Project Owner:	Hudsonville Public Schools
Project Name:	New 5th/6th Grade Building & Forest Grove Technology Systems
Issue Date:	January 17, 2023

ADDENDUM NO. 1

*This Addendum No. 1 of the **Technology Request for Bid** for the above referenced project hereby amends, supplements and/or augments all prior issued document(s) as described herein, and becomes an inseparable part of the Contract Documents, superseding all previous, contrary and/or conflicting information.*

AD1 - 1 Appendix A: Clock Count Spreadsheet is hereby added and attached hereto.

AD1 - 2 Appendix B: Public Address Count Spreadsheet is hereby added and attached hereto.

AD1 - 3 Appendix C: Multimedia Count Spreadsheet is hereby added and attached hereto.

AD1 – 4 Appendix D: AV Collaboration Spaces Count Spreadsheet is hereby added and attached hereto.

AD1 - 5 Appendix E: Video Monitoring Count Spreadsheet is hereby added and attached hereto.

AD1 – 6 Appendix F: Typical Standard Classroom Connection Line Diagram Drawing is hereby added and attached hereto.

AD1 – 7 Section 00 01 15 Drawings is hereby revised and attached hereto.

END OF ADDENDUM NO. 1

Hudsonville Public Schools

New 5th-6th Grade Building and Forest Grove Technology Systems

APPENDIX A - Clock Count Spreadsheet

5-6 Building

Drawing Number E2.1A			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**
Gymnasium	0	0	2
Girls Locker Room	1	0	0
Boys Locker Room	1	0	0
ELA Hallway A102	0	2	0
Corridor A124	0	1	0
Loading A119	1	0	0
Cent Maintenance	1	0	0
Corridor A123	0	1	0
Bathroom Entry A136	1	0	0
Total	**5**	**4**	**2**

Drawing Number E2.1B			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**
Art B110	1	0	0
Art B107	1	0	0
Steam-Maker Space	1	0	0
ELA Hallway B102	1	0	0
ELA Hallway B103	1	0	0
Cafeteria B101	1	0	0
Total	**6**	**0**	**0**

Drawing Number E2.1C			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**
ELA Hallway C108	0	1	0
Book Vault	1	0	0

Special Ed-Resource C103	1	0	0
Classroom C122	1	0	0
Classroom C120	1	0	0
Outside Rm C120	0	1	0
Staff Lounge C117	1	0	0
Extended Learning Area C123	1	0	0
Outside Staff Lounge C117	0	1	0
Classroom C116	1	0	0
Classroom C114	1	0	0
Outside Stair CS01	0	1	0
Total	8	4	0

Drawing Number E2.1D			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**
Classroom D128	1	0	0
Classroom D126	1	0	0
Outside Rm D126	0	1	0
Classroom D125	1	0	0
Classroom D123	1	0	0
Extended Learning Area D109	1	0	0
Extended Learning Area D114	1	0	0
Classroom D120	1	0	0
Classroom D116	1	0	0
Classroom D105	1	0	0
Classroom D103	1	0	0
Outside Rm D103	0	1	0
Classroom D101	1	0	0
Total	**11**	**2**	**0**

Drawing Number E2.2A			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**

Choir-Music A203	1	0	0
Total	**1**	**0**	**0**

Drawing Number E2.2B			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**
Practice B230	1	0	0
ELA Hallway B223	0	1	0
Practice B226	1	0	0
Band-Orchestra B225	1	0	0
Outside Rm B213	1	0	0
Principal B210	1	0	0
Work-Copy-Mail Rm	1	0	0
Conf B205	1	0	0
Principal B204	1	0	0
Conf B216	1	0	0
Reception B203	2	0	0
ELA Hallway B202	0	1	0
ELA Hallway B222	0	1	0
Total	**11**	**3**	**0**

Drawing Number E2.2C			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**
ELA Hallway C201	0	1	0
Special Ed-Resource C201	1	0	0
ASD Classroom C204	1	0	0
CI Classroom C205	1	0	0
Outside RM C205	0	1	0
Classroom C225	1	0	0
Classroom C223	1	0	0
Extended Learning Area C226	1	0	0
Classroom C219	1	0	0

Classroom C217	1	0	0
ELA Hallway C216	0	1	0
Total	**8**	**3**	**0**

Drawing Number E2.2D			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**
Classroom D223	1	0	0
Classroom D221	1	0	0
ELA Hallway D224	0	1	0
Classroom D220	1	0	0
ELA Hallway D217	0	1	0
Classroom D218	1	0	0
Earth Sciences D216	1	0	0
Earth Sciences D213	1	0	0
Extended Learning Area D212	1	0	0
Earth Sciences D205	1	0	0
Classroom D203	1	0	0
Classroom D201	1	0	0
Outisde Rm D201	0	1	0
Breakout D208	1	0	0
Total	**11**	**3**	**0**

Drawing Number E2.80			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**
Servery A128	1	0	0
Total	**1**	**0**	**0**

Grand Total 5-6 Building	**62**	**19**	**2**

Forest Grove Elementary School
Clock Counts

Drawing Number E2.1A			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**
Kindergarten A103	1	0	0
Conference A104	1	0	0
Kindergarten A108	1	0	0
Classroom A107	1	0	0
Classroom A110	1	0	0
Principal A115	1	0	0
Corridor A114	0	1	0
Main Office A119	1	0	0
Speech A122	1	0	0
Music A124	1	0	0
Corridor B104	0	1	0
Total	**9**	**2**	**0**

Drawing Number E2.1B			
Location	**Clock Type C1**	**Clock Type C2**	**Clock Type C3**
Multipurpose B105	0	0	1
Art Classroom B107	1	0	0
Classroom B108	1	0	0
Media Center B110	1	0	0
Classroom B111	1	0	0
Lounge B126	1	0	0
Corridor B109	0	1	0
Outisde Hall B124	0	1	0
Corridor B119	0	1	0
Classroom B115	1	0	0
Conference B112	1	0	0
Total	**7**	**3**	**1**

Drawing Number E2.1C

Location	Clock Type C1	Clock Type C2	Clock Type C3
Classroom C101	1	0	0
Classroom C102	1	0	0
Classroom C103	1	0	0
Classroom C105	1	0	0
Corridor C104	0	1	0
Classroom C106	1	0	0
Classroom C107	1	0	0
Classroom C108	1	0	0
Classroom C109	1	0	0
Corridor C110	0	1	0
Gymnasium C116	0	0	1
Total	**8**	**2**	**1**
Grand Total Forest Grove Elementary	**24**	**7**	**2**
Grand Total 5-6 & Forest Grove	**86**	**26**	**4**

Hudsonville Public Schools

New 5th-6th Grade Building and Forest Grove Technology Systems

APPENDIX B - Public Address Count Spreadsheet

5-6 Building

Drawing Number E2.1A			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
NW Gymnasium Exterior A103	0	0	1
SW Gymnasium Exterior A103	0	0	1
S Gymnasium Exterior A103	0	0	1
NE Gymnasium Interior A103	0	1	0
NE Gymnasium Interior A103	0	1	0
Girls Restroom A134	0	1	0
Boys Restroom A134	0	1	0
Outside Boys Restroom A134	0	1	0
Total	**0**	**5**	**3**

Drawing Number E2.1B			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
ELA Hallway B102	0	1	0
ELA Hallway B103	0	1	0
Mechanical-Elec B104	0	1	0
Total	**0**	**3**	**0**

Drawing Number E2.1C			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
Mechanical-Elec C101	0	1	0
Boys Restroom C111	1	0	0
Girls Restroom C113	1	0	0
In House C106	0	1	0
Sensory C105	0	1	0
Breakout C118	0	1	0

N Boys Restroom C111 Exterior	0	0	1
N Classroom C114 Exterior	0	1	0
Staff Lounge C117	1	0	0
Total	3	5	1

Drawing Number E2.1D			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
Breakout D110	0	1	0
Breakout D112	1	0	0
Toilet D113	1	0	0
Breakout D119	1	0	0
Breakout D115	1	0	0
SW Classroom D120 Exterior	0	0	1
SW Classroom D116 Exterior	0	0	1
NW Classroom D105 Exterior	0	0	1
NW Classroom D103 Exterior	0	0	1
Total	**4**	**1**	**4**

Drawing Number E2.2A			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
Mechanical Mezzanine A201	0	1	0
Total	**0**	**1**	**0**

Drawing Number E2.2B			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
ELA Hallway B223	0	1	0
Total	**0**	**1**	**0**

Drawing Number E2.2C			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
Sensory C203	0	1	0

Boys Restroom C213	1	0	0
Girls Restroom C215	1	0	0
In House C209	1	0	0
Staff Lounge C220	0	1	0
Breakout C221	0	1	0
Total	**3**	**3**	**0**

Drawing Number E2.2D			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
Breakout D210	1	0	0
Toilet D211	1	0	0
Breakout D208	0	1	0
Total	**2**	**1**	**0**

Drawing Number E2.80			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
Girls Restroom A134	1	0	0
Boys Restroom A135	1	0	0
Servery Hallway	1	0	0
Total	**3**	**0**	**0**

Grand Total 5-6 Building	**15**	**20**	**8**

Forest Grove Elementary School

Speaker Counts

Drawing Number E2.1A			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
Corridor A105	1	0	0
Corridor A109	2	0	0
Restroom A112	1	0	0
Restroom A111	1	0	0

Corridor A121	1	0	0
Outisde Music A124 Interior	1	0	0
S Kindergarten A103 Exterior	0	0	1
E Kindergarten A103 Exterior	0	0	1
W Classroom A110 Exterior	0	0	1
E Main Office A119 Exterior	0	0	1
Total	**7**	**0**	**4**

Drawing Number E2.1B			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
Kitchen B103	1	0	0
Outside Multipurpose B105	1	0	0
E Multipurpose B105 Exterior	0	0	1
Boys Restroom B118	1	0	0
Girls Restroom B117	1	0	0
Hall B124	1	0	0
N Art Classroom B107 Exterior	0	0	1
Total	**5**	**0**	**2**

Drawing Number E2.1C			
Location	**Speaker Type S1**	**Speaker Type S5**	**Speaker Type S6**
Corridor C104	2	0	0
PE Office C113	1	0	0
N Classroom B103 Exterior	0	0	1
S Classroom B105 Exterior	0	0	1
N Gymnasium C116 Exterior	0	0	1
NW Gymnasium C116 Exterior	0	0	1
SW Gymnasium C116 Exterior	0	0	1
S Gymnasium C116 Exterior	0	0	1
Total	**3**	**0**	**6**

Grand Total Forest Grove Elementary	**15**	**0**	**12**
Grand Total 5-6 & Forest Grove	**30**	**20**	**20**

Hudsonville Public Schools

New 5th-6th Grade Building and Forest Grove Technology Systems

APPENDIX C - Multimedia Count Spreadsheet

5-6 Building

Drawing Number E2.1A					
Location	**Projector**	**Projector Screen**	**Teacher Station**	**Speakers**	**Voicelift**
Total	**0**	**0**	**0**	**0**	**0**

Drawing Number E2.1B					
Location	**Projector**	**Projector Screen**	**Teacher Station**	**Speakers**	**Voicelift**
Art B110	1	1	1	4	1
Art B107	1	1	1	4	1
Stem-Maker Space B106	1	1	1	4	1
Total	**3**	**3**	**3**	**12**	**3**

Drawing Number E2.1C					
Location	**Projector**	**Projector Screen**	**Teacher Station**	**Speakers**	**Voicelift**
Special Ed-Resource C103	1	1	1	4	1
Classroom C122	1	1	1	4	1
Classroom C120	1	1	1	4	1
Extended Learning Area C123	1	1	1	4	1
Classroom C114	1	1	1	4	1
Classroom C116	1	1	1	4	1
Total	6	6	6	24	6

Drawing Number E2.1D					
Location	**Projector**	**Projector Screen**	**Teacher Station**	**Speakers**	**Voicelift**
Classroom D128	1	1	1	4	1
Classroom D126	1	1	1	4	1
Classroom D125	1	1	1	4	1
Classroom D123	1	1	1	4	1

Classroom D120	1	1	1	4	1
Classroom D116	1	1	1	4	1
Classroom D105	1	1	1	4	1
Classroom D103	1	1	1	4	1
Classroom D101	1	1	1	4	1
Total	**9**	**9**	**9**	**36**	**9**

Drawing Number E2.2A					
Location	**Projector**	**Projector Screen**	**Teacher Station**	**Speakers**	**Voicelift**
Choir-Music A203	1	1	1	4	1
Total	**1**	**1**	**1**	**4**	**1**

Drawing Number E2.2B					
Location	**Projector**	**Projector Screen**	**Teacher Station**	**Speakers**	**Voicelift**
Band-Orchestra B225	1	1	1	4	1
Total	**1**	**1**	**1**	**4**	**1**

Drawing Number E2.2C					
Location	**Projector**	**Projector Screen**	**Teacher Station**	**Speakers**	**Voicelift**
Special Ed-Resource C201	1	1	1	4	1
ASD Classroom C204	1	1	1	4	1
CI Classroom C205	1	1	1	4	1
Classroom C225	1	1	1	4	1
Classroom C223	1	1	1	4	1
Classroom C219	1	1	1	4	1
Classroom C217	1	1	1	4	1
Total	**7**	**7**	**7**	**28**	**7**

Drawing Number E2.2D					
Location	**Projector**	**Projector Screen**	**Teacher Station**	**Speakers**	**Voicelift**
Classroom D223	1	1	1	4	1

Classroom D221	1	1	1	4	1
Classroom D220	1	1	1	4	1
Classroom D218	1	1	1	4	1
Earth Sciences D216	1	1	1	4	1
Earth Sciences D213	1	1	1	4	1
Earth Sciences D205	1	1	1	4	1
Classroom D203	1	1	1	4	1
Classroom D201	1	1	1	4	1
Total	**9**	**9**	**9**	**36**	**9**

Drawing Number E2.80					
Location	**Projector**	**Projector Screen**	**Teacher Station**	**Speakers**	**Voicelift**
Total	**0**	**0**	**0**	**0**	**0**

Grand Total 5-6 Building	**36**	**36**	**36**	**144**	**36**

Hudsonville Public Schools

New 5th-6th Grade Building and Forest Grove Technology Systems

APPENDIX D - AV Collaboration Spaces Count Spreadsheet

5-6 Building

Drawing Number E2.1A			
Location	**Configuration A - 75"**	**Configuration A - 86"**	**Configuration B**
Total	**0**	**0**	**0**

Drawing Number E2.1B			
Location	**Configuration A - 75"**	**Configuration A - 86"**	**Configuration B**
Total	**0**	**0**	**0**

Drawing Number E2.1C			
Location	**Configuration A - 75"**	**Configuration A - 86"**	**Configuration B**
Breakout C118	1	0	0
Total	1	0	0

Drawing Number E2.1D			
Location	**Configuration A - 75"**	**Configuration A - 86"**	**Configuration B**
Extended Learning Area D109	0	0	1
Breakout D112	1	0	0
Breakout D110	0	1	0
Extended Learning Area D114	0	2	0
Breakout D119	1	0	0
Breakout D115	1	0	0
Total	**3**	**3**	**1**

Drawing Number E2.2A			
Location	**Configuration A - 75"**	**Configuration A - 86"**	**Configuration B**
Total	**0**	**0**	**0**

Drawing Number E2.2B			
Location	**Configuration A - 75"**	**Configuration A - 86"**	**Configuration B**
Conf B216	0	1	0
Conf B205	1	0	0
Total	**1**	**1**	**0**

Drawing Number E2.2C			
Location	**Configuration A - 75"**	**Configuration A - 86"**	**Configuration B**
Extended Learning Area C226	0	1	0
Breakout C221	1	0	0
Total	**1**	**1**	**0**

Drawing Number E2.2D			
Location	**Configuration A - 75"**	**Configuration A - 86"**	**Configuration B**
Breakout D210	1	0	0
Breakout D208	0	1	0
Extended Learning Area D212	0	2	0
Extended Learning Area D212	0	0	1
Total	**1**	**3**	**1**

Drawing Number E2.80			
Location	**Configuration A - 75"**	**Configuration A - 86"**	**Configuration B**
Total	**0**	**0**	**0**

Grand Total 5-6 Building	**7**	**8**	**2**

Hudsonville Public Schools

New 5th-6th Grade Building and Forest Grove Technology Systems

APPENDIX E - Video Monitoring Spreadsheet

5-6 Building

Drawing Number E2.1A							
Location	**P3265-LV SC1**	**P3267-LV SC2**	**P4705-PLVE SC3**	**P3807-PVE SC4**	**M3058-PLVE SC5**	**P3719-PLE SC6**	**Corner Mount S6**
NW Gymnasium A103 Exterior	0	0	0	0	0	1	1
W Gynasium A103 Interior	0	0	0	1	0	0	0
E Gymnasium A103 Interior	0	0	0	1	0	0	0
SW Gymnasium A103 Exterior	0	0	0	0	0	1	1
W ELA A102 Interior	1	0	0	0	0	0	0
ELA A102 Interior	0	0	0	0	1	0	0
E ELA A102 Interior	1	0	0	0	0	0	0
S Cafeteria B101 Interior	0	1	0	0	0	0	0
Corridor A124 Interior	0	0	1	0	0	0	0
Loading A119 Interior	1	0	0	0	0	0	0
Corridor A123 Interior	0	0	1	0	0	0	0
Stair AS01 Interior	1	0	0	0	0	0	0
N Generator Exterior	0	0	0	0	0	1	1
Total	**4**	**1**	**2**	**2**	**1**	**3**	**3**

Drawing Number E2.1B							
Location	**P3265-LV SC1**	**P3267-LV SC2**	**P4705-PLVE SC3**	**P3807-PVE SC4**	**M3058-PLVE SC5**	**P3719-PLE SC6**	**Corner Mount S6**
NW Cafeteria B101 Interior	0	1	0	0	0	0	0
Total	**0**	**1**	**0**	**0**	**0**	**0**	**0**

Drawing Number E2.1C							
Location	**P3265-LV SC1**	**P3267-LV SC2**	**P4705-PLVE SC3**	**P3807-PVE SC4**	**M3058-PLVE SC5**	**P3719-PLE SC6**	**Corner Mount S6**
ELA C108 Interior	0	0	0	0	1	0	0
Extended Learning Area C123 Interior	0	0	0	0	1	0	0
Classroom C116 Exterior	0	0	0	1	0	0	0
Total	**0**	**0**	**0**	**1**	**2**	**0**	**0**

Drawing Number E2.1D							
Location	**P3265-LV SC1**	**P3267-LV SC2**	**P4705-PLVE SC3**	**P3807-PVE SC4**	**M3058-PLVE SC5**	**P3719-PLE SC6**	**Corner Mount S6**
NW Classroom D105 Exterior	0	0	0	0	0	1	1
W Classroom D120 Exterior	0	0	0	1	0	0	0
E Classroom D128 Exterior	0	0	0	1	0	0	0
ELA D129 Interior	0	0	1	0	0	0	0
ELA D108 Interior	0	0	1	0	0	0	0
ELA D107 Interior	1	0	0	0	0	0	0
Extended Learning Area D114 Interior	0	0	0	0	1	0	0
ELA D122 Interior	0	1	0	0	0	0	0
Total	**1**	**1**	**2**	**2**	**1**	**1**	**1**

Drawing Number E2.2A							
Location	**P3265-LV SC1**	**P3267-LV SC2**	**P4705-PLVE SC3**	**P3807-PVE SC4**	**M3058-PLVE SC5**	**P3719-PLE SC6**	**Corner Mount S6**
Hallway Choir-Music A203 Interior	0	0	0	0	1	0	0
Total	**0**	**0**	**0**	**0**	**1**	**0**	**0**

Drawing Number E2.2B							
Location	**P3265-LV SC1**	**P3267-LV SC2**	**P4705-PLVE SC3**	**P3807-PVE SC4**	**M3058-PLVE SC5**	**P3719-PLE SC6**	**Corner Mount S6**
N ELA B222 Interior	1	0	0	0	0	0	0
ELA B202 Interior	0	0	1	0	0	0	0
Reception B203 Interior	1	0	0	0	0	0	0
Main Entrance Exterior	0	0	0	0	0	1	1
Principal B210 Exterior	0	0	0	0	0	1	1
Total	**2**	**0**	**1**	**0**	**0**	**2**	**2**

Drawing Number E2.2C							
Location	**P3265-LV SC1**	**P3267-LV SC2**	**P4705-PLVE SC3**	**P3807-PVE SC4**	**M3058-PLVE SC5**	**P3719-PLE SC6**	**Corner Mount S6**
ELA C210 Interior	0	0	0	0	1	0	0
Stair CS01 Interior	1	0	0	0	0	0	0
Hallway SL C220 Interior	0	0	1	0	0	0	0
Hallway TS C224 Interior	0	0	1	0	0	0	0
Total	**1**	**0**	**2**	**0**	**1**	**0**	**0**

Drawing Number E2.2D							
Location	**P3265-LV SC1**	**P3267-LV SC2**	**P4705-PLVE SC3**	**P3807-PVE SC4**	**M3058-PLVE SC5**	**P3719-PLE SC6**	**Corner Mount S6**
ELA D224 Interior	0	0	1	0	0	0	0
Stairs D220 Interior	1	0	0	0	0	0	0
ELA D217 Interior	0	0	1	0	0	0	0
S Extended Learning Area D212 Interior	1	0	0	0	0	0	0
N Extended Learning Area D212 Interior	1	0	0	0	0	0	0
SW Classroom 218 Exterior	0	0	0	0	0	1	1
Total	**3**	**0**	**2**	**0**	**0**	**1**	**1**

Drawing Number E2.80							
Location	**P3265-LV SC1**	**P3267-LV SC2**	**P4705-PLVE SC3**	**P3807-PVE SC4**	**M3058-PLVE SC5**	**P3719-PLE SC6**	**Corner Mount S6**
Servery A128 Interior	0	0	0	0	1	0	0
Total	**0**	**0**	**0**	**0**	**1**	**0**	**0**

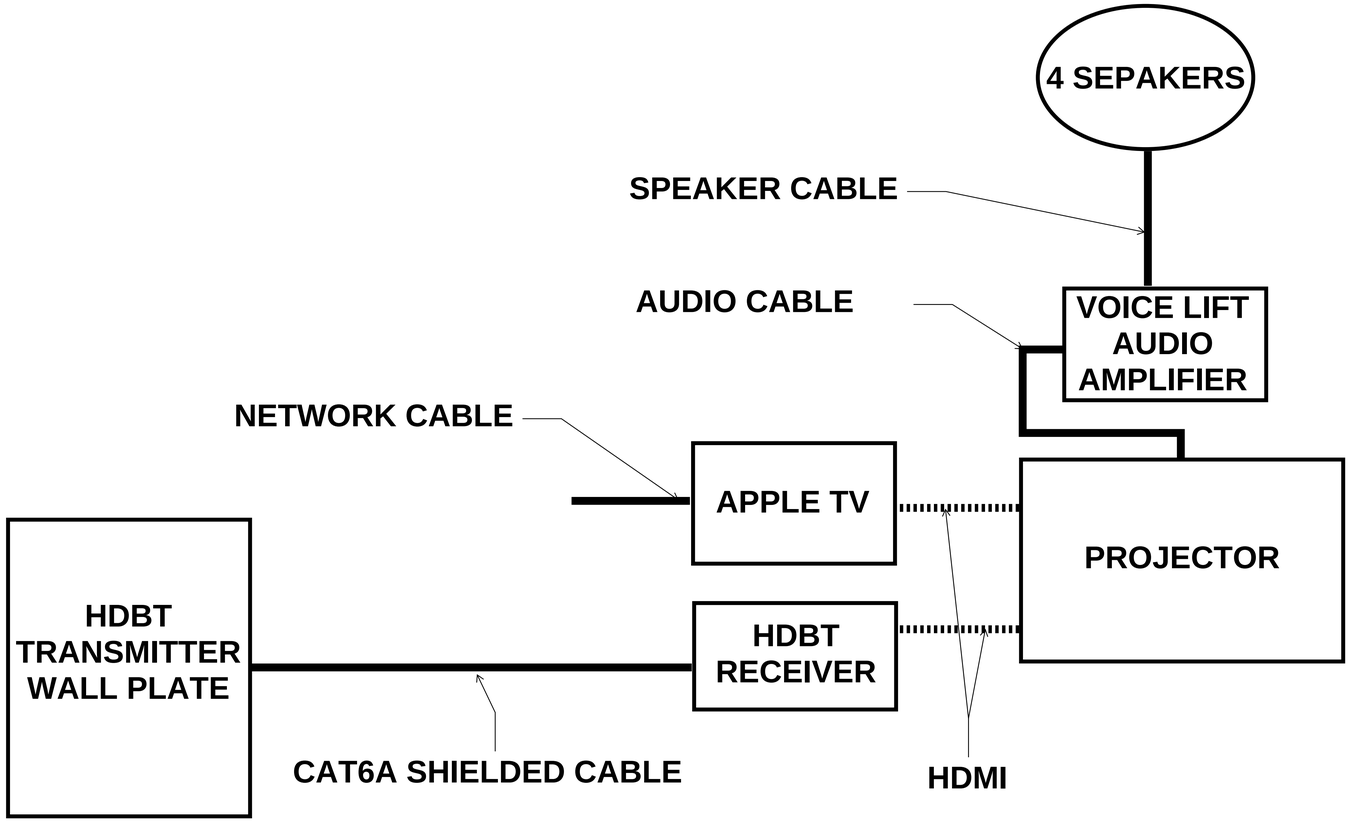
Grand Total 5-6 Building	**11**	**3**	**9**	**5**	**7**	**7**	**7**

Forest Grove Elementary School
Video Monitoring

Drawing Number E2.1C							
Location	**P3265-LV SC1**	**P3267-LV SC2**	**P4705-PLVE SC3**	**P3807-PVE SC4**	**M3058-PLVE SC5**	**P3719-PLE SC6**	**Corner Mount S6**
SW Gymnasium C116 Exterior	0	0	0	1	0	1	1
Total	**0**	**0**	**0**	**1**	**0**	**1**	**1**

Grand Total Forest Grove Elementary	**0**	**0**	**0**	**1**	**0**	**1**	**1**

Grand Total 5-6 & Forest Grove	**11**	**3**	**9**	**6**	**7**	**8**	**8**



TYP 1 - Standard Classroom Connection Line Diagram

NORTH OVERALL FLOOR PLAN

NORTH KEYPLAN

communications BY DESIGN
Successful Students
Innovative Classrooms
Thriving Schools

NEW 5th/6th Grand Building & Forest Grove Technology Systems

HUDSONVILLE PUBLIC SCHOOLS

CITY, STATE

Addendum 1	01-17-2023

DRAWN	CM
REVIEWED	CM
PROJECT NO.	

APPENDIX F
Typical Standard Classroom Connection Line Diagram

T0.01

ELECTRICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	INTLK	INTERLOCK
BKR	BREAKER	JCT	JUNCTION
BOB	BOTTOM OF BOX	JB	JUNCTION BOX
BOS	BOTTOM OF STRUCTURE	KW	KILOWATT
BP	BREAKER PANEL	KWH	KILOWATT HOUR
BLDG	BUILDING	KO	KNOCK OUT
CAP	CAPACITY	LBL	LABEL
CLG	CEILING	LT	LIGHT
CKT	CIRCUIT	LC	LIGHT CONTROL
CB	CIRCUIT BREAKER	LCM	LIGHTING CONTROL MODULE
C	CONDUIT	LCN	LIGHTING CONTROL NARRATIVE
COMM	COMMUNICATIONS	LTG	LIGHTING
CONN	CONNECTION	MAX	MAXIMUM
CONST	CONSTRUCTION	MCC	MOTOR CONTROL CENTER
CONTR	CONTRACT (OR)	MIN	MINIMUM
CLL	CONTRACT LIMIT LINE	MRS	MOTORIZED ROLLER SHADE
CT	CURRENT TRANSFORMER	NEC	NATIONAL ELECTRIC CODE
E.C.	ELECTRICAL CONTRACTOR	NEG	NEGATIVE (-)
EHD	ELECTRIC HAND DRYER	NC	NORMALLY CLOSED
ELEC	ELECTRIC (AL)	NO	NORMALLY OPEN
EWC	ELECTRIC WATER COOLER	N/A	NOT APPLICABLE
EM	EMERGENCY	NIC	NOT IN CONTRACT
ENT	ENTRANCE	NL	NIGHT LIGHT
EQ	EQUAL	PC	PHOTO CELL
EQUIP	EQUIPMENT	POS	POSITIVE (+)
EST	ESTIMATE	PWR	POWER
EF	EXHAUST FAN	P & L	POWER & LIGHTING
ETR	EXISTING TO REMAIN	S	SURFACE
EX	EXISTING	S.B.O.	SUPPLIED BY OTHERS
F	FLUSH	SP	SINGLE POLE
FA	FIRE ALARM	SPD	SURGE PROTECTION DEVICE
FSE	FOOD SERVICE EQUIPMENT	SPKR	SPEAKER
FP	FIRE PROOF / FIRE PROTECTION	SPEC	SPECIFICATION
FLR	FLOOR	SUB	SUBSTITUTE
FLUOR	FLUORESCENT	SWBD	SWITCHBOARD
GEN	GENERATOR	TEL	TELEPHONE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	T'STAT	THERMOSTAT
GRD	GROUND	XFMR	TRANSFORMER
HORIZ	HORIZONTAL	UG	UNDERGROUND
HTR	HEATER	UL	UNDERWRITERS LABORATORIES
HTG	HEATING	UH	UNIT HEATER
HV	HEATING / VENTILATING	UNO	UNLESS NOTED OTHERWISE
HVAC	HEATING, VENTILATING, AIR CONDITIONING	VERT	VERTICAL
HOA	HAND - OFF - AUTOMATIC	W/	WITH
HP	HEAT PUMP	W/O	WITHOUT
		WL	WET LOCATION
		WP	WEATHER PROOF

MAXIMUM CONDUCTOR LENGTHS FOR TYPICAL BRANCH CIRCUITS

FEET ONE-WAY BASED ON SINGLE PHASE, 20A CIRCUIT, 75% LOAD, 100% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE #12 AWG	#10 AWG	#8 AWG	#6 AWG	#4 AWG
120	60	100	150	245	385
208	100	170	265	425	670
277	135	230	355	565	890
480	240	400	615	980	

FEET ONE-WAY BASED ON SINGLE PHASE, 30A CIRCUIT, 75% LOAD, 100% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE #10 AWG	#8 AWG	#6 AWG	#4 AWG
120	60	100	150	245
208	100	170	265	425
277	135	230	355	565
480	240	400	615	980

FEET ONE-WAY BASED ON THREE PHASE, 20A CIRCUIT, 75% LOAD, 100% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE #12 AWG	#10 AWG	#8 AWG	#6 AWG	#4 AWG
208	120	200	305	490	775
480	275	460	710	1,130	

FEET ONE-WAY BASED ON THREE PHASE, 30A CIRCUIT, 75% LOAD, 100% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE #10 AWG	#8 AWG	#6 AWG	#4 AWG
208	120	200	305	490
480	275	460	710	1,130

Section 27 53 13 - Clock System

ADDENDUM 1: UPDATED DRAWINGS: JANUARY 17, 2023

COMMUNICATIONS SYMBOL LEGEND

- COMMUNICATIONS OUTLET ROUGH-IN
- 1D COMMUNICATIONS OUTLET, ONE DATA ACTIVATION.
- COMMUNICATIONS OUTLET, CEILING-MOUNTED
- COMMUNICATIONS OUTLET, FLOOR-MOUNTED
- CEILING-MOUNTED VIDEO PROJECTOR
- COMMUNICATIONS EQUIPMENT RACK, FLOOR-MOUNTED
- COMMUNICATIONS EQUIPMENT RACK, WALL-MOUNTED
- CONDUIT SLEEVE FOR COMMUNICATIONS CABLING, 2" TYP. UNLESS NOTED OTHERWISE
- S1 LOUDSPEAKER, CEILING-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- S1 LOUDSPEAKER, WALL-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- CS INTERCOM SYSTEM CALL STATION BUTTON
- VC VOLUME CONTROL FOR AUDIO SYSTEM, PAGING, OR INTERCOM LOUDSPEAKERS
- C1 SECONDARY CLOCK, CEILING-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- C1 SECONDARY CLOCK, WALL-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

ELECTRONIC SAFETY / SECURITY SYMBOL LEGEND

- DC DOOR CONTACT
- EL ELECTRONIC LATCH
- ES ELECTRONIC STRIKE
- PL POE LOCK
- SC WALL-MOUNTED SURVEILLANCE CAMERA COMMUNICATIONS ROUGH-IN
- SC CEILING-MOUNTED SURVEILLANCE CAMERA COMMUNICATIONS ROUGH IN
- CR CARD READER
- XXXXX ACCESS CONTROL DOOR TAG. REFER TO HARDWARE SCHEDULE(S) IN SPECIFICATION 08 71 00 AND/OR 28 13 00 FOR DETAILS.
- ACS ACCESS CONTROL SYSTEM EQUIPMENT

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

POWER SYMBOL LEGEND

- THREE PHASE MOTOR CONNECTION, 5 HORSE POWER
- SINGLE PHASE MOTOR CONNECTION, 1/2 HORSE POWER
- SAFETY SWITCH DISCONNECTING MEANS, NOT FUSIBLE
- SAFETY SWITCH DISCONNECTING MEANS, FUSIBLE
- COMBINATION MOTOR STARTER AND FUSIBLE DISCONNECTING MEANS
- VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECTING MEANS
- MOTOR STARTER
- $F BOX-COVER FUSIBLE DISCONNECT SWITCH
- $M MANUAL MOTOR CONTROLLER
- $ POWER SWITCH, REFER TO LIGHTING SYMBOL LEGEND FOR SIMILAR SWITCH TYPES
- DIRECT ELECTRICAL CONNECTION
- SINGLE RECEPTACLE
- SINGLE RECEPTACLE, FLOOR-MOUNTED
- DUPLEX RECEPTACLE
- WL WHERE "WL" IS NOTED PROVIDE WHILE-IN-USE WET LOCATION COVER AND WEATHER RESISTANT GFCI RECEPTACLE.
- S SURFACE-MOUNTED RECEPTACLE
- E "E" TAG ON DEVICE INDICATES REPLACEMENT OF DEVICE USING EXISTING ROUGH-IN
- DUPLEX RECEPTACLE, CEILING-MOUNTED
- DUPLEX RECEPTACLE, FLOOR-MOUNTED
- DUPLEX STANDBY POWER RECEPTACLE
- DUPLEX SPLIT WIRED RECEPTACLE
- GFCI DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
- QUADRUPLEX RECEPTACLE
- QUADRUPLEX RECEPTACLE, CEILING-MOUNTED
- QUADRUPLEX RECEPTACLE, FLOOR-MOUNTED
- MULTI-PHASE RECEPTACLE, SEE PLAN FOR TYPE
- MULTI-PHASE RECEPTACLE, FLOOR-MOUNTED
- VERT. HORIZ. SURFACE RACEWAY SYSTEM
- ATS AUTOMATIC TRANSFER SWITCH
- SWITCHBOARD
- PANELBOARD
- T TRANSFORMER
- MOTOR CONTROL CENTER
- E EMERGENCY STOP STATION, REFER TO DETAIL FOR REQUIREMENTS.
- D AUTOMATIC DOOR OPERATOR PUSH BUTTON
- ON/OFF PUSH BUTTON
- THREE-FUNCTION PUSH BUTTON
- FB1 FLOORBOX, TYPE 1
- J JUNCTION BOX
- M METER
- T THERMOSTAT ROUGH-IN
- R RELAY
- C ENCLOSED CONTROL CONTACTOR

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

LIGHTING SYMBOL LEGEND

- $ SINGLE POLE LIGHT SWITCH
- $2 DOUBLE POLE LIGHT SWITCH
- $3 THREE-WAY LIGHT SWITCH
- $4 FOUR-WAY LIGHT SWITCH
- $OS SINGLE POLE LIGHT SWITCH WITH INTEGRAL OCCUPANCY SENSOR
- $OSD OCCUPANCY SENSOR DIMMER
- $D WALL-BOX DIMMER SWITCH
- $D3 THREE-WAY DIMMER SWITCH
- $T ELECTRONIC INTERVAL TIMER SWITCH
- $P LIGHT SWITCH WITH PILOT LIGHT
- $C LIGHTING CONTROL SWITCH, REFER TO LIGHTING CONTROL SWITCH SCHEDULE AND SPECIFICATIONS FOR DETAILS.
- $DT DOUBLE THROW (MAINTAINED) LIGHT SWITCH
- $K KEY-OPERATED LIGHT SWITCH - (SUFFIX DESIGNATION | BLANK: SINGLE POLE, 2: DOUBLE POLE, 3: THREE-WAY, 4: FOUR-WAY)
- $L LOCKING SWITCH - (SUFFIX DESIGNATION | BLANK: SINGLE POLE, 2: DOUBLE POLE, 3: THREE-WAY, 4: FOUR-WAY)
- TP TOUCHSCREEN PANEL
- LPA-X CIRCUIT NUMBER FOR LIGHT FIXTURES WITHIN INDICATED SPACE
- A WALL-MOUNTED LIGHTING FIXTURE, TYPE 'A'
- A RECESSED LIGHTING FIXTURE, TYPE 'A'
- A SURFACE-MOUNTED LIGHTING FIXTURE, TYPE 'A'
- TRACK LIGHTING
- SINGLE FACE EXIT SIGN, TYPE "X1" IN SCHEDULE UNLESS OTHERWISE NOTED. SHADING INDICATES FACE ORIENTATION
- DOUBLE FACE EXIT SIGN, TYPE "X2" IN SCHEDULE UNLESS OTHERWISE NOTED. SHADING INDICATES FACE ORIENTATION
- WALL-MOUNTED EXIT SIGN
- EMERGENCY LIGHT FIXTURE DESIGNATION
- EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
- R LIGHTING CONTROL RELAY
- C LIGHTING CONTROL ENCLOSED CONTACTOR
- TS TIME SWITCH
- LCM LIGHTING CONTROL MODULE
- INV-1 EMERGENCY LIGHTING INVERTER, TYPE 1
- WALL-MOUNTED OCCUPANCY SENSOR
- CEILING-MOUNTED OCCUPANCY SENSOR
- PC WALL-MOUNTED PHOTOCELL FOR ON/OFF CONTROL
- PC CEILING-MOUNTED PHOTOCELL FOR ON/OFF CONTROL
- PS WALL-MOUNTED PHOTOSENSOR FOR DAYLIGHT HARVESTING DIMMING CONTROL
- PS CEILING-MOUNTED PHOTOSENSOR FOR DAYLIGHT HARVESTING DIMMING CONTROL
- POLE-MOUNTED SITE/AREA FIXTURE
- SELF-CONTAINED EMERGENCY LIGHTING UNIT

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

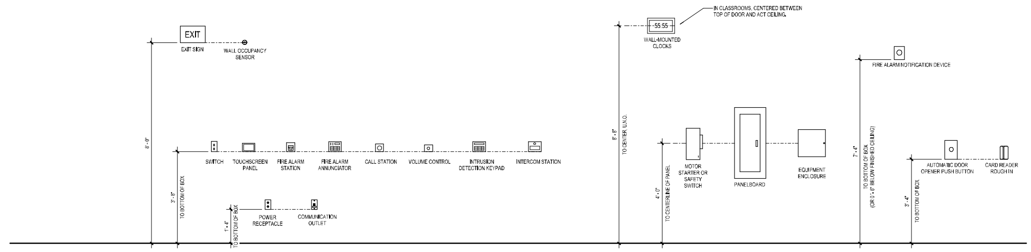
FIRE ALARM SYMBOL LEGEND

- F MANUAL PULL STATION
- A AUDIBLE NOTIFICATION APPLIANCE, WALL-MOUNTED
- V VISUAL NOTIFICATION APPLIANCE, WALL-MOUNTED
- AV AUDIBLE/VISUAL NOTIFICATION APPLIANCE, WALL-MOUNTED
- A AUDIBLE NOTIFICATION APPLIANCE, CEILING-MOUNTED
- AV AUDIBLE/VISUAL NOTIFICATION APPLIANCE, CEILING-MOUNTED
- V VISUAL NOTIFICATION APPLIANCE, CEILING-MOUNTED
- WG/PC WHERE "WG/PC" IS NOTED, PROVIDE LISTED WIRE GUARD OR PROTECTIVE POLYCARBONATE COVER FOR NOTIFICATION DEVICE.
- WL WHERE "WL" IS NOTED, PROVIDE LISTED WET-LOCATION NOTIFICATION DEVICE, SUITABLE FOR INDOOR OR OUTDOOR USE.
- S SMOKE DETECTOR
- H HEAT DETECTOR
- D DUCT SMOKE DETECTOR
- D SMOKE DAMPER OPERATOR MOTOR
- FS FIRE PROTECTION FLOW SWITCH
- TS FIRE PROTECTION TAMPER SWITCH
- M ELECTROMAGNETIC DOOR HOLD-OPEN DEVICE
- R ADDRESSABLE RELAY FOR FIRE ALARM CONTROL
- PS PRESSURE SWITCH
- C CARBON MONOXIDE DETECTOR
- NAC NOTIFICATION APPLIANCE CONTROL PANEL
- FAA FIRE ALARM REMOTE ANNUNCIATOR
- FACP FIRE ALARM CONTROL PANEL
- $RTS KEYED TEST SWITCH AND REMOTE INDICATOR FOR DUCT SMOKE DETECTOR
- B FIRE PROTECTION OR ALARM BELL

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE AS AMENDED AND ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION WHERE THE WORK IS PERFORMED.
2. ALL "LOW-VOLTAGE" CONTROLS, COMMUNICATIONS, AND SAFETY/SECURITY CABLING MAY BE INSTALLED WITHOUT CONDUIT, RACEWAY, OR CABLE TRAY ONLY WHERE CONCEALED ABOVE A SUSPENDED CEILING SYSTEM AND ACCESSIBLE FOR FUTURE MAINTENANCE. OTHERWISE, ALL CABLING (INCLUDING BUT NOT LIMITED TO CABLES ASSOCIATED WITH SYSTEMS SUCH AS ARCHITECTURAL EQUIPMENT, BUILDING ENERGY MANAGEMENT, TEMPERATURE CONTROLS, LIGHTING CONTROLS, COMMUNICATIONS NETWORKS, TELEPHONE, AUDIO-VIDEO, INTERCOM, PAGING, CLOCK, SURVEILLANCE, ACCESS CONTROL, FIRE ALARM, ETC.) SHALL BE INSTALLED IN AN APPROVED CONDUIT, RACEWAY SYSTEM, AND/OR CABLE TRAY UNLESS OTHERWISE NOTED. IN EXPOSED STRUCTURE CEILING AREAS, CONCEALED INSTALLATION OF CABLES IN RACEWAYS SHALL BE REQUIRED FOR AESTHETIC REASONS; REFER TO REFLECTED CEILING PLANS FOR LOCATION(S). THIS APPLIES TO ALL TRADES AND WORK CATEGORIES. EXCEPTIONS:
   A. DEDICATED MECHANICAL AND/OR ELECTRICAL ROOMS ABOVE 8'-0" AFF
   B. DEDICATED TELECOMMUNICATIONS ROOMS
3. "LOW-VOLTAGE" CONTROLS, COMMUNICATIONS, AND SAFETY/SECURITY CABLING SHALL NOT BE PAINTED. PAINTING CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY PROTECTION OF ANY EXISTING CABLING PRIOR TO PAINTING EXISTING AREAS. CONTRACTORS INSTALLING CABLING WHERE APPROVED FOR EXPOSED INSTALLATION SHALL INSTALL CABLES AFTER PAINTING HAS BEEN COMPLETED OR PROVIDE TEMPORARY PROTECTION OF CABLES UNTIL PAINTING HAS BEEN COMPLETED. PAINTED CABLES SHALL BE REPLACED AT THE EXPENSE OF THE NEGLIGENT CONTRACTOR.
4. METAL CLAD CABLE MAY BE USED FOR FIXTURE WHIPS IN LENGTHS OF 6 FEET OR LESS ABOVE AN ACCESSIBLE SUSPENDED CEILING SYSTEM ONLY. OTHERWISE, METAL CLAD OR OTHER FLEXIBLE CABLE TYPES SHALL NOT BE USED UNLESS SPECIFICALLY AUTHORIZED BY THE ENGINEER. IT IS THE INTENT OF THESE CONTRACT DOCUMENTS THAT ALL INSTALLED BRANCH CIRCUITS CONSIST OF SEPARATE RACEWAY AND CONDUCTORS ALLOWING REMOVAL AND REPLACEMENT OF WIRING AS REQUIRED FOR FUTURE UPGRADES. REFER TO SPECIFICATIONS FOR EXCEPTIONS.
5. CIRCUIT WIRING FOR ARTICLE 700 EMERGENCY SYSTEMS AND ARTICLE 708 CRITICAL OPERATIONS POWER SYSTEMS SHALL BE INSTALLED IN SEPARATE CONDUITS/RACEWAYS AND BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT PER NEC REQUIREMENTS.
6. ALL FEEDERS AND BRANCH CIRCUITS SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR SIZED ACCORDING TO THE NEC RACEWAYS INCLUDING CONDUITS, BOXES, WIREWAYS, ETC. SHALL NOT BE CONSIDERED AN ACCEPTABLE GROUND.
7. CONDUITS AND CABLING SHALL NOT BE INSTALLED WITHIN 4" OF ROOF DECK, EXCEPT AS NECESSARY TO SERVE ROOF-MOUNTED ITEMS AND ONLY WHEN THE CONDUIT OR CABLE IS ROUTED VERTICALLY TO SUCH EQUIPMENT FROM BELOW.
8. SUPPLEMENTAL METAL FRAMING SHALL BE PROVIDED FOR SUSPENSION POINTS OF ALL ITEMS LOCATED BETWEEN OVERHEAD STRUCTURAL MEMBERS (JOISTS, TRUSSES, BEAMS, ETC.) IN OPEN/VISIBLE STRUCTURE CEILING AREAS. METAL FRAMING SHALL SPAN ACROSS THE TOP CHORD OR FLANGE OF THE STRUCTURAL MEMBERS FOR BOTH STRUCTURAL AND AESTHETIC PURPOSES. SPECIFIC EXCEPTIONS SHALL BE COORDINATED IN WRITING WITH THE ARCHITECT/ENGINEER.
9. CONDUIT INSTALLED WITHIN INACCESSIBLE CONSTRUCTION SHALL BE 3/4" MINIMUM SIZE.
10. FEEDERS SHOWN ON DRAWINGS ARE SCHEMATIC ONLY. CONDUIT RUNS SHALL COMPLY WITH CONDUIT SPECIFICATIONS AND CONTAIN BENDS THAT ARE NO GREATER THAN 90 DEGREES. CONDUITS INSTALLED ABOVE GRADE SHALL BE RUN PARALLEL TO, OR PERPENDICULAR WITH, BUILDING STEEL AND/OR ARCHITECTURAL LINES.
11. CONTRACTOR(S) SHALL VERIFY COLOR/FINISH OF WIRING DEVICES, DEVICE FACEPLATES, SURFACE RACEWAY SYSTEMS, AND/OR MULTI-OUTLET ASSEMBLIES WITH ARCHITECT/ENGINEER IF NOT EXPLICITLY SPECIFIED.
12. ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ADDITIONAL LIGHTING FIXTURE INFORMATION AND MOUNTING LOCATIONS.
13. ELECTRICAL CONTRACTOR SHALL ADJUST LIGHTING FIXTURE LOCATIONS IN MECHANICAL ROOMS TO ACCOMMODATE MECHANICAL EQUIPMENT AND FIELD CONDITIONS.
14. CONTRACTOR(S) SHALL BE RESPONSIBLE TO REVIEW INTERIOR ELEVATION SHEETS FOR PLACEMENT OF DEVICE BOXES. COORDINATE LOCATIONS SO THAT NO DEVICES ARE INSTALLED BEHIND CASEWORK, MILLWORK, VISUAL DISPLAY BOARDS, MIRRORS, CUSTOM GRAPHICS, SIGNAGE, ETC.
15. ELECTRICAL CONTRACTOR SHALL REVIEW TOILET EQUIPMENT SHOP DRAWINGS AND ARCHITECTURAL DETAILS/ELEVATIONS FOR CORRECT DEVICE BOX ROUGH-IN LOCATION OF HAND DRYERS.
16. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH PLUMBING CONTRACTOR AND THE ELECTRIC WATER COOLER / BOTTLE FILLER SHOP DRAWINGS FOR MOUNTING HEIGHT AND CONNECTION METHOD OF PLUMBING EQUIPMENT POWER CONNECTIONS. READILY ACCESSIBLE GFCI PROTECTION SHALL BE PROVIDED FOR THE BRANCH CIRCUIT(S) SUPPLYING ALL SUCH UNITS PER NEC REQUIREMENTS.
17. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR DETAILED INFORMATION REGARDING EQUIPMENT AND CONTROL. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING AND PROVIDING ITEMS AS SPECIFICALLY LISTED AND ASSIGNED ON MECHANICAL EQUIPMENT SCHEDULE SUCH AS DISCONNECT SWITCHES, VARIABLE FREQUENCY DRIVES, STARTERS, TIMERS, SWITCHES, ETC.
18. ELECTRICAL CONTRACTOR SHALL CONFIRM THE LOCATION OF THE EXHAUST FANS LISTED IN THE MECHANICAL EQUIPMENT SCHEDULES BY REFERRING TO MECHANICAL/HVAC PLANS.
19. REFER TO ROOF PLANS FOR EXACT LOCATIONS OF ROOF-TOP MECHANICAL EQUIPMENT.
20. CABINET HEATERS MAY HAVE LINE VOLTAGE THERMOSTATS SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. REFER TO MECHANICAL EQUIPMENT SCHEDULE.
21. DIVISION 26 CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES WITH APPROPRIATE BUSHINGS FOR CONTROLS AND ELECTRONIC SAFETY/SECURITY CABLING THROUGH WALLS AND FLOORS. SLEEVE SIZES SHALL BE COORDINATED WITH CABLING REQUIREMENTS.
22. SECTION 27 05 28 CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES WITH APPROPRIATE BUSHINGS FOR COMMUNICATIONS CABLING THROUGH WALLS AND FLOORS. SLEEVE SIZE SHALL BE 2" MIN. UNLESS NOTED OTHERWISE.
23. PROVIDE DIRECT CONNECTIONS FROM LOCAL RECEPTACLE CIRCUIT TO ACCESS CONTROL SYSTEM AND DOOR HARDWARE POWER SUPPLIES WHERE REQUIRED FOR DOOR LOCK DEVICES, CONTROLLERS, ETC. REFER TO DOOR HARDWARE SCHEDULE AND ACCESS CONTROL SYSTEM SCHEDULE IN RESPECTIVE SPECIFICATIONS FOR QUANTITIES AND LOCATIONS.



NOTE: ALL HEIGHTS ARE AS SHOWN UNLESS NOTED OTHERWISE.

TYPICAL MOUNTING HEIGHTS FOR WALL DEVICES, EQUIPMENT, & FIXTURES

NOT TO SCALE

GMB
616.796.0200
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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001

DRAWN JFB
REVIEWED AAB

PROJECT NO. 5-5065

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ELECTRICAL SYMBOL LEGENDS & GENERAL NOTES

E0.01

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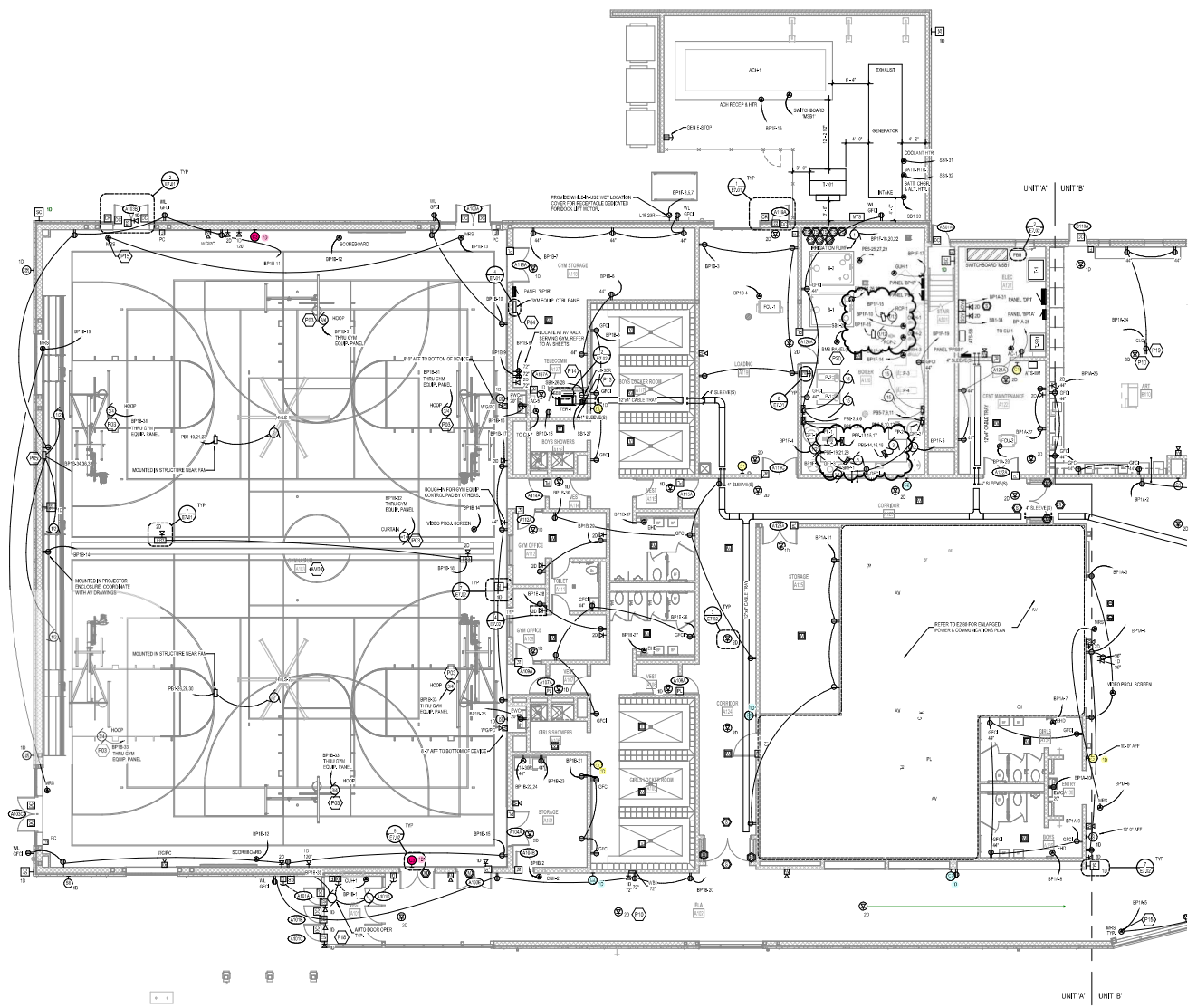
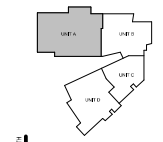


UNIT 'A' FIRST FLOOR POWER & COMMUNICATIONS PLAN
1/8" = 1'-0"



KEYPLAN

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE BARRIERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM EMERGENCY BRANCH CIRCUIT WITH MINIMUM LOAD REQUIREMENTS IN LOCAL TAKEDOWN FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON A CIRCUIT). TERMINATION IN NON-CONFIGURABLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT FACTORY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER. REFER TO MECHANICAL TEMPERATURE CONTROLS DRAWINGS FOR COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTORS SHOP DRAWINGS.
5. PROVIDE NON-OWNER FURNISHED DISCONNECT SWITCH (OR BUILDING BUTTON) IN ACCESSIBLE LOCATION FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO GARBAGE DISPOSERS, CAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.).
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

AV01	REFER TO AV DRAWINGS FOR ADDITIONAL SCOPE. COORDINATE ALL ROUGH-IN LOCATIONS WITH AV DRAWINGS.
P03	E.C. SHALL PROVIDE AND INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'-0" OF WINCH LOCATION FOR TWIST-LOCK RECEPTACLE. TWIST LOCK RECEPTACLE AND COVER PROVIDED BY EQUIPMENT PROVIDER. (1) HOOK-UP REQUIRED PER DEVICE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.
P04	8-RELAY GYM EQUIPMENT CONTROL PANEL REQUIRED TO SUPPORT (6) HOOP WINCH MOTORS AND (1) DIVIDER CURTAIN MOTOR. (1) 20A RELAY PER DEVICE. POWER EACH PANEL WITH (2) 120V SINGLE POLE CIRCUITS AS INDICATED IN PANEL SCHEDULE. REFER TO MANUFACTURER'S INSTRUCTIONS FOR FURTHER DETAILS.
P05	E.C. SHALL PROVIDE AND INSTALL NON-FUSIBLE SAFETY SWITCHES FOR BLEACHER MOTOR. JUNCTION BOX SHALL BE MOUNTED AT 5'-0" AFF. COORDINATE LOCATION WITH EQUIPMENT PROVIDER. REFER TO BLEACHER DETAILS ON ARCHITECTURE SHEETS FOR FURTHER DETAILS.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, ETC.). PROVIDE 4"x4"x2-1/2" TERMINATE CABLING IN SURFACE MOUNT BOX WITH 1" BINDUARY CONNECTOR INSIDE JUNCTION BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL LOOP RECEPTACLE INSIDE 4"POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.
P20	COORDINATE WITH CONTROLS CONTRACTOR FOR LOCATION OF EMS PANEL.

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
05.26.2021	BULLETIN 008
06.16.2021	BULLETIN 010
07.01.2021	BULLETIN 011
08.16.2021	BULLETIN 013
08.31.2021	BULLETIN 015
09.28.2021	BULLETIN 019
02.28.2022	BULLETIN 022

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'A' FIRST FLOOR POWER & COMMUNICATIONS PLAN

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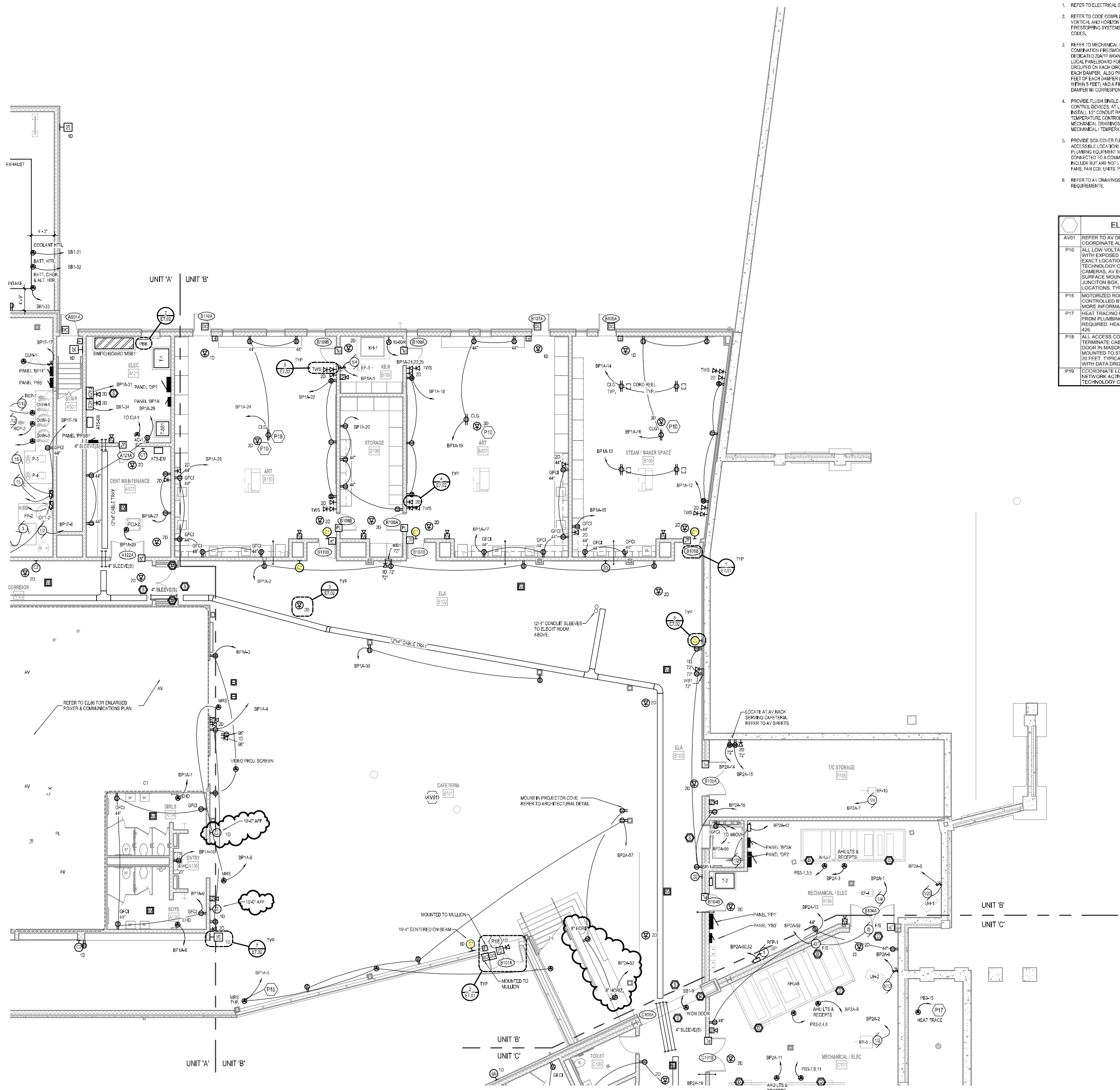


UNIT 'B' FIRST FLOOR POWER & COMMUNICATIONS PLAN

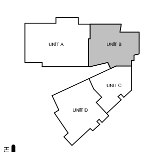
1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT (WITH BREAKER LOCKING MECHANISM) IN LOCAL PANELBOARD FOR DAMPER(S) IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT), TERMINATED W/ BOX-COVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (ON BUILDING INTERIOR IN ACCESSIBLE LOCATION) FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.6
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

AV01	REFER TO AV DRAWINGS FOR ADDITIONAL SCOPE. COORDINATE ALL ROUGH-IN LOCATIONS WITH AV DRAWINGS.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, AV EQUIPMENT, ETC.). TERMINATE CABLING IN SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCITON BOX, PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P17	HEAT TRACING FOR PLUMBING PIPING PER 22 05 33. LENGTHS FROM PLUMBING PLANS. FIELD VERIFY EXACT LENGTHS REQUIRED. HEAT TRACING SHALL COMPLY WITH NEC ARTICLE 426.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.26.2021	BULLETIN 008
09.28.2021	BULLETIN 018

DRAWN JFB
REVIEWED AAB
PROJECT NO. 5-5065

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UNIT 'B' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1B

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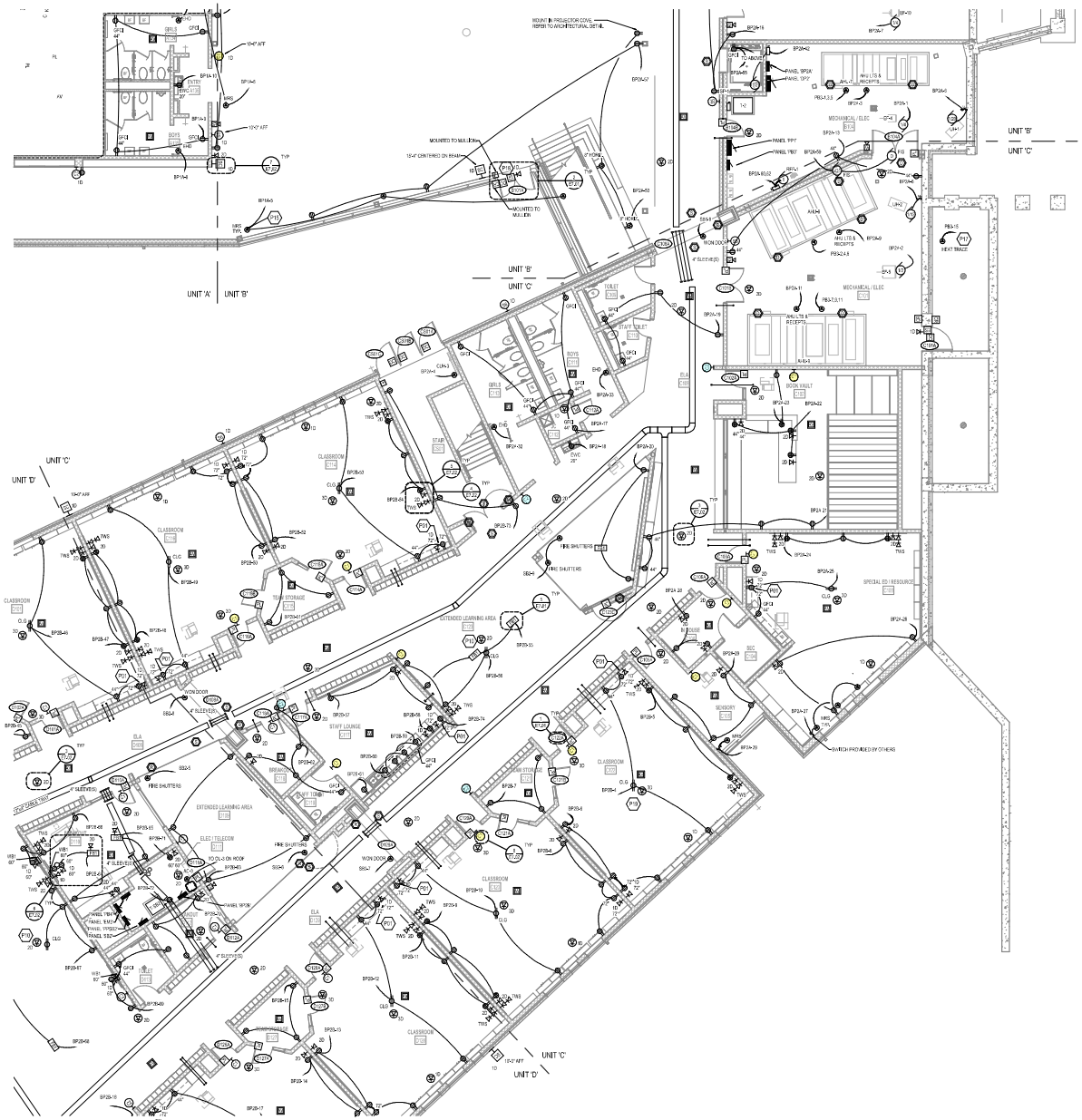

UNIT 'C' FIRST FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.0.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH DEDICATED NEUTRAL FROM NEAREST LOCAL PANELBOARD FOR DAMPER(S). IN EACH AREA DAMPERS MAY BE GROUPED ON EACH CIRCUIT, TERMINATED IN WIRING OVER FLEX STUB AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER SMOKE DETECTORS CROSSED BY ANOTHER DETECTOR WITHIN 5 FEET ARE A FIRE ALARM ADDRESSABLE RELAY FOR EITHER COOLING CHAMBER IN CONFIGURATIONS WITH MORE THAN ONE FIRE CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER LOCATION OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (BUILDING INTERIOR) IN ACCESSIBLE LOCATION FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO EXHAUST HEATERS, DAMPERS, SUNLIGHT TUNNEL FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.)
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND HOOD-UP REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, ETC.) PROVIDE 4" SQUARE BOX WITH SINGLE GANG SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCTION BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P17	HEAT TRACING FOR PLUMBING PIPING PER 22 05 33. LENGTHS FROM PLUMBING PLANS. FIELD VERIFY EXACT LENGTHS REQUIRED. HEAT TRACING SHALL COMPLY WITH NEC ARTICLE 426.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH KEYNOTE.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.26.2021	BULLETIN 008
09.28.2021	BULLETIN 016
10.26.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'C' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1C

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UNIT 'D' FIRST FLOOR POWER & COMMUNICATIONS PLAN

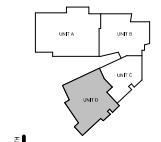
1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120 VAC POWER FROM DEDICATED ON-IT BRANCH CIRCUIT WITH OVERHEAD DOOR MECHANISM IN LOCAL PANELBOARD FOR DAMPERS IN HVAC AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATE TO WORK-OVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER DOOR REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE FOR OCCUPIABLE ROOM OR SPACE, INSTALL 12" CONDUIT AND WIRE FROM BOX TO CORRESPONDING HVAC UNIT OR CONTROL SYSTEM PANEL. COORDINATE EXACT LOCATIONS WITH MECHANICAL DRAWINGS, SYSTEM DESIGN, AND CONTROLS CONTRACTOR WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CHINNEY HEATERS, GRAVITY EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.)
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, AV EQUIPMENT, ETC.). TERMINATE CABLING IN SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCTION BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
10.26.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'D' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1D

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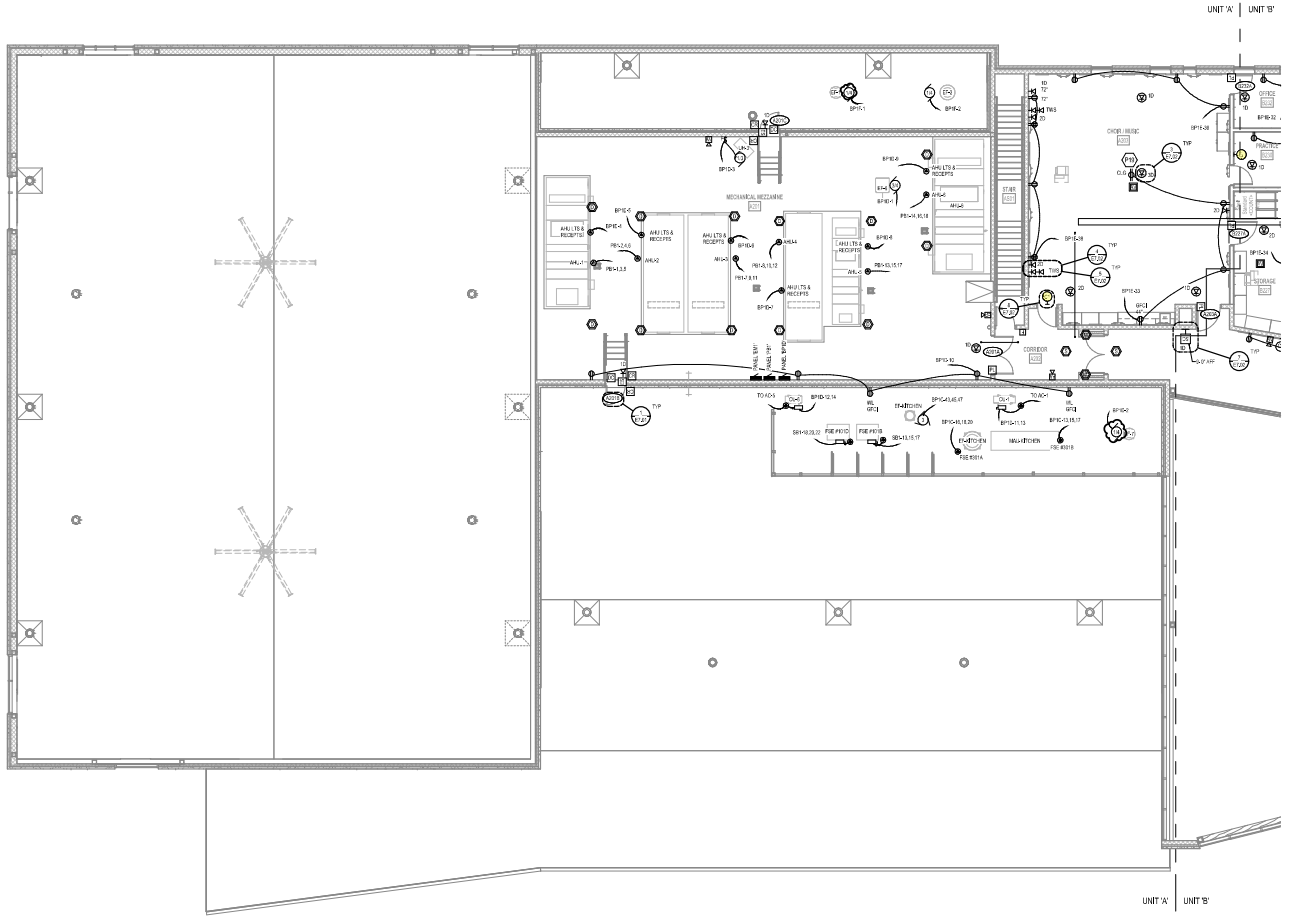
POWER & COMMUNICATION GENERAL NOTES

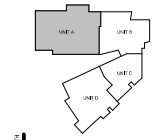
1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT (WITH BREAKER LOCKED) MECHANICAL OR LOCAL PANELBOARD FOR DAMPERS (WHICH AREA DAMPERS MAY BE GROUPED ON ONE CIRCUIT). PROVIDE FIRE ALARM MONITORING SYSTEM AT EACH DAMPER. ADD PROVISIONS FOR ALARM MONITORING OF DAMPERS IN PART OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT FOR CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER LINE. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX/COVER FOR FUSIBLE DISCONNECT SWITCH OR BUILDING ATTORNEY IN ACCESSIBLE LOCATION FOR EACH EMPL.) X 10 HP MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO UNIT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.S
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL



UNIT 'A' SECOND FLOOR POWER & COMMUNICATIONS PLAN
1/8" = 1'-0"



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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
04.16.2021	BULLETIN 008

DRAWN	JPB
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PROJECT NO.	5-5065

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UNIT 'A' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2A

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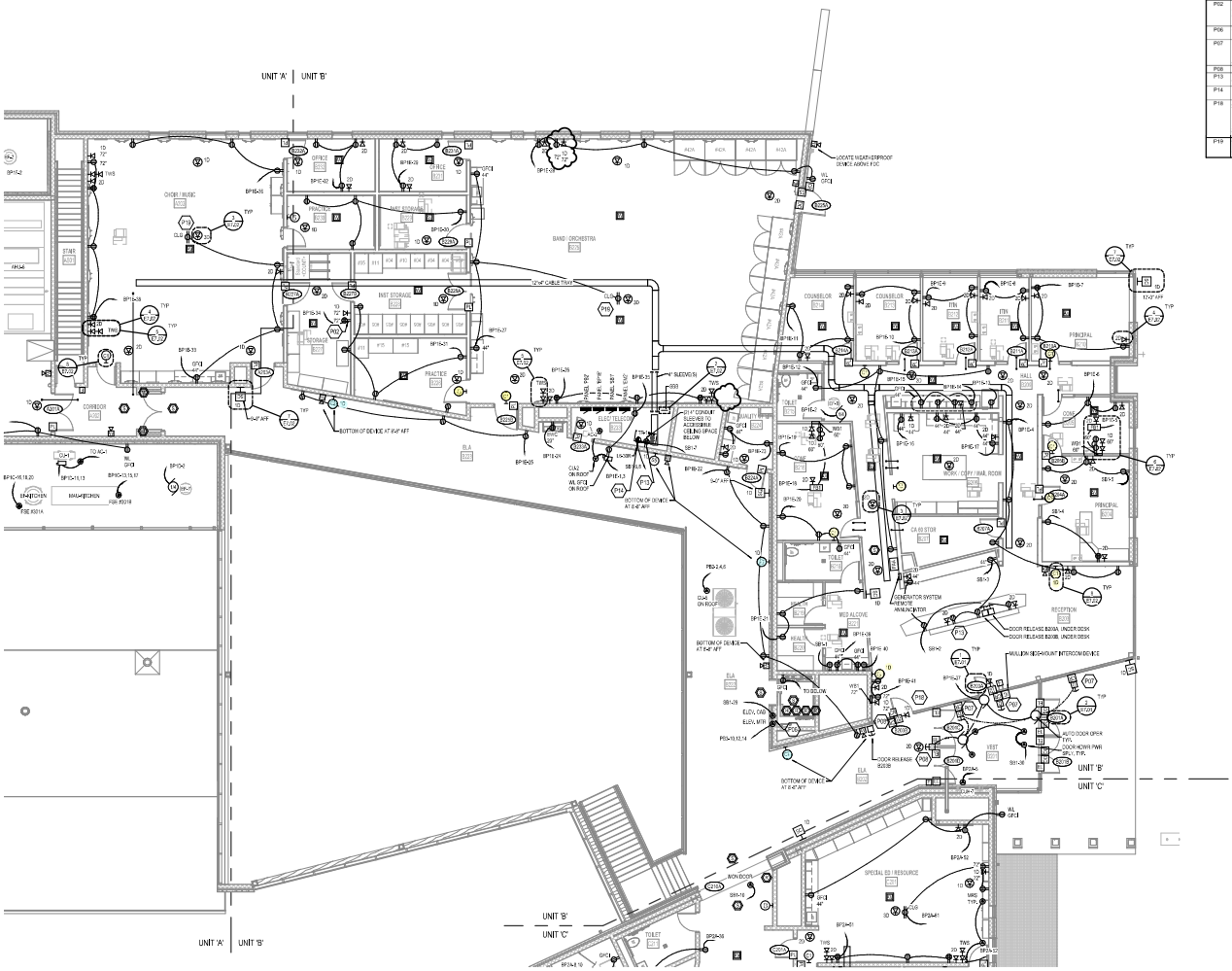
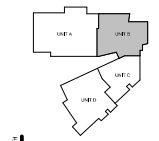
POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.2D.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120 VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH BREAKER LOCKING MECHANISM IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE DAISY-CHAINED ON A CIRCUIT WHERE ALLOWED BY MECHANICAL SYSTEM AT THE DISCRETION OF THE ENGINEER. PROVIDE #14 AWG CONDUCTORS WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES. AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT PATHWAY FROM BOX TO CORresponding TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL/ TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BISCUIT® FLEXIBLE DISCONNECT SWITCH ON JUNCTION BOX IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT WORK LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO UNIT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.S
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P06	COORDINATE WITH ELEVATOR MANUFACTURER'S REQUIREMENTS FOR DISCONNECTS.
P07	MULLION MOUNT CARD READER AND ADA PUSHBUTTON. ADA PUSH BUTTON SHALL BE MOUNTED AT 40" AFF TO BOTTOM OF BOX. CARD READER SHALL BE MOUNTED DIRECTLY ABOVE ADA PUSHBUTTON.
P08	MULLION MOUNT CARD READER OR ADA PUSHBUTTON.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL (4)-6-RR RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER
P16	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND AV/ WORK AUTHORIZATIONS FOR INSTALLATION WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.





North

UNIT 'B' SECOND FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"

North

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
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06.28.2021	BULLETIN 010

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'B' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2B

BIM 360://5-5065 Hudsonville Public Schools 5-set%5D5065 2019.rvt
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UNIT 'C' SECOND FLOOR POWER & COMMUNICATIONS PLAN

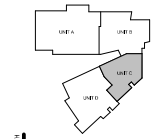
3/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE LOCAL POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT UNDER BREAKER LOCKING RED HANDLE(S) LABELED "FIRE/SMOKE DAMPER(S)" IN PANEL DIRECTORY. PROVIDE CONDUIT AND GROUTED BACK BOX FOR FIRE ALARM MODULE LOCATED WITHIN 5 FEET OF EACH DAMPER ENCASED COMPLETELY BY HEATER DUCT DESIGNED WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES. AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT PATHWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE NON-FUSED DISCONNECT SWITCH (WALL MOUNTED) IN ACCESSIBLE LOCATION FOR EACH SPLIT SYSTEM AND HYDRONIC AND STEAM PUMPING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO UNIT HEATERS, BARRIERS, SHARKLET FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P06	COORDINATE WITH ELEVATOR MANUFACTURER'S REQUIREMENTS FOR DISCONNECTS.
P07	MULLION MOUNT CARD READER AND ADA PUSHBUTTON. ADA PUSH BUTTON SHALL BE MOUNTED AT 48" AFF TO BOTTOM OF BOX. CARD READER SHALL BE MOUNTED DIRECTLY ABOVE ADA PUSHBUTTON.
P08	MULLION MOUNT CARD READER OR ADA PUSHBUTTON.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL UL-WR RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P16	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET, TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR, TYPICAL FOR ALL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
04.16.2021	BULLETIN 006
05.06.2021	BULLETIN 008
12.28.2021	BULLETIN 019

DRAWN JPB
REVIEWED AAB

PROJECT NO. 5-5065

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UNIT 'C' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2C

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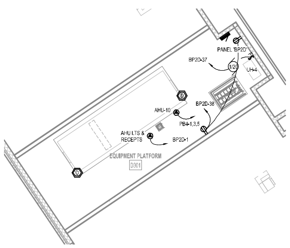


EQUIPMENT PLATFORM POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"

UNIT 'D' SECOND FLOOR POWER & COMMUNICATIONS PLAN

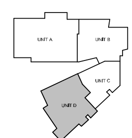
1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT (WITH BREAKER LOCKING MECHANISM) IN LOCAL PANELBOARD FOR DAMPER(S) IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT), TERMINATED W/ BOX-COVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (ON BUILDING INTERIOR IN ACCESSIBLE LOCATION) FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.6
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL L6-30R RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



KEYPLAN

GMB
616.796.0200
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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
05.11.2021	BULLETIN 007
10.26.2021	BULLETIN 019

DRAWN	JFB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'D' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2D

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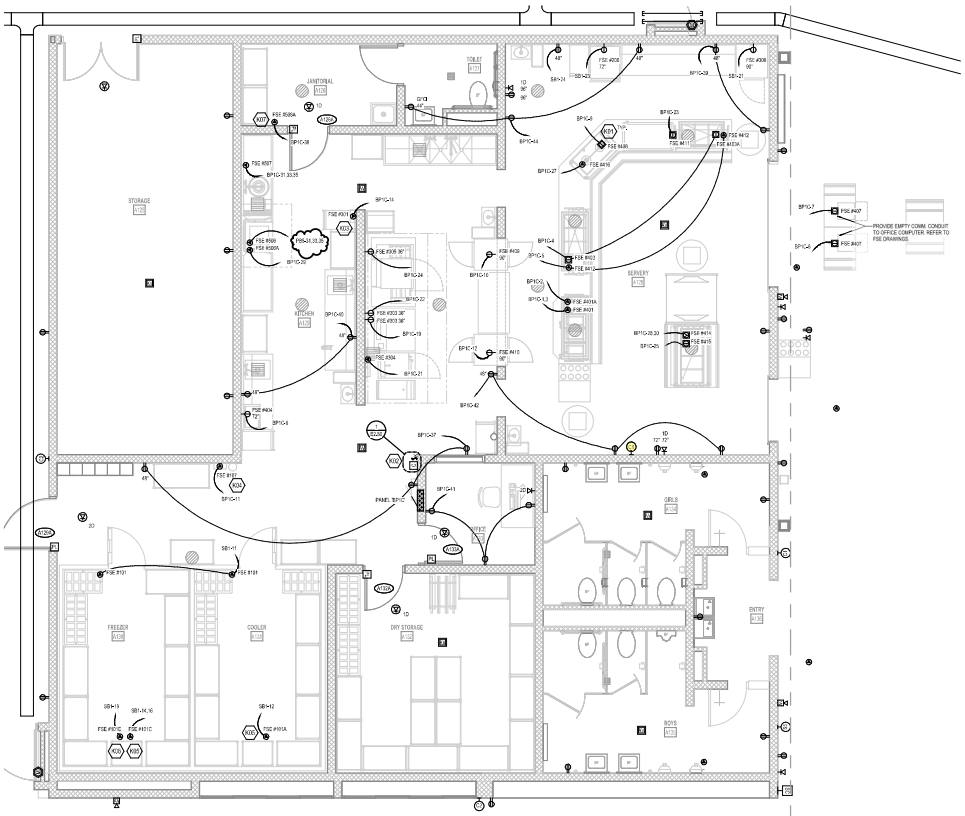


NORTH

ENLARGED KITCHEN POWER & COMMUNICATIONS PLAN

1/4" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

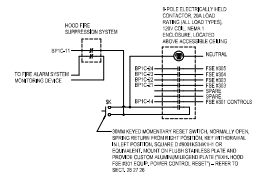
1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRE STOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH BRANDED LOCKING BREAKER IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE GROUPED ON EACH CIRCUIT, TERMINATED IN BOX COVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER IN CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE 60A COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SINGLE 10 HP/ MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: EXHAUST FANS, DAMPERS, EXHAUST FANS, FAN COILS, UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

FOODSERVICE ELECTRICAL GENERAL NOTES

1. ELEC CONTRACTOR SHALL REVIEW FOODSERVICE EQUIPMENT DRAWINGS (FSE - VENDOR) AND FOOD SERVICE SPECIFICATIONS (SECTION 11 40 00) FOR ADDITIONAL SCOPE OF WORK AND REQUIREMENTS, INCLUDE ALL WORK AND MATERIALS AS ASSIGNED TO THE ELEC. CONTRACTOR BY DRAWINGS, SPECIFICATIONS, CONTRACTOR MANUFACTURER WORK CATEGORY DESCRIPTIONS, ETC.
2. IF THERE IS A CONFLICT BETWEEN THE FOODSERVICE DRAWINGS/SPECIFICATIONS AND THE DRAWINGS OF DIVISION 26 SPECIFICATIONS, THE ELEC. CONTRACTOR SHALL BID USING THE MORE STRINGENT AND CREATE COST REQUIREMENTS. CLARIFICATIONS MAY BE REQUESTED (IN WRITING) PRIOR TO BID. COORDINATE WITH CONSTRUCTION MANAGERS PROCEDURES.
3. THE WORK SHOWN ON THESE DRAWINGS AND THE DIVISION 26 SPECIFICATIONS SHALL SUPERCEDE THE FOOD SERVICE EQUIPMENT DRAWINGS/SPECIFICATIONS.
4. LABEL ALL RECEPTACLES IN KITCHEN AND SERVING AREAS WITH CORRESPONDING PANELBOARD CIRCUIT NUMBER, AND FOODSERVICE EQUIPMENT TAG NUMBER AS REFERENCED ON THE FOODSERVICE EQUIPMENT DRAWINGS.
5. ELEC CONTRACTOR SHALL IDENTIFY AND COORDINATE WITH THE FOODSERVICE EQUIPMENT VENDOR THAT ALL SINGLE-PHASE RECEPTACLES (250V) 50 OR LESS AMPS, AND THREE-PHASE RECEPTACLES (480V) 60 AMPS OR LESS, IN KITCHEN AND SERVING AREAS HAVE GFCI PROTECTION FOR PERSONNEL AS REQUIRED BY NEC (TYPICAL). EITHER AT THE GFCI TYPE RECEPTACLE OR AT THE RESPECTIVE PANELBOARD GFCI BREAKER FOR THE BRANCH CIRCUIT. FOR ANY NON-RECEPTACLE LOADINGS THAT ARE NOT READILY ACCESSIBLE (NEC DEFINITION), GFCI PROTECTION SHALL BE PROVIDED FOR THE BRANCH CIRCUIT AT THE PANELBOARD (ONLY IF NO BRANCH CIRCUIT BREAKER).
6. PROVIDE CONCEALED HOOD-MOUNTED MANUAL PULL STATIONS CONNECTED TO VENTILATING HOOD FIRE PROTECTION SYSTEMS. SURFACE-MOUNTED CONDUITS AND PULL STATIONS ARE NOT ACCEPTABLE. COORDINATE LOCATIONS WITH ENGINEERED SHOP DRAWINGS FOR SYSTEM.

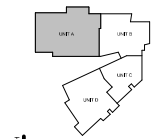
ELECTRICAL KEYNOTES

K01	FLOOR-MOUNTED PEDESTAL WITH RECEPTACLE AS INDICATED. BOX SHALL BE ONE-PIECE CAST ALUMINUM OR STAINLESS STEEL MOUNTED HORIZONTALLY WITH (2) HUBS ON BOTTOM ALLOWING SIDE TO ACCEPT THREADED RIGID METALLIC CONDUIT. PROVIDE WITH CAST METAL WEATHERPROOF HINGED COVER OVER WIRING DEVICE. TOP OF RECEPTACLE BOX SHALL NOT EXCEED 5" AFF.
K02	INTERLOCK WITH EQUIP. SHUTDOWN CONTROLS (REFER TO DETAIL)
K03	E.C. SHALL INTERWIRE ALL COMPONENTS OF MAKE-UP AIR UNIT, EXHAUST FAN, HOOD LIGHTS, AND HOOD CONTROLS AS SHOWN ON FOODSERVICE EQUIP. DRAWINGS AND AS REQUIRED BY EQUIPMENT MANUFACTURER. VERIFY WITH EQUIPMENT SHOP DRAWINGS.
K04	E.C. SHALL INTERWIRE FIRE SUPPRESSION SYSTEM TO MECHANICAL WITH FIRE ALARM INITIATION CIRCUIT FOR SUPERVISORY MONITORING FOR LOCAL CODES AND CONTROL CONTACTOR FOR SHUTDOWN OF EQUIPMENT (SEE). SUPPLY UNDER HOOD UPON RELEASE OF EXTINGUISHING AGENT. REFER TO DETAIL ON FSE DRAWINGS AND CONTROL DETAIL.
K05	E.C. SHALL INTERWIRE ALL COMPONENTS OF WALK-IN COOLER OR FREEZER AS SHOWN ON DRAWINGS AND REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE WITH SHOP DRAWINGS.
K06	COORDINATE WITH PLUMBING CONTRACTOR FOR LOCATION OF HEAT TRACE POWER SUPPLY.
K07	CONNECT DISHWASHER EXHAUST FAN TO DISHWASHER CONTROL PANEL. REFER TO FSE DRAWINGS.



1 E2.80 FOODSERVICE EQUIP. ELEC SHUTDOWN DETAIL

NOT TO SCALE



NORTH

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES		
10.09.2020	BIDS & CONSTRUCTION	
11.18.2020	ADDENDUM 001	
12.02.2021	BULLETIN 010	

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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KITCHEN & SERVING AREA POWER & COMMUNICATIONS ENLARGED PLAN

E2.80

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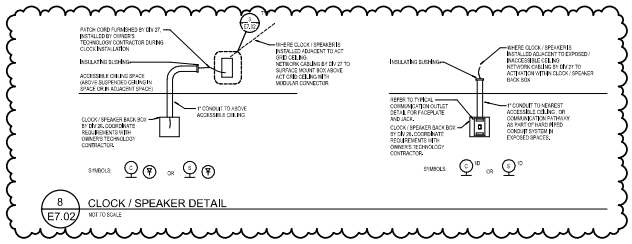

8 E7.02 CLOCK / SPEAKER DETAIL
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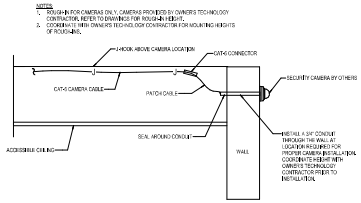

7 E7.02 TYPICAL WALL MOUNT SURVEILLANCE CAMERA INSTALLATION
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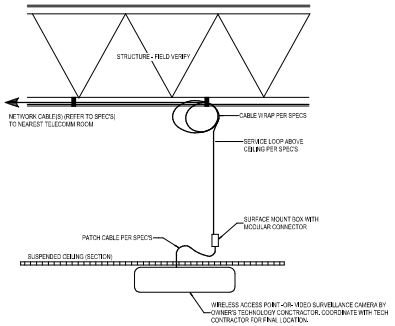

3 E7.02 CEILING MOUNTED COMMUNICATION DEVICE
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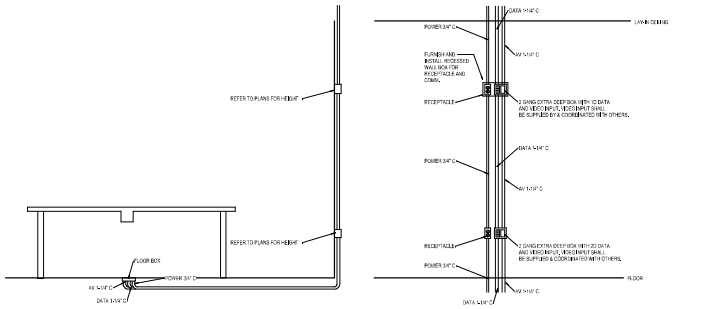

6 E7.02 VIDEO CONFERENCE SECTION
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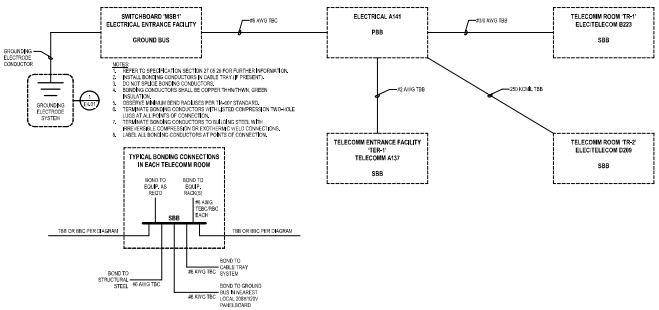

2 E7.02 COMMUNICATIONS GROUNDING/BONDING SYSTEM RISER DIAGRAM
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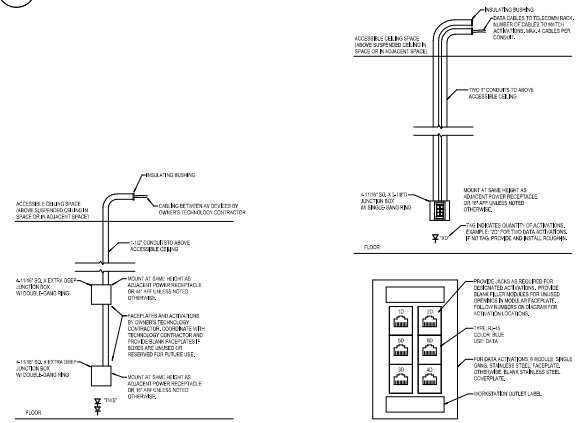

5 E7.02 TEACHER WORKSTATION DETAIL
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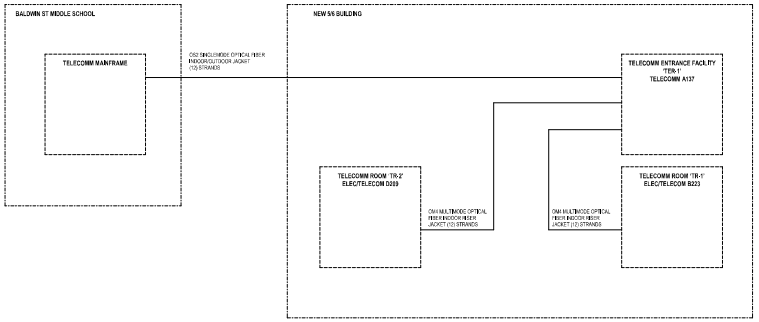
4 E7.02 TYPICAL COMMUNICATION OUTLET
NOT TO SCALE



1 E7.02 COMMUNICATIONS CABLING BACKBONE RISER DIAGRAM
NOT TO SCALE

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HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004

DRAWN JPB
REVIEWED AAB
PROJECT NO. 5-5065

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ELECTRICAL DETAILS

E7.02

BIM: 5805\5-5065 Hudsonville Public Schools 5-5\5-5065E 2019.rvt
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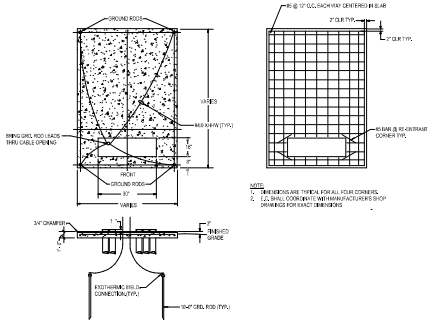

10 E7.01 TRANSFORMER/GENERATOR GROUNDING DETAIL
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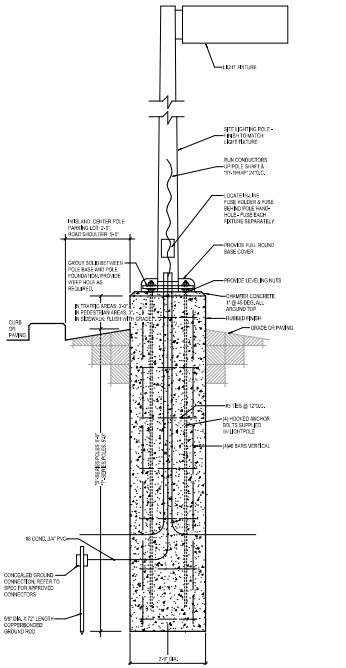

9 E7.01 SITE LIGHTING POLE FOUNDATION
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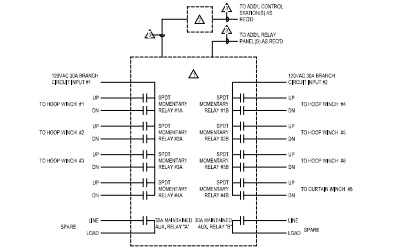
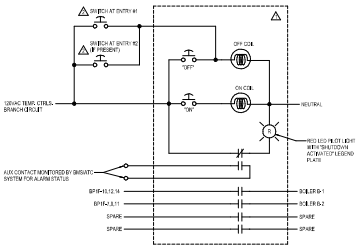


1 GYMNASIUM EQUIPMENT CONTROL SYSTEM RELAY PANEL, FURNISHED BY SECTION 11 68 23, INSTALLED AND WIRED BY ELEC. CONTRACTOR. WIRING CONNECTIONS ARE SHOWN FOR CONCEPT ONLY. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR EXACT REQUIREMENTS AND WIRING ARRANGEMENTS.

2 GYMNASIUM EQUIPMENT CONTROL SYSTEM OPERATOR INTERFACE AND PUSH BUTTON PANEL, AS SPECIFIED BY SECTION 11 68 23, INSTALLED AND WIRED BY ELEC. CONTRACTOR. MOUNT SEMI-FLUSH AT 44" AFF TO BOTTOM OF BOX WITH CENTERLINE OF RIGHT OF ALL EQUIPMENT TO BE CONTROLLED. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR EXACT ROUGH-IN REQUIREMENTS.

3 CONTROL-VOLTAGE CABLE FURNISHED AND WIRED BY SLEC CONTRACTOR. REFER TO SECTION 26 05 23 FOR TYPICAL CABLE. REFER TO MANUFACTURER'S SHOP DRAWINGS TO CONFIRM EXACT CABLE TYPE REQ'D.

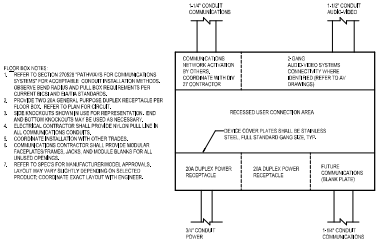
4 E7.01 GYMNASIUM EQUIPMENT CONTROL SYSTEM DETAIL
NOT TO SCALE



△ 30A, 4-POLE, MECHANICALLY-HELD CONTACTOR WITH 120VAC CONTROL COILS. MOMENTARY ON/OFF PUSH BUTTONS, ONE N.O. AND ONE N.C. AUX CONTACTS, RED LED PILOT LIGHT WIRED TO N.O. AUX CONTACT FOR "OFF" INDICATION. CUSTOM ENGRAVED DEVICE LABELS. NEMA 1 ENCLOSURE, PROVIDE ENGRAVED NAMEPLATE INDICATING "EMERGENCY BOILER SHUTDOWN".

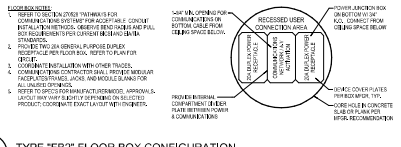
△ RED MOMENTARY PUSHBUTTON SWITCH MOUNTED ON YELLOW POLYCARBONATE BODY, CLEAR POLYCARBONATE HINGED COVER, CUSTOM LABEL "BOILER SHUTDOWN". PROVIDE STOPPER STATION SERIES 40 HEAVY DUTY (NEMA 4/13), MODEL NO. 9001SKH-40HOR APPROVED EQUAL. PROVIDE W/ MATCHING BACKBOX (MODEL NO. HT-1781-W) FOR APPLICATIONS WITHOUT A RECESSED SWITCH BOX FOR MOUNTING

8 E7.01 BOILER EMERGENCY SHUTDOWN CONTROL DETAIL
NOT TO SCALE



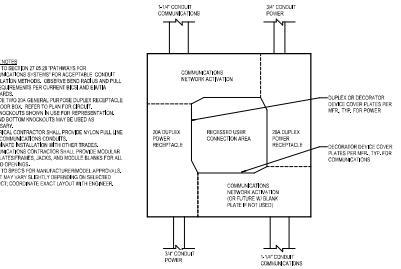
FLOOR BOX NOTES:
1. REFER TO SECTION 270528 "PATHWAYS FOR COMMUNICATIONS SYSTEMS" FOR ACCEPTABLE CONDUIT INSTALLATION METHODS, OBSERVE BEND RADIUS AND PULL BOX REQUIREMENTS PER CURRENT NEC AND EIA/TIA STANDARDS.
2. PROVIDE TWO 20A GENERAL PURPOSE DUPLEX RECEPTACLE PER FLOOR BOX, REFER TO PLAN FOR CIRCUIT.
3. SIDE KNOCKOUTS SHOWN IN USE FOR REPRESENTATION. END AND BOTTOM KNOCKOUTS MAY BE USED AS NEEDED/APPLICABLE.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE NYLON PULL LINE IN ALL CONDUITS FOR FUTURE USE.
5. COORDINATE INSTALLATION WITH OTHER TRADES.
6. COMMUNICATIONS CONTRACTOR SHALL PROVIDE MODULAR FACEPLATES/FRAMES, JACKS, AND MODULE BLANKS FOR ALL UNUSED OPENINGS.
7. REFER TO SPECS FOR MANUFACTURER/MODEL APPROVALS. LAYOUT MAY VARY SLIGHTLY DEPENDING ON SELECTED PRODUCT. COORDINATE EXACT LAYOUT WITH ENGINEER.

7 E7.01 TYPE "FB3" FLOOR BOX CONFIGURATION
NOT TO SCALE



FLOOR BOX NOTES:
1. REFER TO SECTION 270528 "PATHWAYS FOR COMMUNICATIONS SYSTEMS" FOR ACCEPTABLE CONDUIT INSTALLATION METHODS, OBSERVE BEND RADIUS AND PULL BOX REQUIREMENTS PER CURRENT NEC AND EIA/TIA STANDARDS.
2. PROVIDE TWO 20A GENERAL PURPOSE DUPLEX RECEPTACLE PER FLOOR BOX, REFER TO PLAN FOR CIRCUIT.
3. SIDE KNOCKOUTS SHOWN IN USE FOR REPRESENTATION. END AND BOTTOM KNOCKOUTS MAY BE USED AS NEEDED/APPLICABLE.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE NYLON PULL LINE IN ALL CONDUITS FOR FUTURE USE.
5. COORDINATE INSTALLATION WITH OTHER TRADES.
6. COMMUNICATIONS CONTRACTOR SHALL PROVIDE MODULAR FACEPLATES/FRAMES, JACKS, AND MODULE BLANKS FOR ALL UNUSED OPENINGS.
7. REFER TO SPECS FOR MANUFACTURER/MODEL APPROVALS. LAYOUT MAY VARY SLIGHTLY DEPENDING ON SELECTED PRODUCT. COORDINATE EXACT LAYOUT WITH ENGINEER.

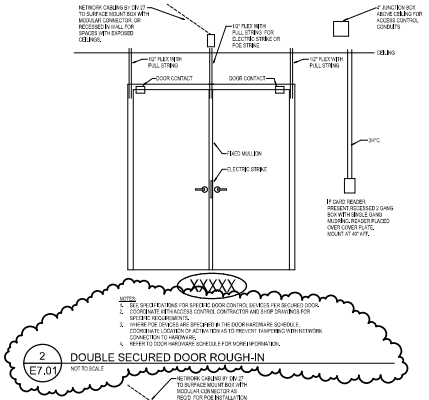
6 E7.01 TYPE "FB2" FLOOR BOX CONFIGURATION
NOT TO SCALE



5 E7.01 TYPE "FB1" FLOOR BOX CONFIGURATION
NOT TO SCALE

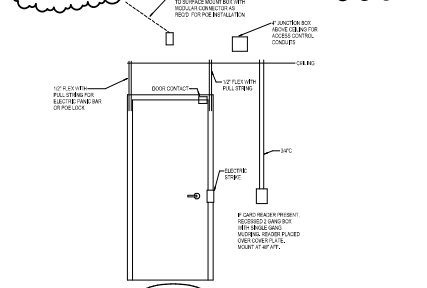
NOTES:
1. TYPICAL WIRING VERIFY WITH MANUFACTURER.
2. COMPLY WITH NEC 700.10(B)(7) AT ALL REQUIRED LOCATIONS PRIOR TO SPECIMEN.

3 E7.01 EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
NOT TO SCALE



NOTES:
1. SEE SPECIFICATIONS FOR SPECIFIC DOOR CONTROL DEVICES PER SECURED DOOR.
2. COORDINATE WITH ACCESS CONTROL CONTRACTOR AND SHOP DRAWINGS FOR SPECIFIC REQUIREMENTS.
3. WHERE POE DEVICES ARE SPECIFIED IN THE DOOR HARDWARE SCHEDULE, COORDINATE LOCATION OF ACTIVATION AS TO PREVENT TAMPERING WITH NETWORK CONNECTION TO HARDWARE.
4. REFER TO DOOR HARDWARE SCHEDULE FOR MORE INFORMATION.

2 E7.01 DOUBLE SECURED DOOR ROUGH-IN
NOT TO SCALE



NOTES:
1. SEE SPECIFICATIONS FOR SPECIFIC DOOR CONTROL DEVICES PER SECURED DOOR.
2. COORDINATE WITH ACCESS CONTROL CONTRACTOR AND SHOP DRAWINGS FOR SPECIFIC REQUIREMENTS.
3. WHERE POE DEVICES ARE SPECIFIED IN THE DOOR HARDWARE SCHEDULE, COORDINATE LOCATION OF ACTIVATION AS TO PREVENT TAMPERING WITH NETWORK CONNECTION TO HARDWARE.
4. REFER TO DOOR HARDWARE SCHEDULE FOR MORE INFORMATION.

1 E7.01 SINGLE SECURED DOOR ROUGH-IN
NOT TO SCALE

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001

DRAWN JPB
REVIEWED AAB
PROJECT NO. 5-5065

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ELECTRICAL DETAILS

E7.01

BM: 5805\5-5065 Hudsonville Public Schools 5-e\5-5065E 2019.rvt
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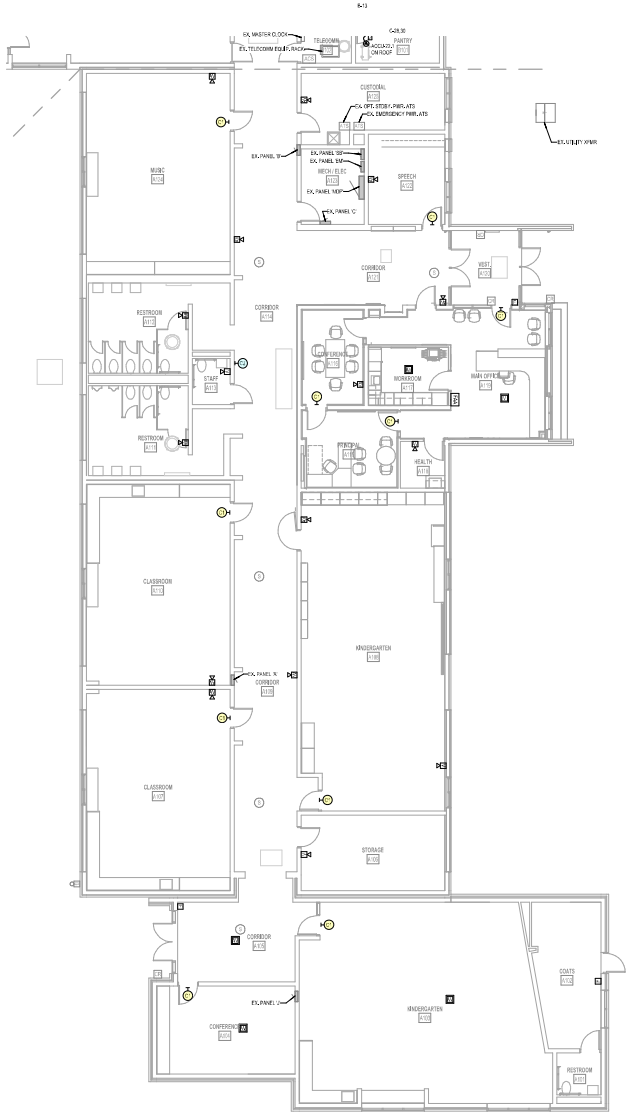


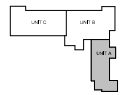
North

UNIT 'A' POWER PLAN

1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E3.0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH HIGH AUTOMATIC LOCK-ON ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE GROUPED ON EACH CIRCUIT.
   C. TERMINATE IN BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTION WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET.
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAY(S) FOR INTERLOCKING DAMPER IN CORRESPONDING HVAC UNIT(S) PER CODE REQUIREMENTS.
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (≤ 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DAS, IT COMMUNICATIONS CABLING AND ONLY. SAFETY/SECURITY CABLING ONLY. OTHER CABLING TYPES, SUCH AS BAS CONTROLS, DAS, DCS CONTROLS, AND ARCHITECTURAL EQUIPMENT CABLING SHALL BE SUPPORTED AND SLEEVED BY OTHER/DIFFERENT PATHWAYS, HANGERS, AND SUPPORTS.
6. CONSULT WITH ALL POWER SUPPLIES REQUIRED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 08 71 00) TO CENTRAL LOCATIONS ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATIONS. CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUITS AS DESIGNATED.
7. THE FOLLOWING DIV. 27 AND DIV. 28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANTS IN ASSOCIATION WITH HUDSONVILLE PUBLIC SCHOOLS:
   A. NETWORK ELECTRONICS (SWITCHES, ACCESS POINTS, ETC.)
   B. IT COMMUNICATIONS CABLING
   C. CLASSROOM AUDIO/VIDEO EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO/VIDEO SYSTEMS FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. TIERS SURVEILLANCE SYSTEM



North

KEYPLAN

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FOREST GROVE ELEMENTARY GYM ADDITION
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES
09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK
REVIEWED JPB
PROJECT NO. 5-5362

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UNIT 'A' POWER PLAN

E2.1A

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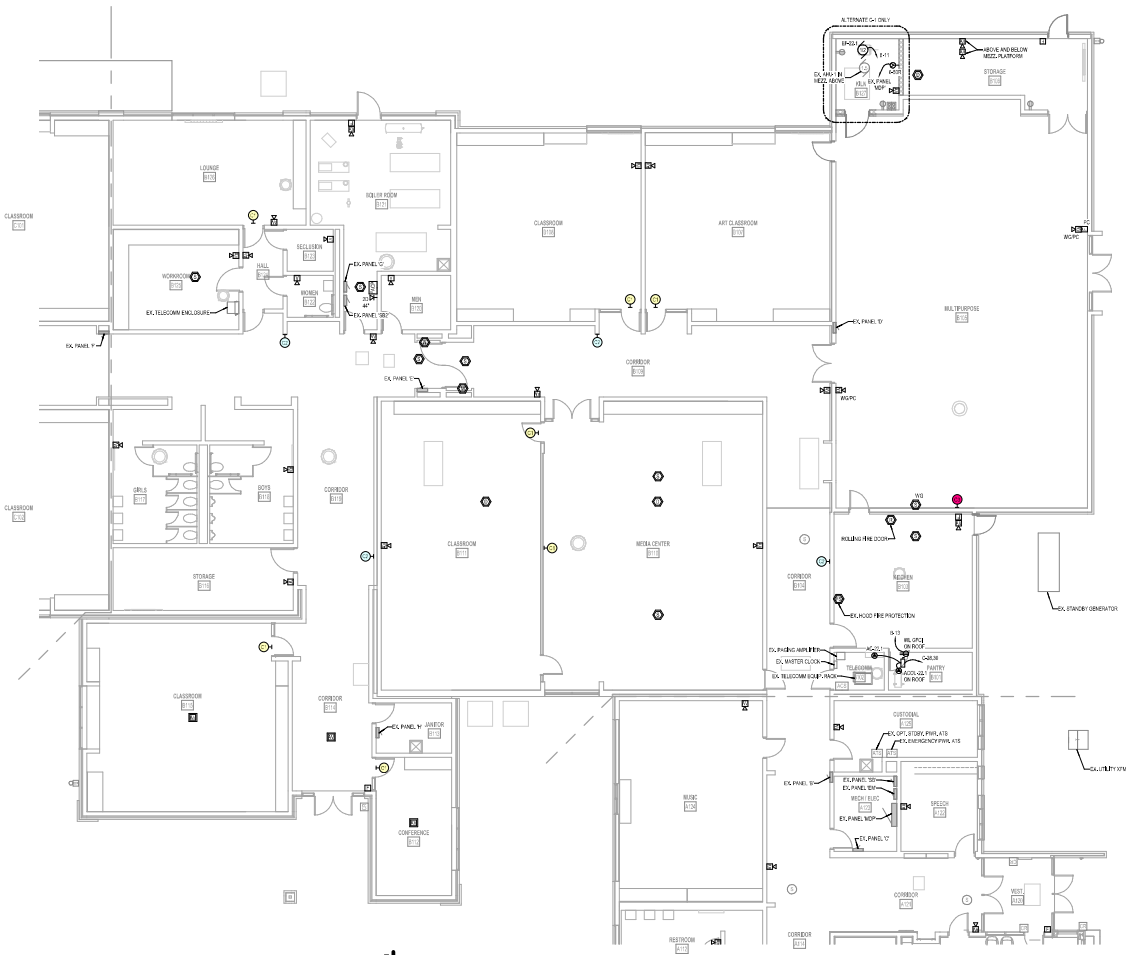

UNIT 'B' POWER PLAN
1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120 VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH BREAKER LOCK-ON ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE DISCRETION EACH BREAKER.
   C. TERMINATE W/ BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET).
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAY(S) FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT(S) PER CODE REQUIREMENTS.
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (≤ 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR. DO NOT PROVIDE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DIV. 27 COMMUNICATIONS CABLING AND DIV. 28 SAFETY/SECURITY CABLING ONLY. OTHER CABLING TYPES, SUCH AS DIV. 23 CONTROLS, DIV. 26 CONTROLS, AND ANY ARCHITECTURAL EQUIPMENT CABLING IS NOT ALLOWED TO BE ROUTED BY OTHER INDEPENDENT PATHWAYS, RACEWAYS, AND SUPPORTS.
6. CONSULTANT ALL POWER SUPPLIES REQUIRED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 81 00) TO CENTRAL LOCATION(S) ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATION(S). CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUIT(S) AS DESIGNATED.
7. THE FOLLOWING DIV. 27 AND DIV. 28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANT IN ASSOCIATION WITH HUDSONVILLE P.S. TECHNOLOGY DEPT.
   A. NURSE CALL SYSTEM (WIRELESS SYSTEMS, ACCESS POINTS, ETC.)
   B. VOIP TELEPHONE SYSTEMS
   C. CLASSROOM AUDIO-VISUAL EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO-VISUAL SYSTEM FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. VIDEO SURVEILLANCE SYSTEM

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FOREST GROVE ELEMENTARY GYM ADDITION
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES
09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK
REVIEWED JPB
PROJECT NO. 5-5362

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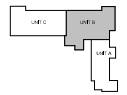
UNIT 'B' POWER PLAN

E2.1B



KEYPLAN

BM: 38001/5-5362 Hudsonville Forest Grove Elem Gym Addition/<<SHEET 2019.rvt
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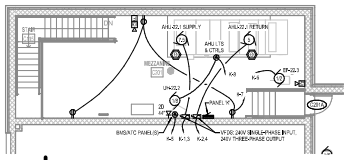
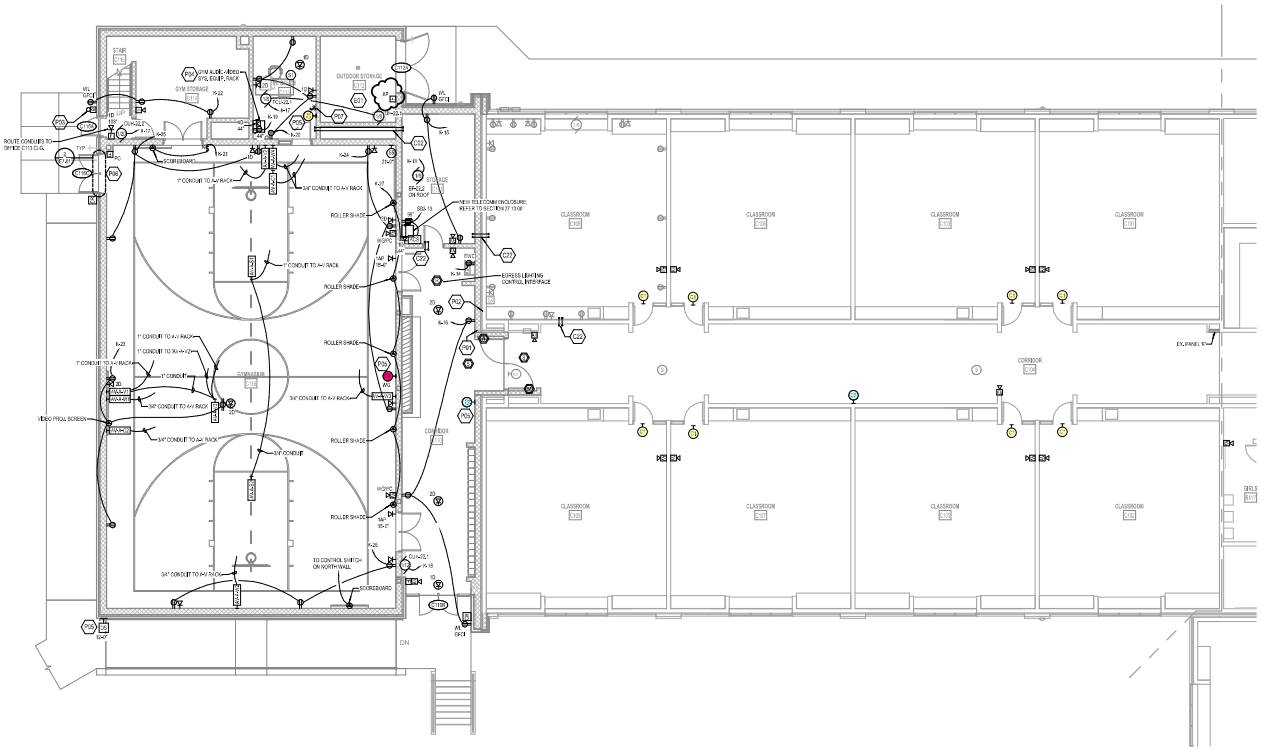
AUDIO-VIDEO SYSTEMS BOX & CONNECTOR PLATE SCHEDULE

ITEM I.D. / TAG	ROUGH-IN OR ITEM SIZE	MOUNTING	LOCATION (HEIGHT TO BOTTOM OF BOX)	BOX & CONDUIT PROVIDED BY	CONNECTOR PLATE & WIRE/CABLE PROVIDED BY	SPECIAL NOTES
AVA-AC1	TWO GANG x 3 1/2" DEEP	FLUSH	44" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	A/V SYSTEM CONTROL TOUCHPANEL
AVA-AC2	SINGLE GANG x 3 1/2" DEEP	FLUSH	72x2" AFF (VERIFY, SEE DETAIL)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	PROJECTION SCREEN CONTROL
AVA-AS1	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	SPEAKER JUNCTION BOX
AVA-AS2	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	SPEAKER JUNCTION BOX
AVA-AV1	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO INPUT(S)
AVA-AV2	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO INPUT(S)
AVA-AV3	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO PROJECTOR OUTPUT/CONTROL, VERIFY EXACT LOCATION OF PROJ. W/ INSTALLERS
AVA-AW1	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO+VIDEO INPUT(S)
AVA-AW2	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO+VIDEO INPUT(S)
AVA-AW3	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO+VIDEO INPUT(S)
AVA-AW4	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO+VIDEO INPUT(S)



MEZZANINE POWER PLAN



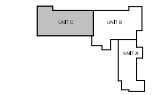
UNIT 'C' POWER PLAN

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120 VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL/HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH RECEPTACLE-LOCK ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH RECEPTACLE).
   C. TERMINATE W/ BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET).
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAYS FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNITS (FOR CODE REQUIREMENTS).
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (≤ 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR. LOAD WIRING MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DIV. 27 COMMUNICATIONS CABLING AND DIV. 28 SWITCHED LIGHT CABLING ONLY. OTHER CABLING TYPES, SUCH AS DIV. 23 CONTROLS, DIV. 26 CONTROLS, AND ARCHITECTURAL EQUIPMENT CABLING, SHALL BE INSTALLED IN SLEEVES BY OTHER INDEPENDENT PATHWAYS, INNERDUCTS, AND SUPPORTS.
6. CONSULT WITH ALL PARTIES INVOLVED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 81 00) TO CONTROL LOCATIONS ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATIONS. CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUITS AS DESIGNATED.
7. THE FOLLOWING DIV. 27 AND DIV. 28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANTS IN ASSOCIATION WITH HUDSONVILLE P.S. TECHNOLOGY DEPT.:
   A. NETWORK ELECTRONICS (SWITCHES, ACCESS POINTS, ETC.)
   B. VOIP TELEPHONE SYSTEMS
   C. CLASSROOM AUDIO-VIDEO EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO-VIDEO SYSTEM FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. VIDEO SURVEILLANCE SYSTEM

ELECTRICAL KEYNOTES

C02	(2) 4" CONDUIT SLEEVES FOR DIV. 27 COMMUNICATIONS CABLING
C22	(2) 6 7 SQ. IN. CABLE PATHWAY PENETRATION DEVICE (FSD) PER SECTION 27 05 28
E01	ALL ELECTRICAL MATERIALS AND INSTALLATION IN THIS ROOM SHALL COMPLY WITH NEC ARTICLE 500 HAZARDOUS LOCATION REQUIREMENTS FOR CLASS 1, DIVISION 1, GROUP C & D
P01	ESTABLISH NEW CONCRETE-ENCASED GROUNDING ELECTRODE IN FOOTING OF NEW ADDITION. INTERCONNECT WITH GROUNDING ELECTRODE SYSTEM AT SERVICE ENTRANCE OR NEAREST SEPARATELY-DERIVED SYSTEM PER NEC AND SPECIFICATION REQUIREMENTS.
P02	BOND METAL STRUCTURE OF ADDITION TO METAL STRUCTURE OF EXISTING BUILDING PER NEC REQUIREMENTS.
P03	INSTALL EX. BRONZE BELL SALVAGED FROM BUILDING DEMOLITION AND EXISTING BELL STRIKER LOCATION AND RECONNECT TO ELECTRIFIED BELL.
P04	INSTALL (4) 4" X 4" EX. JUNCTION BOX SERVING ALDED EQUIP. IN ATTIC SPACE. PROVIDE 1" CONDUIT STUB-UP FROM CONCEALED IN WALL, SURFACE-MOUNTED CONDUITS ARE NOT ACCEPTABLE ABOVE, BELOW, OR ON SIDERS RACK. STUB AN ADDITIONAL (2) 1" CONDUITS OUT ABOVE ACCESSIBLE CEILING SPACE FROM BOX.
P05	PROVIDE 10' NETWORK ACTIVATION FOR CONNECTION TO COMMUNICATIONS OR SAFETY/SECURITY DEVICE. TERMINATION INSIDE RECESSED DEVICE BACKBOX.
P06	ROUTE ACCESS CONTROL CONDUITS FROM DOOR FRAME THROUGH WALL OVER TO STAIRWELL AND STUB OUT ABOVE 9'-0" AFF.
P07	ROLLER SHADE CONTROL FOR SWINGARM, KEY-OPERATED SWITCH FURNISHED BY SECTION 12 24 13, WIRED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS



KEYPLAN

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FOREST GROVE ELEMENTARY GYM ADDITION
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES
09.22.2021 BIDS & CONSTRUCTION
11.16.2021 BULLETIN 001

DRAWN MCK
REVIEWED JPB
PROJECT NO. 5-5362

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UNIT 'C' POWER PLAN

E2.1C

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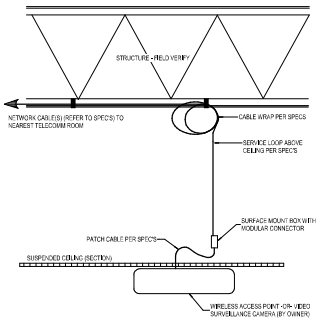
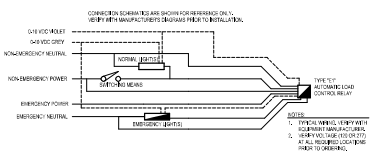
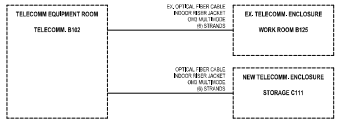


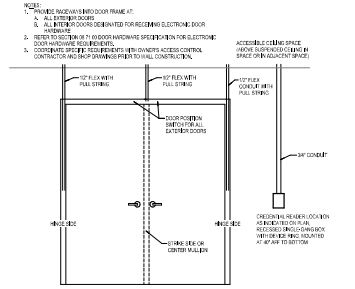
5 E7.01 CEILING MOUNTED COMMUNICATION DEVICE
NOT TO SCALE



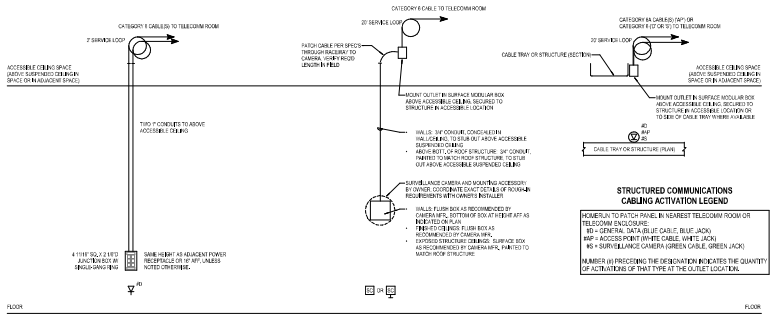
4 E7.01 EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
NOT TO SCALE

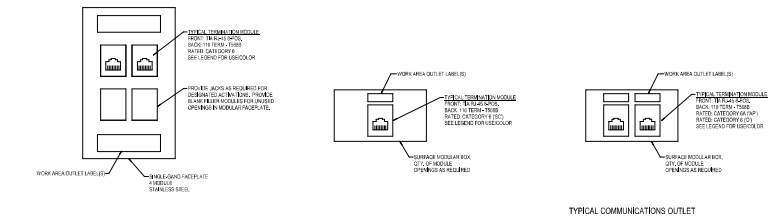


3 E7.01 COMMUNICATIONS CABLING BACKBONE RISER DIAGRAM
NOT TO SCALE



2 E7.01 TYPICAL ROUGH-IN FOR DOORS WITH ELECTRONIC ACCESS CONTROL / MONITORING
NOT TO SCALE





TYPICAL COMMUNICATIONS WALL OUTLET WITH '_D' OR '_AP' ACTIVATION

TYPICAL COMMUNICATIONS OUTLET FOR VIDEO SURVEILLANCE CAMERA

TYPICAL COMMUNICATIONS OUTLET ABOVE ACCESSIBLE CEILING (WIRELESS ACCESS POINT, AUDIO-VIDEO SYSTEM EQUIP., ETC.)

1 E7.01 TYPICAL COMMUNICATIONS OUTLET DETAILS
NOT TO SCALE

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FOREST GROVE ELEMENTARY GYM ADDITION
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES
09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK
REVIEWED JPB
PROJECT NO. 5-5362

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ELECTRICAL DETAILS

E7.01

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ELECTRICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	INTLK	INTERLOCK
BKR	BREAKER	JCT	JUNCTION
BOB	BOTTOM OF BOX	JB	JUNCTION BOX
BOS	BOTTOM OF STRUCTURE	KW	KILOWATT
BP	BREAKER PANEL	KWH	KILOWATT HOUR
BLDG	BUILDING	KO	KNOCK OUT
CAP	CAPACITY	LBL	LABEL
CLG	CEILING	LT	LIGHT
CKT	CIRCUIT	LC	LIGHT CONTROL
CB	CIRCUIT BREAKER	LCM	LIGHTING CONTROL MODULE
C	CONDUIT	LCN	LIGHTING CONTROL NARRATIVE
COMM	COMMUNICATIONS	LTG	LIGHTING
CONN	CONNECTION	MAX	MAXIMUM
CONST	CONSTRUCTION	MCC	MOTOR CONTROL CENTER
CONTR	CONTRACTOR	MIN	MINIMUM
CU	CONTRACT UNIT LINE	MRS	MOTORIZED ROLLER SHADE
CT	CURRENT TRANSFORMER	NEC	NATIONAL ELECTRIC CODE
E.C.	ELECTRICAL CONTRACTOR	NEG	NEGATIVE (-)
EHD	ELECTRIC HAND DRYER	NC	NORMALLY CLOSED
ELEC	ELECTRIC (AL)	NO	NORMALLY OPEN
EWC	ELECTRIC WATER COOLER	N/A	NOT APPLICABLE
EM	EMERGENCY	NIC	NOT IN CONTRACT
ENT	ENTRANCE	NL	NIGHT LIGHT
EQ	EQUAL	PC	PHOTO CELL
EQUIP	EQUIPMENT	POS	POSITIVE (+)
EST	ESTIMATE	PWR	POWER
EF	EXHAUST FAN	P & L	POWER & LIGHTING
EXR	EXISTING TO REMAIN	S	SURFACE
EX	EXISTING	S.B.O.	SUPPLIED BY OTHERS
F	FLUSH	SP	SINGLE POLE
FA	FIRE ALARM	SPD	SURGE PROTECTION DEVICE
FSE	FOOD SERVICE EQUIPMENT	SPKR	SPEAKER
FP	FIRE PROOF / FIRE PROTECTION	SPEC	SPECIFICATION
FLR	FLOOR	SUB	SUBSTITUTE
FLUOR	FLUORESCENT	SWBD	SWITCHBOARD
GEN	GENERATOR	TEL	TELEPHONE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TSTAT	THERMOSTAT
GND	GROUND	XFMR	TRANSFORMER
HDWE	HARDWARE	UG	UNDERGROUND
HTR	HEATER	UL	UNDERWRITERS LABORATORIES
HTG	HEATING	UH	UNIT HEATER
HV	HEATING / VENTILATING	UNO	UNLESS NOTED OTHERWISE
HVAC	HEATING, VENTILATING, AIR CONDITIONING	VERT	VERTICAL
HOA	HAND - OFF - AUTOMATIC	W	WITH
HP	HEAT PUMP	W/O	WITHOUT
		WL	WET LOCATION
		WP	WEATHER PROOF

MAXIMUM CONDUCTOR LENGTHS FOR TYPICAL BRANCH CIRCUITS

FEET ONE-WAY BASED ON SINGLE PHASE, 20A CIRCUIT, 75% LOAD, 190% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#12 AWG	#10 AWG	#8 AWG	#6 AWG	#4 AWG
120	90	160	190	240	305
208	150	170	285	420	670
277	170	230	380	565	890
480	240	400	615	906	

FEET ONE-WAY BASED ON SINGLE PHASE, 30A CIRCUIT, 75% LOAD, 190% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#10 AWG	#8 AWG	#6 AWG	#4 AWG	
120	69	105	150	245	
208	180	315	395	425	
277	135	235	385	565	890
480	240	400	615	969	

FEET ONE-WAY BASED ON THREE PHASE, 20A CIRCUIT, 75% LOAD, 190% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#12 AWG	#10 AWG	#8 AWG	#6 AWG	#4 AWG
208	120	208	305	490	775
480	275	480	715	1,135	

FEET ONE-WAY BASED ON THREE PHASE, 30A CIRCUIT, 75% LOAD, 100% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE			
	#10 AWG	#8 AWG	#6 AWG	#4 AWG
208	109	269	369	498
480	275	480	770	1,139

COMMUNICATIONS SYMBOL LEGEND

- COMMUNICATIONS OUTLET ROUGH-IN
- COMMUNICATIONS OUTLET, ONE DATA ACTIVATION
- COMMUNICATIONS OUTLET, CEILING-MOUNTED
- COMMUNICATIONS OUTLET, FLOOR-MOUNTED
- CEILING-MOUNTED VIDEO PROJECTOR
- COMMUNICATIONS EQUIPMENT RACK, FLOOR-MOUNTED
- COMMUNICATIONS EQUIPMENT RACK, WALL-MOUNTED
- CONDUIT SLEEVE FOR COMMUNICATIONS CABLING, 2"ø TYP, UNLESS NOTED OTHERWISE
- (SP) LOUDSPEAKER, CEILING-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- (SP) LOUDSPEAKER, WALL-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- (VC) INTERCOM SYSTEM CALL STATION BUTTON
- (VC) VOLUME CONTROL FOR AUDIO SYSTEM, PAGING, OR INTERCOM LOUDSPEAKERS
- (C) SECONDARY CLOCK, CEILING-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- (C) SECONDARY CLOCK, WALL-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

ELECTRONIC SAFETY / SECURITY SYMBOL LEGEND

- (DC) DOOR CONTACT
- (E) ELECTRONIC LATCH
- (ES) ELECTRONIC STRIKE
- (K) FOB / DOOR LOCK
- (VC) WALL-MOUNTED SURVEILLANCE CAMERA COMMUNICATIONS ROUGH-IN
- (VC) CEILING-MOUNTED SURVEILLANCE CAMERA COMMUNICATIONS ROUGH-IN
- (CR) CARD READER
- (XXXX) ACCESS CONTROL DOOR TAG, REFER TO HARDWARE SCHEDULES IN SPECIFICATION 08 71 00 AND/OR 26 13 00 FOR DETAILS.
- (ACS) ACCESS CONTROL SYSTEM EQUIPMENT

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

POWER SYMBOL LEGEND

- (3) THREE PHASE MOTOR CONNECTION, 3 HORSE POWER
- (1/2) SINGLE PHASE MOTOR CONNECTION, 1/2 HORSE POWER
- SAFETY SWITCH DISCONNECTING MEANS, NOT FUSIBLE
- SAFETY SWITCH DISCONNECTING MEANS, FUSIBLE
- COMBINATION MOTOR STARTER AND FUSIBLE DISCONNECTING MEANS
- VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECTING MEANS
- MOTOR STARTER
- ROUGH-IN FUSIBLE DISCONNECT SWITCH
- MANUAL MOTOR CONTROLLER
- POWER SWITCH, REFER TO LIGHTING SYMBOL LEGEND FOR SIMILAR SWITCH TYPES
- DIRECT ELECTRICAL CONNECTION
- SINGLE RECEPTACLE
- SINGLE RECEPTACLE, FLOOR-MOUNTED
- DUPLEX RECEPTACLE
- (WP/WL) WHERE "WL" IS NOTED PROVIDE SHUSH-DUE WET LOCATION COVER AND WEATHER RESISTANT SPEC RECEPTACLE.
- SURFACE-MOUNTED RECEPTACLE
- "E" TAG ON DEVICE INDICATES REPLACEMENT OF DEVICE USING EXISTING ROUGH-IN
- DUPLEX RECEPTACLE, CEILING-MOUNTED
- DUPLEX RECEPTACLE, FLOOR-MOUNTED
- DUPLEX STANDBY POWER RECEPTACLE
- DUPLEX SPLIT WIRED RECEPTACLE
- (GFCI) DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
- QUADRUPLEX RECEPTACLE
- QUADRUPLEX RECEPTACLE, CEILING-MOUNTED
- QUADRUPLEX RECEPTACLE, FLOOR-MOUNTED
- MULTI-PHASE RECEPTACLE, SEE PLAN FOR TYPE
- MULTI-PHASE RECEPTACLE, FLOOR-MOUNTED
- (VOLT / AMP) SURFACE RACEWAY SYSTEM
- (ATS) AUTOMATIC TRANSFER SWITCH
- SWITCHBOARD
- PANELBOARD
- (T) TRANSFORMER
- MOTOR CONTROL CENTER
- EMERGENCY STOP STATION, REFER TO DETAIL FOR REQUIREMENTS.
- AUTOMATIC DOOR OPERATOR PUSH BUTTON
- ON/OFF PUSH BUTTON
- THREE-FUNCTION PUSH BUTTON
- (FBT) FLOORBOX, TYPE 1
- (J) JUNCTION BOX
- (M) METER
- (T) THERMOSTAT ROUGH-IN
- (R) RELAY
- (C) ENCLOSED CONTROL CONTACTOR

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

LIGHTING SYMBOL LEGEND

- (S) SINGLE POLE LIGHT SWITCH
- (S2) DOUBLE POLE LIGHT SWITCH
- (S3) THREE-WAY LIGHT SWITCH
- (S4) FOUR-WAY LIGHT SWITCH
- (S(OS)) SINGLE POLE LIGHT SWITCH WITH INTEGRAL OCCUPANCY SENSOR
- (S(OS)D) OCCUPANCY SENSOR DIMMER
- (S(D) WALL-BOX DIMMER SWITCH
- (S3(D)) THREE-WAY DIMMER SWITCH
- (ST) ELECTRONIC INTERVAL TIMER SWITCH
- (SPR) LIGHT SWITCH WITH PILOT LIGHT
- (SC) LIGHTING CONTROL SWITCH, REFER TO LIGHTING CONTROL SWITCH SCHEDULE AND SPECIFICATIONS FOR DETAILS.
- (SDT) DOUBLE THROW MAINTAINED LIGHT SWITCH
- (SK) KEY-OPERATED LIGHT SWITCH - SUFFIX DESIGNATION (BLANK: SINGLE POLE, 2: DOUBLE POLE, 3: THREE-WAY, 4: FOUR-WAY)
- (SK) LOCKING SWITCH - SUFFIX DESIGNATION (BLANK: SINGLE POLE, 2: DOUBLE POLE, 3: THREE-WAY, 4: FOUR-WAY)
- (TSS) TOUCHSCREEN PANEL
- (1/P1a) CIRCUIT NUMBER FOR LIGHTFIXTURES WITH UNINDICATED SPACE
- WALL-MOUNTED LIGHTING FIXTURE, TYPE W
- RECESSED LIGHTING FIXTURE, TYPE V
- SURFACE-MOUNTED LIGHTING FIXTURE, TYPE V
- TRACK LIGHTING
- SINGLE FACE EXIT SIGN, TYPE "EX" IN SCHEDULE UNLESS OTHERWISE NOTED, SHADING INDICATES FACE ORIENTATION
- DOUBLE FACE EXIT SIGN, TYPE "EX" IN SCHEDULE UNLESS OTHERWISE NOTED, SHADING INDICATES FACE ORIENTATION
- WALL-MOUNTED EXIT SIGN
- EMERGENCY LIGHT FIXTURE DESIGNATION
- EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
- (LCR) LIGHTING CONTROL RELAY
- (C) LIGHTING CONTROL ENCLOSED CONTACTOR
- (LS) TIME SWITCH
- (LCM) LIGHTING CONTROL MODULE
- (EBI-C) EMERGENCY LIGHTING INVERTER, TYPE 1
- WALL-MOUNTED OCCUPANCY SENSOR
- CEILING-MOUNTED OCCUPANCY SENSOR
- (PC) WALL-MOUNTED PHOTOCELL FOR ON/OFF CONTROL
- (PC) CEILING-MOUNTED PHOTOCELL FOR ON/OFF CONTROL
- (PD) WALL-MOUNTED PHOTOSENSOR FOR DAYLIGHT HARVESTING DIMMING CONTROL
- (PD) CEILING-MOUNTED PHOTOSENSOR FOR DAYLIGHT HARVESTING DIMMING CONTROL
- POLE-MOUNTED SITE/AREA FIXTURE
- (EM) SELF-CONTAINED EMERGENCY LIGHTING UNIT

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

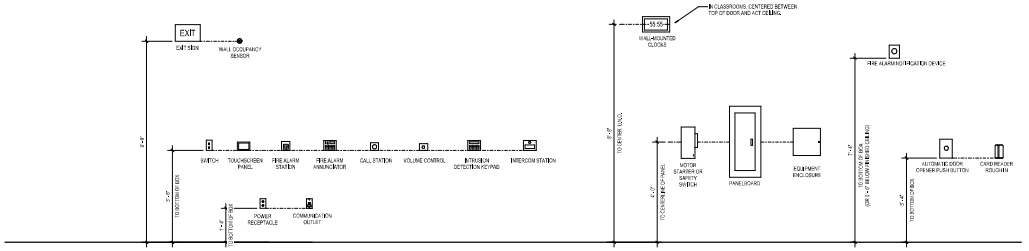
FIRE ALARM SYMBOL LEGEND

- (M) MANUAL PULL STATION
- (H) AUDIBLE NOTIFICATION APPLIANCE, WALL-MOUNTED
- (H) VISUAL NOTIFICATION APPLIANCE, WALL-MOUNTED
- (H) AUDIBLE/VISUAL NOTIFICATION APPLIANCE, WALL-MOUNTED
- (H) AUDIBLE NOTIFICATION APPLIANCE, CEILING-MOUNTED
- (H) AUDIBLE/VISUAL NOTIFICATION APPLIANCE, CEILING-MOUNTED
- (H) VISUAL NOTIFICATION APPLIANCE, CEILING-MOUNTED
- (H/PC) WHERE "H/PC" IS NOTED, PROVIDE LISTED WIRE GUARD OR PROTECTIVE POLYCARBONATE COVER FOR NOTIFICATION DEVICE.
- (H/L) WHERE "H/L" IS NOTED, PROVIDE LISTED WET LOCATION NOTIFICATION DEVICE.
- (H) SMOKE DETECTOR
- (H) HEAT DETECTOR
- (H) DUCT SMOKE DETECTOR
- (H) SMOKE DAMPER OPERATOR MOTOR
- (H) FIRE PROTECTION FLOW SWITCH
- (H) FIRE PROTECTION TAMPER SWITCH
- (H) ELECTROMAGNETIC DOOR HOLD-OPEN DEVICE
- (H) ACCESSIBLE RELAY FOR FIRE ALARM CONTROL
- (H) PRESSURE SWITCH
- (H) CARBON MONOXIDE DETECTOR
- (FACP) NOTIFICATION APPLIANCE CONTROL PANEL
- (FAA) FIRE ALARM REMOTE ANNUNCIATOR
- (FACP) FIRE ALARM CONTROL PANEL
- ($ FT) KEYED TEST SWITCH AND REMOTE INDICATOR FOR DUCT SMOKE DETECTOR
- FIRE PROTECTION OR ALARM BELL

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE AS AMENDED AND ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION WHERE THE WORK IS PERFORMED.
2. ALL "LOW-VOLTAGE" CONTROLS, COMMUNICATIONS, AND SAFETY/SECURITY CABLING MAY BE INSTALLED WITHOUT CONDUIT, RACEWAY, OR CABLE TRAY ONLY WHERE CONCEALED ABOVE A SUSPENDED CEILING SYSTEM AND ACCESSIBLE FOR FUTURE MAINTENANCE, OTHERWISE, ALL CABLING (INCLUDING BUT NOT LIMITED TO CABLES ASSOCIATED WITH SYSTEMS SUCH AS ARCHITECTURAL EQUIPMENT, BUILDING ENERGY MANAGEMENT, TEMPERATURE CONTROLS, LIGHTING CONTROLS, COMMUNICATIONS NETWORKS, TELEPHONE, AUDIO-VISUAL, INTERCOM, PAGING, CLOCK, SURVEILLANCE, ACCESS CONTROL, FIRE ALARM, ETC.) SHALL BE INSTALLED IN AN APPROVED CONDUIT, RACEWAY SYSTEM, AND/OR CABLE TRAY UNLESS NOTED OTHERWISE. ALL CONDUIT, RACEWAY, AND CABLE TRAY SHALL BE CONCEALED. CONDUIT SYSTEMS SHALL BE EXPOSED FOR AESTHETIC REASONS, REFER TO REFLECTED CEILING PLANS FOR LOCATIONS. THIS APPLIES TO ALL TRADES AND WORK CATEGORIES, EXCEPTIONS:
   a. DEDICATED MECHANICAL AND ELECTRICAL ROOMS ABOVE 84" AFF
   b. DEDICATED TELECOMMUNICATIONS ROOMS
3. "LOW-VOLTAGE" CONTROLS, COMMUNICATIONS, AND SAFETY/SECURITY CABLING SHALL NOT BE PAINTED. PAINTING CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY PROTECTION OF ANY EXISTING CABLING PRIOR TO PAINTING EXISTING AREAS. CONTRACTORS INSTALLING CABLING WHERE APPROVED FOR EXPOSED INSTALLATION SHALL INSTALL CABLES AFTER PAINTING HAS BEEN COMPLETED OR PROVIDE TEMPORARY PROTECTION OF CABLES UNTIL PAINTING HAS BEEN COMPLETED. PAINTED CABLES SHALL BE REPLACED AT THE EXPENSE OF THE RESPECTIVE CONTRACTORS.
4. METAL CLAD CABLE MAY BE USED FOR FIXTURE WHIPS IN LENGTHS OF 6 FEET OR LESS ABOVE AN ACCESSIBLE SUSPENDED CEILING SYSTEM ONLY. OTHERWISE, METAL CLAD OR OTHER FLEXIBLE CABLE TYPES SHALL NOT BE USED UNLESS SPECIFICALLY AUTHORIZED BY THE ENGINEERS. IT IS THE INTENT OF THESE CONTRACT DOCUMENTS THAT ALL INSTALLED RACEWAY SYSTEMS CONSIST OF SEPARATE RACEWAY AND CONDUCTORS ALLOWING REMOVAL AND REPLACEMENT OF WIRING AS REQUIRED FOR FUTURE UPGRADES. REFER TO SPECIFICATIONS FOR EXCEPTIONS.
5. CIRCUIT WIRING FOR ARTICLE 700 EMERGENCY SYSTEMS AND ARTICLE 708 CRITICAL OPERATIONS POWER SYSTEMS SHALL BE INSTALLED IN SEPARATE CONDUITS/RACEWAYS AND BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT FOR THEIR ENTIRE LENGTH.
6. ALL RECEIVING AND BRANCH CIRCUITS SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR SIZED ACCORDING TO THE NEC, REGARDLESS OF WHETHER CONDUITS, BOXES, RACEWAYS, ETC. SHALL NOT BE CONSIDERED AN ACCEPTABLE GROUND.
7. CONDUITS AND CABLING SHALL NOT BE INSTALLED WITHIN 6" OF ROOF DECK, EXCEPT AS NECESSARY TO SERVE ROOF-MOUNTED ITEMS AND ONLY WHEN THE CONDUIT OR CABLES ARE ROUTED VERTICALLY TO SUCH EQUIPMENT FROM BELOW.
8. SUPPLEMENTAL METAL FRAMING SHALL BE PROVIDED FOR SUSPENSION POINTS OF ALL ITEMS LOCATED BETWEEN OVERHEAD STRUCTURAL MEMBERS (JOISTS, TRUSSES, BEAMS, ETC.) IN OPEN DOUBLE STRUCTURE CEILING AREAS. METAL FRAMING SHALL SPAN ACROSS THE TOP CHORD OR FLANGE OF THE STRUCTURAL MEMBERS FOR BOTH STRUCTURAL AND AESTHETIC PURPOSES. SPECIFIC EXCEPTIONS SHALL BE COORDINATED IN WRITING WITH THE ARCHITECTS/ENGINEERS.
9. CONDUIT INSTALLED IN EXPOSED CONSTRUCTION SHALL BE 3/4" MINIMUM SIZE.
10. FEEDERS SHOWN ON DRAWINGS ARE SCHEMATIC IN NATURE. CONDUIT RUNS SHALL COMPLY WITH CONDUIT SPECIFICATIONS AND CONTAIN BENDS THAT ARE NO GREATER THAN 90 DEGREES. CONDUITS INSTALLED ABOVE GRADE SHALL BE RUN PARALLEL TO OR PERPENDICULAR WITH BUILDING STEEL AND/OR ARCHITECTURAL LINES.
11. CONTRACTORS SHALL VERIFY CLEARANCES OF WIRING DEVICES, DEVICE FACEPLATES, SURFACE RACEWAY SYSTEMS, AND/OR MULTI-OUTLET ASSEMBLIES WITH ARCHITECTS/ENGINEERS FOR NOT EXPLICITLY SPECIFIED.
12. ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ADDITIONAL LIGHTING FIXTURE INFORMATION AND MOUNTING LOCATIONS.
13. ELECTRICAL CONTRACTOR SHALL ADJUST LIGHTING FIXTURE LOCATIONS IN MECHANICAL ROOMS TO ACCOMMODATE MECHANICAL EQUIPMENT AND FIELD CONDITIONS.
14. CONTRACTORS SHALL BE RESPONSIBLE TO REVIEW INTERIOR ELEVATION SHEETS FOR PLACEMENT OF DEVICE BOXES, COORDINATE LOCATIONS SO THAT NO DEVICES ARE INSTALLED BEHIND CASEWORK, MILLWORK, VISUAL DISPLAY BOARDS, MIRRORS, CUSTOM GRAPHICS, SIGNAGE, ETC.
15. ELECTRICAL CONTRACTOR SHALL REVIEW TOILET EQUIPMENT SHOP DRAWINGS AND ARCHITECTURAL DETAILS/ELEVATIONS FOR CORRECT DEVICE BOX ROUGH-IN LOCATION OF HAND DRYERS.
16. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH PLUMBING CONTRACTOR AND THE ELECTRIC WATER COOLER / BOTTLE FILLER SHOP DRAWINGS FOR MOUNTING HEIGHT AND CONNECTION METHOD OF PLUMBING EQUIPMENT POWER CONNECTIONS. WHERE ACCESSIBLE OR PROTECTION SHALL BE PROVIDED FOR THE BRANCH CIRCUITS SUPPLYING ALL SUCH UNITS PER NEC REQUIREMENTS.
17. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR DETAILED INFORMATION REGARDING EQUIPMENT AND CONTROL. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND PROVIDING ITEMS AS SPECIFICALLY LISTED AND ASSIGNED ON MECHANICAL EQUIPMENT SCHEDULE SUCH AS DISCONNECT SWITCHES, VARIABLE FREQUENCY DRIVES, STARTERS, THERMOSTATS, ETC.
18. ELECTRICAL CONTRACTOR SHALL CONFIRM THE LOCATION OF THE EXHAUST FANS LISTED IN THE MECHANICAL EQUIPMENT SCHEDULES BY REFERENCING TO MECHANICAL/HVAC PLANS.
19. REFER TO ROOF PLANS FOR EXACT LOCATIONS OF ROOF TOP MECHANICAL EQUIPMENT.
20. CABINET HEATERS MAY HAVE LINE VOLTAGE THERMOSTATS SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. REFER TO MECHANICAL EQUIPMENT SCHEDULE.
21. DIVISION 26 CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES WITH APPROPRIATE BUSHINGS FOR COMPUTER AND ELECTRONIC SAFETY/SECURITY CABLING THROUGH WALLS AND FLOORS. SLEEVE SIZES SHALL BE COORDINATED WITH CABLING REQUIREMENTS.
22. SECTION 27 05 33 CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES WITH APPROPRIATE BUSHINGS FOR COMMUNICATIONS CABLING THROUGH WALLS AND FLOORS. SLEEVE SIZE SHALL BE 2" MIN, UNLESS NOTED OTHERWISE.
23. PROVIDE DIRECT CONNECTIONS FROM LOCAL RECEPTACLE CIRCUIT TO ACCESS CONTROL SYSTEM AND DOOR HARDWARE POWER SUPPLIES WHERE REQUIRED FOR DOOR LOCK DEVICES, CONTROLLERS, ETC. REFER TO DOOR HARDWARE SCHEDULE AND ACCESS CONTROL SYSTEM SCHEDULES FOR RESPECTIVE SPECIFICATIONS FOR QUANTITIES AND LOCATIONS.



NOTE: ALL HEIGHTS ARE AS SHOWN UNLESS NOTED OTHERWISE.

TYPICAL MOUNTING HEIGHTS FOR WALL DEVICES, EQUIPMENT, & FIXTURES

NOT TO SCALE

Section 27 41 16 - Multimedia Systems

ADDENDUM 1: UPDATED DRAWINGS: JANUARY 17, 2023

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES

10.19.2022	BIDS & CONSTRUCTION
11.18.2022	ADDENDUM 001

DRAWN JPB
REVIEWED AAB

PROJECT NO. 5-5065

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ELECTRICAL SYMBOL LEGENDS & GENERAL NOTES

E0.01

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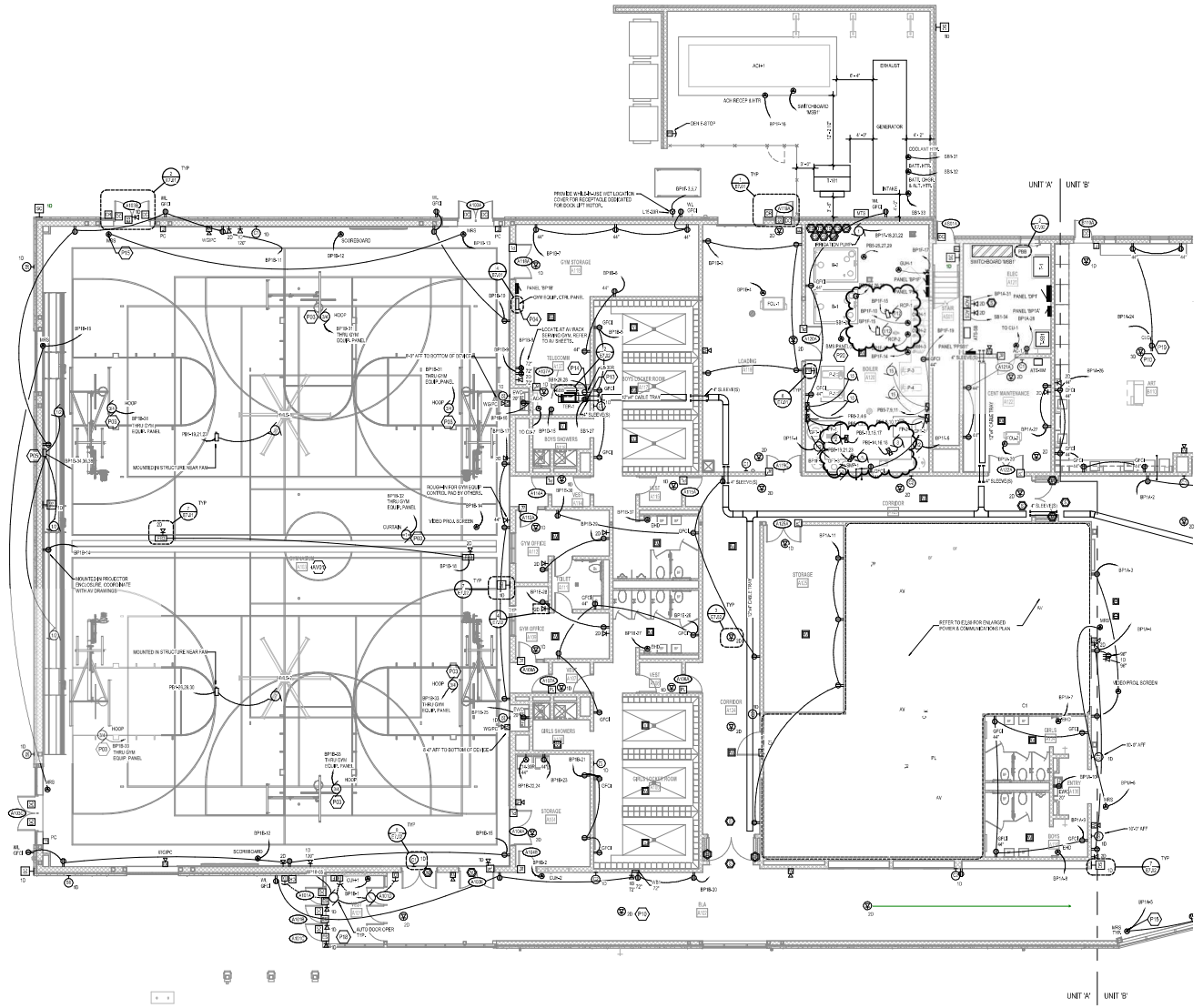


UNIT 'A' FIRST FLOOR POWER & COMMUNICATIONS PLAN

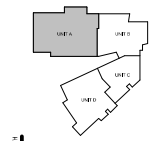
1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE BARRIERS AND CORRESPONDING DAMPERS. PROVIDE 120VAC POWER FROM COMMERCIAL FIRE ALARM CIRCUIT WITH MINIMUM LOAD REQUIREMENTS IN LOCAL TAMEBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON A CIRCUIT). TERMINATION IN ROOM WITH PUBLIC SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER. REFER TO MECHANICAL / TEMPERATURE CONTROLS DRAWINGS FOR COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTORS SHOP DRAWINGS.
5. PROVIDE NON-OWNER PUBLIC DISCONNECT SWITCH JOHN ELEVATOR IN AN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO GARAGE HEATERS, CAMPING, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.).
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

AV01	REFER TO AV DRAWINGS FOR ADDITIONAL SCOPE. COORDINATE ALL ROUGH-IN LOCATIONS WITH AV DRAWINGS.
P03	E.C. SHALL PROVIDE AND INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'-0" OF WINCH LOCATION FOR TWIST-LOCK RECEPTACLE. TWIST LOCK RECEPTACLE AND COVER PROVIDED BY EQUIPMENT PROVIDER. (1) HOOK-UP REQUIRED PER DEVICE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.
P04	8-RELAY GYM EQUIPMENT CONTROL PANEL REQUIRED TO SUPPORT (6) HOOP WINCH MOTORS AND (1) DIVIDER CURTAIN MOTOR. (1) 20A/1P RELAY PER DEVICE. POWER EACH PANEL WITH (2) 120V SINGLE POLE CIRCUITS AS INDICATED IN PANEL SCHEDULE. REFER TO MANUFACTURER'S INSTRUCTIONS FOR FURTHER DETAILS.
P05	E.C. SHALL PROVIDE AND INSTALL NON-FUSIBLE SAFETY SWITCHES FOR BLEACHER MOTOR. JUNCTION BOX SHALL BE MOUNTED AT 5'-0" AFF. COORDINATE LOCATION WITH EQUIPMENT PROVIDER. REFER TO BLEACHER DETAILS ON ARCHITECTURE SHEETS FOR FURTHER DETAILS.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, ETC.). TYPICAL FOR ALL. TERMINATE CABLING IN SURFACE MOUNT BOX (ATT-1 SECONDARY CONNECTOR) OR J-BOX. PROVIDE SLACK AS APPROPRIATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL LOOP RECEPTACLE INSIDE 4"-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.
P20	COORDINATE WITH CONTROLS CONTRACTOR FOR LOCATION OF EMS PANEL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
03.16.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
05.26.2021	BULLETIN 008
06.16.2021	BULLETIN 010
07.01.2021	BULLETIN 011
08.16.2021	BULLETIN 013
08.31.2021	BULLETIN 015
09.28.2021	BULLETIN 019
02.28.2022	BULLETIN 022

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'A' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1A

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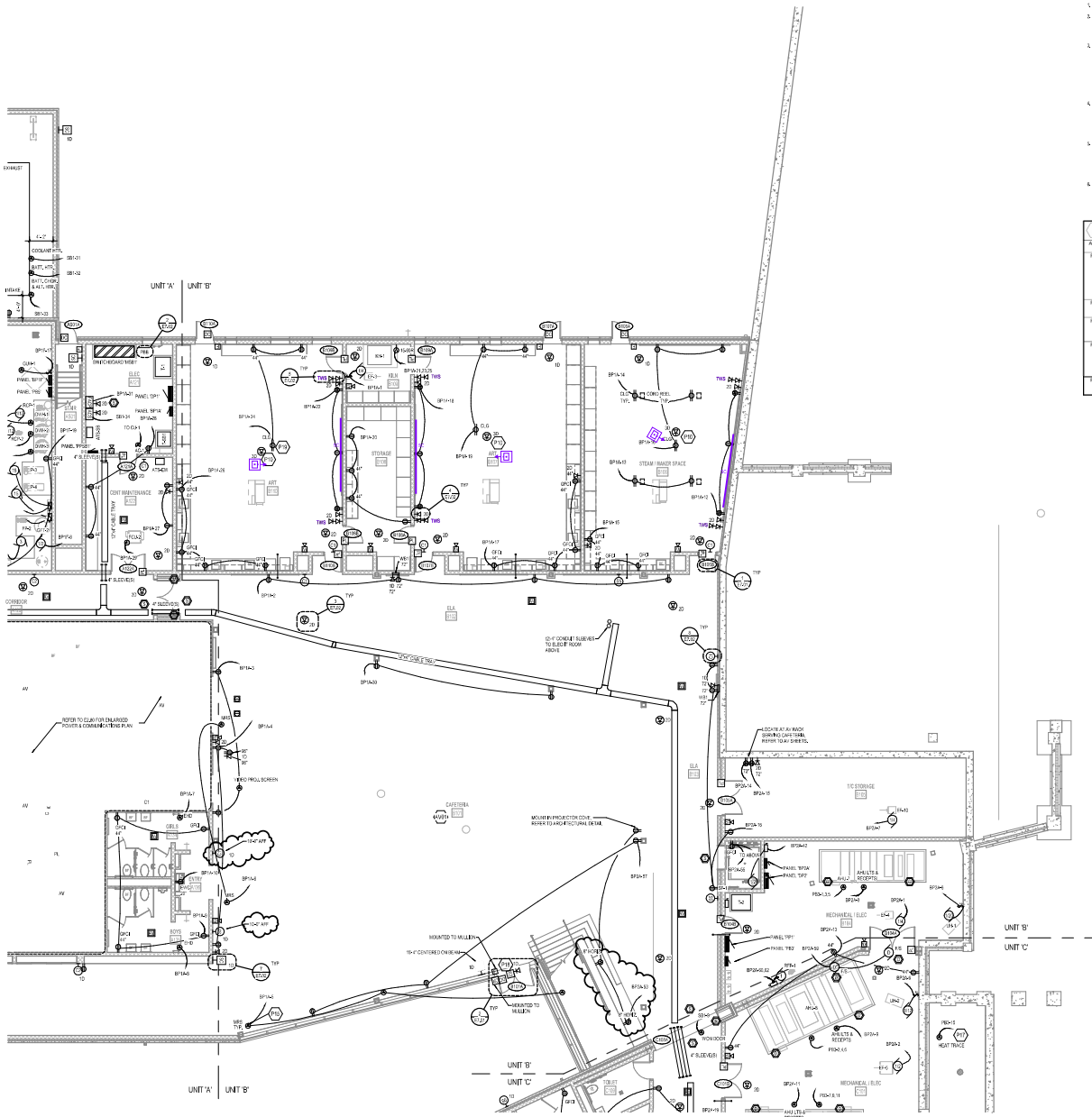

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES, PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED SMITH BRANCH CIRCUIT WITH BREAKER LOCKING MECHANISM IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATE W/ (N)CB-COVER PUBLIC SWITCH AT EACH DAMPER. ALSO PROVIDE RISE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER ACCESSIBLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH IN BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO DUCT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.)
6. REFER TO AV DRAWINGS FOR ADDITIONAL FAIRWAY AND HOUSE-AV REQUIREMENTS.

ELECTRICAL KEYNOTES

AV01	REFER TO AV DRAWINGS FOR ADDITIONAL SCOPE. COORDINATE ALL ROUGH-IN LOCATIONS WITH AV DRAWINGS.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE CABLING REQUIREMENTS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, AV EQUIPMENT, ETC.). TERMINATE CABLING IN SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCITON BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P17	HEAT TRACING FOR PLUMBING PIPING PER 22 05 33. LENGTHS FROM PLUMBING PLANS. FIELD VERIFY EXACT LENGTHS REQUIRED. HEAT TRACING SHALL COMPLY WITH NEC ARTICLE 426.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN NEARBY WALL, OR JUNCTION BOX SURFACE MOUNTED IN ADJACENT STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.26.2021	BULLETIN 008
06.28.2021	BULLETIN 010

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'B' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1B

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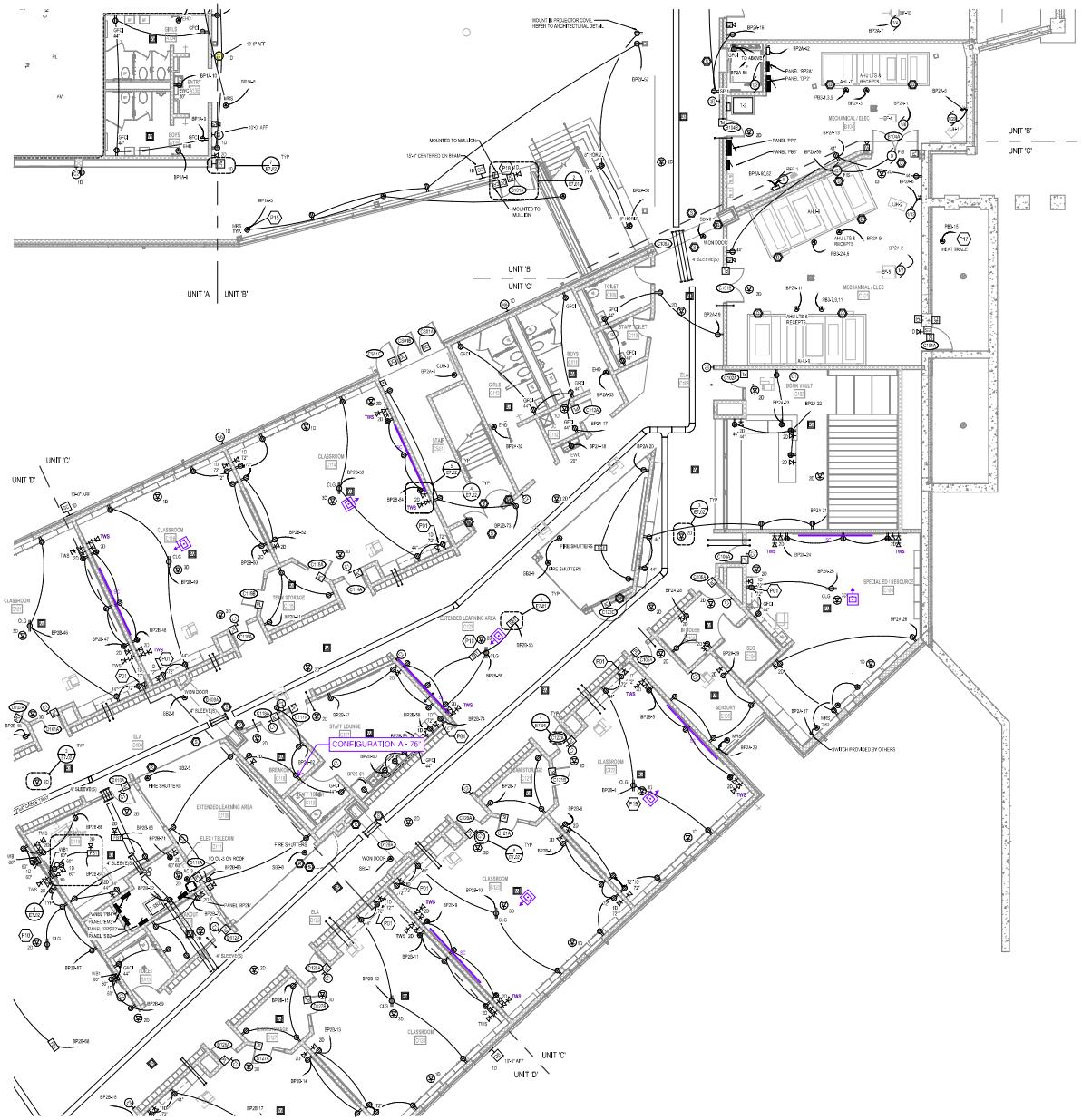

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.0.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH DEDICATED NEUTRAL FROM LOCAL PANELBOARD FOR DAMPER(S) IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATE IN 906-ZONE FIRE ALARM CABLE STRETCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DETECTOR WITHIN 5 FEET. AREA FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER IN CONFIGURATIONS AS NOTED PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER LOCATION OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (SN/SU) ENCLOSED IN BOX IN ACCESSIBLE LOCATION FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, DAMPER TRAIN, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.)
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND HOOD-UP REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, ETC.) PROVIDE 4" SQUARE BOX WITH SINGLE GANG SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCITON BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P17	HEAT TRACING FOR PLUMBING PIPING PER 22 05 33. LENGTHS FROM PLUMBING PLANS. FIELD VERIFY EXACT LENGTH REQUIRED. HEAT TRACING SHALL COMPLY WITH NEC ARTICLE 426.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 10 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN ON PLANS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.

UNIT 'C' FIRST FLOOR POWER & COMMUNICATIONS PLAN
1/8" = 1'-0"

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.26.2021	BULLETIN 008
09.28.2021	BULLETIN 016
10.26.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'C' FIRST FLOOR POWER & COMMUNICATIONS PLAN

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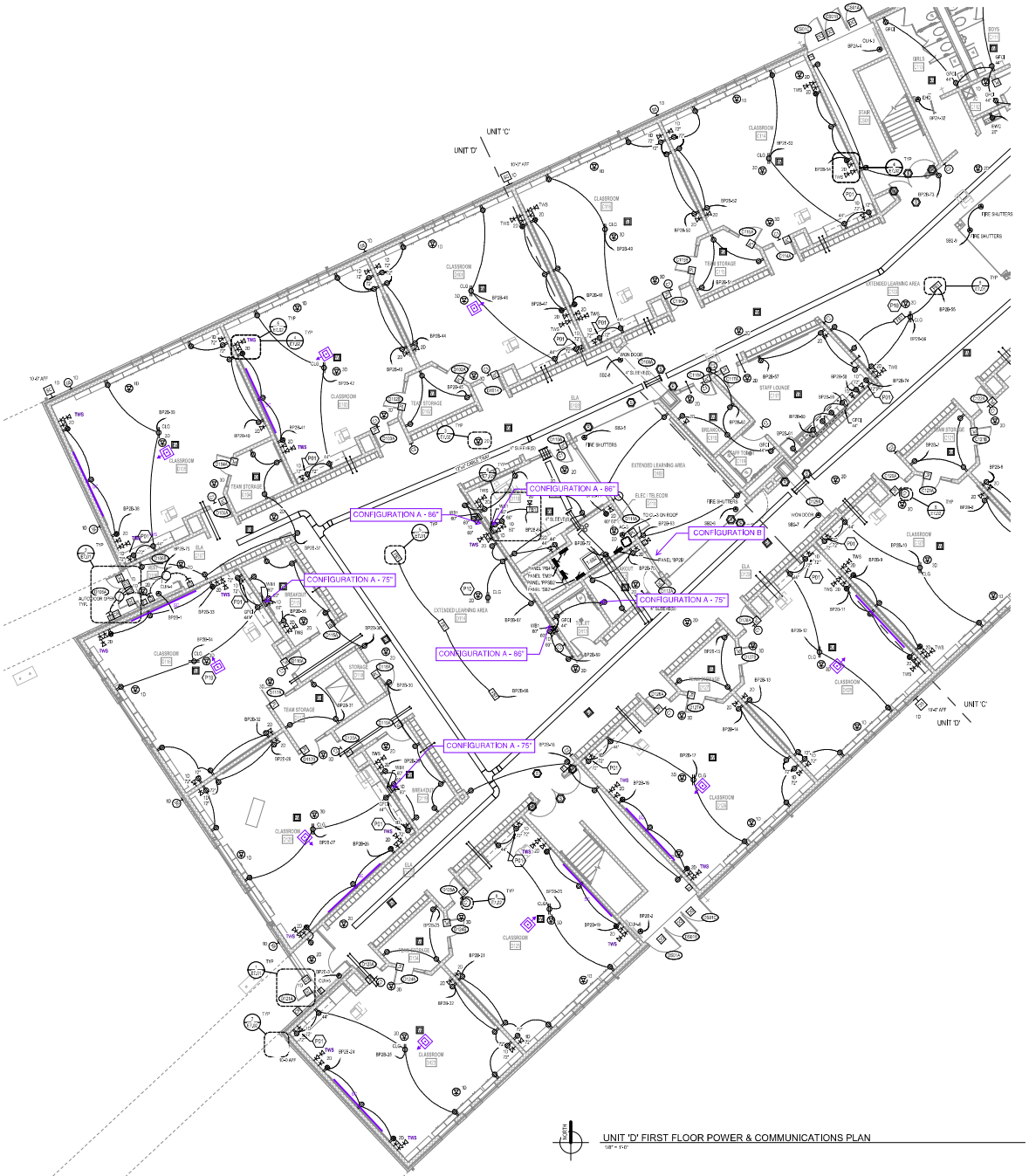


NORTH

UNIT 'D' FIRST FLOOR POWER & COMMUNICATIONS PLAN

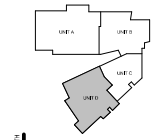
1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120 VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH OVERHEAD DOUBLE MECHANICAL LOCAL PANELBOARD FOR DAMPERS IN HVAC AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATE TO WORK-OVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE FOR OCCUPIABLE ROOM OR SPACE, INSTALL 12" CONDUIT AND WIRE FROM BOX TO CORRESPONDING MECHANICAL UNIT OR CONTROL SYSTEM DEVICE. COORDINATE LOCATIONS WITH MECHANICAL DRAWINGS, SYSTEMS DESIGN AND CONTROLS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR / LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CHILLERS, BOILERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, KW BASES, ETC.)
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAYS AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, AV EQUIPMENT, ETC.). TERMINATE CABLING IN SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCTION BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



NORTH

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
10.26.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'D' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1D

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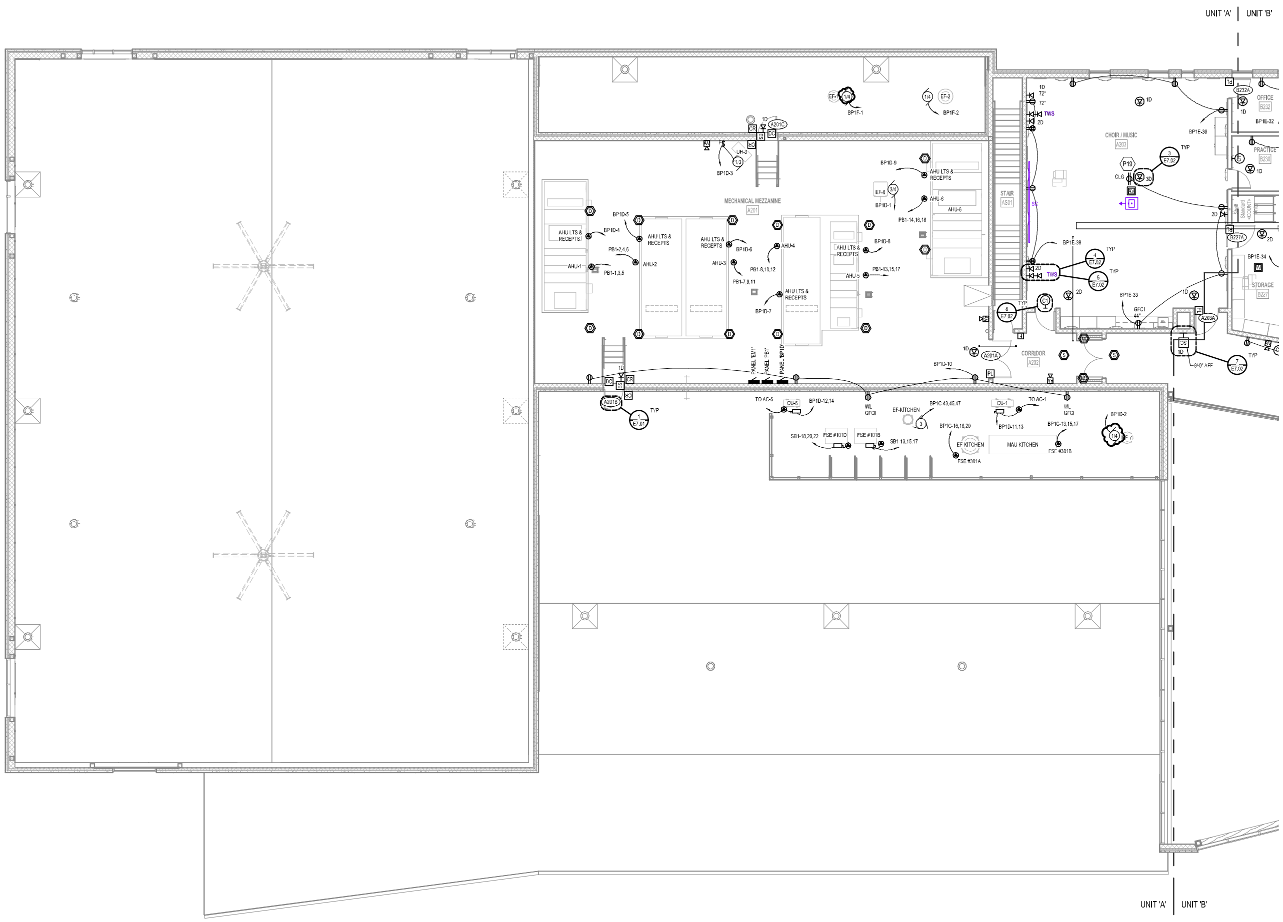
POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT (WITH BREAKER LOCKING MECHANISM) IN LOCAL PANELBOARD FOR DAMPER(S) IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT), TERMINATED W/ BOX-COVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (ON BUILDING INTERIOR IN ACCESSIBLE LOCATION) FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.6
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

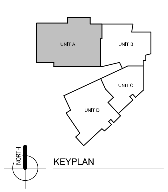
	ELECTRICAL KEYNOTES
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



UNIT 'A' SECOND FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"

KEYPLAN



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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
04.16.2021	BULLETIN 006

DRAWN JFB
REVIEWED AAB
PROJECT NO. 5-5065

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UNIT 'A' SECOND FLOOR POWER & COMMUNICATIONS PLAN

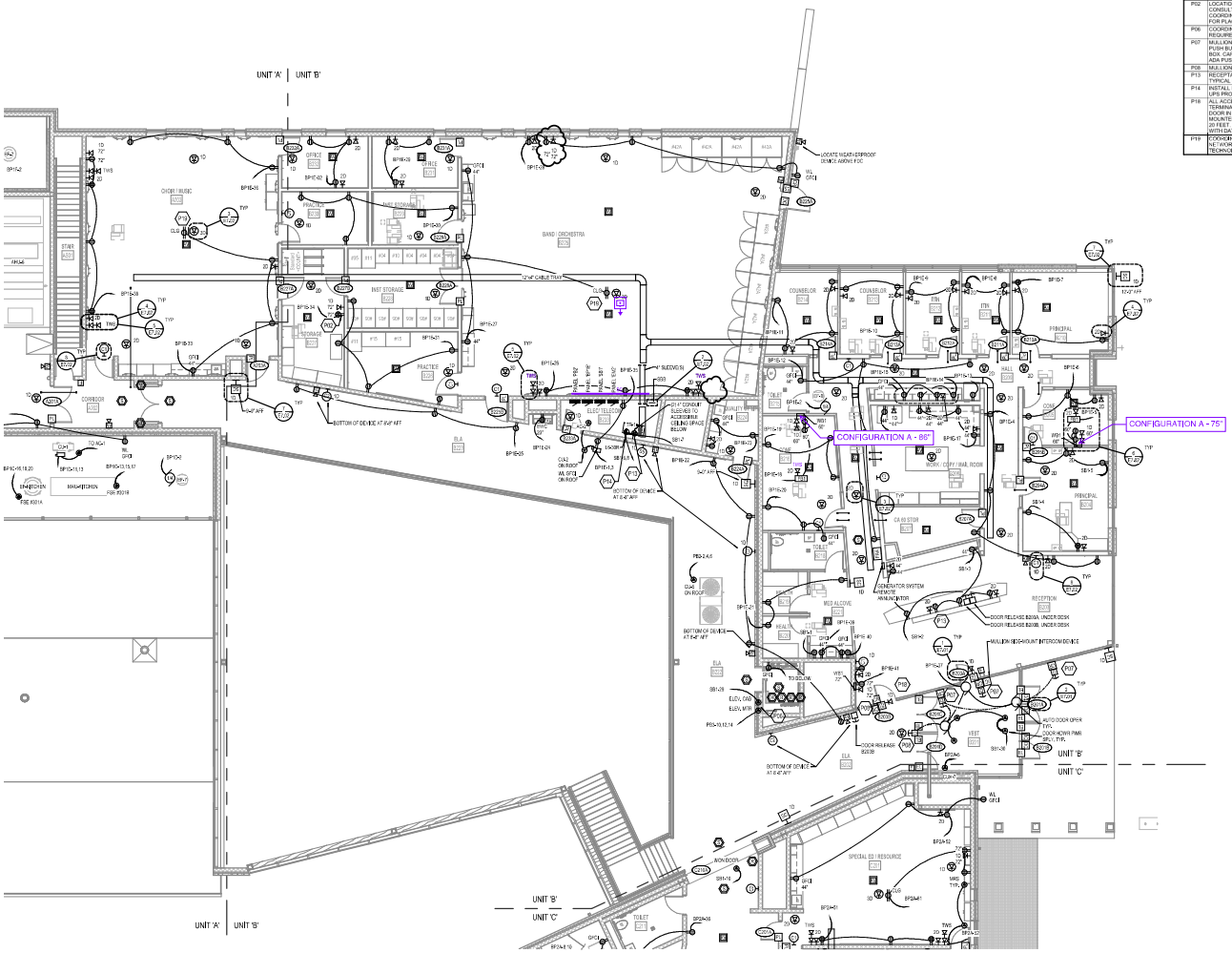
E2.2A

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CCE COMPONENT PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120 VAC POWER FROM DEDICATED 15A/1P BRANCH CIRCUIT WITH BREAKER LOCKING MECHANISM IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE DAISY-CHAINED ON A CIRCUIT WHERE ALLOWED BY MECHANICAL SYSTEM AT THE DISCRETION OF THE ENGINEER. PROVIDE ADDITIONAL DUPLEX RECEPTACLES FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES. AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT PATHWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL/TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BISCUIT® FLEXIBLE DISCONNECT SWITCH ON ALUMINUM PATTERN IN ACCESSIBLE LOCATION FOR EACH SINGLE (1-10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT WORK LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE (NOT ARE NOT LIMITED TO) CONVECTOR HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.S
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

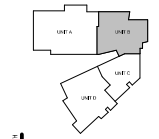
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P06	COORDINATE WITH ELEVATOR MANUFACTURER'S REQUIREMENTS FOR DISCONNECTS.
P07	MULLION MOUNT CARD READER AND ADA PUSHBUTTON. ADA PUSH BUTTON SHALL BE MOUNTED AT 40" AFF TO BOTTOM OF BOX. CARD READER SHALL BE MOUNTED DIRECTLY ABOVE ADA PUSHBUTTON.
P08	MULLION MOUNT CARD READER OR ADA PUSHBUTTON.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW - TYPICAL FOR ALL.
P14	INSTALL (4)-6R RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER
P16	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND AV WORK ACTIVATIONAL FOR PROJECTION WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



North

UNIT 'B' SECOND FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"



North

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
05.26.2021	BULLETIN 008
06.28.2021	BULLETIN 010

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'B' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2B

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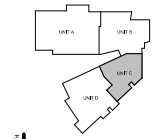
UNIT 'C' SECOND FLOOR POWER & COMMUNICATIONS PLAN

3/8" = 1'-0"



KEYPLAN

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE LOCAL POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT UNDER BREAKER LOCKING RECEPTACLE LOCAL PANELBOARD FOR DAMPERS IN SHAFTS. IN SHAFTS WHERE DAMPERS ARE GROUPED ON ONE FLOOR, PROVIDE ONE 20A/1P BRANCH CIRCUIT FOR EACH GROUP OF DAMPERS. PROVIDE FIRE ALARM ADDRESSABLE RELAY WITHIN 5 FEET OF EACH DAMPER ENCASED IN ENCLOSURE CONNECTED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES. AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER LINE. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE NON-FUSED DISCONNECT SWITCH (WALL MOUNTED) IN ACCESSIBLE LOCATION FOR EACH SMALL (1 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO EXHAUST FANS/FANS, SUMP/JET PUMPS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.).
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P06	COORDINATE WITH ELEVATOR MANUFACTURER'S REQUIREMENTS FOR DISCONNECTS.
P07	MULLION MOUNT CARD READER AND ADA PUSHBUTTON. ADA PUSH BUTTON SHALL BE MOUNTED AT 48" AFF TO BOTTOM OF BOX. CARD READER SHALL BE MOUNTED DIRECTLY ABOVE ADA PUSHBUTTON.
P08	MULLION MOUNT CARD READER OR ADA PUSHBUTTON.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL UL-WR RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P16	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET, TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR, TYPICAL FOR ALL.

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
04.16.2021	BULLETIN 006
05.06.2021	BULLETIN 008
10.26.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'C' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2C

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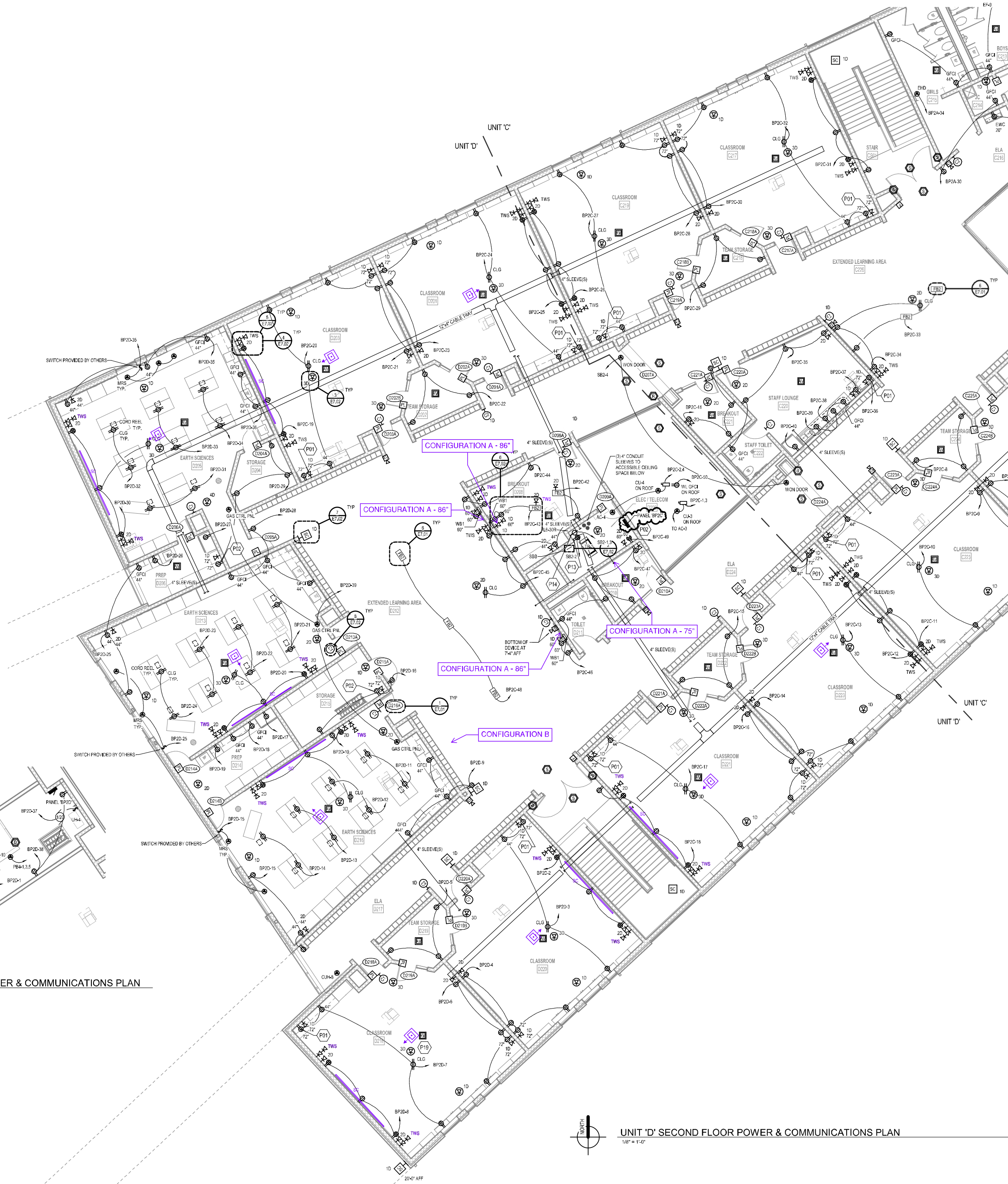
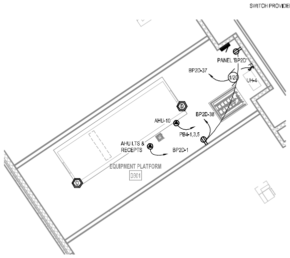


UNIT 'D' SECOND FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"



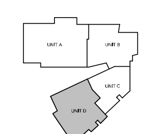
EQUIPMENT PLATFORM POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT (WITH BREAKER LOCKING MECHANISM) IN LOCAL PANELBOARD FOR DAMPER(S) IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT), TERMINATED W/ BOX-COVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (ON BUILDING INTERIOR IN ACCESSIBLE LOCATION) FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.6
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

	ELECTRICAL KEYNOTES
P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL L6-30R RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
05.11.2021	BULLETIN 007
10.26.2021	BULLETIN 019

DRAWN	JFB
REVIEWED	AAB

PROJECT NO. 5-5065

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UNIT 'D' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2D

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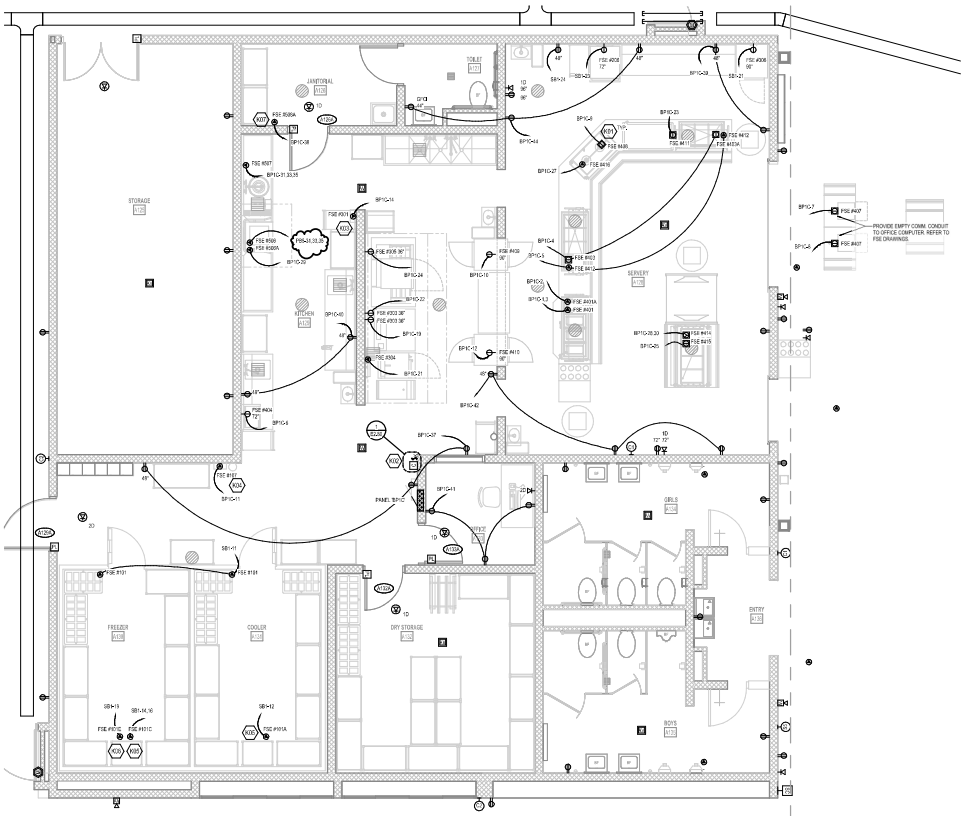


NORTH

ENLARGED KITCHEN POWER & COMMUNICATIONS PLAN

1/4" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

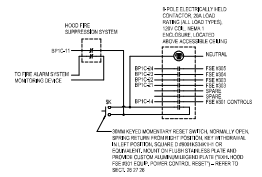
1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRE STOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH BRANDED LOCKING BREAKER IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE GROUPED ON EACH CIRCUIT, TERMINATED IN BOX-COVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER IN CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE 60A COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SINGLE 10 HP MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: EXHAUST FANS(S), DAMPERS, EXHAUST FANS, FAN COILS, UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
6. REFER TO MV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

FOODSERVICE ELECTRICAL GENERAL NOTES

1. IN ALL CONSTRUCTION SHALL REVIEW FOODSERVICE EQUIPMENT DRAWINGS (FSE) + VENDOR AND FOOD SERVICE SPECIFICATIONS SECTION 11 40 00 FOR ADDITIONAL SCOPE OF WORK AND REQUIREMENTS, INCLUDE ALL WORK AND MATERIALS AS ASSIGNED TO THE ELEC. CONTRACTOR BY DRAWINGS, SPECIFICATIONS, CONTRACTOR MANUFACTURERS WORK CATEGORY DESCRIPTIONS, ETC.
2. IF THERE IS A CONFLICT BETWEEN THE FOODSERVICE DRAWINGS/SPECIFICATIONS AND THE DRAWINGS OF DIVISION 26 SPECIFICATIONS, THE ELEC. CONTRACTOR SHALL BID USING THE MORE STRINGENT AND CREATE NO COST REQUIREMENTS. CLARIFICATIONS MAY BE REQUESTED (IN WRITING) PRIOR TO BID. COORDINATE WITH CONSTRUCTION MANAGERS PROCEDURES.
3. THE WORK SHOWN ON THESE DRAWINGS AND THE DIVISION 26 SPECIFICATIONS SHALL SUPERCEDE THE FOOD SERVICE EQUIPMENT DRAWINGS/SPECIFICATIONS.
4. LABEL ALL RECEPTACLES IN KITCHEN AND SERVING AREAS WITH CORRESPONDING PANELBOARD CIRCUIT NUMBER, AND FOODSERVICE EQUIPMENT TAG NUMBER AS REFERENCED ON THE FOODSERVICE EQUIPMENT DRAWINGS.
5. ELEC. CONTRACTOR SHALL IDENTIFY AND COORDINATE WITH THE FOODSERVICE EQUIPMENT VENDOR'S THAT ALL SINGLE-PHASE RECEPTACLES (250V) & OR LESS, NEMA 5-20R AND THREE-PHASE RECEPTACLES (208V, 240V, 480V) 100A OR LESS IN KITCHEN AND SERVING AREAS HAVE GFCI PROTECTION FOR PERSONNEL AS REQUIRED BY NEC (TYP.). EITHER AT THE DEVICE (GFCI RECEPTACLE) OR AT THE RESPECTIVE PANELBOARD GFCI BREAKER FOR THE BRANCH CIRCUIT. FOR ANY NON-RECEPTACLE LOADS/EQUIPMENT THAT ARE NOT READILY ACCESSIBLE (NEC DEFINITION), GFCI PROTECTION SHALL BE PROVIDED FOR THE BRANCH CIRCUIT AT THE PANELBOARD (2ND-A GFCI BRANCH CIRCUIT BREAKER).
6. PROVIDE CONCEALED HOOD-MOUNTED FOR REMOTE MANUAL PULL STATIONS CONNECTED TO VENTILATING HOOD FIRE PROTECTION SYSTEMS. SURFACE-MOUNTED CONDUIT, BPS, AND PULL STATIONS ARE NOT ACCEPTABLE. COORDINATE LOCATIONS WITH ENGINEERED SHOP DRAWINGS FOR SYSTEM.

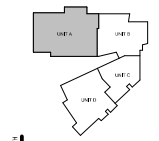
ELECTRICAL KEYNOTES

K01	FLOOR-MOUNTED PEDESTAL WITH RECEPTACLE AS INDICATED. BOX SHALL BE ONE-PIECE CAST ALUMINUM OR STAINLESS STEEL MOUNTED HORIZONTALLY WITH (2) HUBS ON BOTTOM ALLOWING SIDE TO ACCEPT THREADED RIGID METALLIC CONDUIT. PROVIDE WITH CAST METAL WEATHERPROOF HINGED COVER OVER WIRING DEVICE. TOP OF RECEPTACLE BOX SHALL NOT EXCEED 5" AFF.
K02	INTERCONNECTION TO EQUIP. SHUTDOWN CONTROLS (REFER TO DETAIL)
K03	E.C. SHALL INTERWIRE ALL COMPONENTS OF MAKE-UP AIR UNIT, EXHAUST FAN, HOOD LIGHTS, AND HOOD CONTROLS AS SHOWN ON FOODSERVICE EQUIP. DRAWINGS AND AS RECOMMENDED BY EQUIP. MANUFACTURER. VERIFY WITH EQUIPMENT SHOP DRAWINGS.
K04	E.C. SHALL INTERWIRE FIRE SUPPRESSION SYSTEM INTERCONNECTION WITH FIRE ALARM INITIATION CIRCUIT FOR SUPERVISORY MONITORING FOR LOCAL CODES AND CONTROL CONTACTOR FOR SHUTDOWN OF EQUIPMENT (SEE SUPPLY UNDER HOOD UPON RELEASE OF EXTINGUISHING AGENT. REFER TO DETAIL ON FSE DRAWINGS AND CONTROL DETAIL.
K05	E.C. SHALL INTERWIRE ALL COMPONENTS OF WALK-IN COOLER OR FREEZER AS SHOWN ON DRAWINGS AND REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE WITH SHOP DRAWINGS.
K06	COORDINATE WITH PLUMBING CONTRACTOR FOR LOCATION OF HEAT TRACE POWER SUPPLY.
K07	CONNECT DISHWASHER EXHAUST FAN TO DISHWASHER CONTROL PANEL. REFER TO FSE DRAWINGS.



1 E2.80 FOODSERVICE EQUIP. ELEC SHUTDOWN DETAIL

NOT TO SCALE



NORTH

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
12.02.2021	BULLETIN 010

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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KITCHEN & SERVING AREA POWER & COMMUNICATIONS ENLARGED PLAN

E2.80

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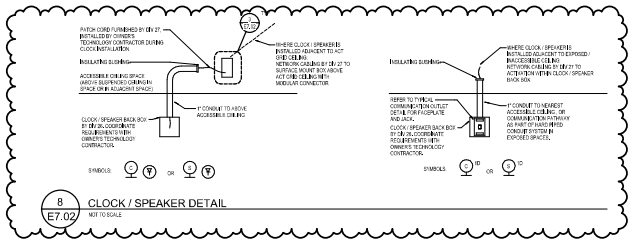

8 E7.02 CLOCK / SPEAKER DETAIL
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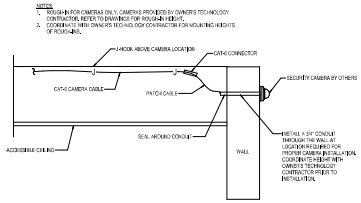

7 E7.02 TYPICAL WALL MOUNT SURVEILLANCE CAMERA INSTALLATION
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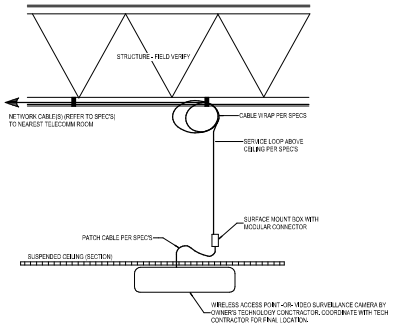

3 E7.02 CEILING MOUNTED COMMUNICATION DEVICE
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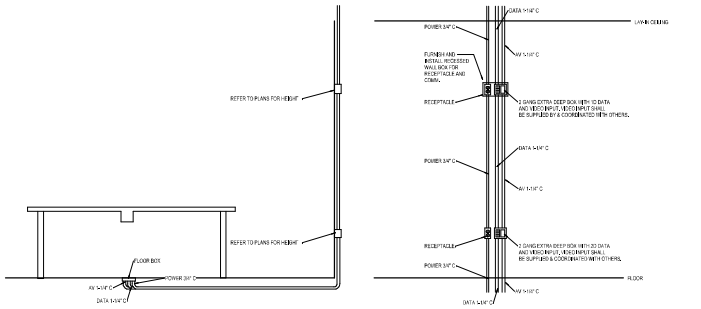

6 E7.02 VIDEO CONFERENCE SECTION
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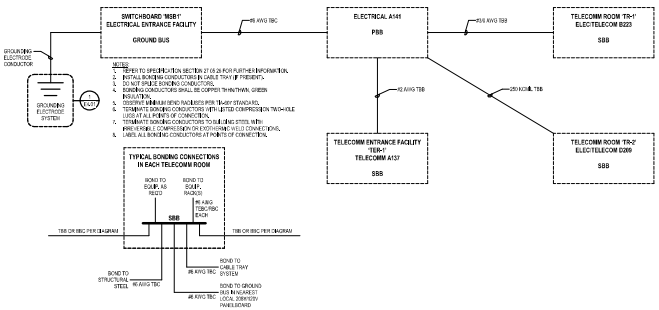

2 E7.02 COMMUNICATIONS GROUNDING/BONDING SYSTEM RISER DIAGRAM
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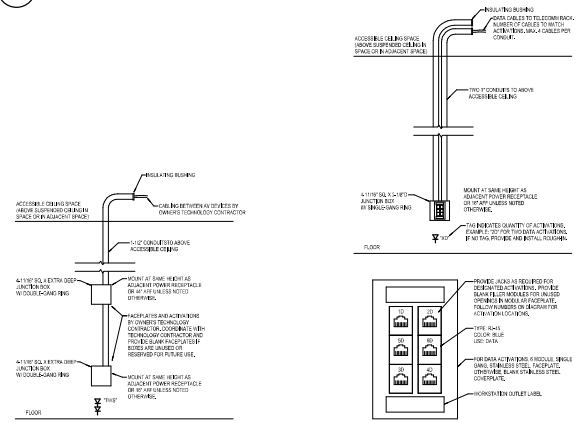
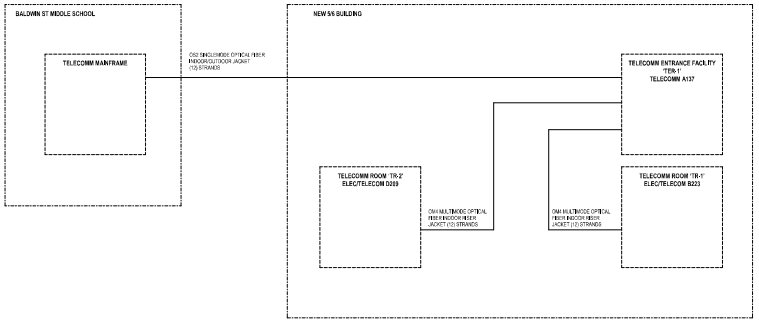


5 E7.02 TEACHER WORKSTATION DETAIL
NOT TO SCALE

4 E7.02 TYPICAL COMMUNICATION OUTLET
NOT TO SCALE



1 E7.02 COMMUNICATIONS CABLING BACKBONE RISER DIAGRAM
NOT TO SCALE

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004

DRAWN JPB
REVIEWED AAB
PROJECT NO. 5-5065

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ELECTRICAL DETAILS

E7.02

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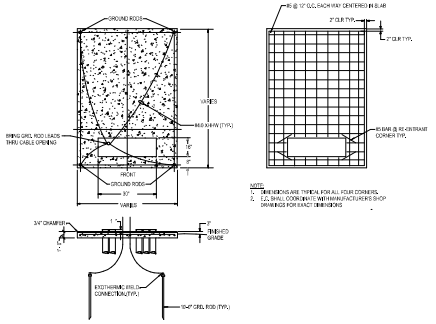
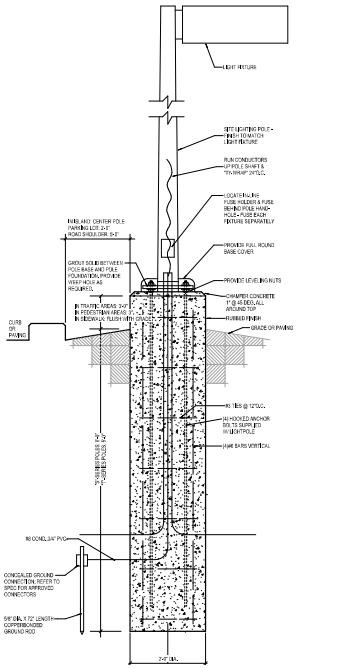
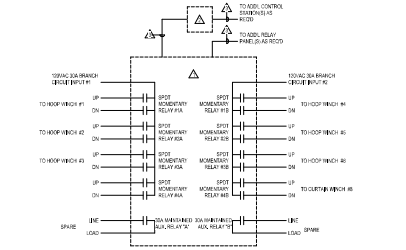


10 E7.01 TRANSFORMER/GENERATOR GROUNDING DETAIL
NOT TO SCALE



9 E7.01 SITE LIGHTING POLE FOUNDATION
NOT TO SCALE

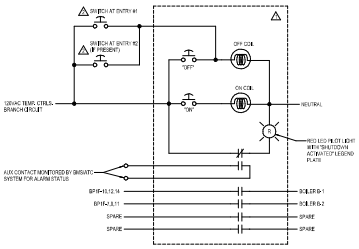


1 GYMNASIUM EQUIPMENT CONTROL SYSTEM RELAY PANEL, FURNISHED BY SECTION 11 68 23, INSTALLED AND WIRED BY ELEC. CONTRACTOR. WIRING CONNECTIONS ARE SHOWN FOR CONCEPT ONLY. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR EXACT REQUIREMENTS AND WIRING ARRANGEMENTS.

2 GYMNASIUM EQUIPMENT CONTROL SYSTEM OPERATOR INTERFACE AND PUSH BUTTON PANEL, AS SPECIFIED BY SECTION 11 68 23, INSTALLED AND WIRED BY ELEC. CONTRACTOR. MOUNT SEMI-FLUSH AT 44" AFF TO BOTTOM OF BOX WITH CENTERLINE OF RIGHT OF ALL EQUIPMENT TO BE CONTROLLED. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR EXACT ROUGH-IN REQUIREMENTS.

3 CONTROL-VOLTAGE CABLE FURNISHED AND WIRED BY SLEC CONTRACTOR. REFER TO SECTION 26 05 23 FOR TYPICAL CABLE. REFER TO MANUFACTURER'S SHOP DRAWINGS TO CONFIRM EXACT CABLE TYPE REQ'D.

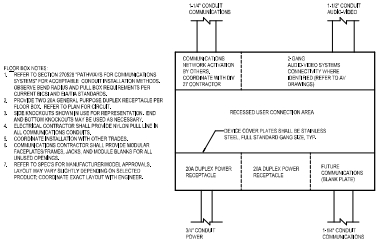
4 E7.01 GYMNASIUM EQUIPMENT CONTROL SYSTEM DETAIL
NOT TO SCALE



△ 30A, 4-POLE, MECHANICALLY-HELD CONTACTOR WITH 120VAC CONTROL COILS. MOMENTARY ON/OFF PUSH BUTTONS, ONE N.O. AND ONE N.C. AUX CONTACTS, RED LED PILOT LIGHT WIRED TO N.O. AUX CONTACT FOR "OFF" INDICATION. CUSTOM ENGRAVED DEVICE LABELS. NEMA 1 ENCLOSURE, PROVIDE ENGRAVED NAMEPLATE INDICATING "EMERGENCY BOILER SHUTDOWN".

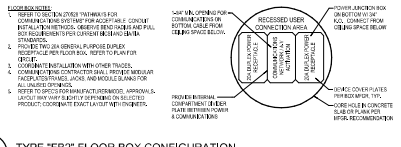
△ RED MOMENTARY PUSHBUTTON SWITCH MOUNTED ON YELLOW POLYCARBONATE BODY, CLEAR POLYCARBONATE HINGED COVER, CUSTOM LABEL "BOILER SHUTDOWN". PROVIDE STOPPER STATION SERIES 40 HEAVY DUTY (NEMA 4/13), MODEL NO. 9001SKH-40HOR APPROVED EQUAL. PROVIDE W/ MATCHING BACKBOX (MODEL NO. HT-1781-W) FOR APPLICATIONS WITHOUT A RECESSED SWITCH BOX FOR MOUNTING

8 E7.01 BOILER EMERGENCY SHUTDOWN CONTROL DETAIL
NOT TO SCALE



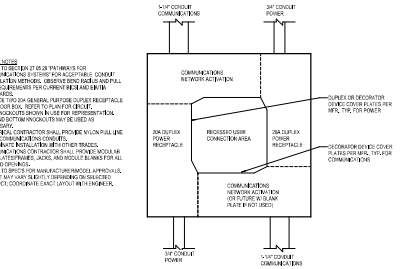
FLOOR BOX NOTES:
1. REFER TO SECTION 270528 "PATHWAYS FOR COMMUNICATIONS SYSTEMS" FOR ACCEPTABLE CONDUIT INSTALLATION METHODS, OBSERVE BEND RADIUS AND PULL BOX REQUIREMENTS PER CURRENT NEC AND EIA/TIA STANDARDS.
2. PROVIDE TWO 20A GENERAL PURPOSE DUPLEX RECEPTACLE PER FLOOR BOX, REFER TO PLAN FOR CIRCUIT.
3. SIDE KNOCKOUTS SHOWN IN USE FOR REPRESENTATION. END AND BOTTOM KNOCKOUTS MAY BE USED AS NEEDED/APPLICABLE.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE NYLON PULL LINE IN ALL CONDUITS FOR FUTURE USE.
5. COORDINATE INSTALLATION WITH OTHER TRADES.
6. COMMUNICATIONS CONTRACTOR SHALL PROVIDE MODULAR FACEPLATES/FRAMES, JACKS, AND MODULE BLANKS FOR ALL UNUSED OPENINGS.
7. REFER TO SPECS FOR MANUFACTURER/MODEL APPROVALS. LAYOUT MAY VARY SLIGHTLY DEPENDING ON SELECTED PRODUCT. COORDINATE EXACT LAYOUT WITH ENGINEER.

7 E7.01 TYPE "FB3" FLOOR BOX CONFIGURATION
NOT TO SCALE



FLOOR BOX NOTES:
1. REFER TO SECTION 270528 "PATHWAYS FOR COMMUNICATIONS SYSTEMS" FOR ACCEPTABLE CONDUIT INSTALLATION METHODS, OBSERVE BEND RADIUS AND PULL BOX REQUIREMENTS PER CURRENT NEC AND EIA/TIA STANDARDS.
2. PROVIDE TWO 20A GENERAL PURPOSE DUPLEX RECEPTACLE PER FLOOR BOX, REFER TO PLAN FOR CIRCUIT.
3. SIDE KNOCKOUTS SHOWN IN USE FOR REPRESENTATION. END AND BOTTOM KNOCKOUTS MAY BE USED AS NEEDED/APPLICABLE.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE NYLON PULL LINE IN ALL CONDUITS FOR FUTURE USE.
5. COORDINATE INSTALLATION WITH OTHER TRADES.
6. COMMUNICATIONS CONTRACTOR SHALL PROVIDE MODULAR FACEPLATES/FRAMES, JACKS, AND MODULE BLANKS FOR ALL UNUSED OPENINGS.
7. REFER TO SPECS FOR MANUFACTURER/MODEL APPROVALS. LAYOUT MAY VARY SLIGHTLY DEPENDING ON SELECTED PRODUCT. COORDINATE EXACT LAYOUT WITH ENGINEER.

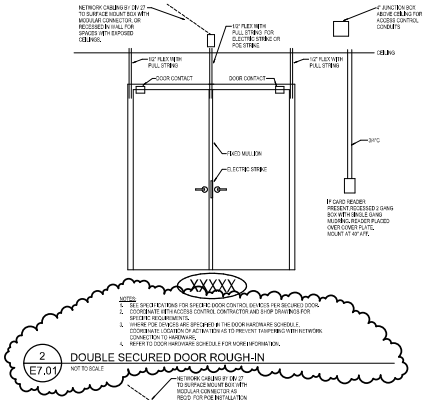
6 E7.01 TYPE "FB2" FLOOR BOX CONFIGURATION
NOT TO SCALE



5 E7.01 TYPE "FB1" FLOOR BOX CONFIGURATION
NOT TO SCALE

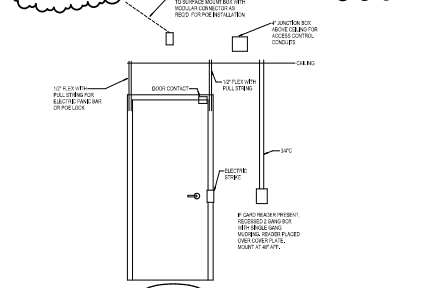
NOTES:
1. TYPICAL WIRING VERIFY WITH MANUFACTURER.
2. COMPLY WITH NEC 700.10(B)(7) AT ALL REQUIRED LOCATIONS PRIOR TO SPECIMEN.

3 E7.01 EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
NOT TO SCALE



NOTES:
1. SEE SPECIFICATIONS FOR SPECIFIC DOOR CONTROL DEVICES PER SECURED DOOR.
2. COORDINATE WITH ACCESS CONTROL CONTRACTOR AND SHOP DRAWINGS FOR SPECIFIC REQUIREMENTS.
3. WHERE POE DEVICES ARE SPECIFIED IN THE DOOR HARDWARE SCHEDULE, COORDINATE LOCATION OF ACTIVATION AS TO PREVENT TAMPERING WITH NETWORK CONNECTION TO HARDWARE.
4. REFER TO DOOR HARDWARE SCHEDULE FOR MORE INFORMATION.

2 E7.01 DOUBLE SECURED DOOR ROUGH-IN
NOT TO SCALE



NOTES:
1. SEE SPECIFICATIONS FOR SPECIFIC DOOR CONTROL DEVICES PER SECURED DOOR.
2. COORDINATE WITH ACCESS CONTROL CONTRACTOR AND SHOP DRAWINGS FOR SPECIFIC REQUIREMENTS.
3. WHERE POE DEVICES ARE SPECIFIED IN THE DOOR HARDWARE SCHEDULE, COORDINATE LOCATION OF ACTIVATION AS TO PREVENT TAMPERING WITH NETWORK CONNECTION TO HARDWARE.
4. REFER TO DOOR HARDWARE SCHEDULE FOR MORE INFORMATION.

1 E7.01 SINGLE SECURED DOOR ROUGH-IN
NOT TO SCALE

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001

DRAWN JPB
REVIEWED AAB
PROJECT NO. 5-5065

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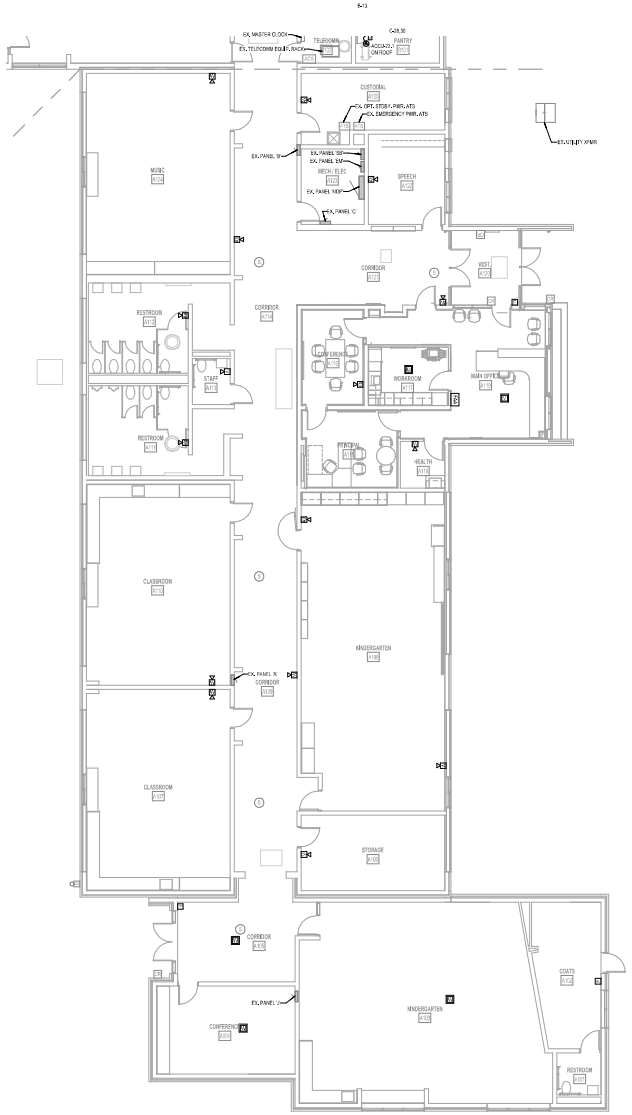
ELECTRICAL DETAILS

E7.01

BM: 5805\5-5065 Hudsonville Public Schools 5-e\5-5065E 2019.rvt
11/18/2020 10:34:49 AM

POWER & COMMUNICATION GENERAL NOTES

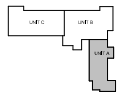
1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.0.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL/HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH HIGH ALOR LOCAL ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT).
   C. TERMINATE IN BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTION WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET.
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAY(S) FOR INTERLOCKING DAMPER IN CORRESPONDING HVAC UNIT/S PER CODE REQUIREMENTS.
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR ACCESSIBLE LOCATION FOR EACH SMALL (≤ 60 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR CAT 6 COMMUNICATIONS CABLING AND CAT 6A SAFETY/SECURITY CABLING ONLY. OTHER CABLING TYPES, SUCH AS CAT 3 CONTROLS, CAT 3X CONTROLS, AND ARCHITECTURAL EQUIPMENT CABLING SHALL BE SUPPORTED AND SLEEVED BY OTHER/DIFFERENT PATHWAYS, HANGERS, AND SUPPORTS.
6. CONSULT WITH ALL POWER SUPPLIES REQUIRED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 08 71 00) TO CENTRAL LOCATIONS ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATION(S). CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUIT(S) AS DESIGNATED.
7. THE FOLLOWING DIV_27 AND DIV_28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANTS ASSOCIATION WITH HUDSONVILLE PUBLIC SCHOOLS:
   A. NETWORK ELECTRONICS (SWITCHES, ACCESS POINTS, ETC.)
   B. STRUCTURED CABLING
   C. CLASSROOM AUDIO/VIDEO EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO/VIDEO SYSTEM FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. TIDEO SURVEILLANCE SYSTEM



North

UNIT 'A' POWER PLAN

1/8" = 1'-0"



North

KEYPLAN

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FOREST GROVE ELEMENTARY GYM ADDITION

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK

REVIEWED JPB

PROJECT NO. 5-5362

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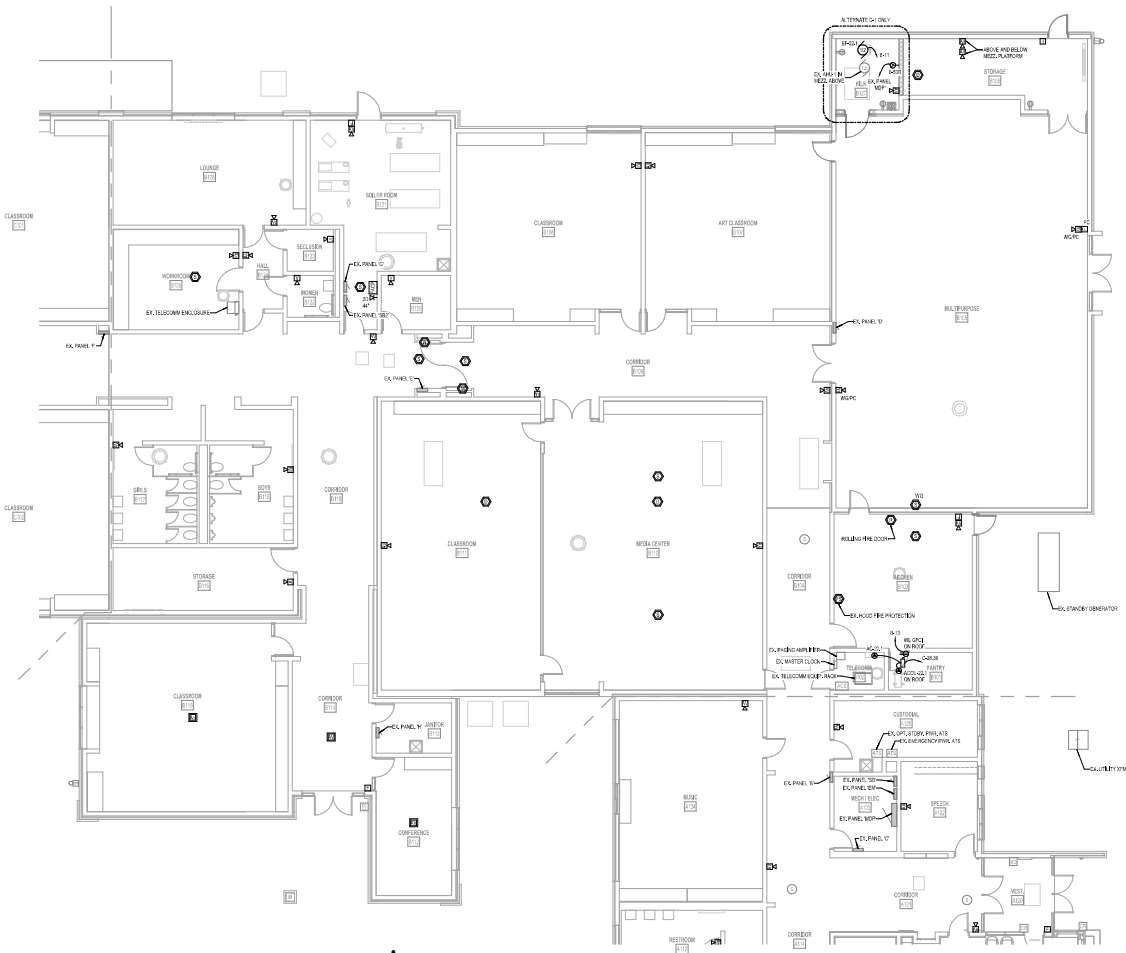
UNIT 'A' POWER PLAN

E2.1A

BIM: 380/5-5362 Hudsonville Forest Grove Elem Gym Addition-CSDS2E 2019.rvt
9/17/2021 8:21:13 AM



UNIT 'B' POWER PLAN

1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL/HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH BREAKER LOCK-ON ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE GROUPED ON EACH CIRCUIT.
   C. TERMINATE W/ BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET).
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAYS FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNITS PER CODE REQUIREMENTS.
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (≤ 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR. DO NOT PROVIDE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DIV. 27 COMMUNICATIONS CABLING AND DIV. 28 SHIELDED/UTP CABLING ONLY. OTHER CABLING TYPES, SUCH AS DIV. 25 CONTROLS, DIV. 26 CONTROLS, AND ANY ELECTRICAL EQUIPMENT CABLING IS ALL ESSENTIALLY PROHIBITED BY OTHERS (INDEPENDENT PATHWAYS, WINDERS, AND SUPPORTS).
6. CONSULT WITH ALL PARTIES INVOLVED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 81 00) TO CENTRAL LOCATION(S) ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATIONS. CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUIT(S) AS APPROPRIATE.
7. THE FOLLOWING DIV. 27 AND DIV. 28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANTS IN ASSOCIATION WITH HUDSONVILLE P.S. TECHNOLOGY DEPT.
   A. NURSE CALL SYSTEM (INCLUDES DAYTIMES, ACCESS POINTS, ETC.)
   B. VOIP TELEPHONE SYSTEMS
   C. CLASSROOM AUDIO-VISUAL EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO-VISUAL SYSTEM FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. VIDEO SURVEILLANCE SYSTEM

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FOREST GROVE ELEMENTARY GYM ADDITION

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK

REVIEWED JPB

PROJECT NO. 5-5362

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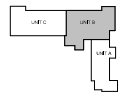
UNIT 'B' POWER PLAN

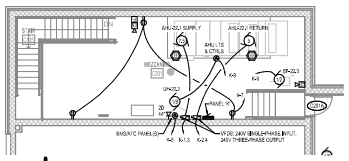
E2.1B



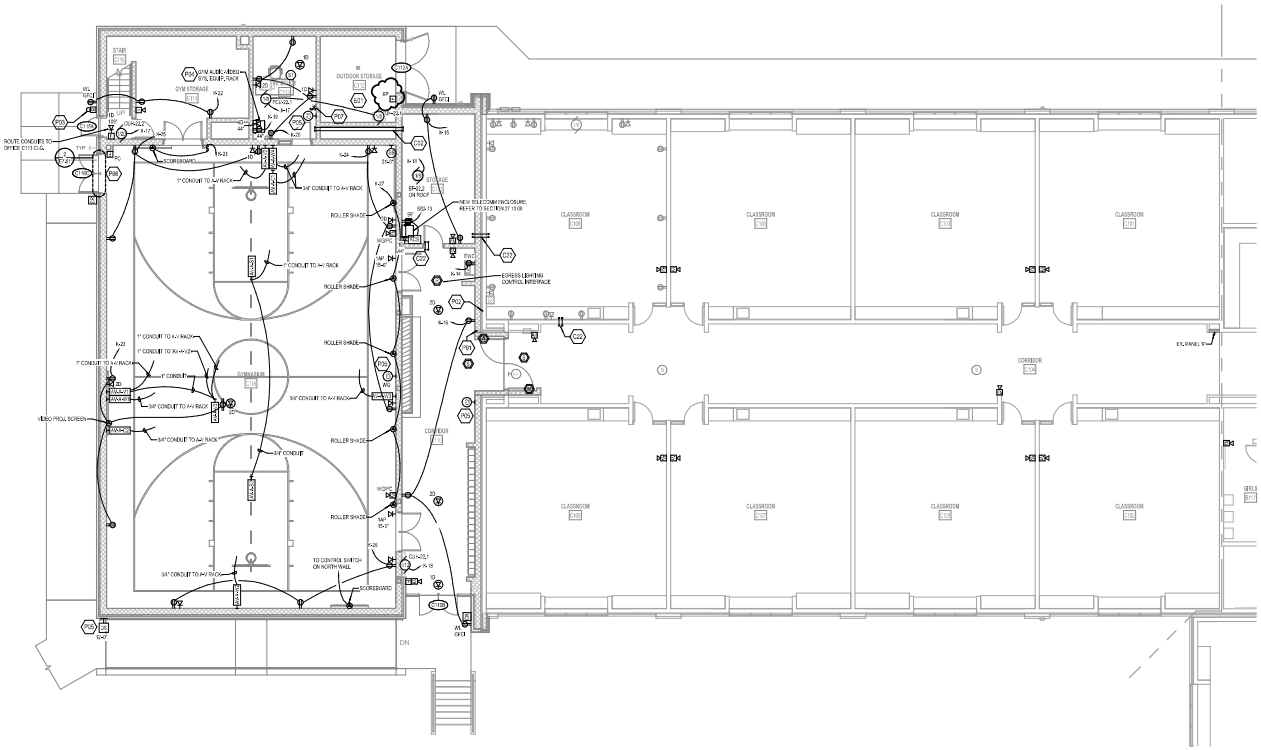
KEYPLAN

BIM: 3800\5-5362 Hudsonville Forest Grove Elem Gym Addition\5-5362E 2019.rvt
9/17/2021 8:21:21 AM

AUDIO-VIDEO SYSTEMS BOX & CONNECTOR PLATE SCHEDULE						
ITEM I.D. / TAG	ROUGH-IN OR ITEM SIZE	MOUNTING	LOCATION (HEIGHT TO BOTTOM OF BOX)	BOX & CONDUIT PROVIDED BY	CONNECTOR PLATE & WIRE/CABLE PROVIDED BY	SPECIAL NOTES
AVA-VC1	TWO GANG x 3 1/2" DEEP	FLUSH	44" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	A/V SYSTEM CONTROL TOUCHPANEL
AVA-VC2	SINGLE GANG x 3 1/2" DEEP	FLUSH	72x2" AFF (VERIFY, SEE DETAIL)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	PROJECTION SCREEN CONTROL
AVA-JB1	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	SPEAKER JUNCTION BOX
AVA-JB2	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	SPEAKER JUNCTION BOX
AVA-VP1	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO INPUT(S)
AVA-VP2	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO INPUT(S)
AVA-VP3	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO PROJECTOR OUTPUT/CONTROL; VERIFY EXACT LOCATION OF TROLL W/ INSTALLERS
AVA-AW1	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)
AVA-AW2	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)
AVA-AW3	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)
AVA-AW4	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)



MEZZANINE POWER PLAN



UNIT 'C' POWER PLAN

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120 VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL/HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH RECESSED LOCK-ON ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH RECEPTACLE).
   C. TERMINATE W/ 60A COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET).
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAYS FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNITS PER CODE REQUIREMENTS.
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (≤ 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR. LOAD WIRING MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DIV. 27 COMMUNICATIONS CABLING AND DIV. 28 SWITCHED LIGHT CABLING ONLY. OTHER CABLING TYPES, SUCH AS CL2X CONTROLS, DIV. 28 CONTROLS, AND ARCHITECTURAL EQUIPMENT CABLING, SHALL BE INSTALLED IN SLEEVES BY OTHER INDEPENDENT PATHWAYS, INNERDUCTS, AND SUPPORTS.
6. CONSULT WITH ALL TRADES INVOLVED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 81 00) TO CENTRAL LOCATION(S) ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATION(S). CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUIT(S) AS DESIGNATED.
7. THE FOLLOWING DIV. 27 AND DIV. 28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANTS IN ASSOCIATION WITH HUDSONVILLE P.S. TECHNOLOGY DEPT.:
   A. NETWORK ELECTRONICS (SWITCHES, ACCESS POINTS, ETC.)
   B. VOIP TELEPHONE SYSTEMS
   C. CLASSROOM AUDIO-VIDEO EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO-VIDEO SYSTEM FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. VIDEO SURVEILLANCE SYSTEM

ELECTRICAL KEYNOTES	
C02	(2) 4" CONDUIT SLEEVES FOR DIV. 27 COMMUNICATIONS CABLING
C22	(2) 6 7 SQ. IN. CABLE PATHWAY PENETRATION DEVICE (FSE) PER SECTION 27 05 28
E01	ALL ELECTRICAL MATERIALS AND INSTALLATION IN THIS ROOM SHALL COMPLY WITH NEC ARTICLE 500 HAZARDOUS LOCATION REQUIREMENTS FOR CLASS 1, DIVISION 1, GROUP C & D
P01	ESTABLISH NEW CONCRETE-ENCASED GROUNDING ELECTRODE IN FOOTING OF NEW ADDITION. INTERCONNECT WITH GROUNDING ELECTRODE SYSTEM AT SERVICE ENTRANCE OR NEAREST SEPARATELY-DERIVED SYSTEM PER NEC AND SPECIFICATION REQUIREMENTS.
P02	BOND METAL STRUCTURE OF ADDITION TO METAL STRUCTURE OF EXISTING BUILDING PER NEC REQUIREMENTS.
P03	INSTALL EC BRANCH RECEPTACLE SALVAGED FROM BUILDING DEMOLITION AND EXISTING EXTERIOR WIRING PRIOR TO EXTERIOR EXCAVATION AND DISCONNECT. RELOCATED BELL
P04	INSTALL (4) 4-11/16" SQ. EC. JUNCTION BOXES AND ALLIED EQUIP. FOR CONNECTION TO ROOF-MOUNTED EQUIPMENT. RECESSED IN WALL, SURFACE-MOUNTED CONDUITS ARE NOT ACCEPTABLE ABOVE, BELOW, OR ON SIDES RACK. STUB AN ADDITIONAL (2) 1" CONDUITS OUT ABOVE ACCESSIBLE CEILING SPACE FROM BOX.
P05	PROVIDE TO NETWORK ACTIVATION FOR CONNECTION TO COMMUNICATIONS OR SAFETY/SECURITY DEVICE. TERMINATION INSIDE RECESSED DEVICE BACKBOX
P06	ROUTE ACCESS CONTROL CONDUITS FROM DOOR FRAME THROUGH WALL OVER TO STAIRWELL AND STUB OUT ABOVE 9'-0" AFF.
P07	ROLLER SHADE CONTROL FOR GYMNASIUM, KEY-OPERATED SWITCH FURNISHED BY SECTION 12 24 13, WIRED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS

KEYPLAN

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FOREST GROVE ELEMENTARY GYM ADDITION
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES
09.22.2021 BIDS & CONSTRUCTION
11.16.2021 BULLETIN 001

DRAWN MCK
REVIEWED JPB
PROJECT NO. 5-5362

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UNIT 'C' POWER PLAN

E2.1C

BIM: 3800/5-5362 Hudsonville Forest Grove Elem Gym Addition-ASKSE 2019.rvt
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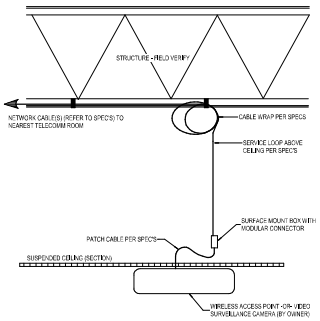
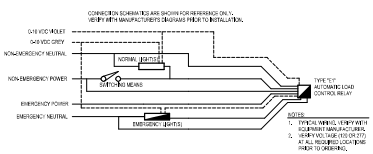
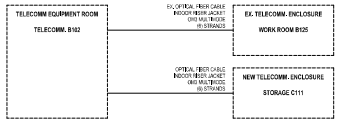


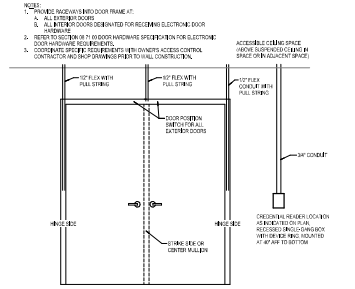
5 E7.01 CEILING MOUNTED COMMUNICATION DEVICE
NOT TO SCALE



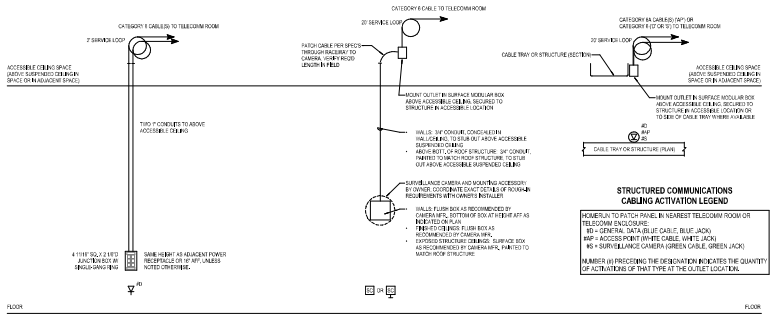
4 E7.01 EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
NOT TO SCALE

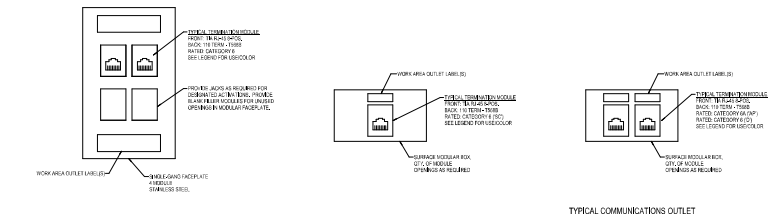


3 E7.01 COMMUNICATIONS CABLING BACKBONE RISER DIAGRAM
NOT TO SCALE



2 E7.01 TYPICAL ROUGH-IN FOR DOORS WITH ELECTRONIC ACCESS CONTROL / MONITORING
NOT TO SCALE





TYPICAL COMMUNICATIONS WALL OUTLET WITH '_D' OR '_AP' ACTIVATION

TYPICAL COMMUNICATIONS OUTLET FOR VIDEO SURVEILLANCE CAMERA

TYPICAL COMMUNICATIONS OUTLET ABOVE ACCESSIBLE CEILING (WIRELESS ACCESS POINT, AUDIO-VIDEO SYSTEM EQUIP., ETC.)

1 E7.01 TYPICAL COMMUNICATIONS OUTLET DETAILS
NOT TO SCALE

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ELECTRICAL DETAILS

E7.01

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ELECTRICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	INTLK	INTERLOCK
BKR	BREAKER	JCT	JUNCTION
BOB	BOTTOM OF BOX	JB	JUNCTION BOX
BOS	BOTTOM OF STRUCTURE	KW	KILOWATT
BP	BREAKER PANEL	KWH	KILOWATT HOUR
BLDG	BUILDING	KO	KNOCK OUT
CAP	CAPACITY	LBL	LABEL
CLG	CEILING	LT	LIGHT
CKT	CIRCUIT	LC	LIGHT CONTROL
CB	CIRCUIT BREAKER	LCM	LIGHTING CONTROL MODULE
C	CONDUIT	LCN	LIGHTING CONTROL NARRATIVE
COMM	COMMUNICATIONS	LTG	LIGHTING
CONN	CONNECTION	MAX	MAXIMUM
CONST	CONSTRUCTION	MCC	MOTOR CONTROL CENTER
CONTR	CONTRACTOR	MIN	MINIMUM
CU	CONTRACT UNIT LINE	MRS	MOTORIZED ROLLER SHADE
CT	CURRENT TRANSFORMER	NEC	NATIONAL ELECTRIC CODE
E.C.	ELECTRICAL CONTRACTOR	NEG	NEGATIVE (-)
END	ELECTRIC HAND DRYER	NC	NORMALLY CLOSED
ELEC	ELECTRICAL	NO	NORMALLY OPEN
EWC	ELECTRIC WATER COOLER	N/A	NOT APPLICABLE
EM	EMERGENCY	NIC	NOT IN CONTRACT
ENT	ENTRANCE	NL	NIGHT LIGHT
EQ	EQUAL	PC	PHOTO CELL
EQUIP	EQUIPMENT	POS	POSITIVE (+)
EST	ESTIMATE	PWR	POWER
EF	EXHAUST FAN	P & L	POWER & LIGHTING
EXR	EXISTING TO REMAIN	S	SURFACE
EX	EXISTING	S.D./A	SUPPLIED BY OTHERS
F	FLUSH	SP	SINGLE POLE
FA	FIRE ALARM	SPD	SURGE PROTECTION DEVICE
FSE	FOOD SERVICE EQUIPMENT	SPKR	SPEAKER
FP	FIRE PROOF / FIRE PROTECTION	SPEC	SPECIFICATION
FLR	FLOOR	SUB	SUBSTITUTE
FLUOR	FLUORESCENT	SWBD	SWITCHBOARD
GEN	GENERATOR	TEL	TELEPHONE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TSTAT	THERMOSTAT
GND	GROUND	XFMR	TRANSFORMER
HDWE	HARDWARE	UG	UNDERGROUND
HTR	HEATER	UL	UNDERWRITERS LABORATORIES
HTG	HEATING	UH	UNIT HEATER
HV	HEATING / VENTILATING	UNO	UNLESS NOTED OTHERWISE
HVAC	HEATING, VENTILATING, AIR CONDITIONING	VERT	VERTICAL
HOA	HAND - OFF - AUTOMATIC	W	WITH
HP	HEAT PUMP	W/O	WITHOUT
		WL	WET LOCATION
		WP	WEATHER PROOF

MAXIMUM CONDUCTOR LENGTHS FOR TYPICAL BRANCH CIRCUITS

FEET ONE-WAY BASED ON SINGLE PHASE, 20A CIRCUIT, 75% LOAD, 190% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#12 AWG	#10 AWG	#8 AWG	#6 AWG	#4 AWG
120	90	160	190	240	305
208	190	170	285	425	670
277	135	230	320	565	890
480	240	400	675	995	

FEET ONE-WAY BASED ON SINGLE PHASE, 30A CIRCUIT, 75% LOAD, 190% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#10 AWG	#8 AWG	#6 AWG	#4 AWG	
120	69	105	150	245	
208	180	115	285	425	
277	135	230	320	565	560
480	240	400	675	995	

FEET ONE-WAY BASED ON THREE PHASE, 20A CIRCUIT, 75% LOAD, 190% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#12 AWG	#10 AWG	#8 AWG	#6 AWG	#4 AWG
208	120	208	305	490	775
480	275	480	715	1,135	

FEET ONE-WAY BASED ON THREE PHASE, 30A CIRCUIT, 75% LOAD, 100% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#10 AWG	#8 AWG	#6 AWG	#4 AWG	
208	159	265	365	495	
480	275	460	770	1,130	

COMMUNICATIONS SYMBOL LEGEND

- COMMUNICATIONS OUTLET ROUGH-IN
- COMMUNICATIONS OUTLET, ONE DATA ACTIVATION
- COMMUNICATIONS OUTLET, CEILING-MOUNTED
- COMMUNICATIONS OUTLET, FLOOR-MOUNTED
- CEILING-MOUNTED VIDEO PROJECTOR
- COMMUNICATIONS EQUIPMENT RACK, FLOOR-MOUNTED
- COMMUNICATIONS EQUIPMENT RACK, WALL-MOUNTED
- CONDUIT SLEEVE FOR COMMUNICATIONS CABLING, 2"ø TYP, UNLESS NOTED OTHERWISE
- (SD) LOUDSPEAKER, CEILING-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- (SD) LOUDSPEAKER, WALL-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- (VC) VOLUME CONTROL FOR AUDIO SYSTEM, PAGING, OR INTERCOM LOUDSPEAKERS
- (SD) SECONDARY CLOCK, CEILING-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- (C) SECONDARY CLOCK, WALL-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

ELECTRONIC SAFETY / SECURITY SYMBOL LEGEND

- DOOR CONTACT
- ELECTRONIC LATCH
- ELECTRONIC STRIKE
- PICK FOR LOCK
- WALL-MOUNTED SURVEILLANCE CAMERA COMMUNICATIONS ROUGH-IN
- CEILING-MOUNTED SURVEILLANCE CAMERA COMMUNICATIONS ROUGH-IN
- CARD READER
- ACCESS CONTROL DOOR TAG, REFER TO HARDWARE SCHEDULES IN SPECIFICATION 08 71 00 AND/OR 26 13 00 FOR PORTAL S.
- ACCESS CONTROL SYSTEM EQUIPMENT

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

POWER SYMBOL LEGEND

- THREE PHASE MOTOR CONNECTION, 5 HORSE POWER
- SINGLE PHASE MOTOR CONNECTION, 1/2 HORSE POWER
- SAFETY SWITCH DISCONNECTING MEANS, NOT FUSIBLE
- SAFETY SWITCH DISCONNECTING MEANS, FUSIBLE
- COMBINATION MOTOR STARTER AND FUSIBLE DISCONNECTING MEANS
- VARIABLE FREQUENCY DRIVE WITHIN DISCONNECTING MEANS
- MOTOR STARTER
- ROUGH-IN FUSIBLE DISCONNECT SWITCH
- MANUAL MOTOR CONTROLLER
- POWER SWITCH, REFER TO LIGHTING SYMBOL LEGEND FOR SIMILAR SWITCH TYPES
- DIRECT ELECTRICAL CONNECTION
- SINGLE RECEPTACLE
- SINGLE RECEPTACLE, IN FLOOR-MOUNTED
- DUPLEX RECEPTACLE
- WHERE "WL" IS NOTED PROVIDE SHUSH-DUE WET LOCATION COVER AND WEATHER RESISTANT GFCI RECEPTACLE.
- SURFACE-MOUNTED RECEPTACLE
- "E" TAG ON DEVICE INDICATES REPLACEMENT OF DEVICE USING EXISTING ROUGH-IN
- DUPLEX RECEPTACLE, CEILING-MOUNTED
- DUPLEX RECEPTACLE, FLOOR-MOUNTED
- DUPLEX STANDBY POWER RECEPTACLE
- DUPLEX SPLIT WIRED RECEPTACLE
- DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
- QUADRUPLEX RECEPTACLE
- QUADRUPLEX RECEPTACLE, CEILING-MOUNTED
- QUADRUPLEX RECEPTACLE, FLOOR-MOUNTED
- MULTI-PHASE RECEPTACLE, SEE PLAN FOR TYPE
- MULTI-PHASE RECEPTACLE, FLOOR-MOUNTED
- SURFACE RACEWAY SYSTEM
- AUTOMATIC TRANSFER SWITCH
- SWITCHBOARD
- PANELBOARD
- TRANSFORMER
- MOTOR CONTROL CENTER
- EMERGENCY STOP STATION, REFER TO DETAIL FOR REQUIREMENTS.
- AUTOMATIC DOOR OPERATOR PUSH BUTTON
- ON/OFF PUSH BUTTON
- THREE-FUNCTION PUSH BUTTON
- FLOORBOX, TYPE 1
- JUNCTION BOX
- METER
- THERMOSTAT ROUGH-IN
- RELAY
- ENCLOSED CONTROL CONTACTOR

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

LIGHTING SYMBOL LEGEND

- SINGLE POLE LIGHT SWITCH
- DOUBLE POLE LIGHT SWITCH
- THREE-WAY LIGHT SWITCH
- FOUR-WAY LIGHT SWITCH
- SINGLE POLE LIGHT SWITCH WITH INTEGRAL OCCUPANCY SENSOR
- OCCUPANCY SENSOR DIMMER
- WALL-BOX DIMMER SWITCH
- THREE-WAY DIMMER SWITCH
- ELECTRONIC INTERVAL TIMER SWITCH
- LIGHT SWITCH WITH PILOT LIGHT
- LIGHTING CONTROL SWITCH, REFER TO LIGHTING CONTROL SWITCH SCHEDULE AND SPECIFICATIONS FOR DETAILS.
- DOUBLE THROW MAINTAINED LIGHT SWITCH
- KEY-OPERATED LIGHT SWITCH - SUFFIX DESIGNATION (BLANK: SINGLE POLE, 2: DOUBLE POLE, 3: THREE-WAY, 4: FOUR-WAY)
- LOCKING SWITCH - SUFFIX DESIGNATION (BLANK: SINGLE POLE, 2: DOUBLE POLE, 3: THREE-WAY, 4: FOUR-WAY)
- TOUCHSCREEN PANEL
- CIRCUIT NUMBER FOR LIGHT FIXTURES WITH UNINDICATED SPACE
- WALL-MOUNTED LIGHTING FIXTURE, TYPE W
- RECESSED LIGHTING FIXTURE, TYPE V
- SURFACE-MOUNTED LIGHTING FIXTURE, TYPE V
- TRACK LIGHTING
- SINGLE FACE EXIT SIGN, TYPE "EX" IN SCHOOLS UNLESS OTHERWISE NOTED, SHADING INDICATES FACE ORIENTATION
- DOUBLE FACE EXIT SIGN, TYPE "EX" IN SCHOOLS UNLESS OTHERWISE NOTED, SHADING INDICATES FACE ORIENTATION
- WALL-MOUNTED EXIT SIGN
- EMERGENCY LIGHT FIXTURE DESIGNATION
- EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
- LIGHTING CONTROL RELAY
- LIGHTING CONTROL ENCLOSED CONTACTOR
- TIME SWITCH
- LIGHTING CONTROL MODULE
- EMERGENCY LIGHTING INVERTER, TYPE 1
- WALL-MOUNTED OCCUPANCY SENSOR
- CEILING-MOUNTED OCCUPANCY SENSOR
- WALL-MOUNTED PHOTOCELL FOR ON/OFF CONTROL
- CEILING-MOUNTED PHOTOCELL FOR ON/OFF CONTROL
- WALL-MOUNTED PHOTOSENSOR FOR DAYLIGHT HARVESTING DIMMING CONTROL
- CEILING-MOUNTED PHOTOSENSOR FOR DAYLIGHT HARVESTING DIMMING CONTROL
- POLE-MOUNTED EXTERIOR FIXTURE
- SELF-CONTAINED EMERGENCY LIGHTING UNIT

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

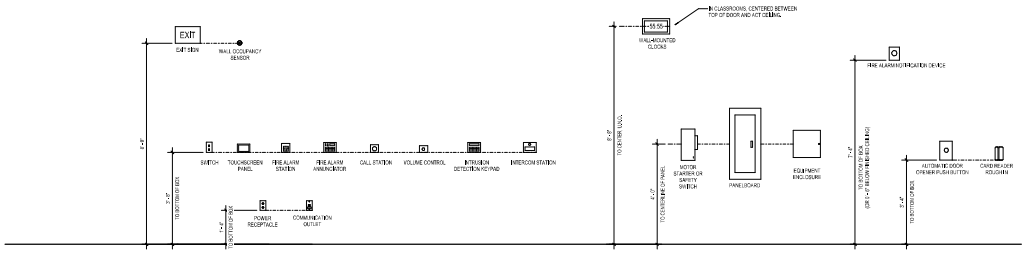
FIRE ALARM SYMBOL LEGEND

- MANUAL PULL STATION
- AUDIBLE NOTIFICATION APPLIANCE, WALL-MOUNTED
- VISUAL NOTIFICATION APPLIANCE, WALL-MOUNTED
- AUDIBLE/VISUAL NOTIFICATION APPLIANCE, WALL-MOUNTED
- AUDIBLE NOTIFICATION APPLIANCE, CEILING-MOUNTED
- AUDIBLE/VISUAL NOTIFICATION APPLIANCE, CEILING-MOUNTED
- VISUAL NOTIFICATION APPLIANCE, CEILING-MOUNTED
- WHERE "WG/PC" IS NOTED, PROVIDE LISTED WIRE GUARD OR PROTECTIVE POLYCARBONATE COVER FOR NOTIFICATION DEVICE.
- WHERE "WL" IS NOTED, PROVIDE LISTED WET LOCATION NOTIFICATION DEVICE.
- SMOKE DETECTOR
- HEAT DETECTOR
- DUCT SMOKE DETECTOR
- SMOKE DAMPER OPERATOR MOTOR
- FIRE PROTECTION FLOW SWITCH
- FIRE PROTECTION TAMPER SWITCH
- ELECTROMAGNETIC DOOR HOLD-OPEN DEVICE
- ACCESSIBLE RELAY FOR FIRE ALARM CONTROL
- PRESSURE SWITCH
- CARBON MONOXIDE DETECTOR
- NOTIFICATION APPLIANCE CONTROL PANEL
- FIRE ALARM REMOTE ANNUNCIATOR
- FIRE ALARM CONTROL PANEL
- KEYED TEST SWITCH AND REMOTE INDICATOR FOR DUCT SMOKE DETECTOR
- FIRE PROTECTION OR ALARM BELL

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE AS AMENDED AND ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION WHERE THE WORK IS PERFORMED.
2. ALL "LOW-VOLTAGE" CONTROLS, COMMUNICATIONS, AND SAFETY/SECURITY CABLING MAY BE INSTALLED WITHOUT CONDUIT, RACEWAY, OR CABLE TRAY ONLY WHERE CONCEALED BEHIND A SUSPENDED CEILING SYSTEM AND ACCESSIBLE FOR FUTURE MAINTENANCE, OTHERWISE, ALL CABLING (INCLUDING BUT NOT LIMITED TO CABLES ASSOCIATED WITH SYSTEMS SUCH AS ARCHITECTURAL EQUIPMENT, BUILDING ENERGY MANAGEMENT, TEMPERATURE CONTROLS, LIGHTING CONTROLS, COMMUNICATIONS NETWORKS, TELEPHONE, AUDIO-VISUAL, INTERCOM, PAGING, CLOCK, SURVEILLANCE, ACCESS CONTROL, FIRE ALARM, ETC.) SHALL BE INSTALLED IN AN APPROVED CONDUIT, RACEWAY SYSTEM, AND/OR CABLE TRAY UNLESS NOTED OTHERWISE. ALL CONDUIT, RACEWAY, AND CABLE TRAY SHALL BE CONCEALED. CONDUIT SHALL NOT BE REQUIRED FOR AESTHETIC REASONS. REFER TO REFLECTED CEILING PLANS FOR LOCATIONS. THIS APPLIES TO ALL TRADES AND WORK CATEGORIES, EXCEPTIONS:
   A. DEDICATED MECHANICAL AND ELECTRICAL ROOMS ABOVE 84" AFF
   B. DEDICATED TELECOMMUNICATIONS ROOMS
3. "LOW-VOLTAGE" CONTROLS, COMMUNICATIONS, AND SAFETY/SECURITY CABLING SHALL NOT BE PAINTED. PAINTING CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY PROTECTION OF ANY EXISTING CABLING PRIOR TO PAINTING EXISTING AREAS. CONTRACTORS INSTALLING CABLING WHERE APPROVED FOR EXPOSED INSTALLATION SHALL INSTALL CABLES AFTER PAINTING HAS BEEN COMPLETED OR PROVIDE TEMPORARY PROTECTION OF CABLES UNTIL PAINTING HAS BEEN COMPLETED. PAINTED CABLES SHALL BE REPLACED AT THE EXPENSE OF THE RESPECTIVE CONTRACTORS.
4. METAL CLAD CABLE MAY BE USED FOR FIXTURE WHIPS IN LENGTHS OF 6 FEET OR LESS ABOVE AN ACCESSIBLE SUSPENDED CEILING SYSTEM ONLY. OTHERWISE, METAL CLAD OR OTHER FLEXIBLE CABLE TYPES SHALL NOT BE USED UNLESS SPECIFICALLY AUTHORIZED BY THE ENGINEERS. IT IS THE INTENT OF THESE CONTRACT DOCUMENTS THAT ALL INSTALLED BRANCH CIRCUITS CONSIST OF SEPARATE RACEWAY AND CONDUCTORS ALLOWING REMOVAL AND REPLACEMENT OF WIRING AS REQUIRED FOR FUTURE UPGRADES. REFER TO SPECIFICATIONS FOR EXCEPTIONS.
5. CIRCUIT WIRING FOR ARTICLE 700 EMERGENCY SYSTEMS AND ARTICLE 708 CRITICAL OPERATIONS POWER SYSTEMS SHALL BE INSTALLED IN SEPARATE CONDUITS/RACEWAYS AND BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT FOR THEIR ENTIRE LENGTH.
6. ALL RECEIVERS AND BRANCH CIRCUITS SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR SIZED ACCORDING TO THE NEC, REGARDLESS OF WHETHING CONDUITS, RACEWAYS, ETC. SHALL NOT BE CONSIDERED AN ACCEPTABLE GROUND.
7. CONDUITS AND CABLING SHALL NOT BE INSTALLED WITHIN 6" OF ROOF DECK, EXCEPT AS NECESSARY TO SERVE ROOF-MOUNTED ITEMS AND ONLY WHEN THE CONDUIT OR CABLES ARE ROUTED VERTICALLY TO SUCH EQUIPMENT FROM BELOW.
8. SUPPLEMENTAL METAL FRAMING SHALL BE PROVIDED FOR SUSPENSION POINTS OF ALL ITEMS LOCATED BETWEEN OVERHEAD STRUCTURAL MEMBERS (JOISTS, TRUSSES, BEAMS, ETC.). IN OPEN CEILING STRUCTURE CEILING AREAS, METAL FRAMING SHALL SPAN ACROSS THE TOP CHORD OR FLANGE OF THE STRUCTURAL MEMBERS FOR BOTH STRUCTURAL AND AESTHETIC PURPOSES. SPECIFIC EXCEPTIONS SHALL BE COORDINATED IN WRITING WITH THE ARCHITECTS/ENGINEERS.
9. CONDUIT INSTALLED IN EXPOSED CONSTRUCTION SHALL BE 3/4" MINIMUM SIZE.
10. FIXTURES SHOWN ON DRAWINGS ARE SCHEMATIC ONLY. CONDUIT RUNS SHALL COMPLY WITH CONDUIT SPECIFICATIONS AND CONTAIN BENDS THAT ARE NO GREATER THAN 90 DEGREES. CONDUITS INSTALLED ABOVE GRADE SHALL BE RUN PARALLEL TO OR PERPENDICULAR WITH BUILDING STEEL AND/OR ARCHITECTURAL LINES.
11. CONTRACTORS SHALL VERIFY CLEARANCES OF WIRING DEVICES, DEVICE FACEPLATES, SURFACE RACEWAY SYSTEMS, AND/OR MULTI-OUTLET ASSEMBLIES WITH ARCHITECTS/ENGINEERS FOR NOT EXPLICITLY SPECIFIED.
12. ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ADDITIONAL LIGHTING FIXTURE INFORMATION AND MOUNTING LOCATIONS.
13. ELECTRICAL CONTRACTOR SHALL ADJUST LIGHTING FIXTURE LOCATIONS IN MECHANICAL ROOMS TO ACCOMMODATE MECHANICAL EQUIPMENT AND FIELD CONDITIONS.
14. CONTRACTORS SHALL BE RESPONSIBLE TO REVIEW INTERIOR ELEVATION SHEETS FOR PLACEMENT OF DEVICE BOXES, COORDINATE LOCATIONS SO THAT NO DEVICES ARE INSTALLED BEHIND CASEWORK, MILLWORK, VISUAL DISPLAYS, DEVICE COVERS, CUSTOM GRAPHICS, SIGNAGE, ETC.
15. ELECTRICAL CONTRACTOR SHALL REVIEW TOILET EQUIPMENT SHOP DRAWINGS AND ARCHITECTURAL DETAILS/ELEVATIONS FOR CORRECT DEVICE BOX ROUGH-IN LOCATION OF HAND DRYERS.
16. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH PLUMBING CONTRACTOR AND THE ELECTRIC WATER COOLER / BOTTLE FILLER SHOP DRAWINGS FOR MOUNTING HEIGHT AND CONNECTION METHOD OF PLUMBING EQUIPMENT POWER CONNECTIONS. WHERE ACCESSIBLE OR PROTECTION SHALL BE PROVIDED FOR THE BRANCH CIRCUITS SUPPLYING ALL SUCH UNITS PER NEC REQUIREMENTS.
17. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR DETAILED INFORMATION REGARDING EQUIPMENT AND CONTROL. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING AND PROVIDING ITEMS AS SPECIFICALLY LISTED AND ASSIGNED ON MECHANICAL EQUIPMENT SCHEDULE SUCH AS DISCONNECT SWITCHES, VARIABLE FREQUENCY DRIVES, STARTERS, THERMOSTATS, ETC.
18. ELECTRICAL CONTRACTOR SHALL CONFIRM THE LOCATION OF THE EXHAUST FANS LISTED IN THE MECHANICAL EQUIPMENT SCHEDULES BY REFERRING TO MECHANICAL/HVAC PLANS.
19. REFER TO ROOF PLANS FOR EXACT LOCATIONS OF ROOF TOP MECHANICAL EQUIPMENT.
20. CABINET HEATERS MAY HAVE LINE VOLTAGE THERMOSTATS SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. REFER TO MECHANICAL EQUIPMENT SCHEDULE.
21. DIVISION 26 CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES WITH APPROPRIATE BUSHINGS FOR COMMDEVICE AND ELECTRONIC SAFETY/SECURITY CABLING THROUGH WALLS AND FLOORS. SLEEVE SIZES SHALL BE COORDINATED WITH CABLING REQUIREMENTS.
22. SECTION 27 05 33 CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES WITH APPROPRIATE BUSHINGS FOR COMMUNICATIONS CABLING THROUGH WALLS AND FLOORS. SLEEVE SIZE SHALL BE 2" MIN, UNLESS NOTED OTHERWISE.
23. PROVIDE DIRECT CONNECTIONS FROM LOCAL RECEPTACLE CIRCUIT TO ACCESS CONTROL SYSTEM AND DOOR HARDWARE POWER SUPPLIES WHERE REQUIRED FOR DOOR LOCK DEVICES, CONTROLLERS, ETC. REFER TO DOOR HARDWARE SCHEDULE AND ACCESS CONTROL SYSTEM SCHEDULES FOR RESPECTIVE SPECIFICATIONS FOR QUANTITIES AND LOCATIONS.



NOTE: ALL HEIGHTS ARE AS SHOWN UNLESS NOTED OTHERWISE.

TYPICAL MOUNTING HEIGHTS FOR WALL DEVICES, EQUIPMENT, & FIXTURES

NOT TO SCALE

Section 27 51 16 - Public Address System

ADDENDUM 1: UPDATED DRAWINGS: JANUARY 17, 2023

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES

10.19.2022	BIDS & CONSTRUCTION
11.18.2022	ADDENDUM 001

DRAWN JPB
REVIEWED AAB

PROJECT NO. 5-5065

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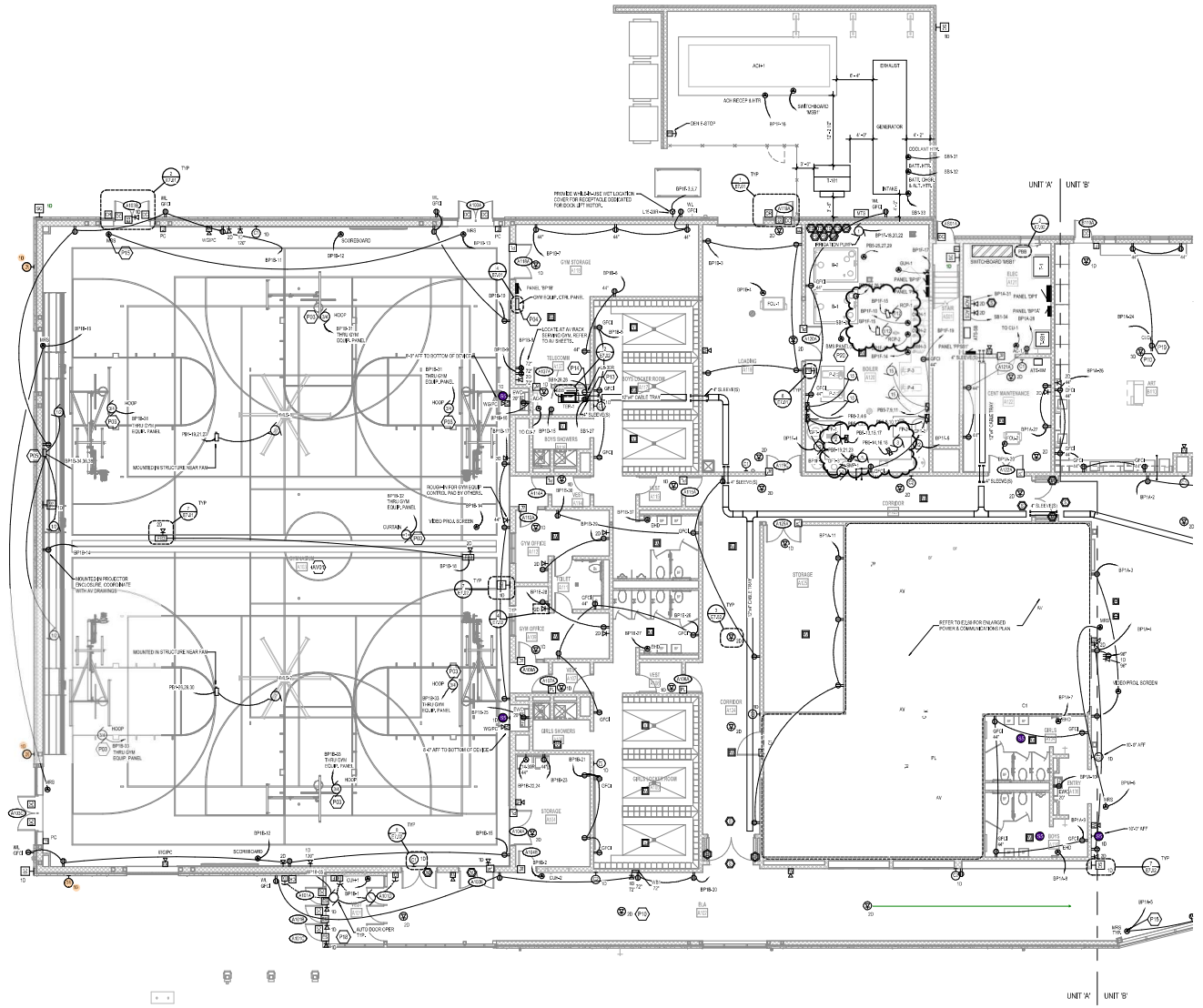
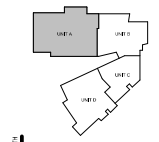
ELECTRICAL SYMBOL LEGENDS & GENERAL NOTES

E0.01

BIM: 5065-R-5065 Hudsonville Public Schools_5-e5-R-5065E 2019.rvt
11/18/2020 10:29:54 AM



UNIT 'A' FIRST FLOOR POWER & COMMUNICATIONS PLAN
1/8" = 1'-0"



KEYPLAN

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE BARRIERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM CORRESPONDING FIRE ALARM CIRCUIT WITH MINIMUM LOAD REQUIREMENTS IN LOCAL TAKEBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON A CIRCUIT). TERMINATION IN NON-CONFIG FURNISH SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER. REFER TO MECHANICAL / TEMPERATURE CONTROLS DRAWINGS FOR COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTORS SHOP DRAWINGS.
5. PROVIDE NON-FUSIBLE DISCONNECT SWITCH (OR BUILDING BUTTON) IN ACCESSIBLE LOCATION FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO GARBAGE DISPOSERS, GAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.).
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

AV01	REFER TO AV DRAWINGS FOR ADDITIONAL SCOPE. COORDINATE ALL ROUGH-IN LOCATIONS WITH AV DRAWINGS.
P03	E.C. SHALL PROVIDE AND INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'-0" OF WINCH LOCATION FOR TWIST-LOCK RECEPTACLE. TWIST LOCK RECEPTACLE AND COVER PROVIDED BY EQUIPMENT PROVIDER. (1) HOOK-UP REQUIRED PER DEVICE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.
P04	6-RELAY GYM EQUIPMENT CONTROL PANEL REQUIRED TO SUPPORT (6) HOOP WINCH MOTORS AND (1) DIVIDER CURTAIN MOTOR. (1) 20A RELAY PER DEVICE. POWER EACH PANEL WITH (2) 120V SINGLE POLE CIRCUITS AS INDICATED IN PANEL SCHEDULE. REFER TO MANUFACTURER'S INSTRUCTIONS FOR FURTHER DETAILS.
P05	E.C. SHALL PROVIDE AND INSTALL NON-FUSIBLE SAFETY SWITCHES FOR BLEACHER MOTOR. JUNCTION BOX SHALL BE MOUNTED AT 5'-0" AFF. COORDINATE LOCATION WITH EQUIPMENT PROVIDER. REFER TO BLEACHER DETAILS ON ARCHITECTURE SHEETS FOR FURTHER DETAILS.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, ETC.). TYPICAL FOR ALL. TERMINATE CABLING IN SURFACE MOUNT BOX (ATT-1 SECONDARY CONNECTOR) OR JUNCTION BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL LOCKING RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.
P20	COORDINATE WITH CONTROLS CONTRACTOR FOR LOCATION OF EMS PANEL.

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
05.26.2021	BULLETIN 008
06.16.2021	BULLETIN 010
07.01.2021	BULLETIN 011
08.16.2021	BULLETIN 013
08.31.2021	BULLETIN 015
09.28.2021	BULLETIN 019
02.28.2022	BULLETIN 022

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'A' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1A

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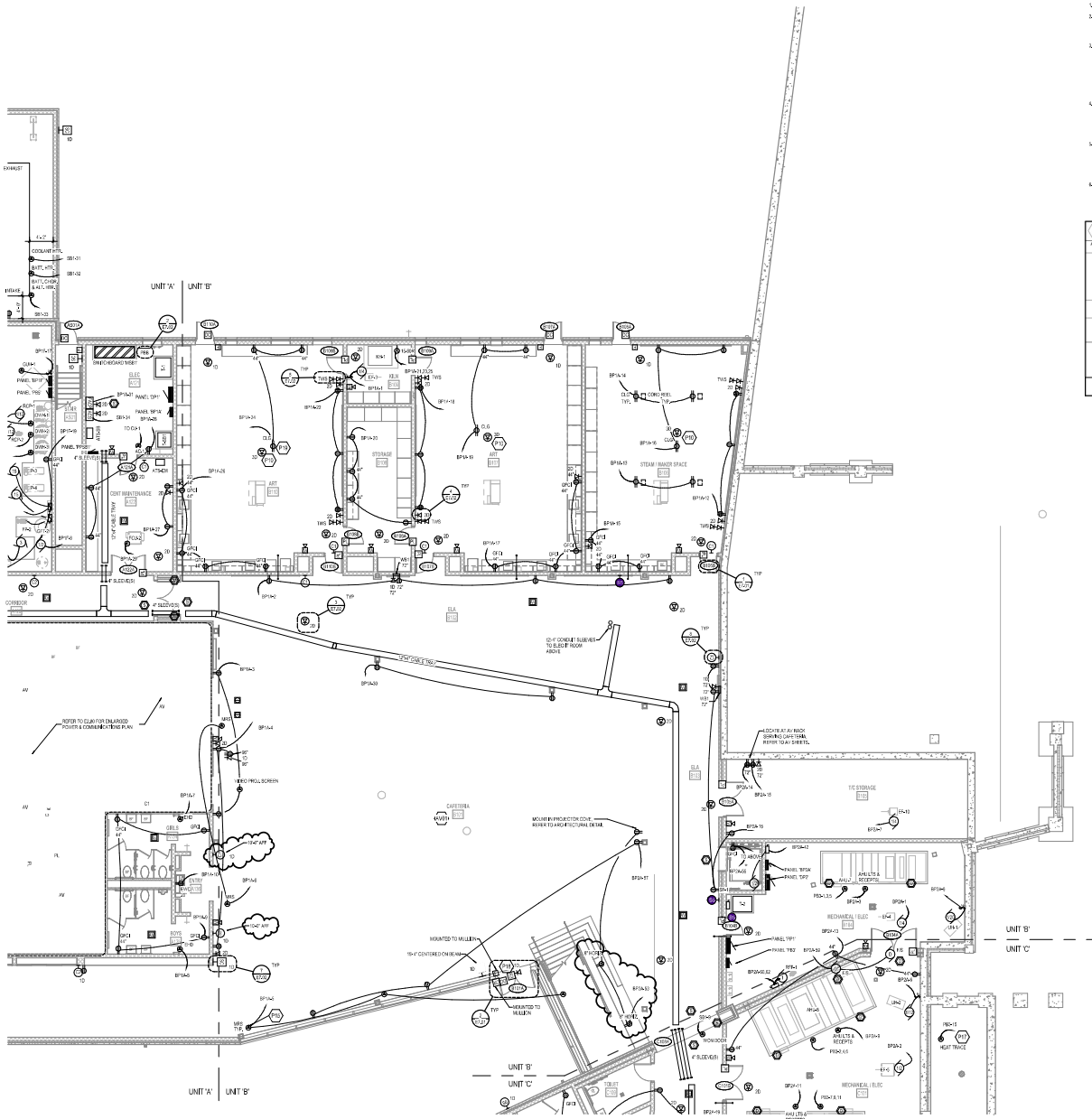
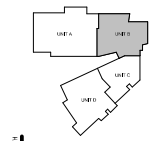


POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES, PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED SMITH BRANCH CIRCUIT WITH BREAKER LOCATED IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATE TO HIGH-COVERAGE SMOKE DETECTOR WITH 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET). PROVIDE FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES. AT EASY ONE PER ACCESSIBLE ROOM OR SPACE, INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH IN BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO DUCT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.).
6. REFER TO AV DRAWINGS FOR ADDITIONAL RACEWAY AND HOUSEKEEPING REQUIREMENTS.

ELECTRICAL KEYNOTES

AV01	REFER TO AV DRAWINGS FOR ADDITIONAL SCOPE. COORDINATE ALL ROUGH-IN LOCATIONS WITH AV DRAWINGS.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE CABLING REQUIREMENTS WITH OWNER'S TECHNOLOGY CONTRACTOR. OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, AV EQUIPMENT, ETC.). TERMINATE CABLING IN SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCITON BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P17	HEAT TRACING FOR PLUMBING PIPING PER 22 05 33. LENGTHS FROM PLUMBING PLANS. FIELD VERIFY EXACT LENGTHS REQUIRED. HEAT TRACING SHALL COMPLY WITH NEC ARTICLE 426.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN NEARBY WALL, OR JUNCTION BOX SURFACE MOUNTED IN ADJACENT STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.26.2021	BULLETIN 008
05.28.2021	BULLETIN 010

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'B' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1B

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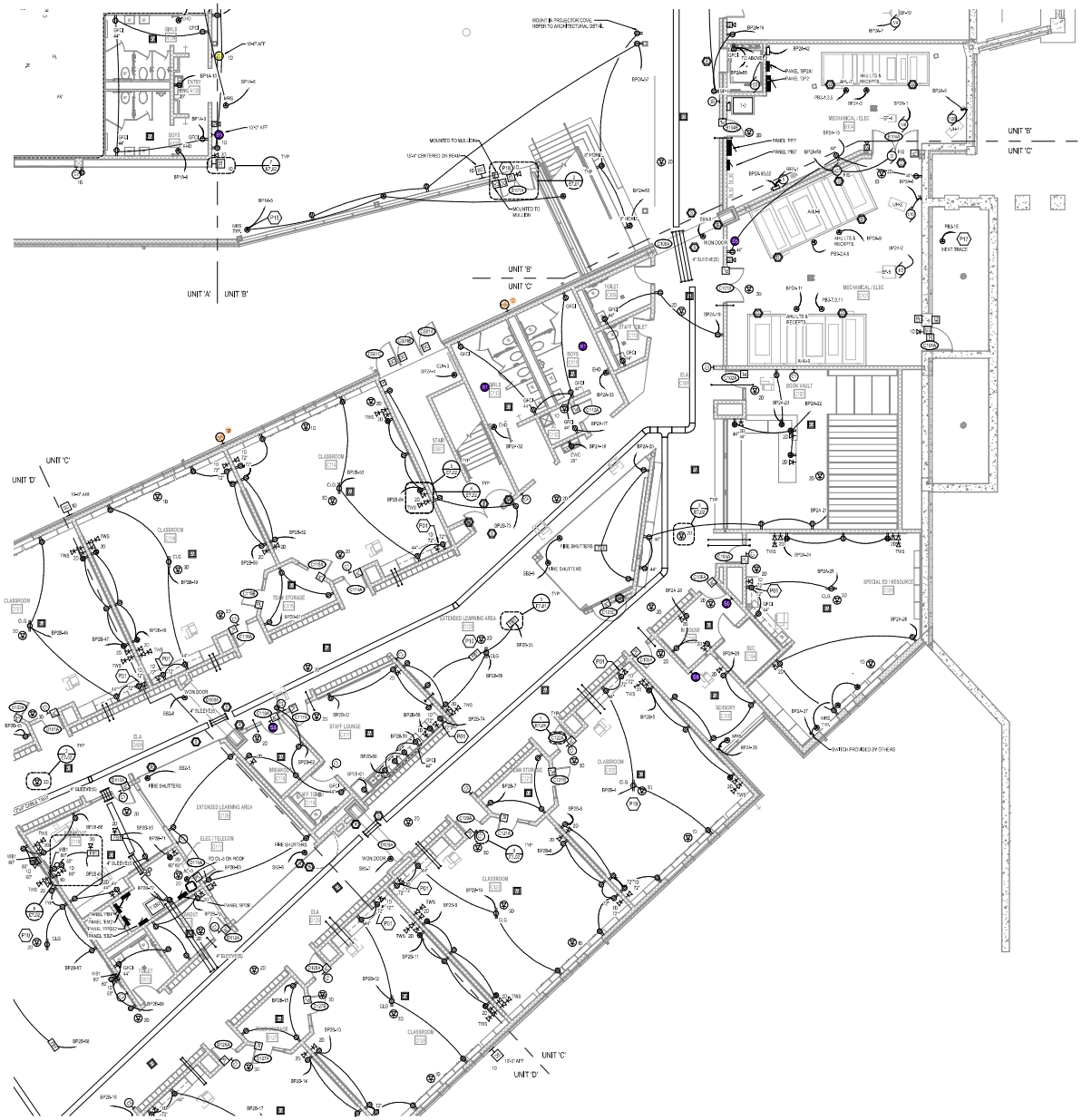


UNIT 'C' FIRST FLOOR POWER & COMMUNICATIONS PLAN

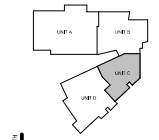
1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.0.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH DEDICATED NEUTRAL FROM NEARBY LOCAL PANELBOARD FOR DAMPER(S) IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATE IN 906-ON/OFF CABLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET. AHU & FIRE ALARM ADDRESSABLE RELAY FOR EITHER COOLING CHARTER IN CONNECTION WITH ACTUATE FIRE CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER DOOR IN EACH ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (S) BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE RTU, AHU, VAV, UNITED TO CABINET HEATERS, DAMPERS, DAMPER TRANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.)
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND HOOD-UP REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, AND PROJECTORS). PROVIDE 4" SQUARE BOX WITH SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCTION BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P17	HEAT TRACING FOR PLUMBING PIPING PER 22 05 33. LENGTHS FROM PLUMBING PLANS. FIELD VERIFY EXACT LENGTHS REQUIRED. HEAT TRACING SHALL COMPLY WITH NEC ARTICLE 426.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN ON PLANS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.26.2021	BULLETIN 008
09.28.2021	BULLETIN 016
10.26.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'C' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1C

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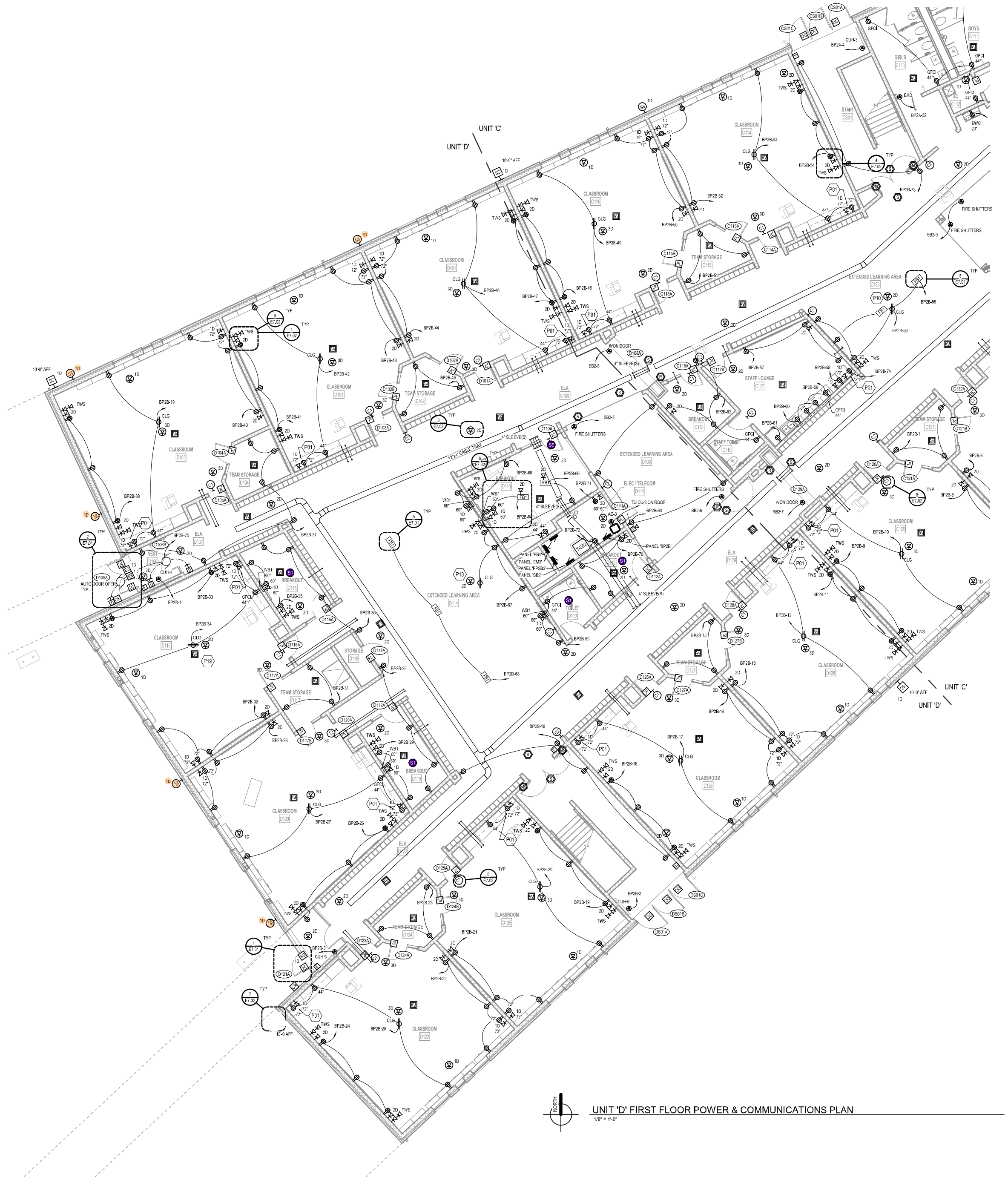


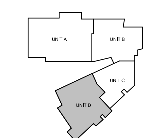
UNIT 'D' FIRST FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT (WITH BREAKER LOCKING MECHANISM) IN LOCAL PANELBOARD FOR DAMPER(S) IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT), TERMINATED W/ BOX-COVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (ON BUILDING INTERIOR IN ACCESSIBLE LOCATION) FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.6
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

	ELECTRICAL KEYNOTES
P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, AV EQUIPMENT, ETC.). TERMINATE CABLING IN SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCITON BOX, PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
10.26.2021	BULLETIN 019

DRAWN	JFB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'D' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1D

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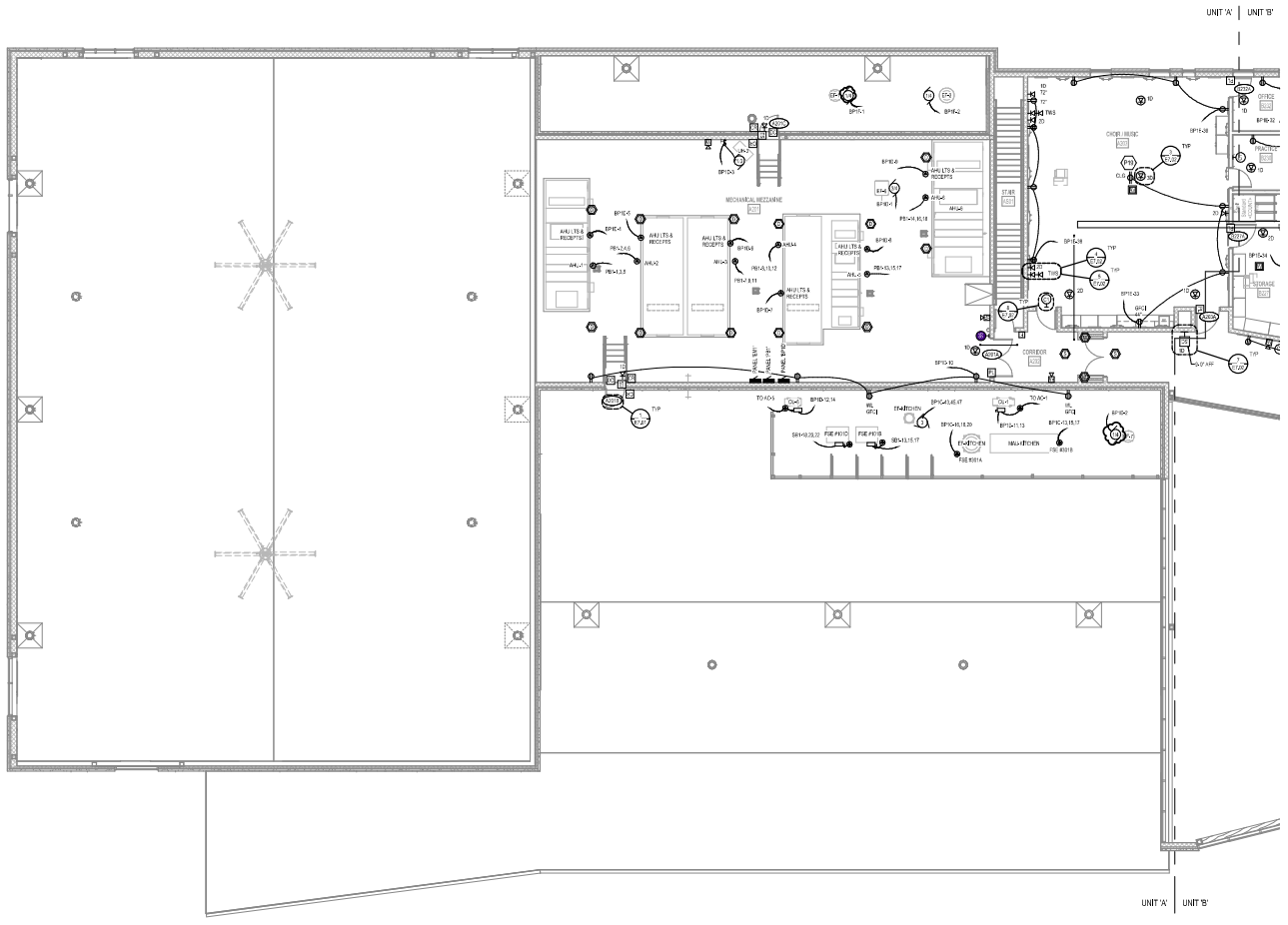
POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT (WITH BREAKER LOCKED) MECHANICAL/FIRE ALARM PANEL(S) FOR DAMPERS (WHICH AREA DAMPERS MAY BE GROUPED ON A SINGLE CIRCUIT). PROVIDE CONTROL WIRING TO DAMPER ACTUATORS. ADD PROVISIONS FOR ALARM/SUPERVISORY CONTACTS WITHIN AT LEAST ONE DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER LINE. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX(ES) OR FUSIBLE DISCONNECT SWITCH (24 V) LOCATED WITHIN IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT WHERE LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO UNIT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.S
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

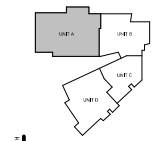
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL



NORTH

UNIT 'A' SECOND FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"



NORTH

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
04.16.2021	BULLETIN 008

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'A' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2A

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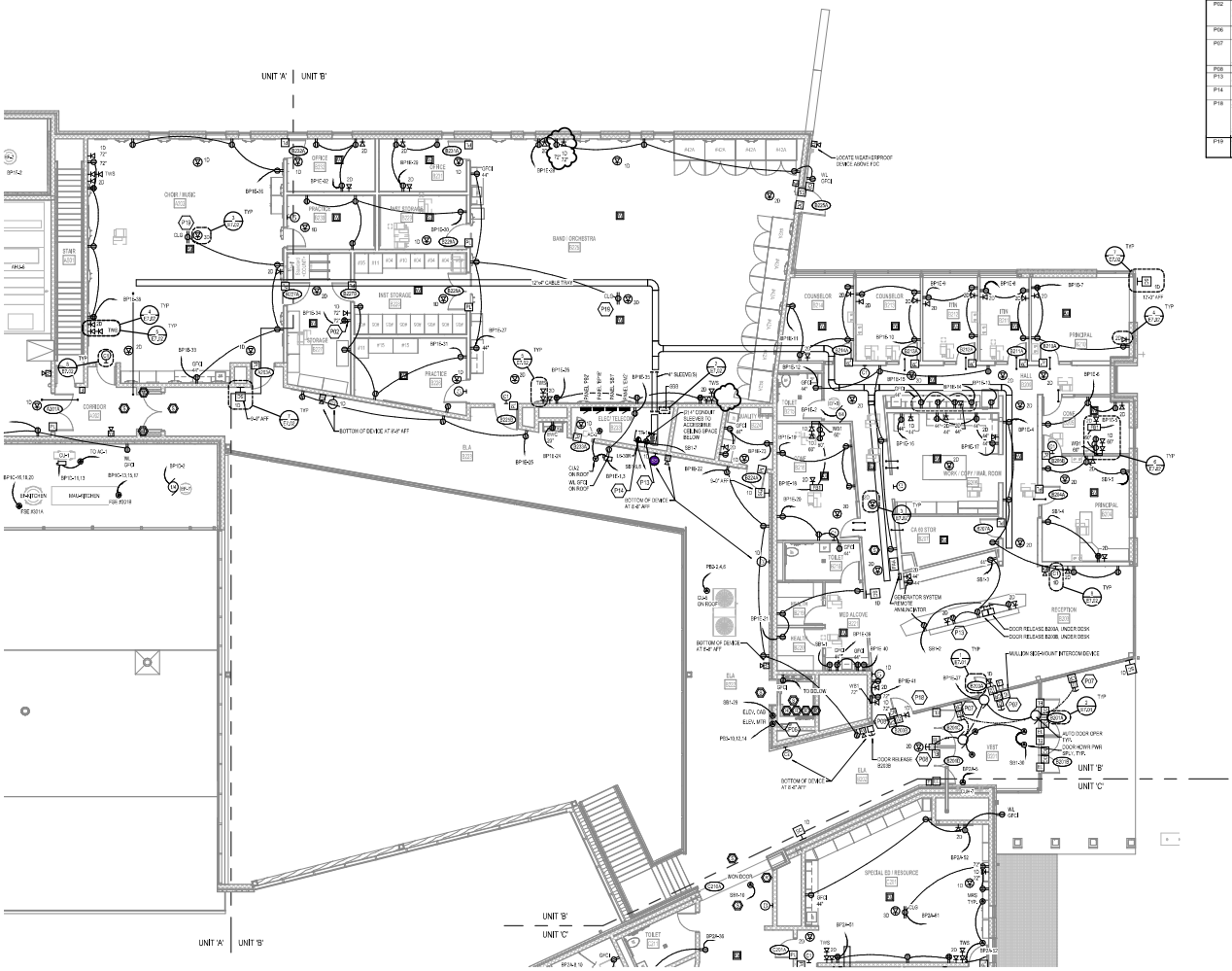
POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.2D.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120 VAC POWER FROM DEDICATED 15A/1P BRANCH CIRCUIT WITH BREAKER LOCKING MECHANISM IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE DAISY-CHAINED FROM A SINGLE CIRCUIT AS LONG AS NUMBER OF DAMPERS ON CIRCUIT DOES NOT EXCEED PER MANUFACTURER'S RECOMMENDATIONS. SUPPLY AT LEAST 6 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT PATHWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL/TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BISCUIT® FLEXIBLE DISCONNECT SWITCH ON ALUMINUM PATTERN IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT WORK LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO UNIT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, KWY BOILERS, ETC.S
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

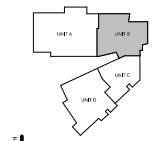
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P06	COORDINATE WITH ELEVATOR MANUFACTURER'S REQUIREMENTS FOR DISCONNECTS.
P07	MULLION MOUNT CARD READER AND ADA PUSHBUTTON. ADA PUSH BUTTON SHALL BE MOUNTED AT 40" AFF TO BOTTOM OF BOX. CARD READER SHALL BE MOUNTED DIRECTLY ABOVE ADA PUSHBUTTON.
P08	MULLION MOUNT CARD READER OR ADA PUSHBUTTON.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW - TYPICAL FOR ALL.
P14	INSTALL (1) 4-WIR RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P16	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET - TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND AV WORK ACTIVATIONS FOR PROJECTION WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



North

UNIT 'B' SECOND FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"



North

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
05.26.2021	BULLETIN 008
06.28.2021	BULLETIN 010

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'B' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2B

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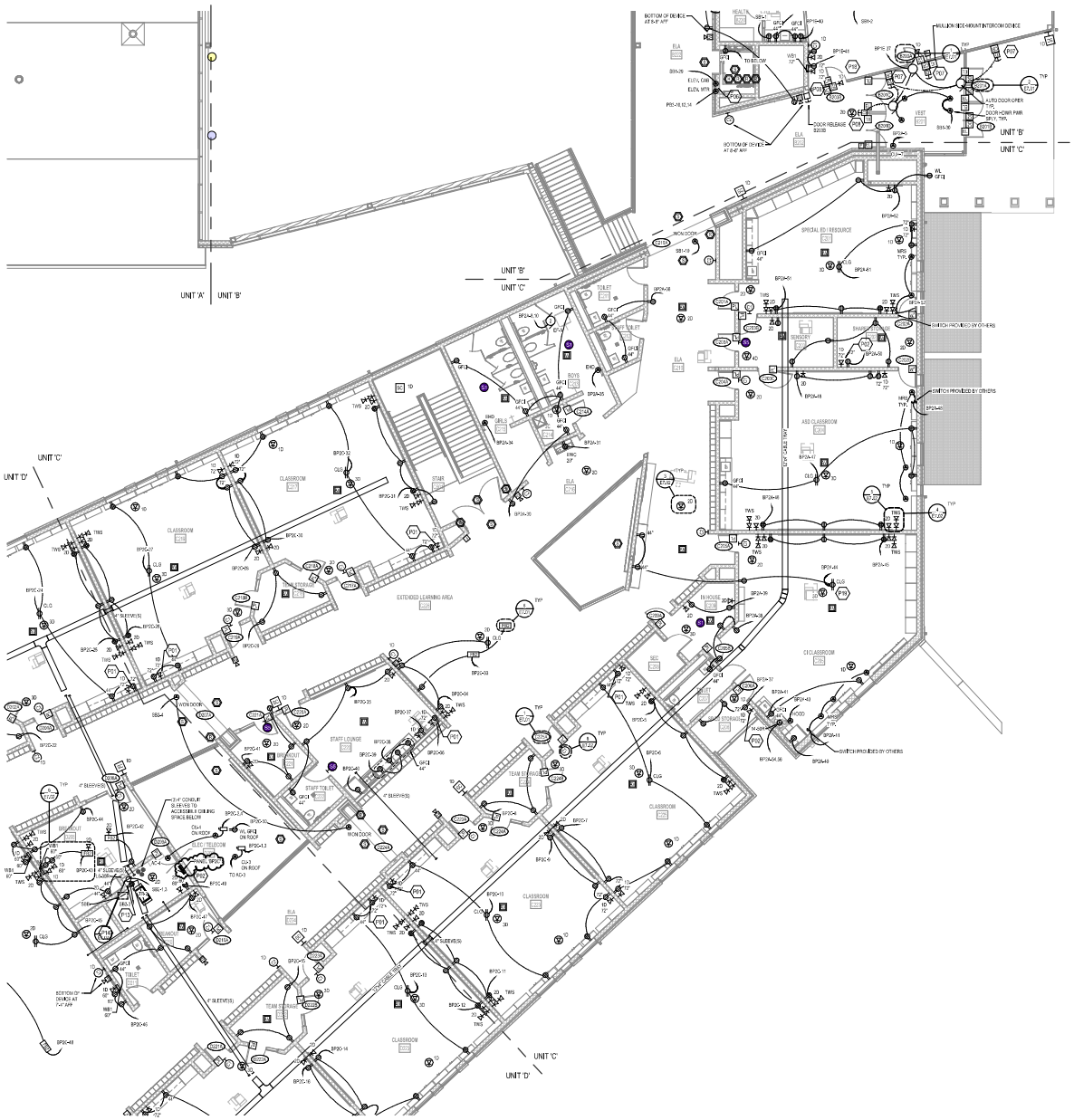


UNIT 'C' SECOND FLOOR POWER & COMMUNICATIONS PLAN

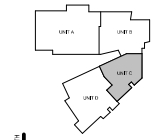
3/32" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE LOCAL POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT UNDER BREAKER LOCKING RECEPTACLE. LOCAL PANELBOARD POWERED FROM EMERGENCY BRANCH WHERE SHOWN. GROUND FOR FACP. PROVIDE 4"SQ. BOX WITH 1" RACEWAY TO ACCESSIBLE CEILING SPACE AT EACH DAMPER. PROVIDE FIRE ALARM ADDRESSABLE RELAY WITHIN 5 FEET OF EACH DAMPER ENABLED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE NON-FUSED DISCONNECT SWITCH (WALL MOUNTED) IN ACCESSIBLE LOCATION FOR EACH SINGLE (1) HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO EXHAUST FANS/FANS, SUMP/JET PUMPS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.).
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P06	COORDINATE WITH ELEVATOR MANUFACTURER'S REQUIREMENTS FOR DISCONNECTS.
P07	MULLION MOUNT CARD READER AND ADA PUSHBUTTON. ADA PUSH BUTTON SHALL BE MOUNTED AT 48" AFF TO BOTTOM OF BOX. CARD READER SHALL BE MOUNTED DIRECTLY ABOVE ADA PUSHBUTTON.
P08	MULLION MOUNT CARD READER OR ADA PUSHBUTTON.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL UL-WR RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P16	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET., TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR, TYPICAL FOR ALL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
04.16.2021	BULLETIN 006
05.06.2021	BULLETIN 008
12.28.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'C' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2C

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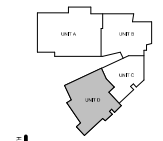
EQUIPMENT PLATFORM POWER & COMMUNICATIONS PLAN
1/8" = 1'-0"

UNIT 'D' SECOND FLOOR POWER & COMMUNICATIONS PLAN
1/8" = 1'-0"



KEYPLAN

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1Y.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED ON-IT BRANCH CIRCUIT WITH DISCRETE LOCKING MECHANISM IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATED IN ACCESSIBLE TUBULAR SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A PIRT ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE, INSTALL 1/2" CONDUIT AND WIRE FROM BOX TO CORRESPONDING PANELS OR CONTROLLERS. PROVIDE ADDITIONAL BOXES AS REQUIRED. REFER TO MECHANICAL DRAWINGS FOR PROVIDED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (ON BUILDING INTERIOR) IN ACCESSIBLE LOCATION (FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD ON THE WORK THAT IS NOT IN CONNECTED TO A COMMON BRANCH CIRCUIT). TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CUNIT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.#
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL 48-RR RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
03.11.2021	BULLETIN 007
12.06.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'D' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2D

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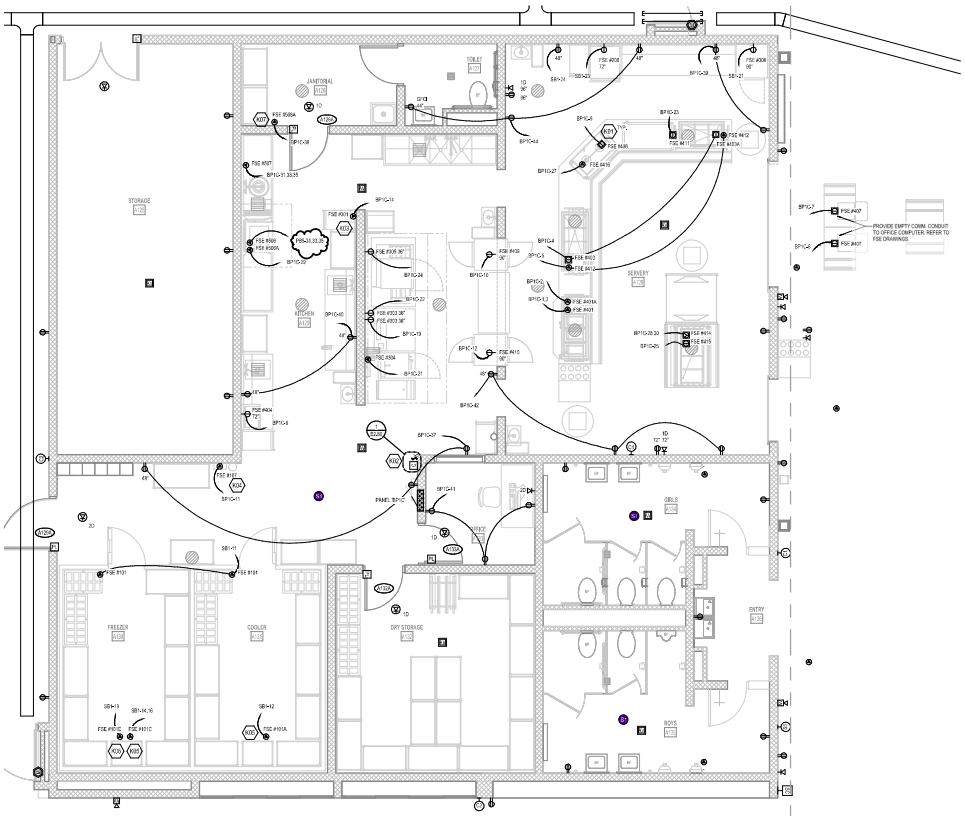


NORTH

ENLARGED KITCHEN POWER & COMMUNICATIONS PLAN

1/4" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

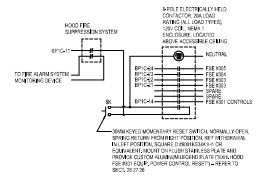
1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRE-STOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH BRANDED LOCKING BREAKER IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE GROUPED ON EACH CIRCUIT, TERMINATED IN BOX-COVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT EACH ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE 60A COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SINGLE 10 HP/ MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: EXHAUST FANS(S), DAMPERS, EXHAUST FANS, FAN COILS, UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.).
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

FOODSERVICE ELECTRICAL GENERAL NOTES

1. BLDG CONTRACTOR SHALL REVIEW FOODSERVICE EQUIPMENT DRAWINGS (FSE - VENDOR) AND FOOD SERVICE SPECIFICATIONS (SECTION 11 40 00) FOR ADDITIONAL SCOPE OF WORK AND REQUIREMENTS, INCLUDE ALL WORK AND MATERIALS AS ASSIGNED TO THE ELEC. CONTRACTOR BY DRAWINGS, SPECIFICATIONS, CONTRACTOR MANUFACTURER WORK CATEGORY DESCRIPTIONS, ETC.
2. IF THERE IS A CONFLICT BETWEEN THE FOODSERVICE DRAWINGS/SPECIFICATIONS AND THE DRAWINGS OF DIVISION 26 SPECIFICATIONS, THE ELEC. CONTRACTOR SHALL BID USING THE MORE STRINGENT AND CREATIN COST REQUIREMENTS. CLARIFICATIONS MAY BE REQUESTED (IN WRITING) PRIOR TO BID. COORDINATE WITH CONSTRUCTION MANAGERS PROCEDURES.
3. THE WORK SHOWN ON THESE DRAWING AND THE DIVISION 26 SPECIFICATIONS SHALL SUPERCEDE THE FOOD SERVICE EQUIPMENT DRAWINGS/SPECIFICATIONS.
4. LABEL ALL RECEPTACLES IN KITCHEN AND SERVING AREAS WITH CORRESPONDING PANELBOARD CIRCUIT NUMBER, AND FOODSERVICE EQUIPMENT TAG NUMBER AS REFERENCED ON THE FOODSERVICE EQUIPMENT DRAWINGS.
5. ELEC CONTRACTOR SHALL IDENTIFY AND COORDINATE WITH THE FOODSERVICE EQUIPMENT VENDOR THAT ALL SINGLE-PHASE RECEPTACLES (250V) 50 OR LESS NEMA L5-50R AND THREE-PHASE RECEPTACLES (150V-250V) 100A OR LESS IN KITCHEN AND SERVING AREAS HAVE GFCI PROTECTION FOR PERSONNEL AS REQUIRED BY NEC (TYP.). EITHER AT THE GFCI TYPE RECEPTACLE OR AT THE RESPECTIVE PANELBOARD GFCI BREAKER FOR THE BRANCH CIRCUIT. FOR ANY NON-RECEPTACLE LOADINGS THAT ARE NOT READILY ACCESSIBLE (NEC DEFINITION), GFCI PROTECTION SHALL BE PROVIDED FOR THE BRANCH CIRCUIT AT THE PANELBOARD (250V-1 POLE BRANCH CIRCUIT BREAKER.
6. PROVIDE CONCEALED HOOD-MOUNTED FOR REMOTE MANUAL PULL STATIONS CONNECTED TO HOOD-MOUNTED FIRE PROTECTION SYSTEMS. SURFACE-MOUNTED CONDUITS, TIPS, AND PULL STATIONS ARE NOT ACCEPTABLE. COORDINATE LOCATIONS WITH ENGINEERED SHOP DRAWINGS FOR SYSTEM.

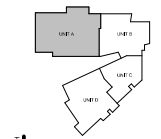
ELECTRICAL KEYNOTES

K01	FLOOR-MOUNTED PEDESTAL WITH RECEPTACLE AS INDICATED. BOX SHALL BE ONE-PIECE CAST ALUMINUM OR STAINLESS STEEL MOUNTED HORIZONTALLY WITH (2) HUBS ON BOTTOM ALLOWING SIDE TO ACCEPT THREADED RIGID METALLIC CONDUIT. PROVIDE WITH CAST METAL WEATHERPROOF HINGED COVER OVER WIRING DEVICE. TOP OF RECEPTACLE BOX SHALL NOT EXCEED 5" AFF.
K02	INTENT STATION: FOR EQUIP. SHUTDOWN CONTROLS REFER TO DETAIL.
K03	E.C. SHALL INTERWIRE ALL COMPONENTS OF MAKE-UP AIR UNIT, EXHAUST FAN, HOOD LIGHTS, AND HOOD CONTROLS AS SHOWN ON FOODSERVICE EQUIP. DRAWINGS AND AS REQUIRED BY EQUIPMENT MANUFACTURER. VERIFY WITH EQUIPMENT SHOP DRAWINGS.
K04	E.C. SHALL INTERWIRE FIRE SUPPRESSION SYSTEM TO FOODSERVICE EQUIPMENT PER ALARM INITIATION CIRCUIT FOR SUPERVISORY MONITORING FOR LOCAL CODES AND CONTROL CONTACTOR FOR SHUTDOWN OF EQUIPMENT (GEC, SUPPLY UNDER HOOD) UPON RELEASE OF EXTINGUISHING AGENT. REFER TO DETAIL ON FSE DRAWINGS AND CONTROL DETAIL.
K05	E.C. SHALL INTERWIRE ALL COMPONENTS OF WALK-IN COOLER OR FREEZER AS SHOWN ON DRAWINGS AND REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE WITH SHOP DRAWINGS.
K06	COORDINATE WITH PLUMBING CONTRACTOR FOR LOCATION OF HEAT TRACE POWER SUPPLY.
K07	CONNECT DISHWASHER EXHAUST FAN TO DISHWASHER CONTROL PANEL. REFER TO FSE DRAWINGS.



1 / E2.80 FOODSERVICE EQUIP. ELEC SHUTDOWN DETAIL

NOT TO SCALE



NORTH

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
12.02.2021	BULLETIN 010

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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KITCHEN & SERVING AREA POWER & COMMUNICATIONS ENLARGED PLAN

E2.80

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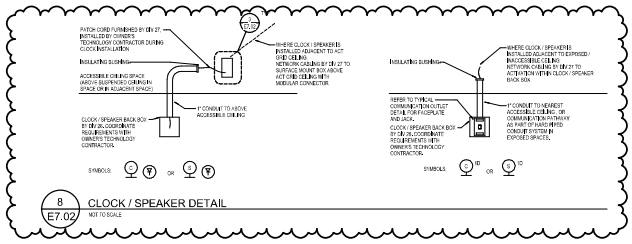

8 E7.02 CLOCK / SPEAKER DETAIL
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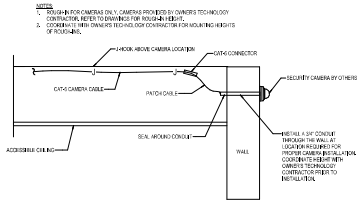

7 E7.02 TYPICAL WALL MOUNT SURVEILLANCE CAMERA INSTALLATION
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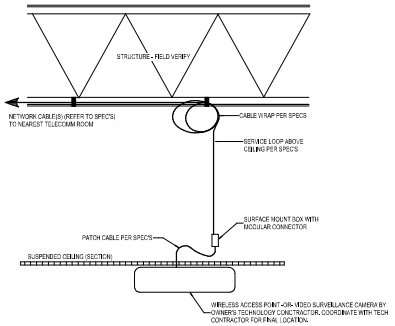
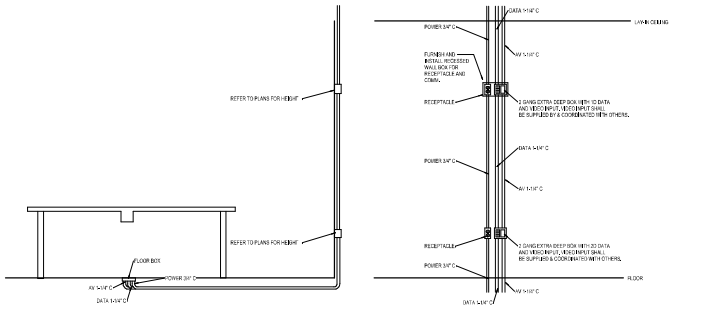


3 E7.02 CEILING MOUNTED COMMUNICATION DEVICE
NOT TO SCALE



6 E7.02 VIDEO CONFERENCE SECTION
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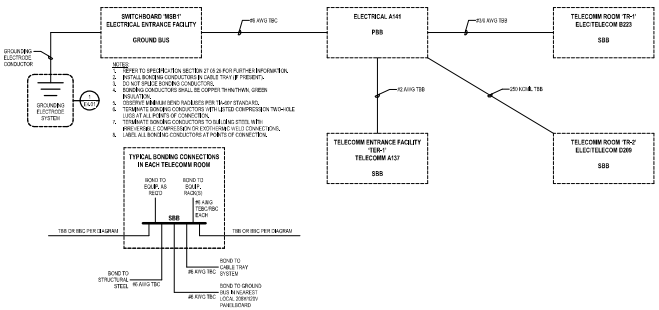

2 E7.02 COMMUNICATIONS GROUNDING/BONDING SYSTEM RISER DIAGRAM
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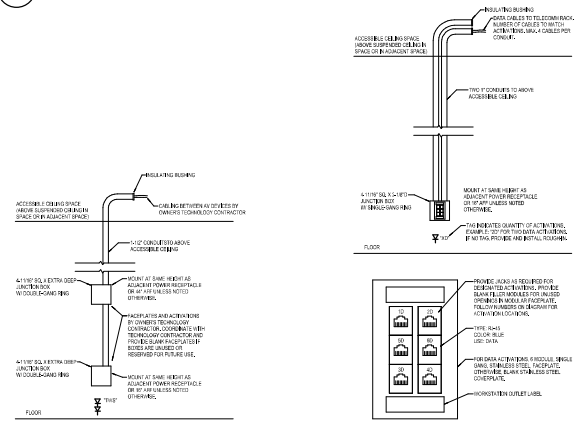
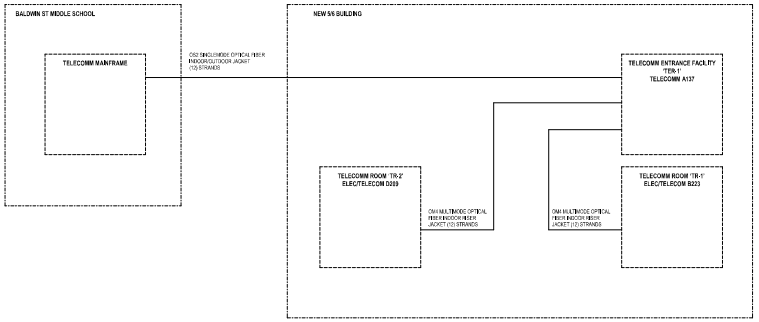


5 E7.02 TEACHER WORKSTATION DETAIL
NOT TO SCALE

4 E7.02 TYPICAL COMMUNICATION OUTLET
NOT TO SCALE



1 E7.02 COMMUNICATIONS CABLING BACKBONE RISER DIAGRAM
NOT TO SCALE

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HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004

DRAWN JPB
REVIEWED AAB
PROJECT NO. 5-5065

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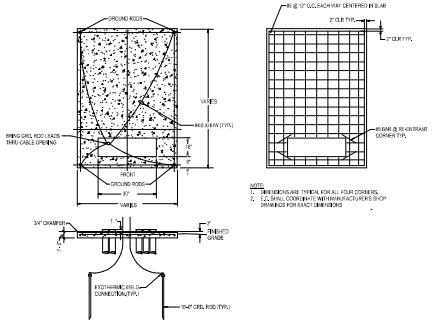
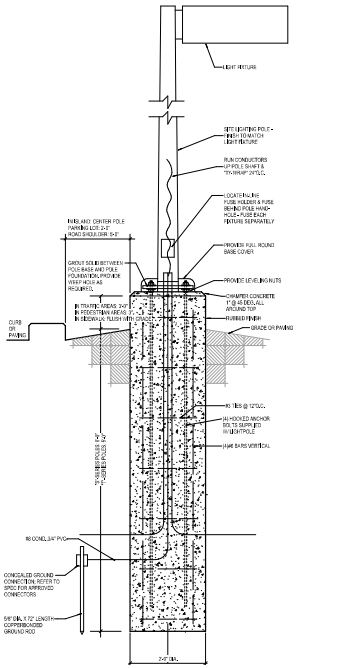
ELECTRICAL DETAILS

E7.02

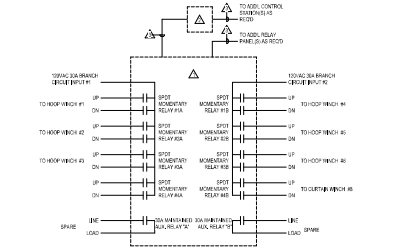
BIM: 5805\5-5065 Hudsonville Public Schools 5-5\5-5065E 2019.rvt
11/24/2020 2:20:27 PM



10 E7.01 TRANSFORMER/GENERATOR GROUNDING DETAIL
NOT TO SCALE



9 E7.01 SITE LIGHTING POLE FOUNDATION
NOT TO SCALE

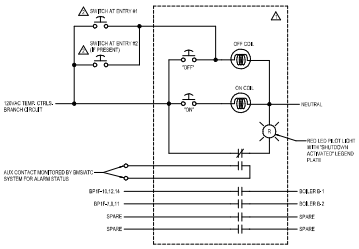


1 GYMNASIUM EQUIPMENT CONTROL SYSTEM RELAY PANEL, FURNISHED BY SECTION 11 68 23, INSTALLED AND WIRED BY ELEC. CONTRACTOR. WIRING CONNECTIONS ARE SHOWN FOR CONCEPT ONLY. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR EXACT REQUIREMENTS AND WIRING ARRANGEMENTS.

2 GYMNASIUM EQUIPMENT CONTROL SYSTEM OPERATOR INTERFACE AND PUSH BUTTON PANEL, AS SPECIFIED BY SECTION 11 68 23, INSTALLED AND WIRED BY ELEC. CONTRACTOR. MOUNT SEMI-FLUSH AT 44" AFF TO BOTTOM OF BOX WITH CENTERLINE OF RIGHT OF ALL EQUIPMENT TO BE CONTROLLED. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR EXACT ROUGH-IN REQUIREMENTS.

3 CONTROL-VOLTAGE CABLE FURNISHED AND WIRED BY SLEC CONTRACTOR. REFER TO SECTION 26 05 23 FOR TYPICAL CABLE. REFER TO MANUFACTURER'S SHOP DRAWINGS TO CONFIRM EXACT CABLE TYPE REQ'D.

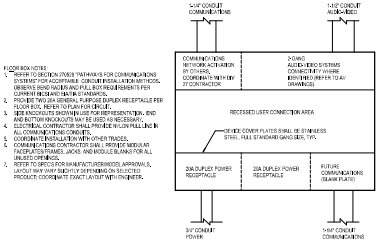
4 E7.01 GYMNASIUM EQUIPMENT CONTROL SYSTEM DETAIL
NOT TO SCALE



△ 30A, 4-POLE, MECHANICALLY-HELD CONTACTOR WITH 120VAC CONTROL COILS. MOMENTARY ON/OFF PUSH BUTTONS, ONE N.O. AND ONE N.C. AUX CONTACTS, RED LED PILOT LIGHT WIRED TO N.O. AUX CONTACT FOR "OFF" INDICATION. CUSTOM ENGRAVED DEVICE LABELS. NEMA 1 ENCLOSURE, PROVIDE ENGRAVED NAMEPLATE INDICATING "EMERGENCY BOILER SHUTDOWN".

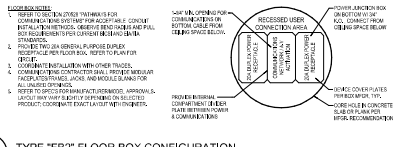
△ RED MOMENTARY PUSHBUTTON SWITCH MOUNTED ON YELLOW POLYCARBONATE BODY, CLEAR POLYCARBONATE HINGED COVER, CUSTOM LABEL "BOILER SHUTDOWN". PROVIDE STOPPER STATION SERIES 40 HEAVY DUTY (NEMA 4/13), MODEL NO. 9001SKH-40HOR APPROVED EQUAL. PROVIDE W/ MATCHING BACKBOX (MODEL NO. HT-1781-W) FOR APPLICATIONS WITHOUT A RECESSED SWITCH BOX FOR MOUNTING

8 E7.01 BOILER EMERGENCY SHUTDOWN CONTROL DETAIL
NOT TO SCALE



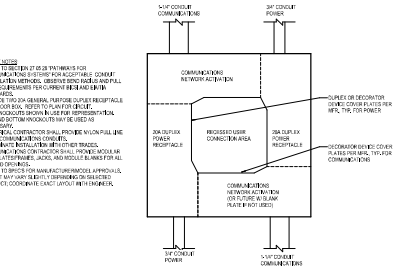
FLOOR BOX NOTES:
1. REFER TO SECTION 270528 "PATHWAYS FOR COMMUNICATIONS SYSTEMS" FOR ACCEPTABLE CONDUIT INSTALLATION METHODS, OBSERVE BEND RADIUS AND PULL BOX REQUIREMENTS PER CURRENT NEC AND EIA/TIA STANDARDS.
2. PROVIDE TWO 20A GENERAL PURPOSE DUPLEX RECEPTACLE PER FLOOR BOX, REFER TO PLAN FOR CIRCUIT.
3. SIDE KNOCKOUTS SHOWN IN USE FOR REPRESENTATION. END AND BOTTOM KNOCKOUTS MAY BE USED AS NEEDED/APPLICABLE.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE NYLON PULL LINE IN ALL CONDUITS FOR FUTURE USE.
5. COORDINATE INSTALLATION WITH OTHER TRADES.
6. COMMUNICATIONS CONTRACTOR SHALL PROVIDE MODULAR FACEPLATES/FRAMES, JACKS, AND MODULE BLANKS FOR ALL UNUSED OPENINGS.
7. REFER TO SPECS FOR MANUFACTURER/MODEL APPROVALS. LAYOUT MAY VARY SLIGHTLY DEPENDING ON SELECTED PRODUCT. COORDINATE EXACT LAYOUT WITH ENGINEER.

7 E7.01 TYPE "FB3" FLOOR BOX CONFIGURATION
NOT TO SCALE



FLOOR BOX NOTES:
1. REFER TO SECTION 270528 "PATHWAYS FOR COMMUNICATIONS SYSTEMS" FOR ACCEPTABLE CONDUIT INSTALLATION METHODS, OBSERVE BEND RADIUS AND PULL BOX REQUIREMENTS PER CURRENT NEC AND EIA/TIA STANDARDS.
2. PROVIDE TWO 20A GENERAL PURPOSE DUPLEX RECEPTACLE PER FLOOR BOX, REFER TO PLAN FOR CIRCUIT.
3. SIDE KNOCKOUTS SHOWN IN USE FOR REPRESENTATION. END AND BOTTOM KNOCKOUTS MAY BE USED AS NEEDED/APPLICABLE.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE NYLON PULL LINE IN ALL CONDUITS FOR FUTURE USE.
5. COORDINATE INSTALLATION WITH OTHER TRADES.
6. COMMUNICATIONS CONTRACTOR SHALL PROVIDE MODULAR FACEPLATES/FRAMES, JACKS, AND MODULE BLANKS FOR ALL UNUSED OPENINGS.
7. REFER TO SPECS FOR MANUFACTURER/MODEL APPROVALS. LAYOUT MAY VARY SLIGHTLY DEPENDING ON SELECTED PRODUCT. COORDINATE EXACT LAYOUT WITH ENGINEER.

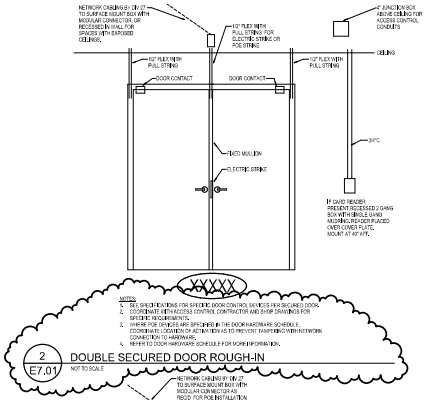
6 E7.01 TYPE "FB2" FLOOR BOX CONFIGURATION
NOT TO SCALE



5 E7.01 TYPE "FB1" FLOOR BOX CONFIGURATION
NOT TO SCALE

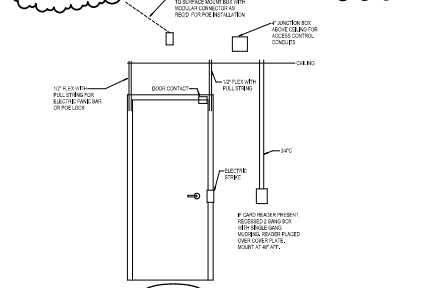
NOTES:
1. TYPICAL WIRING VERIFY WITH MANUFACTURER.
2. COMPLY WITH NEC 700.10(B)(7) AT ALL REQUIRED LOCATIONS PRIOR TO SPECIMEN.

3 E7.01 EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
NOT TO SCALE



NOTES:
1. SEE SPECIFICATIONS FOR SPECIFIC DOOR CONTROL DEVICES PER SECURED DOOR.
2. COORDINATE WITH ACCESS CONTROL CONTRACTOR AND SHOP DRAWINGS FOR SPECIFIC REQUIREMENTS.
3. WHERE POE DEVICES ARE SPECIFIED IN THE DOOR HARDWARE SCHEDULE, COORDINATE LOCATION OF ACTIVATION AS TO PREVENT TAMPERING WITH NETWORK CONNECTION TO HARDWARE.
4. REFER TO DOOR HARDWARE SCHEDULE FOR MORE INFORMATION.

2 E7.01 DOUBLE SECURED DOOR ROUGH-IN
NOT TO SCALE



NOTES:
1. SEE SPECIFICATIONS FOR SPECIFIC DOOR CONTROL DEVICES PER SECURED DOOR.
2. COORDINATE WITH ACCESS CONTROL CONTRACTOR AND SHOP DRAWINGS FOR SPECIFIC REQUIREMENTS.
3. WHERE POE DEVICES ARE SPECIFIED IN THE DOOR HARDWARE SCHEDULE, COORDINATE LOCATION OF ACTIVATION AS TO PREVENT TAMPERING WITH NETWORK CONNECTION TO HARDWARE.
4. REFER TO DOOR HARDWARE SCHEDULE FOR MORE INFORMATION.

1 E7.01 SINGLE SECURED DOOR ROUGH-IN
NOT TO SCALE

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NEW 5TH - 6TH GRADE FACILITY
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HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001

DRAWN JPB
REVIEWED AAB
PROJECT NO. 5-5065

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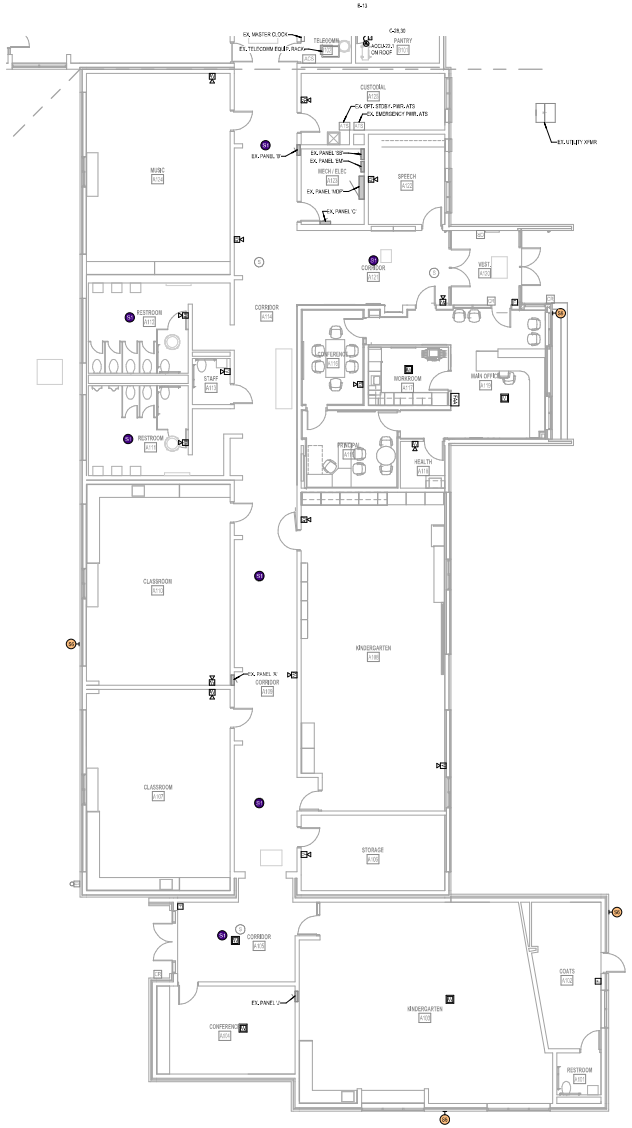
ELECTRICAL DETAILS

E7.01

BM: 5805\5-5065 Hudsonville Public Schools 5-e\5-5065E 2019.rvt
11/18/2020 10:34:49 AM



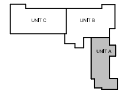
North

UNIT 'A' POWER PLAN

1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH HIGH ALOR LOCK-ON ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE GROUPED ON EACH CIRCUIT.
   C. TERMINATE IN BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTION WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET.
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAYS TO INTERLOCK DAMPER IN CORRESPONDING HVAC UNIT AS PER CODE REQUIREMENTS.
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DAS, IT COMMUNICATIONS CABLING AND DAS, IT SAFETY/SECURITY CABLING ONLY. OTHER CABLING TYPES, SUCH AS BAS CONTROLS, DAS, BAS CONTROLS, AND ARCHITECTURAL EQUIPMENT CABLING SHALL BE SUPPORTED AND SLEEVED BY OTHER/DIFFERENT PATHWAYS, HANGERS, AND SUPPORTS.
6. CONSULT WITH ALL POWER SUPPLIES REQUIRED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 08 71 00) TO CENTRAL LOCATIONS ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATIONS. CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUITS AS DESIGNATED.
7. THE FOLLOWING DIV_27 AND DIV_28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANTS ASSOCIATED WITH HUDSONVILLE PUBLIC SCHOOLS:
   A. NETWORK ELECTRONICS (SWITCHES, ACCESS POINTS, ETC.)
   B. STRUCTURED CABLING
   C. CLASSROOM AUDIO/VIDEO EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO/VIDEO SYSTEMS FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. TIERD SURVEILLANCE SYSTEM



North

KEYPLAN

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FOREST GROVE ELEMENTARY GYM ADDITION
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES
09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK
REVIEWED JPB
PROJECT NO. 5-5362

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UNIT 'A' POWER PLAN

E2.1A

BIM: 5362\5-5362 Hudsonville Forest Grove Elem Gym Addition-CSDZE 2019.rvt
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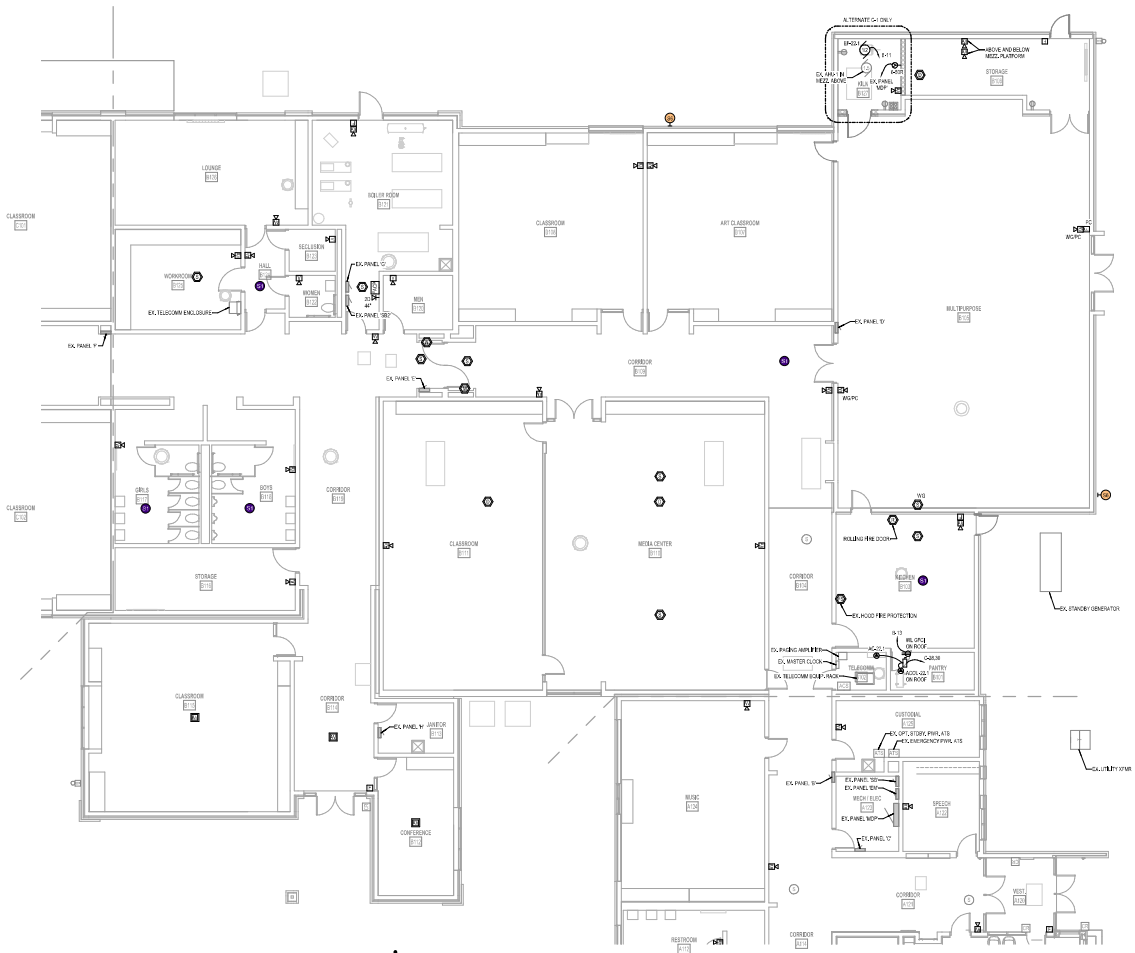

UNIT 'B' POWER PLAN
1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL/HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH BREAKER LOCK-ON ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE DISTRIBUTED ON EACH CIRCUIT.
   C. TERMINATE W/ BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET).
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAY(S) FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT(S) PER CODE REQUIREMENTS.
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (≤ 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR. DO NOT WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DIV. 27 COMMUNICATIONS CABLING AND DIV. 28 SWITCHED (NOT DAISY CHAINED) ONLY. OTHER CABLING TYPES, SUCH AS DIV. 25 CONTROLS, DIV. 26 CONTROLS, AND AV/ARCHITECTURAL EQUIPMENT CABLING SHALL BE ROUTED SEPARATELY AND ISOLATED BY OTHER INDEPENDENT PATHWAYS, WINDERS, AND SUPPORTS.
6. CONSOLIDATE ALL POWER SUPPLIES REQUIRED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 81 00) TO CENTRAL LOCATION(S) ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATIONS. CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUIT(S) AS DESIGNATED.
7. THE FOLLOWING DIV. 27 AND DIV. 28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANT IN ASSOCIATION WITH HUDSONVILLE P.S. TECHNOLOGY DEPT.
   A. NURSE CALL SYSTEM (INCLUDES SWITCHES, ACCESS POINTS, ETC.)
   B. VOIP TELEPHONE SYSTEMS
   C. CLASSROOM AUDIO-VISUAL EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO-VISUAL SYSTEM FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. VIDEO SURVEILLANCE SYSTEM

KEYPLAN

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FOREST GROVE ELEMENTARY GYM ADDITION
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES
09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK
REVIEWED JPB
PROJECT NO. 5-5362

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UNIT 'B' POWER PLAN

E2.1B

BIM: 38001/5-5362 Hudsonville Forest Grove Elem Gym Addition/5-5362E 2019.rvt
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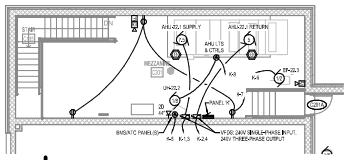
AUDIO-VIDEO SYSTEMS BOX & CONNECTOR PLATE SCHEDULE

ITEM I.D. / TAG	ROUGH-IN OR ITEM SIZE	MOUNTING	LOCATION (HEIGHT TO BOTTOM OF BOX)	BOX & CONDUIT PROVIDED BY	CONNECTOR PLATE & WIRE/CABLE PROVIDED BY	SPECIAL NOTES
AVA-CC1	TWO GANG x 3 1/2" DEEP	FLUSH	44" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	A/V SYSTEM CONTROL TOUCHPANEL
AVA-CC2	SINGLE GANG x 3 1/2" DEEP	FLUSH	72x2" AFF (VERIFY, SEE DETAIL)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	PROJECTION SCREEN CONTROL
AVA-JS1	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	SPEAKER JUNCTION BOX
AVA-JS2	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	SPEAKER JUNCTION BOX
AVA-VI1	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO INPUT(S)
AVA-VI2	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO INPUT(S)
AVA-VI3	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO PROJECTOR OUTPUT/CONTROL; VERIFY EXACT LOCATION OF PROJ. W/ INSTALLERS
AVA-AW1	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)
AVA-AW2	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)
AVA-AW3	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)
AVA-AW4	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)

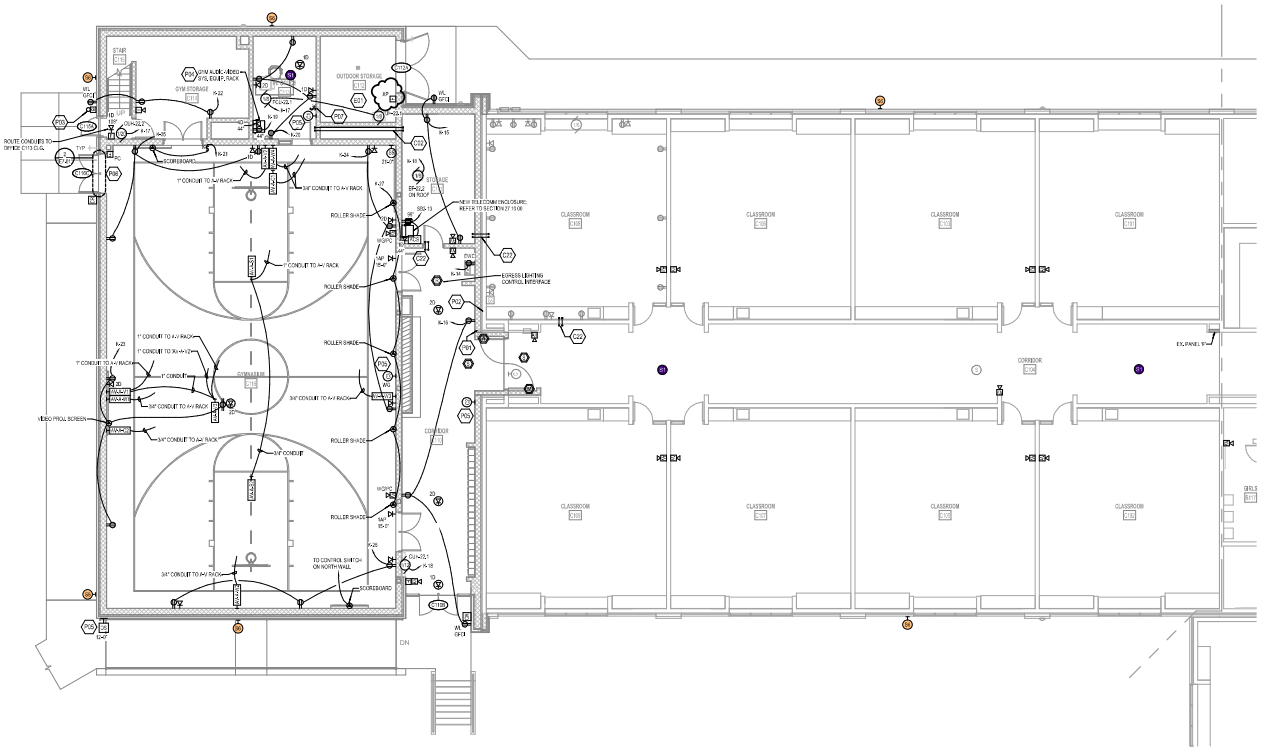
POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120 VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL/HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH RECEPTACLE-LOCKON ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE GROUPED ON EACH RECEPTACLE.
   C. TERMINATE W/ 60A COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET).
   E. PROVIDE FIRE ALARM ACCESSABLE RELAYS FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNITS (FOR CODE REQUIREMENTS).
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (≤ 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR. LOAD WIRING MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: UNIT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, GAS HEATERS, W/H BASES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DIV. 27 COMMUNICATIONS CABLING AND DIV. 28 SWITCHED LIGHT CABLING ONLY. OTHER CABLING TYPES, SUCH AS CL2X CONTROLS, LV/LOW CONTROLS, AND ARCHITECTURAL EQUIPMENT CABLING, SHALL BE RESERVED SOLELY BY OTHER INDEPENDENT PATHWAYS, RACEWAYS, AND SUPPORTS.
6. CONSULT WITH ALL TRADES INVOLVED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 81 00) TO CENTRAL LOCATION(S) ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATION(S). CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUIT(S) AS DESIGNATED.
7. THE FOLLOWING DIV. 27 AND DIV. 28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANTS IN ASSOCIATION WITH HUDSONVILLE P.S. TECHNOLOGY DEPT.:
   A. MDF / IDF ROOMS (INCLUDES SWITCHES, ACCESS POINTS, ETC.)
   B. VOIP TELEPHONE SYSTEMS
   C. CLASSROOM AUDIO-VIDEO EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO-VIDEO SYSTEM FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. VIDEO SURVEILLANCE SYSTEM



MEZZANINE POWER PLAN

1/8" = 1'-0"



UNIT 'C' POWER PLAN

1/8" = 1'-0"

ELECTRICAL KEYNOTES

C02	(2) 4" CONDUIT SLEEVES FOR DIV. 27 COMMUNICATIONS CABLING
C22	(2) 4 7 SQ. IN. CABLE PATHWAY PENETRATION DEVICE (FSD) PER SECTION 27 05 28
E01	ALL ELECTRICAL MATERIALS AND INSTALLATION IN THIS ROOM SHALL COMPLY WITH NEC ARTICLE 500 HAZARDOUS LOCATION REQUIREMENTS FOR CLASS 1, DIVISION 1, GROUP C & D
P01	ESTABLISH NEW CONCRETE-ENCASED GROUNDING ELECTRODE IN FOOTING OF NEW ADDITION. INTERCONNECT WITH GROUNDING ELECTRODE SYSTEM AT SERVICE ENTRANCE OR NEAREST SEPARATELY-DERIVED SYSTEM PER NEC AND SPECIFICATION REQUIREMENTS.
P02	BOND METAL STRUCTURE OF ADDITION TO METAL STRUCTURE OF EXISTING BUILDING PER NEC REQUIREMENTS.
P03	INSTALL EX. BOOSTER PUMP SET SALVAGED FROM BUILDING DEMOLITION AND EXISTING WATER SYSTEM PIPING PRIOR TO INTERIOR EXCAVATION AND CONCRETE SLAB POURS. COORDINATE.
P04	INSTALL (4) 4" x 4" x 2 1/8" JUNCTION BOXES AND ALLIED EQUIP. FOR SPEAKER SYSTEM. PROVIDE 1" CONDUITS CONCEALED IN WALL, SLAB/CEILING/ATTIC CAVITY. SURFACE-MOUNTED CONDUITS ARE NOT ACCEPTABLE ABOVE, BELOW, OR ON SIDES RACK. STUB AN ADDITIONAL (2) 1" CONDUITS OUT ABOVE ACCESSIBLE CEILING SPACE FROM BOX.
P05	PROVIDE TCP/IP NETWORK ACTIVATION FOR CONNECTION TO COMMUNICATIONS OR SAFETY/SECURITY DEVICE. TERMINATION INSIDE RECESSED DEVICE BACKBOX.
P06	ROUTE ACCESS CONTROL CONDUITS FROM DOOR FRAME THROUGH WALL OVER TO STAIRWELL AND STUB OUT ABOVE 9'-0" AFF.
P07	ROLLER SHADE CONTROL FOR SWINGARM, KEY-OPERATED SWITCH FURNISHED BY SECTION 12 24 13, WIRED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS

KEYPLAN

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FOREST GROVE ELEMENTARY GYM ADDITION

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

09.22.2021 BIDS & CONSTRUCTION

11.16.2021 BULLETIN 001

DRAWN MCK

REVIEWED JPB

PROJECT NO. 5-5362

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UNIT 'C' POWER PLAN

E2.1C

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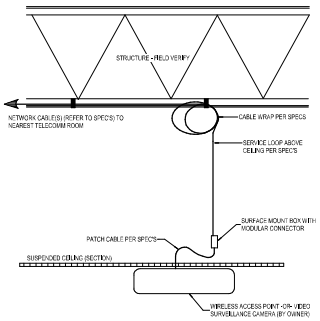
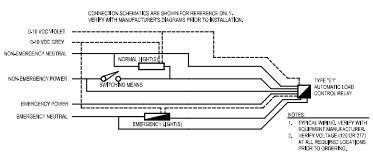
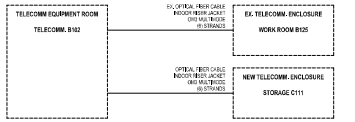


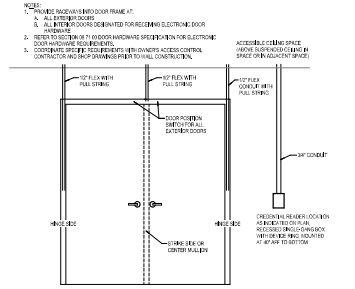
5 E7.01 CEILING MOUNTED COMMUNICATION DEVICE
NOT TO SCALE



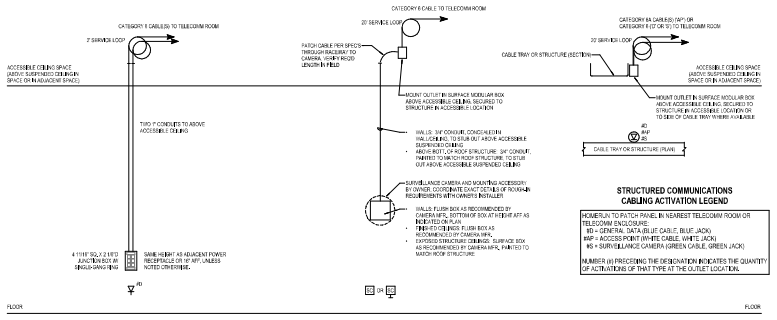
4 E7.01 EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
NOT TO SCALE

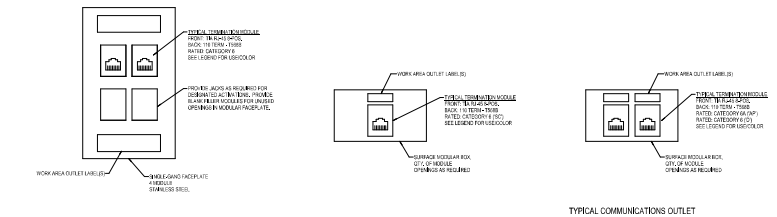


3 E7.01 COMMUNICATIONS CABLING BACKBONE RISER DIAGRAM
NOT TO SCALE



2 E7.01 TYPICAL ROUGH-IN FOR DOORS WITH ELECTRONIC ACCESS CONTROL / MONITORING
NOT TO SCALE





TYPICAL COMMUNICATIONS WALL OUTLET WITH '_D' OR '_AP' ACTIVATION

TYPICAL COMMUNICATIONS OUTLET FOR VIDEO SURVEILLANCE CAMERA

TYPICAL COMMUNICATIONS OUTLET ABOVE ACCESSIBLE CEILING (WIRELESS ACCESS POINT, AUDIO-VIDEO SYSTEM EQUIP., ETC.)

1 E7.01 TYPICAL COMMUNICATIONS OUTLET DETAILS
NOT TO SCALE

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FOREST GROVE ELEMENTARY GYM ADDITION
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES
09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK
REVIEWED JPB
PROJECT NO. 5-5362

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ELECTRICAL DETAILS

E7.01

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ELECTRICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	INTLK	INTERLOCK
BKR	BREAKER	JCT	JUNCTION
BOS	BOTTOM OF SLAB	JB	JUNCTION BOX
BOS	BOTTOM OF STRUCTURE	KW	KILOWATT
BP	BREAKER PANEL	KWH	KILOWATT HOUR
BLDG	BUILDING	KO	KNOCK OUT
CAP	CAPACITY	LBL	LABEL
CLG	CEILING	LT	LIGHT
CKT	CIRCUIT	LC	LIGHT CONTROL
CB	CIRCUIT BREAKER	LCM	LIGHTING CONTROL MODULE
C	CONDUIT	LCN	LIGHTING CONTROL NARRATIVE
COMM	COMMUNICATIONS	LTG	LIGHTING
COMN	CONNECTION	MAX	MAXIMUM
CONST	CONSTRUCTION	MCC	MOTOR CONTROL CENTER
CONTR	CONTRACTOR	MIN	MINIMUM
CU	CONTRACT UNIT LINE	MRS	MOTORIZED ROLLER SHADE
CT	CURRENT TRANSFORMER	NEC	NATIONAL ELECTRIC CODE
E.C.	ELECTRICAL CONTRACTOR	NEG	NEGATIVE (-)
EHD	ELECTRIC HAND DRYER	NC	NORMALLY CLOSED
ELEC	ELECTRICAL	NO	NORMALLY OPEN
EWC	ELECTRIC WATER COOLER	N/A	NOT APPLICABLE
EM	EMERGENCY	NIC	NOT IN CONTRACT
ENT	ENTRANCE	NL	NIGHT LIGHT
EQ	EQUAL	PC	PHOTO CELL
EQUIP	EQUIPMENT	POS	POSITIVE (+)
EST	ESTIMATE	PWR	POWER
EF	EXHAUST FAN	P & L	POWER & LIGHTING
EXR	EXISTING TO REMAIN	S	SURFACE
EX	EXISTING	S.A.V.	SUPPLIED BY OTHERS
F	FLUSH	SP	SINGLE POLE
FA	FIRE ALARM	SPD	SURGE PROTECTION DEVICE
FSE	FOOD SERVICE EQUIPMENT	SPKR	SPEAKER
FP	FIRE PROOF / FIRE PROTECTION	SPEC	SPECIFICATION
FLR	FLOOR	SUB	SUBSTITUTE
FLUOR	FLUORESCENT	SWBD	SWITCHBOARD
GEN	GENERATOR	TEL	TELEPHONE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TSTAT	THERMOSTAT
GND	GROUND	XFMR	TRANSFORMER
HDWE	HARDWARE	UG	UNDERGROUND
HTR	HEATER	UL	UNDERWRITERS LABORATORIES
HTG	HEATING	UH	UNIT HEATER
HV	HEATING / VENTILATING	UNO	UNLESS NOTED OTHERWISE
HVAC	HEATING, VENTILATING, AIR CONDITIONING	VERT	VERTICAL
HOA	HAND - OFF - AUTOMATIC	W	WITH
HP	HEAT PUMP	W/O	WITHOUT
		WL	WET LOCATION
		WP	WEATHER PROOF

MAXIMUM CONDUCTOR LENGTHS FOR TYPICAL BRANCH CIRCUITS

FEET ONE-WAY BASED ON SINGLE PHASE, 20A CIRCUIT, 75% LOAD, 190% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#12 AWG	#10 AWG	#8 AWG	#6 AWG	#4 AWG
120	90	160	190	240	305
208	150	170	285	425	670
277	175	230	380	565	890
480	240	400	615	896	

FEET ONE-WAY BASED ON SINGLE PHASE, 30A CIRCUIT, 75% LOAD, 190% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#10 AWG	#8 AWG	#6 AWG	#4 AWG	
120	69	105	150	245	
208	180	115	265	425	
277	135	230	355	565	
480	240	400	615	988	

FEET ONE-WAY BASED ON THREE PHASE, 20A CIRCUIT, 75% LOAD, 190% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#12 AWG	#10 AWG	#8 AWG	#6 AWG	#4 AWG
208	123	208	305	490	775
480	225	400	715	1,105	

FEET ONE-WAY BASED ON THREE PHASE, 30A CIRCUIT, 75% LOAD, 190% P.F., IN STEEL CONDUIT, 3% VOLTAGE DROP

CIRCUIT VOLTAGE	CONDUCTOR SIZE				
	#10 AWG	#8 AWG	#6 AWG	#4 AWG	
208	109	200	305	490	
480	275	400	770	1,130	

COMMUNICATIONS SYMBOL LEGEND

- COMMUNICATIONS OUTLET ROUGH-IN
- COMMUNICATIONS OUTLET, ONE DATA ACTIVATION
- COMMUNICATIONS OUTLET, CEILING-MOUNTED
- COMMUNICATIONS OUTLET, FLOOR-MOUNTED
- CEILING-MOUNTED VIDEO PROJECTOR
- COMMUNICATIONS EQUIPMENT RACK, FLOOR-MOUNTED
- COMMUNICATIONS EQUIPMENT RACK, WALL-MOUNTED
- CONDUIT, SLEEVE FOR COMMUNICATIONS CABLING, 2"TYP, UNLESS NOTED OTHERWISE
- LOUDSPEAKER, CEILING-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- LOUDSPEAKER, WALL-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- INTERCOM SYSTEM CALL STATION BUTTON
- VOLUME CONTROL FOR AUDIO SYSTEM, PAGING, OR INTERCOM LOUDSPEAKERS
- SECONDARY CLOCK, CEILING-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR
- SECONDARY CLOCK, WALL-MOUNTED, DEVICE FURNISHED AND INSTALLED BY OWNER'S TECHNOLOGY CONTRACTOR

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

ELECTRONIC SAFETY / SECURITY SYMBOL LEGEND

- DOOR CONTACT
- ELECTRONIC LATCH
- ELECTRONIC STRIKE
- PICK LOCK
- WALL-MOUNTED SURVEILLANCE CAMERA COMMUNICATIONS ROUGH-IN
- CEILING-MOUNTED SURVEILLANCE CAMERA COMMUNICATIONS ROUGH-IN
- CARD READER
- ACCESS CONTROL DOOR TAG, REFER TO HARDWARE SCHEDULE(S) IN SPECIFICATION 08 71 00 AND/OR 28 13 00 FOR DETAILS.
- ACCESS CONTROL SYSTEM EQUIPMENT

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

POWER SYMBOL LEGEND

- THREE PHASE MOTOR CONNECTION, 5 HORSE POWER
- SINGLE PHASE MOTOR CONNECTION, 1/2 HORSE POWER
- SAFETY SWITCH DISCONNECTING MEANS, NOT FUSIBLE
- SAFETY SWITCH DISCONNECTING MEANS, FUSIBLE
- COMBINATION MOTOR STARTER AND FUSIBLE DISCONNECTING MEANS
- VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECTING MEANS
- MOTOR STARTER
- ROUGH-IN FUSIBLE DISCONNECT SWITCH
- MANUAL MOTOR CONTROLLER
- POWER SWITCH, REFER TO LIGHTING SYMBOL LEGEND FOR SIMILAR SWITCH TYPES
- DIRECT ELECTRICAL CONNECTION
- SINGLE RECEPTACLE
- SINGLE RECEPTACLE, WALL OR FLOOR-MOUNTED
- DUPLEX RECEPTACLE
- WHERE "WL" IS NOTED PROVIDE WALL-IN-USE WET LOCATION COVER AND WEATHER RESISTANT GFCI RECEPTACLE.
- SURFACE-MOUNTED RECEPTACLE
- "E" TAG ON DEVICE INDICATES REPLACEMENT OF DEVICE USING EXISTING ROUGH-IN
- DUPLEX RECEPTACLE, CEILING-MOUNTED
- DUPLEX RECEPTACLE, FLOOR-MOUNTED
- DUPLEX STANDBY POWER RECEPTACLE
- DUPLEX SPLIT WIRED RECEPTACLE
- DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
- QUADRUPLEX RECEPTACLE
- QUADRUPLEX RECEPTACLE, CEILING-MOUNTED
- QUADRUPLEX RECEPTACLE, FLOOR-MOUNTED
- MULTI-PHASE RECEPTACLE, SEE PLAN FOR TYPE
- MULTI-PHASE RECEPTACLE, FLOOR-MOUNTED
- SURFACE RACEWAY SYSTEM
- AUTOMATIC TRANSFER SWITCH
- SWITCHBOARD
- PANELBOARD
- TRANSFORMER
- MOTOR CONTROL CENTER
- EMERGENCY STOP STATION, REFER TO DETAIL FOR REQUIREMENTS.
- AUTOMATIC DOOR OPERATOR PUSH BUTTON
- ON/OFF PUSH BUTTON
- THREE-FUNCTION PUSH BUTTON
- FLOORBOX, TYPE 1
- JUNCTION BOX
- METER
- THERMOSTAT ROUGH-IN
- RELAY
- ENCLOSED CONTROL CONTACTOR

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

LIGHTING SYMBOL LEGEND

- SINGLE POLE LIGHT SWITCH
- DOUBLE POLE LIGHT SWITCH
- THREE-WAY LIGHT SWITCH
- FOUR-WAY LIGHT SWITCH
- SINGLE POLE LIGHT SWITCH WITH INTEGRAL OCCUPANCY SENSOR
- OCCUPANCY SENSOR DIMMER
- WALL-BOX DIMMER SWITCH
- THREE-WAY DIMMER SWITCH
- ELECTRONIC INTEGRAL TIMER SWITCH
- LIGHT SWITCH WITH PILOT LIGHT
- LIGHTING CONTROL SWITCH, REFER TO LIGHTING CONTROL SWITCH SCHEDULE AND SPECIFICATIONS FOR DETAILS.
- DOUBLE THROW MAINTAINED LIGHT SWITCH
- KEY-OPERATED LIGHT SWITCH - SUFFIX DESIGNATION (BLANK: SINGLE POLE, 2: DOUBLE POLE, 3: THREE-WAY, 4: FOUR-WAY)
- LOCKING SWITCH - SUFFIX DESIGNATION (BLANK: SINGLE POLE, 2: DOUBLE POLE, 3: THREE-WAY, 4: FOUR-WAY)
- TOUCH-SCREEN PANEL
- CIRCUIT NUMBER FOR LIGHT FIXTURES WITH UNINDICATED SPACE
- WALL-MOUNTED LIGHTING FIXTURE, TYPE W
- RECESSED LIGHTING FIXTURE, TYPE V
- SURFACE-MOUNTED LIGHTING FIXTURE, TYPE V
- TRACK LIGHTING
- SINGLE FACE EXIT SIGN, TYPE "EX" IN SCHOOLS UNLESS OTHERWISE NOTED, SHADING INDICATES FACE ORIENTATION
- DOUBLE FACE EXIT SIGN, TYPE "EX" IN SCHOOLS UNLESS OTHERWISE NOTED, SHADING INDICATES FACE ORIENTATION
- WALL-MOUNTED EXIT SIGN
- EMERGENCY LIGHT FIXTURE DESIGNATION
- EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
- LIGHTING CONTROL RELAY
- LIGHTING CONTROL ENCLOSED CONTACTOR
- TIME SWITCH
- LIGHTING CONTROL MODULE
- EMERGENCY LIGHTING INVERTER, TYPE 1
- WALL-MOUNTED OCCUPANCY SENSOR
- CEILING-MOUNTED OCCUPANCY SENSOR
- WALL-MOUNTED PHOTOCELL FOR ON/OFF CONTROL
- CEILING-MOUNTED PHOTOCELL FOR ON/OFF CONTROL
- WALL-MOUNTED PHOTOSENSOR FOR DAYLIGHT HARVESTING DIMMING CONTROL
- CEILING-MOUNTED PHOTOSENSOR FOR DAYLIGHT HARVESTING DIMMING CONTROL
- POLE-MOUNTED EXTERIOR FIXTURE
- SIGN-CONTAINED EMERGENCY LIGHTING UNIT

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

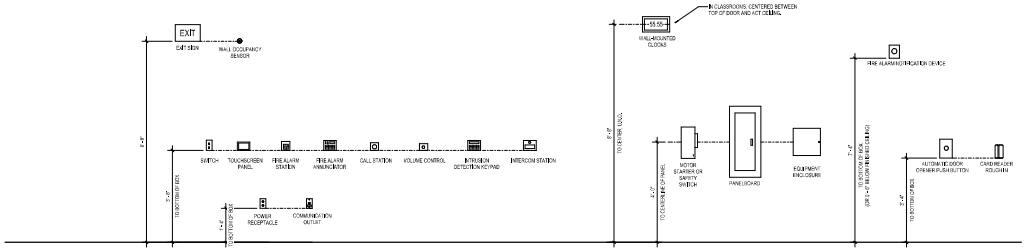
FIRE ALARM SYMBOL LEGEND

- MANUAL PULL STATION
- AUDIBLE NOTIFICATION APPLIANCE, WALL-MOUNTED
- VISUAL NOTIFICATION APPLIANCE, WALL-MOUNTED
- AUDIBLE/VISUAL NOTIFICATION APPLIANCE, WALL-MOUNTED
- AUDIBLE NOTIFICATION APPLIANCE, CEILING-MOUNTED
- AUDIBLE/VISUAL NOTIFICATION APPLIANCE, CEILING-MOUNTED
- VISUAL NOTIFICATION APPLIANCE, CEILING-MOUNTED
- WGPC: WHERE "WG PC" IS NOTED, PROVIDE LISTED WIRE GUARD OR PROTECTIVE POLYCARBONATE COVER FOR NOTIFICATION DEVICE.
- WL: WHERE "WL" IS NOTED, PROVIDE LISTED WET LOCATION NOTIFICATION DEVICE.
- SMOKE DETECTOR
- HEAT DETECTOR
- DUCT SMOKE DETECTOR
- SMOKE DAMPER OPERATOR MOTOR
- FIRE PROTECTION FLOW SWITCH
- FIRE PROTECTION TAMPER SWITCH
- ELECTROMAGNETIC DOOR HOLD-OPEN DEVICE
- ACCESSIBLE RELAY FOR FIRE ALARM CONTROL
- PRESSURE SWITCH
- CARBON MONOXIDE DETECTOR
- NAC: NOTIFICATION APPLIANCE CONTROL PANEL
- FAA: FIRE ALARM REMOTE ANNUNCIATOR
- FACP: FIRE ALARM CONTROL PANEL
- $ FT: KEYED TEST SWITCH AND REMOTE INDICATOR FOR DUCT SMOKE DETECTOR
- FIRE PROTECTION OR ALARM BELL

NOTE: NOT ALL SYMBOLS ARE NECESSARILY USED

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE AS AMENDED AND ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION WHERE THE WORK IS PERFORMED.
2. ALL "LOW-VOLTAGE" CONTROLS, COMMUNICATIONS, AND SAFETY/SECURITY CABLING MAY BE INSTALLED WITHOUT CONDUIT, RACEWAY, OR CABLE TRAY ONLY WHERE CONCEALED ABOVE A SUSPENDED CEILING SYSTEM AND ACCESSIBLE FOR FUTURE MAINTENANCE, OTHERWISE, ALL CABLING (INCLUDING BUT NOT LIMITED TO CABLES ASSOCIATED WITH SYSTEMS SUCH AS ARCHITECTURAL EQUIPMENT, BUILDING ENERGY MANAGEMENT, TEMPERATURE CONTROLS, LIGHTING CONTROLS, COMMUNICATIONS NETWORKS, TELEPHONE, AUDIO-VISUAL, INTERCOM, PAGING, CLOCK, SURVEILLANCE, ACCESS CONTROL, FIRE ALARM, ETC.) SHALL BE INSTALLED IN AN APPROVED CONDUIT, RACEWAY SYSTEM, AND/OR CABLE TRAY UNLESS NOTED OTHERWISE. ALL CONDUIT, RACEWAY, AND CABLE TRAY SHALL BE CONCEALED WITHIN CONSTRUCTION EXCEPT WHERE EXPOSED CONSTRUCTION IS INDICATED ON ARCHITECTURAL REFLECTED CEILING PLANS (OR ELEVATIONS SHALL BE REQUIRED FOR ASSISTANCE REGARDING THIS). REFER TO REFLECTED CEILING PLANS FOR LOCATIONS. THIS APPLIES TO ALL TRADES AND WORK CATEGORIES, EXCEPTIONS:
   a. DEDICATED MECHANICAL AND ELECTRICAL ROOMS ABOVE 84" AFF
   b. DEDICATED TELECOMMUNICATIONS ROOMS
3. "LOW-VOLTAGE" CONTROLS, COMMUNICATIONS, AND SAFETY/SECURITY CABLING SHALL NOT BE PAINTED. PAINTING CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY PROTECTION OF ANY EXISTING CABLING PRIOR TO PAINTING EXISTING AREAS. CONTRACTORS INSTALLING CABLING WHERE APPROVED FOR EXPOSED INSTALLATION SHALL INSTALL CABLES AFTER PAINTING HAS BEEN COMPLETED OR PROVIDE TEMPORARY PROTECTION OF CABLES UNTIL PAINTING HAS BEEN COMPLETED. PAINTED CABLES SHALL BE REPLACED AT THE EXPENSE OF THE RESPECTIVE CONTRACTORS.
4. METAL CUD CABLE MAY BE USED FOR FUTURE WIRES IN LENGTHS OF 5 FEET OR LESS ABOVE AN ACCESSIBLE SUSPENDED CEILING SYSTEM ONLY. OTHERWISE, METAL CUD OR OTHER FLEXIBLE CABLE TYPES SHALL NOT BE USED UNLESS SPECIFICALLY AUTHORIZED BY THE ENGINEERS. IT IS THE INTENT OF THESE CONTRACT DOCUMENTS THAT ALL INSTALLED RACEWAY SHALL CONSIST OF SEPARATE RACEWAY AND CONDUCTORS ALLOWING REMOVAL AND REPLACEMENT OF WIRING AS REQUIRED FOR FUTURE UPGRADES. REFER TO SPECIFICATIONS FOR EXCEPTIONS.
5. CIRCUIT WIRING FOR ARTICLE 700 EMERGENCY SYSTEMS AND ARTICLE 708 CRITICAL OPERATIONS POWER SYSTEMS SHALL BE INSTALLED IN SEPARATE CONDUITS/RACEWAYS AND BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT FOR THEIR ENTIRE LENGTHS.
6. ALL RECEIVERS AND BRANCH CIRCUITS SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR SIZED ACCORDING TO THE NEC, REGARDLESS OF BUILDING CONDUIT'S SIZING REQUIREMENTS, ETC. SHALL NOT BE CONSIDERED AN ACCEPTABLE GROUND.
7. CONDUITS AND CABLING SHALL NOT BE INSTALLED WITHIN 6" OF ROOF DECK, EXCEPT AS NECESSARY TO SERVE ROOF-MOUNTED ITEMS AND ONLY WHEN THE CONDUIT OR CABLES ARE ROUTED VERTICALLY TO SUCH EQUIPMENT FROM BELOW.
8. SUPPLEMENTAL METAL FRAMING SHALL BE PROVIDED FOR SUSPENSION POINTS OF ALL ITEMS LOCATED BETWEEN OVERHEAD STRUCTURAL MEMBERS (JOISTS, TRUSSES, BEAMS, ETC.) IN OPEN CEILING STRUCTURE CEILING AREAS. METAL FRAMING SHALL SPAN ACROSS THE TOP CHORD OR FLANGE OF THE STRUCTURAL MEMBERS FOR BOTH STRUCTURAL AND AESTHETIC PURPOSES. UNLESS EXCEPTIONS SHALL BE COORDINATED IN WRITING WITH THE ARCHITECT/ENGINEERS.
9. CONDUIT INSTALLED IN EXPOSED CONSTRUCTION SHALL BE PARALLEL OR PERPENDICULAR TO BUILDING LINES.
10. RISERS SHOWN ON DRAWINGS ARE SCHEMATIC ONLY. CONDUIT RUNS SHALL COMPLY WITH CONDUIT SPECIFICATIONS AND CONTAIN BENDS THAT ARE NO GREATER THAN 90 DEGREES. CONDUITS INSTALLED ABOVE GRADE SHALL BE RUN PARALLEL TO OR PERPENDICULAR WITH BUILDING STEEL AND/OR ARCHITECTURAL LINES.
11. CONTRACTORS SHALL VERIFY CLEARANCES OF WIRING DEVICES, DEVICE FACEPLATES, SURFACE RACEWAY SYSTEMS, AND/OR MULTI-OUTLET ASSEMBLIES WITH ARCHITECTURAL CASEWORK NOT EXPLICITLY SPECIFIED.
12. ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ADDITIONAL LIGHTING FIXTURE INFORMATION AND MOUNTING LOCATIONS.
13. ELECTRICAL CONTRACTOR SHALL ADJUST LIGHTING FIXTURE LOCATIONS IN MECHANICAL ROOMS TO ACCOMMODATE MECHANICAL EQUIPMENT AND FIELD CONDITIONS.
14. CONTRACTORS SHALL BE RESPONSIBLE TO REVIEW INTERIOR ELEVATION SHEETS FOR PLACEMENT OF DEVICE BOXES, COORDINATE LOCATIONS SO THAT NO DEVICES ARE INSTALLED BEHIND CASEWORK, MILLWORK, VISUAL DISPLAY BOARDS, MIRRORS, CUSTOM GRAPHICS, SIGNAGE, ETC.
15. ELECTRICAL CONTRACTOR SHALL REVIEW TOILET EQUIPMENT SHOP DRAWINGS AND ARCHITECTURAL DETAILS/ELEVATIONS FOR CORRECT DEVICE BOX ROUGH-IN LOCATION OF HAND DRYERS.
16. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH PLUMBING CONTRACTOR AND THE ELECTRIC WATER COOLER / BOTTLE FILLER SHOP DRAWINGS FOR MOUNTING HEIGHT AND CONNECTION METHOD OF PLUMBING EQUIPMENT POWER CONNECTIONS. WHERE ACCESSIBLE OPERATING PROTECTION SHALL BE PROVIDED FOR THE BRANCH CIRCUITS SUPPLYING ALL SUCH UNITS PER NEC REQUIREMENTS.
17. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR DETAILED INFORMATION REGARDING EQUIPMENT AND CONTROL. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING AND PROVIDING ITEMS AS SPECIFICALLY LISTED AND ASSIGNED ON MECHANICAL EQUIPMENT SCHEDULE SUCH AS DISCONNECT SWITCHES, VARIABLE FREQUENCY DRIVES, STARTERS, THERMOSTATS, ETC.
18. ELECTRICAL CONTRACTOR SHALL CONFIRM THE LOCATION OF THE EXHAUST FANS LISTED IN THE MECHANICAL EQUIPMENT SCHEDULE BY REFERRING TO MECHANICAL/HVAC PLANS.
19. REFER TO ROOF PLANS FOR EXACT LOCATIONS OF ROOF TOP MECHANICAL EQUIPMENT.
20. CABINET HEATERS MAY HAVE LINE VOLTAGE THERMOSTATS SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. REFER TO MECHANICAL EQUIPMENT SCHEDULE.
21. DIVISION 26 CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES WITH APPROPRIATE BUSHINGS FOR COMMON AND ELECTRONIC SAFETY/SECURITY CABLING THROUGH WALLS AND FLOORS. SLEEVE SIZES SHALL BE COORDINATED WITH CABLING REQUIREMENTS.
22. SECTION 27 05 33 CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES WITH APPROPRIATE BUSHINGS FOR COMMUNICATIONS CABLING THROUGH WALLS AND FLOORS. SLEEVE SIZE SHALL BE 2" MIN, UNLESS NOTED OTHERWISE.
23. PROVIDE DIRECT CONNECTIONS FROM LOCAL RECEPTACLE CIRCUIT TO ACCESS CONTROL SYSTEM AND DOOR HARDWARE POWER SUPPLIES WHERE REQUIRED FOR DOOR LOCK DEVICES, CONTROLLERS, ETC. REFER TO DOOR HARDWARE SCHEDULE AND ACCESS CONTROL SYSTEM SCHEDULES IN RESPECTIVE SPECIFICATIONS FOR QUANTITIES AND LOCATIONS.



NOTE: ALL HEIGHTS ARE AS SHOWN UNLESS NOTED OTHERWISE.

TYPICAL MOUNTING HEIGHTS FOR WALL DEVICES, EQUIPMENT, & FIXTURES

NOT TO SCALE

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

10.06.2022 BIDS & CONSTRUCTION
11.16.2022 ADDENDUM 001

DRAWN JPB
REVIEWED AAB

PROJECT NO. 5-5065

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ELECTRICAL SYMBOL LEGENDS & GENERAL NOTES

E0.01

Section 28 23 00 - Video Monitoring System

ADDENDUM 1: UPDATED DRAWINGS: JANUARY 17, 2023

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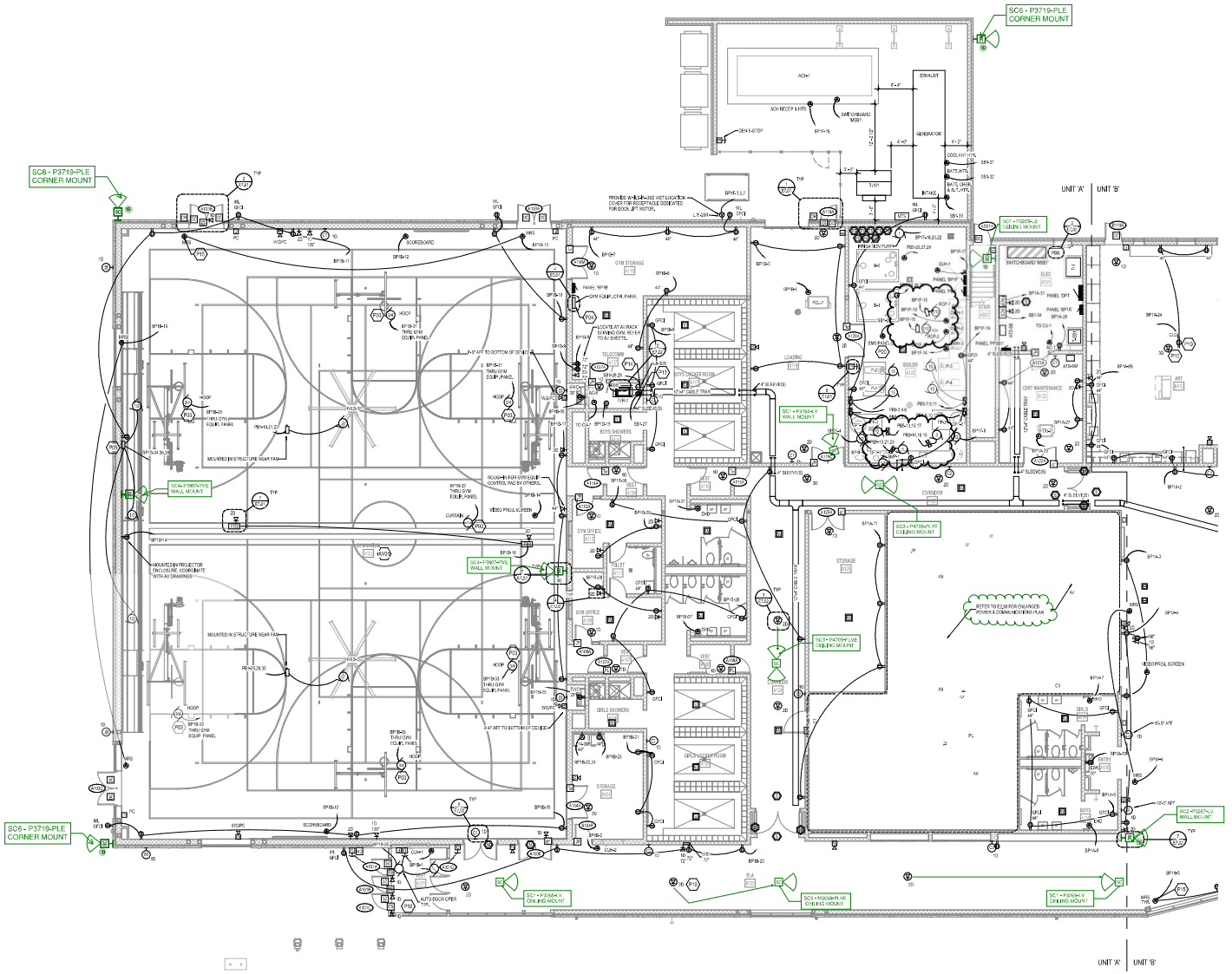
11/16/2020 10:29:54 AM



POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE BARRIERS AND CORRESPONDING DAMPERS. PROVIDE 120VAC POWER FROM COMMERCIAL/EMERGENCY BRANCH CIRCUIT WITH MINIMUM LOAD REQUIREMENTS IN LOCAL TAKEBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON A CIRCUIT). TERMINATION IN NON-CONFIG PUSH-BUTTON SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC SMITTER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT FACTORY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER. REFER TO TEMPERATURE CONTROL SYSTEM DRAWINGS FOR DEVICE LOCATIONS COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTORS SHOP DRAWINGS.
5. PROVIDE NON-OWNER FURNISHED DISCONNECT SWITCH (OR BUILDING BUTTON) IN ACCESSIBLE LOCATION FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO GARBAGE DISPOSERS, CAMPING, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.).
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

AV01	REFER TO AV DRAWINGS FOR ADDITIONAL SCOPE. COORDINATE ALL ROUGH-IN LOCATIONS WITH AV DRAWINGS.
P03	E.C. SHALL PROVIDE AND INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'-0" OF WINCH LOCATION FOR TWIST-LOCK RECEPTACLE. TWIST LOCK RECEPTACLE AND COVER PROVIDED BY EQUIPMENT PROVIDER. (1) HOOK-UP REQUIRED PER DEVICE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.
P04	8-RELAY GYM EQUIPMENT CONTROL PANEL REQUIRED TO SUPPORT (6) HOOP WINCH MOTORS AND (1) DIVIDER CURTAIN MOTOR. (1) 20A/1P RELAY PER DEVICE. POWER EACH PANEL WITH (2) 120V SINGLE POLE CIRCUITS AS INDICATED IN PANEL SCHEDULE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.
P05	E.C. SHALL PROVIDE AND INSTALL NON-FUSIBLE SAFETY SWITCHES FOR BLEACHER MOTOR. JUNCTION BOX SHALL BE MOUNTED AT 5'-0" AFF. COORDINATE LOCATION WITH EQUIPMENT PROVIDER. REFER TO BLEACHER DETAILS ON ARCHITECTURE SHEETS FOR FURTHER DETAILS.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, ETC.). PROVIDE 4-11/16" SQ. TERMINATE CABLING IN SURFACE MOUNT BOX WITH 1" SINGLEGANG CONNECTOR. SINGLE JUNCTION BOX, PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL LOCKR RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.
P20	COORDINATE WITH CONTROLS CONTRACTOR FOR LOCATION OF EMS PANEL.

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HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
05.26.2021	BULLETIN 008
06.16.2021	BULLETIN 010
07.01.2021	BULLETIN 011
08.16.2021	BULLETIN 013
08.31.2021	BULLETIN 015
09.28.2021	BULLETIN 019
02.28.2022	BULLETIN 022

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'A' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1A

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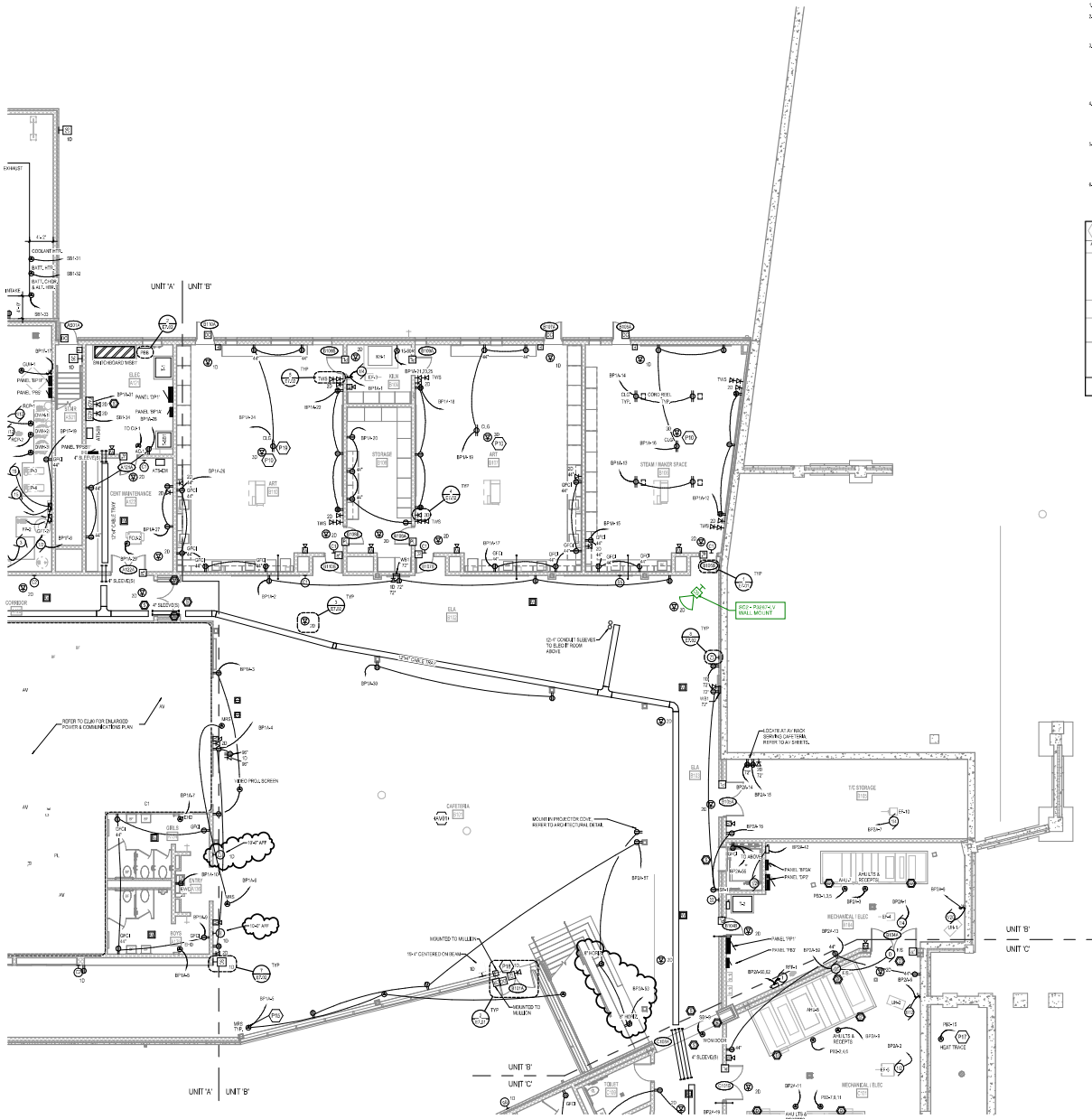
2/28/2022 8:40:18 AM



UNIT 'B' FIRST FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.2.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES, PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED SMITH BRANCH CIRCUIT WITH BREAKER LOCKING MECHANISM IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATE W/ BOX-COVER PUBLIC SWITCH AT EACH DAMPER. ALSO PROVIDE RISE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER ACCESSIBLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM ZONE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH IN BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE MOTOR IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO DUCT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.).
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND HOUSE-KEEPING REQUIREMENTS.

ELECTRICAL KEYNOTES

AV01	REFER TO AV DRAWINGS FOR ADDITIONAL SCOPE. COORDINATE ALL ROUGH-IN LOCATIONS WITH AV DRAWINGS.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE CABLING REQUIREMENTS WITH OWNER'S TECHNOLOGY CONTRACTOR. OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, AV EQUIPMENT, ETC.). TERMINATE CABLING IN SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCITON BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P17	HEAT TRACING FOR PLUMBING PIPING PER 22 05 33. LENGTHS FROM PLUMBING PLANS. FIELD VERIFY EXACT LENGTHS REQUIRED. HEAT TRACING SHALL COMPLY WITH NEC ARTICLE 426.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN NEARBY WALL, OR JUNCTION BOX SURFACE MOUNTED IN ADJACENT STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.

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HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.26.2021	BULLETIN 008
05.28.2021	BULLETIN 010

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'B' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1B

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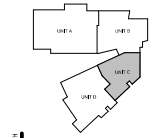
UNIT 'C' FIRST FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"



KEYPLAN

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.0.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH DEDICATED MECHANICAL/ADMIN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATE IN WIRING OVER FLEX STRUCT AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DETECTOR WITHIN 5 FEET. ADD A FIRE ALARM ADDRESSABLE RELAY FOR EITHER DOOR/DAMPER IN CONNECTION WITH ACTUATOR PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (BUILDING INTERIOR) IN ACCESSIBLE LOCATION FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO EXHAUST HEATERS, DAMPERS, SUN SHIELD FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.)
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND HOOD-UP REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, ETC.) PROVIDE 4" SQUARE BOX WITH SINGLE GANG SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCTION BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P15	MOTORIZED ROLLER SHADES IN THIS SPACE TO BE CONTROLLED BY AV SYSTEM. REFER TO AV DRAWINGS FOR MORE INFORMATION.
P17	HEAT TRACING FOR PLUMBING PIPING PER 22 05 33. LENGTHS FROM PLUMBING PLANS. FIELD VERIFY EXACT LENGTH REQUIRED. HEAT TRACING SHALL COMPLY WITH NEC ARTICLE 426.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 48 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN ON PLANS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.

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11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
02.18.2021	BULLETIN 002
04.16.2021	BULLETIN 006
05.26.2021	BULLETIN 008
09.28.2021	BULLETIN 016
10.26.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'C' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1C

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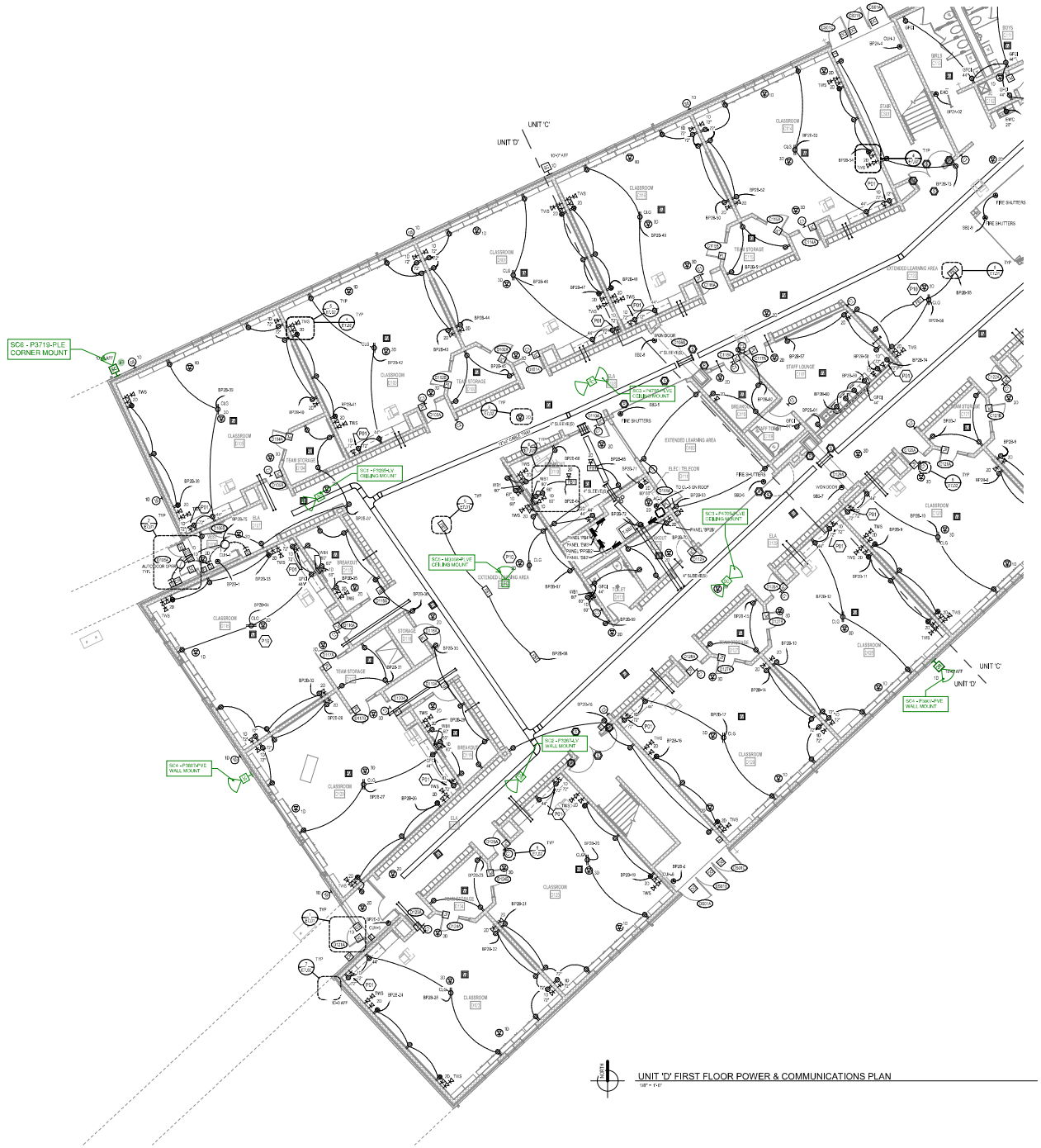


UNIT 'D' FIRST FLOOR POWER & COMMUNICATIONS PLAN

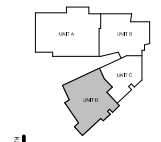
1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120 VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH INTERVENING DOUBLE MECHANICAL LOCK PANELBOARD FOR DAMPERS IN HVAC/AHU AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATE TO W/ DOUBLE-POLE TOGGLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE FOR OCCUPIABLE ROOM OR SPACE, INSTALL 12" CONDUIT AND SLACK FROM BOX TO CORRESPONDING HVAC UNIT/ZONE CONTROL SYSTEM (REFER TO MECHANICAL DRAWINGS). COORDINATE WITH MECHANICAL CONTRACTOR TO COORDINATE WITH MECHANICAL TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR (3A) WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CHINES, HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.)
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P10	ALL LOW VOLTAGE CABLING TO BE IN CONDUIT IN SPACES WITH EXPOSED CEILINGS. PRIOR TO INSTALL, COORDINATE EXACT LOCATION OF NETWORK ACTIVATIONS WITH OWNER'S TECHNOLOGY CONTRACTOR (FOR ACCESS POINTS, SECURITY CAMERAS, AV EQUIPMENT, ETC.). TERMINATE CABLING IN SURFACE MOUNT BOX WITH MODULAR CONNECTOR INSIDE JUNCTION BOX. PROVIDE BLANK FACEPLATE FOR UNUSED LOCATIONS. TYPICAL FOR ALL.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
10.26.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'D' FIRST FLOOR POWER & COMMUNICATIONS PLAN

E2.1D

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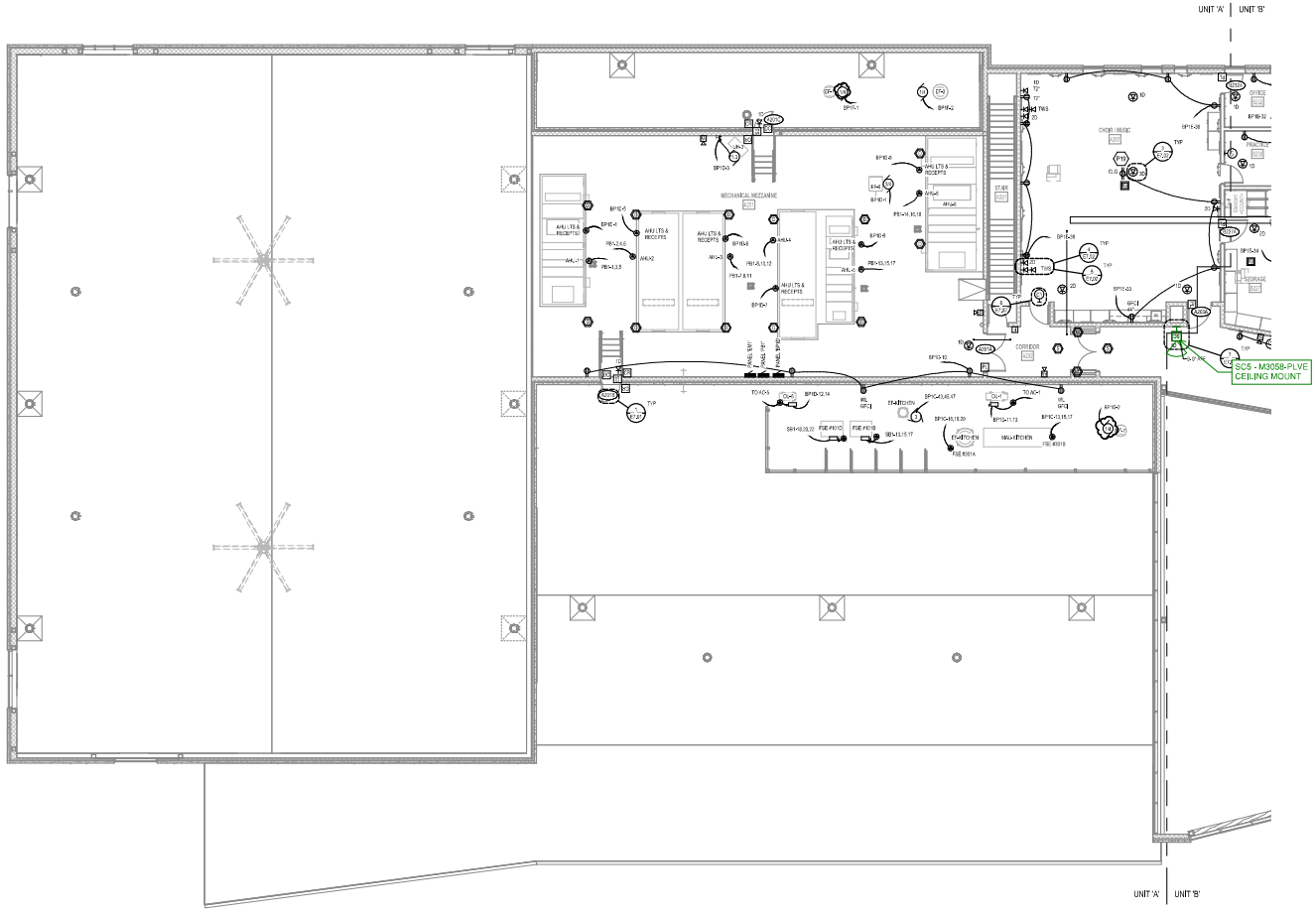
10/25/2021 7:44:43 PM

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT (WITH BREAKER LOCKED MECHANICAL) IN LOCAL PANELBOARD FOR DAMPERS (WHICH AREA DAMPERS MAY BE GROUPED ON ONE CIRCUIT). PROVIDE 120VAC CONTROL WIRING FROM SYSTEM AT EACH DAMPER. ADD PROVISIONS FOR ALARM AND SUPERVISORY CONTACTS IN EACH FACE OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER IN CORRESPONDING HVAC UNIT FOR CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT PATHWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER LINE. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX(ES) OR FLEXIBLE DISCONNECT SWITCH (2HP) ALONG PATHWAY IN ACCESSIBLE LOCATION FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO UNIT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.S
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

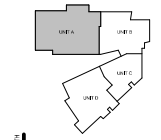
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL



NORTH

UNIT 'A' SECOND FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"



NORTH

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
04.16.2021	BULLETIN 008

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'A' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2A

BIM 360://5-5065 Hudsonville Public Schools_5-5065E 2019.rvt
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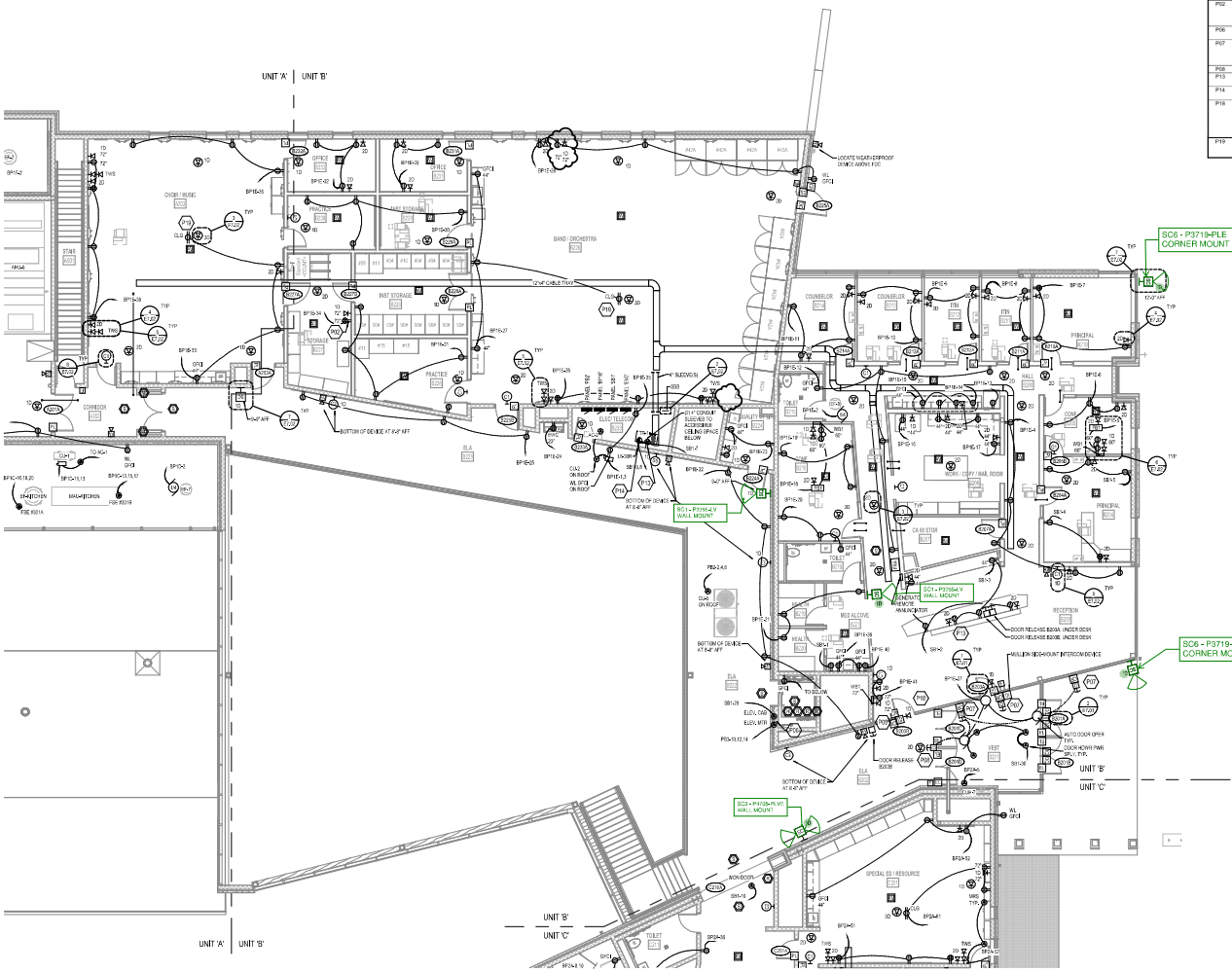
POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.2.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120 VAC POWER FROM DEDICATED 15A/1P BRANCH CIRCUIT WITH BREAKER LOCKING MECHANISM IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE DAISY-CHAINED ON A CIRCUIT WITH UP TO TWO ADDITIONAL DAMPERS. SUPPLY AT LEAST #12 AWG CONDUCTORS FROM BREAKER TO DAMPER. LOCATE WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES. AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT PATHWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL/TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BISCUIT® FLEXIBLE DISCONNECT SWITCH ON JUNCTION BOX IN ACCESSIBLE LOCATION FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT WORK LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE (NOT ARE NOT LIMITED TO) UNIT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.S
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

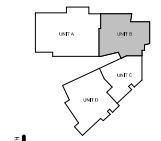
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P06	COORDINATE WITH ELEVATOR MANUFACTURER'S REQUIREMENTS FOR DISCONNECTS.
P07	MULLION MOUNT CARD READER AND ADA PUSHBUTTON. ADA PUSH BUTTON SHALL BE MOUNTED AT 40" AFF TO BOTTOM OF BOX. CARD READER SHALL BE MOUNTED DIRECTLY ABOVE ADA PUSHBUTTON.
P08	MULLION MOUNT CARD READER OR ADA PUSHBUTTON.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL (4) 6-WR RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P16	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNCTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND AV WORK ACTIVATIONS FOR PROJECTION WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



North

UNIT 'B' SECOND FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"



North

KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 002
04.16.2021	BULLETIN 006
05.11.2021	BULLETIN 007
05.26.2021	BULLETIN 008
06.28.2021	BULLETIN 010

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'B' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2B

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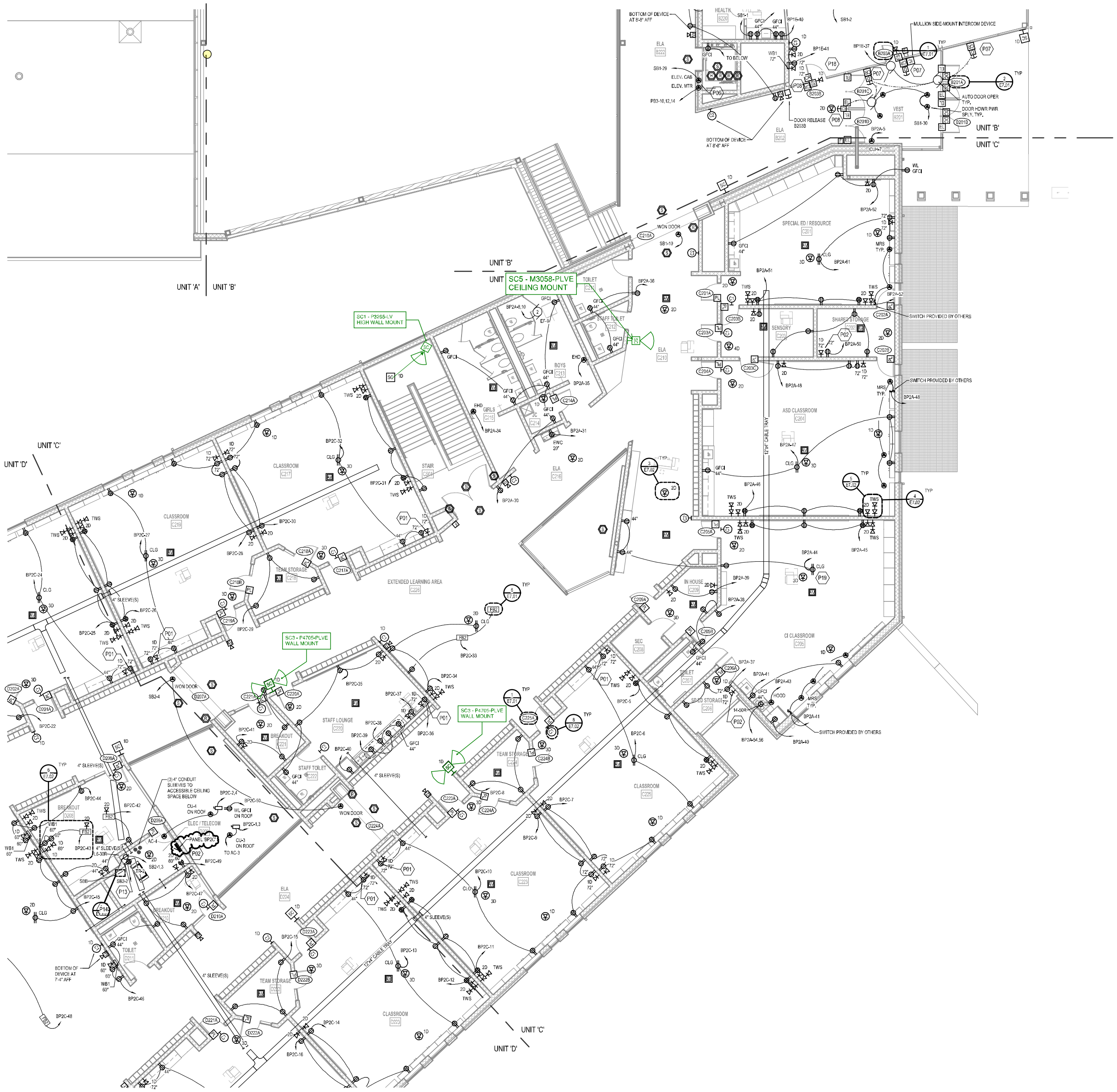


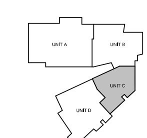
UNIT 'C' SECOND FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT (WITH BREAKER LOCKING MECHANISM) IN LOCAL PANELBOARD FOR DAMPER(S) IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT), TERMINATED W/ BOX-COVER FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLED UNIT. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (ON BUILDING INTERIOR IN ACCESSIBLE LOCATION) FOR EACH SMALL (< 1/2 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.6
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

	ELECTRICAL KEYNOTES
P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P06	COORDINATE WITH ELEVATOR MANUFACTURER'S REQUIREMENTS FOR DISCONNECTS.
P07	MULLION MOUNT CARD READER AND ADA PUSHBUTTON. ADA PUSH BUTTON SHALL BE MOUNTED AT 40" AFF TO BOTTOM OF BOX. CARD READER SHALL BE MOUNTED DIRECTLY ABOVE ADA PUSHBUTTON.
P08	MULLION MOUNT CARD READER OR ADA PUSHBUTTON.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL L6-30R RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P18	ALL ACCESS CONTROL CONDUITS TO NEAREST CABLE TRAY. TERMINATE CABLING IN JUNTION BOX RECESSED ABOVE DOOR IN MASONRY WALL, OR JUNCTION BOX SURFACE MOUNTED TO STRUCTURE WHERE CEILINGS ARE LESS THAN 20 FEET. TYPICAL FOR ALL ACCESS CONTROL DOORS SHOWN WITH DATA DROPS.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
04.16.2021	BULLETIN 006
05.26.2021	BULLETIN 008
10.26.2021	BULLETIN 019

DRAWN	JFB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'C' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2C

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NORTH

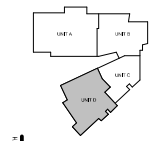
EQUIPMENT PLATFORM POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"

NORTH

UNIT 'D' SECOND FLOOR POWER & COMMUNICATIONS PLAN

1/8" = 1'-0"



NORTH

KEYPLAN

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1?.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED ON-'F' BRANCH CIRCUIT WITH DISCRETE CLOSING MECHANISM IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT). TERMINATED IN ACCESSIBLE TUBULAR SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET) AND 4 PIPE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC / TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT FROM BOX TO CORRIDOR OR ACCESSIBLE CEILING SPACE. PROVIDE PULL STRING IN CONDUIT. REFER TO MECHANICAL DRAWINGS FOR PROVIDING DEVICES AT EACH UNIT. COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH (ON BUILDING INTERIOR) IN ACCESSIBLE LOCATION (FOR EACH SMALL (< 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD (IN THE WORK THAN ONE UNIT) IS CONNECTED TO A COMMON BRANCH CIRCUIT). TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CONVECTOR HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.#
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

ELECTRICAL KEYNOTES

P01	DEVICES INSTALLED IN BACK OF CASEWORK FOR AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P02	LOCATION OF AV RACK BY OWNER'S TECHNOLOGY CONSULTANT FOR EDUCATIONAL AV EQUIPMENT. COORDINATE WITH OWNER'S TECHNOLOGY CONTRACTOR FOR PLACEMENT OF DEVICES.
P13	RECEPTACLES ON STANDBY POWER SHALL BE YELLOW. TYPICAL FOR ALL.
P14	INSTALL L6-30R RECEPTACLE INSIDE 4-POST RACK FOR UPS. UPS PROVIDED BY OWNER.
P19	COORDINATE LOCATION OF CEILING RECEPTACLE AND NETWORK ACTIVATIONS FOR PROJECTOR WITH OWNER'S TECHNOLOGY CONTRACTOR. TYPICAL FOR ALL.

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
03.11.2021	BULLETIN 007
10.06.2021	BULLETIN 019

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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UNIT 'D' SECOND FLOOR POWER & COMMUNICATIONS PLAN

E2.2D

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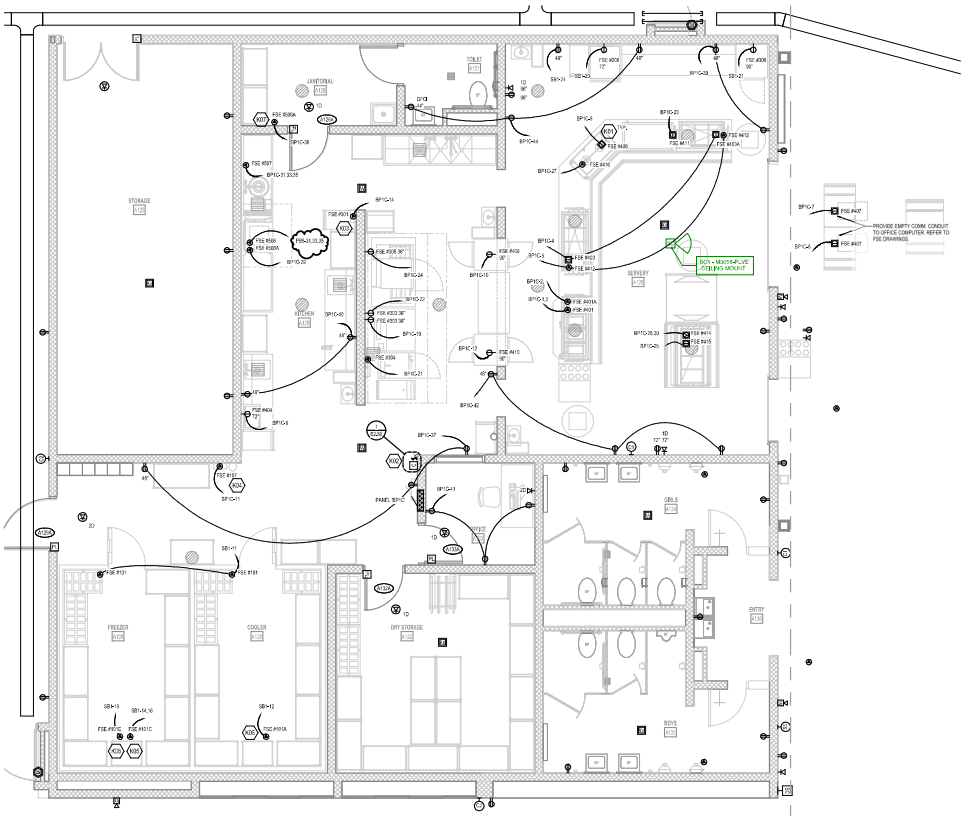


NORTH

ENLARGED KITCHEN POWER & COMMUNICATIONS PLAN

1/4" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

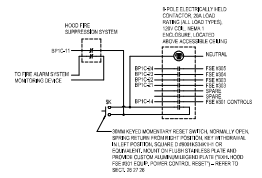
1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRE-STOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE 120VAC POWER FROM DEDICATED 20A/1P BRANCH CIRCUIT WITH BRANCH LOCATION AND NUMBER IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE GROUPED ON EACH CIRCUIT, TERMINATED IN BUSH-DOOR FUSIBLE SWITCH AT EACH DAMPER. ALSO PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET AND A FIRE ALARM ADDRESSABLE RELAY FOR INTERLOCKING DAMPER IN CORRESPONDING HVAC UNIT PER CODE REQUIREMENTS.
4. PROVIDE FLUSH SINGLE-GANG BOXES IN WALLS FOR HVAC TEMPERATURE CONTROL DEVICES, AT LEAST ONE PER OCCUPIABLE ROOM OR SPACE. INSTALL 1/2" CONDUIT RACEWAY FROM BOX TO CORRESPONDING TEMPERATURE CONTROL SYSTEM DEVICE OR CONTROLLER. REFER TO MECHANICAL DRAWINGS FOR PROPOSED LOCATIONS AND COORDINATE WITH MECHANICAL / TEMPERATURE CONTROLS CONTRACTOR'S SHOP DRAWINGS.
5. PROVIDE 60A COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SINGLE 10 HP/ MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: EXHAUST FANS(S), DAMPERS, EXHAUST FANS, FAN COILS, UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
6. REFER TO AV DRAWINGS FOR ADDITIONAL PATHWAY AND ROUGH-IN REQUIREMENTS.

FOODSERVICE ELECTRICAL GENERAL NOTES

1. BLDG CONTRACTOR SHALL REVIEW FOODSERVICE EQUIPMENT DRAWINGS (FSE - VENDOR) AND FOOD SERVICE SPECIFICATIONS SECTION 11 40 00 FOR ADDITIONAL SCOPE OF WORK AND REQUIREMENTS, INCLUDE ALL WORK AND MATERIALS AS ASSIGNED TO THE ELEC. CONTRACTOR BY DRAWINGS, SPECIFICATIONS, CONTRACTOR MANUFACTURERS WORK CATEGORY DESCRIPTIONS, ETC.
2. IF THERE IS A CONFLICT BETWEEN THE FOODSERVICE DRAWINGS/SPECIFICATION AND THE DRAWINGS OF DIVISION 26 SPECIFICATIONS, THE ELEC. CONTRACTOR SHALL BID USING THE MORE STRINGENT AND CREATIVE COST REQUIREMENTS. CLARIFICATIONS MAY BE REQUESTED (IN WRITING) PRIOR TO BID. COORDINATE WITH CONSTRUCTION MANAGERS PROCEDURES.
3. THE WORK SHOWN ON THESE DRAWINGS AND THE DIVISION 26 SPECIFICATIONS SHALL SUPERCEDE THE FOOD SERVICE EQUIPMENT DRAWINGS/SPECIFICATIONS.
4. LABEL ALL RECEPTACLES IN KITCHEN AND SERVING AREAS WITH CORRESPONDING PANELBOARD CIRCUIT NUMBER, AND FOODSERVICE EQUIPMENT TAG NUMBER AS REFERENCED ON THE FOODSERVICE EQUIPMENT DRAWINGS.
5. ELEC. CONTRACTOR SHALL IDENTIFY AND COORDINATE WITH THE FOODSERVICE EQUIPMENT VENDOR THAT ALL SINGLE-PHASE RECEPTACLES (250V OR LESS NEMA 6-20R AND THREE-PHASE RECEPTACLES (250V OR LESS NEMA L15-20R) IN KITCHEN AND SERVING AREAS HAVE GFCI PROTECTION FOR PERSONNEL AS REQUIRED BY NEC / NFPA 70. EITHER AT THE GFCI OUTLET RECEPTACLE OR AT THE RESPECTIVE PANELBOARD GFCI BREAKER FOR THE BRANCH CIRCUIT. FOR ANY NON-RECEPTACLE LOADINGS THAT ARE NOT READILY ACCESSIBLE (NEC DEFINITION), GFCI PROTECTION SHALL BE PROVIDED FOR THE BRANCH CIRCUIT AT THE PANELBOARD (250V OR LESS BRANCH CIRCUIT BREAKER.
6. PROVIDE CONCEALED HOOD-MOUNTED MANUAL PULL STATIONS CONNECTED TO VENTILATING HOOD FIRE PROTECTION SYSTEMS. SURFACE-MOUNTED CONDUIT, BOX, AND PULL STATIONS ARE NOT ACCEPTABLE. COORDINATE LOCATIONS WITH ENGINEERED SHOP DRAWINGS FOR SYSTEM.

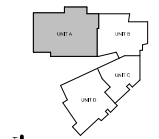
ELECTRICAL KEYNOTES

K01	FLOOR-MOUNTED PEDESTAL WITH RECEPTACLE AS INDICATED. BOX SHALL BE ONE-PIECE CAST ALUMINUM OR STAINLESS STEEL MOUNTED HORIZONTALLY WITH (2) HUBS ON BOTTOM ALLOWING SIDE TO ACCEPT THREADED RIGID METALLIC CONDUIT. PROVIDE WITH CAST METAL WEATHERPROOF HINGED COVER OVER WIRING DEVICE. TOP OF RECEPTACLE BOX SHALL NOT EXCEED 5" AFF.
K02	INTRST STATION TYPE EQUIP. SHUTDOWN CONTROLS REFER TO DETAIL
K03	E.C. SHALL INTERWIRE ALL COMPONENTS OF MAKE-UP AIR UNIT, EXHAUST FAN, HOOD LIGHTS, AND HOOD CONTROLS AS SHOWN ON FOODSERVICE EQUIP. DRAWINGS AND AS REQUIRED BY EQUIPMENT MANUFACTURER. VERIFY WITH EQUIPMENT SHOP DRAWINGS.
K04	E.C. SHALL INTERWIRE FIRE SUPPRESSION SYSTEM INTERCONNECTION WITH FIRE ALARM INITIATION CIRCUIT FOR SUPERVISORY MONITORING FOR LOCAL CODES AND OWNERS CONTRACTOR FOR SHUTDOWN OF EQUIPMENT (SEE), SUPPLY UNDER HOOD UPON RELEASE OF EXTINGUISHING AGENT. REFER TO DETAIL ON FSE DRAWINGS AND CONTROL DETAIL.
K05	E.C. SHALL INTERWIRE ALL COMPONENTS OF WALK-IN COOLER OR FREEZER AS SHOWN ON DRAWINGS AND REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE WITH SHOP DRAWINGS.
K06	COORDINATE WITH PLUMBING CONTRACTOR FOR LOCATION OF HEAT TRACE POWER SUPPLY.
K07	CONNECT DISHWASHER EXHAUST FAN TO DISHWASHER CONTROL PANEL. REFER TO FSE DRAWINGS.



1 E2.80 FOODSERVICE EQUIP. ELEC SHUTDOWN DETAIL

NOT TO SCALE



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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
12.02.2021	BULLETIN 010

DRAWN	JPB
REVIEWED	AAB
PROJECT NO.	5-5065

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KITCHEN & SERVING AREA POWER & COMMUNICATIONS ENLARGED PLAN

E2.80

BIM: 5805\5-5065 Hudsonville Public Schools 5-5\5-5065E 2019.rvt
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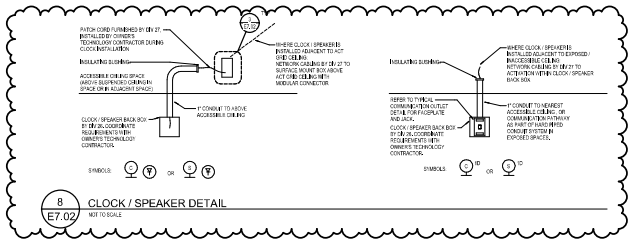
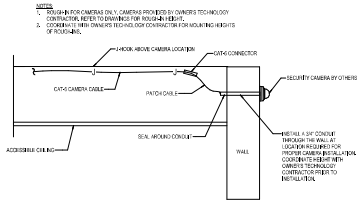
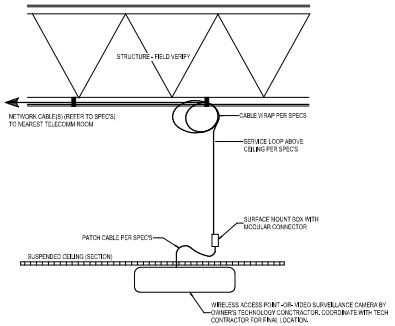


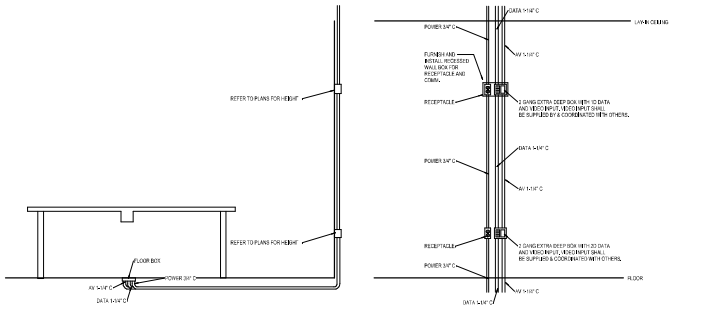
8 E7.02 CLOCK / SPEAKER DETAIL
NOT TO SCALE



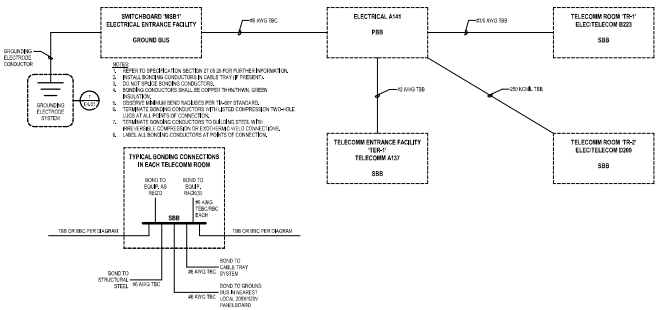
7 E7.02 TYPICAL WALL MOUNT SURVEILLANCE CAMERA INSTALLATION
NOT TO SCALE



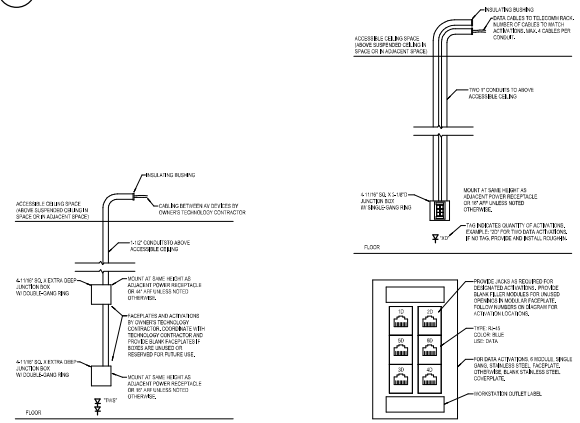
3 E7.02 CEILING MOUNTED COMMUNICATION DEVICE
NOT TO SCALE



6 E7.02 VIDEO CONFERENCE SECTION
NOT TO SCALE

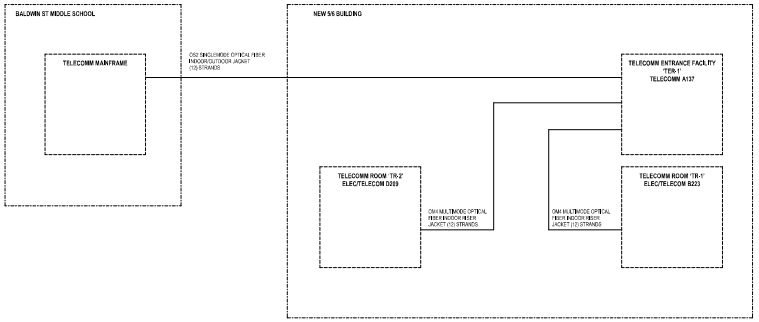


2 E7.02 COMMUNICATIONS GROUNDING/BONDING SYSTEM RISER DIAGRAM
NOT TO SCALE



5 E7.02 TEACHER WORKSTATION DETAIL
NOT TO SCALE

4 E7.02 TYPICAL COMMUNICATION OUTLET
NOT TO SCALE



1 E7.02 COMMUNICATIONS CABLING BACKBONE RISER DIAGRAM
NOT TO SCALE

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HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004

DRAWN JPB
REVIEWED AAB
PROJECT NO. 5-5065

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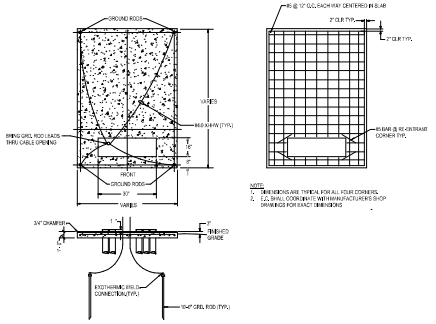
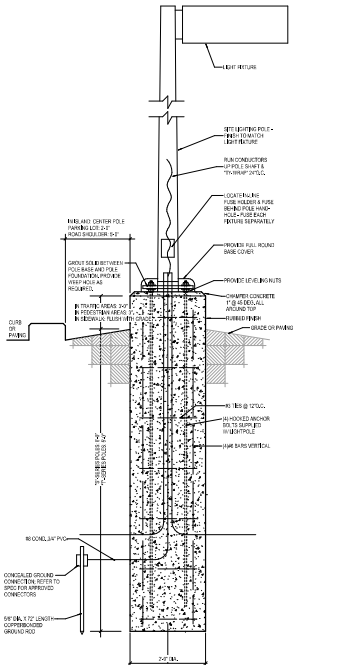
ELECTRICAL DETAILS

E7.02

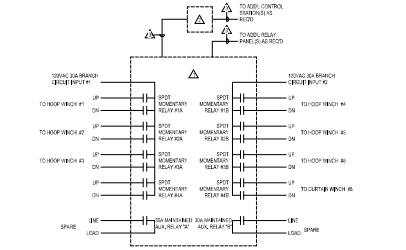
BIM: 5805\5-5065 Hudsonville Public Schools 5-5\5-5065E 2019.rvt
11/24/2020 2:20:27 PM



10 E7.01 TRANSFORMER/GENERATOR GROUNDING DETAIL
NOT TO SCALE



9 E7.01 SITE LIGHTING POLE FOUNDATION
NOT TO SCALE

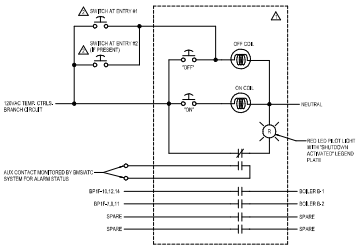


1 GYMNASIUM EQUIPMENT CONTROL SYSTEM RELAY PANEL, FURNISHED BY SECTION 11 68 23, INSTALLED AND WIRED BY ELEC. CONTRACTOR. WIRING CONNECTIONS ARE SHOWN FOR CONCEPT ONLY. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR EXACT REQUIREMENTS AND WIRING ARRANGEMENTS.

2 GYMNASIUM EQUIPMENT CONTROL SYSTEM OPERATOR INTERFACE AND PUSH BUTTON PANEL, AS SPECIFIED BY SECTION 11 68 23, INSTALLED AND WIRED BY ELEC. CONTRACTOR. MOUNT SEMI-FLUSH AT 44" AFF TO BOTTOM OF BOX WITH CENTERLINE OF RIGHT OF ALL EQUIPMENT TO BE CONTROLLED. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR EXACT ROUGH-IN REQUIREMENTS.

3 CONTROL-VOLTAGE CABLE FURNISHED AND WIRED BY SLEC CONTRACTOR. REFER TO SECTION 26 05 23 FOR TYPICAL CABLE. REFER TO MANUFACTURER'S SHOP DRAWINGS TO CONFIRM EXACT CABLE TYPE REQ'D.

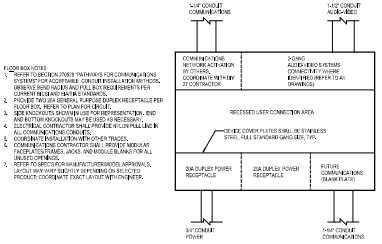
4 E7.01 GYMNASIUM EQUIPMENT CONTROL SYSTEM DETAIL
NOT TO SCALE



△ 30A, 4-POLE, MECHANICALLY-HELD CONTACTOR WITH 120VAC CONTROL COILS. MOMENTARY ON/OFF PUSH BUTTONS, ONE N.O. AND ONE N.C. AUX CONTACTS, RED LED PILOT LIGHT WIRED TO N.O. AUX CONTACT FOR "OFF" INDICATION. CUSTOM ENGRAVED DEVICE LABELS. NEMA 1 ENCLOSURE, PROVIDE ENGRAVED NAMEPLATE INDICATING "EMERGENCY BOILER SHUTDOWN".

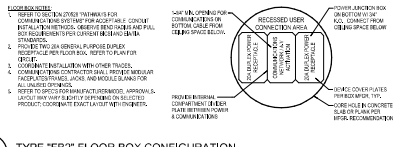
△ RED MOMENTARY PUSHBUTTON SWITCH MOUNTED ON YELLOW POLYCARBONATE BODY, CLEAR POLYCARBONATE HINGED COVER, CUSTOM LABEL "BOILER SHUTDOWN". PROVIDE STOPPER STATION SERIES 40 HEAVY DUTY (NEMA 4/13), MODEL NO. 9001SKH-40HOR APPROVED EQUAL. PROVIDE W/ MATCHING BACKBOX (MODEL NO. HT-1781-W) FOR APPLICATIONS WITHOUT A RECESSED SWITCH BOX FOR MOUNTING

8 E7.01 BOILER EMERGENCY SHUTDOWN CONTROL DETAIL
NOT TO SCALE



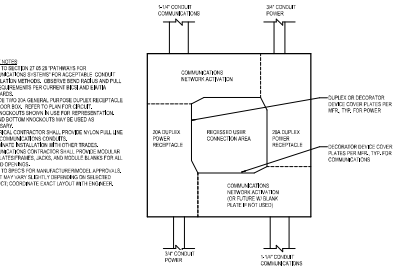
FLOOR BOX NOTES:
1. REFER TO SECTION 270528 "PATHWAYS FOR COMMUNICATIONS SYSTEMS" FOR ACCEPTABLE CONDUIT INSTALLATION METHODS, OBSERVE BEND RADIUS AND PULL BOX REQUIREMENTS PER CURRENT NEC AND EIA/TIA STANDARDS.
2. PROVIDE TWO 20A GENERAL PURPOSE DUPLEX RECEPTACLE PER FLOOR BOX, REFER TO PLAN FOR CIRCUIT.
3. SIDE KNOCKOUTS SHOWN IN USE FOR REPRESENTATION. END AND BOTTOM KNOCKOUTS MAY BE USED AS NEEDED/APPLICABLE.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE NYLON PULL LINE IN ALL CONDUITS FOR FUTURE USE.
5. COORDINATE INSTALLATION WITH OTHER TRADES.
6. COMMUNICATIONS CONTRACTOR SHALL PROVIDE MODULAR FACEPLATES/FRAMES, JACKS, AND MODULE BLANKS FOR ALL UNUSED OPENINGS.
7. REFER TO SPECS FOR MANUFACTURER/MODEL APPROVALS. LAYOUT MAY VARY SLIGHTLY DEPENDING ON SELECTED PRODUCT. COORDINATE EXACT LAYOUT WITH ENGINEER.

7 E7.01 TYPE "FB3" FLOOR BOX CONFIGURATION
NOT TO SCALE



FLOOR BOX NOTES:
1. REFER TO SECTION 270528 "PATHWAYS FOR COMMUNICATIONS SYSTEMS" FOR ACCEPTABLE CONDUIT INSTALLATION METHODS, OBSERVE BEND RADIUS AND PULL BOX REQUIREMENTS PER CURRENT NEC AND EIA/TIA STANDARDS.
2. PROVIDE TWO 20A GENERAL PURPOSE DUPLEX RECEPTACLE PER FLOOR BOX, REFER TO PLAN FOR CIRCUIT.
3. SIDE KNOCKOUTS SHOWN IN USE FOR REPRESENTATION. END AND BOTTOM KNOCKOUTS MAY BE USED AS NEEDED/APPLICABLE.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE NYLON PULL LINE IN ALL CONDUITS FOR FUTURE USE.
5. COORDINATE INSTALLATION WITH OTHER TRADES.
6. COMMUNICATIONS CONTRACTOR SHALL PROVIDE MODULAR FACEPLATES/FRAMES, JACKS, AND MODULE BLANKS FOR ALL UNUSED OPENINGS.
7. REFER TO SPECS FOR MANUFACTURER/MODEL APPROVALS. LAYOUT MAY VARY SLIGHTLY DEPENDING ON SELECTED PRODUCT. COORDINATE EXACT LAYOUT WITH ENGINEER.

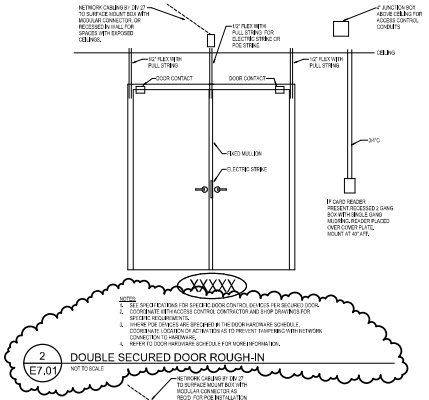
6 E7.01 TYPE "FB2" FLOOR BOX CONFIGURATION
NOT TO SCALE



5 E7.01 TYPE "FB1" FLOOR BOX CONFIGURATION
NOT TO SCALE

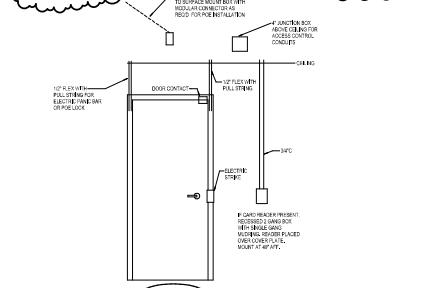
NOTES:
1. TYPICAL WIRING VERIFY WITH MANUFACTURER.
2. COMPLY WITH NEC 700.10(B)(7) AT ALL REQUIRED LOCATIONS PRIOR TO SPECIMEN.

3 E7.01 EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
NOT TO SCALE



NOTES:
1. SEE SPECIFICATIONS FOR SPECIFIC DOOR CONTROL DEVICES PER SECURED DOOR.
2. COORDINATE WITH ACCESS CONTROL CONTRACTOR AND SHOP DRAWINGS FOR SPECIFIC REQUIREMENTS.
3. WHERE POE DEVICES ARE SPECIFIED IN THE DOOR HARDWARE SCHEDULE, COORDINATE LOCATION OF ACTIVATION AS TO PREVENT TAMPERING WITH NETWORK CONNECTION TO HARDWARE.
4. REFER TO DOOR HARDWARE SCHEDULE FOR MORE INFORMATION.

2 E7.01 DOUBLE SECURED DOOR ROUGH-IN
NOT TO SCALE



NOTES:
1. SEE SPECIFICATIONS FOR SPECIFIC DOOR CONTROL DEVICES PER SECURED DOOR.
2. COORDINATE WITH ACCESS CONTROL CONTRACTOR AND SHOP DRAWINGS FOR SPECIFIC REQUIREMENTS.
3. WHERE POE DEVICES ARE SPECIFIED IN THE DOOR HARDWARE SCHEDULE, COORDINATE LOCATION OF ACTIVATION AS TO PREVENT TAMPERING WITH NETWORK CONNECTION TO HARDWARE.
4. REFER TO DOOR HARDWARE SCHEDULE FOR MORE INFORMATION.

1 E7.01 SINGLE SECURED DOOR ROUGH-IN
NOT TO SCALE

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NEW 5TH - 6TH GRADE FACILITY
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HUDSONVILLE, MICHIGAN

ISSUANCES	
10.09.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001

DRAWN JPB
REVIEWED AAB
PROJECT NO. 5-5065

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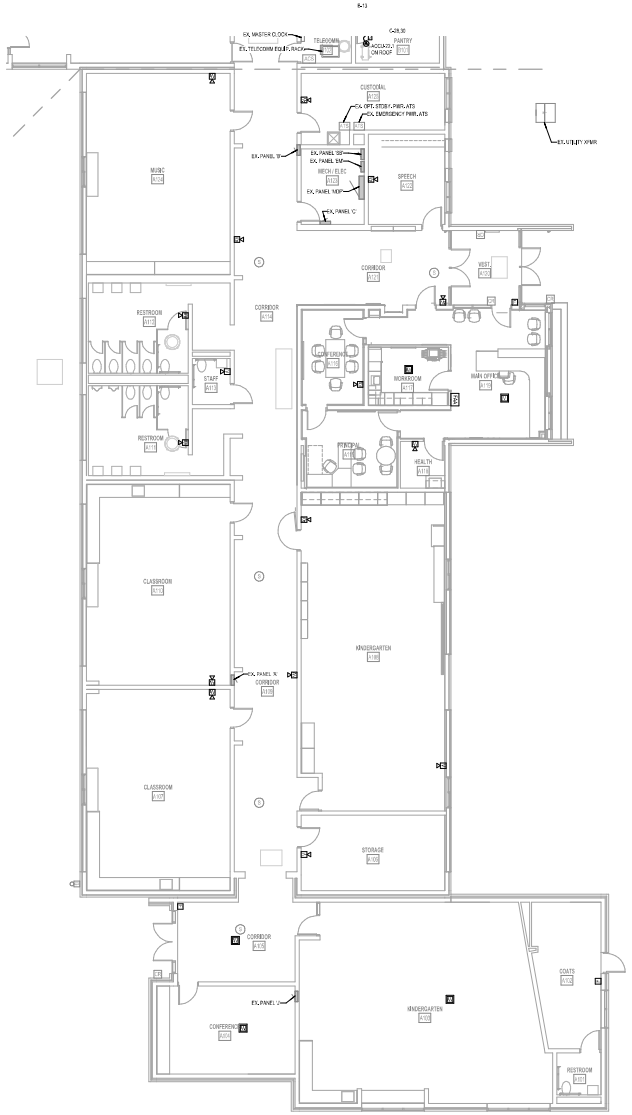
ELECTRICAL DETAILS

E7.01

BM: 5805\5-5065 Hudsonville Public Schools 5-e\5-5065E 2019.rvt
11/18/2020 10:34:49 AM

POWER & COMMUNICATION GENERAL NOTES

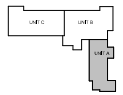
1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.0.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL/HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH HIGH ALOR LOCAL ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH CIRCUIT).
   C. TERMINATE IN BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTION WITHIN 5 FEET OF EACH DAMPER UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET.
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAY(S) FOR INTERLOCKING DAMPER IN CORRESPONDING HVAC UNIT/S PER CODE REQUIREMENTS.
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR ACCESSIBLE LOCATION FOR EACH SMALL (≤ 60 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR LOAD WHERE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR CAT 6 COMMUNICATIONS CABLING AND CAT 6A SAFETY/SECURITY CABLING ONLY. OTHER CABLING TYPES, SUCH AS CAT 3 CONTROLS, CAT 3X CONTROLS, AND ARCHITECTURAL EQUIPMENT CABLING SHALL BE SUPPORTED AND SLEEVED BY OTHER/DIFFERENT PATHWAYS, HANGERS, AND SUPPORTS.
6. CONSULT WITH ALL POWER SUPPLIES REQUIRED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 08 71 00) TO CENTRAL LOCATIONS ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATION(S). CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUIT(S) AS DESIGNATED.
7. THE FOLLOWING DIV_27 AND DIV_28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANTS ASSOCIATION WITH HUDSONVILLE PUBLIC SCHOOLS:
   A. NETWORK ELECTRONICS (SWITCHES, ACCESS POINTS, ETC.)
   B. STRUCTURED CABLING
   C. CLASSROOM AUDIO/VIDEO EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO/VIDEO SYSTEM FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. TIDEO SURVEILLANCE SYSTEM



North

UNIT 'A' POWER PLAN

1/8" = 1'-0"



North

KEYPLAN

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FOREST GROVE ELEMENTARY GYM ADDITION

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK

REVIEWED JPB

PROJECT NO. 5-5362

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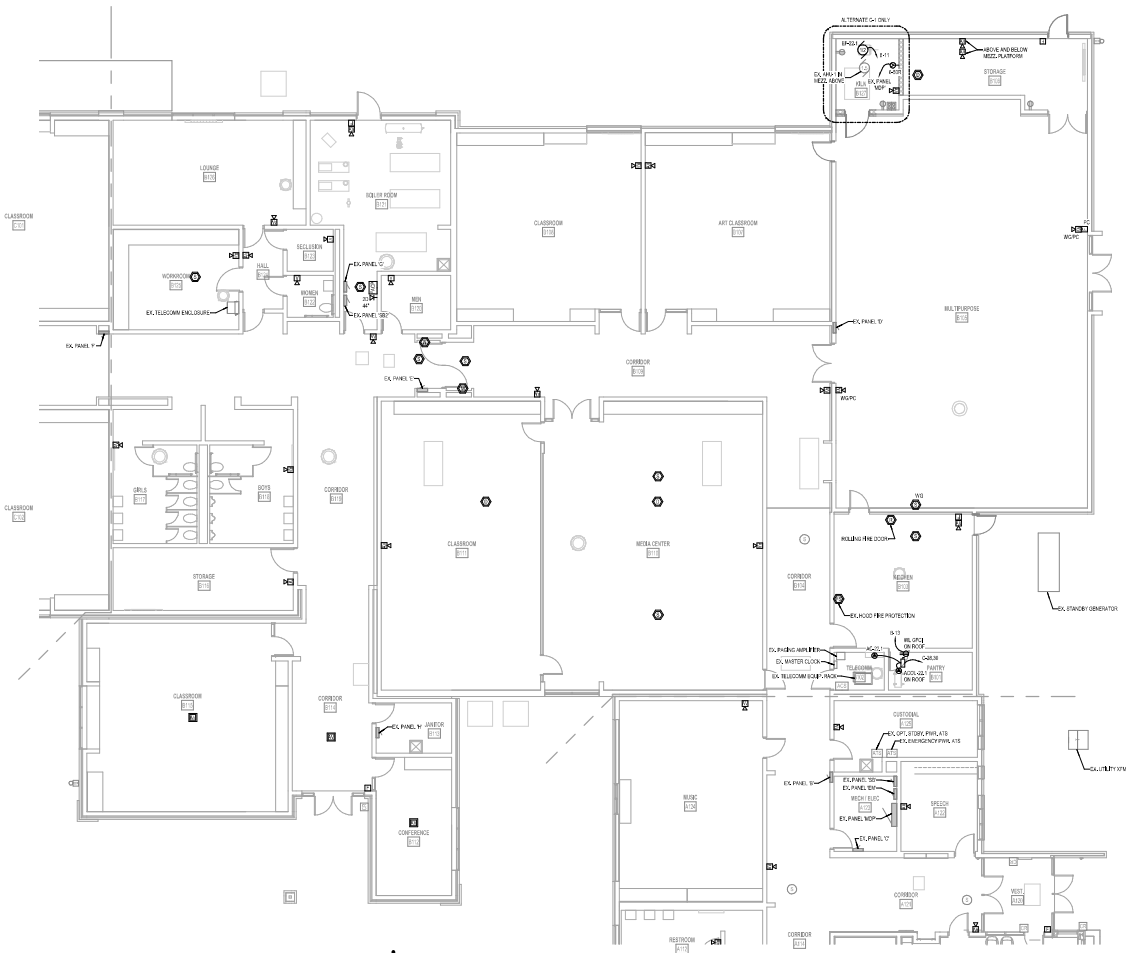
UNIT 'A' POWER PLAN

E2.1A

BIM: 380/5-5362 Hudsonville Forest Grove Elem Gym Addition-CSDS2E 2019.rvt
9/17/2021 8:21:13 AM



UNIT 'B' POWER PLAN

1/8" = 1'-0"

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.01.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120VAC POWER FOR ALL SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
   A. REFER TO MECHANICAL/HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH BREAKER LOCK-ON ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA. DAMPERS MAY BE GROUPED ON EACH CIRCUIT.
   C. TERMINATE W/ BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET).
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAYS FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNITS PER CODE REQUIREMENTS.
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (≤ 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR. DO NOT PROVIDE MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO CABINET HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, UNIT HEATERS, VAV BOXES, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DIV. 27 COMMUNICATIONS CABLING AND DIV. 28 SHIELDED/UTP CABLING ONLY. OTHER CABLING TYPES, SUCH AS DIV. 25 CONTROLS, DIV. 26 CONTROLS, AND ANY ELECTRICAL EQUIPMENT CABLING IS ALL ESSENTIALLY PROHIBITED BY OTHERS (INDEPENDENT PATHWAYS, WINDERS, AND SUPPORTS).
6. CONSULT WITH ALL PARTIES INVOLVED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 81 00) TO CENTRAL LOCATION(S) ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATIONS. CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUIT(S) AS APPROPRIATE.
7. THE FOLLOWING DIV. 27 AND DIV. 28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANTS IN ASSOCIATION WITH HUDSONVILLE P.S. TECHNOLOGY DEPT.
   A. NURSE CALL SYSTEM (INCLUDES DAYTIMES, ACCESS POINTS, ETC.)
   B. VOIP TELEPHONE SYSTEMS
   C. CLASSROOM AUDIO-VISUAL EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO-VISUAL SYSTEM FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. VIDEO SURVEILLANCE SYSTEM

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FOREST GROVE ELEMENTARY GYM ADDITION

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK

REVIEWED JPB

PROJECT NO. 5-5362

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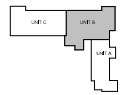
UNIT 'B' POWER PLAN

E2.1B



KEYPLAN

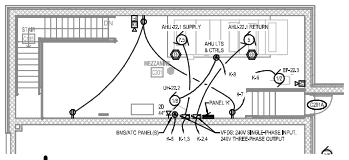
BIM: 3800\5-5362 Hudsonville Forest Grove Elem Gym Addition\5-5362E 2019.rvt
9/17/2021 8:21:21 AM

AUDIO-VIDEO SYSTEMS BOX & CONNECTOR PLATE SCHEDULE

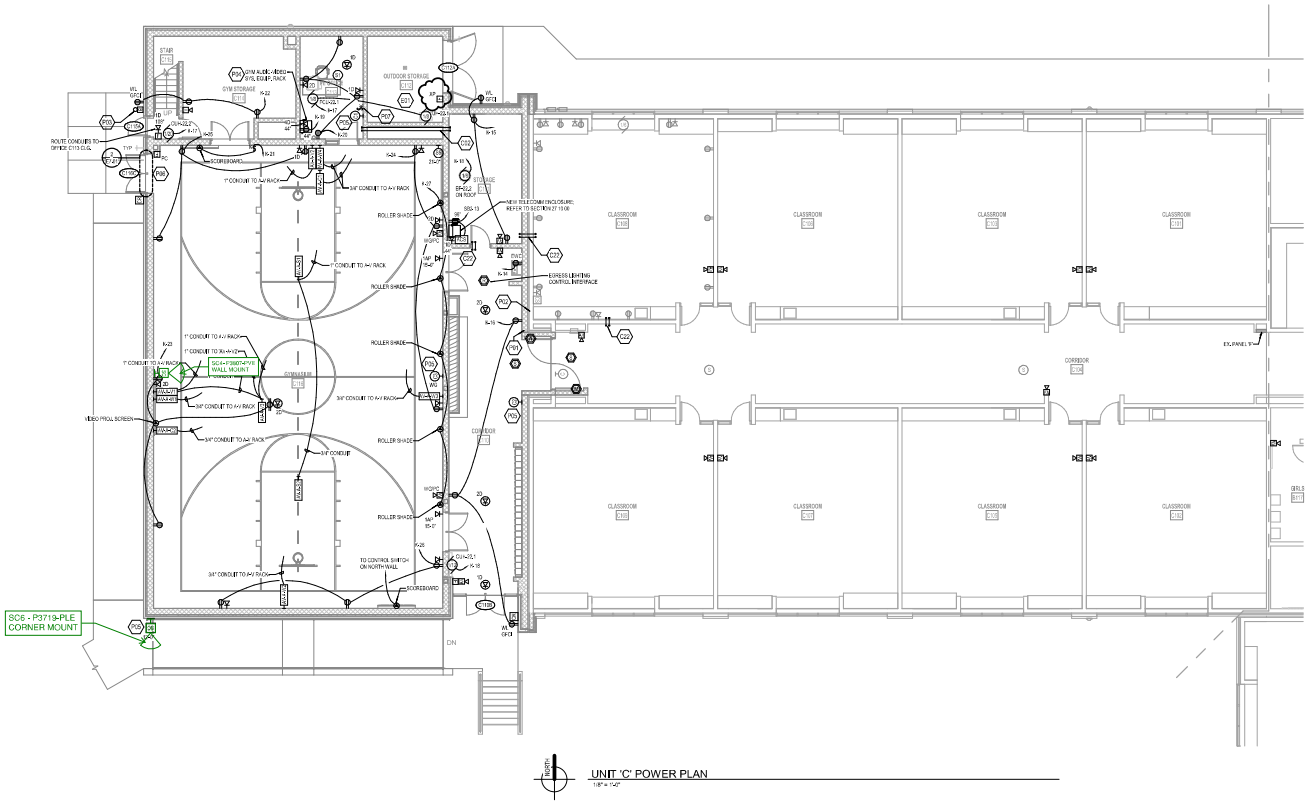
ITEM I.D. / TAG	ROUGH-IN OR ITEM SIZE	MOUNTING	LOCATION (HEIGHT TO BOTTOM OF BOX)	BOX & CONDUIT PROVIDED BY	CONNECTOR PLATE & WIRE/CABLE PROVIDED BY	SPECIAL NOTES
AVA-CC1	TWO GANG x 3 1/2" DEEP	FLUSH	44" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	A/V SYSTEM CONTROL TOUCHPANEL
AVA-CC2	SINGLE GANG x 3 1/2" DEEP	FLUSH	72x2" AFF (VERIFY, SEE DETAIL)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	PROJECTION SCREEN CONTROL
AVA-JS1	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	SPEAKER JUNCTION BOX
AVA-JS2	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	SPEAKER JUNCTION BOX
AVA-VP1	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO INPUT(S)
AVA-VP2	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO INPUT(S)
AVA-VP3	4" SQ. x 2 1/8" DEEP	SURFACE	SIDE OF ROOF JOIST JUST ABOVE BOTTOM CHORD (APPROX. 22'-0" AFF)	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	VIDEO PROJECTOR OUTPUT/CONTROL; VERIFY EXACT LOCATION OF PROJ. W/ INSTALLERS
AVA-AW1	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)
AVA-AW2	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)
AVA-AW3	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)
AVA-AW4	4 11/16" SQ. x 2 1/8" DEEP, SINGLE GANG RING	FLUSH	18" AFF	SECTION 27 05 28	NJJC (SEPARATE BID PACKAGE)	AUDIO-VIDEO INPUT(S)

POWER & COMMUNICATION GENERAL NOTES

1. REFER TO ELECTRICAL GENERAL NOTES ON SHEET E0.1.
2. REFER TO CODE COMPLIANCE PLAN FOR LOCATIONS AND RATINGS OF VERTICAL AND HORIZONTAL BUILDING ASSEMBLIES. PROVIDE APPROPRIATE FIRESTOPPING SYSTEMS PER SPECIFICATIONS TO MEET ALL APPLICABLE CODES.
3. PROVIDE 120 VAC POWER FOR ALL SMOKE DAMPERS AND CONNECTION TO REMOTE DAMPERS.
   A. REFER TO MECHANICAL/HVAC DRAWINGS FOR EXACT LOCATIONS OF DAMPERS.
   B. CONNECT TO DEDICATED 20A BRANCH CIRCUIT WITH RECEPTACLE-LOCK ACCESSORY IN LOCAL PANELBOARD FOR DAMPERS IN EACH AREA (DAMPERS MAY BE GROUPED ON EACH RECEPTACLE).
   C. TERMINATE W/ BOX-COVER FUSIBLE DISCONNECT SWITCH AT EACH DAMPER.
   D. PROVIDE FIRE ALARM DUCT SMOKE DETECTOR WITHIN 5 FEET OF EACH DAMPER (UNLESS COVERED BY ANOTHER DUCT DETECTOR WITHIN 5 FEET).
   E. PROVIDE FIRE ALARM ADDRESSABLE RELAYS FOR INTERLOCKING DAMPER W/ CORRESPONDING HVAC UNITS (FOR CODE REQUIREMENTS).
4. PROVIDE BOX-COVER FUSIBLE DISCONNECT SWITCH ON BUILDING INTERIOR IN ACCESSIBLE LOCATION FOR EACH SMALL (≤ 10 HP) MECHANICAL AND/OR PLUMBING EQUIPMENT MOTOR. LOAD WIRING MORE THAN ONE UNIT IS CONNECTED TO A COMMON BRANCH CIRCUIT. TYPICAL EQUIPMENT TYPES INCLUDE BUT ARE NOT LIMITED TO: UNIT HEATERS, DAMPERS, EXHAUST FANS, FAN COIL UNITS, PUMPS, GAS HEATERS, WH BOILERS, ETC.
5. DESIGNATED CABLING PATHWAYS (CONDUITS, CABLE TRAYS, PENETRATION SLEEVES, ETC.) SHALL BE RESERVED FOR DIV. 27 COMMUNICATIONS CABLING AND DIV. 28 SWITCHED LIGHT CABLING ONLY. OTHER CABLING TYPES, SUCH AS CL2X CONTROLS, CL3X JB CONTROLS, AND ARCHITECTURAL EQUIPMENT CABLING, SHALL BE ROUTED IN SEPARATE SLEEVES BY OTHER INDEPENDENT PATHWAYS, INNERDUCTS, AND SUPPORTS.
6. CONSULT WITH ALL INVITED SUPPLIERS REQUIRED FOR ELECTRONIC DOOR HARDWARE (REF. SECTION 81 00) TO CONTROL LOCATIONS ADJACENT TO DESIGNATED ACCESS CONTROL EQUIPMENT LOCATIONS. CONNECT ALL POWER SUPPLIES TO DEDICATED STANDBY POWER SYSTEM BRANCH CIRCUITS AS DESIGNATED.
7. THE FOLLOWING DIV. 27 AND DIV. 28 SYSTEMS WILL BE DOCUMENTED AND BID SEPARATELY BY CONSULTANTS IN ASSOCIATION WITH HUDSONVILLE P.S. TECHNOLOGY DEPT.:
   A. MDF / IDF ROOMS (ELECTRONICS, SWITCHES, ACCESS POINTS, ETC.)
   B. VOIP TELEPHONE SYSTEMS
   C. CLASSROOM AUDIO-VIDEO EQUIPMENT AND INSTRUCTIONAL TECHNOLOGY
   D. AUDIO-VIDEO SYSTEM FOR GYMNASIUM
   E. ACCESS CONTROL SYSTEM
   F. VIDEO SURVEILLANCE SYSTEM



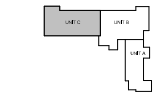
MEZZANINE POWER PLAN



UNIT 'C' POWER PLAN

ELECTRICAL KEYNOTES

C02	(2) 4" CONDUIT SLEEVES FOR DIV. 27 COMMUNICATIONS CABLING
C22	(2) 6.7 SQ. IN. CABLE PATHWAY PENETRATION DEVICE (FSD) PER SECTION 27 05 28
E01	ALL ELECTRICAL MATERIALS AND INSTALLATION IN THIS ROOM SHALL COMPLY WITH NEC ARTICLE 500 HAZARDOUS LOCATION REQUIREMENTS FOR CLASS 1, DIVISION 1, GROUP C & D
P01	ESTABLISH NEW CONCRETE-ENCASED GROUNDING ELECTRODE IN FOOTING OF NEW ADDITION. INTERCONNECT WITH GROUNDING ELECTRODE SYSTEM AT SERVICE ENTRANCE OR NEAREST SEPARATELY-DERIVED SYSTEM PER NEC AND SPECIFICATION REQUIREMENTS.
P02	BOND METAL STRUCTURE OF ADDITION TO METAL STRUCTURE OF EXISTING BUILDING PER NEC REQUIREMENTS.
P03	INSTALL EC TROUBLING BELL SALVAGED FROM BUILDING DEMOLITION. PROVIDE NEW BELL SYSTEM WIRING PER MANUFACTURER AND NEC REQUIREMENTS. RELOCATED BELL
P04	INSTALL (4) 4-11/16" SQ. J-BOX, BOX EXTENSION RINGS AND PLASTER RINGS FOR FLUSH-MOUNTED DEVICES RECESSED IN WALL. SURFACE-MOUNTED CONDUITS ARE NOT ACCEPTABLE ABOVE, BELOW, OR ON SIDES RACK. STUB AN ADDITIONAL (2) 1" CONDUITS OUT ABOVE ACCESSIBLE CEILING SPACE FROM BOX.
P05	PROVIDE 10' NETWORK ACTIVATION FOR CONNECTION TO COMMUNICATIONS OR SAFETY/SECURITY DEVICE. TERMINATION INSIDE RECESSED DEVICE BACKBOX
P06	ROUTE ACCESS CONTROL CONDUITS FROM DOOR FRAME THROUGH WALL OVER TO STAIRWELL AND STUB OUT ABOVE 9'-0" AFF.
P07	ROLLER SHADE CONTROL FOR SWINGARM, KEY-OPERATED SWITCH FURNISHED BY SECTION 12 24 13, WIRED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS



KEYPLAN

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FOREST GROVE ELEMENTARY GYM ADDITION
HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES
09.22.2021 BIDS & CONSTRUCTION
11.16.2021 BULLETIN 001

DRAWN MCK
REVIEWED JPB
PROJECT NO. 5-5362

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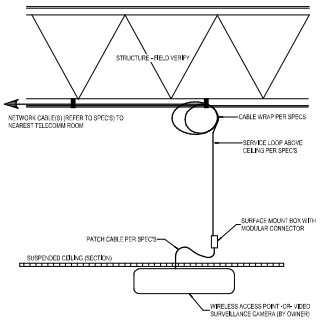
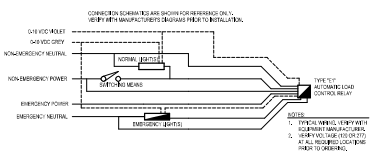
UNIT 'C' POWER PLAN

E2.1C

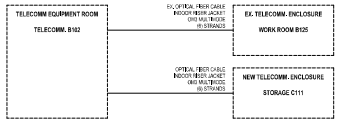
BIM: 5362\5-5362 Hudsonville Forest Grove Elem Gym Addition-v-S2K2E 2019.rvt
11/16/2021 8:03:00 AM



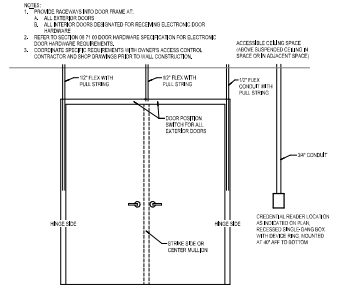
5 E7.01 CEILING MOUNTED COMMUNICATION DEVICE
NOT TO SCALE



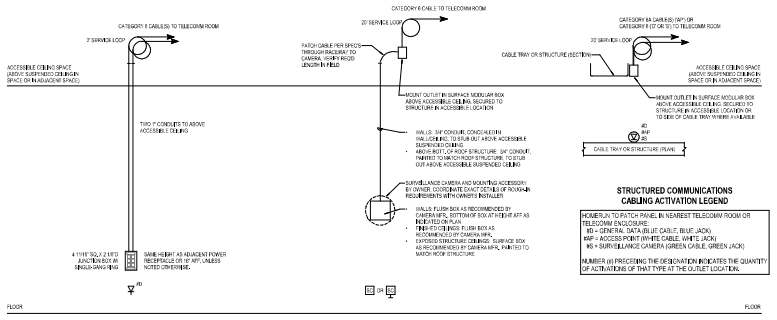
4 E7.01 EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL RELAY
NOT TO SCALE

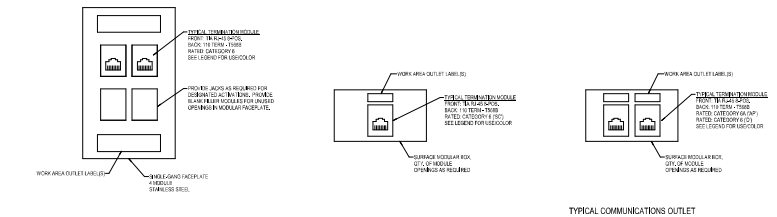


3 E7.01 COMMUNICATIONS CABLING BACKBONE RISER DIAGRAM
NOT TO SCALE



2 E7.01 TYPICAL ROUGH-IN FOR DOORS WITH ELECTRONIC ACCESS CONTROL / MONITORING
NOT TO SCALE





TYPICAL COMMUNICATIONS WALL OUTLET WITH '_D' OR '_AP' ACTIVATION

TYPICAL COMMUNICATIONS OUTLET FOR VIDEO SURVEILLANCE CAMERA

TYPICAL COMMUNICATIONS OUTLET ABOVE ACCESSIBLE CEILING (WIRELESS ACCESS POINT, AUDIO-VIDEO SYSTEM EQUIP., ETC.)

1 E7.01 TYPICAL COMMUNICATIONS OUTLET DETAILS
NOT TO SCALE

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HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES
09.22.2021 BIDS & CONSTRUCTION

DRAWN MCK
REVIEWED JPB
PROJECT NO. 5-5362

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ELECTRICAL DETAILS

E7.01

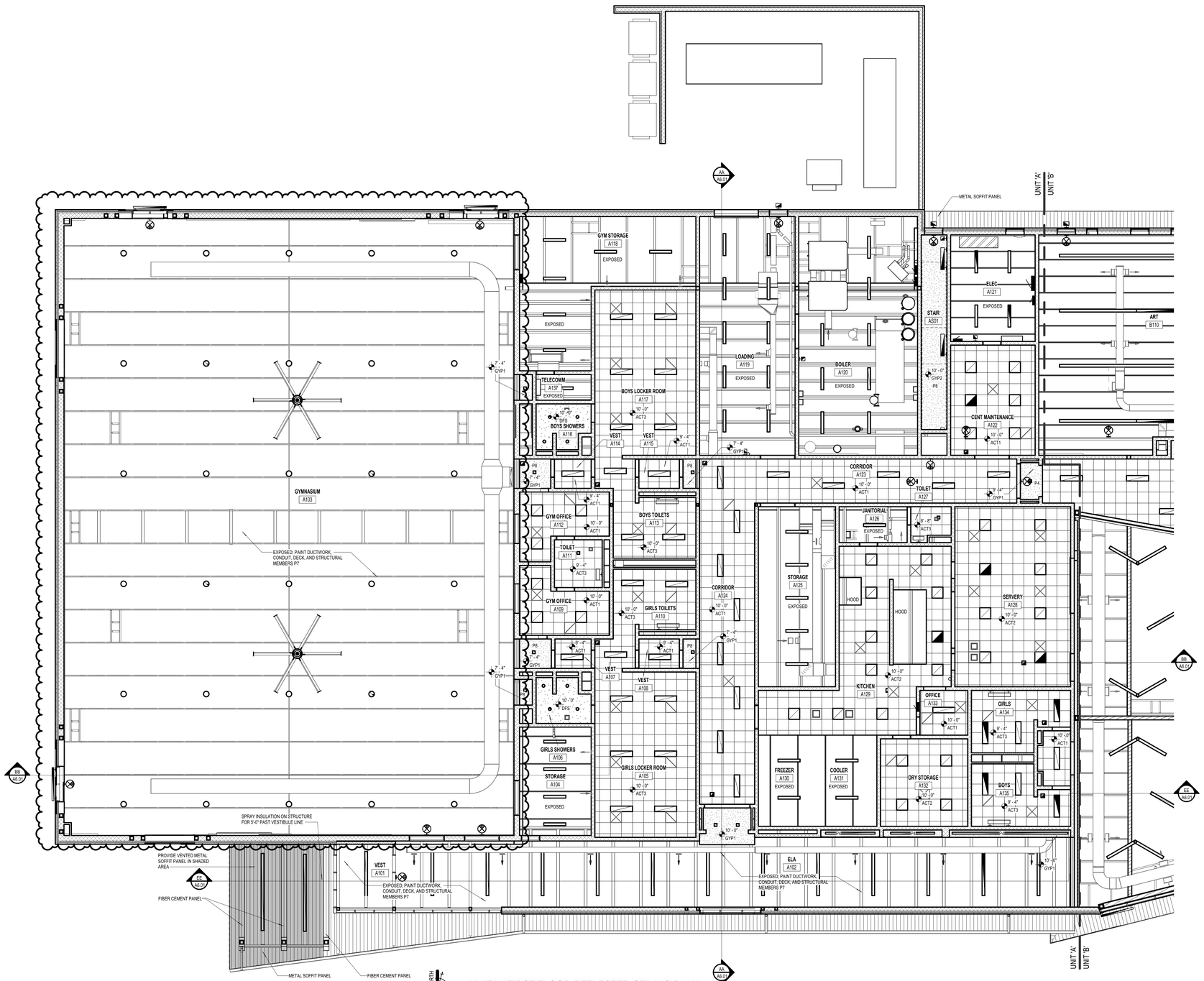
BIM: 3800\5-5362 Hudsonville Forest Grove Elem Gym Addition\5-5362E 2019.rvt
9/17/2021 8:27:03 AM

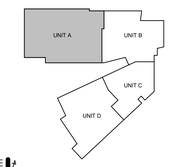
GENERAL CEILING NOTES:

1. CONTRACTOR SHALL FOLLOW GRID PATTERN ESTABLISHED ON THE REFLECTED CEILING PLAN. ANY VARIATIONS SHALL BE APPROVED BY THE ARCHITECT.
2. CEILING TILE TYPE AS SPECIFIED- CEILING HEIGHTS NOTED ON REFLECTED CEILING PLANS. CEILING ELEVATIONS ARE FROM THAT ROOM'S FINISH FLOOR.
3. WIRE CEILING FROM STRUCTURE ABOVE AND WIRE FOR ADDITIONAL LOAD AT LIGHTS AND CEILING DIFFUSERS.
4. UNLESS OTHERWISE NOTED, CEILING TO BE SUSPENDED METAL TEE AND ACOUSTICAL TILE 2'-0"x 2'-0" OR 2'-0"x 4'-0" TYPICAL. SEE SPECIFICATIONS FOR MANUFACTURER AND STYLE.
5. PENDANT MOUNTED FIXTURES CENTERED ON GRID REQUIRE GRID TO BE CUT AND SUPPORTED ON EACH SIDE.
6. MOUNT SPEAKERS AND SUPPLY AIR DIFFUSERS IN THE CENTER OF WHOLE CEILING PANELS. ADHERE A RIGID PANEL BACKER TO PANELS AT LOCATIONS WHICH INDICATE SPEAKERS, DIFFUSERS, LIGHTS, SMOKE DETECTORS, EXIT LIGHTS AND FIRE PROTECTION SPRINKLERS.
7. PROVIDE 2'-0" CEILING GRID CROSS-TEE AT EACH RETURN AIR GRILLE.
8. PROVIDE AN ADDITIONAL CROSS-TEE AT EACH SLOT DIFFUSER.
9. REFER TO THE MECHANICAL DRAWINGS FOR LOUVERS REQUIRED TO BE FRAMED IN GYPSUM BOARD BULKHEADS.
10. ALL CEILING HEIGHTS ARE SUBJECT TO CHANGE TO ACCOMMODATE UNFORESEEN FIELD CONDITIONS - COORDINATE CHANGES WITH ARCHITECT & AFFECTED DISCIPLINES.
11. SOME CORRIDOR CEILING PANEL LAYOUTS HAVE BEEN ADJUSTED AT A CHANGE IN CORRIDOR DIRECTION TO ACCOMMODATE LIGHTING LAYOUT.

CEILING LEGEND

- DIRECT EXTERIOR FINISH SYSTEM
- GYPSUM BOARD CEILING
- PRE FINISHED VENTED METAL SOFFIT
- RECESSED 2x4 LIGHT FIXTURE
- RECESSED 1x4 LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- PENDANT MOUNT FIXTURE
- SURFACE MOUNT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- FIXTURE IS DESIGNATED FOR EMERGENCY OPERATION
- SINGLE FACE EXIT SIGN
- DOUBLE FACE EXIT SIGN
- WALL-MOUNTED EXIT SIGN
- OCCUPANCY SENSOR
- FIRE ALARM - VISUAL
- FIRE ALARM - AUDIOVISUAL
- ALUMINUM SOFFIT
- PA SPEAKER
- SMOKE DETECTOR
- SUPPLY GRILLE / DIFFUSER
- RETURN GRILLE / DIFFUSER
- SLOT DIFFUSER
- MECHANICAL EQUIPMENT
- ACCESS DOOR
- CONTINUOUS SOFFIT VENT
- SOFFIT GRILLE (8x16 U.O.N.)
- C.J. CONTROL JOINT
- CUT TILE





KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
08.10.2021	BULLETIN 013

DRAWN	BE CK
REVIEWED	TD
PROJECT NO.	5-5065

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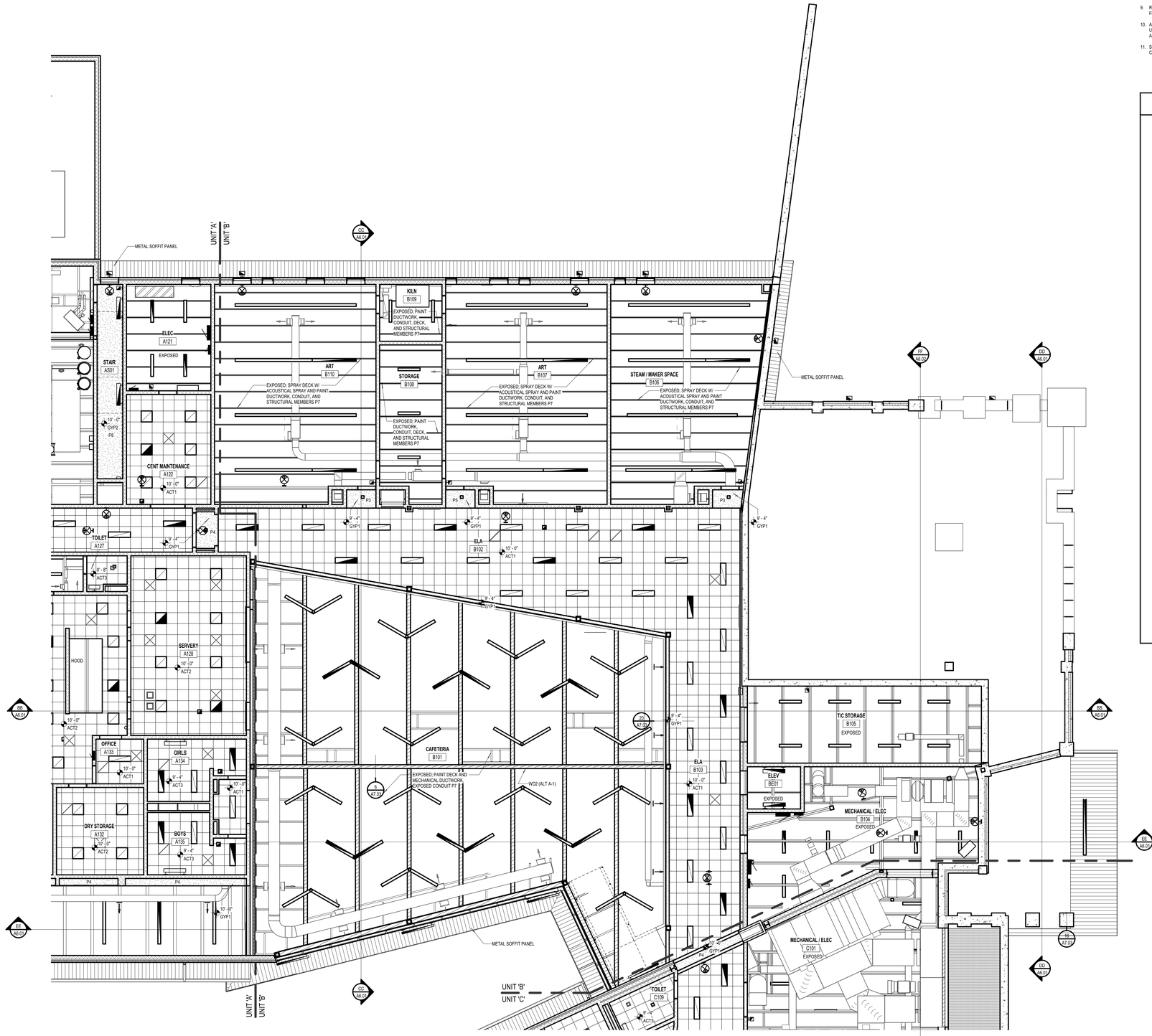
UNIT 'A' FIRST FLOOR REFLECTED CEILING PLAN

A3.1A

BIM 360://5-5065 Hudsonville Public Schools 5-6/5-5065A 2019.rvt
8/10/2021 5:32:16 PM



UNIT 'B' FIRST FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL CEILING NOTES:

1. CONTRACTOR SHALL FOLLOW GRID PATTERN ESTABLISHED ON THE REFLECTED CEILING PLAN. ANY VARIATIONS SHALL BE APPROVED BY THE ARCHITECT.
2. CEILING TILE TYPE AS SPECIFIED- CEILING HEIGHTS NOTED ON REFLECTED CEILING PLANS. CEILING ELEVATIONS ARE FROM THAT ROOM'S FINISH FLOOR.
3. WIRE CEILING FROM STRUCTURE ABOVE AND WIRE FOR ADDITIONAL LOAD AT LIGHTS AND CEILING DIFFUSERS.
4. UNLESS OTHERWISE NOTED, CEILING TO BE SUSPENDED METAL TEE AND ACOUSTICAL TILE 2'-0"x 2'-0" OR 2'-0"x 4'-0" TYPICAL. SEE SPECIFICATIONS FOR MANUFACTURER AND STYLE.
5. PENDANT MOUNTED FIXTURES CENTERED ON GRID REQUIRE GRID TO BE CUT AND SUPPORTED ON EACH SIDE.
6. MOUNT SPEAKERS AND SUPPLY AIR DIFFUSERS IN THE CENTER OF WHOLE CEILING PANELS. ADHERE A RIGID PANEL BACKER TO PANELS AT LOCATIONS WHICH INDICATE SPEAKERS, DIFFUSERS, LIGHTS, SMOKE DETECTORS, EXIT LIGHTS AND FIRE PROTECTION SPRINKLERS.
7. PROVIDE 2'-0" CEILING GRID CROSS-TEE AT EACH RETURN AIR GRILLE.
8. PROVIDE AN ADDITIONAL CROSS-TEE AT EACH SLOT DIFFUSER.
9. REFER TO THE MECHANICAL DRAWINGS FOR LOUVERS REQUIRED TO BE FRAMED IN GYPSUM BOARD BULKHEADS.
10. ALL CEILING HEIGHTS ARE SUBJECT TO CHANGE TO ACCOMMODATE UNFORESEEN FIELD CONDITIONS - COORDINATE CHANGES WITH ARCHITECT & AFFECTED DISCIPLINES.
11. SOME CORRIDOR CEILING PANEL LAYOUTS HAVE BEEN ADJUSTED AT A CHANGE IN CORRIDOR DIRECTION TO ACCOMMODATE LIGHTING LAYOUT.

CEILING LEGEND

- DIRECT EXTERIOR FINISH SYSTEM
- GYPSUM BOARD CEILING
- PRE FINISHED VENTED METAL SOFFIT
- RECESSED 2x4 LIGHT FIXTURE
- RECESSED 1x4 LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- PENDANT MOUNT FIXTURE
- SURFACE MOUNT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- FIXTURE IS DESIGNATED FOR EMERGENCY OPERATION
- SINGLE FACE EXIT SIGN
- DOUBLE FACE EXIT SIGN
- WALL-MOUNTED EXIT SIGN
- OCCUPANCY SENSOR
- FIRE ALARM - VISUAL
- FIRE ALARM - AUDIO/VISUAL
- ALUMINUM SOFFIT
- PA SPEAKER
- SMOKE DETECTOR
- SUPPLY GRILLE / DIFFUSER
- RETURN GRILLE / DIFFUSER
- SLOT DIFFUSER
- MECHANICAL EQUIPMENT
- ACCESS DOOR
- CONTINUOUS SOFFIT VENT
- SOFFIT GRILLE (8x16 U.O.N.)
- C.J. CONTROL JOINT
- CUT TILE

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HUDSONVILLE, MICHIGAN

ISSUANCES

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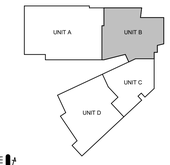

KEYPLAN

UNIT 'B' FIRST FLOOR REFLECTED CEILING PLAN

A3.1B

BIM 360://5-5065 Hudsonville Public Schools 5-6th 5-5065A 2019.rvt
10/30/2020 8:11:29 AM

North

UNIT 'C' FIRST FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL CEILING NOTES:

1. CONTRACTOR SHALL FOLLOW GRID PATTERN ESTABLISHED ON THE REFLECTED CEILING PLAN. ANY VARIATIONS SHALL BE APPROVED BY THE ARCHITECT.
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6. MOUNT SPEAKERS AND SUPPLY AIR DIFFUSERS IN THE CENTER OF WHOLE CEILING PANELS. ADHERE A RIGID PANEL BACKER TO PANELS AT LOCATIONS WHICH INDICATE SPEAKERS, DIFFUSERS, LIGHTS, SMOKE DETECTORS, EXIT LIGHTS AND FIRE PROTECTION SPRINKLERS.
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CEILING LEGEND

- DIRECT EXTERIOR FINISH SYSTEM
- GYPSUM BOARD CEILING
- PRE FINISHED VENTED METAL SOFFIT
- RECESSED 2x4 LIGHT FIXTURE
- RECESSED 1x4 LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- PENDANT MOUNT FIXTURE
- SURFACE MOUNT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- FIXTURE IS DESIGNATED FOR EMERGENCY OPERATION
- SINGLE FACE EXIT SIGN
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- WALL-MOUNTED EXIT SIGN
- OCCUPANCY SENSOR
- FIRE ALARM - VISUAL
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- ALUMINUM SOFFIT
- PA SPEAKER
- SMOKE DETECTOR
- SUPPLY GRILLE / DIFFUSER
- RETURN GRILLE / DIFFUSER
- SLOT DIFFUSER
- MECHANICAL EQUIPMENT
- ACCESS DOOR
- CONTINUOUS SOFFIT VENT
- SOFFIT GRILLE (8x16 U.O.N.)
- C.J. CONTROL JOINT
- CUT TILE

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HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.15.2021	BULLETIN 020

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REVIEWED	TD
PROJECT NO.	5-5065

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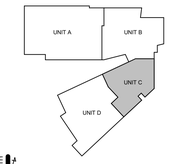

North

KEYPLAN

UNIT 'C' FIRST FLOOR REFLECTED CEILING PLAN

A3.1C

BIM 360://5-5065 Hudsonville Public Schools 5-6/5-5065A 2019.rvt
11/15/2021 10:31:41 AM

UNIT 'D' FIRST FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL CEILING NOTES:

1. CONTRACTOR SHALL FOLLOW GRID PATTERN ESTABLISHED ON THE REFLECTED CEILING PLAN. ANY VARIATIONS SHALL BE APPROVED BY THE ARCHITECT.
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CEILING LEGEND

- DIRECT EXTERIOR FINISH SYSTEM
- GYPSUM BOARD CEILING
- PRE FINISHED VENTED METAL SOFFIT
- RECESSED 2x4 LIGHT FIXTURE
- RECESSED 1x4 LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- PENDANT MOUNT FIXTURE
- SURFACE MOUNT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
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- WALL-MOUNTED EXIT SIGN
- OCCUPANCY SENSOR
- FIRE ALARM - VISUAL
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- SMOKE DETECTOR
- SUPPLY GRILLE / DIFFUSER
- RETURN GRILLE / DIFFUSER
- SLOT DIFFUSER
- MECHANICAL EQUIPMENT
- ACCESS DOOR
- CONTINUOUS SOFFIT VENT
- SOFFIT GRILLE (8x16 U.O.N.)
- C.J. CONTROL JOINT
- CUT TILE

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001

DRAWN	BE CK
REVIEWED	TD
PROJECT NO.	5-5065

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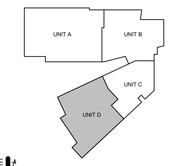
UNIT 'D' FIRST FLOOR RELFECTED CEILING PLAN

A3.1D



KEYPLAN

BIM 360://5-5065 Hudsonville Public Schools 5-615-5065A 2019.rvt
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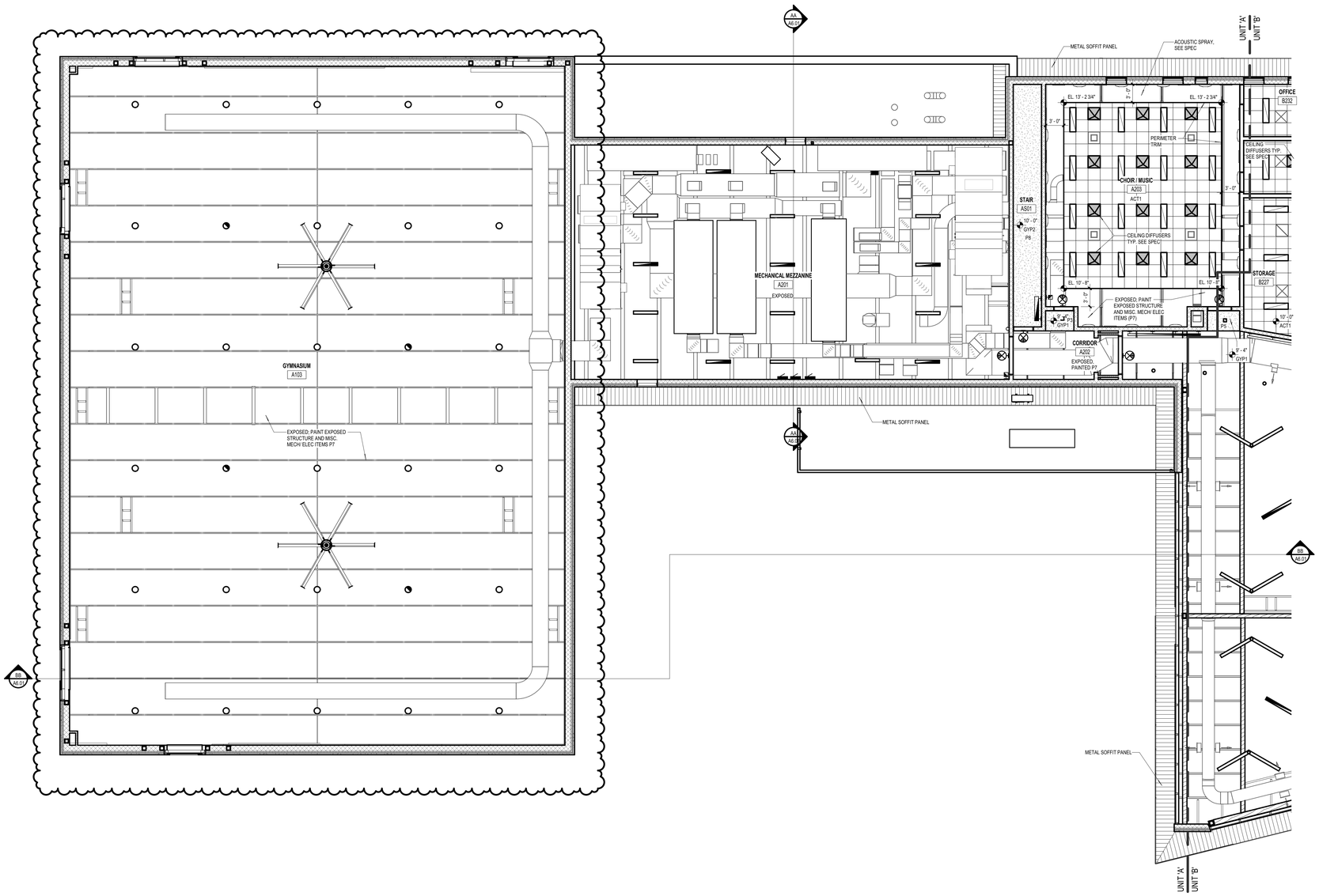

NORTH

UNIT 'A' SECOND FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL CEILING NOTES:

1. CONTRACTOR SHALL FOLLOW GRID PATTERN ESTABLISHED ON THE REFLECTED CEILING PLAN. ANY VARIATIONS SHALL BE APPROVED BY THE ARCHITECT.
2. CEILING TILE TYPE AS SPECIFIED- CEILING HEIGHTS NOTED ON REFLECTED CEILING PLANS. CEILING ELEVATIONS ARE FROM THAT ROOM'S FINISH FLOOR.
3. WIRE CEILING FROM STRUCTURE ABOVE AND WIRE FOR ADDITIONAL LOAD AT LIGHTS AND CEILING DIFFUSERS.
4. UNLESS OTHERWISE NOTED, CEILING TO BE SUSPENDED METAL TEE AND ACOUSTICAL TILE 2'-0"x 2'-0" OR 2'-0"x 4'-0" TYPICAL. SEE SPECIFICATIONS FOR MANUFACTURER AND STYLE.
5. PENDANT MOUNTED FIXTURES CENTERED ON GRID REQUIRE GRID TO BE CUT AND SUPPORTED ON EACH SIDE.
6. MOUNT SPEAKERS AND SUPPLY AIR DIFFUSERS IN THE CENTER OF WHOLE CEILING PANELS. ADHERE A RIGID PANEL BACKER TO PANELS AT LOCATIONS WHICH INDICATE SPEAKERS, DIFFUSERS, LIGHTS, SMOKE DETECTORS, EXIT LIGHTS AND FIRE PROTECTION SPRINKLERS.
7. PROVIDE 2'-0" CEILING GRID CROSS-TEE AT EACH RETURN AIR GRILLE.
8. PROVIDE AN ADDITIONAL CROSS-TEE AT EACH SLOT DIFFUSER.
9. REFER TO THE MECHANICAL DRAWINGS FOR LOUVERS REQUIRED TO BE FRAMED IN GYPSUM BOARD BULKHEADS.
10. ALL CEILING HEIGHTS ARE SUBJECT TO CHANGE TO ACCOMMODATE UNFORESEEN FIELD CONDITIONS - COORDINATE CHANGES WITH ARCHITECT & AFFECTED DISCIPLINES.
11. SOME CORRIDOR CEILING PANEL LAYOUTS HAVE BEEN ADJUSTED AT A CHANGE IN CORRIDOR DIRECTION TO ACCOMMODATE LIGHTING LAYOUT.

CEILING LEGEND

- DIRECT EXTERIOR FINISH SYSTEM
- GYPSUM BOARD CEILING
- PRE FINISHED VENTED METAL SOFFIT
- RECESSED 2x4 LIGHT FIXTURE
- RECESSED 1x4 LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- PENDANT MOUNT FIXTURE
- SURFACE MOUNT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- FIXTURE IS DESIGNATED FOR EMERGENCY OPERATION
- SINGLE FACE EXIT SIGN
- DOUBLE FACE EXIT SIGN
- WALL-MOUNTED EXIT SIGN
- OCCUPANCY SENSOR
- FIRE ALARM - VISUAL
- FIRE ALARM - AUDIOVISUAL
- ALUMINUM SOFFIT
- PA SPEAKER
- SMOKE DETECTOR
- SUPPLY GRILLE / DIFFUSER
- RETURN GRILLE / DIFFUSER
- SLOT DIFFUSER
- MECHANICAL EQUIPMENT
- ACCESS DOOR
- CONTINUOUS SOFFIT VENT
- SOFFIT GRILLE (8x16 U.O.N.)
- C.J. CONTROL JOINT
- CUT TILE

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
08.10.2021	BULLETIN 013

DRAWN	BE CK
REVIEWED	TD
PROJECT NO.	5-5065

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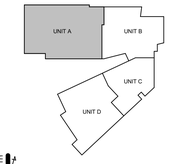


NORTH

KEYPLAN

UNIT 'A' SECOND FLOOR REFLECTED CEILING PLAN

A3.2A

BIM 360://5-5065 Hudsonville Public Schools 5-6/5-5065A 2019.rvt
8/10/2021 5:32:28 PM

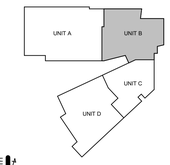
GENERAL CEILING NOTES:

1. CONTRACTOR SHALL FOLLOW GRID PATTERN ESTABLISHED ON THE REFLECTED CEILING PLAN. ANY VARIATIONS SHALL BE APPROVED BY THE ARCHITECT.
2. CEILING TILE TYPE AS SPECIFIED- CEILING HEIGHTS NOTED ON REFLECTED CEILING PLANS. CEILING ELEVATIONS ARE FROM THAT ROOM'S FINISH FLOOR.
3. WIRE CEILING FROM STRUCTURE ABOVE AND WIRE FOR ADDITIONAL LOAD AT LIGHTS AND CEILING DIFFUSERS.
4. UNLESS OTHERWISE NOTED, CEILING TO BE SUSPENDED METAL TEE AND ACOUSTICAL TILE 2'-0"x 2'-0" OR 2'-0"x 4'-0" TYPICAL. SEE SPECIFICATIONS FOR MANUFACTURER AND STYLE.
5. PENDANT MOUNTED FIXTURES CENTERED ON GRID REQUIRE GRID TO BE CUT AND SUPPORTED ON EACH SIDE.
6. MOUNT SPEAKERS AND SUPPLY AIR DIFFUSERS IN THE CENTER OF WHOLE CEILING PANELS. ADHERE A RIGID PANEL BACKER TO PANELS AT LOCATIONS WHICH INDICATE SPEAKERS, DIFFUSERS, LIGHTS, SMOKE DETECTORS, EXIT LIGHTS AND FIRE PROTECTION SPRINKLERS.
7. PROVIDE 2'-0" CEILING GRID CROSS-TEE AT EACH RETURN AIR GRILLE.
8. PROVIDE AN ADDITIONAL CROSS-TEE AT EACH SLOT DIFFUSER.
9. REFER TO THE MECHANICAL DRAWINGS FOR LOUVERS REQUIRED TO BE FRAMED IN GYPSUM BOARD BULKHEADS.
10. ALL CEILING HEIGHTS ARE SUBJECT TO CHANGE TO ACCOMMODATE UNFORESEEN FIELD CONDITIONS - COORDINATE CHANGES WITH ARCHITECT & AFFECTED DISCIPLINES.
11. SOME CORRIDOR CEILING PANEL LAYOUTS HAVE BEEN ADJUSTED AT A CHANGE IN CORRIDOR DIRECTION TO ACCOMMODATE LIGHTING LAYOUT.

CEILING LEGEND

- DIRECT EXTERIOR FINISH SYSTEM
- GYPSUM BOARD CEILING
- PRE FINISHED VENTED METAL SOFFIT
- RECESSED 2x4 LIGHT FIXTURE
- RECESSED 1x4 LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- PENDANT MOUNT FIXTURE
- SURFACE MOUNT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- FIXTURE IS DESIGNATED FOR EMERGENCY OPERATION
- SINGLE FACE EXIT SIGN
- DOUBLE FACE EXIT SIGN
- WALL-MOUNTED EXIT SIGN
- OCCUPANCY SENSOR
- FIRE ALARM - VISUAL
- FIRE ALARM - AUDIO/VISUAL
- ALUMINUM SOFFIT
- PA SPEAKER
- SMOKE DETECTOR
- SUPPLY GRILLE / DIFFUSER
- RETURN GRILLE / DIFFUSER
- SLOT DIFFUSER
- MECHANICAL EQUIPMENT
- ACCESS DOOR
- CONTINUOUS SOFFIT VENT
- SOFFIT GRILLE (8x16 U.O.N.)
- C.J. CONTROL JOINT
- CUT TILE

UNIT 'B' SECOND FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"



KEYPLAN

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.25.2020	ADDENDUM 004

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PROJECT NO.	5-5065

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UNIT 'B' SECOND FLOOR REFLECTED CEILING PLAN

A3.2B

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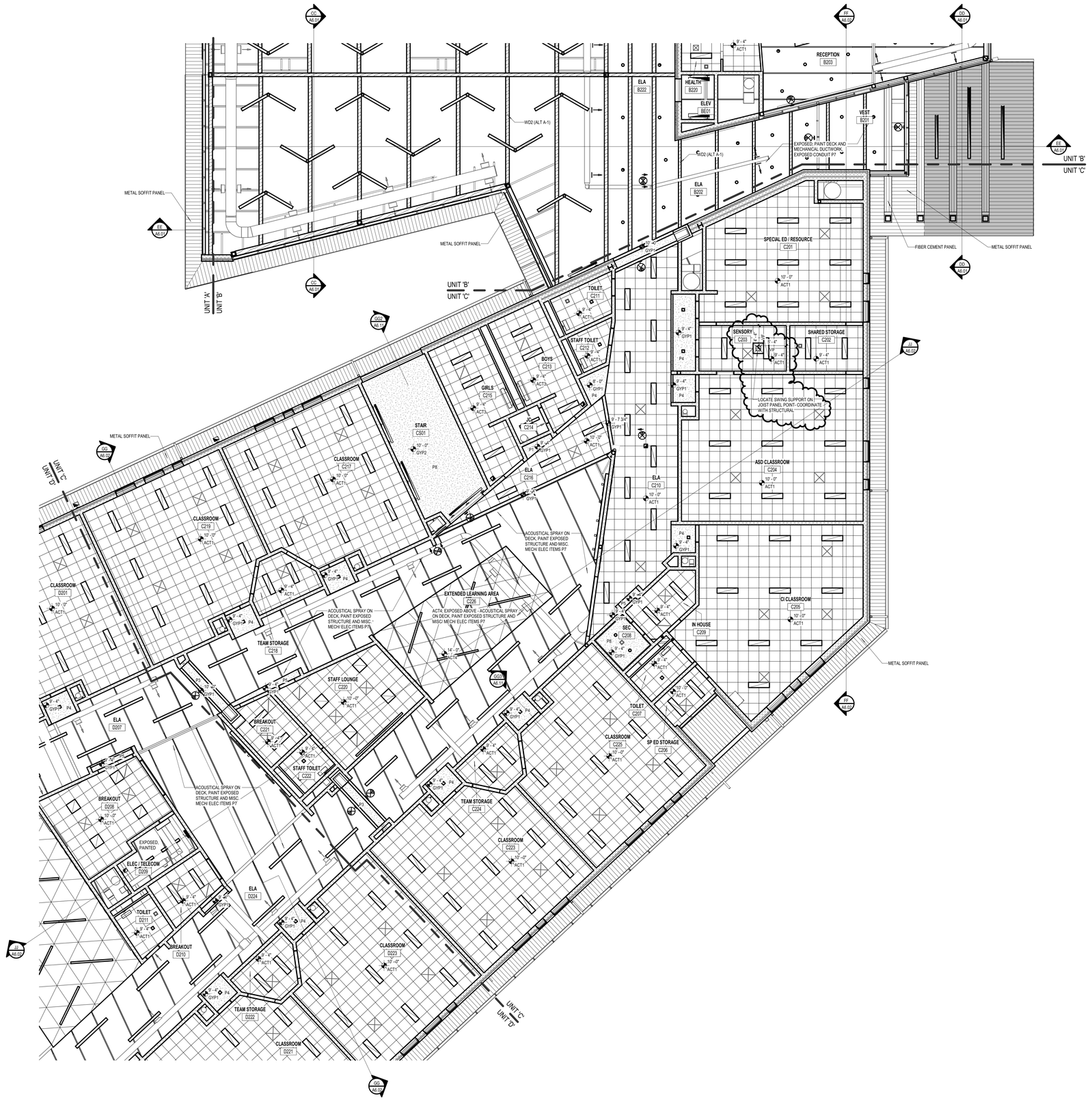
11/25/2020 8:53:37 AM



UNIT 'C' SECOND FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL CEILING NOTES:

1. CONTRACTOR SHALL FOLLOW GRID PATTERN ESTABLISHED ON THE REFLECTED CEILING PLAN. ANY VARIATIONS SHALL BE APPROVED BY THE ARCHITECT.
2. CEILING TILE TYPE AS SPECIFIED- CEILING HEIGHTS NOTED ON REFLECTED CEILING PLANS. CEILING ELEVATIONS ARE FROM THAT ROOM'S FINISH FLOOR.
3. WIRE CEILING FROM STRUCTURE ABOVE AND WIRE FOR ADDITIONAL LOAD AT LIGHTS AND CEILING DIFFUSERS.
4. UNLESS OTHERWISE NOTED, CEILING TO BE SUSPENDED METAL TEE AND ACOUSTICAL TILE 2'-0"x 2'-0" OR 2'-0"x 4'-0" TYPICAL. SEE SPECIFICATIONS FOR MANUFACTURER AND STYLE.
5. PENDANT MOUNTED FIXTURES CENTERED ON GRID REQUIRE GRID TO BE CUT AND SUPPORTED ON EACH SIDE.
6. MOUNT SPEAKERS AND SUPPLY AIR DIFFUSERS IN THE CENTER OF WHOLE CEILING PANELS. ADHERE A RIGID PANEL BACKER TO PANELS AT LOCATIONS WHICH INDICATE SPEAKERS, DIFFUSERS, LIGHTS, SMOKE DETECTORS, EXIT LIGHTS AND FIRE PROTECTION SPRINKLERS.
7. PROVIDE 2'-0" CEILING GRID CROSS-TEE AT EACH RETURN AIR GRILLE.
8. PROVIDE AN ADDITIONAL CROSS-TEE AT EACH SLOT DIFFUSER.
9. REFER TO THE MECHANICAL DRAWINGS FOR LOUVERS REQUIRED TO BE FRAMED IN GYPSUM BOARD BULKHEADS.
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11. SOME CORRIDOR CEILING PANEL LAYOUTS HAVE BEEN ADJUSTED AT A CHANGE IN CORRIDOR DIRECTION TO ACCOMMODATE LIGHTING LAYOUT.

CEILING LEGEND

- DIRECT EXTERIOR FINISH SYSTEM
- GYPSUM BOARD CEILING
- PRE FINISHED VENTED METAL SOFFIT
- RECESSED 2x4 LIGHT FIXTURE
- RECESSED 1x4 LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- PENDANT MOUNT FIXTURE
- SURFACE MOUNT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
- FIXTURE IS DESIGNATED FOR EMERGENCY OPERATION
- SINGLE FACE EXIT SIGN
- DOUBLE FACE EXIT SIGN
- WALL-MOUNTED EXIT SIGN
- OCCUPANCY SENSOR
- FIRE ALARM - VISUAL
- FIRE ALARM - AUDIOVISUAL
- ALUMINUM SOFFIT
- PA SPEAKER
- SMOKE DETECTOR
- SUPPLY GRILLE / DIFFUSER
- RETURN GRILLE / DIFFUSER
- SLOT DIFFUSER
- MECHANICAL EQUIPMENT
- ACCESS DOOR
- CONTINUOUS SOFFIT VENT
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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.15.2021	BULLETIN 020

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PROJECT NO.	5-5065

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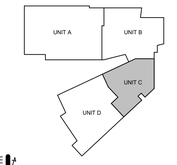
UNIT 'C' SECOND FLOOR REFLECTED CEILING PLAN

A3.2C



KEYPLAN

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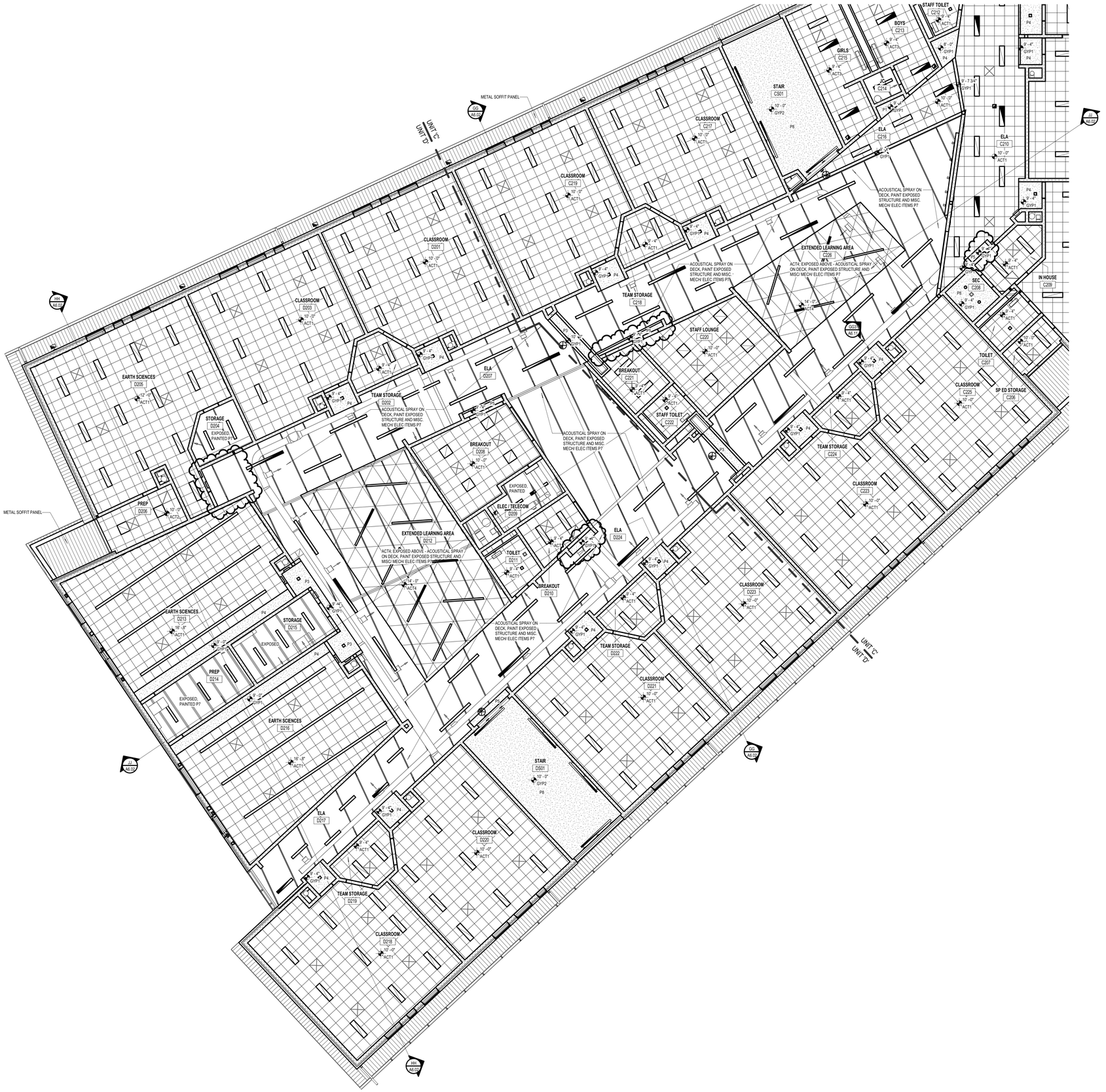

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CEILING LEGEND

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- RECESSED 2x4 LIGHT FIXTURE
- RECESSED 1x4 LIGHT FIXTURE
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- SURFACE / PENDANT MOUNT FIXTURE
- PENDANT MOUNT FIXTURE
- SURFACE MOUNT FIXTURE
- SURFACE / PENDANT MOUNT FIXTURE
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- RETURN GRILLE / DIFFUSER
- SLOT DIFFUSER
- MECHANICAL EQUIPMENT
- ACCESS DOOR
- CONTINUOUS SOFFIT VENT
- SOFFIT GRILLE (8x16 U.O.N.)
- C.J. CONTROL JOINT
- CUT TILE

NORTH

UNIT 'D' SECOND FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001

DRAWN	BE CK
REVIEWED	TD
PROJECT NO.	5-5065

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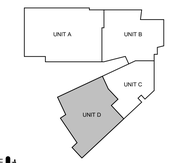

NORTH

KEYPLAN

UNIT 'D' SECOND FLOOR REFLECTED CEILING PLAN

A3.2D

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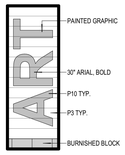
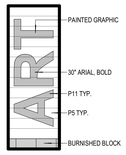
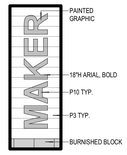
11/17/2020 9:06:44 PM



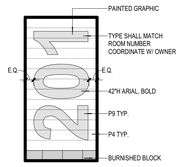
29 A8.01 ART ROOM ENTRY 2
1/4" = 1'-0"



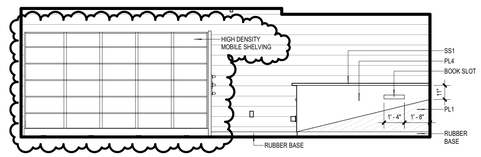
28 A8.01 ART ROOM ENTRY 1
1/4" = 1'-0"



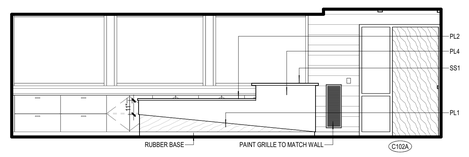
27 A8.01 MAKER SPACE ENTRY
1/4" = 1'-0"



26 A8.01 TYP. CLASSROOM ENTRY
1/4" = 1'-0"

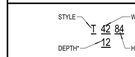


25 A8.01 CIRCULATION DESK NORTH ELEVATION
1/4" = 1'-0"



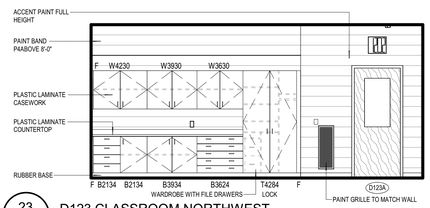
24 A8.01 CIRCULATION DESK EAST ELEVATION
1/4" = 1'-0"

CASEWORK LEGEND
(SEE ELEVATIONS AND / OR PLANS FOR MORE INFORMATION)
(SEE SPECS)

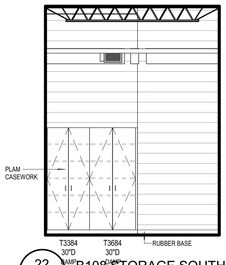


*DEPTH ONLY GIVEN IF OTHER THAN 24" DEEP FOR BASE / TALL CABINET OR 13" DEEP FOR WALL CABINET ARE USED, TYP.

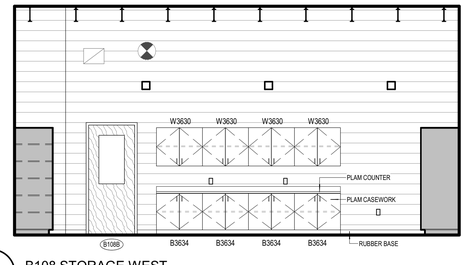
B	BASE CABINET
F	FILLER PANEL
M	MOBILE CABINET
T	TALL CABINET
W	WALL CABINET



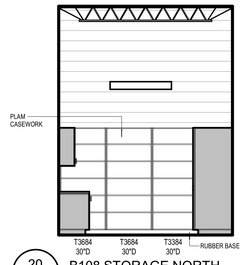
23 A8.01 D123 CLASSROOM NORTHWEST
1/4" = 1'-0"



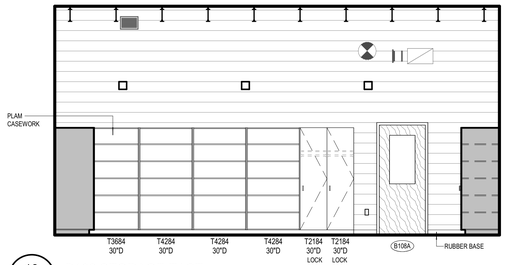
22 A8.01 B108 STORAGE SOUTH
1/4" = 1'-0"



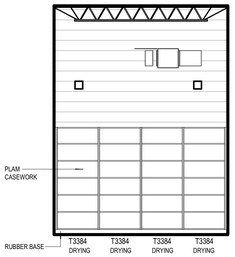
21 A8.01 B108 STORAGE WEST
1/4" = 1'-0"



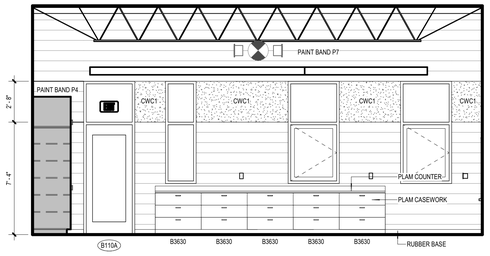
20 A8.01 B108 STORAGE NORTH
1/4" = 1'-0"



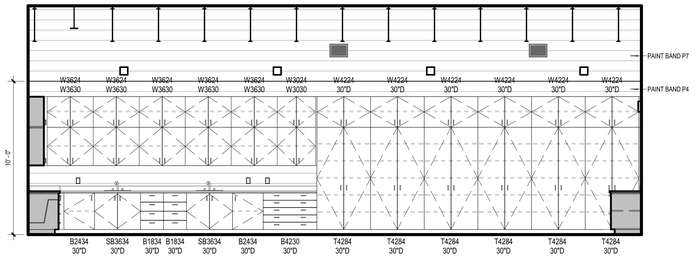
19 A8.01 B108 STORAGE EAST
1/4" = 1'-0"



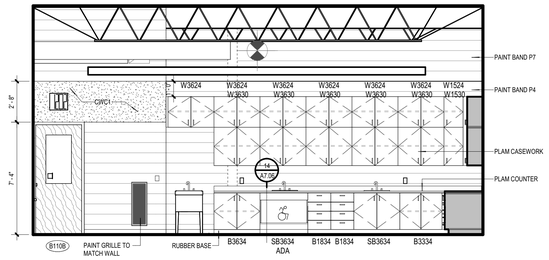
18 A8.01 B109 KILN SOUTH
1/4" = 1'-0"



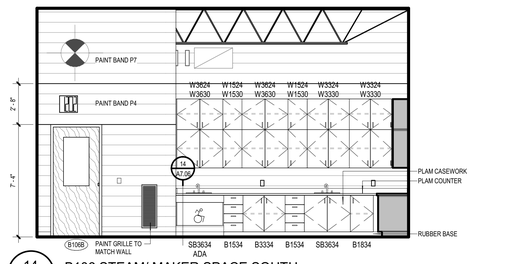
17 A8.01 B110 ART ROOM NORTH
1/4" = 1'-0"



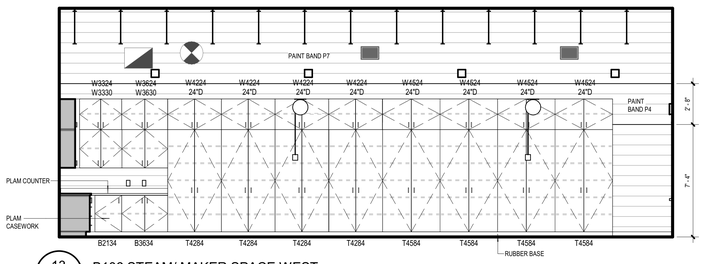
16 A8.01 B110 ART ROOM WEST
1/4" = 1'-0"



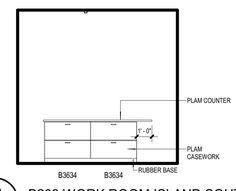
15 A8.01 B110 ART ROOM SOUTH
1/4" = 1'-0"



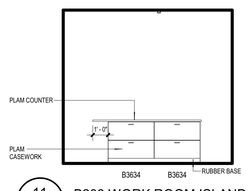
14 A8.01 B106 STEAM/ MAKER SPACE SOUTH
1/4" = 1'-0"



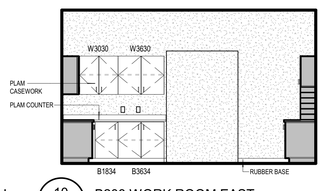
13 A8.01 B106 STEAM/ MAKER SPACE WEST
1/4" = 1'-0"



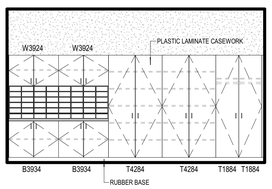
12 A8.01 B208 WORK ROOM ISLAND SOUTH
1/4" = 1'-0"



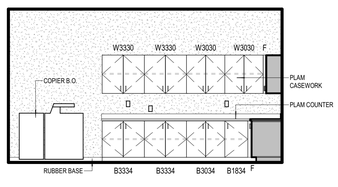
11 A8.01 B208 WORK ROOM ISLAND NORTH
1/4" = 1'-0"



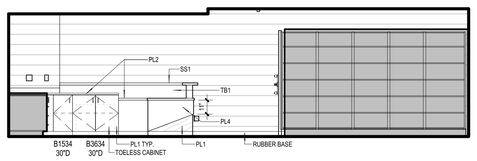
10 A8.01 B208 WORK ROOM EAST
1/4" = 1'-0"



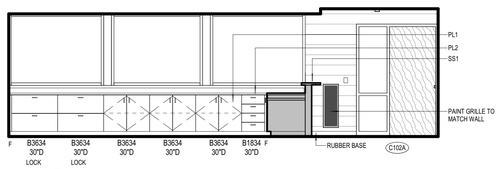
9 A8.01 B208 WORK ROOM SOUTH
1/4" = 1'-0"



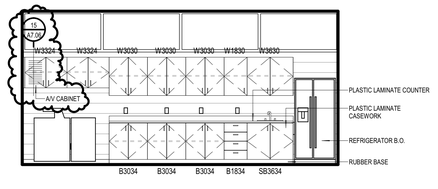
8 A8.01 B208 WORK ROOM NORTH
1/4" = 1'-0"



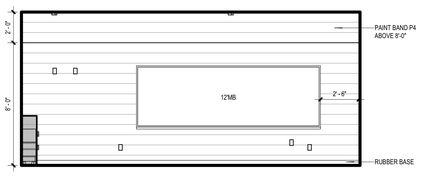
7 A8.01 C102 BOOK VAULT DESK NORTH
1/4" = 1'-0"



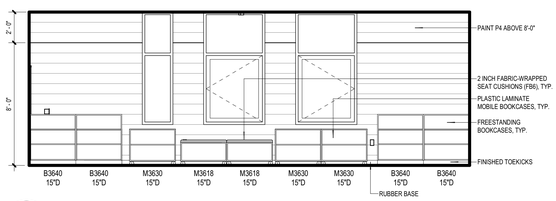
6 A8.01 C102 BOOK VAULT DESK WEST
1/4" = 1'-0"



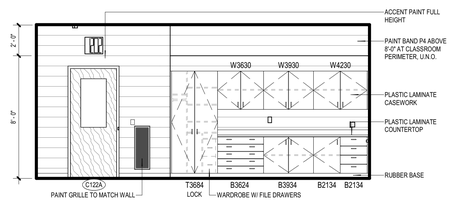
5 A8.01 C117 STAFF LOUNGE SOUTHEAST
1/4" = 1'-0"



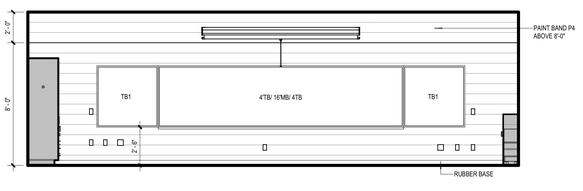
4 A8.01 C122 CLASSROOM SOUTHWEST
1/4" = 1'-0"



3 A8.01 C122 CLASSROOM SOUTHEAST
1/4" = 1'-0"



2 A8.01 C122 CLASSROOM NORTHWEST
1/4" = 1'-0"



1 A8.01 C122 CLASSROOM NORTHEAST
1/4" = 1'-0"

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HUDSONVILLE PUBLIC SCHOOLS
HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004

DRAWN CK
REVIEWED TD

PROJECT NO. 5-5065

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INTERIOR ELEVATIONS

A8.01

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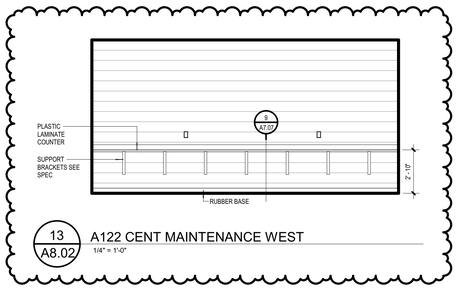

13 A8.02 A122 CENT MAINTENANCE WEST
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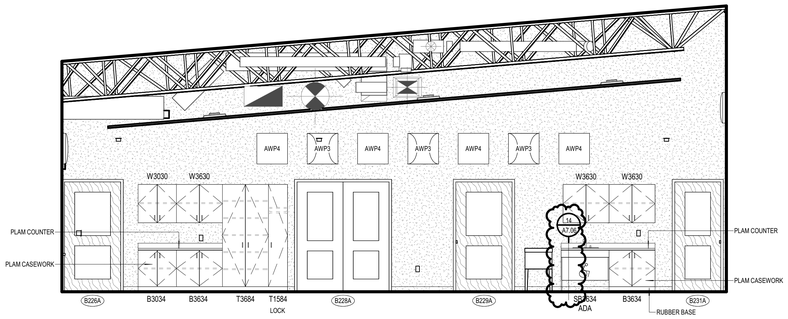
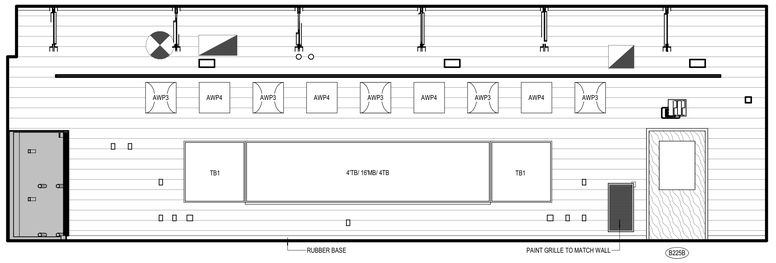
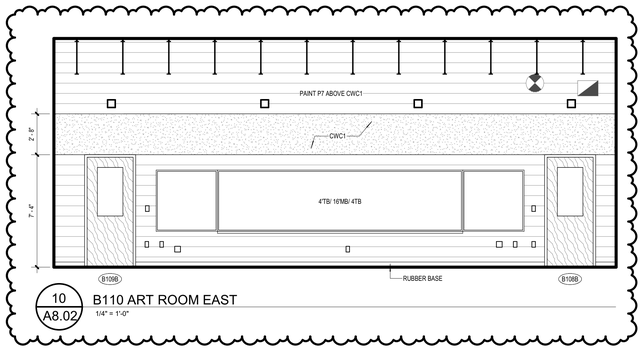


12 A8.02 B225 BAND / ORCHESTRA WEST
1/4" = 1'-0"



11 A8.02 B225 BAND / ORCHESTRA SOUTH
1/4" = 1'-0"



10 A8.02 B110 ART ROOM EAST
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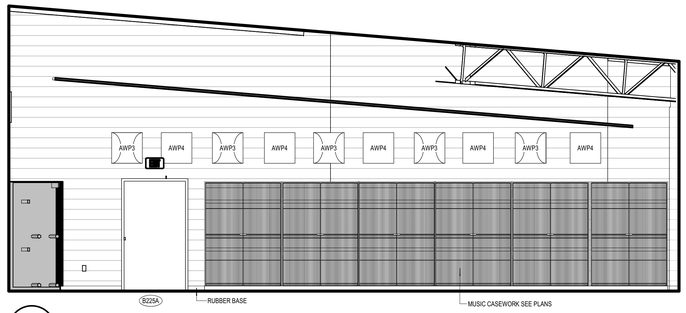
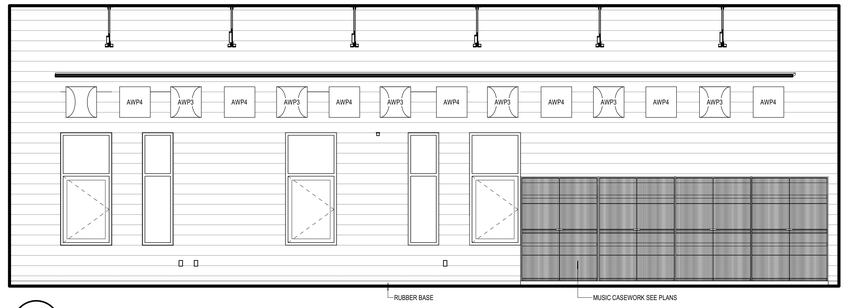
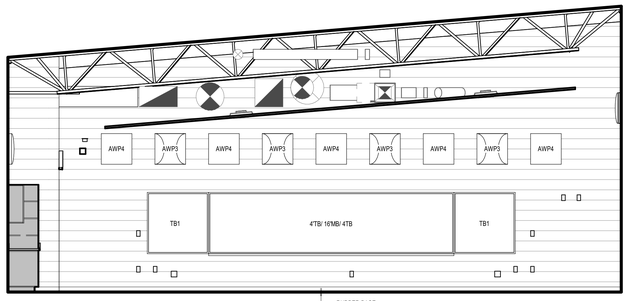


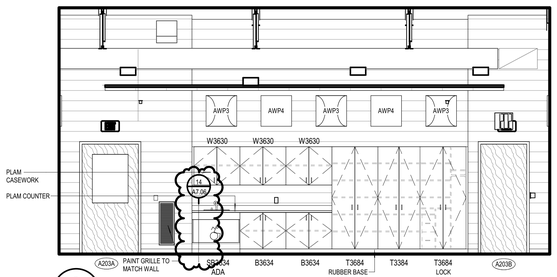
9 A8.02 B225 BAND / ORCHESTRA EAST
1/4" = 1'-0"



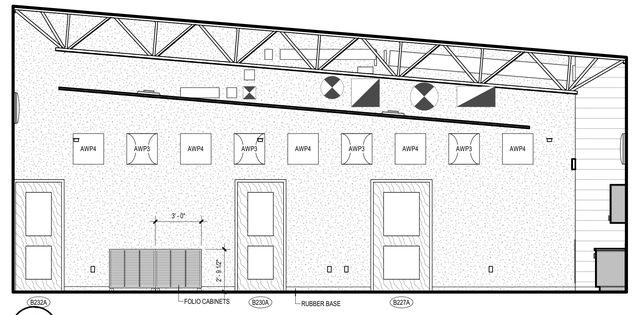
8 A8.02 B225 BAND / ORCHESTRA NORTH
1/4" = 1'-0"



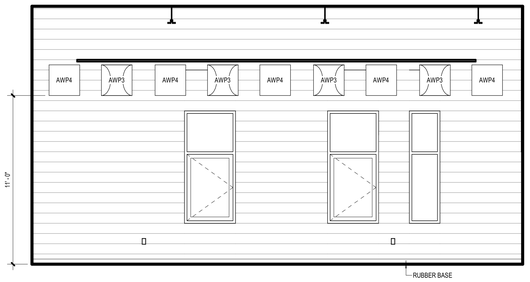
7 A8.02 A203 CHOIR / MUSIC WEST
1/4" = 1'-0"



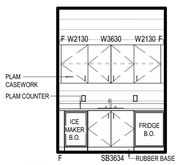
6 A8.02 A203 CHOIR / MUSIC SOUTH
1/4" = 1'-0"



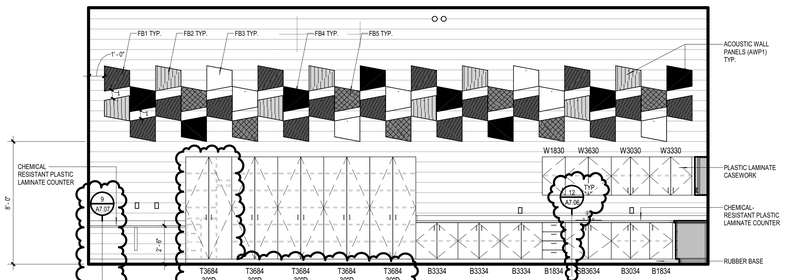
5 A8.02 A203 CHOIR / MUSIC EAST
1/4" = 1'-0"



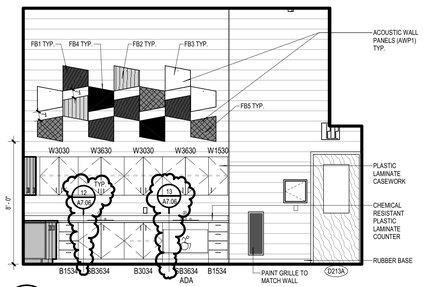
4 A8.02 A203 CHOIR / MUSIC NORTH
1/4" = 1'-0"



3 A8.02 B221 MED ALCOVE SOUTH
1/4" = 1'-0"



2 A8.02 D213 EARTH SCIENCES NORTHWEST
1/4" = 1'-0"



1 A8.02 D213 EARTH SCIENCES NORTHEAST
1/4" = 1'-0"

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HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001

DRAWN	CK
REVIEWED	TD
PROJECT NO.	5-5065

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INTERIOR ELEVATIONS

A8.02

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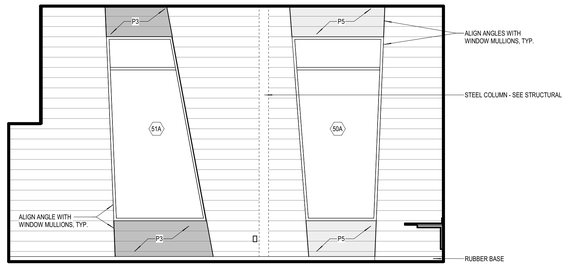
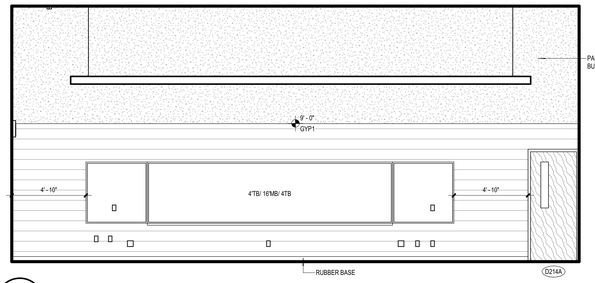
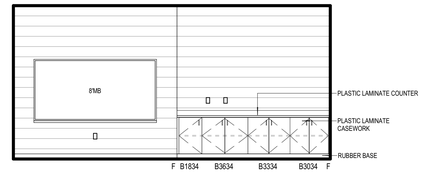
11/17/2020 9:08:50 PM



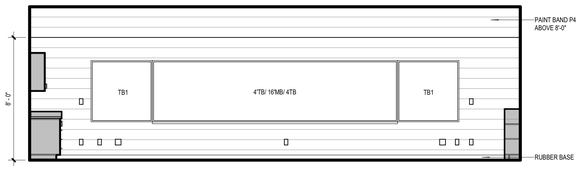
25 A8.03 D213 EARTH SCIENCES SOUTHWEST
1/4" = 1'-0"



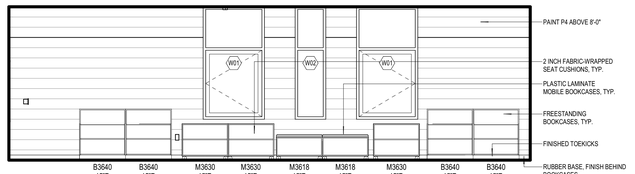
24 A8.03 D213 EARTH SCIENCES SOUTHEAST
1/4" = 1'-0"



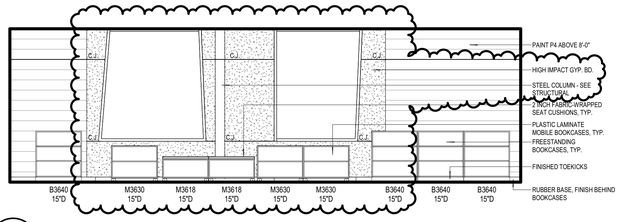
23 A8.03 D110 BREAKOUT SOUTHEAST
1/4" = 1'-0"



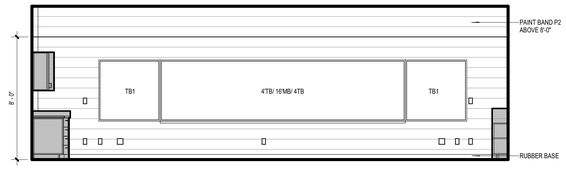
22 A8.03 D105 CLASSROOM SOUTHWEST
1/4" = 1'-0"



21 A8.03 D105 CLASSROOM NORTHWEST
1/4" = 1'-0"



20 A8.03 D120 CLASSROOM SOUTHWEST
1/4" = 1'-0"



19 A8.03 D120 CLASSROOM SOUTHEAST
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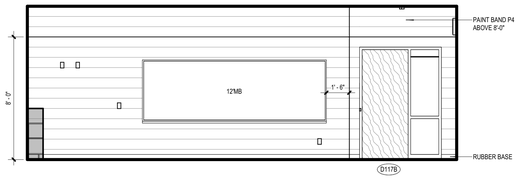

18 A8.03 D120 CLASSROOM NORTHWEST
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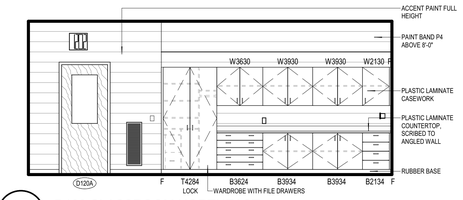

17 A8.03 D120 CLASSROOM NORTHEAST
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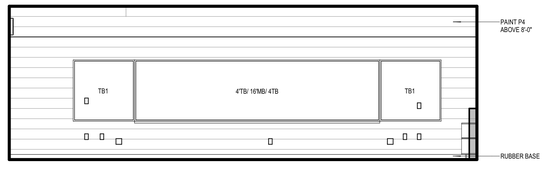
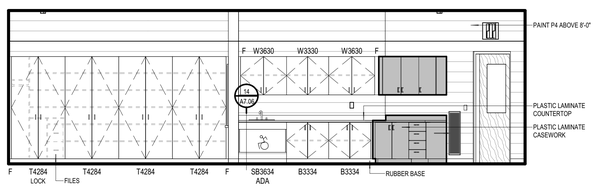
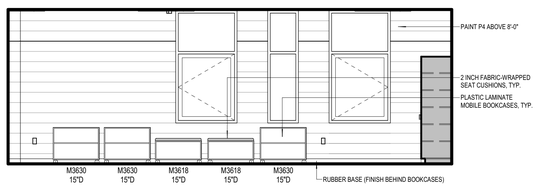


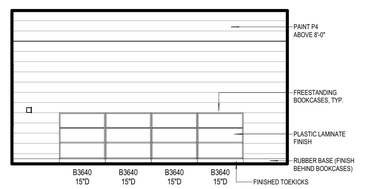
16 A8.03 C103 SPECIAL ED / RESOURCE NORTH
1/4" = 1'-0"



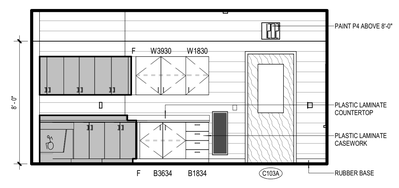
15 A8.03 C103 SPECIAL ED/ RESOURCE SOUTHWEST
1/4" = 1'-0"



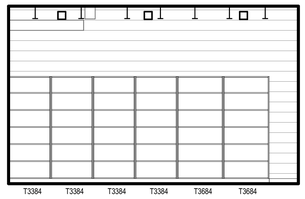
14 A8.03 C103 SPECIAL ED/ RESOURCE SOUTHEAST
1/4" = 1'-0"



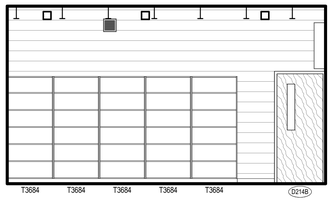
13 A8.03 C103 SPECIAL ED/ RESOURCE EAST
1/4" = 1'-0"



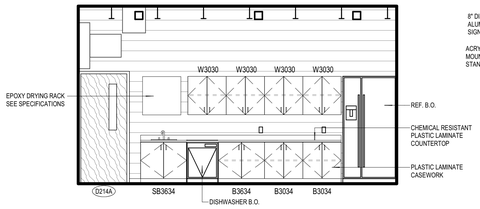
12 A8.03 C103 SPECIAL ED / RESOURCE WEST
1/4" = 1'-0"



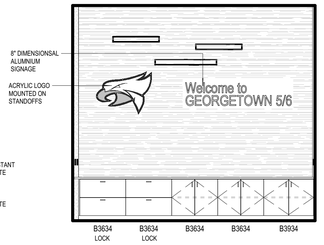
11 A8.03 D215 STORAGE NORTHWEST
1/4" = 1'-0"



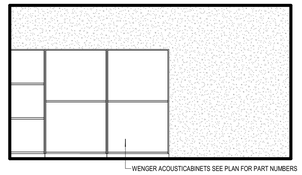
10 A8.03 D214 PREP SOUTHEAST
1/4" = 1'-0"



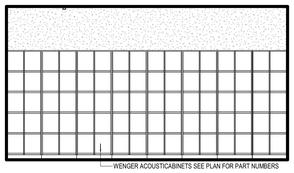
9 A8.03 D214 PREP NORTHWEST
1/4" = 1'-0"



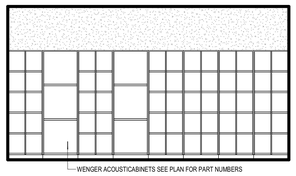
8 A8.03 B203 RECEPTION NORTH
1/4" = 1'-0"



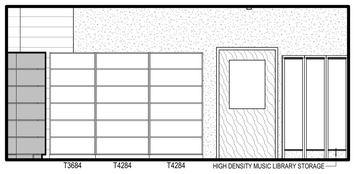
7 A8.03 B226 PRACTICE NORTH
1/4" = 1'-0"



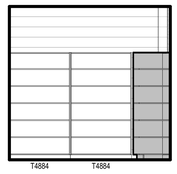
6 A8.03 B228 INST STORAGE SOUTH
1/4" = 1'-0"



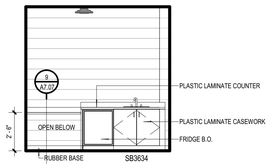
5 A8.03 B228 INST STORAGE NORTH
1/4" = 1'-0"



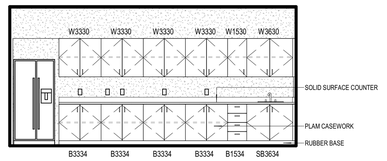
4 A8.03 B227 STORAGE WEST
1/4" = 1'-0"



3 A8.03 B227 STORAGE SOUTH
1/4" = 1'-0"



2 A8.03 B224 QUALITY OF LIFE WEST
1/4" = 1'-0"



1 A8.03 B209 CORRIDOR SOUTH
1/4" = 1'-0"

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HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001
09.06.2022	BULLETIN 028

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INTERIOR ELEVATIONS

A8.03

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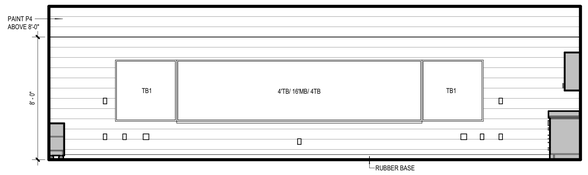
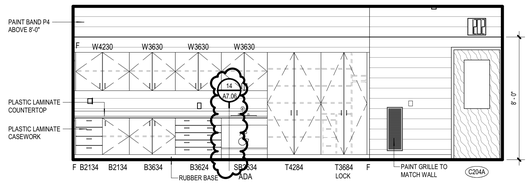
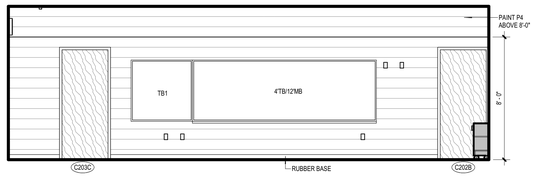


18 A8.04 C204 ASD CLASSROOM SOUTH
1/4" = 1'-0"

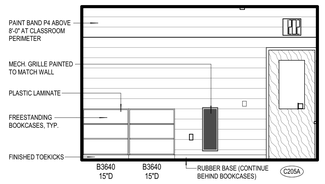


17 A8.04 C204 ASD CLASSROOM WEST
1/4" = 1'-0"

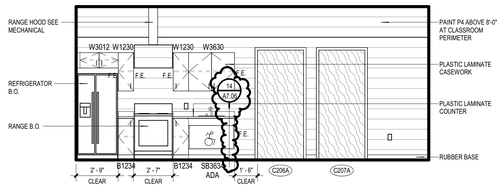


16 A8.04 C204 ASD CLASSROOM NORTH
1/4" = 1'-0"

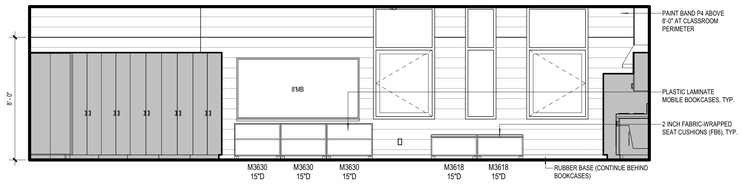
15 A8.04 C204 ASD CLASSROOM EAST
1/4" = 1'-0"



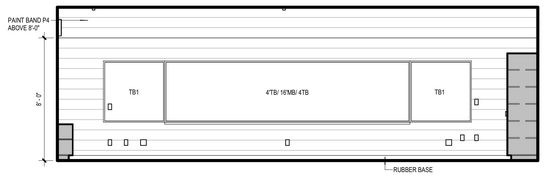
14 A8.04 C205 CI CLASSROOM WEST
1/4" = 1'-0"



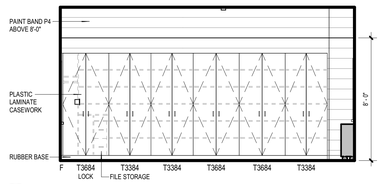
13 A8.04 C205 CI CLASSROOM SOUTHWEST
1/4" = 1'-0"



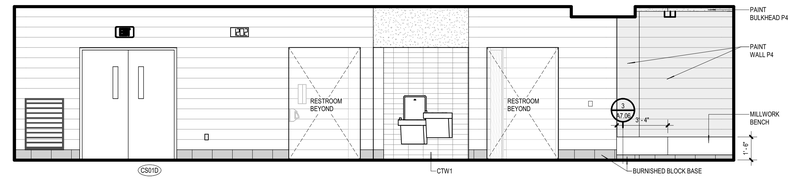
12 A8.04 C205 CI CLASSROOM SOUTHEAST
1/4" = 1'-0"



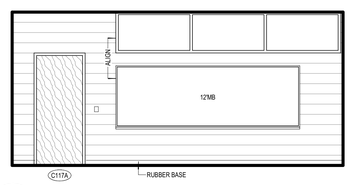
11 A8.04 C205 CI CLASSROOM NORTH
1/4" = 1'-0"



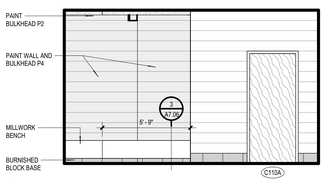
10 A8.04 C205 CI CLASSROOM EAST
1/4" = 1'-0"



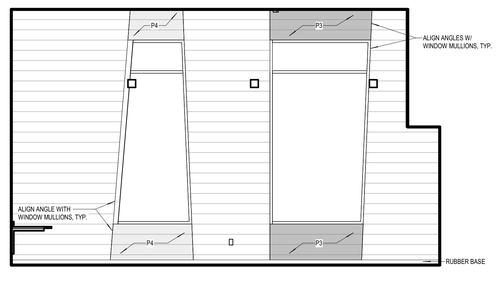
9 A8.04 C123 EXTENDED LEARNING AREA NORTHWEST
1/4" = 1'-0"



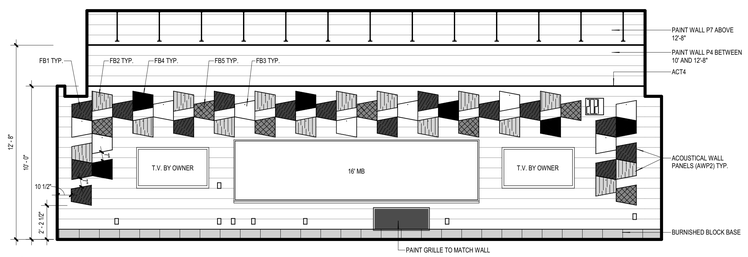
8 A8.04 C117 STAFF LOUNGE NORTHWEST
1/4" = 1'-0"



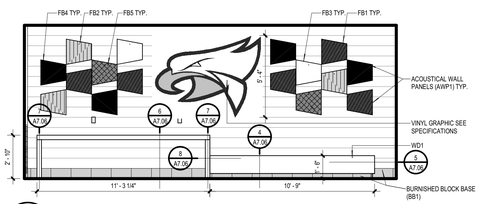
7 A8.04 C108 EXTENDED LEARNING AREA MILLWORK
1/4" = 1'-0"



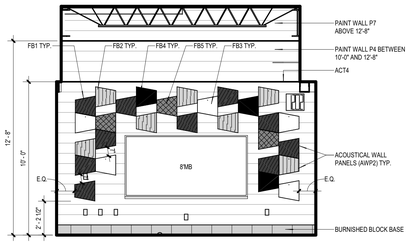
6 A8.04 D216 EARTH SCIENCES SOUTHWEST
1/4" = 1'-0"



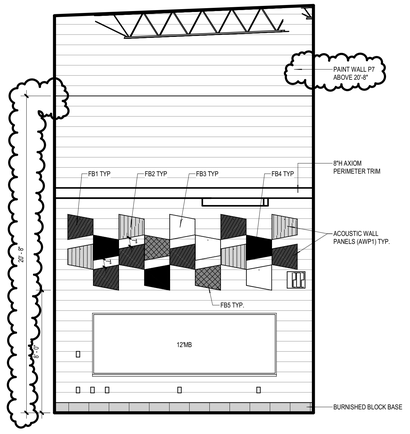
5 A8.04 D114 EXTENDED LEARNING AREA NORTHEAST
1/4" = 1'-0"



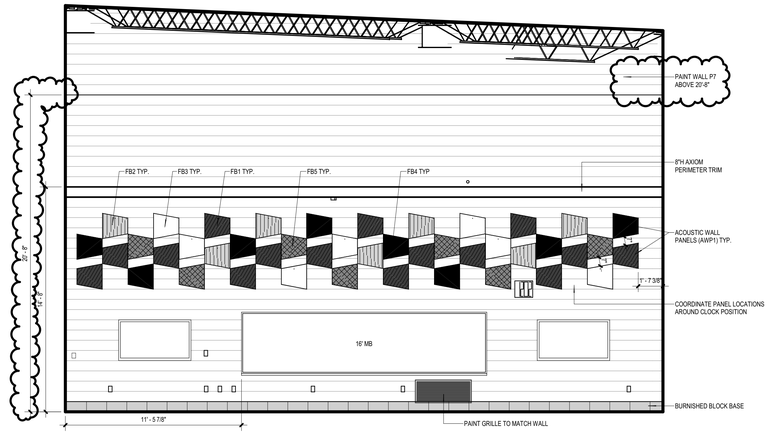
4 A8.04 C210 EXTENDED LEARNING AREA BENCH
1/4" = 1'-0"



3 A8.04 C123 EXTENDED LEARNING AREA SOUTHWEST
1/4" = 1'-0"



2 A8.04 C226 EXTENDED LEARNING AREA SOUTHWEST
1/4" = 1'-0"



1 A8.04 D212 EXTENDED LEARNING AREA NORTHEAST
1/4" = 1'-0"

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11.18.2020	ADDENDUM 001

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INTERIOR ELEVATIONS

A8.04

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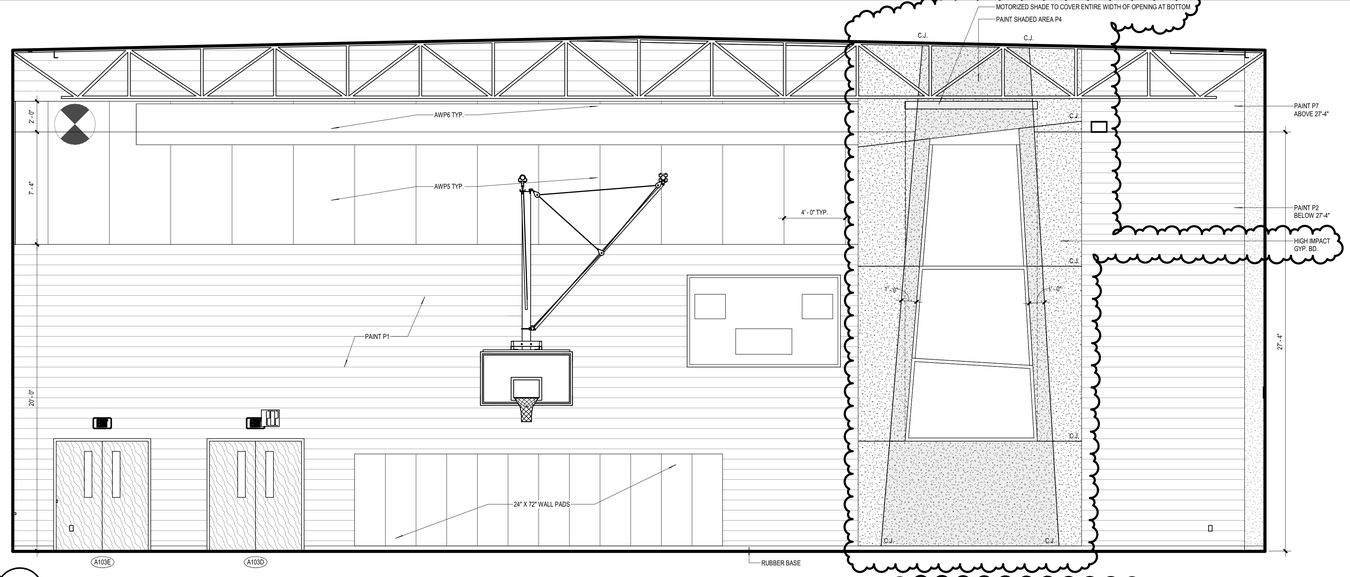
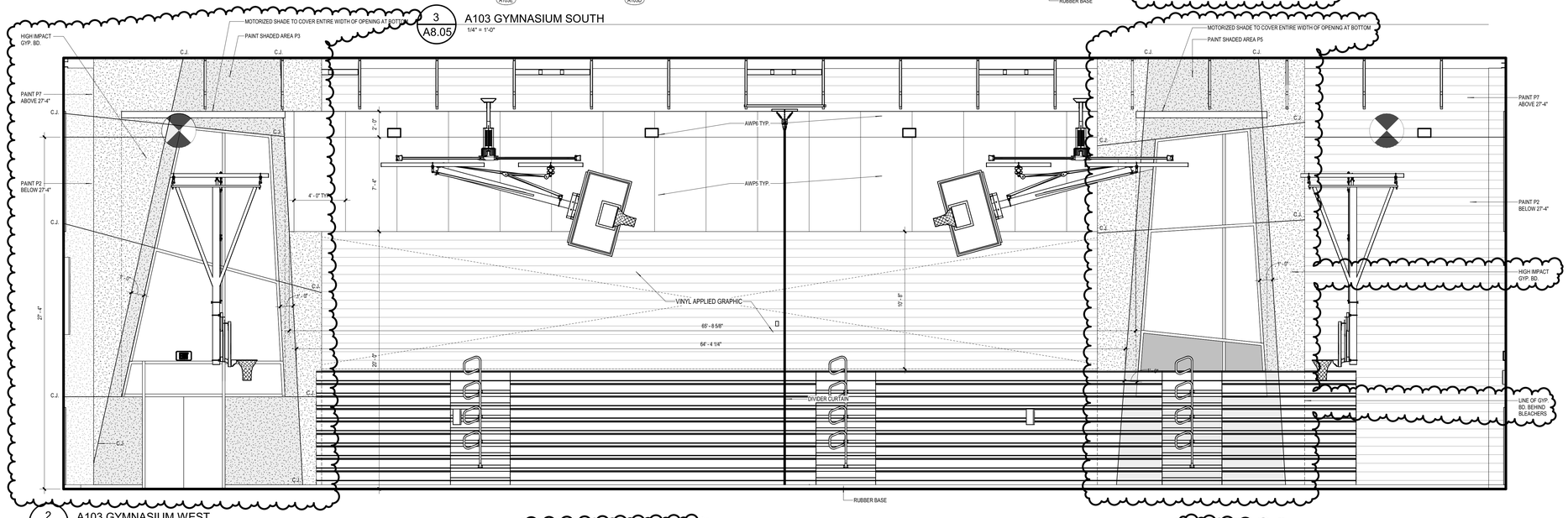
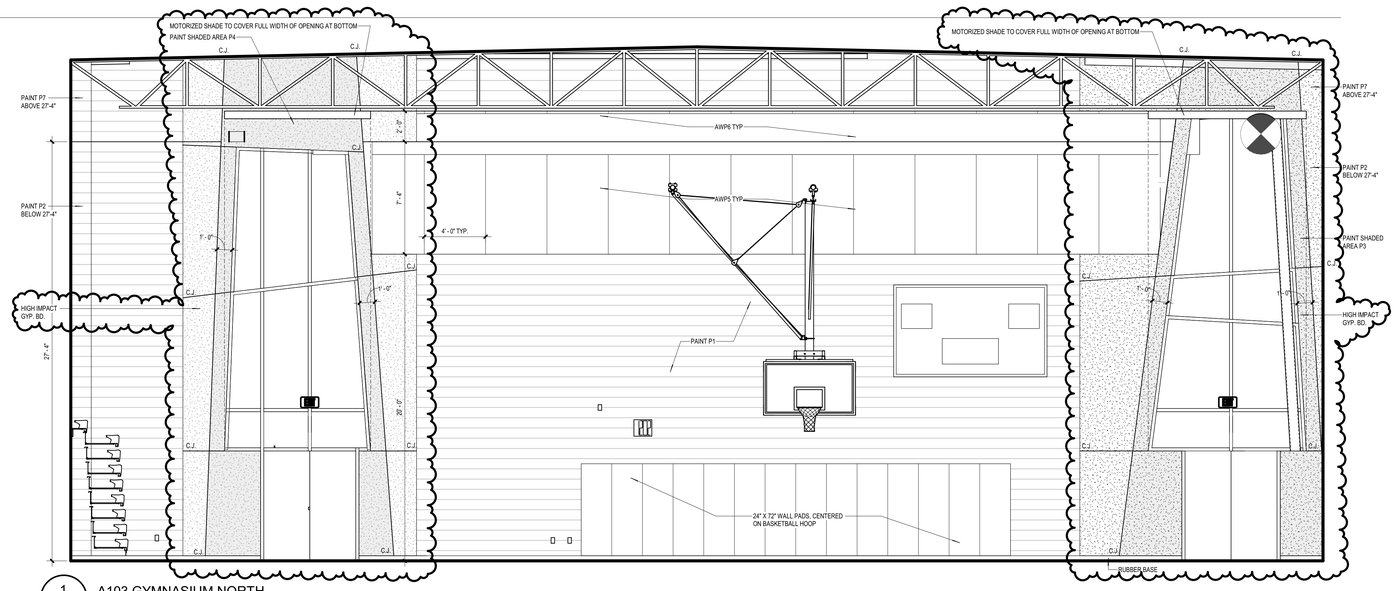


3 A8.05 A103 GYMNASIUM SOUTH
1/4" = 1'-0"



2 A8.05 A103 GYMNASIUM WEST
1/4" = 1'-0"



1 A8.05 A103 GYMNASIUM NORTH
1/4" = 1'-0"

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HUDSONVILLE, MICHIGAN

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11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
09.06.2022	BULLETIN 028

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A8.05

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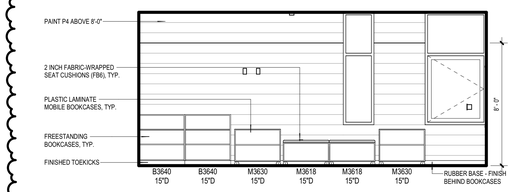
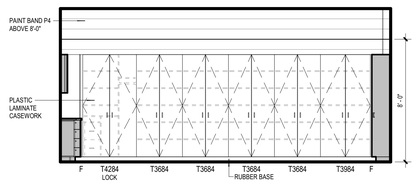
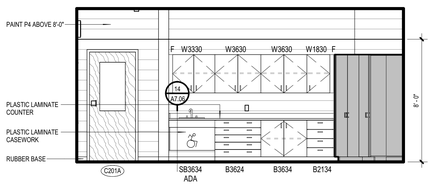


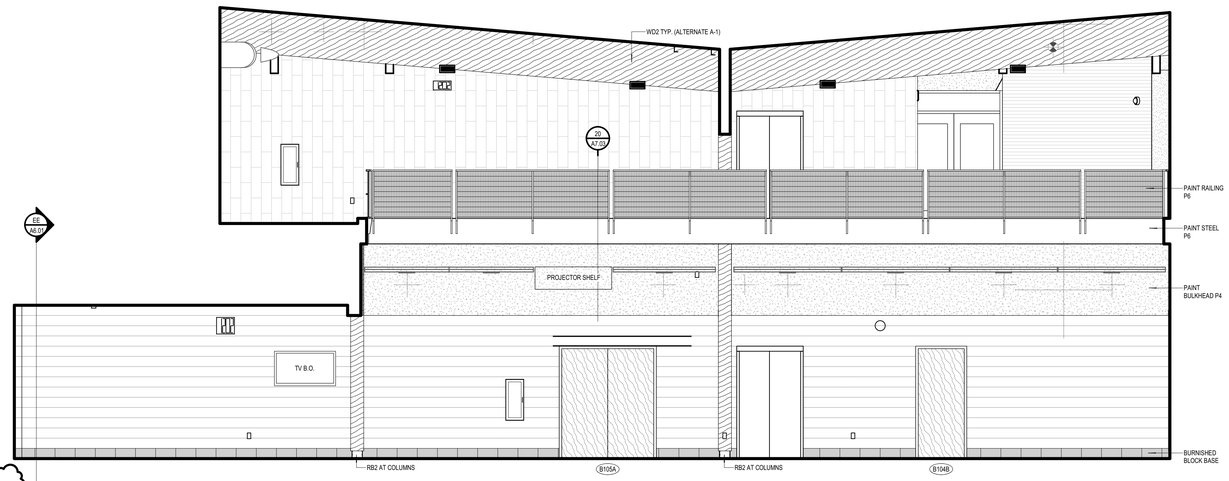
12 A8.06 C201 SPECIAL ED/ RESOURCE EAST
1/4" = 1'-0"



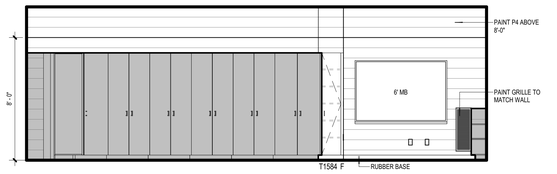
11 A8.06 C201 SPECIAL ED/ RESOURCE NORTHWEST
1/4" = 1'-0"



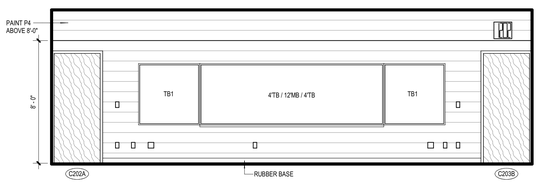
10 A8.06 C201 SPECIAL ED/ RESOURCE WEST
1/4" = 1'-0"



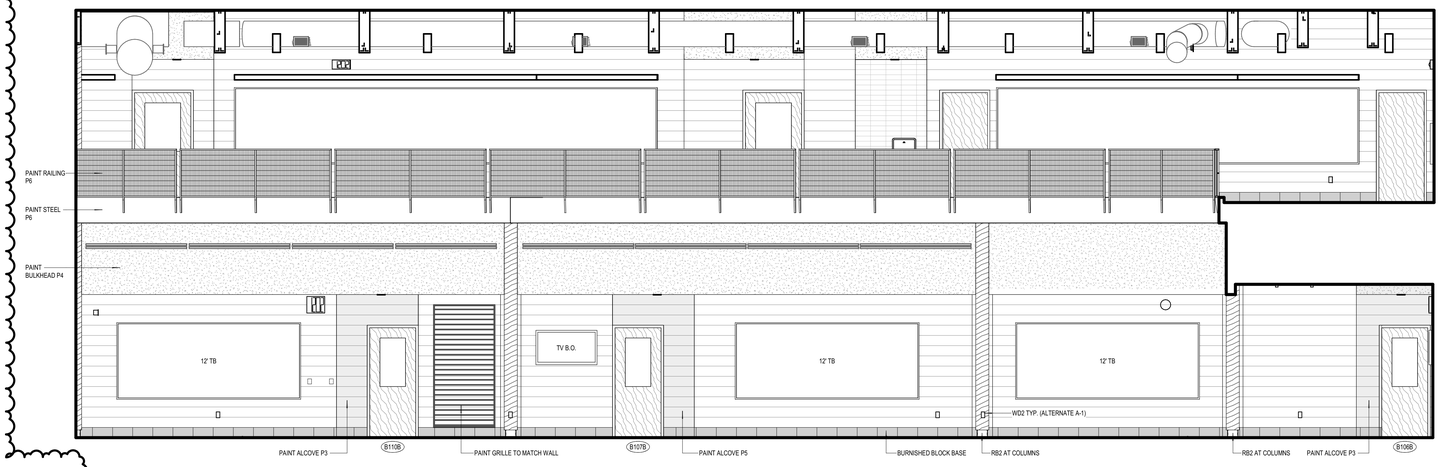
9 A8.06 B101 CAFETERIA EAST
1/4" = 1'-0"



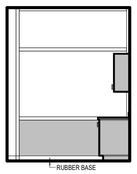
8 A8.06 C201 SPECIAL ED/ RESOURCE NORTH
1/4" = 1'-0"



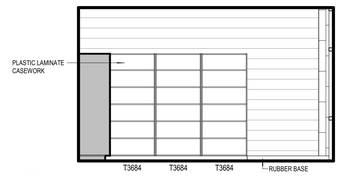
7 A8.06 C201 SPECIAL ED/ RESOURCE SOUTH
1/4" = 1'-0"



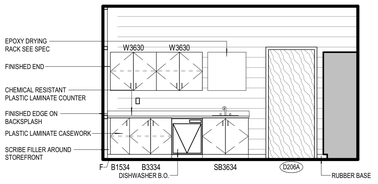
6 A8.06 B101 CAFETERIA NORTH
1/4" = 1'-0"



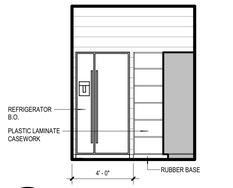
5 A8.06 D206 PREP SOUTHWEST
1/4" = 1'-0"



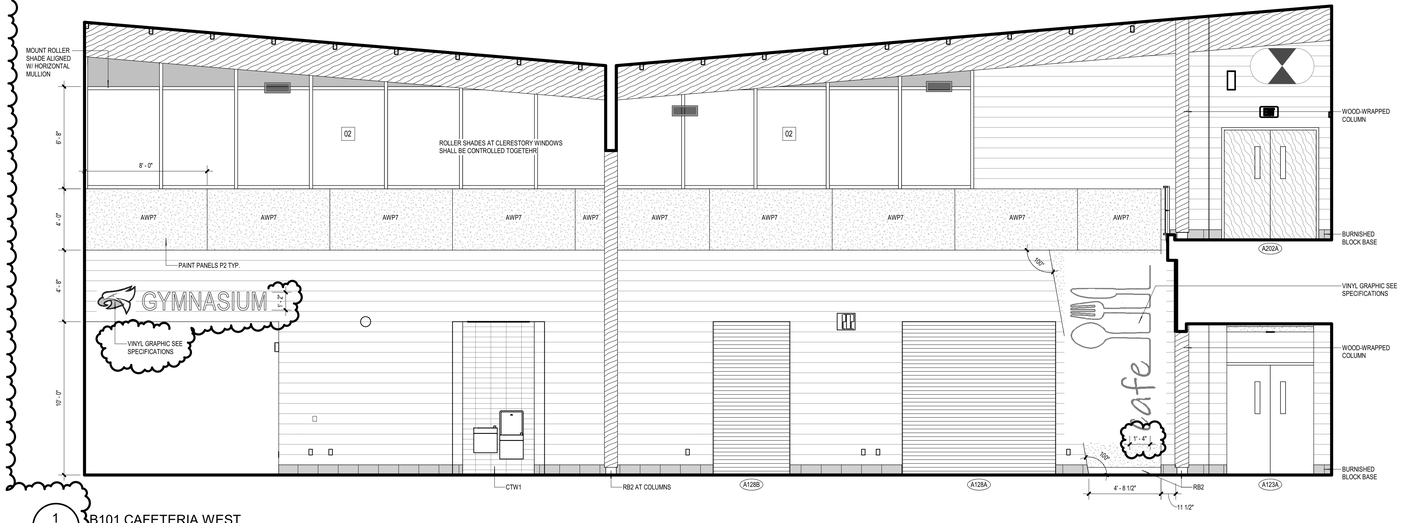
4 A8.06 D206 PREP SOUTHEAST
1/4" = 1'-0"



3 A8.06 D206 PREP NORTHWEST
1/4" = 1'-0"



2 A8.06 D206 PREP NORTHEAST
1/4" = 1'-0"



1 A8.06 B101 CAFETERIA WEST
1/4" = 1'-0"

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INTERIOR ELEVATIONS

A8.06

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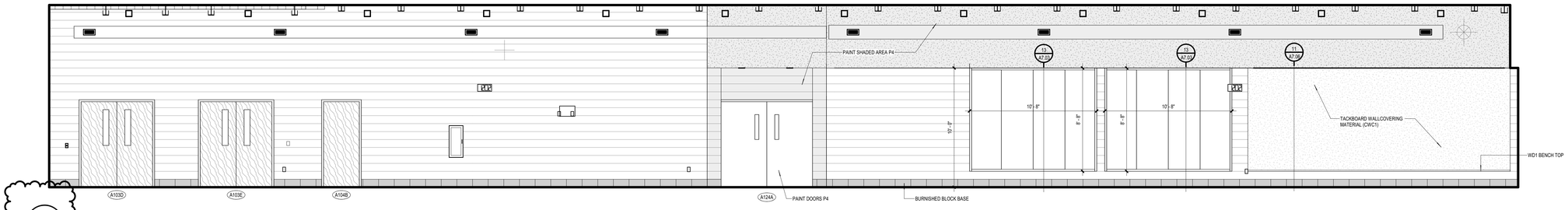
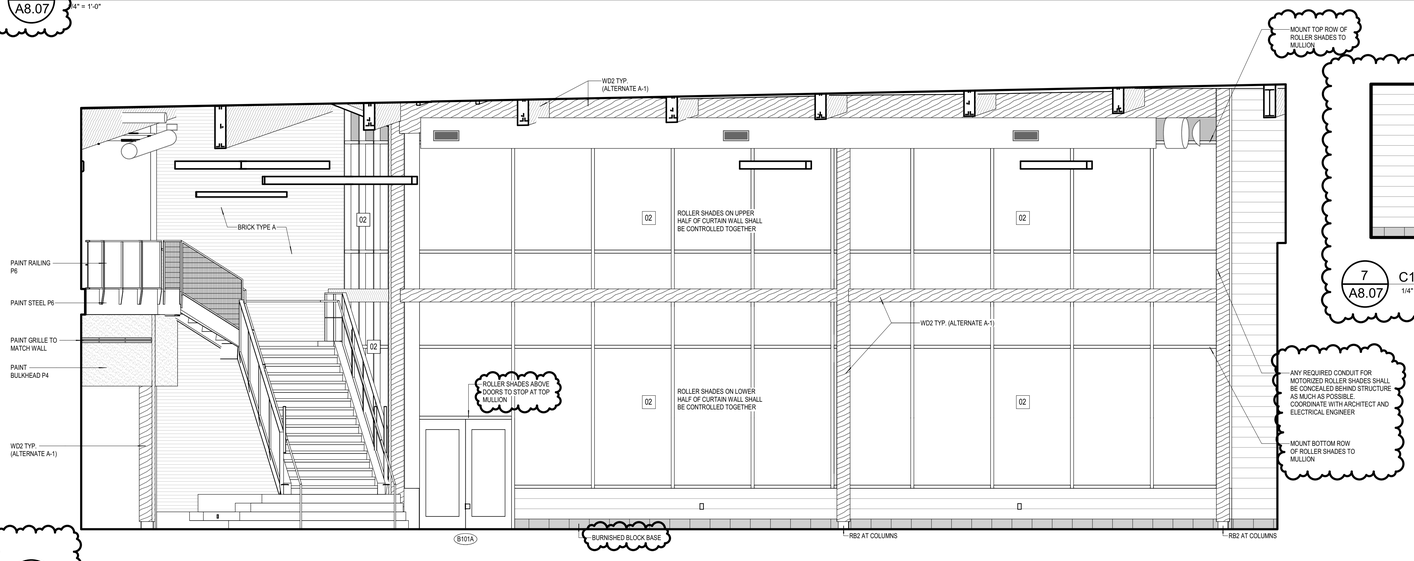
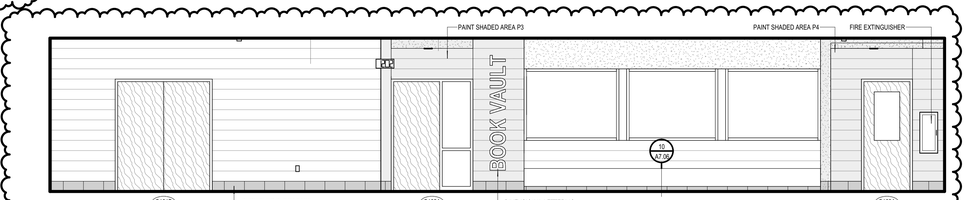


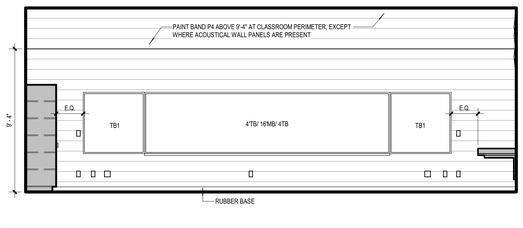
9 A8.07 A102 ELA NORTH
1/4" = 1'-0"



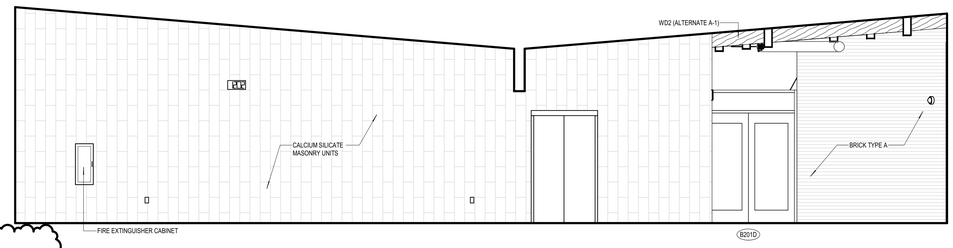
8 A8.07 B101 CAFETERIA SOUTH
1/4" = 1'-0"



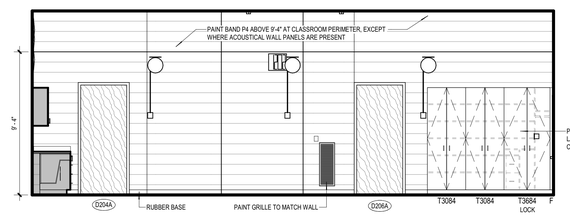
7 A8.07 C108 ELA EAST
1/4" = 1'-0"



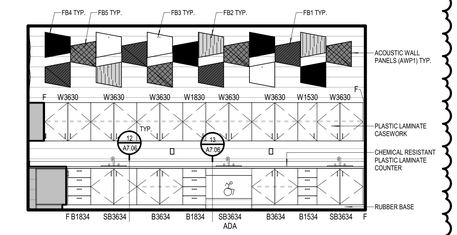
6 A8.07 D205 EARTH SCIENCES SOUTHWEST
1/4" = 1'-0"



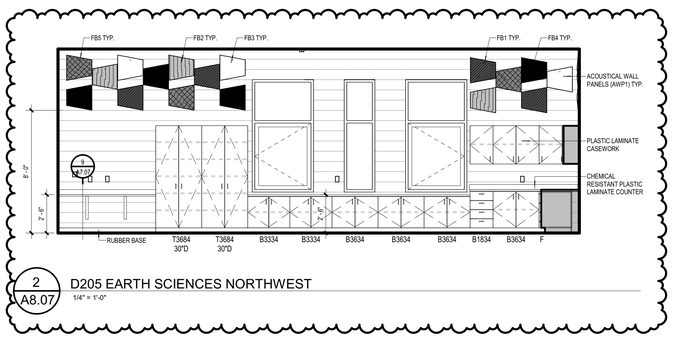
5 A8.07 B222 ELA EAST
1/4" = 1'-0"



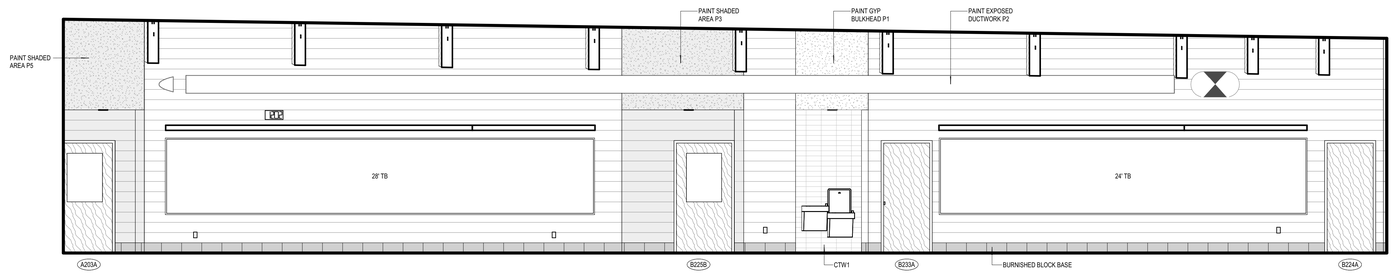
4 A8.07 D205 EARTH SCIENCES SOUTHEAST
1/4" = 1'-0"



3 A8.07 D205 EARTH SCIENCES NORTHEAST
1/4" = 1'-0"



2 A8.07 D205 EARTH SCIENCES NORTHWEST
1/4" = 1'-0"



1 A8.07 B223 ELA NORTH
1/4" = 1'-0"

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NEW 5TH - 6TH GRADE FACILITY

HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

10.30.2020	BIDS & CONSTRUCTION
11.18.2020	ADDENDUM 001

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INTERIOR ELEVATIONS

A8.07

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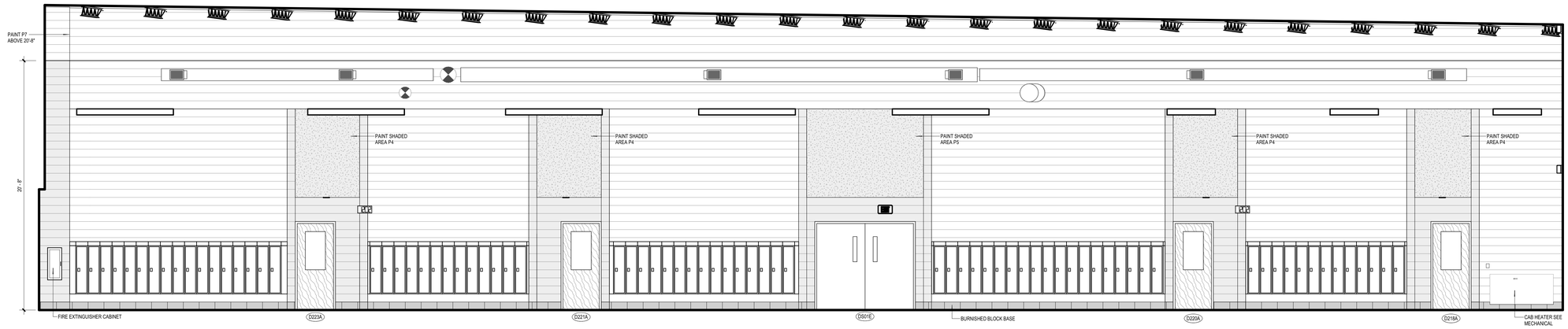
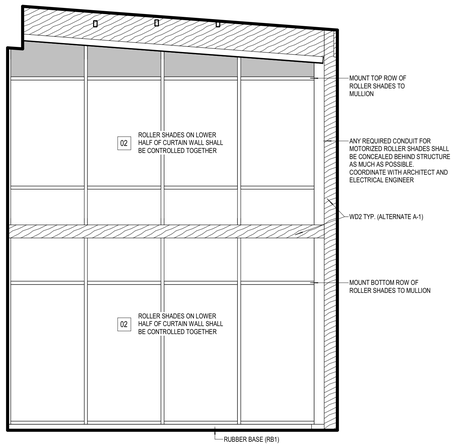
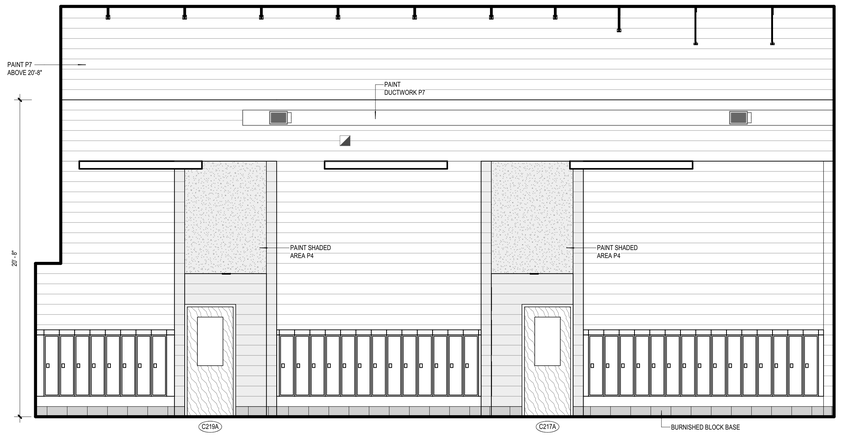
7 A8.08 C210 ELA EAST
1/4" = 1'-0"



6 A8.08 D224 ELA SOUTHEAST
1/4" = 1'-0"

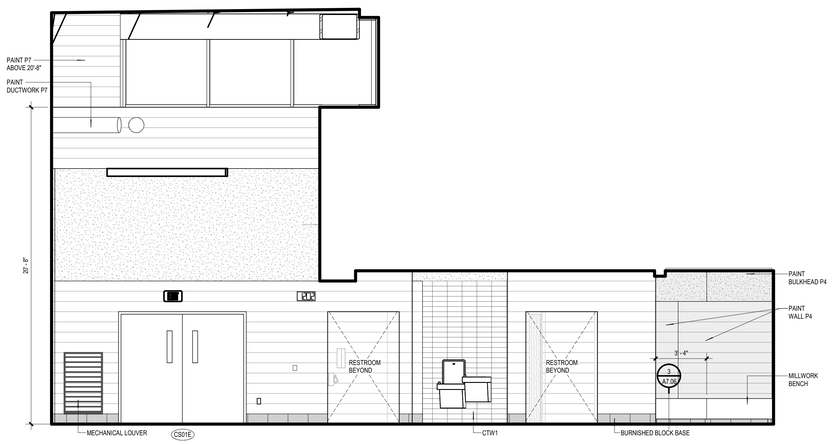


5 A8.08 B101 CAFETERIA STAIR CURTAIN WALL
1/4" = 1'-0"

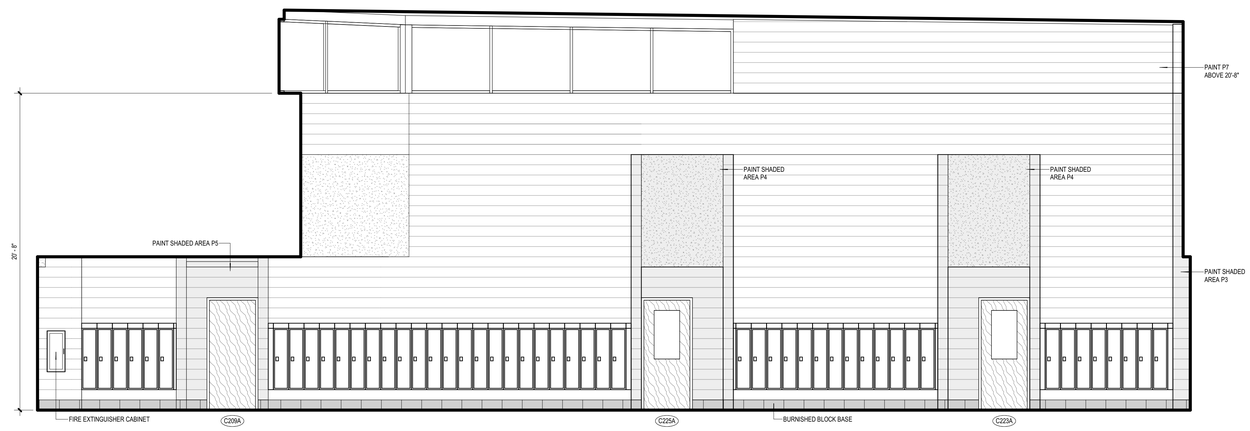


4 A8.08 C226 ELA NORTHWEST
1/4" = 1'-0"

3 A8.08 C226 ELA STAFF LOUNGE ENTRY
1/4" = 1'-0"



2 A8.08 C216 ELA NORTHWEST
1/4" = 1'-0"



1 A8.08 C226 ELA SOUTHEAST
1/4" = 1'-0"

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HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

11.18.2020 ADDENDUM 001

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INTERIOR ELEVATIONS

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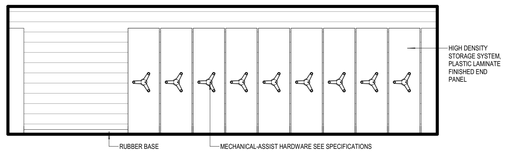
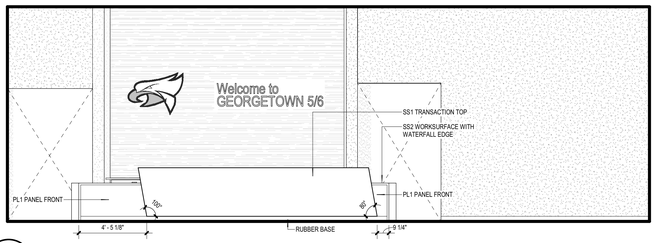
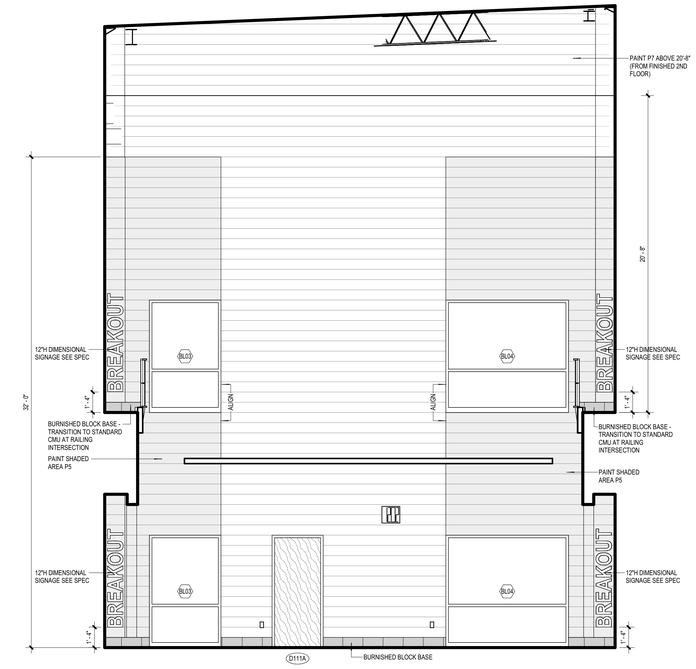


5 / A8.10 C102 BOOK VAULT EAST
1/4" = 1'-0"

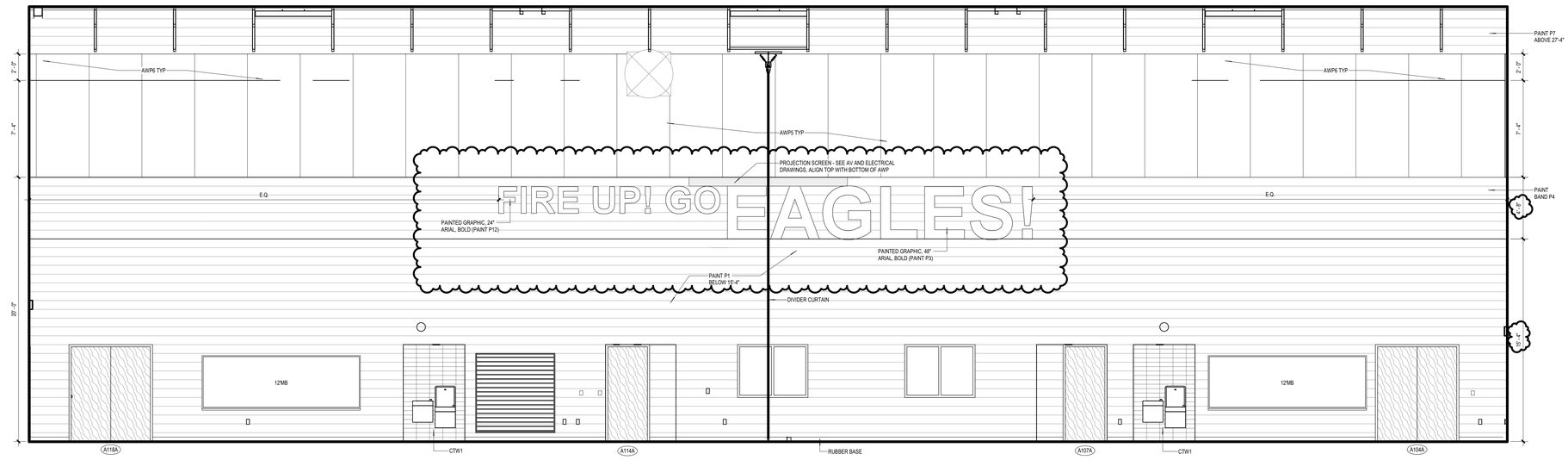


4 / A8.10 B203 RECEPTION DESK ELEVATION
1/4" = 1'-0"

3 / A8.10 D116 CLASSROOM ENTRY (D120 OPP.)
1/4" = 1'-0"



2 / A8.10 D109 EXTENDED LEARNING AREA SOUTHWEST
1/4" = 1'-0"



1 / A8.10 A103 GYMNASIUM EAST
1/4" = 1'-0"

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HUDSONVILLE PUBLIC SCHOOLS

HUDSONVILLE, MICHIGAN

ISSUANCES

11.18.2020	ADDENDUM 001
11.25.2020	ADDENDUM 004
07.19.2021	BULLETIN 012

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INTERIOR ELEVATIONS

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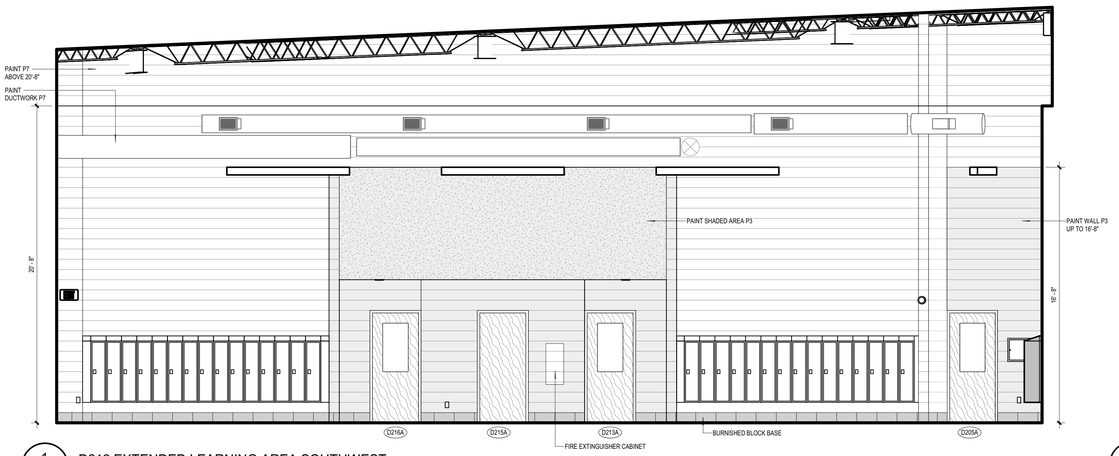
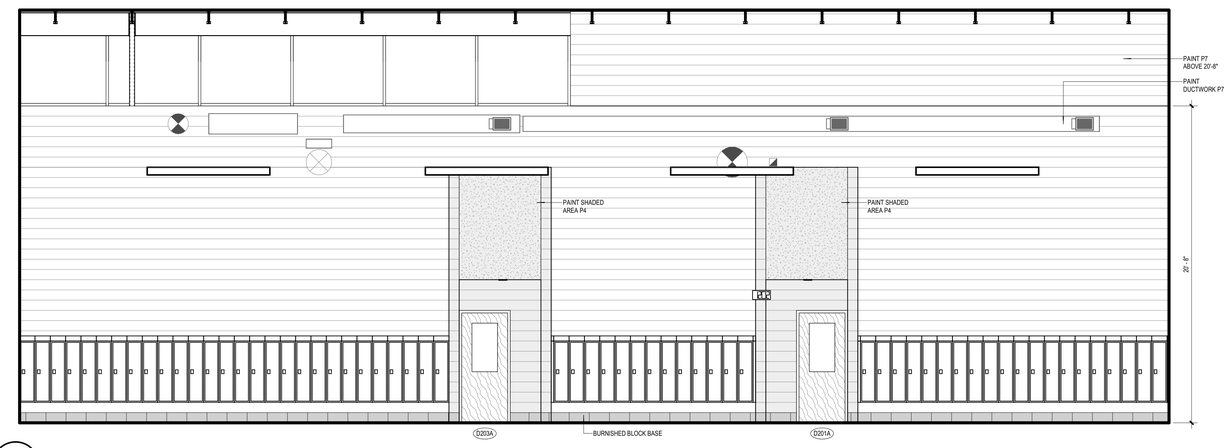
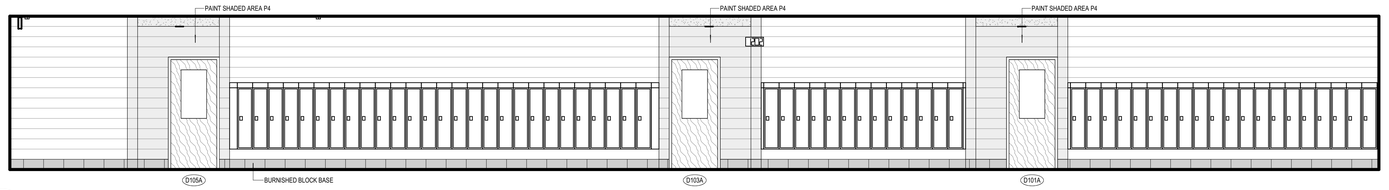


1 A8.09 D212 EXTENDED LEARNING AREA SOUTHWEST
1/4" = 1'-0"

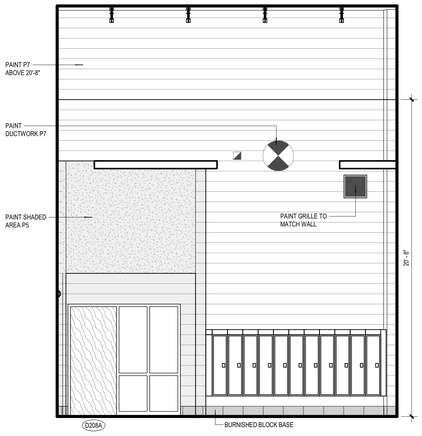


2 A8.09 D207 ELA NORTHWEST
1/4" = 1'-0"

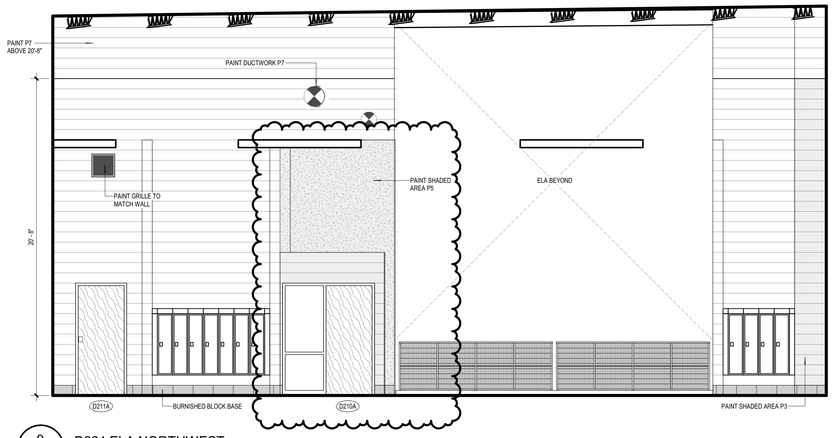
12 A8.09 D108 ELA SOUTHEAST
1/4" = 1'-0"



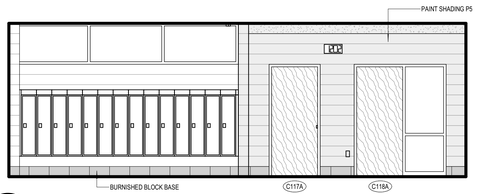
11 A8.09 D108 ELA NORTHWEST
1/4" = 1'-0"



8 A8.09 D207 ELA SOUTHEAST
1/4" = 1'-0"

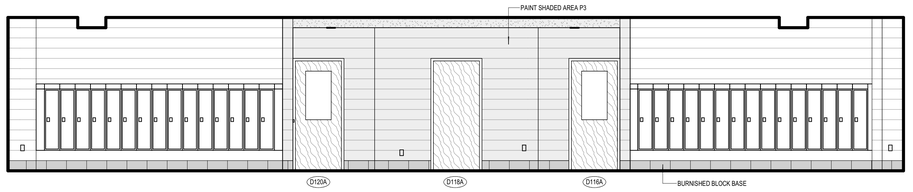


9 A8.09 D224 ELA NORTHWEST
1/4" = 1'-0"

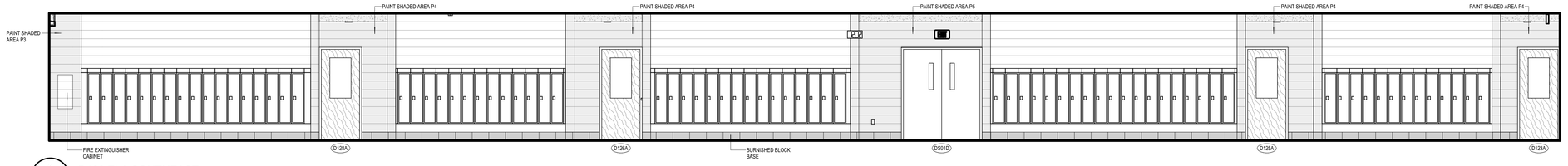


4 A8.09 C123 EXTENDED LEARNING AREA STAFF ENTRY
1/4" = 1'-0"

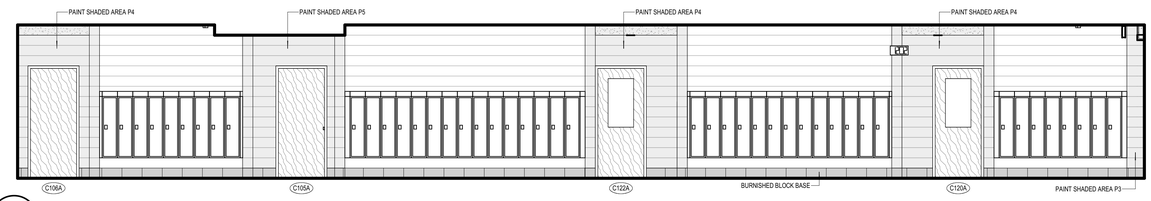
10 A8.09 D129 ELA NORTHWEST
1/4" = 1'-0"



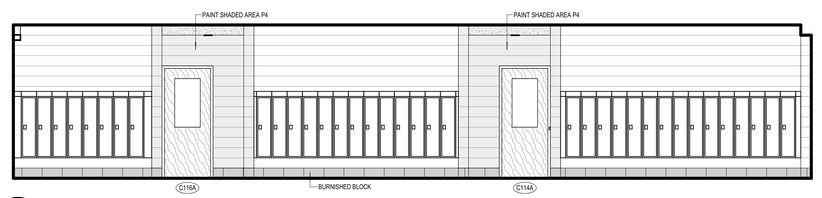
7 A8.09 D114 EXTENDED LEARNING AREA SOUTHWEST
1/4" = 1'-0"



6 A8.09 D129 ELA SOUTHEAST
1/4" = 1'-0"



5 A8.09 C123 EXTENDED LEARNING AREA SOUTHEAST
1/4" = 1'-0"



3 A8.09 C123 EXTENDED LEARNING AREA CLASSROOMS
1/4" = 1'-0"

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11.18.2020	ADDENDUM 001
01.04.2022	BULLETIN 021

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INTERIOR ELEVATIONS

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