL A130**	24	**1**
	25					8.2 / 0.7			**1**	**20**	**#12**	**CVB-A5-2 ART A132**	26	**1**
	27						8.2 / 0.7		**1**	**20**	**#12**	**CVB-A5-3 ART DIGITAL A130**	28	**1**
1	29	**Lighting**	**#12**	**20**	**1**			0.0 / 1.0	**1**	**20**	**#10**	**Lighting Room A129**	30	**1**
1	31	**SF-A-5-1**	**#12**	**20**	**3**	0.3 / 1.2			**3**	**20**	**#12**	**AHU-A-5 MECH A134**	32	**1**
	33						0.3 / 1.2						34	
	35							0.3 / 1.2					36	
1	37	**TLAR**	**1L**	**75**	**3**	7.5 / 0.0			**3**	**30**	**#10**	**SPDL**	38	**1**
	39						5.8 / 0.0						40	
	41							6.7 / 0.0					42	
		Total Load:				48.1 kVA	48.8 kVA	48.4 kVA						
		Total Amps:				174 A	176 A	175 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	81.4 kVA	100.00%	81.4 kVA		
Lighting	9.5 kVA	125.00%	11.9 kVA	Total Conn. Load:	145.3 kVA
Miscellaneous	39.4 kVA	100.00%	39.4 kVA	Total Est. Demand:	145.2 kVA
Receptacles	14.9 kVA	83.47%	12.5 kVA	Total Conn. Current:	175 A
				Total Est. Demand Current:	175 A

Notes: NEW WORK IN BOLD
1) PROVIDE NEW BREAKER IN EXISTING SPACE

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
1L - ONELINE

EXISTING PANEL

Switchboard: DPH4

Location: ELEC. G131 **Volts:** 277/480 Wye **A.I.C. Rating:**
Supply From: Utility **Phases:** 3 **MCB Rating:** 1600
Mounting: **Wires:** 4 **Mains Rating:**
Enclosure:

CKT	Circuit Description	Trip Rating	# of Poles	Load	Wire	Remarks
1	SPACE	--	3	--		
2	PANEL HO	250	3	124.0 kVA	EXISTING	
3	PANEL HS	400	3	131.0 kVA	EXISTING	
4	SPACE	--	3	--		
5	SPACE	--	3	--		
6	PANEL HR	400	3	160.0 kVA	EXISTING	
7	DPH4A	600	3	240.0 kVA	EXISTING	
8	SPACE	--	3	--		
9	SPACE	--	3	--		
10	**SPARE**	100	3	0.0 kVA		
11	PANEL HK	225	3	150.0 kVA	EXISTING	
12	**TL4**	**175**	**3**	103.7 kVA	1L	
13	SPACE	--	3	--		
14	SPACE	--	3	--		
			Total Conn...	908.7 kVA		
			Total Amps:	1093		

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Miscellaneous	2.7 kVA	100.00%	2.7 kVA		
Receptacles	1.4 kVA	100.00%	1.4 kVA	Total Conn. Load:	908.7 kVA
Welding	18.7 kVA	66.67%	12.5 kVA	Total Est. Demand:	902.5 kVA
				Total Conn. Current:	1093
				Total Est. Demand...	1086

Notes:
- NEW WORK IN BOLD.

PANELBOARD CIRCUIT DIRECTORY:
CONTRACTOR SHALL RECORD AND/OR PRESERVE THE EXISTING CIRCUIT DIRECTORY, IF ANY, FOR THE SOLE PURPOSE UPON COMPLETION OF NEW WORK OF PRODUCING A NEW DIRECTORY.
CONTRACTOR SHALL PROVIDE AS PART OF THE CONSTRUCTION DOCUMENTS A NEW, NEATLY TYPED DIRECTORY. CONTRACTOR SHALL TRACE EXISTING CIRCUITS AND SHALL LEGIBLY IDENTIFY AS TO IT'S CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE, LOADS SERVED, LOCATION AND/OR THE PANELBOARD SCHEDULE ON THE DRAWINGS. THE WORD "EXISTING" SHALL NOT BE USED ON PANELBOARD DIRECTORIES. SPARE BREAKERS ARE TO BE LISTED AS "SPARE" AND SWITCHED TO THE OFF POSITION. SPACES WITH NO BREAKERS ARE TO BE LEFT BLANK. REFER TO NEC-2023: 408.4(A) FOR DETAILS.
CONTRACTOR SHALL PERMANENTLY LABEL AS PART OF THE CONSTRUCTION DOCUMENTS ALL SWITCHBOARDS, SWITCHGEAR AND PANELBOARDS TO INDICATE EACH POWER SOURCE. REFER TO NEC-2023: 408.4(A) FOR DETAILS.

NEW PANEL

Branch Panel: L4

Location: PRODUCTION SYSTEMS D128 **Volts:** 120/208 Wye **A.I.C. Rating:** 22,000
Supply From: TL4 **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 400A SHUNT TRIP MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
--	1	EXISTING LOAD	--	20	1	0.7 / 0.4			1	20	--	EXISTING LOAD	2	--
--	3	EXISTING LOAD	--	20	1		0.7 / 0.4		1	20	--	EXISTING LOAD	4	--
--	5	EXISTING LOAD	--	20	1			0.4 / 0.4	1	20	--	EXISTING LOAD	6	--
--	7	EXISTING LOAD	--	30	2	1.5 / 1.6			1	20	--	EXISTING LOAD	8	--
	9						1.5 / 1.2		2	30	--	EXISTING LOAD	10	--
--	11	EXISTING LOAD	--	20	2			1.0 / 1.2					12	
	13					1.0 / 0.3			3	15	--	EXISTING LOAD	14	--
--	15	EXISTING LOAD	--	20	2		0.8 / 0.3						16	
	17							0.8 / 0.3					18	
--	19	EXISTING LOAD	--	20	3	0.5 / 0.8			3	20	--	EXISTING LOAD	20	--
	21						0.5 / 0.8						22	
	23							0.5 / 0.8					24	
--	25	WOOD LATHE	--	20	3	1.0 / 1.6			3	30	--	P RECEPT	26	--
	27						1.0 / 1.6						28	
	29							1.0 / 1.6					30	
--	31	RC-63	--	30	3	2.0 / 1.6			3	30	--	P RECEPT	32	--
	33						2.0 / 1.6						34	
	35							2.0 / 1.6					36	
--	37	ACRA-TURN	--	40	3	2.2 / 2.2			3	40	--	ACRA-TURN	38	--
	39						2.2 / 2.2						40	
	41							2.2 / 2.2					42	
G	43	**WELDING BOOTH**	**#8**	**50**	2	1.6 / 0.0							44	
	45						1.6 / 0.0						46	
G	47	**WELDING BOOTH**	**#8**	**50**	2			1.6 / 0.0					48	
	49					1.6 / 0.4			1	**20**	**#12**	**Receptacles PRODUCTION SYSTEMS D128**	50	G
G	51	**WELDING BOOTH**	**#8**	**50**	2		1.6 / 0.4		1	**20**	**#12**	**Receptacles PRODUCTION SYSTEMS D128**	52	G
	53							1.6 / 0.4	1	**20**	**#12**	**Receptacles PRODUCTION SYSTEMS D128**	54	G
--	55	RECEPT 1908	--	20	1	0.4 / 1.0			1	20	--	DISC SANDER	56	--
--	57	SPARE	--	20	1		0.0 / 0.4		1	20	--	RECEPT 1908	58	--
--	59	RECEPT 1908	--	20	1			0.4 / 0.4	1	20	--	RECEPT 1908	60	--
--	61	RECEPT 1908	--	20	1	0.4 / 0.4			1	20	--	RECEPT 1908	62	--
--	63	RECEPT 1908	--	20	1		0.4 / 0.5		2	20	--	DISC SANDER	64	--
--	65	RECEPT 1908	--	20	1			0.4 / 0.5					66	
--	67	SPOT WELDER	--	125	2	7.0 / 0.0			1	20	--	SPARE	68	--
	69						7.0 / 0.7		1	20	--	RECEPT 1908	70	--
--	71	RECEPT 1908	--	20	1			0.4 / 0.9	2	20	--	DJ-20	72	--
--	73	WOOD LATHE	--	20	3	0.6 / 0.9							74	
	75						0.6 / 0.4		1	20	--	RECEPT 1908	76	--
	77							0.6 / 0.4	1	20	--	RECEPT 1908	78	--
--	79	WOOD LATHE	--	20	3	0.6 / 0.3			1	20	--	TLE	80	--
	81						0.6 / 2.2		2	50	--	EXISTING LOAD	82	--
	83							0.6 / 2.2					84	
G	85	**WELDING BOOTH**	**#8**	**50**	2	1.6 / 0.5			1	**20**	**#12**	**CORD REEL**	86	**G**
	87						1.6 / 0.5		1	**20**	**#12**	**CORD REEL**	88	**G**
G	89	**WELDING BOOTH**	**#8**	**50**	2			1.6 / 0.4	1	**20**	**#12**	**Receptacles Room D134, D128**	90	
	91					1.6 / 1.2			1	**20**	**#12**	**EF-84**	92	
G	93	**WELDING BOOTH**	**#8**	**50**	2		1.6 / 0.5		1	**20**	**#12**	**PAINT BOOTH CONTROLS**	94	**LF**
	95							1.6 / 0.0	1	--	--	SPACE	96	--
--	97	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	98	--
--	99	SPARE	--	20	1		0.0 / 0.0		1	20	--	SPARE	100	--
--	101	SPARE	--	20	1			0.0 / 0.0	1	20	--	SPARE	102	--
--	103	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	104	--
--	105	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	106	--
--	107	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	108	--
--	109	SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	110	--
--	111	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	112	--
	113												114	
	115												116	
	117												118	
	119												120	
	121												122	
	123												124	
	125												126	
		Total Load:				37.2 kVA	37.1 kVA	29.5 kVA						
		Total Amps:				319 A	319 A	246 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Miscellaneous	2.7 kVA	100.00%	2.7 kVA		
Receptacles	1.4 kVA	100.00%	1.4 kVA	Total Conn. Load:	103.7 kVA
Spare	80.9 kVA	100.00%	80.9 kVA	Total Est. Demand:	97.5 kVA
Welding	18.7 kVA	66.67%	12.5 kVA	Total Conn. Current:	288 A
				Total Est. Demand Current:	271 A

Notes:
PROVIDE 3 42-POLE PANEL SECTIONS

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

NEW PANEL

Branch Panel: L6

Location: MECH. D205 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: TL6 **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 400A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
1	1	RECEPTACLES 1914	(E)	20	1	0.5 / 0.5			1	20	(E)	RECEPTACLES 1911.1	2	1
1	3	RECEPTACLES MECH/2952	(E)	20	1		0.5 / 0.5		1	20	(E)	FAN #75 ROOF	4	1
1	5	FAN #76 ROOF	(E)	20	1			0.5 / 0.5	1	20	(E)	FAN #9 ROOF	6	1
1	7	RECEPTACLES 1914	(E)	20	1	0.5 / 0.5			1	20	(E)	RECEPTACLES 1911.2	8	1
1	9	RECEPTACLES 1905	(E)	20	1		0.5 / 0.5		1	20	(E)	RECEPTACLES 1911.2	10	1
1	11	RECEPTACLES 1905	(E)	20	1			0.5 / 0.5	1	20	(E)	RECEPTACLES 1910.11	12	1
1	13	RECEPTACLES 1914	(E)	20	1	0.5 / 0.5			1	20	(E)	RECEPTACLES 1910.11	14	1
1	15	RECEPTACLES 1912	(E)	20	1		0.5 / 0.5		1	20	(E)	RECEPTACLES 1910.11	16	1
1	17	RECEPTACLES 1912	(E)	20	1			0.5 / 0.5	1	20	(E)	RECEPTACLES 1905.4	18	1
1	19	RECEPTACLES 1912	(E)	20	1	0.5 / 0.5			1	20	(E)	RECEPTACLES 1912	20	1
1	21	RECEPTACLES 1912	(E)	20	1		0.5 / 0.2		3	15	(E)	DISCONNECT 1910.7	22	1
1	23	RECEPTACLES 1912	(E)	20	1			0.5 / 0.2					24	
1	25	RECEPTACLES POOL	(E)	20	1	0.5 / 0.2							26	
1	27	L.C. 2952	(E)	20	1		0.5 / 0.5		1	20	(E)	EXISTING LOAD	28	1,2
1,2	29	EXISTING LOAD	(E)	20	1			0.5 / 0.5	1	20	(E)	EXISTING LOAD	30	1,2
1,2	31	EXISTING LOAD	(E)	20	1	0.5 / 0.5			1	20	(E)	EXISTING LOAD	32	1,2
1,2	33	EXISTING LOAD	(E)	20	1		0.5 / 0.5		1	20	(E)	EXISTING LOAD	34	1,2
1,2	35	EXISTING LOAD	(E)	20	2			0.3 / 0.5	1	20	(E)	EXISTING LOAD	36	1,2
	37					0.3 / 0.2			3	30	(E)	EXISTING LOAD	38	1,2
1	39	CHLORINE GENERATOR	(E)	40	2		0.3 / 0.2						40	
	41							0.3 / 0.2					42	
1,2	43	EXISTING LOAD	(E)	30	1	0.5 / 0.5			1	20	(E)	EXISTING LOAD	44	1,2
1,2	45	EXISTING LOAD	(E)	30	1		0.5 / 0.5		1	20	(E)	EXISTING LOAD	46	1,2
1,2	47	EXISTING LOAD	(E)	30	1			0.5 / 0.5	1	20	(E)	EXISTING LOAD	48	1,2
1,2	49	EXISTING LOAD	(E)	30	1	0.5 / 0.5			1	20	(E)	EXISTING LOAD	50	1,2
1,2	51	EXISTING LOAD	(E)	30	1		0.5 / 0.5		1	20	(E)	EXISTING LOAD	52	1,2
1,2	53	EXISTING LOAD	(E)	30	1			0.5 / 0.5	1	20	(E)	EXISTING LOAD	54	1,2
1,2	55	EXISTING LOAD	(E)	30	1	0.5 / 0.5			1	20	(E)	EXISTING LOAD	56	1,2
1,2	57	EXISTING LOAD	(E)	30	1		0.5 / 0.5		1	20	(E)	EXISTING LOAD	58	1,2
1,2	59	EXISTING LOAD	(E)	30	1			0.5 / 0.5	1	20	(E)	EXISTING LOAD	60	1,2
1,2	61	EXISTING LOAD	(E)	30	1	0.5 / 0.5			1	20	(E)	EXISTING LOAD	62	1,2
1,2	63	EXISTING LOAD	(E)	30	1		0.5 / 0.5		1	20	(E)	EXISTING LOAD	64	1,2
1,2	65	EXISTING LOAD	(E)	30	1			0.5 / 0.5	1	20	(E)	EXISTING LOAD	66	1,2
1,2	67	EXISTING LOAD	(E)	30	1	0.5 / 0.5			1	20	(E)	EXISTING LOAD	68	1,2
1,2	69	EXISTING LOAD	(E)	30	1		0.5 / 0.5		1	20	(E)	EXISTING LOAD	70	1,2
1,2	71	EXISTING LOAD	(E)	30	1			0.5 / 0.5	1	20	(E)	EXISTING LOAD	72	1,2
1,2	73	EXISTING LOAD	(E)	30	1	0.5 / 0.5			1	20	(E)	EXISTING LOAD	74	1,2
1,2	75	EXISTING LOAD	(E)	30	1		0.5 / 0.5		1	20	(E)	EXISTING LOAD	76	1,2
--	77	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	78	--
1,2	79	EXISTING LOAD	(E)	20	1	0.5 / 0.5			1	20	(E)	EXISTING LOAD	80	1,2
1,2	81	EXISTING LOAD	(E)	20	1		0.5 / 0.5		1	20	(E)	EXISTING LOAD	82	1,2
1,2	83	EXISTING LOAD	(E)	20	1			0.5 / 0.5	1	20	(E)	EXISTING LOAD	84	1,2
	85	Receptacles CTE ENGINEERING CR D129	#12	20	1	1.8 / 0.0			1	20	--	SPARE	86	--
	87	Receptacles CTE ENGINEERING CR D129	#12	20	1		1.4 / 0.0		1	20	--	SPARE	88	--
	89	Receptacles TECH CLASSROOM D121		20	1			1.4 / 0.0	1	20	--	SPARE	90	--
	91	Receptacles TECH CLASSROOM D121		20	1	0.7 / 0.0			1	20	--	SPARE	92	--
	93	Miscellaneous		20	1		0.5 / 0.0		1	20	--	SPARE	94	--
	95	Miscellaneous		20	1			0.5 / 0.0	1	20	--	SPARE	96	--
	97	Miscellaneous		20	1	0.5 / 0.0			1	20	--	SPARE	98	--
	99	Miscellaneous		20	1		0.5 / 0.0		1	20	--	SPARE	100	--
	101	Receptacles SHOP CLASS D126		20	1			1.1 / 0.0	1	20	--	SPARE	102	--
	103	Miscellaneous		20	1	0.5 / 0.0			1	20	--	SPARE	104	--
	105	Miscellaneous		20	1		0.5 / 0.0		1	20	--	SPARE	106	--
	107	Receptacles STORAGE D125		20	1			0.5 / 0.0	1	20	--	SPARE	108	--
	109	Receptacles OFFICE D127		20	1	0.9 / 0.0			1	20	--	SPARE	110	--
	111	Receptacles ROTC. STOR/DRESSING B129		20	1		0.7 / 0.0		1	20	--	SPARE	112	--
	113	Receptacles ROTC. STOR/DRESSING B129		20	1			0.9 / 0.0	1	20	--	SPARE	114	--
	115	Receptacles TECH CLASSROOM D121		20	1	0.4 / 0.0			1	20	--	SPARE	116	--
	117	Receptacles		20	1		0.4 / 0.0		1	20	--	SPARE	118	--
LF	119	CO MONITORING SYSTEM D118	#12	20	1			0.5 / 0.0	1	20	--	SPARE	120	--
	121	LGH	1L	60	3	6.8 / 0.0			3	30	#10	SPDL	122	
	123						4.2 / 0.0						124	
	125							4.1 / 0.0					126	
		Total Load:				24.7 kVA	21.3 kVA	20.9 kVA						
		Total Amps:				206 A	178 A	175 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	6.4 kVA	100.00%	6.4 kVA		
Heating	0.4 kVA	100.00%	0.4 kVA	Total Conn. Load:	66.9 kVA
Lighting	0.7 kVA	125.00%	0.9 kVA	Total Est. Demand:	65.7 kVA
Miscellaneous	46.6 kVA	100.00%	46.6 kVA	Total Conn. Current:	186 A
Receptacles	12.8 kVA	89.12%	11.4 kVA	Total Est. Demand Current:	182 A

Notes:
(PROVIDE 3 42-POLE PANEL SECTIONS)
1 - RECONNECT
2 - ID

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

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Project No: 2023-05945-00

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Bradley Kalmans
BRADLEY KALMANS
80219
01-30-2025

PROJECT #: 202318
DATE: 2025-01-13
DRAWN: AW
CHECKED: JZ

DATE	ISSUE	#
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

E7.06

ELECTRICAL PANEL SCHEDULES

PANELBOARD CIRCUIT DIRECTORY:
CONTRACTOR SHALL RECORD AND/OR PRESERVE THE EXISTING CIRCUIT DIRECTORY, IF ANY, FOR THE SOLE PURPOSE UPON COMPLETION OF NEW WORK OF PRODUCING A NEW DIRECTORY.
CONTRACTOR SHALL PROVIDE AS PART OF THE CONSTRUCTION DOCUMENTS A NEW, NEATLY TYPED DIRECTORY. CONTRACTOR SHALL TRACE EXISTING CIRCUITS AND SHALL LEGIBLY IDENTIFY AS TO IT'S CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE, LOADS SERVED, LOCATION AND/OR THE PANELBOARD SCHEDULE ON THE DRAWINGS. THE WORD "EXISTING" SHALL NOT BE USED ON PANELBOARD DIRECTORIES. SPARE BREAKERS ARE TO BE LISTED AS "SPARE" AND SWITCHED TO THE OFF POSITION. SPACES WITH NO BREAKERS ARE TO BE LEFT BLANK. REFER TO NEC-2023: 408.4(A) FOR DETAILS.
CONTRACTOR SHALL PERMANENTLY LABEL AS PART OF THE CONSTRUCTION DOCUMENTS ALL SWITCHBOARDS, SWITCHGEAR AND PANELBOARDS TO INDICATE EACH POWER SOURCE. REFER TO NEC-2023: 408.4(A) FOR DETAILS.

NEW PANEL

Branch Panel: LAVTL

Location: MECHANICAL K204 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: TLAVTL **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 250A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	THEATRICAL MOTORIZED BREAKER PANEL	#10	20	1	0.5 / 0.0			1	--	--	SPACE	2	--
	3	Receptacles BLACK BOX K102	#10	20	1		0.2 / 0.0		1	--	--	SPACE	4	--
	5	Receptacles BLACK BOX K102	#10	20	1			0.2 / 0.0	1	--	--	SPACE	6	--
	7	WALL RACK	#10	20	1	0.2 / 0.0			1	--	--	SPACE	8	--
	9	Receptacles BLACK BOX K102	#10	20	1		0.2 / 0.0		1	--	--	SPACE	10	--
	11	Receptacles BLACK BOX K102	#10	20	1			0.2 / 0.0	1	--	--	SPACE	12	--
	13	WALL RACK	#10	20	1	0.5 / 0.0			1	--	--	SPACE	14	--
	15	WALL RACK	#10	20	1		0.2 / 0.0		1	--	--	SPACE	16	--
	17	Receptacles CTRL ROOM K111	#10	20	1			0.2 / 0.0	1	--	--	SPACE	18	--
	19	Receptacles CTRL ROOM K111	#10	20	1	0.4 / 0.0			1	--	--	SPACE	20	--
	21	Receptacles CTRL ROOM K111	#10	20	1		0.4 / 0.0		1	--	--	SPACE	22	--
	23	Receptacles CTRL ROOM K111	#10	20	1			0.4 / 0.0	1	--	--	SPACE	24	--
	25	CONTROL RECEPTACLE	#10	20	1	0.5 / 0.0			1	--	--	SPACE	26	--
	27	CONTROL RECEPTACLE	#10	20	1		0.5 / 0.0		1	--	--	SPACE	28	--
	29	CONTROL RECEPTACLE	#10	20	1			0.5 / 0.0	1	--	--	SPACE	30	--
	31	CONTROL RECEPTACLE	#10	20	1	0.5 / 0.0							32	
	33	CONTROL RECEPTACLE	#10	20	1		0.5 / 0.0		3	150	#1/0	THEATRICAL MOTORIZED BREAKER PANEL	34	
	35	CONTROL RECEPTACLE	#10	20	1			0.5 / 0.0					36	
	37	CONTROL RECEPTACLE	#10	20	1	0.5 / 0.0							38	
--	39	SPARE	--	20	1		0.0 / 0.0		3	30	#10	SPDL	40	
--	41	SPARE	--	20	1			0.0 / 0.0					42	
		Total Load:				3.0 kVA	1.9 kVA	1.9 kVA						
		Total Amps:				25 A	16 A	16 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Miscellaneous	4.5 kVA	100.00%	4.5 kVA		
Receptacles	2.3 kVA	100.00%	2.3 kVA	**Total Conn. Load:**	6.8 kVA
				Total Est. Demand:	6.8 kVA
				Total Conn. Current:	19 A
				Total Est. Demand Current:	19 A

Notes:

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

EXISTING PANEL

Branch Panel: HS

Location: MECH. D205 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 400A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
--	1	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	2	--
--	3	SPARE	--	20	1		0.0 / 0.0		1	20	--	SPARE	4	--
--	5	SPARE	--	20	1			0.0 / 0.5	1	20	(E)	RM 1901.1, 2, 3, 5, 2910 LIGHTS	6	
	7	RM 1950.4, 1910.8, 15, 7 LIGHTS	(E)	20	1	0.5 / 0.5			1	20	(E)	CORRIDOR 1920, 1960, 1950.2 LIGHTS	8	
	9	LIGHTS 1911, 1911.2, 1912	(E)	20	1		0.5 / 0.5		1	20	(E)	LIGHTS 1911.1, 1912.2, 1905.2	10	
	11	CORRIDOR LIGHTS	(E)	20	1			0.5 / 0.5	1	20	(E)	OUTSIDE LIGHTS	12	
--	13	SPARE	--	20	1	0.0 / 0.5			1	20	(E)	VAV BOX	14	
	15						0.2 / 0.5		1	20	(E)	TOUCH PLATE PANEL	16	
	17	AHU-16	(E)	70	3			0.2 / 0.5	1	20	(E)	LIGHTS 2950, 2952	18	
	19					0.2 / 0.5			1	20	(E)	LIGHTS 1915, 1917, 1919	20	
	21	LIGHTS 1919.1,3,5	(E)	20	1		0.5 / 0.2						22	
	23	CORRIDOR LIGHTS	(E)	20	1			0.5 / 0.2	3	40	(E)	POOL PUMP	24	
	25	POOL PUMP	(E)	20	1	0.5 / 0.2							26	
	27						0.2 / 0.2						28	
	29	PARKING LOT LIGHTS	(E)	30	3			0.2 / 0.2	3	125	(E)	SPARE	30	3
	31					0.2 / 0.2							32	
	33						0.2 / 0.2						34	
	35	POOL PAC	(E)	100	3			0.2 / 0.2	3	100	(E)	EXISTING LOAD	36	2
	37					0.2 / 0.2							38	
--	39	SPACE	--	--	1		0.0 / 1.8		**1**	**20**	**#12**	**CHFCU-B-1 B129**	40	**1**
1	41	**JROTC STORAGE EXTERIOR Lighting**	**#12**	**20**	**1**			0.0 / 0.3	**1**	**20**	**#12**	**JROTC STORAGE Lighting**	42	**1**
	43					24.7 / 0.3							44	
1	45	**TLG**	**1L**	**175**	**3**		21.3 / 0.3		2	100	(E)	T-BUILDING	46	
	47							20.9 / 0.3					48	
--	49	SPACE	--	--	1	0.0 / 0.3			2	100	(E)	T-BUILDING	50	
--	51	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	52	--
--	53	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	54	--
--	55	SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	56	--
	57	POOL TRUSS LIGHTS	(E)	20	1		0.5 / 0.5		1	20	(E)	POOL TRUSS LIGHTS	58	
	59	POOL TRUSS LIGHTS	(E)	20	1			0.5 / 0.5	1	20	(E)	POOL TRUSS LIGHTS	60	
	61	POOL TRUSS LIGHTS	(E)	20	1	0.5 / 0.5			1	20	(E)	POOL TRUSS LIGHTS	62	
	63	POOL TRUSS LIGHTS	(E)	20	1		0.5 / 0.5		1	20	(E)	POOL TRUSS LIGHTS	64	
--	65	SPACE	--	--	1			0.0 / 0.5	1	20	(E)	CONTACTOR RELAY	66	
--	67	SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	68	--
--	69	SPACE	--	--	1		0.0 / 0.2						70	
--	71	SPACE	--	--	1			0.0 / 0.2	**3**	**30**	**#10**	**SPDL**	72	**1**
2	73	EXISTING LOAD	(E)	20	1	0.5 / 0.2							74	
	75						0.2 / 0.2						76	
2	77	EXISTING LOAD	(E)	20	3			0.2 / 0.2	3	20	(E)	EXISTING LOAD	78	**2**
	79					0.2 / 0.2							80	
2	81	EXISTING LOAD	(E)	20	1		0.5 / 0.5		1	20	(E)	EXISTING LOAD	82	**2**
--	83	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	84	--
		Total Load:				30.7 kVA	29.8 kVA	26.9 kVA						
		Total Amps:				112 A	109 A	97 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	6.4 kVA	100.00%	6.4 kVA		
Heating	0.4 kVA	100.00%	0.4 kVA	**Total Conn. Load:**	87.5 kVA
Lighting	1.0 kVA	125.00%	1.2 kVA	**Total Est. Demand:**	86.3 kVA
Miscellaneous	66.9 kVA	100.00%	66.9 kVA	**Total Conn. Current:**	105 A
Receptacles	12.8 kVA	89.12%	11.4 kVA	**Total Est. Demand Current:**	104 A

Notes: NEW WORK IN BOLD
1) PROVIDE NEW BREAKER IN EXISTING SPACE
2) IDENTIFY AND LABEL UNKNOWN EXISTING LOAD
3) VERIFY EXISTING LOAD IS DEMOLISHED AND FLIP BREAKER TO OFF POSITION

Abbreviations:
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1L - REFER TO ONELINE

EXISTING PANEL

Branch Panel: EHS

Location: MECH. D205 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 100A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	POLE E LTS	(E)	20	1	0.5 / 0.5			1	20	(E)	CORR 1920, 1960, 1950, 1930 EM LTS	2	
	3	POOL ENTRANCE LTS	(E)	20	1		0.5 / 0.5		1	20	(E)	POLE E LTS	4	
	5	POLE E LTS	(E)	20	1			0.5 / 0.5	1	20	(E)	2952	6	
	7	POOL ENTRANCE LTS	(E)	20	1	0.5 / 0.3			**1**	**20**	**#12**	**EXTERIOR EM Lighting JROTC STORAGE**	8	**1**
	9	POOL ENTRANCE LTS	(E)	20	1		0.5 / 0.5		1	20	(E)	POLE E LTS	10	
	11	POOL ENTRANCE LTS	(E)	20	1			0.5 / 0.5	1	20	(E)	CANOPY E LTS	12	
	13	POOL ENTRANCE LTS	(E)	20	1	0.5 / 0.0			1	--	--	SPACE	14	--
1	15	**EM Lighting Room B129**	**#12**	**20**	**1**		0.1 / 0.0		1	--	--	SPACE	16	--
	17	CANOPY E LTS	(E)	20	1			0.5 / 0.0	1	--	--	SPACE	18	--
--	19	SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	20	--
--	21	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	22	--
--	23	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	24	--
--	25	SPACE	--	--	1	0.0 / 0.2							26	
--	27	SPACE	--	--	1		0.0 / 0.2		3	25	(E)	SPD	28	
--	29	SPACE	--	--	1			0.0 / 0.2					30	
		Total Load:				2.4 kVA	2.3 kVA	2.7 kVA						
		Total Amps:				9 A	8 A	10 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.4 kVA	125.00%	0.5 kVA		
Miscellaneous	7.0 kVA	100.00%	7.0 kVA	**Total Conn. Load:**	7.4 kVA
				Total Est. Demand:	7.5 kVA
				Total Conn. Current:	9 A
				Total Est. Demand Current:	9 A

Notes: NEW WORK IN BOLD
1) PROVIDE NEW BREAKER IN EXISTING SPACE

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NEW PANEL

Branch Panel: LSLV

Location: STORAGE C104 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: TLSLV **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 100A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
--	1	SPARE	--	20	1	0.0 / 0.5			1	20	(E)	F/A AMPLIFIER	2	1
1	3	A101, A101.2 RCP	(E)	20	1		0.5 / 0.0		1	20	--	SPARE	4	--
1	5	A101.2 RECEPT	(E)	20	1			0.5 / 0.0	1	20	--	SPARE	6	--
--	7	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	8	--
	9	ACP	#12	20	1		0.1 / 1.6		2	30	#10	IDF RACK	10	
	11	Receptacles IDF C108	#12	20	1			0.4 / 1.6					12	
	13	Receptacles IDF C108	#12	20	1	0.4 / 0.0			1	--	--	SPACE	14	--
	15	DMS-1 CONDENSATE PUMP	#12	20	1		0.0 / 0.0		1	--	--	SPACE	16	--
	17	DMSCU-1	#10	30	2			0.0 / 0.0	1	--	--	SPACE	18	--
	19					0.0 / 0.0			1	--	--	SPACE	20	--
--	21	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	22	--
--	23	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	24	--
--	25	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	26	--
--	27	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	28	--
--	29	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	30	--
--	31	SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	32	--
--	33	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	34	--
--	35	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	36	--
--	37	SPACE	--	--	1	0.0 / 0.0							38	
--	39	SPACE	--	--	1		0.0 / 0.0		3	30	#10	SPDL	40	
--	41	SPACE	--	--	1			0.0 / 0.0					42	
		Total Load:				0.9 kVA	2.2 kVA	2.4 kVA						
		Total Amps:				7 A	20 A	22 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Miscellaneous	4.7 kVA	100.00%	4.7 kVA		
Receptacles	0.7 kVA	100.00%	0.7 kVA	**Total Conn. Load:**	5.5 kVA
				Total Est. Demand:	5.5 kVA
				Total Conn. Current:	15 A
				Total Est. Demand Current:	15 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
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NEW PANEL

Branch Panel: LSHV

Location: STORAGE C104 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 125A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
1	1	EXT EMERGENCY LIGHTS	(E)	20	1	1.5 / 1.5			1	20	(E)	EXTERIOR EMERGENCY LIGHTS	2	1
1	3	EXT EMERGENCY LIGHTS	(E)	20	1		1.5 / 1.5		1	20	(E)	AUTO/COSMO EMERGENCY LIGHTS	4	1
--	5	SPARE	--	20	1			0.0 / 1.5	1	20	(E)	AG EMERGENCY LIGHTS	6	1
1	7	EXIT SIGNS	(E)	20	1	1.5 / 0.0			1	--	--	SPACE	8	--
--	9	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	10	--
--	11	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	12	--
--	13	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	14	--
--	15	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	16	--
--	17	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	18	--
--	19	SPARE	--	20	1	0.0 / 0.0			1	--	--	SPACE	20	--
--	21	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	22	--
--	23	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	24	--
--	25	SPACE	--	--	1	0.0 / 0.0			1	--	--	SPACE	26	--
--	27	SPACE	--	--	1		0.0 / 0.0		1	--	--	SPACE	28	--
--	29	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	30	--
--	31	SPACE	--	--	1	0.0 / 0.9							32	
--	33	SPACE	--	--	1		0.0 / 2.2		3	50	1L	TLSLV	34	
--	35	SPACE	--	--	1			0.0 / 2.4					36	
--	37	SPACE	--	--	1	0.0 / 0.0							38	
--	39	SPACE	--	--	1		0.0 / 0.0		3	30	#10	SPDL	40	
--	41	SPACE	--	--	1			0.0 / 0.0					42	
		Total Load:				5.4 kVA	5.2 kVA	3.9 kVA						
		Total Amps:				20 A	19 A	14 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	9.0 kVA	125.00%	11.3 kVA		
Miscellaneous	4.7 kVA	100.00%	4.7 kVA	**Total Conn. Load:**	14.5 kVA
Receptacles	0.7 kVA	100.00%	0.7 kVA	**Total Est. Demand:**	16.7 kVA
				Total Conn. Current:	17 A
				Total Est. Demand Current:	20 A

Notes:
1 - CONNECT PRESERVED LOAD TO NEW PANEL

Abbreviations:
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1L - REFER TO ONELINE

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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

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BRADLEY KALMANS
80219
LICENSED
CENSED
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	AW
CHECKED:	JZ

DATE	ISSUE
2025-01-13	PERMIT AND PROPOSAL
2025-01-30	ADDENDUM #5 1

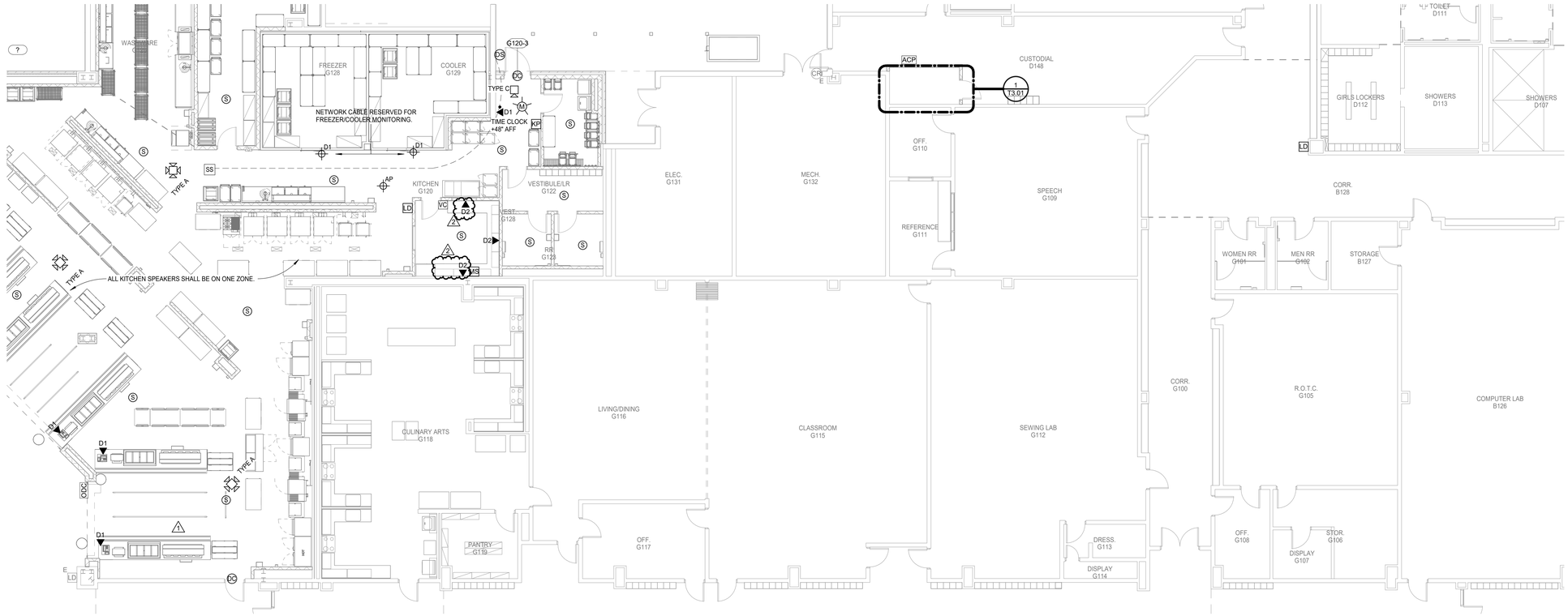
E7.07
ELECTRICAL PANEL SCHEDULES

FIRE ALARM

A	FIRE ALARM SYSTEM IS A PERFORMANCE BASED PER SPECIFICATIONS 28 46 02. CONTRACTOR TO REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
B	A LICENSED FIRE ALARM PLANNING SUPERINTENDENT CERTIFIED TO A MINIMUM LEVEL 3, IN THE SUBFIELD OF FIRE ALARM SYSTEMS THROUGH THE NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET), SHALL PROVIDE PLANS AND CALCULATIONS FOR A MANUAL AND AUTOMATIC FIRE DETECTION AND ALARM SYSTEM TO COMPLY WITH THE BUILDING SPACE LAYOUT, BUILDING OCCUPANCY, CURRENT NFPA 72, LOCAL AND STATE CODE REQUIREMENTS, AND THE FIRE ALARM AND DETECTION SYSTEM SPECIFICATIONS.

TECHNOLOGY PLAN GENERAL NOTES

A	COORDINATE ALL FINAL MOUNTING HEIGHTS, FOR WALL MOUNTED DEVICES, PRIOR TO ROUGH-IN. COORDINATE WITH ARCHITECT, OWNER AND ENGINEER.
B	COORDINATE ALL CEILING DEVICE LOCATIONS WITH ARCHITECTURAL DRAWINGS AND INTERIOR DESIGN CONSULTANT(IF APPLICABLE) PRIOR TO ROUGH-IN.
C	REFERENCE TECHNOLOGY SITE PLAN, COMPOSITE PLANS, NOTES & LEGENDS AND DETAILS FOR ADDITIONAL INFORMATION AND DEVICE/OUTLET LOCATIONS.
D	CONTRACTOR TO COORDINATE INTERCOM SPEAKER MOUNTING TYPES WITH ARCHITECTURAL CEILING PLANS PRIOR TO FINAL SPEAKER SELECTION. COORDINATE WITH ENGINEER ON ANY DISCREPANCIES.
E	CONTRACTOR TO COORDINATE ALL DROP LOCATIONS WITH FURNITURE. COORDINATE WITH ARCHITECT AND OWNER FOR MORE INFORMATION.
F	ALL EXISTING LOCKDOWN BUTTONS WITH HOME RUNS TO THE SYSTEM HEAD END SHALL HAVE EXISTING WIRING DEMOLISHED AND REPLACED BY CONTRACTOR.



N

1 **TECHNOLOGY FLOOR PLAN - LEVEL 1 - AREA 'G'**
Scale: 1/8" = 1'-0"

PLAN NORTH

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1330 POST OAK BOULEVARD, SUITE 2250
HOUSTON, TX 77056
tel 281.286.6605, fax 713.977.4620

BRADLEY KALMANS
80219
CENSED
01-30-2025

PROJECT #:	202318
DATE:	2025-01-13
DRAWN:	NY
CHECKED:	DS

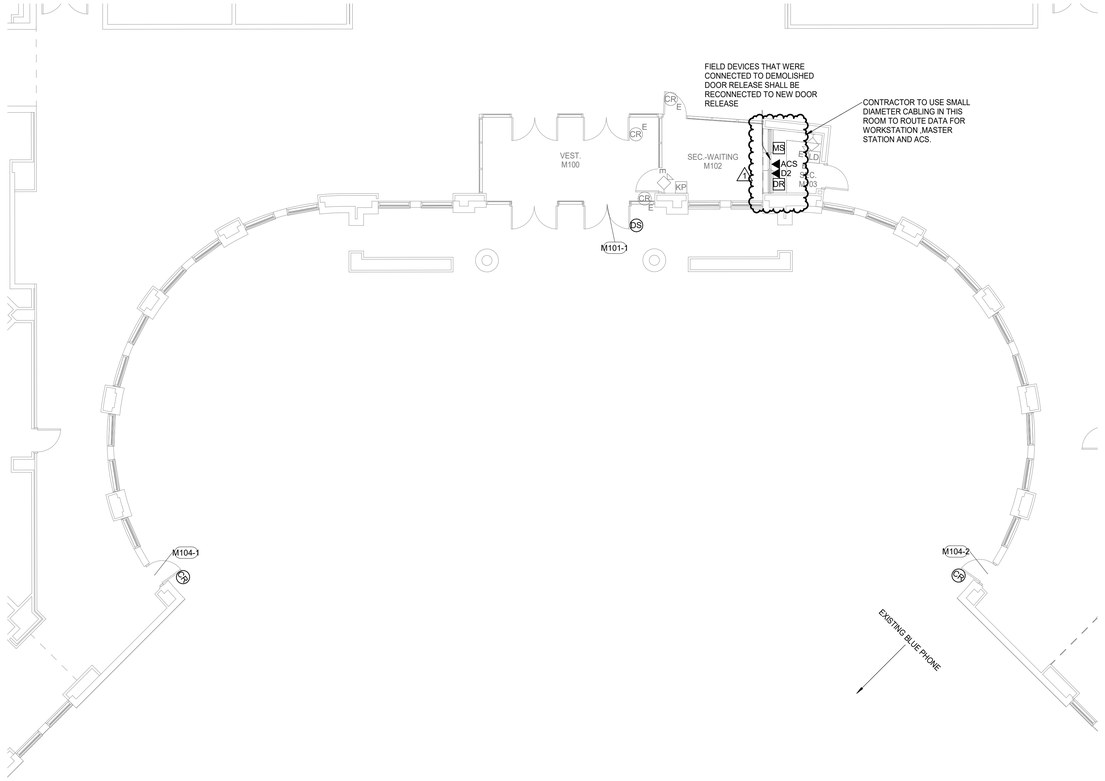
DATE	ISSUE	△
2025-01-13	PERMIT AND PROPOSAL	
2025-01-28	ADDENDUM #4	1
2025-01-30	ADDENDUM #5	2

T2.07

TECHNOLOGY 1ST FLOOR PLAN - AREA 'G'

TECHNOLOGY PLAN GENERAL NOTES

A	COORDINATE ALL FINAL MOUNTING HEIGHTS, FOR WALL MOUNTED DEVICES, PRIOR TO ROUGH-IN. COORDINATE WITH ARCHITECT, OWNER AND ENGINEER.
B	COORDINATE ALL CEILING DEVICE LOCATIONS WITH ARCHITECTURAL DRAWINGS AND INTERIOR DESIGN CONSULTANT(IF APPLICABLE) PRIOR TO ROUGH-IN.
C	REFERENCE TECHNOLOGY SITE PLAN, COMPOSITE PLANS, NOTES & LEGENDS AND DETAILS FOR ADDITIONAL INFORMATION AND DEVICE/OUTLET LOCATIONS.
D	CONTRACTOR TO COORDINATE INTERCOM SPEAKER MOUNTING TYPES WITH ARCHITECTURAL CEILING PLANS PRIOR TO FINAL SPEAKER SELECTION. COORDINATE WITH ENGINEER ON ANY DISCREPANCIES.
E	CONTRACTOR TO COORDINATE ALL DROP LOCATIONS WITH FURNITURE. COORDINATE WITH ARCHITECT AND OWNER FOR MORE INFORMATION.
F	ALL EXISTING LOCKDOWN BUTTONS WITH HOME RUNS TO THE SYSTEM HEAD END SHALL HAVE EXISTING WIRING DEMOLISHED AND REPLACED BY CONTRACTOR.



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1 **TECHNOLOGY FLOOR PLAN - LEVEL 1 - AREA 'M'**
Scale: 1/8" = 1'-0"

PLAN NORTH

Salas O'Brien
salasobrien.com 281-664-1900
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064

Registration: F-6111
Project No: 2023-05945-00

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Tel: 281.578.9595

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ACOUSTICAL & A/V
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2024 CYPRESS FALLS HIGH SCHOOL RENOVATION

CYPRESS-FAIRBANKS ISD
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2025-01-30	ADDENDUM #5	1

T2.12

TECHNOLOGY 1ST FLOOR PLAN - AREA 'M'

FIRE ALARM

A	FIRE ALARM SYSTEM IS A PERFORMANCE BASED PER SPECIFICATIONS 28 46 02. CONTRACTOR TO REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
B	A LICENSED FIRE ALARM PLANNING SUPERINTENDENT CERTIFIED TO A MINIMUM LEVEL 3, IN THE SUBFIELD OF FIRE ALARM SYSTEMS THROUGH THE NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET), SHALL PROVIDE PLANS AND CALCULATIONS FOR A MANUAL AND AUTOMATIC FIRE DETECTION AND ALARM SYSTEM TO COMPLY WITH THE BUILDING SPACE LAYOUT, BUILDING OCCUPANCY, CURRENT NFPA 72, LOCAL AND STATE CODE REQUIREMENTS, AND THE FIRE ALARM AND DETECTION SYSTEM SPECIFICATIONS.

TECHNOLOGY PLAN GENERAL NOTES

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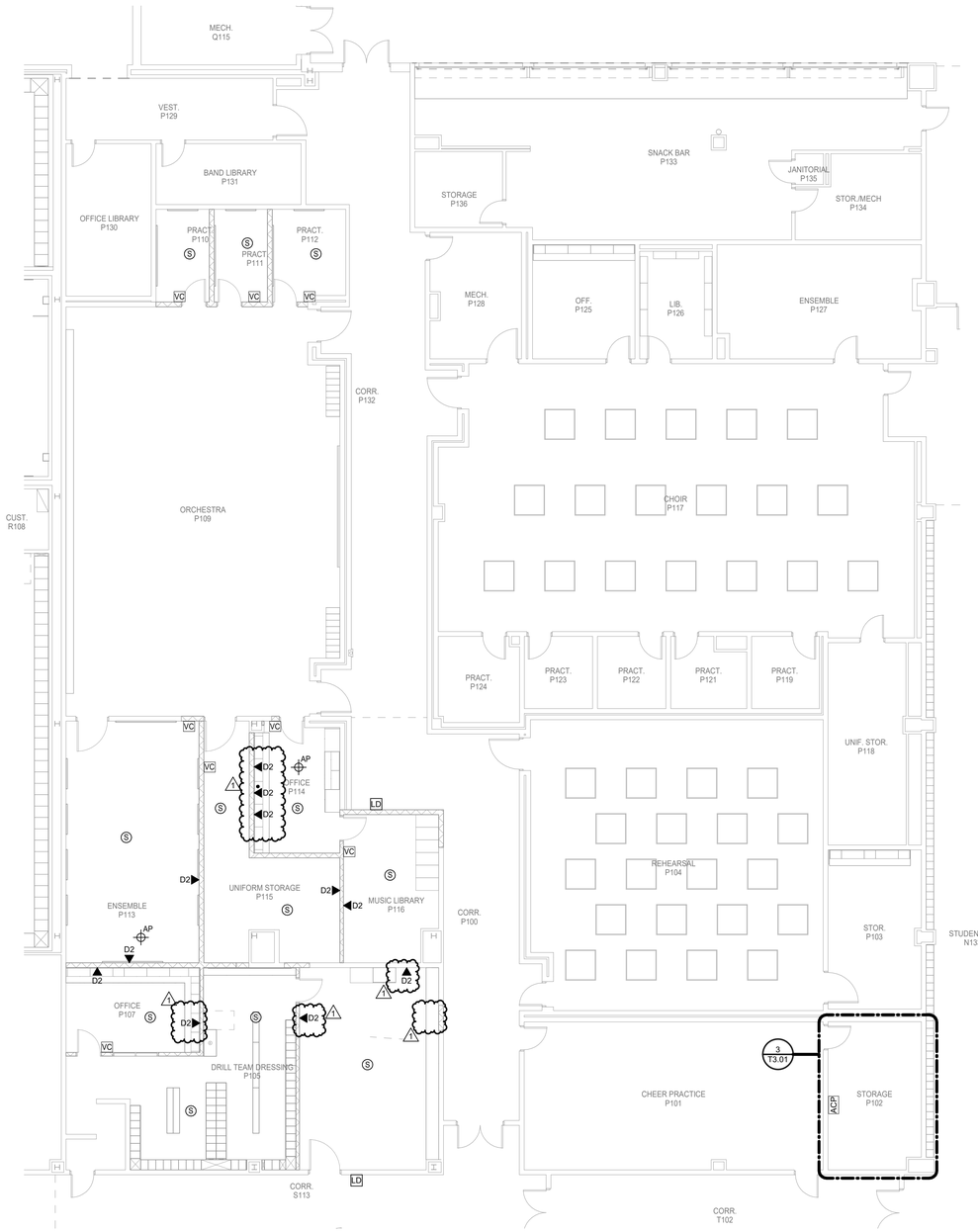

N

1 **TECHNOLOGY FLOOR PLAN - LEVEL 1 - AREA 'P'**
Scale: 1/8" = 1'-0"

PLAN NORTH

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Registration: F-6111
Project No: 2023-05945-00

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2025-01-30	ADDENDUM #5	1

T2.14

TECHNOLOGY 1ST FLOOR PLAN - AREA 'P'