KinderCare Education

PROJECT LOCATION:

WAKE FOREST, NC

KinderCare EDUCATION™

SITE VICINITY MAP
SCALE = NTS

GENERAL NOTES

1. ALL FINISHES TO BE AS NOTED AND SHALL NOT HAVE SMOKE DEVELOPED RATINGS GREATER THAN 450.
2. INTERIOR FINISHES OF WALLS AND CEILINGS IN ALL ROOMS OR ENCLOSED SPACES SHALL HAVE A CLASS C FLAME SPREAD INDEX 76-200; SMOKE DEVELOPED INDEX 0-450. INTERIOR FINISHES OF EXIT ENCLOSURES AND EXIT PASSAGEWAYS SHALL HAVE A CLASS B FLAME SPREAD INDEX 26-75; SMOKE DEVELOPED INDEX 0-450. ASTM E 84. IFC TABLE 803.3.
3. MATERIALS USED AS INTERIOR TRIM SHALL HAVE A MINIMUM CLASS C FLAME SPREAD AND SMOKE DEVELOPED INDEX AND SHALL COMPLY WITH ASTM E 84. COMBUSTIBLE TRIM SHALL NOT EXCEED 10% OF THE AGGREGATE WALL OR CEILING AREA IN WHICH IT IS LOCATED. IFC 804.
4. INTERIOR WALL AND CEILING FINISHES SHALL COMPLY WITH NFPA 286 TESTING MEASURES. INTERIOR FLOOR FINISHES SHALL COMPLY WITH NFPA 253 WITH A CLASS 2 CRITICAL RADIANT FLUX > 0.22 WATTS / CM2. FLOOR FINISHES IN EXIT / ACCESS CORRIDORS SHALL BE CLASS 1 CRITICAL RADIANT FLUX > 0.45 WATTS / CM2.
5. INTERIOR FINISH MATERIALS SHALL BE APPLIED SO THAT THEY WILL NOT BECOME READILY DETACHED WHERE SUBJECTED TO 200 DEGREES F. FOR NOT LESS THAN 30 MINUTES. IFC 803.2.
6. THE REQUIRED FLAME SPREAD OR SMOKE DEVELOPED INDEX OF SURFACES IN EXISTING BUILDINGS MAY BE ACHIEVED BY APPLICATION OF APPROVED FIRE RETARDANT COATINGS AND SHALL COMPLY WITH NFPA 703. IFC 803.4.
7. FIRE EXTINGUISHERS SHALL BE LOCATED PER PLAN, SUBJECT TO APPROVAL BY FIRE MARSHAL.
8. AT THE TIME OF SUBMITTING A BID, THE CONTRACTOR IS TO HAVE CONFIRMED ALL FIELD MEASUREMENTS AND HAVE REVIEWED ALL FIELD CONDITIONS.
9. GENERAL CONTRACTOR SHALL VERIFY ALL RELEVANT DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS BEFORE PROCEEDING WITH THE AFFECTED WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IMMEDIATELY. ALL DISCREPANCIES SHALL BE RESOLVED PRIOR TO CONTRACTOR PROCEEDING WITH AFFECTED WORK.
10. GENERAL CONTRACTOR SHALL BID COMPLETE OPERATIONAL ASSEMBLIES WHETHER SHOWN IN THEIR ENTIRETY OR NOT.
11. THE CONTRACT WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, TOOLS, LABOR AND SERVICES NECESSARY FOR COMPLETION OF THE PROJECT, UNLESS NOTED OTHERWISE.
12. THE GENERAL CONTRACTOR SHALL PERFORM ALL WORK IN CONFORMITY WITH THOSE LAWS HAVING JURISDICTION WHETHER OR NOT SUCH WORK IS SPECIFICALLY SHOWN ON THESE DRAWINGS, INCLUDING ALL SEISMIC REQUIREMENTS. THE GENERAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL NECESSARY BUILDING PERMITS AND SHALL BE REIMBURSED FOR GENERAL BUILDING PERMIT COSTS BY OWNER. BUSINESS LICENSE COSTS ARE NOT REIMBURSABLE.
13. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP AND FOR COMPLIANCE WITH THE DESIGN. THE GENERAL CONTRACTOR SHALL CORRECT ALL ERRORS AND DEVIATIONS AS REQUESTED BY THE OWNER.
14. THE GENERAL CONTRACTOR SHALL CONTACT THE OWNER / TENANT IMMEDIATELY IF THEY ENCOUNTER ANY HAZARDOUS MATERIALS.
15. THE GENERAL CONTRACTOR SHALL ESTABLISH CONTROL LINES 2'-0" O.C. FROM ALL COLUMNS. LINES TO BE PERMANENT AND RE-ESTABLISHED DURING CONSTRUCTION AS NEEDED.
16. EXACT LOCATIONS OF PIPING, DUCTWORK, CONDUIT AND FIXTURES SHALL BE COORDINATED BETWEEN CONTRACTORS AND SUBCONTRACTORS TO AVOID INTERFERENCE.
17. ALL SPRINKLER HEADS SHOWN ARE CONCEPTUAL ONLY. GENERAL CONTRACTOR TO HIRE A LICENSED SPRINKLER CONTRACTOR TO DESIGN AND INSTALL / MODIFY SPRINKLER SYSTEM. HEAD REPLACEMENT TO MEET ALL LOCAL AND NATIONAL CODES INCLUDING NFPA-13.
18. AFTER COMPLETION OF THE WORK, PARTS OF THE BUILDING SHALL BE CLEANED WHERE EVER SUCH CLEANING IS REQUIRED, INCLUDING AREAS OF THE BUILDING MADE DIRTY BY CONSTRUCTION WORK. THE GENERAL CONTRACTOR SHALL REMOVE FROM THE PREMISES TRASH, RUBBISH, TOOLS, EQUIPMENT AND EXCESS MATERIALS. THE BUILDING IS TO BE LEFT IN PERFECTLY CLEAN CONDITION.
19. ALL ELECTRICAL WORK SHALL CONFORM TO LOCAL CODES, THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, & NFPA 72.
20. EACH CONTRACTOR SHALL COORDINATE ARCHITECTURAL DRAWINGS WITH THE PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS AND ALL SPECIFICATIONS BEFORE PROCEEDING WITH THE WORK AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS IMMEDIATELY. ALL DISCREPANCIES SHALL BE RESOLVED PRIOR TO THE CONTRACTOR PROCEEDING WITH AFFECTED WORK.

MATERIALS KEY & GRAPHIC SYMBOLS

EXISTING CONSTRUCTION
FLOOR ELEVATION
REVISION INDICATOR
GRID LINE (B)
DETAIL INDICATOR (2 / A-4)
SECTION INDICATOR (1 / A-4)
WALL TYPE (#)
DOOR IDENTIFICATION (2)
WINDOW IDENTIFICATION (C)
CLASSROOM (120) — ROOM NAME, ROOM NUMBER

NATIONAL ACCOUNT VENDORS

FIXTURES AND FURNITURE
AFI, ADVANCED FIXTURES, INC.
CONTACT: MIKE SLIGAR
PHONE: (972) 784-8800 x226
EMAIL: MSLIGAR@ADVANCEDFIXTURES.COM

CAP FIXTURES
CONTACT: JESSICA SHINN
PHONE: (614) 328-2929
CELL: (614) 867-7890
EMAIL: JSHINN@CAPFIXTURES.COM

GC TO OBTAIN BID PRICING FROM BOTH VENDORS.

LIGHTING FIXTURES, LAMPS, & CONTROLS
VILLA LIGHTING SUPPLY, INC.
CONTACT: LUCAS DEWULF
PHONE: (314) 284-4450
EMAIL: LUCAS.DEWULF@VILLALIGHTING.COM

PLUMBING FIXTURES
HAINES, JONES & CADBURY LLC
CONTACT: SUSAN CASTRONOVA
PHONE: (800) 459-7099 EXT 5990
CELL: (479) 319-8777
EMAIL: KC@HJCINC.COM

CORNER GUARDS
CONSTRUCTION SPECIALTIES NATIONAL ACCOUNTS
CONTACT: BRYAN PETERSON
PHONE: (425) 229-3479
EMAIL: BRPETERSON@C-SGROUP.COM

SIGNAGE
IDENTITI RESOURCES, LTD.
CONTACT: KAYLA REPPE
PHONE: (847) 643-7666
EMAIL: KINDERCARE@IDENTITI.NET

GYM PADS
SPORTS SURFACES.
CONTACT: JORDAN WILLMS
CELL: (712) 560-0305
EMAIL: JORDAN@SPORTSGRAPHICSINC.COM

CEMENT PANEL SIDING
NICHIHA
CONTACT: JEFF BURPEE
CELL: (513) 722-6637
EMAIL: JBURPEE@NICHIHA.COM

WARMING PANTRY
PRO LOAD
CONTACT: DERRICK HARRIS
PHONE: (301) 595-0000
CELL:(443) 924-1051
EMAIL: PROLOAD1991@GMAIL.COM

PLAYGROUND EQUIPMENT & SURFACE
PLAY POWER INC.
CONTACT: JENNY MOENNIG
PHONE: (417) 354-2678
EMAIL: JENNY.MOENNIG@PLAYPOWER.COM

FLOORING
TARKETT
CONTACT: KATE KANDELL
PHONE: (503) 467-6500
EMAIL: KATE.KANDELL@TARKETT.COM

FLOORING INSTALLER (OPTIONAL)
DIVERZIFY
CONTACT: ERIC S. ZABEL
PHONE: (813) 460-8229
EMAIL: ERIC.ZABEL@DIVERZIFY.COM

ECOLAB DISPENSERS
ECOLAB
CONTACT: CHRIS MARSH
PHONE: (727) 242-3758
EMAIL: CHRIS.MARSH@ECOLAB.COM

PAPER DISPENSERS
MARCAL PAPER
CONTACT: SUESANNE NOBLE
PHONE: (828) 345-5120
EMAIL: SUESANNE.NOBLE@MARCALPAPER.COM

HVAC EQUIPMENT
LENNOX
CONTACT: JULIA HART
PHONE: (214) 384-8606
EMAIL: JULIA.HART@LENNOX.COM

SECURITY
BASS SECURITY
CONTACT: ERIC CHUPACK
PHONE: (888) 774-3400 X1107
EMAIL: ECHUPACK@BASS-SECURITY.COM

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	CT	CERAMIC TILE	HM	HOLLOW METAL	RO	ROUGH OPENING
AFF	ABOVE FINISHED FLOOR	DF	DRINKING FOUNTAIN	KC	KINDERCARE	RTU	ROOF TOP UNIT
ALUM	ALUMINUM	DIA	DIAMETER	LAM	LAMINATED	SC	SOLID CORE
ANOD	ANODIZED	DS	DOWNSPOUT	LVT	LUXURY VINYL TILE	SIM	SIMILAR
ARCH	ARCHITECTURAL	DWG	DRAWING	MAX	MAXIMUM	SPECS	SPECIFICATIONS
BLDG	BUILDING	EA	EACH	MANUF	MANUFACTURER	TBD	TO BE DETERMINED
BO	BOTTOM OF	EJ	EXPANSION JOINT	MECH	MECHANICAL	TO	TOP OF
BD	BOARD	ELEC	ELECTRICAL	MIN	MINIMUM	TOF	TOP OF FOOTING
CJ	CONTROL JOINT	ELEV	ELEVATOR	MISC	MISCELLANEOUS	TOM	TOP OF MASONRY
CL	CENTERLINE	EQ	EQUAL	NIC	NOT IN CONTRACT	TOS	TOP OF STEEL
CLG	CEILING	(E)	EXISTING	NTS	NOT TO SCALE	TV	TELEVISION
CLR	CLEAR	FD	FLOOR DRAIN	OC	ON CENTER	TYP	TYPICAL
CMU	CONCRETE MASONRY UNIT	FF	FINISH FLOOR	PL	PLATE/PROPERTY LINE	UNO	UNLESS NOTED OTHERWISE
COL	COLUMN	GL	GLASS	RCP	REFLECTED CEILING PLAN	VCT	VINYL COMPOSITION TILE
CPT	CARPET	GYP	GYPSUM	RD	ROOF DRAIN	VIF	VERIFY IN FIELD

CODE AND BUILDING DATA

APPLICABLE CODES

BUILDING CODE:	2021 IBC
MECHANICAL CODE:	2021 IMC
PLUMBING CODE:	2021 IPC
FIRE CODE:	2021 IFC
ENERGY CODE:	2021 IECC
ELECTRICAL CODE:	2020 NEC
ACCESSIBILITY:	2017 ICC A117.1

USE and OCCUPANCY CLASSIFICATION
DAY CARE: EDUCATIONAL (E)
BUSINESS GROUP (B)
BUILDING AREA: 12,066 SF

CONSTRUCTION CLASSIFICATION (TYPE)
TYPE V-B WITH AUTOMATIC SPRINKLER SYSTEM

SEE SHEET A0.1 FOR ADDITIONAL INFORMATION

PROJECT DIRECTORY

TENANT: KINDERCARE EDUCATION
DESIGN & CONSTRUCTION
CONTACT: NATE ALVSTAD
ADDRESS: 5005 MEADOWS ROAD, SUITE 200, LAKE OSWEGO, OR. 97035

DEVELOPER:
CONTACT: MIKE HAIGH
ADDRESS: 1100 JORIE BOULEVARD, SUITE 140, OAK BROOK, IL 60523
PHONE: (630) 891-6472
EMAIL: mikeh@quattrodevelopment.com

ARCHITECT: ADA ARCHITECTS, INC.
CONTACT: MARK KUHN
ADDRESS: 17710 DETROIT AVE. LAKEWOOD, OH 44107
PHONE: (216) 521-5134
EMAIL: mkuhn@adaarchitects.com

STRUCT. ENGINEER: THORSON BAKER
CONTACT: ROB PIRIAK
ADDRESS: 3030 W. STREETSBORO ROAD, RICHFIELD, OH 44286
PHONE: (330) 659-6688
EMAIL: rpiriak@thorsonbaker.com

MECH. / PLUMBING ENGINEER: T/E/S ENGINEERING
CONTACT: DANIEL P. STECKLOW
ADDRESS: 25760 FIRST STREET, CLEVELAND, OH 44145
PHONE: (440) 871-2410
EMAIL: DStecklow@tesengineering.com

ELEC. ENGINEER: ADA ARCHITECTS, INC.
CONTACT: BRIAN SCHULER
ADDRESS: 17710 DETROIT AVE. LAKEWOOD, OH 44107
PHONE: (216) 521-5134

SCOPE OF WORK

THE SCOPE OF WORK INCLUDES CONSTRUCTION OF A GROUND UP DAY CARE CENTER. NEW CONSTRUCTION INCLUDES FULL SHELL AND TENANT INTERIOR BUILD OUT.

DEFERRED SUBMITTALS: FIRE SPRINKLER, FIRE ALARM, TRUSS DRAWINGS

SEPARATE PERMIT: SIGNAGE

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A-0.1 EGRESS/ EVACUATION PLAN
AS-1.0 ARCHITECTURAL SITE PLAN
AS-1.1 PLAYGROUND PLAN
AS-1.2 PLAYGROUND DETAILS AND SECTIONS
A-1.0 FLOOR PLAN
A-1.1 FLOOR FINISH PLAN
A-1.2 CASEWORK AND EQUIPMENT PLAN
A-1.3 ENLARGED PLANS & CASEWORK & EQUIP. SCHED.
A-1.4 ENLARGED PLANS
A-2.0 REFLECTED CEILING PLAN
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A-9.6 SPECIFICATIONS
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A-9.10 SPECIFICATIONS
A-9.11 SPECIFICATIONS

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S-0.3 GENERAL NOTES & SPECIFICATIONS
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S-3.0 FRAMING SECTIONS & DETAILS
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FIRE PROTECTION
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NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
1005 STADIUM DR
WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
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1		
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COVER SHEET

DATE 03/02/2026
JOB NO. 25027

A-0.0
SHEET NO.

CLASS ROOM OCCUPANCY					
ROOM #	ROOM (AGE GROUP)	# OF CHILDREN PER LICENSING	# OF STAFF PER LICENSING (REQ'D STAFF: CHILD RATIO)	ACTUAL OCCUPANCY	OCCUPANT LOAD PER BLDG. CODE TABLE 1004.1.2
109	INFANT 1 (birth-12m)	8	2 (1:4)	10	12
110	INFANT 2 (birth-12m)	8	2 (1:4)	10	12
111	INFANT 3 (birth-12m)	8	2 (1:4)	10	14
117	TODDLER 1 (12m-2y)	10	2 (1:6)	12	13
115	TODDLER 2 (12m-2y)	10	2 (1:6)	12	13
113	TODDLER 3 (12m-2y)	10	2 (1:6)	12	14
118	DISC. PRESCHOOL 1 (2y-3y)	16	2 (1:10)	18	16
123	DISC. PRESCHOOL 2 (2y-3y)	16	2 (1:10)	18	16
131	PRESCHOOL (3y-4y)	18	2 (1:15)	20	20
127	PRE-K (4y-5y)	24	2 (1:20)	26	24
136	MULTI-AGE (3y-4y)	24	2 (1:15)	26	26
122	LEARNING ADVENTURES	-	-	-	4
	TOTALS:	152	22	174	184

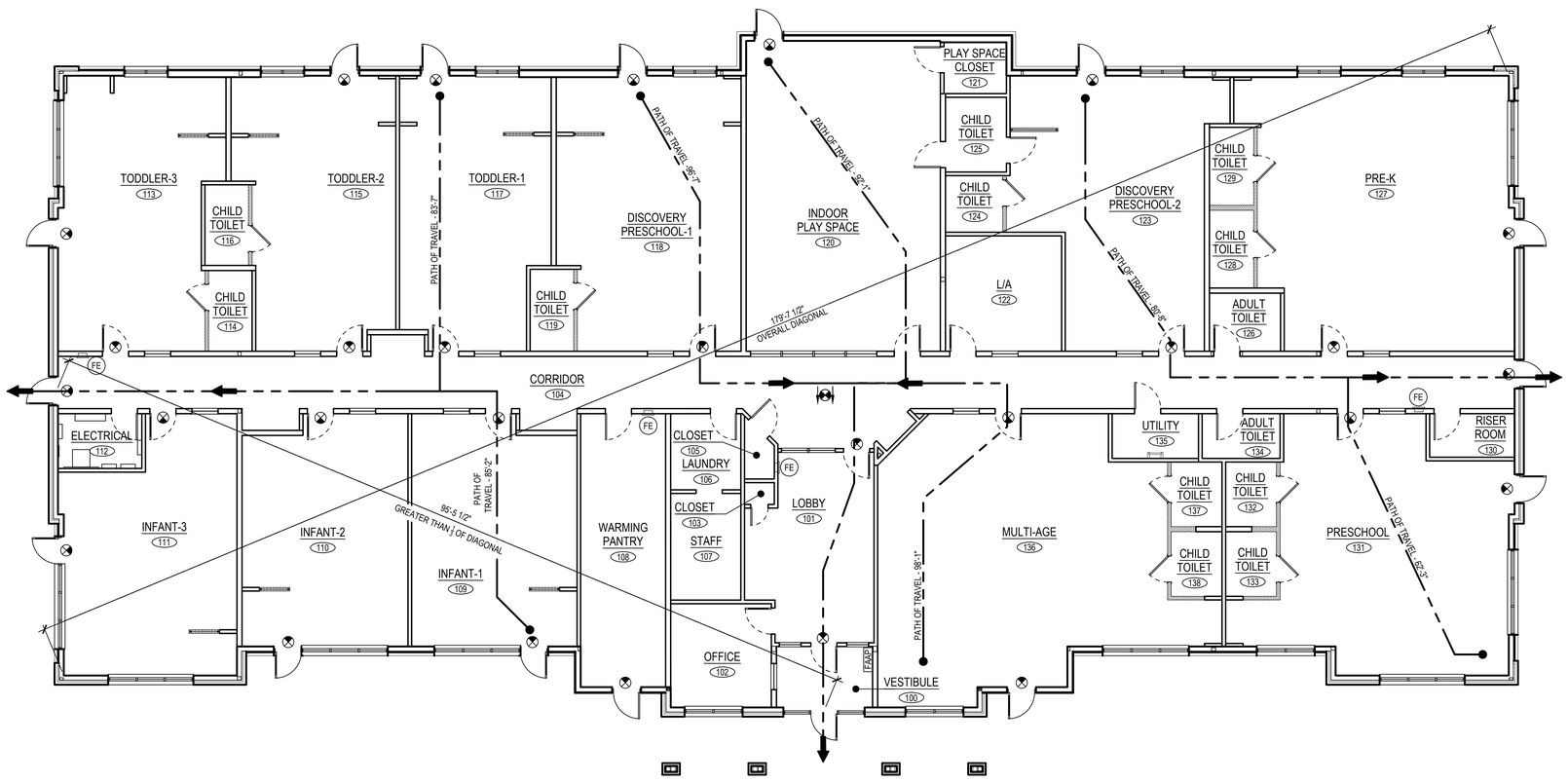
FIXTURES CALCULATED BY ACTUAL OCCUPANCY AS NOTED IN CLASSROOM OCCUPANCY TABLE

TABLE 403.1 NUMBER OF REQUIRED PLUMBING FIXTURES			
PLUMBING FIXTURE	CALCULATIONS	REQUIRED	PROVIDED
CLASSROOMS: 152 OCCUPANTS			
WATER CLOSETS:	1-50	4	11
LAVATORIES:	1-50	4	23
OFFICE, LOBBY, STAFF ROOM, ETC.: TWO SINGLE OCCUPANT TOILET ROOMS PROVIDED FOR ADULTS. 22 OCCUPANTS			
WATER CLOSETS:	1-25	2	2
LAVATORIES:	1-25	2	2
DRINKING FOUNTAIN:	1-100	2	2
SERVICE SINK:	1 REQUIRED	1	1

SYMBOL LEGEND

(FE) - FIRE EXTINGUISHER - GENERAL CONTRACTOR SHALL INSTALL SEMI RECESSED WHITE FIRE EXTINGUISHER CABINET w/ ROUND EDGE TRIM. MOUNT AT HEIGHT AND LOCATION PER PLAN AND AS DIRECTED BY LOCAL FIRE MARSHALS OFFICE. SEE PROJECT SPECIFICATIONS

- EMERGENCY EXIT SIGN (ALSO INDICATED ON E-1.0)



EGRESS PLAN
SCALE 1/8" = 1'-0"

APPLICABLE CODES AND REGULATIONS

BUILDING CODES:	2018 NC STATE BUILDING CODE
MECHANICAL CODE:	2018 NC STATE MECHANICAL CODE
PLUMBING CODE:	2018 NC STATE PLUMBING CODE
FIRE CODE:	2018 NC STATE FIRE PREVENTION CODE
ENERGY CODE:	2018 NC STATE ENERGY CONSERVATION CODE
ELECTRICAL CODE:	2020 NEC WITH STATE AMENDMENTS
ACCESSIBILITY CODE:	2018 NC STATE BUILDING CODE CHAPTER 11 2009 ANSI A117.1
CHILD CARE LICENSING:	2025 NCAC CHAPTER 9 NC GENERAL STATUTES ARTICLE 7 - CHAPTER 110

PROJECT SUMMARY

THE SCOPE OF WORK INCLUDES GROUND UP BUILDING OF A DAY CARE CENTER. NEW CONSTRUCTION INCLUDES FULL SHELL AND TENANT INTERIOR BUILD OUT.

CHAPTER 3 USE AND OCCUPANCY CLASSIFICATION

NON SEPARATED MIXED OCCUPANCY B AND E CHILD DAY CARE

304 BUSINESS GROUP B

304.1 BUSINESS GROUP B. LOBBY, OFFICE, PANTRY, STAFF ROOM, FAMILY ROOM ETC.
BUSINESS GROUP B OCCUPANCY INCLUDES, AMONG OTHER, THE USE OF A BUILDING OR STRUCTURE, OR A PORTION THEREOF, FOR OFFICE, PROFESSIONAL OR SERVICE-TYPE TRANSACTIONS, INCLUDING STORAGE OF RECORDS AND ACCOUNTS.

305.2 GROUP E, DAY CARE FACILITIES
THIS GROUP INCLUDES BUILDINGS AND STRUCTURES OR PORTIONS THEREOF OCCUPIED BY MORE THAN FIVE CHILDREN OLDER THAN 2 ½ YEARS OF AGE WHO RECEIVE EDUCATIONAL, SUPERVISION OR *PERSONAL CARE SRVICES* FOR FEWER THAN 24 HOURS PER DAY.

308.5.1 I-4, CLASSIFICATION AS GROUP E.
A CHILD DAY CARE FACILITY THAT PROVIDES CARE FOR MORE THAN FIVE BUT NOT MORE THAN 100 CHILDREN 2 ½ YEARS OR LESS OF AGE, WHERE THE ROOMS IN WHICH THE CHILDREN ARE CARED FOR ARE LOCATED ON A *LEVEL OF EXIT DISCHARGE* SERVING SUCH ROOMS AND EACH OF THESE CHILD CARE ROOMS HAS AN *EXIT* DOOR DIRECTLY TO THE EXTERIOR, SHALL BE CLASSIFIED AS GROUP E.

CHAPTER 5 GENERAL BUILDING HEIGHTS AND AREAS

TABLE 504.3 ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE
TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE
TABLE 506.2 ALLOWABLE AREA FACTOR IN SQUARE FEET

BUILDING HEIGHT	ALLOWABLE	ACTUAL TENANT
DAY CARE E	60' 2 STORIES	25' 1 STORY
BUSINESS B	60' 3 STORIES	25' 1 STORY
TENANT AREA	ALLOWABLE	ACTUAL TENANT
DAY CARE E	38,000 SF 1 STORY	12,066 SF
BUSINESS B	36,000 SF 1 STORY	12,066 SF

CHAPTER 6 TYPE OF CONSTRUCTION

CONSTRUCTION TYPE: V-B
CONSTRUCTION TYPE V-B WITH AUTOMATIC SPRINKLER
TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

PRIMARY STRUCTURAL FRAME	0
BEARING WALLS, INTERIOR & EXTERIOR	0
NON-BEARING INTERIOR WALLS	0
FLOOR CONSTRUCTION	0
ROOF CONSTRUCTION	0

CHAPTER 10 MEANS OF EGRESS

1004 OCCUPANT LOAD
TABLE 1004.5

DAY CARE	**35**	NET
BUSINESS	150	GROSS

FLOOR AREA, NET. THE ACTUAL OCCUPIED AREA NOT INCLUDING UNOCCUPIED ACCESSORY AREAS SUCH AS CORRIDORS, STAIRWAYS, TOILET ROOMS, MECHANICAL ROOMS AND CLOSETS.

CLASSROOM AREA	6,522 SF/35	=	186 OCC.
BUSINESS AREA	904 SF/150	=	6 OCC.
UNOCCUPIED AREA	4,640 SF	=	0 OCC.
			192 OCC.
TOTAL	**12,066 SF**		**192 OCCUPANTS**

1005 EGRESS WIDTH
1005.3.2 MINIMUM REQUIRED EGRESS WIDTH.

EGRESS DOORS:	192 OCC. X 0.15 INCHES = 28.8 REQ'D.
CORRIDOR/LOBBY	(3) 34" = 102"

1006 NUMBER OF EXITS AND EXIT ACCESS DOORWAYS
TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY.
COMMON PATH OF EGRESS TRAVEL SHALL NOT EXCEED 75' FOR E.
TABLE 1006.2.2.4 DAY CARE MEANS OF EGRESS
DAY CARE FACILITIES, ROOMS OR SPACES WHERE CARE IS PROVIDED FOR MORE THAN 10 CHILDREN THAT ARE 2 ½ YEARS OF AGE OR LESS, SHALL HAVE ACCESS TO NOT LESS THAN TWO EXITS OR EXIT ACCESS DOORWAYS.

1007 EXIT AND EXIT ACCESS DOORWAY CONFIGURATION
1007.1.1 TWO EXITS OR EXIT ACCESS DOORWAYS. WHERE TWO EXITS OR EXIT ACCESS DOORWAYS, EXIT ACCESS STAIRWAYS OR RAMPS, OR ANY COMBINATION THEREOF, ARE REQUIRED FROM ANY PORTION OF THE EXIT ACCESS, THEY SHALL BE PLACED A DISTANCE APART EQUAL TO NOT LESS THAN ONE HALF OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING OR AREA TO BE SERVED MEASURE IN A STRAIGHT LINE BETWEEN THEM. INTERLOCKING OR SCISSOR STAIRS SHALL BE COUNTED AS ONE EXIT STAIRWAY.
EXCEPTION #2. WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2, THE SEPARATION DISTANCE OF THE EXIT DOORS OR EXIT ACCESS DOORWAYS SHALL NOT BE LESS THAN ONE-THIRD OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA SERVED.

1010 DOORS
1010.1.2.1 SIDE-HINGED DOORS, PIVOTED DOORS AND BALANCED DOORS SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL WHERE SERVING A ROOM OR AREA CONTAINING AN OCCUPANT LOAD OF 50 OR MORE PERSONS OR A GROUP H OCCUPANCY.

1017 EXIT ACCESS TRAVEL DISTANCE
TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE
MAXIMUM ALLOWED, 250' IN E USE GROUP WITH SPRINKLER SYSTEM.

1020 CORRIDORS
TABLE 1020.2 CORRIDOR FIRE RESISTANCE RATING
B AND E USE GROUP 0 HOURS, WITH SPRINKLER SYSTEM PER 903.3.1.2.

TABLE 1020.3 MINIMUM CORRIDOR WIDTH
THE MINIMUM CORRIDOR WIDTH IN GROUP E WITH A CORRIDOR HAVING AN OCCUPANT LOAD OF 100 OR MORE: 72 INCHES

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
1005 STADIUM DR
WAKE FOREST, NC

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REVISIONS

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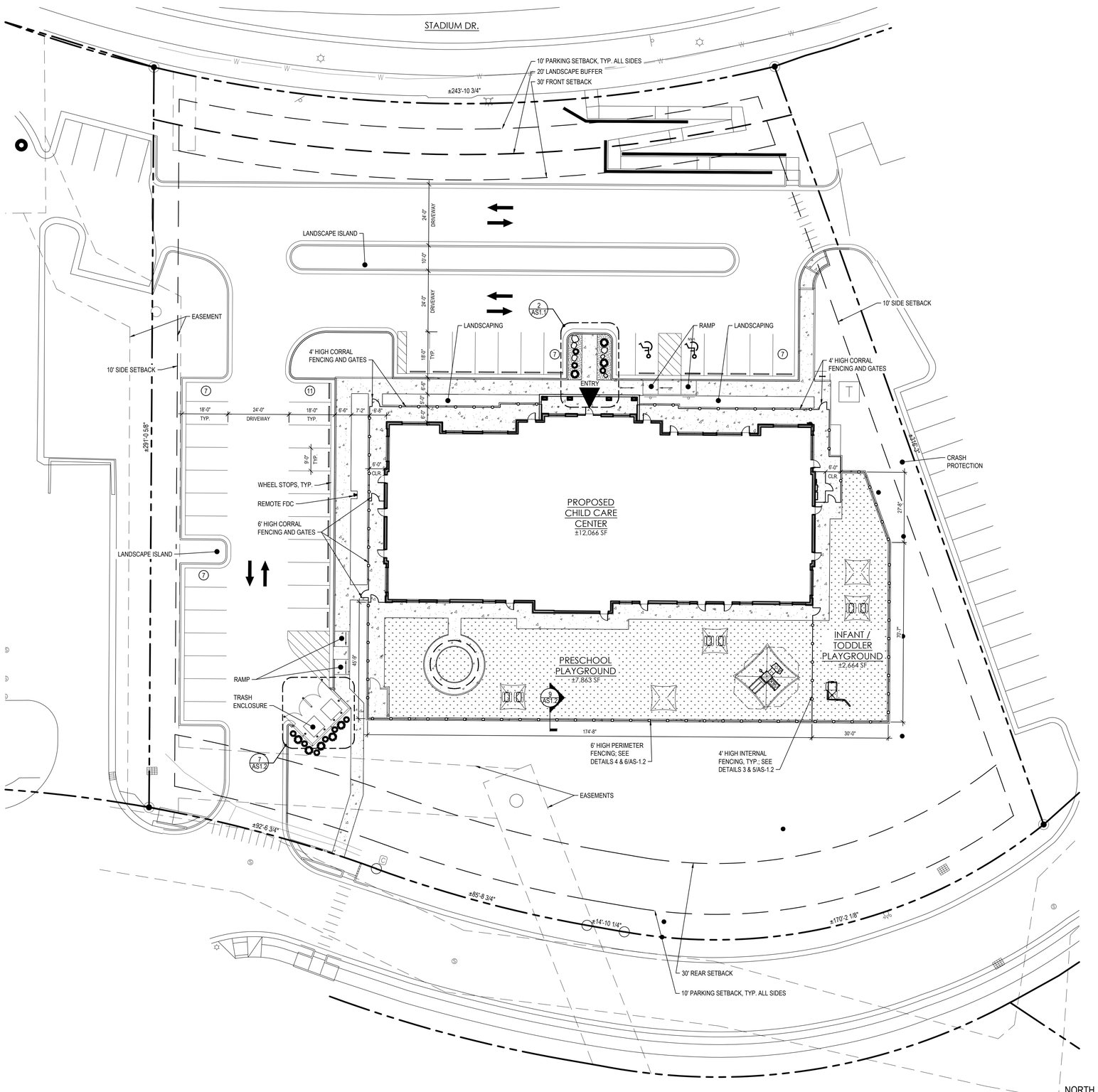
EGRESS/ EVACUATION PLAN

DATE 03/02/2026
JOB NO. 25027

A-0.1
SHEET NO.



MATERIAL LEGEND

- CONCRETE
- ARTIFICIAL TURF

NORTH

1 AS-1.0 SITE PLAN (FOR REFERENCE ONLY)

SCALE: 1"=20'-0"

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

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REVISIONS

#	DATE	TYPE
1	03/18/2026	PERMIT SET
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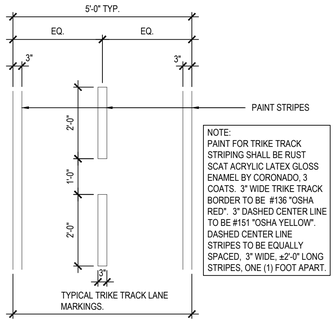
ARCHITECTURAL SITE PLAN

DATE 03/02/2026

JOB NO. 25027

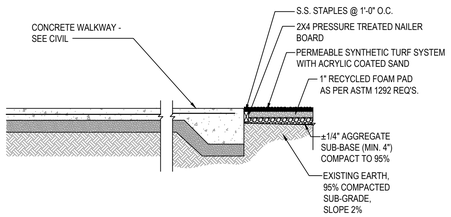
AS-1.0

SHEET NO.

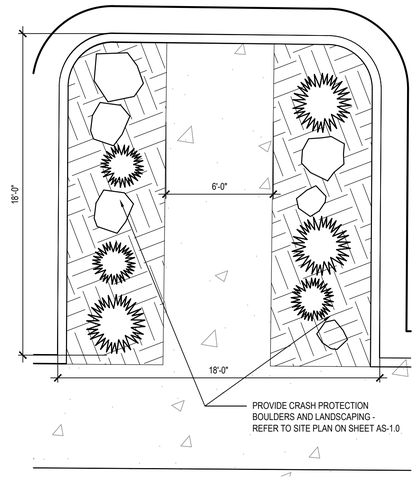


NOTE:
PAINT FOR TRIKE TRACK STRIPING SHALL BE RUST SCAT ACRYLIC LATEX GLOSS ENAMEL BY CORONADO, 3 COATS. 3" WIDE TRIKE TRACK BORDER TO BE #136 "OSHA RED". 3" DASHED CENTER LINE TO BE #151 "OSHA YELLOW". DASHED CENTER LINE STRIPES TO BE EQUALLY SPACED, 3" WIDE, ±2'-0" LONG STRIPES, ONE (1) FOOT APART.

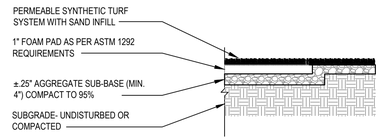
2 / AS-1.1 TRACK STRIPING DETAIL
SCALE: 1/2"=1'-0"



3 / AS-1.1 SIDEWALK TO TURF DETAIL
SCALE: 1/2"=1'-0"



4 / AS-1.1 SIDEWALK ENTRY AREA
SCALE: 1/4"=1'-0"



5 / AS-1.1 FALL ZONE DETAIL
SCALE: 3/4"=1'-0"

SURFACE LEGEND

MATERIAL	SYMBOL	MANUFACTURER	MODEL#	NOTE:	RESPONSIBILITY T = TENANT C = CONTRACTOR PROVIDED/INSTALLED T/T	T/C	C/C
CONCRETE				BROOM FINISH			●
SYNTHETIC TURF / FALL SURFACE		PLAY POWER INC.	1.55" XGRASS PRIME SYNTHETIC TURF W/ ENVIROFILL	ASTM F1292 AND F1951 COMPLIANT			●
FALL ZONE				SEE GENERAL NOTES # 5 & #6 THIS SHEET REFER TO DETAIL 5/AS-1.1			

GENERAL NOTES

1. ENTRAPMENT: THE DISTANCE BETWEEN ANY OPPOSING SURFACES OR OBJECTS SHALL NOT BE GREATER THAN 3 1/2" AND LESS THAN 9". GC TO ENSURE NOTHING IS CONSTRUCTED THAT RESULTS IN AN ENTRAPMENT AREA. INCLUDING BUT NOT LIMITED TO ALL FENCING, PLAYGROUND EQUIPMENT, AND DOWNSPOUTS.

2. CONTRACTOR TO FURNISH, ASSEMBLE AND INSTALL PER. MANUFACTURERS INSTRUCTIONS ALL EQUIPMENT SHOWN ON THIS PLAN UNLESS OTHERWISE NOTED.

3. THE PLAYGROUND EQUIPMENT LAYOUT IS MEANT FOR GENERAL PLACEMENT OF THE EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PLACE OR ADJUST ALL EQUIPMENT TO COMPLY WITH LOCAL CODES AND FIT WITHIN THE AREAS SPECIFIED.

4. KINDERCARE EDUCATION SHALL REVIEW AND APPROVE EQUIPMENT PACKAGE PRIOR TO ORDERING.

5. FALL ABSORBING GROUND COVER IS REQUIRED UNDER AND AROUND ALL PLAY EQUIPMENT. REFER TO SPECIFICATIONS FOR MATERIAL AND DESIGN. ALL PLAY EQUIPMENT THAT REQUIRES A FALL ZONE TO BE PLACED ON SAFETY SURFACE.

6. THE MINIMUM RECOMMENDED FALL ZONE AROUND THE ENTIRE PLAY STRUCTURE IS SHOWN (DASHED). THE ZONE IS TO BE FREE OF ALL TRIPPING OR COLLISION HAZARDS (I.E. ROCKS, BORDER MATERIAL, ETC.)

7. ENSURE ALL PLAY STRUCTURE(S) MEET THE PERFORMANCE AND SAFETY REQUIREMENTS OF ASTM FOR CHILDREN IN THE SPECIFIED AGE GROUP. NOT ALL EQUIPMENT MAY BE APPROPRIATE FOR ALL CHILDREN. SUPERVISION IS REQUIRED. PLAY EQUIPMENT SHALL HAVE STICKERS WITH DESIGNATED AGE GROUPS PROVIDED BY VENDOR.

8. ALL PLAY EQUIPMENT AND SHADE STRUCTURES SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR.

9. ALL PLANT SELECTIONS MUST REFLECT THE APPROVED SPECIES LIST. REFER TO SPECIFICATIONS FOR APPROVED SPECIES LIST.

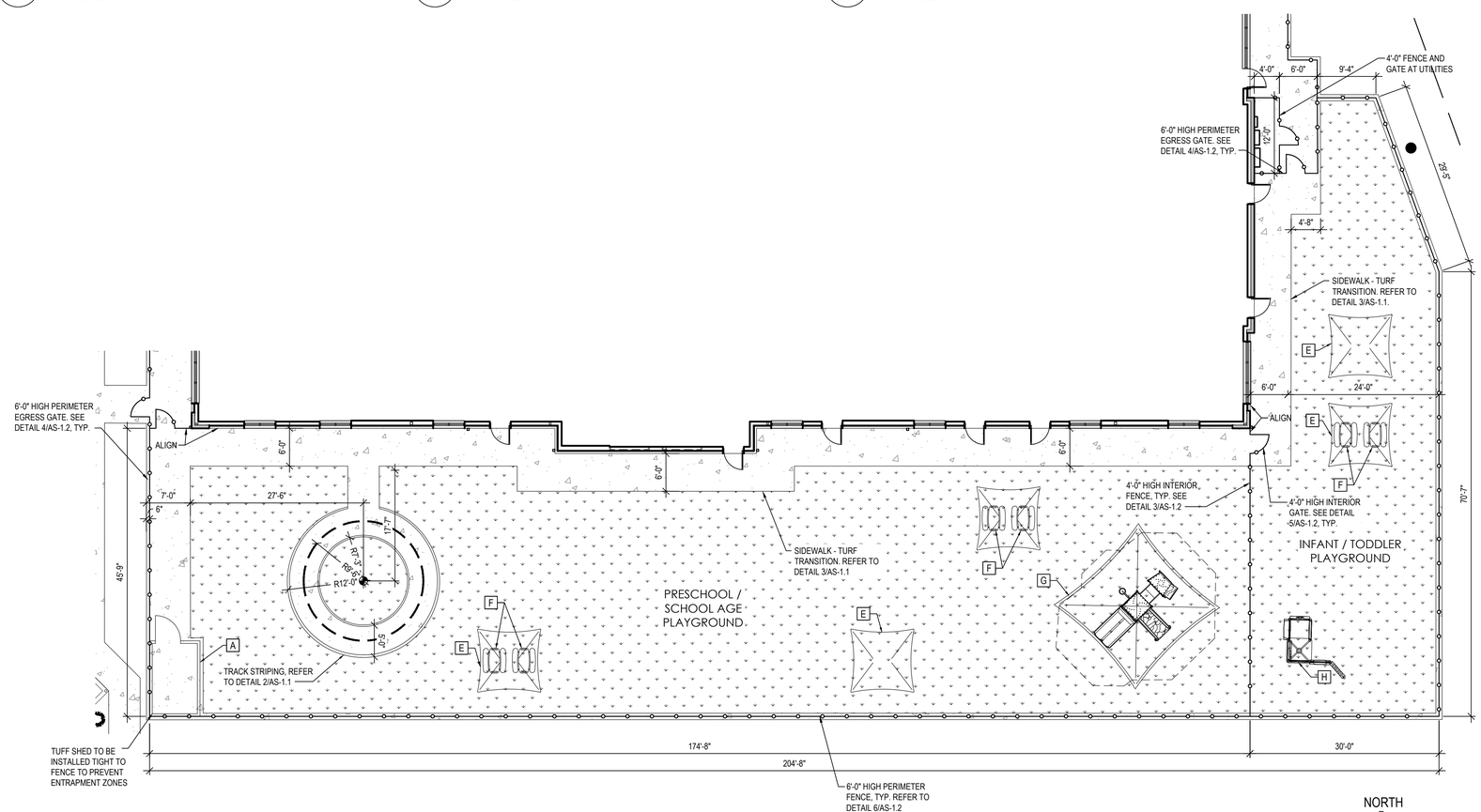
10. GENERAL CONTRACTOR TO COORDINATE EQUIPMENT DELIVERY TIME WITH SURFACING. EQUIPMENT TO BE DELIVERED WITHOUT DAMAGED AND TO BE CLEANED UP. NO TOUCH UP PAINT WILL BE EXPECTED.

11. CUT DOWN ALL BOLT ENDS SO NO MORE THAN TWO THREADS ARE EXPOSED ON ALL PLAY EQUIPMENT AND FENCING WITHIN PLAYGROUND TO ENSURE THERE ARE NO PUNCTURE HAZARDS.

EQUIPMENT LEGEND A

	PRODUCT	MANUFACTURER	MODEL#	NOTE	RESPONSIBILITY T = TENANT C = CONTRACTOR PROVIDED/INSTALLED T/T	T/C	C/C
A	8' X 12' WOOD STORAGE SHED	TUFF SHED	PREMIER RANCH	PAINT TO MATCH BUILDING. 4'-0" WIDE DOOR. PROVIDE TREK TRIM AT BASE TO MATCH ADJACENT SURFACE			●
B	BASKETBALL GOAL	LTC	360757	BASKETBALL GOAL 8' GOAL HEIGHT			●
C	SOCCER GOAL	TBD		6' WIDE x 4' HIGH			●
D	NOT USED	-	-	-			
E	SHADE STRUCTURE	LTC	LTPSP026	10'x10'x8' PYRAMID INDEPENDENT SHADE STRUCTURE			●
F	JUNIOR PICNIC TABLE	LTC	200200419	FREESTANDING JR PICNIC TABLE	●		
G	LT PB PRESCHOOL UNIT WITH SHADE TOPPER	LTC	QU070583	-			●
H	LT PB INFANT UNIT WITH NU SQUARE ROOF	LTC	QU073407	-			●

NOTE: ALL PLAY EQUIPMENT TO BE PURCHASED THRU THE NATIONAL ACCOUNT VENDOR - REFER TO SHEET A-0.0



1 / AS-1.1 PLAYGROUND PLAN
SCALE: 3/32"=1'-0"

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
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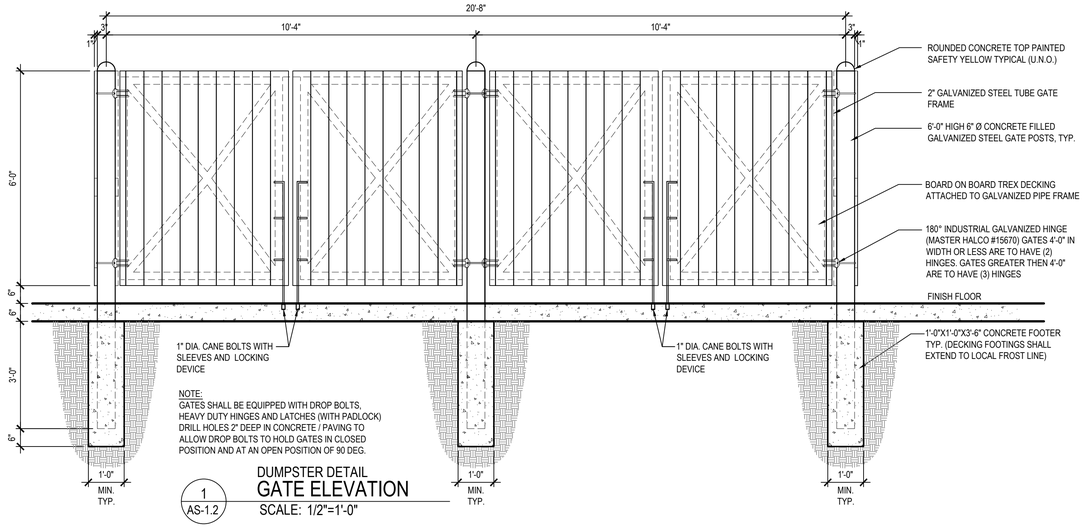
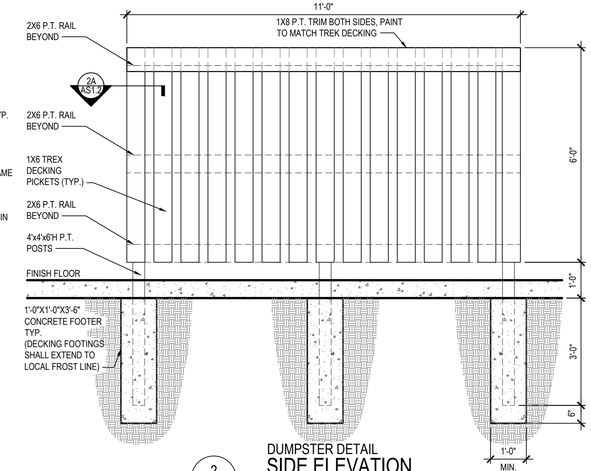
PLAYGROUND PLAN

DATE 03/02/2026
JOB NO. 25027
AS-1.1
SHEET NO.

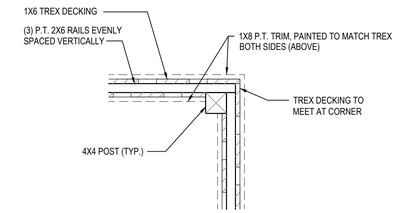


NOTE:
GATES SHALL BE EQUIPPED WITH DROP BOLTS, HEAVY DUTY HINGES AND LATCHES (WITH PADLOCK) DRILL HOLES 2" DEEP IN CONCRETE / PAVING TO ALLOW DROP BOLTS TO HOLD GATES IN CLOSED POSITION AND AT AN OPEN POSITION OF 90 DEG.

1 / AS-1.2 DUMPSTER DETAIL
GATE ELEVATION
SCALE: 1/2"=1'-0"

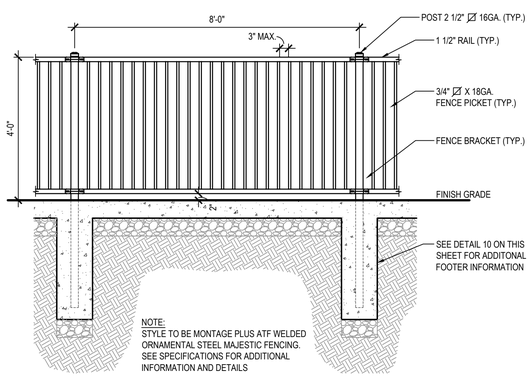


2 / AS-1.2 DUMPSTER DETAIL
SIDE ELEVATION
SCALE: 1/2"=1'-0"



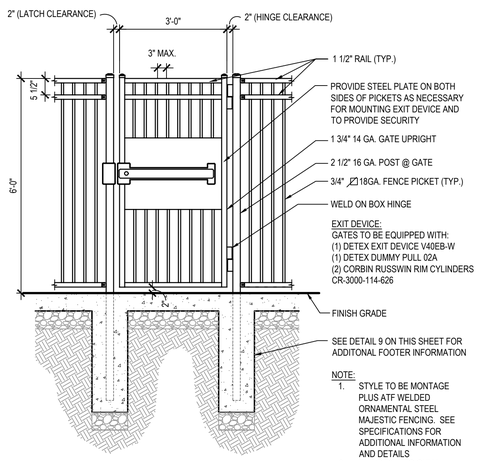
NOTE:
- BOTTOM OF DECKING INCLUDING GATES, TO BE 6" ABOVE CONCRETE PAD.
- COMPOSITE DECKING MATERIAL TO BE TREX, TRANSCEND LINEAGE, COLOR: JASPER

2A / AS-1.3 PARTIAL SECTION
DUMPSTER WALL
SCALE: 1"=1'-0"



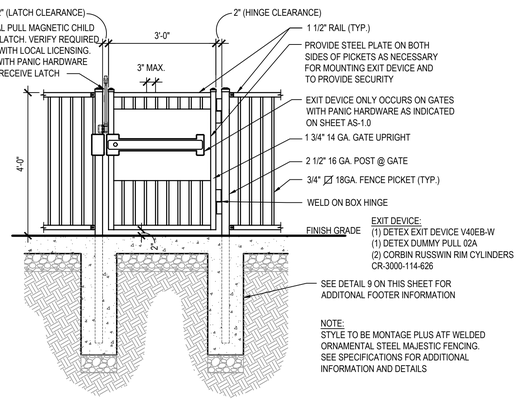
NOTE:
STYLE TO BE MONTAGE PLUS ATF WELDED ORNAMENTAL STEEL MAJESTIC FENCING. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND DETAILS

3 / AS-1.2 ELEVATION DETAIL
FENCE
SCALE: 1/2"=1'-0"



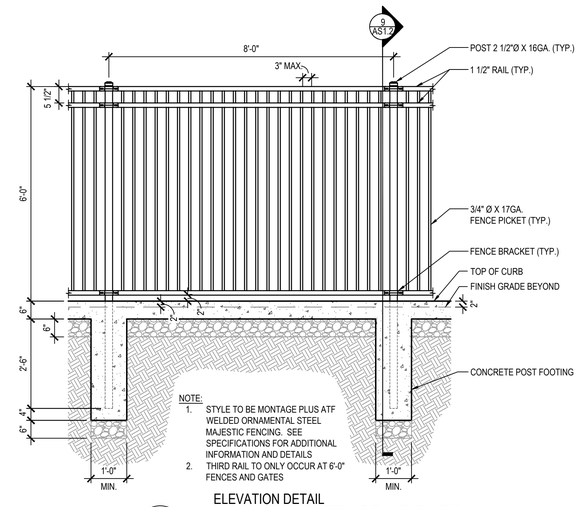
NOTE:
1. STYLE TO BE MONTAGE PLUS ATF WELDED ORNAMENTAL STEEL MAJESTIC FENCING. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND DETAILS
2. THIRD RAIL TO ONLY OCCUR AT 6'-0" HIGH FENCES AND GATES

4 / AS-1.2 ELEVATION DETAIL
FENCE GATE
SCALE: 1/2"=1'-0"



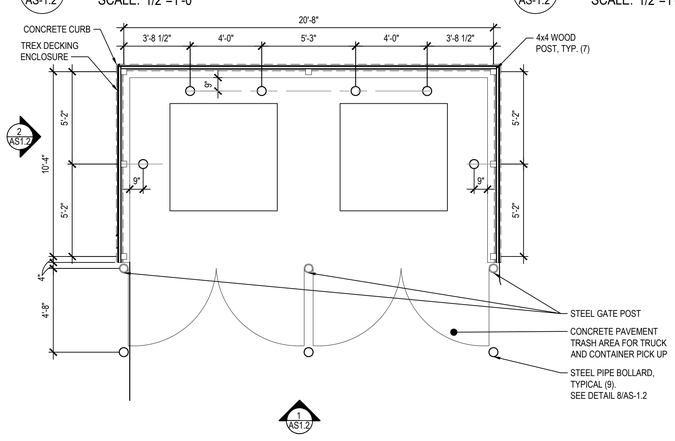
NOTE:
STYLE TO BE MONTAGE PLUS ATF WELDED ORNAMENTAL STEEL MAJESTIC FENCING. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND DETAILS

5 / AS-1.2 ELEVATION DETAIL
FENCE GATE
SCALE: 1/2"=1'-0"

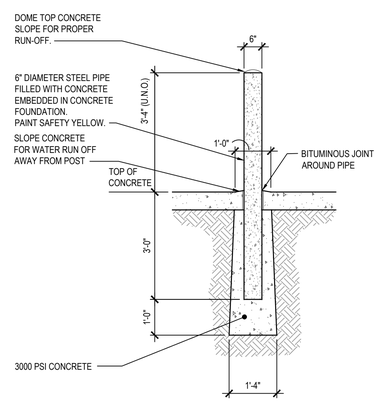


NOTE:
1. STYLE TO BE MONTAGE PLUS ATF WELDED ORNAMENTAL STEEL MAJESTIC FENCING. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND DETAILS
2. THIRD RAIL TO ONLY OCCUR AT 6'-0" FENCES AND GATES

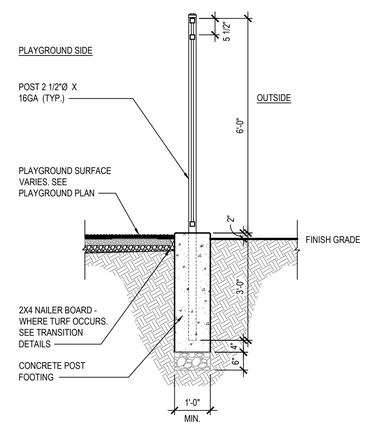
6 / AS-1.2 ELEVATION DETAIL
PERIMETER FENCE AT CURB
SCALE: 1/2"=1'-0"



7 / AS-1.2 TRASH ENCLOSURE LOCATION
SCALE: 1/4"=1'-0"



8 / AS-1.2 DUMPSTER DETAIL
PIPE BOLLARD
SCALE: 1/2"=1'-0"



9 / AS-1.2 CURB SECTION
PERIMETER FENCE
SCALE: 1/2"=1'-0"

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
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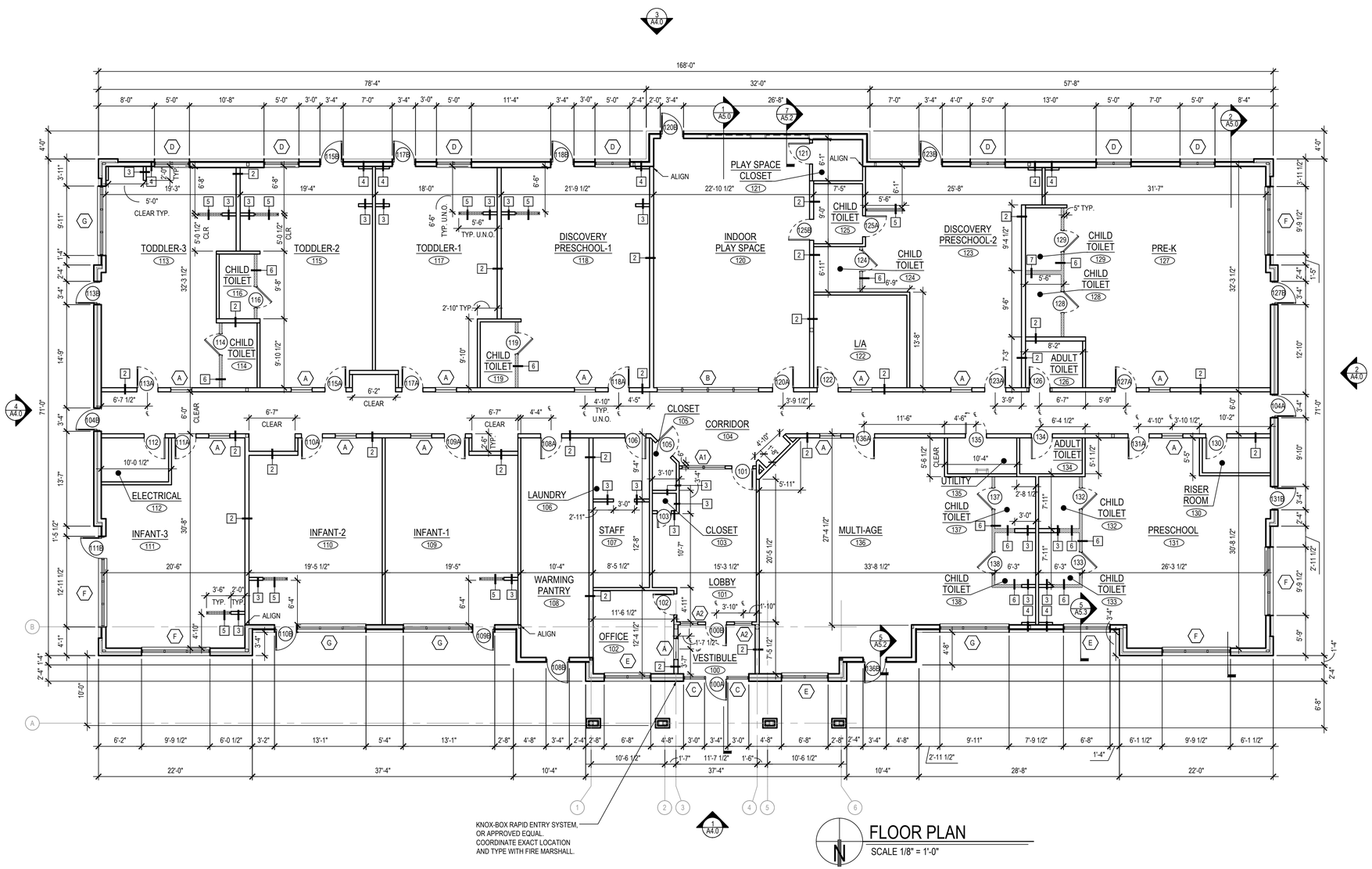
PLAYGROUND DETAILS AND SECTIONS

DATE 03/02/2026

JOB NO. 25027

AS-1.2
SHEET NO.



FLOOR PLAN

SCALE 1/8" = 1'-0"

WALL TYPES

TAG	PLAN VIEW	DESCRIPTION
1		5/8" GYP. BD. ON EA. SIDE OF 2x4 WOOD STUDS @ 16" O.C. MAX. WITH SOUND ATTENUATION BATT INSULATION.
2		5/8" GYP. BD. ON EA. SIDE OF 2x6 WOOD STUDS @ 16" O.C. MAX. WITH SOUND ATTENUATION BATT INSULATION.
3		5/8" GYP. BD. ON EA. SIDE OF 2x4 WOOD STUDS @ 16" O.C. MAX.
4		FURRING WALL: 5/8" GYP. BD. ON EXPOSED SIDE OF 2x4 WOOD STUDS @ 16" O.C. MAX.
5		LOW WALL: 5/8" GYP. BD. ON EA. SIDE OF 2x4 WOOD STUDS @ 16" O.C. MAX. PROVIDE STEEL POST AT UN-BRACED END OF WALL. WALL HEIGHT @ 42" A.F.F.. SEE DETAIL 3A/A6.0, 16/A6.0, 16A/A6.0 & 3/A7.0.
6		LOW WALL: TILE ON DENSARMOR PLUS BACKER BOARD ON EA. SIDE OF 2x4 WOOD STUDS @ 16" O.C. MAX.. WALL HEIGHT @ 48" A.F.F.. REFER TO DETAIL 3 & 4/A-6.0
7		LOW WALL: TILE ON DENSARMOR PLUS BACKER BOARD ON EA. SIDE OF 2x6 WOOD STUDS @ 16" O.C. MAX.. WALL HEIGHT @ 48" A.F.F.. REFER TO DETAIL 3 & 4/A-6.0

GENERAL NOTES

1. ALL WALLS ARE TYPE 1 UNLESS NOTED OTHERWISE.
2. ALL WALLS INCLUDING STUD, INSULATION, AND GYP. BD. TO EXTEND UNDERSIDE OF TRUSS. TYPICAL UNLESS NOTED OTHERWISE.
3. ALL INTERIOR DIMENSIONS ARE TO FACE OF WALL OR CENTERLINE OF DOOR/ WINDOW UNLESS NOTED OTHERWISE.
4. THE HINGE SIDE OF ALL NEW DOORS SHALL BE 6" OFF WALL, UNLESS NOTED OTHERWISE.
5. ANY EQUIPMENT SUPPLIED BY TENANT TO BE INSTALLED, ROUGHED-IN AND CONNECTED TO UTILITIES BY CONTRACTOR.
6. AUTOMATIC FIRE ALARM & DETECTION PLANS SHALL BE SUBMITTED TO LOCAL FIRE JURISDICTION FOR APPROVAL.
7. CONTRACTOR SHALL INSTALL 2x WOOD BLOCKING FOR ALL RAILS, SINKS, GRAB BARS, DRINKING FOUNTAINS, AND CASEWORK AS NEEDED.
8. CARPENTER TO PROVIDE A STORY STICK FOR ALL SEPARATE CONDITIONS INDICATING HEIGHTS OF BLOCKING WITHIN WALLS. STORY STICK TO REMAIN ON SITE UNTIL COMPLETION OF JOB, FOR INSTALLERS REFERENCE.
9. PROVIDE MOISTURE RESISTANT GYPSUM BOARD AT ALL WET LOCATIONS AND ABOVE TILE IN CHILD RESTROOMS.
10. GENERAL CONTRACTOR TO COORDINATE EXACT LOCATIONS OF PLUMBING ROUGH IN, PLUMBING FIXTURES, AND MILLWORK WITH FIXTURE PLAN, INTERIOR ELEVATIONS, AND PLUMBING PLANS. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES WITHIN PLANS.
11. REFER TO SHEET A-8.0 FOR DOOR SCHEDULE AND WINDOW TYPES.
12. ALL WOODEN CORNERS AND EDGES TO BE SANDED AND EASED PRIOR TO PAINTING, TO ELIMINATE ALL SHARP EDGES.
13. ALL WINDOWS SHALL RECEIVE UV PROTECTIVE AND SOLAR HEAT GAIN RESISTIVE GLAZING.
14. ALL WALL PENETRATIONS TO BE CAULKED & SEALED.
15. CONTRACTOR SHALL INSTALL GEORGIA PACIFIC DENSARMOR BACKER BOARD AT ALL CERAMIC WALL TILE LOCATIONS PER SPECIFICATIONS.
16. ALL GYPSUM BOARD WALLS TO HAVE LEVEL 4 FINISH (EXCEPT LOBBY WALLS TO RECEIVE LEVEL 5 FINISH) REFER TO SPECIFICATION.
17. INSULATION IN CONCEALED AND EXPOSED SPACES MUST HAVE A FLAME SPREAD RATING OF 25 OR LESS AND SMOKE DEVELOPED INDEX 450 OR LESS PER CODE.
18. SILL PLATES WITHIN 8" OF GRADE AND IN CONTACT WITH CONCRETE OR MASONRY MUST BE PRESSURE TREATED AS REQUIRED PER CODE.
19. PROVIDE 2x BLOCKING IN WALLS AT BOTTOM AND AT 39" A.F.F. AT ENTIRE PERIMETER OF GYM. REFER TO DETAIL 13/A-6.0.
20. SEE SHEET A0.1 FOR LOCATION OF FIRE EXTINGUISHERS AND RECESSED FIRE EXTINGUISHERS CABINETS.

SYMBOL LEGEND

102	DOOR IDENTIFICATION
#	WALL TYPE
A	WINDOW IDENTIFICATION

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSKY

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FLOOR PLAN

DATE 03/02/2026

JOB NO. 25027

A-1.0

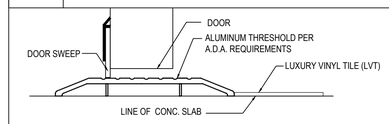
SHEET NO.

LEGEND

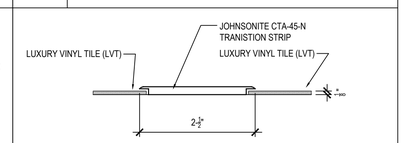
- P# — ACCENT WALL PAINT
- XXX-# — FLOOR FINISHES
- TR-# — TRANSITION STRIPS
- FLOORING FINISH DIRECTION
- P# — WALL PAINT FINISH
- XX-# — WALL FINISH AND LOCATION
- WB-# — WALL BASE

TRANSITION STRIPS

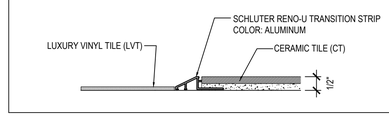
TR-1 ALUMINUM THRESHOLD / LVT



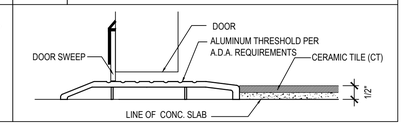
TR-3 LVT / LVT



TR-2 LVT / CERAMIC TILE



TR-4 ALUMINUM THRESHOLD / CERAMIC TILE



PROVIDE CONCRETE MOISTURE & RH TEST. OBTAIN ADHESIVE RECOMMENDATIONS FROM THE PROVIDER

FINISH SCHEDULE

FLOORS

MARK	DESCRIPTION	MANUFACTURER/COLOR
CT-1	CERAMIC TILE	12"x12" UNPOLISHED FLOOR TILE COLOR: SERENE HM20 STYLE: HARMONIST AS MANUFACTURED BY DALTILE W/ EPOXY GROUT: LATICRETE, COLOR: #01 ALABASTER
CT-2	CERAMIC TILE	8 1/2"x10" HEXAGON COLOR: GREY P010, STYLE: BEE HIVE MEDLEY, MANUFACTURED BY DALTILE W/ EPOXY GROUT: LATICRETE, COLOR: #45 RAVEN
LVT-1	6"x 48" SOLID VINYL FLOOR PLANK	MFR: TARKETT, ID LATITUDE, LATITUDE WOOD PLWD, LAUREL OAK 3523
SC-1	SEALED CONCRETE	.

WALL BASE

MARK	DESCRIPTION	MANUFACTURER/COLOR
WB-1	4" THERMOSET RUBBER WALL BASE (ROLLED MATERIAL WITH NO SEAMS AND PREFORMED CORNERS)	COLOR: TB3 DOVER MAUFACTURED BY JOHNSONITE BASEWORKS TYPICAL FOR ALL ROOMS EXCEPT WARMING PANTRY, TOILET ROOMS, AND WHERE NOTED OTHERWISE
WB-2	6" THERMOSET RUBBER WALL BASE (ROLLED MATERIAL WITH NO SEAMS AND PREFORMED CORNERS)	COLOR: TB3 DOVER MANUFACTURED BY JOHNSONITE BASEWORKS
WB-3	CERAMIC TILE	6"x12" UNPOLISHED COVE BASE COLOR: SERENE HM20 STYLE: HARMONIST AS MANUFACTURED BY DALTILE W/ EPOXY GROUT: LATICRETE, COLOR: #01 ALABASTER

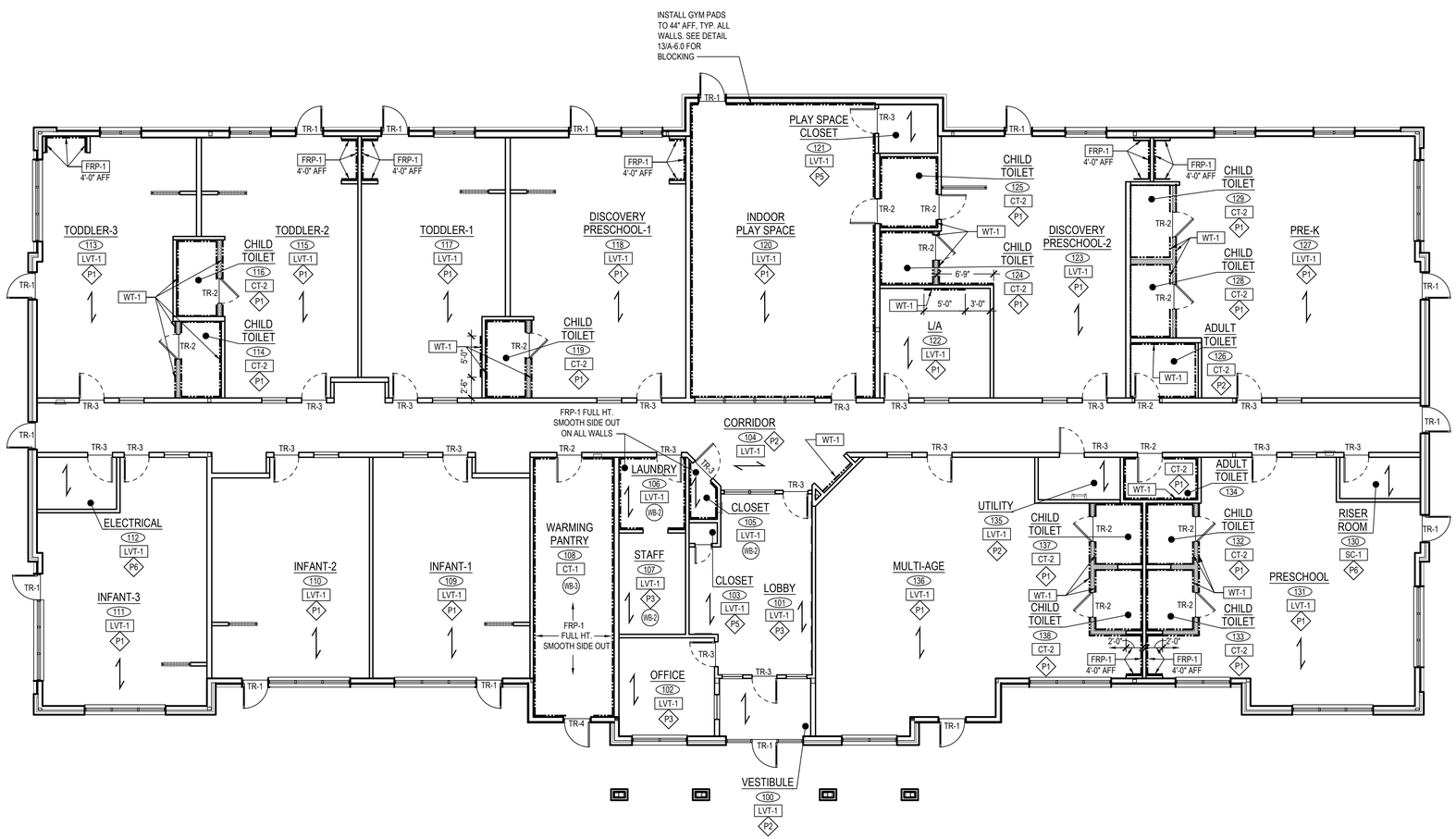
WALLS

MARK	DESCRIPTION	MANUFACTURER/COLOR
CG-1	48" CORNER GUARD	'SSM 20' SERIES AS MANUFACTURED BY CONSTRUCTION SPECIALTIES NATIONAL ACCOUNTS. COLOR: 929 OYSTER GRAY
WT-1	PORCELAIN TILE	12"x24" PORCELAIN TILE SERIES: MERIT - COLOR : LIGHT GRAY AS MANUFACTURED BY AMERICAN OLEAN W/ EPOXY GROUT COLOR: #14 BISCUIT
FRP-1	FIBERGLASS REINFORCED PANEL	SMOOTH FRP (S100G) WHITE AS MANUF. BY MARLITE
P1	PAINT	SW6427 "SPROUT" AS MANUFACTURED BY SHERWIN WILLIAMS
P2	PAINT	SW0050 "CLASSIC LIGHT BUFF" AS MANUFACTURED BY SHERWIN WILLIAMS
P3	PAINT	SW6476 "GLIMMER" AS MANUFACTURED BY SHERWIN WILLIAMS
P4	PAINT	SW4031 "STRUCTURAL GRAY" AS MANUFACTURED BY SHERWIN WILLIAMS
P5	NOT USED	NOT USED
P6	PAINT	SW6147 "PANDA WHITE" AS MANUFACTURED BY SHERWIN WILLIAMS
P7	PAINT	SW8917 "SHELL WHITE" AS MANUFACTURED BY SHERWIN WILLIAMS

CASEWORK (CAP FIXTURES)

MARK	DESCRIPTION	MANUFACTURER/COLOR
PL-1	PLASTIC LAM., CABINETS	WILSONART - FRISTON ASH 8229K-79
PL-2	PLASTIC LAM., COUNTERTOP	WILSONART - GRAPHITE NEBULA 4323-60 - CASPIAN FINISH
SS-1	SOLID SURFACE, COUNTERTOP	SOLID SURFACING - LUNA SAND

NOTES:
1. ALL INTERIOR FINISHES SHALL COMPLY WITH THE AHJ.
2. INTERIOR FINISH MATERIALS APPLIED TO WALLS AND CEILINGS SHALL BE TESTED IN ACCORDANCE WITH AHJ.
3. ANY DECORATIONS SHALL BE NON-COMBUSTIBLE OR FLAME-RETARDANT TREATED IN AN APPROVED MANNER (CURTAINS, DRAPES SHADES, HANGINGS, ETC.)
4. TOILET ROOM FLOORS SHALL HAVE A SMOOTH, HARD NON-ABSORBENT SURFACE SUCH CERAMIC TILE OR OTHER APPROVED MATERIAL THAT EXTENDS UPWARD ONTO THE WALLS AT LEAST 4"
5. SCHLUTER JOLLY A100AT TO BE INSTALLED AT ALL EXPOSED WALL TILE EDGES.



FINISH PLAN

SCALE 1/8" = 1'-0"

GENERAL NOTES

1. FLOORING SHALL BE CONTINUOUS UNDER CHANGING TABLES, SINKS AND COUNTERS.
2. PROVIDE RUBBER TRANSITIONS AT ALL FLOOR FINISH CHANGES (MAX. 1/2" HT.) SEE SCHEDULE THIS SHEET.
3. ALL PAINT SHALL BE SHERWIN WILLIAMS.
4. WALLS TO BE PAINTED AS NOTED ON ROOM NAME TAGS. UNLESS NOTED AS AN ACCENT WALL, ACCENT WALL TO BE PAINTED PER PLAN.
5. ALL WOOD/ MDF TRIM TO BE PAINTED P-7 SEMI-GLOSS FINISH.
6. ALL GYP. BD. CEILING TO BE PAINTED P-6 U.N.O.
7. INTERIOR WALLS: SHERWIN WILLIAMS LATEX SATIN FINISH ; ALL WOOD TRIM TO RECEIVE SEMI-GLOSS FINISH.
8. INTERIOR WOOD DOORS AND FRAMES: PRE-FINISHED AND SUPPLIED THROUGH VENDOR. REFER TO DOOR SCHEDULE ON A-8.0.
9. PROVIDE CORNER GUARDS AT ALL OUTSIDE CORNERS, WHETHER CALLED FOR OR NOT CALLED FOR. SEE CG-1 THIS SHEET. CORNER GUARD TO BE INSTALLED ABOVE WALL BASE.
10. PAINT TOUCH UP WILL NOT BE ACCEPTED, ANY TOUCH UP TO SPAN FULL LENGTH OF WALL. GENERAL CONTRACTOR TO ENSURE NO BLEMISHES OR PATTERNS ARE APPARENT IN PAINT JOB.
11. GENERAL CONTRACTOR TO PROVIDE RAM BOARD OVER TOP OF ALL FLOORING AFTER INSTALLATION FOR PROTECTION OF SURFACE DURING CONSTRUCTION.
12. ALL COUNTERTOPS TO BE SS-1 U.N.O.

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
	03/18/2026	PERMIT SET
1		
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FLOOR FINISH PLAN

DATE 03/02/2026

JOB NO. 25027

A-1.1

SHEET NO.

SYMBOL LEGEND

1	WARMING PANTRY DESIGNATION - REFER TO SHEET A-1.3
A	CASEWORK DESIGNATION - REFER TO THIS SHEET
1	EQUIPMENT DESIGNATION - REFER TO THIS SHEET
W-1	WATER CLOSET DESIGNATION - REFER TO SHEET A-1.3

EQUIPMENT SCHEDULE 1

MARK	DESCRIPTION	DIMENSIONS (INCHES) W	D	H	MOUNTING WALL	CEILING	FLOOR	COUNTER	RESPON. PROVIDED/ INSTALLED T/T	T/C	C/C	SERVICES ELECTRIC	TELEDAT	PLUMBING	OTHER	REMARKS
1	PAPER TOWEL DISPENSER	9.25"	8.75"	11.5"	●						●					T600-W; VERIFY INSTALLATION ALLOWS DOOR TO OPEN FULLY
2	NOT USED															
3	WATER HEATER	-	-	-							●	●		●		SEE A-2.1 FOR LOCATION & PLUMBING FOR ADDITIONAL INFO
4	SOAP DISPENSER	5.6"	4.6"	10.7"	●						●					REQUIRED VENDOR 'ECO LAB' SEE NOTE 3
5	GRAB BAR	-	-	-	●						●					SEE SHEET A-1.3 FOR SIZES AND MOUNTING HEIGHTS
6	REST ROOM MIRROR	24"	1"	36"	●						●					BOBRICK B293-2436 - MOUNT BOTTOM OF REFLECTIVE SURFACE 40" A.F.F.
7	MOP SINK	24"	24"	10"	●						●					SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION
8	TOILET PAPER DISPENSER	13.6"	5.73"	8.6"	●						●					R3670WHCL, SEE NOTE 1. SEE SHEET A-1.3 FOR MOUNTING HT.
9	REFRIGERATOR (STAFF)	32"	30"	65"			●				●	●				20-21 CU ; COLOR: BLACK
10	DRYER	27"	32"	39"			●				●	●				WHIRLPOOL - WED5620HW, PEDESTAL - WFP2715HW
11	WASHER	27"	31"	39"			●				●	●		●		WHIRLPOOL - WFW560CHW, PEDESTAL - WFP2715HW
12	SMALL MIRROR	24	1"	18"	●						●					BOBRICK B165 CUSTOM SIZE - MOUNT 1" ABOVE BACK SPLASH
13	REFRIGERATOR (INFANTS)	23.4"	24.7"	31.5"			●				●	●				HOSHIZAKI HR24C; TO BE PROVIDED BY CONTRACTOR
14	ELECTRIC WATER COOLER	-	-	-								●		●		SEE PLUMBING DWGS FOR ADDITIONAL INFORMATION
15	MICROWAVE	21"	16"	12"	●						●	●				GE - JES1460DSBB
16	MOP HOOKS	-	-	-	●						●					MOUNTED ABOVE FLOOR SINK
17	NOT USED															SEE DETAIL 5/A-6.0
18	FIRE EXTINGUISHER				●						●					SEE DETAIL 1C/A7.0 & SHT. A-0.1 AND SPECS. FOR ADDITIONAL INFORMATION
19	NOT USED															
20	MOP SINK SOAP DISPENSER				●						●			●		REQUIRED VENDOR AND INSTALLER 'ECO LAB' SEE NOTE 2
21	COPIER								●							
22	THERMOSTAT CABINET	15.38"	1.5"	30.38"	●						●					SEE DETAIL 1D/A7.0
23	SMALL MIRROR	24	1"	16"	●						●					BOBRICK B165 CUSTOM SIZE - MOUNT 1" ABOVE BACK SPLASH

NOTES:

1. ALL PAPER DISPENSERS ARE PROVIDED AT NO COST. CONTACT NATIONAL ACCOUNT MANAGER, SEE COVER SHEET FOR CONTACT INFORMATION.
2. MOP SINK SOAP DISPENSER TO BE SUPPLIED BY GENERAL CONTRACTOR THROUGH REQUIRED VENDOR 'ECO LAB' AND INSTALLED BY VENDOR. GENERAL CONTRACTOR TO PLACE ORDER 30 DAYS PRIOR TO INSTALL. ECO LAB WILL SHIP MATERIALS TO SITE, GENERAL CONTRACTOR TO STORE ON SITE UNTIL INSTALL. SEE COVER SHEET FOR ECO LAB REPRESENTATIVE.
3. ECO LAB HAND SOAP DISPENSER TO BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR THROUGH ECO LAB VENDOR ABOVE. SEE COVER SHEET FOR CONTACT INFORMATION.
4. PROVIDE WOOD BLOCKING FOR ALL WALL MOUNTED EQUIPMENT AND DEVICES.
5. ALL GRAB BARS ARE TO BE 1-1/2" DIAMETER AND FREE OF SHARP EDGES OR ABRASIVE ELEMENTS. EDGES TO BE ROUNDED.

CASEWORK SCHEDULE A

MARK	PRODUCT NUMBER	MAN. WILLWORK/VENDOR	OTHER	DESCRIPTION	DIMENSIONS (INCHES) W	D	H	MOUNTING WALL	CEILING	FLOOR	RESPON. PROVIDED/ INSTALLED T/T	T/C	C/C	SERVICES ELECTRIC	TELEDAT	PLUMBING	OTHER	NOTES & REFERENCE
A1	8914A	●		CHANGE TABLE RH	60"	23.6"	33.5"			●			●			●		3/A-7.0
A2	8913A	●		CHANGE TABLE LH	60"	23.6"	33.5"			●			●			●		3/A-7.0
B	--			NOT USED	-	-	-											
C1	KC.0044	●		TEACHER HAND SINK RH	60"	23.6"	33.5"			●			●			●		4A & 5A/A-7.0
C2	2911A	●		TEACHER HAND SINK LH	60"	23.6"	33.5"			●			●			●		4B & 5B/A-7.0
D	--			SOLID BACKSPLASH	-	-	-	●					●					
D1	2901R	●		SOLID ENDSPLASH	24.5"	0.5"	4"	●					●					NOTE 6 & 11
E	2866A	●		4-UNIT CUBBIE	28"	14"	51.5"	●					●					NOTE 7, 2/A-7.0
F	2730A, 2732A	●		TEACHER STORAGE	(2) 24"	23"	84"			●			●					1A/A-7.0
G	2882R, 2883R, 2884R		●	S L T SS WALL CAPS	-	-	-						●					NOTE 3, 8, 12 & 3A/A-6.0
H	--		●	CRIB	40"	27"	41"				●							
J	--			NOT USED	-	-	-											
K1	KC.0007	●		DIAPER STORAGE	34.6"	14.5"	24.25"	●					●					3/A-7.0
K2	2828A	●		DIAPER STORAGE	46"	14.5"	24.25"	●					●					3/A-7.0
K3	KC.0005	●		DIAPER STORAGE	57.25	14.5"	24.25"	●					●					3/A-7.0
K4	--			NOT USED														
L1	--		●	ROOM SIGNAGE	8.5"	-	3"	●				●						NOTE 5, 6A/A-7.0
L2	--		●	ROOM SIGNAGE	8.5"	-	14.5"	●				●						NOTE 5, 6B/A-7.0
M	5346		●	SS WINDOW SILL	VAR	6"	0.5"						●					NOTE 12
P1	--		●	DISPLAY BOARD	60.6"	-	36"	●			●							7/A-7.0
P2	--		●	DISPLAY BOARD	60.6"	-	36"	●			●							7/A-7.0
P3	--		●	DISPLAY BOARD	36"	-	36"	●			●							7/A-7.0
P4	--		●	DRY ERASE BOARD	36"	-	24"	●			●							7/A-7.0
Q	KC.0057	●		CAR SEAT STORAGE	38.25"	30"	96"			●			●					11B/A-7.0
R1	2639A	●		WALL/STEREO CAB.	30"	13.5"	26.5"	●					●	●				
R2	--			NOT USED	-	-	-											
R3	2796A	●		REFRIG. CABINET	28"	13.5"	15"	●					●					
R4	2574A	●		WALL CABINET	36"	13.5"	36"	●					●					
R5	2879A	●		WALL CABINET	30"	9.5"	36"	●					●					
R6	KC.0012	●		MICROWAVE CAB.	36"	13.5"	36"	●					●	●				
R7	2638A	●		WALL CABINET	30"	13.5"	26.5"	●					●					
R8	2627A	●		WALL CABINET	24"	13.5"	36"	●					●	●				
R9	--	●		WALL CABINET	15"	13.5"	36"	●					●					
R10	--	●		WALL CABINET	28"	13.5"	26.5"	●					●					
S	--			NOT USED	-	-	-											
T	--	●		LOOSE FURN.	-	-	-				●							NOTE 13
Y	--			NOT USED	-	-	-											
Z1	KC.0032	●		ADA SINK BASE	36"	23"	23"			●			●			●		
Z2	--			NOT USED	-	-	-											
Z3	--			NOT USED	-	-	-											
Z4	KC.0022	●		BASE CABINET	36"	24"	33"			●			●					
Z5	--			NOT USED	-	-	-											
Z6	KC.0037	●		BASE CABINET	15"	24"	33"			●			●					
AA1	--			NOT USED	-	-	-											
AA2	--			NOT USED	-	-	-											
BB	2867R	●		OVERLAY END PANEL	0.75"	14"	55.5"	●					●					2/A-7.0
CC	KC.0048	●		INFANT DRESSER	24"	24"	-					●						
DD	--			NOT USED	-	-	-											
EE	2947A	●		DATA CENTER	36"	24"	84"	●		●			●					9/A-7.0
FF	--			NOT USED	-	-	-											
GG	--			NOT USED	-	-	-											
HH	--			NOT USED	-	-	-											
JJ	--			NOT USED	-	-	-											
KK	--			NOT USED	-	-	-											
LL	2963R	●		CORNER FILLER	16"	16"	51.5"	●					●					
MM1	2850R	●		HPL COUNTERTOP (PL-1)	VAR.	24.5"	5"	●					●					
MM2	2850R	●		HPL COUNTERTOP (PL-2)	VAR.	24.5"	5"	●					●					
NN	KC.0058	●		HALL STORAGE	36"	30"	96"				●		●					11A/A-7.0

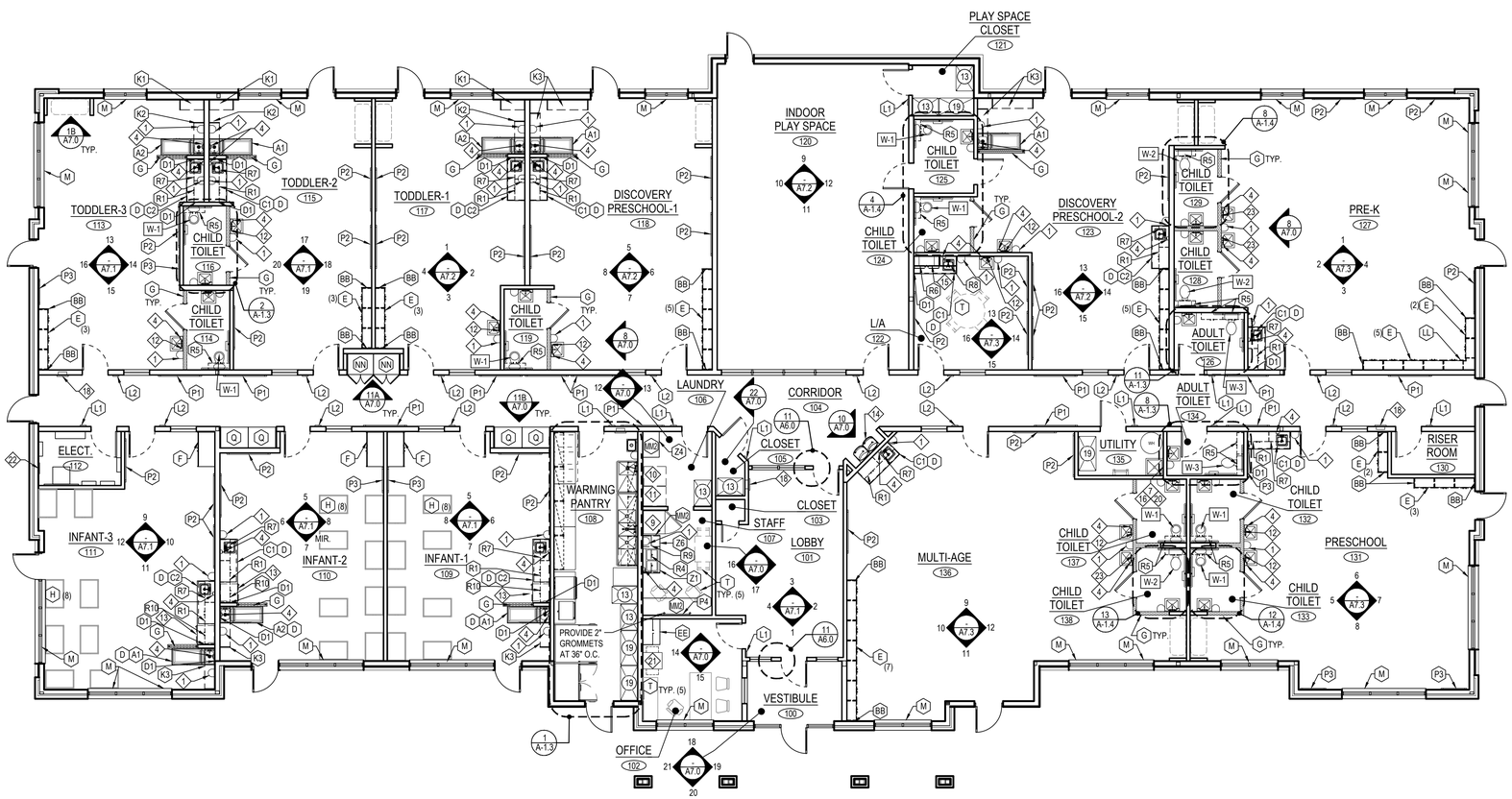
NOTES:

1. PROVIDE WOOD BLOCKING FOR ALL WALL MOUNTED EQUIPMENT AND DEVICES.
2. PROVIDE LOCK FOR ALL LOWER CABINET DOORS.
3. SEE DETAIL 1 & 9/A6.0 FOR ALL WALL HUNG CABINETS.
4. REFER TO CASEWORK DETAILS AND INTERIOR ELEVATIONS FOR MOUNT HEIGHTS.
5. REFER TO TENANT INTERIOR SIGN DRAWINGS AND COORDINATE WITH SIGN VENDOR.
6. CUT DOWN IN FIELD WHERE SHORTER THAN COUNTER.
7. PROVIDE DEEP PLASTIC BASKETS AND OVERLAY PANEL #2867R AT ENDS.
8. COMES IN 6' LENGTH, "T" SHAPE AND 'L' SHAPE- CAP ALL LOW WALLS.
9. ALL MILLWORK WITH DOORS NEXT TO A WALL TO HAVE 1" SCRIBE SPACER AT WALL.
10. GENERAL CONTRACTOR SHALL INSTALL ALL ROOM SIGNAGE PROVIDED BY TENANT.
11. PROVIDE WHEN BASE CABINET END IS PLACED AGAINST A WALL.
12. SOLID SURFACE WALL CAPS AND WINDOW SILLS TO BE CORIAN, COLOR: WHITE. PROVIDED AND INSTALLED BY G.C.
13. LOOSE FURNITURE ORDERED AND INSTALLED BY TENANT SET UP TEAM.
14. OFFICE AND STAFF ROOM CABINETS ARE TO BE KEYED DIFFERENTLY.

FURNITURE NOTE: ALL VENDOR CASEWORK SHALL BE PL-1 . REFER TO FINISH SCHEDULE ON A-1.1. COORDINATE WITH CASEWORK MANUFACTURER TO ENSURE THE PROPER FINISHES ARE IN THE CORRECT AREAS. SEE INTERIOR ELEVATIONS FOR EXTENT OF NOTES ON ALL CASEWORK. ALL MILLWORK SHALL HAVE THE EDGES AGAINST WALLS SEALED AND FINISHED WITH A SCRIBE.

GENERAL NOTES

1. THE GENERAL CONTRACTOR SHALL ALLOCATE 24 MAN HOURS TO BE USED IN HANGING PHOTO ART WITH APPROVED FASTENERS, BOLTING DOWN EQUIPMENT AS NEEDED TO FLOORS AND WALLS, I.E. DRESSERS, CROCK POTS, REFRIGERATORS, ETC. AND MISC. ITEMS WHICH THE CENTER DIRECTORS NEED TO HAVE PERMANENTLY ATTACHED TO WALLS FOR FLAT SURFACES.
2. SEE INTERIOR ELEVATIONS FOR ANY ADDITIONAL CASEWORK OR EQUIPMENT NOT SHOWN ON THIS PLAN.
3. SEE A-6.0 FOR ADDITIONAL DIMENSIONING OF CASEWORK.
4. CONTRACTOR SHALL COORDINATE ALL TRADES TO ENSURE THERE ARE NO OUTLETS, INTERCOMS, SWITCHES, THERMOSTATS, ETC. LOCATED IN ANY DISPLAY BOARD (P).
5. PROVIDE WOOD BLOCKING FOR ALL WALL MOUNTED FIXTURES, AND EQUIPMENT.
6. ALL WORK TABLES, SINKS, TILE, MILLWORK, ETC. TO BE CONTINUOUSLY CAULKED AT EDGES.
7. REFER TO ENLARGED PLANS FOR EXTENT OF CASEWORK AND EQUIPMENT IN RESTROOMS.
8. ENTRAPMENT: THE DISTANCE BETWEEN ANY OPPOSING SURFACES OR OBJECTS SHALL NOT BE GREATER THAN 3 1/2" AND LESS THAN 9". GC TO ENSURE NOTHING IS CONSTRUCTED THAT RESULTS IN AN ENTRAPMENT AREA. INCLUDING BUT NOT LIMITED TO ALL MILLWORK, GLAZING AND ALCOVES
9. GC TO INSTALL 42"H WALL PADS AROUND PERIMETER OF INDOOR PLAY SPACE.



FIXTURE PLAN

SCALE 1/8" = 1'-0"

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

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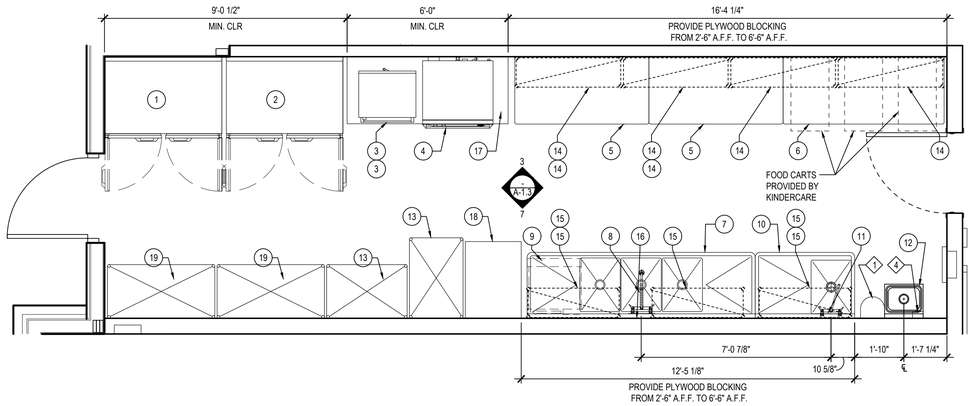
CASEWORK AND EQUIPMENT PLAN

DATE 03/02/2026

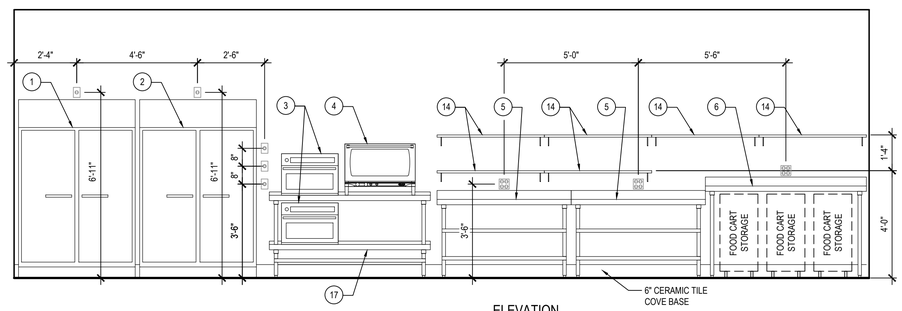
JOB NO. 25027

A-1.2

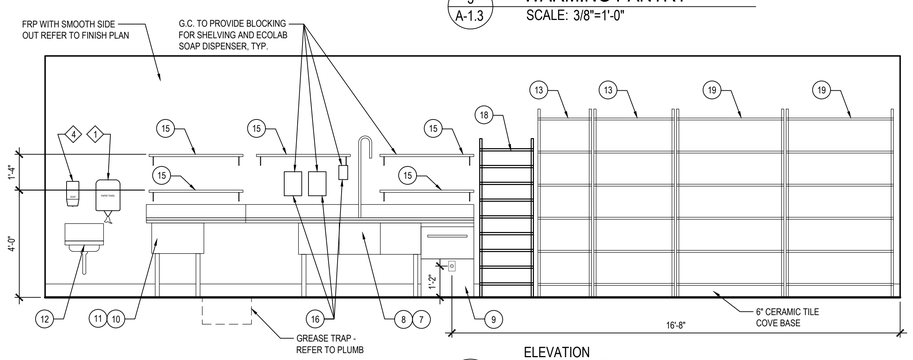
SHEET NO.



1 A-1.3 ENLARGED
WARMING PANTRY PLAN
SCALE: 3/8"=1'-0"

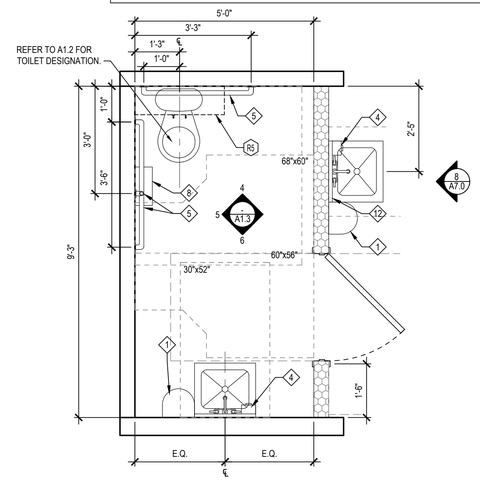


3 A-1.3 ELEVATION
WARMING PANTRY
SCALE: 3/8"=1'-0"



7 A-1.3 ELEVATION
WARMING PANTRY
SCALE: 3/8"=1'-0"

TOILET ROOM NOTES:
1. REFER TO SHEET A1.2 FOR CASEWORK AND EQUIPMENT SCHEDULES
2. PLUMBING FIXTURES AND ACCESSORY LOCATIONS ARE DIMENSIONED FROM FINISHED FACE OF WALL. REFER TO FINISH SCHEDULE AND ELEVATIONS.
3. GRAB BARS TO BE 1-1/2" IN DIAMETER.
4. TOILETS LABELED AS W-1 ARE 10" HIGH.
   TOILETS LABELED AS W-2 ARE 15" HIGH.
   TOILETS LABELED AS W-3 ARE 16.5" HIGH.
5. CLASSROOMS WITH W-1 TOILETS SHALL RECEIVE CHILD LAVATORIES MOUNTED AT 22" A.F.F.
6. CLASSROOMS WITH W-2 TOILETS SHALL RECEIVE CHILD LAVATORIES MOUNTED AT 26" A.F.F.
7. TOP OF LIGHT SWITCH BOX IN CHILD TOILET ROOMS SHOULD BE 44" A.F.F.



2 A-1.3 ENLARGED PLAN
CHILD RESTROOM
SCALE: 1/2"=1'-0"

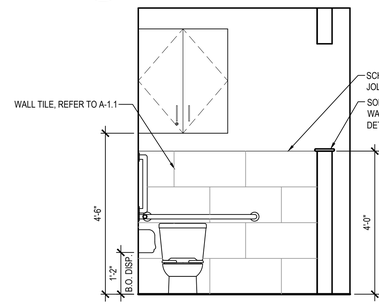
WARMING PANTRY SCHEDULE (1)

MARK	DESCRIPTION	MFG	MODEL	MOUNTING: WALL	MOUNTING: COUNTER	MOUNTING: FLOOR	RESPON. PROVIDED/INSTALLED: T/T	T/C	C/C	SERVICES: ELECTRIC	TELE/DAT	PLUMBING	OTHER
1	FREEZER, REACH-IN	MIGALI INDUSTRIES	C-2F-HC			●			●	●			
2	REFRIGERATOR, REACH-IN	MIGALI INDUSTRIES	C-2R-HC			●			●	●			
3	SONIC STEAMER	PANASONIC	NE-2180		●				●	●			
4	COUNTERTOP CONVECTION OVEN	CADCO	XAF-193		●				●	●			
5	2" REAR SPLASH, 5' WORK TABLE, UNDERSHELF	SERV-WARE	T3060CWP-3-T			●			●				
6	2" REAR SPLASH, 6' WORK TABLE, UNDERSHELF	SERV-WARE	CUSTOM			●			●				
7	SINK, THREE COMP.	SERV-WARE	E3CWP18242-24			●			●			●	
8	14" CENTER WALL MOUNT FAUCET W/ SWING SPOUT ADD ON	NBR FAUCETS	P3W8S14-PU	●					●			●	
9	COMMERCIAL DISH WASHER	CMA DISHMACHINES	H-1X						●	●		●	
10	SINK, ONE COMP	SERV-WARE	E1CWP1824R-24	●					●			●	
11	FAUCET, WALL MOUNT	ZURN	Z842H1-XL	●					●			●	
12	STANDARD HAND SINK	SERV-WARE	HS15S-CWP	●					●			●	
13	WIRE SHELVING	QUANTUM FOOD	1836C						●				
14	WALL SHELVING 48"X14"	QUANTUM FOOD	1448C	●					●				
15	WALL SHELVING 42"X14"	QUANTUM FOOD	1442C	●					●				
16	3 COMP SOAP AND SANITIZER DISPENSER	ECO LAB		●					●			●	
17	APPLIANCE CART	PRO LOAD	CUSTOM			●			●				
18	CAN RACK	ADVANCE TABCO	CR10-162M-X			●			●				
19	WIRE SHELVING	QUANTUM FOOD	1848C						●				
20	NOT USED												

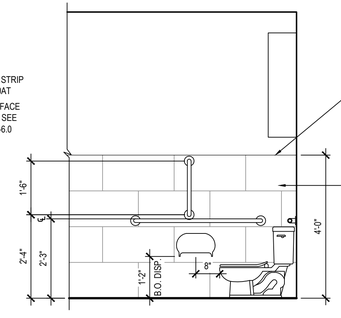
NOTES:
1. WARMING PANTRY EQUIPMENT REQUIRED NATIONAL ACCOUNT VENDOR: REFER TO SHEET A-0.0 FOR CONTACT INFO.
2. 3 COMP SINK SOAP AND SANITIZER DISPENSER TO BE SUPPLIED BY GENERAL CONTRACTOR THROUGH REQUIRED NATIONAL ACCOUNT VENDOR 'ECO LAB' AND INSTALLED BY NATIONAL ACCOUNT VENDOR. GENERAL CONTRACTOR TO PLACE ORDER 30 DAYS PRIOR TO INSTALL. ECO LAB WILL SHIP MATERIALS TO SITE, GENERAL CONTRACTOR TO STORE ON SITE UNTIL INSTALL. REFER TO SHEET A-0.0 FOR CONTACT INFO OF ECO LAB REPRESENTATIVE.
3. GENERAL CONTRACTOR TO INSTALL THE MANUFACTURER PROVIDED WHEELS FOR THE REACH-IN FREEZER AND REFRIGERATOR. WHEELS ARE DELIVERED INSIDE THE UNITS.

SYMBOL LEGEND

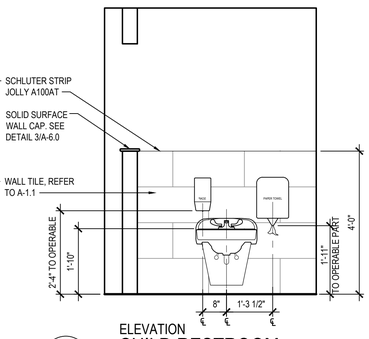
(1) WARMING PANTRY DESIGNATION - REFER TO SHEET A-1.3
(A) CASEWORK DESIGNATION - REFER TO SHEET A-1.2
(1) EQUIPMENT DESIGNATION - REFER TO SHEET A-1.2



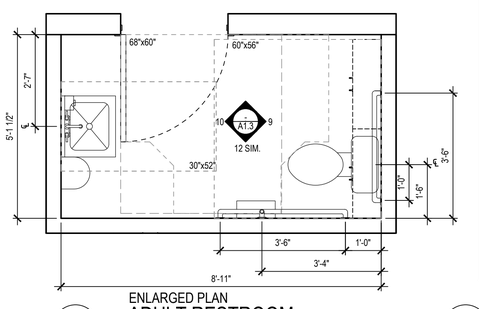
4 A-1.3 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



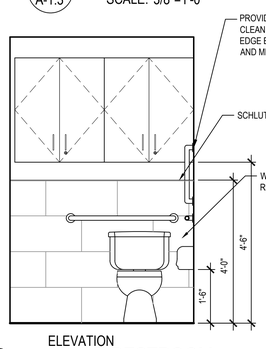
5 A-1.3 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



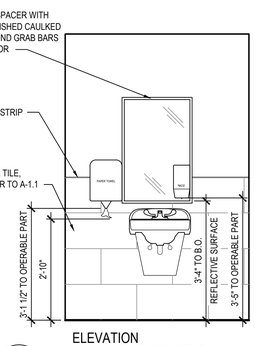
6 A-1.3 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



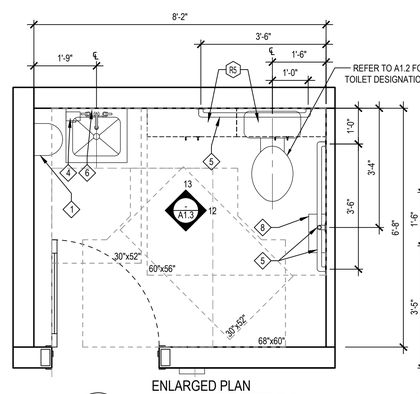
8 A-1.3 ENLARGED PLAN
ADULT RESTROOM
SCALE: 1/2"=1'-0"



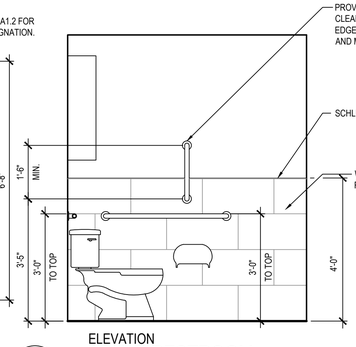
9 A-1.3 ELEVATION
ADULT RESTROOM
SCALE: 1/2"=1'-0"



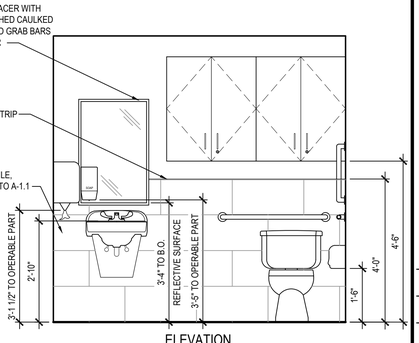
10 A-1.3 ELEVATION
ADULT RESTROOM
SCALE: 1/2"=1'-0"



11 A-1.3 ENLARGED PLAN
ADULT RESTROOM
SCALE: 1/2"=1'-0"



12 A-1.3 ELEVATION
ADULT RESTROOM
SCALE: 1/2"=1'-0"



13 A-1.3 ELEVATION
ADULT RESTROOM
SCALE: 1/2"=1'-0"

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax: (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
1005 STADIUM DR
WAKE FOREST, NC

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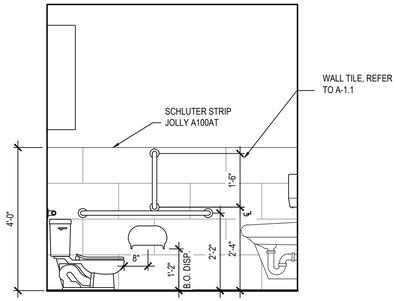
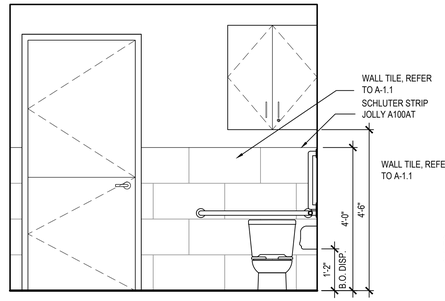
ENLARGED PLANS AND CASEWORK & EQUIP. SCHEDULES

DATE 03/02/2026
JOB NO. 25027

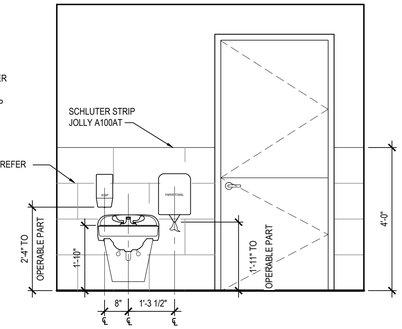
A-1.3
SHEET NO.



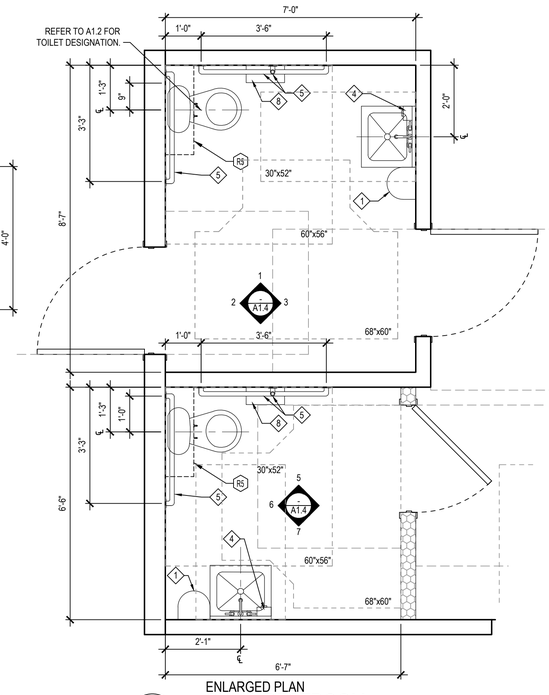
1 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



2 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



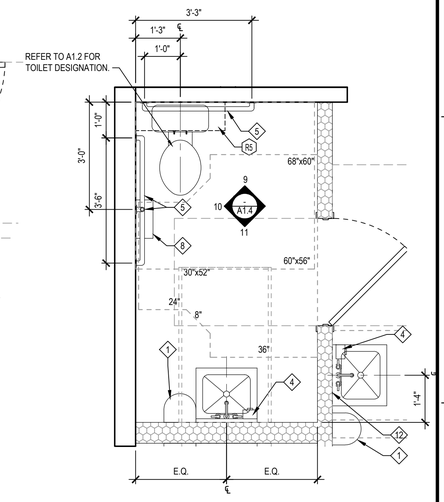
3 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



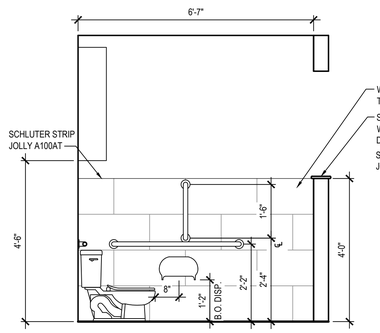
4 A-1.4 ENLARGED PLAN
CHILD RESTROOM
SCALE: 1/2"=1'-0"

SYMBOL LEGEND

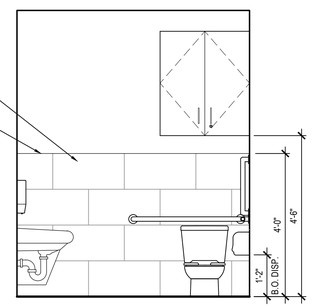
- (1) WARMING PANTRY DESIGNATION - REFER TO SHEET A-1.3
- (A) CASEWORK DESIGNATION - REFER TO SHEET A-1.2
- (1) EQUIPMENT DESIGNATION - REFER TO SHEET A-1.2



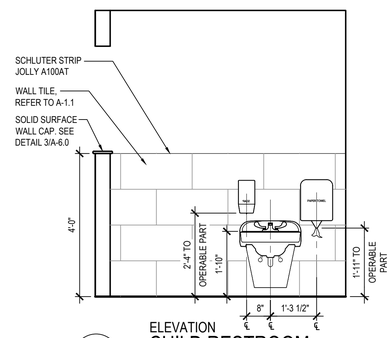
8 A-1.4 ENLARGED PLAN
CHILD RESTROOM
SCALE: 1/2"=1'-0"



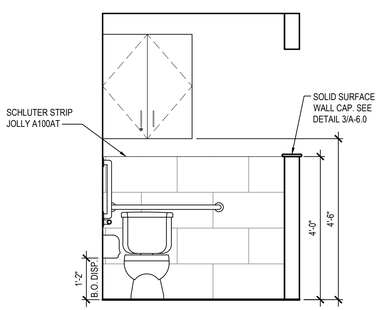
5 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



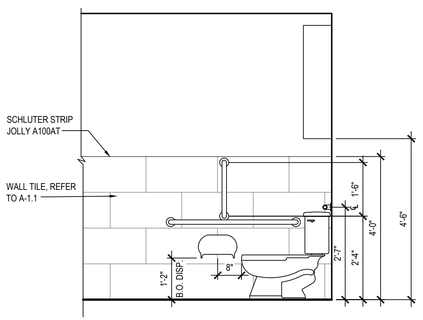
6 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



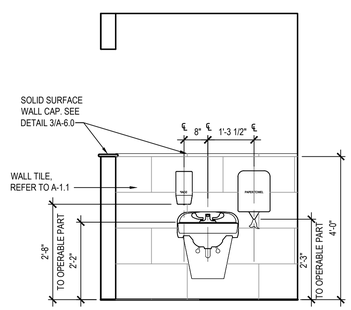
7 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



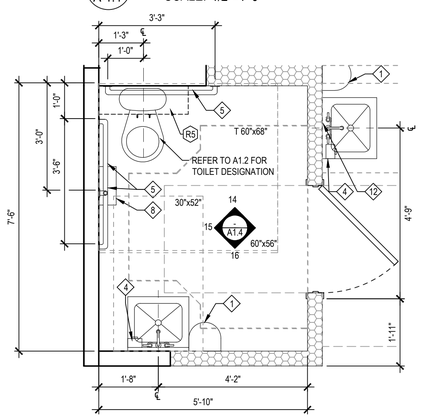
9 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



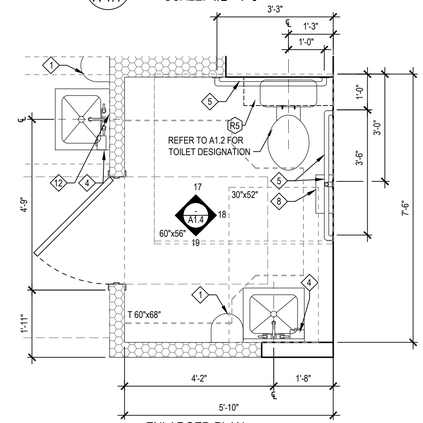
10 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



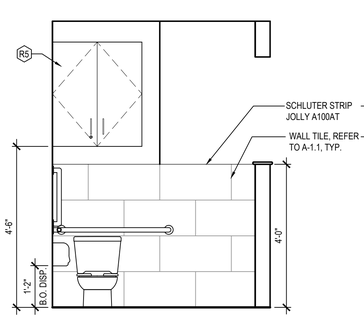
11 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



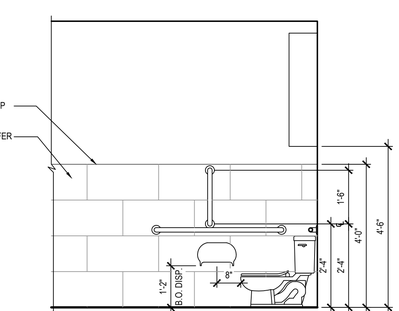
12 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



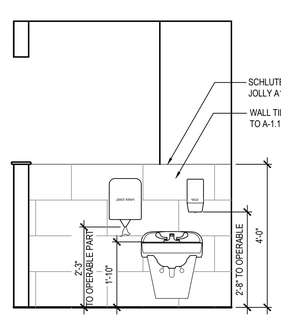
13 A-1.4 ENLARGED PLAN
CHILD RESTROOM
SCALE: 1/2"=1'-0"



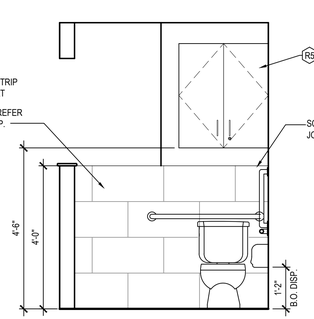
14 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



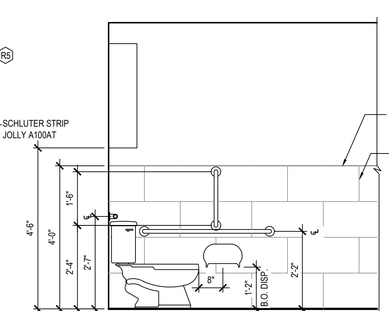
15 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



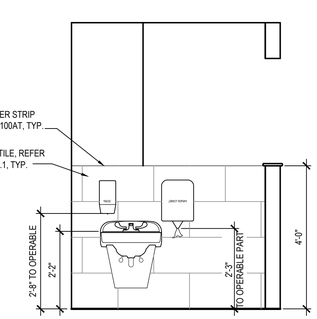
16 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



17 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



18 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"



19 A-1.4 ELEVATION
CHILD RESTROOM
SCALE: 1/2"=1'-0"

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSKY
03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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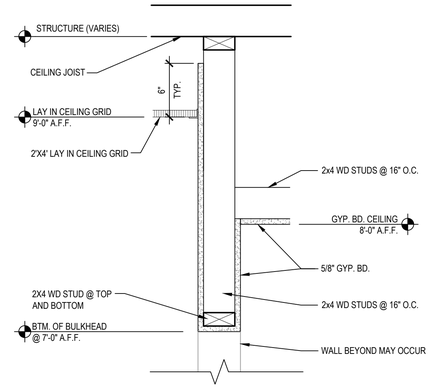
ENLARGED PLANS

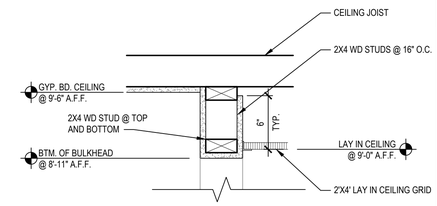
DATE 03/02/2026

JOB NO. 25027

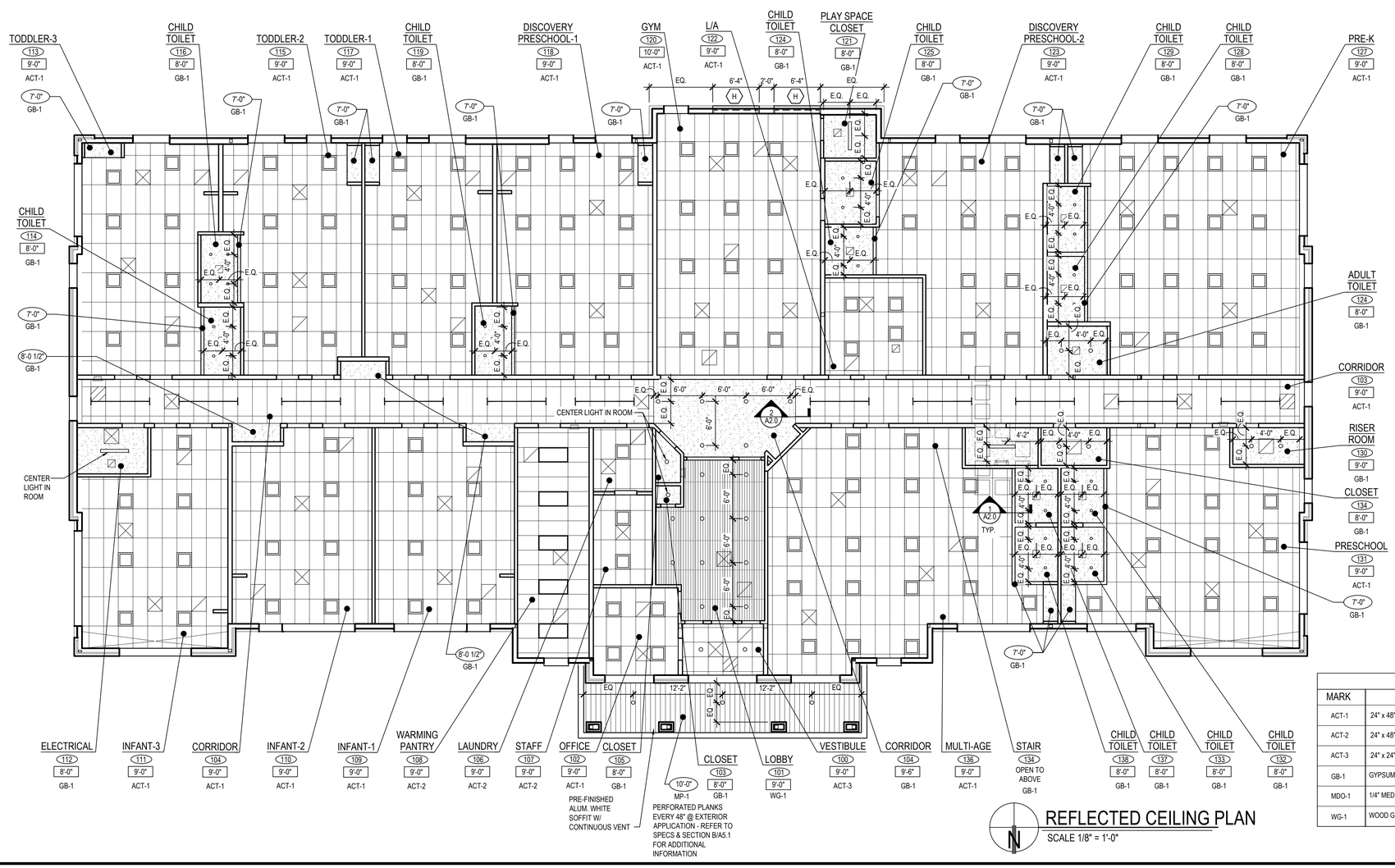
A-1.4
SHEET NO.



1 A-2.0 TOILET ROOM
BULKHEAD DETAIL
SCALE: 1 1/2"=1'-0"



2 A-2.0 CORRIDOR
SOFFIT DETAIL
SCALE: 1 1/2"=1'-0"



REFLECTED CEILING PLAN
SCALE 1/8" = 1'-0"

LEGEND

CEILINGS ARE CENTERED WITHIN ROOM (U.N.O.)

- 2'x4' CEILING. SEE PLAN ON THIS SHEET FOR HEIGHTS
- GYP. BD. CEILING. SEE PLAN ON THIS SHEET FOR HEIGHTS.
- 6" RECESSED LIGHT. SEE ELECTRICAL DRAWINGS
- 2' X 2' LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS
- 4' LONG SURFACE MOUNTED LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS
- 8' LONG SUSPENDED LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS
- 9'-0" — GYP. BD. SOFFIT & BULKHEAD HEIGHTS
- 10'-0" / ACT-1 — CEILING HEIGHT / CEILING TYPE
- DIFFUSER. SEE MECHANICAL DRAWINGS
- RETURN AIR GRILLE. SEE MECHANICAL DRAWINGS
- CEILING MOUNTED UNIT HEATERS
- EXHAUST DIFFUSERS

GENERAL NOTES

NOTE:

1. ALL CEILING HEIGHTS ARE SUBJECT TO LOCAL CODES, MECHANICAL SYSTEM REQUIREMENTS AND POSSIBLE EXISTING CONDITIONS. THE GENERAL INTENT IS TO PROVIDE THE HIGHEST CEILINGS POSSIBLE.
2. SEE MECHANICAL DRAWINGS FOR SUPPLY & RETURN AIR SIZE AND LOCATION, NOTIFY ARCHITECT WITH ANY CONFLICTS OR DISCREPANCIES PRIOR TO CONSTRUCTION.
3. SEE DETAILS THIS SHEET FOR TYPICAL WALL CONSTRUCTION AT CEILING.
4. GENERAL CONTRACTOR TO COORDINATE CONTROL JOINTS IN CEILING WHERE FRAMING CHANGES DIRECTION.

CEILING TYPES

MARK	DESCRIPTION	MANUFACTURER/COLOR
ACT-1	24" x 48" ACOUSTICAL CEILING TILE	USG "MARS CLIMAPLUS" CEILING TILES OR EQ., SEE SPECS.
ACT-2	24" x 48" ACOUSTICAL CEILING TILE	USG "CLEAN ROOM CLIMA PLUS" CEILING TILES (WASHABLE) OR EQ., SEE SPECS.
ACT-3	24" x 24" ACOUSTICAL CEILING TILE	USG "MARS CLIMAPLUS" CEILING TILES OR EQ., SEE SPECS.
GB-1	GYPSUM BOARD	SMOOTH DRYWALL, PAINTED P-6
MDO-1	1/4" MEDIUM DENSITY OVERLAY PANEL	APA MEDIUM DENSITY OVERLAY PLYWOOD PANEL, SEE SPECS.
WG-1	WOOD GRILLE CEILING	USG "TRUE WOOD GRILLES" 24"X48" VERTICAL SLAT PANELS WITH FELT BACKER, COLOR: DARK CHERRY, SEE SPECS

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KARSAY
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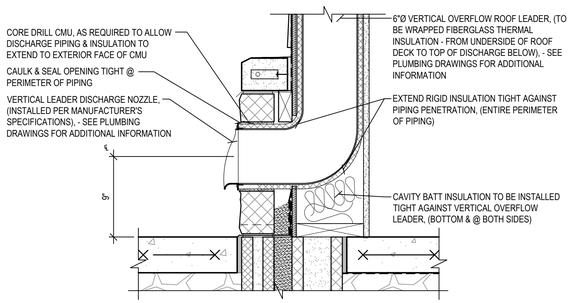
REFLECTED CEILING PLAN

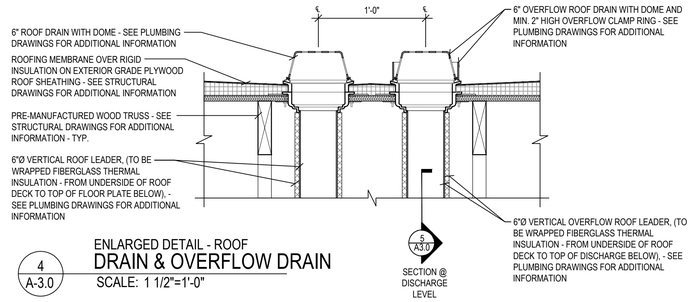
DATE 03/02/2026

JOB NO. 25027

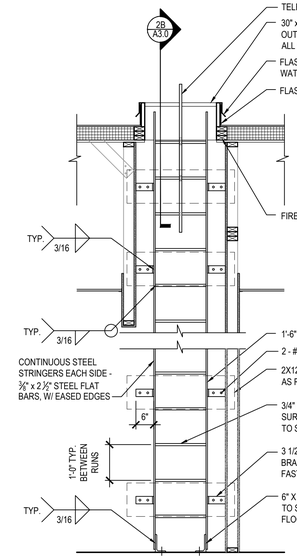
A-2.0
SHEET NO.



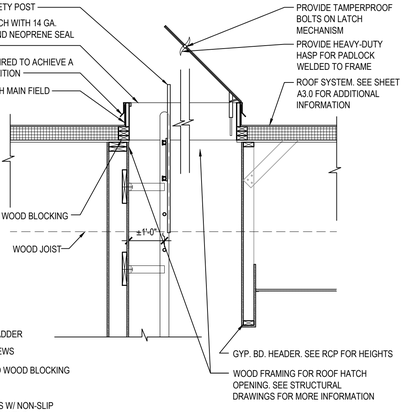
5 A-3.0 ENLARGED DETAIL - OVERFLOW DRAIN DISCHARGE
SCALE: 1 1/2"=1'-0"



4 A-3.0 ENLARGED DETAIL - ROOF DRAIN & OVERFLOW DRAIN
SCALE: 1 1/2"=1'-0"



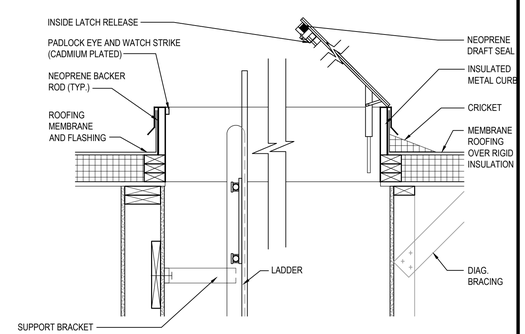
2A A-3.0 DETAIL ROOF LADDER
SCALE: 1/2"=1'-0"



NOTES:

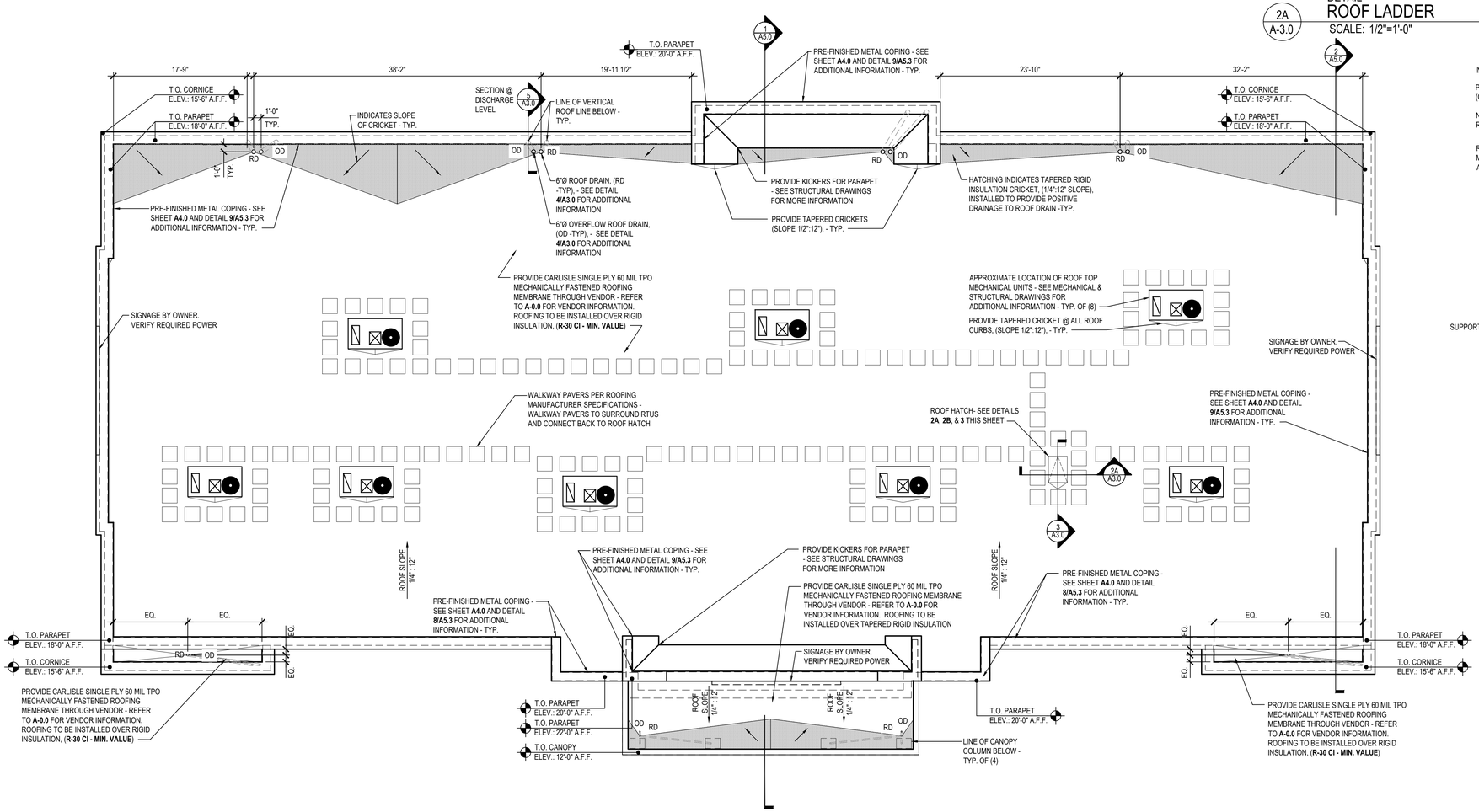
1. PROVIDE EYES FOR PADLOCK AT INTERIOR SIDE
2. SEE ROOF FRAMING FOR LOCATION
3. PROVIDE BILCO 'UP' TELESCOPING TUBULAR SAFETY POST OR EQUIVALENT

2B A-3.0 DETAIL ROOF LADDER
SCALE: 1/2"=1'-0"



PRE-MANUFACTURED GALVANIZED STEEL BILCO TYPE-S 30"X36" ROOF LADDER ACCESS HATCH AND METAL CURB WITH INTEGRAL CAP FLASHING AND INSULATION

3 A-3.0 DETAIL ROOF LADDER
SCALE: 1"=1'-0"



ROOF PLAN
SCALE 1/8" = 1'-0"

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03/18/2026

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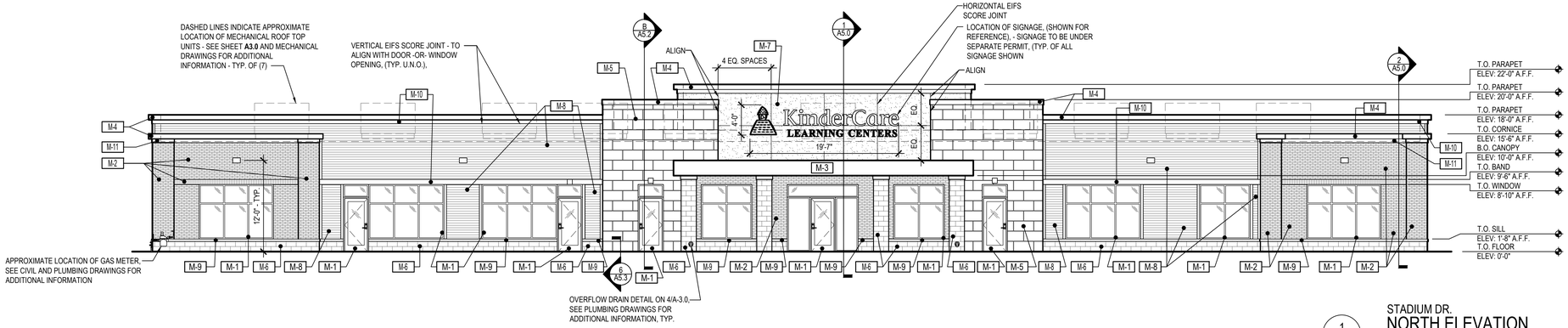
ROOF PLAN

DATE 03/02/2026
JOB NO. 25027

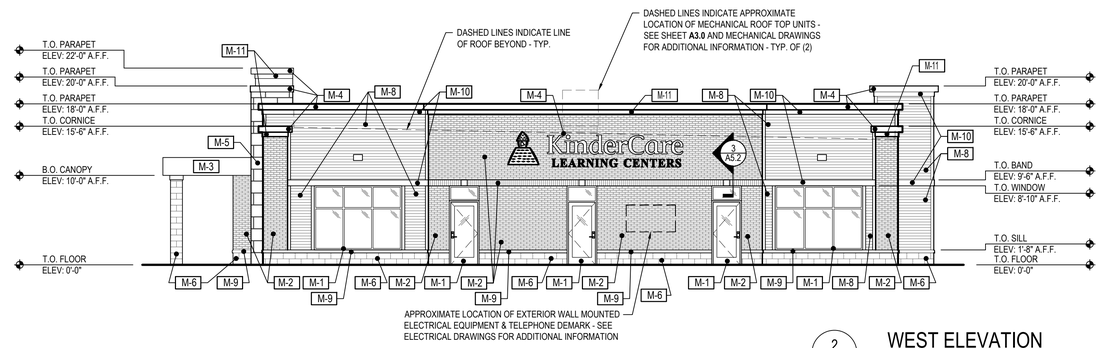
A-3.0
SHEET NO.



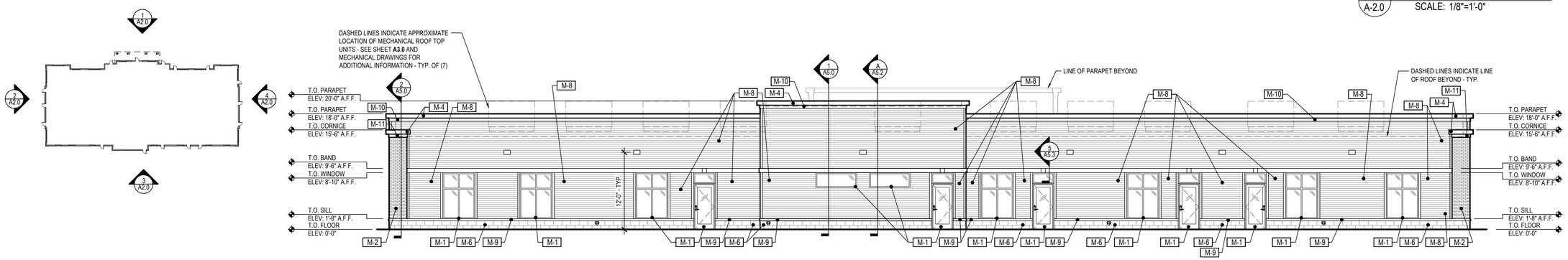
1 A-2.0 STADIUM DR. NORTH ELEVATION
SCALE: 1/8"=1'-0"

EXTERIOR FINISH MATERIAL SCHEDULE

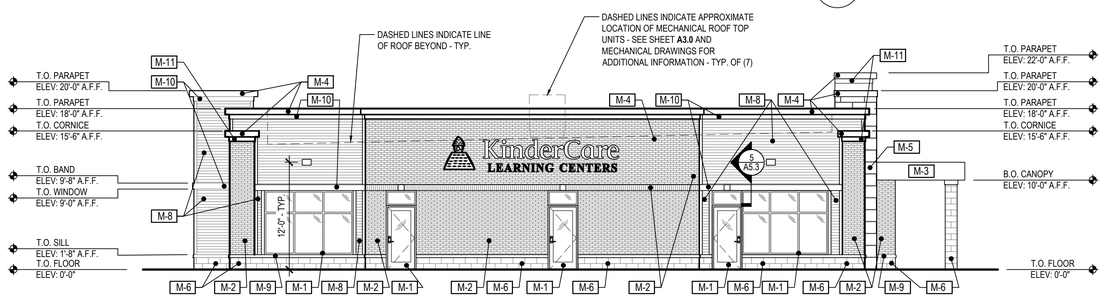
MARK:	MATERIAL:	COLOR / NAME:	REMARKS:
M-1	ALUMINUM	CLEAR ANODIZED	ALUMINUM STOREFRONT
M-2	BRICK	MOUNTAIN RED	CLAY FACE BRICK - MODULAR, MNF. INTERSTATE BRICK
M-3	METAL CANOPY	WHITE	----------
M-4	COPING	GRAY	PRE-FINISHED METAL COPING
M-5	CEMENT PANEL	GENTLE GRAY	NICHIHA FIBER CEMENT PANEL SYSTEM, MASONRY SERIES, SANDSTONE. COMPOSITE CORE PANEL
M-6	SPLIT-FACED CMU	AMCON ROCKFACE / 360 BERRY	IF BRICK IS NOT READILY AVAILABLE PROVIDE OPTIONS FOR OWNER TO APPROVE
M-7	EIFS	OATMEAL	MNF: STO SYSTEM: STO THERM CI FINISH: FINE FINISH (OR EQUAL)
M-8	LAP SIDING	COBBLESTONE / JAMES HARDI	HARDIE PLANK
M-9	SILL & WATER TABLE	VELLUM / CULTURED STONE	CAST-FIT WATERTABLE/ SILL
M-10	TRIM	MONTEREY TAUPE	HARDIE TRIM
M-11	EIFS	OYSTER	MNF: STO SYSTEM: STO THERM CI FINISH: FINE FINISH (OR EQUAL)



2 A-2.0 WEST ELEVATION
SCALE: 1/8"=1'-0"



3 A-2.0 SOUTH ELEVATION
SCALE: 1/8"=1'-0"



4 A-2.0 EAST ELEVATION
SCALE: 1/8"=1'-0"

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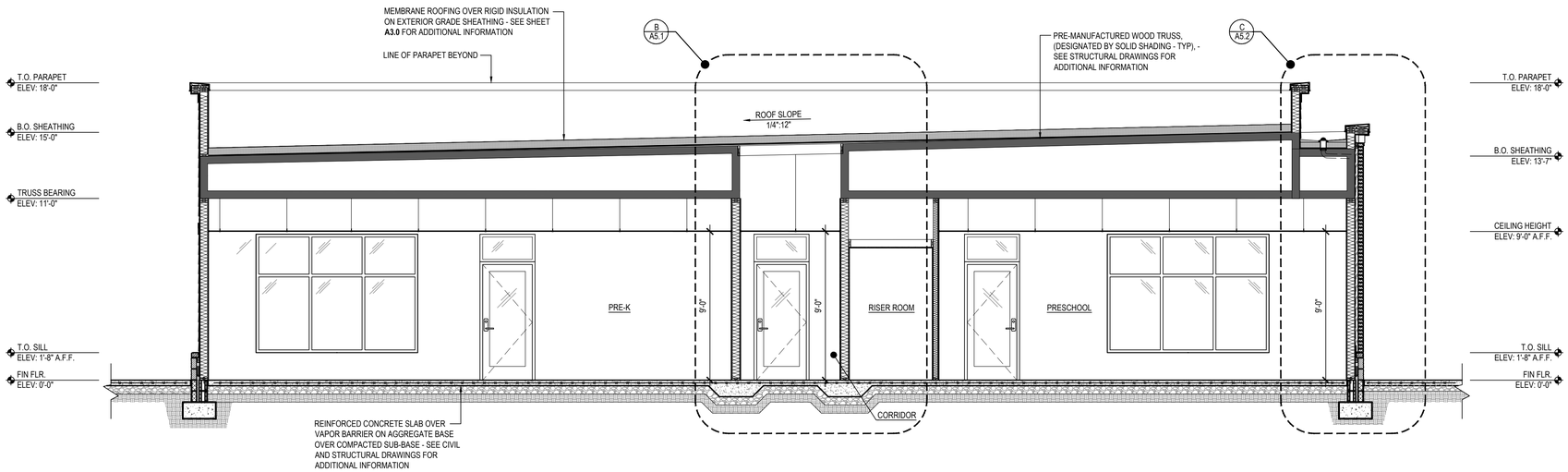
EXTERIOR ELEVATIONS

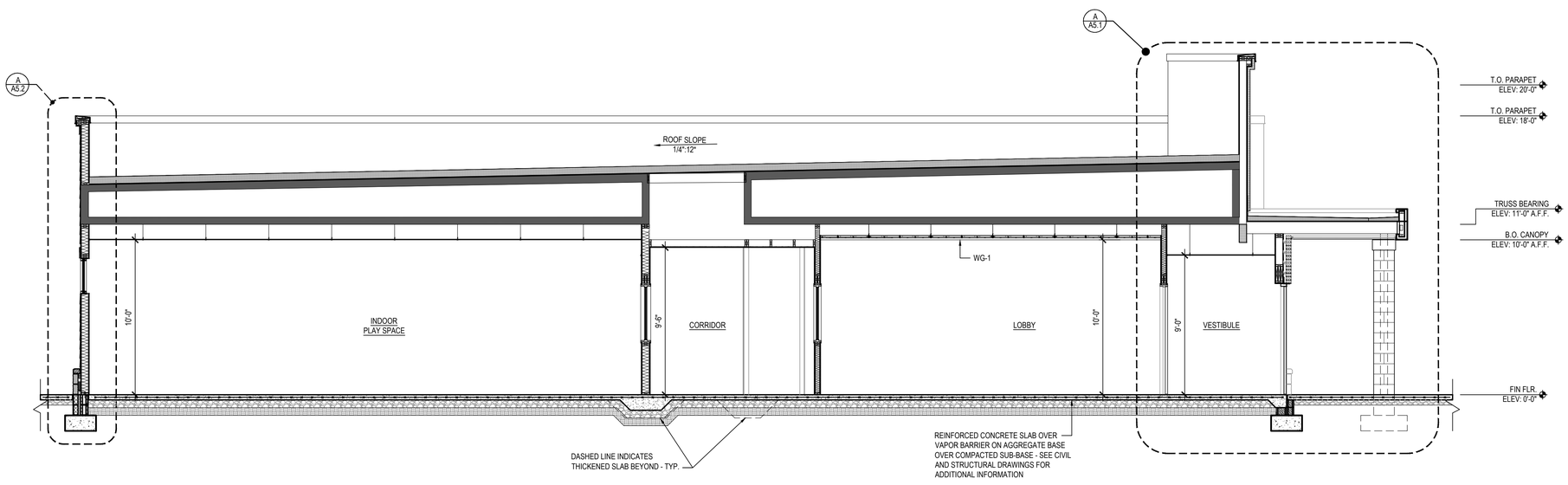
DATE 03/02/2026

JOB NO. 25027

A-4.0
SHEET NO.



2 A-5.0 BUILDING SECTION
SCALE: 1/4"=1'-0"



1 A-5.0 BUILDING SECTION
SCALE: 1/4"=1'-0"

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BUILDING SECTIONS

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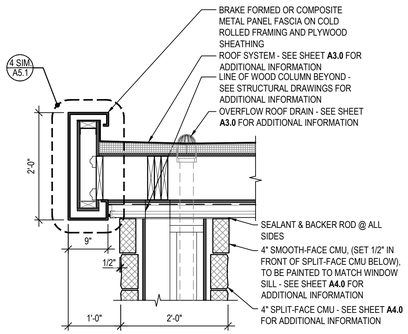
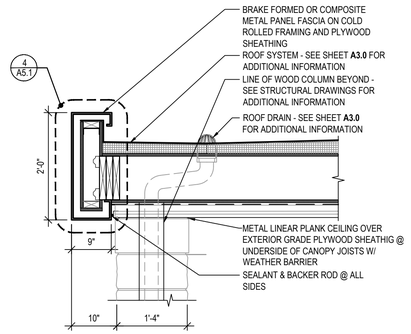
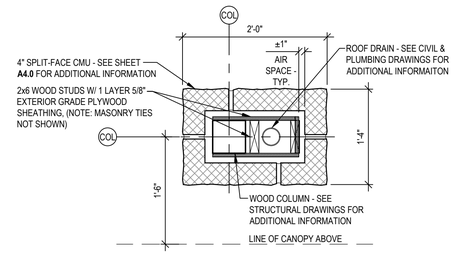
A-5.0
SHEET NO.



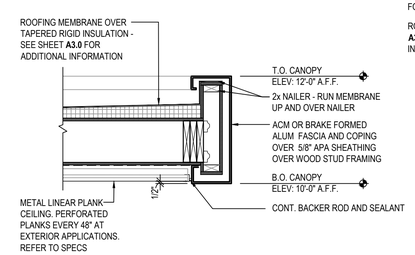
1 A-5.1 CANOPY RETURN DETAIL
AT PIER
SCALE: 3/4"=1'-0"



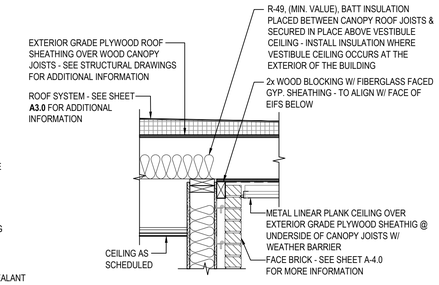
2 A-5.1 CANOPY RETURN DETAIL
AT FASCIA
SCALE: 3/4"=1'-0"



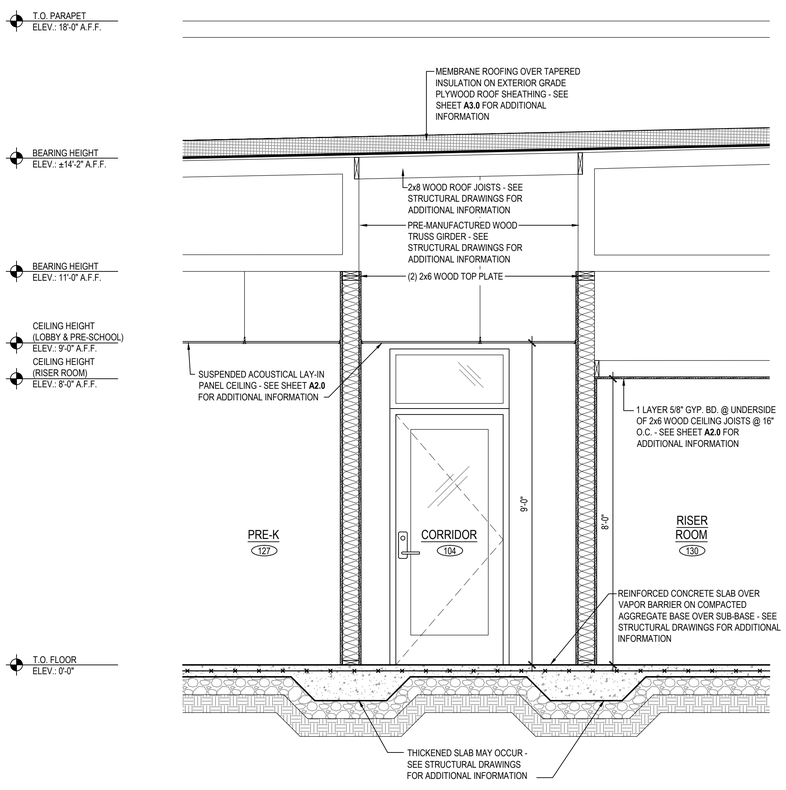
3 A-5.1 DETAIL
PIER PLAN
SCALE: 1"=1'-0"



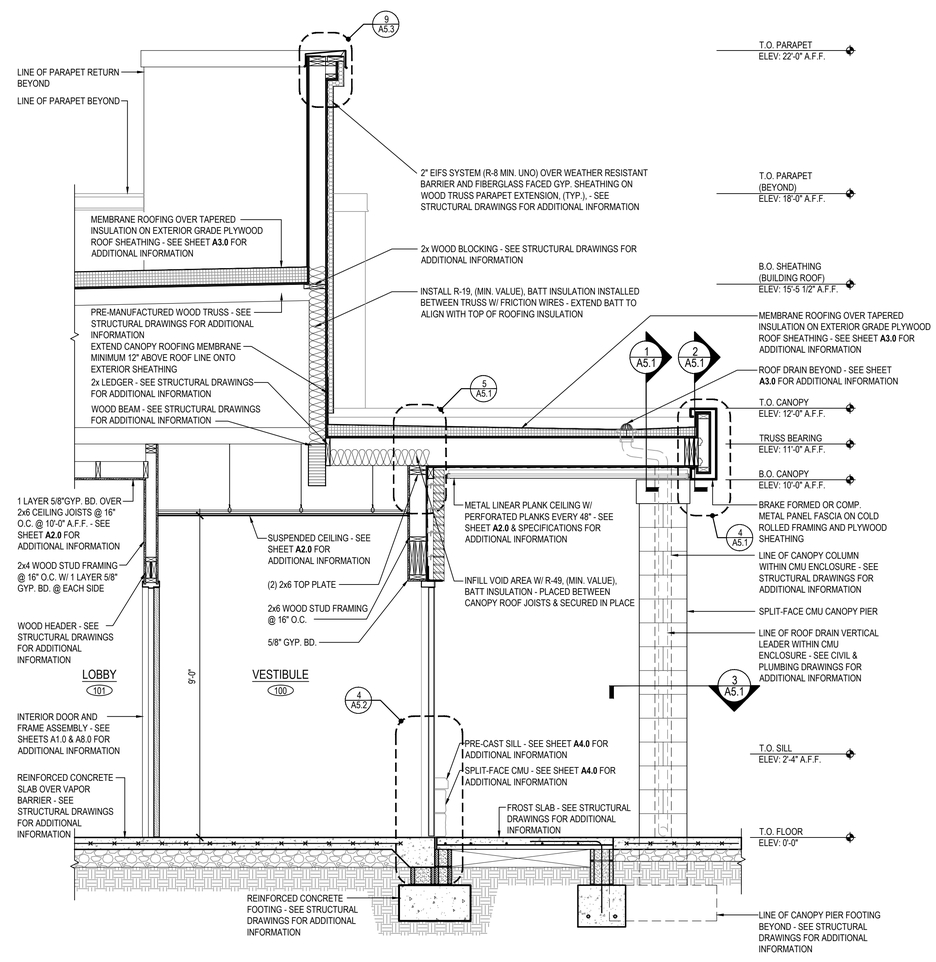
4 A-5.1 ENLARGED DETAIL -
CANOPY FASCIA DETAIL
SCALE: 3/4"=1'-0"



5 A-5.1
ENLARGED WALL DETAIL
SCALE: 3/4"=1'-0"



B A-5.1 WALL SECTION
SCALE: 1/2"=1'-0"



A A-5.1 WALL SECTION
SCALE: 1/2"=1'-0"

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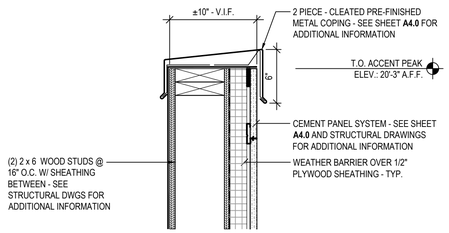
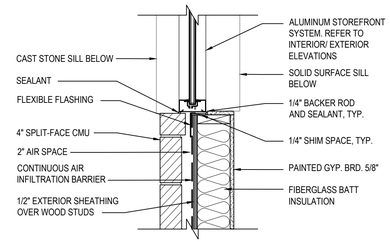
WALL SECTIONS

DATE 03/02/2026
JOB NO. 25027

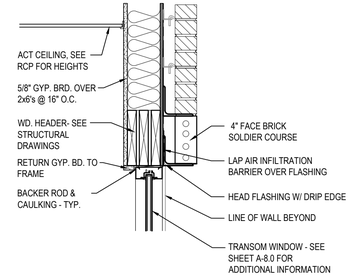
A-5.1
SHEET NO.



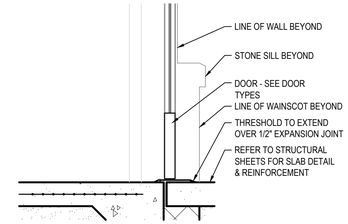
1 A-5.2 ENLARGED DETAIL - METAL COPING
ACCENT FEATURE
SCALE: 1 1/2"=1'-0"



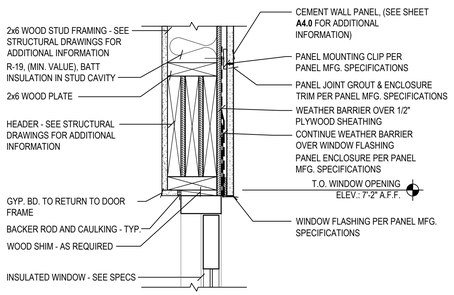
2 A-5.2 TYP. EXT. WINDOW JAMB
PLAN DETAIL
SCALE: 1"=1'-0"



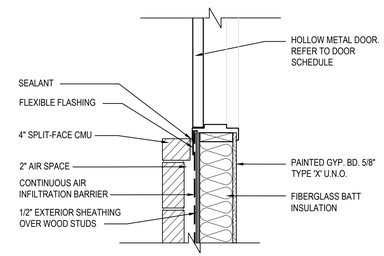
3 A-5.2 TYP. EXT. DOOR HEAD
SECTION DETAIL
SCALE: 1"=1'-0"



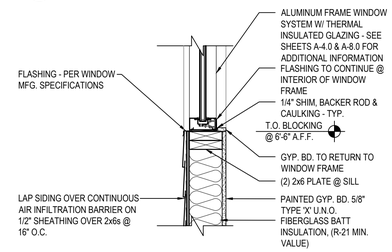
4 A-5.2 TYP. EXT. DOOR THRESHOLD
SECTION DETAIL
SCALE: 1"=1'-0"



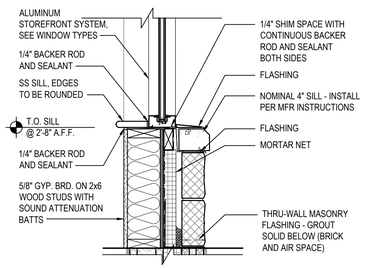
5 A-5.2 ENLARGED DETAIL -
DOOR HEAD @ NICHIHA
SCALE: 1 1/2"=1'-0"



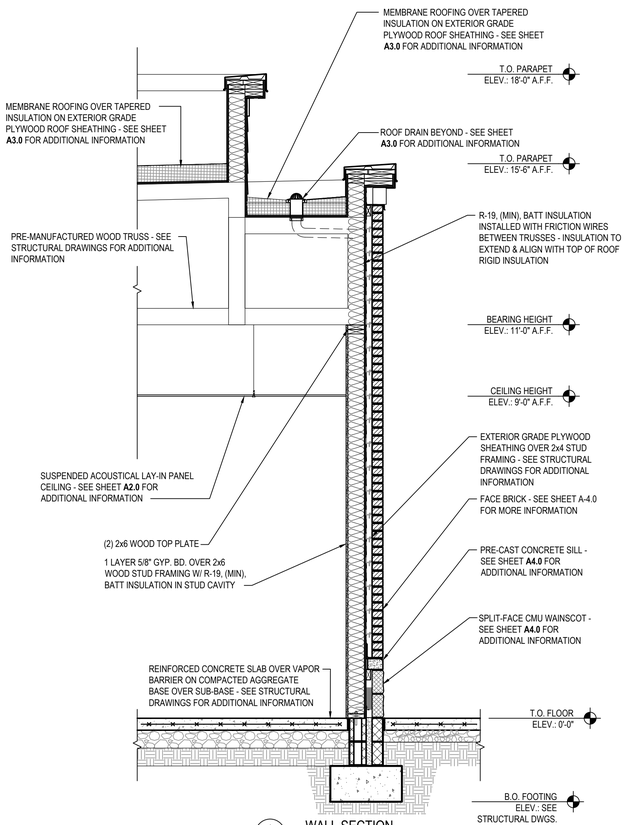
6 A-5.2 TYP. EXT. DOOR JAMB
PLAN DETAIL
SCALE: 1"=1'-0"



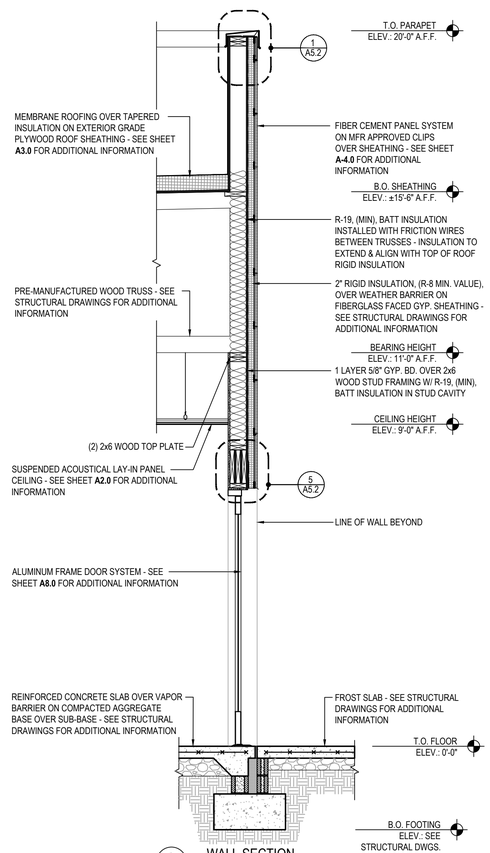
7 A-5.2 INDOOR PLAY AREA -
WINDOW SILL DETAIL
SCALE: 1"=1'-0"



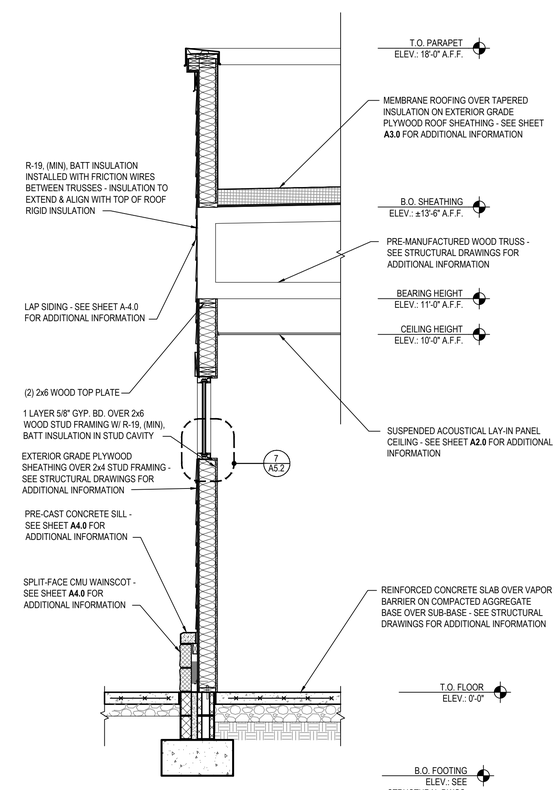
8 A-5.2 TYP. EXT. WINDOW SILL
SECTION DETAIL
SCALE: 1"=1'-0"



C A-5.2 WALL SECTION
SCALE: 1/2"=1'-0"



B A-5.2 WALL SECTION
SCALE: 1/2"=1'-0"



A A-5.2 WALL SECTION
SCALE: 1/2"=1'-0"

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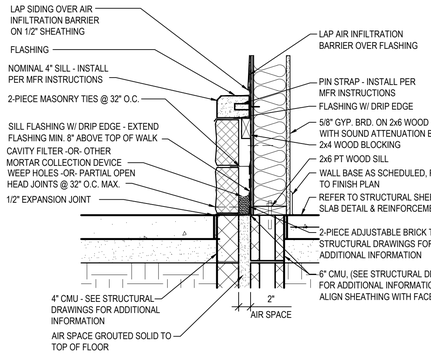
WALL SECTIONS

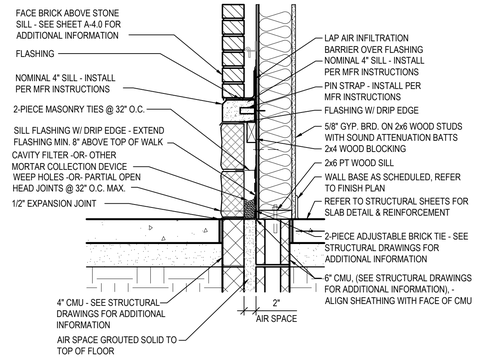
DATE 03/02/2026

JOB NO. 25027

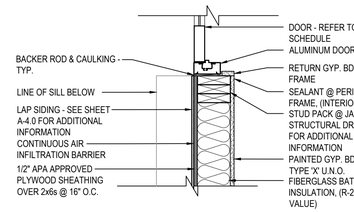
A-5.2
SHEET NO.



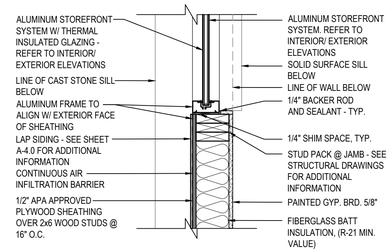
1 A-5.3 ENLARGED DETAIL - CMU WAINSCOT W/ LAP SIDING
SCALE: 1"=1'-0"



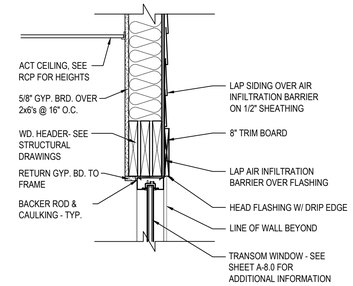
2 A-5.3 ENLARGED DETAIL - CMU WAINSCOT W/ BRICK
SCALE: 1"=1'-0"



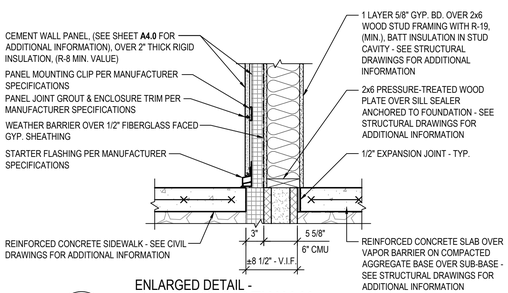
3 A-5.3 TYP. EXT. DOOR JAMB PLAN DETAIL
SCALE: 1"=1'-0"



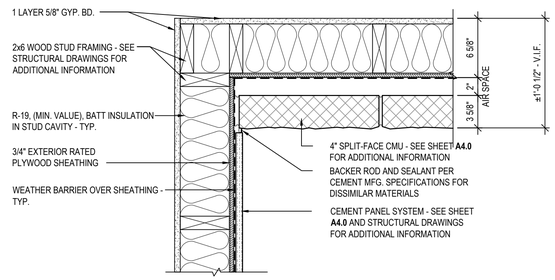
4 A-5.3 TYP. EXT. WINDOW JAMB PLAN DETAIL
SCALE: 1"=1'-0"



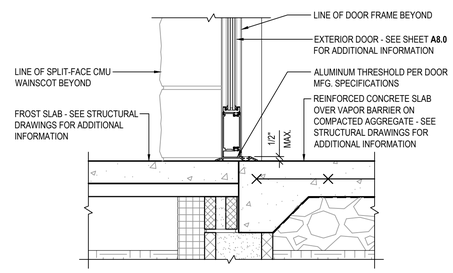
5 A-5.3 TYP. EXT. DOOR HEAD SECTION DETAIL
SCALE: 1"=1'-0"



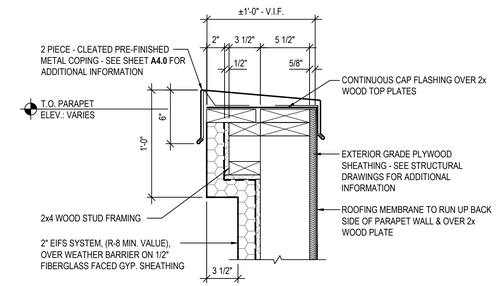
6 A-5.3 ENLARGED DETAIL - PANEL @ SIDEWALK
SCALE: 1"=1'-0"



7 A-5.3 ENLARGED DETAIL - CEMENT PANEL & CMU
SCALE: 1 1/2"=1'-0"



8 A-5.3 ENLARGED DETAIL - EXTERIOR DOOR THRESHOLD
SCALE: 1 1/2"=1'-0"



9 A-5.3 ENLARGED DETAIL - CORNICE/METAL COPING
SCALE: 1 1/2"=1'-0"

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
1005 STADIUM DR
WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
1	03/18/2026	PERMIT SET
2		
3		
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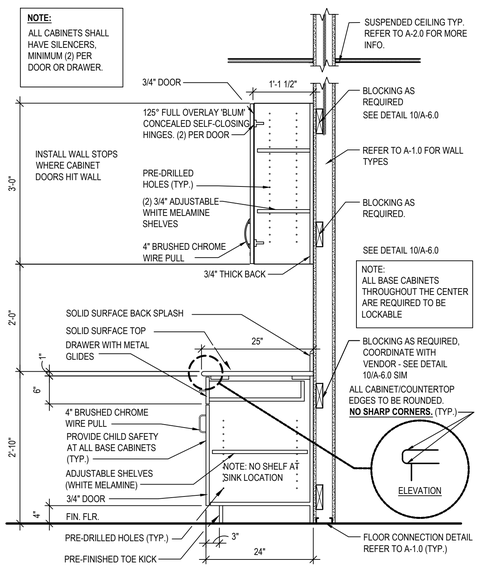
9		

WALL SECTIONS AND DETAILS

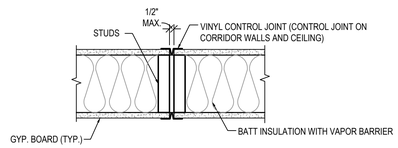
DATE 03/02/2026

JOB NO. 25027

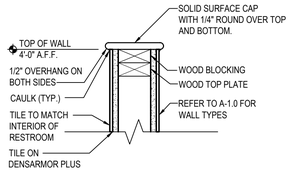
A-5.3
SHEET NO.



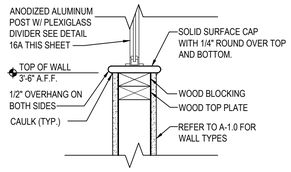
1 A-6.0 STAFF CASEWORK SECTION
SCALE: 3/4"=1'-0"



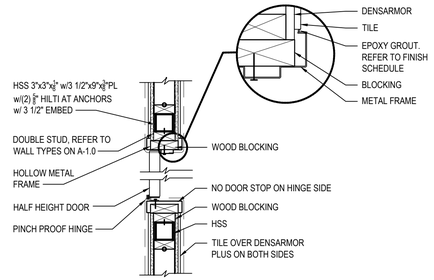
2 A-6.0 TYPICAL CONTROL JOINT DETAIL
SCALE: 1 1/2"=1'-0"



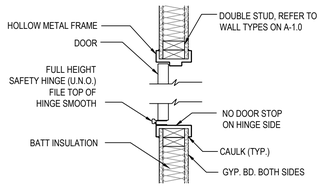
3 A-6.0 DETAIL @ TOILET ROOMS LOW WALL
SCALE: 1-1/2"=1'-0"



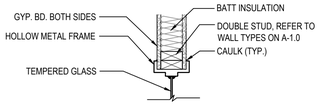
3A A-6.0 DETAIL @ CHANGING TABLES LOW WALL
SCALE: 1-1/2"=1'-0"



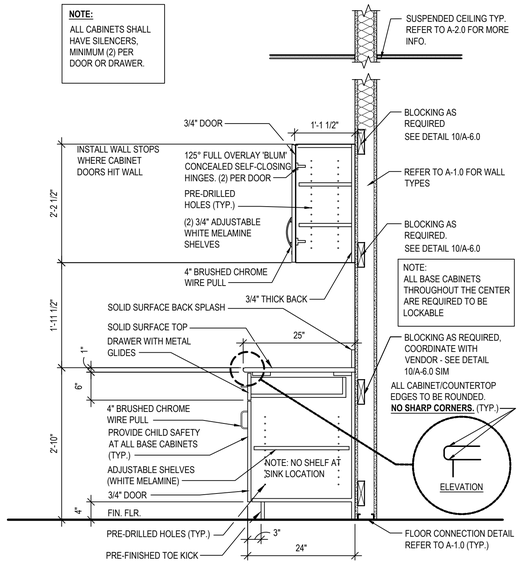
4 A-6.0 DETAIL LOW WALL DOOR JAMB
SCALE: 1"=1'-0"



6 A-6.0 DETAIL INTERIOR DOOR JAMB
SCALE: 1"=1'-0"

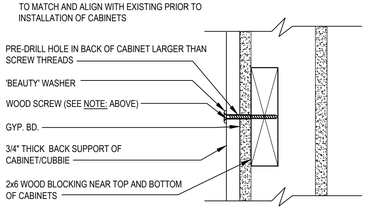


7 A-6.0 DETAIL INTERIOR LITE JAMB
SCALE: 1"=1'-0"

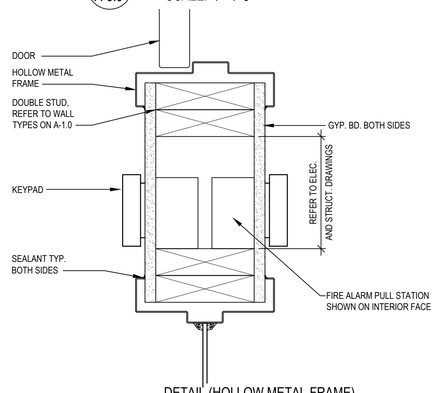


9 A-6.0 CLASSROOM CASEWORK SECTION
SCALE: 3/4"=1'-0"

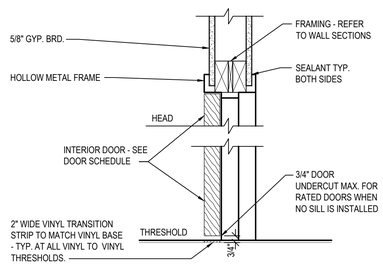
NOTES:
1. #12 X WOOD SCREWS: MIN. (8) PER 4'-0" WIDE CABINET IN BOTH TOP AND BOTTOM BLOCKING (16 SCREWS MIN.)
2. SCREWS TO HAVE MIN. 1 1/4" EMBEDMENT IN BLOCKING
3. FOR INSTALLATION OF CABINETS ON EXISTING WALLS, REMOVE GYP. BD. AS NECESSARY TO INSTALL BLOCKING, PATCH AND REPAIR GYP. BD. TO MATCH AND ALIGN WITH EXISTING PRIOR TO INSTALLATION OF CABINETS



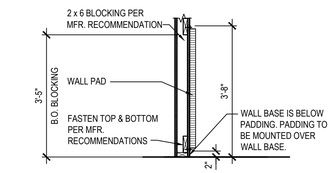
10 A-6.0 CABINET MOUNTING DETAIL
SCALE: 3"=1'-0"



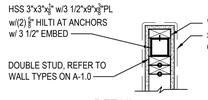
11 A-6.0 DETAIL (HOLLOW METAL FRAME) SCANNER
SCALE: 3"=1'-0"



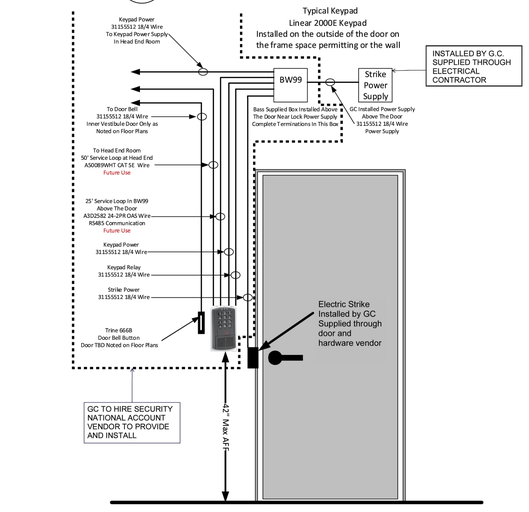
12 A-6.0 DETAIL DOOR HEAD & THRESHOLD
SCALE: 1-1/2"=1'-0"



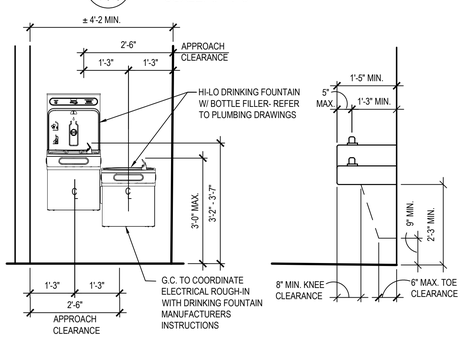
13 A-6.0 GYM WALL PADDING DETAIL
SCALE: 1/2"=1'-0"



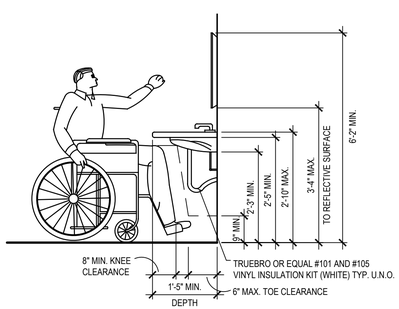
16 A-6.0 DETAIL LOW WALL
SCALE: 1"=1'-0"



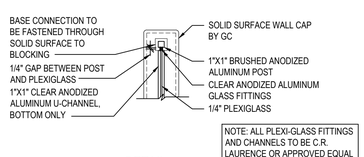
17 A-6.0 ELEVATION ELECTRONIC HARDWARE SCOPE
SCALE: N.T.S.



14 A-6.0 ACCESSIBLE DRINKING FOUNTAIN ELEVATIONS
SCALE: 1/2"=1'-0"



15 A-6.0 ACCESSIBLE LAVATORY ELEVATION
SCALE: 1/2"=1'-0"



NOTE: ALL PLEXI-GLASS FITTINGS AND CHANNELS TO BE C.R. LAURENCE OR APPROVED EQUAL

16A A-6.0 DETAIL PLEXIGLASS
SCALE: 1"=1'-0"

18 A-6.0 NOT USED
SCALE: 3"=1'-0"

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
1005 STADIUM DR
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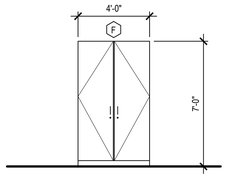
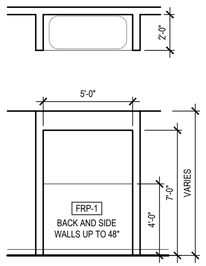
INTERIOR DETAILS

DATE 03/02/2026
JOB NO. 25027

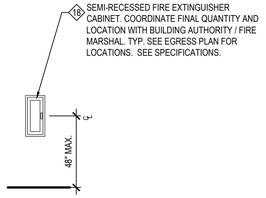
A-6.0
SHEET NO.



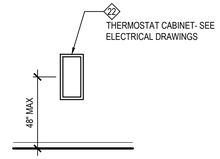
1A A-7.0 TEACHER STORAGE
SCALE: 1/4"=1'-0"



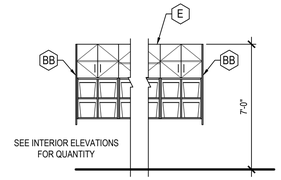
1B A-7.0 COT STORAGE
SCALE: 1/4"=1'-0"



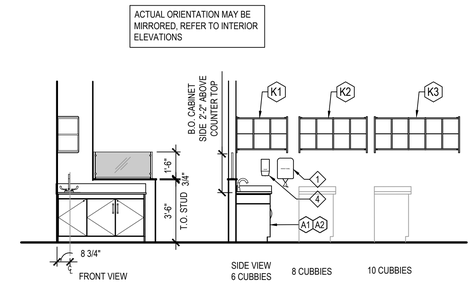
1C A-7.0 F.E. CABINET, TYP.
SCALE: 1/4"=1'-0"



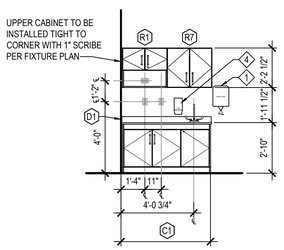
1D A-7.0 THERMOSTAT CABINET, TYP.
SCALE: 1/4"=1'-0"



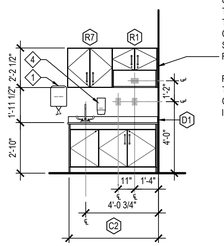
2 A-7.0 4-UNIT CUBBIE WITH STORAGE
SCALE: 1/4"=1'-0"



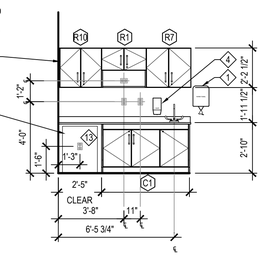
3 A-7.0 CHANGE TABLE
SCALE: 1/4"=1'-0"



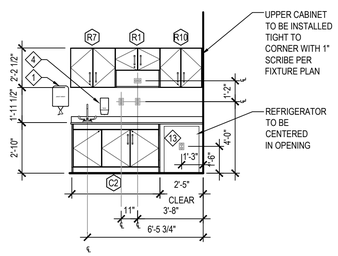
4A A-7.0 RIGHT HAND TYPICAL TEACHER HAND SINK
SCALE: 1/4"=1'-0"



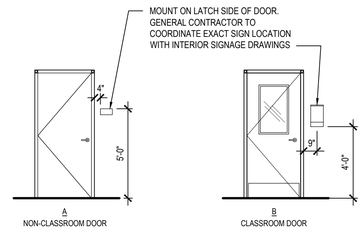
4B A-7.0 LEFT HAND TYPICAL TEACHER HAND SINK
SCALE: 1/4"=1'-0"



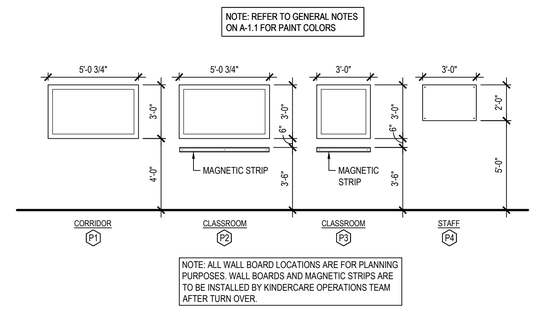
5A A-7.0 RIGHT HAND INFANT ROOM TEACHER HAND SINK
SCALE: 1/4"=1'-0"



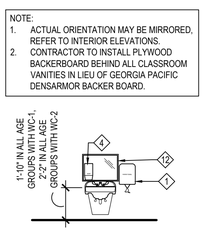
5B A-7.0 LEFT HAND INFANT ROOM TEACHER HAND SINK
SCALE: 1/4"=1'-0"



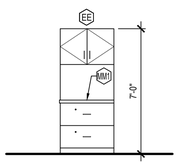
6 A-7.0 INTERIOR DOOR SIGNAGE
SCALE: 1/4"=1'-0"



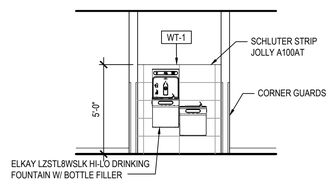
7 A-7.0 WALL BOARDS
SCALE: 1/4"=1'-0"



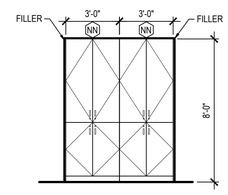
8 A-7.0 CHILD SINGLE LAVATORY
SCALE: 1/4"=1'-0"



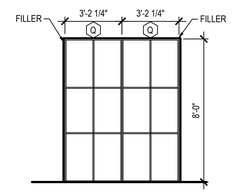
9 A-7.0 DATA CENTER
SCALE: 1/4"=1'-0"



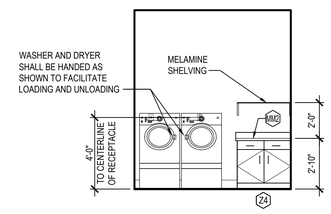
10 A-7.0 ALCOVE DRINKING FOUNTAIN
SCALE: 1/4"=1'-0"



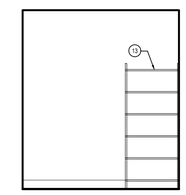
11A A-7.0 HALL STORAGE
SCALE: 1/4"=1'-0"



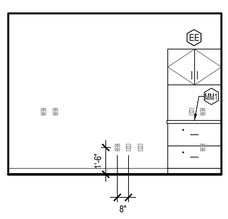
11B A-7.0 CARSEAT STORAGE
SCALE: 1/4"=1'-0"



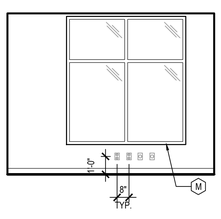
12 A-7.0 LAUNDRY
SCALE: 1/4"=1'-0"



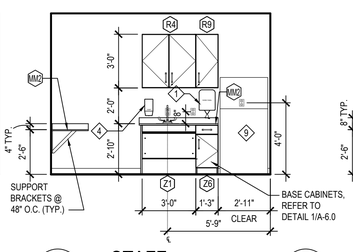
13 A-7.0 LAUNDRY
SCALE: 1/4"=1'-0"



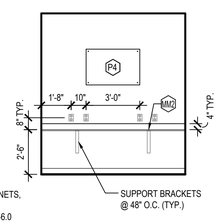
14 A-7.0 OFFICE
SCALE: 1/4"=1'-0"



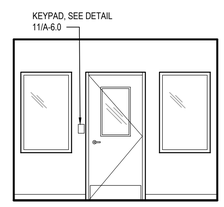
15 A-7.0 OFFICE
SCALE: 1/4"=1'-0"



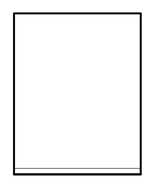
16 A-7.0 STAFF
SCALE: 1/4"=1'-0"



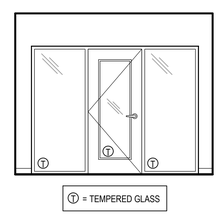
17 A-7.0 STAFF
SCALE: 1/4"=1'-0"



18 A-7.0 VESTIBULE
SCALE: 1/4"=1'-0"



19 A-7.0 VESTIBULE
SCALE: 1/4"=1'-0"



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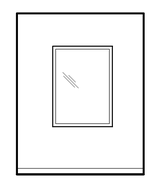

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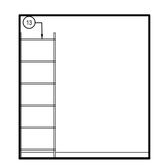

22 A-7.0 CLOSET
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NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
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1		
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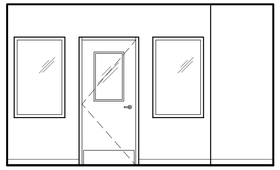
INTERIOR ELEVATION DETAILS

DATE 03/02/2026
JOB NO. 25027

A-7.0
SHEET NO.



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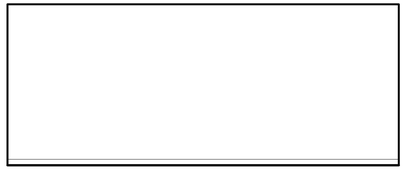

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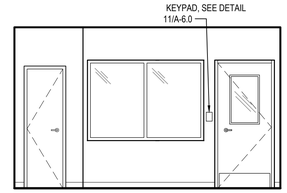

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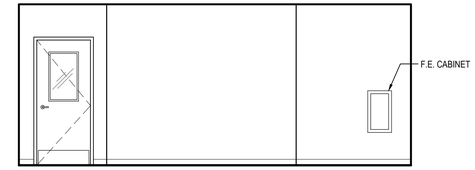

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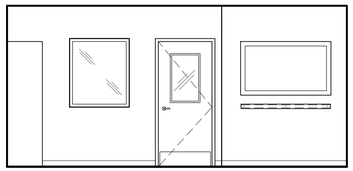

5 A-7.1 INFANT 1 & 2
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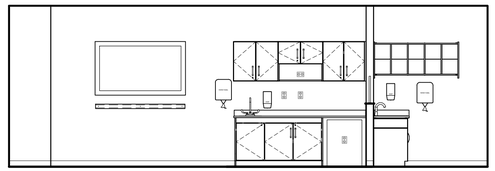

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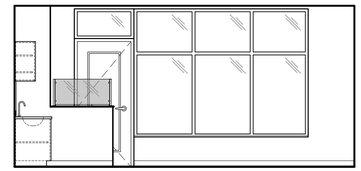

7 A-7.1 INFANT 1 & 2
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8 A-7.1 INFANT 1 & 2
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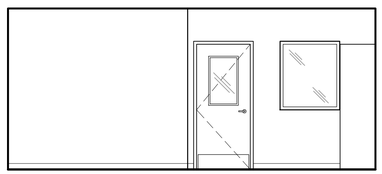

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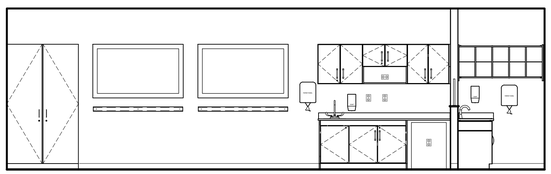

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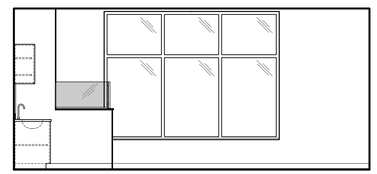

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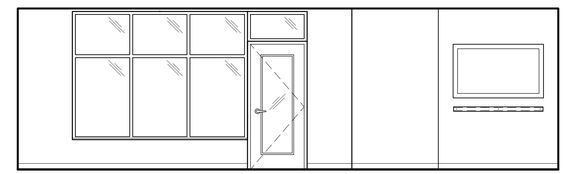

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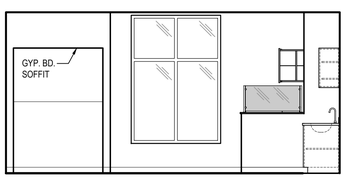

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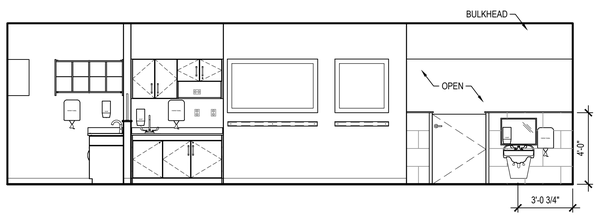

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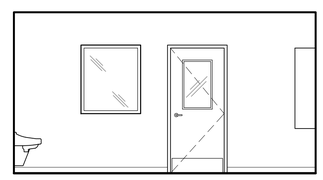

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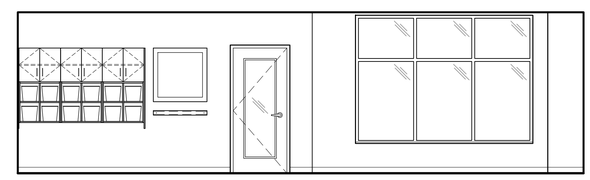

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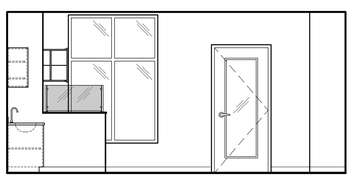

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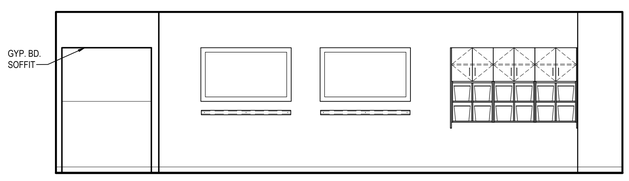

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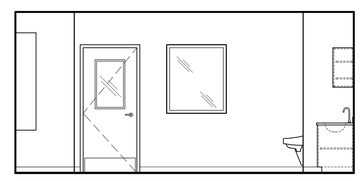

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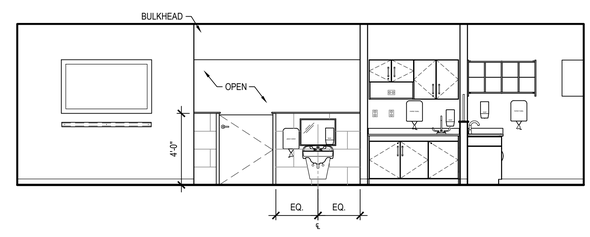

20 A-7.1 TODDLER 2
SCALE: 1/4"=1'-0"

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INTERIOR ELEVATIONS

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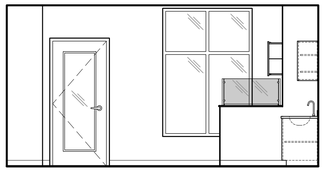
JOB NO. 25027

A-7.1

SHEET NO.



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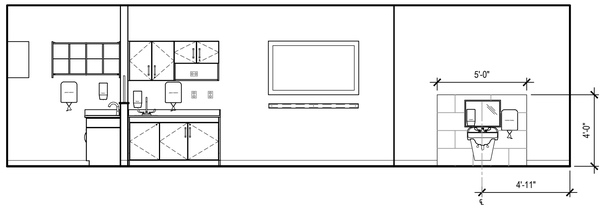

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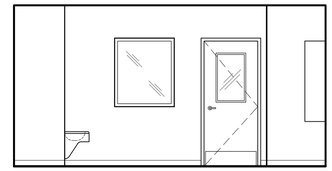

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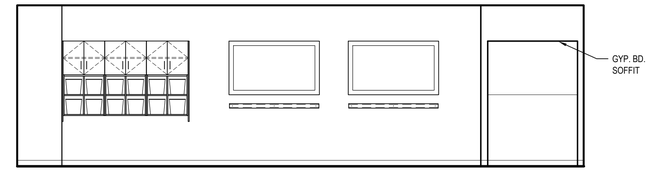

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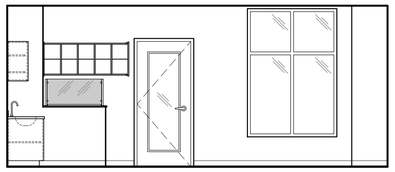

5 A-7.2 DISCOVERY PRESCHOOL 1
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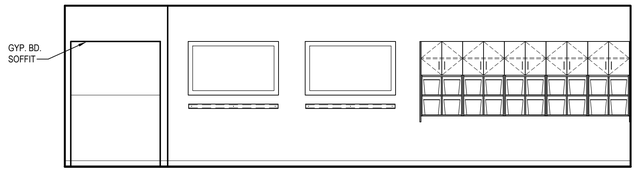

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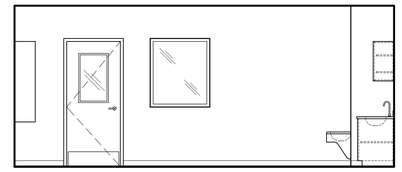

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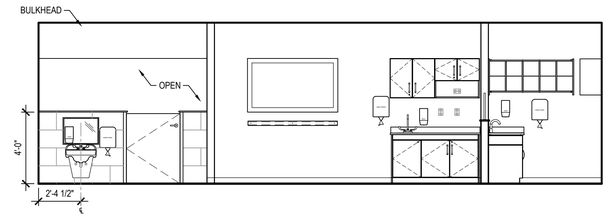

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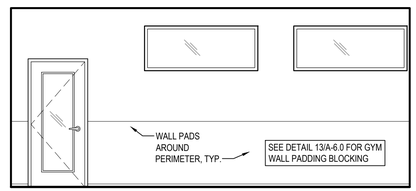

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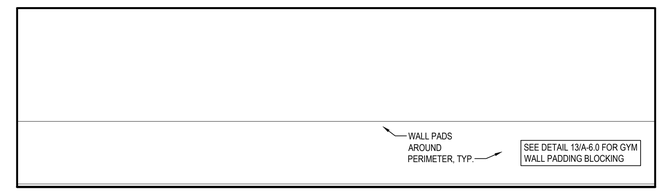

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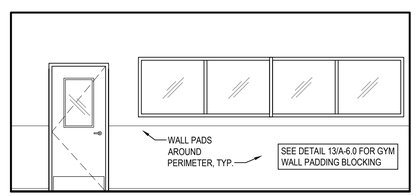

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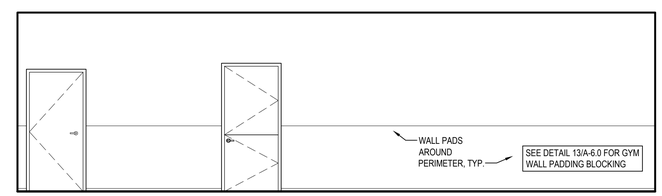

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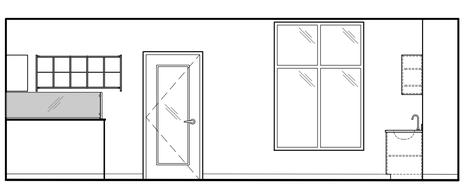

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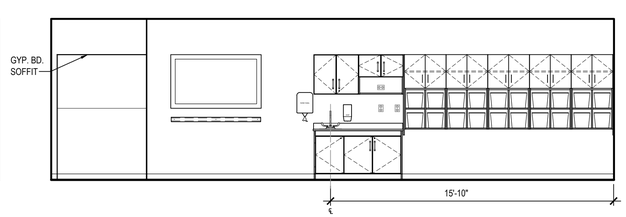

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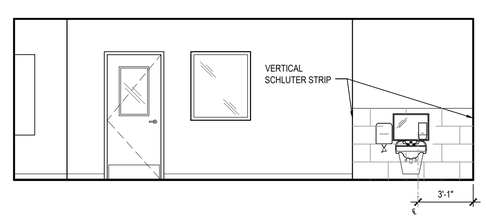

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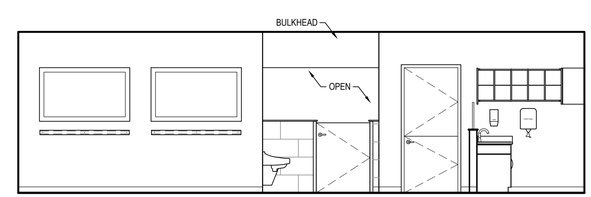

16 A-7.2 DISCOVERY PRESCHOOL 2
SCALE: 1/4"=1'-0"

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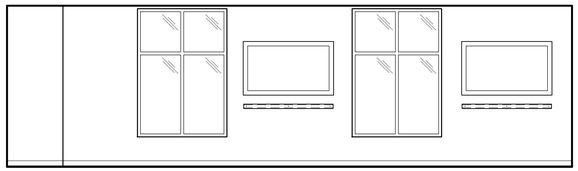

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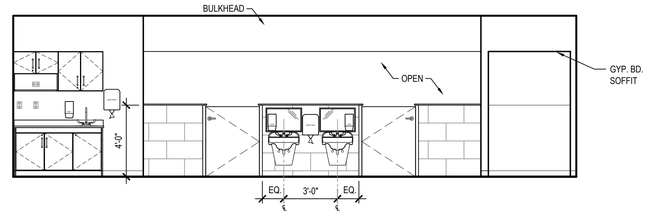

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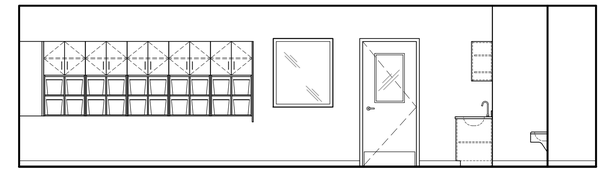

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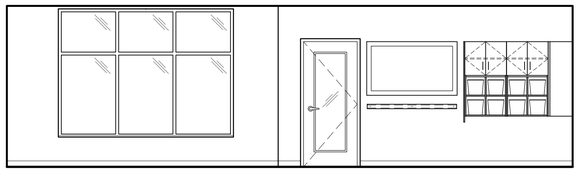

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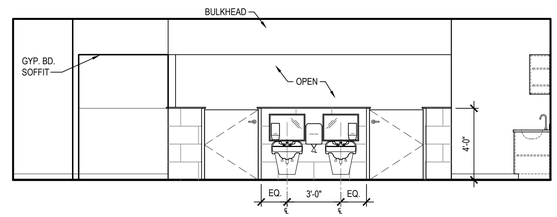

5 A-7.3 PRESCHOOL
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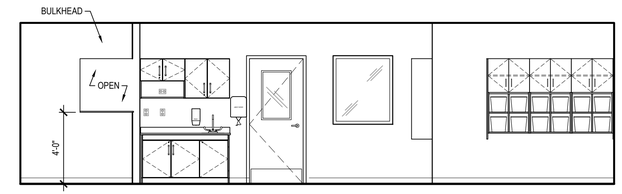

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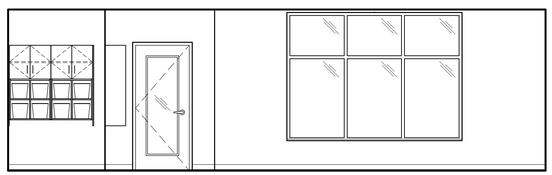

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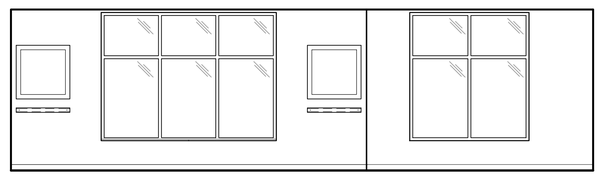

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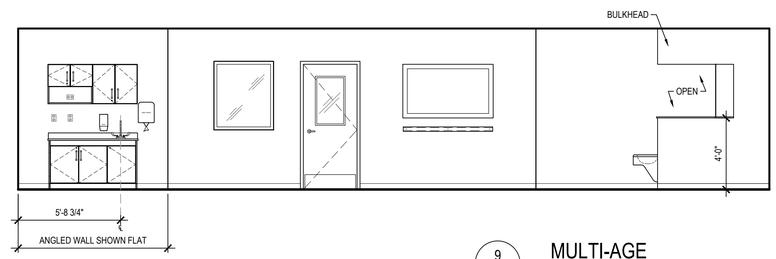

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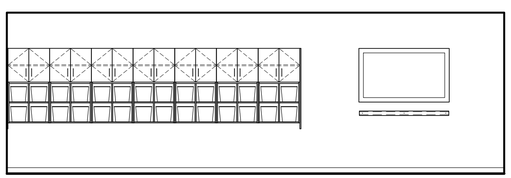

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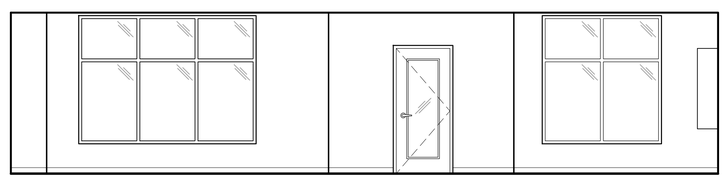

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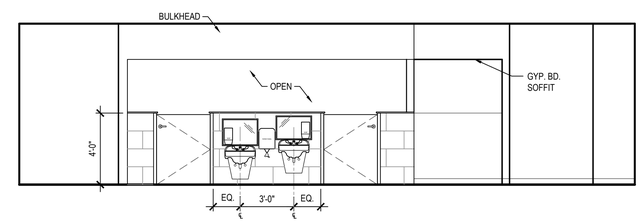

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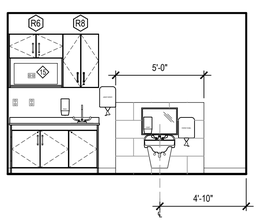

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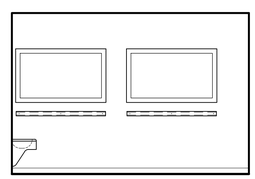

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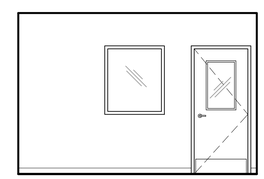

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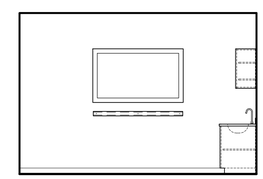

16 A-7.3 L/A
SCALE: 1/4"=1'-0"

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

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REVISIONS

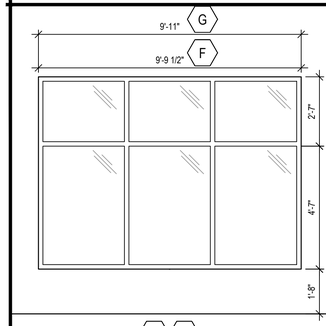
#	DATE	TYPE
1	03/18/2026	PERMIT SET
2		
3		
4		
5		
6		
7		
8		
9		

INTERIOR ELEVATIONS

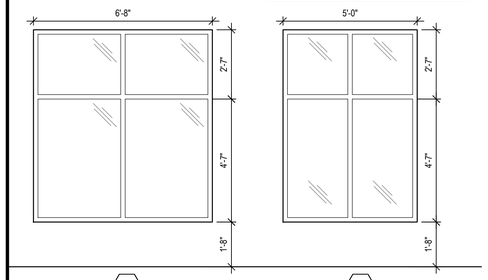
DATE 03/02/2026

JOB NO. 25027

A-7.3
SHEET NO.



EXTERIOR WINDOW TYPES



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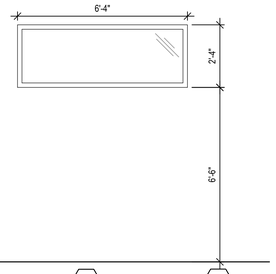

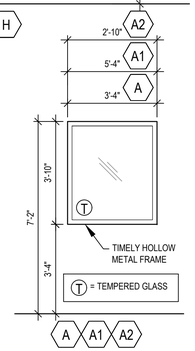

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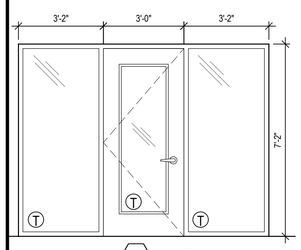

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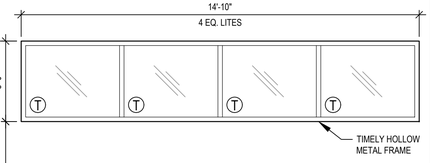

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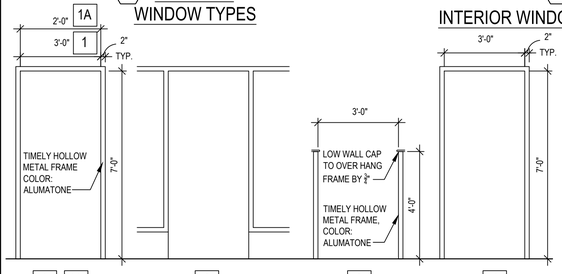
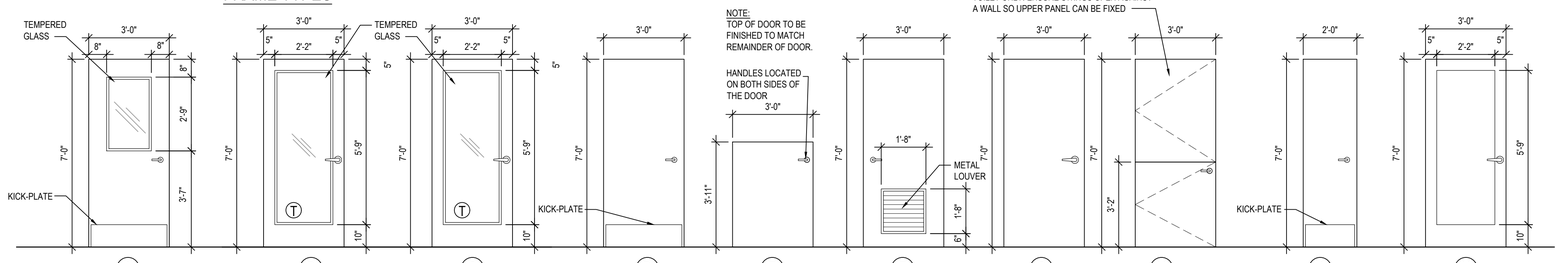


FRAME TYPES



DOOR TYPES

HARDWARE GROUP

GROUP #1
(CLASSROOM)

CONTINUOUS HINGE:	(1) HAGER 780-C3058 83 WS x DQ x ALUM
PASSAGE SET:	(1) FALCON W101S x Q x 30-206 x 30-148 x 626
CLOSER:	(1) FALCON SC81 x DS x SLIM x 689
KICKPLATE:	(2)10" KICKPLATE

GROUP #1A
(INFANT CLASSROOM)

CONTINUOUS HINGE:	(1) HAGER 780-C3058 83 WS x DQ x ALUM
PASSAGE SET:	(1) FALCON W101S x Q x 30-206 x 30-148 x 626
CLOSER:	(1) FALCON SC81A x RW/PA x SLIM x 689
KICKPLATE:	(2)10" KICKPLATE
KICKDOWN DOOR STOP:	(1) HAGER 270D

GROUP #2
(EXTERIOR CLASSROOM TO PLAYGROUND)

CONTINUOUS HINGE:	(1) HAGER 780-112HD
STOREROOM LOCK:	(1) FALCON W581BD x Q x 30-197 x 30-148 x 626
CLOSER:	(1) FALCON SC81A x RW/PA x SLIM x 689 (MOUNT ON ROOM SIDE)
THRESHOLD:	BY DOOR MANUF.
WEATHER-STRIPPING:	BY DOOR MANUF.
DOOR SWEEP:	BY DOOR MANUF.
CHIME:	DEFIANT THD-DW (BATTERY POWERED) OR EQUAL
FINGER GUARD:	FINGERSAFE MK1A COLOR: GRAY

GROUP #2A
(EXTERIOR CLASSROOM TO PUBLIC)

CONTINUOUS HINGE:	(1) HAGER 780-112HD
EXIT LOCK:	(1) FALCON W161D X Q 30-206-30-148 (626)
CLOSER:	(1) FALCON SC81A x RW/PA x SLIM x 689 (MOUNT ON ROOM SIDE)
THRESHOLD:	BY DOOR MANUF.
WEATHER-STRIPPING:	BY DOOR MANUF.
DOOR SWEEP:	BY DOOR MANUF.
ALARM:	DETEX EAX-500W (BATTERY OPERATED)
FINGER GUARD:	FINGERSAFE MK1A COLOR: GRAY

GROUP #3
(EXTERIOR CORRIDOR)

CONTINUOUS HINGE:	(1)HAGER 780-112HD
RIM EXIT DEVICE:	(1) FALCON 25-R-L x 511L x QUANTUM x SK25-R/M x 299 x US26D
MORTISE CYLINDER:	(1) FALCON C987 x A12667-003-00 x (STRAIGHT CAM)
FINAL CORE:	(1) FALCON C649 x A
CONSTRUCTION CORE:	(1) SCHLAGE 80-035
CLOSER:	(1) FALCON SC81A x DS x SLIM
THRESHOLD:	BY DOOR MANUF.
DOOR SWEEP:	BY DOOR MANUF.
WEATHER-STRIPPING:	BY DOOR MANUF.
FINGER GUARD:	FINGERSAFE MK1A COLOR: GRAY
ACCESS CONTROL KIT:	(1) KEY PAD BY BASS SECURITY
POWER SUPPLY:	(1) VON DUPRIN PS902 BY BASS SECURITY
CHIME:	DEFIANT THD-DW (BATTERY POWERED) OR EQUAL

GROUP #4
(ADULT TOILET)

CONTINUOUS HINGE:	(1) HAGER 780-C3058 83 WS x DQ x ALUM
PRIVACY SET:	(1) FALCON W301S x Q x 30-206 x 30-148 x 626
CLOSER:	(1) FALCON SC81A x RW/PA x SLIM x 689
KICKPLATE:	(2) 10" KICKPLATE

GROUP #5
(CLOSETS)

CONTINUOUS HINGE:	(1) HAGER 780-C3058 83 WS x DQ x ALUM
CLASSROOM LOCK:	(1) FALCON W561BD x Q x 30-197 x 30-148 x 626
FINAL CORE:	(1) FALCON C649 x A
CONSTRUCTION CORE:	(1) SCHLAGE 80-035
KICKPLATE:	(2) 10" KICKPLATE

GROUP #6
(CHILD TOILET)

CONTINUOUS HINGE:	(1) HAGER 780-R786 46 WS x DQ x ALUM
PASSAGE SET:	(1) FALCON W101S X Q X 30-206 X 30-148 X 626

GROUP #6A
(CHILD TOILET, DUTCH DOOR)

CONTINUOUS HINGE:	(1) HAGER 780-C3058 83 WS x DQ x ALUM
DUTCH DOOR BOLT:	(1) HAGER 279D
PRIVACY SET:	(1) FALCON W301S X Q X 30-206 X 30-148 X 626
KICKPLATE:	(1) HAGER 190S x B4E x 10 x 34
MAGNETIC CATCH:	(1) HAGER 1439

GROUP #7
(OFFICE)

CONTINUOUS HINGE:	(1) HAGER 780-C3058 83 WS x DQ x ALUM
OFFICE LOCK:	(1) FALCON W511BD x Q x 30-197 x 30-148 x 626
FINAL CORE:	(1) FALCON C649 x A
CONSTRUCTION CORE:	(1) SCHLAGE 80-035

GROUP #8
(ELECTRICAL, STAIR, LAUNDRY)

CONTINUOUS HINGE:	(1) HAGER 780-C3058 83 WS x DQ x ALUM
STOREROOM LOCK:	(1) (FALCON W581BD x Q x 30-197 x 30-148 x 626
FINAL CORE:	(1) FALCON C649 x A
CONSTRUCTION CORE:	(1) SCHLAGE 80-035
CLOSER:	(1) FALCON SC81A x RW/PA x SLIM x 689
KICKPLATE:	(2)10" KICKPLATE

GROUP #9
(LOBBY TO CORRIDOR) (VESTIBULE TO LOBBY)

CONTINUOUS HINGE:	(1) HAGER 780-C3058 83 WS x DQ x ALUM
RIM EXIT DEVICE:	(1) FALCON 25-R-L x 511L x QUANTUM x SK25-R/M x 299 x US26D
MORTISE CYLINDER:	(1) FALCON C987 x A12667-003-00 X (STRAIGHT CAM)
FINAL CORE:	(1) FALCON C649 x A
CONSTRUCTION CORE:	(1) SCHLAGE 80-035
ELECTRIC STRIKE:	(1) HES INNOVATIONS 9600-12/24D-630
CLOSER:	(1) FALCON SC81A x DS x SLIM
BUZZER:	(1) HES INNOVATIONS 2006M
POWER SUPPLY:	(1) VON DUPRIN DOOR PS902 BY BASS SECURITY
ACCESS CONTROL KIT:	(1) KEY PAD BY EC

GROUP #10
(STAFF/WARMING PANTRY)

CONTINUOUS HINGE:	(1) HAGER 780-C3058 83 WS x DQ x ALUM
CLASSROOM LOCK:	(1) FALCON W561BD x Q x 30-197 x 30-148 x 626
FINAL CORE:	(1) FALCON C649 x A
CONSTRUCTION CORE:	(1) SCHLAGE 80-035
CLOSER:	(1) FALCON SC81A x RW/PA x SLIM x 689
KICKPLATE:	(2) 10" KICKPLATE
KICKDOWN DOOR STOP:	(1) HAGER 270D (ONLY PROVIDE FOR DOOR TO W.P.)

GROUP #11
(EXTERIOR FROM WARMING PANTRY)

CONTINUOUS HINGE:	(1) HAGER 780-112HD
RIM CYLINDER HOUSING:	(1) FALCON C953 x 626
EXIT LOCK:	(1) FALCON W161D X Q 30-206-30-148 (626)
FINAL CORE:	(1) FALCON C649 x A
CONSTRUCTION CORE:	(1) SCHALGE 80-035
CLOSER:	(1) FALCON SC81A x DS x SLIM
THRESHOLD:	BY DOOR MANUF.
DOOR SWEEP:	BY DOOR MANUF.
KICKDOWN DOOR STOP:	(1) HAGER 270D
FINGER GUARD:	FINGERSAFE MK1A COLOR: GRAY

GROUP #12
(STOREFRONT ENTRY)

CONTINUOUS HINGE:	(1) HAGER 780-112HD X 83 OA
RIM EXIT DEVICE:	(1) FALCON 25-R-L x 511L x QUANTUM x SK25-R/M x 299 x US26D
MORTISE CYLINDER:	(1) FALCON C987 x A12667-003-00 X (STRAIGHT CAM)
FINAL CORE:	(1) FALCON C649 x A
CONSTRUCTION CORE:	(1) SCHLAGE 80-035
CLOSER:	(1) FALCON SC81A x DS x SLIM x 689
FINGER GUARD:	FINGERSAFE MK1A COLOR: GRAY
WEATHER-STRIPPING:	BY DOOR MANUF.
DOOR SWEEP:	BY DOOR MANUF.
THRESHOLD:	BY DOOR MANUF.

GROUP #13
(ATTIC)

BUTT HINGE:	1 1/2 PAIR 4 1/2 x 4 1/2 HAGER 1279 FULL MORTISE STANDARD WEIGHT
PASSAGE SET:	(1) FALCON W101S x Q x 30-206 x 30-148 x 626
CLOSER:	(1) FALCON SC81 x DS x SLIM x 689
KICKPLATE:	(2)10" KICKPLATE

GENERAL NOTES:
1. ADJUST ALL BACKCHECKS IN CLOSER, ADJUST ALL CLOSERS FOR MINIMUM SPEED IN LAST 15 DEGREES OF SWING.
2. INSTALL ALL CLOSERS ON THE ROOM SIDE OF THE DOOR, NOT ON CORRIDOR SIDE (U.N.O.)
3. THE MANUAL PUSH OR PULL RATING OF ALL DOORS AND DOORS WITH CLOSERS SHALL NOT EXCEED ADA RATINGS.
4. ALL DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
5. WHERE PINCH PROOF HINGES ARE PROVIDED, THERE SHALL BE NO DOOR STOP ON THE HINGE SIDE OF THE FRAME.
6. SEE DOOR AND FRAME SCHEDULE FOR LOCATIONS OF DOOR AND WALL STOPS.
   FLOOR STOPS: IVES FS17-US26D.
   WALL STOPS: IVES WS407CVX - US26D
7. WHERE ELECTRONIC HARDWARE COMPONENTS ARE SPECIFIED AS PART OF A HARDWARE SET, THE CONTRACTOR IS RESPONSIBLE TO PROVIDE A COMPLETE ELECTRONIC HARDWARE SYSTEM.
8. GENERAL CONTRACTOR TO COORDINATE ALL ELECTRONIC HARDWARE WITH THE ELECTRICAL CONTRACTOR (E.C.). E.C. IS RESPONSIBLE FOR PROVIDING POWER TO ALL POWER-USING ELECTRONIC HARDWARE.
9. UNLESS NOTED OTHERWISE: 1) PROVIDE KEYPAD FOR ACCESS AT INTERIOR VESTIBULE AND LOBBY DOORS AND ALL CORRIDOR DOORS LEADING TO THE PLAYGROUND. 2) PROVIDE ALARM INTERFACE FOR ALL EXTERIOR CLASSROOM DOORS AND CORRIDOR DOOR LEADING TO PARKING. 3) PROVIDE CHIMES FOR ALL CLASSROOM DOORS THAT LEAD TO THE PLAYGROUND WHEN OPEN.
10. PREPARE ALL DOORS AND FRAMES TO RECEIVE NEW HARDWARE AND/OR NEW ELECTRONIC HARDWARE AS REQUIRED, UNLESS NOTED OTHERWISE.
11. WHERE CALLED FOR, DOORS TO RECEIVE KICK PLATES ON BOTH SIDES INSTALLED AS LOW AS POSSIBLE ON FACE OF DOOR WITH ROUNDED EDGES. KICK PLATES SHALL BE CENTERED ON DOOR WHEN CLOSED.
12. KEYING FOR DOORS: MASTER/OFFICE, LOBBY, FAMILY ROOM: GENERAL- ALL OTHER DOORS. CONTRACTOR SHALL COORDINATE ALL KEYING WITH OWNER PRIOR TO FINAL CORE INSTALLATION.
13. WHERE CALLED FOR, PROVIDE: (1) ELECTRIC STRIKE: HES 9600-12/24D-630, (1) HES 2006M BUZZER, (1) SDC PUSH BUTTON 425V, (1) POWER SUPPLY: VON DUPRIN PS902 THROUGH DOOR AND HARDWARE VENDOR.
14. GC TO COORDINATE SCOPE OF EC, DOOR AND HARDWARE VENDOR, AND SECURITY VENDOR FOR ALL DOORS PROVIDED WITH ELECTRONIC HARDWARE, REFER TO SKETCH ON A6.0.
15. GC TO PROVIDE ALUMATONE TOUCH UP PAINT FOR TIMELY FRAMES.

DOOR AND FRAME SCHEDULE

NOTES:
1. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 POUNDS FOR BOTH INTERIOR AND EXTERIOR DOORS.
2. WHERE PINCH PROOF HINGES ARE SPECIFIED, DOORS SHALL BE MANUFACTURED TO ACCOMMODATE THE HINGE SIZE. FIELD CUTTING OF DOORS IS NOT PERMITTED.
3. NEW PRE-FINISHED WOOD DOORS TO BE PROVIDED THROUGH VENDOR: MANUFACTURER: VT INDUSTRIES, WOOD: MATCH ROTARY WHITE BIRCH, COLOR: WHEAT #WH18

DOOR NO.	DOOR TYPE	DOOR		FRAME		HARDWARE GROUP	HEAD/JAMB DETAIL	DOOR STOP REQ'D
		MAT'L	FINISH	TYPE	MAT'L			
100A	B	ALUM/ GL.	CLEAR ANOD.	2	ALUM.	12	-	-
100B	A	S.C. WOOD	PRE-FINISHED	1	H.M.	9	6&12/A6.0	-
101	A	S.C. WOOD	PRE-FINISHED	1	H.M.	9	6&12/A6.0	WALL
102	A	S.C. WOOD	PRE-FINISHED	1	H.M.	7	6&12/A6.0	WALL
103	J	S.C. WOOD	PRE-FINISHED	1A	H.M.	5	6&12/A6.0	WALL
104A	C	H.M. /INSUL.	PAINTED	4	H.M.	3	5&6/A5.3	-
104B	C	H.M. /INSUL.	PAINTED	4	H.M.	3	5&6/A5.3	-
105	D	S.C. WOOD	PRE-FINISHED	1	H.M.	5	6&12/A6.0	-
106	F	S.C. WOOD	PRE-FINISHED	1	H.M.	8	6&12/A6.0	WALL
108A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	10	6&12/A6.0	FLOOR
108B	B	H.M. /INSUL.	PAINTED	4	H.M.	11	5&6/A5.3	-
109A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1A	6&12/A6.0	WALL
109B	C	H.M. /INSUL.	PAINTED	4	H.M.	2A	5&6/A5.3	-
110A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1A	6&12/A6.0	WALL
110B	C	H.M. /INSUL.	PAINTED	4	H.M.	2A	5&6/A5.3	-
111A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1A	6&12/A6.0	WALL
111B	C	H.M. /INSUL.	PAINTED	4	H.M.	2	5&6/A5.3	-
112	F	S.C. WOOD	PRE-FINISHED	1	H.M.	8	6&12/A6.0	WALL
113A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1	6&12/A6.0	FLOOR
113B	C	H.M. /INSUL.	PAINTED	4	H.M.	2	5&6/A5.3	-
114	E	S.C. WOOD	PRE-FINISHED	3	H.M.	6	6/A6.0	FLOOR
115A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1	6&12/A6.0	FLOOR
115B	C	H.M. /INSUL.	PAINTED	4	H.M.	2	5&6/A5.3	-
116	E	S.C. WOOD	PRE-FINISHED	3	H.M.	6	6/A6.0	FLOOR
117A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1	6&12/A6.0	FLOOR
117B	C	H.M. /INSUL.	PAINTED	4	H.M.	2	5&6/A5.3	-
118A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1	6&12/A6.0	FLOOR
118B	C	H.M. /INSUL.	PAINTED	4	H.M.	2	5&6/A5.3	-
119	E	S.C. WOOD	PRE-FINISHED	3	H.M.	6	6/A6.0	FLOOR
120A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1	6&12/A6.0	FLOOR
120B	C	H.M. /INSUL.	PAINTED	4	H.M.	2	5&6/A5.3	-
121	D	S.C. WOOD	PRE-FINISHED	1	H.M.	5A	6&12/A6.0	WALL
122	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1	6&12/A6.0	WALL
123A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1	6&12/A6.0	FLOOR
123B	C	H.M. /INSUL.	PAINTED	4	H.M.	2	5&6/A5.3	-
124	E	S.C. WOOD	PRE-FINISHED	3	H.M.	6	6/A6.0	FLOOR
125A	H	S.C. WOOD	PRE-FINISHED	1	H.M.	6A	6&12/A6.0	WALL
125B	H	S.C. WOOD	PRE-FINISHED	1	H.M.	6A	6&12/A6.0	FLOOR
126	D	S.C. WOOD	PRE-FINISHED	1	H.M.	4	6&12/A6.0	WALL
127A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1	6&12/A6.0	FLOOR
127B	C	H.M. /INSUL.	PAINTED	4	H.M.	2	5&6/A5.3	-
128	E	S.C. WOOD	PRE-FINISHED	3	H.M.	6	6/A6.0	FLOOR
129	E	S.C. WOOD	PRE-FINISHED	3	H.M.	6	6/A6.0	FLOOR
130	D	S.C. WOOD	PRE-FINISHED	1	H.M.	8	6&12/A6.0	WALL
131A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1	6&12/A6.0	FLOOR
131B	C	H.M. /INSUL.	PAINTED	4	H.M.	2	5&6/A5.3	-
132	E	S.C. WOOD	PRE-FINISHED	3	H.M.	6	6/A6.0	FLOOR
133	E	S.C. WOOD	PRE-FINISHED	3	H.M.	6	6/A6.0	FLOOR
134	D	S.C. WOOD	PRE-FINISHED	1	H.M.	5	6&12/A6.0	-
135	D	S.C. WOOD	PRE-FINISHED	1	H.M.	8	6&12/A6.0	-
136A	A	S.C. WOOD	PRE-FINISHED	1	H.M.	1	6&12/A6.0	FLOOR
136B	C	H.M. /INSUL.	PAINTED	4	H.M.	2A	5&6/A5.3	-
137	E	S.C. WOOD	PRE-FINISHED	3	H.M.	6	6/A6.0	FLOOR
138	E	S.C. WOOD	PRE-FINISHED	3	H.M.	6	6/A6.0	FLOOR
200A	G	H.M.	PAINTED	4	H.M.	13	6&12/A6.0	FLOOR
200B	G	H.M.	PAINTED	4	H.M.	13	6&12/A6.0	FLOOR

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax: (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
1005 STADIUM DR
WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
1	03/18/2026	PERMIT SET
2		
3		
4		
5		
6		
7		
8		
9		

DOOR AND WINDOW SCHEDULES

DATE 03/02/2026

JOB NO. 25027

A-8.0
SHEET NO.

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08 11 13 HOLLOW DOORS AND FRAMES
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08 80 00 GLAZING

09 29 00 GYPSUM BOARD
09 30 13 CERAMIC TILING
09 51 13 ACOUSTICAL PANEL CEILINGS
09 54 26 SUSPENDED WOOD CEILINGS
09 65 13 RESILIENT BASE AND ACCESSORIES
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10 28 00 TOILET, BATH, AND LAUNDRY ACCESSORIES
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10 44 16 FIRE EXTINGUISHERS
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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
1. PROJECT INFORMATION.
2. WORK COVERED BY CONTRACT DOCUMENTS.
3. PHASED CONSTRUCTION.
4. ACCESS TO SITE.
5. COORDINATION WITH OCCUPANTS.
6. TENANT-FURNISHED PRODUCTS.
7. WORK RESTRICTIONS.

B. RELATED REQUIREMENTS:
1. SECTION 015000 "TEMPORARY FACILITIES AND CONTROLS" FOR LIMITATIONS AND PROCEDURES GOVERNING TEMPORARY USE OF OWNER'S FACILITIES.

1.2 PROJECT INFORMATION

A. PROJECT IDENTIFICATION: KCE
1. PROJECT LOCATION: WAKE FOREST, NC

B. TENANT: KINDERCARE EDUCATION
1. CONTACT: DESIGN & CONSTRUCTION

C. ARCHITECT: ADA ARCHITECTS INC.
1. CONTACT: MARK KUHN

D. CONTRACTOR: TO BE DETERMINED.

E. PROJECT WEB SITE: A PROJECT WEB SITE ADMINISTERED BY ARCHITECT WILL BE USED FOR PURPOSES OF MANAGING COMMUNICATION AND DOCUMENTS DURING THE CONSTRUCTION STAGE.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. THE WORK OF PROJECT IS DEFINED BY THE CONTRACT DOCUMENTS AND CONSISTS OF THE FOLLOWING:
1. FILL-IN:
a. BUILDING USE GROUP: B
b. CONSTRUCTION TYPE: V-B
c. AREA: 12,066 SF

B. TYPE OF CONTRACT.
1. PROJECT WILL BE CONSTRUCTED UNDER A SINGLE PRIME CONTRACT.

1.4 PHASED CONSTRUCTION

A. THE WORK SHALL BE CONDUCTED IN A SINGLE PHASE.

B. 1.5 ACCESS TO SITE

A. GENERAL: CONTRACTOR SHALL HAVE FULL USE OF PROJECT SITE FOR CONSTRUCTION OPERATIONS DURING CONSTRUCTION PERIOD. CONTRACTOR'S USE OF PROJECT SITE IS LIMITED ONLY BY OWNER'S RIGHT TO PERFORM WORK OR TO RETAIN OTHER CONTRACTORS ON PORTIONS OF PROJECT.

B. USE OF SITE: LIMIT USE OF PROJECT SITE TO WORK IN AREAS INDICATED. DO NOT DISTURB PORTIONS OF PROJECT SITE BEYOND AREAS IN WHICH THE WORK IS INDICATED.
1. DRIVEWAYS, WALKWAYS AND ENTRANCES: KEEP DRIVEWAYS LOADING AREAS, AND ENTRANCES SERVING PREMISES CLEAR AND AVAILABLE TO OWNER, OWNER'S EMPLOYEES, AND EMERGENCY VEHICLES AT ALL TIMES. DO NOT USE THESE AREAS FOR PARKING OR STORAGE OF MATERIALS.
a. SCHEDULE DELIVERIES TO MINIMIZE USE OF DRIVEWAYS AND ENTRANCES BY CONSTRUCTION OPERATIONS.
b. SCHEDULE DELIVERIES TO MINIMIZE SPACE AND TIME REQUIREMENTS FOR STORAGE OF MATERIALS AND EQUIPMENT ON-SITE.

C. CONDITION OF EXISTING BUILDING: MAINTAIN PORTIONS OF EXISTING BUILDING AFFECTED BY CONSTRUCTION OPERATIONS IN A WEATHERTIGHT CONDITION THROUGHOUT CONSTRUCTION PERIOD. REPAIR DAMAGE CAUSED BY CONSTRUCTION OPERATIONS.

1.6 COORDINATION WITH OCCUPANTS (MODIFY AS REQUIRED)

A. FULL OWNER OCCUPANCY: OWNER WILL OCCUPY SITE AND EXISTING AND ADJACENT BUILDING(S) DURING ENTIRE CONSTRUCTION PERIOD. COOPERATE WITH OWNER DURING CONSTRUCTION OPERATIONS TO MINIMIZE CONFLICTS AND FACILITATE OWNER USAGE. PERFORM THE WORK SO AS NOT TO INTERFERE WITH OWNER'S DAY-TO-DAY OPERATIONS. MAINTAIN EXISTING EXITS UNLESS OTHERWISE INDICATED.
1. MAINTAIN ACCESS TO EXISTING WALKWAYS, CORRIDORS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT WALKWAYS, CORRIDORS, OR OTHER OCCUPIED OR USED FACILITIES WITHOUT WRITTEN PERMISSION FROM OWNER AND APPROVAL OF AUTHORITIES HAVING JURISDICTION.
2. NOTIFY OWNER NOT LESS THAN 72 HOURS IN ADVANCE OF ACTIVITIES THAT WILL AFFECT OWNER'S OPERATIONS.

1.7 TENANT FURNISHED PRODUCTS

A. TENANT WILL FURNISH PRODUCTS INDICATED. THE WORK INCLUDES RECEIVING, UNLOADING, HANDLING, STORING, PROTECTING, AND INSTALLING TENANT-FURNISHED PRODUCTS AND MAKING BUILDING SERVICES CONNECTIONS.

B. TENANT-FURNISHED PRODUCTS:
1. MISCELLANEOUS LOOSE FURNISHINGS.
2. PHONE HARDWARE
3. CAMERA WIRING/HARDWARE

1.8 WORK RESTRICTIONS

A. WORK RESTRICTIONS, GENERAL: COMPLY WITH RESTRICTIONS ON CONSTRUCTION OPERATIONS.
1. COMPLY WITH LIMITATIONS ON USE OF PUBLIC STREETS AND WITH OTHER REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

B. ON-SITE WORK HOURS: LIMIT WORK IN THE EXISTING BUILDING TO NORMAL BUSINESS WORKING HOURS OF 8:00 A.M. TO 4:00 P.M., MONDAY THROUGH FRIDAY, UNLESS OTHERWISE INDICATED.
1. AVOID DELIVERIES AT PEAK DROP-OFF AND PICK-UP TIMES OR AS DIRECTED BY OWNER.

C. EXISTING UTILITY INTERRUPTIONS: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER PROVIDING TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS INDICATED:
1. NOTIFY OWNER NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS.
2. OBTAIN OWNER'S WRITTEN PERMISSION BEFORE PROCEEDING WITH UTILITY INTERRUPTIONS.

D. NOISE, VIBRATION, AND ODORS: COORDINATE OPERATIONS THAT MAY RESULT IN HIGH LEVELS OF NOISE AND VIBRATION, ODORS, OR OTHER DISRUPTION TO OWNER OCCUPANCY WITH OWNER.
1. NOTIFY OWNER NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED DISRUPTIVE OPERATIONS.
2. OBTAIN OWNER'S WRITTEN PERMISSION BEFORE PROCEEDING WITH DISRUPTIVE OPERATIONS.

E. CONTROLLED SUBSTANCES: USE OF TOBACCO PRODUCTS AND OTHER CONTROLLED SUBSTANCES ON PROJECT SITE IS NOT PERMITTED.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 011000

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR DOCUMENTING THE PROGRESS OF CONSTRUCTION DURING PERFORMANCE OF THE WORK, INCLUDING THE FOLLOWING:
1. CONTRACTOR'S CONSTRUCTION SCHEDULE.
2. CONSTRUCTION SCHEDULE UPDATING REPORTS.
3. DAILY CONSTRUCTION REPORTS.
4. SITE CONDITION REPORTS.

B. RELATED REQUIREMENTS:

1.2 DEFINITIONS

A. CPM: CRITICAL PATH METHOD, WHICH IS A METHOD OF PLANNING AND SCHEDULING A CONSTRUCTION PROJECT WHERE ACTIVITIES ARE ARRANGED BASED ON ACTIVITY RELATIONSHIPS. NETWORK CALCULATIONS DETERMINE WHEN ACTIVITIES CAN BE PERFORMED AND THE CRITICAL PATH OF PROJECT.

1.3 INFORMATIONAL SUBMITTALS

A. FORMAT FOR SUBMITTALS: SUBMIT REQUIRED SUBMITTALS IN THE FOLLOWING FORMAT:
1. WORKING ELECTRONIC COPY OF SCHEDULE FILE, WHERE INDICATED.
2. PDF ELECTRONIC FILE.

B. CONTRACTOR'S CONSTRUCTION SCHEDULE: INITIAL SCHEDULE, OF SIZE REQUIRED TO DISPLAY ENTIRE SCHEDULE FOR ENTIRE CONSTRUCTION PERIOD.
1. SUBMIT A WORKING ELECTRONIC COPY OF SCHEDULE, USING SOFTWARE INDICATED, AND LABELED TO COMPLY WITH REQUIREMENTS FOR SUBMITTALS. INCLUDE TYPE OF SCHEDULE (INITIAL OR UPDATED) AND DATE ON LABEL.

C. CONSTRUCTION SCHEDULE UPDATING REPORTS: SUBMIT WITH APPLICATIONS FOR PAYMENT.

D. DAILY CONSTRUCTION REPORTS: SUBMIT AT WEEKLY INTERVALS WITH FULL PHOTOS.

E. SITE CONDITION REPORTS: SUBMIT AT TIME OF DISCOVERY OF DIFFERING CONDITIONS.

1.4 COORDINATION

A. COORDINATE CONTRACTOR'S CONSTRUCTION SCHEDULE WITH THE SCHEDULE OF VALUES, LIST OF SUBCONTRACTS, SUBMITTAL SCHEDULE, PROGRESS REPORTS, PAYMENT REQUESTS, AND OTHER REQUIRED SCHEDULES AND REPORTS.
1. SECURE TIME COMMITMENTS FOR PERFORMING CRITICAL ELEMENTS OF THE WORK FROM ENTITIES INVOLVED.
2. COORDINATE EACH CONSTRUCTION ACTIVITY IN THE NETWORK WITH OTHER ACTIVITIES AND SCHEDULE THEM IN PROPER SEQUENCE.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. GANTT-CHART SCHEDULE: SUBMIT A COMPREHENSIVE, FULLY DEVELOPED, HORIZONTAL, GANTT-CHART-TYPE, CONTRACTOR'S CONSTRUCTION SCHEDULE WITHIN 30 DAYS OF DATE ESTABLISHED FOR THE NOTICE TO PROCEED.

B. PREPARATION: INDICATE EACH SIGNIFICANT CONSTRUCTION ACTIVITY SEPARATELY. IDENTIFY FIRST WORKDAY OF EACH WEEK WITH A CONTINUOUS VERTICAL LINE.
1. FOR CONSTRUCTION ACTIVITIES THAT REQUIRE THREE MONTHS OR LONGER TO COMPLETE, INDICATE AN ESTIMATED COMPLETION PERCENTAGE IN 10 PERCENT INCREMENTS WITHIN TIME BAR.

2.2 REPORTS

A. DAILY CONSTRUCTION REPORTS: PREPARE A DAILY CONSTRUCTION REPORT RECORDING THE FOLLOWING INFORMATION CONCERNING EVENTS AT PROJECT SITE:
1. LIST OF SUBCONTRACTORS AT PROJECT SITE.
2. LIST OF SEPARATE CONTRACTORS AT PROJECT SITE.
3. APPROXIMATE COUNT OF PERSONNEL AT PROJECT SITE.
4. EQUIPMENT AT PROJECT SITE.
5. MATERIAL DELIVERIES.
6. HIGH AND LOW TEMPERATURES AND GENERAL WEATHER CONDITIONS, INCLUDING PRESENCE OF RAIN OR SNOW.
7. ACCIDENTS.
8. MEETINGS AND SIGNIFICANT DECISIONS.
9. UNUSUAL EVENTS.
10. STOPPAGES, DELAYS, SHORTAGES, AND LOSSES.
11. METER READINGS AND SIMILAR RECORDINGS.
12. EMERGENCY PROCEDURES.
13. ORDERS AND REQUESTS OF AUTHORITIES HAVING JURISDICTION.
14. CHANGE ORDERS RECEIVED AND IMPLEMENTED.
15. CONSTRUCTION CHANGE DIRECTIVES RECEIVED AND IMPLEMENTED.
16. SERVICES CONNECTED AND DISCONNECTED.
17. EQUIPMENT OR SYSTEM TESTS AND STARTUPS.
18. PARTIAL COMPLETIONS AND OCCUPANCIES.
19. SUBSTANTIAL COMPLETIONS AUTHORIZED.
20. PHOTOS.

B. SITE CONDITION REPORTS: IMMEDIATELY ON DISCOVERY OF A DIFFERENCE BETWEEN SITE CONDITIONS AND THE CONTRACT DOCUMENTS, PREPARE AND SUBMIT A DETAILED REPORT. SUBMIT WITH A REQUEST FOR INFORMATION. INCLUDE A DETAILED DESCRIPTION OF THE DIFFERING CONDITIONS, TOGETHER WITH RECOMMENDATIONS FOR CHANGING THE CONTRACT DOCUMENTS.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. CONTRACTOR'S CONSTRUCTION SCHEDULE UPDATING: AT MONTHLY INTERVALS, UPDATE SCHEDULE TO REFLECT ACTUAL CONSTRUCTION PROGRESS AND ACTIVITIES. ISSUE SCHEDULE ONE WEEK BEFORE EACH REGULARLY SCHEDULED PROGRESS MEETING.
1. REVISE SCHEDULE IMMEDIATELY AFTER EACH MEETING OR OTHER ACTIVITY WHERE REVISIONS HAVE BEEN RECOGNIZED OR MADE. ISSUE UPDATED SCHEDULE CONCURRENTLY WITH THE REPORT OF EACH SUCH MEETING.
2. INCLUDE A REPORT WITH UPDATED SCHEDULE THAT INDICATES EVERY CHANGE, INCLUDING, BUT NOT LIMITED TO, CHANGES IN LOGIC, DURATIONS, ACTUAL STARTS AND FINISHES, AND ACTIVITY DURATIONS.
3. AS THE WORK PROGRESSES, INDICATE FINAL COMPLETION PERCENTAGE FOR EACH ACTIVITY.

B. DISTRIBUTION: DISTRIBUTE COPIES OF APPROVED SCHEDULE TO ARCHITECT, OWNER, SEPARATE CONTRACTORS, TESTING AND INSPECTING AGENCIES, AND OTHER PARTIES IDENTIFIED BY CONTRACTOR WITH A NEED-TO-KNOW SCHEDULE RESPONSIBILITY.
1. POST COPIES IN PROJECT MEETING ROOMS AND TEMPORARY FIELD OFFICES.
2. WHEN REVISIONS ARE MADE, DISTRIBUTE UPDATED SCHEDULES TO THE SAME PARTIES AND POST IN THE SAME LOCATIONS. DELETE PARTIES FROM DISTRIBUTION WHEN THEY HAVE COMPLETED THEIR ASSIGNED PORTION OF THE WORK AND ARE NO LONGER INVOLVED IN PERFORMANCE OF CONSTRUCTION ACTIVITIES.

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
1. SUBMITTAL SCHEDULE REQUIREMENTS.
2. ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR SUBMITTALS.

1.2 DEFINITIONS

A. ACTION SUBMITTALS: WRITTEN AND GRAPHIC INFORMATION AND PHYSICAL SAMPLES THAT REQUIRE ARCHITECT'S RESPONSIVE ACTION. ACTION SUBMITTALS ARE THOSE SUBMITTALS INDICATED IN INDIVIDUAL SPECIFICATION SECTIONS AS "ACTION SUBMITTALS."

B. INFORMATIONAL SUBMITTALS: WRITTEN AND GRAPHIC INFORMATION AND PHYSICAL SAMPLES THAT DO NOT REQUIRE ARCHITECT'S RESPONSIVE ACTION. SUBMITTALS MAY BE REJECTED FOR NOT COMPLYING WITH REQUIREMENTS. INFORMATIONAL SUBMITTALS ARE THOSE SUBMITTALS INDICATED IN INDIVIDUAL SPECIFICATION SECTIONS AS "INFORMATIONAL SUBMITTALS."

1.3 SUBMITTAL SCHEDULE

A. SUBMITTAL SCHEDULE: SUBMIT, AS AN ACTION SUBMITTAL, A LIST OF SUBMITTALS, ARRANGED IN CHRONOLOGICAL ORDER BY DATES REQUIRED BY CONSTRUCTION SCHEDULE. INCLUDE TIME REQUIRED FOR REVIEW, ORDERING, MANUFACTURING, FABRICATION, AND DELIVERY WHEN ESTABLISHING DATES. INCLUDE ADDITIONAL TIME REQUIRED FOR MAKING CORRECTIONS OR REVISIONS TO SUBMITTALS NOTED BY ARCHITECT AND ADDITIONAL TIME FOR HANDLING AND REVIEWING SUBMITTALS REQUIRED BY THOSE CORRECTIONS.
1. LIST OF REQUIRED SUBMITTALS:
a. MILLWORK
b. DOORS, DOOR FRAMES, AND DOOR HARDWARE
c. ALUMINUM STOREFRONTS
d. PIPE & TUBE RAILINGS
e. HVAC EQUIPMENT AND BALANCE REPORT
f. PLUMBING FIXTURES
g. PLUMBING ACCESSORIES
h. KITCHEN EQUIPMENT
i. LIGHT FIXTURES AND LIGHTING CONTROL DEVICES
j. ELECTRICAL EQUIPMENT
k. FIRE EXTINGUISHER CABINETS
l. FIRE ALARM
m. SPRINKLER DRAWINGS

1.4 SUBMITTAL FORMATS

A. SUBMITTAL INFORMATION: INCLUDE THE FOLLOWING INFORMATION IN EACH SUBMITTAL:
1. PROJECT NAME.
2. DATE.
3. NAME OF ARCHITECT.
4. NAME OF CONTRACTOR.
5. NAME OF FIRM OR ENTITY THAT PREPARED SUBMITTAL.
6. NAMES OF SUBCONTRACTOR, MANUFACTURER, AND SUPPLIER.
7. UNIQUE SUBMITTAL NUMBER, INCLUDING REVISION IDENTIFIER. INCLUDE SPECIFICATION SECTION NUMBER WITH SEQUENTIAL ALPHANUMERIC IDENTIFIER; AND ALPHANUMERIC SUFFIX FOR RESUBMITTALS.
8. NUMBER AND TITLE OF SPECIFICATION SECTION, WITH PARAGRAPH NUMBER AND GENERIC NAME FOR EACH OF MULTIPLE ITEMS.
9. LOCATION(S) WHERE PRODUCT IS TO BE INSTALLED, AS APPROPRIATE.
10. REMARKS.
11. SIGNATURE OF TRANSMITTER.

B. DEVIATIONS AND ADDITIONAL INFORMATION: ON EACH SUBMITTAL, CLEARLY INDICATE DEVIATIONS FROM REQUIREMENTS IN THE CONTRACT DOCUMENTS, INCLUDING MINOR VARIATIONS AND LIMITATIONS; INCLUDE RELEVANT ADDITIONAL INFORMATION AND REVISIONS, OTHER THAN THOSE REQUESTED BY ARCHITECT ON PREVIOUS SUBMITTALS. INDICATE BY HIGHLIGHTING ON EACH SUBMITTAL OR NOTING ON ATTACHED SEPARATE SHEET.

C. ELECTRONIC SUBMITTALS: PREPARE SUBMITTALS AS PDF PACKAGE, INCORPORATING COMPLETE INFORMATION INTO EACH PDF FILE. NAME PDF FILE WITH SUBMITTAL NUMBER.

D. SUBMITTALS FOR UTILIZING WEB-BASED PROJECT MANAGEMENT SOFTWARE: PREPARE SUBMITTALS AS PDF FILES, OR OTHER FORMAT INDICATED BY PROJECT MANAGEMENT SOFTWARE.

1.5 SUBMITTAL PROCEDURES

A. PREPARE AND SUBMIT SUBMITTALS REQUIRED BY INDIVIDUAL SPECIFICATION SECTIONS. TYPES OF SUBMITTALS ARE INDICATED IN INDIVIDUAL SPECIFICATION SECTIONS.
1. EMAIL: PREPARE SUBMITTALS AS PDF PACKAGE, AND TRANSMIT TO ARCHITECT BY SENDING VIA EMAIL. INCLUDE PDF TRANSMITTAL FORM. INCLUDE INFORMATION IN EMAIL SUBJECT LINE AS REQUESTED BY ARCHITECT.
2. WEB-BASED PROJECT MANAGEMENT SOFTWARE: PREPARE SUBMITTALS IN PDF FORM, AND UPLOAD TO WEB-BASED PROJECT MANAGEMENT SOFTWARE WEBSITE. ENTER REQUIRED DATA IN WEB-BASED SOFTWARE SITE TO FULLY IDENTIFY SUBMITTAL.
3. PAPER: PREPARE SUBMITTALS IN PAPER FORM AND DELIVER TO ARCHITECT.

B. COORDINATION: COORDINATE PREPARATION AND PROCESSING OF SUBMITTALS WITH PERFORMANCE OF CONSTRUCTION ACTIVITIES.
1. COORDINATE EACH SUBMITTAL WITH FABRICATION, PURCHASING, TESTING, DELIVERY, OTHER SUBMITTALS, AND RELATED ACTIVITIES THAT REQUIRE SEQUENTIAL ACTIVITY.
2. SUBMIT ALL SUBMITTAL ITEMS REQUIRED FOR EACH SPECIFICATION SECTION CONCURRENTLY UNLESS PARTIAL SUBMITTALS FOR PORTIONS OF THE WORK ARE INDICATED ON APPROVED SUBMITTAL SCHEDULE.
3. SUBMIT ACTION SUBMITTALS AND INFORMATIONAL SUBMITTALS REQUIRED BY THE SAME SPECIFICATION SECTION AS SEPARATE PACKAGES UNDER SEPARATE TRANSMITTALS.

C. PROCESSING TIME: ALLOW TIME FOR SUBMITTAL REVIEW, INCLUDING TIME FOR RESUBMITTALS, AS FOLLOWS. TIME FOR REVIEW SHALL COMMENCE ON ARCHITECT'S RECEIPT OF SUBMITTAL. NO EXTENSION OF THE CONTRACT TIME WILL BE AUTHORIZED BECAUSE OF FAILURE TO TRANSMIT SUBMITTALS ENOUGH IN ADVANCE OF THE WORK TO PERMIT PROCESSING, INCLUDING RESUBMITTALS.
1. INITIAL REVIEW: ALLOW 15 DAYS FOR INITIAL REVIEW OF EACH SUBMITTAL. ALLOW ADDITIONAL TIME IF COORDINATION WITH SUBSEQUENT SUBMITTALS IS REQUIRED. ARCHITECT WILL ADVISE CONTRACTOR WHEN A SUBMITTAL BEING PROCESSED MUST BE DELAYED FOR COORDINATION.
2. RESUBMITTAL REVIEW: ALLOW 10 DAYS FOR REVIEW OF EACH RESUBMITTAL.

D. RESUBMITTALS: MAKE RESUBMITTALS IN SAME FORM AND NUMBER OF COPIES AS INITIAL SUBMITTAL.

E. DISTRIBUTION: FURNISH COPIES OF FINAL SUBMITTALS TO MANUFACTURERS, SUBCONTRACTORS, SUPPLIERS, FABRICATORS, INSTALLERS, AUTHORITIES HAVING JURISDICTION, AND OTHERS AS NECESSARY FOR PERFORMANCE OF CONSTRUCTION ACTIVITIES. SHOW DISTRIBUTION ON TRANSMITTAL FORMS.

F. USE FOR CONSTRUCTION: RETAIN COMPLETE COPIES OF SUBMITTALS ON PROJECT SITE. USE ONLY FINAL ACTION SUBMITTALS THAT ARE MARKED WITH APPROVAL NOTATION FROM ARCHITECT'S ACTION STAMP.

1.6 SUBMITTAL REQUIREMENTS

A. PRODUCT DATA: COLLECT INFORMATION INTO A SINGLE SUBMITTAL FOR EACH ELEMENT OF CONSTRUCTION AND TYPE OF PRODUCT OR EQUIPMENT.
1. IF INFORMATION MUST BE SPECIALLY PREPARED FOR SUBMITTAL BECAUSE STANDARD PUBLISHED DATA ARE UNSUITABLE FOR USE, SUBMIT AS SHOP DRAWINGS, NOT AS PRODUCT DATA.
2. MARK EACH COPY OF EACH SUBMITTAL TO SHOW WHICH PRODUCTS AND OPTIONS ARE APPLICABLE.
3. INCLUDE THE FOLLOWING INFORMATION, AS APPLICABLE:
a. MANUFACTURER'S CATALOG CUTS.
b. MANUFACTURER'S PRODUCT SPECIFICATIONS.
c. STANDARD COLOR CHARTS.
d. STATEMENT OF COMPLIANCE WITH SPECIFIED REFERENCED STANDARDS.
e. TESTING BY RECOGNIZED TESTING AGENCY.
f. APPLICATION OF TESTING AGENCY LABELS AND SEALS.
g. NOTATION OF COORDINATION REQUIREMENTS.
h. AVAILABILITY AND DELIVERY TIME INFORMATION.
4. FOR EQUIPMENT, INCLUDE THE FOLLOWING IN ADDITION TO THE ABOVE, AS APPLICABLE:
a. WIRING DIAGRAMS THAT SHOW FACTORY-INSTALLED WIRING.
b. PRINTED PERFORMANCE CURVES.
c. OPERATIONAL RANGE DIAGRAMS.
d. CLEARANCES REQUIRED TO OTHER CONSTRUCTION, IF NOT INDICATED ON ACCOMPANYING SHOP DRAWINGS.
5. SUBMIT PRODUCT DATA BEFORE SHOP DRAWINGS, AND BEFORE OR CONCURRENT WITH SAMPLES.

B. SHOP DRAWINGS: PREPARE PROJECT-SPECIFIC INFORMATION, DRAWN ACCURATELY TO SCALE. DO NOT BASE SHOP DRAWINGS ON REPRODUCTIONS OF THE CONTRACT DOCUMENTS OR STANDARD PRINTED DATA.
1. PREPARATION: FULLY ILLUSTRATE REQUIREMENTS IN THE CONTRACT DOCUMENTS. INCLUDE THE FOLLOWING INFORMATION, AS APPLICABLE:
a. IDENTIFICATION OF PRODUCTS.
b. SCHEDULES.
c. COMPLIANCE WITH SPECIFIED STANDARDS.
d. NOTATION OF COORDINATION REQUIREMENTS.
e. NOTATION OF DIMENSIONS ESTABLISHED BY FIELD MEASUREMENT.
f. RELATIONSHIP AND ATTACHMENT TO ADJOINING CONSTRUCTION CLEARLY INDICATED.
g. SEAL AND SIGNATURE OF PROFESSIONAL ENGINEER IF SPECIFIED.

C. SAMPLES: SUBMIT SAMPLES FOR REVIEW OF KIND, COLOR, PATTERN, AND TEXTURE FOR A CHECK OF THESE CHARACTERISTICS WITH OTHER MATERIALS.
1. TRANSMIT SAMPLES THAT CONTAIN MULTIPLE, RELATED COMPONENTS SUCH AS ACCESSORIES TOGETHER IN ONE SUBMITTAL PACKAGE.
2. IDENTIFICATION: PERMANENTLY ATTACH LABEL ON UNEXPOSED SIDE OF SAMPLES THAT INCLUDES THE FOLLOWING:
a. PROJECT NAME AND SUBMITTAL NUMBER.
b. GENERIC DESCRIPTION OF SAMPLE.
c. PRODUCT NAME AND NAME OF MANUFACTURER.
d. SAMPLE SOURCE.
e. NUMBER AND TITLE OF APPLICABLE SPECIFICATION SECTION.
f. SPECIFICATION PARAGRAPH NUMBER AND GENERIC NAME OF EACH ITEM.
3. EMAIL TRANSMITTAL: PROVIDE PDF TRANSMITTAL. INCLUDE DIGITAL IMAGE FILE ILLUSTRATING SAMPLE CHARACTERISTICS, AND IDENTIFICATION INFORMATION FOR RECORD.
4. WEB-BASED PROJECT MANAGEMENT SOFTWARE: PREPARE SUBMITTALS IN PDF FORM, AND UPLOAD TO WEB-BASED PROJECT SOFTWARE WEBSITE. ENTER REQUIRED DATA IN WEB-BASED SOFTWARE SITE TO FULLY IDENTIFY SUBMITTAL.
5. DISPOSITION: MAINTAIN SETS OF APPROVED SAMPLES AT PROJECT SITE, AVAILABLE FOR QUALITY-CONTROL COMPARISONS THROUGHOUT THE COURSE OF CONSTRUCTION ACTIVITY. SAMPLE SETS MAY BE USED TO DETERMINE FINAL ACCEPTANCE OF CONSTRUCTION ASSOCIATED WITH EACH SET.
a. SAMPLES THAT MAY BE INCORPORATED INTO THE WORK ARE INDICATED IN INDIVIDUAL SPECIFICATION SECTIONS. SUCH SAMPLES MUST BE IN AN UNDAMAGED CONDITION AT TIME OF USE.
b. SAMPLES NOT INCORPORATED INTO THE WORK, OR OTHERWISE DESIGNATED AS OWNER'S PROPERTY, ARE THE PROPERTY OF CONTRACTOR.
6. SAMPLES FOR VERIFICATION: SUBMIT FULL-SIZE UNITS OR SAMPLES OF SIZE INDICATED, PREPARED FROM SAME MATERIAL TO BE USED FOR THE WORK, CURED AND FINISHED IN MANNER SPECIFIED, AND PHYSICALLY IDENTICAL WITH MATERIAL OR PRODUCT PROPOSED FOR USE, AND THAT SHOW FULL RANGE OF COLOR AND TEXTURE VARIATIONS EXPECTED. SAMPLES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: PARTIAL SECTIONS OF MANUFACTURED OR FABRICATED COMPONENTS; SMALL CUTS OR CONTAINERS OF MATERIALS; COMPLETE UNITS OF REPETITIVELY USED MATERIALS; SWATCHES SHOWING COLOR, TEXTURE, AND PATTERN; COLOR RANGE SETS; AND COMPONENTS USED FOR INDEPENDENT TESTING AND INSPECTION.
a. NUMBER OF SAMPLES: SUBMIT THREE SETS OF SAMPLES. ARCHITECT WILL RETAIN TWO SAMPLE SETS; REMAINDER WILL BE RETURNED. MARK UP AND RETAIN ONE RETURNED SAMPLE SET AS A PROJECT RECORD SAMPLE.
1.) SUBMIT A SINGLE SAMPLE WHERE ASSEMBLY DETAILS, WORKMANSHIP, FABRICATION TECHNIQUES, CONNECTIONS, OPERATION, AND OTHER SIMILAR CHARACTERISTICS ARE TO BE DEMONSTRATED.
1) IF VARIATION IN COLOR, PATTERN, TEXTURE, OR OTHER CHARACTERISTIC IS INHERENT IN MATERIAL OR PRODUCT REPRESENTED BY A SAMPLE, SUBMIT AT LEAST THREE SETS OF PAIRED UNITS THAT SHOW APPROXIMATE LIMITS OF VARIATIONS.

D. PRODUCT SCHEDULE: AS REQUIRED IN INDIVIDUAL SPECIFICATION SECTIONS, PREPARE A WRITTEN SUMMARY INDICATING TYPES OF PRODUCTS REQUIRED FOR THE WORK AND THEIR INTENDED LOCATION. INCLUDE THE FOLLOWING INFORMATION IN TABULAR FORM:

E. QUALIFICATION DATA: PREPARE WRITTEN INFORMATION THAT DEMONSTRATES CAPABILITIES AND EXPERIENCE OF FIRM OR PERSON. INCLUDE LISTS OF COMPLETED PROJECTS WITH PROJECT NAMES AND ADDRESSES, CONTACT INFORMATION OF ARCHITECTS AND OWNERS, AND OTHER INFORMATION SPECIFIED.

F. DESIGN DATA: PREPARE AND SUBMIT WRITTEN AND GRAPHIC INFORMATION INDICATING COMPLIANCE WITH INDICATED PERFORMANCE AND DESIGN CRITERIA IN INDIVIDUAL SPECIFICATION SECTIONS. INCLUDE LIST OF ASSUMPTIONS AND SUMMARY OF LOADS. INCLUDE LOAD DIAGRAMS IF APPLICABLE. PROVIDE NAME AND VERSION OF SOFTWARE, IF ANY, USED FOR CALCULATIONS. NUMBER EACH PAGE OF SUBMITTAL.

G. CERTIFICATES:
1. CERTIFICATES AND CERTIFICATIONS SUBMITTALS: SUBMIT A STATEMENT THAT INCLUDES SIGNATURE OF ENTITY RESPONSIBLE FOR PREPARING CERTIFICATION. CERTIFICATES AND CERTIFICATIONS SHALL BE SIGNED BY AN OFFICER OR OTHER INDIVIDUAL AUTHORIZED TO SIGN DOCUMENTS ON BEHALF OF THAT ENTITY. PROVIDE A NOTARIZED SIGNATURE WHERE INDICATED.

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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REVISIONS

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	03/18/2026	PERMIT SET
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SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

A-9.0

SHEET NO.

2. INSTALLER CERTIFICATES: SUBMIT WRITTEN STATEMENTS ON MANUFACTURER'S LETTERHEAD CERTIFYING THAT INSTALLER COMPLIES WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS AND, WHERE REQUIRED, IS AUTHORIZED BY MANUFACTURER FOR THIS SPECIFIC PROJECT.
3. MANUFACTURER CERTIFICATES: SUBMIT WRITTEN STATEMENTS ON MANUFACTURER'S LETTERHEAD CERTIFYING THAT MANUFACTURER COMPLIES WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS. INCLUDE EVIDENCE OF MANUFACTURING EXPERIENCE WHERE REQUIRED.
4. MATERIAL CERTIFICATES: SUBMIT WRITTEN STATEMENTS ON MANUFACTURER'S LETTERHEAD CERTIFYING THAT MATERIAL COMPLIES WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS.
5. PRODUCT CERTIFICATES: SUBMIT WRITTEN STATEMENTS ON MANUFACTURER'S LETTERHEAD CERTIFYING THAT PRODUCT COMPLIES WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS.
6. WELDING CERTIFICATES: PREPARE WRITTEN CERTIFICATION THAT WELDING PROCEDURES AND PERSONNEL COMPLY WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS. SUBMIT RECORD OF WELDING PROCEDURE SPECIFICATION AND PROCEDURE QUALIFICATION RECORD ON AWS FORMS. INCLUDE NAMES OF FIRMS AND PERSONNEL CERTIFIED.

H. TEST AND RESEARCH REPORTS:
1. COMPATIBILITY TEST REPORTS: SUBMIT REPORTS WRITTEN BY A QUALIFIED TESTING AGENCY, ON TESTING AGENCY'S STANDARD FORM, INDICATING AND INTERPRETING RESULTS OF COMPATIBILITY TESTS PERFORMED BEFORE INSTALLATION OF PRODUCT. INCLUDE WRITTEN RECOMMENDATIONS FOR SUBSTRATE PREPARATION AND PRIMERS REQUIRED.
2. FIELD TEST REPORTS: SUBMIT WRITTEN REPORTS INDICATING AND INTERPRETING RESULTS OF FIELD TESTS PERFORMED EITHER DURING INSTALLATION OF PRODUCT OR AFTER PRODUCT IS INSTALLED IN ITS FINAL LOCATION, FOR COMPLIANCE WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS.
3. MATERIAL TEST REPORTS: SUBMIT REPORTS WRITTEN BY A QUALIFIED TESTING AGENCY, ON TESTING AGENCY'S STANDARD FORM, INDICATING AND INTERPRETING TEST RESULTS OF MATERIAL FOR COMPLIANCE WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS.
4. PRECONSTRUCTION TEST REPORTS: SUBMIT REPORTS WRITTEN BY A QUALIFIED TESTING AGENCY, ON TESTING AGENCY'S STANDARD FORM, INDICATING AND INTERPRETING RESULTS OF TESTS PERFORMED BEFORE INSTALLATION OF PRODUCT, FOR COMPLIANCE WITH PERFORMANCE REQUIREMENTS IN THE CONTRACT DOCUMENTS.
5. PRODUCT TEST REPORTS: SUBMIT WRITTEN REPORTS INDICATING THAT CURRENT PRODUCT PRODUCED BY MANUFACTURER COMPLIES WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS. BASE REPORTS ON EVALUATION OF TESTS PERFORMED BY MANUFACTURER AND WITNESSED BY A QUALIFIED TESTING AGENCY, OR ON COMPREHENSIVE TESTS PERFORMED BY A QUALIFIED TESTING AGENCY.
6. RESEARCH REPORTS: SUBMIT WRITTEN EVIDENCE, FROM A MODEL CODE ORGANIZATION ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, THAT PRODUCT COMPLIES WITH BUILDING CODE IN EFFECT FOR PROJECT. INCLUDE THE FOLLOWING INFORMATION:
   a. NAME OF EVALUATION ORGANIZATION.
   b. DATE OF EVALUATION.
   c. TIME PERIOD WHEN REPORT IS IN EFFECT.
   d. PRODUCT AND MANUFACTURERS' NAMES.
   e. DESCRIPTION OF PRODUCT.
   f. TEST PROCEDURES AND RESULTS.
   g. LIMITATIONS OF USE.

1.7 DELEGATED DESIGN SERVICES

A. PERFORMANCE AND DESIGN CRITERIA: WHERE PROFESSIONAL DESIGN SERVICES OR CERTIFICATIONS BY A DESIGN PROFESSIONAL ARE SPECIFICALLY REQUIRED OF CONTRACTOR BY THE CONTRACT DOCUMENTS, PROVIDE PRODUCTS AND SYSTEMS COMPLYING WITH SPECIFIC PERFORMANCE AND DESIGN CRITERIA INDICATED.
1. IF CRITERIA INDICATED ARE INSUFFICIENT TO PERFORM SERVICES OR CERTIFICATION REQUIRED, SUBMIT A WRITTEN REQUEST FOR ADDITIONAL INFORMATION TO ARCHITECT.

B. DELEGATED DESIGN SERVICES CERTIFICATION: IN ADDITION TO SHOP DRAWINGS, PRODUCT DATA, AND OTHER REQUIRED SUBMITTALS, SUBMIT DIGITALLY SIGNED PDF FILE AND PAPER COPIES OF CERTIFICATE, SIGNED AND SEALED BY THE RESPONSIBLE DESIGN PROFESSIONAL, FOR EACH PRODUCT AND SYSTEM SPECIFICALLY ASSIGNED TO CONTRACTOR TO BE DESIGNED OR CERTIFIED BY A DESIGN PROFESSIONAL AS REQUIRED BY AUTHORITY HAVING JURISDICTION.
1. INDICATE THAT PRODUCTS AND SYSTEMS COMPLY WITH PERFORMANCE AND DESIGN CRITERIA IN THE CONTRACT DOCUMENTS. INCLUDE LIST OF CODES, LOADS, AND OTHER FACTORS USED IN PERFORMING THESE SERVICES.

1.8 CONTRACTOR'S REVIEW

A. ACTION SUBMITTALS AND INFORMATIONAL SUBMITTALS: REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK OF THE CONTRACT AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. NOTE CORRECTIONS AND FIELD DIMENSIONS. MARK WITH APPROVAL STAMP BEFORE SUBMITTING TO ARCHITECT.

B. CONTRACTOR'S APPROVAL: INDICATE CONTRACTOR'S APPROVAL FOR EACH SUBMITTAL WITH A UNIFORM APPROVAL STAMP INDICATION IN WEB-BASED PROJECT MANAGEMENT SOFTWARE. INCLUDE NAME OF REVIEWER, DATE OF CONTRACTOR'S APPROVAL, AND STATEMENT CERTIFYING THAT SUBMITTAL HAS BEEN REVIEWED, CHECKED, AND APPROVED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS.
1. ARCHITECT WILL NOT REVIEW SUBMITTALS RECEIVED FROM CONTRACTOR THAT DO NOT HAVE CONTRACTOR'S REVIEW AND APPROVAL.

1.9 ARCHITECT'S REVIEW

A. ACTION SUBMITTALS: ARCHITECT WILL REVIEW EACH SUBMITTAL, INDICATE CORRECTIONS OR REVISIONS REQUIRED, AND RETURN IT.
1. SUBMITTALS BY WEB-BASED PROJECT MANAGEMENT SOFTWARE: ARCHITECT WILL INDICATE, ON PROJECT MANAGEMENT SOFTWARE WEBSITE, THE APPROPRIATE ACTION.

B. INFORMATIONAL SUBMITTALS: ARCHITECT WILL REVIEW EACH SUBMITTAL AND WILL NOT RETURN IT, OR WILL RETURN IT IF IT DOES NOT COMPLY WITH REQUIREMENTS. ARCHITECT WILL FORWARD EACH SUBMITTAL TO APPROPRIATE PARTY.

C. PARTIAL SUBMITTALS PREPARED FOR A PORTION OF THE WORK WILL BE REVIEWED WHEN USE OF PARTIAL SUBMITTALS HAS RECEIVED PRIOR APPROVAL FROM ARCHITECT.

D. INCOMPLETE SUBMITTALS ARE UNACCEPTABLE, WILL BE CONSIDERED NONRESPONSIVE, AND WILL BE RETURNED FOR RESUBMITTAL WITHOUT REVIEW.

E. ARCHITECT WILL RETURN WITHOUT REVIEW SUBMITTALS RECEIVED FROM SOURCES OTHER THAN CONTRACTOR.

F. SUBMITTALS NOT REQUIRED BY THE CONTRACT DOCUMENTS WILL BE RETURNED BY ARCHITECT WITHOUT ACTION.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 013300

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES REQUIREMENTS FOR TEMPORARY UTILITIES, SUPPORT FACILITIES, AND SECURITY AND PROTECTION FACILITIES.

B. RELATED REQUIREMENTS:
1. SECTION 011000 "SUMMARY" FOR WORK RESTRICTIONS AND LIMITATIONS ON UTILITY INTERRUPTIONS.

1.2 USE CHARGES

A. GENERAL: INSTALLATION AND REMOVAL OF AND USE CHARGES FOR TEMPORARY FACILITIES SHALL BE INCLUDED IN THE CONTRACT SUM UNLESS OTHERWISE INDICATED. ALLOW OTHER ENTITIES TO USE TEMPORARY SERVICES AND FACILITIES WITHOUT COST, INCLUDING, BUT NOT LIMITED TO, OWNER'S CONSTRUCTION FORCES, ARCHITECT, OCCUPANTS OF PROJECT, TESTING AGENCIES, AND AUTHORITIES HAVING JURISDICTION.

B. WATER AND SEWER SERVICE FROM EXISTING SYSTEM: WATER FROM OWNER'S EXISTING WATER SYSTEM IS AVAILABLE FOR USE WITHOUT METERING AND WITHOUT PAYMENT OF USE CHARGES. PROVIDE CONNECTIONS AND EXTENSIONS OF SERVICES AS REQUIRED FOR CONSTRUCTION OPERATIONS.

C. ELECTRIC POWER SERVICE FROM EXISTING SYSTEM: ELECTRIC POWER FROM OWNER'S EXISTING SYSTEM IS AVAILABLE FOR USE WITHOUT METERING AND WITHOUT PAYMENT OF USE CHARGES. PROVIDE CONNECTIONS AND EXTENSIONS OF SERVICES AS REQUIRED FOR CONSTRUCTION OPERATIONS.

1.3 QUALITY ASSURANCE

A. ELECTRIC SERVICE: COMPLY WITH NECA, NEMA, AND UL STANDARDS AND REGULATIONS FOR TEMPORARY ELECTRIC SERVICE. INSTALL SERVICE TO COMPLY WITH NFPA 70.

B. TESTS AND INSPECTIONS: ARRANGE FOR AUTHORITIES HAVING JURISDICTION TO TEST AND INSPECT EACH TEMPORARY UTILITY BEFORE USE. OBTAIN REQUIRED CERTIFICATIONS AND PERMITS.

C. ACCESSIBLE TEMPORARY EGRESS: COMPLY WITH APPLICABLE PROVISIONS IN THE U.S. ARCHITECTURAL & TRANSPORTATION BARRIERS COMPLIANCE BOARD'S ADA-ABA ACCESSIBILITY GUIDELINES AND ICC/ANSI A117.1.

PART 2 - PRODUCTS

2.1 MATERIALS

A. CHAIN-LINK FENCING: MINIMUM 2-INCH, 0.148-INCH-THICK, GALVANIZED-STEEL, CHAIN-LINK FABRIC FENCING; MINIMUM 6 FEET HIGH WITH GALVANIZED-STEEL PIPE POSTS; MINIMUM 2-3/8-INCH-OD LINE POSTS AND 2-7/8-INCH-OD CORNER AND PULL POSTS, WITH 1-5/8-INCH-OD TOP RAILS.

B. PORTABLE CHAIN-LINK FENCING: MINIMUM 2-INCH, 0.148-INCH-THICK, GALVANIZED-STEEL, CHAIN-LINK FABRIC FENCING; MINIMUM 6 FEET HIGH WITH GALVANIZED-STEEL PIPE POSTS; MINIMUM 2-3/8-INCH-OD LINE POSTS AND 2-7/8-INCH-OD CORNER AND PULL POSTS, WITH 1-5/8-INCH-OD TOP AND BOTTOM RAILS. PROVIDE GALVANIZED-STEEL BASES FOR SUPPORTING POSTS.

2.2 TEMPORARY FACILITIES

A. FIELD OFFICES, GENERAL: PREFABRICATED OR MOBILE UNITS WITH SERVICEABLE FINISHES, TEMPERATURE CONTROLS, AND FOUNDATIONS ADEQUATE FOR NORMAL LOADING.

2.3 EQUIPMENT

A. FIRE EXTINGUISHERS: PORTABLE, UL RATED; WITH CLASS AND EXTINGUISHING AGENT AS REQUIRED BY LOCATIONS AND CLASSES OF FIRE EXPOSURES.

B. HVAC EQUIPMENT: UNLESS OWNER AUTHORIZES USE OF PERMANENT HVAC SYSTEM, PROVIDE VENTED, SELF-CONTAINED, LIQUID-PROPANE-GAS OR FUEL-OIL HEATERS WITH INDIVIDUAL SPACE THERMOSTATIC CONTROL.
1. USE OF GASOLINE-BURNING SPACE HEATERS, OPEN-FLAME HEATERS, OR SALAMANDER-TYPE HEATING UNITS IS PROHIBITED.
2. HEATING UNITS: LISTED AND LABELED FOR TYPE OF FUEL BEING CONSUMED, BY A QUALIFIED TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED LOCATION AND APPLICATION.
3. PERMANENT HVAC SYSTEM: IF OWNER AUTHORIZES USE OF PERMANENT HVAC SYSTEM FOR TEMPORARY USE DURING CONSTRUCTION, PROVIDE FILTER WITH MERV OF 8 AT EACH RETURN-AIR GRILLE IN SYSTEM AND REMOVE AT END OF CONSTRUCTION AND CLEAN HVAC SYSTEM AS REQUIRED IN SECTION 017700 "CLOSEOUT PROCEDURES".

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. LOCATE FACILITIES WHERE THEY WILL SERVE PROJECT ADEQUATELY AND RESULT IN MINIMUM INTERFERENCE WITH PERFORMANCE OF THE WORK. RELOCATE AND MODIFY FACILITIES AS REQUIRED BY PROGRESS OF THE WORK.

B. PROVIDE EACH FACILITY READY FOR USE WHEN NEEDED TO AVOID DELAY. DO NOT REMOVE UNTIL FACILITIES ARE NO LONGER NEEDED OR ARE REPLACED BY AUTHORIZED USE OF COMPLETED PERMANENT FACILITIES.

3.2 TEMPORARY UTILITY INSTALLATION

A. GENERAL: INSTALL TEMPORARY SERVICE OR CONNECT TO EXISTING SERVICE.
1. ARRANGE WITH UTILITY COMPANY, OWNER, AND EXISTING USERS FOR TIME WHEN SERVICE CAN BE INTERRUPTED, IF NECESSARY, TO MAKE CONNECTIONS FOR TEMPORARY SERVICES.

B. SANITARY FACILITIES: PROVIDE TEMPORARY TOILETS, WASH FACILITIES, AND DRINKING WATER FOR USE OF CONSTRUCTION PERSONNEL. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION FOR TYPE, NUMBER, LOCATION, OPERATION, AND MAINTENANCE OF FIXTURES AND FACILITIES.

C. HEATING AND COOLING: PROVIDE TEMPORARY HEATING AND COOLING REQUIRED BY CONSTRUCTION ACTIVITIES FOR CURING OR DRYING OF COMPLETED INSTALLATIONS OR FOR PROTECTING INSTALLED CONSTRUCTION FROM ADVERSE EFFECTS OF LOW TEMPERATURES OR HIGH HUMIDITY. SELECT EQUIPMENT THAT WILL NOT HAVE A HARMFUL EFFECT ON COMPLETED INSTALLATIONS OR ELEMENTS BEING INSTALLED.

D. VENTILATION AND HUMIDITY CONTROL: PROVIDE TEMPORARY VENTILATION REQUIRED BY CONSTRUCTION ACTIVITIES FOR CURING OR DRYING OF COMPLETED INSTALLATIONS OR FOR PROTECTING INSTALLED CONSTRUCTION FROM ADVERSE EFFECTS OF HIGH HUMIDITY. SELECT EQUIPMENT THAT WILL NOT HAVE A HARMFUL EFFECT ON COMPLETED INSTALLATIONS OR ELEMENTS BEING INSTALLED. COORDINATE VENTILATION REQUIREMENTS TO PRODUCE AMBIENT CONDITION REQUIRED AND MINIMIZE ENERGY CONSUMPTION.

E. ELECTRIC POWER SERVICE: CONNECT TO OWNER'S EXISTING ELECTRIC POWER SERVICE. MAINTAIN EQUIPMENT IN A CONDITION ACCEPTABLE TO OWNER.

F. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THAT PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.
1. INSTALL AND OPERATE TEMPORARY LIGHTING THAT FULFILLS SECURITY AND PROTECTION REQUIREMENTS WITHOUT OPERATING ENTIRE SYSTEM.

3.3 SUPPORT FACILITIES INSTALLATION

A. GENERAL: COMPLY WITH THE FOLLOWING:
1. PROVIDE CONSTRUCTION FOR TEMPORARY OFFICES, SHOPS, AND SHEDS LOCATED WITHIN CONSTRUCTION AREA OR WITHIN 30 FEET OF BUILDING LINES THAT IS NONCOMBUSTIBLE ACCORDING TO ASTM E 136. COMPLY WITH NFPA 241.
2. MAINTAIN SUPPORT FACILITIES UNTIL ARCHITECT SCHEDULES SUBSTANTIAL COMPLETION INSPECTION. REMOVE BEFORE SUBSTANTIAL COMPLETION. PERSONNEL REMAINING AFTER SUBSTANTIAL COMPLETION WILL BE PERMITTED TO USE PERMANENT FACILITIES, UNDER CONDITIONS ACCEPTABLE TO OWNER.

B. PARKING: PROVIDE TEMPORARY PARKING AREAS FOR CONSTRUCTION PERSONNEL.

C. WASTE DISPOSAL FACILITIES: PROVIDE WASTE-COLLECTION CONTAINERS IN SIZES ADEQUATE TO HANDLE WASTE FROM CONSTRUCTION OPERATIONS. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

D. LIFTS AND HOISTS: PROVIDE FACILITIES NECESSARY FOR HOISTING MATERIALS AND PERSONNEL.
1. TRUCK CRANES AND SIMILAR DEVICES USED FOR HOISTING MATERIALS ARE CONSIDERED "TOOLS AND EQUIPMENT" AND NOT TEMPORARY FACILITIES.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. PROTECTION OF EXISTING FACILITIES: PROTECT EXISTING VEGETATION, EQUIPMENT, STRUCTURES, UTILITIES, AND OTHER IMPROVEMENTS AT PROJECT SITE AND ON ADJACENT PROPERTIES, EXCEPT THOSE INDICATED TO BE REMOVED OR ALTERED. REPAIR DAMAGE TO EXISTING FACILITIES.

B. ENVIRONMENTAL PROTECTION: PROVIDE PROTECTION, OPERATE TEMPORARY FACILITIES, AND CONDUCT CONSTRUCTION AS REQUIRED TO COMPLY WITH ENVIRONMENTAL REGULATIONS AND THAT MINIMIZE POSSIBLE AIR, WATERWAY, AND SUBSOIL CONTAMINATION OR POLLUTION OR OTHER UNDESIRABLE EFFECTS.

C. SITE ENCLOSURE FENCE: BEFORE CONSTRUCTION OPERATIONS BEGIN, FURNISH AND INSTALL SITE ENCLOSURE FENCE IN A MANNER THAT WILL PREVENT PEOPLE AND ANIMALS FROM EASILY ENTERING SITE EXCEPT BY ENTRANCE GATES.
1. EXTENT OF FENCE: AS REQUIRED TO ENCLOSE ENTIRE PROJECT SITE OR PORTION DETERMINED SUFFICIENT TO ACCOMMODATE CONSTRUCTION OPERATIONS.

D. TEMPORARY ENCLOSURES: PROVIDE TEMPORARY ENCLOSURES FOR PROTECTION OF CONSTRUCTION, IN PROGRESS AND COMPLETED, FROM EXPOSURE, FOUL WEATHER, OTHER CONSTRUCTION OPERATIONS, AND SIMILAR ACTIVITIES. PROVIDE TEMPORARY WEATHERTIGHT ENCLOSURE FOR BUILDING EXTERIOR.
1. WHERE HEATING OR COOLING IS NEEDED AND PERMANENT ENCLOSURE IS NOT COMPLETE, INSULATE TEMPORARY ENCLOSURES.

E. TEMPORARY PARTITIONS: PROVIDE FLOOR-TO-CEILING DUSTPROOF PARTITIONS TO LIMIT DUST AND DIRT MIGRATION AND TO SEPARATE AREAS OCCUPIED BY OWNER AND TENANTS FROM FUMES AND NOISE.
1. CONSTRUCT DUSTPROOF PARTITIONS WITH GYPSUM WALLBOARD WITH JOINTS TAPED ON OCCUPIED SIDE, AND FIRE-RETARDANT-TREATED PLYWOOD ON CONSTRUCTION OPERATIONS SIDE.
2. WHERE FIRE-RESISTANCE-RATED TEMPORARY PARTITIONS ARE INDICATED OR ARE REQUIRED BY AUTHORITIES HAVING JURISDICTION, CONSTRUCT PARTITIONS ACCORDING TO THE RATED ASSEMBLIES.
3. INSULATE PARTITIONS TO CONTROL NOISE TRANSMISSION TO OCCUPIED AREAS.
4. SEAL JOINTS AND PERIMETER. EQUIP PARTITIONS WITH GASKETED DUSTPROOF DOORS AND SECURITY LOCKS WHERE OPENINGS ARE REQUIRED.
5. PROTECT AIR-HANDLING EQUIPMENT.
6. PROVIDE WALK-OFF MATS AT EACH ENTRANCE THROUGH TEMPORARY PARTITION.

F. TEMPORARY FIRE PROTECTION: INSTALL AND MAINTAIN TEMPORARY FIRE-PROTECTION FACILITIES OF TYPES NEEDED TO PROTECT AGAINST REASONABLY PREDICTABLE AND CONTROLLABLE FIRE LOSSES. COMPLY WITH NFPA 241; MANAGE FIRE PREVENTION PROGRAM.
1. PROHIBIT SMOKING ON SITE.
2. SUPERVISE WELDING OPERATIONS, COMBUSTION-TYPE TEMPORARY HEATING UNITS, AND SIMILAR SOURCES OF FIRE IGNITION ACCORDING TO REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
3. DEVELOP AND SUPERVISE AN OVERALL FIRE-PREVENTION AND -PROTECTION PROGRAM FOR PERSONNEL AT PROJECT SITE. REVIEW NEEDS WITH LOCAL FIRE DEPARTMENT AND ESTABLISH PROCEDURES TO BE FOLLOWED. INSTRUCT PERSONNEL IN METHODS AND PROCEDURES. POST WARNINGS AND INFORMATION.
4. PROVIDE TEMPORARY STANDPIPES AND HOSES FOR FIRE PROTECTION. HANG HOSES WITH A WARNING SIGN STATING THAT HOSES ARE FOR FIRE-PROTECTION PURPOSES ONLY AND ARE NOT TO BE REMOVED. MATCH HOSE SIZE WITH OUTLET SIZE AND EQUIP WITH SUITABLE NOZZLES.

3.5 MOISTURE AND MOLD CONTROL

A. CONTRACTOR'S MOISTURE PROTECTION PLAN: AVOID TRAPPING WATER IN FINISHED WORK. DOCUMENT VISIBLE SIGNS OF MOLD THAT MAY APPEAR DURING CONSTRUCTION.

B. EXPOSED CONSTRUCTION PHASE: BEFORE INSTALLATION OF WEATHER BARRIERS, WHEN MATERIALS ARE SUBJECT TO WETTING AND EXPOSURE AND TO AIRBORNE MOLD SPORES, PROTECT MATERIALS FROM WATER DAMAGE AND KEEP POROUS AND ORGANIC MATERIALS FROM COMING INTO PROLONGED CONTACT WITH CONCRETE.

C. PARTIALLY ENCLOSED CONSTRUCTION PHASE: AFTER INSTALLATION OF WEATHER BARRIERS BUT BEFORE FULL ENCLOSURE AND CONDITIONING OF BUILDING, WHEN INSTALLED MATERIALS ARE STILL SUBJECT TO INFILTRATION OF MOISTURE AND AMBIENT MOLD SPORES, PROTECT AS FOLLOWS:
1. DO NOT LOAD OR INSTALL DRYWALL OR OTHER POROUS MATERIALS OR COMPONENTS, OR ITEMS WITH HIGH ORGANIC CONTENT, INTO PARTIALLY ENCLOSED BUILDING.
2. KEEP INTERIOR SPACES REASONABLY CLEAN AND PROTECTED FROM WATER DAMAGE.
3. DISCARD OR REPLACE WATER-DAMAGED AND WET MATERIAL.
4. DISCARD, REPLACE, OR CLEAN STORED OR INSTALLED MATERIAL THAT BEGINS TO GROW MOLD.
5. PERFORM WORK IN A SEQUENCE THAT ALLOWS ANY WET MATERIALS ADEQUATE TIME TO DRY BEFORE ENCLOSING THE MATERIAL IN DRYWALL OR OTHER INTERIOR FINISHES.

D. CONTROLLED CONSTRUCTION PHASE OF CONSTRUCTION: AFTER COMPLETING AND SEALING OF THE BUILDING ENCLOSURE BUT PRIOR TO THE FULL OPERATION OF PERMANENT HVAC SYSTEMS, MAINTAIN AS FOLLOWS:
1. CONTROL MOISTURE AND HUMIDITY INSIDE BUILDING BY MAINTAINING EFFECTIVE DRY-IN CONDITIONS.
2. REMOVE MATERIALS THAT CANNOT BE COMPLETELY RESTORED TO THEIR MANUFACTURED MOISTURE LEVEL WITHIN 48 HOURS.

3.6 OPERATION, TERMINATION, AND REMOVAL

A. SUPERVISION: ENFORCE STRICT DISCIPLINE IN USE OF TEMPORARY FACILITIES. TO MINIMIZE WASTE AND ABUSE, LIMIT AVAILABILITY OF TEMPORARY FACILITIES TO ESSENTIAL AND INTENDED USES.

B. MAINTENANCE: MAINTAIN FACILITIES IN GOOD OPERATING CONDITION UNTIL REMOVAL.
1. MAINTAIN OPERATION OF TEMPORARY ENCLOSURES, HEATING, COOLING, HUMIDITY CONTROL, VENTILATION, AND SIMILAR FACILITIES ON A 24-HOUR BASIS WHERE REQUIRED TO ACHIEVE INDICATED RESULTS AND TO AVOID POSSIBILITY OF DAMAGE.

C. TEMPORARY FACILITY CHANGEOVER: DO NOT CHANGE OVER FROM USING TEMPORARY SECURITY AND PROTECTION FACILITIES TO PERMANENT FACILITIES UNTIL SUBSTANTIAL COMPLETION.

D. TERMINATION AND REMOVAL: REMOVE EACH TEMPORARY FACILITY WHEN NEED FOR ITS SERVICE HAS ENDED, WHEN IT HAS BEEN REPLACED BY AUTHORIZED USE OF A PERMANENT FACILITY, OR NO LATER THAN SUBSTANTIAL COMPLETION. COMPLETE OR, IF NECESSARY, RESTORE PERMANENT CONSTRUCTION THAT MAY HAVE BEEN DELAYED BECAUSE OF INTERFERENCE WITH TEMPORARY FACILITY. REPAIR DAMAGED WORK, CLEAN EXPOSED SURFACES, AND REPLACE CONSTRUCTION THAT CANNOT BE SATISFACTORILY REPAIRED.
1. MATERIALS AND FACILITIES THAT CONSTITUTE TEMPORARY FACILITIES ARE PROPERTY OF CONTRACTOR. OWNER RESERVES RIGHT TO TAKE POSSESSION OF PROJECT IDENTIFICATION SIGNS.
2. AT SUBSTANTIAL COMPLETION, REPAIR, RENOVATE, AND CLEAN PERMANENT FACILITIES USED DURING CONSTRUCTION PERIOD. COMPLY WITH FINAL CLEANING REQUIREMENTS SPECIFIED IN SECTION 017700 "CLOSEOUT PROCEDURES."

END OF SECTION 015000

SECTION 017100 - CLEANING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. THROUGHOUT THE CONSTRUCTION PERIOD, MAINTAIN THE BUILDINGS AND SITE IN A STANDARD OF CLEANLINESS AS DESCRIBED IN THIS SECTION.

1.3 QUALITY ASSURANCE

A. CONDUCT DAILY INSPECTION, AND MORE OFTEN IF NECESSARY, TO VERIFY THAT REQUIREMENTS FOR CLEANLINESS ARE BEING MET.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

A. PROVIDE REQUIRED PERSONNEL, EQUIPMENT AND MATERIALS NEEDED TO MAINTAIN THE SPECIFIED STANDARD OF CLEANLINESS.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

A. GENERAL:
1. RETAIN STORED ITEMS IN AN ORDERLY ARRANGEMENT ALLOWING MAXIMUM ACCESS, NOT IMPEDING TRAFFIC OR DRAINAGE, AND PROVIDING REQUIRED PROTECTION OF MATERIALS.
2. DO NOT ALLOW ACCUMULATION OF SCRAP, DEBRIS, WASTE MATERIAL, AND OTHER ITEMS NOT REQUIRED FOR CONSTRUCTION OF THIS WORK.
3. AT LEAST ONCE EACH WEEK, AND MORE OFTEN IF NECESSARY, COMPLETELY REMOVE ALL SCRAP, DEBRIS, AND WASTE MATERIAL FROM THE JOB SITE.
4. PROVIDE ADEQUATE STORAGE FOR ALL ITEMS AWAITING REMOVAL FROM THE JOB SITE, OBSERVING REQUIREMENTS FOR FIRE PROTECTION AND PROTECTION OF THE ECOLOGY.

B. SITE:
1. DAILY, AND MORE OFTEN IF NECESSARY, INSPECT THE SITE AND PICK UP ALL SCRAP, DEBRIS AND WASTE MATERIAL. REMOVE SUCH ITEMS TO THE PLACE DESIGNATED FOR THEIR STORAGE OR DISPOSAL.
2. WEEKLY, AND MORE OFTEN IF NECESSARY, INSPECT ALL ARRANGEMENTS OF MATERIALS STORED ON THE SITE RESTACK, TIDY OR OTHERWISE SERVICE ARRANGEMENTS TO MEET THE REQUIREMENTS OF SUBPARAGRAPH 3.01-A-1 ABOVE.
3. MAINTAIN THE SITE IN A NEAT AND ORDERLY CONDITION AT ALL TIMES.

C. STRUCTURES:
1. WEEKLY, AND MORE OFTEN IF NECESSARY, INSPECT THE STRUCTURES AND PICK UP ALL SCRAP, DEBRIS, AND WASTE MATERIAL. REMOVE SUCH ITEMS TO THE PLACE DESIGNATED FOR THEIR STORAGE.
2. WEEKLY AND MORE OFTEN IF NECESSARY, SWEEP INTERIOR SPACES CLEAN. "CLEAN", FOR THE PURPOSE OF THIS SUBPARAGRAPH, SHALL BE INTERPRETED AS MEANING FREE FROM DUST AND OTHER MATERIAL CAPABLE OF BEING REMOVED BY USE OF REASONABLE EFFORT AND A HAND-HELD BROOM.
3. AS REQUIRED PREPARATORY TO INSTALLATION OF SUCCEEDING MATERIALS, CLEAN THE STRUCTURES OR PERTINENT PORTIONS THEREOF TO THE DEGREE OF CLEANLINESS RECOMMENDED BY THE MANUFACTURER OF THE SUCCEEDING MATERIAL, USING EQUIPMENT AND MATERIALS REQUIRED TO ACHIEVE THE NECESSARY CLEANLINESS.
4. FOLLOWING THE INSTALLATION OF FINISH FLOOR MATERIALS, CLEAN THE FINISH FLOOR DAILY (AND MORE OFTEN IF NECESSARY) AT ALL TIMES WHILE WORK IS BEING PERFORMED IN THE SPACE IN WHICH FINISH MATERIALS ARE BEING INSTALLED. "CLEAN", FOR THE PURPOSE OF THIS SUBPARAGRAPH, SHALL BE INTERPRETED AS MEANING FREE FROM FOREIGN MATERIAL WHICH, IN THE OPINION OF THE ARCHITECT OR OWNER, MAY BE INJURIOUS TO THE FINISH FLOOR MATERIAL. USE FLOOR PROTECTION AS NEEDED TO PROTECT INSTALLED FLOORING.

3.2 FINAL CLEANING

A. "CLEAN", FOR THE PURPOSE OF THIS ARTICLE, AND EXCEPT AS MAY BE SPECIFICALLY PROVIDED OTHERWISE, SHALL BE INTERPRETED AS MEANING THE LEVEL OF CLEANLINESS GENERALLY PROVIDED BY SKILLED CLEANERS USING COMMERCIAL QUALITY BUILDING MAINTENANCE EQUIPMENT AND MATERIALS.

B. PRIOR TO COMPLETION OF THE WORK, REMOVE FROM THE JOB SITE, ALL TOOLS, SURPLUS MATERIALS, EQUIPMENT, SCRAP, DEBRIS, AND WASTE. CONDUCT FINAL PROGRESS CLEANING AS DESCRIBED IN ARTICLE 3.01 ABOVE.

C. SITE: UNLESS OTHERWISE SPECIFICALLY DIRECTED BY THE ARCHITECT, BROOM CLEAN PAVED AREAS ON THE SITE AND PUBLIC PAVED AREAS ADJACENT TO THE SITE.

D. STRUCTURES:
1. EXTERIOR: VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES, AND OTHER FOREIGN MATTER. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES. IF NECESSARY TO ACHIEVE A UNIFORM DEGREE OF CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE. IN THE EVENT OF STUBBORN STAINS NOT REMOVABLE WITH WATER, THE ARCHITECT MAY REQUIRE LIGHT SANDBLASTING OR OTHER CLEANING AT NO ADDITIONAL COST TO THE OWNER.
2. INTERIOR. VISUALLY INSPECT INTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES, AND OTHER FOREIGN MATTER. REMOVE ALL TRACES OF SPLASHED MATERIAL FROM ADJACENT SURFACES. REMOVE PAINT DRIPPINGS, SPOTS, STAINS AND DIRT FROM FINISHED SURFACES.
3. POLISHED SURFACES: TO SURFACES REQUIRING ROUTINE APPLICATION OF BUFFED POLISH, APPLY THE POLISH RECOMMENDED BY THE MANUFACTURER OF THE MATERIAL BEING POLISHED.

E. SCHEDULE FINAL CLEANING AS APPROVED BY THE OWNER TO ENABLE THE ACCEPTANCE OF A COMPLETELY CLEAN WORK.
1. COMPLETE THE FOLLOWING CLEANING OPERATIONS BEFORE REQUESTING INSPECTION FOR CERTIFICATION OF SUBSTANTIAL COMPLETION FOR ENTIRE PROJECT OR FOR A DESIGNATED PORTION OF PROJECT:
   1.1. CLEAN PROJECT SITE, YARD, AND GROUNDS, IN AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, INCLUDING LANDSCAPE DEVELOPMENT AREAS, OF RUBBISH, WASTE MATERIAL, LITTER, AND OTHER FOREIGN SUBSTANCES.
   1.2. REMOVE TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, AND SURPLUS MATERIAL FROM PROJECT SITE.
   1.3. CLEAN EXPOSED EXTERIOR AND INTERIOR HARD-SURFACED FINISHES TO A DIRT-FREE CONDITION, FREE OF STAINS, FILMS, AND SIMILAR FOREIGN SUBSTANCES. AVOID DISTURBING NATURAL WEATHERING OF EXTERIOR SURFACES. RESTORE REFLECTIVE SURFACES TO THEIR ORIGINAL CONDITION.
   1.4. REMOVE DEBRIS AND SURFACE DUST FROM LIMITED ACCESS SPACES, INCLUDING ROOFS, PLENUMS, SHAFTS, TRENCHES, EQUIPMENT VAULTS, MANHOLES, ATTICS, AND SIMILAR SPACES.
   1.5. SWEEP CONCRETE FLOORS BROOM CLEAN IN UNOCCUPIED SPACES.
   1.6. VACUUM CARPET AND SIMILAR SOFT SURFACES, REMOVING DEBRIS AND EXCESS NAP; SHAMPOO IF VISIBLE SOIL OR STAINS REMAIN.
   1.7. CLEAN TRANSPARENT MATERIALS, INCLUDING MIRRORS AND GLASS IN DOORS AND WINDOWS. REMOVE GLAZING COMPOUNDS AND OTHER NOTICEABLE, VISION-OBSCURING MATERIALS. REPLACE CHIPPED OR BROKEN GLASS AND OTHER DAMAGED TRANSPARENT MATERIALS. POLISH MIRRORS AND GLASS, TAKING CARE NOT TO SCRATCH SURFACES.
   1.8. REMOVE LABELS THAT ARE NOT PERMANENT.
   1.9. TOUCH UP AND OTHERWISE REPAIR AND RESTORE MARRED, EXPOSED FINISHES AND SURFACES. REPLACE FINISHES AND SURFACES THAT CANNOT BE SATISFACTORILY REPAIRED OR RESTORED OR THAT ALREADY SHOW EVIDENCE OF REPAIR OR RESTORATION.
   1.10. DO NOT PAINT OVER "UL" AND SIMILAR LABELS, INCLUDING MECHANICAL AND ELECTRICAL NAMEPLATES
   1.11. WIPE SURFACES OF MECHANICAL AND ELECTRICAL EQUIPMENT, AND SIMILAR EQUIPMENT. REMOVE EXCESS LUBRICATION, PAINT AND MORTAR DROPPINGS, AND OTHER FOREIGN SUBSTANCES.
   1.12. REPLACE PARTS SUBJECT TO UNUSUAL OPERATING CONDITIONS.
   1.13. CLEAN LIGHT FIXTURES, LAMPS, GLOBES, AND REFLECTORS TO FUNCTION WITH FULL EFFICIENCY. REPLACE BURNED-OUT BULBS, AND THOSE NOTICEABLY DIMMED BY HOURS OF USE, AND DEFECTIVE AND NOISY STARTERS IN FLUORESCENT AND MERCURY VAPOR FIXTURES TO COMPLY WITH REQUIREMENTS FOR NEW FIXTURES.
   1.14. LEAVE PROJECT CLEAN AND READY FOR OCCUPANCY.
   1.15. PERFORM CLEANING AT TURN-OVER. PERFORM FINAL CLEANING AFTER FIXTURING (BEFORE OPENING).

3.3 CLEANING DURING OWNER'S OCCUPANCY

A. SHOULD THE OWNER OCCUPY THE WORK OR ANY PORTION THEREOF PRIOR TO ITS COMPLETION BY THE CONTRACTOR AND ACCEPTANCE BY THE OWNER, RESPONSIBILITIES FOR INTERIM AND FINAL CLEANING SHALL BE AS DETERMINED BY THE ARCHITECT IN ACCORDANCE WITH THE GENERAL CONDITIONS OF THE CONTRACT.

END OF SECTION -017100

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
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SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

SHEET NO. A-9.1

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR CONTRACT CLOSEOUT, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
   1. SUBSTANTIAL COMPLETION PROCEDURES.
   2. FINAL COMPLETION PROCEDURES.
   3. WARRANTIES.
   4. REPAIR OF THE WORK.

B. RELATED REQUIREMENTS:
   1. SECTION 017823 "OPERATION AND MAINTENANCE DATA" FOR OPERATION AND MAINTENANCE MANUAL REQUIREMENTS.
   2. SECTION 017839 "PROJECT RECORD DOCUMENTS" FOR SUBMITTING RECORD DRAWINGS, RECORD SPECIFICATIONS, AND RECORD PRODUCT DATA.
   3. SECTION 017100 "CLEANING" FOR FINAL CLEANING REQUIREMENTS.
   4. SECTION 017900 "DEMONSTRATION AND TRAINING" FOR REQUIREMENTS FOR INSTRUCTING OWNER'S PERSONNEL.

1.2 SUBSTANTIAL COMPLETION PROCEDURES

A. CONTRACTOR'S LIST OF INCOMPLETE ITEMS: PREPARE AND SUBMIT A LIST OF ITEMS TO BE COMPLETED AND CORRECTED (CONTRACTOR'S PUNCH LIST), INDICATING THE VALUE OF EACH ITEM ON THE LIST AND REASONS WHY THE WORK IS INCOMPLETE.

B. SUBMITTALS PRIOR TO SUBSTANTIAL COMPLETION: COMPLETE THE FOLLOWING A MINIMUM OF 10 DAYS PRIOR TO REQUESTING INSPECTION FOR DETERMINING DATE OF SUBSTANTIAL COMPLETION. LIST ITEMS BELOW THAT ARE INCOMPLETE AT TIME OF REQUEST.
   1. SUBMIT CLOSEOUT SUBMITTALS SPECIFIED IN OTHER DIVISION 01 SECTIONS, INCLUDING PROJECT RECORD DOCUMENTS, OPERATION AND MAINTENANCE MANUALS, FINAL COMPLETION CONSTRUCTION PHOTOGRAPHIC DOCUMENTATION, DAMAGE OR SETTLEMENT SURVEYS, PROPERTY SURVEYS, AND SIMILAR FINAL RECORD INFORMATION.
   2. SUBMIT CLOSEOUT SUBMITTALS SPECIFIED IN INDIVIDUAL SECTIONS, INCLUDING SPECIFIC WARRANTIES, WORKMANSHIP BONDS, MAINTENANCE SERVICE AGREEMENTS, FINAL CERTIFICATIONS, AND SIMILAR DOCUMENTS.
   3. SUBMIT TEST/ADJUST/BALANCE RECORDS.

C. PROCEDURES PRIOR TO SUBSTANTIAL COMPLETION: COMPLETE THE FOLLOWING A MINIMUM OF 10 DAYS PRIOR TO REQUESTING INSPECTION FOR DETERMINING DATE OF SUBSTANTIAL COMPLETION. LIST ITEMS BELOW THAT ARE INCOMPLETE AT TIME OF REQUEST.
   1. ADVISE OWNER OF PENDING INSURANCE CHANGEOVER REQUIREMENTS.
   2. MAKE FINAL CHANGEOVER OF PERMANENT LOCKS AND DELIVER KEYS TO OWNER. ADVISE OWNER'S PERSONNEL OF CHANGEOVER IN SECURITY PROVISIONS.
   3. COMPLETE STARTUP AND TESTING OF SYSTEMS AND EQUIPMENT.
   4. PERFORM PREVENTIVE MAINTENANCE ON EQUIPMENT USED PRIOR TO SUBSTANTIAL COMPLETION.
   5. INSTRUCT OWNER'S PERSONNEL IN OPERATION, ADJUSTMENT, AND MAINTENANCE OF PRODUCTS, EQUIPMENT, AND SYSTEMS. SUBMIT DEMONSTRATION AND TRAINING VIDEO RECORDINGS SPECIFIED IN SECTION 017900 "DEMONSTRATION AND TRAINING."
   6. ADVISE OWNER OF CHANGEOVER IN HEAT AND OTHER UTILITIES.
   7. PARTICIPATE WITH OWNER IN CONDUCTING INSPECTION AND WALKTHROUGH WITH LOCAL EMERGENCY RESPONDERS.
   8. TERMINATE AND REMOVE TEMPORARY FACILITIES FROM PROJECT SITE, ALONG WITH MOCKUPS, CONSTRUCTION TOOLS, AND SIMILAR ELEMENTS.
   9. COMPLETE FINAL CLEANING REQUIREMENTS, INCLUDING TOUCHUP PAINTING.
   10. TOUCH UP AND OTHERWISE REPAIR AND RESTORE MARRED EXPOSED FINISHES TO ELIMINATE VISUAL DEFECTS.

D. INSPECTION: SUBMIT A WRITTEN REQUEST FOR INSPECTION TO DETERMINE SUBSTANTIAL COMPLETION A MINIMUM OF 10 DAYS PRIOR TO DATE THE WORK WILL BE COMPLETED AND READY FOR FINAL INSPECTION AND TESTS. ON RECEIPT OF REQUEST, ARCHITECT WILL EITHER PROCEED WITH INSPECTION OR NOTIFY CONTRACTOR OF UNFULFILLED REQUIREMENTS. ARCHITECT WILL PREPARE THE CERTIFICATE OF SUBSTANTIAL COMPLETION AFTER INSPECTION OR WILL NOTIFY CONTRACTOR OF ITEMS, EITHER ON CONTRACTOR'S LIST OR ADDITIONAL ITEMS IDENTIFIED BY ARCHITECT, THAT MUST BE COMPLETED OR CORRECTED BEFORE CERTIFICATE WILL BE ISSUED.
   1. REINSPECTION: REQUEST REINSPECTION WHEN THE WORK IDENTIFIED IN PREVIOUS INSPECTIONS AS INCOMPLETE IS COMPLETED OR CORRECTED.
   2. RESULTS OF COMPLETED INSPECTION WILL FORM THE BASIS OF REQUIREMENTS FOR FINAL COMPLETION.

1.3 FINAL COMPLETION PROCEDURES

A. PRELIMINARY PROCEDURES: BEFORE REQUESTING FINAL INSPECTION FOR DETERMINING FINAL COMPLETION, COMPLETE THE FOLLOWING:
   1. SUBMIT A FINAL APPLICATION FOR PAYMENT.
   2. CERTIFIED LIST OF INCOMPLETE ITEMS: SUBMIT CERTIFIED COPY OF ARCHITECT'S SUBSTANTIAL COMPLETION INSPECTION LIST OF ITEMS TO BE COMPLETED OR CORRECTED (PUNCH LIST), ENDORSED AND DATED BY ARCHITECT. CERTIFIED COPY OF THE LIST SHALL STATE THAT EACH ITEM HAS BEEN COMPLETED OR OTHERWISE RESOLVED FOR ACCEPTANCE.
   3. CERTIFICATE OF INSURANCE: SUBMIT EVIDENCE OF FINAL, CONTINUING INSURANCE COVERAGE COMPLYING WITH INSURANCE REQUIREMENTS.

B. INSPECTION: SUBMIT A WRITTEN REQUEST FOR FINAL INSPECTION TO DETERMINE ACCEPTANCE. ON RECEIPT OF REQUEST, ARCHITECT WILL EITHER PROCEED WITH INSPECTION OR NOTIFY CONTRACTOR OF UNFULFILLED REQUIREMENTS. ARCHITECT WILL PREPARE A FINAL CERTIFICATE FOR PAYMENT AFTER INSPECTION OR WILL NOTIFY CONTRACTOR OF CONSTRUCTION THAT MUST BE COMPLETED OR CORRECTED BEFORE CERTIFICATE WILL BE ISSUED.
   1. REINSPECTION: REQUEST REINSPECTION WHEN THE WORK IDENTIFIED IN PREVIOUS INSPECTIONS AS INCOMPLETE IS COMPLETED OR CORRECTED.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. ORGANIZATION OF LIST: INCLUDE NAME AND IDENTIFICATION OF EACH SPACE AND AREA AFFECTED BY CONSTRUCTION OPERATIONS FOR INCOMPLETE ITEMS AND ITEMS NEEDING CORRECTION INCLUDING, IF NECESSARY, AREAS DISTURBED BY CONTRACTOR THAT ARE OUTSIDE THE LIMITS OF CONSTRUCTION.
   1. ORGANIZE LIST OF SPACES IN SEQUENTIAL ORDER, STARTING WITH EXTERIOR AREAS FIRST AND PROCEEDING FROM LOWEST FLOOR TO HIGHEST FLOOR.
   2. ORGANIZE ITEMS APPLYING TO EACH SPACE BY MAJOR ELEMENT, INCLUDING CATEGORIES FOR CEILING, INDIVIDUAL WALLS, FLOORS, EQUIPMENT, AND BUILDING SYSTEMS.
   3. SUBMIT LIST OF INCOMPLETE ITEMS IN THE FOLLOWING FORMAT:
      a. PDF ELECTRONIC FILE. ARCHITECT WILL RETURN ANNOTATED COPY.

1.5 SUBMITTAL OF PROJECT WARRANTIES

A. TIME OF SUBMITTAL: SUBMIT WRITTEN WARRANTIES ON REQUEST OF ARCHITECT FOR DESIGNATED PORTIONS OF THE WORK WHERE COMMENCEMENT OF WARRANTIES OTHER THAN DATE OF SUBSTANTIAL COMPLETION IS INDICATED, OR WHEN DELAY IN SUBMITTAL OF WARRANTIES MIGHT LIMIT OWNER'S RIGHTS UNDER WARRANTY.

B. ORGANIZE WARRANTY DOCUMENTS INTO AN ORDERLY SEQUENCE BASED ON THE TABLE OF CONTENTS OF THE PROJECT MANUAL.
   1. BIND WARRANTIES AND BONDS IN HEAVY-DUTY, THREE-RING, VINYL-COVERED, LOOSE-LEAF BINDERS, THICKNESS AS NECESSARY TO ACCOMMODATE CONTENTS, AND SIZED TO RECEIVE 8-1/2-BY-11-INCH PAPER.
   2. PROVIDE HEAVY PAPER DIVIDERS WITH PLASTIC-COVERED TABS FOR EACH SEPARATE WARRANTY. MARK TAB TO IDENTIFY THE PRODUCT OR INSTALLATION. PROVIDE A TYPED DESCRIPTION OF THE PRODUCT OR INSTALLATION, INCLUDING THE NAME OF THE PRODUCT AND THE NAME, ADDRESS, AND TELEPHONE NUMBER OF INSTALLER.
   3. IDENTIFY EACH BINDER ON THE FRONT AND SPINE WITH THE TYPED OR PRINTED TITLE "WARRANTIES," PROJECT NAME, AND NAME OF CONTRACTOR.
   4. WARRANTY ELECTRONIC FILE: SCAN WARRANTIES AND BONDS AND ASSEMBLE COMPLETE WARRANTY AND BOND SUBMITTAL PACKAGE INTO A SINGLE INDEXED ELECTRONIC PDF FILE WITH LINKS ENABLING NAVIGATION TO EACH ITEM. PROVIDE BOOKMARKED TABLE OF CONTENTS AT BEGINNING OF DOCUMENT.

C. PROVIDE ADDITIONAL COPIES OF EACH WARRANTY TO INCLUDE IN OPERATION AND MAINTENANCE MANUALS.

PART 2 - PRODUCTS

2.1 MATERIALS

A. CLEANING AGENTS: USE CLEANING MATERIALS AND AGENTS RECOMMENDED BY MANUFACTURER OR FABRICATOR OF THE SURFACE TO BE CLEANED. DO NOT USE CLEANING AGENTS THAT ARE POTENTIALLY HAZARDOUS TO HEALTH OR PROPERTY OR THAT MIGHT DAMAGE FINISHED SURFACES.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. SEE SECTION 017100.

3.2 REPAIR OF THE WORK

A. COMPLETE REPAIR AND RESTORATION OPERATIONS BEFORE REQUESTING INSPECTION FOR DETERMINATION OF SUBSTANTIAL COMPLETION.

B. REPAIR OR REMOVE AND REPLACE DEFECTIVE CONSTRUCTION. REPAIRING INCLUDES REPLACING DEFECTIVE PARTS, REFINISHING DAMAGED SURFACES, TOUCHING UP WITH MATCHING MATERIALS, AND PROPERLY ADJUSTING OPERATING EQUIPMENT. WHERE DAMAGED OR WORN ITEMS CANNOT BE REPAIRED OR RESTORED, PROVIDE REPLACEMENTS. REMOVE AND REPLACE OPERATING COMPONENTS THAT CANNOT BE REPAIRED. RESTORE DAMAGED CONSTRUCTION AND PERMANENT FACILITIES USED DURING CONSTRUCTION TO SPECIFIED CONDITION.
   1. REMOVE AND REPLACE CHIPPED, SCRATCHED, AND BROKEN GLASS, REFLECTIVE SURFACES, AND OTHER DAMAGED TRANSPARENT MATERIALS.
   2. TOUCH UP AND OTHERWISE REPAIR AND RESTORE MARRED OR EXPOSED FINISHES AND SURFACES. REPLACE FINISHES AND SURFACES THAT THAT ALREADY SHOW EVIDENCE OF REPAIR OR RESTORATION.
      a. DO NOT PAINT OVER "UL" AND OTHER REQUIRED LABELS AND IDENTIFICATION, INCLUDING MECHANICAL AND ELECTRICAL NAMEPLATES. REMOVE PAINT APPLIED TO REQUIRED LABELS AND IDENTIFICATION.
   3. REPLACE PARTS SUBJECT TO OPERATING CONDITIONS DURING CONSTRUCTION THAT MAY IMPEDE OPERATION OR REDUCE LONGEVITY.
   4. REPLACE BURNED-OUT BULBS, BULBS NOTICEABLY DIMMED BY HOURS OF USE, AND DEFECTIVE AND NOISY STARTERS IN FLUORESCENT AND MERCURY VAPOR FIXTURES TO COMPLY WITH REQUIREMENTS FOR NEW FIXTURES.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR PREPARING OPERATION AND MAINTENANCE MANUALS, INCLUDING THE FOLLOWING:
   1. OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY.
   2. OPERATION MANUALS FOR SYSTEMS, SUBSYSTEMS, AND EQUIPMENT.
   3. PRODUCT MAINTENANCE MANUALS.
   4. SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS.

1.2 CLOSEOUT SUBMITTALS

A. MANUAL CONTENT: OPERATIONS AND MAINTENANCE MANUAL CONTENT IS SPECIFIED IN INDIVIDUAL SPECIFICATION SECTIONS TO BE REVIEWED AT THE TIME OF SECTION SUBMITTALS. SUBMIT REVIEWED MANUAL CONTENT FORMATTED AND ORGANIZED AS REQUIRED BY THIS SECTION.
   1. ARCHITECT WILL COMMENT ON WHETHER CONTENT OF OPERATIONS AND MAINTENANCE SUBMITTALS ARE ACCEPTABLE.
   2. WHERE APPLICABLE, CLARIFY AND UPDATE REVIEWED MANUAL CONTENT TO CORRESPOND TO REVISIONS AND FIELD CONDITIONS.

B. FORMAT: SUBMIT OPERATIONS AND MAINTENANCE MANUALS IN THE FOLLOWING FORMAT:
   1. PDF ELECTRONIC FILE. ASSEMBLE EACH MANUAL INTO A COMPOSITE ELECTRONICALLY INDEXED FILE. SUBMIT ON DIGITAL MEDIA ACCEPTABLE TO ARCHITECT.
      a. NAME EACH INDEXED DOCUMENT FILE IN COMPOSITE ELECTRONIC INDEX WITH APPLICABLE ITEM NAME. INCLUDE A COMPLETE ELECTRONICALLY LINKED OPERATION AND MAINTENANCE DIRECTORY.
      b. ENABLE INSERTED REVIEWER COMMENTS ON DRAFT SUBMITTALS.
   2. TWO PAPER COPIES. INCLUDE A COMPLETE OPERATION AND MAINTENANCE DIRECTORY. ENCLOSE TITLE PAGES AND DIRECTORIES IN CLEAR PLASTIC SLEEVES.

PART 2 - PRODUCTS

2.1 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. DIRECTORY: PREPARE A SINGLE, COMPREHENSIVE DIRECTORY OF EMERGENCY, OPERATION, AND MAINTENANCE DATA AND MATERIALS, LISTING ITEMS AND THEIR LOCATION TO FACILITATE READY ACCESS TO DESIRED INFORMATION.

B. ORGANIZATION: UNLESS OTHERWISE INDICATED, ORGANIZE EACH MANUAL INTO A SEPARATE SECTION FOR EACH SYSTEM AND SUBSYSTEM, AND A SEPARATE SECTION FOR EACH PIECE OF EQUIPMENT NOT PART OF A SYSTEM. EACH MANUAL SHALL CONTAIN THE FOLLOWING MATERIALS, IN THE ORDER LISTED:
   1. TITLE PAGE.
   2. TABLE OF CONTENTS.
   3. MANUAL CONTENTS.

C. TITLE PAGE: INCLUDE THE FOLLOWING INFORMATION:
   1. SUBJECT MATTER INCLUDED IN MANUAL.
   2. NAME AND ADDRESS OF PROJECT.
   3. NAME AND ADDRESS OF OWNER.
   4. DATE OF SUBMITTAL.
   5. NAME AND CONTACT INFORMATION FOR CONTRACTOR.
   6. NAME AND CONTACT INFORMATION FOR CONSTRUCTION MANAGER.
   7. NAME AND CONTACT INFORMATION FOR ARCHITECT.
   8. NAME AND CONTACT INFORMATION FOR COMMISSIONING AUTHORITY.
   9. NAMES AND CONTACT INFORMATION FOR MAJOR CONSULTANTS TO THE ARCHITECT THAT DESIGNED THE SYSTEMS CONTAINED IN THE MANUALS.
   10. CROSS-REFERENCE TO RELATED SYSTEMS IN OTHER OPERATION AND MAINTENANCE MANUALS.

D. TABLE OF CONTENTS: LIST EACH PRODUCT INCLUDED IN MANUAL, IDENTIFIED BY PRODUCT NAME, INDEXED TO THE CONTENT OF THE VOLUME, AND CROSS-REFERENCED TO SPECIFICATION SECTION NUMBER IN PROJECT MANUAL.

E. MANUALS, ELECTRONIC FILES: SUBMIT MANUALS IN THE FORM OF A MULTIPLE FILE COMPOSITE ELECTRONIC PDF FILE FOR EACH MANUAL TYPE REQUIRED.
   1. ELECTRONIC FILES: USE ELECTRONIC FILES PREPARED BY MANUFACTURER WHERE AVAILABLE. WHERE SCANNING OF PAPER DOCUMENTS IS REQUIRED, CONFIGURE SCANNED FILE FOR MINIMUM READABLE FILE SIZE.
   2. FILE NAMES AND BOOKMARKS: ENABLE BOOKMARKING OF INDIVIDUAL DOCUMENTS BASED ON FILE NAMES. NAME DOCUMENT FILES TO CORRESPOND TO SYSTEM, SUBSYSTEM, AND EQUIPMENT NAMES USED IN MANUAL DIRECTORY AND TABLE OF CONTENTS. GROUP DOCUMENTS FOR EACH SYSTEM AND SUBSYSTEM INTO INDIVIDUAL COMPOSITE BOOKMARKED FILES, THEN CREATE COMPOSITE MANUAL, SO THAT RESULTING BOOKMARKS REFLECT THE SYSTEM, SUBSYSTEM, AND EQUIPMENT NAMES IN A READILY NAVIGATED FILE TREE. CONFIGURE ELECTRONIC MANUAL TO DISPLAY BOOKMARK PANEL ON OPENING FILE.

F. MANUALS, PAPER COPY: SUBMIT MANUALS IN THE FORM OF HARD COPY, BOUND AND LABELED VOLUMES.
   1. BINDERS: HEAVY-DUTY, THREE-RING, VINYL-COVERED, LOOSE-LEAF BINDERS, IN THICKNESS NECESSARY TO ACCOMMODATE CONTENTS, SIZED TO HOLD 8-1/2-BY-11-INCH PAPER; WITH CLEAR PLASTIC SLEEVE ON SPINE TO HOLD LABEL DESCRIBING CONTENTS AND WITH POCKETS INSIDE COVERS TO HOLD FOLDED OVERSIZE SHEETS.
      a. IDENTIFY EACH BINDER ON FRONT AND SPINE, WITH PRINTED TITLE "OPERATION AND MAINTENANCE MANUAL," PROJECT TITLE OR NAME, SUBJECT MATTER OF CONTENTS. INDICATE VOLUME NUMBER FOR MULTIPLE-VOLUME SETS.
   2. DIVIDERS: HEAVY-PAPER DIVIDERS WITH PLASTIC-COVERED TABS FOR EACH SECTION OF THE MANUAL. MARK EACH TAB TO INDICATE CONTENTS. INCLUDE TYPED LIST OF PRODUCTS AND MAJOR COMPONENTS OF EQUIPMENT INCLUDED IN THE SECTION ON EACH DIVIDER, CROSS-REFERENCED TO SPECIFICATION SECTION NUMBER AND TITLE OF PROJECT MANUAL.
   3. PROTECTIVE PLASTIC SLEEVES: TRANSPARENT PLASTIC SLEEVES DESIGNED TO ENCLOSE DIAGNOSTIC SOFTWARE STORAGE MEDIA FOR COMPUTERIZED ELECTRONIC EQUIPMENT.
   4. DRAWINGS: ATTACH REINFORCED, PUNCHED BINDER TABS ON DRAWINGS AND BIND WITH TEXT.
      a. IF OVERSIZE DRAWINGS ARE NECESSARY, FOLD DRAWINGS TO SAME SIZE AS TEXT PAGES AND USE AS FOLDOUTS.
      b. IF DRAWINGS ARE TOO LARGE TO BE USED AS FOLDOUTS, FOLD AND PLACE DRAWINGS IN LABELED ENVELOPES AND BIND ENVELOPES IN REAR OF MANUAL. AT APPROPRIATE LOCATIONS IN MANUAL, INSERT TYPEWRITTEN PAGES INDICATING DRAWING TITLES, DESCRIPTIONS OF CONTENTS, AND DRAWING LOCATIONS.

2.2 OPERATION MANUALS

A. CONTENT: IN ADDITION TO REQUIREMENTS IN THIS SECTION, INCLUDE OPERATION DATA REQUIRED IN INDIVIDUAL SPECIFICATION SECTIONS AND THE FOLLOWING INFORMATION:
   1. SYSTEM, SUBSYSTEM, AND EQUIPMENT DESCRIPTIONS. USE DESIGNATIONS FOR SYSTEMS AND EQUIPMENT INDICATED ON CONTRACT DOCUMENTS.
   2. PERFORMANCE AND DESIGN CRITERIA IF CONTRACTOR IS DELEGATED DESIGN RESPONSIBILITY.
   3. OPERATING STANDARDS.
   4. OPERATING PROCEDURES.
   5. OPERATING LOGS.
   6. WIRING DIAGRAMS.
   7. CONTROL DIAGRAMS.
   8. PIPED SYSTEM DIAGRAMS.
   9. PRECAUTIONS AGAINST IMPROPER USE.
   10. LICENSE REQUIREMENTS INCLUDING INSPECTION AND RENEWAL DATES.

B. DESCRIPTIONS: INCLUDE THE FOLLOWING:
   1. PRODUCT NAME AND MODEL NUMBER. USE DESIGNATIONS FOR PRODUCTS INDICATED ON CONTRACT DOCUMENTS.
   2. MANUFACTURER'S NAME.
   3. EQUIPMENT IDENTIFICATION WITH SERIAL NUMBER OF EACH COMPONENT.
   4. EQUIPMENT FUNCTION.
   5. OPERATING CHARACTERISTICS.
   6. LIMITING CONDITIONS.
   7. PERFORMANCE CURVES.
   8. ENGINEERING DATA AND TESTS.
   9. COMPLETE NOMENCLATURE AND NUMBER OF REPLACEMENT PARTS.

C. OPERATING PROCEDURES: INCLUDE THE FOLLOWING, AS APPLICABLE:
   1. STARTUP PROCEDURES.
   2. EQUIPMENT OR SYSTEM BREAK-IN PROCEDURES.
   3. ROUTINE AND NORMAL OPERATING INSTRUCTIONS.
   4. REGULATION AND CONTROL PROCEDURES.
   5. INSTRUCTIONS ON STOPPING.
   6. NORMAL SHUTDOWN INSTRUCTIONS.
   7. SEASONAL AND WEEKEND OPERATING INSTRUCTIONS.
   8. REQUIRED SEQUENCES FOR ELECTRIC OR ELECTRONIC SYSTEMS.
   9. SPECIAL OPERATING INSTRUCTIONS AND PROCEDURES.

D. SYSTEMS AND EQUIPMENT CONTROLS: DESCRIBE THE SEQUENCE OF OPERATION, AND DIAGRAM CONTROLS AS INSTALLED.

E. PIPED SYSTEMS: DIAGRAM PIPING AS INSTALLED, AND IDENTIFY COLOR-CODING WHERE REQUIRED FOR IDENTIFICATION.

2.3 PRODUCT MAINTENANCE MANUALS

A. CONTENT: ORGANIZE MANUAL INTO A SEPARATE SECTION FOR EACH PRODUCT, MATERIAL, AND FINISH. INCLUDE SOURCE INFORMATION, PRODUCT INFORMATION, MAINTENANCE PROCEDURES, REPAIR MATERIALS AND SOURCES, AND WARRANTIES AND BONDS, AS DESCRIBED BELOW.

B. SOURCE INFORMATION: LIST EACH PRODUCT INCLUDED IN MANUAL, IDENTIFIED BY PRODUCT NAME AND ARRANGED TO MATCH MANUAL'S TABLE OF CONTENTS. FOR EACH PRODUCT, LIST NAME, ADDRESS, AND TELEPHONE NUMBER OF INSTALLER OR SUPPLIER AND MAINTENANCE SERVICE AGENT, AND CROSS-REFERENCE SPECIFICATION SECTION NUMBER AND TITLE IN PROJECT MANUAL.

C. PRODUCT INFORMATION: INCLUDE THE FOLLOWING, AS APPLICABLE:
   1. PRODUCT NAME AND MODEL NUMBER.
   2. MANUFACTURER'S NAME.
   3. COLOR, PATTERN, AND TEXTURE.
   4. MATERIAL AND CHEMICAL COMPOSITION.
   5. REORDERING INFORMATION FOR SPECIALLY MANUFACTURED PRODUCTS.

D. MAINTENANCE PROCEDURES: INCLUDE MANUFACTURER'S WRITTEN RECOMMENDATIONS AND THE FOLLOWING:
   1. INSPECTION PROCEDURES.
   2. TYPES OF CLEANING AGENTS TO BE USED AND METHODS OF CLEANING.
   3. LIST OF CLEANING AGENTS AND METHODS OF CLEANING DETRIMENTAL TO PRODUCT.
   4. SCHEDULE FOR ROUTINE CLEANING AND MAINTENANCE.
   5. REPAIR INSTRUCTIONS.

E. REPAIR MATERIALS AND SOURCES: INCLUDE LISTS OF MATERIALS AND LOCAL SOURCES OF MATERIALS AND RELATED SERVICES.

F. WARRANTIES AND BONDS: INCLUDE COPIES OF WARRANTIES AND BONDS AND LISTS OF CIRCUMSTANCES AND CONDITIONS THAT WOULD AFFECT VALIDITY OF WARRANTIES OR BONDS.

2.4 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. CONTENT: FOR EACH SYSTEM, SUBSYSTEM, AND PIECE OF EQUIPMENT NOT PART OF A SYSTEM, INCLUDE SOURCE INFORMATION, MANUFACTURERS' MAINTENANCE DOCUMENTATION, MAINTENANCE PROCEDURES, MAINTENANCE AND SERVICE SCHEDULES, SPARE PARTS LIST AND SOURCE INFORMATION, MAINTENANCE SERVICE CONTRACTS, AND WARRANTY AND BOND INFORMATION, AS DESCRIBED BELOW.

B. SOURCE INFORMATION: LIST EACH SYSTEM, SUBSYSTEM, AND PIECE OF EQUIPMENT INCLUDED IN MANUAL, IDENTIFIED BY PRODUCT NAME AND ARRANGED TO MATCH MANUAL'S TABLE OF CONTENTS. FOR EACH PRODUCT, LIST NAME, ADDRESS, AND TELEPHONE NUMBER OF INSTALLER OR SUPPLIER AND MAINTENANCE SERVICE AGENT, AND CROSS-REFERENCE SPECIFICATION SECTION NUMBER AND TITLE IN PROJECT MANUAL.

C. MANUFACTURERS' MAINTENANCE DOCUMENTATION: MANUFACTURERS' MAINTENANCE DOCUMENTATION INCLUDING THE FOLLOWING INFORMATION FOR EACH COMPONENT PART OR PIECE OF EQUIPMENT:
   1. STANDARD MAINTENANCE INSTRUCTIONS AND BULLETINS.
   2. DRAWINGS, DIAGRAMS, AND INSTRUCTIONS REQUIRED FOR MAINTENANCE, INCLUDING DISASSEMBLY AND COMPONENT REMOVAL, REPLACEMENT, AND ASSEMBLY.
   3. IDENTIFICATION AND NOMENCLATURE OF PARTS AND COMPONENTS.
   4. LIST OF ITEMS RECOMMENDED TO BE STOCKED AS SPARE PARTS.

D. MAINTENANCE PROCEDURES: INCLUDE THE FOLLOWING INFORMATION AND ITEMS THAT DETAIL ESSENTIAL MAINTENANCE PROCEDURES:
   1. TEST AND INSPECTION INSTRUCTIONS.
   2. TROUBLESHOOTING GUIDE.
   3. PRECAUTIONS AGAINST IMPROPER MAINTENANCE.
   4. DISASSEMBLY; COMPONENT REMOVAL, REPAIR, AND REPLACEMENT; AND REASSEMBLY INSTRUCTIONS.
   5. ALIGNING, ADJUSTING, AND CHECKING INSTRUCTIONS.
   6. DEMONSTRATION AND TRAINING VIDEO RECORDING, IF AVAILABLE.

E. MAINTENANCE AND SERVICE SCHEDULES: INCLUDE SERVICE AND LUBRICATION REQUIREMENTS, LIST OF REQUIRED LUBRICANTS FOR EQUIPMENT, AND SEPARATE SCHEDULES FOR PREVENTIVE AND ROUTINE MAINTENANCE AND SERVICE WITH STANDARD TIME ALLOTMENT.

F. SPARE PARTS LIST AND SOURCE INFORMATION: INCLUDE LISTS OF REPLACEMENT AND REPAIR PARTS, WITH PARTS IDENTIFIED AND CROSS-REFERENCED TO MANUFACTURERS' MAINTENANCE DOCUMENTATION AND LOCAL SOURCES OF MAINTENANCE MATERIALS AND RELATED SERVICES.

G. MAINTENANCE SERVICE CONTRACTS: INCLUDE COPIES OF MAINTENANCE AGREEMENTS WITH NAME AND TELEPHONE NUMBER OF SERVICE AGENT.

H. WARRANTIES AND BONDS: INCLUDE COPIES OF WARRANTIES AND BONDS AND LISTS OF CIRCUMSTANCES AND CONDITIONS THAT WOULD AFFECT VALIDITY OF WARRANTIES OR BONDS.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. EMERGENCY MANUAL: ASSEMBLE A COMPLETE SET OF EMERGENCY INFORMATION INDICATING PROCEDURES FOR USE BY EMERGENCY PERSONNEL AND BY OWNER'S OPERATING PERSONNEL FOR TYPES OF EMERGENCIES INDICATED.

B. PRODUCT MAINTENANCE MANUAL: ASSEMBLE A COMPLETE SET OF MAINTENANCE DATA INDICATING CARE AND MAINTENANCE OF EACH PRODUCT, MATERIAL, AND FINISH INCORPORATED INTO THE WORK.

C. OPERATION AND MAINTENANCE MANUALS: ASSEMBLE A COMPLETE SET OF OPERATION AND MAINTENANCE DATA INDICATING OPERATION AND MAINTENANCE OF EACH SYSTEM, SUBSYSTEM, AND PIECE OF EQUIPMENT NOT PART OF A SYSTEM.

D. MANUFACTURERS' DATA: WHERE MANUALS CONTAIN MANUFACTURERS' STANDARD PRINTED DATA, INCLUDE ONLY SHEETS PERTINENT TO PRODUCT OR COMPONENT INSTALLED. MARK EACH SHEET TO IDENTIFY EACH PRODUCT OR COMPONENT INCORPORATED INTO THE WORK. IF DATA INCLUDE MORE THAN ONE ITEM IN A TABULAR FORMAT, IDENTIFY EACH ITEM USING APPROPRIATE REFERENCES FROM THE CONTRACT DOCUMENTS. IDENTIFY DATA APPLICABLE TO THE WORK AND DELETE REFERENCES TO INFORMATION NOT APPLICABLE.

E. DRAWINGS: PREPARE DRAWINGS SUPPLEMENTING MANUFACTURERS' PRINTED DATA TO ILLUSTRATE THE RELATIONSHIP OF COMPONENT PARTS OF EQUIPMENT AND SYSTEMS AND TO ILLUSTRATE CONTROL SEQUENCE AND FLOW DIAGRAMS. COORDINATE THESE DRAWINGS WITH INFORMATION CONTAINED IN RECORD DRAWINGS TO ENSURE CORRECT ILLUSTRATION OF COMPLETED INSTALLATION.
   1. DO NOT USE ORIGINAL PROJECT RECORD DOCUMENTS AS PART OF OPERATION AND MAINTENANCE MANUALS.

F. COMPLY WITH SECTION 017700 "CLOSEOUT PROCEDURES" FOR SCHEDULE FOR SUBMITTING OPERATION AND MAINTENANCE DOCUMENTATION.

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR PROJECT RECORD DOCUMENTS, INCLUDING THE FOLLOWING:
   1. RECORD DRAWINGS.

B. RELATED REQUIREMENTS:
   1. SECTION 017823 "OPERATION AND MAINTENANCE DATA" FOR OPERATION AND MAINTENANCE MANUAL REQUIREMENTS.

1.2 CLOSEOUT SUBMITTALS

A. RECORD DRAWINGS: COMPLY WITH THE FOLLOWING:
   1. NUMBER OF COPIES: SUBMIT ONE ORIGINAL SET(S) OF MARKED-UP RECORD PRINTS.
   2. NUMBER OF COPIES: SUBMIT COPIES OF RECORD DRAWINGS AS FOLLOWS:
      a. FINAL SUBMITTAL:
         1) SUBMIT ONE PAPER-COPY SET(S) OF MARKED-UP RECORD PRINTS.
         2) SUBMIT PDF ELECTRONIC FILES OF SCANNED RECORD PRINTS.
         3) PRINT EACH DRAWING, WHETHER OR NOT CHANGES AND ADDITIONAL INFORMATION WERE RECORDED.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. RECORD PRINTS: MAINTAIN ONE SET OF MARKED-UP PAPER COPIES OF THE CONTRACT DRAWINGS AND SHOP DRAWINGS, INCORPORATING NEW AND REVISED DRAWINGS AS MODIFICATIONS ARE ISSUED.
   1. PREPARATION: MARK RECORD PRINTS TO SHOW THE ACTUAL INSTALLATION WHERE INSTALLATION VARIES FROM THAT SHOWN ORIGINALLY. REQUIRE INDIVIDUAL OR ENTITY WHO OBTAINED RECORD DATA, WHETHER INDIVIDUAL OR ENTITY IS INSTALLER, SUBCONTRACTOR, OR SIMILAR ENTITY, TO PROVIDE INFORMATION FOR PREPARATION OF CORRESPONDING MARKED-UP RECORD PRINTS.
      a. GIVE PARTICULAR ATTENTION TO INFORMATION ON CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO IDENTIFY OR MEASURE AND RECORD LATER.
      b. RECORD DATA AS SOON AS POSSIBLE AFTER OBTAINING IT.
      c. RECORD AND CHECK THE MARKUP BEFORE ENCLOSING CONCEALED INSTALLATIONS.
   2. MARK THE CONTRACT DRAWINGS AND SHOP DRAWINGS COMPLETELY AND ACCURATELY. USE PERSONNEL PROFICIENT AT RECORDING GRAPHIC INFORMATION IN PRODUCTION OF MARKED-UP RECORD PRINTS.
   3. MARK RECORD SETS WITH ERASABLE, RED-COLORED PENCIL. USE OTHER COLORS TO DISTINGUISH BETWEEN CHANGES FOR DIFFERENT CATEGORIES OF THE WORK AT SAME LOCATION.
   4. NOTE CONSTRUCTION CHANGE DIRECTIVE NUMBERS, ALTERNATE NUMBERS, CHANGE ORDER NUMBERS, AND SIMILAR IDENTIFICATION, WHERE APPLICABLE.

B. RECORD DIGITAL DATA FILES: IMMEDIATELY BEFORE INSPECTION FOR CERTIFICATE OF SUBSTANTIAL COMPLETION, REVIEW MARKED-UP RECORD PRINTS WITH ARCHITECT. WHEN AUTHORIZED, PREPARE A FULL SET OF CORRECTED DIGITAL DATA FILES OF THE CONTRACT DRAWINGS, AS FOLLOWS:
   1. FORMAT: ANNOTATED PDF ELECTRONIC FILE.
   2. INCORPORATE CHANGES AND ADDITIONAL INFORMATION PREVIOUSLY MARKED ON RECORD PRINTS. DELETE, REDRAW, AND ADD DETAILS AND NOTATIONS WHERE APPLICABLE.
   3. REFER INSTANCES OF UNCERTAINTY TO ARCHITECT FOR RESOLUTION.
   4. ARCHITECT WILL FURNISH CONTRACTOR ONE SET OF DIGITAL DATA FILES OF THE CONTRACT DRAWINGS FOR USE IN RECORDING INFORMATION.

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
1005 STADIUM DR
WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
	03/18/2026	PERMIT SET
1		
2		
3		
4		
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6		
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9		

SPECIFICATIONS

DATE 03/02/2026
JOB NO. 25027

A-9.2
SHEET NO.

C. FORMAT: IDENTIFY AND DATE EACH RECORD DRAWING; INCLUDE THE DESIGNATION "PROJECT RECORD DRAWING" IN A PROMINENT LOCATION.
   1. RECORD PRINTS: ORGANIZE RECORD PRINTS AND NEWLY PREPARED RECORD DRAWINGS INTO MANAGEABLE SETS. BIND EACH SET WITH DURABLE PAPER COVER SHEETS. INCLUDE IDENTIFICATION ON COVER SHEETS.
   2. FORMAT: ANNOTATED PDF ELECTRONIC FILE.
   3. RECORD DIGITAL DATA FILES: ORGANIZE DIGITAL DATA INFORMATION INTO SEPARATE ELECTRONIC FILES THAT CORRESPOND TO EACH SHEET OF THE CONTRACT DRAWINGS. NAME EACH FILE WITH THE SHEET IDENTIFICATION. INCLUDE IDENTIFICATION IN EACH DIGITAL DATA FILE.
   4. IDENTIFICATION: AS FOLLOWS:
      a. PROJECT NAME.
      b. DATE.
      c. DESIGNATION "PROJECT RECORD DRAWINGS."
      d. NAME OF ARCHITECT.
      e. NAME OF CONTRACTOR.

2.2 MISCELLANEOUS RECORD SUBMITTALS

A. ASSEMBLE MISCELLANEOUS RECORDS REQUIRED BY OTHER SPECIFICATION SECTIONS FOR MISCELLANEOUS RECORD KEEPING AND SUBMITTAL IN CONNECTION WITH ACTUAL PERFORMANCE OF THE WORK. BIND OR FILE MISCELLANEOUS RECORDS AND IDENTIFY EACH, READY FOR CONTINUED USE AND REFERENCE.

B. FORMAT: SUBMIT MISCELLANEOUS RECORD SUBMITTALS AS PDF ELECTRONIC FILE.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. RECORDING: MAINTAIN ONE COPY OF EACH SUBMITTAL DURING THE CONSTRUCTION PERIOD FOR PROJECT RECORD DOCUMENT PURPOSES. POST CHANGES AND REVISIONS TO PROJECT RECORD DOCUMENTS AS THEY OCCUR; DO NOT WAIT UNTIL END OF PROJECT.

B. MAINTENANCE OF RECORD DOCUMENTS AND SAMPLES: STORE RECORD DOCUMENTS AND SAMPLES IN THE FIELD OFFICE APART FROM THE CONTRACT DOCUMENTS USED FOR CONSTRUCTION. DO NOT USE PROJECT RECORD DOCUMENTS FOR CONSTRUCTION PURPOSES. MAINTAIN RECORD DOCUMENTS IN GOOD ORDER AND IN A CLEAN, DRY, LEGIBLE CONDITION, PROTECTED FROM DETERIORATION AND LOSS. PROVIDE ACCESS TO PROJECT RECORD DOCUMENTS FOR ARCHITECT'S REFERENCE DURING NORMAL WORKING HOURS.

END OF SECTION 017839

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR INSTRUCTING OWNER'S PERSONNEL, INCLUDING THE FOLLOWING:
   1. DEMONSTRATION OF OPERATION OF SYSTEMS, SUBSYSTEMS, AND EQUIPMENT.
   2. TRAINING IN OPERATION AND MAINTENANCE OF SYSTEMS, SUBSYSTEMS, AND EQUIPMENT.

1.2 COORDINATION

A. COORDINATE INSTRUCTION SCHEDULE WITH OWNER'S OPERATIONS. ADJUST SCHEDULE AS REQUIRED TO MINIMIZE DISRUPTING OWNER'S OPERATIONS AND TO ENSURE AVAILABILITY OF OWNER'S PERSONNEL.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

A. PROGRAM STRUCTURE: DEVELOP AN INSTRUCTION PROGRAM THAT INCLUDES INDIVIDUAL TRAINING MODULES FOR EACH SYSTEM AND FOR EQUIPMENT NOT PART OF A SYSTEM, AS REQUIRED BY INDIVIDUAL SPECIFICATION SECTIONS.

PART 3 - EXECUTION

3.1 PREPARATION

A. ASSEMBLE EDUCATIONAL MATERIALS NECESSARY FOR INSTRUCTION, INCLUDING DOCUMENTATION AND TRAINING MODULE. ASSEMBLE TRAINING MODULES INTO A TRAINING MANUAL ORGANIZED IN COORDINATION WITH REQUIREMENTS IN SECTION 017823 "OPERATION AND MAINTENANCE DATA."

3.2 INSTRUCTION

A. ENGAGE QUALIFIED INSTRUCTORS TO INSTRUCT OWNER'S PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN SYSTEMS, SUBSYSTEMS, AND EQUIPMENT NOT PART OF A SYSTEM.

B. SCHEDULING: PROVIDE INSTRUCTION AT MUTUALLY AGREED ON TIMES. FOR EQUIPMENT THAT REQUIRES SEASONAL OPERATION, PROVIDE SIMILAR INSTRUCTION AT START OF EACH SEASON.
   1. SCHEDULE TRAINING WITH OWNER WITH AT LEAST SEVEN DAYS' ADVANCE NOTICE.

END OF SECTION 017900

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
   1. DEMOLITION AND REMOVAL OF SELECTED PORTIONS OF BUILDING OR STRUCTURE.
   2. DEMOLITION AND REMOVAL OF SELECTED SITE ELEMENTS.

1.2 MATERIALS OWNERSHIP

A. UNLESS OTHERWISE INDICATED, DEMOLITION WASTE BECOMES PROPERTY OF CONTRACTOR.

1.3 FIELD CONDITIONS

A. OWNER WILL OCCUPY PORTIONS OF BUILDING IMMEDIATELY ADJACENT TO SELECTIVE DEMOLITION AREA. CONDUCT SELECTIVE DEMOLITION SO OWNER'S OPERATIONS WILL NOT BE DISRUPTED.

B. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS BEFORE PROCEEDING WITH SELECTIVE DEMOLITION.

C. HAZARDOUS MATERIALS: IT IS NOT EXPECTED THAT HAZARDOUS MATERIALS WILL BE ENCOUNTERED IN THE WORK.
   1. HAZARDOUS MATERIALS WILL BE REMOVED BY OWNER BEFORE START OF THE WORK.
   2. IF SUSPECTED HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB; IMMEDIATELY NOTIFY ARCHITECT AND OWNER. HAZARDOUS MATERIALS WILL BE REMOVED BY OWNER UNDER A SEPARATE CONTRACT.

D. STORAGE OR SALE OF REMOVED ITEMS OR MATERIALS ON-SITE IS NOT PERMITTED.

E. UTILITY SERVICE: MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION OPERATIONS.
   1. MAINTAIN FIRE-PROTECTION FACILITIES IN SERVICE DURING SELECTIVE DEMOLITION OPERATIONS.

F. ARRANGE SELECTIVE DEMOLITION SCHEDULE SO AS NOT TO INTERFERE WITH OWNER'S OPERATIONS.

1.4 WARRANTY

A. EXISTING WARRANTIES: REMOVE, REPLACE, PATCH, AND REPAIR MATERIALS AND SURFACES CUT OR DAMAGED DURING SELECTIVE DEMOLITION, BY METHODS AND WITH MATERIALS AND USING APPROVED CONTRACTORS SO AS NOT TO VOID EXISTING WARRANTIES.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. REGULATORY REQUIREMENTS: COMPLY WITH GOVERNING EPA NOTIFICATION REGULATIONS BEFORE BEGINNING SELECTIVE DEMOLITION. COMPLY WITH HAULING AND DISPOSAL REGULATIONS OF AUTHORITIES HAVING JURISDICTION.

B. STANDARDS: COMPLY WITH ASSE A10.6 AND NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED BEFORE STARTING SELECTIVE DEMOLITION OPERATIONS.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. EXISTING SERVICES/SYSTEMS TO REMAIN: MAINTAIN SERVICES/SYSTEMS INDICATED TO REMAIN AND PROTECT THEM AGAINST DAMAGE.

B. EXISTING SERVICES/SYSTEMS TO BE REMOVED, RELOCATED, OR ABANDONED: LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS SERVING AREAS TO BE SELECTIVELY DEMOLISHED.
   1. OWNER WILL ARRANGE TO SHUT OFF INDICATED SERVICES/SYSTEMS WHEN REQUESTED BY CONTRACTOR.
   2. IF SERVICES/SYSTEMS ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, PROVIDE TEMPORARY SERVICES/SYSTEMS THAT BYPASS AREA OF SELECTIVE DEMOLITION AND THAT MAINTAIN CONTINUITY OF SERVICES/SYSTEMS TO OTHER PARTS OF BUILDING.

3.3 PROTECTION

A. TEMPORARY PROTECTION: PROVIDE TEMPORARY BARRICADES AND OTHER PROTECTION REQUIRED TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND FACILITIES TO REMAIN.

B. TEMPORARY SHORING: DESIGN, PROVIDE, AND MAINTAIN SHORING, BRACING, AND STRUCTURAL SUPPORTS AS REQUIRED TO PRESERVE STABILITY AND PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF CONSTRUCTION AND FINISHES TO REMAIN, AND TO PREVENT UNEXPECTED OR UNCONTROLLED MOVEMENT OR COLLAPSE OF CONSTRUCTION BEING DEMOLISHED.

C. REMOVE TEMPORARY BARRICADES AND PROTECTIONS WHERE HAZARDS NO LONGER EXIST.

3.4 SELECTIVE DEMOLITION

A. GENERAL: DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS INDICATED. USE METHODS REQUIRED TO COMPLETE THE WORK WITHIN LIMITATIONS OF GOVERNING REGULATIONS AND AS FOLLOWS:
   1. NEATLY CUT OPENINGS AND HOLES PLUMB, SQUARE, AND TRUE TO DIMENSIONS REQUIRED. USE CUTTING METHODS LEAST LIKELY TO DAMAGE CONSTRUCTION TO REMAIN OR ADJOINING CONSTRUCTION. USE HAND TOOLS OR SMALL POWER TOOLS DESIGNED FOR SAWING OR GRINDING, NOT HAMMERING AND CHOPPING. TEMPORARILY COVER OPENINGS TO REMAIN.
   2. CUT OR DRILL FROM THE EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES TO AVOID MARRING EXISTING FINISHED SURFACES.
   3. DO NOT USE CUTTING TORCHES UNTIL WORK AREA IS CLEARED OF FLAMMABLE MATERIALS. AT CONCEALED SPACES, SUCH AS DUCT AND PIPE INTERIORS, VERIFY CONDITION AND CONTENTS OF HIDDEN SPACE BEFORE STARTING FLAME-CUTTING OPERATIONS. MAINTAIN PORTABLE FIRE-SUPPRESSION DEVICES DURING FLAME-CUTTING OPERATIONS.
   4. LOCATE SELECTIVE DEMOLITION EQUIPMENT AND REMOVE DEBRIS AND MATERIALS SO AS NOT TO IMPOSE EXCESSIVE LOADS ON SUPPORTING WALLS, FLOORS, OR FRAMING.
   5. DISPOSE OF DEMOLISHED ITEMS AND MATERIALS PROMPTLY.

B. SITE ACCESS AND TEMPORARY CONTROLS: CONDUCT SELECTIVE DEMOLITION AND DEBRIS-REMOVAL OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, WALKWAYS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES.

C. EXISTING ITEMS TO REMAIN: PROTECT CONSTRUCTION INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING SELECTIVE DEMOLITION. WHEN PERMITTED BY ARCHITECT, ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION DURING SELECTIVE DEMOLITION AND CLEANED AND REINSTALLED IN THEIR ORIGINAL LOCATIONS AFTER SELECTIVE DEMOLITION OPERATIONS ARE COMPLETE.

3.5 CLEANING

A. REMOVE DEMOLITION WASTE MATERIALS FROM PROJECT SITE AND DISPOSE OF THEM IN AN EPA-APPROVED CONSTRUCTION AND DEMOLITION WASTE LANDFILL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
   1. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE.
   2. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
   3. REMOVE DEBRIS FROM ELEVATED PORTIONS OF BUILDING BY CHUTE, HOIST, OR OTHER DEVICE THAT WILL CONVEY DEBRIS TO GRADE LEVEL IN A CONTROLLED DESCENT.

B. BURNING: DO NOT BURN DEMOLISHED MATERIALS.

C. CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY SELECTIVE DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE SELECTIVE DEMOLITION OPERATIONS BEGAN.

END OF SECTION 024119

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES CAST-IN-PLACE CONCRETE, INCLUDING FORMWORK, REINFORCEMENT, CONCRETE MATERIALS, MIXTURE DESIGN, PLACEMENT PROCEDURES, AND FINISHES.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

B. DESIGN MIXTURES: FOR EACH CONCRETE MIXTURE.

C. STEEL REINFORCEMENT SHOP DRAWINGS: PLACING DRAWINGS THAT DETAIL FABRICATION, BENDING, AND PLACEMENT.

1.3 QUALITY ASSURANCE

A. MANUFACTURER QUALIFICATIONS: A FIRM EXPERIENCED IN MANUFACTURING READY-MIXED CONCRETE PRODUCTS AND THAT COMPLIES WITH ASTM C 94/C 94M REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT.

B. TESTING AGENCY QUALIFICATIONS: AN INDEPENDENT AGENCY, ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, QUALIFIED ACCORDING TO ASTM C 1077 AND ASTM E 329 FOR TESTING INDICATED.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

A. RECYCLED CONTENT OF STEEL PRODUCTS: POSTCONSUMER RECYCLED CONTENT PLUS ONE-HALF OF PRECONSUMER RECYCLED CONTENT NOT LESS THAN 25 PERCENT.

B. REINFORCING BARS: ASTM A 615/A 615M, GRADE 60, DEFORMED.
   1. EPOXY-COATED REINFORCING BARS: ASTM A 775/A 775M, EPOXY COATED, WITH LESS THAN 2 PERCENT DAMAGED COATING IN EACH 12-INCH BAR LENGTH.

C. PLAIN-STEEL WELDED WIRE REINFORCEMENT: ASTM A 185/A 185M, PLAIN, FABRICATED FROM AS-DRAWN STEEL WIRE INTO FLAT SHEETS.

D. DEFORMED-STEEL WELDED WIRE REINFORCEMENT: ASTM A 497/A 497M, FLAT SHEET.

E. EPOXY-COATED WELDED WIRE REINFORCEMENT: ASTM A 884/A 884M, CLASS A COATED, TYPE 1, DEFORMED STEEL.

F. BAR SUPPORTS: BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCING BARS AND WELDED WIRE REINFORCEMENT IN PLACE. MANUFACTURE BAR SUPPORTS FROM STEEL WIRE, PLASTIC, OR PRECAST CONCRETE ACCORDING TO CRSI'S "MANUAL OF STANDARD PRACTICE.

2.2 CONCRETE MATERIALS

A. CEMENTITIOUS MATERIAL: USE THE FOLLOWING CEMENTITIOUS MATERIALS, OF THE SAME TYPE, BRAND, AND SOURCE, THROUGHOUT PROJECT:
   1. PORTLAND CEMENT: ASTM C 150, TYPE I OR TYPE II, GRAY. SUPPLEMENT WITH THE FOLLOWING:
      a. FLY ASH: ASTM C 618, CLASS F OR C.
      b. GROUND GRANULATED BLAST-FURNACE SLAG: ASTM C 989, GRADE 100 OR 120.

B. NORMAL-WEIGHT AGGREGATES: ASTM C 33, GRADED.
   1. MAXIMUM COARSE-AGGREGATE SIZE: 3/4 INCH NOMINAL.
   2. FINE AGGREGATE: FREE OF MATERIALS WITH DELETERIOUS REACTIVITY TO ALKALI IN CEMENT.

C. LIGHTWEIGHT AGGREGATE: ASTM C 330, 3/8-INCH NOMINAL MAXIMUM AGGREGATE SIZE.

D. WATER: ASTM C 94/C 94M AND POTABLE.

2.3 ADMIXTURES

A. AIR-ENTRAINING ADMIXTURE: ASTM C 260.

B. CHEMICAL ADMIXTURES: PROVIDE ADMIXTURES CERTIFIED BY MANUFACTURER TO BE COMPATIBLE WITH OTHER ADMIXTURES AND THAT WILL NOT CONTRIBUTE WATER-SOLUBLE CHLORIDE IONS EXCEEDING THOSE PERMITTED IN HARDENED CONCRETE. DO NOT USE CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE.

2.4 CURING MATERIALS

A. ABSORPTIVE COVER: AASHTO M 182, CLASS 2, BURLAP CLOTH MADE FROM JUTE OR KENAF, WEIGHING APPROXIMATELY 9 OZ./SQ. YD. WHEN DRY.

B. MOISTURE-RETAINING COVER: ASTM C 171, POLYETHYLENE FILM OR WHITE BURLAP-POLYETHYLENE SHEET.

C. WATER: POTABLE.

D. CLEAR, WATERBORNE, MEMBRANE-FORMING CURING COMPOUND: ASTM C 309, TYPE 1, CLASS B, DISSIPATING.

E. CLEAR, SOLVENT-BORNE, MEMBRANE-FORMING CURING AND SEALING COMPOUND: ASTM C 1315, TYPE 1, CLASS A.

2.5 RELATED MATERIALS

A. EXPANSION- AND ISOLATION-JOINT-FILLER STRIPS: ASTM D 1751, ASPHALT-SATURATED CELLULOSIC FIBER.

2.6 CONCRETE MIXTURES

A. PREPARE DESIGN MIXTURES FOR EACH TYPE AND STRENGTH OF CONCRETE, PROPORTIONED ON THE BASIS OF LABORATORY TRIAL MIXTURE OR FIELD TEST DATA, OR BOTH, ACCORDING TO ACI 301.

B. CEMENTITIOUS MATERIALS: USE FLY ASH, POZZOLAN, GROUND GRANULATED BLAST-FURNACE SLAG, AND SILICA FUME AS NEEDED TO REDUCE THE TOTAL AMOUNT OF PORTLAND CEMENT, WHICH WOULD OTHERWISE BE USED, BY NOT LESS THAN 40 PERCENT.

C. ADMIXTURES: USE ADMIXTURES ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

D. PROPORTION NORMAL-WEIGHT CONCRETE MIXTURE AS FOLLOWS:
   1. MINIMUM COMPRESSIVE STRENGTH: 3000 PSI AT 28 DAYS FOR FOOTINGS, 4000 PSI AT 28 DAYS, FOR ALL CONCRETE EXCEPT AS NOTED.

E. PROPORTION STRUCTURAL LIGHTWEIGHT CONCRETE MIXTURE AS FOLLOWS:
   1. MINIMUM COMPRESSIVE STRENGTH: 3500 PSI AT 28 DAYS.

2.7 FABRICATING REINFORCEMENT

A. FABRICATE STEEL REINFORCEMENT ACCORDING TO CRSI'S "MANUAL OF STANDARD PRACTICE."

2.8 CONCRETE MIXING

A. READY-MIXED CONCRETE: MEASURE, BATCH, MIX, AND DELIVER CONCRETE ACCORDING TO ASTM C 94/C 94M AND ASTM C 1116/C 1116M, AND FURNISH BATCH TICKET INFORMATION.

PART 3 - EXECUTION

3.1 FORMWORK

A. DESIGN, ERECT, SHORE, BRACE, AND MAINTAIN FORMWORK, ACCORDING TO ACI 301, TO SUPPORT VERTICAL, LATERAL, STATIC, AND DYNAMIC LOADS, AND CONSTRUCTION LOADS THAT MIGHT BE APPLIED, UNTIL STRUCTURE CAN SUPPORT SUCH LOADS.

B. CHAMFER EXTERIOR CORNERS AND EDGES OF PERMANENTLY EXPOSED CONCRETE.

3.2 VAPOR RETARDERS

A. SHEET VAPOR RETARDERS: PLACE, PROTECT, AND REPAIR SHEET VAPOR RETARDER ACCORDING TO ASTM E 1643 AND MANUFACTURER'S WRITTEN INSTRUCTIONS.
   1. LAP JOINTS 6 INCHES AND SEAL WITH MANUFACTURER'S RECOMMENDED TAPE.

3.3 JOINTS

A. GENERAL: CONSTRUCT JOINTS TRUE TO LINE WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE.

B. CONSTRUCTION JOINTS: INSTALL SO STRENGTH AND APPEARANCE OF CONCRETE ARE NOT IMPAIRED, AT LOCATIONS INDICATED OR AS APPROVED BY ARCHITECT.

C. CONTRACTION JOINTS IN SLABS-ON-GRADE: FORM WEAKENED-PLANE CONTRACTION JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST ONE-FOURTH OF CONCRETE THICKNESS AS FOLLOWS:
   1. SAWED JOINTS: FORM CONTRACTION JOINTS WITH POWER SAWS EQUIPPED WITH SHATTERPROOF ABRASIVE OR DIAMOND-RIMMED BLADES. CUT 1/8-INCH- WIDE JOINTS INTO CONCRETE WHEN CUTTING ACTION WILL NOT TEAR, ABRADE, OR OTHERWISE DAMAGE SURFACE AND BEFORE CONCRETE DEVELOPS RANDOM CONTRACTION CRACKS.

3.4 CONCRETE PLACEMENT

A. BEFORE PLACING CONCRETE, VERIFY THAT INSTALLATION OF FORMWORK, REINFORCEMENT, AND EMBEDDED ITEMS IS COMPLETE AND THAT REQUIRED INSPECTIONS HAVE BEEN PERFORMED.

B. COLD-WEATHER PLACEMENT: COMPLY WITH ACI 306.1.

C. HOT-WEATHER PLACEMENT: COMPLY WITH ACI 301.

3.5 FINISHING FLOORS AND SLABS

A. GENERAL: COMPLY WITH ACI 302.1R RECOMMENDATIONS FOR SCREEDING, RESTRAIGHTENING, AND FINISHING OPERATIONS FOR CONCRETE SURFACES. DO NOT WET CONCRETE SURFACES.

3.6 CONCRETE PROTECTING AND CURING

A. GENERAL: PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. COMPLY WITH ACI 306.1 FOR COLD-WEATHER PROTECTION AND ACI 301 FOR HOT-WEATHER PROTECTION DURING CURING.

B. CURE CONCRETE ACCORDING TO ACI 308.1:

3.7 CONCRETE SURFACE REPAIRS

A. DEFECTIVE CONCRETE: REPAIR AND PATCH DEFECTIVE AREAS WHEN APPROVED BY ARCHITECT. REMOVE AND REPLACE CONCRETE THAT CANNOT BE REPAIRED AND PATCHED TO ARCHITECT'S APPROVAL.

3.8 FIELD QUALITY CONTROL

A. TESTING AND INSPECTING: OWNER WILL ENGAGE A QUALIFIED TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.

END OF SECTION 033000

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
   1. CONCRETE MASONRY UNITS.
   2. DECORATIVE CONCRETE MASONRY UNITS.
   3. CLAY FACE BRICK.
   4. MORTAR AND GROUT.
   5. STEEL REINFORCING BARS.
   6. MASONRY-JOINT REINFORCEMENT.
   7. TIES AND ANCHORS.
   8. EMBEDDED FLASHING.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

B. SAMPLES FOR VERIFICATION: FOR EACH TYPE AND COLOR OF THE FOLLOWING:
   1. DECORATIVE CMUS.
   2. CLAY FACE BRICK, IN THE FORM OF STRAPS OF FIVE OR MORE BRICKS.
   3. PIGMENTED AND COLORED-AGGREGATE MORTAR. MAKE SAMPLES USING SAME SAND AND MORTAR INGREDIENTS TO BE USED ON PROJECT.

1.3 INFORMATIONAL SUBMITTALS

A. MIX DESIGNS: FOR EACH TYPE OF MORTAR AND GROUT.

1.4 DELIVERY, STORAGE, AND HANDLING

A. STORE MASONRY UNITS AND MATERIALS ON ELEVATED PLATFORMS IN A DRY LOCATION. IF UNITS ARE NOT STORED IN AN ENCLOSED LOCATION, COVER TOPS AND SIDES OF STACKS WITH WATERPROOF SHEETING, SECURELY TIED. IF UNITS BECOME WET, DO NOT INSTALL UNTIL THEY ARE DRY.

1.5 FIELD CONDITIONS

A. PROTECTION OF MASONRY: DURING CONSTRUCTION, COVER TOPS OF WALLS, PROJECTIONS, AND SILLS WITH WATERPROOF SHEETING AT END OF EACH DAY'S WORK. COVER PARTIALLY COMPLETED MASONRY WHEN CONSTRUCTION IS NOT IN PROGRESS.

B. COLD-WEATHER REQUIREMENTS: DO NOT USE FROZEN MATERIALS OR MATERIALS MIXED OR COATED WITH ICE OR FROST. DO NOT BUILD ON FROZEN SUBSTRATES. REMOVE AND REPLACE UNIT MASONRY DAMAGED BY FROST OR BY FREEZING CONDITIONS. COMPLY WITH COLD-WEATHER CONSTRUCTION REQUIREMENTS CONTAINED IN TMS 602/ACI 530.1/ASCE 6.
   1. COLD-WEATHER CLEANING: USE LIQUID CLEANING METHODS ONLY WHEN AIR TEMPERATURE IS 40 DEG F AND HIGHER AND WILL REMAIN SO UNTIL MASONRY HAS DRIED, BUT NOT LESS THAN SEVEN DAYS AFTER COMPLETING CLEANING.

C. HOT-WEATHER REQUIREMENTS: COMPLY WITH HOT-WEATHER CONSTRUCTION REQUIREMENTS CONTAINED IN TMS 602/ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. SOURCE LIMITATIONS FOR MASONRY UNITS: OBTAIN EXPOSED MASONRY UNITS OF A UNIFORM TEXTURE AND COLOR, OR A UNIFORM BLEND WITHIN THE RANGES ACCEPTED FOR THESE CHARACTERISTICS, FROM SINGLE SOURCE FROM SINGLE MANUFACTURER FOR EACH PRODUCT REQUIRED.

2.2 PERFORMANCE REQUIREMENTS

A. PROVIDE UNIT MASONRY THAT DEVELOPS INDICATED NET-AREA COMPRESSIVE STRENGTHS AT 28 DAYS.
   1. DETERMINE NET-AREA COMPRESSIVE STRENGTH OF MASONRY FROM AVERAGE NET-AREA COMPRESSIVE STRENGTHS OF MASONRY UNITS AND MORTAR TYPES (UNIT-STRENGTH METHOD) ACCORDING TO TMS 602/ACI 530.1/ASCE 6.
   2. DETERMINE NET-AREA COMPRESSIVE STRENGTH OF MASONRY BY TESTING MASONRY PRISMS ACCORDING TO ASTM C 1314.

2.3 UNIT MASONRY, GENERAL

A. MASONRY STANDARD: COMPLY WITH TMS 602/ACI 530.1/ASCE 6, EXCEPT AS MODIFIED BY REQUIREMENTS IN THE CONTRACT DOCUMENTS.

2.4 CONCRETE MASONRY UNITS

A. SHAPES: PROVIDE SHAPES INDICATED, WITH EXPOSED SURFACES MATCHING EXPOSED FACES OF ADJACENT UNITS UNLESS OTHERWISE INDICATED.
   1. PROVIDE SPECIAL SHAPES FOR LINTELS, CORNERS, JAMBS, SASHES, MOVEMENT JOINTS, HEADERS, BONDING, AND OTHER SPECIAL CONDITIONS.
   2. PROVIDE SQUARE-EDGED UNITS FOR OUTSIDE CORNERS UNLESS OTHERWISE INDICATED.

B. INTEGRAL WATER REPELLENT: PROVIDE UNITS MADE WITH INTEGRAL WATER REPELLENT FOR EXPOSED UNITS.
   1. INTEGRAL WATER REPELLENT: LIQUID POLYMERIC, INTEGRAL WATER-REPELLENT ADMIXTURE THAT DOES NOT REDUCE FLEXURAL BOND STRENGTH. UNITS MADE WITH INTEGRAL WATER REPELLENT, WHEN TESTED ACCORDING TO ASTM E 514/E 514M AS A WALL ASSEMBLY MADE WITH MORTAR CONTAINING INTEGRAL WATER-REPELLENT MANUFACTURER'S MORTAR ADDITIVE, WITH TEST PERIOD EXTENDED TO 24 HOURS, SHALL SHOW NO VISIBLE WATER OR LEAKS ON THE BACK OF TEST SPECIMEN.

C. CMUS: ASTM C 90.

D. DECORATIVE CMUS: ASTM C 90.

2.5 BRICK

A. GENERAL: PROVIDE SHAPES INDICATED AND AS FOLLOWS, WITH EXPOSED SURFACES MATCHING FINISH AND COLOR OF EXPOSED FACES OF ADJACENT UNITS:
   1. FOR ENDS OF SILLS AND CAPS AND FOR SIMILAR APPLICATIONS THAT WOULD OTHERWISE EXPOSE UNFINISHED BRICK SURFACES, PROVIDE UNITS WITHOUT CORES OR FROGS AND WITH EXPOSED SURFACES FINISHED.

B. CLAY FACE BRICK: FACING BRICK COMPLYING WITH ASTM C 216 OR HOLLOW BRICK COMPLYING WITH ASTM C 652, CLASS H40V (VOID AREAS BETWEEN 25 AND 40 PERCENT OF GROSS CROSS-SECTIONAL AREA).

2.6 MORTAR AND GROUT MATERIALS

A. PORTLAND CEMENT: ASTM C 150/C 150M, TYPE I OR II, EXCEPT TYPE III MAY BE USED FOR COLD-WEATHER CONSTRUCTION. PROVIDE NATURAL COLOR OR WHITE CEMENT AS REQUIRED TO PRODUCE MORTAR COLOR INDICATED.
   1. ALKALI CONTENT SHALL NOT BE MORE THAN 0.1 PERCENT WHEN TESTED ACCORDING TO ASTM C 114.

B. HYDRATED LIME: ASTM C 207, TYPE S.

C. PORTLAND CEMENT-LIME MIX: PACKAGED BLEND OF PORTLAND CEMENT AND HYDRATED LIME CONTAINING NO OTHER INGREDIENTS.

D. MASONRY CEMENT: ASTM C 91/C 91M.

E. COLORED CEMENT PRODUCTS: PACKAGED BLEND MADE FROM PORTLAND CEMENT AND HYDRATED LIME OR MASONRY CEMENT AND MORTAR PIGMENTS, ALL COMPLYING WITH SPECIFIED REQUIREMENTS, AND CONTAINING NO OTHER INGREDIENTS.

F. AGGREGATE FOR MORTAR: ASTM C 144.

G. AGGREGATE FOR GROUT: ASTM C 404.

H. COLD-WEATHER ADMIXTURE: NONCHLORIDE, NONCORROSIVE, ACCELERATING ADMIXTURE COMPLYING WITH ASTM C 494/C 494M, TYPE C, AND RECOMMENDED BY MANUFACTURER FOR USE IN MASONRY MORTAR OF COMPOSITION INDICATED.

I. WATER-REPELLENT ADMIXTURE: LIQUID WATER-REPELLENT MORTAR ADMIXTURE INTENDED FOR USE WITH CMUS CONTAINING INTEGRAL WATER REPELLENT FROM SAME MANUFACTURER.

J. WATER: POTABLE.

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
WAKE FOREST, NC
1005 STADIUM DR

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REVISIONS

#	DATE	TYPE
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SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

A-9.3
SHEET NO.

2.7 REINFORCEMENT

A. UNCOATED-STEEL REINFORCING BARS: ASTM A 615/A 615M OR ASTM A 996/A 996M, GRADE 60.

B. MASONRY-JOINT REINFORCEMENT, GENERAL: ASTM A 951/A 951M.

C. MASONRY-JOINT REINFORCEMENT FOR VENEERS ANCHORED WITH SEISMIC MASONRY-VENEER ANCHORS: SINGLE 0.187-INCH-DIAMETER, HOT-DIP GALVANIZED CARBON OR STAINLESS-STEEL CONTINUOUS WIRE.

2.8 TIES AND ANCHORS

A. GENERAL: TIES AND ANCHORS SHALL EXTEND AT LEAST 1-1/2 INCHES INTO VENEER BUT WITH AT LEAST A 5/8-INCH COVER ON OUTSIDE FACE.

B. MATERIALS: PROVIDE TIES AND ANCHORS SPECIFIED IN THIS ARTICLE THAT ARE MADE FROM MATERIALS THAT COMPLY WITH THE FOLLOWING UNLESS OTHERWISE INDICATED:

1. MILL-GALVANIZED, CARBON-STEEL WIRE: ASTM A 82/A 82M, WITH ASTM A 641/A 641M, CLASS 1 COATING.
2. HOT-DIP GALVANIZED, CARBON-STEEL WIRE: ASTM A 82/A 82M, WITH ASTM A 153/A 153M, CLASS B-2 COATING.
3. STEEL PLATES, SHAPES, AND BARS: ASTM A 36/A 36M.

C. ADJUSTABLE ANCHORS FOR CONNECTING TO STRUCTURAL STEEL FRAMING: PROVIDE ANCHORS THAT ALLOW VERTICAL OR HORIZONTAL ADJUSTMENT BUT RESIST TENSION AND COMPRESSION FORCES PERPENDICULAR TO PLANE OF WALL.

D. ADJUSTABLE MASONRY-VENEER ANCHORS:

1. GENERAL: PROVIDE ANCHORS THAT ALLOW VERTICAL ADJUSTMENT BUT RESIST A 100-LBF LOAD IN BOTH TENSION AND COMPRESSION PERPENDICULAR TO PLANE OF WALL WITHOUT DEFORMING OR DEVELOPING PLAY IN EXCESS OF 1/16 INCH.

2.9 EMBEDDED FLASHING MATERIALS

A. METAL FLASHING: PROVIDE METAL FLASHING COMPLYING WITH SMACNA'S "ARCHITECTURAL SHEET METAL MANUAL".

2.10 MISCELLANEOUS MASONRY ACCESSORIES

A. COMPRESSIBLE FILLER: PREMOLDED FILLER STRIPS COMPLYING WITH ASTM D 1056, GRADE 2A1; COMPRESSIBLE UP TO 35 PERCENT; OF WIDTH AND THICKNESS INDICATED; FORMULATED FROM NEOPRENE, URETHANE OR PVC.

B. PREFORMED CONTROL-JOINT GASKETS: MADE FROM STYRENE-BUTADIENE-RUBBER COMPOUND, COMPLYING WITH ASTM D 2000.

C. WEEP/CAVITY VENT PRODUCTS: USE ONE OF THE FOLLOWING UNLESS OTHERWISE INDICATED:

1. RECTANGULAR PLASTIC WEEP/VENT TUBING: CLEAR BUTYRATE, 3/8 BY 1-1/2 BY 3-1/2 INCHES LONG.
2. CELLULAR PLASTIC WEEP/VENT: ONE-PIECE, FLEXIBLE EXTRUSION MADE FROM UV-RESISTANT POLYPROPYLENE COPOLYMER, FULL HEIGHT AND WIDTH OF HEAD JOINT AND DEPTH 1/8 INCH LESS THAN DEPTH OF OUTER WYTHE, IN COLOR SELECTED FROM MANUFACTURER'S STANDARD.
3. MESH WEEP/VENT: FREE-DRAINING MESH; MADE FROM POLYETHYLENE STRANDS, FULL HEIGHT AND WIDTH OF HEAD JOINT AND DEPTH 1/8 INCH LESS THAN DEPTH OF OUTER WYTHE; IN COLOR SELECTED FROM MANUFACTURER'S STANDARD.

D. CAVITY DRAINAGE MATERIAL: FREE-DRAINING MESH, MADE FROM POLYMER STRANDS THAT WILL NOT DEGRADE WITHIN THE WALL CAVITY.

2.11 MASONRY CLEANERS

A. PROPRIETARY ACIDIC CLEANER: MANUFACTURER'S STANDARD-STRENGTH CLEANER DESIGNED FOR REMOVING MORTAR/GROUT STAINS, EFFLORESCENCE, AND OTHER NEW CONSTRUCTION STAINS FROM NEW MASONRY WITHOUT DISCOLORING OR DAMAGING MASONRY SURFACES. USE PRODUCT EXPRESSLY APPROVED FOR INTENDED USE BY CLEANER MANUFACTURER AND MANUFACTURER OF MASONRY UNITS BEING CLEANED.

2.12 MORTAR AND GROUT MIXES

A. GENERAL: DO NOT USE ADMIXTURES, INCLUDING PIGMENTS, AIR-ENTRAINING AGENTS, ACCELERATORS, RETARDERS, WATER-REPELLENT AGENTS, ANTIFREEZE COMPOUNDS, OR OTHER ADMIXTURES UNLESS OTHERWISE INDICATED.

1. DO NOT USE CALCIUM CHLORIDE IN MORTAR OR GROUT.

B. MORTAR FOR UNIT MASONRY: COMPLY WITH ASTM C 270

C. COLORED-AGGREGATE MORTAR: PRODUCE REQUIRED MORTAR COLOR BY USING COLORED AGGREGATES AND NATURAL COLOR OR WHITE CEMENT AS NECESSARY TO PRODUCE REQUIRED MORTAR COLOR.

D. GROUT FOR UNIT MASONRY: COMPLY WITH ASTM C 476.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. USE FULL-SIZE UNITS WITHOUT CUTTING IF POSSIBLE. IF CUTTING IS REQUIRED TO PROVIDE A CONTINUOUS PATTERN OR TO FIT ADJOINING CONSTRUCTION, CUT UNITS WITH MOTOR-DRIVEN SAWS; PROVIDE CLEAN, SHARP, UNCHIPPED EDGES. ALLOW UNITS TO DRY BEFORE LAYING UNLESS WETTING OF UNITS IS SPECIFIED. INSTALL CUT UNITS WITH CUT SURFACES AND, WHERE POSSIBLE, CUT EDGES CONCEALED.

B. WETTING OF BRICK: WET BRICK BEFORE LAYING IF INITIAL RATE OF ABSORPTION EXCEEDS 30 G/30 SQ. IN. PER MINUTE WHEN TESTED ACCORDING TO ASTM C 67. ALLOW UNITS TO ABSORB WATER SO THEY ARE DAMP BUT NOT WET AT TIME OF LAYING.

3.2 TOLERANCES

A. DIMENSIONS AND LOCATIONS OF ELEMENTS:

1. FOR DIMENSIONS IN CROSS SECTION OR ELEVATION, DO NOT VARY BY MORE THAN PLUS 1/2 INCH OR MINUS 1/4 INCH.
2. FOR LOCATION OF ELEMENTS IN PLAN, DO NOT VARY FROM THAT INDICATED BY MORE THAN PLUS OR MINUS 1/2 INCH.
3. FOR LOCATION OF ELEMENTS IN ELEVATION, DO NOT VARY FROM THAT INDICATED BY MORE THAN PLUS OR MINUS 1/4 INCH IN A STORY HEIGHT OR 1/2 INCH TOTAL.

3.3 LAYING MASONRY WALLS

A. LAY OUT WALLS IN ADVANCE FOR ACCURATE SPACING OF SURFACE BOND PATTERNS WITH UNIFORM JOINT THICKNESSES AND FOR ACCURATE LOCATION OF OPENINGS, MOVEMENT-TYPE JOINTS, RETURNS, AND OFFSETS. AVOID USING LESS-THAN-HALF-SIZE UNITS, PARTICULARLY AT CORNERS, JAMBS, AND, WHERE POSSIBLE, AT OTHER LOCATIONS.

B. BOND PATTERN FOR EXPOSED MASONRY: UNLESS OTHERWISE INDICATED, LAY EXPOSED MASONRY IN RUNNING BOND; DO NOT USE UNITS WITH LESS-THAN-NOMINAL 4-INCH HORIZONTAL FACE DIMENSIONS AT CORNERS OR JAMBS.

3.4 ANCHORED MASONRY VENEERS

A. ANCHOR MASONRY VENEERS TO WALL FRAMING WITH MASONRY-VENEER ANCHORS TO COMPLY WITH THE FOLLOWING REQUIREMENTS:

1. FASTEN SCREW-ATTACHED AND SEISMIC ANCHORS THROUGH SHEATHING TO WALL FRAMING WITH METAL FASTENERS OF TYPE INDICATED. USE TWO FASTENERS UNLESS ANCHOR DESIGN ONLY USES ONE FASTENER.
2. LOCATE ANCHOR SECTIONS TO ALLOW MAXIMUM VERTICAL DIFFERENTIAL MOVEMENT OF TIES UP AND DOWN.
3. SPACE ANCHORS AS INDICATED, BUT NOT MORE THAN 18 INCHES O.C. VERTICALLY AND 24 INCHES O.C. HORIZONTALLY, WITH NOT LESS THAN ONE ANCHOR FOR EACH 2 SQ. FT. OF WALL AREA. INSTALL ADDITIONAL ANCHORS WITHIN 12 INCHES OF OPENINGS AND AT INTERVALS, NOT EXCEEDING 8 INCHES, AROUND PERIMETER.
   a. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION, OR COMPLY WITH STRUCTURAL REQUIREMENTS IMPOSED BY WIND OR SEISMIC FORCES.

3.5 ANCHORING MASONRY TO STRUCTURAL STEEL AND CONCRETE

A. ANCHOR MASONRY TO STRUCTURAL STEEL AND CONCRETE, WHERE MASONRY ABUTS OR FACES STRUCTURAL STEEL OR CONCRETE, TO COMPLY WITH THE FOLLOWING:

1. PROVIDE AN OPEN SPACE NOT LESS THAN 1 INCH WIDE BETWEEN MASONRY AND STRUCTURAL STEEL OR CONCRETE UNLESS OTHERWISE INDICATED. KEEP OPEN SPACE FREE OF MORTAR AND OTHER RIGID MATERIALS.
2. ANCHOR MASONRY WITH ANCHORS EMBEDDED IN MASONRY JOINTS AND ATTACHED TO STRUCTURE.
3. SPACE ANCHORS AS INDICATED, BUT NOT MORE THAN 24 INCHES O.C. VERTICALLY AND 36 INCHES O.C. HORIZONTALLY.

3.6 FLASHING, WEEP HOLES, AND CAVITY VENTS

A. GENERAL: INSTALL EMBEDDED FLASHING AND WEEP HOLES IN MASONRY AT SHELF ANGLES, LINTELS, LEDGES, OTHER OBSTRUCTIONS TO DOWNWARD FLOW OF WATER IN WALL, AND WHERE INDICATED. INSTALL CAVITY VENTS AT SHELF ANGLES, LEDGES, AND OTHER OBSTRUCTIONS TO UPWARD FLOW OF AIR IN CAVITIES, AND WHERE INDICATED.

B. INSTALL FLASHING AS FOLLOWS UNLESS OTHERWISE INDICATED:

1. PREPARE MASONRY SURFACES SO THEY ARE SMOOTH AND FREE FROM PROJECTIONS THAT COULD PUNCTURE FLASHING. WHERE FLASHING IS WITHIN MORTAR JOINT, PLACE THROUGH-WALL FLASHING ON SLOPING BED OF MORTAR AND COVER WITH MORTAR. BEFORE COVERING WITH MORTAR, SEAL PENETRATIONS IN FLASHING WITH ADHESIVE, SEALANT, OR TAPE AS RECOMMENDED BY FLASHING MANUFACTURER.

C. INSTALL WEEP HOLES IN EXTERIOR WYTHES AND VENEERS IN HEAD JOINTS OF FIRST COURSE OF MASONRY IMMEDIATELY ABOVE EMBEDDED FLASHING.

1. USE SPECIFIED WEEP/CAVITY VENT PRODUCTS TO FORM WEEP HOLES.
2. SPACE WEEP HOLES 24 INCHES O.C. UNLESS OTHERWISE INDICATED.
3. COVER CAVITY SIDE OF WEEP HOLES WITH PLASTIC INSECT SCREENING AT CAVITIES INSULATED WITH LOOSE-FILL INSULATION.

D. PLACE CAVITY DRAINAGE MATERIAL IN AIRSPACE BEHIND VENEERS TO COMPLY WITH CONFIGURATION REQUIREMENTS FOR CAVITY DRAINAGE MATERIAL IN "MISCELLANEOUS MASONRY ACCESSORIES" ARTICLE.

E. INSTALL CAVITY VENTS IN HEAD JOINTS IN EXTERIOR WYTHES AT SPACING INDICATED. USE SPECIFIED WEEP/CAVITY VENT PRODUCTS OR OPEN HEAD JOINTS TO FORM CAVITY VENTS.

1. CLOSE CAVITIES OFF VERTICALLY AND HORIZONTALLY WITH BLOCKING IN MANNER INDICATED. INSTALL THROUGH-WALL FLASHING AND WEEP HOLES ABOVE HORIZONTAL BLOCKING.

3.7 FIELD QUALITY CONTROL

A. TESTING AND INSPECTING: OWNER WILL ENGAGE SPECIAL INSPECTORS TO PERFORM TESTS AND INSPECTIONS AND PREPARE REPORTS. ALLOW INSPECTORS ACCESS TO SCAFFOLDING AND WORK AREAS AS NEEDED TO PERFORM TESTS AND INSPECTIONS. RETESTING OF MATERIALS THAT FAIL TO COMPLY WITH SPECIFIED REQUIREMENTS SHALL BE DONE AT CONTRACTOR'S EXPENSE.

3.8 REPAIRING, POINTING, AND CLEANING

A. IN-PROGRESS CLEANING: CLEAN UNIT MASONRY AS WORK PROGRESSES BY DRY BRUSHING TO REMOVE MORTAR FINS AND SMEARS BEFORE TOOLING JOINTS.

B. FINAL CLEANING: AFTER MORTAR IS THOROUGHLY SET AND CURED, CLEAN EXPOSED MASONRY AS FOLLOWS:

1. REMOVE LARGE MORTAR PARTICLES BY HAND WITH WOODEN PADDLES AND NONMETALLIC SCRAPE HOES OR CHISELS.
2. TEST CLEANING METHODS ON SAMPLE WALL PANEL; LEAVE ONE-HALF OF PANEL UNCLEANED FOR COMPARISON PURPOSES.
3. PROTECT ADJACENT SURFACES FROM CONTACT WITH CLEANER.
4. WET WALL SURFACES WITH WATER BEFORE APPLYING CLEANERS; REMOVE CLEANERS PROMPTLY BY RINSING SURFACES THOROUGHLY WITH CLEAR WATER.
5. CLEAN BRICK BY BUCKET-AND-BRUSH HAND-CLEANING METHOD DESCRIBED IN BIA TECHNICAL NOTES 20.
6. CLEAN MASONRY WITH A PROPRIETARY ACIDIC CLEANER APPLIED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

END OF SECTION 042000

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. STEEL PIPE AND TUBE RAILINGS.

1.2 ACTION SUBMITTALS

A. SHOP DRAWINGS: INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. STRUCTURAL PERFORMANCE: RAILINGS, INCLUDING ATTACHMENT TO BUILDING CONSTRUCTION, SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND THE FOLLOWING LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS INDICATED:

1. HANDRAILS AND TOP RAILS OF GUARDS:
   a. UNIFORM LOAD OF 50 LBF/ FT. APPLIED IN ANY DIRECTION.
   b. CONCENTRATED LOAD OF 200 LBF APPLIED IN ANY DIRECTION.
   c. UNIFORM AND CONCENTRATED LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.
2. INFILL OF GUARDS:
   a. CONCENTRATED LOAD OF 50 LBF APPLIED HORIZONTALLY ON AN AREA OF 1 SQ. FT..
   b. INFILL LOAD AND OTHER LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.

2.2 STEEL AND IRON

A. TUBING: ASTM A 500 (COLD FORMED) OR ASTM A 513.

B. PIPE: ASTM A 53/A 53M, TYPE F OR TYPE S, GRADE A, STANDARD WEIGHT (SCHEDULE 40), UNLESS ANOTHER GRADE AND WEIGHT ARE REQUIRED BY STRUCTURAL LOADS.

C. PLATES, SHAPES, AND BARS: ASTM A 36/A 36M.

2.3 FASTENERS

A. GENERAL: PROVIDE THE FOLLOWING:

1. UNGALVANIZED-STEEL RAILINGS: PLATED STEEL FASTENERS COMPLYING WITH ASTM B 633 OR ASTM F 1941, CLASS FE/ZN 5 FOR ZINC COATING.

2.4 MISCELLANEOUS MATERIALS

A. WELDING RODS AND BARE ELECTRODES: SELECT ACCORDING TO AWS SPECIFICATIONS FOR METAL ALLOY WELDED.

B. UNIVERSAL SHOP PRIMER: FAST-CURING, LEAD- AND CHROMATE-FREE, UNIVERSAL MODIFIED-ALKYD PRIMER COMPLYING WITH MPI#79 AND COMPATIBLE WITH TOPCOAT.

C. NONSHRINK, NONMETALLIC GROUT: FACTORY-PACKAGED, NONSTAINING, NONCORROSIVE, NONGASEOUS GROUT COMPLYING WITH ASTM C 1107/C 1107M. PROVIDE GROUT SPECIFICALLY RECOMMENDED BY MANUFACTURER FOR INTERIOR AND EXTERIOR APPLICATIONS.

2.5 STEEL AND IRON FINISHES

A. PREPARATION FOR SHOP PRIMING: PREPARE UNCOATED FERROUS-METAL SURFACES TO COMPLY WITH SSPC-SP 3, "POWER TOOL CLEANING."

B. PRIMER APPLICATION: APPLY SHOP PRIMER TO PREPARED SURFACES OF RAILINGS UNLESS OTHERWISE INDICATED. COMPLY WITH REQUIREMENTS IN SSPC-PA 1, "SHOP, FIELD, AND MAINTENANCE PAINTING OF STEEL," FOR SHOP PAINTING. PRIMER NEED NOT BE APPLIED TO SURFACES TO BE EMBEDDED IN CONCRETE OR MASONRY.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. SET RAILINGS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION; MEASURED FROM ESTABLISHED LINES AND LEVELS AND FREE OF RACK.

1. DO NOT WELD, CUT, OR ABRADE SURFACES OF RAILING COMPONENTS THAT ARE COATED OR FINISHED AFTER FABRICATION AND THAT ARE INTENDED FOR FIELD CONNECTION BY MECHANICAL OR OTHER MEANS WITHOUT FURTHER CUTTING OR FITTING.
2. SET POSTS PLUMB WITHIN A TOLERANCE OF 1/16 INCH IN 3 FEET (2 MM IN 1 M).
3. ALIGN RAILS SO VARIATIONS FROM LEVEL FOR HORIZONTAL MEMBERS AND VARIATIONS FROM PARALLEL WITH RAKE OF STEPS AND RAMPS FOR SLOPING MEMBERS DO NOT EXCEED 1/4 INCH IN 12 FEET (6 MM IN 3.5 M).

B. CONTROL OF CORROSION: PREVENT GALVANIC ACTION AND OTHER FORMS OF CORROSION BY INSULATING METALS AND OTHER MATERIALS FROM DIRECT CONTACT WITH INCOMPATIBLE MATERIALS.

3.2 ANCHORING POSTS

A. FORM OR CORE-DRILL HOLES NOT LESS THAN 5 INCHES (125 MM) DEEP AND 3/4 INCH (20 MM) LARGER THAN OD OF POST FOR INSTALLING POSTS IN CONCRETE. CLEAN HOLES OF LOOSE MATERIAL, INSERT POSTS, AND FILL ANNULAR SPACE BETWEEN POST AND CONCRETE WITH NONSHRINK, NONMETALLIC GROUT, MIXED AND PLACED TO COMPLY WITH ANCHORING MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS.

3.3 ATTACHING RAILINGS

A. ATTACH RAILINGS TO WALL WITH WALL BRACKETS, EXCEPT WHERE END FLANGES ARE USED. LOCATE BRACKETS AS INDICATED OR, IF NOT INDICATED, AT SPACING REQUIRED TO SUPPORT STRUCTURAL LOADS.

B. SECURE WALL BRACKETS AND RAILING END FLANGES TO BUILDING CONSTRUCTION AS FOLLOWS:

1. FOR CONCRETE AND SOLID MASONRY ANCHORAGE, USE DRILLED-IN EXPANSION SHIELDS AND HANGER OR LAG BOLTS.
2. FOR HOLLOW MASONRY ANCHORAGE, USE TOGGLE BOLTS.
3. FOR WOOD STUD PARTITIONS, USE HANGER OR LAG BOLTS SET INTO STUDS OR WOOD BACKING BETWEEN STUDS. COORDINATE WITH CARPENTRY WORK TO LOCATE BACKING MEMBERS.
4. FOR STEEL-FRAMED PARTITIONS, USE SELF-TAPPING SCREWS FASTENED TO STEEL FRAMING OR TO CONCEALED STEEL REINFORCEMENTS.

3.4 ADJUSTING AND CLEANING

A. TOUCHUP PAINTING: IMMEDIATELY AFTER ERECTION, CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS OF SHOP PAINT, AND PAINT EXPOSED AREAS WITH THE SAME MATERIAL AS USED FOR SHOP PAINTING TO COMPLY WITH SSPC-PA 1 REQUIREMENTS FOR TOUCHING UP SHOP-PAINTED SURFACES.

END OF SECTION 055213

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES THE FOLLOWING:

1. FRAMING WITH DIMENSION LUMBER.
2. FRAMING WITH ENGINEERED WOOD PRODUCTS.
3. WOOD BLOCKING AND NAILERS.
4. WOOD FURRING AND SLEEPERS.
5. PLYWOOD BACKING PANELS.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. LUMBER: DOC PS 20 AND APPLICABLE RULES OF GRADING AGENCIES INDICATED. IF NO GRADING AGENCY IS INDICATED, PROVIDE LUMBER THAT COMPLIES WITH THE APPLICABLE RULES OF ANY RULES-WRITING AGENCY CERTIFIED BY THE ALSC BOARD OF REVIEW. PROVIDE LUMBER GRADED BY AN AGENCY CERTIFIED BY THE ALSC BOARD OF REVIEW TO INSPECT AND GRADE LUMBER UNDER THE RULES INDICATED.

B. ENGINEERED WOOD PRODUCTS: PROVIDE ENGINEERED WOOD PRODUCTS ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION AND FOR WHICH CURRENT MODEL CODE RESEARCH OR EVALUATION REPORTS EXIST THAT SHOW COMPLIANCE WITH BUILDING CODE IN EFFECT FOR PROJECT.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. PRESERVATIVE TREATMENT BY PRESSURE PROCESS: AWPA C2, EXCEPT THAT LUMBER THAT IS NOT IN CONTACT WITH THE GROUND AND IS CONTINUOUSLY PROTECTED FROM LIQUID WATER MAY BE TREATED ACCORDING TO AWPA C31 WITH INORGANIC BORON (SBX).

B. KILN-DRY LUMBER AFTER TREATMENT TO A MAXIMUM MOISTURE CONTENT OF 19 PERCENT.

2.3 DIMENSION LUMBER FRAMING

A. MAXIMUM MOISTURE CONTENT: 19 PERCENT.

B. NON-LOAD-BEARING INTERIOR PARTITIONS: CONSTRUCTION OR NO. 2 GRADE SPRUCE-PINE-FIR OR APPROVED STRUCTURAL EQUIVALENT.

C. SIZES 2" THICK X 5" AND WIDER SHALL BE NO. 1 DOUGLAS FIR LARCH OR NO. 1 SOUTHERN PINE OR APPROVED EQUAL WITH THE FOLLOWING MINIMUM DESIGN VALUES:

1. FB = 1,000 PSI
2. E = 1,700,000 PSI
3. FV = 90 PSI
4. FC = 565 PSI (PERPENDICULAR TO GRAIN)
5. FC = 1,500 PSI (PARALLEL TO GRAIN)

D. SIZES 2" THICK X 4" WIDE SHALL BE CONSTRUCTION GRADE HEM-FIR OR APPROVED EQUAL WITH THE FOLLOWING MINIMUM DESIGN VALUES:

1. FB = 975 PSI
2. E = 1,300,000 PSI
3. FV = 75 PSI
4. FC = 405 PSI (PERPENDICULAR TO GRAIN)
5. FC = 1,550 PSI (PARALLEL TO GRAIN)

2.4 ENGINEERED WOOD PRODUCTS

A. ENGINEERED WOOD PRODUCTS, GENERAL: PRODUCTS SHALL CONTAIN NO UREA FORMALDEHYDE.

B. LAMINATED-VENEER LUMBER: STRUCTURAL COMPOSITE LUMBER MADE FROM WOOD VENEERS WITH GRAIN PRIMARILY PARALLEL TO MEMBER LENGTHS, EVALUATED AND MONITORED ACCORDING TO ASTM D 5456 AND MANUFACTURED WITH AN EXTERIOR-TYPE ADHESIVE COMPLYING WITH ASTM D 2559.

1. EXTREME FIBER STRESS IN BENDING, EDGEWISE: 2900 PSI FOR 12-INCH NOMINAL- DEPTH MEMBERS.
2. MODULUS OF ELASTICITY, EDGEWISE: 2,000,000 PSI.

C. WOOD I-JOISTS: PREFABRICATED UNITS, I-SHAPED IN CROSS SECTION, MADE WITH SOLID OR STRUCTURAL COMPOSITE LUMBER FLANGES AND WOOD-BASED STRUCTURAL PANEL WEBS, LET INTO AND BONDED TO FLANGES. PROVIDE UNITS COMPLYING WITH MATERIAL REQUIREMENTS OF AND WITH STRUCTURAL CAPACITIES ESTABLISHED AND MONITORED ACCORDING TO ASTM D 5055.

D. RIM BOARDS: PRODUCT DESIGNED TO BE USED AS A LOAD-BEARING MEMBER AND TO BRACE WOOD I-JOISTS AT BEARING ENDS, COMPLYING WITH RESEARCH/EVALUATION REPORT FOR I-JOISTS.

2.5 MISCELLANEOUS LUMBER

A. GENERAL: PROVIDE MISCELLANEOUS LUMBER INDICATED AND LUMBER FOR SUPPORT OR ATTACHMENT OF OTHER CONSTRUCTION, INCLUDING THE FOLLOWING:

1. BLOCKING.
2. NAILERS.
3. CANTS.
4. FURRING.

B. FOR ITEMS OF DIMENSION LUMBER SIZE, PROVIDE STANDARD, STUD, OR NO. 3 GRADE LUMBER WITH 19 PERCENT MAXIMUM MOISTURE CONTENT OF ANY SPECIES.

C. FOR CONCEALED BOARDS, PROVIDE LUMBER WITH 19 PERCENT MAXIMUM MOISTURE CONTENT AND ANY OF THE FOLLOWING SPECIES AND GRADES:

1. MIXED SOUTHERN PINE, NO. 2 GRADE; SPIB.
2. EASTERN SOFTWOODS, NO. 2 COMMON GRADE; NELMA.
3. NORTHERN SPECIES, NO. 2 COMMON GRADE; NLGA.
4. WESTERN WOODS, CONSTRUCTION OR NO. 2 COMMON GRADE; WCLIB OR WWPA.

2.6 PLYWOOD BACKING PANELS

A. TELEPHONE AND ELECTRICAL EQUIPMENT BACKING PANELS: DOC PS 1, EXTERIOR, AC, IN THICKNESS INDICATED OR, IF NOT INDICATED, NOT LESS THAN 3/4-INCH NOMINAL THICKNESS.

2.7 FASTENERS

A. GENERAL: PROVIDE FASTENERS OF SIZE AND TYPE INDICATED THAT COMPLY WITH REQUIREMENTS SPECIFIED.

1. WHERE ROUGH CARPENTRY IS EXPOSED TO WEATHER, IN GROUND CONTACT, PRESSURE-PRESERVATIVE TREATED, OR IN AREA OF HIGH RELATIVE HUMIDITY, PROVIDE FASTENERS WITH HOT-DIP ZINC COATING COMPLYING WITH ASTM A 153/A 153M.

B. POWER-DRIVEN FASTENERS: NES NER-272.

C. BOLTS: STEEL BOLTS COMPLYING WITH ASTM A 307, GRADE A; WITH ASTM A 563 HEX NUTS AND, WHERE INDICATED, FLAT WASHERS.

2.8 METAL FRAMING ANCHORS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:

1. SIMPSON STRONG-TIE CO., INC.

B. ALLOWABLE DESIGN LOADS: PROVIDE PRODUCTS WITH ALLOWABLE DESIGN LOADS, AS PUBLISHED BY MANUFACTURER, THAT MEET OR EXCEED THOSE OF PRODUCTS OF MANUFACTURER LISTED. MANUFACTURER'S PUBLISHED VALUES SHALL BE DETERMINED FROM EMPIRICAL DATA OR BY RATIONAL ENGINEERING ANALYSIS AND DEMONSTRATED BY COMPREHENSIVE TESTING PERFORMED BY A QUALIFIED INDEPENDENT TESTING AGENCY.

PART 3 - EXECUTION

3.1 INSTALLATION

A. SET ROUGH CARPENTRY TO REQUIRED LEVELS AND LINES, WITH MEMBERS PLUMB, TRUE TO LINE, CUT, AND FITTED. FIT ROUGH CARPENTRY TO OTHER CONSTRUCTION; SCRIBE AND COPE AS NEEDED FOR ACCURATE FIT. LOCATE FURRING, NAILERS, BLOCKING, AND SIMILAR SUPPORTS TO COMPLY WITH REQUIREMENTS FOR ATTACHING OTHER CONSTRUCTION.

B. WHERE WOOD-PRESERVATIVE-TREATED LUMBER IS INSTALLED ADJACENT TO METAL DECKING, INSTALL CONTINUOUS FLEXIBLE FLASHING SEPARATOR BETWEEN WOOD AND METAL DECKING.

C. FRAMING STANDARD: COMPLY WITH AF&PA'S "DETAILS FOR CONVENTIONAL WOOD FRAME CONSTRUCTION," UNLESS OTHERWISE INDICATED.

D. FRAMING WITH ENGINEERED WOOD PRODUCTS: INSTALL ENGINEERED WOOD PRODUCTS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

E. METAL FRAMING ANCHORS: INSTALL METAL FRAMING TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

F. DO NOT SPLICE STRUCTURAL MEMBERS BETWEEN SUPPORTS, UNLESS OTHERWISE INDICATED.

G. COMPLY WITH AWPA M4 FOR APPLYING FIELD TREATMENT TO CUT SURFACES OF PRESERVATIVE-TREATED LUMBER.

H. SECURELY ATTACH ROUGH CARPENTRY WORK TO SUBSTRATE BY ANCHORING AND FASTENING AS INDICATED, COMPLYING WITH THE FOLLOWING:

1. NES NER-272 FOR POWER-DRIVEN FASTENERS.
2. TABLE 2304.9.1, "FASTENING SCHEDULE," IN ICC'S INTERNATIONAL BUILDING CODE.

END OF SECTION 061000

SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. WALL SHEATHING.
2. SHEATHING JOINT AND PENETRATION TREATMENT.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS

A. PLYWOOD: DOC PS 2.

B. ORIENTED STRAND BOARD: DOC PS 2.

2.2 WALL SHEATHING

A. PLYWOOD WALL SHEATHING: EXTERIOR, STRUCTURAL I SHEATHING.

B. ORIENTED-STRAND-BOARD WALL SHEATHING: EXPOSURE 1, STRUCTURAL I SHEATHING.

C. GLASS-MAT GYPSUM WALL SHEATHING: ASTM C 1177/1177M.

1. TYPE AND THICKNESS: TYPE X, 5/8 INCH THICK.
2. GP DENSGLASS

2.3 FASTENERS

A. GENERAL: PROVIDE FASTENERS OF SIZE AND TYPE INDICATED THAT COMPLY WITH REQUIREMENTS SPECIFIED IN THIS ARTICLE FOR MATERIAL AND MANUFACTURE.

1. FOR ROOF AND WALL SHEATHING, PROVIDE FASTENERS WITH HOT-DIP ZINC COATING COMPLYING WITH ASTM A 153/A 153M.

2.4 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIALS

A. SEALANT FOR GLASS-MAT GYPSUM SHEATHING: SILICONE EMULSION SEALANT COMPLYING WITH ASTM C 834, COMPATIBLE WITH SHEATHING TAPE AND SHEATHING AND RECOMMENDED BY TAPE AND SHEATHING MANUFACTURERS FOR USE WITH GLASS-FIBER SHEATHING TAPE AND FOR COVERING EXPOSED FASTENERS.

1. SHEATHING TAPE: SELF-ADHERING GLASS-FIBER TAPE, MINIMUM 2 INCHES WIDE, 10 BY 10 OR 10 BY 20 THREADS/INCH, OF TYPE RECOMMENDED BY SHEATHING AND TAPE MANUFACTURERS FOR USE WITH SILICONE EMULSION SEALANT IN SEALING JOINTS IN GLASS-MAT GYPSUM SHEATHING AND WITH A HISTORY OF SUCCESSFUL IN-SERVICE USE.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. DO NOT USE MATERIALS WITH DEFECTS THAT IMPAIR QUALITY OF SHEATHING OR PIECES THAT ARE TOO SMALL TO USE WITH MINIMUM NUMBER OF JOINTS OR OPTIMUM JOINT ARRANGEMENT. ARRANGE JOINTS SO THAT PIECES DO NOT SPAN BETWEEN FEWER THAN THREE SUPPORT MEMBERS.

B. SECURELY ATTACH TO SUBSTRATE BY FASTENING AS INDICATED, COMPLYING WITH THE FOLLOWING:

1. NES NER-272 FOR POWER-DRIVEN FASTENERS.
2. TABLE 2304.9.1, "FASTENING SCHEDULE," IN ICC'S "INTERNATIONAL BUILDING CODE."

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR WAKE FOREST, NC

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REVISIONS

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1	03/18/2026	PERMIT SET
2		
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SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

A-9.4

SHEET NO.

C. COORDINATE WALL SHEATHING INSTALLATION WITH FLASHING AND JOINT-SEALANT INSTALLATION SO THESE MATERIALS ARE INSTALLED IN SEQUENCE AND MANNER THAT PREVENT EXTERIOR MOISTURE FROM PASSING THROUGH COMPLETED ASSEMBLY.

D. DO NOT BRIDGE BUILDING EXPANSION JOINTS; CUT AND SPACE EDGES OF PANELS TO MATCH SPACING OF STRUCTURAL SUPPORT ELEMENTS.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

A. GENERAL: COMPLY WITH APPLICABLE RECOMMENDATIONS IN APA FORM NO. E30, "ENGINEERED WOOD CONSTRUCTION GUIDE," FOR TYPES OF STRUCTURAL-USE PANELS AND APPLICATIONS INDICATED.

B. FASTENING METHODS: FASTEN PANELS AS INDICATED BELOW:

1. WALL AND ROOF SHEATHING:
   a. NAIL TO WOOD FRAMING. APPLY A CONTINUOUS BEAD OF GLUE TO FRAMING MEMBERS AT EDGES OF WALL SHEATHING PANELS.
   b. SPACE PANELS 1/8 INCH APART AT EDGES AND ENDS.

3.3 GYPSUM SHEATHING INSTALLATION

A. COMPLY WITH GA-253 AND WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

B. SEAL SHEATHING JOINTS ACCORDING TO SHEATHING MANUFACTURER'S WRITTEN INSTRUCTIONS.

END OF SECTION 061600

SECTION 061753 - SHOP-FABRICATED WOOD TRUSSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:

1. WOOD ROOF TRUSSES.
2. WOOD GIRDER TRUSSES.
3. WOOD TRUSS BRACING.
4. METAL TRUSS ACCESSORIES.

B. RELATED REQUIREMENTS:

1. SECTION 061600 "SHEATHING" FOR ROOF SHEATHING AND SUBFLOORING.
2. SECTION 313116 "TERMITE CONTROL" FOR SITE APPLICATION OF BORATE TREATMENT TO WOOD TRUSSES.

1.3 ALLOWANCES

A. PROVIDE WOOD TRUSS BRACING UNDER THE METAL-PLATE-CONNECTED TRUSS BRACING ALLOWANCE AS SPECIFIED IN SECTION 012100 "ALLOWANCES."

1.4 DEFINITIONS

A. METAL-PLATE-CONNECTED WOOD TRUSSES: PLANAR STRUCTURAL UNITS CONSISTING OF METAL-PLATE-CONNECTED MEMBERS FABRICATED FROM DIMENSION LUMBER AND CUT AND ASSEMBLED BEFORE DELIVERY TO PROJECT SITE.

B. TYPES OF PREFABRICATED WOOD TRUSSES INCLUDE:

1. GABLE-SHAPED TRUSSES.
2. MONOPITCH TRUSSES.
3. FLAT-TOP TRUSSES.

1.5 ACTION SUBMITTALS

A. SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION DETAILS FOR TRUSSES.

1. SHOW LOCATION, PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED.
2. INDICATE SIZES, STRESS GRADES, AND SPECIES OF LUMBER.
3. INDICATE LOCATIONS OF PERMANENT BRACING REQUIRED TO PREVENT BUCKLING OF INDIVIDUAL TRUSS MEMBERS DUE TO DESIGN LOADS.
4. INDICATE LOCATIONS, SIZES, AND MATERIALS FOR PERMANENT BRACING REQUIRED TO PREVENT BUCKLING OF INDIVIDUAL TRUSS MEMBERS DUE TO DESIGN LOADS.
5. INDICATE TYPE, SIZE, MATERIAL, FINISH, DESIGN VALUES, ORIENTATION, AND LOCATION OF METAL CONNECTOR PLATES.
6. SHOW SPLICE DETAILS AND BEARING DETAILS.

B. DELEGATED-DESIGN SUBMITTAL: FOR METAL-PLATE-CONNECTED WOOD TRUSSES INDICATED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

1.6 INFORMATIONAL SUBMITTALS

A. QUALIFICATION DATA: FOR METAL CONNECTOR-PLATE MANUFACTURER AND FABRICATOR.

B. MATERIAL CERTIFICATES: FOR DIMENSION LUMBER SPECIFIED TO COMPLY WITH MINIMUM SPECIFIC GRAVITY. INDICATE SPECIES AND GRADE SELECTED FOR EACH USE AND SPECIFIC GRAVITY.

C. PRODUCT CERTIFICATES: FOR METAL-PLATE-CONNECTED WOOD TRUSSES, SIGNED BY OFFICER OF TRUSS FABRICATING FIRM.

D. EVALUATION REPORTS: FOR THE FOLLOWING, FROM ICC-ES:

1. METAL-PLATE CONNECTORS.
2. METAL TRUSS ACCESSORIES.

1.7 QUALITY ASSURANCE

A. METAL CONNECTOR-PLATE MANUFACTURER QUALIFICATIONS: A MANUFACTURER THAT IS A MEMBER OF TPI AND THAT COMPLIES WITH QUALITY-CONTROL PROCEDURES IN TPI 1 FOR MANUFACTURE OF CONNECTOR PLATES.

1. MANUFACTURER'S RESPONSIBILITIES INCLUDE PROVIDING PROFESSIONAL ENGINEERING SERVICES NEEDED TO ASSUME ENGINEERING RESPONSIBILITY.
2. ENGINEERING RESPONSIBILITY: PREPARATION OF SHOP DRAWINGS AND COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER.

B. FABRICATOR QUALIFICATIONS: SHOP THAT PARTICIPATES IN A RECOGNIZED QUALITY-ASSURANCE PROGRAM THAT COMPLIES WITH QUALITY-CONTROL PROCEDURES IN TPI 1 AND THAT INVOLVES THIRD-PARTY INSPECTION BY AN INDEPENDENT TESTING AND INSPECTING AGENCY ACCEPTABLE TO ARCHITECT AND AUTHORITIES HAVING JURISDICTION.

C. TESTING AGENCY QUALIFICATIONS: FOR TESTING AGENCY PROVIDING CLASSIFICATION MARKING FOR FIRE-RETARDANT TREATED MATERIAL, AN INSPECTION AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION THAT PERIODICALLY PERFORMS INSPECTIONS TO VERIFY THAT THE MATERIAL BEARING THE CLASSIFICATION MARKING IS REPRESENTATIVE OF THE MATERIAL TESTED.

1.8 DELIVERY, STORAGE, AND HANDLING

A. HANDLE AND STORE TRUSSES TO COMPLY WITH RECOMMENDATIONS IN TPI BCSI, "BUILDING COMPONENT SAFETY INFORMATION: GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING, & BRACING METAL PLATE CONNECTED WOOD TRUSSES."

1. STORE TRUSSES FLAT, OFF OF GROUND, AND ADEQUATELY SUPPORTED TO PREVENT LATERAL BENDING.
2. PROTECT TRUSSES FROM WEATHER BY COVERING WITH WATERPROOF SHEETING, SECURELY ANCHORED.
3. PROVIDE FOR AIR CIRCULATION AROUND STACKS AND UNDER COVERINGS.

B. INSPECT TRUSSES SHOWING DISCOLORATION, CORROSION, OR OTHER EVIDENCE OF DETERIORATION. DISCARD AND REPLACE TRUSSES THAT ARE DAMAGED OR DEFECTIVE.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. DELEGATED DESIGN: ENGAGE A QUALIFIED PROFESSIONAL ENGINEER, AS DEFINED IN SECTION 014000 "QUALITY REQUIREMENTS," TO DESIGN METAL-PLATE-CONNECTED WOOD TRUSSES.

B. STRUCTURAL PERFORMANCE: PROVIDE METAL-PLATE-CONNECTED WOOD TRUSSES CAPABLE OF WITHSTANDING DESIGN LOADS WITHIN LIMITS AND UNDER CONDITIONS INDICATED. COMPLY WITH REQUIREMENTS IN TPI 1 UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED BELOW.

1. DESIGN LOADS: AS INDICATED.
2. MAXIMUM DEFLECTION UNDER DESIGN LOADS:
   a. ROOF TRUSSES: VERTICAL DEFLECTION OF 1/240 OF SPAN.
   b. FLOOR TRUSSES: FOR DEFLECTION REQUIREMENTS SEE DRAWINGS.

C. COMPLY WITH APPLICABLE REQUIREMENTS AND RECOMMENDATIONS OF THE FOLLOWING PUBLICATIONS:

1. TPI 1, "NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION."
2. TPI DSB, "RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."
3. TPI BCSI, "BUILDING COMPONENT SAFETY INFORMATION: GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING, & BRACING METAL PLATE CONNECTED WOOD TRUSSES."

D. WOOD STRUCTURAL DESIGN STANDARD: COMPLY WITH APPLICABLE REQUIREMENTS IN AF&PA'S "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION" AND ITS "SUPPLEMENT."

2.2 DIMENSION LUMBER

A. LUMBER: DOC PS 20 AND APPLICABLE RULES OF GRADING AGENCIES INDICATED. IF NO GRADING AGENCY IS INDICATED, PROVIDE LUMBER THAT COMPLIES WITH THE APPLICABLE RULES OF ANY RULES WRITING AGENCY CERTIFIED BY THE ALSC BOARD OF REVIEW. PROVIDE LUMBER GRADED BY AN AGENCY CERTIFIED BY THE ALSC BOARD OF REVIEW TO INSPECT AND GRADE LUMBER UNDER THE RULES INDICATED.

1. FACTORY MARK EACH PIECE OF LUMBER WITH GRADE STAMP OF GRADING AGENCY.
2. FOR EXPOSED LUMBER INDICATED TO RECEIVE A STAINED OR NATURAL FINISH, OMIT GRADE STAMP AND PROVIDE CERTIFICATES OF GRADE COMPLIANCE ISSUED BY GRADING AGENCY.
3. PROVIDE DRESSED LUMBER, S4S.
4. PROVIDE DRY LUMBER WITH 15 PERCENT MAXIMUM MOISTURE CONTENT AT TIME OF DRESSING.

B. PERMANENT BRACING: PROVIDE WOOD BRACING THAT COMPLIES WITH REQUIREMENTS FOR MISCELLANEOUS LUMBER IN SECTION 061000 "ROUGH CARPENTRY."

2.3 METAL CONNECTOR PLATES

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

1. ALPINE ENGINEERED PRODUCTS, INC.; A DIVISION OF ITW BUILDING COMPONENTS GROUP, INC.
2. CHEROKEE METAL PRODUCTS, INC.; MASENGILL MACHINERY COMPANY.
3. COMPUTRUS, INC.
4. EAGLE METAL PRODUCTS.
5. JAGER BUILDING SYSTEMS, INC.
6. MITEK INDUSTRIES, INC.
7. ROBBINS ENGINEERING, INC.
8. TRUSWAL SYSTEMS CORPORATION.

B. SOURCE LIMITATIONS: OBTAIN METAL CONNECTOR PLATES FROM SINGLE MANUFACTURER.

C. GENERAL: FABRICATE CONNECTOR PLATES TO COMPLY WITH TPI 1.

D. HOT-DIP GALVANIZED-STEEL SHEET: ASTM A 653/A 653M; STRUCTURAL STEEL (SS), HIGH-STRENGTH LOW-ALLOY STEEL TYPE A (HSLAS TYPE A), OR HIGH-STRENGTH LOW-ALLOY STEEL TYPE B (HSLAS TYPE B); G60 COATING DESIGNATION; AND NOT LESS THAN 0.036 INCH THICK.

1. USE FOR INTERIOR LOCATIONS UNLESS OTHERWISE INDICATED.

E. HOT-DIP HEAVY-GALVANIZED-STEEL SHEET: ASTM A 653/A 653M; STRUCTURAL STEEL (SS), HIGH-STRENGTH LOW-ALLOY STEEL TYPE A (HSLAS TYPE A), OR HIGH-STRENGTH LOW-ALLOY STEEL TYPE B (HSLAS TYPE B); G185 COATING DESIGNATION; AND NOT LESS THAN 0.036 INCH THICK.

1. USE FOR WOOD-PRESERVATIVE-TREATED LUMBER AND WHERE INDICATED.

2.4 FASTENERS

A. GENERAL: PROVIDE FASTENERS OF SIZE AND TYPE INDICATED THAT COMPLY WITH REQUIREMENTS SPECIFIED IN THIS ARTICLE FOR MATERIAL AND MANUFACTURE.

1. PROVIDE FASTENERS FOR USE WITH METAL FRAMING ANCHORS THAT COMPLY WITH WRITTEN RECOMMENDATIONS OF METAL FRAMING MANUFACTURER.

B. NAILS, BRADS, AND STAPLES: ASTM F 1667.

2.5 METAL FRAMING ANCHORS AND ACCESSORIES

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

1. CLEVELAND STEEL SPECIALTY CO.
2. KC METALS PRODUCTS, INC.
3. PHOENIX METAL PRODUCTS, INC.
4. SIMPSON STRONG-TIE CO., INC.
5. USP STRUCTURAL CONNECTORS.

B. ALLOWABLE DESIGN LOADS: PROVIDE PRODUCTS WITH ALLOWABLE DESIGN LOADS, AS PUBLISHED BY MANUFACTURER THAT MEET OR EXCEED THOSE INDICATED. MANUFACTURER'S PUBLISHED VALUES SHALL BE DETERMINED FROM EMPIRICAL DATA OR BY RATIONAL ENGINEERING ANALYSIS AND DEMONSTRATED BY COMPREHENSIVE TESTING PERFORMED BY A QUALIFIED INDEPENDENT TESTING AGENCY.

C. GALVANIZED-STEEL SHEET: HOT-DIP, ZINC-COATED STEEL SHEET COMPLYING WITH ASTM A 653/A 653M, G60 COATING DESIGNATION.

1. USE FOR INTERIOR LOCATIONS UNLESS OTHERWISE INDICATED.

2.6 MISCELLANEOUS MATERIALS

A. GALVANIZING REPAIR PAINT: SSPC-PAINT 20, WITH DRY FILM CONTAINING A MINIMUM OF 94 PERCENT ZINC DUST BY WEIGHT.

2.7 FABRICATION

A. CUT TRUSS MEMBERS TO ACCURATE LENGTHS, ANGLES, AND SIZES TO PRODUCE CLOSE-FITTING JOINTS.

B. FABRICATE METAL CONNECTOR PLATES TO SIZES, CONFIGURATIONS, THICKNESSES, AND ANCHORAGE DETAILS REQUIRED TO WITHSTAND DESIGN LOADS FOR TYPES OF JOINT DESIGNS INDICATED.

C. ASSEMBLE TRUSS MEMBERS IN DESIGN CONFIGURATION INDICATED; USE JIGS OR OTHER MEANS TO ENSURE UNIFORMITY AND ACCURACY OF ASSEMBLY WITH JOINTS CLOSELY FITTED TO COMPLY WITH TOLERANCES IN TPI 1. POSITION MEMBERS TO PRODUCE DESIGN CAMBER INDICATED.

1. FABRICATE WOOD TRUSSES WITHIN MANUFACTURING TOLERANCES IN TPI 1.

D. CONNECT TRUSS MEMBERS BY METAL CONNECTOR PLATES LOCATED AND SECURELY EMBEDDED SIMULTANEOUSLY IN BOTH SIDES OF WOOD MEMBERS BY AIR OR HYDRAULIC PRESS.

2.8 SOURCE QUALITY CONTROL

A. SPECIAL INSPECTIONS: OWNER WILL ENGAGE A QUALIFIED SPECIAL INSPECTOR TO PERFORM SPECIAL INSPECTIONS.

1. PROVIDE SPECIAL INSPECTOR WITH ACCESS TO FABRICATOR'S DOCUMENTATION OF DETAILED FABRICATION AND QUALITY-CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS.
2. PROVIDE SPECIAL INSPECTOR WITH ACCESS TO PLACES WHERE WOOD TRUSSES ARE BEING FABRICATED TO PERFORM INSPECTIONS.

B. CORRECT DEFICIENCIES IN WORK THAT SPECIAL INSPECTIONS INDICATE DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL WOOD TRUSSES ONLY AFTER SUPPORTING CONSTRUCTION IS IN PLACE AND IS BRACED AND SECURED.

B. IF TRUSSES ARE DELIVERED TO PROJECT SITE IN MORE THAN ONE PIECE, ASSEMBLE TRUSSES BEFORE INSTALLING.

C. HOIST TRUSSES IN PLACE BY LIFTING EQUIPMENT SUITED TO SIZES AND TYPES OF TRUSSES REQUIRED, EXERCISING CARE NOT TO DAMAGE TRUSS MEMBERS OR JOINTS BY OUT-OF-PLANE BENDING OR OTHER CAUSES.

D. INSTALL AND BRACE TRUSSES ACCORDING TO TPI RECOMMENDATIONS AND AS INDICATED.

E. INSTALL TRUSSES PLUMB, SQUARE, AND TRUE TO LINE AND SECURELY FASTEN TO SUPPORTING CONSTRUCTION.

F. SPACE TRUSSES AS INDICATED; ADJUST AND ALIGN TRUSSES IN LOCATION BEFORE PERMANENTLY FASTENING.

G. ANCHOR TRUSSES SECURELY AT BEARING POINTS; USE METAL TRUSS TIE-DOWNS OR FLOOR TRUSS HANGERS AS APPLICABLE. INSTALL FASTENERS THROUGH EACH FASTENER HOLE IN METAL FRAMING ANCHORS ACCORDING TO MANUFACTURER'S FASTENING SCHEDULES AND WRITTEN INSTRUCTIONS.

H. SECURELY CONNECT EACH TRUSS PLY REQUIRED FOR FORMING BUILT-UP GIRDER TRUSSES.

1. ANCHOR TRUSSES TO GIRDER TRUSSES AS INDICATED.

I. INSTALL AND FASTEN PERMANENT BRACING DURING TRUSS ERECTION AND BEFORE CONSTRUCTION LOADS ARE APPLIED. ANCHOR ENDS OF PERMANENT BRACING WHERE TERMINATING AT WALLS OR BEAMS.

1. INSTALL BRACING TO COMPLY WITH SECTION 061000 "ROUGH CARPENTRY."
2. INSTALL AND FASTEN STRONGBACK BRACING VERTICALLY AGAINST VERTICAL WEB OF PARALLEL-CHORD FLOOR TRUSSES AT CENTERS INDICATED.

J. INSTALL WOOD TRUSSES WITHIN INSTALLATION TOLERANCES IN TPI 1.

K. DO NOT ALTER TRUSSES IN FIELD. DO NOT CUT, DRILL, NOTCH, OR REMOVE TRUSS MEMBERS.

L. REPLACE WOOD TRUSSES THAT ARE DAMAGED OR DO NOT MEET REQUIREMENTS.

1. DAMAGED TRUSSES MAY BE REPAIRED ACCORDING TO TRUSS REPAIR DETAILS SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR TRUSS DESIGN, WHEN APPROVED BY ARCHITECT.

3.2 REPAIRS AND PROTECTION

A. PROTECT WOOD THAT HAS BEEN TREATED WITH INORGANIC BORON (SBX) FROM WEATHER. IF, DESPITE PROTECTION, INORGANIC BORON-TREATED WOOD BECOMES WET, APPLY EPA-REGISTERED BORATE TREATMENT. APPLY BORATE SOLUTION BY SPRAYING TO COMPLY WITH EPA-REGISTERED LABEL.

B. PROTECT WOOD TRUSSES FROM WEATHER. IF, DESPITE PROTECTION, WOOD TRUSSES BECOME WET, APPLY EPA-REGISTERED BORATE TREATMENT. APPLY BORATE SOLUTION BY SPRAYING TO COMPLY WITH EPA-REGISTERED LABEL.

C. REPAIR DAMAGED GALVANIZED COATINGS ON EXPOSED SURFACES WITH GALVANIZED REPAIR PAINT ACCORDING TO ASTM A 780 AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

END OF SECTION 061753

SECTION 062023 - INTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. INTERIOR TRIM.
2. SHELVING.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. SOFTWOOD PLYWOOD: DOC PS 1.

B. HARDBOARD: ANSI A135.4.

C. MDF: ANSI A208.2, GRADE 130.

D. PARTICLEBOARD: ANSI A208.1, GRADE M-2.

E. MELAMINE-FACED PARTICLEBOARD: PARTICLEBOARD COMPLYING WITH ANSI A208.1, GRADE M-2, FINISHED ON BOTH FACES WITH THERMALLY FUSED, MELAMINE-IMPREGNATED DECORATIVE PAPER AND COMPLYING WITH REQUIREMENTS OF NEMA LD3, GRADE VGL, FOR TEST METHODS 3.3, 3.4, 3.6, 3.8, AND 3.10.

1. COLOR: WHITE.

2.2 INTERIOR TRIM

A. MOLDINGS FOR OPAQUE FINISH (PAINTED FINISH): MADE TO PATTERNS INCLUDED IN MMPA'S "WM/SERIES WOOD MOULDING PATTERNS."

1. HARDWOOD MOLDINGS: MMPA HWM 4, P-GRADE.
   a. SPECIES: YELLOW POPLAR.
   b. MAXIMUM MOISTURE CONTENT: 9 PERCENT.

FINGER JOINTING: NOT ALLOWED.

2.3 SHELVING

A. EXPOSED SHELVING: MADE FROM THE FOLLOWING MATERIAL, 3/4 INCH THICK.

1. MELAMINE-FACED PARTICLEBOARD WITH APPLIED-PVC FRONT EDGE.

B. SHELF BRACKETS WITHOUT ROD SUPPORT: BHMA A156.16, B04041; PRIME-PAINTED FORMED STEEL.

2.4 MISCELLANEOUS MATERIALS

A. LOW-EMITTING MATERIALS: ADHESIVES SHALL COMPLY WITH THE TESTING AND PRODUCT REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS."

B. GLUE: ALIPHATIC-RESIN, POLYURETHANE, OR RESORCINOL WOOD GLUE RECOMMENDED BY MANUFACTURER FOR GENERAL CARPENTRY USE.

C. MULTIPURPOSE CONSTRUCTION ADHESIVE: FORMULATION COMPLYING WITH ASTM D 3498 THAT IS RECOMMENDED FOR INDICATED USE BY ADHESIVE MANUFACTURER.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. INSTALL INTERIOR FINISH CARPENTRY LEVEL, PLUMB, TRUE, AND ALIGNED WITH ADJACENT MATERIALS. USE CONCEALED SHIMS WHERE NECESSARY FOR ALIGNMENT.

3.2 STANDING AND RUNNING TRIM INSTALLATION

A. INSTALL WITH MINIMUM NUMBER OF JOINTS PRACTICAL, USING FULL-LENGTH PIECES FROM MAXIMUM LENGTHS OF LUMBER AVAILABLE. DO NOT USE PIECES LESS THAN 24 INCHES LONG, EXCEPT WHERE NECESSARY. STAGGER JOINTS IN ADJACENT AND RELATED STANDING AND RUNNING TRIM. MITER AT RETURNS, MITER AT OUTSIDE CORNERS, AND COPE AT INSIDE CORNERS TO PRODUCE TIGHT-FITTING JOINTS WITH FULL-SURFACE CONTACT THROUGHOUT LENGTH OF JOINT. USE SCARF JOINTS FOR END-TO-END JOINTS.

3.3 SHELVING AND CLOTHES ROD INSTALLATION

A. CUT SHELF CLEATS AT ENDS OF SHELVES ABOUT 1/2 INCH LESS THAN WIDTH OF SHELVES AND SAND EXPOSED ENDS SMOOTH.

B. INSTALL SHELF CLEATS BY FASTENING TO FRAMING OR BACKING WITH FINISH NAILS OR TRIM SCREWS, SET BELOW FACE AND FILLED. SPACE FASTENERS NOT MORE THAN 16 INCHES O.C.

C. INSTALL SHELF BRACKETS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, SPACED NOT MORE THAN 32 INCHES O.C. FASTEN TO FRAMING MEMBERS, BLOCKING, OR METAL BACKING, OR USE TOGGLE BOLTS OR HOLLOW WALL ANCHORS.

D. CUT SHELVES TO NEATLY FIT OPENINGS WITH ONLY ENOUGH GAP TO ALLOW SHELVES TO BE REMOVED AND REINSTALLED. INSTALL SHELVES, FULLY SEATED ON CLEATS, BRACKETS, AND SUPPORTS.

END OF SECTION 062023

SECTION 066400 - PLASTIC PANELING

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES PLASTIC SHEET PANELING.

PART 2 - PRODUCTS

2.1 PLASTIC SHEET PANELING

A. GLASS-FIBER-REINFORCED PLASTIC PANELING: GELCOAT-FINISHED, GLASS-FIBER-REINFORCED PLASTIC PANELS COMPLYING WITH ASTM D 5319.

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   a. MARLITE.
   b. NUDO PRODUCTS, INC.
   c. PARKLAND PLASTICS, INC.
2. SURFACE-BURNING CHARACTERISTICS: AS FOLLOWS WHEN TESTED BY A QUALIFIED TESTING AGENCY ACCORDING TO ASTM E 84. IDENTIFY PRODUCTS WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AGENCY.
   a. FLAME-SPREAD INDEX: 25 OR LESS.
   b. SMOKE-DEVELOPED INDEX: 450 OR LESS.
3. NOMINAL THICKNESS: NOT LESS THAN 0.09 INCH.
4. SURFACE FINISH: MOLDED PEBBLE TEXTURE.
5. COLOR: WHITE.

2.2 ACCESSORIES

A. TRIM ACCESSORIES: MANUFACTURER'S STANDARD ONE-PIECE VINYL EXTRUSIONS DESIGNED TO RETAIN AND COVER EDGES OF PANELS. PROVIDE DIVISION BARS, INSIDE CORNERS, OUTSIDE CORNERS, AND CAPS AS NEEDED TO CONCEAL EDGES.

1. COLOR: WHITE TO MATCH PANELS.

B. SEALANT: MILDEW-RESISTANT, SINGLE-COMPONENT, NEUTRAL-CURING SILICONE SEALANT RECOMMENDED BY PLASTIC PANELING MANUFACTURER AND COMPLYING WITH REQUIREMENTS IN SECTION 079200 "JOINT SEALANTS."

PART 3 - EXECUTION

3.1 PREPARATION

A. CLEAN SUBSTRATES OF SUBSTANCES THAT COULD IMPAIR ADHESIVE BOND, INCLUDING OIL, GREASE, DIRT, AND DUST.

B. LAY OUT PANELING BEFORE INSTALLING. LOCATE PANEL JOINTS TO PROVIDE EQUAL PANELS AT ENDS OF WALLS NOT LESS THAN HALF THE WIDTH OF FULL PANELS.

3.2 INSTALLATION

A. INSTALL PLASTIC PANELING ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

B. FILL GROOVES IN TRIM ACCESSORIES WITH SEALANT BEFORE INSTALLING PANELS, AND BED INSIDE CORNER TRIM IN A BEAD OF SEALANT.

C. MAINTAIN UNIFORM SPACE BETWEEN PANELS AND WALL FIXTURES. FILL SPACE WITH SEALANT.

D. REMOVE EXCESS SEALANT AND SMEARS AS PANELING IS INSTALLED. CLEAN WITH SOLVENT RECOMMENDED BY SEALANT MANUFACTURER AND THEN WIPE WITH CLEAN DRY CLOTHS UNTIL NO RESIDUE REMAINS.

END OF SECTION 066400

SECTION 072100 - BUILDING INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. FOAM-PLASTIC BOARD INSULATION.
2. GLASS-FIBER BLANKET INSULATION.

VAPOR RETARDERS

PART 2 - PRODUCTS

2.1 FOAM-PLASTIC BOARD INSULATION

EXTRUDED-POLYSTYRENE BOARD INSULATION IN FIRST PARAGRAPH BELOW IS ALSO CALLED "XPS INSULATION."

A. EXTRUDED-POLYSTYRENE BOARD INSULATION: ASTM C 578, WITH MAXIMUM FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES OF 75 AND 450, RESPECTIVELY, PER ASTM E 84.

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   a. DOW CHEMICAL COMPANY (THE).
   b. HUNTER PANELS
   c. OWENS CORNING.
2. TYPE IV, 25 PSI.

2.2 GLASS-FIBER BLANKET INSULATION

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:

1. CERTAINTEED CORPORATION.
2. GUARDIAN BUILDING PRODUCTS, INC.
3. JOHNS MANVILLE.
4. KNAUF INSULATION.
5. OWENS CORNING.

B. UNFACED, GLASS-FIBER BLANKET INSULATION: ASTM C 665, TYPE I; WITH MAXIMUM FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES OF 25 AND 50, RESPECTIVELY, PER ASTM E 84; PASSING ASTM E 136 FOR COMBUSTION CHARACTERISTICS.

C. KRAFT-FACED, GLASS-FIBER BLANKET INSULATION: ASTM C 665, TYPE II (NON-REFLECTIVE FACED), CLASS C (FACED SURFACE NOT RATED FOR FLAME PROPAGATION); CATEGORY 1 (MEMBRANE IS A VAPOR BARRIER).

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
1	03/18/2026	PERMIT SET
2		
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SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

A-9.5

SHEET NO.

D. FOIL-FACED, GLASS-FIBER BLANKET INSULATION: ASTM C 665, TYPE III (REFLECTIVE FACED), CLASS B (FACED SURFACE WITH A FLAME-PROPAGATION RESISTANCE OF 0.12 W/SQ. CM); CATEGORY 1 (MEMBRANE IS A VAPOR BARRIER), FACED WITH FOIL SCRIM, FOIL-SCRIM KRAFT, OR FOIL-SCRIM POLYETHYLENE.

2.3 VAPOR RETARDERS

A. POLYETHYLENE VAPOR RETARDERS: ASTM D 4397, 6 MILS THICK, WITH MAXIMUM PERMEANCE RATING OF 0.13 PERM.

B. VAPOR-RETARDER TAPE: PRESSURE-SENSITIVE TAPE OF TYPE RECOMMENDED BY VAPOR-RETARDER MANUFACTURER FOR SEALING JOINTS AND PENETRATIONS IN VAPOR RETARDER.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. COMPLY WITH INSULATION MANUFACTURER'S WRITTEN INSTRUCTIONS APPLICABLE TO PRODUCTS AND APPLICATIONS INDICATED.

B. INSTALL INSULATION THAT IS UNDAMAGED, DRY, AND UNSOILED AND THAT HAS NOT BEEN LEFT EXPOSED TO ICE, RAIN, OR SNOW AT ANY TIME.

C. EXTEND INSULATION TO ENVELOP ENTIRE AREA TO BE INSULATED. CUT AND FIT TIGHTLY AROUND OBSTRUCTIONS AND FILL VOIDS WITH INSULATION. REMOVE PROJECTIONS THAT INTERFERE WITH PLACEMENT.

D. PROVIDE SIZES TO FIT APPLICATIONS INDICATED AND SELECTED FROM MANUFACTURER'S STANDARD THICKNESSES, WIDTHS, AND LENGTHS. APPLY SINGLE LAYER OF INSULATION UNITS TO PRODUCE THICKNESS INDICATED UNLESS MULTIPLE LAYERS ARE OTHERWISE SHOWN OR REQUIRED TO MAKE UP TOTAL THICKNESS.

3.2 INSTALLATION OF BELOW-GRADE INSULATION

A. ON VERTICAL SURFACES, SET INSULATION UNITS USING MANUFACTURER'S RECOMMENDED ADHESIVE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

1. IF NOT OTHERWISE INDICATED, EXTEND INSULATION A MINIMUM OF 36 INCHES BELOW EXTERIOR GRADE LINE.

B. ON HORIZONTAL SURFACES, LOOSELY LAY INSULATION UNITS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. STAGGER END JOINTS AND TIGHTLY ABUT INSULATION UNITS.

1. IF NOT OTHERWISE INDICATED, EXTEND INSULATION A MINIMUM OF 36 INCHES IN FROM EXTERIOR WALLS.

3.3 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

A. APPLY INSULATION UNITS TO SUBSTRATES BY METHOD INDICATED, COMPLYING WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. IF NO SPECIFIC METHOD IS INDICATED, BOND UNITS TO SUBSTRATE WITH ADHESIVE OR USE MECHANICAL ANCHORAGE TO PROVIDE PERMANENT PLACEMENT AND SUPPORT OF UNITS.

B. FOAM-PLASTIC BOARD INSULATION: SEAL JOINTS BETWEEN UNITS BY APPLYING ADHESIVE, MASTIC, OR SEALANT TO EDGES OF EACH UNIT TO FORM A TIGHT SEAL AS UNITS ARE SHOVED INTO PLACE. FILL VOIDS IN COMPLETED INSTALLATION WITH ADHESIVE, MASTIC, OR SEALANT AS RECOMMENDED BY INSULATION MANUFACTURER.

C. GLASS-FIBER BLANKET INSULATION: INSTALL IN CAVITIES FORMED BY FRAMING MEMBERS ACCORDING TO THE FOLLOWING REQUIREMENTS:

1. USE INSULATION WIDTHS AND LENGTHS THAT FILL THE CAVITIES FORMED BY FRAMING MEMBERS. IF MORE THAN ONE LENGTH IS REQUIRED TO FILL THE CAVITIES, PROVIDE LENGTHS THAT WILL PRODUCE A SNUG FIT BETWEEN ENDS.
2. PLACE INSULATION IN CAVITIES FORMED BY FRAMING MEMBERS TO PRODUCE A FRICTION FIT BETWEEN EDGES OF INSULATION AND ADJOINING FRAMING MEMBERS.
3. MAINTAIN 3-INCH CLEARANCE OF INSULATION AROUND RECESSED LIGHTING FIXTURES NOT RATED FOR OR PROTECTED FROM CONTACT WITH INSULATION.
4. FOR METAL-FRAMED WALL CAVITIES WHERE CAVITY HEIGHTS EXCEED 96 INCHES, SUPPORT UNFACED BLANKETS MECHANICALLY AND SUPPORT FACED BLANKETS BY TAPING FLANGES OF INSULATION TO FLANGES OF METAL STUDS.
5. VAPOR-RETARDER-FACED BLANKETS: TAPE JOINTS AND RUPTURES IN VAPOR-RETARDER FACINGS, AND SEAL EACH CONTINUOUS AREA OF INSULATION TO ENSURE AIRTIGHT INSTALLATION.
   a. EXTERIOR WALLS: SET UNITS WITH FACING PLACED TOWARD INTERIOR OF CONSTRUCTION.

END OF SECTION 072100

SECTION 072500 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. BUILDING WRAP.
2. FLEXIBLE FLASHING.
3. DRAINAGE MATERIAL.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

PART 2 - PRODUCTS

2.1 WATER-RESISTIVE BARRIER

A. BUILDING WRAP: ASTM E1677, TYPE I AIR BARRIER; WITH FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES OF LESS THAN 25 AND 450, RESPECTIVELY, WHEN TESTED ACCORDING TO ASTM E84; UV STABILIZED; AND ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

1. TYVEK COMMERCIAL WRAP OR APPROVED EQUAL.

B. BUILDING-WRAP TAPE: PRESSURE-SENSITIVE PLASTIC TAPE RECOMMENDED BY BUILDING-WRAP MANUFACTURER FOR SEALING JOINTS AND PENETRATIONS IN BUILDING WRAP.

2.2 FLEXIBLE FLASHING

A. BUTYL RUBBER FLASHING: COMPOSITE, SELF-ADHESIVE, FLASHING PRODUCT CONSISTING OF A PLIABLE, BUTYL RUBBER COMPOUND, BONDED TO A HIGH-DENSITY POLYETHYLENE FILM, ALUMINUM FOIL, OR SPUNBONDED POLYOLEFIN TO PRODUCE AN OVERALL THICKNESS OF NOT LESS THAN 0.040 INCH.

1. FLAME PROPAGATION TEST: MATERIALS AND CONSTRUCTION SHALL BE AS TESTED ACCORDING TO NFPA 285.

2.3 DRAINAGE MATERIAL

A. DRAINAGE MATERIAL: PRODUCT SHALL MAINTAIN A CONTINUOUS OPEN SPACE BETWEEN WATER-RESISTIVE BARRIER AND EXTERIOR CLADDING TO CREATE A DRAINAGE PLANE AND SHALL BE USED UNDER SIDING.

1. FLAME PROPAGATION TEST: MATERIALS AND CONSTRUCTION SHALL BE AS TESTED ACCORDING TO NFPA 285.

PART 3 - EXECUTION

3.1 WATER-RESISTIVE BARRIER INSTALLATION

A. COVER SHEATHING WITH WATER-RESISTIVE BARRIER AS FOLLOWS:

1. CUT BACK BARRIER 1/2 INCH ON EACH SIDE OF THE BREAK IN SUPPORTING MEMBERS AT EXPANSION- OR CONTROL-JOINT LOCATIONS.
2. APPLY BARRIER TO COVER VERTICAL FLASHING WITH A MINIMUM 4-INCH OVERLAP UNLESS OTHERWISE INDICATED.

B. BUILDING WRAP: COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND WARRANTY REQUIREMENTS.

1. SEAL SEAMS, EDGES, FASTENERS, AND PENETRATIONS WITH TAPE.
2. EXTEND INTO JAMBS OF OPENINGS AND SEAL CORNERS WITH TAPE.

3.2 FLEXIBLE FLASHING INSTALLATION

A. APPLY FLEXIBLE FLASHING WHERE INDICATED TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

1. LAP SEAMS AND JUNCTURES WITH OTHER MATERIALS AT LEAST 4 INCHES EXCEPT THAT AT FLASHING FLANGES OF OTHER CONSTRUCTION, LAPS NEED NOT EXCEED FLANGE WIDTH.
2. LAP FLASHING OVER WATER-RESISTIVE BARRIER AT BOTTOM AND SIDES OF OPENINGS.
3. LAP WATER-RESISTIVE BARRIER OVER FLASHING AT HEADS OF OPENINGS.

3.3 DRAINAGE MATERIAL INSTALLATION

A. INSTALL DRAINAGE MATERIAL OVER BUILDING WRAP AND FLASHING TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

B. END OF SECTION 072500

SECTION 073000 - FIBERGLASS SHINGLES

PART 1 - GENERAL

A. IT IS THE INTENT OF THIS SECTION TO ESTABLISH MINIMUM STANDARDS FOR FIBERGLASS SHINGLE MATERIALS AND INSTALLATION.

PART 2 - PRODUCTS

A. SHINGLES: CLASS "A" FIBERGLASS ASPHALT SHINGLES EQUAL TO GAF TIMBERLINE, OWENS CORNING PRESTIQUE II, OR MANVILLE WOODLANDS, SELF SEALING WITH COLOR AS NOTED ON EXTERIOR COLOR SCHEDULE. HEADLAP SHALL BE 2" AND EXPOSURE SHALL BE 5".

B. FELT: ONE LAYER OF 15# ASPHALT-SATURATED, ORGANIC, UNPERFORATED FELT, UNLESS OTHERWISE INDICATED. LAP AS RECOMMENDED BY SHINGLE MANUFACTURER.

C. FLASHINGS SHALL BE 22 GA. PAINTGRIP GALVANIZED IRON, PAINTED WHERE EXPOSED.

D. ALL FASTENERS SHALL BE HOT DIPPED GALVANIZED STEEL WITH NO EXPOSED FASTENERS ALLOWED. STAPLING IS STRICTLY PROHIBITED.

E. RIDGE VENT SHALL BE A CONTINUOUS EXHAUST 12" WIDE MAX. VENT EQUAL TO "SHINGLEVENT 2" BY AIR-VENT INC. OR THE "COBRA-RIDGEVENT 2" BY GAF OR APPROVED EQUAL. PROVIDE ALL RIDGE VENT ACCESSORIES INCLUDING BUT NOT LIMITED TO CAP SHINGLES, END CAPS, AND WEATHER FILTER FABRIC.

F. WHERE JANUARY AVERAGE DAILY TEMPERATURE IS 25 DEGREES OR LESS, PROVIDE GRACE ICE SHIELD WINTER ICE DAM PROTECTION A MINIMUM OF 6' UP ON ALL EAVES (FROM EXTERIOR WALL LINE BELOW), 3' AROUND ALL ROOF PENETRATIONS, AND 3' TO EITHER SIDE OF ALL VALLEYS.

PART 3 - EXECUTION

A. APPLICATIONS: INSTALL ALL ROOFING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH LOCAL CODES. A MINIMUM OF FOUR NAILS SHALL BE INSTALLED ON EACH THREE FOOT STRIP SHINGLE, MORE AS REQUIRED BY LOCAL CODE.

B. GUARANTEE: IN ADDITION TO MANUFACTURER'S STANDARD GUARANTEES, THE ROOFING CONTRACTOR SHALL FURNISH TO THE OWNER, CERTIFICATES THAT ROOFING HAS BEEN INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S DIRECTIONS AND SPECIFICATIONS, AND IN SUCH MANNER SO AS TO RENDER THE GUARANTEES OF THE FINISHED ROOFS IN FULL FORCE AND EFFECT.

C. EXERCISE CARE WHEN INSTALLING SHINGLES AS NOT TO MAR THE EXPOSED SURFACES. ANY DEFECTS VISIBLE FROM THE GROUND SHALL BE REPLACED AT NO CHARGE TO THE OWNER.

D. INSTALL GRACE ICE SHIELD TO OVERHANG DRIP EDGE 1/4" AND TO EXTEND 12" PAST INTERIOR WALL LINE. MINIMUM WIDTH SHALL BE 6'. IF HORIZONTAL LAP IS REQUIRED, IT SHALL OCCUR OUTSIDE THE WALL LINE.

END OF SECTION 073000

SECTION 07 42 93 LINEAR METAL SOFFITS

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. SECTION 05 40 00 - COLD-FORMED METAL FRAMING: METAL FRAMING FOR SUPPORT OF ALUMINUM SOFFITS.

B. SECTION 01 74 21 - CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL.

C. SECTION 06 10 00 - ROUGH CARPENTRY.

D. SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM.

E. SECTION 07 92 00 - JOINT SEALANTS.

1.2 REFERENCES

A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

1. ASTM C423 - STANDARD TEST METHOD FOR SOUND ABSORPTION AND SOUND ABSORPTION COEFFICIENTS BY THE REVERBERATION ROOM METHOD (NRC)
2. ASTM E 84 STANDARD TEST METHOD FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS
3. ASTM E136 - STANDARD TEST METHOD FOR BEHAVIOR OF MATERIALS IN A VERTICAL TUBE FURNACE AT 750°C
4. ASTM E1477 - STANDARD TEST METHOD FOR LUMINOUS REFLECTANCE FACTOR OF ACOUSTICAL MATERIALS BY USE OF INTEGRATING-SPHERE REFLECTOMETERS (LRV)
5. ASTM E2768-11 - STANDARD TEST METHOD FOR EXTENDED DURATION SURFACE BURNING CHARACTERISTICS FOR BUILDING MATERIALS (30 MIN TUNNEL TEST). RESULTS: ZERO FLAME SPREAD, SMOKE DEVELOPED INDEX OF 5. MEETS CRITERIA FOR CLASS A FIRE RATING

B. UL & UNDERWRITERS LABORATORIES OF CANADA (UL/ULC)

1. UL 723, STANDARD METHOD OF TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS
2. CAN/ULC S102, STANDARD METHOD OF TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS AND ASSEMBLIES
3. CAN/ULC S114, STANDARD TEST METHOD FOR DETERMINATION OF NON-COMBUSTIBILITY IN BUILDING MATERIALS

C. AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

1. AAMA 2605 - VOLUNTARY SPECIFICATION, PERFORMANCE REQUIREMENTS AND TEST PROCEDURES FOR SUPERIOR PERFORMING ORGANIC COATINGS ON ALUMINUM EXTRUSIONS AND PANELS
2. AAMA 2604 - VOLUNTARY SPECIFICATION, PERFORMANCE REQUIREMENTS AND TEST PROCEDURES FOR HIGH PERFORMING ORGANIC COATINGS ON ALUMINUM EXTRUSIONS AND PANELS
3. AAMA 509 - VOLUNTARY TEST AND CLASSIFICATION METHOD FOR DRAINED AND BACK VENTILATED RAINSCREEN WALL CLADDING SYSTEMS
4. AAMA 501.1-17 - STANDARD TEST METHOD FOR WATER PENETRATION OF WINDOWS, CURTAIN WALLS AND DOORS USING DYNAMIC PRESSURE

D. INTERNATIONAL CODE COUNCIL EVALUATION SERVICE (ICC-ES)

1. ICC-ES EVALUATION REPORT

1.3 SUBMITTALS

A. PRODUCT DATA: SUBMIT MANUFACTURER'S PRINTED PRODUCT LITERATURE, SPECIFICATIONS AND DATA SHEET.

B. SUBMIT DUPLICATE 6 INCH X 6 INCH (152MM X 150MM) SAMPLES OF SOFFIT MATERIAL, OF COLOR AND PROFILE SPECIFIED.

C. SHOP DRAWINGS TO INDICATE DIMENSIONS, PROFILES, ATTACHMENT METHODS, SCHEDULE OF WALL ELEVATIONS, TRIM AND CLOSURE PIECES, SOFFITS, FASCIA, METAL FURRING, AND RELATED WORK.

D. CERTIFICATIONS: MANUFACTURER'S CERTIFICATIONS THAT PRODUCTS COMPLY WITH SPECIFIED REQUIREMENTS, INCLUDING LABORATORY REPORTS SHOWING COMPLIANCE WITH SPECIFIED TESTS AND STANDARDS.

E. LEED SUBMITTAL DATA: MANUFACTURER'S PRODUCT DATA FOR EACH PRODUCT SPECIFIED IN THIS SECTION PER ECOSCORECARD.COM.

F. SUBMIT MANUFACTURER'S INSTALLATION INSTRUCTIONS.

1.4 LEED

A. CATEGORY - MATERIAL & RESOURCES

1. MR CREDIT 2.1, 2.2 - CONSTRUCTION WASTE MANAGEMENT DIVERT 50% OR 75% FROM DISPOSAL

B. CATEGORY - INDOOR ENVIRONMENT QUALITY

1. EQ CREDIT 4.1 TO 4.6 - LOW EMITTING MATERIALS

C. CATEGORY - INNOVATION AND DESIGN PROCESS

1. ID CREDIT - BIOPHILIC DESIGN

1.2 WARRANTY

A. PROVIDE A WRITTEN GUARANTEE, SIGNED AND ISSUED IN THE NAME OF THE OWNER, COVERING THE METAL CLADDING/CLADDING MATERIAL FOR 15 (FIFTEEN) YEARS FROM THE DATE OF SUBSTANTIAL COMPLETION.

B. THE MANUFACTURER'S WARRANTY IS LIMITED TO REPLACEMENT OF DEFECTIVE MATERIAL ONLY, RATHER THAN INSTALLATION OF THE SAME. FAULTY INSTALLATION SHALL BE CORRECTED BY THE INSTALLING CONTRACTOR. THE WARRANTY REQUIRED HEREIN IS THE SOLE REMEDY AGAINST THE MANUFACTURER AND THERE ARE NO OTHER IMPLIED WARRANTIES. IN ANY EVENT, THE MANUFACTURER SHALL NOT BE LIABLE FOR INCIDENTALS OR CONSEQUENTIAL DAMAGES.

PART 2 PRODUCTS

2.1 ALUMINUM CLADDING AND COMPONENTS

A. 6 INCH (152MM) PERFORATED SMOOTH PLANKS EXTRUDED ALUMINUM 6063 T5

1. FINISH COATING: POWDER COATED FINISH
2. COLOR: COLOR SELECTED BY THE OWNER'S REPRESENTATIVE.
3. GLOSS: 30 ± 5.
4. THICKNESS: 1/16 INCH (1.57MM) BASE METAL THICKNESS.
5. PROFILE: 6 INCH (152MM) PERFORATED SMOOTH X 24 FT (7315.2MM) OR 12 FT (3657.6MM) PLANK
6. PERFORATED PLANKS W. 3MM ROUND HOLES, STAGGERED PATTERN, 21% OPEN AREA

2.2 ACCESSORIES

A. 1-7/8" STARTER STRIP, 5/8" STARTER J-TRACK, 5/8" J-TRACK, 5/8" TWO PIECE J-TRACK, 1-3/8" TWO PIECE J-TRACK, 3/4" INSIDE CORNER, 1" OUTSIDE CORNER, 2" CORNER SET, 3/16" OUTSIDE CORNER, 5/8" TERMINATION SET, 1-3/8" TERMINATION SET, 1-3/8" COMPRESSION JOINT, 1/2" FLAT REVEAL, 3/4" U-REVEAL SET, 1-1/2" U-REVEAL SET, 1-1/2" FLAT REVEAL SET, 3/4" T&G U-REVEAL, 1-1/2" T&G U-REVEAL, 1/2" T&G FLAT REVEAL, 2" OFFSET FLAT REVEAL, 6" SMOOTH, IN SAME MATERIAL AND FINISHES AS SOFFIT PLANKS.

B. PLANK CLIPS: 316 STAINLESS STEEL QUICK-SCREEN CLIPS THAT ARE SHIPPED LOOSE FOR FIELD INSTALLATION.

2.3 MANUFACTURERS

A. LONGBOARD ARCHITECTURAL PRODUCTS #120 - 1777 CLEARBROOK RD.

ABBOTSFORD, BC, CANADA V2T 5X5

INFO@LONGBOARDPRODUCTS.COM

1.800.604.0343

PART 3 EXECUTION

3.1 ORDERING, DELIVERY, STORAGE AND HANDLING

B. ORDERING: CONFORM TO MANUFACTURER'S ORDERING INSTRUCTIONS AND LEAD TIME REQUIREMENTS TO AVOID CONSTRUCTION DELAYS

C. DELIVER MATERIALS AND COMPONENTS IN MANUFACTURERS' UNOPENED CONTAINERS OR BUNDLES. PREVENT DAMAGE DURING UNLOADING, STORING AND INSTALLATION

D. STORE, PROTECT AND HANDLE MATERIALS AND COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO PREVENT TWISTING, BENDING, MECHANICAL DAMAGE, CONTAMINATION AND DETERIORATION

E. STACK METAL CLADDING HORIZONTALLY ON PLATFORMS OR PALLETS, COVERED WITH SUITABLE WEATHERTIGHT AND VENTILATED COVERING. STORE METAL CLADDING TO ENSURE DRYNESS, WITH POSITIVE SLOPE FOR DRAINAGE OF WATER. DO NOT STORE METAL CLADDING IN CONTACT WITH OTHER MATERIALS THAT MIGHT CAUSE STAINING, DENTING, OR OTHER SURFACE DAMAGE

3.2 INSTALLATION

A. INSTALL CLADDING AND COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHOP DRAWINGS, INCLUDING PRODUCT TECHNICAL BULLETINS, DATASHEETS AND INSTALL VIDEOS

B. INSTALL ALL CLADDING PLANKS USING QUICK-SCREEN CLIPS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, TECHNICAL BULLETINS, DATASHEETS AND INSTALL VIDEOS TO NOT RESTRICT THERMAL MOVEMENT AT SPECIFIED O.C. SPACINGS. INSTALL SCREWS IN PRE-PUNCHED HOLES. INSTALL ONE (1) HARD-FASTENED SCREW PER PLANK, DIRECTLY THROUGH THE PLANK FLANGE TO PREVENT PLANK MIGRATION. ALL FASTENERS SHOULD PENETRATE INTO SOLID, SECURE FRAMING OR BLOCKING

C. INSTALL COMPONENTS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHOP DRAWINGS, INCLUDING TECHNICAL BULLETINS, DATASHEETS AND INSTALL VIDEOS WITH POSITIVE ANCHORAGE TO BUILDING AND PROVIDE FOR THERMAL MOVEMENT

D. INSTALL SCREW FASTENERS USING POWER TOOLS HAVING CONTROLLED TORQUE ADJUSTED TO COMPRESS QUICK-SCREEN CLIPS TIGHT WITHOUT DAMAGE OR DEFORMATION OF THE QUICK-SCREEN CLIPS, SCREW HEADS, SCREW THREADS OR CLADDING

E. HARD-FASTEN ANY AND ALL BUTT-JOINTS INTO SOLID SECURE FRAMING OR BLOCKING, TO MAINTAIN TIGHT FITTING HAIRLINE JOINTS. NEVER EXCEED ONE (1) HARD-FASTENER PER PLANK, ALL OTHER ATTACHMENT POINTS TO USE QUICK-SCREEN CLIPS TO NOT RESTRICT THERMAL MOVEMENT

F. DO NOT INSTALL DAMAGED PANELS; REPAIR OR REPLACE AS REQUIRED

3.3 CLEANING

A. UPON COMPLETION OF INSTALLATION, REMOVE SURPLUS MATERIALS, RUBBISH, TOOLS AND EQUIPMENT BARRIERS.

END OF SECTION 07 42 93

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. SILICONE SEALANTS.

1.2 WARRANTY

A. SPECIAL INSTALLER'S WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH INSTALLER AGREES TO REPAIR OR REPLACE JOINT SEALANTS THAT DO NOT COMPLY WITH PERFORMANCE AND OTHER REQUIREMENTS SPECIFIED IN THIS SECTION WITHIN SPECIFIED WARRANTY PERIOD.

1. WARRANTY PERIOD: TWO YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. STAIN-TEST-RESPONSE CHARACTERISTICS: WHERE SEALANTS ARE SPECIFIED TO BE NONSTAINING TO POROUS SUBSTRATES, PROVIDE PRODUCTS THAT HAVE UNDERGONE TESTING ACCORDING TO ASTM C 1248 AND HAVE NOT STAINED POROUS JOINT SUBSTRATES INDICATED FOR PROJECT.

2.2 SILICONE JOINT SEALANTS

A. MILDEW-RESISTANT SILICONE JOINT SEALANT [SS-INT]: ASTM C 920.

1. TYPE: SINGLE COMPONENT (S).
2. GRADE: NONSAG (NS).
3. STRENGTH: 320 PSI
4. USES RELATED TO EXPOSURE: NONTRAFFIC (NT).
5. COLOR: WHITE, ALMOND OR CLEAR TO MATCH ADJACENT SURFACES.

B. SILICONE JOINT SEALANT [SS-EXT]: ASTM C 920.

1. TYPE: SINGLE COMPONENT (S).
2. GRADE: NONSAG (NS).
3. STRENGTH: 470 PSI
4. USES RELATED TO EXPOSURE: NONTRAFFIC (NT).
5. COLOR: WHITE, ALMOND OR CLEAR TO MATCH ADJACENT SURFACES.

2.3 JOINT SEALANT BACKING

A. CYLINDRICAL SEALANT BACKINGS: ASTM C 1330, TYPE C (CLOSED-CELL MATERIAL WITH A SURFACE SKIN), AND OF SIZE AND DENSITY TO CONTROL SEALANT DEPTH AND OTHERWISE CONTRIBUTE TO PRODUCING OPTIMUM SEALANT PERFORMANCE.

B. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MANUFACTURER.

2.4 MISCELLANEOUS MATERIALS

A. CLEANERS FOR NONPOROUS SURFACES: CHEMICAL CLEANERS ACCEPTABLE TO MANUFACTURERS OF SEALANTS AND SEALANT BACKING MATERIALS.

B. MASKING TAPE: NONSTAINING, NONABSORBENT MATERIAL COMPATIBLE WITH JOINT SEALANTS AND SURFACES ADJACENT TO JOINTS.

PART 3 - EXECUTION

3.1 PREPARATION

A. SURFACE CLEANING OF JOINTS: CLEAN OUT JOINTS IMMEDIATELY BEFORE INSTALLING JOINT SEALANTS TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS.

1. REMOVE LAITANCE AND FORM-RELEASE AGENTS FROM CONCRETE.
2. CLEAN NONPOROUS JOINT SUBSTRATE SURFACES WITH CHEMICAL CLEANERS OR OTHER MEANS THAT DO NOT STAIN, HARM SUBSTRATES, OR LEAVE RESIDUES CAPABLE OF INTERFERING WITH ADHESION OF JOINT SEALANTS.

B. JOINT PRIMING: PRIME JOINT SUBSTRATES WHERE RECOMMENDED BY JOINT-SEALANT MANUFACTURER OR AS INDICATED BY PRECONSTRUCTION JOINT-SEALANT-SUBSTRATE TESTS OR PRIOR EXPERIENCE. APPLY PRIMER TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS. CONFINE PRIMERS TO AREAS OF JOINT-SEALANT BOND; DO NOT ALLOW SPILLAGE OR MIGRATION ONTO ADJOINING SURFACES.

3.2 INSTALLATION

A. SEALANT INSTALLATION STANDARD: COMPLY WITH RECOMMENDATIONS IN ASTM C 1193 FOR USE OF JOINT SEALANTS AS APPLICABLE TO MATERIALS, APPLICATIONS, AND CONDITIONS INDICATED.

B. INSTALL SEALANT BACKINGS OF KIND INDICATED TO SUPPORT SEALANTS DURING APPLICATION AND AT POSITION REQUIRED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS OF INSTALLED SEALANTS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY.

1. DO NOT LEAVE GAPS BETWEEN ENDS OF SEALANT BACKINGS.
2. DO NOT STRETCH, TWIST, PUNCTURE, OR TEAR SEALANT BACKINGS.
3. REMOVE ABSORBENT SEALANT BACKINGS THAT HAVE BECOME WET BEFORE SEALANT APPLICATION AND REPLACE THEM WITH DRY MATERIALS.

C. INSTALL BOND-BREAKER TAPE BEHIND SEALANTS WHERE SEALANT BACKINGS ARE NOT USED BETWEEN SEALANTS AND BACKS OF JOINTS.

D. INSTALL SEALANTS USING PROVEN TECHNIQUES THAT COMPLY WITH THE FOLLOWING AND AT THE SAME TIME BACKINGS ARE INSTALLED:

1. PLACE SEALANTS SO THEY DIRECTLY CONTACT AND FULLY WET JOINT SUBSTRATES.
2. COMPLETELY FILL RECESSES IN EACH JOINT CONFIGURATION.
3. PRODUCE UNIFORM, CROSS-SECTIONAL SHAPES AND DEPTHS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY.

E. TOOLING OF NONSAG SEALANTS: IMMEDIATELY AFTER SEALANT APPLICATION AND BEFORE SKINNING OR CURING BEGINS, TOOL SEALANTS ACCORDING TO REQUIREMENTS SPECIFIED IN SUBPARAGRAPHS BELOW TO FORM SMOOTH, UNIFORM BEADS OF CONFIGURATION INDICATED; TO ELIMINATE AIR POCKETS; AND TO ENSURE CONTACT AND ADHESION OF SEALANT WITH SIDES OF JOINT.

1. REMOVE EXCESS SEALANT FROM SURFACES ADJACENT TO JOINTS.
2. USE TOOLING AGENTS THAT ARE APPROVED IN WRITING BY SEALANT MANUFACTURER AND THAT DO NOT DISCOLOR SEALANTS OR ADJACENT SURFACES.
3. PROVIDE CONCAVE JOINT PROFILE PER FIGURE 8A IN ASTM C 1193, UNLESS OTHERWISE INDICATED.

F. CLEAN OFF EXCESS SEALANT OR SEALANT SMEARS ADJACENT TO JOINTS AS THE WORK PROGRESSES BY METHODS AND WITH CLEANING MATERIALS APPROVED IN WRITING BY MANUFACTURERS OF JOINT SEALANTS AND OF PRODUCTS IN WHICH JOINTS OCCUR.

3.3 JOINT-SEALANT SCHEDULE

A. JOINT-SEALANT APPLICATION SS-INT: FOR INTERIOR JOINTS, UNLESS NOTED OTHERWISE.

1. JOINT SEALANT: MILDEW-RESISTANT SILICONE JOINT SEALANT SS-INT
2. JOINT-SEALANT COLOR: WHITE, ALMOND OR CLEAR TO MATCH ADJACENT SURFACES.

B. JOINT-SEALANT APPLICATION SS-EXT: FOR EXTERIOR JOINTS, UNLESS NOTED OTHERWISE.

1. JOINT SEALANT: SILICONE JOINT SEALANT SS-EXT
2. JOINT-SEALANT COLOR: WHITE, ALMOND OR CLEAR TO MATCH ADJACENT SURFACES.

END OF SECTION 079200

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES HOLLOW-METAL WORK.

B. RELATED REQUIREMENTS:

1. SECTION 081416 "FLUSH WOOD DOORS" FOR WOOD DOORS INSTALLED IN HOLLOW-METAL FRAMES.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

B. SHOP DRAWINGS: INCLUDE ELEVATIONS, DOOR EDGE DETAILS, FRAME PROFILES, METAL THICKNESSES, PREPARATIONS FOR HARDWARE, AND OTHER DETAILS.

C. SCHEDULE: PREPARED BY OR UNDER THE SUPERVISION OF SUPPLIER, USING SAME REFERENCE NUMBERS FOR DETAILS AND OPENINGS AS THOSE ON DRAWINGS.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:

1. STEELCRAFT; AN ALLEGION BRAND.
2. S.D.S INDUSTRIES INC., TIMELY FRAMES

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
	03/18/2026	PERMIT SET
1		
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SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

A-9.6

SHEET NO.

2.2 ACCOUNT VENDOR

A. FOR ALL HOLLOW METAL DOORS, FRAMES AND HARDWARE, CONTACT:

1. COOK AND BOARDMAN, SEE COVER SHEET FOR CONTACT INFORMATION

KINDERCARE@COOKANDBOARDMAN.COM

2.3 REGULATORY REQUIREMENTS

A. FIRE-RATED ASSEMBLIES: COMPLYING WITH NFPA 80 AND LISTED AND LABELED BY A QUALIFIED TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION FOR FIRE-PROTECTION RATINGS AND TEMPERATURE-RISE LIMITS INDICATED, BASED ON TESTING AT POSITIVE PRESSURE ACCORDING TO NFPA 252 OR UL 10C.

2.4 EXTERIOR HOLLOW-METAL DOORS AND FRAMES

A. HEAVY-DUTY DOORS AND FRAMES: SDI A250.8, LEVEL 2. AT LOCATIONS INDICATED IN THE DOOR AND FRAME SCHEDULE.

1. PHYSICAL PERFORMANCE: LEVEL B ACCORDING TO SDI A250.4.
2. DOORS:
   a. TYPE: AS INDICATED IN THE DOOR AND FRAME SCHEDULE.
   b. THICKNESS: 1-3/4 INCHES.
   c. FACE: METALLIC-COATED STEEL SHEET, MINIMUM THICKNESS OF 0.042 INCH, WITH MINIMUM A40 COATING.
   d. EDGE CONSTRUCTION: MODEL 1, FULL FLUSH.
   e. CORE: POLYSTYRENE.
3. THERMAL-RATED DOORS: PROVIDE DOORS FABRICATED WITH THERMAL-RESISTANCE VALUE (R-VALUE) OF NOT LESS THAN 2.1 DEG F X H X SQ. FT./BTU WHEN TESTED ACCORDING TO ASTM C 1363.
4. FRAMES:
   a. MATERIALS: METALLIC-COATED STEEL SHEET, MINIMUM THICKNESS OF 0.053 INCH, WITH MINIMUM A40 COATING.
   b. CONSTRUCTION: FULL PROFILE WELDED.
5. EXPOSED FINISH: PRIME.

2.5 INTERIOR FRAMES

A. STANDARD-DUTY FRAMES: SDI A250.8, LEVEL 1.

1. PHYSICAL PERFORMANCE: LEVEL C ACCORDING TO SDI A250.4.
2. MATERIALS: METALLIC-COATED, COLD-ROLLED STEEL SHEET, MINIMUM THICKNESS OF 0.042 INCH.
3. CONSTRUCTION: KNOCKED DOWN.
4. EXPOSED FINISH: PRIME.

2.6 FRAME ANCHORS

A. JAMB ANCHORS:

1. MASONRY TYPE: ADJUSTABLE STRAP-AND-STIRRUP OR T-SHAPED ANCHORS TO SUIT FRAME SIZE, NOT LESS THAN 0.042 INCH THICK, WITH CORRUGATED OR PERFORATED STRAPS NOT LESS THAN 2 INCHES WIDE BY 10 INCHES LONG; OR WIRE ANCHORS NOT LESS THAN 0.177 INCH THICK.
2. STUD-WALL TYPE: DESIGNED TO ENGAGE STUD, WELDED TO BACK OF FRAMES; NOT LESS THAN 0.042 INCH THICK.
3. COMPRESSION TYPE FOR DRYWALL SLIP-ON FRAMES: ADJUSTABLE COMPRESSION ANCHORS.

B. FLOOR ANCHORS: FORMED FROM SAME MATERIAL AS FRAMES, MINIMUM THICKNESS OF 0.042 INCH, AND AS FOLLOWS:

1. MONOLITHIC CONCRETE SLABS: CLIP-TYPE ANCHORS, WITH TWO HOLES TO RECEIVE FASTENERS.
2. SEPARATE TOPPING CONCRETE SLABS: ADJUSTABLE-TYPE ANCHORS WITH EXTENSION CLIPS, ALLOWING NOT LESS THAN 2-INCH HEIGHT ADJUSTMENT. TERMINATE BOTTOM OF FRAMES AT FINISH FLOOR SURFACE.
3. 2.7 MATERIALS
1. COLD-ROLLED STEEL SHEET: ASTM A 1008/A 1008M, COMMERCIAL STEEL (CS), TYPE B; SUITABLE FOR EXPOSED APPLICATIONS.

C. HOT-ROLLED STEEL SHEET: ASTM A 1011/A 1011M, COMMERCIAL STEEL (CS), TYPE B; FREE OF SCALE, PITTING, OR SURFACE DEFECTS; PICKLED AND OILED.

D. METALLIC-COATED STEEL SHEET: ASTM A 653/A 653M, COMMERCIAL STEEL (CS), TYPE B.

E. FRAME ANCHORS: ASTM A 879/A 879M, COMMERCIAL STEEL (CS), 04Z COATING DESIGNATION; MILL PHOSPHATIZED.

1. FOR ANCHORS BUILT INTO EXTERIOR WALLS, STEEL SHEET COMPLYING WITH ASTM A 1008/A 1008M OR ASTM A 1011/A 1011M, HOT-DIP GALVANIZED ACCORDING TO ASTM A 153/A 153M, CLASS B.

2.8 FABRICATION

A. FABRICATE HOLLOW-METAL WORK TO BE RIGID AND FREE OF DEFECTS, WARP, OR BUCKLE. ACCURATELY FORM METAL TO REQUIRED SIZES AND PROFILES, WITH MINIMUM RADIUS FOR METAL THICKNESS. WHERE PRACTICAL, FIT AND ASSEMBLE UNITS IN MANUFACTURER'S PLANT. TO ENSURE PROPER ASSEMBLY AT PROJECT SITE, CLEARLY IDENTIFY WORK THAT CANNOT BE PERMANENTLY FACTORY ASSEMBLED BEFORE SHIPMENT.

B. HOLLOW-METAL DOORS:

1. EXTERIOR DOORS: PROVIDE WEEP-HOLE OPENINGS IN BOTTOMS OF EXTERIOR DOORS TO PERMIT MOISTURE TO ESCAPE. SEAL JOINTS IN TOP EDGES OF DOORS AGAINST WATER PENETRATION

C. HOLLOW-METAL FRAMES: WHERE FRAMES ARE FABRICATED IN SECTIONS DUE TO SHIPPING OR HANDLING LIMITATIONS, PROVIDE ALIGNMENT PLATES OR ANGLES AT EACH JOINT, FABRICATED OF SAME THICKNESS METAL AS FRAMES.

1. FRAMES: PROVIDE CLOSED TUBULAR MEMBERS WITH NO VISIBLE FACE SEAMS OR JOINTS, FABRICATED FROM SAME MATERIAL AS DOOR FRAME. FASTEN MEMBERS AT CROSSINGS AND TO JAMBS BY BUTT WELDING.
2. FLOOR ANCHORS: WELD ANCHORS TO BOTTOMS OF JAMBS WITH AT LEAST FOUR SPOT WELDS PER ANCHOR; HOWEVER, FOR SLIP-ON DRYWALL FRAMES, PROVIDE ANCHOR CLIPS OR COUNTERSUNK HOLES AT BOTTOMS OF JAMBS.
3. JAMB ANCHORS: PROVIDE NUMBER AND SPACING OF ANCHORS AS FOLLOWS:
   a. STUD-WALL TYPE: LOCATE ANCHORS NOT MORE THAN 18 INCHES FROM TOP AND BOTTOM OF FRAME. SPACE ANCHORS NOT MORE THAN 32 INCHES O.C. AND AS FOLLOWS:
      1) THREE ANCHORS PER JAMB UP TO 60 INCHES HIGH.
      2) FOUR ANCHORS PER JAMB FROM 60 TO 90 INCHES HIGH.
      3) FIVE ANCHORS PER JAMB FROM 90 TO 96 INCHES HIGH.
      4) FIVE ANCHORS PER JAMB PLUS ONE ADDITIONAL ANCHOR PER JAMB FOR EACH 24 INCHES OR FRACTION THEREOF ABOVE 96 INCHES HIGH.
4. DOOR SILENCERS: EXCEPT ON WEATHER-STRIPPED FRAMES, DRILL STOPS TO RECEIVE DOOR SILENCERS.
   a. SINGLE-DOOR FRAMES: DRILL STOP IN STRIKE JAMB TO RECEIVE THREE DOOR SILENCERS.
   b. DOUBLE-DOOR FRAMES: DRILL STOP IN HEAD JAMB TO RECEIVE TWO DOOR SILENCERS.

D. HARDWARE PREPARATION: FACTORY PREPARE HOLLOW-METAL WORK TO RECEIVE TEMPLATED MORTISED HARDWARE; INCLUDE CUTOUTS, REINFORCEMENT, MORTISING, DRILLING, AND TAPPING ACCORDING TO SDI A250.6, THE DOOR HARDWARE SCHEDULE, AND TEMPLATES.

E. STOPS AND MOLDINGS: PROVIDE STOPS AND MOLDINGS AROUND GLAZED LITES AND LOUVERS WHERE INDICATED. FORM CORNERS OF STOPS AND MOLDINGS WITH MITERED HAIRLINE JOINTS.

2.9 STEEL FINISHES

A. PRIME FINISH: CLEAN, PRETREAT, AND APPLY MANUFACTURER'S STANDARD PRIMER.

SHOP PRIMER: SDI A250.10.

PART 3 - EXECUTION

3.1 INSTALLATION

A. HOLLOW-METAL FRAMES: INSTALL HOLLOW-METAL FRAMES FOR DOORS, TRANSOMS, SIDELITES, BORROWED LITES, AND OTHER OPENINGS, OF SIZE AND PROFILE INDICATED. COMPLY WITH SDI A250.11 OR NAAMM-HMMA 840 AS REQUIRED BY STANDARDS SPECIFIED.

1. SET FRAMES ACCURATELY IN POSITION; PLUMBED, ALIGNED, AND BRACED SECURELY UNTIL PERMANENT ANCHORS ARE SET. AFTER WALL CONSTRUCTION IS COMPLETE, REMOVE TEMPORARY BRACES, LEAVING SURFACES SMOOTH AND UNDAMAGED.

B. HOLLOW-METAL DOORS: FIT HOLLOW-METAL DOORS ACCURATELY IN FRAMES, WITHIN CLEARANCES SPECIFIED BELOW. SHIM AS NECESSARY.

1. NON-FIRE-RATED STEEL DOORS:
   a. BETWEEN DOOR AND FRAME JAMBS AND HEAD: 1/8 INCH PLUS OR MINUS 1/32 INCH.
   b. AT BOTTOM OF DOOR: 3/4 INCH PLUS OR MINUS 1/32 INCH.
   c. BETWEEN DOOR FACE AND STOP: 1/16 INCH TO 1/8 INCH PLUS OR MINUS 1/32 INCH.

3.2 ADJUSTING AND CLEANING

A. FINAL ADJUSTMENTS: CHECK AND READJUST OPERATING HARDWARE ITEMS IMMEDIATELY BEFORE FINAL INSPECTION. LEAVE WORK IN COMPLETE AND PROPER OPERATING CONDITION. REMOVE AND REPLACE DEFECTIVE WORK, INCLUDING HOLLOW-METAL WORK THAT IS WARPED, BOWED, OR OTHERWISE UNACCEPTABLE.

B. PRIME-COAT TOUCHUP: IMMEDIATELY AFTER ERECTION, SAND SMOOTH RUSTED OR DAMAGED AREAS OF PRIME COAT AND APPLY TOUCHUP OF COMPATIBLE AIR-DRYING, RUST-INHIBITIVE PRIMER.

END OF SECTION 081113

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. SOLID-CORE DOORS WITH WOOD-VENEER FACES.
2. FACTORY FITTING FLUSH WOOD DOORS TO FRAMES AND FACTORY MACHINING FOR HARDWARE.

B. RELATED REQUIREMENTS:

1. SECTION 088000 "GLAZING" FOR GLASS VIEW PANELS IN FLUSH WOOD DOORS.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF DOOR.

B. SHOP DRAWINGS: INDICATE LOCATION, SIZE, AND HAND OF EACH DOOR; ELEVATION OF EACH KIND OF DOOR; CONSTRUCTION DETAILS NOT COVERED IN PRODUCT DATA.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:

1. VT INDUSTRIES

2.2 **DELETED**.

2.3 FLUSH WOOD DOORS, GENERAL

A. QUALITY STANDARD: IN ADDITION TO REQUIREMENTS SPECIFIED, COMPLY WITH WDMA I.S.1-A, "ARCHITECTURAL WOOD FLUSH DOORS."

B. WDMA I.S.1-A PERFORMANCE GRADE:

1. HEAVY DUTY UNLESS OTHERWISE INDICATED.
2. EXTRA HEAVY DUTY: CLASSROOMS.

C. FIRE-RATED WOOD DOORS: DOORS COMPLYING WITH NFPA 80 THAT ARE LISTED AND LABELED BY A QUALIFIED TESTING AGENCY, FOR FIRE-PROTECTION RATINGS INDICATED, BASED ON TESTING AT POSITIVE PRESSURE ACCORDING TO NFPA 252.

1. CORES: PROVIDE CORE SPECIFIED OR MINERAL CORE AS NEEDED TO PROVIDE FIRE-PROTECTION RATING INDICATED.

D. PARTICLEBOARD-CORE DOORS:

1. PARTICLEBOARD: ANSI A208.1, GRADE LD-1 OR GRADE LD-2, MADE WITH BINDER CONTAINING NO UREA-FORMALDEHYDE.
2. BLOCKING: PROVIDE WOOD BLOCKING IN PARTICLEBOARD-CORE DOORS AS NEEDED TO ELIMINATE THROUGH-BOLTING HARDWARE.
3. PROVIDE DOORS WITH STRUCTURAL-COMPOSITE-LUMBER CORES INSTEAD OF PARTICLEBOARD CORES FOR DOORS INDICATED TO RECEIVE EXIT DEVICES.

E. STRUCTURAL-COMPOSITE-LUMBER-CORE DOORS:

1. STRUCTURAL COMPOSITE LUMBER: WDMA I.S.10.
   a. SCREW WITHDRAWAL, FACE: 700 LBF.
   b. SCREW WITHDRAWAL, EDGE: 400 LBF.

2.4 VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. INTERIOR SOLID-CORE DOORS:

1. GRADE: CUSTOM (GRADE A FACES).
2. SPECIES: SELECT WHITE BIRCH.
3. CUT: ROTARY CUT.
4. MATCH BETWEEN VENEER LEAVES: PLEASING MATCH.
5. ASSEMBLY OF VENEER LEAVES ON DOOR FACES: RUNNING MATCH.
6. PAIR AND SET MATCH: PROVIDE FOR DOORS HUNG IN SAME OPENING OR SEPARATED ONLY BY MULLIONS.
7. CORE: STRUCTURAL COMPOSITE LUMBER.
8. CONSTRUCTION: FIVE PLIES. STILES AND RAILS ARE BONDED TO CORE, THEN ENTIRE UNIT IS ABRASIVE PLANED BEFORE VENEERING.

2.5 DOORS FOR OPAQUE FINISH

A. INTERIOR SOLID-CORE DOORS:

1. GRADE: CUSTOM.
2. FACES: ANY CLOSED-GRAIN HARDWOOD OF MILL OPTION.
3. CORE: PARTICLEBOARD OR STRUCTURAL COMPOSITE LUMBER.
4. CONSTRUCTION: FIVE PLIES. STILES AND RAILS ARE BONDED TO CORE, THEN ENTIRE UNIT IS ABRASIVE PLANED BEFORE VENEERING.

2.6 LIGHT FRAMES AND LOUVERS

A. METAL FRAMES FOR LIGHT OPENINGS IN FIRE-RATED DOORS: MANUFACTURER'S STANDARD FRAME FORMED OF 0.048-INCH-THICK, COLD-ROLLED STEEL SHEET; FACTORY PRIMED FOR PAINT FINISH; AND APPROVED FOR USE IN DOORS OF FIRE-PROTECTION RATING INDICATED.

B. METAL LOUVERS:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   a. AIR LOUVERS INC.; A DIVISION OF THE ACTIVAR CONSTRUCTION PRODUCTS GROUP.
   b. ANEMOSTAT PRODUCTS; A MESTEK COMPANY.
   c. L & L LOUVERS, INC.
   d. LOUVERS & DAMPERS, INC.; A DIVISION OF MESTEK, INC.
   e. MCGILL ARCHITECTURAL PRODUCTS.
2. METAL AND FINISH: HOT-DIP GALVANIZED STEEL, 0.040 INCH THICK, FACTORY PRIMED FOR PAINT FINISH.

2.7 SHOP PRIMING

A. DOORS FOR OPAQUE FINISH: SHOP PRIME FACES, ALL FOUR EDGES, EDGES OF CUTOUTS, AND MORTISES WITH ONE COAT OF WOOD PRIMER SPECIFIED IN SECTION 099123" INTERIOR PAINTING."

2.8 FACTORY FINISHING (CONTRACTOR'S OPTION)

A. GENERAL: COMPLY WITH REFERENCED QUALITY STANDARD FOR FACTORY FINISHING. COMPLETE FABRICATION, INCLUDING FITTING DOORS FOR OPENINGS AND MACHINING FOR HARDWARE THAT IS NOT SURFACE APPLIED, BEFORE FINISHING.

1. FINISH FACES, ALL FOUR EDGES, EDGES OF CUTOUTS, AND MORTISES. STAINS AND FILLERS MAY BE OMITTED ON BOTTOM EDGES, EDGES OF CUTOUTS, AND MORTISES.

B. FACTORY FINISH DOORS THAT ARE INDICATED TO RECEIVE TRANSPARENT FINISH.

C. TRANSPARENT FINISH:

1. GRADE: CUSTOM.
2. FINISH: AWI'S, AWMAC'S, AND WI'S "ARCHITECTURAL WOODWORK STANDARDS" SYSTEM 9, UV CURABLE, ACRYLATED EPOXY, POLYESTER, OR URETHANE.
3. STAINING: WHEAT, WH18
4. SHEEN: SATIN.

PART 3 - EXECUTION

3.1 INSTALLATION

A. HARDWARE: FOR INSTALLATION, SEE SECTION 087100 "DOOR HARDWARE."

B. INSTALLATION INSTRUCTIONS: INSTALL DOORS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND REFERENCED QUALITY STANDARD, AND AS INDICATED.

1. INSTALL FIRE-RATED DOORS ACCORDING TO NFPA 80.

C. JOB-FITTED DOORS: ALIGN AND FIT DOORS IN FRAMES WITH UNIFORM CLEARANCES AND BEVELS AS INDICATED BELOW; DO NOT TRIM STILES AND RAILS IN EXCESS OF LIMITS SET BY MANUFACTURER OR PERMITTED FOR FIRE-RATED DOORS. MACHINE DOORS FOR HARDWARE. SEAL EDGES OF DOORS, EDGES OF CUTOUTS, AND MORTISES AFTER FITTING AND MACHINING.

1. CLEARANCES: PROVIDE 1/8 INCH AT HEADS, JAMBS, AND BETWEEN PAIRS OF DOORS. PROVIDE 1/8 INCH FROM BOTTOM OF DOOR TO TOP OF DECORATIVE FLOOR FINISH OR COVERING UNLESS OTHERWISE INDICATED. WHERE THRESHOLD IS SHOWN OR SCHEDULED, PROVIDE 1/4 INCH FROM BOTTOM OF DOOR TO TOP OF THRESHOLD UNLESS OTHERWISE INDICATED.
   a. COMPLY WITH NFPA 80 FOR FIRE-RATED DOORS.

END OF SECTION 081416

SECTION 084113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. EXTERIOR MANUAL-SWING ENTRANCE DOORS AND DOOR FRAME UNITS.

B. RELATED SECTIONS:

1. DIVISION 8 SECTION "GLAZING" FOR WINDOWS INSTALLED WITH ALUMINUM-FRAMED SYSTEMS.

1.2 PERFORMANCE REQUIREMENTS **(MODIFY PER LOCAL REQUIREMENTS)**

1.3 SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

B. SHOP DRAWINGS: FOR ALUMINUM-FRAMED SYSTEMS. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.

1. INCLUDE DETAILS OF PROVISIONS FOR SYSTEM EXPANSION AND CONTRACTION AND FOR DRAINAGE OF MOISTURE IN THE SYSTEM TO THE EXTERIOR.

C. OTHER ACTION SUBMITTALS:

1. ENTRANCE DOOR HARDWARE SCHEDULE: PREPARED BY OR UNDER THE SUPERVISION OF SUPPLIER, DETAILING FABRICATION AND ASSEMBLY OF ENTRANCE DOOR HARDWARE, AS WELL AS PROCEDURES AND DIAGRAMS.

1.4 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS: MANUFACTURER'S AUTHORIZED REPRESENTATIVE WHO IS TRAINED AND APPROVED FOR INSTALLATION OF UNITS REQUIRED FOR THIS PROJECT.

1.5 WARRANTY

A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF ALUMINUM-FRAMED SYSTEMS THAT DO NOT COMPLY WITH REQUIREMENTS OR THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

1. WARRANTY PERIOD: TWO YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

B. SPECIAL FINISH WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS ON WHICH FINISHES DO NOT COMPLY WITH REQUIREMENTS OR THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD. WARRANTY DOES NOT INCLUDE NORMAL WEATHERING.

1. WARRANTY PERIOD: 10 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

PART 2 - PRODUCTS

2.1 MATERIALS

A. PRODUCTS:

1. EXTERIOR: ALUMINUM STOREFRONT SYSTEM.
   a. FRAMING MEMBER LOW PROFILE: 1 3/4" X 4 1/2" NOMINAL DIMENSION; THERMALLY BROKEN; CENTER GLAZED, SCREW SPLINE, SHEAR BLOCK, OR STICK FABRICATION.
   b. FINISH/COLOR: CLEAR ANODIZED

B. ALUMINUM: ALLOY AND TEMPER RECOMMENDED BY MANUFACTURER FOR TYPE OF USE AND FINISH INDICATED.

1. MATERIAL STANDARD: ASTM B 221; 6063-T6 ALLOY AND TEMPER
2. MEMBER WALL THICKNESS: EACH FRAMING MEMBER SHALL PROVIDE STRUCTURAL STRENGTH TO MEET SPECIFIED PERFORMANCE REQUIREMENTS.
3. TOLERANCES: REFERENCE TO TOLERANCES FOR WALL THICKNESS AND OTHER CROSS-SECTIONAL DIMENSIONS OF STOREFRONT MEMBERS ARE NOMINAL AND IN COMPLIANCE WITH AA ALUMINUM STANDARDS AND DATA.

C. STEEL REINFORCEMENT: MANUFACTURER'S STANDARD ZINC-RICH, CORROSION-RESISTANT PRIMER, COMPLYING WITH SSPC-PS GUIDE NO. 12.00; APPLIED IMMEDIATELY AFTER SURFACE PREPARATION AND PRETREATMENT. SELECT SURFACE PREPARATION METHODS ACCORDING TO RECOMMENDATIONS IN SSPC-SP COM AND PREPARE SURFACES ACCORDING TO APPLICABLE SSPC STANDARD.

1. STRUCTURAL SHAPES, PLATES, AND BARS: ASTM A 36/A 36M.
2. COLD-ROLLED SHEET AND STRIP: ASTM A 1008/A 1008M.
3. HOT-ROLLED SHEET AND STRIP: ASTM A 1011/A 1011M.

D. PERIMETER ANCHORS: ALUMINUM. WHEN STEEL ANCHORS ARE USED, PROVIDE INSULATION BETWEEN STEEL MATERIAL AND ALUMINUM MATERIAL TO PREVENT GALVANIC ACTION.

2.2 FRAMING SYSTEMS

A. FRAMING MEMBERS: MANUFACTURER'S STANDARD EXTRUDED-ALUMINUM FRAMING MEMBERS OF THICKNESS REQUIRED AND REINFORCED AS REQUIRED TO SUPPORT IMPOSED LOADS.

1. CONSTRUCTION: THERMALLY BROKEN.

B. BRACKETS AND REINFORCEMENTS: MANUFACTURER'S STANDARD HIGH-STRENGTH ALUMINUM WITH NONSTAINING, NONFERROUS SHIMS FOR ALIGNING SYSTEM COMPONENTS.

C. FASTENERS AND ACCESSORIES: MANUFACTURER'S STANDARD CORROSION-RESISTANT, NONSTAINING, NONBLEEDING FASTENERS AND ACCESSORIES COMPATIBLE WITH ADJACENT MATERIALS.

1. USE SELF-LOCKING DEVICES WHERE FASTENERS ARE SUBJECT TO LOOSENING OR TURNING OUT FROM THERMAL AND STRUCTURAL MOVEMENTS, WIND LOADS, OR VIBRATION.
2. REINFORCE MEMBERS AS REQUIRED TO RECEIVE FASTENER THREADS.

D. CONCRETE AND MASONRY INSERTS: HOT-DIP GALVANIZED CAST-IRON, MALLEABLE-IRON, OR STEEL INSERTS, COMPLYING WITH ASTM A 123/A 123M OR ASTM A 153/A 153M.

E. CONCEALED FLASHING: MANUFACTURER'S STANDARD CORROSION-RESISTANT, NONSTAINING, NONBLEEDING FLASHING COMPATIBLE WITH ADJACENT MATERIALS.

F. FRAMING SYSTEM GASKETS AND SEALANTS: MANUFACTURER'S STANDARD, RECOMMENDED BY MANUFACTURER FOR JOINT TYPE.

2.3 GLAZING SYSTEMS

A. GLAZING: AS SPECIFIED IN DIVISION 8 SECTION "GLAZING."

B. GLAZING GASKETS: MANUFACTURER'S STANDARD COMPRESSION TYPES; REPLACEABLE, MOLDED OR EXTRUDED, OF PROFILE AND HARDNESS REQUIRED TO MAINTAIN WATERTIGHT SEAL.

C. SPACERS AND SETTING BLOCKS: MANUFACTURER'S STANDARD ELASTOMERIC TYPE.

2.4 ENTRANCE DOOR SYSTEMS

A. ENTRANCE DOORS: MANUFACTURER'S STANDARD GLAZED ENTRANCE DOORS FOR MANUAL-SWING OPERATION.

1. DOOR CONSTRUCTION: 1-3/4-INCH OVERALL THICKNESS, WITH MINIMUM 0.125-INCH- THICK, EXTRUDED-ALUMINUM TUBULAR RAIL AND STILE MEMBERS. MECHANICALLY FASTEN CORNERS WITH REINFORCING BRACKETS THAT ARE DEEPLY PENETRATED AND FILLET WELDED OR THAT INCORPORATE CONCEALED TIE RODS.
2. DOOR DESIGN: AS INDICATED.
3. GLAZING STOPS AND GASKETS: BEVELED, SNAP-ON, EXTRUDED-ALUMINUM STOPS AND PREFORMED GASKETS.
   a. PROVIDE NONREMOVABLE GLAZING STOPS ON OUTSIDE OF DOOR.

B. ENTRANCE DOOR HARDWARE: AS SPECIFIED ON THE DRAWINGS AND IN DIVISION 8 SECTION "DOOR HARDWARE."

2.5 ALUMINUM FINISHES

A. CLEAR ANODIC FINISH: AAMA 611, AA-M12C22A31, CLASS II, 0.010 MM OR THICKER.

PART 3 - EXECUTION

3.1 INSTALLATION

A. GENERAL:

1. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. DO NOT INSTALL DAMAGED COMPONENTS.
3. FIT JOINTS TO PRODUCE HAIRLINE JOINTS FREE OF BURRS AND DISTORTION.
4. RIGIDLY SECURE NONMOVEMENT JOINTS.
5. INSTALL ANCHORS WITH SEPARATORS AND ISOLATORS TO PREVENT METAL CORROSION AND ELECTROLYTIC DETERIORATION.
6. SEAL JOINTS WATERTIGHT UNLESS OTHERWISE INDICATED.

B. METAL PROTECTION:

1. WHERE ALUMINUM WILL CONTACT DISSIMILAR METALS, PROTECT AGAINST GALVANIC ACTION BY PAINTING CONTACT SURFACES WITH PRIMER OR APPLYING SEALANT OR TAPE, OR BY INSTALLING NONCONDUCTIVE SPACERS AS RECOMMENDED BY MANUFACTURER FOR THIS PURPOSE.
2. WHERE ALUMINUM WILL CONTACT CONCRETE OR MASONRY, PROTECT AGAINST CORROSION BY PAINTING CONTACT SURFACES WITH BITUMINOUS PAINT.

C. INSTALL COMPONENTS TO DRAIN WATER PASSING JOINTS, CONDENSATION OCCURRING WITHIN FRAMING MEMBERS, AND MOISTURE MIGRATING WITHIN THE SYSTEM TO EXTERIOR.

D. SET CONTINUOUS SILL MEMBERS AND FLASHING IN FULL SEALANT BED AS SPECIFIED IN DIVISION 7 SECTION "JOINT SEALANTS" TO PRODUCE WEATHERTIGHT INSTALLATION.

E. INSTALL COMPONENTS PLUMB AND TRUE IN ALIGNMENT WITH ESTABLISHED LINES AND GRADES, AND WITHOUT WARP OR RACK.

F. INSTALL GLAZING AS SPECIFIED IN DIVISION 8 SECTION "GLAZING."

G. ENTRANCE DOORS: INSTALL DOORS TO PRODUCE SMOOTH OPERATION AND TIGHT FIT AT CONTACT POINTS.

1. EXTERIOR DOORS: INSTALL TO PRODUCE WEATHERTIGHT ENCLOSURE AND TIGHT FIT AT WEATHER STRIPPING.
2. FIELD-INSTALLED ENTRANCE DOOR HARDWARE: INSTALL SURFACE-MOUNTED ENTRANCE DOOR HARDWARE ACCORDING TO ENTRANCE DOOR HARDWARE MANUFACTURERS' WRITTEN INSTRUCTIONS USING CONCEALED FASTENERS TO GREATEST EXTENT POSSIBLE.

3.2 PROTECTION AND CLEANING

A. PROTECTION: PROTECT INSTALLED PRODUCT'S FINISH SURFACES FROM DAMAGE DURING CONSTRUCTION. PROTECT ALUMINUM STOREFRONT SYSTEM FROM DAMAGE FROM GRINDING AND POLISHING COMPOUNDS, PLASTER, LIME, ACID, CEMENT, OR OTHER HARMFUL CONTAMINANTS.

B. CLEANING: REPAIR OR REPLACE DAMAGED INSTALLED PRODUCTS. CLEAN INSTALLED PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS PRIOR TO OWNER'S ACCEPTANCE. REMOVE CONSTRUCTION DEBRIS FROM PROJECT SITE AND LEGALLY DISPOSE OF DEBRIS.

END OF SECTION 084113

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 DESCRIPTION

A. GENERAL: PRIOR TO COMMENCING THE WORK OF THIS SECTION. THE HARDWARE CONTRACTOR SHALL STUDY ALL OTHER SECTIONS OF THESE SPECIFICATIONS AND THE DRAWINGS FOR WORK RELATED TO THIS SECTION.

B. WORK INCLUDED: GENERALLY, THE WORK OF THIS SECTION INCLUDES, BUT IS NOT NECESSARILY LIMITED TO FURNISHING AND INSTALLATION OF ALL FINISHING HARDWARE FOR APPLICATION TO WOOD, HOLLOW METAL, STEEL, AND MISCELLANEOUS DOORS AND THE FURNISHING AND INSTALLATION OF ALL OTHER MISCELLANEOUS HARDWARE AS SPECIFIED HEREIN AND IS SCHEDULED AND/OR INDICATED ON THE DRAWINGS.

C. RELATED WORK DESCRIBED ELSEWHERE:

1. HOLLOW METAL FRAMES: SECTION 081213
2. FLUSH WOOD DOORS: SECTION 081416

D. ALL CORES SHALL BE OF THE SAME MANUFACTURER AND SPECIFICATION; THEREFORE, NO SUBSTITUTIONS WILL BE ALLOWED.

E. ALL LOCATIONS SHALL BE VERIFIED AND COORDINATED BY THE HARDWARE SUPPLIER BEFORE FABRICATION.

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
	03/18/2026	PERMIT SET
1		
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SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

A-9.7

SHEET NO.

F. UNLESS OTHERWISE DIRECTED, HARDWARE SHALL BE MOUNTED PER SPECIFICATIONS, OR THE HARDWARE MANUFACTURE'S STANDARDS. ACCESSIBLE DOOR HARDWARE SHALL BE INSTALLED IN CONFORMANCE WITH ADA REGULATIONS. IT IS THE INTENT TO HAVE ALL HARDWARE USABLE BY THE CHILDREN TO BE INSTALLED LOW ENOUGH SO SMALL CHILDREN CAN OPERATE DOOR IN NORMAL AND EMERGENCY SITUATIONS.

1.2 QUALITY ASSURANCE

A. THE FOLLOWING STANDARDS ARE HEREBY MADE A PART OF THIS SPECIFICATION.
   1. BUILDERS HARDWARE MANUFACTURER'S ASSOCIATION - "PRODUCTS STANDARDS"
   2. ARCHITECTURAL HARDWARE SPECIFICATIONS HANDBOOK.
   3. ANSI STANDARD A115.1, A115.2, A117.1, A156.13
   4. WHERE PROVISIONS OF PERTINENT CODES AND STANDARDS CONFLICT WITH THIS SPECIFICATION, THE MORE STRINGENT PROVISIONS SHALL GOVERN.

1.3 SHOP DRAWINGS

A. MATERIALS LIST: THE HARDWARE CONTRACTOR SHALL SUBMIT FOR APPROVAL A SAMPLE LIST IN TRIPLICATE, LISTING EACH OF THE DIFFERENT ARTICLES OF BUILDER'S HARDWARE REQUIRED. THE SAMPLE LIST SHALL BE SUBMITTED IN THE FOLLOWING FORM WITH MANUFACTURER'S NAME AND CATALOG NUMBER OF THE ARTICLE SUPPLIED.
   1. QUANTITY NUMBER SPEC. REF., TYPE, MANUFACTURER'S NAME, OR CATALOG NUMBER, ARTICLE AND CATALOG NUMBER OF ARTICLE SUPPLIED.

1.4 GUARANTEES: PROVIDE UPON COMPLETION ALL WRITTEN WARRANTIES.

PART 2 - PRODUCTS

2.1 ACCOUNT VENDOR

A. FOR ALL HARDWARE, CONTACT:
   1. COOK & BOARDMAN, SEE COVER SHEET FOR CONTACT INFORMATION

EMAIL: KINDERCARE@COOKANDBOARDMAN.COM

2.2 FASTENERS

A. GENERAL:
   1. FURNISH ALL FINISH HARDWARE WITH ALL NECESSARY SCREWS, BOLTS, AND OTHER FASTENERS OF SUITABLE SIZE AND TYPE TO ANCHOR THE HARDWARE IN POSITION FOR LONG LIFE UNDER HARD USE.
   2. FURNISH FASTENINGS WHERE NECESSARY WITH EXPANSION SHIELDS, TOGGLE BOLTS, SEX BOLTS, AND OTHER ANCHORS APPROVED BY THE ARCHITECT, ACCORDING TO THE MATERIAL TO WHICH THE HARDWARE IS TO BE APPLIED AND THE RECOMMENDATIONS OF THE HARDWARE MANUFACTURER.

B. DESIGN:
   1. ALL FASTENINGS SHALL HARMONIZE WITH THE HARDWARE AS TO MATERIAL AND FINISH.

2.3 HARDWARE ITEMS

A. SEE HARDWARE SCHEDULE FOR ALL ITEMS.

B. EACH HARDWARE ITEM SHALL BE PACKAGED SEPARATELY WITH ALL SCREWS, WRENCHES, TEMPLATES, AND INSTRUCTIONS. MARK WITH DOOR NUMBER TO WHICH EACH PIECE BELONGS.

C. ALL CYLINDER LOCKS SHALL BE REMOVABLE CORE. ALL EXTERIOR DOORS SHALL BE KEYED ALIKE, AND ALL INTERIOR DOORS KEYED ALIKE (TWO DIFFERENT KEYS). PROVIDE CONSTRUCTION CORES FOR ALL EXTERIOR DOORS.

D. PROVIDE 4 "DO NOT DUPLICATE" MASTER KEYS AND 6 COPIES OF ALL OTHER KEYS TO THE OWNER UPON COMPLETION OF THE PROJECT. DOOR LOCKS SHALL BE KEYED PER THE DIRECTION OF KNOWLEDGE UNIVERSE AND THE OWNER.

E. CLOSERS SHALL HAVE BACK CHECK DEVICE AND INSTALLED PARALLEL MOUNT ON THE PUSH SIDE OF ALL DOORS.

F. HARDWARE SHALL COMPLY WITH THE REQUIREMENTS OF STATE AND LOCAL CODES.

PART 3 - EXECUTION

3.1 INSTALLATION

A. GENERAL: INSTALL ALL MATERIALS PROVIDED UNDER THIS SECTION OF THESE SPECIFICATIONS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE APPROVAL OF THE ARCHITECT.

B. ALL DOORS SHALL OPERATE WITHOUT BINDING OF ANY TYPE AND SHALL RETURN TO A SMOOTH EVEN FIT WITH THE SURFACE OF THE DOOR EQUAL DISTANT FROM THE SIDES AND FACES OF THE FRAMES. CLOSERS SHALL GENTLY RETURN ALL DOORS TO THE CLOSED POSITION WITH LATCHES FULLY ENGAGED. LABELED HARDWARE SHALL HAVE THE LABELS AND OTHER OPERATING PORTIONS MASKED OFF BEFORE PAINTING COMMENCES, REMOVE AFTER PAINTING IS COMPLETE.

C. ADJUST, CLEAN AND OIL AND HARDWARE BEFORE FINAL INSPECTION.

3.2 TESTS

A. GENERAL: UPON COMPLETION OF THIS PORTION OF THE WORK, AND PRIOR TO ITS ACCEPTANCE BY THE OWNER, MAKE ALL REQUIRED TESTS AND SECURE ALL REQUIRED APPROVALS FROM AGENCIES HAVING JURISDICTION.

3.3 CLEANING:

A. GENERAL: IN ADDITION TO CONFORMING TO THESE SPECIFICATIONS, DURING THE PROGRESS OF THIS PORTION OF THE WORK ALL WORK AREAS SHALL BE KEPT NEAT, CLEAN AND ORDERLY.

END OF SECTION 087100

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
   1. GLASS FOR WINDOWS, DOORS, INTERIOR BORROWED LITES, STOREFRONT FRAMING.
   2. GLAZING SEALANTS AND ACCESSORIES.

1.2 RELATED SECTIONS

A. DIVISION 08 SECTION "HOLLOW METAL FRAMES."

B. DIVISION 08 SECTION "FLUSH WOOD DOORS."

1.3 PERFORMANCE REQUIREMENTS

A. GENERAL: PROVIDE GLAZING SYSTEMS THAT WILL WITHSTAND INDICATED LOADS AND NORMAL THERMAL MOVEMENT WITHOUT FAILURE, INCLUDING LOSS OR GLASS BREAKAGE RESULTING FROM DEFECTIVE MANUFACTURE, FABRICATION, OR INSTALLATION; FAILURE OF GLAZING SYSTEMS TO REMAIN WATERTIGHT AND AIRTIGHT; OR DETERIORATION OF GLAZING MATERIALS.

1.4 DELIVERY, STORAGE, AND HANDLING

A. PROTECT GLAZING MATERIALS DURING SHIPPING, HANDLING, AND STORAGE TO PREVENT BREAKAGE, SCRATCHING, DAMAGE TO SEALS, OR OTHER VISIBLE DAMAGE. DELIVER, UNLOAD, STORE, AND ERECT GLAZING MATERIALS WITHOUT EXPOSING PANELS TO DAMAGE FROM CONSTRUCTION OPERATIONS.
   1. COMPLY WITH MANUFACTURER'S VENTING AND SEALING RECOMMENDATIONS FOR SHIPPING AND HANDLING OF INSULATING GLASS UNITS EXPOSED TO SUBSTANTIAL ALTITUDE CHANGE.

1.5 WARRANTY

A. WARRANTY FOR INSULATING GLASS: MANUFACTURER'S STANDARD FORM, SIGNED BY INSULATING-GLASS PRODUCT MANUFACTURER/FABRICATOR, AGREEING TO REPLACE INSULATING-GLASS UNITS THAT EXHIBIT FAILURE OF HERMETIC SEAL UNDER NORMAL USE EVIDENCED BY THE OBSTRUCTION OF VISION BY DUST, MOISTURE, OR FILM ON INTERIOR SURFACES OF GLASS, WITHIN 10 YEARS OF DATE OF SUBSTANTIAL COMPLETION.

B. INSTALLER'S WARRANTY: FORM ACCEPTABLE TO OWNER, SIGNED BY GLASS PRODUCT INSTALLER, AGREEING TO REPLACE GLASS PRODUCTS THAT DETERIORATE, OR THAT EXHIBIT DAMAGE OR DETERIORATION OF GLASS OR GLAZING PRODUCTS DUE TO FAULTY INSTALLATION, WITHIN 2 YEARS OF DATE OF SUBSTANTIAL COMPLETION.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. PRIMARY GLASS MANUFACTURER:
   1. PPG INDUSTRIES, INC, PITTSBURGH, PA, (888) 774-4332, EMAIL: INFO@PPG.COM, HTTP://CORPORATEPORTAL.PPG.COM.
   2. APPROVED EQUAL.

2.2 GLASS PRODUCTS

A. ANNEALED FLOAT GLASS, GENERAL: ASTM C 1036, TYPE I, QUALITY-Q3, CLASS INDICATED.

B. HEAT-TREATED FLOAT GLASS, FULLY TEMPERED: ASTM C 1048; TYPE I (TRANSPARENT FLAT GLASS); QUALITY-Q3; KIND FT, OF CLASS AND CONDITION INDICATED: WHERE SAFETY GLASS IS INDICATED.

C. INSULATING-GLASS UNITS: FACTORY-ASSEMBLED UNITS CONSISTING OF DUAL-SEALED LITES OF GLASS SEPARATED BY A DEHYDRATED INTERSPACE, WITH MANUFACTURER'S STANDARD SPACER MATERIAL AND CONSTRUCTION, PER ASTM E 774 AND E 2190.

2.3 GLAZING ACCESSORIES

A. CLEANERS, PRIMERS, AND SEALERS: TYPES RECOMMENDED BY SEALANT OR GASKET MANUFACTURER.

B. GLAZING TAPE: CLOSED CELL POLYVINYL CHLORIDE FOAM, WIDTHS REQUIRED FOR SPECIFIED INSTALLATION, AND COMPLYING WITH AAMA 800.

C. GLAZING GASKETS:
   1. DENSE COMPRESSION GASKETS: ASTM C 864, NEOPRENE OR EPDM, OR ASTM C 1115, SILICONE OR THERMOPLASTIC POLYOLEFIN RUBBER, BLACK COLOR.
   2. SOFT COMPRESSION GASKETS: ASTM C 509, TYPE II, BLACK, MOLDED OR EXTRUDED, NEOPRENE, EPDM, SILICONE OR THERMOPLASTIC POLYOLEFIN RUBBER, OF PROFILE AND HARDNESS REQUIRED TO MAINTAIN WATERTIGHT SEAL.

D. SETTING BLOCKS: ASTM C 864, NEOPRENE.

E. SPACER SHIMS: ASTM C 864, NEOPRENE.

F. EDGE BLOCKS: ELASTOMERIC MATERIAL OF HARDNESS NEEDED TO LIMIT GLASS LATERAL MOVEMENT (SIDE WALKING).

2.4 FABRICATION OF GLAZING UNITS, GENERAL

A. FABRICATE GLAZING UNITS IN DIMENSIONS REQUIRED, WITH EDGE AND FACE CLEARANCES, EDGE AND SURFACE CONDITIONS, AND BITE IN ACCORDANCE WITH GLAZING PRODUCT MANUFACTURER/FABRICATOR'S INSTRUCTIONS AND REFERENCED GLAZING PUBLICATIONS.

2.5 MONOLITHIC (SINGLE-GLAZED) FLOAT-GLASS UNITS

A. UNCOATED CLEAR FLOAT GLASS UNITS:
   1. CLASS 1 (CLEAR) FLOAT GLASS, ¼" MINIMUM THICKNESS.
      a. KIND FT (FULLY TEMPERED).

B. UNCOATED CLEAR FLOAT GLASS UNITS:
   1. CLASS 1 (FROSTED) FLOAT GLASS, ¼" MINIMUM THICKNESS.
      a. KIND FT (FULLY TEMPERED).

PART 3 - EXECUTION

3.1 PREPARATION

A. CLEAN GLAZING CHANNELS WITH RECOMMENDED SOLVENT AND WIPE DRY. APPLY PRIMERS TO JOINT SURFACES TO ENSURE ADHESION OF SEALANTS, UNLESS PRECONSTRUCTION SEALANT-SUBSTRATE TESTING INDICATES NO PRIMER IS REQUIRED.

3.2 GLAZING INSTALLATION

A. GENERAL: INSTALL GLASS AND GLAZING MATERIALS IN ACCORDANCE WITH INSTRUCTIONS OF MANUFACTURERS AND REQUIREMENTS OF GANA GLAZING MANUAL.

B. GASKET GLAZING: FABRICATE GASKETS TO FIT OPENINGS EXACTLY. ALLOW FOR STRETCHING OF GASKETS DURING INSTALLATION.

3.3 CLEANING AND PROTECTION

A. PROTECT INSTALLED GLASS FROM DAMAGE. ATTACH STREAMERS OR WARNING TAPE TO FRAMING MEMBERS, AWAY FROM CONTACT WITH GLASS. REMOVE NONPERMANENT LABELS.

B. PROTECT GLASS FROM CONTACT WITH CONTAMINATING SUBSTANCES DURING CONSTRUCTION. IMMEDIATELY CLEAN GLASS EXPOSED TO CONTAMINATION USING METHODS RECOMMENDED BY GLASS MANUFACTURER.

C. WITHIN 5 WORKING DAYS PRIOR TO INSPECTION FOR SUBSTANTIAL COMPLETION, CLEAN ALL EXPOSED GLASS SURFACES USING METHODS RECOMMENDED BY MANUFACTURER. REMOVE GLAZING COMPOUNDS FROM FRAMING SURFACES.

D. REMOVE AND REPLACE BROKEN OR DAMAGED GLASS.

END OF SECTION 088000

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
   1. INTERIOR GYPSUM BOARD.

PART 2 - PRODUCTS

2.1 GYPSUM BOARD, GENERAL

A. SIZE: PROVIDE MAXIMUM LENGTHS AND WIDTHS AVAILABLE THAT WILL MINIMIZE JOINTS IN EACH AREA AND THAT CORRESPOND WITH SUPPORT SYSTEM INDICATED.

2.2 INTERIOR GYPSUM BOARD

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   1. AMERICAN GYPSUM.
   2. CERTAINTEED CORPORATION.
   3. GEORGIA-PACIFIC BUILDING PRODUCTS.
   4. NATIONAL GYPSUM COMPANY.
   5. UNITED STATES GYPSUM COMPANY.

B. GYPSUM WALLBOARD: ASTM C 1396/C 1396M.
   1. THICKNESS: 5/8 INCH.
   2. LONG EDGES: TAPERED.

C. GYPSUM BOARD, TYPE X: ASTM C 1396/C 1396M.
   1. THICKNESS: 5/8 INCH.
   2. LONG EDGES: TAPERED.

D. GYPSUM CEILING BOARD: ASTM C 1396/C 1396M.
   1. THICKNESS: 5/8 INCH.
   2. LONG EDGES: TAPERED.

2.3 TILE BACKING PANELS

A. GLASS-MAT GYPSUM INTERIOR BOARD: ASTM C 1658/1658M, WITH FIBERGLASS MAT LAMINATED TO BOTH SIDES AND WITH MANUFACTURER'S STANDARD EDGES.
   1. PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIRMENTS, PROVIDE GEORGIA-PACIFIC GYPSUM; "DENSARMOR PLUS."
   2. CORE: 5/8 INCH, TYPE X.
   3. LONG EDGES: TAPERED.

2.4 TRIM ACCESSORIES

A. INTERIOR TRIM: ASTM C 1047.
   1. MATERIAL: GALVANIZED OR ALUMINUM-COATED STEEL SHEET, ROLLED ZINC, PLASTIC, OR PAPER-FACED GALVANIZED-STEEL SHEET.

2.5 JOINT TREATMENT MATERIALS

A. GENERAL: COMPLY WITH ASTM C 475/C 475M.

B. JOINT TAPE:
   1. INTERIOR GYPSUM BOARD: PAPER.
   2. EXTERIOR GYPSUM SOFFIT BOARD: PAPER.
   3. GLASS-MAT GYPSUM SHEATHING BOARD: 10-BY-10 GLASS MESH.

   TILE BACKING PANELS: AS RECOMMENDED BY PANEL MANUFACTURER.

C. JOINT COMPOUND FOR INTERIOR GYPSUM BOARD: FOR EACH COAT, USE FORMULATION THAT IS COMPATIBLE WITH OTHER COMPOUNDS APPLIED ON PREVIOUS OR FOR SUCCESSIVE COATS.
   1. PREFILLING: AT OPEN JOINTS, ROUNDED OR BEVELED PANEL EDGES, AND DAMAGED SURFACE AREAS, USE SETTING-TYPE TAPING COMPOUND.
   2. EMBEDDING AND FIRST COAT: FOR EMBEDDING TAPE AND FIRST COAT ON JOINTS, FASTENERS, AND TRIM FLANGES, USE DRYING-TYPE, ALL-PURPOSE COMPOUND.
      a. USE SETTING-TYPE COMPOUND FOR INSTALLING PAPER-FACED METAL TRIM ACCESSORIES.
   3. FILL COAT: FOR SECOND COAT, USE DRYING-TYPE, ALL-PURPOSE COMPOUND.
   4. FINISH COAT: FOR THIRD COAT, USE DRYING-TYPE, ALL-PURPOSE COMPOUND.

D. JOINT COMPOUND FOR TILE BACKING PANELS:
   1. AS RECOMMENDED BY BACKER UNIT MANUFACTURER.

2.6 AUXILIARY MATERIALS

A. GENERAL: PROVIDE AUXILIARY MATERIALS THAT COMPLY WITH REFERENCED INSTALLATION STANDARDS AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

B. STEEL DRILL SCREWS: ASTM C 1002 UNLESS OTHERWISE INDICATED.
   1. USE SCREWS COMPLYING WITH ASTM C 954 FOR FASTENING PANELS TO STEEL MEMBERS FROM 0.033 TO 0.112 INCH THICK.
   2. FOR FASTENING CEMENTITIOUS BACKER UNITS, USE SCREWS OF TYPE AND SIZE RECOMMENDED BY PANEL MANUFACTURER.

PART 3 - EXECUTION

3.1 APPLYING AND FINISHING PANELS

A. EXAMINE PANELS BEFORE INSTALLATION. REJECT PANELS THAT ARE WET, MOISTURE DAMAGED, AND MOLD DAMAGED.

B. COMPLY WITH ASTM C 840.

C. PREFILL OPEN JOINTS, ROUNDED OR BEVELED EDGES, AND DAMAGED SURFACE AREAS.

D. APPLY JOINT TAPE OVER GYPSUM BOARD JOINTS, EXCEPT FOR TRIM PRODUCTS SPECIFICALLY INDICATED AS NOT INTENDED TO RECEIVE TAPE.

E. GYPSUM BOARD FINISH LEVELS: FINISH PANELS TO LEVELS INDICATED BELOW AND ACCORDING TO ASTM C 840:
   1. LEVEL 1: CEILING PLENUM AREAS, CONCEALED AREAS, AND WHERE INDICATED.
   2. LEVEL 2: PANELS THAT ARE SUBSTRATE FOR TILE.
   3. LEVEL 3: NOT USED.
   4. LEVEL 4: ALL ROOMS, U.N.O.
   5. LEVEL 5: LOBBY

F. CEMENTITIOUS BACKER UNITS: FINISH ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

3.3 PROTECTION

A. PROTECT INSTALLED PRODUCTS FROM DAMAGE FROM WEATHER, CONDENSATION, DIRECT SUNLIGHT, CONSTRUCTION, AND OTHER CAUSES DURING REMAINDER OF THE CONSTRUCTION PERIOD.

B. REMOVE AND REPLACE PANELS THAT ARE WET, MOISTURE DAMAGED, AND MOLD DAMAGED.

END OF SECTION 092900

SECTION 093013 - CERAMIC TILING

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
   1. PORCELAIN TILE.
   2. GLAZED WALL TILE.
   3. TILE BACKING PANELS.

1.2 MAINTENANCE MATERIAL SUBMITTALS

A. FURNISH EXTRA MATERIALS THAT MATCH AND ARE FROM SAME PRODUCTION RUNS AS PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS.
   1. TILE AND TRIM UNITS: FURNISH QUANTITY OF FULL-SIZE UNITS EQUAL TO 3 PERCENT OF AMOUNT INSTALLED FOR EACH TYPE, COMPOSITION, COLOR, PATTERN, AND SIZE INDICATED.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

A. ANSI CERAMIC TILE STANDARD: PROVIDE STANDARD-GRADE TILE THAT COMPLIES WITH ANSI A137.1 FOR TYPES, COMPOSITIONS, AND OTHER CHARACTERISTICS INDICATED.

2.2 TILE PRODUCTS

A. CERAMIC TILE TYPE AS NOTED ON DRAWINGS.
   1. TRIM UNITS: COORDINATED WITH SIZES AND COURSING OF ADJOINING FLAT TILE WHERE APPLICABLE AND MATCHING CHARACTERISTICS OF ADJOINING FLAT TILE. PROVIDE SHAPES AS FOLLOWS, SELECTED FROM MANUFACTURER'S STANDARD SHAPES:
      a. TAPERED TRANSITION TILE: SHAPE DESIGNED TO EFFECT TRANSITION BETWEEN THICKNESS OF TILE FLOOR AND ADJOINING FLOOR FINISHES OF DIFFERENT THICKNESS, TAPERED TO PROVIDE REDUCTION IN THICKNESS FROM 1/2 TO 1/4 INCH ACROSS NOMINAL 4-INCH DIMENSION.
      b. BASE: COVED, MODULE SIZE 6 BY 6 INCHES.
      c. WAINSCOT CAP: BULLNOSE CAP, MODULE SIZE 6 BY 6 INCHES.
      d. EXTERNAL CORNERS: BULLNOSE, SAME SIZE AS ADJOINING FLAT TILE.
      e. INTERNAL CORNERS: FIELD-BUTTED SQUARE CORNERS. FOR COVED BASE AND CAP USE ANGLE PIECES DESIGNED TO FIT WITH STRETCHER SHAPES.

2.3 TILE BACKING PANELS

A. GLASS-MAT GYPSUM INTERIOR BOARD: ASTM C 1658/1658M, WITH FIBERGLASS MAT LAMINATED TO BOTH SIDES AND WITH MANUFACTURER'S STANDARD EDGES.
   1. PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE GEORGIA-PACIFIC GYPSUM; "DENSARMOR PLUS."
   2. CORE: 5/8 INCH, TYPE X.
   3. LONG EDGES: TAPERED.

B. LATEX-PORTLAND CEMENT: FLEXIBLE MORTAR CONSISTING OF CEMENT-BASED MIX AND LATEX ADDITIVE.
   1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
      a. MAPEI CORPORATION; MAPELASTIC (PRP 315).
      b. APPROVED EQUAL.

2.4 SETTING MATERIALS

A. LATEX-PORTLAND CEMENT MORTAR (THIN SET): ANSI A118.4.
   1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
      a. MAPEI CORPORATION.
      b. APPROVED EQUAL.
   2. PREPACKAGED, DRY-MORTAR MIX TO WHICH ONLY WATER MUST BE ADDED.
   3. FOR WALL APPLICATIONS, PROVIDE NONSAGGING MORTAR.

2.5 GROUT MATERIALS

A. SAND-PORTLAND CEMENT GROUT: ANSI A108.10.

B. STANDARD CEMENT GROUT: ANSI A118.6.
   1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
      a. MAPEI CORPORATION.
      b. APPROVED EQUAL.

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS WHERE TILE WILL BE INSTALLED, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.

B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION

A. FILL CRACKS, HOLES, AND DEPRESSIONS IN CONCRETE SUBSTRATES FOR TILE FLOORS INSTALLED WITH THINSET MORTAR WITH TROWELABLE LEVELING AND PATCHING COMPOUND SPECIFICALLY RECOMMENDED BY TILE-SETTING MATERIAL MANUFACTURER.

3.3 CERAMIC TILE INSTALLATION

A. COMPLY WITH TCNA'S "HANDBOOK FOR CERAMIC, GLASS, AND STONE TILE INSTALLATION" FOR TCNA INSTALLATION METHODS SPECIFIED IN TILE INSTALLATION SCHEDULES. COMPLY WITH PARTS OF THE ANSI A108 SERIES "SPECIFICATIONS FOR INSTALLATION OF CERAMIC TILE" THAT ARE REFERENCED IN TCNA INSTALLATION METHODS, SPECIFIED IN TILE INSTALLATION SCHEDULES, AND APPLY TO TYPES OF SETTING AND GROUTING MATERIALS USED.

B. EXTEND TILE WORK INTO RECESSES AND UNDER OR BEHIND EQUIPMENT AND FIXTURES TO FORM COMPLETE COVERING WITHOUT INTERRUPTIONS UNLESS OTHERWISE INDICATED. TERMINATE WORK NEATLY AT OBSTRUCTIONS, EDGES, AND CORNERS WITHOUT DISRUPTING PATTERN OR JOINT ALIGNMENTS.

C. JOINTING PATTERN: LAY TILE IN GRID PATTERN UNLESS OTHERWISE INDICATED. LAY OUT TILE WORK AND CENTER TILE FIELDS IN BOTH DIRECTIONS IN EACH SPACE OR ON EACH WALL AREA. LAY OUT TILE WORK TO MINIMIZE THE USE OF PIECES THAT ARE LESS THAN HALF OF A TILE. PROVIDE UNIFORM JOINT WIDTHS UNLESS OTHERWISE INDICATED.

D. JOINT WIDTHS: UNLESS OTHERWISE INDICATED, INSTALL TILE WITH THE FOLLOWING JOINT WIDTHS:
   1. GLAZED WALL TILE: 1/4 INCH.
   2. PORCELAIN TILE: 1/4 INCH.

E. EXPANSION JOINTS: PROVIDE EXPANSION JOINTS AND OTHER SEALANT-FILLED JOINTS, INCLUDING CONTROL, CONTRACTION, AND ISOLATION JOINTS, WHERE INDICATED. FORM JOINTS DURING INSTALLATION OF SETTING MATERIALS, MORTAR BEDS, AND TILE. DO NOT SAW-CUT JOINTS AFTER INSTALLING TILES.
   1. WHERE JOINTS OCCUR IN CONCRETE SUBSTRATES, LOCATE JOINTS IN TILE SURFACES DIRECTLY ABOVE THEM.

F. INSTALL TILE BACKING PANELS AND TREAT JOINTS ACCORDING TO ANSI A108.11 AND MANUFACTURER'S WRITTEN INSTRUCTIONS FOR TYPE OF APPLICATION INDICATED. USE MODIFIED DRY-SET MORTAR FOR BONDING MATERIAL UNLESS OTHERWISE DIRECTED IN MANUFACTURER'S WRITTEN INSTRUCTIONS.

END OF SECTION 093013

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES ACOUSTICAL PANELS AND EXPOSED SUSPENSION SYSTEMS FOR INTERIOR CEILINGS.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. SEISMIC PERFORMANCE: SUSPENDED CEILINGS SHALL WITHSTAND THE EFFECTS OF EARTHQUAKE MOTIONS DETERMINED ACCORDING TO ASCE/SEI 7.

B. SURFACE-BURNING CHARACTERISTICS: COMPLY WITH ASTM E84; TESTING BY A QUALIFIED TESTING AGENCY. IDENTIFY PRODUCTS WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AGENCY.
   1. FLAME-SPREAD INDEX: CLASS A ACCORDING TO ASTM E1264.
   2. SMOKE-DEVELOPED INDEX: 450 OR LESS.

2.2 ACOUSTICAL PANELS ACT-1 NOTED IN DRAWINGS

A. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
   1. MARS CLIMAPLUS #88985 BY UNITED STATES GYPSUM
   2. ULTIMA TEGULAR #1915 BY ARMSTRONG

B. ACOUSTICAL PANEL STANDARD: MANUFACTURER'S STANDARD PANELS ACCORDING TO ASTM E1264.

C. CLASSIFICATION: TYPE IV, FORM 1 AND 2, PATTERN E, G.

D. COLOR: WHITE.

E. EDGE/JOINT DETAIL: BEVELED EDGE AS INDICATED BY MANUFACTURER'S DESIGNATION.

F. THICKNESS: 3/4 INCH.

G. MODULAR SIZE: 24 BY 48 INCHES.

2.3 ACOUSTICAL PANELS ACT-2 NOTED IN DRAWINGS

A. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
   1. CLEAN ROOM VL UNPERFORATED #870 BY ARMSTRONG
   2. SHEETROCK LAY-IN CLIMAPLUS #3270 BY UNITED STATES GYPSUM

B. ACOUSTICAL PANEL STANDARD: MANUFACTURER'S STANDARD PANELS ACCORDING TO ASTM E1264.

C. CLASSIFICATION: TYPE IV, FORM 2, PATTERN E.

D. COLOR: WHITE.

E. EDGE/JOINT DETAIL: SQUARE.

F. THICKNESS: 1/2 INCH OR 5/8 INCH.

G. MODULAR SIZE: 24 BY 48 INCHES.

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR WAKE FOREST, NC

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SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

A-9.8

SHEET NO.

2.4 METAL SUSPENSION SYSTEM FOR ACT-1 NOTED IN DRAWINGS

A. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
   1. CENTRICITEE DXT 9/16 INCH BY UNITED STATES GYPSUM
   2. SUPRAFINE XL 9/16 INCH BY ARMSTRONG
   3. APPROVED EQUAL.

B. METAL SUSPENSION-SYSTEM STANDARD: MANUFACTURER'S STANDARD, DIRECT-HUNG, METAL SUSPENSION SYSTEM AND ACCESSORIES ACCORDING TO ASTM C635/C635M.

C. NARROW-FACE, CAPPED, DOUBLE-WEB, STEEL SUSPENSION SYSTEM: MAIN AND CROSS RUNNERS ROLL FORMED FROM COLD-ROLLED STEEL SHEET; PREPAINTED, ELECTROLYTICALLY ZINC COATED, OR HOT-DIP GALVANIZED, G30 COATING DESIGNATION; WITH PREFINISHED 9/16-INCH-WIDE METAL CAPS ON FLANGES.

2.5 METAL SUSPENSION SYSTEM FOR ACT-2 NOTED IN DRAWINGS

A. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
   1. DONN DXLA BY UNITED STATES GYPSUM
   2. PRELUDE PLUS XL FIRE GUARD BY ARMSTRONG
   3. APPROVED EQUAL.

B. METAL SUSPENSION-SYSTEM STANDARD: MANUFACTURER'S STANDARD, DIRECT-HUNG, METAL SUSPENSION SYSTEM AND ACCESSORIES ACCORDING TO ASTM C635/C635M.

C. NARROW-FACE, CAPPED, DOUBLE-WEB, STEEL SUSPENSION SYSTEM: MAIN AND CROSS RUNNERS ROLL FORMED FROM COLD-ROLLED STEEL SHEET; PREPAINTED, ELECTROLYTICALLY ZINC COATED, OR HOT-DIP GALVANIZED, G30 COATING DESIGNATION; WITH PREFINISHED 9/16-INCH-WIDE METAL CAPS ON FLANGES.

2.6 ACCESSORIES

A. ATTACHMENT DEVICES: SIZE FOR FIVE TIMES THE DESIGN LOAD INDICATED IN ASTM C635/C635M, TABLE 1, "DIRECT HUNG," UNLESS OTHERWISE INDICATED. COMPLY WITH SEISMIC DESIGN REQUIREMENTS.

B. HOLD-DOWN CLIPS: MANUFACTURER'S STANDARD HOLD-DOWN.

C. IMPACT CLIPS: MANUFACTURER'S STANDARD IMPACT-CLIP SYSTEM DESIGNED TO ABSORB IMPACT FORCES AGAINST ACOUSTICAL PANELS.

D. SEISMIC CLIPS: MANUFACTURER'S STANDARD SEISMIC CLIPS DESIGNED TO SECURE ACOUSTICAL PANELS IN PLACE DURING A SEISMIC EVENT.

PART 3 - EXECUTION

3.1 PREPARATION

A. MEASURE EACH CEILING AREA AND ESTABLISH LAYOUT OF ACOUSTICAL PANELS TO BALANCE BORDER WIDTHS AT OPPOSITE EDGES OF EACH CEILING. AVOID USING LESS-THAN-HALF-WIDTH PANELS AT BORDERS UNLESS OTHERWISE INDICATED.

B. LAYOUT OPENINGS FOR PENETRATIONS CENTERED ON THE PENETRATING ITEMS.

3.2 INSTALLATION

A. INSTALL ACOUSTICAL PANEL CEILINGS ACCORDING TO ASTM C636/C636M, SEISMIC DESIGN REQUIREMENTS, AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

B. INSTALL EDGE MOLDINGS AND TRIM OF TYPE INDICATED AT PERIMETER OF ACOUSTICAL CEILING AREA AND WHERE NECESSARY TO CONCEAL EDGES OF ACOUSTICAL PANELS.
   1. DO NOT USE EXPOSED FASTENERS, INCLUDING POP RIVETS, ON MOLDINGS AND TRIM.
   2. ARRANGE DIRECTIONALLY PATTERNED ACOUSTICAL PANELS AS FOLLOWS:
      a. AS INDICATED ON REFLECTED CEILING PLANS.
   3. INSTALL HOLD-DOWN AND SEISMIC CLIPS IN AREAS INDICATED; SPACE ACCORDING TO PANEL MANUFACTURER'S WRITTEN INSTRUCTIONS UNLESS OTHERWISE INDICATED.

END OF SECTION 095113

SECTION 095426 - SUSPENDED WOOD CEILINGS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. WOOD GRILLES.

B. METAL SUSPENSION SYSTEM.

PART 2 - PRODUCTS

2.1 SUSPENDED WOOD CEILING ASSEMBLIES

A. REFER TO ROOM FINISH SCHEDULE AND REFLECTED CEILING PLANS ON DRAWINGS FOR ADDITIONAL CEILING ASSEMBLIES INFORMATION.

B. WOOD PANEL CEILING SYSTEM: PANELS, SUSPENSION MEMBERS, TRIM, AND ACCESSORIES AS REQUIRED TO PROVIDE A COMPLETE SYSTEM.

C. WOOD PANEL CEILING ASSEMBLY TYPE WG-1:

TRUEWOOD LAY IN GRILLES SHALL USE INTERMEDIATE OR HEAVY DUTY GRID - SYSTEM SHALL COMPLY WITH LOCAL CODE REQUIREMENTS. TRUEWOOD MODULAR GRILLS SHALL ONLY USE HEAVY DUTY SUSPENDED GRID USG DX/DXL. CEILING UNITS: TRUE WOOD LAY-IN GRILLES
   1. LAYOUT: AS INDICATED ON DRAWINGS.
   2. INTERIOR SUSPENSION GRID HEAVY DUTY OR INTERMEDIATE: DONN DX/DXL 15/16-INCH SUSPENSION SYSTEM.

2.2 PERFORMANCE REQUIREMENTS

A. DESIGN FOR MAXIMUM DEFLECTION OF 1/360 OF SPAN.

B. DESIGN TO SUPPORT IMPOSED LOADS OF INDICATED ELEMENTS WITHOUT ECCENTRIC LOADING OF SUPPORTS. WHERE SUPPORTED ELEMENTS MAY INDUCE ROTATION OF CEILING SYSTEM COMPONENTS, PROVIDE STABILIZING REINFORCEMENT.

D. SURFACE BURNING CHARACTERISTICS: FLAME SPREAD INDEX OF CLASS A, SMOKE DEVELOPED INDEX OF 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84.

E. WOOD-BASED MATERIALS:
   1. SOLID WOOD: CLEAR, DRY, SOUND, PLAIN SAWN, SELECTED FOR COMPATIBLE SPECIES, GRAIN AND COLOR, NO DEFECTS.

2.3 COMPONENT PRODUCTS

A. WOOD GRILLES:
   1. WOOD GRILLES: PRE-ASSEMBLED GRILLE UNITS OF SOLID WOOD WITH INTEGRATED ACOUSTICAL BACKER
      a. LAY-IN GRILLE SIZE: 24 BY 48 INCHES, NOMINAL.
         1) SLAT SIZE: 1/2 BY 1-1/2 INCHES (13 BY 38 MM).
         2) SLAT ORIENTATION: VERTICAL
      b. SOLID WOOD SPECIES: SOLID WHITE HARDWOOD
         1) FACTORY FINISH: STAINED DARK CHERRY, CLEAR SEALER TOP COAT.
      c. PRODUCTS:
         1) USG CORPORATION; TRUE WOOD LAY-IN GRILLES: WWW.USG.COM/CEILINGS/#SLE.
         2) SUBSTITUTIONS: ARMSTRONG WOODWORKS GRILLE TEGULAR.

B. METAL SUSPENSION SYSTEMS:
   1. METAL SUSPENSION SYSTEMS - GENERAL: COMPLYING WITH ASTM C635/C635M; DIE CUT AND INTERLOCKING COMPONENTS, WITH ACCESSORIES AS REQUIRED.
      a. MATERIALS:
         1) STEEL GRID: ASTM A653/A653M [G30] COATING, UNLESS OTHERWISE INDICATED.
   2. EXPOSED ACOUSTICAL SUSPENSION SYSTEM: HOT-DIPPED GALVANIZED STEEL GRID AND CAP.
      a. APPLICATION(S): SEISMIC.
      b. STRUCTURAL CLASSIFICATION: HEAVY DUTY OR INTERMEDIATE, WHEN TESTED IN ACCORDANCE WITH ASTM C635/C635M.
      c. RECYCLED MATERIALS CONTENT: CLASSIFIED AS CONTAINING GREATER THAN 50 PERCENT TOTAL RECYCLED CONTENT. AVAILABLE FOR SPECIFIC SIZES AND LENGTHS.
      d. PROFILE: TEE; 15/16 INCH (24 MM) FACE WIDTH.
      e. FINISH: BAKED ENAMEL.
      f. COLOR: FLAT BLACK.
      c. PRODUCTS:
         1) USG CORPORATION; DX/DXL 15/16 INCH SUSPENSION SYSTEM: WWW.USG.COM/CEILINGS/#SLE.
         2) SUBSTITUTIONS: IF ARMSTRONG WOOD PANELS ARE SUBSTITUTED: PRELUDE XL 15/16" SUSPENSION SYSTEM.

C. MOLDINGS AND TRIM:
   1. EDGE MOLDING, EXPANSION JOINTS AND SPLICES: SAME MATERIAL, THICKNESS, AND FINISH AS SUSPENSION GRID, UNLESS OTHERWISE INDICATED.
   2. PERIMETER (WALL) MOLDINGS: SAME METAL AND FINISH AS BLACK.
      a. SIZE: AS REQUIRED FOR INSTALLATION CONDITIONS
      b. ANGLE MOLDINGS: L-SHAPED, FOR MOUNTING AT SAME ELEVATION AS FACE OF GRID.

D. TRIM ACCESSORIES: MANUFACTURER'S STANDARD CLIPS, CLEATS SPLICE PLATES, EXTENSION PLATES, CLOSURE PLATES, CORNER PIECES, AND SIMILAR ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.

2.4 ACCESSORIES

A. GENERAL: MANUFACTURER'S STANDARD ACCESSORIES FOR INSTALLATION METHOD INDICATED, SEISMIC REQUIREMENTS AND ABOVE-CEILING ACCESSIBILITY.

B. SUPPORT CHANNELS, CARRIERS, AND HANGERS: GALVANIZED STEEL; SIZE AND TYPE TO SUIT APPLICATION AND CEILING SYSTEM FLATNESS REQUIREMENT SPECIFIED.

C. BATTEN CLIPS: STANDARD ACCESSORIES, AS REQUIRED BY MANUFACTURER OR PROJECT COORDINATION.

D. SUSPENSION WIRE: SIZE AND TYPE AS REQUIRED FOR APPLICATION, SEISMIC REQUIREMENTS, AND CEILING SYSTEM FLATNESS REQUIREMENT SPECIFIED.
   1. CONCEALED SUSPENSION:
      a. SUSPENSION WIRE: STEEL, ANNEALED, GALVANIZED FINISH, 12 GAGE, 0.0808 (2.05 MM) DIAMETER.

E. PANEL FIXING BRACKETS: MANUFACTURER'S STANDARD PFB ACCESSORY ITEMS.

F. SEISMIC CLIPS: MANUFACTURER'S STANDARD CLIPS DESIGNED TO PROVIDE A RIGID CONNECTION BETWEEN SUSPENSION GRID TEES AND WALL MOLDINGS.

G. UNOPPOSED TEE ATTACHMENT CLIP: MANUFACTURER'S STANDARD CLIP DESIGNED TO CREATE CODE-COMPLIANT CROSS TEE CONNECTIONS WHEN A CROSS TEE IS INSTALLED IN A MAIN TEE WITHOUT ANOTHER CROSS TEE DIRECTLY OPPOSITE.

H. ACOUSTICAL BACKER: FELT BACKER IN ROLL FROM.
   1. THICKNESS: 1 INCH (25 MM).
   2. SIZE: TO FIT ACOUSTICAL SUSPENSION SYSTEM.

I. TOUCH-UP PAINT FOR EXPOSED SURFACES: TYPE AND COLOR TO MATCH PANELS AND SUSPENSION SYSTEM GRID AND TRIM ELEMENTS.

J. TOUCH-UP PAINT FOR CONCEALED ITEMS: ZINC RICH TYPE, AS RECOMMENDED BY CEILING SYSTEM MANUFACTURER.

PART 3 - EXECUTION

3.1 PREPARATION

A. MEASURE EACH CEILING AREA AND ESTABLISH LAYOUT OF WOOD GRILLED TO BALANCE BORDER WIDTHS AT OPPOSITE EDGES OF EACH CEILING. AVOID USING LESS-THAN-HALF-WIDTH PANELS AT BORDERS UNLESS OTHERWISE INDICATED.

B. LAYOUT OPENINGS FOR PENETRATIONS CENTERED ON THE PENETRATING ITEMS.

3.2 INSTALLATION - SUSPENSION SYSTEM

A. INSTALL IN ACCORDANCE WITH ASTM C636/C636M, SEISMIC DESIGN REQUIREMENTS, AND MANUFACTURER'S WRITTEN INSTRUCTIONS AND AS SUPPLEMENTED IN THIS SECTION.

B. INSTALL HANGERS AND INSERTS COORDINATED WITH OVERHEAD WORK. PROVIDE ADDITIONAL HANGERS AND SUPPORTS AS REQUIRED.

C. RIGIDLY SECURE SYSTEM, INCLUDING INTEGRAL MECHANICAL AND ELECTRICAL COMPONENTS, FOR MAXIMUM DEFLECTION OF 1:360.

3.3 INSTALLATION - WOOD PANELS

A. INSTALL PANELS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

END OF SECTION 095426

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
   1. RESILIENT BASE.
   2. RESILIENT MOLDING ACCESSORIES.

PART 2 - PRODUCTS

2.1 VINYL BASE (WB 1-2)

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   1. JOHNSONITE; A TARKETT COMPANY.
   2. ROPPE CORPORATION, USA.

B. PRODUCT STANDARD: ASTM F 1861, TYPE TV (VINYL, THERMOPLASTIC).
   1. GROUP: II (LAYERED).
   2. STYLE AND LOCATION:
      a. STYLE A, STRAIGHT: PROVIDE IN AREAS WITH CARPET.
      b. STYLE B, COVE: PROVIDE IN AREAS WITH RESILIENT FLOORING.

C. MINIMUM THICKNESS: 0.125 INCH.

D. HEIGHT: 4 INCHES OR 6 INCHES AS INDICATED ON DRAWINGS.

E. LENGTHS: CUT LENGTHS 48 INCHES LONG OR COILS IN MANUFACTURER'S STANDARD LENGTH.

F. OUTSIDE CORNERS: PREFORMED.

G. INSIDE CORNERS: PREFORMED.

H. COLORS AND PATTERNS: AS INDICATED.

2.2 VINYL MOLDING ACCESSORY

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   1. FORBO
   2. ARMSTRONG WORLD INDUSTRIES, INC.
   3. BURKE MERCER FLOORING PRODUCTS; A DIVISION OF BURKE INDUSTRIES INC.
   4. JOHNSONITE; A TARKETT COMPANY.
   5. ROPPE CORPORATION, USA.

B. DESCRIPTION: VINYL CAP FOR COVE CARPET, CAP FOR COVE RESILIENT FLOORING, CARPET EDGE FOR GLUE-DOWN APPLICATIONS, NOSING FOR CARPET, NOSING FOR RESILIENT FLOORING, REDUCER STRIP FOR RESILIENT FLOORING, JOINER FOR TILE AND CARPET TRANSITION STRIPS.

C. COLORS, PATTERNS, PROFILE AND DIMENSIONS: AS INDICATED.

2.3 INSTALLATION MATERIALS

A. TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, PORTLAND CEMENT BASED OR BLENDED HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR APPROVED BY RESILIENT-PRODUCT MANUFACTURER FOR APPLICATIONS INDICATED.

PART 3 - EXECUTION

3.1 PREPARATION

A. PREPARE SUBSTRATES ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS TO ENSURE ADHESION OF RESILIENT PRODUCTS.

B. FILL CRACKS, HOLES, AND DEPRESSIONS IN SUBSTRATES WITH TROWELABLE LEVELING AND PATCHING COMPOUND; REMOVE BUMPS AND RIDGES TO PRODUCE A UNIFORM AND SMOOTH SUBSTRATE.

C. IMMEDIATELY BEFORE INSTALLATION, SWEEP AND VACUUM CLEAN SUBSTRATES TO BE COVERED BY RESILIENT PRODUCTS.

3.2 RESILIENT BASE INSTALLATION

A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING RESILIENT BASE.

B. APPLY RESILIENT BASE TO WALLS, COLUMNS, PILASTERS, CASEWORK AND CABINETS IN TOE SPACES, AND OTHER PERMANENT FIXTURES IN ROOMS AND AREAS WHERE BASE IS REQUIRED.

C. INSTALL RESILIENT BASE IN LENGTHS AS LONG AS PRACTICAL WITHOUT GAPS AT SEAMS AND WITH TOPS OF ADJACENT PIECES ALIGNED.

D. PREFORMED CORNERS: INSTALL PREFORMED CORNERS BEFORE INSTALLING STRAIGHT PIECES.

3.3 RESILIENT ACCESSORY INSTALLATION

A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING RESILIENT ACCESSORIES.

3.4 CLEANING AND PROTECTION

A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CLEANING AND PROTECTING RESILIENT PRODUCTS.

B. COVER RESILIENT PRODUCTS SUBJECT TO WEAR AND FOOT TRAFFIC UNTIL SUBSTANTIAL COMPLETION.

END OF SECTION 096513

SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
   1. SOLID VINYL FLOOR TILE.

B. RELATED SECTIONS:
   1. DIVISION 9 SECTION "RESILIENT WALL BASE AND ACCESSORIES" FOR RESILIENT BASE, REDUCER STRIPS, AND OTHER ACCESSORIES INSTALLED WITH RESILIENT FLOOR COVERINGS.

1.2 CLOSEOUT SUBMITTALS

A. MAINTENANCE DATA: FOR EACH TYPE OF FLOOR TILE TO INCLUDE IN MAINTENANCE MANUALS.

1.3 MAINTENANCE MATERIAL SUBMITTALS

A. FURNISH EXTRA MATERIALS THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS.
   1. FLOOR TILE: FURNISH ONE BOX FOR EVERY 50 BOXES OR FRACTION THEREOF, OF EACH TYPE, COLOR, AND PATTERN OF FLOOR TILE INSTALLED.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. FIRE-TEST-RESPONSE CHARACTERISTICS: FOR RESILIENT TILE FLOORING, AS DETERMINED BY TESTING IDENTICAL PRODUCTS ACCORDING TO ASTM E 648 OR NFPA 253 BY A QUALIFIED TESTING AGENCY.

2.2 SOLID VINYL FLOOR TILE (LVT-1)

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE FOLLOWING:
   1. FORBO - IN PATTERN INDICATED ON FINISH SCHEDULE.

B. TILE STANDARD: ASTM F 1700.

C. THICKNESS: 0.1 INCH.

D. SIZE: AS INDICATED ON DRAWINGS.

E. COLORS AND PATTERNS: AS INDICATED ON DRAWINGS.

2.3 INSTALLATION MATERIALS

A. TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, PORTLAND CEMENT BASED OR BLENDED HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR APPROVED BY FLOOR TILE MANUFACTURER FOR APPLICATIONS INDICATED.

B. ADHESIVES: WATER-RESISTANT TYPE RECOMMENDED BY FLOOR TILE AND ADHESIVE MANUFACTURERS TO SUIT FLOOR TILE AND SUBSTRATE CONDITIONS INDICATED.

C. FLOOR POLISH: PROVIDE PROTECTIVE, LIQUID FLOOR-POLISH PRODUCTS RECOMMENDED BY FLOOR TILE MANUFACTURER.

PART 3 - EXECUTION

3.1 PREPARATION

A. PREPARE SUBSTRATES ACCORDING TO FLOOR TILE MANUFACTURER'S WRITTEN INSTRUCTIONS TO ENSURE ADHESION OF RESILIENT PRODUCTS.

B. CONCRETE SUBSTRATES: PREPARE ACCORDING TO ASTM F 710.
   1. VERIFY THAT SUBSTRATES ARE DRY AND FREE OF CURING COMPOUNDS, SEALERS, AND HARDENERS.
   2. REMOVE SUBSTRATE COATINGS AND OTHER SUBSTANCES THAT ARE INCOMPATIBLE WITH ADHESIVES AND THAT CONTAIN SOAP, WAX, OIL, OR SILICONE, USING MECHANICAL METHODS RECOMMENDED BY FLOOR TILE MANUFACTURER. DO NOT USE SOLVENTS.
   3. ALKALINITY AND ADHESION TESTING: PERFORM TESTS RECOMMENDED BY FLOOR TILE MANUFACTURER. PROCEED WITH INSTALLATION ONLY AFTER SUBSTRATE ALKALINITY FALLS WITHIN RANGE ON PH SCALE RECOMMENDED BY MANUFACTURER IN WRITING, BUT NOT LESS THAN 5 OR MORE THAN 10 PH.MOISTURE TESTING: PROCEED WITH INSTALLATION ONLY AFTER SUBSTRATES PASS TESTING ACCORDING TO FLOOR TILE MANUFACTURER'S WRITTEN RECOMMENDATIONS, BUT NOT LESS STRINGENT THAN THE FOLLOWING:
      a. PERFORM ANHYDROUS CALCIUM CHLORIDE TEST ACCORDING TO ASTM F 1869. PROCEED WITH INSTALLATION ONLY AFTER SUBSTRATES HAVE MAXIMUM MOISTURE-VAPOR-EMISSION RATE OF 3 LB OF WATER/1000 SQ. FT. IN 24 HOURS.

C. PERFORM RELATIVE HUMIDITY TEST USING IN SITU PROBES ACCORDING TO ASTM F 2170. PROCEED WITH INSTALLATION ONLY AFTER SUBSTRATES HAVE A MAXIMUM 75 PERCENT RELATIVE HUMIDITY LEVEL. PROVIDE REPORT TO OWNER & ARCHITECT.

D. FILL CRACKS, HOLES, AND DEPRESSIONS IN SUBSTRATES WITH TROWELABLE LEVELING AND PATCHING COMPOUND; REMOVE BUMPS AND RIDGES TO PRODUCE A UNIFORM AND SMOOTH SUBSTRATE.

E. DO NOT INSTALL FLOOR TILES UNTIL THEY ARE THE SAME TEMPERATURE AS THE SPACE WHERE THEY ARE TO BE INSTALLED.

F. IMMEDIATELY BEFORE INSTALLATION, SWEEP AND VACUUM CLEAN SUBSTRATES TO BE COVERED BY RESILIENT FLOOR TILE.

3.2 FLOOR TILE INSTALLATION

A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING FLOOR TILE.

B. LAY OUT FLOOR TILES FROM CENTER MARKS ESTABLISHED WITH PRINCIPAL WALLS, DISCOUNTING MINOR OFFSETS, SO TILES AT OPPOSITE EDGES OF ROOM ARE OF EQUAL WIDTH. ADJUST AS NECESSARY TO AVOID USING CUT WIDTHS THAT EQUAL LESS THAN ONE-HALF TILE AT PERIMETER. LAY TILES SQUARE WITH ROOM AXIS.

C. MATCH FLOOR TILES FOR COLOR AND PATTERN BY SELECTING TILES FROM CARTONS IN THE SAME SEQUENCE AS MANUFACTURED AND PACKAGED, IF SO NUMBERED. DISCARD BROKEN, CRACKED, CHIPPED, OR DEFORMED TILES.
   3. LAY LVF TILES WITH GRAIN RUNNING IN ONE DIRECTION.

D. SCRIBE, CUT, AND FIT FLOOR TILES TO BUTT NEATLY AND TIGHTLY TO VERTICAL SURFACES AND PERMANENT FIXTURES INCLUDING BUILT-IN FURNITURE, CABINETS, PIPES, OUTLETS, AND DOOR FRAMES.

E. EXTEND FLOOR TILES INTO TOE SPACES, DOOR REVEALS, CLOSETS, AND SIMILAR OPENINGS. EXTEND FLOOR TILES TO CENTER OF DOOR OPENINGS.

F. MAINTAIN REFERENCE MARKERS, HOLES, AND OPENINGS THAT ARE IN PLACE OR MARKED FOR FUTURE CUTTING BY REPEATING ON FLOOR TILES AS MARKED ON SUBSTRATES. USE CHALK OR OTHER NONPERMANENT MARKING DEVICE.

G. ADHERE FLOOR TILES TO FLOORING SUBSTRATES USING A FULL SPREAD OF ADHESIVE APPLIED TO SUBSTRATE TO PRODUCE A COMPLETED INSTALLATION WITHOUT OPEN CRACKS, VOIDS, RAISING AND PUCKERING AT JOINTS, TELEGRAPHING OF ADHESIVE SPREADER MARKS, AND OTHER SURFACE IMPERFECTIONS.

3.3 CLEANING AND PROTECTION

A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CLEANING AND PROTECTING FLOOR TILE.

B. FLOOR POLISH: REMOVE SOIL, ADHESIVE, AND BLEMISHES FROM FLOOR TILE SURFACES BEFORE APPLYING LIQUID FLOOR POLISH.
   1. APPLY TWO COAT(S).

C. COVER FLOOR TILE UNTIL SUBSTANTIAL COMPLETION.

END OF SECTION 096519

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES SURFACE PREPARATION AND THE APPLICATION OF PAINT SYSTEMS ON THE FOLLOWING INTERIOR SUBSTRATES:
   1. CONCRETE.
   2. STEEL AND IRON.
   3. WOOD.
   4. GYPSUM BOARD.

1.2 MAINTENANCE MATERIAL SUBMITTALS

A. FURNISH EXTRA MATERIALS, FROM THE SAME PRODUCT RUN, THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS.
   1. PAINT: 5 PERCENT, BUT NOT LESS THAN 1 GAL. OF EACH MATERIAL AND COLOR APPLIED.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:
   1. SHERWIN-WILLIAMS COMPANY (THE).
   2. APPROVED EQUAL.

B. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO PRODUCTS LISTED IN THE INTERIOR PAINTING SCHEDULE FOR THE PAINT CATEGORY INDICATED.

2.2 PAINT, GENERAL

A. MPI STANDARDS: PRODUCTS SHALL COMPLY WITH MPI STANDARDS INDICATED AND SHALL BE LISTED IN ITS "MPI APPROVED PRODUCTS LISTS."

B. MATERIAL COMPATIBILITY:
   1. MATERIALS FOR USE WITHIN EACH PAINT SYSTEM SHALL BE COMPATIBLE WITH ONE ANOTHER AND SUBSTRATES INDICATED, UNDER CONDITIONS OF SERVICE AND APPLICATION AS DEMONSTRATED BY MANUFACTURER, BASED ON TESTING AND FIELD EXPERIENCE.
   2. FOR EACH COAT IN A PAINT SYSTEM, PRODUCTS SHALL BE RECOMMENDED IN WRITING BY TOPCOAT MANUFACTURERS FOR USE IN PAINT SYSTEM AND ON SUBSTRATE INDICATED.

COLORS: AS INDICATED IN A COLOR SCHEDULE.

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE SUBSTRATES AND CONDITIONS, WITH APPLICATOR PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR MAXIMUM MOISTURE CONTENT AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.

B. VERIFY SUITABILITY OF SUBSTRATES, INCLUDING SURFACE CONDITIONS AND COMPATIBILITY WITH EXISTING FINISHES AND PRIMERS.

C. PROCEED WITH COATING APPLICATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION

A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS IN "MPI ARCHITECTURAL PAINTING SPECIFICATION MANUAL." APPLICABLE TO SUBSTRATES AND PAINT SYSTEMS INDICATED.

B. REMOVE HARDWARE, COVERS, PLATES, AND SIMILAR ITEMS ALREADY IN PLACE THAT ARE REMOVABLE AND ARE NOT TO BE PAINTED. IF REMOVAL IS IMPRACTICAL OR IMPOSSIBLE BECAUSE OF SIZE OR WEIGHT OF ITEM, PROVIDE SURFACE-APPLIED PROTECTION BEFORE SURFACE PREPARATION AND PAINTING.
   1. AFTER COMPLETING PAINTING OPERATIONS, USE WORKERS SKILLED IN THE TRADES INVOLVED TO REINSTALL ITEMS THAT WERE REMOVED. REMOVE SURFACE-APPLIED PROTECTION IF ANY.

3.3 APPLICATION

A. APPLY PAINTS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS IN "MPI ARCHITECTURAL PAINTING SPECIFICATION MANUAL."

B. APPLY PAINTS TO PRODUCE SURFACE FILMS WITHOUT CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, ROLLER TRACKING, RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS. CUT IN SHARP LINES AND COLOR BREAKS.

3.4 INTERIOR PAINTING SCHEDULE

A. CONCRETE SUBSTRATES, NONTRAFFIC SURFACES:
   1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM MPI INT 3.1M:
      a. PRIME COAT: PRIMER SEALER, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, MPI #149.
         1) SW LOXON BLOCK SURFACER.
      b. INTERMEDIATE COAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, MATCHING TOPCOAT.
      c. TOPCOAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC (MPI GLOSS LEVEL 3), MPI #145.
         1) SW HARMONY.

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
1	03/18/2026	PERMIT SET
2		
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SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

A-9.9

SHEET NO.

B. STEEL SUBSTRATES:
1. WATER-BASED LIGHT INDUSTRIAL COATING SYSTEM MPI INT 5.1B:
a. PRIME COAT: PRIMER, RUST-INHIBITIVE, WATER BASED MPI #107.
1) PRO INDUSTRIAL PRO-CRYL.
b. INTERMEDIATE COAT: LIGHT INDUSTRIAL COATING, INTERIOR, WATER BASED, MATCHING TOPCOAT.
c. TOPCOAT: LIGHT INDUSTRIAL COATING, INTERIOR, WATER BASED, SEMI-GLOSS (MPI GLOSS LEVEL 5), MPI #153.
1) SW PRO INDUSTRIAL PRE-CATALYZED EPOXY
C. WOOD SUBSTRATES: WOOD TRIM, ARCHITECTURAL WOODWORK AND DOORS.
1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM MPI INT 6.3V:
a. PRIME COAT: PRIMER, LATEX, FOR INTERIOR WOOD, MPI #39.
1) PREP RITE MULTI-PURPOSE PRIMER.
b. INTERMEDIATE COAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, MATCHING TOPCOAT.
c. TOPCOAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, SEMI-GLOSS (MPI GLOSS LEVEL 5), MPI #147.
1) SW HARMONY.
D. GYPSUM BOARD SUBSTRATES:
1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM MPI INT 9.2M:
a. PRIME COAT: PRIMER SEALER, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, MPI #149.
1) SW PROGREEN 200 PRIMER.
b. INTERMEDIATE COAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, MATCHING TOPCOAT.
c. TOPCOAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC (MPI GLOSS LEVEL 3), MPI #145.
1) SW HARMONY.

END OF SECTION 099123

SECTION 102800 - TOILET, BATH AND LAUNDRY ACCESSORIES

PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. PRIVATE-USE BATHROOM ACCESSORIES.
2. CUSTODIAL ACCESSORIES.
1.2 WARRANTY
A. SPECIAL MIRROR WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPLACE MIRRORS THAT DEVELOP VISIBLE SILVER SPOILAGE DEFECTS AND THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
1. WARRANTY PERIOD: 15 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
PART 2 - PRODUCTS
2.1 PRIVATE-USE BATHROOM ACCESSORIES
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:
1. BOBRICK WASHROOM EQUIPMENT, INC.
2. MARCAL PAPER
B. MIRRORS: MIRROR SHALL HAVE STAINLESS STEEL CHANNEL FRAME OF NOT LESS THAN 20-GAUGE, WITH SQUARE CORNERS CAREFULLY MITERED TO HAIRLINE JOINTS AND MECHANICALLY INTERLOCKED. PROVIDE NO. 430 BRIGHT POLISHED FINISH.
1. BOBRICK B165. SIZE AND LOCATION AS SHOWN ON INTERIOR ELEVATIONS.
C. GRAB BARS: BOBRICK B-6806 X24", 36" AND 42". VERIFY COMPLIANCE WITH STATE AND LOCAL CODES.
D. TOILET PAPER HOLDERS: VON DREHLE - SUMMIT R3670WHCL. INSTALL SO THAT ONE IS ACCESSIBLE FROM EACH TOILET. MOUNTING HEIGHTS AS SHOWN ON THE ARCHITECTURAL PLANS.
E. PAPER TOWEL DISPENSERS: VON DREHLE - T600-W. INSTALL AS SHOWN ON PLANS AND AT A MINIMUM AT EACH CHILDREN'S VANITY, CHANGING TABLE, ONE IN KITCHEN, AND ONE AT EACH LAVATORY INSIDE A TOILET ROOM.
F. SOAP DISPENSERS: ECO-LAB SOAP DISPENSER. CONTRACTOR FURNISHED AND INSTALLED. PROVIDE AND INSTALL ONE DISPENSER AT EACH CHANGE TABLE, VANITIES, LAVATORIES INSIDE TOILET ROOMS, AND AT THE KITCHEN HAND SINK. ORDER THREE EXTRA DISPENSERS FOR FUTURE USE.
2.2 FABRICATION
A. KEYS: PROVIDE UNIVERSAL KEYS FOR INTERNAL ACCESS TO ACCESSORIES FOR SERVICING AND RESUPPLYING. PROVIDE MINIMUM OF SIX KEYS TO OWNER'S REPRESENTATIVE.
PART 3 - EXECUTION
3.1 INSTALLATION
A. INSTALL ACCESSORIES ACCORDING TO MANUFACTURERS' WRITTEN INSTRUCTIONS, USING FASTENERS APPROPRIATE TO SUBSTRATE INDICATED AND RECOMMENDED BY UNIT MANUFACTURER. INSTALL UNITS LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS AND AT HEIGHTS INDICATED.
B. GRAB BARS: INSTALL TO WITHSTAND A DOWNWARD LOAD OF AT LEAST 250 LBF, WHEN TESTED ACCORDING TO ASTM F 446.

END OF SECTION 102800

SECTION 104310 - INTERIOR SIGNAGE

PART 1 - GENERAL
1.1 SUMMARY
A. THIS SECTION INCLUDES THE FOLLOWING:
1. PLAQUES.
1.2 QUALITY ASSURANCE
A. REGULATORY REQUIREMENTS: COMPLY WITH APPLICABLE PROVISIONS IN ADA-ABA ACCESSIBILITY GUIDELINES.
PART 2 - PRODUCTS
2.1 MATERIALS
A. ACRYLIC SHEET: ASTM D 4802, CATEGORY A-1 (CELL-CAST SHEET), TYPE UVA (UV ABSORBING).
B. POLYCARBONATE SHEET: OF THICKNESS INDICATED, MANUFACTURED BY EXTRUSION PROCESS, COATED ON BOTH SURFACES WITH ABRASION-RESISTANT COATING:
2.2 PLAQUES
A. PREFERRED VENDOR: PURCHASE FROM THE FOLLOWING:
1. MEYER SIGN
B. INTERIOR SIGNAGE:
1. AT EACH ROOM IN BUILDING.
2. VERBAGE AS DIRECTED BY OWNER.
3. SIGN FACE:
a. 1/32" RAISED LETTERS. BRAILLE AND BORDER ARE INTEGRAL VIA ROUTING, ETCHING OR PHOTO POLYMER PROCESS (NOT APPLIED)
b. PERMANENTLY BONDED TO 1/4" SUBSTRATE EDGES HAVE 3/6: STEP BEVEL
4. COLORS:
a. SPECIFIED BY OWNER.
5. TYPICAL SIGNS:
a. DIMENSIONS: 10" DIAMETER
2.3 FABRICATION
A. GENERAL: PROVIDE MANUFACTURER'S STANDARD SIGNS OF CONFIGURATIONS INDICATED.
1. CONCEAL FASTENERS IF POSSIBLE; OTHERWISE, LOCATE FASTENERS WHERE THEY WILL BE INCONSPICUOUS.
2.4 ACRYLIC SHEET FINISHES
A. COLORED COATINGS FOR ACRYLIC SHEET: FOR COPY AND BACKGROUND AND FRAME COLORS, PROVIDE COLORED COATINGS, INCLUDING INKS, DYES, AND PAINTS, THAT ARE RECOMMENDED BY ACRYLIC MANUFACTURERS FOR OPTIMUM ADHERENCE TO ACRYLIC SURFACE AND THAT ARE UV AND WATER RESISTANT FOR FIVE YEARS FOR APPLICATION INTENDED.
PART 3 - EXECUTION
3.1 INSTALLATION
A. LOCATE SIGNS AND ACCESSORIES WHERE INDICATED, USING MOUNTING METHODS OF TYPES DESCRIBED AND COMPLYING WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
1. INSTALL SIGNS LEVEL, PLUMB, AND AT HEIGHTS INDICATED, WITH SIGN SURFACES FREE OF DISTORTION AND OTHER DEFECTS IN APPEARANCE.
2. INTERIOR WALL SIGNS: INSTALL SIGNS ON WALLS ADJACENT TO LATCH SIDE OF DOOR WHERE APPLICABLE. WHERE NOT INDICATED OR POSSIBLE, SUCH AS DOUBLE DOORS, INSTALL SIGNS ON NEAREST ADJACENT WALLS. LOCATE TO ALLOW APPROACH WITHIN 3 INCHES (75 MM) OF SIGN WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN SWING OF DOOR.
B. WALL-MOUNTED SIGNS: COMPLY WITH SIGN MANUFACTURER'S WRITTEN INSTRUCTIONS EXCEPT WHERE MORE STRINGENT REQUIREMENTS APPLY.
1. TWO-FACE TAPE: MOUNT SIGNS TO SMOOTH, NONPOROUS SURFACES. DO NOT USE THIS METHOD FOR VINYL-COVERED OR ROUGH SURFACES.
2. MECHANICAL FASTENERS: USE NONREMOVABLE MECHANICAL FASTENERS PLACED THROUGH PREDRILLED HOLES. ATTACH SIGNS WITH FASTENERS AND ANCHORS SUITABLE FOR SECURE ATTACHMENT TO SUBSTRATE AS RECOMMENDED IN WRITING BY SIGN MANUFACTURER.

END OF SECTION 104310

SECTION 104413 - FIRE EXTINGUISHER CABINETS

PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES FIRE PROTECTION CABINETS FOR FIRE EXTINGUISHERS.
B. RELATED SECTIONS:
1. DIVISION 10 SECTION "FIRE EXTINGUISHERS."
1.2 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
1.3 QUALITY ASSURANCE
A. COORDINATE SIZE OF FIRE PROTECTION CABINETS TO ENSURE THAT TYPE AND CAPACITY OF FIRE EXTINGUISHERS INDICATED ARE ACCOMMODATED.
B. COORDINATE SIZES AND LOCATIONS OF FIRE PROTECTION CABINETS WITH WALL DEPTHS.
PART 2 - PRODUCTS
2.1 MATERIALS
A. COLD-ROLLED STEEL SHEET: ASTM A 1008/A 1008M, COMMERCIAL STEEL (CS), TYPE B.
B. ALUMINUM: ALLOY AND TEMPER RECOMMENDED BY ALUMINUM PRODUCER AND MANUFACTURER FOR TYPE OF USE AND FINISH INDICATED, AND AS FOLLOWS:
1. SHEET: ASTM B 209.
2. EXTRUDED SHAPES: ASTM B 221.
C. TRANSPARENT ACRYLIC SHEET: ASTM D 4802, CATEGORY A-1 (CELL-CAST SHEET), 3 MM THICK, WITH FINISH 1 (SMOOTH OR POLISHED).
2.2 FIRE PROTECTION CABINET
A. CABINET TYPE: SUITABLE FOR FIRE EXTINGUISHER.
B. CABINET CONSTRUCTION: NONRATED.
C. CABINET MATERIAL: STEEL SHEET.
D. SEMIRECESSED CABINET: CABINET BOX PARTIALLY RECESSED IN WALLS OF SUFFICIENT DEPTH TO SUIT STYLE OF TRIM INDICATED; WITH ONE-PIECE COMBINATION TRIM AND PERIMETER DOOR FRAME OVERLAPPING SURROUNDING WALL SURFACE WITH EXPOSED TRIM FACE AND WALL RETURN AT OUTER EDGE (BACKBEND). PROVIDE WHERE WALLS ARE OF INSUFFICIENT DEPTH FOR RECESSED CABINETS BUT ARE OF SUFFICIENT DEPTH TO ACCOMMODATE SEMIRECESSED CABINET INSTALLATION.
1. ROLLED-EDGE TRIM: 2-1/2-INCH BACKBEND DEPTH.
E. CABINET TRIM MATERIAL: ALUMINUM SHEET OR EXTRUDED-ALUMINUM SHAPES. SAME MATERIAL AND FINISH AS DOOR.
F. DOOR MATERIAL: ALUMINUM SHEET OR EXTRUDED-ALUMINUM SHAPES.
G. DOOR STYLE: FULLY GLAZED PANEL WITH FRAME.
H. DOOR GLAZING: ACRYLIC SHEET.
1. ACRYLIC SHEET COLOR: CLEAR TRANSPARENT ACRYLIC SHEET.
I. DOOR HARDWARE: MANUFACTURER'S STANDARD DOOR-OPERATING HARDWARE OF PROPER TYPE FOR CABINET TYPE, TRIM STYLE, AND DOOR MATERIAL AND STYLE INDICATED.
J. ACCESSORIES:
1. MOUNTING BRACKET: MANUFACTURER'S STANDARD STEEL, DESIGNED TO SECURE FIRE EXTINGUISHER TO FIRE PROTECTION CABINET, OF SIZES REQUIRED FOR TYPES AND CAPACITIES OF FIRE EXTINGUISHERS INDICATED, WITH PLATED OR BAKED-ENAMEL FINISH.
2. DOOR LOCK: CAM LOCK THAT ALLOWS DOOR TO BE OPENED DURING EMERGENCY BY PULLING SHARPLY ON DOOR HANDLE.
K. FINISHES:
1. MANUFACTURER'S STANDARD BAKED-ENAMEL PAINT FOR THE FOLLOWING:
a. EXTERIOR OF CABINET, EXCEPT FOR THOSE SURFACES INDICATED TO RECEIVE ANOTHER FINISH.
b. INTERIOR OF CABINET.
2. ALUMINUM: CLEAR ANODIZED.
2.3 FABRICATION
A. FIRE PROTECTION CABINETS: PROVIDE MANUFACTURER'S STANDARD BOX (TUB), WITH TRIM, FRAME, DOOR, AND HARDWARE TO SUIT CABINET TYPE, TRIM STYLE, AND DOOR STYLE INDICATED. MITER AND WELD JOINTS AND GRIND SMOOTH.
PART 3 - EXECUTION
3.1 INSTALLATION
A. EXAMINE WALLS AND PARTITIONS FOR SUITABLE FRAMING DEPTH AND BLOCKING WHERE SEMIRECESSED CABINETS WILL BE INSTALLED AND PREPARE RECESSES AS REQUIRED BY TYPE AND SIZE OF CABINET AND TRIM STYLE.
B. INSTALL FIRE PROTECTION CABINETS IN LOCATIONS AND AT MOUNTING HEIGHTS INDICATED OR, IF NOT INDICATED, AT HEIGHTS ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
C. FIRE PROTECTION CABINETS: FASTEN CABINETS TO STRUCTURE, SQUARE AND PLUMB.
D. ADJUST FIRE PROTECTION CABINET DOORS TO OPERATE EASILY WITHOUT BINDING. VERIFY THAT INTEGRAL LOCKING DEVICES OPERATE PROPERLY.
E. REPLACE FIRE PROTECTION CABINETS THAT HAVE BEEN DAMAGED OR HAVE DETERIORATED BEYOND SUCCESSFUL REPAIR BY FINISH TOUCHUP OR SIMILAR MINOR REPAIR PROCEDURES.

END OF SECTION 104413

SECTION 104416 - FIRE EXTINGUISHERS

PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS.
B. RELATED SECTIONS:
1. DIVISION 10 SECTION "FIRE EXTINGUISHER CABINETS."
1.2 QUALITY ASSURANCE
A. NFPA COMPLIANCE: FABRICATE AND LABEL FIRE EXTINGUISHERS TO COMPLY WITH NFPA 10, "PORTABLE FIRE EXTINGUISHERS."
B. FIRE EXTINGUISHERS: LISTED AND LABELED FOR TYPE, RATING, AND CLASSIFICATION BY AN INDEPENDENT TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
C. COORDINATE TYPE AND CAPACITY OF FIRE EXTINGUISHERS WITH FIRE PROTECTION CABINETS TO ENSURE FIT AND FUNCTION.
PART 2 - PRODUCTS
2.1 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS
A. FIRE EXTINGUISHERS: TYPE, SIZE, AND CAPACITY FOR EACH INDICATED.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. BADGER FIRE PROTECTION; A KIDDE COMPANY.
b. BUCKEYE FIRE EQUIPMENT COMPANY.
c. J. L. INDUSTRIES, INC.; A DIVISION OF ACTIVAR CONSTRUCTION PRODUCTS GROUP.
d. LARSEN'S MANUFACTURING COMPANY.
e. APPROVED EQUAL.
2. INSTRUCTION LABELS: INCLUDE PICTORIAL MARKING SYSTEM COMPLYING WITH NFPA 10, APPENDIX B AND BAR CODING FOR DOCUMENTING FIRE EXTINGUISHER LOCATION, INSPECTIONS, MAINTENANCE, AND RECHARGING.
B. MULTIPURPOSE DRY-CHEMICAL TYPE: UL-RATED 5-LB NOMINAL CAPACITY, WITH MONOAMMONIUM PHOSPHATE-BASED DRY CHEMICAL IN MANUFACTURER'S STANDARD ENAMELED CONTAINER.
PART 3 - EXECUTION
3.1 INSTALLATION
A. EXAMINE FIRE EXTINGUISHERS FOR PROPER CHARGING AND TAGGING.
1. REMOVE AND REPLACE DAMAGED, DEFECTIVE, OR UNDERCHARGED FIRE EXTINGUISHERS.
B. INSTALL FIRE EXTINGUISHERS IN LOCATIONS INDICATED AND IN COMPLIANCE WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

END OF SECTION 104416

SECTION 114000 - COMMERCIAL EQUIPMENT

PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES EQUIPMENT FOR FOODSERVICE FACILITIES.
B. SEE DIVISION 23 SECTIONS FOR SUPPLY AND EXHAUST FANS; EXHAUST DUCTWORK; SERVICE ROUGHING-INS; DRAIN TRAPS; ATMOSPHERIC VENTS; VALVES, PIPES, AND FITTINGS; FIRE-EXTINGUISHING SYSTEMS; AND OTHER MATERIALS REQUIRED TO COMPLETE FOODSERVICE EQUIPMENT INSTALLATION.
C. SEE DIVISION 28 SECTIONS FOR CONNECTIONS TO FIRE-ALARM SYSTEMS, WIRING, DISCONNECT SWITCHES, AND OTHER ELECTRICAL MATERIALS REQUIRED TO COMPLETE FOODSERVICE EQUIPMENT INSTALLATION.
1.2 QUALITY ASSURANCE
A. NSF STANDARDS: PROVIDE EQUIPMENT THAT BEARS NSF CERTIFICATION MARK OR UL CLASSIFICATION MARK CERTIFYING COMPLIANCE WITH APPLICABLE NSF STANDARDS.
B. UL CERTIFICATION: PROVIDE ELECTRIC AND FUEL-BURNING EQUIPMENT AND COMPONENTS THAT ARE EVALUATED BY UL FOR FIRE, ELECTRIC SHOCK, AND CASUALTY HAZARDS ACCORDING TO APPLICABLE SAFETY STANDARDS, AND THAT ARE UL CERTIFIED FOR COMPLIANCE AND LABELED FOR INTENDED USE.
1.3 WARRANTY
A. REFRIGERATION COMPRESSOR WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPRESSORS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
1. FAILURE INCLUDES, BUT IS NOT LIMITED TO, INABILITY TO MAINTAIN SET TEMPERATURE.
2. WARRANTY PERIOD: FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
PART 2 - PRODUCTS
2.1 FABRICATED EQUIPMENT
A. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL EQUIPMENT LISTED ON THE DRAWINGS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. SECURELY ANCHOR UNITS TO COUNTERS OR CABINETRY WITH CONCEALED FASTENERS. VERIFY CLEARANCES ARE ADEQUATE FOR PROPER FUNCTIONING, AND THAT ROUGH OPENINGS ARE COMPLETELY CONCEALED.
B. PLACE FREESTANDING EQUIPMENT AFTER ALL FINISHES ARE IN PLACE. VERIFY CLEARANCES ARE ADEQUATE FOR PROPER OPERATION.
C. VERIFY ALL POWER AND UTILITY CONNECTIONS AND COORDINATE ALL TRADES PRIOR TO ROUGH-IN.
D. VERIFY ALL ACCESSORY ITEMS HAVE BEEN PROVIDED.
E. REMOVE ALL PACKING MATERIAL AND LEAVE UNITS CLEAN, READY TO OPERATE.
2.2 FINISHES
A. PROVIDE EQUIPMENT IN FINISH NOTED ON DRAWINGS.
PART 3 - EXECUTION
3.1 INSTALLATION
A. INSTALL FOODSERVICE EQUIPMENT LEVEL AND PLUMB, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
1. CONNECT EQUIPMENT TO UTILITIES.
2. PROVIDE CUTOUTS IN EQUIPMENT, NEATLY FORMED, WHERE REQUIRED TO RUN SERVICE LINES THROUGH EQUIPMENT TO MAKE FINAL CONNECTIONS.
B. COMPLETE EQUIPMENT ASSEMBLY WHERE FIELD ASSEMBLY IS REQUIRED.
1. PROVIDE CLOSED BUTT AND CONTACT JOINTS THAT DO NOT REQUIRE A FILLER.
2. GRIND FIELD WELDS ON STAINLESS-STEEL EQUIPMENT UNTIL SMOOTH AND POLISH TO MATCH ADJACENT FINISH.
C. INSTALL EQUIPMENT WITH ACCESS AND MAINTENANCE CLEARANCES THAT COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
D. INSTALL CABINETS AND SIMILAR EQUIPMENT ON BASES IN A BED OF SEALANT.
E. INSTALL CLOSURE-TRIM STRIPS AND SIMILAR ITEMS REQUIRING FASTENERS IN A BED OF SEALANT.
F. INSTALL JOINT SEALANT IN JOINTS BETWEEN EQUIPMENT AND ABUTTING SURFACES WITH CONTINUOUS JOINT BACKING UNLESS OTHERWISE INDICATED. PRODUCE AIRTIGHT, WATERTIGHT, VERMIN-PROOF, SANITARY JOINTS.
3.2 CLEANING AND PROTECTING
A. AFTER COMPLETING INSTALLATION OF EQUIPMENT, REPAIR DAMAGED FINISHES.
B. CLEAN AND ADJUST EQUIPMENT AS REQUIRED TO PRODUCE READY-FOR-USE CONDITION.
C. PROTECT EQUIPMENT FROM DAMAGE DURING REMAINDER OF THE CONSTRUCTION PERIOD.
3.3 DEMONSTRATION
A. TRAIN OWNER'S MAINTENANCE PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN FOODSERVICE EQUIPMENT.

END OF SECTION 114000

SECTION 114510 - APPLIANCES

PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. COOKING, REFRIGERATION AND CLEANING APPLIANCES.
1.2 CLOSEOUT SUBMITTALS
A. OPERATION AND MAINTENANCE DATA.
1.3 QUALITY ASSURANCE
A. INSTALLER QUALIFICATIONS: AN EMPLOYER OF WORKERS TRAINED AND APPROVED BY MANUFACTURER FOR INSTALLATION AND MAINTENANCE OF UNITS REQUIRED FOR THIS PROJECT.
1.4 WARRANTY
A. SPECIAL WARRANTIES: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE RESIDENTIAL APPLIANCES OR COMPONENTS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
1. WARRANTY PERIOD: FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
PART 2 - PRODUCTS
2.1 MANUFACTURERS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT LISTED FOR EACH APPLIANCE AS LISTED IN THE DRAWINGS.
PART 3 - EXECUTION
3.1 INSTALLATION, GENERAL
A. BUILT-IN EQUIPMENT: SECURELY ANCHOR UNITS TO SUPPORTING CABINETS OR COUNTERTOPS WITH CONCEALED FASTENERS. VERIFY THAT CLEARANCES ARE ADEQUATE FOR PROPER FUNCTIONING AND THAT ROUGH OPENINGS ARE COMPLETELY CONCEALED.
B. FREESTANDING EQUIPMENT: PLACE UNITS IN FINAL LOCATIONS AFTER FINISHES HAVE BEEN COMPLETED IN EACH AREA. VERIFY THAT CLEARANCES ARE ADEQUATE TO PROPERLY OPERATE EQUIPMENT.
C. UTILITIES: COMPLY WITH PLUMBING AND ELECTRICAL REQUIREMENTS.
3.2 FIELD QUALITY CONTROL
A. TESTS AND INSPECTIONS:
1. PERFORM VISUAL, MECHANICAL, AND ELECTRICAL INSPECTION AND TESTING FOR EACH APPLIANCE ACCORDING TO MANUFACTURERS' WRITTEN RECOMMENDATIONS. CERTIFY COMPLIANCE WITH EACH MANUFACTURER'S APPLIANCE-PERFORMANCE PARAMETERS.
1. LEAK TEST: AFTER INSTALLATION, TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
2. OPERATIONAL TEST: AFTER INSTALLATION, START UNITS TO CONFIRM PROPER OPERATION.
3. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND COMPONENTS.

END OF SECTION 114510

SECTION 123216 - MANUFACTURED PLASTIC-LAMINATE-FACED CASEWORK

PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. PLASTIC-LAMINATE CASEWORK AND COUNTERTOPS
1.2 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
B. SHOP DRAWINGS: INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.
1.3 QUALITY ASSURANCE
A. PRODUCT DESIGNATIONS: DRAWINGS INDICATE SIZES, CONFIGURATIONS, AND FINISH MATERIAL OF MANUFACTURED WOOD CASEWORK BY REFERENCING DESIGNATED MANUFACTURER'S CATALOG NUMBERS. OTHER MANUFACTURERS' CASEWORK OF SIMILAR SIZES AND DOOR AND DRAWER CONFIGURATIONS, OF SAME FINISH MATERIAL, AND COMPLYING WITH THE SPECIFICATIONS MAY BE CONSIDERED. REFER TO DIVISION 1 SECTION "PRODUCT REQUIREMENTS."
1.4 WARRANTY
A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF MANUFACTURED WOOD CASEWORK THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
1. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
a. DELAMINATION OF COMPONENTS OR OTHER FAILURES OF GLUE BOND.
b. WARPING OF COMPONENTS.
c. FAILURE OF OPERATING HARDWARE.
d. DETERIORATION OF FINISHES.
2. WARRANTY PERIOD: FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
PART 2 - PRODUCTS
2.1 CASEWORK
A. ALL CASEWORK SHALL BE PURCHASED FROM:
1. STEVENS INDUSTRIES, INC.
704 WEST MAIN
TEUTOPOLIS, IL 62467
LISA LUSTIG, 217-540-3148, LISAL@STEVENSIND.COM
TIM WENTE, 217-540-3120, TIMW@STEVENSIND.COM
217-540-3371 (F)
B. SEE DRAWINGS FOR THE SCHEDULE OF CASEWORK.
C. ALL CASEWORK WILL BE DELIVERED "READY TO ASSEMBLE" OR ASSEMBLED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PURCHASE, RECEIVE, ASSEMBLE, AND INSTALL ALL CASEWORK SUPPLIED BY THE CABINET COMPANY.
PART 3 - EXECUTION
3.1 CASEWORK INSTALLATION
A. INSTALL LEVEL, PLUMB, AND TRUE; SHIM AS REQUIRED, USING CONCEALED SHIMS. WHERE MANUFACTURED WOOD CASEWORK ABUTS OTHER FINISHED WORK, APPLY FILLER STRIPS AND SCRIBE FOR ACCURATE FIT, WITH FASTENERS CONCEALED WHERE PRACTICAL.
B. BASE CABINETS: SET CABINETS STRAIGHT, LEVEL, AND PLUMB. ADJUST SUBTOPS WITHIN 1/16 INCH OF A SINGLE PLANE. FASTEN CABINETS TO MASONRY OR FRAMING, WOOD BLOCKING, OR REINFORCEMENTS IN WALLS AND PARTITIONS WITH FASTENERS SPACED 24 INCHES O.C. BOLT ADJACENT CABINETS TOGETHER WITH JOINTS FLUSH, TIGHT, AND UNIFORM. ALIGN SIMILAR ADJOINING DOORS AND DRAWERS TO A TOLERANCE OF 1/16 INCH.

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY
03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
1005 STADIUM DR
WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
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SPECIFICATIONS

DATE 03/02/2026
JOB NO. 25027

A-9.10
SHEET NO.

C. WALL CABINETS: HANG CABINETS STRAIGHT, LEVEL, AND PLUMB. ADJUST FRONTS AND BOTTOMS WITHIN 1/16 INCH OF A SINGLE PLANE. FASTEN TO HANGING STRIPS, MASONRY, OR FRAMING, BLOCKING, OR REINFORCEMENTS IN WALLS OR PARTITIONS. ALIGN SIMILAR ADJOINING DOORS TO A TOLERANCE OF 1/16 INCH.

D. ADJUST CASEWORK AND HARDWARE SO DOORS AND DRAWERS OPERATE SMOOTHLY WITHOUT WARP OR BIND. LUBRICATE OPERATING HARDWARE AS RECOMMENDED BY MANUFACTURER.

3.2 INSTALLATION OF TOPS

A. FIELD JOINTING: WHERE POSSIBLE MAKE IN THE SAME MANNER AS SHOP JOINTING, USING DOWELS, SPLINES, ADHESIVES, AND FASTENERS RECOMMENDED BY MANUFACTURER. PREPARE EDGES TO BE JOINED IN SHOP SO PROJECT-SITE PROCESSING OF TOP AND EDGE SURFACES IS NOT REQUIRED. LOCATE FIELD JOINTS WHERE SHOWN ON SHOP DRAWINGS.

1. SECURE FIELD JOINTS IN PLASTIC-LAMINATE COUNTERTOPS WITH CONCEALED CLAMPING DEVICES LOCATED WITHIN 6 INCHES OF FRONT AND BACK EDGES AND AT INTERVALS NOT EXCEEDING 24 INCHES. TIGHTEN ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS TO EXERT A CONSTANT, HEAVY-CLAMPING PRESSURE AT JOINTS.

B. SECURE TOPS TO CABINETS WITH Z- OR L-TYPE FASTENERS OR EQUIVALENT, USING TWO OR MORE FASTENERS AT EACH FRONT, END, AND BACK.

C. SECURE BACKSPLASHES TO WALLS WITH ADHESIVE.

D. SEAL JUNCTURES OF TOPS, SPLASHES, AND WALLS WITH MILDEW-RESISTANT SILICONE SEALANT OR ANOTHER PERMANENTLY ELASTIC SEALING COMPOUND RECOMMENDED BY COUNTERTOP MATERIAL MANUFACTURER.

3.3 CLEANING AND PROTECTING

A. CLEAN FINISHED SURFACES, TOUCH UP AS REQUIRED, AND REMOVE OR REFINISH DAMAGED OR SOILED AREAS TO MATCH ORIGINAL FACTORY FINISH, AS APPROVED BY ARCHITECT.

B. PROTECTION: PROVIDE 6-MIL PLASTIC OR OTHER SUITABLE WATER-RESISTANT COVERING OVER COUNTERTOP SURFACES. TAPE TO UNDERSIDE OF COUNTERTOP AT A MINIMUM OF 48 INCHES O.C. REMOVE PROTECTION AT SUBSTANTIAL COMPLETION.

END OF SECTION 123216

SECTION 321816.12 - SYNTHETIC TURF SAFETY SURFACE SYSTEM

PART1 - GENERAL

1.1RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS TO THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATIONS APPLY TO THIS SECTION.

1.2DESCRIPTION OF WORK

A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND TOOLS NECESSARY FOR THE COMPLETE INSTALLATION OF SYNTHETIC TURF SAFETY SURFACE. SURFACE SHALL MEET THE REQUIREMENTS OF ASTM F 1292 THAT STATES THAT THE SURFACE MUST YIELD BOTH A PEAK DECELERATION OF THE NO MORE THAN 200 G'S AND A HEAD INJURY CRITERIA (HIC) VALUE OF NO MORE THAN 1,000 FOR A HEADFIRST FALL FROM THE ACCESSIBLE HEIGHT OF THE PLAY EQUIPMENT. SURFACE SHALL ALSO MEET THE REQUIREMENTS OF ASTM F 1951 FOR PLAYGROUND ACCESSIBILITY. THE SYSTEM SHALL CONSIST OF, BUT NOT NECESSARILY BE LIMITED TO THE FOLLOWING:

1. SYNTHETIC TURF CONSISTING OF FIBERS THAT ARE A MINIMUM OF 1.125" LONG. TURF FIBER CONSTRUCTION CONSISTING OF POLYETHYLENE MONOFILAMENT AND TEXTURIZED MONOFILAMENT FIBERS TUFTED TO SILVERBACK ™ POLYURETHANE.

2. PAD UNDERLAYMENT SYSTEM CONSISTING OF POROUS CLOSED CELL COMPOSITE MATERIALS. THICKNESS AND DENSITY OF PANELS SHALL BE SUFFICIENT SO THAT THE SYSTEM MEETS THE REQUIREMENTS OF ASTM F 1292.

3. SYNTHETIC TURF INFILL, SPECIFICALLY DESIGNED FOR SYNTHETIC TURF. IT SHALL BE ROUNDED UNIFORM QUARTZ SAND PIGMENTED AND SEALED WITH AN ACRYLIC POLYMER DESIGNED TO PROVIDE THE LOOK, FEEL AND PERFORMANCE OF OPTIMALLY MAINTAINED NATURAL GRASS.

B. WORK PROVIDED IN THIS SECTION INCLUDES GRADING NECESSARY TO SHAPE AND DRAIN THE AREA AND BASE PREPARATION AND INSTALLATION OF THE SYNTHETIC TURF IN AREAS SHOWN ON DRAWINGS.

1.3 WARRANTY

D. STANDARD WARRANTY: MANUFACTURER AGREES TO REPAIR OR REPLACE SYNTHETIC GRASS SURFACING AGAINST FAILURE DUE TO EXPOSURE TO SUNLIGHT (PE)

1. IF ANY AREA OR PORTION OF THE TURF SUBSTANTIALLY CHANGES, AS DISTINGUISHED FROM A CHANGE IN TEXTURE, OR IF PILE HEIGHTS DECREASE 50% OR MORE WITHIN EIGHT YEARS AFTER ITS INITIAL INSTALLATION, MANUFACTURER WILL HAVE SUCH AREAS OR PORTIONS REPLACED WITH NEW TURF OF EQUIVALENT QUALITY, EXCLUDING INSTALLATION COSTS. MANUFACTURER ALSO WARRANTS THAT AT THE TIME OF THE INITIAL TURF INSTALLATION, THE SYNTHETIC TURF WILL BE FREE OF MANUFACTURING DEFECTS. SLIGHT COLOR CHANGES WILL OCCUR OVER THE LIFETIME OF THIS TURF/CARPET AND IS NOT CONSIDERED AN ISSUE OR BASIS FOR CLAIM. ALL LABOR COST INVOLVED WITH THE REMOVAL OF THE AFFECTED TURF / CARPET AND REINSTALLATION OF THE REPLACEMENT CARPET WILL BE THE RESPONSIBILITY OF THE PURCHASER

2. WARRANTY PERIOD: 8 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

B. 5 YEAR INSTALLATION WARRANTY: MANUFACTURER WARRANTIES THE INSTALLATION FOR PERIOD OF 5 YEARS FROM THE DATE OF INSTALLATION. WARRANTY APPLIES SPECIFICALLY TO THE INSTALLATION OF THE SYNTHETIC TURF.

1. GENERAL PROVISIONS OF THIS LIMITED WARRANTY ONLY TO THE WEAR OF THE TURF WITH REGARD TO ULTRAVIOLET DEGRADATION, AND DO NOT APPLY TO DAMAGE INCURRED DURING INSTALLATION, IMPROPER UNDERLAY, PILE CRUSHING, WILLFUL OR NEGLIGENT ABUSES, OR DAMAGE BY MACHINERY OR EQUIPMENT, NOR DOES IT APPLY WHEN THE TURF IS NOT PROFESSIONALLY INSTALLED BY AN APPROVED INSTALLER. THIS LIMITED WARRANTY DOES NOT APPLY TO INSTALLATIONS ON STAIRWAYS OR OTHER UNEVEN SURFACES, NOR DOES IT APPLY TO TURF, WHICH HAS NOT BEEN PROPERLY MAINTAINED.

PART 2 - PRODUCTS

2.1 SYNTHETIC TURF SAFETY SURFACE

A. AGGREGATE BASE- 50% CRUSHED CLEAN STONE (SIZE= ¾") / 50% CRUSHED CLEAN STONE (SIZE=1/4"). (REFER TO SECTION 3.2-B)

B. SYNTHETIC TURF: 1.25" KID PLAY SYNTHETIC TURF FOR PLAY AREAS FROM SPORT SURFACE SPECIALTIES, LLC 6091 SENECA ST, ELMA NY 14059. PHONE: 716-652-2039

1. FACE WEIGHT: 60 OZ. / SQ YD

2. YARN TYPE: POLYETHYLENE

3. YARN CROSS SECTION: POLYETHYLENE MONOFILAMENT CLASSIC SPINE/TEXTURIZED POLYPROPYLENE THATCH PILE HEIGHT: 1.25"

5. PILE HEIGHT: 1.25"

6. COLOR: FIELD /FOREST / OLIVE

7. CONSTRUCTION: BROADLOOM TUFTED

8. TUFTING GAUGE: 3/8"

9. TOTAL PRODUCT WEIGHT: 87 OZ.

10. FINISHED ROLL WIDTH: 180" UNTRIMMED

11. WARRANTY: 8 YEAR U. V. DEGRADATION

C. PAD UNDERLAYMENT STANDARD RECYCLED, NON-CONTAMINATED, POSTINDUSTRIAL CROSS LINK, AND CLOSED CELL POLYETHYLENE- POLYOLEFIN FOAM PAD FROM SPORT SURFACE SPECIALTIES.

1. FOAM TYPE: POLYETHYLENE-POLYOLEFIN

2. BULK DENSITY: 5.0-8.0 LB/CU FT

3. EFFECTIVE SIZE: 24 SQ FT (NET COVERAGE)

4. TENSILE STRENGTH 34-36 PSI

D. SYNTHETIC TURF INFILL MATERIAL

1. COEFFICIENT OF UNIFORMITY OF $\leq$ 1.3.

2. 98% OF THE PARTICLES RETAINED ON US STANDARD SIEVES 12 THROUGH 20

3. COATED PARTICLES SHALL BE SMOOTH TO RESIST MOUNDING AND COMPACTION AND HAVE AN ANGLE OF REPOSE OF 30° OR LESS.

4. THE FINISHED PRODUCT SHALL BE 100% COATED, SHALL REPEL WATER, BE NON- FLAMMABLE AND HAVE <.001% DUST CONTENT.

5. WHEN PLACED IN SYNTHETIC TURF, THE SYSTEM SHALL HAVE AN ABRASION INDEX OF 26+2.

6. COLOR: GREEN OR TAN

7. PRODUCT TO BE ENVIROFILL® MANUFACTURED BY US GREENTECH, L.L.C. OR APPROVED EQUAL.

E. SPLICING MATERIAL: SPUN BONDED COATED POLYPROPYLENE (12" SEAMING TAPE)

F. ADHESIVE: TURFCLAW SYNTHETIC TURF ADHESIVE

PART 3 - EXECUTION

3.1 GROUND PREPARATION

A. GENERAL: THE GROUND AREAS TO RECEIVE SYNTHETIC TURF SAFETY SURFACE IS INDICATED ON DRAWINGS

B. LEVELING AND SITE PREPARATION: ALL ORGANIC MATERIAL AND ORGANIC DEBRIS TO BE REMOVED. SOIL TO BE GRADED LEVEL AND STABILIZED (COMPACTED). COMPACTION SHALL BE DONE WITH MECHANICAL COMPACTORS, INCLUDING VIBRATORY COMPACTORS, AND /OR POWERED TAMPERS AND ROLLERS.

3.2 BASE AND SYNTHTTIC TURF CONSTRUCTION

A. GENERAL: THE AREA TO BE SMOOTH AND GRADED TO ALLOW PROPER DRAINAGE. REFER TO GRADING PLAN. THE OVERALL GRADE OF THE PLAYGROUND IS NOT TO EXCEED 3%.

B. COMPACTED AGGREGATE BASE: PLACE 4INCHES OF AGGREGATE BASE AS LEVELING LAYER COMPACTED TO 90% OF MAX DENSITY PER AASHTO T99. COMPACTION SHALL BE DONE WITH MECHANICAL COMPACTORS INCLUDING VIBRATORY COMPACTORS AND/OR POWERED TAMPERS AND ROLLERS. AGGREGATE SHOULD BE A COMBINATION: 50% CRUSHED CLEAN STONE (SIZE=3/4") 50% CRUSHED CLEAN STONE (SIZE=1/4").

C. SYNTHETIC TURF: PLACE TURF AND CUT TO FIT CONFIGURATION AS SHOWN ON DRAWINGS. SPLICE SEAMS. ALL SEAMS MUST BE ATTACHED WITH SPLICING FILM/ FABRIC AND ADHESIVE AS APPROVED BY THE MANUFACTURER FOR THIS TYPE OF INSTALLATION OF THEIR PRODUCT.

D. INFILL: APPLY LAYERS OF SYNTHETIC TURF INFILL WITH A DROP SPREADER AND BROOM THE TURF FIBERS WITH STIFF BRISTLED BROOM TO STAND UP AND ALLOW INFILL TO SETTLE INTO THE BOTTOM. BROOM IN ENVIROFILL® INFILL AT APPROXIMATELY 2 POUNDS PER SQUARE FOOT.

E. ANCHOR/ EDGING: EDGES OF TURF WILL BE GROUND WITH MECHANICAL FASTENERS, STAKES OR EDGING.

END OF SECTION 321816.12

SECTION 321816.15 - PLAY FIELD EQUIPMENT AND STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES THE FOLLOWING:

1. MANUFACTURED PLAYGROUND EQUIPMENT.

B. GENERAL REQUIREMENTS:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE PLAYGROUND EQUIPMENT SITE AREA AS SPECIFIED ON THE SITE PLAN, INCLUDING FINAL GRADING SUITABLE FOR INSTALLATION OF PLAYGROUND EQUIPMENT.

2. EQUIPMENT WILL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO RECEIVE, VERIFY, STORE AND INSTALL PLAYGROUND EQUIPMENT WHEN DELIVERED.

1.2 SUBMITTALS

A. SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION DETAILS FOR PLAYGROUND EQUIPMENT AND STRUCTURES.

1.3 QUALITY ASSURANCE

A. SAFETY STANDARDS: PROVIDE PLAYGROUND EQUIPMENT COMPLYING WITH OR EXCEEDING REQUIREMENTS IN THE FOLLOWING:

1. ASTM F 1487.

2. CPSC NO. 325.

1.4 WARRANTY

A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF PLAYGROUND EQUIPMENT THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

1. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

a. DETERIORATION OF METALS, METAL FINISHES, AND OTHER MATERIALS BEYOND NORMAL WEATHERING.

2. WARRANTY PERIOD: FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

PART 2 - PRODUCTS

2.1 MANUFACTURER:

A. PLAYPOWER INC., 878 E HIGHWAY 60, MONETT, MO 65708, PHONE: 417-354-2678

2.2 COMMON MATERIALS AND PROCESSES:

A. CONDITIONED WOOD - ALL WOOD COMPONENTS ARE MANUFACTURED FROM KILN DRIED FSC CERTIFIED SOFTWOODS AND ARE CONDITIONED WITH COPPER AZOLE AFTER ALL FABRICATION HAS BEEN COMPLETED.

B. 6" DIAMETER STEEL TUBING - ALL 6" DIAMETER STEEL TUBING IS PRODUCED FROM 12 GAUGE GALVANIZED SHEET STOCK USING RECLAIMED SCRAP METAL, LIGHTLY SANDBLASTED, PRIMED AND ELECTRO-STATICALLY POWDER COATED AFTER ALL FABRICATION HAS BEEN COMPLETED. THIS MATERIAL CONSISTS OF 78% RECYCLED CONTENT ON AVERAGE.

C. RECYCLED PLASTIC - ALL RECYCLED PLASTIC COMPONENTS ARE MADE FROM 98% POST CONSUMER RECYCLED HIGH DENSITY POLYETHYLENE WITH THE REMAINING 2% CONSISTING OF PIGMENTS AND UV INHIBITORS. ALL LOAD BEARING COMPONENTS ARE GLASS REINFORCED.

D. ROTATIONALLY MOLDED PLASTIC - ALL ROTATIONALLY MOLDED PLASTIC COMPONENTS ARE DOUBLE WALLED WITH UV STABILIZED POLYETHYLENE TO AN AVERAGE 3/16 INCH WALL THICKNESS, UNLESS OTHERWISE SPECIFIED.

E. INJECTION MOLDED PLASTIC - ALL INJECTION MOLDED PLASTIC COMPONENTS ARE COMPOSED OF NYLON OR HIGH IMPACT POLYPROPYLENE WITH UV INHIBITOR.

F. STANDARD STEEL TUBING - ALL 1INCH AND 1-1/4 INCH STEEL TUBING IS PROTECTED WITH AN IN-LINE PROCESS THAT INCLUDES FLO-COAT® ZINC GALVANIZING, CHROMATE CONVERSION, AND A CLEAR POLYMER COATING. THIS MATERIAL CONSISTS OF 50% RECYCLED CONTENT ON AVERAGE.

G. FASTENERS - ALL FASTENERS ARE EITHER ZINC PLATED OR STAINLESS STEEL BASED ON APPLICATION. ALL THREADED FASTENERS INSTALLED ON SITE INCLUDE LOCKNUTS WITH DEFORMED THREADS, NYLON RINGS, OR A THREAD-LOCKING PRODUCT PLACED ON THE THREADS OF BOLT.

H. POWDER-COATING - PARTS THAT ARE POWDER-COATED USE A TGIC POLYESTER POWDER RESIN THAT IS ELECTRO-STATICALLY APPLIED AND HEAT CURED LEAVING A FINISH THAT IS NON-POROUS, NON-TOXIC, AND UV STABILIZED. ZINC-PLATING OR ZINC RICH PRIMER IS USED AS BASE COAT PRIOR TO APPLYING THE POWDER-COAT TOP LAYER. TYPICAL THICKNESS OF POWDER-COATING IS 3 - 4 MILS.

I. HOT-DIP GALVANIZING - AFTER FABRICATION, ALL NON-PAINTED STEEL COMPONENTS ARE GALVANIZED WITH A HEAVY INDUSTRIAL GRADE ZINC-PLATING.

J. ALUMINUM CASTING - ALUMINUM CASTINGS USE EITHER A 713 T6, 356 T6, OR ZN12 ALLOY THAT IS TUMBLED TO REMOVE ANY SHARP CASTING FLASHING AND LEAVE A SMOOTH EXTERIOR FINISH.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. GENERAL: COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED. ANCHOR PLAYGROUND EQUIPMENT SECURELY, POSITIONED AT LOCATIONS AND ELEVATIONS INDICATED.

1. MAXIMUM EQUIPMENT HEIGHT: COORDINATE INSTALLED HEIGHTS OF EQUIPMENT AND COMPONENTS WITH FINISHED ELEVATIONS OF PROTECTIVE SURFACING. SET EQUIPMENT SO FALL HEIGHTS AND ELEVATION REQUIREMENTS FOR AGE GROUP USE AND ACCESSIBILITY ARE WITHIN REQUIRED LIMITS. VERIFY THAT PLAYGROUND EQUIPMENT ELEVATIONS COMPLY WITH REQUIREMENTS FOR EACH TYPE AND COMPONENT OF EQUIPMENT.

2. PLAYGROUND EQUIPMENT IS INSTALLED AFTER GRADE HAS BEEN ESTABLISHED IN THE FALL ZONE AREAS; ANY REQUIRED DRAINAGE OF THE FALL ZONE AREAS IS INSTALLED AND CONNECTED TO THE APPROVED STORM SYSTEM. THE PERIMETER SIDEWALKS MAY BE POURED PRIOR TO PLAYGROUND INSTALLATION. IMMEDIATELY PRECEDING THE COMPLETION OF THE PLAY STRUCTURE INSTALLATION, THE SOD AND REMAINING LANDSCAPE FEATURES ARE TO BE COMPLETED. THE PLAYGROUND SOD SHALL BE INSTALLED AND COMPLETE A MINIMUM OF 45 DAYS PRIOR TO OCCUPANCY. REFER TO THE PLANS AND MANUFACTURER SPECS' FOR ADDITIONAL INFORMATION. DO NOT INSTALL THE SOD (WHERE SOD IS USED) PRIOR TO INSTALLATION OF THE PLAYGROUND STRUCTURES.

END OF SECTION 321816.15

SECTION 323119 - DECORATIVE METAL FENCES AND GATES

PART 1 - GENERAL

1.01 SUMMARY

A. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND APPURTENANCES NECESSARY FOR INSTALLATION OF THE WELDED ORNAMENTAL STEEL FENCE SYSTEM DEfiNED IN THE DRAWINGS AND SPECIFICATIONS.

PART 2 - MATERIALS

2.01 MANUFACTURER

A. THE FENCE SYSTEM SHALL CONFORM TO MONTAGE PLUS ATF™ WELDED ORNAMENTAL STEEL MAJESTIC™ DESIGN, EXTENDED PICKET BOTTOM RAIL TREATMENT, 3" PICKET INTERSPACE 3-RAIL STYLE MANUFACTURED BY AMERISTAR FENCE PRODUCTS, INC., IN TULSA, OKLAHOMA.

1. OR APPROVED EQUAL.

2.02 MATERIAL

A. STEEL MATERIAL FOR FENCE PANELS AND POSTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A653/A653M, WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI (344 MPA) AND A MINIMUM ZINC (HOT-DIP GALVANIZED) COATING WEIGHT OF 0.90 OZ/FT$_2$ (276 G/M$_2$), COATING DESIGNATION G-60.

B. MATERIAL FOR FENCE PICKETS SHALL BE 3/4" SQUARE X 18 GA. TUBING. THE RAILS SHALL BE STEEL CHANNEL, MONTAGE PLUS ATF PROfiLE, 1.5" X 1.4375" X 14 GA. PICKET HOLES IN THE RAIL SHALL BE AT 3.500" O.C. FOR 3" AIR SPACE.

1. FENCE POSTS AND GATE POSTS SHALL MEET THE MINIMUM SIZE REQUIREMENTS OF TABLE 1, LOCATED AT THE END OF THIS SECTION.

C. DUMPSTER ENCLOSURE GATE INFILL: BUNZL EXTRUSION - OP PANEL

1. MATERIAL: RIGID PVC

2. COLOR: BLACK

2.03 FABRICATION

A. PICKETS, RAILS AND POSTS SHALL BE PRE-CUT TO SPECIFIED LENGTHS. RAILS SHALL BE PRE-PUNCHED TO ACCEPT PICKETS.

B. PICKETS SHALL BE INSERTED INTO THE PRE-PUNCHED HOLES IN THE RAILS AND SHALL BE ALIGNED TO STANDARD SPACING USING A SPECIALLY CALIBRATED ALIGNMENT fiXTURE. THE ALIGNED PICKETS AND RAILS SHALL BE JOINED AT EACH PICKET-TO-RAIL INTERSECTION BY AMERISTAR'S PROPRIETARY FUSION WELDING PROCESS, THUS COMPLETING THE RIGID PANEL ASSEMBLY.

C. THE MANUFACTURED PANELS AND POSTS SHALL BE SUBJECTED TO THE AMERICOAT™ INLINE ELECTRODEPOSITION COATING PROCESS CONSISTING OF A MULTI-STAGE PRETREATMENT/WASH (WITH ZINC PHOSPHATE), FOLLOWED BY A DUPLEX CATHODIC ELECTROCOAT APPLICATION OF AN EPOXY PRIMER FOLLOWED BY AN ACRYLIC TOPCOAT. THE MINIMUM CUMULATIVE COATING THICKNESS OF EPOXY AND ACRYLIC SHALL BE 2 MILS (0.058 MM).

1. THE COLOR SHALL BE BLACK.

D. GATES SHALL BE FABRICATED USING WELDED ORNAMENTAL PANEL MATERIAL AND GATE ENDS HAVING A 1-3/4" SQUARE CROSS-SECTIONAL SIZE. ALL RAIL AND UPRIGHT INTERSECTIONS SHALL BE JOINED BY WELDING. ALL PICKET AND RAIL INTERSECTIONS SHALL ALSO BE JOINED BY WELDING.

1. HARDWARE:

i. #SH100 SPRING HINGE

ii. #DL100 LOCKING GRAVITY LATCH (TO BE USED AT GATES WITH NO PANIC HARDWARE)

iii. EXIT ALARM LOCK:

1. VON DUPRIN MODEL #2670

2. FINISH-US28

3. ACCESSORIES:

a. 210DTX050140

b. 230DTX050140

c. 3216 RIM CYLINDER

iv. GATE HINGE (OVER 4'-0"W)

1. MHH180 COMMERCIAL/INDUSTRIAL 180 HINGE

PART 3 - EXECUTION

3.01 INSTALLATION

E. FENCE POSTS SHALL BE SET ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. FENCE PANELS SHALL BE ATTACHED TO POSTS WITH BOULEVARD BRACKETS SUPPLIED BY THE MANUFACTURER. GATE POSTS SHALL BE SPACED ACCORDING TO THE GATE OPENINGS SPECIfiED IN THE CONSTRUCTION PLANS. THE "EARTHWORK" AND "CONCRETE" SECTIONS OF THIS SPECIfiCATION SHALL GOVERN POST BASE MATERIAL REQUIREMENTS.

3.02 CLEANING

A. THE CONTRACTOR SHALL CLEAN THE JOBSITE OF EXCESS MATERIALS; POST-HOLE EXCAVATIONS SHALL BE SCATTERED UNIFORMLY AWAY FROM POSTS.

3.02 POST SCHEDULE

TABLE 1 - MINIMUM SIZES FOR MONTAGE PLUS POSTS

FENCE POSTS	PANEL HEIGHT	
2-1/2" X 16 GA.	UP TO & INCLUDING 6' HEIGHT	
GATE LEAF	GATE HEIGHT	
	UP TO & INCLUDING 4'	OVER 4' UP TO & INCLUDING 6'
UP TO 4'	2-1/2" X 14 GA.	3" X 12 GA.
4'1" TO 6'	3" X 12GA.	3" X 12 GA.
6'1" TO 8'	3" X 12 GA.	4" X 11 GA.

END OF SECTION 323119

NORTH CAROLINA PROFESSIONAL SEAL 15420 ARCHITECT JAMES W KASSAY

03/18/2026

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
	03/18/2026	PERMIT SET
1		
2		
3		
4		
5		
6		
7		
8		
9		

SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

A-9.11

SHEET NO.

GENERAL NOTES & SPECIFICATIONS

Design Criteria

Applicable Building Code: 2018 North Carolina Building Code (2015 IBC)

1. Design Live Loads

   A. Floor
      1) First floor = 100 psf *
      2) Mechanical attic = 20 psf *
      3) Stairs and exits = 100 psf

   B. Roof
      1) Ordinary roof (not occupiable) = 20 psf

   C. Where indicated with * , live load reduction in accordance with the building code was used to reduce the given load.

2. Design Snow Loads

   A. Ground snow load (Pg) = 15 psf
      1) Snow exposure factor (Ce) = 1.0
      2) Snow importance factor (Is) = 1.0
      3) Thermal factor (Ct) = 1.0
      4) Slope factor (Cs) = 1.0

   B. Flat roof snow load (Pf) = 11 psf
      1) Rain on snow surcharge = 5 psf
      2) Drifting (see sheet S-1.1 for snow drift schedule and diagram)

   C. Minimum flat roof snow load (Pm) = 15 psf
   D. Minimum roof snow load dictated by the Authority Having Jurisdiction (P_{AHJ}) = N/A
   E. Roof design is governed by the worst case effects of roof live load, Pf + rain on snow, Pf+drifting, Pm, or P_{AHJ}.

3. Rainfall Intensity

   A. 15-minute duration / 100 yr. mean recurrence interval = 6.07 in/hr
   B. 60-minute duration / 100 yr. mean recurrence interval = 3.20 in/hr

4. Design Wind Loads

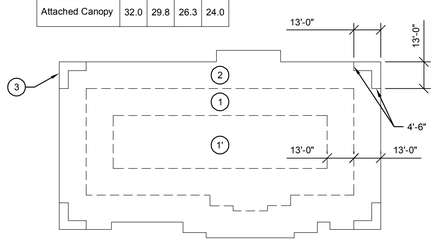
   A. Basic wind speed (3 second gust) (Ultimate) = 115 mph
      1) Exposure = C
      2) Risk category = II
      3) Internal pressure coefficient (GCpi) = ±0.18

   B. Components and Cladding Wind Loads (PSF) (Ultimate)

WALLS - WINDWARD COMPONENTS AND CLADDING								
Height	Effective Area (sq.ft.)							
	Interior Zone				Exterior Zone			
	10	20	50	100	10	20	50	100
0-22	27.5	26.3	24.6	23.4	27.5	26.3	24.6	23.4

WALLS - LEEWARD COMPONENTS AND CLADDING								
Height	Effective Area (sq.ft.)							
	Interior Zone				Exterior Zone			
	10	20	50	100	10	20	50	100
0-22	29.7	28.6	26.9	25.7	36.6	34.3	30.9	28.6

ROOF UPLIFT - COMPONENTS AND CLADDING				
Effective Area (sq. ft.)	Gross			
	10	20	50	100
Zone 1'	16.1	16.1	16.1	16.1
Zone 1	28.0	26.4	23.9	22.1
Zone 2	37.0	34.8	31.5	29.2
Zone 3	50.4	45.6	39.2	34.5
Attached Canopy	32.0	29.8	26.3	24.0



ROOF UPLIFT ZONES

C. Components and cladding: use the most stringent wind load obtained from code, underwriter criteria (Factory Mutual, etc.), and the project specifications. Cladding manufacturer shall consider increased pressure coefficients at building perimeter, corners, eaves, and rakes. Loads noted in general notes are obtained from code.

Design Criteria (cont.)

5. Seismic

   A. S_S = 0.113

   B. S_1 = 0.057

   C. S_{DS} = 0.121

   D. S_{D1} = 0.091

   E. Seismic importance factor (Ie) 1.0
   F. Risk category II
   G. Seismic site class D
   H. Seismic design category B
   I. Analysis procedure Equivalent lateral force method
   J. Basic seismic force-resisting system Light frame walls with shear panels - wood structural panels
      1) Response modification factor (R) 6.5
      2) Seismic response coefficient (Cs) 0.019
      3) Design base shear (V) 6.65 kips (ultimate)

6. Frost depth = 2'-0"

General

1. The term General Contractor (G.C.) as used in these documents refers to the Contractor / Construction Manager in responsible charge of the project in terms of coordination, scheduling, subcontractor coordination, etc. This term refers to, but is not limited to, General Contractor, Construction Manager, Design Build Contractor, Prime Contractor, etc. The term is referencing the entity that coordinates the work of other trades.

2. All referenced standards, such as codes, specifications, and other publications noted herein, are intended to refer to the edition of said standard as referenced by the applicable building code or the latest edition published as of the date on the contract documents.

3. The structure is designed to be self-supporting and stable after the building is fully completed. It is solely the contractor's responsibility to determine erection procedure and sequence and insure the safety of the construction personnel, public, building and its component parts, and adjacent buildings and properties. This includes the addition of whatever temporary shoring, bracing, etc. that may be necessary to brace new construction, so that the structure is braced for wind, seismic, gravity, construction loads, etc. Temporary supports shall be maintained in place until permanent supports and/or shoring and bracing are installed. Design of these supports shall be by an engineer registered in the state where the project is located in the employ of the contractor.

4. Fall protection support from perimeter of structure shall be provided in accordance with OSHA requirements as required. Such material shall remain the contractor's property after completion of the project.

5. It is the contractors' responsibility to enforce all applicable safety codes and regulations during all phases of construction.

6. The contractor shall perform all construction for the project in a manner and sequence that are based on accepted industry standards that recognize the interaction of the components that comprise the structure, without causing distress, unanticipated movements or irregular load paths as a result of the construction means and methods employed.

7. Construction loads shall not exceed design live loads. The contractor shall be responsible for all design required to support construction equipment used in constructing this project. Shoring and re-shoring is the responsibility of the contractor.

8. Principal openings through the structure are shown on these drawings. The general contractor shall examine the structural and mechanical, electrical, plumbing and other trades drawings for the required openings and shall verify size and location of all openings with the appropriate trade contractor. Providing all openings required for mechanical, electrical, plumbing, or other trades shall be a part of the general contract, whether or not shown in the structural drawings. Any deviation from the openings shown on the structural drawings shall be brought to the engineer's attention for review.

9. All contractors are required to examine the drawings and specifications carefully, visit the site and fully inform themselves as to all existing conditions and limitations, prior to agreeing to perform the work. Failure to visit the site and familiarize themselves with the existing conditions and limitations will in no way relieve the contractor from furnishing any materials or performing any work in accordance with drawings and specifications without additional cost to the owner.

10. Details labeled "Typical Details" on drawings apply to situations occurring on the project that are the same or similar to those specifically detailed. Such details apply whether or not details are referenced at each location. Notify engineer for clarifications regarding applicability of "Typical Details".

11. Work these drawings with architectural, mechanical, electrical, and plumbing drawings, along with all other drawings and specifications included in the contract documents.

12. Do not scale drawings (including electronic drawings and models). Only use dimensions indicated on drawings. Any additional dimensions required shall be requested from architect and engineer prior to construction.

13. Any discrepancies between structural and architectural drawings shall be brought to the attention of the architect and structural engineer.

14. In the case of conflict between drawings, notes and specifications, or among drawings, the strictest provision or larger quantity shall govern.

15. Shop drawings and submittals:

    A. These drawings shall be checked and coordinated with other materials and contracts by the general contractor and shop drawings and submittals shall bear the contractor's review stamp with the checker's initials before being submitted to the architect for approval.

    B. When the fabricator has been authorized to use the architect's and engineer's drawings as erection drawings, the fabricator must remove all title blocks, professional seals and any other references to the architect and engineer from that erection drawing. The fabricator's name and title shall be placed on the erection drawings.

Building Pad Preparation

1. All building pad preparation shall follow the recommendations of the geotechnical report (uno).

2. Foundation and slab on grade design is based upon the removal of unsiutable material and replacement with 1'-0" engineered fill per the geotechnical report.

3. All trees, brush, roots, topsoil, rubble, organically contaminated or otherwise objectionable materials encountered are to be removed from structural areas of the site per the geotechnical report.

4. Subgrade sectors which will exist in cut and those which are to support fill structures are to be proof rolled. Areas exhibiting instability are to be undercut and back filled on a lift-by-lift basis with each lift carefully compacted.

5. If unstable subgrade sectors cannot be stabilized by excavation and recompaction, then crushed stone or similar coarse aggregate materials shall be rolled into the subgrade until a firm subgrade reaction is achieved.

6. The geotechnical engineer shall determine on site or off site imported material that can be used for engineered fill. All fill material shall be approved by the geotechnical engineer.

7. The proposed engineered fill materials are to be placed in lifts not exceeding eight (8) inches in loose measured thickness. Each lift is to be compacted as follows:

   A. Slab on grade: Minimum of 95% maximum density by ASTM D698.
   B. Footings bearing on fill: Minimum of 98% maximum density by ASTM D698.

8. The earthwork program shall be conducted under the supervision of a soils testing laboratory. The in-place densities achieved are to be verified by tests.

Foundation

1. The contractor shall familiarize themselves with the survey and the geotechnical investigation report before starting construction. All foundation work shall be in accordance with the recommendations of the geotechnical report by Terracon, dated 10/28/2025 except where noted otherwise on drawings or specifications.

2. A soils testing laboratory shall be retained by the owner to provide construction review to insure conformance with the construction documents during the excavation, back fill, and foundation phases of the project.

3. The soils testing laboratory shall:
   - Discuss with the engineer the design intent of the construction documents and the testing procedures used to ensure conformance with the construction documents before construction begins.
   - Inform the engineer of any variance in these procedures.

4. It shall be the responsibility of the soils testing laboratory to:
   - Determine topsoil and excavation stripping depth;
   - Inspect all subsoil exposed during stripping, site grading, and excavation operations;
   - Approve fill materials, perform density tests of fills to insure placement per specification requirements;
   - Inspect foundation bearing surfaces.

5. Foundation design is based on 3000 psf bearing pressure on firm, undisturbed soil.

6. Top of footing elevations, footing steps and thickness of footings are shown on the drawings and are based upon the information from the geotechnical report and the civil drawings available at the time of design. The top and bottom of footing may vary depending on the conditions encountered at the site. Frost depth shall be maintained and coordinated with final grading and location of footing steps. If proper foundation bearing is found to be deeper than that shown on the drawings then foundations shall be thickened maintaining the top of footing elevation to assure proper foundation bearing. The contractor shall submit unit prices for such work and shall qualify the extent of work in the base bid. If top of footing elevations need to vary for final site conditions then the general contractor shall coordinate the effort of other trades.

7. Step footings, where required, at a ratio of one (1) vertical to two (2) horizontal with a maximum vertical step of 2'-0" unless noted otherwise.

8. Inundation and long term exposure of bearing surfaces, which will result in deterioration of bearing formations, shall be prevented. Footings shall be placed immediately following footing excavations and bearing surface inspection.

9. All fill materials shall be free of organic contaminations and other deleterious matter.

10. For back fill against retaining walls, footings, etc., place in 8" thick layers, with each lift compacted at near optimum moisture content, until a minimum in place density of 95% of the maximum density as determined by ASTM D698 is achieved.

11. All soil surrounding and under footings shall be protected from frost action and freezing during the course of construction.

12. Notify structural engineer of any unusual soil conditions that are in variance with the geotechnical report.

Concrete

1. All concrete construction shall conform to ACI 301, "Specifications for Structural Concrete", ACI 305.1, and ACI 306.1 unless noted otherwise.

2. All detailing, fabrication and placing of reinforcing bars, unless otherwise noted, shall conform to ACI 318, "Building Code Requirements for Structural Concrete", ACI 117, and the ACI Detailing Manual.

3. Concrete production: General as per ACI 301, Section 4, Article 4.3, except as noted.

4. Ready-mixed Concrete: Use for all work, except that when small quantities (not over 1/2 cubic yard) are needed for isolated or relatively unimportant items.

5.

Concrete Types Schedule						
Type of Concrete	Minimum cementious content (lb/cu. yd)	Maximum water/ cement ratio (by weight)	Specified 28-day compressive strength (psi)	Specified slump range for placement with W.R. (inches)	Specified air content range (% by volume)	Maximum size aggregate (inches)
• Spread footings • Piers below grade	470	0.60	3000	5	0-3 Entrapped	1 1/2
• Interior concrete	564	0.48	4000	3-5	0-3 Entrapped	1
• Concrete permanently exposed to the weather or vulnerable to de-icers or freeze thaw cycles	564	0.45	4500	5-6	6 ±1.5%	1

Notes:

A. All cement shall be Type I or Type III Portland Cement per ASTM C150 (types IA and IP are not acceptable) or Type IL blended cement per ASTM C595. Use one brand of cement throughout project.
B. Minimum cementitious content shall consist of 100% cement or a combination of cement and fly ash per Note C, or a combination of cement and slag cement per Note D. Fly ash shall not be used in combination with slag cement as a substitute for cement.
C. Fly Ash is permitted and shall conform to ASTM C618 Type C or F, but shall not exceed 20% of cementitious content by weight indicated above on a substitution basis and shall be included in the water-to-cement ratio. If fly ash is used, the mix design submittals shall have tests using the same amount of fly ash. The contractor's schedule shall account for the use of fly ash.
D. Slag cement is permitted and shall conform to ASTM C989, but shall not exceed 15% of cementitious content by weight indicated above on a substitution basis and shall be included in the water-to-cement ratio. If slag cement is used, the mix design submittals shall have tests using the same amount of slag cement. The contractor's schedule shall account for the use of slag cement.
E. All admixtures other than superplasticizers shall be added at the batch plant. Superplasticizers, designed for addition to the mix at the plant, may be added at the batch plant with verifications from the structural engineer and verifications that the water-to-cement ratio has not been exceeded. Superplasticizers added at the site shall be sent in pre-measured containers from the batch plant.
F. All concrete used for cast-in-place concrete slabs shall contain the specified water reducing or water reducing/retarding admixture. All concrete slabs, placed at air temperature below 50°F shall contain the specified non-corrosive, non-chloride accelerator. All concrete placed at air temperature above 80° shall contain specified water-reducing/retarder admixture. All concrete required to be air-entrained shall contain an approved air-entraining admixture. All pumped concrete shall contain the specified high-range water-reducing admixture. Concrete with a water-cement ratio above 0.40 to 0.60 shall contain the specified water reducer.
G. All concrete requiring a high slump for placement (e.g. pumping, drilled piers, etc.) shall contain mid-range and high-range superplasticizer. Increased slump may not be achieved by exceeding the specified maximum water cement ratio. Maximum slump is 8 inches with use of water reducing admixture (ASTM C494).
H. Calcium chloride shall not be permitted nor shall any admixture containing calcium chloride be permitted.

6. Normal weight aggregate: ASTM C33, from a single source.

7. Air-entraining admixture: ASTM C260.

8. Water-reducing admixture: ASTM C494, Type A, containing not more than 0.1% chloride ions.

9. High-range water-reducing admixture (superplasticizer): ASTM C494, Type F or G, containing not more than 0.1% chloride ions.

10. Water-reducing, non-chloride accelerating admixture: ASTM C494, Type E, containing not more than 0.1% chloride ions.

11. Water-reducing, retarding admixture: ASTM C494, Type D, containing not more than 0.1% chloride ions.

Concrete (cont.)

12. Curing Compound: Liquid membrane-forming type (sodium silicate type not approved) meeting all requirements of ASTM C309, Type 1-D clear or translucent, having a fugitive dye to facilitate visual check of coverage. Use of Type 2 white pigmented type is recommended during hot weather.

13. Moisture-retaining sheet materials: Any of the types listed in and meeting requirements of ASTM C171: waterproof paper, 4 mil. (.004") polyethylene film, white burlap/polyethylene sheet.

14. Sealing materials: For laps in sheet cover, provide pressure sensitive tape, non-staining mastic, or other effective adhesive recommended by covering manufacturer.

15. Premolded joint filler: For use in expansion or isolation joints, size 1/2" thick x full depth of slab; either ASTM D1751 or D1752, and compatible with type of joint sealant used.

16. Vapor Retarder: Polyethylene sheet not less than 10 mils thick, which complies with ASTM E 1745, Class C.

17. Bond Breaker Felt: 15# felt.

18. No electrical conduit shall be placed above the welded wire fabric or top reinforcing of slabs.

19. All aluminum in contact with concrete or dissimilar metals shall be coated with two coats coal tar epoxy, approved by the architect, unless otherwise noted.

20. Measure, batch, mix and deliver concrete according to ASTM C94/C94M (ASTM C1116/C1116M for concrete with synthetic or steel fiber) and furnish batch ticket information. Addition of water to the mix at the project site will not be permitted. All water must be added at the batch plant. Slump may be adjusted only through the use of additional water reducing admixture or high range water reducing admixture.

21. All concrete shall be placed without horizontal construction joints, except where specifically noted. Horizontal reinforcement shall be continuous through vertical construction joints.

22. Construction joint locations other than shown on the drawings are permitted subject to prior approval of the engineer. Expansion joint and control joint locations are mandatory as shown. Contractor shall submit drawings showing intended placing sequences and location of construction joints to the engineer for approval. At poured in place walls, construction joints shall be located so as to provide a 60'-0" maximum horizontal length of concrete placement in any direction.

23. All exposed edges of concrete members shall be chamfered 3/4" unless shown otherwise on architectural drawings.

24. See architectural drawings for concrete finishes, masonry anchors, and for miscellaneous embedded plates, bolts, anchors, angles, etc.

25. The placement of sleeves, outlet boxes, box-outs, anchors, etc., for the mechanical, electrical and plumbing trades is the responsibility of the trade involved; however, any box-outs not covered by typical details in the structural drawings shall be submitted for approval.

26. The general contractor shall coordinate locations and dimensions of all openings and sleeves required for mechanical, electrical, and plumbing penetrations before concrete is placed. Shop drawings of all slab openings and sleeves shall be submitted for review by structural engineer. Openings shall not be cut or drilled in slabs without prior approval by structural engineer.

27. Reinforcing bars shall conform to ASTM A615, Grade 60. No tack welding of reinforcing in the field will be permitted.

28. Welded wire reinforcement (W.W.R.) shall conform to ASTM A1064 and be furnished in flat sheets and installed on chairs or precast blocks for slab on grade.

29. Reinforcing bar sizes #3 through #5 may be bent cold the first time, provided reinforcing bar temperature is above 32°. For other bar sizes, preheat reinforcing bars before bending. See procedures as outlined in ACI 301.

30. Wire bar supports shall be furnished for all reinforcing within slabs, inclusive of welded wire reinforcement. Bottom bars in slabs on grade may be supported by other suitable supports. Reinforcing shall be properly positioned prior to concrete placement and may not be repositioned once concrete operations have begun. Wire bar and other types of supports shall be in accordance with the Concrete Reinforcing Steel Institute Manual of Standard Practice.

31. Reinforcement shall be continuous through all construction joints unless otherwise noted on drawings.

32. All hooks shown on drawings shall be standard hooks unless otherwise noted.

33. Where continuous bars are called for, they shall run continuously around corners and be lapped at necessary splices, or hooked at discontinuous ends. Lap lengths shall be as given in the splice and development table.

34. In reinforced concrete footings provide corner dowels of same size and spacing as horizontal reinforcing. Dowels shall have a class "b" lap with horizontal reinforcing in each direction.

35. Filling-in: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.

36. Grout foundations as indicated, using specified non-metallic non-shrink grout.

37. Cold weather placing: Comply with ACI 306.1.

38. Hot weather placing: Comply with ACI 305.1.

Minimum Lap Splice and Anchorage Dimension Table

1. 3000 psi normal weight concrete, Fy=grade 60, non-coated bars

Top Bars			Other Bars		
Bar size	Lap	Anchorage	Bar Size	Lap	Anchorage
#3	28"	22"	#3	22"	17"
#4	37"	29"	#4	29"	22"
#5	47"	36"	#5	36"	28"
#6	56"	43"	#6	43"	33"
#7	81"	63"	#7	63"	48"
#8	93"	72"	#8	72"	55"

2. 4000 psi normal weight concrete, Fy=grade 60, non-coated bars

Top Bars			Other Bars		
Bar Size	Lap	Anchorage	Bar Size	Lap	Anchorage
#3	24"	19"	#3	19"	15"
#4	33"	25"	#4	25"	19"
#5	41"	31"	#5	31"	24"
#6	49"	37"	#6	37"	29"
#7	71"	54"	#7	54"	42"
#8	81"	62"	#8	62"	48"

3. 'Top Bars' as noted in the tables indicates the condition where horizontal bars are so placed that more than 12 inches of fresh concrete is cast below the splice.

4. When lapping two different size bars, use the lap dimension of the smaller bar or the anchorage dimension of the larger bar. Use whichever dimension is larger.

Thorson - Baker + Associates
CONSULTING ENGINEERS
3030 West Streetsboro Road
Richfield, Ohio 44286
(330) 659-6688 Ph.
(330) 659-6675 Fax

NORTH CAROLINA PROFESSIONAL SEAL 56607 ENGINEER ROBERT PIRIAK
CORPORATE LIC # C-1335

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
	03/18/2026	PERMIT SET
1		
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GENERAL NOTES & SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

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GENERAL NOTES & SPECIFICATIONS (cont.)

Concrete (cont.)

Minimum Concrete Cover for Reinforcing

1. Unless noted otherwise, concrete reinforcing shall be placed with proper cover to provide protection in accordance with ACI 318, and within deviation tolerances listed in ACI 117.

2.

Location	Minimum Cover
Footings cast against and permanently exposed to earth	3"
Slabs on grade (W.W.R.)	1/3 slab thickness from top of slab
Interior slabs	3/4"
Exterior slabs: #5 and smaller	1 1/2"
Piers (vert. reinf.)	2"
Piers ties	1 1/2"

3. Maximum deviation from the above cover requirements shall be as follows:
   A. For member depth 4" or less: ±1/4".
      For member depth 12" or less but greater than 4": ±3/8".
      For member depth greater than 12": +1/2", -1/4".
   B. For slab on grade: +3/4", with lower bound per above item 'A'.
   C. Reduction in cover dimension shall not exceed 1/3 the specified cover.
   D. Reduction in cover dimension for formed soffits shall not exceed 1/4".

Floor Finish

1. Interior floor slabs: Machine trowel unless noted otherwise.
2. Exterior slab areas: Light flexible bristle broom unless noted otherwise.
3. Provide ACI 'Class A' tolerance, 1/8" variation in 10 feet, measured with a straight edge laid in any direction.
4. Control joints in slabs on grade: Control joints in slabs on grade shall be provided at the locations indicated on the drawings. Joints shall be made by saw cutting 0-2 hours after the final finish at each joint location using the early-entry dry-cut process per ACI 302.1R. Joint depth shall be per drawing detail. The saw shall use a diamond-impregnated blade and employ the use of a skid plate to prevent spalling and raveling of the slab. Approved supplier: Soff-cut International or equal.

Curing

1. Cure concrete in accordance with ACI 308.1.
2. Curing compound shall be provided as prescribed on architectural drawings based on floor use. Coordinate for compatibility of finish material.
3. Moisture-retaining sheet material meeting ASTM C171 may be used.
4. Maintain initial curing for 12 hours after finishing, 24 hours for air temperature of 75 degrees F and above.

Submittals

1. Product data: Submit data for proprietary materials and items including admixtures, patching compounds, waterstops, joint systems, curing compounds, finish materials, and others as requested by architect/engineer.
2. Certification: Upon engineer's request, provide admixture manufacturer's written certification that chloride ion content complies with specified requirements.
3. Shop drawings/Reinforcement: See ACI 301, Section 3.1. Detailing shall conform to the ACI Detailing Manual.
4. Shop drawing submittals shall consist of 3 prints of each drawing for the Structural Engineer, 1 print for the Architect and a minimum of 1 print for the General Contractor.
5. Mix design: Submit mix designs for each concrete mix for the project per ACI 301. Mix designs shall include all back up material with compressive strength breaks based on field experience or breaks from a laboratory trial mix per ACI 301.

Quality Assurance

1. Mold and cure four - 6"x12" cylinders or five - 4"x8" cylinders in accordance with ASTM C31 for each composite sample. Test one cylinder at 7 days, two - 6"x12" cylinders or three - 4"x8" cylinders at 28 days, and retain one cylinder for 56-day test if required. Two - 6"x12" cylinders or three - 4"x8" cylinders constitute a strength test. Acceptance of structure will be based on three consecutive 28-day strength tests.
2. In accordance with ASTM C172/C172M, obtain at least one composite sample set of cylinders for each 150 cubic yards or fraction thereof, but not less than one set for each 5000 square feet of surface area for slabs or walls, of each concrete mixture placed in any one day.
3. Air Content
   A. Determine air content of concrete for each strength test by either the pressure method (ASTM C231) or the volumetric method (ASTM C173). The "Chase" air indicator shall not be used.
   B. A minimum of one air content test shall be made in the morning and one in the afternoon. Air content tests shall be made on all concrete whether the concrete is designated as air-entrained or not.
   C. Additional air content tests, for concrete specified as air-entrained, shall be made when any of the following conditions occur:
      - A change in appearance or consistency of concrete.
      - Possible reduction of air content due to time delays of truck and/or hot weather.
      - When air temperature is over 80°F, check each truckload.
4. Slump test: Perform slump test on each truckload of concrete.
5. Inform engineer immediately of any slump and/or air content tests that do not meet these specifications. If strength, durability or aesthetics of the structure would be impaired, that concrete shall not be used.
6. Concrete test reports shall contain the following information: Concrete supplier, quantity of concrete represented, location of samples taken, design strength requirement at 28 days, list of all materials and admixtures used with quantity and brand or source, actual slump, actual air content, air temperature, concrete temperature, weather, cylinder weight as received, date molded, number of days on job site, date tested, test results for 7 and 28 days, and any other information necessary to evaluate test results.
7. Send one copy of reports on all required laboratory testing directly to the structural engineer, two copies to the architect, one copy to the contractor and one copy to the concrete supplier. A copy of all test reports shall be in the engineers office within a maximum of five (5) working days from date of test or inspection.
8. Acceptance of structure: If 28-day test results do not meet requirements, the engineer shall have the right to order a change in mix proportions for remaining portions of structure. The engineer may require core tests to be made at contractors expense. Any such testing shall be done by an independent testing agency acceptable to the engineer.

Post-Installed Anchors and Reinforcing Dowels

1. Design of anchors, adhesives, and embedments specified on the drawings is based on Hilti products. Any substitutions shall meet or exceed the allowable shear and allowable tension values published in the Hilti North American Product Technical Guide.
2. The contractor shall submit ICC ES Evaluation reports and manufacturer installation instructions for all post-installed anchors being used on the project.

Post-Installed Anchors and Reinforcing Dowels (cont.)

3. The contractor shall ensure the installers of post-installed anchors shall have at least three (3) years of experience installing anchors in similar installations. If installers do not have the required experience with similar installations they must conduct a thorough training with the manufacturer's representative. Training shall consist of but not be limited to, proper hole drilling procedures, hole preparation and cleaning techniques, adhesive injection techniques and dispenser training / maintenance, rebar dowel preparation and installation and proof loading/torquing.
4. The contractor shall provide manufacturer product information for any requests for substitution for review to the EOR for compliance with the contract documents.
5. The contractor shall submit the specific product information, for each application, for any product requesting substitution. For each application being substituted, provide anchor type, embedment depth, adhesive type, edge distances, etc.; along with the allowable shear and tension capacity for the requested applications. Do not provide generic product data; only specific values for each substitution will be reviewed. If this information is not fully provided, the submittal will be immediately rejected.
6. Post-installed anchors and dowels shall be used only where specifically indicated on the drawings or for specific conditions approved by the engineer. Items indicated to be cast-in-place shall not be substituted with post-installed methods or products unless prior approval is given by the engineer. When requesting a substitution of a post-installed anchor in lieu of cast-in-place anchor, calculations, for a post installed alternate, shall be provided by an engineer registered in the appropriate jurisdiction of the project.
7. Fastener and anchor material shall be as follows:
   - Bolts and Studs: ASTM A307; ASTM A449 (where indicated as 'High Strength')
   - Carbon and Alloy Steel Nuts: ASTM A563
   - Carbon Steel Washers: ASTM F436
   - Carbon Steel Threaded Rod: ASTM F1554, GR.36
   - Wedge Anchors: ASTM A510 or ASTM A108
   - Stainless Steel Bolts, Hex Cap Screws, and Studs: ASTM F593
   - Stainless Steel Nuts: ASTM F594
   - Zinc Plating: ASTM B633
   - Hot-Dip Galvanizing: ASTM A153
   - Reinforcing Dowels: ASTM A615
8. The following anchors shall only be used where indicated on the drawings, unless specifically noted otherwise in sections or details in the drawings:

CONCRETE ANCHORS
(CRACKED AND UNCRACKED CONCRETE)

ANCHOR TYPE	ADHESIVE TYPE	ROD TYPE
Adhesive	Hilti HIT-HY200 SafeSet System	Hilti HIT-Z Rod
Mechanical	-	Hilti KWIK HUS-EZ
Mechanical	-	Hilti KWIK Bolt-TZ Mechanical Safe-Set with AT tool

CONCRETE REINFORCING
(CRACKED AND UNCRACKED CONCRETE)

ANCHOR TYPE	ADHESIVE TYPE	REINFORCING
Medium Duty Adhesive	Hilti HIT-HY100 SafeSet System	As indicated on drawings.
Heavy Duty Adhesive	Hilti HIT-HY200 SafeSet System	As indicated on drawings.

MASONRY ANCHORS
(MASONRY SHALL BE SOLID GROUTED A DISTANCE OF 8" FROM ANCHOR IN ALL DIRECTIONS)

ANCHOR TYPE	ADHESIVE TYPE	ROD TYPE
Adhesive	Hilti HIT-HY270 SafeSet System	3/8"Ø Hilti HAS-E Continuous Threaded (3 3/8" embed)
Adhesive	Hilti HIT-HY270 SafeSet System	1/2"Ø Hilti HAS-E Continuous Threaded (4 1/2" embed)
Adhesive	Hilti HIT-HY270 SafeSet System	5/8"Ø Hilti HAS-E Continuous Threaded (5 5/8" embed)
Adhesive	Hilti HIT-HY270 SafeSet System	3/4"Ø Hilti HAS-E Continuous Threaded (6 3/4" embed)
Mechanical	-	Hilti KWIK HUS-EZ (Note: anchors may not be installed within 1 1/4" of vertical mortar joints.)

MASONRY REINFORCING
(MASONRY SHALL BE SOLID GROUTED A DISTANCE OF 8" FROM ANCHOR IN ALL DIRECTIONS)

ANCHOR TYPE	ADHESIVE TYPE	REINFORCING TYPE
Adhesive	Hilti HIT-HY270 SafeSet System	#3 Rebar (3 3/8" embed.)
Adhesive	Hilti HIT-HY270 SafeSet System	#4 Rebar (4 1/2" embed.)
Adhesive	Hilti HIT-HY270 SafeSet System	#5 Rebar (5 5/8" embed.)
Adhesive	Hilti HIT-HY270 SafeSet System	#6 Rebar (6 3/4" embed.)

Masonry

1. All masonry shall conform to "Building Code Requirements for Masonry Structures" (ACI 530/ASCE 5/TMS 402) and "Specification for Masonry Structures" (ACI 530.1/ASCE 6/TMS 602).
2. All brick and concrete masonry construction shall comply with the recommendations of the Brick Industry Association (BIA) and the National Concrete Masonry Association (NCMA) and minimum requirements established in the applicable building code.
3. Grouting and Reinforcing: All masonry and grouting and reinforcing work shall be performed by masonry craftworkers who have successfully completed the International Masonry Institute (1-800-IMI-0988) training course for Grouting and Reinforced Masonry Construction, or equal.
4. Structural masonry design compressive strength of wall assembly (f'm) = 2,000 psi based on Unit Strength Method, unless otherwise noted.
5. Concrete masonry units (CMU) shall be normal weight units conforming to ASTM C90.
6. Mortar for all structural masonry shall be Type S, conforming to ASTM C270 Proportion Specification, and shall be either Portland cement (ASTM C150, Type I or III) and hydrated lime (ASTM C207, Type S) or Mortar cement (ASTM C1329). Masonry cement mortar is not acceptable for structural masonry.
7. Grout to fill cores shall be ASTM C476, coarse grout (3/8" maximum aggregate) with a minimum compressive strength of 2500 psi in 28 days.
8. Reinforcing bars shall conform to ASTM A615, grade 60.

Masonry (cont.)

9. All concrete masonry units shall have galvanized horizontal joint reinforcement as follows:
   A. 9 ga. side and cross rods (ladder type) spaced 16" o.c. vertically.
10. Lap joint reinforcing as shown in the table below:

Wire Joint Reinforcing	Splice Length
W1.1 (11 ga.)	6"
W1.7 (9 ga.)	7"
W2.1 (8 ga.)	8"
W2.8 (3/16 wire)	9"
W4.9 (1/4 wire)	12"

11. All cores with reinforcement shall be filled solid with grout. All grout shall be consolidated in place by vibration to insure complete filling of cells.
12. Place reinforcing bars before grouting. Properly secure reinforcing bars to maintain the positions indicated on the drawings. Bars to be located in center of cells unless otherwise noted.
13. Mortar protrusions, extending into cells or cavities to be reinforced and filled, shall be removed.
14. Place grout with pour height not exceeding 5 feet. Consolidate each pour by mechanical vibration. Reconsolidate after initial water loss and settlement has occurred.
16. Lay masonry units with full mortar coverage on horizontal and vertical face shells. Bed webs in mortar in starting course on footing and in all courses of columns and pilasters, and where adjacent to cells or cavities to be reinforced or filled with concrete grout.
17. All corners to be tied by masonry bond.
18. The collar joint in multi-wythe walls below grade shall be fully grouted as the wall is constructed.
19. CMU walls 12" or less in width shall be single-wythe.
20. All openings in masonry walls for mechanical, electrical, plumbing, etc. penetrations are to be coordinated and located prior to beginning wall construction. Detailed fully-dimensioned drawings of wall openings, including lintels and adjacent reinforcement shall be submitted for review prior to construction of the walls. No openings are permitted to be cut in bearing walls, shear walls or exterior walls without prior approval by the engineer.

Submittals

1. Product data / Material certificates: Submit data and certificates for masonry units, cementitious materials, mortar admixtures, pre-blended dry mortar mixes, reinforcing bars, joint reinforcement, anchors, ties, and metal accessories.
2. Mix designs: Submit mix designs for each type of mortar and grout. Include description of type and proportions of ingredients. Include test reports, according to ASTM C1019, for grout mixes.

Wood Framing

1. Detail, fabricate and erect structural wood in accordance with the National Design Specification for Wood Construction as referenced in the applicable building code, the project specifications, and these drawings.
2. All stress-grade lumber to be spruce, pine, fir no. 1/no. 2. Stress-grade lumber for joists, beams, bearing wall studs and columns shall develop working stresses of not less than:
   A. 875 psi in bending, Fb
   B. 1,150 psi in compression parallel with grain, Fc
   C. 135 psi in horizontal shear, Fv
   D. E=1,400,000 psi
3. Laminated veneer lumber (LVL) for joists, beams and columns shall develop working stresses of not less than:
   A. 2,900 psi in bending, Fb, up to 12" depth. For other depths, multiply Fb by $[12/d]^{0.136}$.
   B. 2,635 psi in compression parallel to grain, Fc
   C. 285 psi in horizontal shear, Fv
   D. E=2,000,000 psi
4. Maximum moisture content for all structural members shall not exceed 19%.
5. Stress grade floor joists framing into the side of stress grade lumber beams, or steel beams require joist hangers with the following minimum capacities per joist:
   D. 2"x6" 900# cap
   E. 2"x8" 900# cap
   F. 2"x10" 1200# cap
   G. 2"x12" 1300# cap
6. At bearing ends of wood beams, provide wood post with one stud for each nominal two inches of beam thickness.
7. Members shall be connected and fastened in accordance with the schedules within the governing codes and specifications identified (uno).
8. No structural member shall be cut or notched unless specifically shown, noted, or approved by the engineer.
9. All sill plates shall be preservative treated wood.
10. All wood exposed to earth, weather, moisture, etc. that would be subject to decay shall be preservative treated.
11. All connectors and fasteners in contact with chemically treated lumber such as fire treated, preservative treated, etc. shall be galvanized or stainless steel as follows:
    A. All fasteners and anchors shall be hot dipped galvanized per ASTM A153 (u.n.o.).
    B. All connectors shall be galvanized per ASTM A653 grade G185 or hot dipped galvanized per ASTM A123 (u.n.o.).
    C. For treated lumber containing ammonia, such as ACZA, retention levels for ACQ above 0.40 or exposure to ocean salts, large bodies of water, fires, fertilizers, etc. connectors, fasteners and anchors shall be stainless steel type 304 or 316.
12. Framing hangers, caps, hold downs, bases, anchors, connections, etc., shall be as manufactured by "Simpson Strong-Tie Company".
13. Provide joist bridging in conformance with National Design Specification for Wood Construction.
14. At wall locations where multiple studs are required to support vertical loads, a continuous load path shall be provided to support those loads through the structure inclusive of the floor system to the foundations. This may be accomplished through the use of rim joists, squash blocks or other appropriate means based on location and detailing considerations.
15. All temporary and permanent bridging and blocking shall be provided in accordance with the building code requirements, and as shown on the contract drawings.
16. Provide 1/8" gap between floor/roof sheathing panel edges to allow for expansion of sheathing during construction.
17. Construction manager or general contractor shall consider the placement of temporary expansion joints at 80' on center in the sheathing until the building is closed in from moisture infiltration. See APA Technical Note U425C for expansion joint details, Figures 1, 2 and 3. Expansion joints are not to interrupt a shear wall.
18. Construction manager or general contractor shall coordinate with subcontractors to account for vertical shrinkage of the wood structure. This shall include but not be limited to plumbing, mechanical, facade construction etc. An estimated shrinkage of 3/8" may occur for each level of construction. Shrinkage at each level is cumulative for determining the overall building shrinkage (i.e. number of levels x 3/8" = overall building shrinkage). This calculation is based upon 19% maximum moisture content in the wood framing during construction. Contractor shall protect wood framing from absorbing and retaining additional moisture during construction. Flexible connections and/or oversized holes may be required for plumbing and mechanical penetrations to account for shrinkage movement.

Wood Framing (cont.)

Submittals

1. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
   A. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
   B. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
   C. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D5664.
   D. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
2. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.

Wood Roof Trusses

1. All truss design shall conform to the applicable building code.
2. See Plan Notes for design load requirements.
3. Submit truss design drawings and calculations stamped by an engineer registered in the appropriate jurisdiction of the project to the structural engineer for review prior to truss fabrication.
4. Truss quantities, spacing and profiles shown are a schematic representation only. Actual layout and design shall be by truss supplier.
5. Temporary and permanent bridging of wood roof trusses shall be provided in accordance with TPI DSB "Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses" and SBCA BCSI "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses". Temporary bridging shall be furnished as required to maintain truss stability, spacing, and to prevent buckling during erection. The following minimum permanent bridging shall be provided:
   A. Bottom chord bridging: Continuous horizontal 2x4 @ 8'-0" o.c. for roof trusses. Provide horizontal diagonal bridging at 45 degree angle between bridging lines at ends of building and at 20'-0" intervals throughout.
   B. Web members bridging: Continuous horizontal bridging at 12'-0" o.c. for roof trusses. Provide vertical diagonal bridging at 45 degree angle at ends of building and at 20'-0" intervals throughout.
6. All temporary and permanent bridging and blocking shall be provided in accordance with the building code requirements, and as shown on the contract drawings.
7. All connectors and fasteners in contact with chemically treated lumber such as fire treated, preservative treated, etc. shall be galvanized or stainless steel as follows:
   A. All fasteners and anchors shall be hot dipped galvanized per ASTM A153 (u.n.o.).
   B. All connectors shall be galvanized per ASTM A653 grade G185 or hot dipped galvanized per ASTM A123 (u.n.o.).
   C. For treated lumber containing ammonia, such as ACZA, retention levels for ACQ above 0.40 or exposure to ocean salts, large bodies of water, fires, fertilizers, etc. connectors, fasteners and anchors shall be stainless steel type 304 or 316.

Submittals

1. Shop drawings: Submit shop drawings showing species, sizes and stress grades of lumber to be used; pitch, span, camber, configuration and spacing for each type of truss required; type, size, material, finish, design value, and location of metal connector plates; and bearing and anchorage details. Submit calculations for truss design. Shop drawings and calculations shall be signed and stamped by a structural engineer licensed to practice in state where the project is located.
2. To the extent engineering design considerations are indicated as fabricator's responsibility, submit design analysis and test reports indicating loading, section modulus, assumed allowable stress, stress diagrams and calculations, and similar information needed for analysis and to ensure that trusses comply with requirements.

Thorson - Baker + Associates
CONSULTING ENGINEERS
3030 West Streetsboro Road
Richfield, Ohio 44286
(330) 659-6688 Ph.
(330) 659-6675 Fax

NORTH CAROLINA PROFESSIONAL SEAL 56607 ENGINEER ROBERT PIRIAK
CORPORATE LIC # C-1335

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR WAKE FOREST, NC

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GENERAL NOTES & SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

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GENERAL NOTES & SPECIFICATIONS (cont.)

Special Inspection

1. Special inspection is to be provided in addition to the inspections conducted by the department of building safety and shall not be construed to relieve the owner or his authorized agent from requesting the periodic and called inspections required by the applicable building code. Owner shall engage and pay for a qualified testing agency to perform special inspections.

Required Special Inspections

1. In addition to the regular inspections, the following items will also require special inspection in accordance with the applicable building code.

   A. Soils compliance prior to foundation inspection (compacting fill, special grading)
   B. Structural concrete over 2,500 psi
   C. Fabricated structural wood elements

2. Special inspector shall meet the qualifications as stated in the applicable building code and shall perform the duties and responsibilities as outlined in the applicable building code. The special inspector shall provide written documentation to the building official demonstrating his or her competence and relevant experience or training. Experience or training shall be considered relevant when the documented experience or training is related in complexity to the same type of special inspection activities for projects of similar complexity and material qualities. These qualifications are in addition to qualifications specified in others sections of the applicable building code.

3. Special inspection shall meet the requirements of the applicable building code. Special inspector(s) shall be hired by the owner to perform the required special inspections. The names of persons or firms who are to perform the special inspections shall be forwarded to the building official for approval. The special inspector(s) shall complete and submit all forms required by the building department having jurisdiction.

4. Access for special inspection: The construction or work for which special inspection is required shall remain accessible and exposed for special inspection purposes until completion of the required special inspections.

5. The special inspector(s) shall:

   A. Observe the work assigned for conformance to the approved drawing and specifications.
   B. Furnish inspection reports to the engineer of record and building department. Discrepancies shall be brought to the immediate attention of the contractor for correction, then, if not corrected to the engineer and the building department.
   C. Submit to the engineer of record and the building department a signed final report stating that the work was in conformance with the approved drawings and specifications and the applicable workmanship provisions of the applicable building code.

6. Special Inspection Notes:

   A. Continuous special inspection is always required during the performance of the work unless specifically noted below.
   B. Where fabrication of structural load-bearing members and assemblies is being performed on the premises of a fabricator's shop, continuous special inspection is required during the performance of the work except as allowed in the applicable building code and unless specifically noted below.
   C. It is the responsibility of the contractor to provide the special inspector(s) with advance notice, no less than one working day, of the initiation of any work required to have special inspections. All work performed without required special inspection will be subject to removal.

7. Types of work requiring special inspections are:

   A. Concrete construction as required by applicable building code and Table 4. Exceptions are as follows:
      1. Concrete patios, driveways and sidewalks, on grade.
   B. Masonry construction as required in the applicable building code and Table 5, Level B, special inspection, except as allowed in the applicable building code.
   C. Wood construction as required by the applicable building code and as follows:
      1. Metal plate connected wood trusses spanning 60'-0" and greater shall be inspected to verify temporary and permanent restraints / bracing are installed in accordance with the approved submittal package.
   D. Special inspection for existing site soil conditions, during site preparation and fill placement, to ensure load-bearing requirements in compliance with applicable building code and Table 7 except as allowed in applicable building code.
   E. Fabricated items: where fabrication of structural, load-bearing or lateral load-resisting members or assemblies is being conducted on the premises of a fabricator's shop, special inspection of the fabricated items shall be performed during fabrication.
      1. Exceptions include:
         a. Special inspections during fabrication are not required where the fabricator maintains approved detailed fabrication and quality control procedures that provide a basis for control of the workmanship and the fabricator's ability to conform to approved construction documents and the applicable building code. Approval shall be based upon review of fabrication and quality control procedures and periodic inspection of fabrication practices by the building official.
         b. Special inspections during fabrication are not required where the work is done on the premises of a fabricator registered and approved to perform such work without special inspection. Approval shall be based upon review of the fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved agency. At completion of fabrication , the approved fabricator shall submittal certificate of compliance to the owner or the owner's authorized agent for submittal to the building official.

TABLE 4
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

APPLICABLE TO PROJECT	VERIFICATION AND INSPECTION	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	REFERENCED STANDARD (a)	APPLICABLE CODE REFERENCE
X	1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	--	X	ACI 318 CH. 20, 25.2, 25.3, 26.6.1-26.6.3	--
	2. REINFORCING BAR WELDING:				
	a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706;	--	X	AWS D1.4 ACI 318: 26.6.4	--
	b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"	--	X		
	c. INSPECT ALL OTHER WELDS	X	--		
X	3. INSPECT ANCHORS CAST IN CONCRETE.	--	X	ACI 318: 17.8.2	--
	4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS: (b)				
X	a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS:	X	--	ACI 318: 17.8.2.4	--
X	b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4a.	--	X	ACI 318:17.8.2	
X	5. VERIFY USE OF REQUIRED DESIGN MIX.	--	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2
X	6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	--	ASTM C 172 ASTM C 31 ACI 318: 26.5, 26.12	--
X	7. INSPECT CONCRETE PLACEMENT ~~AND SHOTCRETE PLACEMENT~~ FOR PROPER APPLICATION TECHNIQUES.	X	--	ACI 318: 26.5	--
X	8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	--	X	ACI 318: 26.5.3-26.5.5	--
	9. INSPECTION OF PRESTRESSED CONCRETE:				
	a. APPLICATION OF PRESTRESSING FORCES.	X	--	ACI 318: 26.10	--
	b. GROUTING OF BONDED PRESTRESSING TENDONS.	X	--	ACI 318: 26.10	
	10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	--	X	ACI 318: 26.9	--
	11. FOR PRECAST CONCRETE DIAPHRAGM CONNECTIONS OR REINFORCEMENT AT JOINTS CLASSIFIED AS MODERATE OR HIGH DEFORMABILITY ELEMENTS (MDE OR HDE) IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F, INSPECT SUCH CONNECTIONS AND REINFORCEMENT IN THE FIELD FOR:			ACI 318: 26.13.1.3	
	a. INSTALLATION OF THE EMBEDDED PARTS.	X	--	ACI 550.5	--
	b. COMPLETION OF THE CONTINUITY OF REINFORCEMENT ACROSS JOINTS	X	--		--
	c. COMPLETION OF CONNECTIONS IN THE FIELD	X	--		--
	12. INSPECT INSTALLATION TOLERANCES OF PRECAST CONCRETE DIAPHRAGM CONNECTIONS FOR COMPLIANCE WITH ACI 550.5	--	X	ACI 318: 26.13.1.3	--
	13. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	--	X	ACI 318: 26.11.2	--
	14. INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED.	--	X	ACI 318: 26.11.1.2(b)	--

(a) Where applicable, also see Section 1705.13. Special Inspection for Seismic Resistance.
(b) Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318 or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

TABLE 5
LEVEL 2 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION

APPLICABLE TO PROJECT	MINIMUM VERIFICATION		
X	PRIOR TO CONSTRUCTION, VERIFICATION OF COMPLIANCE OF SUBMITTALS IN ACCORDANCE WITH ARTICLE 1.5		
	VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX AS DELIVERED TO THE SITE IN ACCORDANCE WITH ARTICLES 1.5 AND 1.6.3 FOR SELF-CONSOLIDATING GROUT.		
X	EXCEPT FOR MASONRY THAT IS EXEMPT, PRE-CONSTRUCTION VERIFICATION OF f'm IN ACCORDANCE WITH ARTICLE 1.4B		
	MINIMUM INSPECTION		
	VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
	1. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
X	a. PROPORTIONS OF SITE-PREPARED MORTAR.	--	X
X	b. GRADE AND SIZE OF REINFORCEMENT, CONNECTORS AND ANCHOR BOLTS	--	X
X	c. SAMPLE PANEL CONSTRUCTION	--	X
	2. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
X	a. GROUT SPACE.	--	X
X	b. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS	--	X
X	c. PROPORTIONS OF SITE-PREPARED GROUT	--	X
X	d. CONSTRUCTION OF MORTAR JOINTS.	--	X
	3. VERIFY COMPLIANCE DURING CONSTRUCTION:		
X	a. MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS	--	X
X	b. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION	--	X
X	c. SIZE AND LOCATION OF STRUCTURAL MEMBERS	--	X
X	d. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION	--	X
	e. WELDING OF REINFORCEMENT.	X	--
X	f. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F).	--	X
X	g. PLACEMENT OF GROUT	X	--
X	4. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS.	--	X

TABLE 7
REQUIRED VERIFICATION AND INSPECTION OF SOILS

APPLICABLE TO PROJECT	VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
X	1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	--	X
X	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	--	X
X	3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	--	X
X	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	--
X	5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUB-GRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	--	X

ABBREVIATIONS

A.B.	ANCHOR BOLT	HD'D	HEADED
A.R.	ANCHOR ROD	HORIZ.	HORIZONTAL
ADD'L	ADDITIONAL	I.F.	INSIDE FACE
A.F.F.	ABOVE FINISH FLOOR	INT.	INTERIOR
ARCH.	ARCHITECTURAL	J/B OR J/BRG.	JOIST BEARING
B/	BOTTOM OF	k	KIP
BLDG.	BUILDING	LG.	LONG
BM.	BEAM	L.L.	LIVE LOAD
BOT.	BOTTOM	(LLH)	LONG LEG HORIZONTAL
BRG.	BEARING	(LLV)	LONG LEG VERTICAL
BTJ	BOLTED TIE JOIST	(LSH)	LONG SIDE HORIZONTAL
CANT'L	CANTILEVER	(LSV)	LONG SIDE VERTICAL
CFMF	COLD FORMED METAL FRAMING	L.W.	LONG WAY
C.I.P.	CAST-IN-PLACE	MECH.	MECHANICAL
C.J.	CONTROL JOINT	MFR.	MANUFACTURER
CL	CENTERLINE	(N)	NEW
CLR.	CLEAR	(N.I.C.)	NOT IN CONTRACT
CMU	CONCRETE MASONRY UNIT	N.S.	NEAR SIDE
COL.	COLUMN	NTS	NOT TO SCALE
CONC.	CONCRETE	O.C.	ON CENTER
CONSTR.	CONSTRUCTION	O.F.	OUTSIDE FACE
CONT.	CONTINUOUS	O/O	OUT TO OUT
C.Y.	CUBIC YARD	OPP.	OPPOSITE
DBA	DEFORMED BAR ANCHOR	PC	PRECAST CONCRETE
DET.	DETAIL	PJ	PANEL JOINT
DIAG.	DIAGONAL	PL	PLATE
Ø / DIA.	DIAMETER	PSF	POUNDS/SQUARE FOOT
D.L.	DEAD LOAD	PSI	POUNDS/SQUARE INCH
DWG.	DRAWING	RAD.	RADIUS
E.F.	EACH FACE	R.D.	ROOF DRAIN
EJ	EXPANSION JOINT	REINF.	REINFORCING
EL.	ELEVATION	REQ'D	REQUIRED
EMBED.	EMBEDMENT	SECT.	SECTION
E.S.	EACH SIDE	SIM.	SIMILAR TO
EQ.	EQUAL OR EQUIVALENT	S.O.G.	SLAB ON GRADE
EQUIP.	EQUIPMENT	SP.	SPACES
E.W.	EACH WAY	SQ.	SQUARE
EXP.	EXPANSION	STIFF.	STIFFENER
(E)	EXISTING	STL.	STEEL
EXT.	EXTERIOR	STRUCT.	STRUCTURAL
F.D.	FLOOR DRAIN	S.W.	SHORT WAY
FIN.	FINISH	SYM.	SYMMETRICAL
FLG.	FLANGE	T/	TOP OF
FLR.	FLOOR	TYP.	TYPICAL
F.S.	FAR SIDE OR FOOTING STEP	UNO	UNLESS NOTED OTHERWISE
FT.	FEET	VERT.	VERTICAL
FTG.	FOOTING	V.I.F.	VERIFY IN FIELD
GA.	GAUGE	W.P.	WORK POINT
GB	GRADE BEAM	W.W.R.	WELDED WIRE REINFORCEMENT
G.C.	GENERAL CONTRACTOR	W/	WITH
GALV.	GALVANIZED		

Thorson · Baker + Associates
CONSULTING ENGINEERS
3030 West Streetsboro Road
Richfield, Ohio 44286
(330) 659-6688 Ph.
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GENERAL NOTES & SPECIFICATIONS

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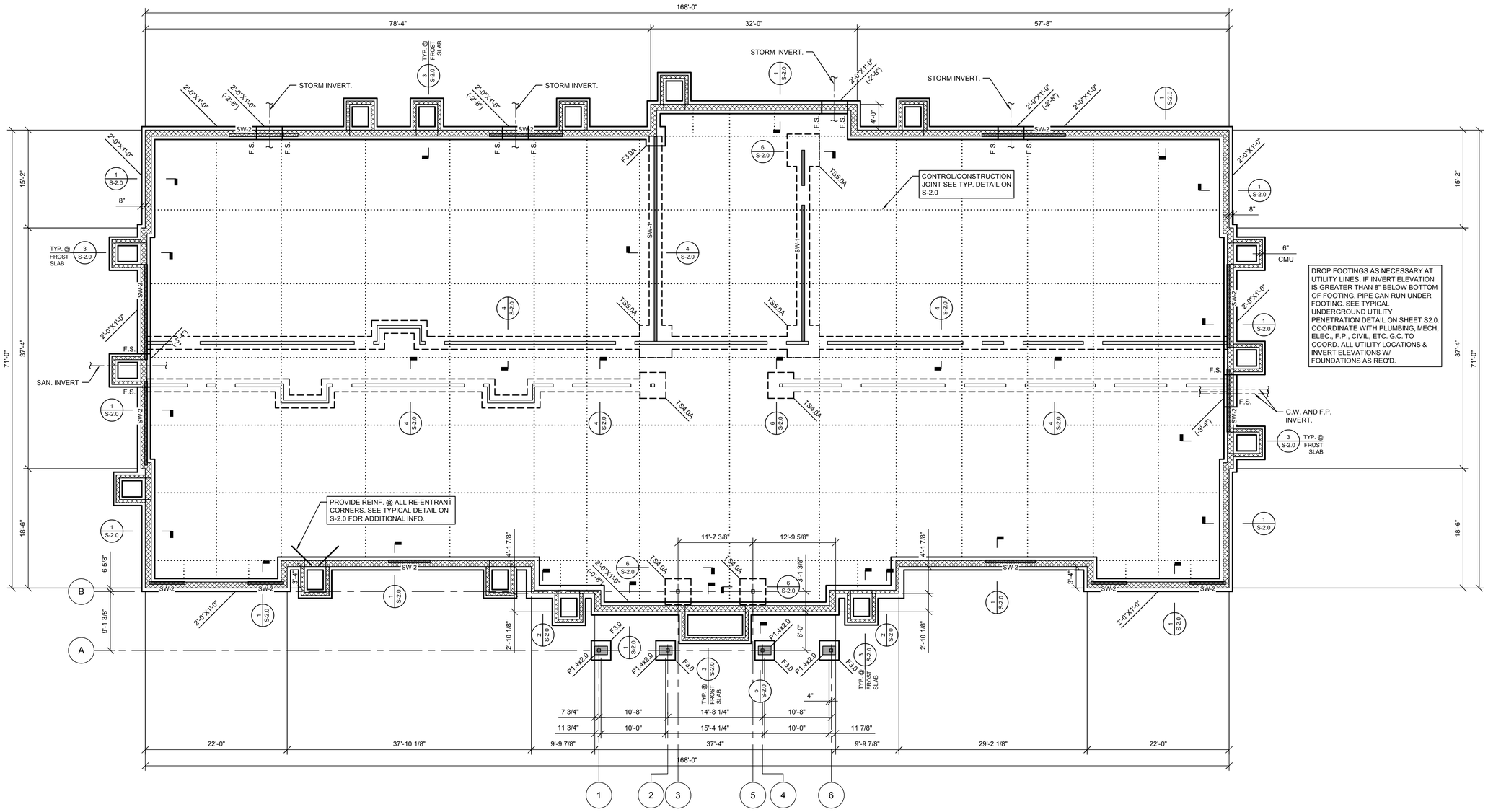


FOUNDATION PLAN

1/8" = 1'-0"

NOTES:

- FLOOR CONSTRUCTION: 4" CONCRETE SLAB ON GRADE WITH ONE LAYER OF 6x6-W2.1xW2.1 W.W.R. PROVIDE 10 MIL VAPOR BARRIER AND 4" LAYER OF GRANULAR FILL BELOW SLAB (UNO).
- TOP OF SLAB ON GRADE ELEVATION = "SLAB ON GRADE" SEE ELEVATION LEGEND. PROJECT DATUM ELEVATION = XXX'XX" USGS.
- ELEVATIONS NOTED THUS (+X'-X") ARE TO TOP OF FOOTING REFERENCED FROM SLAB ON GRADE ELEVATION (UNO).
- TOP OF EXTERIOR FOOTING ELEVATION = (-1'-4") (UNO).
- CONTINUOUS FOOTINGS ARE MARKED THUS: WIDTH x DEPTH (TOP OF FTG. EL.)
- PROVIDE (2) #4x3'-0" LONG AT ALL REENTRANT CORNERS.
- SEE ARCHITECTURAL DRAWINGS FOR EXTENT AND FINISH OF SLAB ON GRADE AND ANY FLOOR DEPRESSIONS, UNDERFLOOR CONDUITS, DRAINS, ETC.
- SEE SHEET S-0.1, S-0.2, & S-0.3 FOR GENERAL NOTES & SPECIFICATIONS
- SEE SHEET S-2.0 FOR TYPICAL DETAILS.
- SW-X DENOTES SHEARWALL. SEE SHEET S-4.0 FOR ELEVATIONS, SCHEDULE AND DETAILS.
- FX.X DENOTES SPREAD FOOTINGS. SEE FOOTING SCHEDULE ON THIS SHEET.
- TSX.X DENOTES THICKENED SLAB, SEE SCHEDULE ON THIS SHEET.
- PX.X DENOTES CONCRETE PIER. SEE CONCRETE PIER SCHEDULE ON THIS SHEET.
- XXX.XX DENOTES PRESUMED FINISH GRADE AT LOCATION SHOWN. VERIFY VALUE WITH FINAL SITE PLAN AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

SPREAD FOOTING SCHEDULE 3000 PSF

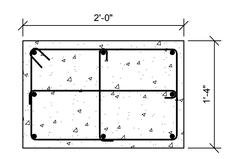
MARK	SPREAD FOOTING SIZES			REINFORCING
	LENGTH	WIDTH	THICKNESS	
F3.0	3'-0"	3'-0"	1'-0"	(4) - #4 E.W. BOT.
F3.0A	3'-0"	3'-0"	1'-0"	(4) - #4 E.W. TOP & BOT.

THICKENED SLAB SCHEDULE 2000 PSF

MARK	THICKENED SLAB SIZES			REINFORCING
	LENGTH	WIDTH	THICKNESS	
TS4.0A	4'-0"	4'-0"	1'-6"	(5) - #4 E.W. TOP & BOT.
TS5.0A	5'-0"	5'-0"	1'-6"	(5) - #5 E.W. TOP & BOT.

CONCRETE PIER SCHEDULE

MARK	PIER SIZE (LENGTH x WIDTH)	TYPE	REINFORCING
P1.4x2.0	1'-4"x2'-0"	I	(8) - #5 VERT., W/ #3 TIES @ 4" O.C. @ ANCHOR RODS (MIN. (3) TIES); & #3 TIES @ 12" O.C. REMAINING.



TYPE I

CONCRETE PIER TYPE

ELEVATION LEGEND

LEVEL DESIGNATION	ELEVATION (UNO)	PROJECT DATUM
TRUSS BEARING	11'-0"	
SLAB ON GRADE	0'-0"	●

- ELEVATIONS ON PLAN MAY VARY FROM ELEVATIONS SHOWN IN THE ELEVATION LEGEND. SEE PLAN FOR SPECIFIC ELEVATION VARIATIONS.
- ● DENOTES THE LEVEL THAT IS THE PROJECT DATUM.

Thorson - Baker + Associates
CONSULTING ENGINEERS
3030 West Streetsboro Road
Richfield, Ohio 44286
(330) 659-6688 Ph.
(330) 659-6675 Fax

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CORPORATE LIC # C-1335

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
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KinderCare Education LLC

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REVISIONS

#	DATE	TYPE
	03/18/2026	PERMIT SET
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FOUNDATION PLAN

DATE 03/02/2026

JOB NO. 25027

S-1.0

SHEET NO.

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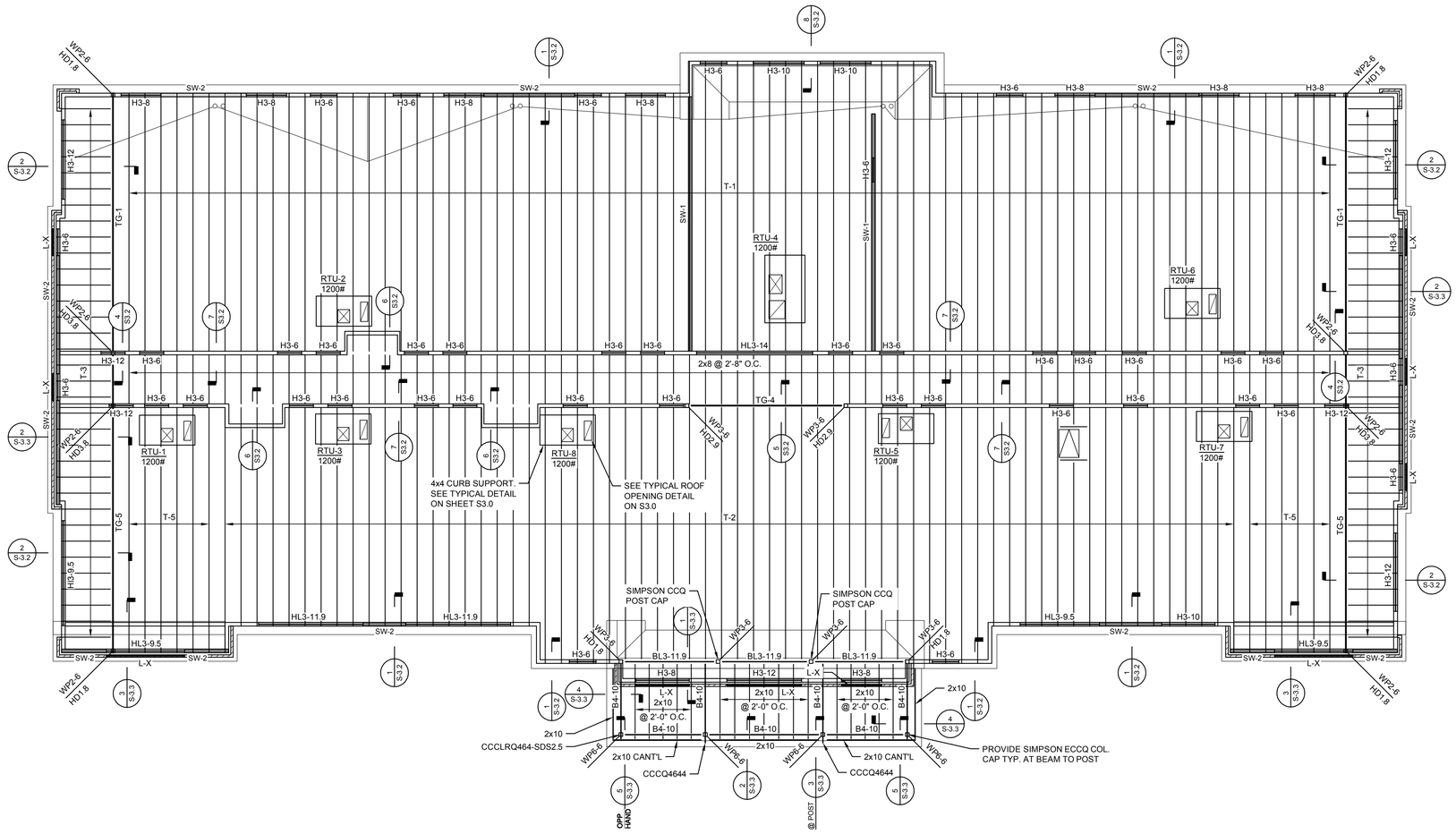

ROOF FRAMING PLAN

1/8" = 1'-0"

NOTES:

- ROOF CONSTRUCTION: 19/32" APA RATED SHEATHING, SPAN RATING 40/20, EXPOSURE 1, NAILED TO FRAMING. SEE TYPICAL ROOF SHEATHING LAYOUT AND ATTACHMENT DETAIL.
- T-X DENOTES PREFABRICATED WOOD ROOF TRUSSES DESIGNED BY SUPPLIER AND SPACED AT A MAXIMUM OF 2'-0" O.C.
- 2x ROOF JOISTS SHALL BE SPACED AT A MAXIMUM OF 2'-0" O.C.
- TRUSS BEARING (T/B) = "TRUSS BEARING" SEE ELEVATION LEGEND. ELEVATION IS REFERENCED FROM PROJECT DATUM SLAB ON GRADE ELEVATION.
- DENOTES OVERBUILD AREAS OR DORMERS TO BE CONSTRUCTED ON TOP OF ROOF STRUCTURE USING STICK FRAMING OR PIGGYBACKED TRUSSES.
- PROVIDE METAL ANCHORS ON ALL TRUSSES AND ROOF FRAMING TO RESIST WIND UPLIFT. SEE SCHEDULE ON SHEET S-3.1 FOR ALLOWABLE ANCHOR LOADS. TRUSS SUPPLIER TO INDICATE ANCHORS ON TRUSS ERECTION PLAN.
- SEE ARCHITECTURAL ROOF PLANS FOR MISCELLANEOUS DORMER LOCATIONS.
- SEE ARCHITECTURAL DRAWINGS FOR ROOF ELEVATIONS AND ROOF SLOPES.
- SEE SHEET S-0.1, S-0.2, & S-0.3 FOR GENERAL NOTES & SPECIFICATIONS.
- SEE SHEETS S-3.0 & S-3.1 FOR TYPICAL DETAILS.
- SEE THIS SHEET FOR TRUSS ELEVATIONS.
- SEE SHEET S-3.0 FOR TYPICAL WALL ELEVATION.
- SEE SHEET S-3.0 FOR TYPICAL ROOF SHEATHING LAYOUT AND ATTACHMENT DETAIL.
- WPX-X DENOTES WOOD POST. SEE SHEETS S-3.0 & S-3.1 FOR WOOD POST SCHEDULE.
- HX-X DENOTES WOOD HEADER TO BE LOCATED AT HEAD OF OPENING. SEE SHEETS S-3.0 & S-3.1 FOR WOOD HEADER SCHEDULE.
- L-X DENOTES GALVANIZED BRICK ANGLE LINTEL. SEE MISCELLANEOUS LINTEL SCHEDULE ON S-3.0.
- SW-X DENOTES SHEAR WALL. SEE SHEET S-4.0 FOR ELEVATIONS, SCHEDULES AND DETAILS.
- COORDINATE SIZE AND LOCATION OF ALL ROOF OPENINGS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
- EXACT ROOF TRUSS/JOIST LAYOUT AND DIMENSIONS ARE THE RESPONSIBILITY OF TRUSS FABRICATOR AND FRAMING SUBCONTRACTOR. TRUSS/JOIST LAYOUT SHALL BE COORDINATED WITH THE MECHANICAL, ELECTRICAL AND PLUMBING SUBCONTRACTORS PRIOR TO SUBMISSION OF TRUSS SHOP DRAWINGS, FABRICATION AND INSTALLATION TO ENSURE THE PROPOSED LAYOUT PROVIDES NECESSARY CLEARANCES FOR THE MECHANICAL, PLUMBING AND ELECTRICAL TRADE ELEMENTS, FIXTURES, DUCTING AND PIPING.
- CONTRACTOR TO COORDINATE ADDITIONAL LOADING FOR BUILDING EQUIPMENT SYSTEMS TO ROOF TRUSSES/JOISTS WITH ROOF TRUSS MANUFACTURER.
- EXACT FRAMING LAYOUT SHALL BE COORDINATED WITH ALL OTHER TRADE SUBCONTRACTORS PRIOR TO INSTALLATION FOR ITEMS INCLUDING BUT NOT LIMITED TO: ELECTRIC PANEL, ELECTRIC FIXTURES (INCLUDING CAN LIGHTS), FIRE EXTINGUISHER CABINETS, MEDICINE CABINETS, CONTROL JOINTS, DOOR FRAMING AND HVAC DUCTS/SOFFITS.
- IF THE LAYOUT IS CHANGED SUCH THAT THE LOADING ON HEADERS/BEAMS IS INCREASED, THE FRAMING SUBCONTRACTOR SHALL SUBMIT A REVISED SCHEDULE OF THOSE HEADERS/BEAMS STAMPED BY AN ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

DESIGN LOADS:			
SUPERIMPOSED DEAD LOAD	PSF	LIVE LOAD	PSF
TOP CHORD	8	TOP CHORD	SEE DESIGN LIVE LOADS IN GENERAL NOTES
BOTTOM CHORD	11	BOTTOM CHORD	ATTIC LIVE LOAD = 20 PSF + MECH. EQUIPMENT
TOTAL SUPERIMPOSED DEAD LOAD	19		
TRUSS DEAD LOAD	**		

** TRUSS DEAD LOAD TO BE DETERMINED BY TRUSS MANUFACTURER.

- TRUSSES SHALL BE DESIGNED FOR ALL APPLICABLE LOAD CASES DEFINED IN THE APPLICABLE BUILDING CODE INCLUDING BUT NOT LIMITED TO DEAD, LIVE, SNOW, WIND, SIESMIC, ETC. IN ADDITION, TRUSSES SHALL BE DESIGNED FOR ALL DEAD LOADS FOR EQUIPMENT AND CONDUIT INDICATED ON ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS.
- IN ADDITION TO OTHER APPLICABLE LOAD CASES TRUSS SHALL BE DESIGNED FOR TOTAL DEAD LOAD IN CONJUNCTION WITH A 20 PSF LL ON THE BOTTOM CHORD ONLY (NO TOP CHORD LIVE LOAD).
- DEFLECTION CRITERIA:
  LIVE LOAD L/360
  TOTAL LOAD L/240

ELEVATION LEGEND		
LEVEL DESIGNATION	ELEVATION (UNO)	PROJECT DATUM
TRUSS BEARING	11'-0"	
SLAB ON GRADE	0'-0"	•

- ELEVATIONS ON PLAN MAY VARY FROM ELEVATIONS SHOWN IN THE ELEVATION LEGEND. SEE PLAN FOR SPECIFIC ELEVATION VARIATIONS.
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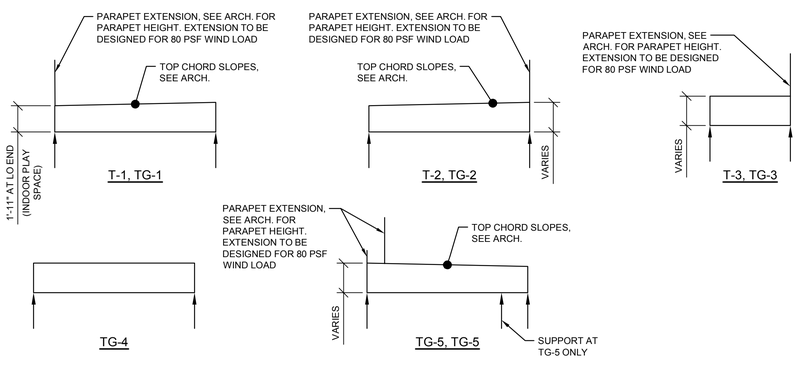
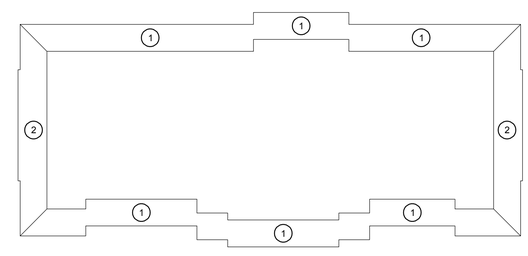


TRUSS PROFILES

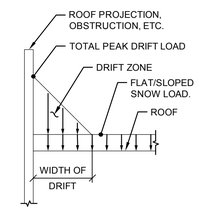
* DESIGN TRUSSES FOR WEIGHT OF MECHANICAL EQUIPMENT, SEE PLAN. G.C. TO COORD. EXACT MECH. UNIT WT. & LOCATION W/TRUSS MFR.



SNOW DRIFT SCHEDULE					
MARK	DRIFT LOADING PARAMETERS				
	FLAT/SLOPED SNOW LOAD	PEAK DRIFT LOAD (PSF)	TOTAL PEAK LOAD	WIDTH OF DRIFT	NOTES
1	10.5 PSF	31.5 PSF	42.0 PSF	8'-0"	
2	10.5 PSF	45.7 PSF	56.2 PSF	11'-6"	

NOTES:

- LOADS SHOWN ARE DRIFT AND SNOW LOADS ONLY. LOADING SHOWN DOES NOT INCLUDE DEAD LOADS.
- SLIDING SNOW LOADS AND UNBALANCED SNOW LOADS ARE NOT SHOWN IN THIS SCHEDULE. ANY DELEGATED DESIGN ENGINEER SHALL CONSIDER THE SLIDING SNOW AND UNBALANCED SNOW LOADS IN THEIR DESIGN ALONG WITH CONSIDERING LOADING SHOWN IN THIS SCHEDULE.



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ROOF FRAMING PLAN

DATE 03/02/2026

JOB NO. 25027

S-1.1

SHEET NO.

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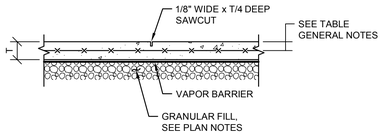
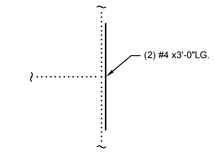
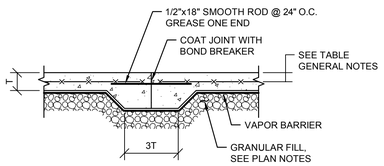


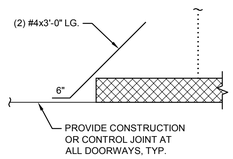
CONTROL JOINT
(SEE PLAN FOR LOCATIONS)

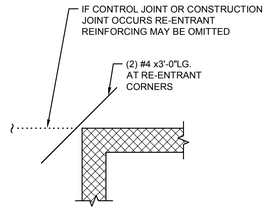


DISCONTINUOUS CONTROL JOINT



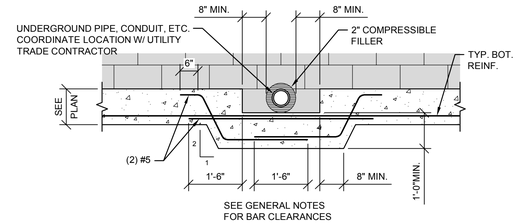
CONSTRUCTION JOINT



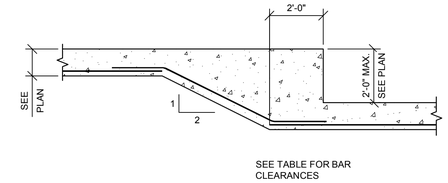


RE-ENTRANT CORNERS

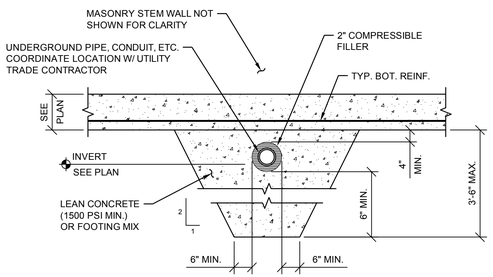
TYPICAL RE-ENTRANT AND DISCONTINUOUS CONTROL JOINTS SLAB REINFORCING



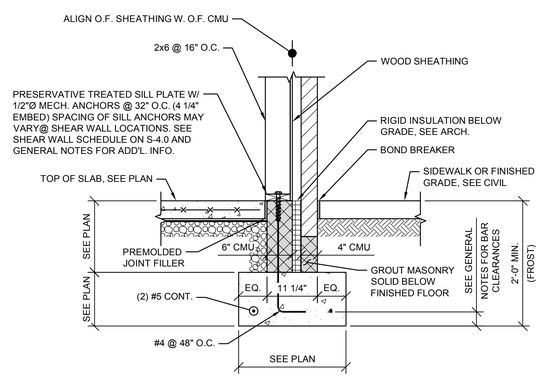
TYPICAL DETAIL AT UNDERGROUND UTILITY PENETRATION



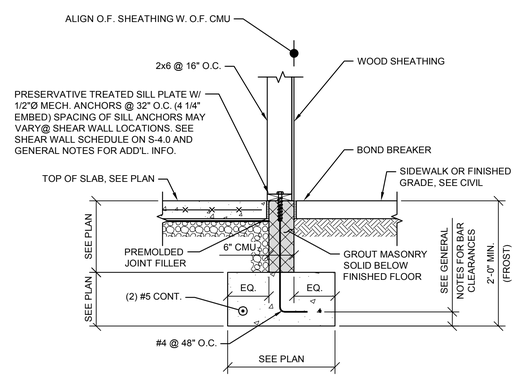
FOOTING STEP DETAIL



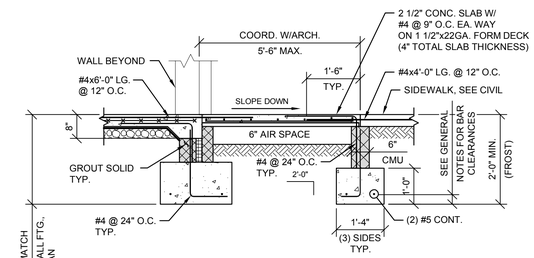
TYPICAL DETAIL AT UNDERGROUND UTILITY
(PENETRATION INVERT BELOW FOOTING)



SECTION 1
3/4" = 1'-0"

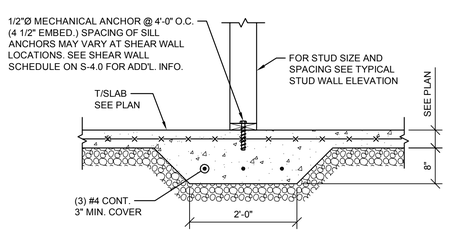


SECTION 2
3/4" = 1'-0"



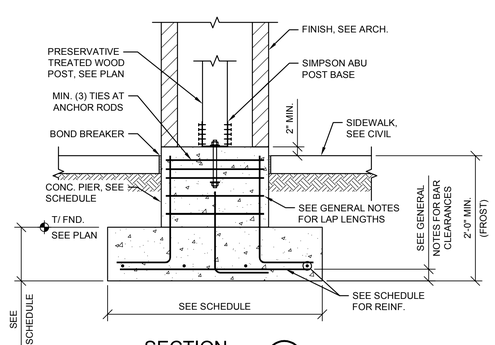
TYPICAL FROST SLAB DETAIL

SECTION 3
1/2"=1'-0"

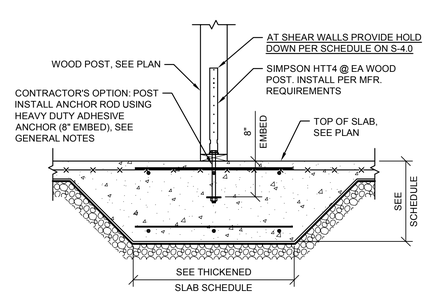


AT SHEAR/BEARING WALL

SECTION 4
3/4" = 1'-0"



SECTION 5
3/4" = 1'-0"



SECTION 6
3/4" = 1'-0"

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FOUNDATION SECTIONS AND DETAILS

DATE 03/02/2026

JOB NO. 25027

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WOOD FASTENING SCHEDULE (MINIMUM)			
CONNECTION TYPE	FASTENER SIZE & QUANTITY	COMMENTS	TYPICAL DETAIL
2x FLOOR JOIST OR BLOCKING AT BEARING CONDITION	(3) 8d	TOENAIL	A
WOOD I-JOIST FLOOR JOIST OR BLOCKING AT BEARING CONDITION	(2) 10d	TOENAIL THROUGH BOTTOM CHORD	B
FLAT FLOOR TRUSS OR BLOCKING AT BEARING CONDITION	(2) 10d	TOENAIL THROUGH BOTTOM CHORD	C
SOLE PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING	16d @ 16" O.C.	FACE NAIL	A, B OR C
SOLE PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING (AT BRACED WALL PANELS / SHEARWALLS)	(2) 16d @ 16" O.C.	FACE NAIL	A, B OR C
STUD TO TOP PLATE	(4) 8d OR (2) 16d	8d TOENAIL OR 16d END NAIL	D
TOP PLATE TO TOP PLATE	16d @ 16" O.C.	FACE NAIL	D
STUD TO SOLE PLATE	(4) 8d OR (2) 16d	8d TOENAIL OR 16d END NAIL	E
DOUBLE STUDS	16d @ 24" O.C.	FACE NAIL	F
DOUBLE STUDS (AT BRACED WALL PANELS / SHEARWALLS)	16d @ 16" O.C.	FACE NAIL	F
TOP PLATES, END LAPS	(8) 16d EACH SIDE OF JOINT	FACE NAIL	G
TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	(2) 16d	FACE NAIL	G
HEADER, TWO PIECES	16d @ 16" O.C.	EACH EDGE, FACE NAIL	H
HEADER TO KING STUD	(4) 8d	TOENAIL	I
2x CEILING AND FLOOR JOISTS TO TOP PLATE	(3) 8d	TOENAIL	J
2x CEILING AND FLOOR JOISTS LAPS OVER PARTITION	(3) 16d	FACE NAIL	J
BLOCKING TO JOISTS, RAFTERS, OR TRUSSES	(2) 8d OR (2) 16d	8d TOENAIL OR 16d END NAIL EACH END	K
SOLID 2x RAFTER TO PLATE	(3) 10d	TOENAIL, UPLIFT TIE DOWN ANCHOR	L
ROOF TRUSS TO PLATE	(3) 10d	TOENAIL, UPLIFT TIE DOWN ANCHOR	M
BUILT-UP CORNER STUDS	16d @ 24" O.C.	FACE NAIL	N
BUILT-UP CORNER STUDS (AT BRACED WALL PANELS / SHEARWALLS)	16d @ 16" O.C.	FACE NAIL	N
BUILT-UP BEAMS - SOLID SAWN LUMBER	16d @ 12" O.C.	EACH EDGE	O
PLYWOOD OR OSB FLOOR SHEATHING	--	SEE TYPICAL FLOOR SHEATHING LAYOUT & ATTACHMENT DETAIL	--
PLYWOOD OR OSB ROOF SHEATHING	--	SEE TYPICAL ROOF SHEATHING LAYOUT & ATTACHMENT DETAIL	--
RIM BOARD OR BLOCKING TO TOP PLATE, SILL, OR OTHER FRAMING BELOW	8d @ 6" O.C.	TOENAIL	A, B OR C
RIM BOARD TO 2x JOIST	(3) 16d OR (4) 10d BOX NAIL	END NAIL	A
RIM BOARD TO TOP & BOTTOM CHORDS OF I-JOIST OR FLAT TRUSS	(2) 10d BOX NAIL EACH TOP & BOTTOM	END NAIL	B OR C
TOP PLATE ON STEEL BEAM	1/2"Ø BOLT @ 2'-0" O.C.	STAGGER BOLTS EACH SIDE OF WEB	P
TOP PLATE ON STEEL BEAM (ALTERNATE)	(2) SIMPSON TFP1475S @ 16" O.C.	-	P

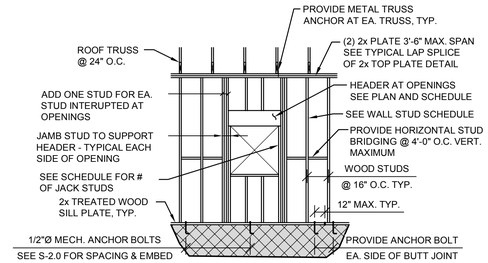
NOTES

- ALL NAILS TO BE COMMON NAILS (UNO).
- IN ADDITION TO THE ABOVE CHART, THE MINIMUM NAILING AS SPECIFIED BY THE BUILDING CODE SHALL BE REQUIRED. USE WHICHEVER NAILING REQUIREMENT IS MORE STRICT.
- SEE SECTIONS FOR ANY ADDITIONAL FASTENING OR INFORMATION.

MISCELLANEOUS STEEL LINTEL SCHEDULE	
OPENING	LINTEL
4" MASONRY VENEER	
1'-0" TO 4'-0"	L3 1/2x3 1/2x5/16
4'-0" TO 5'-0"	L4x3 1/2x5/16 (LLV)
5'-0" TO 6'-0"	L5x3 1/2x5/16 (LLV)
6'-0" TO 7'-0"	L6x3 1/2x5/16 (LLV)
7'-0" TO 9'-0"	L6x4x3/8 (LLV)
9'-0" TO 11'-0"	L7x4x3/8 (LLV)

NOTES:

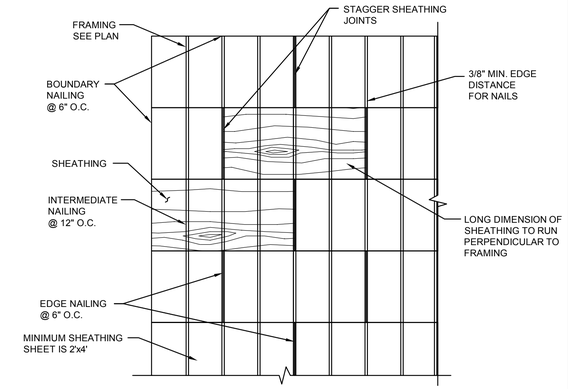
- ALL LINTELS SHALL HAVE A BEARING LENGTH AT EACH END OF 1 INCH PER FOOT OF OPENING WITH A MIN. OF 6".
- ALL LINTELS SHALL BEAR ON 16" SOLID BRICK EXTENDING 16" BEYOND END OF LINTEL.
- ALL LINTELS ON THE BUILDING EXTERIOR SHALL BE GALVANIZED.
- WHERE SUFFICIENT BEARING IS NOT AVAILABLE, PROVIDE ATTACHMENT OF THE LINTEL TO THE STRUCTURE.
- REFER TO THE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ALL MASONRY WALL OPENING DIMENSIONS AND LOCATIONS. ANY CONFLICT WITH FRAMING SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR REVIEW.



TYPICAL WALL ELEVATION

NOTES:

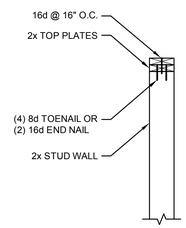
- WALL STUDS TO ALIGN WITH FLOOR JOISTS @ 16" O.C.
- AT WALL LOCATIONS WHERE MULTIPLE STUDS ARE REQUIRED TO SUPPORT VERTICAL LOADS, A CONTINUOUS LOAD PATH SHALL BE PROVIDED TO SUPPORT THOSE LOADS THROUGH THE STRUCTURE TO THE FOUNDATIONS. THIS MAY BE ACCOMPLISHED THROUGH THE USE OF RIM JOISTS, SQUASH BLOCKS OR OTHER APPROPRIATE MEANS BASE ON LOCATION AND DETAILING CONSIDERATIONS.
- SEE WALL STUD SCHEDULE FOR SIZE, SPACING AND SPECIES OF WALL STUDS.
- SEE FASTENING SCHEDULE.



TYPICAL ROOF SHEATHING LAYOUT & ATTACHMENT TO WOOD FRAMING DETAIL

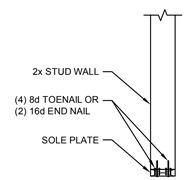
NOTES:

- SHEATHING SHALL BE NAILED TO ROOF FRAMING WITH 3" 10d COMMON NAILS WITH 1 1/2" EMBEDMENT.



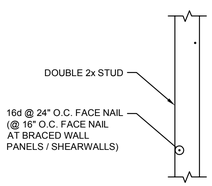
DETAIL D

TYPICAL FASTENING OF TOP PLATE TO STUD



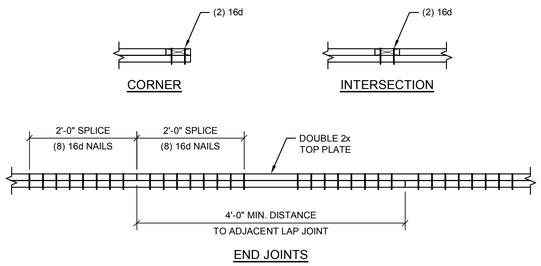
DETAIL E

TYPICAL FASTENING OF STUD TO SOLE PLATE



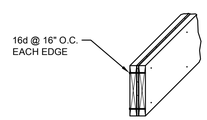
DETAIL F

TYPICAL FASTENING OF DOUBLE STUD CONNECTION



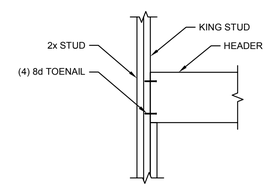
DETAIL G

TYPICAL FASTENING OF LAP SPLICE OF 2x TOP PLATES



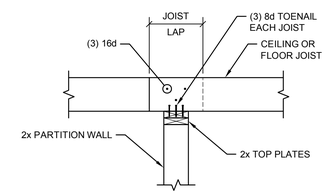
DETAIL H

TYPICAL FASTENING OF HEADER (2) PIECES



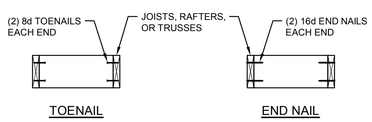
DETAIL I

TYPICAL FASTENING OF HEADER TO KING STUD



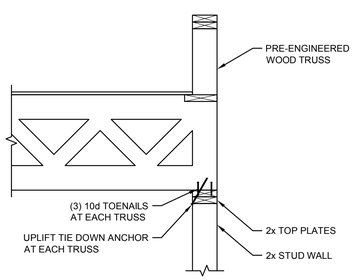
DETAIL J

TYPICAL FASTENING OF 2x CEILING AND FLOOR JOISTS LAPS OVER PARTITIONS (NO THRUST)



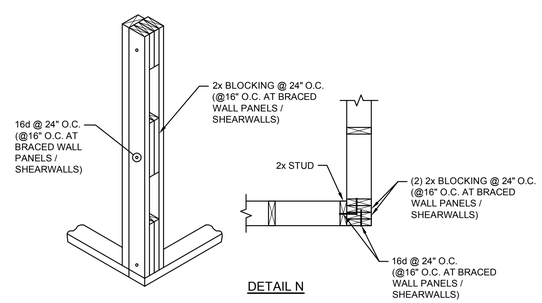
DETAIL K

TYPICAL FASTENING OF BLOCKING TO JOISTS, RAFTERS, OR TRUSSES



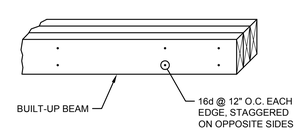
DETAIL M

TYPICAL FASTENING OF ROOF TRUSS TO PLATE



DETAIL N

TYPICAL FASTENING OF BUILT-UP CORNER STUDS



DETAIL O

TYPICAL FASTENING OF BUILT-UP BEAMS SOLID SAWN LUMBER

Thorson Baker + Associates
CONSULTING ENGINEERS
3030 West Streetsboro Road
Richfield, Ohio 44286
(330) 659-6688 Ph.
(330) 659-6675 Fax

NORTH CAROLINA PROFESSIONAL SEAL 56607 ENGINEER ROBERT PIRIAK
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www.adaarchitects.com

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SHEET NO.

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WOOD HEADER SCHEDULE

MARK	SIZE	MOMENT CAPACITY (FT. LBS)	SHEAR CAPACITY (LBS)	MOMENT OF INERTIA (in^4)	# OF JACK STUDS UNDER EACH END OF BEAM
H3-6	(3) 2x6	--	--	--	(1) 2x6
H3-8	(3) 2x8	--	--	--	(1) 2x6
H3-10	(3) 2x10	--	--	--	(2) 2x
H3-12	(3) 2x12	--	--	--	(2) 2x6
HL3-9.5	(3) 1.75"x9.5" LVL	19,700	9,480	375	(2) 2x6
HL3-11.9	(3) 1.75"x11.9" LVL	29,900	11,850	733	(2) 2x
HL3-14	(3) 1.75"x14" LVL	40,600	13,970	1201	(3) 2x

*NOTES
- SEE GENERAL NOTES FOR ALLOWABLE STRESS & SHEAR VALUES FOR STANDARD SAWN LUMBER.
- # OF JACK STUDS UNDER EACH END OF BEAM IS TYPICAL U.N.O. ON PLAN.

WOOD BEAM SCHEDULE

MARK	SIZE	MOMENT CAPACITY (FT. LBS)	SHEAR CAPACITY (LBS)	MOMENT OF INERTIA (in^4)	MINIMUM # OF BRG. STUDS UNDER EACH END OF BEAM
B4-10	(4) 2x10	--	--	--	WP6-6
BL3-9.5	(3) 1.75" x 9.5" LVL	19,700	9,480	375	WP3-6

NOTES
- SEE GENERAL NOTES FOR ALLOWABLE STRESS & SHEAR VALUES FOR STANDARD SAWN LUMBER.
- # OF BEARING STUDS UNDER EACH END OF BEAM IS TYPICAL U.N.O. ON PLAN.
- IF HANGER CONNECTIONS ARE REQUIRED AT ENDS OF BEAMS, SIZE HANGER TO SUPPORT THE SHEAR CAPACITY LISTED IN THIS TABLE. FOR 2x BEAMS USE CAPACITIES NOTED IN GENERAL NOTES AND MULTIPLY BY THE NUMBER OF PLIES USED. I.E. (2) 2x6 WOULD MULTIPLY CAPACITY LISTED IN GENERAL NOTES BY 2.0.

WOOD TRUSS METAL UPLIFT TIE DOWN ANCHOR SCHEDULE - STUD WALLS

MARK	SIMPSON STRONG TIE ANCHOR OR EQUIVALANT	UPLIFT CAPACITY	COMMENTS
--	SIMPSON SDWC15600 TRUSS SCREW	505#	SINGLE SCREW INSTALLED UP THROUGH DOUBLE TOP PLATE INTO TRUSS IN ACCORDANCE WITH SIMPSON REQUIREMENTS. OTHER INSTALLATIONS WITH HIGHER CAPACITIES SHALL BE SUBMITTED FOR REVIEW AND EOR APPROVAL
--	SIMPSON H3	365#	--
--	SIMPSON H2.5A	615#	--
--	SIMPSON H10A	1,015#	--
--	SIMPSON H14	1,050#	--
HD1.2	SIMPSON H16	1,180#	PROVIDE DTT2Z TIE DOWN AT BASE OF WALL STUD
HD1.8	SIMPSON LGT2	1,755#	PROVIDE DTT2Z TIE DOWN AT BASE OF WALL STUD
HD2.9	SIMPSON LGT3	2,920#	PROVIDE HDU4 TIE DOWN AT BASE OF WALL STUD
HD3.8	SIMPSON MGT WITH HDU5	3,750#	PROVIDE HDU5 TIE DOWN AT BASE OF WALL STUD

NOTES
- TRUSS MANUFACTURER TO INDICATE ANCHOR TO BE USED ON ERECTION PLAN U.N.O. ON PLAN.
- VALUES SHOWN ARE FOR SPF/HF.
- PROVIDE FASTENER SIZE & QUANTITY PER ANCHOR MANUFACTURER.
- WHEN INSTALLING ANCHOR OVER WOOD STRUCTURAL PANEL SHEATHING, USE 2 1/2" LONG NAILS MINIMUM. DO NOT INSTALL OVER NON-STRUCTURAL SHEATHING.
- H3 TO BE USED FOR SINGLE TOP PLATE APPLICATIONS.
- H2.5A, H10A, H14 AND H16 REQUIRE (2) 2x TOP PLATES FOR INSTALLATION.

WOOD POST SCHEDULE

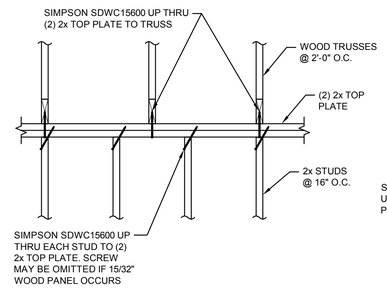
MARK	STUD SIZE & QUANTITY
WP2-6	(2) 2x6's
WP3-6	(3) 2x6's
WP6-6	6x6 WOOD POST *

NOTES:
- SEE GENERAL NOTES FOR DESIGN VALUES OF STUDS.
- * DENOTES PRESSURE TREATED.

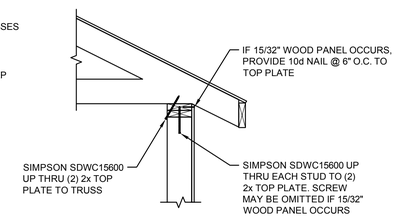
WALL STUD SCHEDULE

FLOOR	EXTERIOR STUDS		INTERIOR STUD BEARING WALLS	INTERIOR STUD NON-BEARING WALLS
	TYPICAL	CORNER		
1st FLOOR	2x6 @ 16"O.C.	2x6 @ 16"O.C.	2x6 @ 16"O.C. (UNO)	SEE ARCHITECTURAL

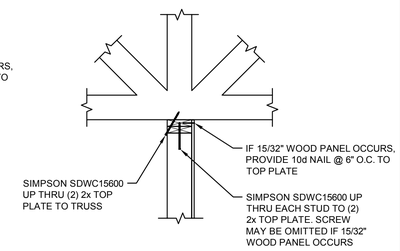
NOTES:
- ALL SPECIES SPRUCE - PINE - FIR No. 1/No. 2 UNO.
- SEE SHEAR WALL ELEVATIONS AND SCHEDULES FOR ADDITIONAL INFORMATION AT SHEAR WALLS.



TYPICAL BEARING WALL ELEVATION

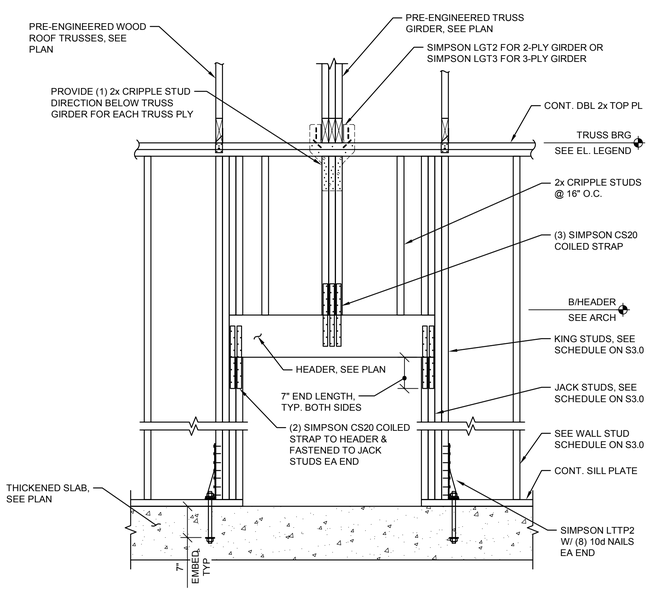


TYPICAL EXTERIOR BEARING WALL DETAIL

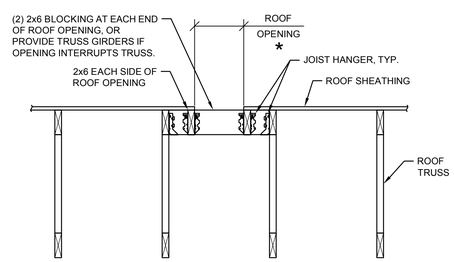


TYPICAL INTERIOR BEARING WALL DETAIL

TYPICAL UPLIFT TIE-DOWN ANCHOR (TRUSS SCREW) DETAILS

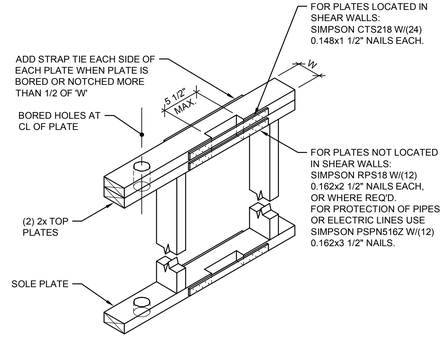


TYPICAL TRUSS GIRDER BEARING ON WOOD HEADER



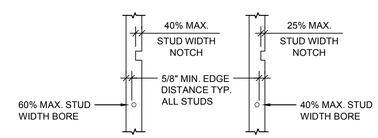
* FOR ALL ROOF OPENINGS 12" OR GREATER, COORD. OPENING SIZES & LOCATIONS W/ ARCHITECTURAL, MECHANICAL, CONTRACTORS & ALL OTHER TRADES.

TYPICAL ROOF OPENING DETAIL



TYPICAL PLATE BORING AND NOTCHING FOR BEARING, EXTERIOR, AND SHEAR WALLS

NOTE:
- WHERE TRUSS / JOIST BEARS ON TOP PLATES IN SAME SPACE BETWEEN STUDS AS HOLE OR NOTCH, PROVIDE ADDITIONAL STUD BELOW TRUSS / JOIST BEARING.



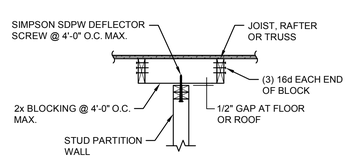
NON-BEARING STUDS

EXTERIOR & BEARING STUDS *

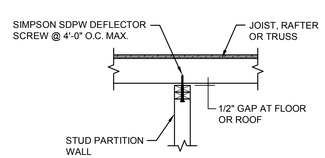
NOTCH/BORE % OF STUD	2x4	2x6	2x8
25%	7/8"	1 3/8"	1 3/4"
40%	1 3/8"	2 1/8"	2 7/8"
60%	2"	3 1/4"	4 3/8"

TYPICAL STUD NOTCH DETAIL

NOTES:
- * DO NOT CUT OR NOTCH STUDS SUPPORTING TWO OR MORE STORIES ABOVE.
- SEE GENERAL WOOD FRAMING NOTES REGARDING OVER SIZING FRAMING.
- PENETRATIONS TO ACCOUNT FOR BUILDING SHRINKAGE. OVERSIZED PENETRATIONS IN STUD WALL FRAMING SHALL ONLY BECOME DEEPER AND NOT WIDER.
- NOTCH & BORING NOT TO OCCUR IN SAME STUD.



JOIST / RAFTER / TRUSS PARALLEL TO NON-BEARING WALL



JOIST / RAFTER / TRUSS PERPENDICULAR TO NON-BEARING WALL

TYPICAL TOP OF PARTITION WALL BRACING DETAIL

Thorson Baker + Associates
CONSULTING ENGINEERS
3030 West Streetsboro Road
Richfield, Ohio 44286
(330) 659-6688 Ph.
(330) 659-6675 Fax

NORTH CAROLINA PROFESSIONAL SEAL 56607 ENGINEER ROBERT PIRIAK
CORPORATE LIC # C-1335

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ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
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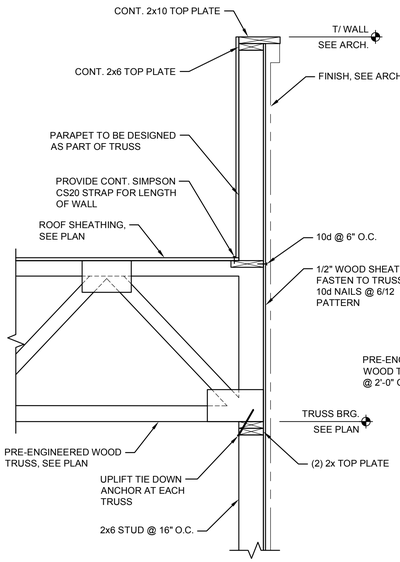
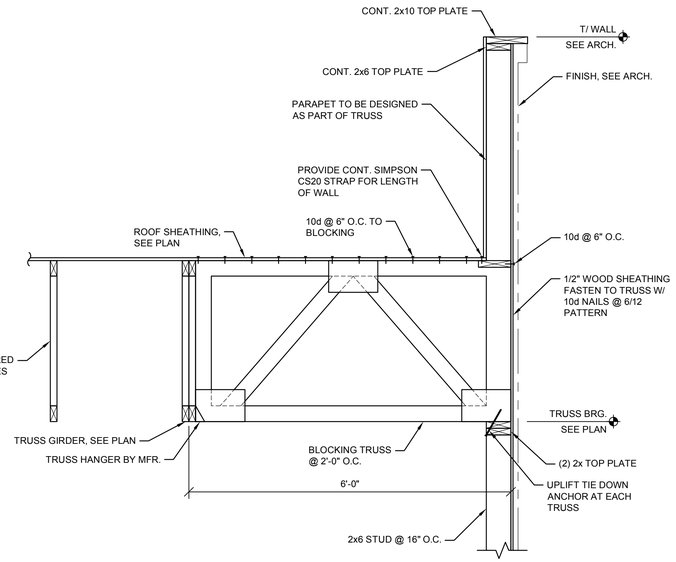


SECTION 1
3/4" = 1'-0"



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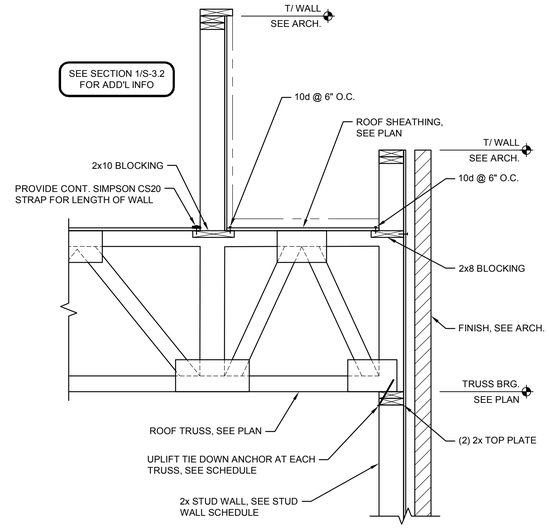

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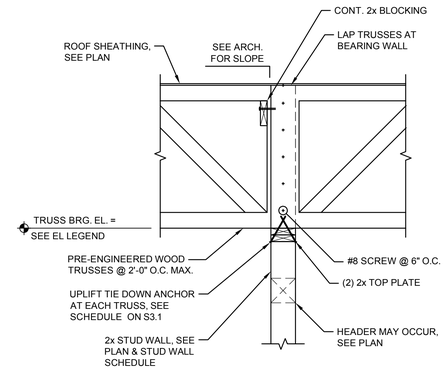

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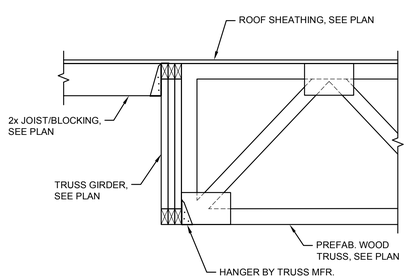

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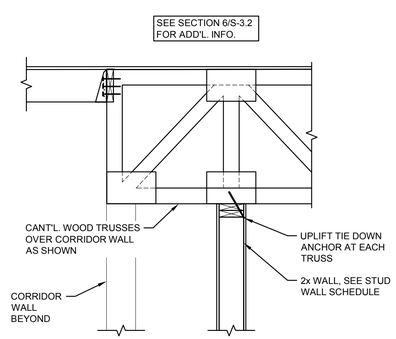

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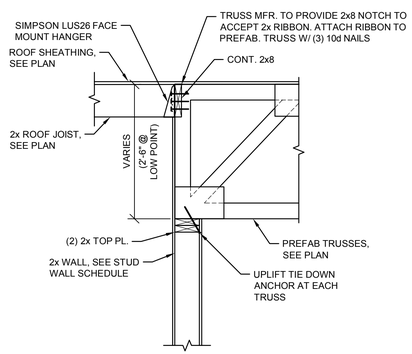

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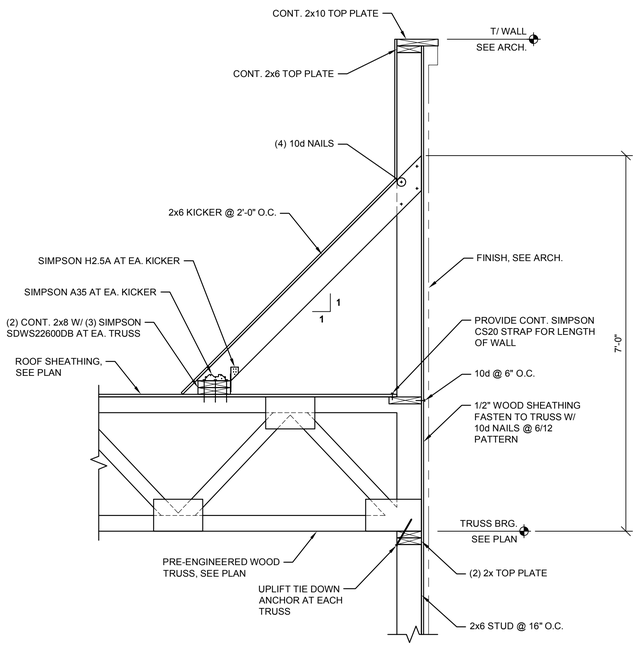

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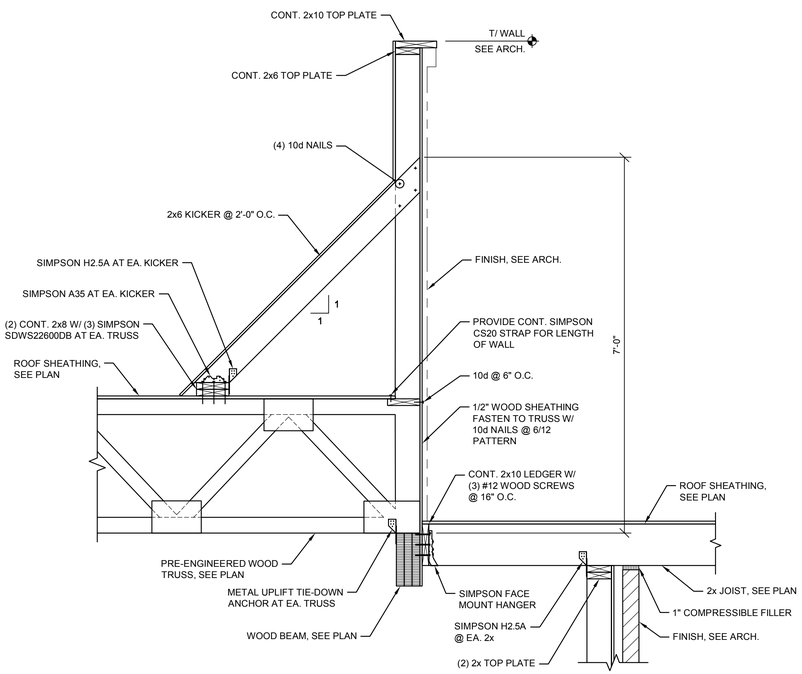

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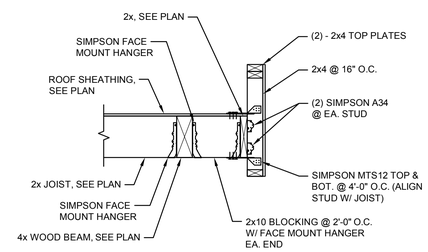

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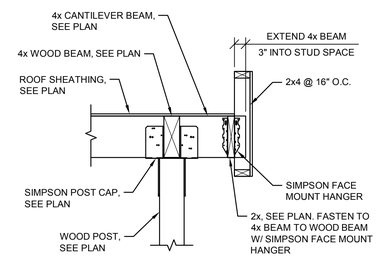
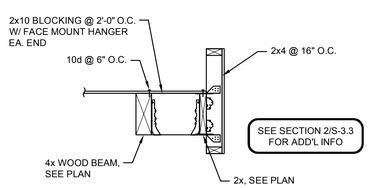
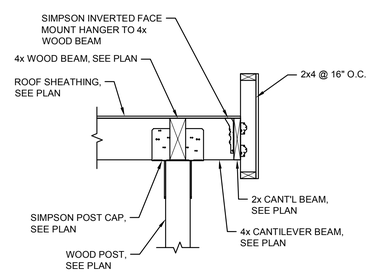


SECTION 3
3/4" = 1'-0"



SECTION 4
3/4" = 1'-0"



SECTION 5
3/4" = 1'-0"

Thorson Baker + Associates
CONSULTING ENGINEERS
3030 West Streetsboro Road
Richfield, Ohio 44286
(330) 659-6688 Ph.
(330) 659-6675 Fax

NORTH CAROLINA PROFESSIONAL SEAL 56607 ENGINEER ROBERT PIRIAK
CORPORATE LIC # C-1335

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR
WAKE FOREST, NC

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FRAMING SECTIONS AND DETAILS

DATE 03/02/2026
JOB NO. 25027

S-3.3
SHEET NO.

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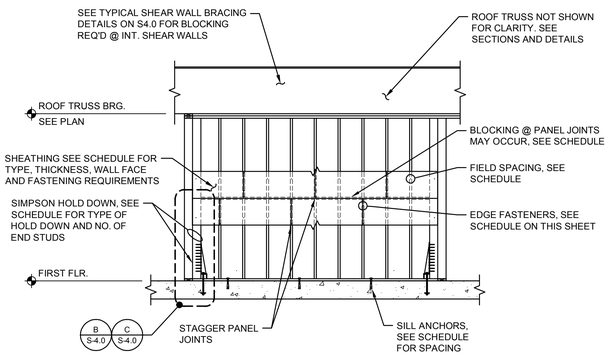
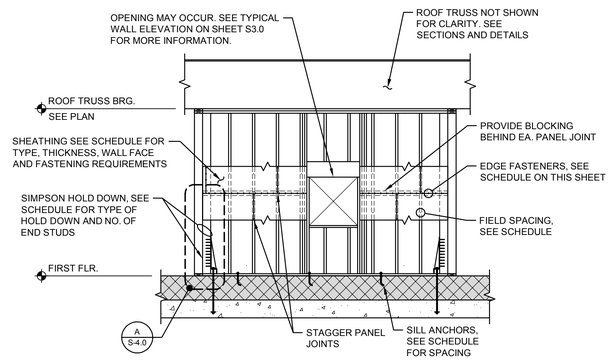
SHEAR WALL SCHEDULE										
MARK	STRAP/HOLD DOWN AND ANCHORS	SHEATHING TYPE	SHEATHING FACE	SHEATHING THICKNESS	SHEATHING FASTENER TYPE	SHEATHING FASTENER EDGE/FIELD SPACING (INCHES)	ALLOWABLE SHEAR LOAD (lb/ft)	No. OF END STUDS	SILL PLATE ANCHORS	COMMENTS
SW-1	SIMPSON HDU8-SDS2.5 W/7/8Ø ANCHOR ROD	WOOD STRUCTURAL PANELS	ONE FACE ONLY	15/32"	8d COMMON OR GALV. BOX NAILS	4/12	350 (SEISMIC) 490 (WIND)	(2)-2x6	1/2"Ø @ 24"O.C.	
SW-2	SIMPSON HTT5 W/ 5/8"Ø ANCHOR ROD	WOOD STRUCTURAL PANELS	EXTERIOR FACE	15/32"	8d COMMON OR GALV. BOX NAILS	6/12	240 (SEISMIC) 336 (WIND)	(2)-2x6	1/2"Ø @ 24"O.C.	

NOTES

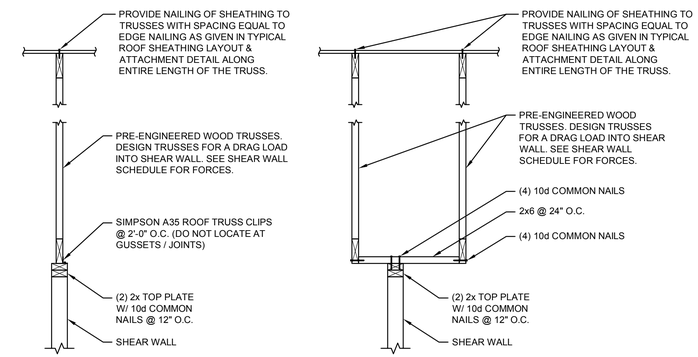
A. FRAMING AT ADJOINING PANELS SHALL BE 3" NOMINAL OR WIDER AT THE FOLLOWING CONDITIONS:
1. EDGE SPACING OF 3" OR LESS AND FASTENER TYPE OF 10d (3"x0.148") HAVING PENETRATION INTO FRAMING OF MORE THAN 1 1/2".
2. EDGE SPACING OF 2" - PANEL EDGES SHALL BE STAGGERED.



TYPICAL INTERIOR WALL SHEARWALL ELEVATION
1/4"=1'-0"



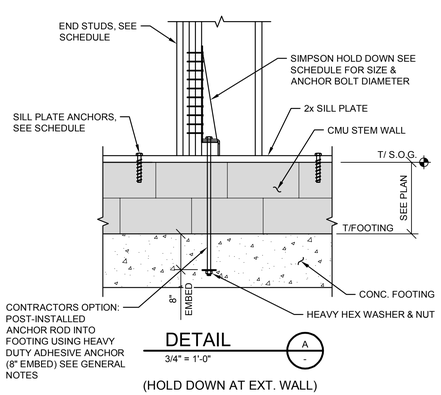
TYPICAL EXTERIOR WALL SHEARWALL ELEVATION
1/4"=1'-0"



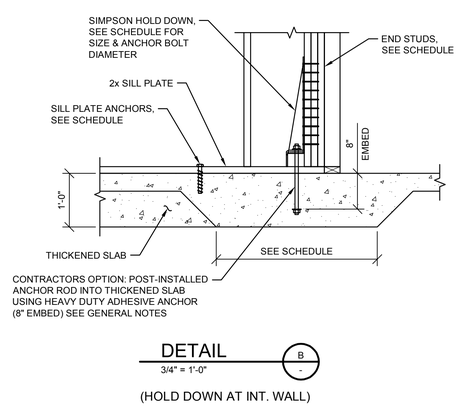
SHEAR WALL ALIGNED WITH TRUSS

SHEAR WALL BETWEEN TRUSSES

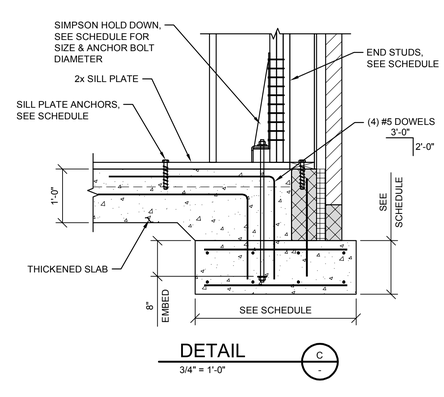
TYPICAL SHEARWALL BRACING DETAILS



DETAIL A
3/4" = 1'-0"
(HOLD DOWN AT EXT. WALL)



DETAIL B
3/4" = 1'-0"
(HOLD DOWN AT INT. WALL)



DETAIL C
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SHEAR WALL SECTIONS AND DETAILS

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S-4.0
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ABBREVIATIONS

(ABBREVIATIONS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)

A	AMP, AMPERE
ABV	ABOVE
A/C	AIR CONDITIONER, AIR CONDITIONING, ABOVE CEILING
ACC	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
ADJ	ADJUSTABLE
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ACOUSTIC LINING
ANSI	AMERICAN NAT'L STANDARDS INSTITUTE
APD	AIR PRESSURE DROP
ARCH	ARCHITECT, ARCHITECTURAL
ARI	AIR CONDITIONING & REFRIG INSTITUTE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION & AC ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGRS
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY OF TESTING & MATLS
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
AWS	AMERICAN WELDING SOCIETY
AWWA	AMERICAN WATER WORKS ASSOC.
B/F	BELOW FLOOR
BAS	BUILDING AUTOMATION SYSTEM
BDD	BACKDRAFT DAMPER
BFW	BOILER FEED WATER
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
CA	COMBUSTION AIR
CC	CONCRETE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHWR/CHWS	CHILLED WATER RETURN/SUPPLY
CIRC	CIRCULATING
CKT	CIRCUIT
CL	CENTERLINE
CLG	CEILING
CO	CLEANOUT
CONN	CONNECT, CONNECTION
COP	CLEANOUT PLUG
COL	COLUMN
CTE	CONNECT TO EXISTING
CW	DOMESTIC COLD WATER
CWR/CWS	CONDENSING WATER RETURN/SUPPLY
°C	DEGREES CELSIUS
D	DEPTH
DB	DRY BULB
dB	DECIBEL
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREES
DIA (OR Ø)	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DOM	DOMESTIC
DS	DOWNSPOUT
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EDB	ENTERING DRY BULB
ELEV	ELEVATION
ELEC	ELECTRICAL
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EX	EXISTING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FCO	FLOOR CLEANOUT
FD	FIRE DAMPER
FF	FINISHED FLOOR
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FT	FOOT, FEET
FW	FILTERED WATER
°F	DEGREES FAHRENHEIT
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GFI, GFIC	GROUND FAULT INTERRUPTER
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRD	GROUND
GW	GREASE WASTE
H	HEIGHT
HD	HEAD, HUB DRAIN
HHWR/HHWS	HEATING HOT WATER RETURN/SUPPLY
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER, HEAT PUMP
HSTAT	HUMIDISTAT
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATING & A/C
HW	DOMESTIC HOT WATER
HWR	DOMESTIC RECIRCULATED HOT WATER
HYD	HYDRANT
HZ	HERTZ
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH, INCHES
IN WC	INCHES OF WATER COLUMN
KVA	KILOVOLT-AMPS
KW	KILOWATTS
KWH	KILOWATT-HOUR
L	INTERNALLY LINED
LAT	LEAVING AIR TEMPERATURE
LBS, #	POUNDS
LDB	LEAVING DRY BULB
LP	LOW PRESSURE
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE, METAL HALIDE
MIN	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
MTD	MOUNTED
MUA	MAKE-UP AIR
N/A	NOT APPLICABLE
N.C.	NORMALLY CLOSED
NC	NOISE CRITERIA
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MFR'S ASSOC.
NFPA	NATIONAL FIRE PROTECTION ASSOC.
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
O/H	OVERHEAD
OA	OUTSIDE AIR (VENTILATION AIR)
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OVERFLOW DRAINAGE, OUTSIDE DIAMETER
OPNG	OPENING
ORD	OVERFLOW ROOF DRAIN
OS&Y	OUTSIDE STEM AND YOKE
OSHA	OCCUPATIONAL SAFETY &HEALTH ADMIN.
PB	PUSH BUTTON
PD	PRESSURE DROP
PH, Ø	PHASE
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PSI	POUNDS PER SQUARE INCH
PRV	PRESSURE RELIEF VALVE
RA	RETURN AIR
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RECIRC	RECIRCULATE
REINF	REINFORCING, REINFORCED
REL	RELOCATED
REQ	REQUIRED
REV	REVISION, REVISE
REX	REMOVE EXISTING
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RR	REMOVE AND RELOCATE
RS	REFRIGERANT SUCTION
RWC	RAIN WATER CONDUCTOR
SA	SUPPLY AIR
SAN	SANITARY
SD	SMOKE DETECTOR, STORM DRAIN
SECT	SECTION
SF	SQUARE FEET, SQUARE FOOT
SHT	SHEET
SM	SHEET METAL
SMACNA	SHEET METAL & A/C CONT NAT'L ASSOC.
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ	SQUARE
ST	STORM WATER
STD	STANDARD
SURF	SURFACE
SUSP	SUSPEND
TDH	TOTAL DYNAMIC HEAD
TE	TENANT EXHAUST (TOILET)
THRU	THROUGH
TP	TOTAL PRESSURE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TWR/TWS	TOWER WATER RETURN/SUPPLY
TYP	TYPICAL
U/F	UNDERFLOOR
U/G	UNDERGROUND
U/S	UNDERSLAB
UL	UNDERWRITERS LABORATORIES, INC.
UON	UNLESS OTHERWISE NOTED
V	VOLT, VENT
VA	VOLT-AMPERE, VALVE
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VTR	VENT THROUGH ROOF
W	WATT, WIDTH
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER COLUMN

HVAC SYMBOLS

(ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)

Symbol	Description
	SUPPLY AIR DIFFUSER - SHADING INDICATES PATTERN. NO PATTERN SHOWN EQUALS 4-WAY OR AS NOTED
	RETURN OR EXHAUST AIR GRILLE
12"Ø	ROUND DUCTWORK. DIAMETER IN INCHES
20/12	RECTANGULAR DUCTWORK. SIZE IN INCHES, FIRST NUMBER IS SIDE SHOWN
XX/XXL	INTERNALLY LINED DUCT
	SUPPLY OR OUTSIDE AIR DUCT
	RETURN, RELIEF OR EXHAUST AIR DUCT
A B / C	DIFFUSER/GRILLE LABEL: A - TYPE/DESIGNATION; B - NECK SIZE (INCHES); C - AIRFLOW (CFM)
	90 DEGREE DUCTWORK ELBOW W/ TURNING VANES
	TURNING VANES
	RADIUS DUCTWORK ELBOW - ROUND OR RECTANGULAR
	RECTANGULAR DUCTWORK BRANCH TAKE-OFF WITH 45 DEGREE BRANCH INLET
	HIGH EFFIECENY "BUCKLEY" TAP WITH DAMPER
	DUCTWORK SIZE TRANSITION
	SUPPLY OR OUTSIDE AIR DUCT UP
	SUPPLY OR OUTSIDE AIR DUCT DOWN
	RETURN OR EXHAUST AIR DUCT UP
	RETURN OR EXHAUST AIR DUCT DOWN
	IN-LINE 90 DEGREE RISE IN DUCT
	IN-LINE 90 DEGREE DROP IN DUCT
RISE	INCLINED RISE IN DUCT
	POINT OF CONNECTION - NEW TO EXISTING
	MANUAL VOLUME DAMPER
MD	MOTORIZED DAMPER
F	FIRE DAMPER
(T)	THERMOSTAT
(H)	HUMIDISTAT
(S)	SENSOR
(C)	CARBON DIOXIDE SENSOR
(SD)	DUCT SMOKE DETECTOR
(1)	DRAWING NOTE REFERENCE
ϕ	ROUND
⊖	OVAL OR FLAT OVAL
UC	UNDERCUT DOOR 3/4" FOR AIRFLOW

MECHANICAL SPECIFICATIONS

I. GENERAL PROVISIONS

A. GENERAL CONDITIONS, CODES & STANDARDS

1. GENERAL CONDITIONS OF THE CONTRACT FOUND IN THE ARCHITECTURAL DRAWINGS, GENERAL AND SPECIAL CONDITIONS OF THE AMERICAN INSTITUTE OF ARCHITECTS (AIA) AND ANY OF THE OWNER'S GENERAL REQUIREMENTS SHALL APPLY UNLESS NOTED OTHERWISE.
2. REFER TO THE GENERAL CONDITIONS ON THE ARCHITECTURAL DOCUMENTS AND THE GENERAL AND SPECIAL CONDITIONS OF THE AIA FOR ADDITIONAL REQUIREMENTS REGARDING; SAFETY, COORDINATION & COOPERATION, WORKMANSHIP, PROTECTION, CUTTING AND PATCHING, DAMAGE TO OTHER WORK, PRELIMINARY OPERATIONS, STORAGE, ADJUSTMENTS, CLEANING, ETC.
3. ALL WORK SHALL BE IN CONFORMANCE WITH ALL LOCALLY ENFORCED, FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES INCLUDING ANY SPECIAL THE OWNER REQUIREMENTS IN ADDITION TO THOSE SPECIFIED.
4. CONTRACTOR SHALL PAY FOR AND OBTAIN ALL NECESSARY LICENSES, PERMITS AND INSPECTIONS REQUIRED TO PROCEED WITH THE WORK. THIS SHALL INCLUDE ALL REQUIRED COORDINATION WITH THE LOCAL UTILITY COMPANIES AND THEIR ASSOCIATED FEES OR COSTS.

B. SCOPE OF WORK

1. THIS CONTRACT SHALL INCLUDE THE FURNISHING, INSTALLING, CONNECTING, AND OPERATION OF ALL EQUIPMENT WHICH IS A PART OF THE MECHANICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY SIMILAR INSTALLATIONS. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK AND WHICH IS USUALLY INCLUDED IN WORK OF A SIMILAR CHARACTER SHALL BE FURNISHED AND INSTALLED UNDER THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS REQUIRED TO PROVIDE THE OWNER A COMPLETE, CODE APPROVED AND OPERATIONAL MECHANICAL AND PLUMBING SYSTEMS.
2. CAREFULLY READ SPECIFICATION FOR ALL PARTS OF THE WORK SO AS TO BECOME FAMILIAR WITH ALL TRADES' WORK SCOPE. CONSULT WITH OTHER TRADES TO INSURE PROPER LOCATIONS AND AVOID INTERFERENCES. ANY CONFLICT SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE WORK IS COMMENCED.
3. CONTRACTORS SHALL BE HELD TO HAVE EXAMINED THE PREMISES AND SITE SO AS TO COMPARE THEM WITH THE DRAWINGS AND SPECIFICATIONS, NOTE THE EXISTING CONDITIONS AND OTHER WORK THAT WILL BE REQUIRED, AND THE NATURE OF THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. NO ALLOWANCE SHALL BE MADE TO THE CONTRACTOR BY REASON OF THIS FAILURE TO HAVE MADE SUCH EXAMINATION OR OF ANY ERROR ON HIS PART.
4. ALL EXISTING UTILITY AND MECHANICAL SERVICES SHALL BE FIELD VERIFIED. CORRECTIONS TO THE DESIGN AND INSTALLATION SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
5. THIS CONTRACTOR IS RESPONSIBLE TO COORDINATE THE OPENINGS WITH THE GENERAL TRADES CONTRACTOR. THE FINAL LOCATIONS AND SIZES OF ALL DUCT AND LOUVER OPENINGS SHALL BE PROVIDED BY THIS CONTRACTOR.
6. ALL WORK INCLUDING, BUT NOT LIMITED TO PARTS, MATERIAL, EQUIPMENT AND LABOR SHALL BE GUARANTEED FOR ONE YEAR AFTER ACCEPTANCE BY THE ENGINEER AND OWNER. WHERE AN EQUIPMENT MANUFACTURER HAS A WARRANTY THAT EXCEEDS ONE YEAR, THAT WARRANTY PERIOD SHALL APPLY TO THIS PROJECT.

C. DOCUMENTS

7. THE DRAWINGS ARE DIAGRAMMATIC, ALL WORK SHALL BE PERFORMED AS INDICATED ON THE DRAWINGS UNLESS EXISTING CONDITIONS OR COORDINATION ISSUES REQUIRE CHANGES. THESE CHANGES SHALL BE MADE WITH NO ADDITIONAL COST TO THE OWNER.
8. ANY INCIDENTAL ITEMS OR LABOR, ETC. NOT INCLUDED IN THE SPECIFICATIONS OR THE DRAWINGS BUT REASONABLY IMPLIED AS NECESSARY FOR THE COMPLETE INSTALLATION OF ALL APPARATUS SHALL BE INCLUDING IN BID.
9. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED EVEN THOUGH NOT MENTIONED IN BOTH.
10. IF ERRORS ARE FOUND IN THE DRAWINGS OR SPECIFICATIONS OR DISCREPANCIES OCCUR BETWEEN THE SAME, OR BETWEEN THE FIGURES ON THE DRAWINGS, AND THE SCALE OF SAME OR BETWEEN THE LARGER AND SMALLER DRAWINGS, OR IN THE DESCRIPTIVE MATTER ON THE DRAWINGS SHALL BE REFERRED TO THE OWNER FOR REVIEW AND FINAL DECISION PRIOR TO THE BID DUE DATE.
11. THE BIDDING OF THIS WORK WILL CONTEMPLATE THE USE OF EQUIPMENT AND MATERIALS EXACTLY AS SPECIFIED HEREIN. WHERE MORE THAN ONE MANUFACTURER IS MENTIONED ANY ONE MAY BE UTILIZED. SUBSTITUTE MANUFACTURERS MAY BE OFFERED ONLY AS AN ALTERNATE TO THE SPECIFIED EQUIPMENT AND MATERIAL AND MUST BE SUBMITTED AS SPECIFIED IN THE ARCHITECTURAL DOCUMENTS.
12. MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THE SYSTEMS CAN BE OF ANY RECOGNIZED MANUFACTURE PROVIDED THESE ITEMS MEET MINIMUM STANDARDS AS SET IN THESE SPECIFICATIONS. REFER TO EACH SECTION FOR ANY SPECIFIC REQUIREMENTS.

D. COORDINATION

1. CONTRACTOR SHALL LOCATE, IDENTIFY AND PROTECT ANY EXISTING SERVICES WHICH ARE REQUIRED TO BE MAINTAINED OPERATIONAL AND SHALL EXERCISE EXTRA CAUTION IN THE PERFORMANCE OF ALL WORK TO AVOID DISTURBING SUCH FACILITIES. ALL COSTS FOR REPAIR OF DAMAGES TO SUCH SERVICES SHALL BE PAID BY THE CONTRACTOR CAUSING THE DAMAGE.
2. EACH CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGE TO OTHER WORK CAUSED BY HIS WORK OR THROUGH THE NEGLECT OF HIS OR HIS SUB-TRADE'S PERSONNEL. ALL PATCHING, REPAIRING, REPLACEMENT AND PAINTING, ETC. SHALL BE DONE AS DIRECTED BY THE OWNER BY THE CRAFTSMEN OF THE TRADES INVOLVED. THE COSTS OF SUCH WORK SHALL BE PAID BY THE CONTRACTOR CAUSING THE DAMAGE.

E. METHODS

1. EQUIPMENT, PIPING, DUCTWORK, ETC. SHALL NOT BE SUPPORTED FROM ANY CEILINGS, OTHER PIPING, CONDUIT OR DUCTWORK, ROOF DECK, OR JOIST BRIDGING. ITEMS SHALL BE SUPPORTED FROM ACCEPTABLE STRUCTURAL BUILDING COMPONENTS AS DETERMINED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
2. ALL ROOF PENETRATIONS, FLASHINGS AND COUNTER FLASHINGS SHALL BE PERFORMED BY THE OWNER'S ROOFING CONTRACTOR AT THE REQUESTING CONTRACTORS COST.

F. SUBMITTALS

1. SHOP DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT OF ALL EQUIPMENT AND ACCESSORIES PROVIDED FOR THE PROJECT WHETHER SPECIFIED HERE-IN OR ON THE DRAWINGS. REVIEW OF THE SHOP DRAWINGS SHALL BE FOR GENERAL DESIGN CONCEPT AND ADHERENCE WITH THE SPECIFICATIONS. QUANTITY OF SHOP DRAWINGS SUBMITTED SHALL BE AS SPECIFIED BY THE ARCHITECT. SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR SHOWING LOCATIONS AND MEASUREMENTS FROM COLUMNS OF ALL CONCEALED AND EXPOSED PIPING, DUCTWORK, CONDUIT, EQUIPMENT, ACCESSORIES, ETC., AND SUBMITTED PRIOR TO INSTALLATION. THE OWNER MAY MAKE REPRODUCIBLE COPIES OF THEIR DRAWINGS AVAILABLE FOR USE IN PREPARATION OF SHOP DRAWINGS, HOWEVER THE OWNER SHALL NOT BE HELD RESPONSIBLE FOR NOT CONFIRMING ALL INFORMATION ON THE DRAWINGS PRIOR TO FABRICATION AND/OR INSTALLATION.
2. PROJECT RECORD DOCUMENTS - MAINTAIN AT THE JOBSITE ONE COPY OF ALL CONTRACT DOCUMENTS CLEARLY MARKED AS "PROJECT RECORD COPY". THESE DRAWINGS ARE TO BE MAINTAINED IN GOOD CONDITION, UPDATED DAILY FOR CHANGES ENCOUNTERED AND AVAILABLE AT ALL TIMES FOR INSPECTION BY THE OWNER. DO NOT USE FOR FIELD CONSTRUCTION! PROJECT RECORD DOCUMENTS ARE TO BE KEPT CURRENT WITH EXACT DIMENSIONS OF ALL WORK, EQUIPMENT, PIPING, VALVES, DUCTWORK, ETC. MARK ALL INFORMATION IN RED LINES AND NOTES SO AS TO BE EASILY IDENTIFIED FROM THE BASE DRAWING. UPON COMPLETION OF THE WORK, ONE SET OF THESE DOCUMENTS SHALL BE TURNED OVER TO THE OWNER AS ONE QUALIFICATION FOR FINAL PAYMENT.
3. AFTER THE BALANCING AND ACCEPTANCE TESTS ARE COMPLETED AND ACCEPTED BY THE OWNER, THREE COMPLETE SETS OF AS-BUILT DOCUMENTATION SHALL BE PROVIDED. IT SHALL INCLUDE, BUT NOT BE LIMITED TO ACCURATE PLAN DRAWINGS, SYSTEM AND CONTROL SCHEMATICS, SEQUENCE OF OPERATION, WIRING DIAGRAMS AND OPERATION AND MAINTENANCE MANUALS.

II. INSULATION

A. GENERAL

1. INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS, AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES.
2. CLEAN AND DRY SURFACES PRIOR TO INSULATING.
3. EXTEND INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS, HANGERS AND SIMILAR PENETRATIONS.
4. INSULATION JACKET AND FITTING COVER MUST BE PLENUM RATED.
5. IT IS ESSENTIAL THAT THE INTEGRITY OF THE VAPOR-BARRIER BE MAINTAINED. SEAL ALL PENETRATIONS OF THE VAPOR BARRIER BY STAPLES, HANGERS OR WHERE OTHERWISE DAMAGED.
6. MAINTAIN ACCESS TO BALANCING DAMPERS AND VALVES.
7. INSULATION SHALL BE BY OWENS-CORNING, KNAUF, OR MANVILLE.

B. HVAC DUCTWORK

1. INTERNALLY INSULATE WITH 1 INCH THICK, 1-1/2# DENSITY ACOUSTICAL INSULATION (AIR SIDE BLACK COATED TO MEET NFPA) ALL DUCTWORK NOTED AS REQUIRING SUCH. INTERNAL INSULATION SHALL BE INSTALLED PER THE REQUIREMENTS OF THE SMACNA GUIDE AND THE MANUFACTURER'S RECOMMENDATIONS. DUCT SIZES NOTED ON DRAWING ARE SHEET METAL DIMENSIONS.
2. ALL UNEXPOSED RETURN DUCTWORK SHALL BE WRAPPED WITH 1-1/2 INCH OF 0.75 LB/CU.FT. FIBERGLASS, FOIL BACKED DUCT WRAPPING.

III. HVAC

A. GENERAL

1. THE PROJECT CONSISTS OF THE INSTALLATION OF ROOFTOP UNITS, DUCTWORK, & AIR DISTRIBUTION. ANY AND ALL EXISTING MECHANICAL EQUIPMENT, DUCTWORK, ETC. MUST BE FIELD VERIFIED FOR EXACT LOCATION.

B. PIPING

1. OUTDOOR CONDENSATE PIPING SHALL BE TYPE "L" COPPER CONDENSATE DRAIN FOR THE ROOFTOP MOUNTED AIR CONDITIONING UNIT, INSTALLED PER THE MANUFACTURERS REQUIREMENTS AND DETAILS. DRAIN SHALL DISCHARGE INTO A ROOF DRAIN.
2. PIPE HANGERS SHALL BE ADJUSTABLE CLEVIS HANGERS WITH APPROPRIATE CLAMP (DEPENDING ON STRUCTURE). PROVIDE OVERSIZED HANGERS FOR PIPING SYSTEMS THAT ARE TO BE INSULATED, COORDINATE INSTALLATION WITH INSULATOR FOR RIGID INSULATION UNDER HANGERS.
3. ALL PIPING SHALL BE SUPPORTED ON A MAXIMUM OF 10' CENTERS EXCEPT COPPER PIPING 1-1/4" AND SMALLER SHALL BE SUPPORTED ON A MAXIMUM OF 6' CENTERS.
4. FIRE STOPPING - FOR INSULATED PIPES THROUGH RATED MASONRY WALL AND FLOOR ASSEMBLIES, PROVIDE A UL APPROVED THROUGH-PENETRATION 3M INTUMESCENT FIRE STOP SYSTEM #C-AJ-1175. FOR RATED GYPSUM BOARD ASSEMBLIES PROVIDE A UL APPROVED THROUGH-PENETRATION FIRE STOP SYSTEM NUMBER W-L-1003. OTHER PRODUCTS BY NATIONALLY APPROVED MANUFACTURERS AS USG AND HILTI.

C. DUCTWORK AND AIR DISTRIBUTION

1. DUCTWORK (ROUND OR RECTANGULAR OR SPIRAL) SHALL BE OF GALVANIZED STEEL CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA MANUAL AND THE FOLLOWING PRESSURE / SEAL SCHEDULE:
   a. SUPPLY AIR DUCTWORK - 2" W.G. POSITIVE PRESSURE, SEAL CLASS B.
   b. RETURN & EXHAUST DUCTWORK - 2" W.G. NEGATIVE PRESSURE, SEAL CLASS B.
2. ROUND DUCT ELBOWS SHALL BE LONG SWEEP, 1-1/2 TIMES THE CENTERLINE RADIUS UNLESS CLEARANCE IS NOT AVAILABLE AT WHICH TIME MITERED ELBOWS WITH TURNING VANES SHALL BE UTILIZED.
3. SPIRAL DUCT AND FITTINGS SHALL BE MANUFACTURED FROM G-60 GALVANIZED STEEL MEETING ASTM-A924 AND A653 REQUIREMENTS.
   a. CONSTRUCTION
      (1) BRANCH CONNECTIONS SHALL BE MADE WITH 90 CONICAL AND 45 STRAIGHT TAPS AS SHOWN ON THE DRAWINGS. BRANCH CONNECTIONS SHALL BE MADE AS A SEPARATE FITTING. FACTORY OR FIELD INSTALLATION OF TAPS INTO SPIRAL DUCT SHALL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
      (2) ELBOWS SHALL BE FABRICATED WITH A CENTERLINE RADIUS OF 1.5 TIMES THE DIAMETER. 90 AND 45 ELBOWS IN DIAMETERS 3 INCH ROUND THROUGH 12 INCH ROUND SHALL BE STAMPED OR PLEATED ELBOWS. OTHER ELBOWS SHALL BE OF THE GORED TYPE. CIRCUMFERENTIAL AND LONGITUDINAL SEAMS OF ALL FITTINGS SHALL BE A CONTINUOUS WELD OR SPOT WELDED AND SEALED WITH MASTIC. ALL WELDS SHALL BE PAINTED TO PREVENT CORROSION.
      (3) FIELD JOINTS FOR ROUND DUCTS UP TO AND INCLUDING 36 INCH DIAMETER AND OVAL DUCTS UP TO AND INCLUDING 41 INCH MAJOR AXIS SHALL BE MADE WITH A 2 INCH SLIP-FIT OR SLIP COUPLING.
4. RECTANGULAR ELBOWS SHALL BE FURNISHED WITH DOUBLE THICKNESS TURNING VANES. TURNING VANES SHALL BE FASTENED WITH A DOUBLE ROW OF SCREWS.
5. MITERED OFFSETS GREATER THAN 30 DEGREES IN EITHER DIRECTION SHALL NOT BE PERMITTED.
6. CHANGES IN DUCT SIZES SHALL BE MADE BY UNIFORM TAPER SECTION WITH A MAXIMUM INCLUDE ANGLE OF DIVERGENCE OF 15DEGREES.
7. RECTANGULAR BALANCING DAMPERS - RUSKIN MD25 SHALL BE SINGLE BLADE UP TO 6" IN HEIGHT AND 36" IN WIDTH, AND RUSKIN MD35 MULTI-BLADE FOR LARGER SIZES. ALL ROUND BALANCING DAMPERS SHALL BE COMMERCIAL GRADE SINGLE BLADE UP TO 16" IN DIAMETER SHALL INCORPORATE LOCKING TYPE INDICATING ADJUSTMENT. BALANCING DAMPERS SHALL BE INSTALLED IN ALL BRANCH DUCTS OFF MAIN AND ON ALL TAPS OFF DUCTS TO DIFFUSERS UNLESS OTHERWISE NOTED ON DRAWINGS.
8. FINAL CONNECTIONS TO DIFFUSERS MAY BE MADE WITH FLEXIBLE DUCTWORK BUT ITS USE IS LIMITED TO STRAIGHT HORIZONTAL OR VERTICAL RUNS. ALL CHANGES OF DIRECTION IN A DUCT SYSTEM (GALVANIZED OR FLEXIBLE) SHALL BE MADE WITH AN APPROPRIATE GALVANIZED ELBOW. MAXIMUM LENGTH OF ANY FLEXIBLE DUCT IS 5'-0".
9. FLEXIBLE DUCTS TO DIFFUSERS SHALL BE ATCO RUBBER PRODUCTS, INC. MODEL UPC #070, INSULATED (R=4.2), U.L. 181 RATED AND CLASS 1 AIR CONNECTOR. MAXIMUM LENGTH OF FLEXIBLE DUCT TO DIFFUSER TO BE 5'-0".
10. SUPPORT ALL SHEET METAL AND EQUIPMENT FROM ANGLE IRON CONNECTED TO STRUCTURAL STEEL. DO NOT SUSPEND DUCT OR EQUIPMENT FROM METAL DECK OR JOIST BRIDGING.

IV. HVAC EQUIPMENT

A. GENERAL

1. INSTALLATION OF ALL EQUIPMENT SHALL COMPLY WITH THE MANUFACTURER'S INSTALLATION INFORMATION AND INSTRUCTIONS, REQUIREMENTS AND ANY ADDITIONAL GUIDELINES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL REQUIRED ACCESSORIES REQUIRED TO COMPLETE THE INSTALLATIONS.
2. HVAC EQUIPMENT SHALL BE "STARTED UP" BY A FACTORY TRAINED AND AUTHORIZED SERVICE TECHNICIAN.
3. ALL FACTORY STARTUP FORMS SHALL BE COMPLETED AND TURNED OVER TO THE OWNER WITH ALL COMPLETED WARRANTY CARDS PRIOR TO FINAL APPROVAL.

B. PACKAGE ROOFTOP HEATING AND AIR-CONDITIONING UNITS

1. SEE DRAWING FOR INDIVIDUAL UNIT PERFORMANCE REQUIREMENTS.

C. FANS

1. ROOF MOUNTED FANS
   a. SEE DRAWING FOR INDIVIDUAL UNIT PERFORMANCE.

V. CONTROLS

A. THERMOSTATS AND SENSORS SHALL BE MOUNTED WHERE INDICATED ON THE DOCUMENTS.
B. CONTRACTOR SHALL PROGRAM THERMOSTAT PER THE OWNER'S REQUIREMENTS AND TRAIN OWNER'S PERSONNEL IN THE OPERATION AND PROGRAMMING OF THE THERMOSTAT AND SYSTEM.

VI. TESTING AND BALANCING

A. TESTING AND BALANCING SHALL NOT BEGIN UNTIL THE SYSTEM HAS BEEN COMPLETED, IS IN FULL WORKING ORDER AND ALL EQUIPMENT START-UP HAS BEEN COMPLETED. ALL HVAC SYSTEMS AND EQUIPMENT SHALL BE PUT INTO FULL OPERATION AND THE OPERATION OF SAME CONTINUED DURING EACH WORKING DAY OF THE TESTING AND BALANCING.
B. AN INDEPENDENT "AABC" OR "NEBB" CERTIFIED AIR AND WATER BALANCE CONTRACTOR SHALL TEST AND BALANCE THE SYSTEM AND REPORT RESULTS TO THE ENGINEER AND THE OWNER.
   1. ALL WORK SHALL BE DONE UNDER DIRECT SUPERVISION OF THE CERTIFIED BALANCING ENGINEER AND BY QUALIFIED BALANCING TECHNICIANS.
   2. METHODS AND FORMS SHALL BE IN ACCORDANCE WITH THE CERTIFICATION AGENCIES RECOMMENDATIONS AND REQUIREMENTS.
   3. COMPLY WITH ASHRAE RECOMMENDATIONS PERTAINING TO MEASUREMENTS, INSTRUMENTS, TESTING, ADJUSTING AND BALANCING.
   4. ALL QUANTITIES SHALL BE WITHIN 10% OF THE DESIGN VALUES.
   5. CONTRACTOR SHALL PROVIDE ANY SHEAVE CHANGES REQUIRED ON THE HVAC UNIT.
C. PERFORMANCE TEST
   1. AFTER ALL HVAC EQUIPMENT IS INSTALLED, TESTED AND BALANCED AS SPECIFIED HEREIN THEY SHALL BE OPERATED AND PLACED UNDER SURVEILLANCE FOR A PERIOD OF AT LEAST ONE (1) DAY, THIS MAY INCLUDE THE DAY OF STARTUP, TO VERIFY THAT ALL EQUIPMENT IS PRODUCING THE REQUIRED CAPACITY. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR THE OPERATION OF THE EQUIPMENT DURING THE ENTIRE PERIOD.
   2. TEST SHALL BE PERFORMED WITH ALL CONTROLS IN THE AUTOMATIC POSITION AND BUILDING LIGHTS, DAMPERS, ETC. POSITIONED TO SIMULATE NORMAL OPERATION OF THE HVAC SYSTEM.
   3. DURING THE TEST, CONTROL SETTINGS MAY REQUIRE ADDITIONAL ADJUSTMENTS TO PRODUCE THE BEST BALANCED SYSTEM OPERATION. THEIR FINAL SETTING OF EACH OPERATING AND SAFETY CONTROL SHALL BE RECORDED, THEY SHALL INCLUDE, BUT NOT LIMITED TO, THERMOSTATS, LIMIT CONTROLS, AND OTHER SIMILAR ITEMS.
   4. SHOULD COMPLETION OF THE INSTALLATION OCCUR AT SUCH TIME THAT THE REQUIRED PERFORMANCE TEST MUST BE CONDUCTED DURING A SEASON WHEN THE FULL OPERATION OF EITHER THE HEATING OR COOLING SYSTEM CAN NOT BE CHECKED, THE CONTRACTOR SHALL PERFORM THE TEST AND RECORD ALL SUCH DATA AS IS AVAILABLE WITH SYSTEM OPERATING AUTOMATICALLY UNDER THE PREVAILING WEATHER CONDITIONS. THAT PART OF THE SYSTEM WHICH CAN NOT BE TESTED SHALL BE DELAYED UNTIL THE WEATHER IS APPROPRIATE, AT WHICH TIME THE REMAINING PART OF THE REQUIRED TESTS SHALL BE CONDUCTED AND DATA RECORDED ACCORDINGLY.
D. ACCEPTANCE AND CHECK-OUT - CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL, AT NO ADDITIONAL COST TO THE OWNER, AS MAY BE REQUIRED BY THE ENGINEER FOR THE PURPOSE OF VERIFYING PROPER OPERATION AND INSTALLATION OF THEIR WORK AT THE TIME OF REQUEST FOR ACCEPTANCE.

ADDITIONAL REQUIREMENTS:

- CONTRACTOR SHALL PLACE DOTS ON THE CEILING GRID TO INDICATE LOCATION OF MECHANICAL AND PLUMBING DEVICES OR EQUIPMENT ARE INSTALLED ABOVE.

DRAWN BY: KAG CHECKED BY: JMZ

DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC
25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048534 NICHOLAS GINGERICH 03/18/26

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC
1005 STADIUM DR
WAKE FOREST, NC

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	03/18/2026	PERMIT SET
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MECHANICAL SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

M-0.1

SHEET NO.

ROOFTOP HVAC UNIT SCHEDULE

TAG	MFR	MODEL No.	NOMINAL TONS	EER2	MIN OA (CFM)	SUPPLY FAN DATA			DX COOLING DATA					GAS HEAT DATA				UNIT CHARACTERISTICS				NOTES/ACCESSORIES
						AIR FLOW (CFM)	ESP (IN WC)	MOTOR (BHP)	EAT °DB/°WB	LAT °DB/°WB	SENSIBLE (MBH)	TOTAL (MBH)	COOLING STAGES	EAT/LAT °F	INPUT (MBH)	OUTPUT (MBH)	HEATING STAGES	VOLTAGE (V-ϕ-Hz)	UNIT MCA	UNIT MOCP	OPERATING WEIGHT (LBS)	
RTU-1	LENNOX	LGM048	4.0	13.2	530	1200	0.50	1.5	86.6/72.1	57.4/57.4	35.8	52.1	VAR	45.6/85.7	65	52	2	208-3-60	25	35	1200	1-19
RTU-2	LENNOX	LGM074	6.0	12.2	910	2000	0.50	1.5	86.6/72.1	59.0/59.0	56.4	76.8	VAR	45.6/85.9	108	87	2	208-3-60	29	45	1200	1-19
RTU-3	LENNOX	LGM048	4.0	13.2	475	1200	0.50	1.5	86.2/71.7	57.0/57.0	35.8	51.8	VAR	48.3/88.4	65	52	2	208-3-60	25	35	1200	1-19
RTU-4	LENNOX	LGM092	6.0	12.5	670	2350	0.50	3.75	84.8/71.0	59.8/58.7	60.4	92.3	VAR	51.3/92.3	130	104	2	208-3-60	41	50	1400	1-19
RTU-5	LENNOX	LGM074	6.0	12.2	605	2050	0.50	1.5	83.3/70.1	56.9/56.9	54.2	74.3	VAR	53.7/94.0	108	87	2	208-3-60	29	45	1200	1-19
RTU-6	LENNOX	LGM060	5.0	12.5	530	1600	0.50	1.5	85.4/71.3	57.6/57.6	45.5	65.0	VAR	49.2/79.3	108	87	2	208-3-60	26	40	1200	1-19
RTU-7	LENNOX	LGM048	4.0	13.2	430	1400	0.50	1.5	83.0/69.9	57.3/57.3	37.1	51.6	VAR	53.4/87.8	65	52	2	208-3-60	25	35	1200	1-19
RTU-8	LENNOX	LGM048	4.0	13.2	290	1600	0.50	1.5	80.8/68.4	54.9/54.9	34.8	49.6	VAR	58.3/95.3	65	52	2	208-3-60	25	35	1200	1-19

NOTES/ACCESSORIES

1. 105° CONDENSING TEMPERATURE
2. MANUFACTURER REFRIGERANT LEAK DETECTION SYSTEM FOR A2L REFRIGERANT
3. 100% ECONOMIZER WITH FIXED DRYBULB CONTROL AND FDD
4. BAROMETRIC RELIEF
5. 14" INSULATED ROOF CURB
6. HACR CIRCUIT BREAKER
7. UN-POWERED CONVENIENCE OUTLET
8. SINGLE ZONE VAV
9. THROUGH THE BASE ELECTRICAL
10. HAIL GUARD - WITH TOOL LESS REMOVAL
11. PROGRAMMABLE SEVEN DAY AUTO CHANGE OVER THERMOSTAT WITH REMOTE TEMPERATURE SENSOR(S)
12. HINGED ACCESS DOORS
13. 2" PLEATED FILTERS MERV 8
14. MICRO-PROCESSOR CONTROLS
15. 5 YEAR COMPRESSOR WARRANTY
16. STAINLESS STEEL HEAT EXCHANGER
17. 10 YEAR WARRANTY ON HEAT EXCHANGER
18. HUMIDITROL HUMIDITY CONTROL SYSTEM
19. INVERTER-DRIVEN VARIABLE-CAPACITY SCROLL COMPRESSOR

OUTSIDE AIR SCHEDULE

ZONE DATA										SYSTEM NAME			
ZONE NAME	FLOOR AREA (SF)	REQUIRED OUTSIDE AIR (CFM/SF)	OCCUPANCY	REQUIRED OUTSIDE AIR (CFM/PERSON)	BREATING ZONE OUTSIDE AIR (CFM)	ZONE AIR DISTRIBUTION EFFECTIVENESS	REQUIRED OUTSIDE AIR (CFM)	SUPPLY AIR (CFM)	OUTDOOR AIR FRACTION	SYSTEM NAME	SYSTEM VENTILATION EFFICIENCY	REQUIRED OUTSIDE AIR (CFM)	PROVIDED OUTSIDE AIR (CFM)
CORRIDOR L	100.0	0.1	0.0	0.0	6.0	0.8	8.0	200.0	0.0	RTU-1	0.300	527	530
ELECTRICAL	60.0	0.0	0.0	0.0	0.0	0.8	0.0	50.0	0.0				
INFANT 3	538.0	0.2	10.0	10.0	197.0	0.8	247.0	500.0	0.5				
TODDLER 3	537.0	0.2	12.0	10.0	217.0	0.8	272.0	500.0	0.5				
DISC PRESCHOOL 1	647.0	0.2	18.0	10.0	296.0	0.8	370.0	800.0	0.5	RTU-2	0.300	907	910
TODDLER 1	516.0	0.2	12.0	10.0	213.0	0.8	267.0	600.0	0.4				
TODDLER 2	535.0	0.2	12.0	10.0	216.0	0.8	270.0	600.0	0.5				
INFANT 1	488.0	0.2	10.0	10.0	188.0	0.8	235.0	600.0	0.4	RTU-3	0.300	472	475
INFANT 2	492.0	0.2	10.0	10.0	189.0	0.8	237.0	600.0	0.4				
INDOOR PLAYSPACE	800.0	0.3	26.0	0.0	240.0	0.8	300.0	1350.0	0.2	RTU-4	0.780	669	670
DISC PRESCHOOL 2	638.0	0.2	18.0	10.0	295.0	0.8	369.0	1000.0	0.4				
LOBBY	282.0	0.1	2.0	5.0	27.0	0.8	34.0	200.0	0.2	RTU-5	0.580	604	605
OFFICE	138.0	0.1	2.0	5.0	18.0	0.8	23.0	400.0	0.1				
VESTIBULE	79.0	0.1	0.0	5.0	5.0	0.8	7.0	400.0	0.0				
UTILITY	60.0	0.0	0.0	0.0	0.0	0.8	0.0	50.0	0.0				
MULTI AGE	955.0	0.2	26.0	10.0	432.0	0.8	540.0	1000.0	0.5				
122 PREK	910.0	0.2	26.0	10.0	424.0	0.8	530.0	1600.0	0.3	RTU-6	0.820	530	530
123 PRESCHOOL	753.0	0.2	20.0	10.0	336.0	0.8	420.0	1200.0	0.4	RTU-7	0.800	428	430
105 CORRIDOR R	100.0	0.1	0.0	0.0	6.0	0.8	8.0	200.0	0.0				
L/A	176.0	0.2	5.0	10.0	82.0	0.8	103.0	200.0	0.5	RTU-8	0.300	289	290
LAUNDRY	70.0	0.1	0.0	7.5	4.0	0.8	5.0	300.0	0.0				
WARMING PANTRY	304.0	0.2	2.0	7.5	70.0	0.8	88.0	600.0	0.1				
STAFF	96.0	0.1	5.0	5.0	31.0	0.8	39.0	200.0	0.2				
CORRIDOR INT	720.0	0.1	0.0	0.0	43.0	0.8	54.0	300.0	0.2				

CABINET HEATER SCHEDULE

TAG	SERVICE	MFR	MODEL NO.	TYPE	ELECTRIC HEATING DATA			FAN DATA		UNIT CHARACTERISTICS			NOTES/ACCESSORIES
					INPUT (KW)	OUTPUT (MBH)	HEATING STAGES	AIR FLOW (CFM)	ESP (IN WC)	VOLTAGE (V-ϕ-Hz)	UNIT FLA/MCA	OPERATING WEIGHT (LBS)	
EUH-1	VESTIBULE	MARKEL	F3484	CEILING	4	13.6	1	425	0.5	208-1-60	19.2	50	1-4
EUH-2	CORRIDOR	MARKEL	F3482	CEILING	2	6.8	1	425	0.5	208-1-60	9.6	50	1-3
EUH-3	CORRIDOR	MARKEL	F3482	CEILING	2	6.8	1	425	0.5	208-1-60	9.6	50	1-3
EUH-4	SPRINKLER ROOM	MARKEL	F3422T	WALL	2	6.8	1	245	0.5	208-1-60	9.6	60	1-3

NOTES/ACCESSORIES

1. FINISH/COLOR/PAINT TO BE SELECTED BY ARCHITECT.
2. DISCONNECT SWITCH
3. THERMOSTAT UNIT MOUNTED
4. SHUT OFF HEATING SYSTEM WHEN OUTDOOR AIR TEMPERATURE IS GREATER THAN 45 DEGREES.

EXHAUST FAN SCHEDULE

TAG	MFR	MODEL No.	AIRFLOW (CFM)	ESP (IN WC)	MOTOR (HP)	DRIVE	VOLTAGE (V-ϕ-Hz)	NOTES/ACCESSORIES
EF-1	GREENHECK	G-120-VG	1100	0.5	1/4	BELT	120-1-60	1-6
EF-2	GREENHECK	G-120-VG	1000	0.5	1/4	BELT	120-1-60	1-6
EF-3	GREENHECK	G-120-VG	1400	0.5	1/4	BELT	120-1-60	1-6

NOTES/ACCESSORIES

1. 14" HIGH ROOF CURB
2. MOTORIZED DAMPER MOTORIZED TO CLOSE WHEN NOT IN USE
3. MC TO PROVIDE TIMECLOCK AND WIRING FOR OPERATION OF FAN DURING OWNER'S OCCUPIED HOURS.
4. DISCONNECT SWITCH
5. AMCA SEAL AND U.L. LISTED
6. FACTORY WIRED FAN SPEED CONTROLLER

AIR DISTRIBUTION SCHEDULE

TAG	SERVICE	MOUNTING	MFR	MODEL No.	MODULE SIZE	BORDER	DAMPER	NOTES/ACCESSORIES
S1	SUPPLY	CEILING	TITUS	OMNI	24" X 24"	#3 LAY-IN	-	1-2
R1	RETURN	CEILING	TITUS	50F	24" X 24"	#3 LAY-IN	-	4,5
T1	TRANSFER	CEILING	TITUS	50F	24" X 12"	#3 LAY-IN	-	4,5
E1	RETURN	CEILING	TITUS	50F	12" X 12"	#3 LAY-IN	-	1,3,5
E2	RETURN	CEILING	TITUS	50F	24" X 24"	#3 LAY-IN	-	1,3,5

NOTES/ACCESSORIES

1. FINISH - WHITE
2. DIRECTIONAL BLOW CLIPS (DB) AS REQUIRED BY SHADING IN DIFFUSER ON PLAN (NO PATTERN SHOWN ON PLANS INDICATES 4-WAY)
3. RAPID MOUNT PLASTER FRAME
4. 1/2" X 1/2" X 1/2" ALUMINUM GRID CORE
5. SQUARE TO ROUND NECK ADAPTER. REFER TO PLANS FOR NECK SIZE AND DUCT SIZE.

DRAWN BY: KAG CHECKED BY: JMZ

DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC

25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

NORTH CAROLINA PROFESSIONAL SEAL 048534 ENGINEER NICHOLAS GINDERICH 03/18/26

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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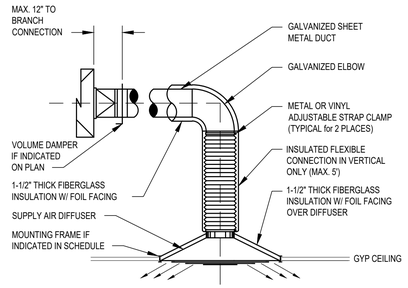
MECHANICAL SCHEDULES

DATE 03/02/2026

JOB NO. 25027

M-0.2

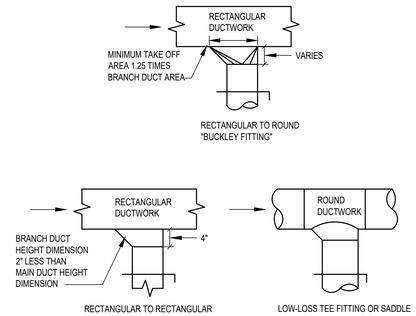
SHEET NO.



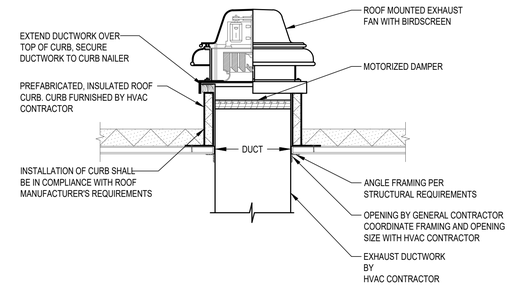
DETAIL NOTES

1. DO NOT LOCATE DAMPERS ABOVE DRYWALL/INACCESSIBLE CEILING LOCATIONS.

1	CEILING DIFFUSER MOUNTING DETAIL
M-0.3	SCALE: NONE



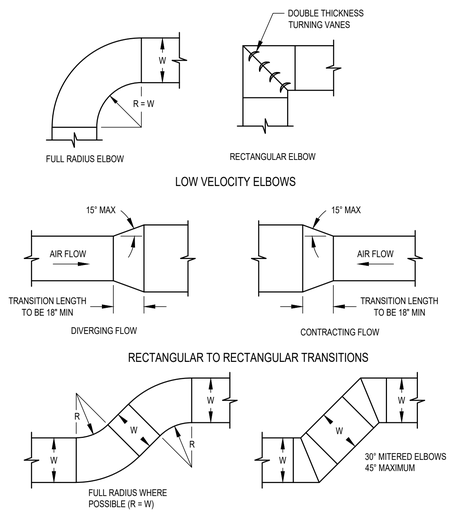
2	DUCT BRANCH TAKE-OFF DETAIL
M-0.3	SCALE: NONE



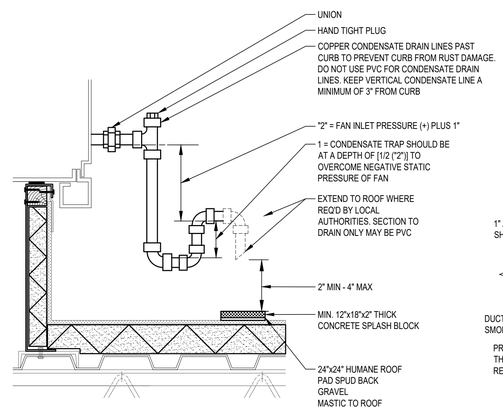
DETAIL NOTES

1. HVAC CONTRACTOR TO COORDINATE INSTALLATION WITH LANDLORD APPROVED ROOFER FOR PROPER SEQUENCE TO PERMIT FLASHING AND COUNTERFLASHING INSTALLATION.

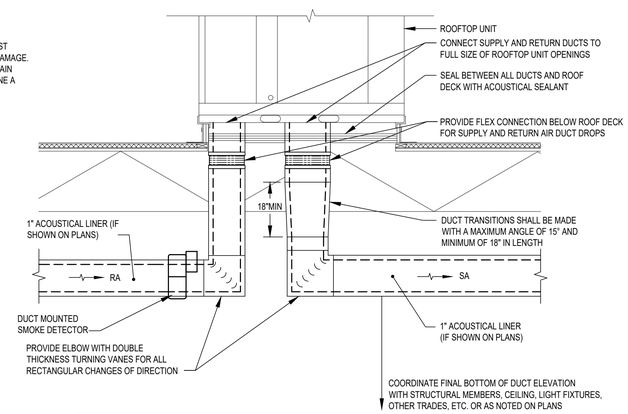
3	ROOF MOUNTED EXHAUST FAN DETAIL
M-0.3	SCALE: NONE



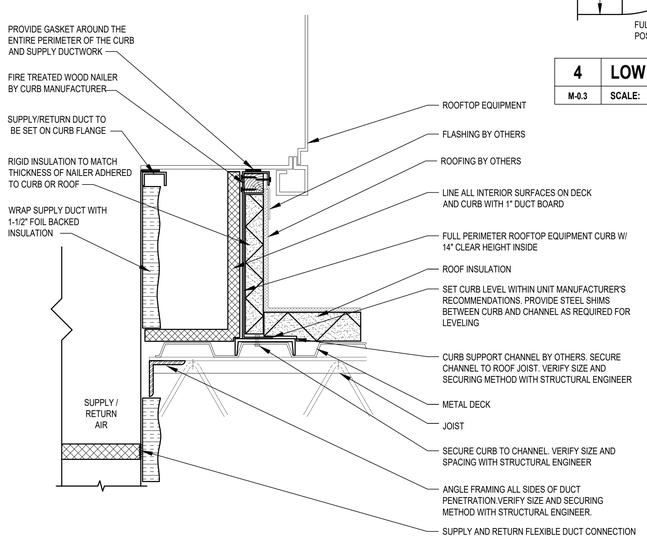
4	LOW VELOCITY TRANSITIONS AND OFFSETS
M-0.3	SCALE: NONE



5	RTU CONDENSATE DETAIL
M-0.3	SCALE: NONE



6	RTU SECTION DETAIL
M-0.3	SCALE: NONE



DETAIL NOTES

1. CONTRACTOR TO COORDINATE INSTALLATION WITH BUILDING OWNER APPROVED ROOFER FOR PROPER SEQUENCE TO PERMIT FLASHING AND COUNTERFLASHING INSTALLATION.

7	RTU CURB DETAIL - JOIST
M-0.3	SCALE: NONE

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DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC

25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

NORTH CAROLINA PROFESSIONAL SEAL 048534 ENGINEER NICHOLAS GINDERICH 03/18/26

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

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REVISIONS

#	DATE	TYPE
1	03/18/2026	PERMIT SET
2		
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MECHANICAL DETAILS

DATE 03/02/2026

JOB NO. 25027

M-0.3

SHEET NO.

COM*check* Software Version COMcheckWeb
Mechanical Compliance Certificate

Project Information

Energy Code:	2021 IECC
Project Title:	Kindercare Wake Forest, NC
Location:	Wake Forest, North Carolina
Climate Zone:	3a
Project Type:	New Construction

Construction Site:
1005 Stadium Drive
Wake Forest, North Carolina 27587

Owner/Agent:

Designer/Contractor:
DEPENDABLE GUIDANCE
CONSULTING
25760 First Street
Cleveland, Ohio 44145

Additional Efficiency Package(s)

Credits: 10.0 Required 0.0 Proposed

Mechanical Systems List

Quantity System Type & Description

4 RTU-1,3,7,8 (Single Zone):
Heating: 1 each - Duct Furnace, Gas, Capacity = 65 kBtu/h
Proposed Efficiency = 80.00% Ec, Required Efficiency: 80.00 % Ec
Cooling: 1 each - Single Package Vertical AC Unit, Capacity = 51 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 12.00 EER, Required Efficiency = 11.00 EER
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00

2 RTU-2,5 (Single Zone):
Heating: 1 each - Duct Furnace, Gas, Capacity = 108 kBtu/h
Proposed Efficiency = 80.00% Ec, Required Efficiency: 80.00 % Ec
Cooling: 1 each - Single Package Vertical AC Unit, Capacity = 76 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 12.00 EER, Required Efficiency = 10.00 EER
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00

1 RTU-4 (Single Zone):
Heating: 1 each - Duct Furnace, Gas, Capacity = 130 kBtu/h
Proposed Efficiency = 80.00% Ec, Required Efficiency: 80.00 % Ec
Cooling: 1 each - Single Package Vertical AC Unit, Capacity = 92 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 12.00 EER, Required Efficiency = 10.00 EER
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00

1 RTU-6 (Single Zone):
Heating: 1 each - Duct Furnace, Gas, Capacity = 108 kBtu/h
Proposed Efficiency = 80.00% Ec, Required Efficiency: 80.00 % Ec
Cooling: 1 each - Single Package Vertical AC Unit, Capacity = 65 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 12.00 EER, Required Efficiency = 10.00 EER
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2021 IECC requirements in COM*check* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Katie Grigson - Mechanical Engineer	Katie Grigson	03/16/2026
Name - Title	Signature	Date

COM*check* Software Version COMcheckWeb
Inspection Checklist

Energy Code: 2021 IECC

Requirements: 100.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR2][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical and service water heating systems and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks. Hot water system sized per manufacturer's sizing guide.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C406 [PR9][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6][3]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
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MECHANICAL COMPLIANCE

DATE 03/02/2026

JOB NO. 25027

M-0.4

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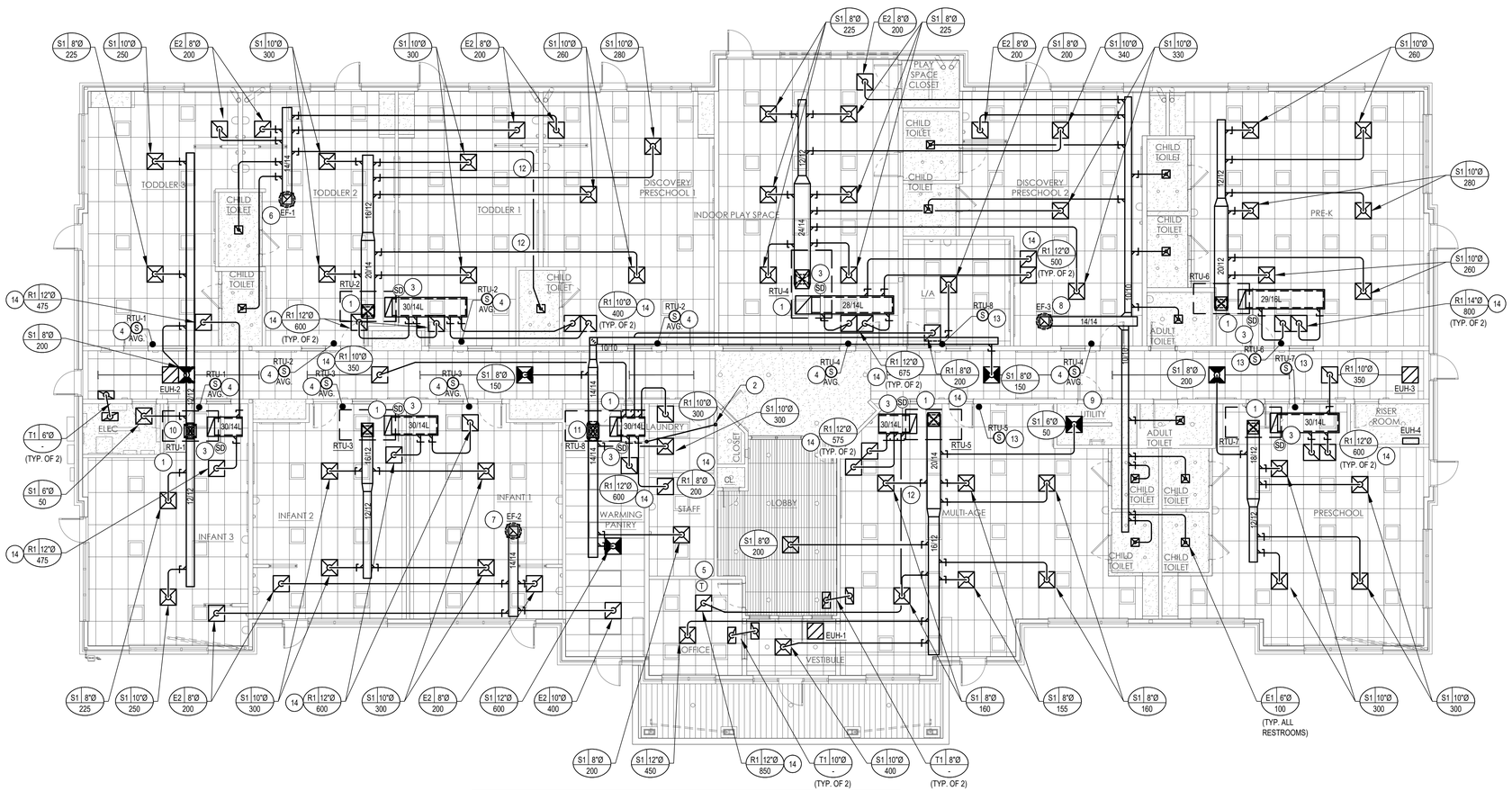

1	MECHANICAL PLAN
M-1.0	SCALE: 1/8" - 1'-0"

GENERAL SHEET NOTES

1. REFER TO DRAWINGS AND PROJECT SPECIFICATIONS OF OTHER DISCIPLINES FOR ADDITIONAL PROJECT INFORMATION AND REQUIREMENTS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN THE INFORMATION PRESENTED AND FIELD CONDITIONS.
2. MECHANICAL SYSTEMS INSTALLATIONS MUST MAINTAIN INTEGRITY OF WALLS, PARTITIONS AND FLOORS DESIGNATED AS EITHER FIRE RATED OR "SMOKE TIGHT". SEAL AROUND ALL PENETRATIONS THROUGH RATED OR SMOKE TIGHT ASSEMBLIES. COORDINATE W/ARCHITECTURAL PLANS AND GENERAL CONTRACTOR.
3. LIMITED ABOVE CEILING CLEARANCES EXIST. COORDINATE LOCATION AND ELEVATION OF MECHANICAL WORK WITH ALL DUCTWORK, SPRINKLERS, LIGHT FIXTURES, AND OTHER CEILING BUILT-IN FIXTURES. CONTACT ENGINEER OR ARCHITECT IMMEDIATELY SHOULD ANY CONFLICT ARISE.
4. NOTHING IS PERMITTED TO BE ATTACHED TO, SUSPENDED FROM, OR PENETRATE THE ROOF DECK. CONTRACTOR MAY ATTACH TO OR SUSPEND FROM THE TOP CHORD OF THE BAR JOIST OR THE STRUCTURAL STEEL WHICH EXISTS ABOVE THE SPACE.
5. COORDINATE FINAL ROOFTOP UNIT LOCATIONS WITH STRUCTURAL ENGINEER. ROOFTOP UNITS TO BE LOCATED WITHIN STRUCTURAL BAY. PROVIDE 10' CLEARANCE FROM UNIT OUTSIDE AIR INTAKE TO ANY EXHAUST/VENTS ON ROOF.
6. GENERAL CONTRACTOR TO LABEL ALL ROOFTOP EQUIPMENT, SPACE NUMBER AND EQUIPMENT IDENTIFICATION (RTU-1, ETC.), INCLUDING BUT NOT LIMITED TO THERMOSTATS, EXHAUST FANS AND ROOFTOP UNITS WITH ENGRAVED PLASTIC SIGNS.
7. COORDINATE ALL THERMOSTAT AND SENSOR LOCATIONS WITH FURNITURE LAYOUT AND ARCHITECTURAL PLANS.
8. CHANGES IN DUCT SIZES SHALL BE MADE BY UNIFORM TAPER SECTION WITH A MAXIMUM INCLUDE ANGLE OF DIVERGENCE OF 15 DEGREE.
9. DUCT SIZES INDICATED REPRESENT EXTERNAL SHEET METAL DIMENSIONS AND INCLUDE ALLOWANCE FOR INTERNAL INSULATION.
10. ALL SUPPLY AND RETURN AIR DUCTWORK NOT EXPOSED SHALL BE EXTERNALLY INSULATED.
11. BRANCH DUCTS SERVING DIFFUSERS SHALL BE SIZED TO MATCH DIFFUSER NECK SIZE INDICATED UNLESS NOTED OTHERWISE.
12. ALL RESTROOM DOORS TO BE UNDERCUT 3/4" TO ALLOW TRANSFER AIR FLOW.
13. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR THE INSTALLATION OF THE DUCT MOUNTED SMOKE DETECTORS. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND WIRE THE DUCT MOUNTED SMOKE DETECTOR AND THE MECHANICAL CONTRACTOR SHALL INSTALL THE DUCT MOUNTED SMOKE DETECTOR.
14. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL GRILLES, DIFFUSERS, ETC.
15. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING HEIGHTS.
16. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE, THE MECHANICAL CONTRACTOR SHALL INCLUDE ALL NEEDED OFFSETS, CHANGES IN DIRECTION, TRANSITIONS, ETC. NEEDED FOR COMPLETE AND OPERATIONAL SYSTEMS.
17. PERFORM ALL WORK IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE APROPRIATE STATE AND LOCAL BUILDING CODES AND SUBTITLES.
18. QUESTIONS REGARDING THESE DRAWINGS SHALL BE ADRESSED TO THE ENGINEER PRIOR TO THE AWARDING OF THE CONTRACT. OTHERWISE THE ENGINEER'S INTERPRETATION OF THE MEANING AND INTENT OF THE DRAWING SHALL BE FINAL.
19. IF CONFLICTS EXIST, PRIORITY OF LOCATION IN REFLECTED CEILING GRID SHALL BE AS FOLLOWS FROM HIGH TO LOW: LIGHTS, SPRINKLER, MECHANICAL, FIRE ALARM DEVICES.
20. MECHANICAL CONTRACTOR SHALL MOUNT SENSORS AT 66" ABOVE FINISHED FLOOR. (TYPICAL)

SHEET KEYNOTES

1. TRANSITION SUPPLY AND LINED RETURN DUCT IN RISE TO FULL SIZE OF RTU SUPPLY AND RETURN OPENINGS. CONNECT TO FULL SIZE OF RTU OPENING WITH FLEX CONNECTION BELOW ROOF DECK. PROVIDE RECTANGULAR ELBOW WITH DOUBLE THICKNESS TURNING VANES IN TRANSITION TO HORIZONTAL.
2. PROVIDE 4" DRYER VENT FROM DRYER WITH 1 ELBOW AND UP TO ROOF. TERMINATE WITH ROOF CAP PER DETAIL ON M0.3. EQUIVALENT LENGTH SHALL BE 20FT. PROVIDE PERMANENT LABEL OR TAG LOCATED WITHIN 6 FEET OF EXHAUST DUCT CONNECTION IDENTIFYING THE EQUIVALENT LENGTH OF DUCT BEING 20FT.
3. SMOKE DETECTOR MOUNTED IN RETURN DUCT. DETECTOR SHALL BE PROVIDED AND WIRED BY ELECTRICAL CONTRACTOR, MOUNTED BY MECHANICAL CONTRACTOR. COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE 24/24 ACCESS PANEL FOR DUCT MOUNTED SMOKE DETECTOR. ACCESS PANEL MAY BE OMITTED IF DETECTOR IS ACCESSIBLE THROUGH LAY-IN DIFFUSER, OR IF DETECTOR IS LOCATED IN AREA WITH NO CEILING.
4. WALL MOUNTED REMOTE TEMPERATURE AVERAGING SENSOR MOUNTED AT 66" AFF. COORDINATE EXACT LOCATION WITH FURNITURE LAYOUT AND ARCHITECTURAL PLANS.
5. THERMOSTAT BANK MOUNTED IN OFFICE AT 48" AFF PER ADA REQUIREMENTS. COORDINATE EXACT LOCATION WITH OWNER AND GENERAL CONTRACTOR PRIOR TO ROUGH IN. PROVIDE THERMOSTATS WITH CLEAR LOCK BOX
6. 14/14 EXHAUST DUCT UP TO EF-1 ON ROOF
7. 14/14 EXHAUST DUCT UP TO EF-2 ON ROOF
8. 14/14 EXHAUST DUCT UP TO EF-3 ON ROOF
9. UNDERCUT DOOR 3/4"
10. 24/12 LINED SUPPLY DUCT DOWN FROM ROOFTOP UNIT. PROVIDE PROPORTIONAL SPLIT AT BOTTOM OF DROP TO DUCT SIZES NOTED.
11. 28/14 LINED SUPPLY DUCT DOWN FROM ROOFTOP UNIT. PROVIDE PROPORTIONAL SPLIT AT BOTTOM OF DROP TO DUCT SIZES NOTED.
12. TIGHT CEILING CONDITIONS EXIST BETWEEN CEILING AND STRUCTURE. USE JOIST SPACE TO ROUTE BRANCH DUCTS UP AND OVER/WITHIN JOIST TO CROSS DUCTWORK WHERE REQUIRED.
13. WALL MOUNTED REMOTE TEMPERATURE SENSOR MOUNTED AT 66" AFF. COORDINATE EXACT LOCATION WITH FURNITURE LAYOUT AND ARCHITECTURAL PLANS.
14. AIRFLOW LISTED AT DUCTED RETURN GRILLE TAG REPRESENTS THE MAXIMUM RETURN AIRFLOW BASED ON SUPPLY AIRFLOW TO ROOM AND DOES NOT ACCOUNT FOR SYSTEM EXHAUST AND VENTILATION. TESTING AND BALANCING SHALL ENSURE THE LISTED AND SCHEDULED SYSTEM SUPPLY AIR, OUTSIDE AIR, AND EXHAUST AIR TOTALS ARE ACHIEVED WHEN THE BUILDING IS IN OCCUPIED MODE (WITH VENTILATION AND EXHAUST OPERATIONAL). THE FINAL RETURN GRILLE AIRFLOW WILL BE BE LOWER THAN THE AIRFLOW TAGGED DURING OCCUPIED MODE CONDITIONS.

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DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC
25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

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KinderCare EDUCATION

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MECHANICAL PLAN

DATE 03/02/2026

JOB NO. 25027

M-1.0

SHEET NO.

ABBREVIATIONS

(ALL ABBREVIATIONS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)

ABV	ABOVE
ADJ	ADJUSTABLE
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ANSI	AMERICAN NAT'L STANDARDS INSTITUTE
ARCH	ARCHITECT, ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGRS
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY OF TESTING & MATLS
AUX	AUXILIARY
AWS	AMERICAN WELDING SOCIETY
AWWA	AMERICAN WATER WORKS ASSOC.
B/F	BELOW FLOOR
BAS	BUILDING AUTOMATION SYSTEM
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
CC	CONCRETE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CL	CENTERLINE
CLG	CEILING
CO	CLEANOUT
CONN	CONNECT, CONNECTION
COP	CLEANOUT PLUG
COL	COLUMN
CTE	CONNECT TO EXISTING
CW	DOMESTIC COLD WATER
D	DEPTH
DEG	DEGREES
DIA (OR Ø)	DIAMETER
DIM	DIMENSION
DN	DOWN
DOM	DOMESTIC
DS	DOWNSPOUT
DWG	DRAWING
EA	EACH
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVATION
ELEC	ELECTRICAL
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EXH	EXHAUST
EX	EXISTING
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FS	FLOOR SINK
FLEX	FLEXIBLE
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FT	FOOT, FEET
FW	FILTERED WATER
°F	DEGREES FAHRENHEIT
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GI	GREASE INTERCEPTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRD	GROUND
GW	GREASE WASTE
H	HEIGHT
HD	HEAD, HUB DRAIN
HP	HORSEPOWER
HVAC	HEATING, VENTILATING & A/C
HW	DOMESTIC HOT WATER
HYD	HYDRANT
HZ	HERTZ
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH, INCHES
IN w.c	INCHES OF WATER COLUMN (GAS)
KEC	KITCHEN EQUIPMENT CONTRACTOR
LBS, #	POUNDS
LP	LOW PRESSURE
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MTD	MOUNTED
MUA	MAKE-UP AIR
N/A	NOT APPLICABLE
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MFR'S ASSOC.
NFPA	NATIONAL FIRE PROTECTION ASSOC.
N/C	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
O/H	OVERHEAD
OC	ON CENTER
OD	OVERFLOW DRAINAGE
OPNG	OPENING
ORD	OVERFLOW ROOF DRAIN
OS&Y	OUTSIDE STEM AND YOKE
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMIN.
PB	PUSH BUTTON
PD	PRESSURE DROP
PH, Ø	PHASE
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PSI	POUNDS PER SQUARE INCH
PRV	PRESSURE RELIEF VALVE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REINF	REINFORCING, REINFORCED
REL	RELOCATED
REQ	REQUIRED
REV	REVISION, REVISE
REX	REMOVE EXISTING
RHW	RECIRCULATING HOT WATER
RPM	REVOLUTIONS PER MINUTE
RR	REMOVE AND RELOCATE
RWC	RAIN WATER CONDUCTOR
SAN	SANITARY
SECT	SECTION
SF	SQUARE FEET, SQUARE FOOT
SHT	SHEET
SPEC	SPECIFICATION
SQ	SQUARE
ST	STORM WATER
STD	STANDARD
SURF	SURFACE
SUSP	SUSPEND
TDH	TOTAL DYNAMIC HEAD
THRU	THROUGH
TP	TOTAL PRESSURE
TSP	TOTAL STATIC PRESSURE
TMV	THERMOSTATIC MIXING VALVE
TYP	TYPICAL
U/F	UNDERFLOOR
U/G	UNDERGROUND
U/S	UNDERSLAB
UL	UNDERWRITERS LABORATORIES, INC.
UON	UNLESS OTHERWISE NOTED
V	VENT
VAC	VACUUM
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WC	WATER COLUMN

PLUMBING SYMBOLS

ANNOTATION

1	PLUMBING PLAN NOTE CALLOUT
TAG / TAG-#	PLUMBING FIXTURE AND EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
1	FIXTURE OR EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
CU / 1	MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
1 / M1	DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
1 / M1	SECTION CUT DESIGNATION

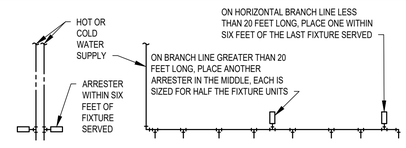
STANDARD MOUNTING HEIGHTS

PLUMBING (AFF, AFG, UNLESS NOTED OTHERWISE)

REFER TO THE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHTS. UNO, INSTALL PLUMBING FIXTURES WITH THE MOUNTING HEIGHTS AS LISTED BELOW WITH FINAL APPROVAL BY THE ARCHITECT.

ADA ACCESSIBLE DRINKING FOUNTAIN	17" FLOOR TO RIM
ADA ACCESSIBLE LAVATORIES	34" FLOOR TO RIM
ADA ACCESSIBLE SHOWER VALVES	38" MINIMUM TO 48" MAXIMUM FLOOR TO CENTERLINE
ADA ACCESSIBLE TUB VALVES	CENTER BETWEEN GRAB BAR AND TUB RIM
ADA ACCESSIBLE URINALS	17" FLOOR TO RIM
ADA ACCESSIBLE WATER CLOSET	17" TO 19" FLOOR TO TOP OF SEAT
ADA ACCESSIBLE WATER COOLER	35" FLOOR TO RIM
ADULT STANDARD DRINKING FOUNTAIN	40" FLOOR TO RIM
ADULT STANDARD WATER COOLER	30" FLOOR TO RIM
CHILD STANDARD DRINKING FOUNTAIN	30" FLOOR TO RIM
CHILD STANDARD WATER COOLER	14" FLOOR TO RIM
CHILD URINAL	14" FLOOR TO RIM
CLINIC SERVICE SINKS	30" FLOOR TO RIM
JANITOR'S SINK FAUCET FITTINGS	42" FLOOR TO CENTERLINE
HOSE BIBBS	36" AFF TO CENTERLINE
ICE MAKER OUTLET BOXES	24" FLOOR TO CENTER OF BOX
LAVATORY OR SINK	31" FLOOR TO RIM
NON FREEZE HYDRANT	18" AFG TO CENTERLINE
SHOWER HEADS	6'-0" MEN & 5'-6" WOMEN FLOOR TO CENTERLINE
SHOWER VALVES	48" MEN & 42" WOMEN FLOOR TO CENTERLINE
STANDARD URINALS	22" FLOOR TO RIM
SURGEON'S SCRUB-UP SINKS	35" FLOOR TO FRONT RIM
TUB VALVES	32" FLOOR TO CENTELINE
WASHING MACHINE OUTLET BOXES	42" FLOOR TO RIM
WATER CLOSET	15" FLOOR TO RIM

WATER HAMMER ARRESTOR DESIGN



SINGLE FIXTURE

PDI SIZE	FIXTURE UNIT LOAD
AA	1-3
A	4-11
B	12-32
C	33-60
D	61-113
E	114-154

MULTIPLE FIXTURES

FIXTURE UNIT TABULATION

FIXTURE	COLD	HOT
FLUSH VALVE WATER CLOSET	8	-
FLUSH TANK WATER CLOSET	5	-
URINAL	4	-
LAVATORY / SINK	1.5	1.5
MOP BASIN / WASHING MACHINE	3	3
DRINKING FOUNTAIN	0.5	-

PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 OR ANSI #A112.26.IM CERTIFICATION. SIZE AND INSTALL PER PDI #WH-201 STANDARD OR MANUFACTURER'S INSTRUCTION. THE TABLES ABOVE ARE BASED ON THE SIOUX CHIEF PRODUCT LINE. IF PRESSURE IS IN EXCESS OF 65 PSIG THEN UPSIZE THE ARRESTER BY ONE (EXAMPLE: AN "A" ARRESTER WOULD BECOME A "B" ARRESTER.)

PIPING, VALVES, AND APPURTENANCES

	ELBOW UP
	ELBOW DOWN
	VALVE IN DROP
	DIRECTION OF FLOW
	TEE OUTLET UP
	TEE OUTLET DOWN
	UNION
	EXPANSION JOINT
	BALL VALVE
	OS&Y VALVE
	GATE VALVE
	CALIBRATED BALANCING VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
	3-WAY SELF OPERATING VALVE
	2-WAY SELF OPERATING VALVE
M	MOTOR OPERATED VALVE
	PIPE GUIDE
	HOSE BIB
SAN	SANITARY PIPING
V	SANITARY VENT PIPING
ST	STORM PIPING
OST	OVERFLOW STORM PIPING
	COLD WATER (CW) PIPING
	HOT WATER (HW) PIPING
	RECIRCULATING HOT WATER (RHW)
G	NATURAL GAS PIPING
GW	GREASE WASTE
OW	OIL WASTE
	EXISTING PIPING TO REMAIN
	EXISTING PIPING TO BE REMOVED
	NEW PIPING / EQUIPMENT
	PIPING ABOVE FLOOR
	PIPING BELOW FLOOR
	CAP ON END LINE
FS	FLOW SWITCH
PS	PRESSURE SWITCH
	T&P RELIEF VALVE
	PRESSURE GAUGE WITH GAUGE COCK
	THERMOMETER
	FLEXIBLE CONNECTION
	PIPE FLANGE
	THERMOMETER WELL
	GAS VALVE
M	WATER METER
R	GAS REGULATOR
	WALL CLEANOUT OR CLEAOUT PLUG
	FLOOR CLEANOUT
	FLOOR SINK (FS)
	FLOOR DRAIN WITH P-TRAP
	POINT OF CONNECTION - NEW TO EXISTING
	LIMIT OF DEMOLITION
1	DRAWING NOTE REFERENCE
	PLUMBING FIXTURES
	GAS MANIFOLD LOCATION
DCV	DOUBLE CHECK BACKFLOW PREVENTER
	DOMESTIC WATER RISER
	STUB UP FOR FUTURE TENANT CONNECTION
	SPRINKLER HEAD (SEMI-RECESSED)
	SPRINKLER HEAD (FULLY-RECESSED)
	SPRINKLER HEAD (UPRIGHT)

(ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)

GENERAL SHEET NOTES

1. REFER TO DRAWINGS AND PROJECT SPECIFICATIONS OF OTHER DISCIPLINES FOR ADDITIONAL PROJECT INFORMATION AND REQUIREMENTS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN THE INFORMATION PRESENTED AND FIELD CONDITIONS.
2. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING PRODUCTS, MATERIALS, AND INSTALLATION PER THESE CONTRACT DOCUMENTS FOR ALL PRODUCTS, MATERIALS, AND COMPONENTS LISTED. PROVIDING LESSER QUALITY PRODUCTS OR MATERIALS FROM WHAT IS LISTED WITHIN THESE CONTRACT DOCUMENTS WILL NOT BE APPROVED. PROVIDING EQUIPMENT OF LESSER CAPACITY THAN WHAT IS LISTED WITHIN THESE CONTRACT DOCUMENTS WILL NOT BE APPROVED.
3. PLUMBING INSTALLATION MUST MAINTAIN INTEGRITY OF WALLS, PARTITIONS AND FLOORS DESIGNATED AS EITHER FIRE RATED OR "SMOKE TIGHT". SEAL AROUND ALL PENETRATIONS THROUGH RATED OR SMOKE TIGHT ASSEMBLIES. COORDINATE WITH ARCHITECTURAL PLANS AND GENERAL CONTRACTOR.
4. WHERE SPACE ABOVE CEILING IS INDICATED TO BE A RETURN AIR PLENUM ON THE MECHANICAL HVAC DRAWINGS, CONSTRUCTION MATERIALS ABOVE CEILING SHALL BE NONCOMBUSTIBLE, OR HAVE A MAXIMUM 25 FLAME SPREAD AND 50 SMOKE DEVELOPMENT FINISH RATING. WIRING SHALL BE LABELED PLENUM RATED PER NFPA 70. PVC SHALL NOT BE INSTALLED IN A RETURN AIR PLENUM.
5. PROVIDE QUARTER-TURN STOP VALVES AT EVERY FIXTURE ON BOTH HOT AND COLD WATER SUPPLY LINES. VALVES, ESCUTCHEONS, FITTINGS, ETC. MUST BE CHROME PLATED. WHERE EXPOSED, CHROME PLATED PIPE IS TO BE USED.
6. ALL SANITARY PIPING 3" AND LARGER SHALL BE SLOPED AT 1/8" PER FOOT AND SANITARY PIPING SMALLER THAN 3" SHALL BE SLOPED AT 1/4" PER FOOT.
7. ALL VENT PIPING SHALL BE GRADED TO DRAIN BY GRAVITY BACK TO THE DRAINAGE SYSTEM IT SERVES.
8. ALL STORM AND OVERFLOW STORM PIPING SHALL BE SLOPED AT 1/8" PER FOOT UNLESS OTHERWISE NOTED ON THE PLANS.
9. ALL WATER HEATER FLUE PIPING SHALL BE UL 1738 OR ULC S636 LISTED AND SLOPED AT 1/4" PER FOOT BACK TO THE WATER HEATER. FLUE PIPING SHALL BE INSTALLED PER THE WATER HEATER'S INSTALLATION INSTRUCTIONS USING THE MATERIALS LISTED WITHIN THESE CONTRACT DOCUMENTS.
10. ALL OVERHEAD PIPING IS TO BE ROUTED TIGHT TO BUILDING STRUCTURE.
11. PIPING IS NOT PERMITTED IN DEMISING WALLS.
12. ALL EXPOSED, EXTERIOR PIPING SHALL BE PAINTED WITH RUST INHIBITIVE PRIMER, COLOR CODED FINISH, AND IDENTIFICATION LABELS.
13. VERIFY NATURAL GAS AVAILABILITY AND CAPACITY. COORDINATE PRESSURE, SERVICE CONNECTION, AND METER INSTALLATION WITH THE LANDLORD AND LOCAL UTILITY COMPANY.
14. PROVIDE GAS PIPE SUPPORTS ON ROOF FOR ALL GAS PIPING INCLUDING ALL CHANGES OF DIRECTION. GAS PIPE SUPPORTS TO BE PROVIDED PER THE CURRENT IFGC TABLE 415.1.
15. DO NOT ROUTE ANY WATER CONVEYING PIPING OVER ELECTRICAL EQUIPMENT.
16. ALL ACCESSIBLE P-TRAPS MUST BE PROVIDED WITH BOTTOM CLEANOUT PLUGS.
17. INSULATE EXPOSED P-TRAPS, HOT AND COLD VALVES AND PIPING SERVING HANDICAPPED LAVATORIES.
18. ALL PIPING TO POINTS 5'-0" OUTSIDE THE BUILDING IS BY THE PLUMBING CONTRACTOR.
19. PROVIDE A WALL CLEANOUT AT THE BASE OF ALL VERTICAL STORM AND SANITARY RISERS 1'-0" AFF.
20. FINISHED FLOOR ELEVATION = XXX.00
21. ALL STORM PIPING OUTSIDE THE PERIMETER OF THE BUILDING REQUIRES COORDINATION WITH THE STRUCTURAL FOOTERS TO AVOID TRENCHING AND PIPE PLACEMENT WITHIN THE FOOTING ANGLE OF REPOSE.
22. NOTHING IS PERMITTED TO BE ATTACHED TO, SUSPENDED FROM, OR PENETRATE THE ROOF DECK. CONTRACTOR MAY ATTACH TO OR SUSPEND FROM THE TOP CHORD OF THE JOIST OR THE STRUCTURAL STEEL WHICH EXISTS ABOVE THE SPACE.
23. ALL CONCEALED PIPING SHALL BE TESTED AND PROVEN LEAK PROOF AND FREE FROM DEFECTS PRIOR TO CONCEALMENT.
24. ALL FLOOR DRAINS AND CLEANOUTS ARE TO BE INSTALLED FLUSH WITH THE FINISHED FLOOR. ALL STRAINERS AND COVERS SHALL BE CLEANED AND POLISHED PRIOR TO CONSTRUCTION CLOSEOUT.
25. ALL FLOOR SINKS ARE TO BE INSTALLED EITHER FLUSH WITH FINISHED FLOOR, OR RAISED PER LOCAL CODE REQUIREMENTS. FLOOR SINK GRATES SHALL BE FACTORY COATED, FIELD PAINTING IS NOT APPROVED.

DRAWN BY: JJC CHECKED BY: MPW

DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC

25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

NORTH CAROLINA PROFESSIONAL SEAL 048534 ENGINEER NICHOLAS GINGERICH
03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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PLUMBING LEGENDS AND NOTES

DATE 03/02/2026

JOB NO. 25027

P-0.1

SHEET NO.

PLUMBING FIXTURE AND EQUIPMENT SCHEDULE

(SUPPLIED BY HAINES, JONES & CADBURY LLC)

TAG	FIXTURE TYPE	CONNECTION SIZE							MFR	MODEL No.	DESCRIPTION
		STORM	SAN	GW	IW	VENT	HW	CW			
BV-1	BALANCE VALVE (THERMOSTATIC TYPE)	-	-	-	-	-	1/2"	-	CALEFFI	116441A(C)	THERMOSTATICALLY CONTROLLED ADJUSTABLE BALANCING VALVE SET TO 135 DEG F WITH INTEGRAL OUTLET THERMOMETER. LEAD FREE BRASS CONSTRUCTION. OTHER APPROVED MANUFACTURERS: THERMOMEGATECH, KEMPER.
EWC-1	TWO STATION ELECTRIC WATER COOLER	-	1-1/2"	-	-	1-1/2"	-	1/2"	ELKAY	LZSTL8WSVRLK	ELKAY MODEL LZSTL8WSVRLK BARRIER FREE WALL MOUNTED BI-LEVEL FILTERED COOLER WITH BOTTLE FILLING STATION WITH VANDAL-RESISTANT STREAMSAVER BUBBLER, ZURN MODEL Z1225-BL WALL CARRIER, MAINLINE LEAD FREE WATER COOLER SUPPLIES, SS BRAIDED HOSE, ESC. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.
FCO	FLOOR CLEANOUT	-	SEE PLANS	-	-	-	-	-	ZURN	1400 SERIES	ADJUSTABLE CLEANOUT, IF FLOORS ARE TILED OR TERRAZZO PROVIDE WITH EITHER NICKEL BRONZE OR CHROME FINISH, IF FLOORS ARE CARPETED PROVIDE WITH RECESSED TOP. CLEANOUTS ARE TO BE FLUSH WITH FINISHED FLOOR.
FD-1	FLOOR DRAIN	-	SEE PLANS	-	-	SEE PLANS	-	1/2"	J.R. SMITH	2005L03-AO5PB	CAST IRON, WITH FLASHING COLLAR AND ADJUSTABLE STRAINER. I SPEEDI-SET SERVICE WEIGHT. COORDINATE WITH THE ARCHITECT FOR SQUARE OR ROUND TYPE TOP. PROVIDE WITH TRAP PRIMER CONNECTION WHERE APPLICABLE.
FS-1	FLOOR SINK	-	SEE PLANS	-	-	SEE PLANS	-	-	ZURN	Z1900 SERIES	8" DEEP 12"x12" CAST IRON WITH ACID RESISTANT COATING, BOTTOM DOME STRAINER, CAST IRON 1/2 GRATE WITH ACID RESISTANT COATING, AND OUTLET AS REQUIRED BY PIPING MATERIAL.
GT-1	GREASE TRAP	-	4"	4"	-	2"	-	-	SCHIER	GB-50	GREASE INTERCEPTOR POLYETHYLENE AND FLOW CONTROL FITTING, 50 GPM FLOW RATE, 13 GALLON SOLIDS CAPACITY, 65 GALLON LIQUID CAPACITY, 148 LB INTERCEPTOR WITH 439.5 LB GREASE CAPACITY TO BE FULLY RECESSED WITH TOP OF COVER FLUSH WITH FINISHED FLOOR AND CARRIES PLUMBING AND DRAINAGE INSTITUTE CERTIFICATE SEAL CONFORMING TO GREASE INTERCEPTOR STANDARD PP-G101.
HB-1	NON-FREEZE HOSE BIBB	-	-	-	-	-	-	3/4"	J.R. SMITH	5509QT	NON-FREEZE HOSE BIBB WITH INTEGRAL VACUUM BREAKER AND STAINLESS STEEL RECESSED BOX WITH KEYED LOCKING MECHANISM. CONTRACTOR TO ORDER PROPER LENGTH HYDRANT REQUIRED BASED ON WALL THICKNESS. COORDINATE BOX FACE FINISH WITH ARCHITECT.
LT-1	LINT TRAP	-	2"	-	-	-	-	-	PLUMBCRAFT		PLUMBCRAFT NYLON MESH LINT INTERCEPTOR BAG AT WMB-1 AND PROVIDE OWNER WITH (3) SPARE.
MS-1	MOP SINK	-	3"	-	-	1-1/2"	1/2"	1/2"	ZURN	Z1996-24	ZURN MODEL NO. Z1996-24-BV-HH-MH-SDL 24" x 24" x 10" HIGH, MOLDED HIGH DENSITY COMPOSITE MOP SINK WITH VINYL BUMPER GUARD, HOSE AND HOSE BRACKET, MOP HANGER, STAINLESS STEEL DRAIN WITH DOME STRAINER, LINT BASKET AND LOCKING NUT, AND ZURN NO. Z843M1-RC SERVICE FAUCET WITH VACUUM BREAKER, UNRESTRICTED FLOW RATE, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK AND 3/4" HOSE THREAD ON SPOUT. MOUNT FAUCET ON WALL 30" A.F.F. ZURN MODEL Z1996-MH MOP HANGER.
RD-1 / ORD-1	ROOF DRAIN AND OVERFLOW ROOF DRAIN	SEE PLANS	-	-	-	-	-	-	WADE	3041	16-3/8" DIAMETER ROOF AND OVERFLOW DRAIN ON DECK PLATE, DUCO CAST IRON BODY WITH NO HUB OUTLET AND ADJUSTABLE EXTENSION SLEEVE, REVERSIBLE COLLAR, COMBINED FLASHING CLAMP AND GRAVEL STOP, SUMP RECEIVER, 2" WATER DAM ON OVERFLOW DRAIN, UNDERDECK CLAMP AND ALUMINUM DOME. OTHER APPROVED MANUFACTURERS: JOSAM, J.R. SMITH, ZURN
OSO-1	OVERFLOW STORM OUTLET	SEE PLANS	-	-	-	-	-	-	WADE	3940	ROUND DOWNSPOUT NOZZLE WITH LAMBS TONGUE, STAINLESS STEEL CONSTRUCTION AND FINISH. PIPE CONNECTION SIZE SHALL BE SAME SIZE AS OVERFLOW PIPING SHOWN ON DRAWINGS. OTHER APPROVED MANUFACTURERS: JOSAM, J.R. SMITH, ZURN
S-1	WALL HUNG LAVATORY SINK	-	1-1/2"	-	-	1-1/2"	1/2"	1/2"	AMERICAN STANDARD	0355.012.020	LUCERNE WALL HUNG, 4" CENTERS FAUCET HOLES. PLUMBING CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR AND HJC PLUMBING FOR LAVATORY COMPLETE WITH CHICAGO 802-221632AB 0.35 GPM FAUCET, ZURN MODEL ZW3870XLT THERMOSTATIC MIXING VALVE (ASSE 1070 RATED) AND LEAD FREE LAVATORY KIT INCLUDING 1/4 TRN STP, ESC, SS BRAIDED HOSES, P-TRAP, CLEANOUT, INSULATION AND GRID DRAIN. ZURN MODEL Z1231-F/AM-0954.000 WALL CARRIER. PROVIDE WITH 2018-AS-L LAV SHIELD BY TRUEBRO. MOUNTING HEIGHTS SHALL BE AS FOLLOWED: CHILD TOILET ROOMS SHALL HAVE TOP OF BOWL INSTALLED AT 1'-10" ABOVE FINISHED FLOOR AND ADULT TOILET ROOMS SHALL HAVE TOP OF BOWL INSTALLED AT 2'-10" ABOVE FINISHED FLOOR. VERIFY MOUNTING HEIGHT WITH ARCHITECTURAL PLANS FOR ALL CLASSROOM AND RESTROOM INSTALLATIONS PRIOR TO ROUGH-IN.
S-2	CHANGING TABLE SINK	-	1-1/2"	-	-	1-1/2"	1/2"	1/2"	ELKAY	LRAD131650	13"X16"X5" SINGLE BOWLTOP MOUNT TWO HOLE. CHICAGO 895-317XKABCP FAUCET, 2.2 GPM, 4" CENTERS, ZURN MODEL P6900-TMV-1 THERMOSTATIC MIXING VALVE (ASSE 1070 RATED) AND LEAD FREE LAVATORY KIT INCLUDING 1/4 TRN STP, ESC, SS BRAIDED HOSES, P-TRAP, CLEANOUT, INSULATION AND GRID DRAIN.
S-3	1-BOWL COUNTERTOP CLASSROOM SINK	-	1-1/2"	-	-	1-1/2"	1/2"	1/2"	ELKAY	LRAD131650	13"X16"X5" SINGLE BOWL TOP MOUNT TWO HOLE. CHICAGO 895-317XKABCP FAUCET, 2.2 GPM, 4" CENTERS, ZURN MODEL P6900-TMV-1 THERMOSTATIC MIXING VALVE (ASSE 1070 RATED) AND LEAD FREE LAVATORY KIT INCLUDING 1/4 TRN STP, ESC, SS BRAIDED HOSES, P-TRAP, CLEANOUT, INSULATION AND GRID DRAIN. COORDINATE WITH LOCAL AHJ FOR HOT AND COLD INDEXES ON FAUCET HANDLES.
S-4	2-BOWL COUNTERTOP STAFF SINK	-	1-1/2"	-	-	1-1/2"	1/2"	1/2"	MAINLINE	MLTD332253	20 GAUGE DOUBLE BOWL SELF-RIMMING STAINLESS STEEL SINK WITH NO. ML151 BASKET STRAINER WITH 1-1/2" TAILPIECE AND CHICAGO W8D-GN2AE1-317ABCP FAUCET, 2.2 GPM, WITH 4" WRIST BLADE HANDLES, HI-ARC SWING SPOUT, 8" FIXED CENTERS. PROVIDE COMPLETE WITH 17-GAUGE CHROME TRAP AND CLEANOUT AND CHROME ANGLE SUPPLIES WITH 1/4 TRN STP, ESC. PROVIDE ZURN MODEL P6900-TMV-1 THERMOSTATIC MIXING VALVE (ASSE 1070 RATED).
TP-1	TRAP PRIMER	-	-	-	-	-	-	1/2"	PPP INC	PRO1-ULP500	UNDER LAV SUPPLY TYPE TRAP PRIMER, ASSE 1018, FOR SERVICE OF A SINGLE FLOOR DRAIN. 1/2" COPPER TUBE TYPE "L" TO FLOOR DRAIN. INSTALLED AT A LAV IN EACH RESTROOM TO SERVE THE SINGLE FLOOR DRAIN IN THAT RESTROOM.
WMB	WASHING MACHINE OUTLET BOX	-	2	-	-	1-1/2"	1/2"	1/2"	MAINLINE	ML10501	WASHING MACHINE OUTLET BOX WITH DRAIN AND 1/2" VALVED HOT AND COLD WATER SUPPLY CONNECTIONS (1/4 TURN MIP VALVE WITH INTEGRAL WATER HAMMER ARRESTORS) AND 2" PVC DRAIN CONNECTION.
W-1	FLOOR MOUNTED WATER CLOSET	-	3"	-	-	2"	-	1/2"	GERBER	GHE20601 GHE2060197	PEEWEE CHILDREN'S TOILET, 10-1/4" HIGH FLOOR MOUNTED TANK TYPE TOILET, VITREOUS CHINA, 1.28 GPF 10-1/4" RIM HEIGHT, 10" ROUGH IN, PROVIDE LEFT OR RIGHT HAND FLUSHING TANK AS NEEDED TO BE ON OPEN ACCESSIBLE SIDE, CHROME FINISH TRIP LEVER, SEAT TO BE OPEN FRONT COVER, COLOR WHITE.
W-2	FLOOR MOUNTED WATER CLOSET	-	3"	-	-	2"	-	1/2"	AMERICAN STANDARD	211CA.104	CHAMPION PRO ELONGATED TOILET, VITREOUS CHINA, LOW CONSUMPTION 1.6 GPF FULLY GLAZED TRAPWAY, ELONGATED BOWL, BOTTOM OUTLET 12" ROUGH-IN, PROVIDE LEFT OR RIGHT HAND FLUSHING TANK AS NEEDED TO BE ON OPEN ACCESSIBLE SIDE, CHROME FINISH TRIP LEVER, FLOOR MOUNTED COLOR WHITE, SEAT SHALL BE OPEN FRONT WITH STAINLESS STEEL POSTS AND SLOW CLOSE WITH WHITE FINISH.
W-3	FLOOR MOUNTED WATER CLOSET (ADA)	-	3"	-	-	2"	-	1/2"	AMERICAN STANDARD	211AA.104	CHAMPION PRO RIGHT HEIGHT ELONGATED TOILET (ADA HEIGHT), VITREOUS CHINA, LOW CONSUMPTION 1.6 GPF FULLY GLAZED TRAPWAY, ELONGATED BOWL, BOTTOM OUTLET 12" ROUGH-IN, PROVIDE LEFT OR RIGHT HAND FLUSHING TANK AS NEEDED TO BE ON OPEN ACCESSIBLE SIDE, CHROME FINISH TRIP LEVER, FLOOR MOUNTED COLOR WHITE, SEAT SHALL BE OPEN FRONT WITH STAINLESS STEEL POSTS AND SLOW CLOSE WITH WHITE FINISH.
WCO	WALL CLEAN OUT	-	SEE PLANS	-	-	-	-	-	J.R. SMITH	4400 SERIES	THREADED CLEANOUT PLUG WITH FERRULE AND ROUND ACCESS COVER WITH EITHER NICKEL BRONZE OR CHROME FINISH.
WH-1	GAS-FIRED WATER HEATER	-	-	-	3/4"	-	2"	2"	AO SMITH	BTH-199	GLASS-LINED WATER HEATER WITH 100 GALLON STORAGE AND 3 YEAR WARRANTY. 199.9 MBH, 97% EFFICIENCY, 235 GPH RECOVERY AT 100 °F TEMPERATURE RISE, 1,358 LBS INSTALLED WEIGHT, 27-3/4" DIAMETER, 76-1/2" TALL. 120V/1PH, 15 AMP POWER CONNECTION. FURNISH HEATER WITH APPROPRIATE WATTS REGULATOR TEMP AND PRESSURE (T&P) RELIEF VALVE ALONG WITH A VACUUM BREAKER VALVE. PROVIDE INLET AND OUTLET HEAT TRAP FITTINGS. 4" HOUSEKEEPING PAD. PROVIDE WITH WATER HEATER DRAIN PAN. SAFEWASTE FULLSIZE T&P RELIEF PIPE AND 3/4" DRAIN PAN DRAIN TO FLOOR DRAIN IN ROOM. PROVIDE A STICKER TAG LABEL ON EACH WATER HEATER AND ASSOCIATED DISCONNECT. OTHER APPROVED MANUFACTURERS: AMERICAN, BRADFORD WHITE, LOCHINVAR, RHEEM, STATE.

EXPANSION TANK SCHEDULE

TAG	APPLICATION	MFR	MODEL No.	TYPE	TANK VOLUME (GAL)	HEIGHT x DIAMETER (IN)	CONNECTION (IN)	ACCEPTANCE VOLUME (GAL)	WEIGHT (LBS)	NOTES/ACCESSORIES
ET-1	WATER HEATER 1	AMTROL	ST-12C	INLINE	6.4	12x14	3/4"	3.2	42	1-5

NOTES/ACCESSORIES

1. WORKING PRESSURE: 250 PSIG
2. OPERATING TEMPERATURE: 200°F MAX
3. DIAPHRAGM DESIGN - HEAVY DUTY BUTYL
4. ASME RATING
5. PLUMBING CONTRACTOR SHALL MEASURE THE PRESSURE AT THE POINT OF INSTALLATION IN THE COLD WATER SYSTEM AND CHARGE THE TANK TO MATCH THAT MEASURED PRESSURE.

BUILDING GAS LOAD SUMMARY

RTU-1	ROOFTOP UNIT	65	948.9 CFH
RTU-2	ROOFTOP UNIT	108	
RTU-3	ROOFTOP UNIT	65	
RTU-4	ROOFTOP UNIT	130	
RTU-5	ROOFTOP UNIT	108	
RTU-6	ROOFTOP UNIT	108	
RTU-7	ROOFTOP UNIT	65	
RTU-8	ROOFTOP UNIT	65	
CD	CLOTHES DRYER	35.0	
WH-1	WATER HEATER	199.9	

BACKFLOW PREVENTION DEVICE APPLICATION SCHEDULE

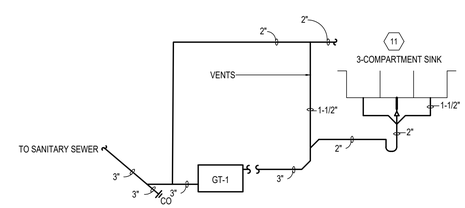
TAG	EQUIPMENT SERVED	DEVICE TYPE TO BE INSTALLED	ASSEMBLY TYPE	MANUFACTURER	MODEL	SIZE	NOTES
BFP-1	BUILDINGS DOMESTIC POTABLE WATER SERVICE	ASSE 1013 RPBFP	REDUCED PRESSURE	ZURN/WILKINS	975XL2	2"	1
BFP-2	UNDERCOUNTER DISHWASHER	ASSE 1056	VACUUM BREAKER	ZURN/WILKINS	460XL	1/2", 3/4"	2
BFP-3	BUILDINGS IRRIGATION WATER SERVICE AND PLAYGROUND SPLASH PAD WATER SERVICE	ASSE 1013 RPBFP	REDUCED PRESSURE	ZURN/WILKINS	975XL2	1"	1

1. PROVIDE WITH ZURN AIR GAP FITTING -AG OR EQUAL AND EXTEND DISCHARGE TO NEAREST FLOOR SINK.
2. MOUNT BFP ON INCOMING LINE TO DISHWASHER EQUIPMENT. REFER TO DETAIL.

HOT WATER RECIRCULATION PUMP SCHEDULE

TAG	SERVICE	MFR	MODEL No.	TYPE	MOTOR DATA						PUMP CHARACTERISTICS	NOTES/ACCESSORIES
					FLOW (GPM)	TOTAL DYNAMIC HEAD (FT)	VOLTAGE (V-φ-Hz)	MOTOR SPEED (RPM)	MOTOR (WATTS)	FLA	SUCTION/ DISCHARGE (IN)	
RP-1	DOMESTIC HOT WATER	BELL & GOSSETT	NBF-36	CIRCULATOR	6	30	120-1-60	3300	270	2.3	1-1/4"	1,2,3,4

1. RETURN WATER THERMOSTAT
2. BRONZE LEAD FREE CONSTRUCTION
3. CONTROLLED BY AQUASTAT SET TO 135 DEG F.
4. OTHER APPROVED MANUFACTURERS: GRUNDFOS, WILO, TACO



3-COMPARTMENT SINK, HYDROMECHANICAL GREASE TRAP (GT-1) INSTALLATION DETAIL
NO SCALE

PDI - Standard Proceedure for Sizing Grease Interceptors									
Fixture Type	Length (in)	Width (in)	Depth (in)	Fixture Capacity (%)	Cubic Content	Content in Gallons	Actual Drain Load	1 Min. Drain Period	2 Min. Drain Period
3-comp	16	20	12	75%	3840	16.6	12.5	12.5	6.2
3-comp	16	20	12	75%	3840	16.6	12.5	12.5	6.2
3-comp	16	20	12	75%	3840	16.6	12.5	12.5	6.2
					Total		37.4	37.4	18.7
					Required Size			50	20

DRAWN BY: JJC CHECKED BY: MPW

DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC

25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048534 NICHOLAS GINGERICH
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ADA ARCHITECTS
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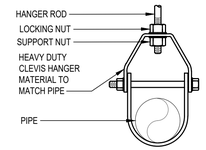
PLUMBING SCHEDULES

DATE 03/02/2026

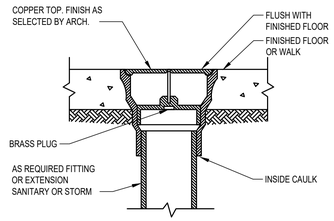
JOB NO. 25027

P-0.2

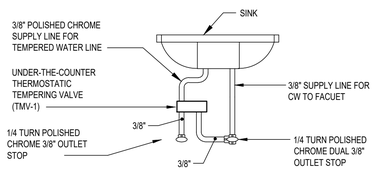
SHEET NO.



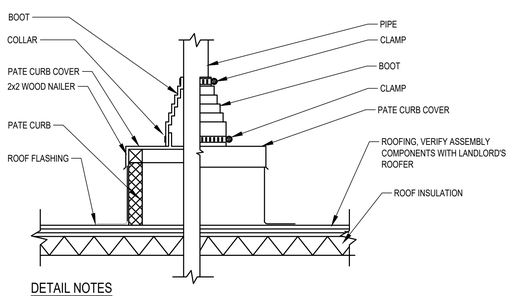
1	UNINSULATED PIPE SUPPORT DETAIL
P-0.3	SCALE: NONE



2	FLOOR CLEANOUT DETAIL
P-0.3	SCALE: NONE



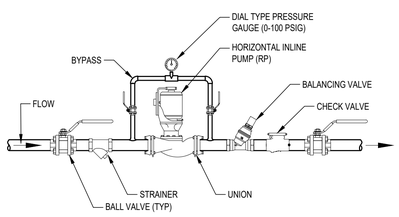
3	THERMOSTAIC MIXING VALVE DETAIL
P-0.3	SCALE: NONE



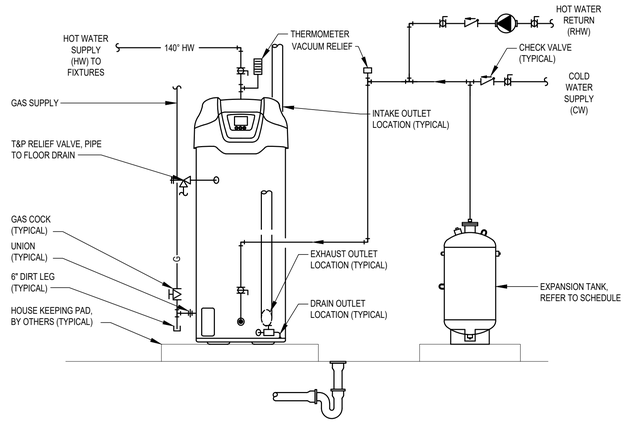
DETAIL NOTES

1. REFER TO MANUFACTURERS INSTALLATION REQUIREMENTS.
2. ROOFING TO BE INSTALLED AND FLASHED-IN BY LANDLORD ROOFER AT TENANTS EXPENSE W/ MATERIALS TO MATCH EXISTING. INSTALL MATERIALS PER MANUFACTURER'S REQUIREMENTS.

4	PATE PIPE ROOF CURB DETAIL
P-0.3	SCALE: NONE



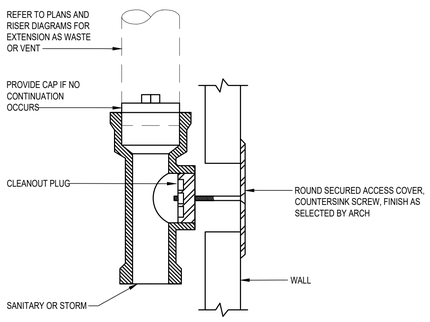
5	RECIRCULATING PUMP DETAIL
P-0.3	SCALE: NONE



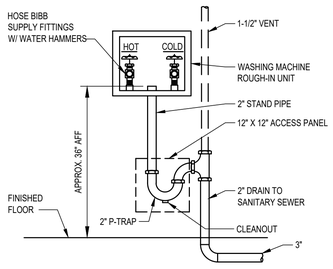
DETAIL NOTES

1. ASME APPROVED T&P VALVE SAFE WASTE TO FLOOR DRAIN (TYP).
2. SEE DRAWINGS FOR PIPE SIZES AND SCHEDULES.
3. THE TEMPERATURE AND PRESSURE RELIEF VALVE SETTING SHALL NOT EXCEED PRESSURE RATING OF ANY COMPONENT IN THE SYSTEM.
4. SERVICE VALVES ARE SHOWN FOR SERVICING UNIT. HOWEVER, LOCAL CODES SHALL GOVERN THEIR USAGE.
5. PIPING CONFIGURATION IS SHOWN FLAT FOR CLARITY OF SYSTEM ROUTING AND COMPONENTS. CHECK WITH LOCAL CODES, ORDINANCES, & MANUFACTURER'S INSTALLATION REQUIREMENTS PRIOR TO CONSTRUCTION.

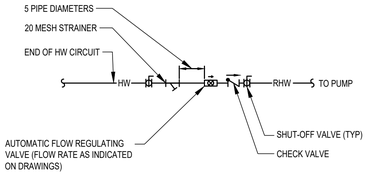
6	PIPING DOMESTIC WATER HEATER GAS
P-0.3	SCALE: NONE



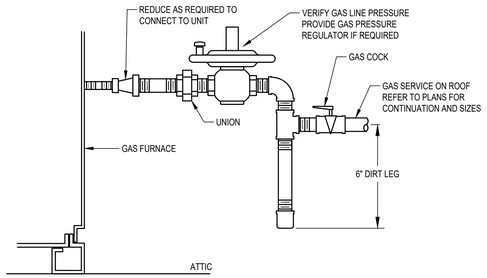
7	WALL CLEANOUT DETAIL
P-0.3	SCALE: NONE



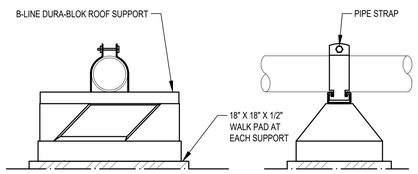
8	WASHING MACHINE HOOK-UP DETAIL
P-0.3	SCALE: NONE



9	RHW CIRCUIT VALVING DETAIL
P-0.3	SCALE: NONE



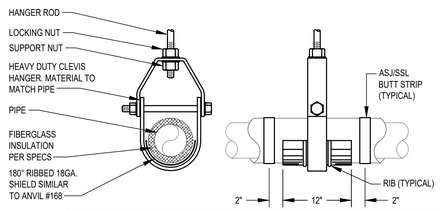
10	FURNACE GAS CONNECTION DETAIL
P-0.3	SCALE: NONE



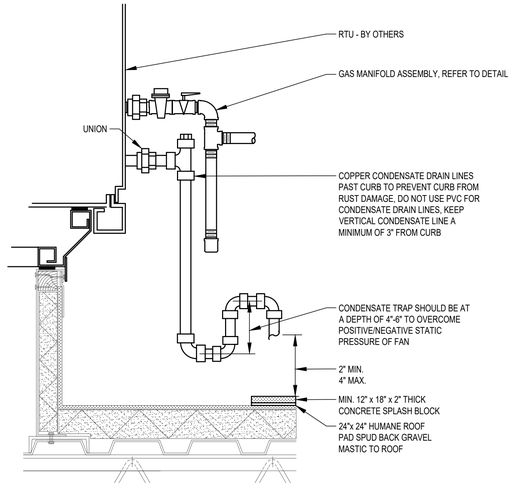
DETAIL NOTES

1. INSTALLATION SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
2. WOOD BLOCK SUPPORTS ARE NOT ACCEPTABLE
3. BLACK IRON PIPING SHALL BE PAINTED; (PAINTING OF GALVANIZED PIPING IS NOT REQ'D)

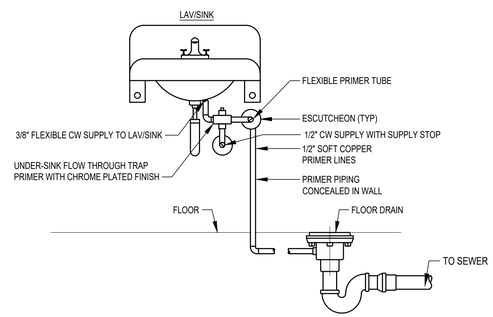
11	GAS SUPPORT ON ROOF DETAIL
P-0.3	SCALE: NONE



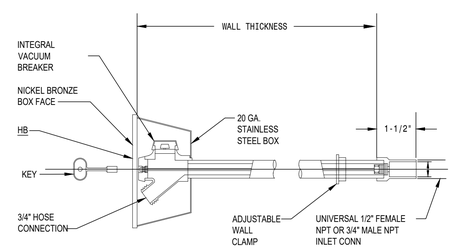
12	UP TO 1-1/4" PIPE SUPPORT DETAIL
P-0.3	SCALE: NONE



13	RTU CONDENSATE CONNECTION DETAIL
P-0.3	SCALE: NONE



14	TRAP PRIMER DETAIL
P-0.3	SCALE: NONE



15	NON-FREEZE HOSE-BIBB DETAIL
P-0.3	SCALE: NONE

DRAWN BY: JJC CHECKED BY: MPW

DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC

25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048534 NICHOLAS GINGERICH 03/18/2026

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR WAKE FOREST, NC

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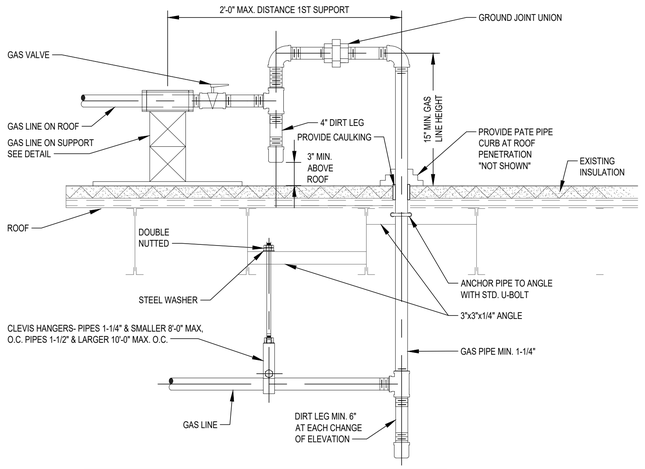
PLUMBING DETAILS

DATE 03/02/2026

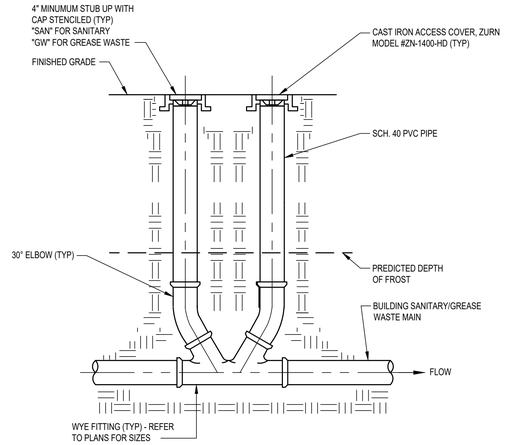
JOB NO. 25027

P-0.3

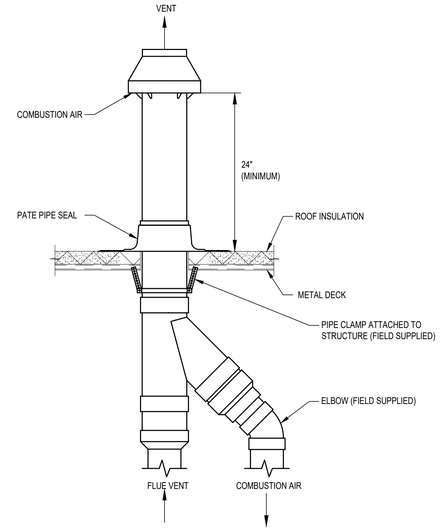
SHEET NO.



1	GAS PIPE THROUGH ROOF DETAIL
P-0.4	SCALE: NONE



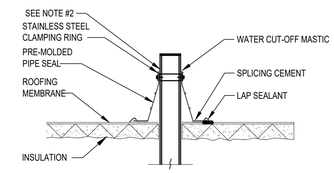
2	TWO-WAY EXTERIOR CLEANOUT DETAIL
P-0.4	SCALE: NONE



DETAIL NOTES

1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. MATERIALS SHALL BE UL 1738 OR ULC S636 LISTED.

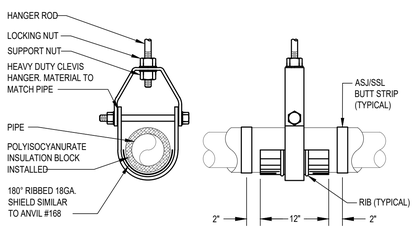
3	WATER HEATER INTAKE AND FLUE VENT DETAIL
P-0.4	SCALE: NONE



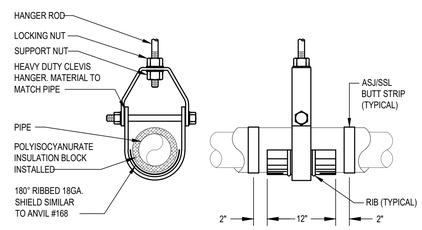
DETAIL NOTES

1. PRE-MOLDED PIPE SEAL CANNOT BE CUT VERTICALLY TO BE INSTALLED.
2. PRE-MOLDED PIPE SEAL MUST HAVE INTACT RIB AT THE TOP EDGE, REGARDLESS OF PIPE DIAMETER.
3. WHEN PRE-MOLDED PIPE SEAL CANNOT BE INSTALLED, USE FIELD FABRICATED PIPE SEAL.
4. FOR BALLAST SYSTEMS, REPLACE BALLAST AFTER WORK IS COMPLETED.
5. FLANGE MUST BE SET BY ROOFER, COORDINATE WITH ROOFING CONTRACTOR.
6. VENTS SHALL BE A MINIMUM OF 15'-0" FROM OUTSIDE AIR INTAKES.
7. DO NOT TRIM DECK FLANGE

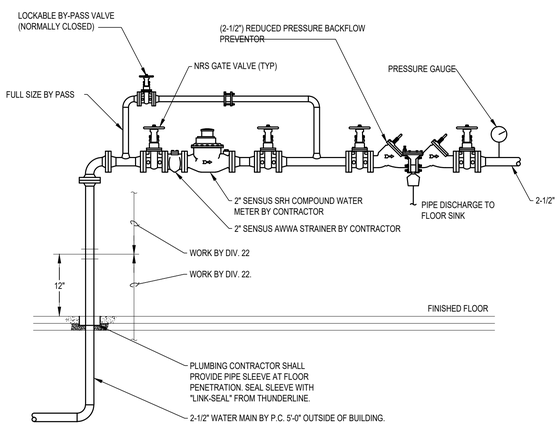
4	PIPE THROUGH ROOF DETAIL
P-0.3	SCALE: NONE



5	PIPE SUPPORT DETAIL 1-1/2" - 12"Ø
P-0.4	SCALE: NONE



6	PIPE SUPPORT DETAIL 1-1/2" - 12"Ø
P-0.4	SCALE: NONE



7	INCOMING SERVICE
P-0.4	SCALE: NONE

DRAWN BY: JJC CHECKED BY: MPW

DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC

25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

NORTH CAROLINA PROFESSIONAL SEAL 048534 ENGINEER NICHOLAS GINGERICH
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KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

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1005 STADIUM DR

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PLUMBING DETAILS

DATE 03/02/2026

JOB NO. 25027

P-0.4

SHEET NO.

PLUMBING SPECIFICATIONS

I. GENERAL PROVISIONS

A. GENERAL CONDITIONS, CODES & STANDARDS

1. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING PRODUCTS, MATERIALS, AND INSTALLATION PER THESE SPECIFICATIONS FOR ALL PRODUCTS, MATERIALS, AND COMPONENTS LISTED. PROVIDING LESSER QUALITY PRODUCTS OR MATERIALS FROM WHAT IS LISTED WITHIN THESE SPECIFICATIONS AND CONTRACT DOCUMENTS WILL NOT BE APPROVED.
2. MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AGAINST DEFECTS FOR A PERIOD OF ONE YEAR STARTING FROM THE MUTUALLY AGREED UPON DATE OF SUBSTANTIAL COMPLETION.
3. REFER TO ALL OTHER DRAWINGS AND SPECIFICATIONS AND BE RESPONSIBLE FOR ALL APPLICABLE PROVISIONS THEREIN. FURNISH AND INSTALL ALL NECESSARY LABOR AND MATERIALS FOR A COMPLETE SYSTEM. ANY APPLIANCES OR MATERIALS OBVIOUSLY A PART OF THE SYSTEM AND NECESSARY FOR ITS PROPER OPERATION, ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN, SHALL BE FURNISHED AND INSTALLED AS IF CALLED FOR IN DETAIL.
4. ALL WORK SHALL BE IN CONFORMANCE WITH ALL FEDERAL, STATE AND LOCAL CODES AND ORDINANCES INCLUDING THE BUILDING CODE AND ANY SPECIAL OWNER REQUIREMENTS IN ADDITION TO THOSE SPECIFIED. ATTAIN AND PAY FOR ALL REQUIRED PERMITS AND FEES. EQUIPMENT AND MATERIALS SHALL BE NEW, UNLESS OTHERWISE SPECIFIED.
   APPLICABLE CODES AND STANDARDS:
   a. NORTH CAROLINA BUILDING CODE, 2024 EDITION.
   b. NORTH CAROLINA PLUMBING CODE, 2024 EDITION.
   c. NORTH CAROLINA FUEL GAS CODE, 2024 EDITION.
   d. NORTH CAROLINA ENERGY CONSERVATION CODE, 2024 EDITION.
   e. ALL OTHER ADOPTED FEDERAL, STATE AND LOCAL CODES OR ORDINANCES.
5. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND REPRESENT A GEOMETRIC RELATIONSHIP BETWEEN PIPING, EQUIPMENT, FIXTURES, AND COMPONENTS; THEY DO NOT NECESSARILY SHOW EVERY FITTING, OFFSET, DROP AND RISE OF RUNS AND DETAIL. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR FINAL FIELD COORDINATION OF THE PLUMBING SYSTEM WITH ALL OTHER CONTRACTORS. DO NOT SCALE DRAWINGS.
6. INSTALL EQUIPMENT AND CONTROLS IN A NEAT, WORKMANLIKE MANNER AND IN ACCORDANCE WITH GOOD PRACTICE FOR A COMPLETE, WORKABLE INSTALLATION. AVOID CONFLICT WITH LOCATIONS OF FIXTURES, APPARATUS, DUCTWORK AND PIPING, AND WHILE THESE DRAWINGS ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE, IF IT IS NECESSARY TO CHANGE THE LOCATION OF SAME TO ACCOMMODATE BUILDING CONDITIONS, MAKE CHANGES WITHOUT ADDITIONAL COST TO THE OWNER AND AS APPROVED BY THE ARCHITECT.
7. PROVIDE ADEQUATE ACCESS TO THE EQUIPMENT AND APPARATUS REQUIRING OPERATION, SERVICE OR MAINTENANCE WITHIN THE LIFE OF THE EQUIPMENT AND THE SYSTEM. ALL BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED AT AN ACCESSIBLE AND SERVICEABLE ELEVATION AND NOT ABOVE CEILINGS.
8. DO NOT RUN PIPING OR LOCATE EQUIPMENT (WITH RESPECT TO SWITCHBOARDS, PANEL BOARDS, POWER PANELS, MOTOR CONTROL CENTERS OR DRY TYPE TRANSFORMERS) WITHIN 42 INCHES OF FRONT OF EQUIPMENT, OVER EQUIPMENT, OR WITHIN 36 INCHES HORIZONTALLY OF THAT SAME SPACE.
9. PLUMBING CONTRACTOR SHALL PROVIDE START-UP OF ALL SYTEMS AND EQUIPMENT AND TRAIN OWNER'S REPRESENTATIVE ON OPERATION OF SYSTEMS AND EQUIPMENT. THE PLUMBING CONTRACTOR SHALL ENGAGE A FACTORY AUTHORIZED REPRESENTATIVE TO PERFORM START-UP OF ALL MAJOR EQUIPMENT SUCH HAS WATER HEATERS WITH STORAGE CAPACITY OVER 40 GALLONS OR GAS INPUT OVER 100,000 BTUH. START-UP REPORTS OF EQUIPMENT AND SYSTEMS SHALL BE PROVIDED TO OWNER BEFORE CONSTRUCTION CLOSE-OUT.
10. SEAL AROUND ALL PIPES PENETRATING FIRE WALLS, SMOKE WALLS OR FLOORS IN ACCORDANCE WITH THE GENERAL TRADE'S SPECIFICATIONS.
11. PROVIDE WATER HAMMER ARRESTERS ON HOT AND COLD-WATER PIPING IN ACCORDANCE WITH PLUMBING AND DRAINAGE INSTITUTE (PDI) STANDARD PDI-WH-201. REFER TO PLUMBING SYMBOL LEGEND FOR ADDITIONAL DETAILS.
12. PROVIDE QUARTER-TURN BRASS SUPPLY STOP SHUT-OFF VALVES AT EACH PLUMBING FIXTURE.
13. PROVIDE CORROGATED STAINLESS STEEL FLEXIBLE HOSES FROM SUPPLY STOP SHUT-OFF VALVES TO EACH PLUMBING FIXTURE UNLESS NOTED OTHERWISE.
14. PROVIDE CHROME PLATED BRASS TAILPIECE AND P-TRAP
15. FITTINGS FOR ALL LAVS AND SINKS WITH ADA COVERS AS REQUIRED AT EACH LOCATION.
16. ALL KITCHEN FIXTURES AND EQUIPMENT SHALL HAVE HARD PIPE CONNECTIONS. FLEXIBLE TUBING IS NOT APPROVED. PROVIDE EITHER COPPER TUBE OR CHROME PLATED COPPER TUBE.
17. PROVIDE ALL INDIRECT WASTE PIPING FROM KITCHEN FIXTURES AND APPLIANCES AS INDICATED ON THE FOOD SERVICE EQUIPMENT SCHEDULE. ALL INDIRECT WASTE PIPING SHALL BE COPPER PER THE PIPE AND FITTING MATERIALS SECTION.

B. EXISTING CONDITIONS

1. THE CONTRACTOR SHALL VISIT THE SITE AND GET FAMILIARIZED WITH THE JOB CONDITIONS BEFORE SUBMITTING A PROPOSAL. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS AND SIZES OF ALL EXISTING UTILITY SERVICES AND CONDITIONS PRIOR TO SUBMITTING A PROPOSAL. NO CONSIDERATION WILL BE GIVEN TO CLAIMS FOR EXTRA COST ARISING FROM THE CONTRACTOR'S FAILURE TO BE FULLY COGNIZANT OF JOB OR SITE CONDITIONS EXISTING AT TIME OF ACCEPTANCE OF BID.
2. IF DURING THIS SITE VISIT THE CONTRACTOR FINDS ANY OBSTRUCTION OR INTERFERENCE THAT MAY PROHIBIT THE PROPER INSTALLATION OF WORK, THE CONTRACTOR SHALL MAKE IT KNOWN TO THE BUILDING MANAGEMENT AND/OR OWNER BEFORE AND AT THE TIME OF SUBMITTING A PROPOSAL.
3. BY SUBMISSION OF THE BID, IT IS UNDERSTOOD THAT SUCH INSPECTION HAS BEEN MADE AND INCLUDES ALL THE MATERIALS AND REQUIRED RELOCATION FOR ALL WORK.
4. ACTIVE SERVICES, WHEN ENCOUNTERED IN WORK: PROTECT, BRACE AND / OR SUPPORT EXISTING ACTIVE SEWERS, GAS AND OTHER SERVICES REQUIRED FOR PROPER EXECUTION OF WORK. IF EXISTING ACTIVE SERVICES ARE ENCOUNTERED THAT REQUIRE RELOCATION, RELOCATE AS APPROVED. DO NOT PREVENT OR DISTURB OPERATION OF ACTIVE SERVICES THAT ARE TO REMAIN.
5. INACTIVE SERVICES, WHEN ENCOUNTERED IN WORK: REMOVE, CAP OR PLUG INACTIVE SERVICES AS INDICATED.
6. INTERRUPTION OF SERVICES: WHERE WORK MAKES TEMPORARY SHUT-DOWN OF SERVICES UNAVOIDABLE, SHUT DOWN AT NIGHT OR AT SUCH TIMES AS APPROVED BY OWNER AND THE BUILDING MANAGEMENT WHICH WILL CAUSE MINIMUM INTERFERENCE WITH ESTABLISHED OPERATING ROUTINES. ARRANGE WORK TO ENSURE THAT SERVICES WILL BE SHUT DOWN ONLY DURING THE ACTUALLY REQUIRED TIME TO MAKE NECESSARY CONNECTIONS TO EXISTING WORK.
7. WHERE EXISTING WALLS, CEILINGS, FLOORS, ROOFS, ETC., ARE CUT OR OTHERWISE DAMAGED DURING CONSTRUCTION, REPAIR ALL SURFACES TO THEIR ORIGINAL CONDITION.

C. DOCUMENTS

1. THE CONTRACT DOCUMENTS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OR GEOMETRICAL RELATIONSHIPS OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, SEQUENCE, DEVICE, OPTION, FITTING, OR COMPONENT. DO NOT SCALE CONTRACT DRAWINGS. ALL WORK SHALL BE PERFORMED AS INDICATED ON THE DRAWINGS UNLESS EXISTING CONDITIONS OR COORDINATION ISSUES REQUIRE CHANGES. THESE CHANGES SHALL BE MADE WITH NO ADDITIONAL COST TO THE OWNER.
2. ANY INCIDENTAL ITEMS OR LABOR, ETC. NOT INCLUDED IN THE SPECIFICATIONS OR THE DRAWINGS BUT REASONABLY IMPLIED AS NECESSARY FOR THE COMPLETE INSTALLATION OF ALL APPARATUS SHALL BE INCLUDED IN BID.
3. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED EVEN THOUGH NOT MENTIONED IN BOTH.
4. IF ERRORS ARE FOUND IN THE DRAWINGS OR SPECIFICATIONS OR DISCREPANCIES OCCUR BETWEEN THE SAME, OR BETWEEN THE FIGURES ON THE DRAWINGS, AND THE SCALE OF SAME OR BETWEEN THE LARGER AND SMALLER DRAWINGS, OR IN THE DESCRIPTIVE MATTER ON THE DRAWINGS SHALL BE REFERRED TO THE OWNER FOR REVIEW AND FINAL DECISION PRIOR TO THE BID DUE DATE.
5. THE BIDDING OF THIS WORK WILL CONTEMPLATE THE USE OF EQUIPMENT AND MATERIALS EXACTLY AS SPECIFIED HEREIN. WHERE MORE THAN ONE MANUFACTURER IS MENTIONED, ANY ONE MAY BE UTILIZED. SUBSTITUTE MANUFACTURERS MAY BE OFFERED ONLY AS AN ALTERNATE TO THE SPECIFIED EQUIPMENT AND MATERIAL AND MUST BE SUBMITTED AS SPECIFIED IN THE ARCHITECTURAL DOCUMENTS.
6. MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THE SYSTEMS CAN BE OF ANY RECOGNIZED MANUFACTURE PROVIDED. THESE ITEMS MEET MINIMUM STANDARDS AS SET IN THESE SPECIFICATIONS. REFER TO EACH SECTION FOR ANY SPECIFIC REQUIREMENTS.

D. SUBMITTALS

1. PREPARE SHOP DRAWINGS AND PRODUCT DATA FOR PLUMBING EQUIPMENT WITH ADEQUATE DETAILS AND SCALES AS NECESSARY TO CLEARLY SHOW CONSTRUCTION. INDICATE THE OPERATING CHARACTERISTICS AND DESIGN CONDITIONS FOR EACH REQUIRED ITEM. CLEARLY IDENTIFY EACH ITEM ON THE DRAWINGS AS TO MARK, LOCATION, AND USE.
2. THE SUBMITTALS WILL BE REVIEWED ONLY FOR GENERAL COMPLIANCE AND NOT FOR DIMENSIONS, QUANTITIES, ETC. THE SUBMITTALS THAT ARE RETURNED SHALL BE USED FOR PROCUREMENT. THE RESPONSIBILITY OF CORRECT PROCUREMENT REMAINS SOLELY WITH THE CONTRACTOR.
3. REVIEW OF SUBMITTALS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR OMISSIONS AND DEVIATIONS FROM THE CONTRACT REQUIREMENTS.
4. AFTER THE SUBMITTAL HAS BEEN REVIEWED, IT IS UNDERSTOOD THAT THE CONTRACTOR WILL PROVIDE THE PRODUCTS, MATERIALS, AND MANUFACTURER THAT WAS SUBMITTED. THE ENGINEER WILL NOT REVIEW ANY ADDITOINAL ATTEMPTS TO RESUBMIT PRODUCT DATA AFTER A SUBMITTAL HAS BEEN REVIEWED AND APPROVED.
5. EACH SUBCONTRACTOR SHALL KEEP ONE SET OF DRAWINGS ON-SITE ON WHICH THEY SHALL RECORD ANY DEVIATIONS OR CHANGES FROM SUCH CONTRACT DRAWINGS MADE DURING CONSTRUCTION. RECORD DRAWINGS SHALL BE KEPT CLEAN AND UNDAMAGED. UPON COMPLETION OF THE PROJECT, THE RECORD DRAWINGS SHALL BE DELIVERED TO THE OWNER.
6. PROVIDE PRODUCT SUBMITTALS FOR THE FOLLOWING ITEMS:
   a. PIPES, FITTINGS, VALVES, INSULATION, AND ACCESSORIES
   b. METERS AND GAGES
   c. FLOOR DRAINS AND FLOOR SINKS
   d. TRAP PRIMERS
   e. SLEEVES
   f. ESCUTCHEONS
   g. LAVATORIES, SINKS, AND FAUCETS
   h. WATER CLOSETS
   i. DRINKING FOUNTAINS AND ELECTRIC WATER COOLERS
   j. THERMOSTATIC MIXING VALVES
   k. BACKFLOW PREVENTER DEVICES
   l. PIPE HANGERS AND SUPPORTS
   m. FIXTURE SUPPORTS
   n. WATER HEATERS AND ACCESSORIES
   o. PUMPS AND ACCESSORIES
   p. INTERCEPTORS
   q. OUTLET BOXES
   r. PRESSURE REGULATING VALVES

E. COORDINATION

1. COORDINATE ALL WORK UNDER THIS DIVISION WITH WORK UNDER OTHER DIVISIONS. PROVIDE ADJUSTMENTS AS NECESSARY TO EQUIPMENT, APPARATUS, PIPING, ETC. THAT WAS INSTALLED WITHOUT REGARD FOR THE SPACE REQUIREMENTS OF OTHER TRADES. THESE CONFLICTS WILL BE REWORKED AT THE EXPENSE OF THE INSTALLING SUB-CONTRACTOR IF IT CREATES AN UNNECESSARY HINDRANCE TO THE INSTALLATION OF ANOTHER TRADES WORK. ALL ITEMS MOUNTED AT OR BELOW THE CEILING AND ANY ITEM PENETRATING THE CEILING SHALL BE COORDINATED WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
2. COORDINATE PLACEMENT OF ALL PLUMBING RELATED EQUIPMENT AND DEVICES WITH OTHER TRADES. DO NOT POSITION OR INSTALL ANY PLUMBING EQUIPMENT OR DEVICES IN ANY SYSTEM IN SUCH A WAY THAT IT WILL BE INACCESSIBLE OR UN-MAINTAINABLE AFTER CONSTRUCTION IS COMPLETED.
3. NO OTHER TRADES ARE ALLOWED TO BE SUPPORTED FROM MATERIALS, EQUIPMENT OR DEVICES INSTALLED BY THE PLUMBING TRADES. LIKEWISE, ALL WORK INSTALLED BY THE PLUMBING TRADES MUST BE SUPPORTED FROM THE STRUCTURE ABOVE, FROM WALLS OR FROM THE FLOOR
4. UNLESS OTHERWISE INDICATED.
5. RESTORE ROADS, GROUNDS, TUNNELS, INSULATION, PIPING, BUILDING, ETC., TO THEIR ORIGINAL CONDITION WHENEVER THIS WORK CAUSES DAMAGE.
6. PROVIDE TO OWNER AFTER ALL EQUIPMENT IS IN OPERATION AND AT AN AGREEABLE TIME, COMPETENT INSTRUCTORS FOR THE PURPOSE OF TRAINING PERSONNEL IN ALL PHASES OF OPERATION AND MAINTENANCE OF EQUIPMENT AND SYSTEMS.

F. PROTECTION OF WORK DURING CONSTRUCTION

1. PROVIDE PROTECTIVE COVERS, SKIDS, PLUGS OR CAPS TO PROTECT EQUIPMENT AND MATERIALS FROM DAMAGE AND DETERIORATION DURING CONSTRUCTION. WATER PIPING ENDS SHALL BE COVERED DURING CONSTRUCTION WHEN WORK IS NOT BEING PERFORMED AT THAT PIPE. CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OR DISRUPTING ALL BUILDING SYSTEMS INCLUDING, WIRING, CONTROLS, ETC. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTORS' COST USING THE SAME QUALITY OF MATERIAL AS THE EXISTING SYSTEMS THAT WERE DAMAGED.

II. PIPING

A. GENERAL

1. PIPING SHALL BE COMPLETE WITH PIPE FITTINGS, VALVES, COUPLING, STRAINERS, HANGER RODS, HANGERS, SUPPORTS, GUIDES, SLEEVES AND ACCESSORIES IN CONFORMANCE WITH THE LATEST CODES AND ASME, ANSI, ASTM AND MSS STANDARDS.
2. PROVIDE FITTINGS FOR CHANGE IN PIPE SIZE AND FOR FINAL CONNECTION AT EQUIPMENT, AS REQUIRED.
3. PROVIDE UNION CONNECTIONS AT EACH PIECE OF EQUIPMENT AND ON EACH SIDE OF ALL VALVES AND IN-LINE EQUIPMENT.
4. PROVIDE VALVED AND CAPPED CONNECTIONS AT ALL POINTS IN PIPING SYSTEMS REQUIRED FOR DRAINING SYSTEMS.
5. PROVIDE SLEEVES AT ALL WALL AND FLOOR PENETRATIONS:
   a. ALL PIPING PENETRATING WALLS, PARTITIONS, AND FLOORS SHALL BE SLEEVED WITH GALVANIZED STEEL PIPE SLEEVE. ASTM A 53/A 53M, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED, PLAIN ENDS. SEAL ANNULAR RECESS WITH PERMANENTLY FLEXIBLE SEALANT OR FIRESTOP (AT FIRE WALLS), BOTH SIDES OF WALL. REFER TO DETAIL ON DETAILS SHEET.
6. PROVIDE ESCUTCHEONS ON ALL PIPING THROUGH WALLS AND CEILINGS:
   a. ONE-PIECE, CAST-BRASS TYPE: WITH POLISHED, CHROME-PLATED FINISH AND SETSCREW FASTENER. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS AND CEILINGS. INSTALL ESCUTCHEONS WITH INSIDE DIAMETER TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF PIPING AND WITH OUTSIDE DIAMETER THAT COMPLETELY COVERS OPENING
7. ALL BELOW GRADE PIPING SHALL BE INSTALLED PER THE APPLICABLE STANDARD INDICATED IN THE PLUMBING CODE AND PER THE INSTALLATION INSTRUCTIONS BY THE MANUFACTURER AND STANDARDS INDUSTRY ASSOCIATED WITH THE MATERIAL. PVC PIPING SHALL NOT BE DIRECT BURIED WITH NATIVE SOILS ONLY, THE PROPER TRENCH BEDDING AND BACKFILL MATERIALS PER ASTM SHALL BE UTILIZED.
8. PRESSURE TEST ALL SYSTEMS PER THE REQUIREMENTS OF THE LOCALLY ADOPTED CODE AND AHJ REQUIREMENTS. GRAVITY DRAIN SYSTEMS SHALL BE WATER TESTED ONLY, AIR TESTS ARE NOT ALLOWED FOR GRAVITY DRAIN SYSTEMS.

B. DOMESTIC WATER DISINFECTION

1. POTABLE WATER SYSTEMS SHALL BE PURGED OF DELETERIOUS MATTER AND DISINFECTED PRIOR TO UTILIZATION. THE METHOD TO BE FOLLOWED SHALL BE THAT PRESCRIBED BY THE HEALTH AUTHORITY OR WATER PURVEYOR HAVING JURISDICTION OR, IN THE ABSENCE OF A PRESCRIBED METHOD, THE PROCEDURE DESCRIBED IN EITHER AWWA C651 OR AWWA C652, OR AS DESCRIBED IN THIS SECTION. THIS REQUIREMENT SHALL APPLY TO "ON-SITE" OR "INPLANT" FABRICATION OF A SYSTEM OR TO A MODULAR PORTION OF A SYSTEM.
2. THE PIPE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT THE POINTS OF OUTLET.
3. THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/ CHLORINE SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION (50 MG/L) OF CHLORINE, AND THE SYSTEM OR PART THEREOF SHALL BE VALVED OFF AND ALLOWED TO STAND FOR 24 HOURS; OR THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/CHLORINE SOLUTION CONTAINING NOT LESS THAN 200 PARTS PER MILLION (200 MG/L) OF CHLORINE AND ALLOWED TO STAND FOR 3 HOURS.
4. FOLLOWING THE REQUIRED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN POTABLE WATER UNTIL THE CHLORINE IS PURGED FROM THE SYSTEM.
5. THE PROCEDURE SHALL BE REPEATED WHERE SHOWN BY A BACTERIOLOGICAL EXAMINATION THAT CONTAMINATION REMAINS PRESENT IN THE SYSTEM.

C. PIPE AND FITTING MATERIALS

PROVIDE THE FOLLOWING PIPING FOR THE SYSTEMS AS LISTED:
1. SANITARY (RESTROOMS OR WASTE BELOW 135 DEG F) AND VENT PIPING ABOVE AND BELOW GRADE: SCHEDULE 40 SOLID WALL PVC PER ASTM D 2665 DRAIN, WASTE AND VENT.
2. SANITARY, VENT, AND GREASE WASTE PIPING ABOVE GRADE: HUBLESS CAST IRON PER ASTM A 888 OR CISPI 301 AND BEARING THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE AND LISTED BY NSF INTERNATIONAL.
   a. APPROVED MANUFACTURERS: AB&I FOUNDRY, TYLER PIPE AND COUPLING, CHARLOTTE PIPE AND FOUNDRY.
3. SANITARY (WASTE ABOVE 135 DEG F) AND GREASE WASTE PIPING BELOW GRADE: HUB AND SPIGOT CAST IRON PIPE PER ASTM A 74 BEARING THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE AND LISTED BY NSF INTERNATIONAL.
   a. APPROVED MANUFACTURERS: AB&I FOUNDRY, TYLER PIPE AND COUPLING, CHARLOTTE PIPE AND FOUNDRY.
4. GAS FIRED WATER HEATER FLUE PIPING: UL 1738 OR ULC S636 TESTED AND LISTED CPVC WITH UL 1738 OR ULC S636 LISTING LABELED ON PIPE WALL, ASTM E84 LISTED AND APPROVED FOR USE IN RETURN AIR PLENUMS.
   a. APPROVED MANUFACTURERS: IPEX
5. GAS FIRED WATER HEATER FLUE PIPING: UL 1738 OR ULC S636 TESTED AND LISTED POLYPROPYLENE WITH UL 1738 OR ULC S636 LISTING LABELED ON PIPE WALL, ASTM E84 LISTED AND APPROVED FOR USE IN RETURN AIR PLENUMS.
   a. APPROVED MANUFACTURERS: CENTROTHERM, DURAVENT
6. DOMESTIC WATER AND TRAP PRIMER PIPING BELOW GRADE: SOFT CONTINUOUS COPPER TUBE, TYPE K PER ASTM B88, MANUFACTURED IN THE USA OR CANADA.
7. DOMESTIC WATER PIPING ABOVE GRADE 4" AND SMALLER: HARD COPPER TUBE, TYPE L PER ASTM B88, MANUFACTURED IN THE USA OR CANADA.
8. CONDENSATE DRAIN, INDIRECT WASTE, AND KITCHEN WASTE PIPING ABOVE GRADE: HARD COPPER TUBE, TYPE DWV PER ASTM B306, MANUFACTURED IN THE USA OR CANADA.
9. NATURAL GAS PIPING ABOVE GRADE: SCHEDULE 40 BLACK STEEL PIPE PER ASTM A 53/A 53M, TYPE E OR S, GRADE B WITH THREADED OR WELDED JOINTS.

D. PIPE COUPLINGS

PROVIDE THE FOLLOWING COUPLINGS/FITTINGS FOR THE PIPE SYSTEMS AS LISTED:
1. PVC WASTE AND VENT PIPING: SOCKET FITTINGS PER ASTM D 2665, MADE TO ASTM D 3311 DRAIN, WASTE, AND VENT PATTERNS AND TO FIT SCHEDULE 40 PIPE WITH SOLVENT JOINTS.
2. CAST IRON HUBLESS WASTE AND VENT PIPING ABOVE GRADE: HEAVY DUTY COUPLINGS PER ASTM C 1277 AND ASTM C 1540. MANUFACTURED IN THE USA, ASSEMBLED IN THE USA, WITH PRODUCTS SOURCED FROM THE USA.
   a. APPROVED MANUFACTURERS: ANACO-HUSKY, MISSION RUBBER COMPANY, MG COUPLING, CLAMP-ALL.
3. GAS FIRED WATER HEATER FLUE PIPING: UL 1738 OR ULC S636 TESTED AND LISTED CPVC SOCKET FITTINGS WITH UL 1738 OR ULC S636 LISTING LABELED ON FITTING AND UL 1738 OR ULC S636 LISTED PRIMER AND CEMENT. ASTM E84 LISTED AND APPROVED FOR USE IN RETURN AIR PLENUMS.
   a. APPROVED MANUFACTURERS: IPEX
4. GAS FIRED WATER HEATER FLUE PIPING: UL 1738 OR ULC S636 TESTED AND LISTED POLYPROPYLENE GASKET STYLE SOCKET FITTINGS WITH UL 1738 OR ULC S636 LISTING LABELED ON FITTING. ASTM E84 LISTED AND APPROVED FOR USE IN RETURN AIR PLENUMS.
   a. APPROVED MANUFACTURERS: CENTROTHERM, DURAVENT
5. COPPER DOMESTIC WATER PIPE ABOVE GRADE: PER ASME B16.18, CAST BRONZE OR ASME B16.22, WROUGHT COPPER AND BRONZE, MANUFACTURED IN THE USA OR CANADA. JOINTS SHALL BE PER ASTM B32, SOLDER, GRADE 95TA OR PRESSURE-SEAL-JOINTS PROVIDED WITH MANUFACTURER 50 YEAR LEAK FREE WARRANTY.
   a. APPROVED MANUFACTURERS: APOLLO, MUELLER STREAMLINE, NIBCO, OR VIEGA.
6. COPPER DWV PIPE ABOVE AND BELOW GRADE: PER ASME B16.23, CAST BRONZE OR ASME B16.29, WROUGHT COPPER AND BRONZE, MANUFACTERED IN THE USA OR CANADA. JOINTS SHALL BE PER ASTM B32, SOLDER, GRADE 95TA.
7. BLACK STEEL NATURAL GAS PIPING ABOVE GRADE: THREADED FITTINGS PER ASME B16.3, CLASS 150, STANDARD PATTERN. WROUGHT-STEEL WELDING FITTINGS PER ASTM A 234/A 234M FOR BUTT WELDING AND SOCKET WELDING.

E. PIPE SUPPORTS

PROVIDE PIPING SUPPORTS ON ALL PIPING SYSTEMS PER THE FOLLOWING REQUIREMENTS:

1. HORIZONTAL PIPE HANGERS SHALL BE CARBON STEEL, ADJUSTABLE CLEVIS TYPE FOR GENERAL SERVICE APPLICATIONS, COPPER PLATED WHEN IN CONTACT WITH COPPER PIPING, AND RUBBER/PLASTIC COATED WHEN IN CONTACT WITH PLASTIC PIPING. PROVIDE THERMAL HANGER SHIELD INSERTS FOR ALL INSULATED PIPING AND HANGER SHIELD FOR PLASTIC PIPING PER THE PIPE MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS. HANGER RODS AND SPACING SHALL BE PER THE LOCAL CODE REQUIREMENTS.
2. GAS PIPE SUPPORTS SHALL ABSORB THERMAL EXPANSION AND CONTRACTION OF PIPES TO PREVENT DAMAGE TO ROOFING MEMBRANES USING NON-CORROSIVE BASES THAT REST ON ROOFING MEMBRANES. PIPE SUPPORTS SHALL BE BLOCK PIPE, ROLLER OR STRUT TYPE SUPPORTS. INSTALLATION SHALL BE PER THE MANUFACTURER'S REQUIREMENTS AND INCLUDE PIPE GUIDES, SPACERS, CLAMPS, SUPPORT PADS, TWO-SIDED TAPE AND OTHER RECOMMENDED ACCESSORIES.
3. PIPES SHALL NOT BE SUPPORTED FROM OTHER PIPES, CONDUIT, DUCTWORK, OR EQUIPMENT. PIPES SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE, CONCRETE DECK ABOVE, COLUMN, OR WALL EXCEPT FOR ROOF MOUNTED PIPE WHICH SHALL BE SUPPORTED FROM THE ROOF MEMBRANE.
   a. COPPER PIPE HORIZONTAL HANGER SPACING:
   (1) 1-1/4" AND SMALLER: 6 FEET CENTERS MAX
   (2) 1-1/2" AND LARGER: 10 FEET CENTERS MAX
   b. PVC DWV PIPE HORIZONTAL HANGER SPACING:
   (1) ALL PIPE SIZES: 4 FEET CENTERS MAX
   c. CPVC FLUE GAS PIPE HORIZONTAL HANGER SPACING:
   (1) ALL PIPE SIZES: 4 FEET CENTERS MAX
   d. POLYPROPYLENE FLUE GAS PIPE HORIZONTAL HANGER SPACING:
   (1) ALL PIPE SIZES: 4 FEET CENTERS MAX
   e. CAST IRON PIPE HORIZONTAL HANGER SPACING:
   (1) ALL PIPE SIZES: 10 FEET CENTERS FOR 10 FEET PIPE LENGTHS
   (2) ALL PIPE SIZES: 5 FEET CENTERS FOR LESS THAN 10 FEET PIPE LENGTHS
   (3) ALL PIPE SIZES: ON EACH SIDE OF A FITTING
   f. SCHEDULE 40 BLACK STEEL PIPE SUPPORT SPACING:
   (1) 3/4" TO 1": 8 FEET CENTERS MAX
   (2) 1-1/4" AND LARGER: 10 FEET CENTERS MAX

F. PIPE INSULATION

1. TYPE:
   a. TYPE 1:
   (1) DESCRIPTION: FIBERGLASS, MINIMUM 4 POUNDS PER CUBIC FOOT (P.C.F.) DENSITY, K FACTOR 0.23 MAXIMUM AT 75 DEGREE F MEAN, WITH FACTORY-APPLIED ALL-SERVICE JACKET (ASJ) COMPOSED OF REINFORCED KRAFT AND ALUMINUM FOIL LAMINATE. JACKET SHALL HAVE SELF-SEALING LAP TO FACILITATE CLOSING LONGITUDINAL AND END JOINTS.
   (2) STANDARD: ASTM C547, CLASS 1 (-20 DEGREE F TO 500 DEGREE F).
   (3) APPROVED MANUFACTURERS: JOHNS MANVILLE, KNAUF, OWENS CORNING, MANSON
   b. TYPE 2:
   (1) DESCRIPTION: FLEXIBLE, CLOSED CELL ELASTOMERIC, NOMINAL 6 PCF DENSITY, K FACTOR 0.27 MAXIMUM AT 75 DEGREE F MEAN.
   (2) STANDARD: ASTM C534 (-40 DEGREE F TO 220 DEGREE F):
   (3) APPROVED MANUFACTURERS: AEROFLEX, ARMACELL
   c. INSTALLATION:
   (1) ALL PIPING SYSTEMS LISTED IN THE FOLLOWING SECTIONS SHALL BE PROVIDED WITH INSULATION PER THIS SPECIFICATION.
   (2) INSTALL INSULATION ON PIPE SYSTEMS SUBSEQUENT TO TESTING AND ACCEPTANCE OF TEST.
   (3) MAINTAIN INTEGRITY OF VAPOR-BARRIER JACKETS ON PIPE INSULATION AND PROTECT TO PREVENT PUNCTURE OR OTHER DAMAGE. SEAL OPEN ENDS OF INSULATION WITH MASTIC. SECTIONALLY SEAL ALL BUTT ENDS OF ALL COLD WATER PIPING INSULATION AT FITTINGS WITH WHITE VAPOR BARRIER COATING.
   (4) COVER VALVES, FLANGES, FITTINGS AND SIMILAR ITEMS IN EACH PIPING SYSTEM WITH EQUIVALENT THICKNESS AND COMPOSITION OF INSULATION AS APPLIED TO ADJOINING PIPE RUN. INSTALL FACTORY MOLDED, PRECUT OR JOB FABRICATED UNITS (AT INSTALLERS OPTION) AS NECESSARY. FINISH COLD PIPE FITTINGS WITH WHITE VAPOR BARRIER COATING AND HOT PIPING WITH WHITE VINYL ACRYLIC MASTIC, BOTH REINFORCED WITH GLASS CLOTH.
   (5) PIPE INSULATION SHALL BE CONTINUOUS ACROSS ALL PORTIONS OF THE PIPING WITHOUT EXCEPTION. EXTEND PIPING INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS, HANGERS, AND SIMILAR PIPING PENETRATIONS EXCEPT WHERE OTHERWISE INDICATED.
   (6) INSTALL PROTECTIVE METAL SHIELDS AND FOAM GLASS INSERTS WHERE PIPE HANGERS BEAR ON OUTSIDE OF INSULATION.
   (7) INSTALL INSULATION PER THE MICA MANUAL AND ALL REQUIREMENTS LISTED IN THE MANUFACTURER'S INSTALLATION MANUAL.
   d. INSULATION SCHEDULE
   PROVIDE INSULATION ON THE FOLLOWING PIPING SYSTEMS:
   (a) DOMESTIC COLD WATER PIPING ABOVE GRADE SMALLER THAN 1-1/2":
   i) TYPE 1: FIBERGLASS, 1/2 INCH THICKNESS
   ii) TYPE 2:FLEXIBLE, CLOSED CELL ELASTOMERIC, 1/2 INCH THICKNESS
   (a) DOMESTIC COLD WATER PIPING ABOVE GRADE 1-1/2" TO SMALLER THAN 4":
   i) TYPE 1: FIBERGLASS, 1 INCH THICKNESS
   ii) TYPE 2: FLEXIBLE, CLOSED CELL ELASTOMERIC, 1 INCH THICKNESS
   (a) DOMESTIC COLD WATER AND TRAP PRIMER PIPING BELOW GRADE:
   i) TYPE 2: FLEXIBLE, CLOSED CELL ELASTOMERIC, 1/2 INCH THICKNESS
   (a) DOMESTIC HOT WATER AND HOT WATER RECIRCULATION PIPING ABOVE GRADE SMALLER THAN1-1/2":
   i) TYPE 1: FIBERGLASS, 1 INCH THICKNESS
   ii) TYPE 2: FLEXIBLE, CLOSED CELL ELASTOMERIC, 1 INCH THICKNESS
   (a) DOMESTIC HOT WATER AND HOT WATER RECIRCULATION PIPING ABOVE GRADE 1-1/2" TO SMALLER THAN 4":
   i) TYPE 1:FIBERGLASS, 1-1/2 INCH THICKNESS
   ii) TYPE 2:FLEXIBLE, CLOSED CELL ELASTOMERIC, 1-1/2 INCH THICKNESS
   (a) DOMESTIC HOT WATER AND HOT WATER RECIRCULATION PIPING BELOW GRADE SMALLER THAN 1-1/2":
   i) TYPE 2: FLEXIBLE, CLOSED CELL ELASTOMERIC, 1 INCH THICKNESS
   (a) STORM WATER PIPING ABOVE GRADE:
   i) TYPE 1: FIBERGLASS, 1 INCH THICKNESS
   ii) TYPE 2: FLEXIBLE, CLOSED CELL ELASTOMERIC, 1 INCH THICKNESS
   (a) CONDENSATE DRAIN PIPING ABOVE GRADE:
   i) TYPE 1: FIBERGLASS, 1-1/2 INCH THICKNESS
   ii) TYPE 2: FLEXIBLE, CLOSED CELL ELASTOMERIC, 1 INCH THICKNESS

G. PVC JACKET

1. ALL EXPOSED PIPE THAT IS INSULATED SHALL BE COVERED WITH A SMOOTH 20 MILS THICK PVC JACKET WITH FACTORY-FABRICATED FITTING COVERS.
2. INSTALL WITH 1-INCH OVERLAP AT LONGITUDINAL SEAMS AND END JOINTS. SEAL WITH MANUFACTURER'S RECOMMENDED ADHESIVE. APPLY TWO CONTINUOUS BEADS OF ADHESIVE TO SEAMS AND JOINTS, ONE BEAD UNDER LAP AND THE FINISH BEAD ALONG SEAM AND JOINT EDGE.

III. LABELING AND IDENTIFICATION

A. PIPE LABELS

PROVIDE PIPE LABELS ON ALL PIPING SYSTEMS PER THE FOLLOWING REQUIREMENTS:
1. GENERAL REQUIREMENTS FOR MANUFACTURED PIPE LABELS: PREPRINTED, COLOR-CODED, WITH LETTERING INDICATING SERVICE, AND SHOWING FLOW DIRECTION.
2. SELF-ADHESIVE PIPE LABELS: PRINTED PLASTIC WITH CONTACT-TYPE, PERMANENT-ADHESIVE BACKING.
3. PIPE LABEL CONTENTS: INCLUDE IDENTIFICATION OF PIPING SERVICE USING SAME DESIGNATIONS OR ABBREVIATIONS AS USED ON DRAWINGS; ALSO INCLUDE PIPE SIZE AND AN ARROW INDICATING FLOW DIRECTION.
4. LETTERING SIZE: SIZE LETTERS ACCORDING TO ASME A13.1 FOR PIPING
5. LOCATION OF PIPE LABELS:
   a. NEAR EACH VALVE AND CONTROL DEVICE. NEAR EACH BRANCH CONNECTION, EXCLUDING SHORT TAKEOFFS FOR FIXTURES AND TERMINAL UNITS. WHERE FLOW PATTERN IS NOT OBVIOUS, MARK EACH PIPE AT BRANCH. NEAR PENETRATIONS THROUGH WALLS, FLOORS, CEILINGS, AND INACCESSIBLE ENCLOSURES. AT ACCESS DOORS, MANHOLES, AND SIMILAR ACCESS POINTS THAT PERMIT VIEW OF CONCEALED PIPING. NEAR MAJOR EQUIPMENT ITEMS AND OTHER POINTS OF ORIGINATION AND TERMINATION. SPACED AT MAXIMUM INTERVALS OF 50 FEET ALONG EACH RUN. REDUCE INTERVALS TO 25 FEET IN AREAS OF CONGESTED PIPING AND EQUIPMENT.
6. PIPE LABEL COLOR SCHEDULE:
   a. DOMESTIC WATER PIPING: SAFETY GREEN BACKGROUND WITH WHITE LETTERS.
   b. SANITARY AND VENT PIPING: SAFETY PURPLE BACKGROUND WITH WHITE LETTERS.
   c. NATURAL GAS: SAFETY YELLOW BACKGROUND WITH BLACK LETTERS.
   d. WATER HEATER FLUE GAS: SAFETY ORANGE BACKGROUND WITH BLACK LETTERS.
7. APPROVED MANUFACTURERS: BRADY CORPORATION, BRIMAR INDUSTRIES, AND SETON.

B. VALVE TAGS

PROVIDE VALVE TAGS ON ALL VALVES PER THE FOLLOWING REQUIREMENTS AND PROVIDE OWNER WITH VALVE SCHEDULE:
1. VALVE TAGS: STAMPED OR ENGRAVED WITH 1/4-INCH HIGH LETTERS FOR PIPING SYSTEM ABBREVIATION AND 1/2-INCH HIGH NUMBERS.
2. TAG MATERIAL: ALUMINUM, 0.032-INCH MINIMUM THICKNESS, AND HAVING PREDRILLED OR STAMPED HOLES FOR ATTACHMENT HARDWARE.
3. FASTENERS: STAINLESS STEEL BEADED CHAIN.
4. VALVE SCHEDULES: FOR EACH PIPING SYSTEM, ON 8-1/2-BY-11-INCH BOND PAPER. TABULATE VALVE NUMBER, PIPING SYSTEM, SYSTEM ABBREVIATION (AS SHOWN ON VALVE TAG), LOCATION OF VALVE (ROOM OR SPACE), NORMAL-OPERATING POSITION (OPEN, CLOSED, OR MODULATING), AND VARIATIONS FOR IDENTIFICATION. MARK VALVES FOR EMERGENCY SHUTOFF AND SIMILAR SPECIAL USES.
5. INSTALL TAGS ON VALVES AND CONTROL DEVICES IN PIPING SYSTEMS EXCEPT CHECK VALVES, VALVES WITHIN FACTORY-FABRICATED EQUIPMENT UNITS, SHUTOFF VALVES, FAUCETS, CONVENIENCE AND LAWN-WATERING HOSE CONNECTIONS, AND SIMILAR ROUGHING-IN CONNECTIONS OF END-USE FIXTURES AND UNITS. LIST TAGGED VALVES IN A VALVE SCHEDULE.
6. VALVE-TAG APPLICATION SCHEDULE: TAG VALVES ACCORDING TO SIZE, SHAPE, AND COLOR SCHEME AND WITH CAPTIONS SIMILAR TO THOSE INDICATED IN THE FOLLOWING:
7. VALVE-TAG SIZE AND SHAPE: ALL SERVICES: 1-1/2 INCHES, ROUND.
8. APPROVED MANUFACTURERS: BRADY CORPORATION, BRIMAR INDUSTRIES, AND SETON.

C. NAMEPLATES

1. PRODUCT DESCRIPTION: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED BLACK LETTERS ON LIGHT CONTRASTING BACKGROUND COLOR.

IV. METERS AND GAGES

A. THERMOMETERS

1. PROVIDE THERMOMETERS AT WATER HEATER INLET AND OUTLET CONNECTIONS AND RECIRCULATION PUMP SUCTION AND DISCHARGE CONNECTIONS. THERMOMETERS SHALL BE BIMETALLIC ACTUATED PER ASME B40.200, LIQUID FILLED, STAINLESS STEEL, 5 INCH DIAMETER, NONREFELCTIVE ALUMINUM DIAL, PERMANENTLY ETCHED SCALE MARKINGS IN DEG F, WITH PLAIN GLASS WINDOW, AND ACURRACY OF PLUS OR MINUS 1 PERCENT OF SCALE RANGE.
   a. APPROVED MANUFACTURERS: ASHCROFT INC., ERNST FLOW INDUSTRIES, PALMER WAHL INSTRUMENTATION GROUP, TERICE H. O. CO., WEISS INSTRUMENTS INC, AND WEKSLER GLASS THERMOMETER CORP.

B. PRESSURE GAGES

1. PROVIDE PRESSURE GAGE AT WATER SERVICE ENTRANCE TO BUILDING, ON BOOSTER PUMP SUCTION AND DISCHARGE CONNECTIONS, AND INLET AND OUTLET OF PRESSURE REDUCING VALVES. PRESSURE GAGES SHALL BE DIRECT-MOUNTED METAL CASE DIAL-TYPE PER ASME B40.100, LIQUID FILLED, ALUMINIMUM OR STAINLESS STEEL, 6 INCH DIAMETER, NONREFELCTIVE ALUMINUM DIAL, PERMANENTLY ETCHED SCALE MARKINGS IN PSI, WITH PLAIN GLASS WINDOW, AND ACURRACY OF PLUS OR MINUS 1 PERCENT OF MIDDLE HALF OF SCALE RANGE.
   a. APPROVED MANUFACTURERS: ASHCROFT INC., ERNST FLOW INDUSTRIES, PALMER WAHL INSTRUMENTATION GROUP, TERICE H. O. CO., AND WEISS INSTRUMENTS INC.

V. VALVES

A. DOMESTIC WATER VALVES

PROVIDE VALVES ON WATER SYSTEMS PER THE FOLLOWING REQUIREMENTS:
1. COPPER AND STAINLESS PIPE SYSTEMS:
   a. VALVES 4" AND SMALLER SHALL BE BRASS BALL VALVES, TWO PIECE, FULL PORT, 300 PSI MINIMUM PRESSURE RATING, THREADED OR SOLDERED CONNECTIONS, AND INSTALLED WHERE INDICATED ON DRAWINGS AND WHERE NECESSARY FOR PROPER AND SAFE OPERATION AND MAINTENANCE.
   b. VALVES LARGER THAN 4" SHALL BE TYPE 613 STAINLESS STEEL, ASTM A743/A743M, GROOVED-END BUTTERFLY VALVES PER MSS SP-67, TYPE I AND INSTALLED WHERE INDICATED ON DRAWINGS AND WHERE NECESSARY FOR PROPER AND SAFE OPERATION AND MAINTENANCE.
   c. BALL VALVES AND BUTTERFLY VALVES SHALL BE USED FOR ALL SHUT-OFF VALVES.
   d. VALVES SHALL BE NSF 61/372 LISTED AND APPROVED FOR USE FOR POTABLE WATER SYSTEMS AND SHALL BE SUITABLE FOR THE SERVICE PRESSURE AND TEMPERATURE.
2. APPROVED VALVE MANUFACTURERS: APOLLO, JOMAR, HAMMOND, MILWAUKEE, NIBCO, WATTS.

B. NATURAL GAS VALVES

PROVIDE GAS VALVES ON GAS PIPING SYSTEMS PER THE FOLLOWING REQUIREMENTS:
1. VALVES 1/2" THROUGH 2" SHALL BE NON-LUBRICATED BRONZE PLUG VALVES.
2. VALVES 2" THROUGH 4" SHALL BE NON-LUBRICATED CAST IRON PLUG VALVES.
3. APPROVED MANUFACTURERS: HOMESTEAD, DEZURIK, A.Y. MCDONALD, JOMAR
4.

DRAWN BY: JJC CHECKED BY: MPW

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25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

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ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

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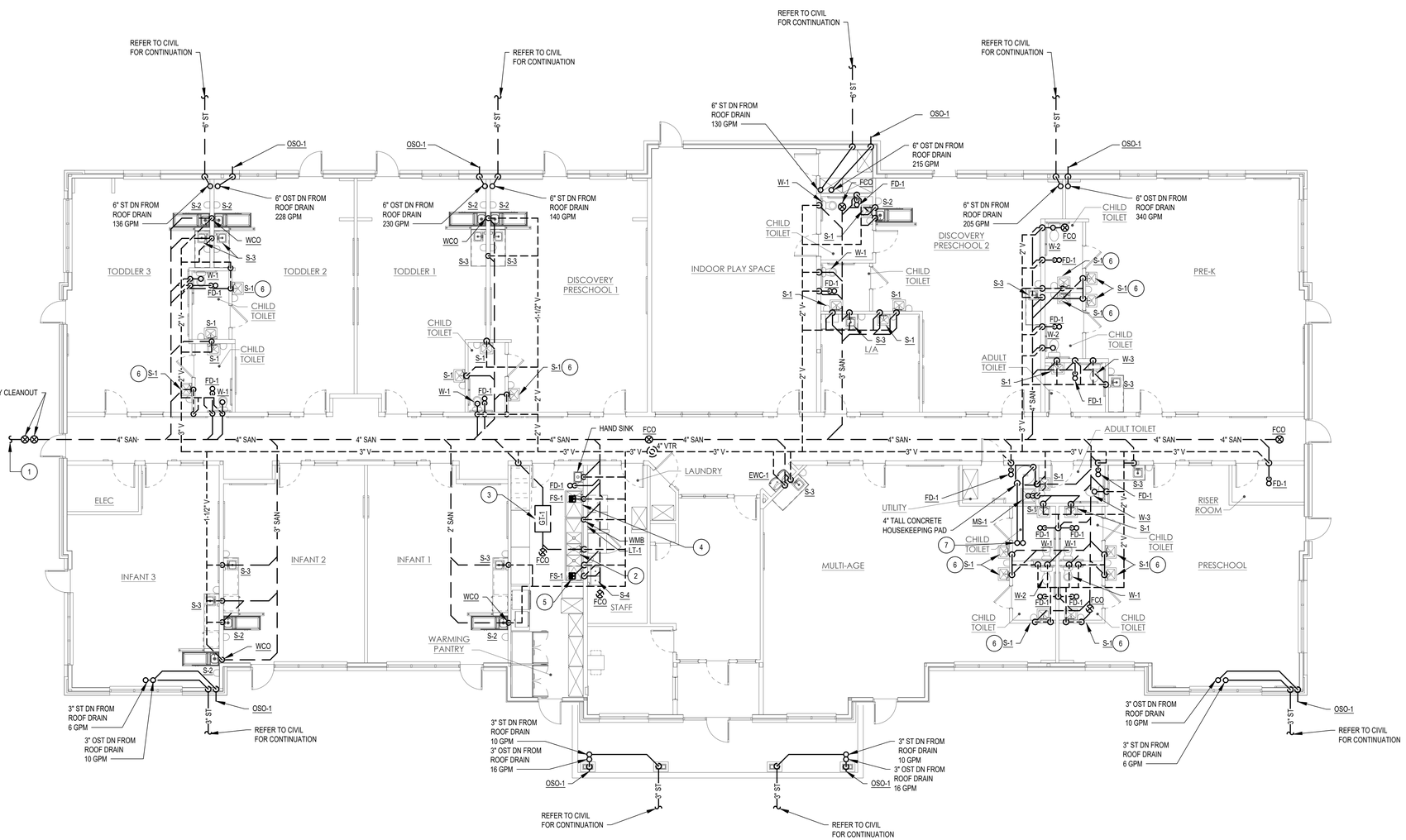
PLUMBING DETAILS

DATE 03/02/2026
JOB NO. 25027

P-0.5
SHEET NO.

SHEET KEYNOTES

1. 4" SAN, REFER TO CIVIL FOR CONTINUATION.
2. 3-COMPARTMENT SINK TO BE INDIRECTLY WASTED TO FLOOR SINK. PROVIDE WITH AIR GAP.
3. HYDROMECHANICAL GREASE INTERCEPTOR TO BE BURIED BELOW FLOOR WITH 24" ROUND ACCESS COVER INSTALLED FLUSH WITH FINISHED FLOOR.
4. 1-COMPARTMENT SINK TO BE INDIRECTLY WASTED TO FLOOR SINK, PROVIDE WITH AIR GAP
5. DISHWASHER TO BE INDIRECTLY WASTED TO FLOOR SINK, PROVIDE WITH AIR GAP.
6. ROUTE 1-1/2" V IN HALF HEIGHT WALL FROM SINK/LAV TO FULL HEIGHT WALL.
7. 3" WATER HEATER FLUE AND 3" WATER HEATER INTAKE UP TO CONCENTRIC VENT KIT THROUGH ROOF WITH CURB.



1	SANITARY & VENT PLUMBING PLAN
P-1.1	SCALE: 1/8" = 1'-0"

DRAWN BY: JJC CHECKED BY: MPW

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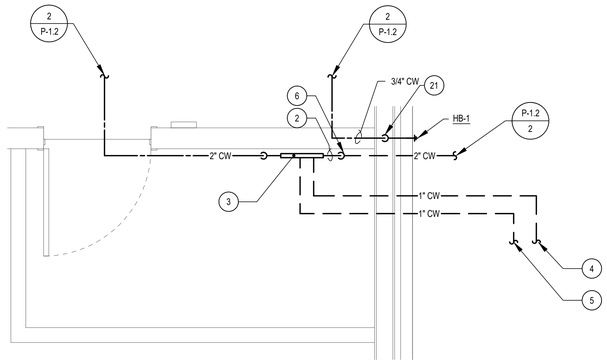
SANITARY & VENT PLUMBING PLAN

DATE 03/02/2026

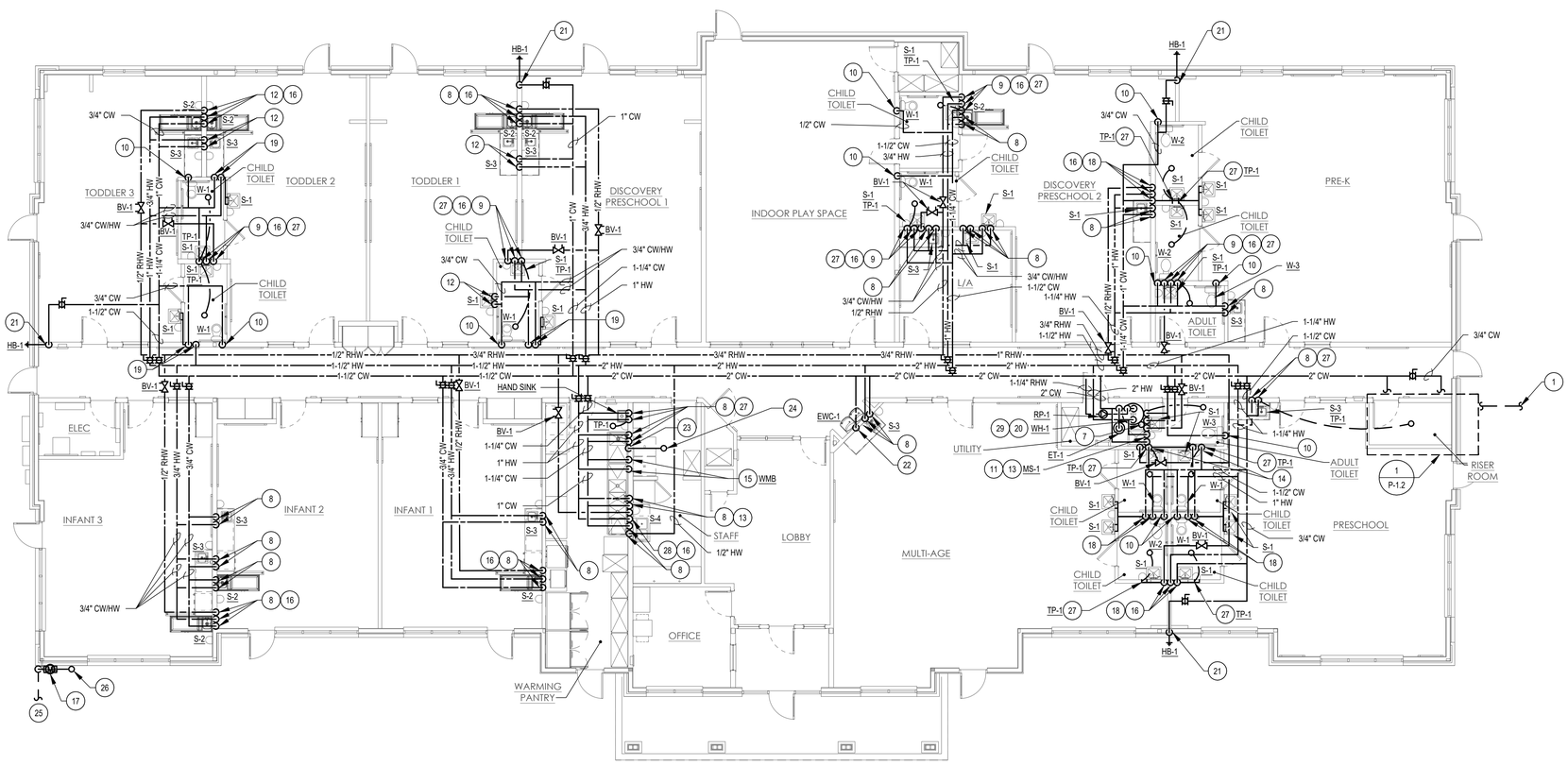
JOB NO. 25027

P-1.1

SHEET NO.



1	UTILITY ROOM PLUMBING PLAN
P-1.2	SCALE: 1/2" = 1'-0"



2	DOMESTIC WATER PLUMBING PLAN
P-1.2	SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. PROVIDE A CEILING TAG (STICKER) FOR SHUT-OFF VALVES LOCATED IN CORRIDOR. FIELD COORDINATE EXACT LOCATION OF SHUT-OFF VALVES IN AN ACCESSIBLE LOCATION.
2. REFER TO ARCHITECTURAL A7.0 SERIES SHEETS FOR PLUMBING LOCATIONS AT ALL MILLWORK FIXTURES.

SHEET KEYNOTES

1. INCOMING 6" COMBINED FIRE AND WATER SERVICE U/G. REFER TO CIVIL FOR CONTINUATION
2. 2" CW TO BACKFLOW (BFP-1) / METER ASSEMBLY. REFER TO DETAIL FOR MORE INFORMATION
3. BACKFLOW (BFP-1, BFP-2, AND BFP-3) / METER ASSEMBLY STACKED. COORDINATE INSTALLATION WITH FIRE PROTECTION CONTRACTOR AND THEIR BACKFLOW PREVENTER ASSEMBLY.
4. 1" CW LINE FROM BACKFLOW (BFP-3) / METER ASSEMBLY TO IRRIGATION SYSTEM. PROVIDE WITH DEDICATED ASSE 1056 PRESSURE VACUUM BREAKER ASSEMBLY. REFER TO DETAIL FOR MORE INFORMATION
5. 1" CW FROM BACKFLOW (BFP-3) / METER ASSEMBLY TO OUTDOOR SPLASH AREA. PROVIDE WITH DEDICATED ASSE 1056 PRESSURE VACUUM BREAKER ASSEMBLY. REFER TO DETAIL FOR MORE INFORMATION
6. 2" CW UP FROM BELOW FLOOR. PROVIDE WITH FULL OPEN SHUT-OFF VALVE.
7. 1-1/4" G DOWN FROM ROOF ABOVE TO WATER HEATER (199.9 CFH).
8. 1/2" HW AND CW DOWN IN WALL TO SINK
9. 1/2" HW AND CW DOWN IN WALL TO LAV(S)
10. 1/2" CW DOWN IN WALL TO WATER CLOSET
11. 3/4" HW AND CW DOWN IN WALL TO MOP SINK
12. 3/4" HW AND CW DOWN IN WALL TO SINKS.
13. PROVIDE 1/2" CW WITH SHUT-OFF VALVE AND BFP-2 FOR CHEMICAL DISPENSER CONNECTION. COORDINATE FINAL ROUGH-IN LOCATION WITH EQUIPMENT VENDOR.
14. 1/2" CW DOWN TO LAVATORY. 1/2" HW DOWN TO LAVATORIES. 1/2" RHW UP FROM LAVATORY TO MAKE A RECIRCULATION LOOP.
15. 1/2" HW AND CW DOWN IN WALL TO WMB.
16. 1/2" RHW DOWN TO HW CONNECTION.
17. GAS PIPING TO GAS METER ASSEMBLY, COORDINATE SIZE WITH LOCAL GAS UTILITY COMPANY. GAS METER WITH PRESSURE REGULATOR AND SHUT-OFF PER LOCAL UTILITY COMPANY REQUIREMENTS. 982.9 CFH TOTAL CONNECTED LOAD, 7" W.C. DELIVERY PRESSURE. GAS PIPING SIZED USING LONGEST LENGTH METHOD WITH 0.5" W.C. PRESSURE DROP ACROSS THE ENTIRE SYSTEM AT AN EQUIVALENT LENGTH OF 300 FT.
18. 3/4" CW/HW DOWN IN WALL EXTEND 1/2" CW/HW THROUGH HALF HEIGHT WALL TO SINK/LAV(S).
19. 1/2" CW/HW DOWN IN WALL EXTEND 1/2" CW/HW THROUGH HALF HEIGHT WALL TO SINK/LAV(S).
20. 2" CW DOWN AND 2" HW UP FROM WATER HEATER.
21. 3/4" CW DOWN TO HB-1.
22. 1/2" CW DOWN TO EWC-1.
23. 3/4" G DOWN TO DRYER (35 CFH).
24. 3/4" G DOWN FROM ROOF ABOVE.
25. INCOMING GAS SERVICE UNDERGROUND BY GAS UTILITY PROVIDER. REFER TO CIVIL FOR CONTINUATION
26. P.C. SHALL EXTEND GAS PIPING ALONG EXTERIOR OF BUILDING AND THROUGH WALL TO FIRST FLOOR CEILING SPACE. P.C. TO COORDINATE WITH G.C. TO PRIME AND PAINT EXTERIOR GAS PIPING SAME COLOR AS EXTERIOR WALL.
27. 1/2" CW DOWN BELOW FLOOR FROM TP-1 UNDER LAV/SINK TO FLOOR DRAIN TRAP PRIMER CONNECTION.
28. 1/2" HW DOWN IN WALL TO DISHWASHER PROVIDE WITH SHUT-OFF VALVE AND BFP-2 BACKFLOW PREVENTER.
29. TERMINATE 3" WATER HEATER FLUE AND INTAKE SEPARATELY THROUGH ROOF WITH CURBS A MINUMUM OF 48" APART WITH FACTORY SUPPLIED ELBOWS DOWN A MINIMUM OF 60" ABOVE ROOF LEVEL WITH BIRD SCREENS

DRAWN BY: JJC CHECKED BY: MPW

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CONSULTING ENGINEERING, PLLC

25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

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ADA ARCHITECTS
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DOMESTIC WATER PLUMBING PLAN

DATE 03/02/2026

JOB NO. 25027

P-1.2

SHEET NO.

PVC Type DWV, Schedule 40					
Drainage Pipe Flow Rates and Velocities					
Piping Material:	PVC		Pitch =	0.125	inches/ft
Roughness Coefficient, n =			0.01		
Pipe Size (inches)	Inside Diameter (inches)	Flow Rate (GPM)	Velocity (Ft/Sec)	Flow Rate (GPM)	Velocity (Ft/Sec)
		1/2 Full Flow		Full Flow	
1.25	1.38	3.3	1.4	6.6	1.4
1.5	1.71	5.9	1.6	11.8	1.6
2	2.17	11.1	1.9	22.2	1.9
3	3.07	28.0	2.4	56.0	2.4
4	4.03	57.8	2.9	115.6	2.9
6	6.07	172.3	3.8	344.7	3.8
8	7.98	357.4	4.6	714.9	4.6
10	10.02	655.9	5.3	1311.8	5.3
12	11.94	1046.8	6.0	2093.6	6.0
15	14.55	1773.5	6.8	3547.0	6.8
18	17.7	2990.8	7.8	5981.6	7.8
21	20.87	4640.7	8.7	9281.5	8.7

Roof Area to Flow Rate Conversion		
Rainfall Rate (inches/hour)	Flow Rate (GPM)	Roof Area (sq ft)
1	1	96
2	1	48
3	1	32
4.5	1	21.38
5	1	19.2
6	1	16
7.5	1	12.83
8	1	12
9	1	10.67
10	1	9.6

GENERAL SHEET NOTES

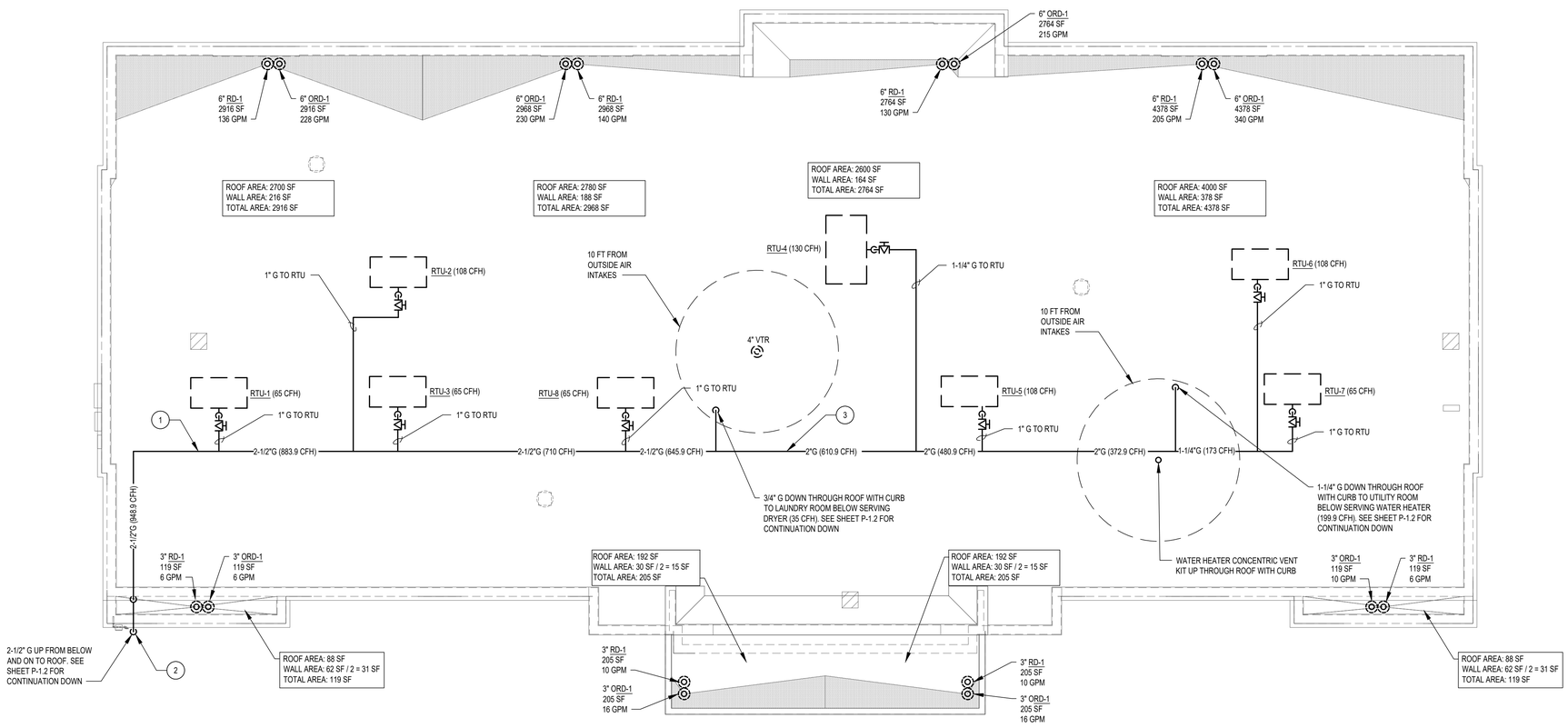
1. PLUMBING CONTRACTOR TO NOTIFY THE AUTHORITY HAVING JURISDICTION WHEN THE INSTALLATION IS READY FOR INSPECTION (AT ROUGH-IN PRIOR TO COVERING AND FINAL).
2. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL MANUAL SHUT-OFF VALVE, DRIPS, AND/OR SEDIMENT TRAPS AT EACH PIECE OF EQUIPMENT AND AT THE OUTLET OF THE METER. VALVES AND DRIPS SHALL BE READILY ACCESSIBLE TO PERMIT CLEANING, EMPTYING, OR SERVICING.
3. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PRESSURE TESTING AND INSPECTION PRIOR TO ACCEPTANCE, PER FUEL GAS CODE.
4. REFER TO P0.2 FOR GAS SCHEDULE AND DEMAND.

SHEET KEYNOTES

1 PROVIDE GAS SUPPORT ON ROOF. REFER TO DETAIL.

2 P.C. SHALL EXTEND 2-1/2" GAS PIPING ALONG EXTERIOR OF BUILDING TO THE ROOF. P.C. TO COORDINATE WITH GC TO PRIME AND PAINT GAS PIPING SAME COLOR AS EXTERIOR WALL.

3 PAINT ALL ROOF TOP GAS PIPING WITH RUST INHIBITING PAINT, COLOR YELLOW.



2	ROOF PLUMBING PLAN
P-1.3	SCALE: 1/8" = 1'-0"

DRAWN BY: JJC CHECKED BY: MPW

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25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

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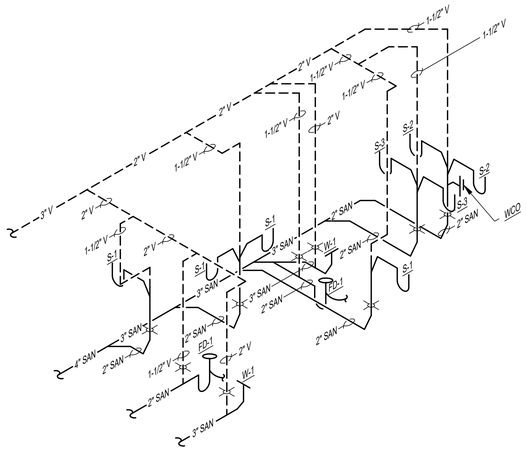
ROOF PLUMBING PLAN

DATE 03/02/2026

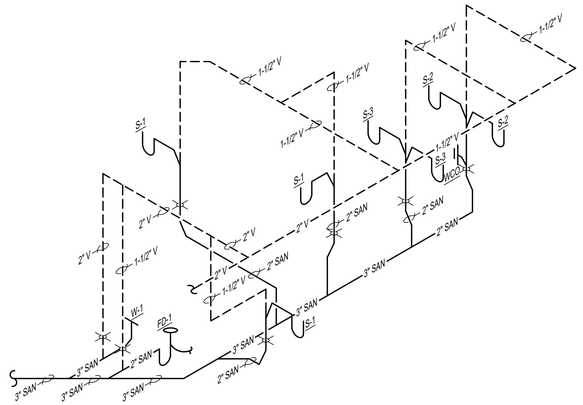
JOB NO. 25027

P-1.3

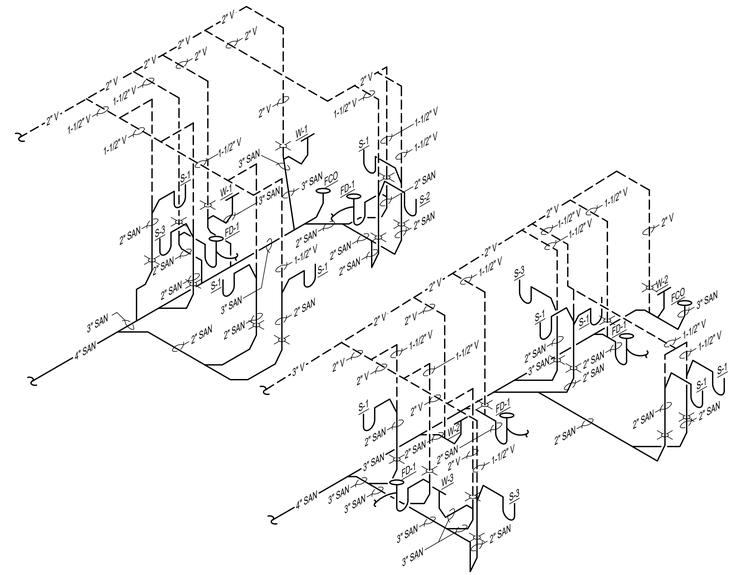
SHEET NO.



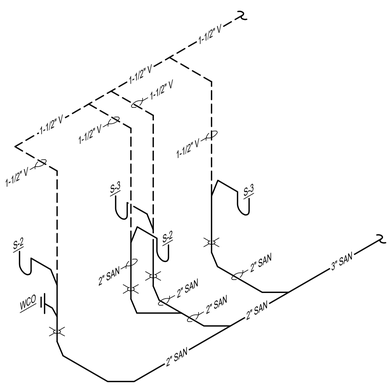
1	TODDLER 2 AND TODDLER 3 SANITARY RISER DIAGRAM
P-4.0	SCALE: NONE



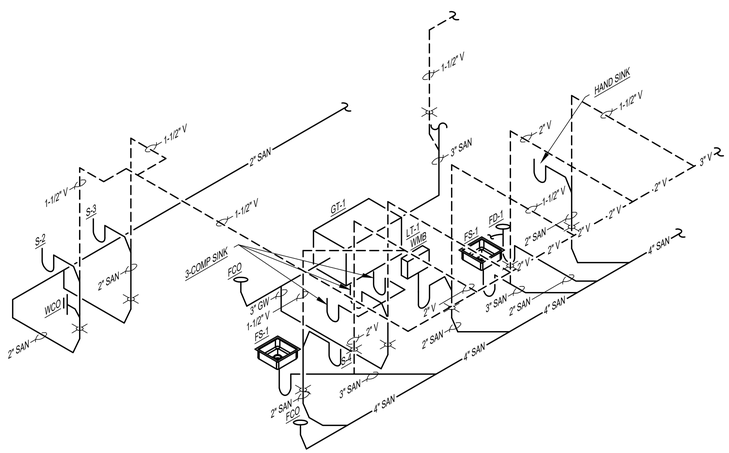
2	TODDLER 1 AND DISCOVERY PRESCHOOL 1 SANITARY RISER DIAGRAM
P-4.0	SCALE: NONE



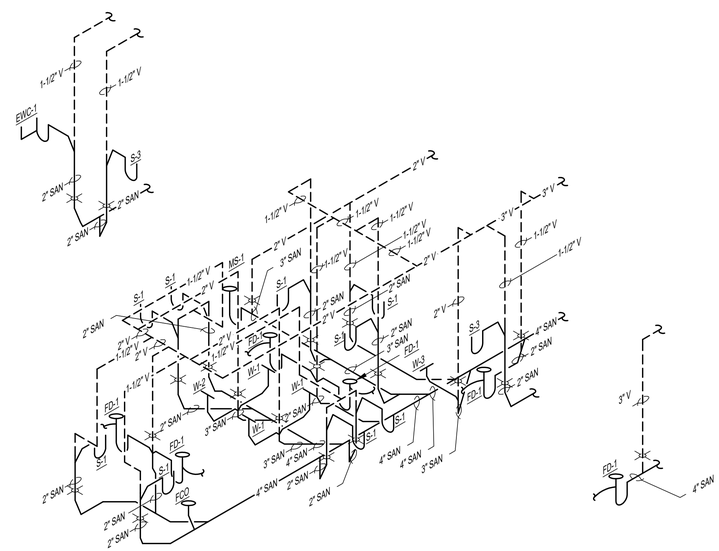
3	INDOOR PLAY SPACE, DISCOVERY PRESCHOOL 2 AND PRE-K SANITARY RISER DIAGRAM
P-4.0	SCALE: NONE



4	INFANT 2 AND INFANT 3 SANITARY RISER DIAGRAM
P-4.0	SCALE: NONE



5	STAFF, LAUNDRY, WARMING PANTRY AND INFANT 1 SANITARY RISER DIAGRAM
P-4.0	SCALE: NONE



6	MULTI-AGE SCHOOL AGE, PRESCHOOL AND RISER ROOM SANITARY RISER DIAGRAM
P-4.0	SCALE: NONE

INDIVIDUAL FIXTURE BRANCH SIZE SCHEDULE	
UNLESS OTHERWISE NOTED INDIVIDUAL FIXTURE BRANCH WASTE SIZES SHALL BE:	
S-1,2,3,4	1-1/2"
W-1,2,3	3"
WMB	2"
MS	3"
HS	1-1/2"
FD	2"
FS	3"
DF-1, EWC-1	1-1/2"

SANITARY RISER LEGEND

= FLOOR DRAIN WITH TRAP PRIMER CONNECTION

= PIPE THROUGH FLOOR PENETRATION

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SANITARY & VENT RISER DIAGRAM

DATE 03/02/2026

JOB NO. 25027

P-4.0

SHEET NO.

ELECTRICAL SPECIFICATIONS

A: DESCRIPTION OF WORK

1. The electrical contractor shall provide all labor, material, equipment, and tools necessary for demolition and removal of existing and the complete installation of the new electrical work, ready to use, as shown on the drawings or specified herein. Work shall include, but not be limited to the following:
   - i. Furnish and install new conduit and wire.
   - ii. Furnish and install all fuses, circuit breakers, panelboards etc.
   - iii. Install new lighting fixtures as indicated.
   - iv. Furnish & install new light fixtures as indicated.
   - v. Furnish & install communications devices.
   - vi. Furnish & install intercom system.
   - vii. Furnish & install security system.
2. The exact location of all items shown on the electrical drawings is dependent upon field conditions. Review the plans and specifications for all parts and consult with other trades of this project for pertinent data on sizes, locations, wiring, etc., as required for a complete electrical installation.
3. The electrical contractor shall not attach to, cover up, or finish against any defective work, or install in a manner which will prevent proper installation of the work of other trades.
4. The electrical contractor shall warrant all work & material indicated on these electrical drawings for a period of 1 year from the date of final acceptance. Warranty shall include any additional labor or material required to repair or replace defective item.

B: CODES, PERMITS AND FEES

1. All work included by the drawings and specifications, together with all material (or equipment) furnished, shall comply with the latest published codes and standards listed insofar as such shall apply. All electrical items shall be UL labeled & listed.
2. The contractor shall secure all permits and pay all fees that are required by the applicable local and state codes.
3. Perform all work in accordance with the latest edition of applicable codes including, but not necessarily limited to those listed below:
   - i. The National Electrical Code - sometimes referred to herein as the "NEC" - (NFPA-70).
   - ii. National Electrical Safety Code (ANSI-C2).
   - iii. All applicable state and local codes.
   - iv. Applicable provisions of the Occupational Safety and Health Act.

C: GENERAL REQUIREMENTS

1. The drawings represent the design for the listed manufacturers' requirements. If any substitutions are accepted by the engineer, this contractor shall be responsible for all necessary modifications, including cost, to the electrical system required because of the substituted equipment or material.
2. **The electrical, mechanical, architectural, structural, and all other drawings as well as the specifications and addendums are part of the contract documents. any electrical requirements called for on other trades contract documents shall be included in the electrical bid.**
3. The contractor shall visit the job site and become familiar with all existing conditions. Submission of a bid assumes the contractor has reviewed or accepts all field Conditions and existing conditions. No additional compensations shall be allowed for labor or material because of ignorance of these conditions before or after bid submission.
4. Discrepancies between the drawings or between the drawings and actual field conditions shall be brought to the attention of the architect and the engineer prior to submitting the bid. The more comprehensive and most expensive scope of work shall be considered for the electrical bid unless written clarification is provided by the architect and the engineer prior to submitting the bid.

D: RACEWAYS

1. EMT conduit shall be used in all locations which call for conduit unless noted therwise. Conduits routed thru areas of significant temperature differences shall be provided with seal-off fittings to minimize condensation. Conduits penetrating fire walls shall be firestopped per NEC & details shown on drawings.
2. Rigid PVC Schedule 40 shall be used for all underground or below slab conduit runs.
3. Heavy wall rigid steel conduit shall be used in all exposed interior applications below structural ceiling and exterior exposed applications. provide 2 coats of rust inhibiting paint for exterior runs. Paint shall match surface conduit is attached to.
4. "MC" cable may be used for all branch circuits as allowed by the National Electrical Code & the authority having jurisdiction. Cable shall be installed in a neat professional manner adhering to industry standards.
5. When power or control conductors are installed in a raceway, a green equipment grounding conductor shall be included in each raceway system and shall be sized as shown on the drawings or if not noted on the drawings, then in accordance with Table 250-122 of the NEC, or as indicated on the drawings If green insulation is not available, the grounding conductor shall be bare and clearly and permanently marked at all tap and terminating points by green "scotch" marking tape, code markers, or other approved means.
6. All conduit shall be securely fastened in full accordance and as directed by the latest edition of the National Electrical Code. In addition to the NEC requirements, conduit hangers, supports, or fastenings shall be provided at each elbow and at the end (within 6") of each straight run terminating at a box or cabinet.
7. Conduits or boxes may not be supported by ceiling support wires or other ceiling supporting hardware.
8. Horizontal and vertical conduit runs may be supported by one-hole malleable straps, clamp backs, or other approved devices with suitable bolts, expansion shields (where needed) or beam type clamps for mounting to building structure or special brackets.
9. The use of perforated iron for supporting conduits will not be permitted.
10. Conduit runs between outlets shall contain not more than the equivalent of three (3) quarter bends. Provide junction and/or pull boxes where shown on the drawings or as required, whether shown on the drawings or not. Pull boxes shall be approved for use in the area where they are to be installed. Pull boxes or junction boxes shall be provided in accordance with the following schedule:
    - i. Straight runs - not over one hundred (100) feet apart.
    - ii. One (1) 90 degree bend - not over seventy five (75) feet apart.
    - iii. Two (2) or more 90 degree bends - not over fifty (50) feet apart.
11. In Class I and Class II hazard areas, as designated on the drawings, explosion-proof flexible metal conduit shall be used for all final conduit terminations at motors and to all other devices subject to vibration or movement. This shall include all pendant mounted lighting fixtures and conduit runs at building expansion joints in Class I and Class II hazard areas. Electrical ground continuity shall be provided as noted above.
12. Telephone and data (including other special communication systems such as cable TV) conduits shall be a minimum of 3/4" in size unless noted otherwise, and shall run continuous from outlet to outlet and back to the main terminal board, or shall be stubbed into the ceiling space (8" above the ceiling) and provided with a plastic bushing. Bond conduit stub with a #10 bare copper conductor to the nearest electrical outlet box or continuous metal conduit body. Refer to plans for specific details about the routing of the conduits. All empty conduits shall be provided with a #10 pull wire.
13. Cables installed without conduit shall be UL classified for low flame resistance and low smoke properties with "FEP" Teflon or Halar insulation suitable for plenum applications per Article 760 of the N.E.C.
14. Conduits below grade shall be installed in conformance with:
    - i. Provide all necessary trenching, backfill & removal of trenched material from site.
    - ii. The bottom of the trench shall be undisturbed earth or thoroughly compacted fill. The contractor shall be responsible for such compaction. the bottom shall be free of projecting rocks or other foreign matter. Where muck or unstable ground is encountered in the bottom of the trench, it shall be excavated to a depth of at least 12in. below the bottom line of the ducts and replaced with pea gravel in the proper grade. Duct shall not be installed on or in frozen ground. sheeting or bracing shall be provided where necessary to protect the work or adjacent property. Sheeting, bracing, and pea gravel shall be installed by the electrical contractor at no additional expense to the owner. Backfill shall consist of 3 inches of compacted sand below conduits and 12" above conduits. Clean screened fill shall be installed and compacted to 6" below final grade or as detailed in architectural specifications. Final grade patch shall be by E.C.
    - iii. Duct joints shall be sealed with waterproof joint compound. Ducts shall be supported at least 3in. above the trench bottom on plastic supports with spacing not exceed 5'. Before duct is placed, supports shall be aligned, set to grade, and placed in concrete to prevent movement when encasement is placed. Ducts shall be secured to supports and spacers placed for tiered ducts.
    - iv. All secondary power service underground ducts shall be encased with 3000 psi concrete. All underground ducts shall be 4" in diameter schedule 40 rigid non-metallic (P.V.C.) ducts with ground wires, unless specifically indicated otherwise on the drawings. concrete encasement shall be in accordance with the applicable provisions of the general trades portion of the specifications.
    - v. Encasement shall be continuous monolithic pour providing a minimum of 3" completely arownd the ducts. Concrete shall not be poured directly on top of the ducts, but shall be poured from the sides and allowed to flow over the ducts.
    - vi. Bell ends shall be installed at all duct terminations or as required by the power company. Fittings, couplings and other accessories, as recommended by the manufacturer, shall be provided and installed.
    - vii. Ducts shall be cleaned by rodding and brushing. It shall be the contractors responsibility to assure a full bore opening throughout the duct system.

E: FITTINGS FOR CONDUIT

1. Couplings and connectors for EMT: Die cast zinc, steel, or aluminum compression type. Set screw type will also be permitted. Approved manufacturers, Thomas & Betts, Steel City, O-Z Gedney.
2. Fittings for rigid plastic conduit: Polyvinyl chloride, joints solvent welded in field, providing continuity of mechanical strength and water tightness. Fittings and cement shall be produced by the same manufacturer as the conduit.
3. Fittings for rigid conduit: Cast or malleable iron bodies, zinc or cadmium plated, with full threaded hubs, screw covers and gaskets when located in areas requiring gaskets. Approved manufacturers: Crouse-Hinds, Pyle National, Appleton.
4. Couplings and connectors for flexible steel conduit: Malleable iron or steel, zinc or cadmium plated and shall fasten to the conduit by a clamping action around the periphery. Connectors for "liquid-tight" flexible conduit shall be approved for the purpose and maintain the liquid-tight feature of the installation. Approved manufacturers: Thomas & Betts, Steel City, O-Z Gedney.
5. Bushings: Grounding type, with insulating plastic insert; malleable iron, zinc or cadmium plated, for steel conduit and aluminum alloy for aluminum conduit. Install grounding type bushings as required in the grounding section of this specification.
6. Fittings for conduits : All conduit runs at building expansion joints shall be provided with O-Z type expansion fittings. Sizes shall be as dictated by the conduit size. A bonding jumper shall be securely connected to each conduit. Exterior exposed runs of PVC conduit shall be provided with expansion fittings at intervals not exceeding manufaturers recommendations.
7. Outlet, Pull, Terminal and Junction Boxes in Classified (Hazardous) Areas: Cast boxes shall be copper-free aluminum with integral hubs or box wall thickness sufficient for a minimum of five full tapered threads. Covers shall be screw-on bolt-on through 12" x 12" boxes and hinged removable bolt-on covers for larger boxes. Boxes other than outlet boxes shall be equipped with a breather drain and equipment grounding lug and all boxes shall be, as applicable, for installation in the particular classified (hazardous) areas which are designated on the drawings. Approved Manufactures: Crouse-Hinds, Pyle-National, Appleton, Adalet, O-Z Gedney, or Killark.
8. Conduit Fittings in Classified (Hazardous) Areas: Conduit seals and/or drain seals shall be installed in strict accordance with the NEC in classified (Hazardous) areas designated on the drawings, with special attention to the following:
   - i. Entering or cross-connecting enclosures containing arcing or high temperature devices.
   - ii. Two-inch conduit and larger entering any enclosure.
   - iii. Passing from Division 1 to Division 2, from Division 2 to non-classified areas, with or without a barrier.
   - iv. Multi-conductor and shielded cables.

F: ELECTRICAL SUPPORTING DEVICES

1. Supports shall be suitable for the device or equipment to be mounted. All supports shall present a neat appearance, and shall be installed in such a way that they do not detract from the appearance of the space. Supports shall have adequate strength and shall be installed so as to properly support the device or equipment mounted on them.
2. Electrical supports shall be attached to the structure by one of the following methods:
   - i. Wood - wood screws.
   - ii. Concrete - expansion bolts or cast in place anchors.
   - iii. Structural steel - approved brackets or machine bolts.

G: CONDUCTORS

1. Conductors shall be new, 600 volt, 90c, type XHHW, THHN or THWN insulation, stranded copper for feeders rated above 60 amps. Compact aluminum may be used for feeders of 150amps or higher sizes indicated on the drawings are for copper conductors. Minimum size shall be #12 AWG for runs of less than 100 feet total circuit length (out and back for single phase circuits and out only for three phase circuits with no neutral). Use #10 AWG for circuits longer than 100 feet. Other sizes shall be as noted. Control wiring may be #14 AWG. All 120 volt and 277 volt circuits shall have a dedicated neutral conductor.
2. Compression type lugs and connectors shall be used for all terminations and splices. All terminations shall be permanently identified and numbered, using "Brady" labels or other approved equal. Wire numbering shall be panelboard and circuit numbers. Also, all wiring which passes through junction or pull boxes shall be identified with appropriate numbers. When panelboard/circuit numbers are not appropriate for identification, the contractor shall assign a unique number and record this number on the construction set.

H: WIRING DEVICES

1. Provide wiring devices which are UL listed and which comply with NEMA WD 1 and other applicable UL and NEMA standards. Device Color shall be white unless otherwise noted. Coverplate color shall match device color. Confirm color selection with architect before purchasing and installing.
2. Receptacles: Devices shall be specification grade, NEMA 5-20R configuration. Duplex type, Hubbell Cat No. CR5362, single outlet type, Hubbell Cat No. CR5361, GFCI duplex, Hubbell Cat No. CR GF5362. Catalog numbers for Hubbell are shown for reference purposes and equivalent receptacles by other manufacturers as noted above are also approved. Receptacles shall comply with UL 498 and NEMA WD 1. Special receptacles not shown below shall be specification grade with Nema configuration as noted on the drawings.
3. Ground-fault interrupter (GFI or GFCI) receptacles as indicated above shall be designed for and installed in a 2-3/4 inch deep outlet box without adapter, grounding type, Class A, Group 1, per UL Standard 94.3.
4. Snap switches: Devices shall be specification grade quiet type, 20 A 120/277V, single pole Hubbell Cat No. CS1221, two pole Hubbell Cat No. CS1222, three pole, Hubbell Cat No. CS1223, and four pole, Hubbell Cat No. CS1224. Catalog numbers for Hubbell are shown for reference purposes and equivalent receptacles by other manufacturers as noted above are also approved. Devices shall be specification grade, quiet type ac switches, and shall comply with UL 20 and NEMA WD1.
5. Approved manufacturers for wiring devices:
   Hubbell
   P & S
6. Dimmer switches: solid state dimmer switches conforming to NEMA WD 1, mounted in outlet boxes. For incandescent fixtures; switch poles and wattage as indicated, 120 V, 60-Hz, continuously adjustable toggle, single-pole, with on-off switch. Equip with electromagnetic filter to eliminate noise, RF and TV interference.
7. Wiring device accessories
   - i. Wall plates: Single and combination, of types, sizes, and with ganging and cutouts as indicated. Provide plates and attachment screws which mate and match with wiring devices to which attached. Provide wall plates with engraved legend where indicated. Provide smooth nylon coverplates for finished areas, and galvanized steel plate for unfinished areas.
   - ii. Floor service outlets: Modular, above-floor service outlets and fittings of types and ratings indicated. Construct of die cast aluminum, satin finish. Use design compatible with floor outlet wiring methods indicated. Provide 20 Amperes, 125 Volts, gray duplex receptacles. NEMA configuration 5-20R where indicated. Provide with 3/4 inch or 1 inch NPT, 1 inch long, locking nipple for installation where compatible with wiring method.
8. Wiring device installation:
   - i. Install switches and receptacles in outlet boxes as specified elsewhere in this specification. Install single pole toggle switches so that the switch is on in the "up" position. Install receptacles with the U-shaped ground slot at the top or to the left.
   - ii. Duplex receptacles shall be wired with the neutral wire to the silver binding screw.
   - iii. Three phase receptacles shall be wired such that all have the same phase sequence.
   - iv. The receptacle circuit and panel number shall be indicated on the inside of all outlet boxes, or directly on the conductors by means of a wire labeling system.
   - v. Combination switch/receptacle shall be installed in a two gang box with a combination switch/receptacle coverplate. Connect the receptacle to the lighting circuit ahead of the switch and locate the switch on the side of the box closest to the door. Note, this method is to be used only for 120 Volt lighting system. 277 Volt lighting switches and 120 Volt receptacles shall be located in separate boxes.
   - vi. Confirm final location of all wiring devices and outlet boxes with owner/architect prior to rough-in.
9. Wiring devices listed or noted on the drawings as weatherproof shall be provided with a cover which maintains the weatherproof integrity when the cover is closed. Receptacles noted as suitable for operation in a wet locations shall be provided with a cover which will allow the receptacle to remain operational during wet conditions with a plug inserted into the receptacle.

I: LIGHTING

1. Lighting Fixtures: see drawings for manufacturers catolog numbers.
2. Indoor Installation:
   - i. The Contractor shall refer to the Architectural drawings for ceiling type, construction and details of mounting. Adjust fixture trim ring as required for correct mounting in ceiling fixture is to be installed. All fixtures shall be supported per NEC Article 410.
   - ii. Suspended ceiling systems shall be supported for fixture installation as noted above, and as a minimum condition, as noted in ANSI/ASTM C636-76, par. 2-7, CEILING FIXTURES.
   - iii. Install fixtures in accordance with the Architectural Reflected Ceiling Plans. Where substantial differences may occur between the Reflected Ceiling Plans and the Electrical Plans, inform the Architect/Engineer for resolution of the discrepancy.
   - iv. The Contractor shall coordinate fixture construction details with ceiling system in which they are installed, i.e.: support system dimensions, flanges where required, acoustical tile or pan pattern, etc.
   - v. Rows of fixtures shall be installed accurately as to line and level. Fixtures shall be securely mounted so that they will not be distorted by handling incidental to normal maintenance.
   - vi. Surface type fluorescent lighting fixtures mounted on acoustical ceiling must be coordinated with the Architectural drawings in order that a main "T" runner will be placed in the center of each fixture and/or each row of fixtures. Main "T" runner shall be of at least the same length as the lighting fixture and shall be supported to carry at least twice the weight of the lighting fixture.
   - vii. All fixtures shall be securely supported with approved hangers. Where fixtures will be installed in suspended ceilings, any Code-required additional ceiling supports as approved by the Architect, shall be provided by this Contractor.
   - viii. Provide supports for all lighting fixtures as detailed on the Drawings, as specified, or as required by the fixture specified. Fixtures installed in unfinished areas (areas including but not necessarily limited to warehouses, factory areas, manufacturing areas, office spaces without lay-in ceilings, and spaces above lay-in ceilings) shall not be fastened directly to the structure. In these cases, unistrut type channel along with the appropriate fasteners and clips shall be used to support the fixtures. Refer to the drawings for specific support requirements in addition to those noted here.
   - ix. Fixtures shall not hang directly from conduit boxes unless the boxes have been specifically designed for such purposes. These boxes shall be supported independent of the conduit system and shall not rely upon the conduit for support.
   - x. Lay-in troffers in suspended ceilings and surface type fixtures mounted to suspended ceilings shall be secured mechanically by screws, rivets, clips, etc. as per Section 410-16(C), NEC. Additionally, lay-in fixtures shall also be supported by two independent support wires running from diagonally opposite corners of the fixture to the overhead structure. Surface mount fixtures shall be additionally supported by means of at least two clips for each fixture which surround the T-bar and are tied to the overhead structure with a separate wire. The surface fixtures shall be secured to these clips.
   - xi. Plaster frames shall be furnished for each recessed fixture installed in plaster ceilings and walls.
   - xii. Pendant mounted fixtures shall utilize pipe stems to mount fixtures at elevations as noted on the drawings. Chains or cords will not be accepted. Wherever the mounting surface slopes, fixtures shall be provided with universal type fixture hangers to allow the fixture to hang plumb.
   - xiii. Fixtures shall be installed with due regard for beams, piping, ductwork, and other mechanical or plumbing equipment.
   - xiv. Incandescent fixtures shall be thermally rated, protected and marked for their application especially in recessed mounting, to protect against over-temperature and combustion. The installation shall comply with Section 410-65 thru 410-72 the NEC.
   - xv. Branch circuit conductors shall be run in fluorescent fixture wiring channels only as permitted by the N.E.C. The Contractor shall be responsible for providing all necessary boxes and conduit for an approved installation.
   - xvi. Where a modular wiring system is installed, all ceiling mounted recessed fluorescent lighting fixtures shall be furnished with suitable receptacles to match the modular wiring system furnished and installed by this Contractor. Each fixture shall be equipped to permit either single or multiple fixture circuit wiring as is appropriate for the fixture type.
   - xvii. When fixtures are installed in a fire proof ceiling, the fixture shall be U. L. listed to maintain the fire proof rating or the fixture shall be fire proofed by the electrical contractor using a U. L. accepted standard. see architectual drawings for ceiling ratings.
   - xviii. At the time of final inspection all fixtures and equipment shall be complete with all required glassware and/or reflectors, clean and free of defects. Any glass-ware, or reflectors, etc., which have defects shall be replaced at the Contractor's expense before final acceptance.
   - xix. All lamps shall be in working order at the time of final acceptance of the work by the Owner and Architect/Engineer. This Contractor shall replace all defective lamps with new lamps until the work is finally accepted.
   - xx. Low voltage lighting transformers should be protected by fuses. Fuse sizes shall be as recommended by the transformer manufacturer. Busman type HRS or Littelfuse 155020, fuse holders are recommended.
   - xxi. Solid state transformers for low voltage lighting shall not be used for dimming applications unless the transformer and dimmer are a U. L. listed assembly specifically intended for the application.
3. Outdoor and Site Lighting Installation:
   - i. Site lighting luminaires shall be as called for on the drawings.
   - ii. Bases for site and roadway luminaires where required, shall be augered into the earth and concrete shall be poured into the augered hole without a sona tube below grade to allow the concrete to fill the natural crevices in the earth. Portion of base above grade shall be formed using a sonatube. Exposed portion of finished base shall be smoothed, and voids filled with grout.
   - iii. Bases shall have reinforcing steel as indicated on the contract drawings and shall be Class 'A' concrete.
   - iv. Anchor bolts for poles shall be performed for the pole bolt circle at the factory.

J. Lighting and Receptacle Panelboards

1. Panelboards for 480/277, 208/120, or 240/120 volt lighting and receptacle service shall be dead front type, conforming to NEMA standard PB-1-1-71 and UL 67, and consisting of three phase, three or four wire solid neutral, main lugs or main overcurrent device as indicated, branch overcurrent devices as noted and equipment ground bar, all in a surface or flush mounted code gauge galvanized sheet steel cabinet as indicated. Enclosure to be NEMA 1 unless noted otherwise with primer and finish paint of the manufacturers standard.
   - i. Standard enclosure shall be NEMA 1, unless noted otherwise, with primer and finish paint of the manufacturers standard. Cabinets shall be oversized where necessary to accommodate the entrance of several large conduits and/or when necessary to avoid overcrowding except cabinets for panels mounted flush shall be not more than 22 inches wide and 5-3/4 inches deep unless otherwise approved by the architect/engineer. Trims shall contain hinged doors and shall be equipped with flush chrome plated combination key locks and catches. Locks shall be all keyed alike and two keys furnished to the owner.
   - ii. Column-type enclosures shall be similar to the standard enclosure except panel shall be approximately 8-1/2 inches wide for mounting between building column webs as indicated, and provided with extension trough and pullbox with neutral bar when shown on the drawings.
   - iii. Where spaces are noted on the drawing, equip the panelboard with bus and all necessary hardware for future circuit breaker installation.
   - iv. Metal frame and plastic covered typewritten card shall be mounted inside each panel door. Information entered onto the cards shall correspond to the circuit numbers as installed in the field.
2. Overcurrent Protective Devices
   - i. General use circuit breakers for panelboards shall be bolt-on molded plastic case type, 1, 2, or 3 pole, quick-make, quick-break, with trip-free operating handle, position indicating and thermal-magnetic trip device. Furnish 2 and 3 pole breakers with common operating handle and common trip mechanism. All circuit breakers used for switching applications shall be U.L. listed type "SWD" for that application. all circuit breakers used for protection of motors, refrigeration equipment, or HVAC equipment shall be U.L. listed type "HACR" for that application. All breakers shall be bolt on type.
   - ii. Circuit breakers and panel structures shall be fully rated for the short circuit current that is indicated on the drawings. The minimum rating for any panel/circuit breaker shall be 22,000 aic. Where series rating is allowed by the AHJ the short circuit rating on the drawings shall be shown for example as 65000/22,000 aic which calls for any upstream breaker as being fully rated at 65,000 aic minimum and the down stream breaker to be rated at a fully rated minimum of 22,000 aic. Breaker/panel series short circuit ratings shall be a combination of manufactured fully tested components for series rating and all panel components shall be provided with all necessary series rating documentation from the panel manufacturer.
   - iii. Ground fault circuit interrupters shall be similar to general use circuit breakers specified; 15-20 ampere, 1 or 2 pole with 5ma sensitivity. Furnish when indicated on drawing.
   - iv. Fuses over 600 ampere shall be Bussman Hi-cap time delay type KRP-C, or Gould Shawmut A4BQ (601-2000 ampere) or Gould Shawmut A4BY (2001-6000 ampere) 600 volt, UL Class I with minimum interrupting rating of 200,000 ampere rms symmetrical.
   - v. Fuses 600 ampere or below shall be Bussman low-peak dual element type LPN-RK (250 volt) or LPS-RK (600 volt) or Gould Shawmut Amp-trap type A2K (250 volt) or A6K (600 volt) UL Class RK1 with minimum interrupting rating of 200,000 ampere rms symmetrical.
   - vi. Provide spare circuit breakers installed in panelboards as indicated on the panel schedule as shown on the drawings. Provide 10% spare (minimum of 3) of each type and rating of fuses installed.
3. Safety Switches
   - i. Provide fusible or non-fusible safety switches as indicated on the drawings. Switches shall be quick-make, quick-break, heavy duty visible blade type, horsepower and I squared T rated. Use NEMA 12 enclosures in factory areas, NEMA 1 enclosures in other indoor areas and NEMA 4X stainless steel type enclosures outside unless otherwise indicated on the drawings. Furnish three pole, single-throw switches unless otherwise indicated, with current and voltage ratings as indicated.
   - ii. Provide safety switches with an external operating handle interlocked with the cover door to prevent the door from being opened while the switch is in the "on" position except by operating an inconspicuous interlock defeating mechanism. Provide means for padlocking the operating handle in the "off" position. Equip switches with auxiliary contacts when indicated.
   - iii. Fuse clips shall be rejection type for fuses specified (up to 600 ampere). Fuses clips for 601 ampere to 6000 ampere shall be suitable for UL Class I fuses.
4. Transformers
   - i. Transformers shall be indoor dry, two winding, quiet type, with ventilated enclosure, conforming to NEMA standards, 220 degrees celcius insulation for continuous operation in a 40 degree celsius ambient temperature with a temperature rise not to exceed 80 degrees celsius. Provide a minimum of two 2-1/2% FCAN and four 2-1/2% FCBN taps in the primary winding for transformers over 25 KVA and a minimum of two 2-1/2% FCBN taps for transformers 25 KVA and below. Transformers 25 KVA through 75 KVA shall be designed for floor or wall mounting.
   - ii. Sound levels shall not exceed those established in ANSI standard C89 shown in the following table:

KVA	dB level
0-150	42

   - iii. Furnish transformers having voltage, KVA ratings and connections as indicated on the drawings.
5. Panelboard and Transformer Installation
   - i. Mount panelboards at uniform height throughout the building, and such that the top switch is not more than 79 inches above floor when measured to the center of the switch handle.
   - ii. Install handle guards on all breakers for night lighting, emergency, and similar circuits when indicated.
   - iii. Each panelboard shall be identified with a legend plate of lamicoid plastic inside the door for panelboards in finished areas and on the outside of panelboards in unfinished areas with the panel designation as shown on the drawings.
   - iv. Install not less than two spare 1-1/4 inch conduits from each flush mounted panel to an accessible area above the ceiling.
   - v. When branch circuits are not scheduled on the drawing, they shall be arranged to balance the phase loads on each panelboard and the loads shall be equally distributed on each of the phases of the panelboard.
   - vi. Mount panelboard, safety switches, and similar equipment securely to walls or steel supports. Equipment mounted on the building perimeter foundation walls shall be shimmed at least 1/4 inch from the wall to permit back ventilation.
   - vii. Provide supports for truss mounted and wall mounted transformers. All transformers which are mounted above panelboards shall be mounted away from the wall by an amount equal to the depth of the panelboard. The width of the panelboard shall also be maintained clear behind the transformer.
   - viii. Approved Manufacturers for Power Distribution Equipment:
     General Electric Company — Cleveland Switchboard Co.
     Cutler Hammer/Westinghouse
     Square D

K: RACEWAY AND GENERAL GROUNDING

1. The entire power, lighting system as well as building structure, mechanical & plumbing systems, fences & simalar metal objects shall be permanently and effectively grounded in accordance with the minimum requirements of the National Electrical Code, or as specified herein, whichever is the more stringent.
2. Ground conductors shall be stranded, annealed copper with green insulation (insulation material as specified for general building use).

Brian M. Schuler, P.E.
155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

BRIAN M. SCHULER
03-18-26
NORTH CAROLINA PROFESSIONAL SEAL 033582 ENGINEER BRIAN M. SCHULER
N.C. PROFESSIONAL ENGINEER No. 033582

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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REVISIONS

#	DATE	TYPE
	03/18/2026	PERMIT SET
1		
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ELECTRICAL SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

SHEET NO. E0.1

3. The entire power and lighting system shall be permanently and effectively grounded including panels, starter enclosures, motor frames, and other exposed, non-current carrying parts of the electrical equipment. The equipment ground conductor shall be separate from the neutral conductor and shall not be used as a load current carrying conductor.

4. Any item covered by the preceding paragraph which is within six feet of grounded metal and not directly interconnected with the grounded metal shall have a flexible bare copper cable connection not smaller than #6 AWG to the grounding system.

5. Where building type conductors are installed in a raceway, a green equipment grounding conductor shall be included in each raceway system.

6. Lighting fixtures permanently connected to the conduit system shall be grounded by means of a grounding conductor run inside the conduit. Fixtures mounted on trollies or portable lighting units shall be grounded by means of a grounding conductor in the portable cord.

7. Convenience outlets shall be self-grounding type or shall have a green grounding conductor installed from the ground lug on the outlet to the outlet box.

8. Motors shall be connected to the equipment ground conductor with a conduit grounding bushing and with a bolted solderless lug connection on the metal frame.

9. The armor of interlocked armor cable, wiring channels, cable trays, and all metallic conduit including rigid, EMT, and flexible conduit shall be connected at each end to the equipment ground conductor utilizing a conduit grounding bushing. Junction boxes and other enclosures (sizes above 5" x 5") shall utilize an equipment ground lug to securely bond the equipment grounding conductor to the enclosure.

10. Where any grounding conductor requires physical protection to maintain grounding integrity, it shall be run through a non-ferrous conduit or bonded to a continuous steel conduit at both ends.

11. The grounding electrode system shall consist of ¾" diameter x 10' copper clad ground rods. Exterior ground rods shall be driven to 12" below finished grade & be provided with a 12" diameter x 30" long rigid pvc pipe w/ screw cover for inspection purposed. center ground rod in pipe & install pipe flush with grade. pvc pipe and cover shall be traffic rated. interior ground rods shall be driven to 6" above grade & installed as close to a wall as possible. all connections to ground rods shall be cadweld type.

L: COMMUNICATIONS

1. All telephone / data cable and connecting hardware shall be rated category 6.

2. All telephone / data cable and connecting hardware shall be terminated in the TIA/EIA 568B 4 pair configurations.

3. **The communications system shall be installed by qualified contractors who have been certified by the system manufacturer for a period of at least two years prior to commencing this work. All installing workers shall be BICSI certified level 1 installers or have completed the telecommunications installer/technical program offered by the national joint apprenticeship and training committee. The job foreman shall be a BICSI certified technician. Copies of all certificates of the company employees shall be submitted by the contrctor with the shop drawings.**

4. All cable and equipment shall be installed in a neat and workmanlike manner. All methods of construction that are not specifically described or indicated in the contract documents shall be subject to the control and approval of the owner or owners representative. Equipment and materials shall be of the quality and manufacturer indicated. The equipment specified is based upon the acceptable manufacturers listed. Where "approved equal" is stated, equipment shall be equivalent in every way to that of the equipment specified ad subject to approval.

5. Strictly adhere to all category 6 (BICSI and TIA/EIA) installation practices when installing utp data cabling.

6. Category 6 patch panels.

   A. Physical Characteristics

      i. Panels shall be made of black anodized aluminum in 24, 48, 96 port configurations.

      ii. Panels shall accommodate a minimum of 24 ports for each rack mount space (1rms = 44.5mm (1.7in.))

      iii. Panels shall have modular jacks employing a tri-plane staggered contact array with a flat "hairpin" contact design made of beryllium copper with a minimum 50-micro-inch gold plating on contact surfaces over 50-100 miro-inch of nickel complaint with fcc part 68.

      iv. Panels shall be available in a T568B wiring scheme.

7. Category 6 compliant jacks - UTP

   A. Physical Characteristics

      i. Jacks shall be 8 position un-keyed.

      ii. Each jack shall be an individually contructed unit and shall snap mount in an industry standard keystone opening (.760"x580")

      iii. Contact plating shall be a minimum of 50 micro inches of hard gold in the contact area over 50 micro-inch of nickel.

      iv. Jack termination shall follow the industry standard 110 IDC.

      v. Jacks shall utilize a paired punch down sequence. Cable pair twists shall be maintained up to the IDC, terminating all conductors adjacent to its pair mate to better maintain pair characteristics designed by the cable manufacturer.

      vi. Jacks shall terminate 22-26 AWG stranded or solid conductors.

      vii. Jacks shall be compatible with TIA/EIA 606 color code labeling.

      viii. Jacks shall be marked with T568B wiring.

8. Unshielded Twisted Pair Cable (UTP)

   A. Category 6 four pair unshielded twisted pair cable: multi-paired cable, unshielded four twisted pair, 24 gauge solid copper annealed conductors.

   B. Cable shall meet or exceed EIA/TIA 568 commercial building wiring standards and EIA/TIA technical systems bulletin 36 unshielded twisted pair cables.

   C. Plenum cable is required, jacket will be teflon or like material and cable will be fire rated for use in air return spaces or shall be installed in a complete conduit system.

   D. Data cable outer jacket color shall be blue.

   E. Telephone cable outer jacket color shall be grey.

   F. Cable manufacturer and product shall be a partner to jack manufacturer to qualify for jack manufacturer standard 25 year warranty.

   G. CABLE INSTALLED UNDERGROUND IN-SLAB OR BELOW SLAB SHALL BE RATED FOR DIRECT BURIED APPLICATIONS & COME COMPLETE WITH A FLOODING COMPOUND & POLYETHYLENE JACKET.

9. Installation

   A. Patch panels category 6

      i. Panels shall be installed to provide minimal signal impairment by preserving wire pair twists as closely to the point of mechanical termination. The amount of untwisting in a pair as a result of termination to the patch panel shall be no greater then 0.5 inches (13mm)

      ii. Panels shall be instaled according to manufacturer's instructions and properly mounted to a rack, cabinet, bracket or other appropriate mounting device.

      iii. Panels shall be installed such that cables terminated to the panel can maintain minimum bend radius of at least 4 times the cable diameter into the IDC contacts. Cables shall be terminated on the panel such that there is no tension on the conductors in the termination contacts.

      iv. Panels shall be properly labeled on front and back with the cable number and port connections for each port.

   B. Category 6 jacks

      i. Jacks shall be installed to provide minimal signal impairment by preserving wire twists as close as possible to the point of mechanical termination. The amount of untwisting in a pair as a result of termination to the jack shall be no greater then 0.5 inches (13mm)

      ii. Jacks shall be installed according to manufacturers instructions and properly mounted in plates, frames, housings or other appropriate mounting device.

      iii. Jacks shall be installed such that cables terminated to the jacks maintain minimum bend radius of at least 4 times the cable diameter into the idc contacts. cables shall be terminated on jacks such that there is no tension on the conductors in the termination contacts.

   C. Category 6 UTP cable

      i. Provide telephone/data cable of manufacturers standard materials as indicated by published product information, designed and constructed as recommended by manufacturer, for a complete installation and for applications indicated.

      ii. Do not exceed the minimum bend radius as recommended by the cable manufacturer. Maintain a maximum bend radius of 4 times the cable diameter. Never exceed a 90 degree bend.

      iii. Do not exceed the maximum tensile loaded as recommended by the cable manufacturer. Never exceed 25 pounds of pulling tension.

      iv. Minimize outer jacket twisting during installation.

      v. Do not remove more of the outer jacket of the cable then is absolutely necessary for termination. individual pairs may be untwisted a maximum of 0.5 inches from the point of termination.

      vi. Cable pathways shall be routed in such a way as to maintain clearance from sources of electromagnetic interference (i.e. - light fixtures, motors, power conduits, etc.) maintain a minimum 6" of air space between cables and EMI sources.

      vii. Cables shall be routed in such a way as to minimize the overall length of the run. Cable length ahsll not exceed 90 meters.

      viii. Cable management system: Provide a complete cable managment system including but not limited to : Cable runways, horizontal and vertical wire management panels, "j" hooks, velcro cable ties, stainless steel cable ties, etc.

      ix. "J" hooks shall be a minimum of 1 3/4" wide and come complete with a removable and reusable retaining strap. J hooks shall support a maximum of 6 cables.

      x. Provide velcro cable ties at the racks as required to finish dress the cable installation. Tie a maximum of four cables. Velcro Cable ties shall be black.

10. TIA/EIA 606 complaint labeling

   A. Provide a complete communications system labeling system. Include but not limited to: Cables, jacks, patch panel racks, etc. All labeling shall comply with standards of TIA/EIA 606.

   B. Provide .8" x .75" typewritten black lettering on white laminated adhesive label on each data/coax cable. Provide the outlet number that the cable feeds. Labels shall be placed on each cable at the rack and in each outlet box.

   C. Provide 1.375" x .280" black typewritten letting on white adhesive polyester label on each data and co-axial jack located at the outlets and in the patch panels. Wrap label on sides of modular jacks.

   D. Each jack at each outlet shall be labeled with its own number. as a preface, a data jack number shall be labeled with a "D", telephone cables shall be labeled with "T". Where data jacks are mounted in the same outlet box they both shall have the same number designation.

   E. Provide a complete labeling plan to the owner for the review prior to commencement of work for approval.

11. Category 6 cable testing

   A. The contractor shall test each cable after installation and termination to certify that each cable complies with EIA/TIA category 5E standards.

      i. The testing methods and apparatus for field testing of cabling links shall be TIA TSB 67 level III complaint.

      ii. Notify the owner a minimum of two working days prior to testing the communication network so that the owner, at his discretion, can observe testing.

      iii. Any cable links which do not certify at EIA/TIA category 6 standards shall be repaired or replaced by the contractor at his own expense.

      iv. The cable shall be tested with owners testing apparatus and any discepancies of the test results shall require the contractor to retest the links in question in the presence of the owner at the contractors expense.

      v. The contractor shall provide the owner with written results of the certification preocess. results shall be provided no more then 10 working days after tests are completed.

12. Warranty:

   A. The Jack Manufacturer shall provide a 25 year guarantee on the components, performance, and installation integrity of the entire structured cabling system.

   B. The connection hardware, cable and installer shall all be certified by the jack manufacturer for the entire structured cable system.

M: EXECUTION

1. The contractor shall exercise due caution when working so as not to damage that portion of the electrical system that is to remain.
2. Positively no conduit or wire removed shall be reused in the new installation.
3. All circuits shall be identified on the panel directories by this contractor. At the completion of the job, the contractor shall provide each panelboard with a new typed directory with the existing loads as noted from the old directory and the new loads as installed.
4. The contractor shall keep on the job, one complete set of working drawings on which he shall record any deviations or changes from such contract drawings made during construction. Record drawings shall show changes in the following:
   i. Size, type, capacity, etc. of any material, device or piece of equipment.
   ii. Location of any device or piece of equipment.
   iii. Location of any outlet or source in the building service system.
   iv. Routing of any conduit, or other building electrical service.

   These drawings shall be kept clean and undamaged, and shall not be used for any other purpose than recording deviations from working drawings and exact locations of concealed work. After the job is completed, this set of drawings shall be delivered to the owner in good condition, as a permanent record of the installation as actually constructed.

N: CUTTING AND REPAIRING

1. All necessary cutting in walls, floors and other such work shall be neatly and carefully done and the work shall be repaired in an approved and workmanlike manner. No cutting into the structural parts of the building, which may impair its strength, shall be permitted without the prior written approval of the owner. If such cutting is permitted, the area shall be suitably reinforced to restore the structural integrity of the work to its designed value.
2. The electrical contractor shall be responsible for all damage to work of his, or other trades, caused by his work or through the neglect of his workmen. All patching and repairing of damaged work shall be done by the trade which originally installed it, at the direction of the owner's representative, and the cost of such repair shall be paid by the electrical contractor.
3. Absolutely no cutting of wall, floor or other finished material or fastening of electrical components to the exposed surfaces of finished areas will be permitted.

O: TESTING

1. The testing work shall include all labor, materials, tools, and equipment to perform and record all necessary tests and adjustments of equipment, including Load Center Unit Substations, Motor Control Centers, High Voltage Cable, 600 Volt Wire and Cable, and Grounding, as indicated on the drawings, specified herein, or where necessary to verify performance requirements.
2. Inspection tests shall provide a visual inspection of electrical equipment for manufacturing, shipping or installation defects.
3. Acceptance tests shall show that the methods and materials used in the installation of equipment conform to applicable codes and standards, and the manufacturers installation instructions, and to determine that the equipment involved may be energized for operational tests.
4. Operational tests shall show the electrical equipment will perform the functions for which it was designed.
5. The services of a recognized independent testing laboratory shall be engaged to conduct all tests described herein with the exception of routine insulation resistance, continuity and rotation tests.
6. Perform all acceptance and operational tests in the presence of the Architect/Engineer. Notify the Architect/Engineer of time of test at least two (2) days prior to testing. Notify manufacturers of electrical equipment to permit their representatives to witness the test should they so request.
7. Submit test reports, including complete data and actual readings taken, for all equipment tested to the Architect/Engineer for approval after each test performed. Do not energize any equipment for operating tests until data has been approved. Include copies of the final approved test reports upon completion of the work as part of the required operating and maintenance data to be furnished as specified in Division 1.
8. Give each power feeder and subfeeder cable (600 Volt Wire and Cable) a continuity and megger test. Isolate power cables to be megger tested by opening switches at each end of cable prior to testing. Apply megger tests, using a 1000 volt megger, between each conductor and ground with the other two conductors in the conduit grounded to the same ground. Minimum acceptable readings for disconnected cables shall be 1 (one) megohm. Cable must pass megger test to be reported as acceptable.
9. The following test and inspections shall be made on the grounding system.
   i. Inspect ground conductors and connections for compliance with plans and specifications and for satisfactory workmanship. After installation of the grounding electrodes, provide ground resistance testing prior to the interconnection of other grounding systems. Do not perform tests under unusually wet weather; tests should be performed during normal weather conditions.
   ii. Reports shall include all resistance readings obtained, temperature, humidity and condition of the soil at the time of the tests.
10. Operational tests shall be performed on all electrical systems, and shall include, but not be limited to, building lighting system, panelboards, motor starters and control devices, alarm circuits and site lighting equipment.

P: GUARANTEE

1. Material, equipment and installation shall be guaranteed for a period of one year from the date of acceptance. Defects which appear during that time period shall be corrected by this contractor at his expense.

Brian M. Schuler, P.E.

155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

BRIAN M. SCHULER
03-18-26
NORTH CAROLINA PROFESSIONAL SEAL 033582 ENGINEER BRIAN M. SCHULER
N.C. PROFESSIONAL ENGINEER No. 033582

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR WAKE FOREST, NC

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ELECTRICAL SPECIFICATIONS

DATE 03/02/2026

JOB NO. 25027

SHEET NO. E0.2

THE SITE PHOTOMETRIC STUDY AND POLE MOUNTED FIXTURES WERE PERFORMED AND SPECIFIED BY THE CIVIL ENGINEER.

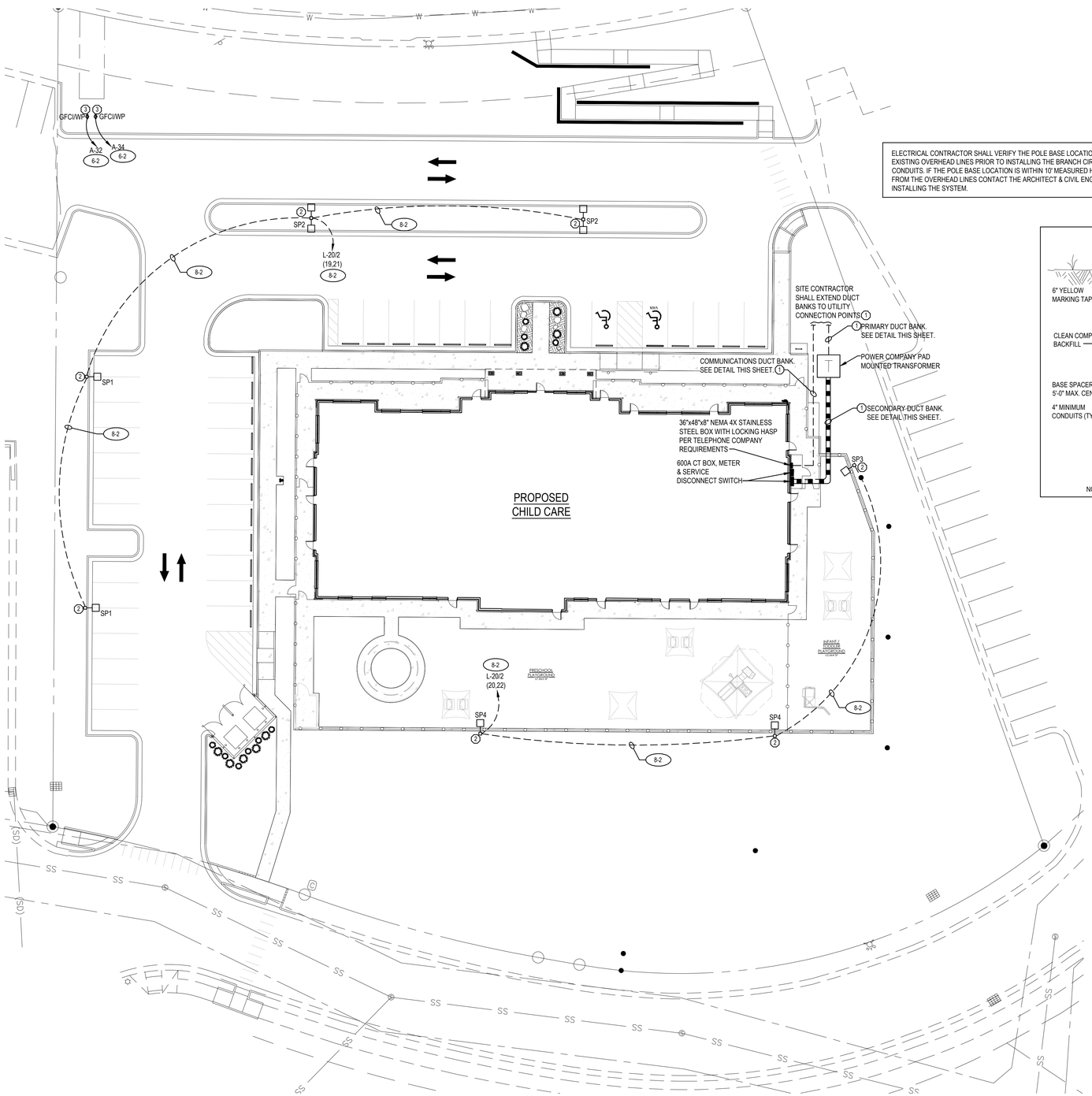
ELECTRICAL SITE PLAN NOTES

01 SITE ELECTRICAL CONTRACTOR SHALL COORDINATE QUANTITY, SIZE, TYPE OF CONDUITS, DEPTH AND ANY REQUIRED CONCRETE ENCASEMENT REQUIRED BY THE UTILITY COMPANIES PRIOR TO BIDDING. ADJUST DUCT BANK DETAILS TO MATCH UTILITY STANDARDS. ALSO PROVIDE UTILITY REQUIRED MATERIALS AND INSTALLATION TECHNIQUES AT THE TERMINATION POINT. SEE CIVIL DRAWINGS FOR UTILITY LOCATION AND ADDITIONAL DESIGN DETAILS.

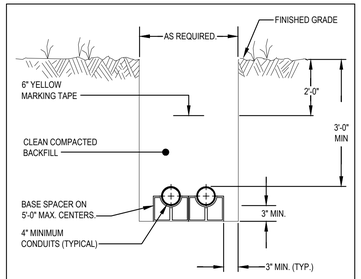
02 POLE BASE. SEE DETAIL ON THIS DRAWING.

03 PROVIDE A GFCI/WP RECEPTACLE IN ABOVE GROUND BACK FLOW PREVENTER BOX FOR HEAT. COORDINATE EXACT REQUIREMENTS WITH G.C.

ELECTRICAL CONTRACTOR SHALL VERIFY THE POLE BASE LOCATION WITH ANY EXISTING OVERHEAD LINES PRIOR TO INSTALLING THE BRANCH CIRCUIT CONDUITS. IF THE POLE BASE LOCATION IS WITHIN 10' MEASURED HORIZONTALLY FROM THE OVERHEAD LINES CONTACT THE ARCHITECT & CIVIL ENGINEER BEFORE INSTALLING THE SYSTEM.

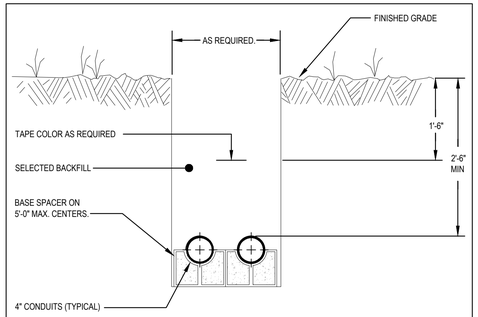


SITE PLAN
SCALE 1" = 20'-0"



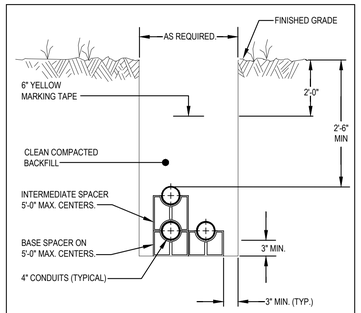
PRIMARY DUCT BANK DETAIL 1
SCALE: NONE

NOTE: MINIMUM SEPARATION BETWEEN CONDUITS SHALL BE 3".



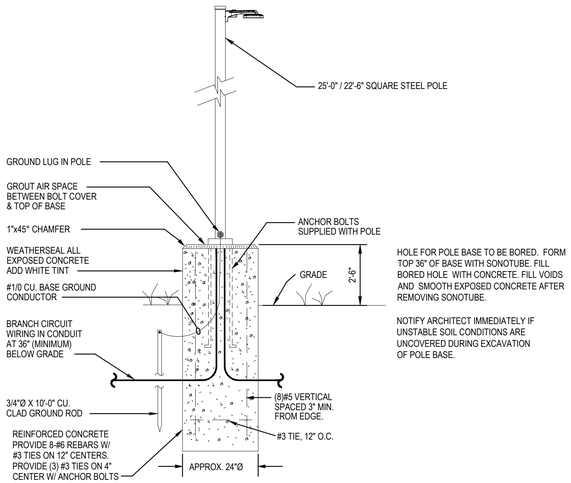
COMMUNICATIONS DUCT BANK DETAIL 1
SCALE: NONE

NOTE: MINIMUM SEPARATION BETWEEN CONDUITS SHALL BE 3".



SECONDARY DUCT BANK DETAIL 1
SCALE: NONE

NOTE: MINIMUM SEPARATION BETWEEN CONDUITS SHALL BE 3".



HOLE FOR POLE BASE TO BE BORED. FORM TOP 36" OF BASE WITH SONOTUBE. FILL BORED HOLE WITH CONCRETE. FILL VOIDS AND SMOOTH EXPOSED CONCRETE AFTER REMOVING SONOTUBE.

NOTIFY ARCHITECT IMMEDIATELY IF UNSTABLE SOIL CONDITIONS ARE UNCOVERED DURING EXCAVATION OF POLE BASE.

POLE MOUNTED FIXTURE DETAIL
SCALE: NOT TO SCALE

Brian M. Schuler, P.E.

155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

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1005 STADIUM DR

WAKE FOREST, NC

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ELECTRICAL SITE PLAN

DATE 03/02/2026

JOB NO. 25027

E0.2
SHEET NO.

ELECTRICAL SYSTEMS COMMISSIONING CHECKLIST

1) THE ELECTRICAL CONTRACTOR SHALL COMMISSION OR PAY FOR THE SERVICES OF A LOCAL LICENSED COMMISSIONING AGENT IF REQUIRED BY THE AHJ. THE POWER & LIGHTING SYSTEMS INSTALLED PER SECTION C405 OF THE 2018 IECC ENERGY CODE COMMISSIONING PERFORMANCE & DOCUMENTATION SHALL COMPLY WITH SECTION C408.
2) ITEMS TO BE TESTED & DOCUMENTED ARE LISTED BELOW BUT NOT LIMITED TO:
   a) LIGHTING SYSTEM FUNCTIONAL TESTING & TRAINING IN THE PRESENCE OF THE OWNER SHALL BE PERFORMED PER SECTION C408.3.1. ENSURE THAT THE CONTROL HARDWARE & SOFTWARE HAVE BEEN TESTED, CALIBRATED AND OR PROGRAMMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS & MANUFACTURERS INSTRUCTIONS.
   b) EACH OCCUPANCY SENSOR SHALL BE LOCATED & AIMED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS:
   i) VERIFY THE CORRECT OPERATION OF EACH OCCUPANCY SENSOR WHETHER DESIGNED FOR AUTOMATIC ON AT 50 PERCENT LIGHT LEVEL OR MANUAL ON.
   ii) VERIFY SENSORS ARE SHIELDED FROM MOVEMENT IN ADJACENT AREA OR BY HVAC OPERATION.
   c) INTERIOR & EXTERIOR LIGHTING SYSTEMS THAT ARE CONTROLLED VIA TIME SWITCH AND OR PHOTOCELLS SHALL BE TESTED AS FOLLOWS.
   i) TIME SWITCH CONTROL IS PROGRAMMED WITH ACCURATE WEEKDAY, WEEKEND & HOLIDAY SCHEDULES. VERIFY SCHEDULES WITH OWNER & PROVIDE DOCUMENTATION.
   ii) VERIFY CORRECT TIME & DATE IN TIME SWITCH.
   iii) VERIFY BATTERY BACK UP IS INSTALLED & OPERATIONAL.
   iv) VERIFY OVERRIDE TIME LIMIT IS SET NOT TO EXCEED 2 HOURS.
   v) VERIFY THAT THE OVERRIDE SWITCH ONLY CONTROLS INTERIOR LIGHT FIXTURES.
   d) EACH DAYLIGHT SENSOR SHALL BE LOCATED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
   i) SENSORS ARE CALIBRATED FOR ACCURATE THRESHOLD LIGHT LEVELS.
   ii) DAYLIGHT CONTROLLED LIGHT FIXTURES AUTOMATICALLY ADJUST TO LIGHT LEVEL SET POINTS IN RESPONSE TO AVAILABLE DAYLIGHT.
   e) WRITTEN DOCUMENTATION CERTIFYING THAT THE INSTALLED LIGHTING SYSTEM & CONTROLS MEET THE PERFORMANCE REQUIREMENTS OF THE DRAWINGS & SPECIFICATION AS WELL AS THE CRITERIA SET FORTH IN SECTION C405. DOCUMENTATION SHALL BE PROVIDED TO THE OWNER BEFORE THE RECEIPT OF THE CERTIFICATE OF OCCUPATION. PROVIDE AHJ WITH DOCUMENTATION IF REQUIRED.

LIGHTING PLAN NOTES

01 PROGRAM OCCUPANCY SENSOR FOR AUTOMATIC 'ON' / AUTOMATIC 'OFF' WITH MANUAL OVERRIDE.

02 SURFACE MOUNTED 11 INCH HIGH FIXTURE. MOUNT FIXTURE ABOVE SLAT CEILING SO BOTTOM OF FIXTURE IS EVEN WITH BOTTOM OF SLAT.

03 MOUNTED BELOW TOP OF LOW WALL. MAX HEIGHT 44" TO TOP OF SWITCH

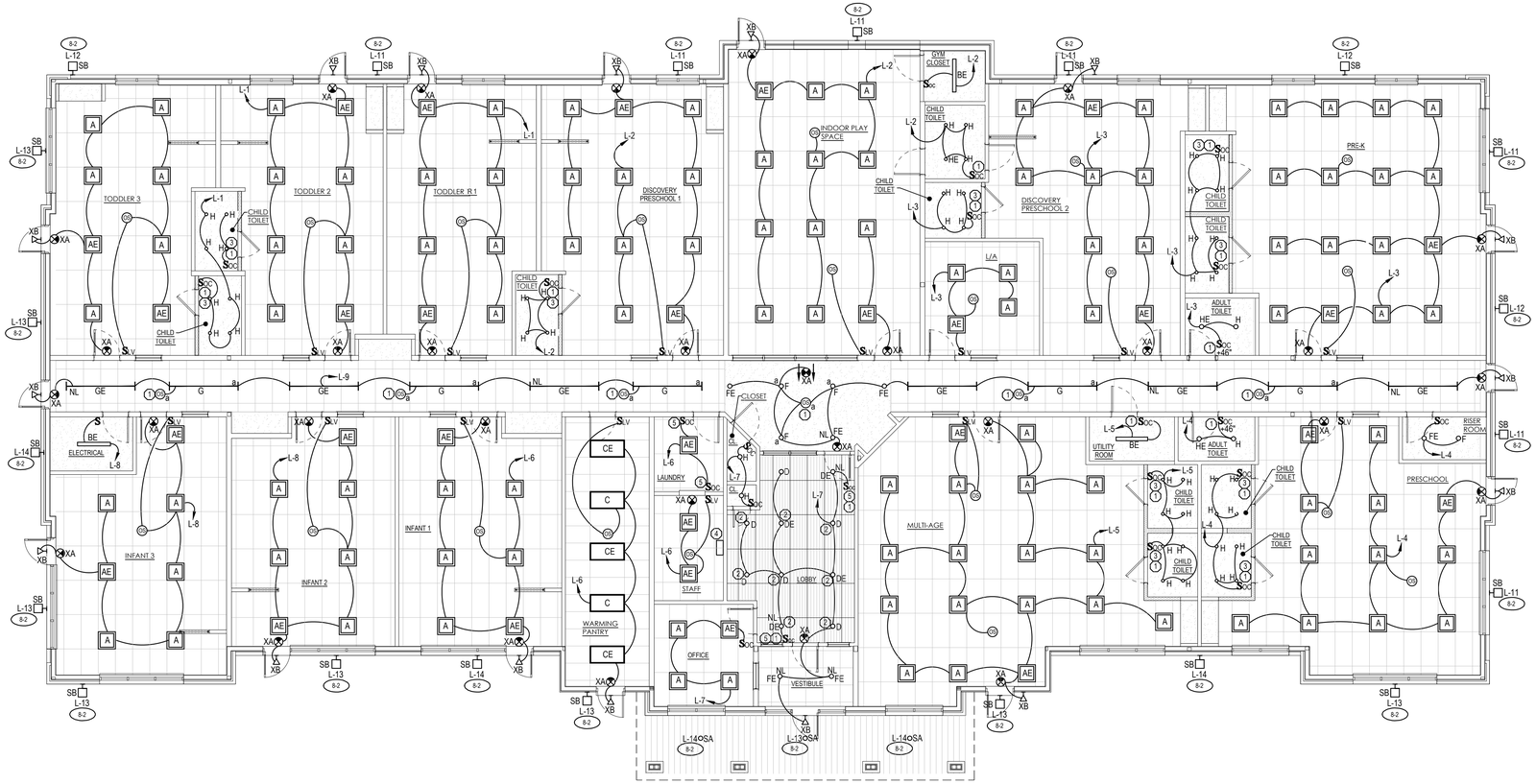
04 MOUNT EMERGENCY BATTERIES FOR 'DE' FIXTURES ABOVE CEILING IN THIS LOCATION. CONNECT TO FIXTURES WITH #8 WIRE.

05 WIRE BOTH SENSORS FOR 3 WAY CONTROL. COORDINATE WITH MANUFACTURER WIRE CONTROL DIAGRAM.

06 PROGRAM OCCUPANCY SENSORS TO POWER OFF LIGHTS 20 MINUTES AFTER NON MOTION DETECTED.

EMERGENCY AND NIGHT LIGHT NOTES 'E'

WHEN EMERGENCY LIGHTING FIXTURES ARE SHOWN THEY SHALL BE WIRED TO THE CIRCUIT NUMBER AS INDICATED. PROVIDE HANDLE LOCK ON CIRCUIT BREAKERS. EXIT SIGNS AND NIGHT LIGHT CIRCUITS SHALL BYPASS ALL CONTROL. EM FIXTURES CONNECTED TO LOCAL LIGHTING CIRCUITS WITHOUT AN 'NL' DESIGNATION SHALL BE CONTROLLED WITH LOCAL FIXTURES. PROVIDE EXTRA HOT CONDUCTOR OF THE SAME CIRCUIT SHALL BE INSTALLED TO BYPASS CONTROL FROM LOCAL SWITCHES, OCCUPANCY SENSORS OR LIGHTING CONTACTORS. SEE DETAILS ON SHEET E4.0.



LIGHTING PLAN 6

SCALE 1/8" = 1'-0"

Brian M. Schuler, P.E.

155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

BRIAN M. SCHULER
03-18-26

NORTH CAROLINA PROFESSIONAL SEAL 033582 ENGINEER BRIAN M. SCHULER

N.C. PROFESSIONAL ENGINEER No. 033582

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LIGHTING PLAN

DATE 03/02/2026

JOB NO. 25027

SHEET NO. E1.0

FURNITURE & EQUIPMENT RECEPTACLE / DATA INSTALLATION

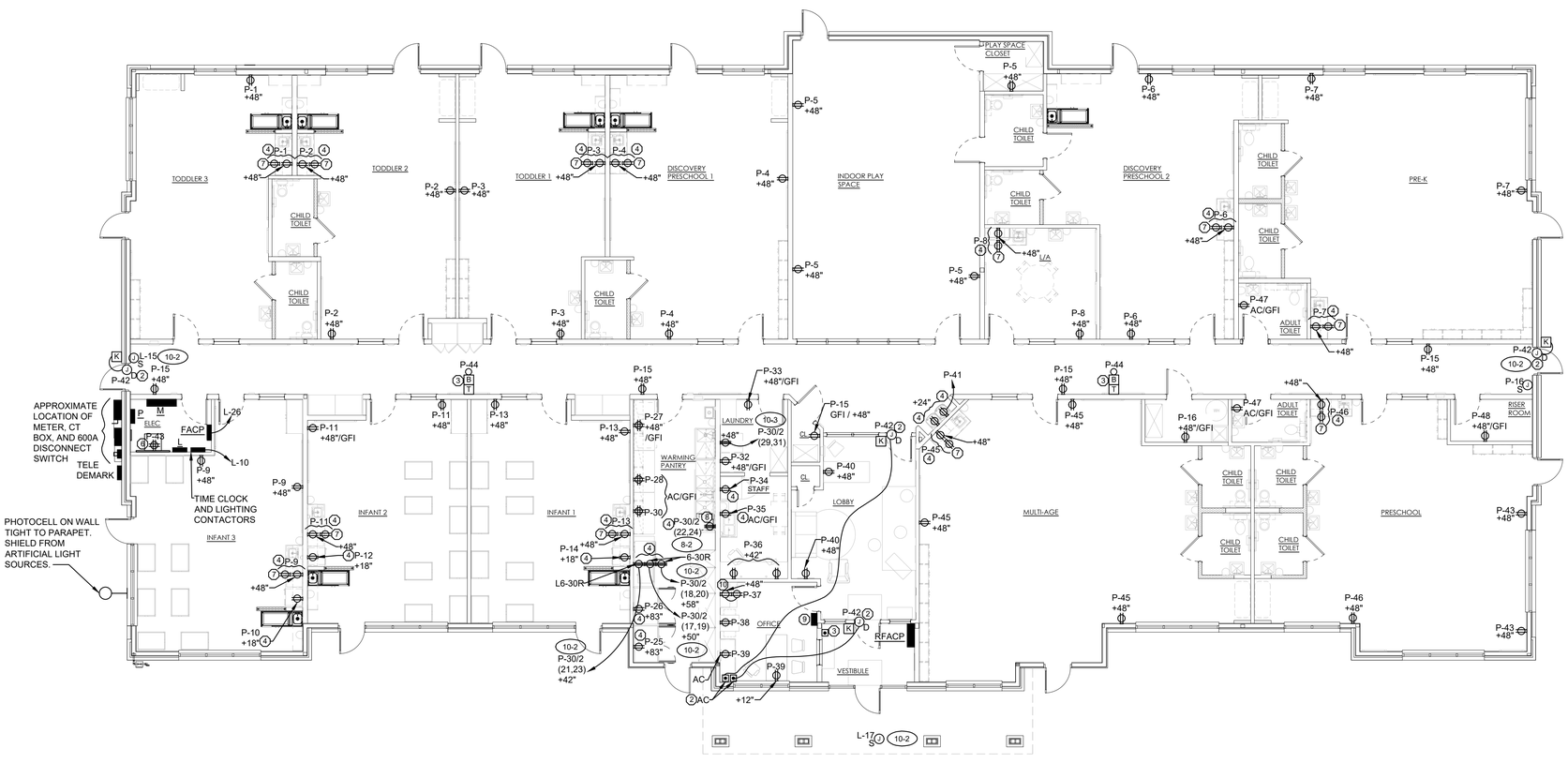
SEE INTERIOR ARCHITECTURAL ELEVATIONS ON DRAWINGS A1.3, A7.0,A7.1,A7.2,A7.3 FOR OUTLET ROUGH-IN LOCATIONS & ELEVATIONS. COORDINATE WITH GC IN THE FIELD. FAILURE TO ADHERE TO ELEVATION ROUGH-IN REQUIREMENTS SHALL RESULT IN OUTLETS BEING RELOCATED, WALLS BEING PATCHED AT ELECTRICAL CONTRACTORS EXPENSE.

WARMING PANTRY NOTE:

ALL PLUG AND RECEPTACLE CONNECTIONS IN WARMING PANTRY SHALL SERVE AS MEANS OF DISCONNECT PER THE NATIONAL ELECTRICAL CODE.

POWER PLAN KEY NOTES

1. ALL 20 AMP 120 VOLT RECEPTACLES SHALL BE TAMPER-PROOF TYPE.
2. PROVIDE ALL BOXES, CONDUIT, POWER & CONTROL WIRING FOR DOOR STRIKE SYSTEM.
3. E.C. SHALL PROVIDE COMPLETE DOOR SIGNAL SYSTEM ALL WIRING BETWEEN TRANSFORMER, BELLS & PUSHBUTTONS SHALL BE FIELD PAINT BELL TO MATCH WALL SURFACE. SEE DETAIL SHEET E3.2
4. CONNECTED TO A GFCI CIRCUIT BREAKER. LABEL RECEPTACLE GFCI PROTECTED.
5. SEE MECHANICAL / PLUMBING DRAWINGS FOR ALL REQUIRED ELECTRICAL CONNECTIONS. E.C. SHALL PROVIDE ALL POWER/CONTROL WIRING, BOXES & CONDUITS AS REQUIRED.
6. PROVIDE 3"X16"X1/2" COPPER GROUND BAR MOUNTED AT 42". MOUNT ON ISOLATORS. PROVIDE WITH 10 3/8" DIA HOLES & CONNECT TO GROUNDING SYSTEM WITH A #2 COPPER BONDING CONDUCTOR. PROVIDE 4'x4'x3/4" PAINTED FIRE RATED PLYWOOD BACKBOARD.
7. MOUNTED HORIZONTALLY AT 62" AFF.
8. PROVIDE FLUSH NEMA 14-50R RECEPTACLE AT 14" AFF. PROVIDE MATCHING NEMA 14-50R PLUG WITH (3)#8,#8GND SJO CORD WITH STRAIN RELIEF. CONNECT DISHWASHER AT POWER BOX LOCATED AT 18" ON REAR OF DISHWASHER.
9. OVERRIDE SWITCH FOR TIME CLOCK.
10. MOUNT RECEPTACLES IN WALL HORIZONTALLY IN THE CABINET AT (1) 18" AND (2) 48" AFF (ABOVE FINISHED FLOOR) COORDINATE EXACT LOCATION WITH GC PRIOR TO ROUGH-IN.



03-18-26

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POWER PLAN 1 5

SCALE 1/8" = 1'-0"

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ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
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www.adaarchitects.com

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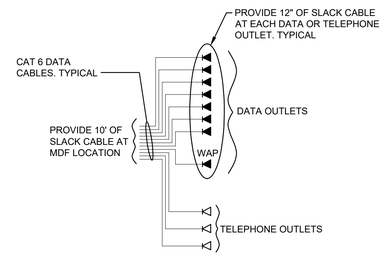
POWER PLAN

DATE 03/02/2026

JOB NO. 25027

SHEET NO. E1.1



COMMUNICATIONS SYSTEM SCHEMATIC WIRING DIAGRAM
NOT TO SCALE

GENERAL ELECTRICAL DEMOLITION NOTES

A) NO ATTEMPT HAS BEEN MADE TO INDICATE ALL EXISTING ELECTRICAL DEVICES, LIGHT FIXTURES, COMMUNICATION DEVICES, WIRING, CONDUIT, ETC. TO BE REMOVED AND/OR RELOCATED. HOWEVER, THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY THE EXTENT OF DEMOLITION PRIOR TO SUBMITTING BID.

B) REMOVE AND/OR RELOCATE EXISTING ELECTRICAL DEVICES NOT NOTED AS EXISTING TO REMAIN. COORDINATE SUCH CONDITIONS WITH ARCHITECTURAL DRAWINGS.

C) EXISTING CONDUITS, CIRCUITS OR SYSTEMS IN WALLS OR CEILING BEING REMOVED WHICH SERVE SURROUNDING UN REMODELED AREAS SHALL BE REWORKED AND MAINTAINED.

D) EXISTING CONDUITS, CIRCUITS OR SYSTEMS PASSING THROUGH THE REMODELED AREAS WHICH SERVE UNREMODELED AREAS SHALL REMAIN AND BE PROTECTED DURING DEMOLITION AND REMODELING, AND SHALL BE RELOCATED AND REROUTED.

E) CONTINUITY OF CIRCUITS INTERRUPTED BY REMOVAL OF ELECTRICAL DEVICES SHALL BE MAINTAINED.

F) ALL UNUSED WIRE (POWER & COMMUNICATION) SHALL BE REMOVED.

G) ALL EXISTING WIRING (POWER & COMMUNICATION) THAT IS TO REMAIN SHALL BE REWORKED OR REPLACED WITH CODE COMPLIANT MATERIAL & SUPPORTS. ANY EXISTING SURFACE MOUNTED CONDUITS SHALL BE REMOVED OR RELOCATED SO THAT THEY ARE IN THE JOIST SPACE OR WITHIN WALL CAVITIES.

H) EXISTING LIGHT FIXTURES THAT REMAIN OR ARE BEING RELOCATED SHALL BE CLEANED AND RE-LAMPED WITH 4' T8 LAMPS. BROKEN LENSES SHALL BE REPLACED. PROVIDE NEW T8 BALLASTS IF REQUIRED.

I) EXISTING LIGHT FIXTURES, ELECTRICAL / TELECOMMUNICATION DEVICES, PANELBOARDS ETC. THAT ARE NOT TO BE REMOVED SHALL BE NOTED AS EXISTING TO REMAIN ON THE DRAWINGS. SEE ARCHITECTURAL & MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION ON SCOPE OF DEMOLITION.

COMMUNICATIONS PLAN KEY NOTES

1 TELEPHONE DEMARK CABINET PER TELEPHONE COMPANY REQUIREMENTS.

2 2"C FROM 84" TO ABOVE CEILING. WIRE HOMERUN TO BUILDING TELEPHONE DEMARK FOR TELEPHONE COMPANY CABLE.

3 (2) 2" EMT SLEEVES IN JOIST SPACE. TURN CONDUITS DOWN AT MDF & STUB 6" BELOW CEILING.

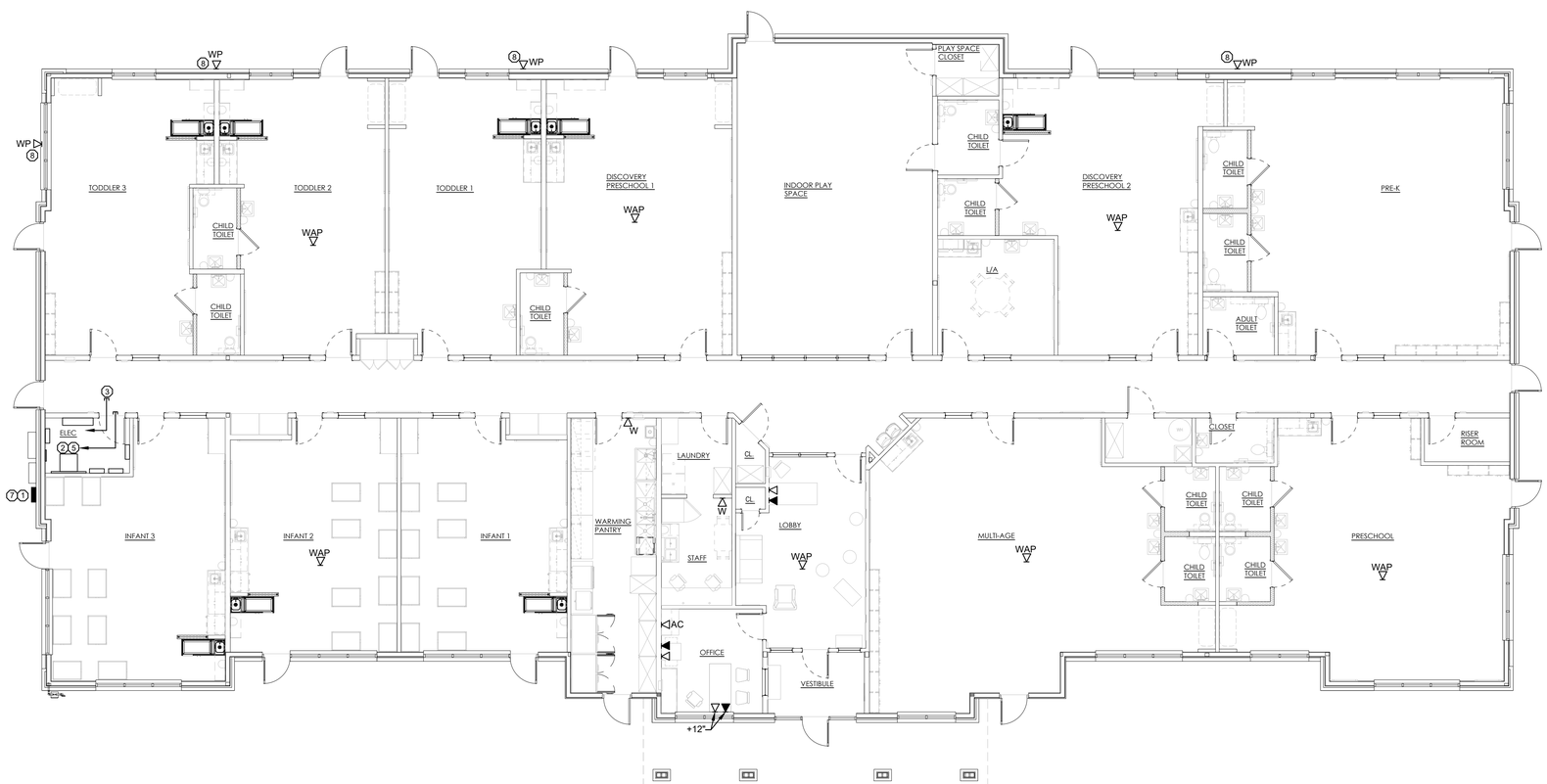
4 ALL COMMUNICATIONS CABLE SHALL BE PURCHASED & INSTALLED BY ELECTRICAL CONTRACTOR & MEET E1A/T1A STANDARDS. COORDINATE CABLE MANUFACTURER WITH KCE PRIOR TO BIDDING.

5 25 PAIR CAT 6 CABLE TO TELEPHONE DEMARK. TERMINATE AT MDF AS DIRECTED BY KCE.

6 ALL DATA & TELEPHONE CABLE & JACKS SHALL BE CATEGORY 6. CABLE SHALL BE PLENUM RATED 24 AWG 4 PAIR TWISTED. ELECTRICAL CONTRACTOR SHALL ROUTE CABLE FROM JACKS TO MDF. LEAVE 12" SPARE CABLE IN JACKS & 10' SPARE CABLE AT MDF FOR TERMINATIONS BY KCE.

7 PROVIDE A #2 COPPER BONDING CONDUCTOR FROM CABINET & TELEPHONE UTILITY ACCESS POINT (IF AVAILABLE) & CONNECT TO GROUNDING ELECTRODE SYSTEM.

8 MOUNT TO UNDERSIDE OF SOFFIT



COMMUNICATIONS PLAN 4 6
SCALE 1/8" = 1'-0"

Brian M. Schuler, P.E.
155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

BRIAN M. SCHULER
03-18-26
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1005 STADIUM DR WAKE FOREST, NC

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COMMUNICATIONS PLAN

DATE 03/02/2026

JOB NO. 25027

SHEET NO. E1.2

MECHANICAL & PLUMBING EQUIPMENT SCHEDULE

MARK	DESCRIPTION	LOAD	VOLTAGE & PHASE	PANEL	CIRCUIT	C.B.	WIRE	NOTES
RTU-1	ROOF TOP UNIT	25.0 MCA	208V-3PH	M	1,3,5	35/3	8-3	1,6
RTU-2	ROOF TOP UNIT	29.0 MCA	208V-3PH	M	2,4,6	45/3	8-3	1,6
RTU-3	ROOF TOP UNIT	25.0 MCA	208V-3PH	M	7,9,11	35/3	8-3	1,6
RTU-4	ROOF TOP UNIT	41.0 MCA	208V-3PH	M	8,10,12	50/3	8-3	1,6
RTU-5	ROOF TOP UNIT	29.0 MCA	208V-3PH	M	13,15,17	45/3	8-3	1,6
RTU-6	ROOF TOP UNIT	26.0 MCA	208V-3PH	M	14,16,18	40/3	8-3	1,6
RTU-7	ROOF TOP UNIT	25.0 MCA	208V-3PH	M	19,21,23	35/3	8-3	1,6
RTU-8	ROOF TOP UNIT	25.0 MCA	208V-3PH	M	20,22,24	35/3	8-3	1,6
EF-1	EXHAUST FAN	1/4 HP	120V-1PH	L	23	20/1	10-2	1,5,7
EF-2	EXHAUST FAN	1/4 HP	120V-1PH	L	24	20/1	10-2	1,5,7
EF-3	EXHAUST FAN	1/4 HP	120V-1PH	L	25	20/1	10-2	1,5,7
EUH-1	ELECTRIC UNIT HEATER	19.2 FLA	208V-1PH	M	25,27	30/2	10-2	1
EUH-2	ELECTRIC UNIT HEATER	9.6 FLA	208V-1PH	M	26,28	20/2	10-2	1
EUH-3	ELECTRIC UNIT HEATER	9.6 FLA	208V-1PH	M	29,31	20/2	10-2	1
EUH-4	ELECTRIC UNIT HEATER	9.6 FLA	208V-1PH	M	30,32	20/2	10-2	1
WH-1	WATER HEATER	1.5 AMP	120V-1PH	L	27	20/1	12-2	1,2
RP-1	RECIRC PUMP	1/20 HP	120V-1PH	L	28	20/1	12-2	1,4,5

MECHANICAL & PLUMBING EQUIPMENT SCHEDULE NOTES:

1. VERIFY LOAD, LOCATION AND CONNECTION REQUIREMENTS WITH MECHANICAL & PLUMBING DESIGN DRAWINGS, SHOP DRAWINGS, AND MECHANICAL & PLUMBING CONTRACTOR IN THE FIELD. ADJUST CONNECTION DEVICE, MOUNTING HEIGHT, WIRE, CONDUIT AND CIRCUIT BREAKER AS REQUIRED IN ORDER TO POWER THE EQUIPMENT. COORDINATE WITH THE EQUIPMENT INSTALLING CONTRACTOR PRIOR TO ROUGH-IN.

2. PROVIDE A LOCAL NEMA 3R HEAVY DUTY NON FUSED DISCONNECT SWITCH SIZED PER EQUIPMENT NAMEPLATE DATA.

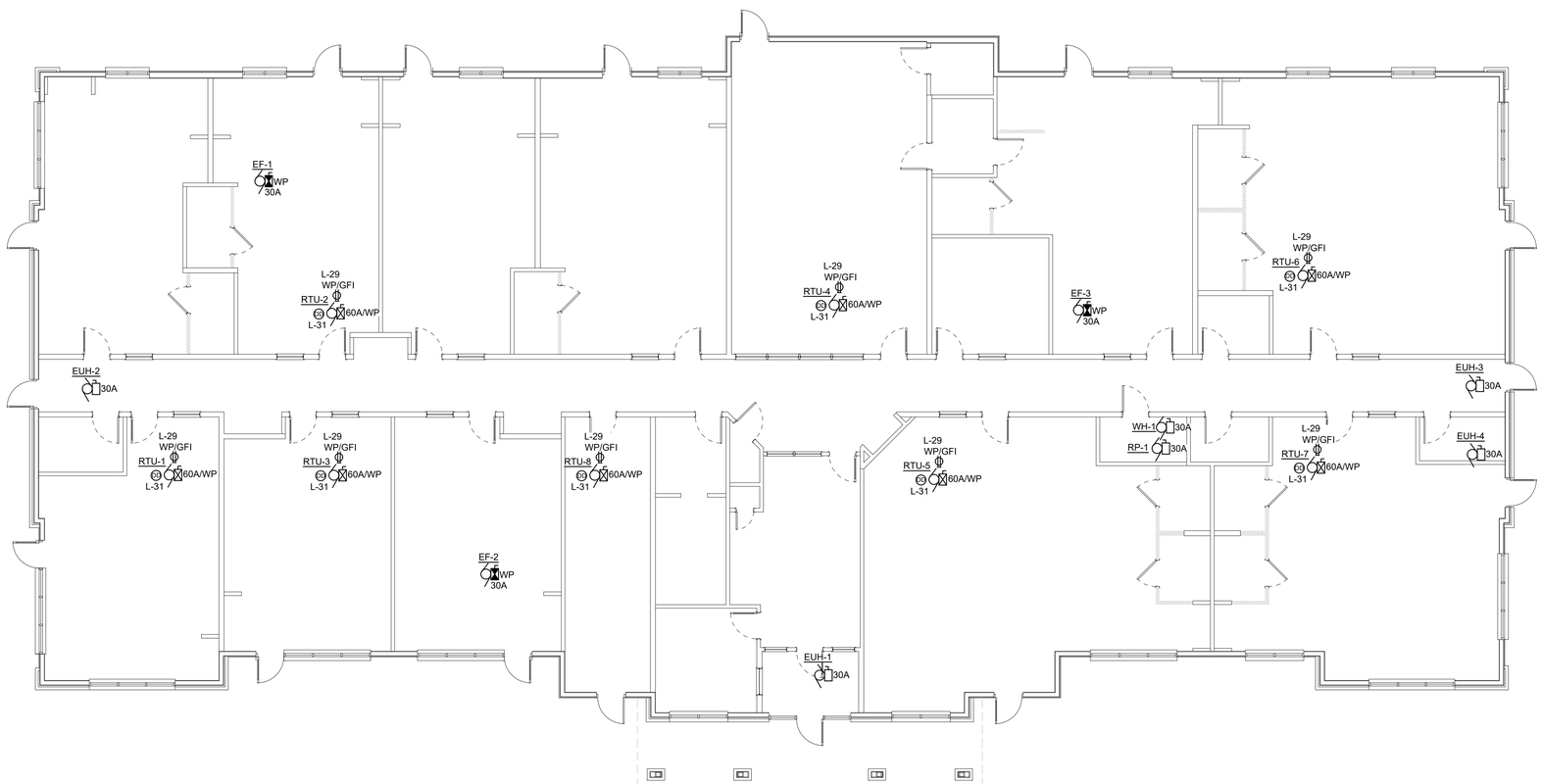
3. PROVIDE A LOCAL NEMA 3R HEAVY DUTY FUSED DISCONNECT SWITCH SIZED AND FUSED PER EQUIPMENT NAMEPLATE DATA.

4. PROVIDE A LOCAL NEMA 1 MANUAL MAGNETIC MOTOR STARTER. SIZE OVERLOADS PER EQUIPMENT REQUIREMENTS.

5. CONTROL CIRCUIT WITH TIME CLOCK.

6. INTEGRAL HACR BREAKER & GFCI SERVICE RECEPTACLE, ELECTRICAL CONTRACTOR TO PROVIDE POWER AND FUSIBLE 100KAIC DISCONNECT TO MINIMIZE SHORT CURRENT CIRCUIT.

7. PROVIDE A LOCAL COMBINATION MAGNETIC MOTOR STARTER / DISCONNECT SWITCH.



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MECHANICAL PLAN

SCALE 1/8" = 1'-0"

Brian M. Schuler, P.E.

155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

BRIAN M. SCHULER
03-18-26

NORTH CAROLINA PROFESSIONAL SEAL 033582 ENGINEER BRIAN M. SCHULER

N.C. PROFESSIONAL ENGINEER No. 033582

KinderCare EDUCATION™

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

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MECHANICAL PLAN

DATE 03/02/2026

JOB NO. 25027

SHEET NO. E1.3

FIRE ALARM VOICE EVACUATION SYSTEM SPECIFICATIONS

1. The System

i. Furnish and install a complete Fire Alarm System / Voice Evacuation System as described herein and as shown on the plans; to be wired, connected, and left in first class operating condition. Include a control panel, automatic fire detectors, notification devices, remote annunciators, all wiring, connections to devices, outlet boxes, junction boxes, and all other necessary material for a complete operating system.

ii. All panels and peripheral devices shall be the standard product of a single manufacturer.

iii. The equipment manufacture shall provide all wiring diagrams, equipment shop drawings, battery calculations, etc. per national state and local codes. All prepared & signed by a state certified fire alarm designer. Submit necessary quantity of materials to the authority having jurisdiction for permit.

2. Requirements

i. The control panel shall receive 120 VAC power (as noted on the plans).

ii. The system shall be provided with sufficient battery capacity to operate the entire system upon loss of normal 120 VAC power in a normal supervisory mode for a period off twenty-four (24) hours with 5 minutes of alarm operation at the end of this period. The system shall automatically transfer to the standby batteries upon power failure. All battery charging and recharging operations shall be automatic.

iii. All circuits requiring system operating power shall be 24VDC and shall be individually fused at the control panel.

iv. The panel shall be addressable type with a minimum capacity of 120 addressable points. Signal circuits shall be provided for the annuciation devices shown on plan +(2) 2amp spare circuits. Construction shall be modular w/ solid state microprocessor based electronics.

v. The control panel shall support class "B" supervised initiation circuits.

3. Digital Alarm Communicator Transmitter (DACT)

i. The control panel shall be provided with a DACT unit. The DACT unit shall transmit fire alarm activity to a central supervising location as chosen by the owner & approved by the AHJ. System shall be capable of seizing a telephone line and sending an alarm signal. Provide a 4G cellular module for primary off site communication if AHJ requires.

4. Peripheral Devices

i. Supply and install where indicated on the plans fire alarm horn and ADA visual unit.

ii. Audio/visual units shall provide a common enclosure for the fire alarm audible and visual alarm devices The housing shall be designed to accommodate either horns, bells, or chimes. The unit shall be complete with pyramidal shaped lens with "fire" lettering visible from a 180 field of view. Lamp shall provided 4 wire connection to insure properly supervised in/out system connection. Unit shall be complete with all mounting hardware including back box. Audio/visual unit shall meet requirements of the American Disabilities Act for the area served and be UL listed for its intended purpose. Strobe intensity shall be sized to provide a minimum of .0375 footcanoles at any point in any public space. All alarm indicating devices shall be fitted with the manufactures red surface mounted back box for surface mounted applications. All strobes shall be synchronized and continue separately after silence, only upon reset will they discontinue.

5. Addressable Device Types

i. General

(1) The system control panel, over its two wire multi drop channel, must be capable of communicating with the types of addressable devices specified below. Addressable devices will be located as shown on the drawings.

ii. Addressable Pull Stations (Manual Fire Alarm Boxes)

(1) Addressable pull stations shall : communicate the station's status (alarm, normal) to the control panel over two wires which also provide power to the pull station. The address will be set on each station. The stations will be manufactured from high impact red Lexan. The station will mechanically latch upon operation and remain so until manually reset by opening with a key common to all system locks. Pull stations will be single action.

iii. Smoke Detectors

(1) The sensors shall be a photo electronic type and obtain its operating power from the supervisory current in the fire alarm detection loop. The detectors microprocessor utilizes both elements & measures the signals with respect to time. Detection sensitivity shall be independent of environmental conditions. The sensitivity of the sensor shall be adjustable.

(2) The duct smoke sensors shall be a photo sensor and obtain its operating power from the supervisory current in the fire alarm detection loop. Auxiliary DPDT relays shall be part of the duct housing. Activation of the relays shall be through the system program. Duct smoke sensors shall also be wired to shut down individual HVAC units upon the detection of smoke. Remote LED indicator/key test switch shall be installed where indicated on the drawings. If not indicated on the drawings, the switches shall be located on the unit when it is accessible or on a nearby corridor wall is the unit is in an inaccessible location. Confirm all locations with the architect before installing if not shown on the drawings.

iv. Flow and Tamper Switches

(1) Flow and tamper switches shall consist of a cast aluminum pipe saddle which houses an electrical mechanical device to which is attached a corrosion free, flexible, low density, polyethylene paddle. The paddle conforms with the inside diameter of the sprinkler pipe and senses water movements. The flow switch shall incorporate an adjustable time delay mechanism between paddle operated stem and alarm initiating contacts. Flow switch shall be UL listed.

iv. CARBN MONOXIDE SENSORS

(1) The sensor can be stand alone type or combination smoke/carbon monoxide sensor. The sensor shall be provided with a sounder base for local alarm purposes.

6. Installation

i. Provide and install the system in accordance with the plans and specifications, all applicable codes and the manufacturer's recommendations. All wiring shall be installed in strict compliance with all the provisions of NEC - Article 760 A and C, Power-Limited Fire Protective Signaling Circuits. All junction boxes and covers shall be sprayed red. Wiring color code shall be maintained throughout.

ii. Installation of equipment and devices that pertain to other work in the contract shall be closely coordinated with the appropriate subcontractors.

iii. The contractor shall clean all dirt and debris from the inside and the outside of the fire alarm equipment after completion of the installation.

iv. The manufacturer's authorized representative shall provide on-site supervision of installation and all related programming. Descriptions for each addressable device shall be provided by the Owner at the time of programming.

v. Fire Alarm wiring shall be run in a conduit system below lay-in ceiling or joists in exposed areas. Wiring and conduit shall be run parallel or perpendicular to existing ceilings, floors and walls. Open cable may be used above lay-in ceilings shall be plenum rated

7. Testing

i. The completed fire alarm system shall be fully tested in accordance with NFPA-72H by the contractor in the presence of the owner's representative and the Local Fire Marshal. Upon completion of a successful test, the contractor shall so certify in writing to the owner.

8. Warranty

i. The contractor shall warrant the completed sprinkler alarm system wiring and equipment to be free from inherent mechanical and electrical defects for a period of one (1) year from the date of the completed and certified test or from the date of first beneficial use.

ii. The equipment manufacturer shall make available to the owner a maintenance contract proposal to provide a minimum of two (2) inspections and tests per year in compliance with the NFPA-72H guidelines.

9. Quality Assurance

i. Each and all items of the Fire/Sprinkler Alarm System shall be listed as a product of a SINGLE fire alarm system manufacturer under the appropriate category by Underwriters' Laboratories, Inc. (UL), and shall bear the "U.L." label. All control equipment is to be listed under UL category UOJZ as a single control unit. Partial listing shall NOT be acceptable.

ii. Complete installation shall conform to applicable sections of NFPA - 72 and 72 E, NEC (NFPA-70) and Local requirements.

iii. The equipment and installation supervision furnished under this specification is to be provided by a manufacturer who has been engaged in production of this type of equipment (software driven) for at least ten (10) years, and has a fully-equipped service organization within fifty (50) miles of the installation.

iv. All control equipment must have transient protection devices to comply with UL 864 requirements.

FIRE ALARM SYSTEM SYMBOL LEGEND

SYMBOL	DESCRIPTION
A-2	HOMERUN TO PANEL "A" INDICATING CIRCUIT NUMBER(S) - ALL WIRING SHALL BE #12 WITH EQUIPMENT GROUND WIRE UON (INCREASE TO #10 FOR CIRCUITS OVER 100 FT.) - ALL HOMERUNS ARE TO A 20 AMPERE, 1 POLE CIRCUIT BREAKER U.O.N. - QUANITY OF CONDUCTORS AS NECESSARY TO ACCOMMODATE CIRCUITS AND CONTROL INDICATED. CROSS HATCHES INDICATE REQUIRED LIGHTING CONTROL U.O.N.
F	FIRE ALARM PULL STATION MOUNTED AT 48" AFF UON WITH INTEGRAL FLIP COVER & LOCAL ALARM.
F 120	FIRE ALARM SPEAKER WITH STROBE LIGHT - WALL MOUNTED AT 80" AFF UON. C= MOUNTED FLUSH IN CEILING, PROVIDE WHITE HOUSING. SPACING HAS BEEN REDUCED TO ACCOMMODATE INCREASED MOUNTING HEIGHT. ALL STROBES SHALL BE SYNCHRONIZED. NUMBER INDICATES MINIMUM STROBE CANDELA RATING.
F 60	FIRE ALARM STROBE LIGHT ALL STROBES SHALL BE SYNCHRONIZED - WALL MOUNTED AT 80" NUMBER INDICATES MINIMUM STROBE CANDELA RATING.
SD	FIRE ALARM SMOKE/HEAT DETECTOR - CEILING MOUNTED ("D" = DOOR CONTROL,"E" = ELEVATOR CONTROL, "N" = PATIENT ROOM FIRE ALARM/NURSE CALL, "S" = SINGLE STATION WITH AUDIBLE/ADA VISUAL ALARM)
HD	FIRE ALARM FIXED TEMP/RATE OF RISE HEAT DETECTOR - CEILING MOUNTED ("E" = ELEVATOR)
DD Ts	FIRE ALARM DUCT SMOKE DETECTOR - WITH REMOTE TEST STATION FURNISHED, WIRED BY E.C. & INSTALLED BY M.C. MOUNT TEST SWITCH NEXT TO CONTROL PANEL. "V" = SMOKE DAMPER CONTROL.
CO	CEILING MOUNTED CARBON MONOXIDE DETECTOR WITH LOCAL ALARM. WIRED TO FIRE ALARM SYSTEM.
T / F	SPRINKLER SYSTEM TAMPER SWITCH/FLOW SWITCH - FURNISHED AND INSTALLED BY MC, WIRED BY EC
AFF	ABOVE FINISHED FLOOR
AC	INDICATES DEVICE MOUNTED AT 8" ABOVE COUNTER
EC	ELECTRICAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER TYPE
UON	UNLESS OTHERWISE NOTED
C	MOUNTED FLUSH IN CEILING. SPACING HAS BEEN REDUCED TO ACCOMODATE INCREASED MOUNTING HEIGHT.

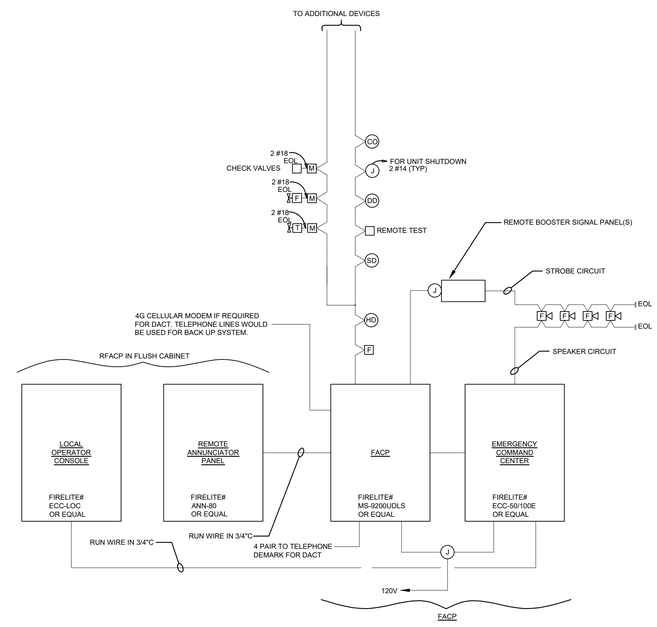
PROVIDE WHITE CEILING MOUNTED ANNUNCIATION DEVICES IN CLASSROOMS

CAN BE COMBINED WITH AREA SMOKE DETECTORS

FIRE ALARM SYSTEM VENDOR SHALL PROVIDE STROBES WITH INTENSITY RATINGS (15 TO 177 CANDELA) LARGE ENOUGH TO PROVIDE .0375 FOOTCANDLES AT ANY POINT IN ANY PUBLIC AREA AS REQUIRED BY NFPA.

THE FIRE ALARM DESIGNER SHALL CO-ORDINATE WITH THE AUTHORITY JURISDICTION TO DETERMINE IF THE LOCATION OF THIS PROJECT IS LOCATED IN THE EMERGENCY COMMUNICATIONS DEAD ZONE. IF SO, THE FIRE ALARM DESIGNER SHALL INCORPORATE A BI DIRECTIONAL AMPLIFIER SYSTEM DESIGNED TO NFPA 72, NFPA 1221, AND ALL LOCAL REQUIREMENTS IN CONFORMANCE WITH UL2524.

THE ELECTRICAL CONTRACTOR SHALL HIRE A LICENSED FIRE ALARM DESIGNER TO PROVIDE DESIGN DRAWINGS AND SPECIFICATIONS TO THE AUTHORITY HAVING JURISDICTION AS A DEFERRED SUBMITTAL. THE SYSTEM DESIGN SHALL BE BASED ON THE SPECIFICATIONS, NOTES, AND RISER DIAGRAM SHOWN ON THIS SHEET. THE SYSTEM SHALL BE DESIGNED AS A VOICE EVACUATION SYSTEM WITH FULL AREA SMOKE DETECTOR COVERAGE AND FULL CARBON MONOXIDE SENSOR COVERAGE. SEE MECHANICAL DRAWINGS FOR DUCT MOUNTED SMOKE DETECTOR AND HVAC UNIT SHUT DOWN REQUIREMENTS. CARBON MONOXIDE SENSORS SHALL RECEIVE OPERATING POWER AND COMMUNICATE WITH THE FIRE ALARM CONTROL PANEL. FIRE ALARM DRAWINGS AND CUT SHEETS SHALL BE PROVIDED BY THE CONTRACTOR AS SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL.



FIRE ALARM VOICE EVACUATION SYSTEM NOTES:

1) THIS RISER REPRESENTS A TYPICAL SYSTEM AND IS NOT INTENDED FOR INSTALLATION. SYSTEM SUPPLER SHALL PROVIDE INSTALLATION DRAWINGS AND SCHEMATIC WIRING DIAGRAMS. EXACT SYSTEM REQUIREMENTS SHALL BE COORDINATED WITH THE SYSTEM SUPPLIER & FLOOR PLANS. THE INSTALLATION SHALL MEET NEC, NFPA & ALL APPLICABLE STATE & LOCAL CODES.

2) SYSTEM SUPPLIER SHALL SUPERVISE INSTALLATION, PROGRAM AND TEST SYSTEM, AND INSTRUCT OWNER ON SYSTEM OPERATION.

3) ALL FIRE ALARM WIRING SHALL BE IN 1/2" MINIMUM CONDUIT. OPEN WIRING MAY BE USED ABOVE ACCESSIBLE CEILING PROVIDED THAT IT IS PLENUM RATED.

4) PROVIDE ADDITIONAL MONITOR AND CONTROL MODULES AS RECOMMENDED BY SYSTEM SUPPLIER.

5) ALL CONTROL CABINETS SHALL BE IN GROUNDED PER N.E.C. REQUIREMENTS AND PER SPECIFICATIONS.

6) REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. REFER TO DRAWINGS FOR DEVICE QUANTITY AND LOCATIONS.

7) **THE E.C. SHALL PROVIDE ALL CONDUITS, SLEEVES, BOXES & FIRE STOPPING FOR THE FIRE ALARM CONTRACTOR. THE E.C. SHALL PAY THE BUILDINGS FIRE ALARM CONTRACTOR & INCLUDE ALL FA CONTRACTOR CHARGES IN BID. CONTACT LANDLORD FOR FIRE ALARM CONTRACTOR INFORMATION.**

8) COORDINATE WITH KCE AS FAR AS WHICH FIRE ALARM MONITORING COMPANY IS TO USED FOR THIS SYSTEM.

Brian M. Schuler, P.E.

155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

BRIAN M. SCHULER
03-18-26
NORTH CAROLINA PROFESSIONAL SEAL 033582 ENGINEER BRIAN M. SCHULER
N.C. PROFESSIONAL ENGINEER No. 033582

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

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FIRE ALARM DESIGN CRITERIA

DATE 03/02/2026

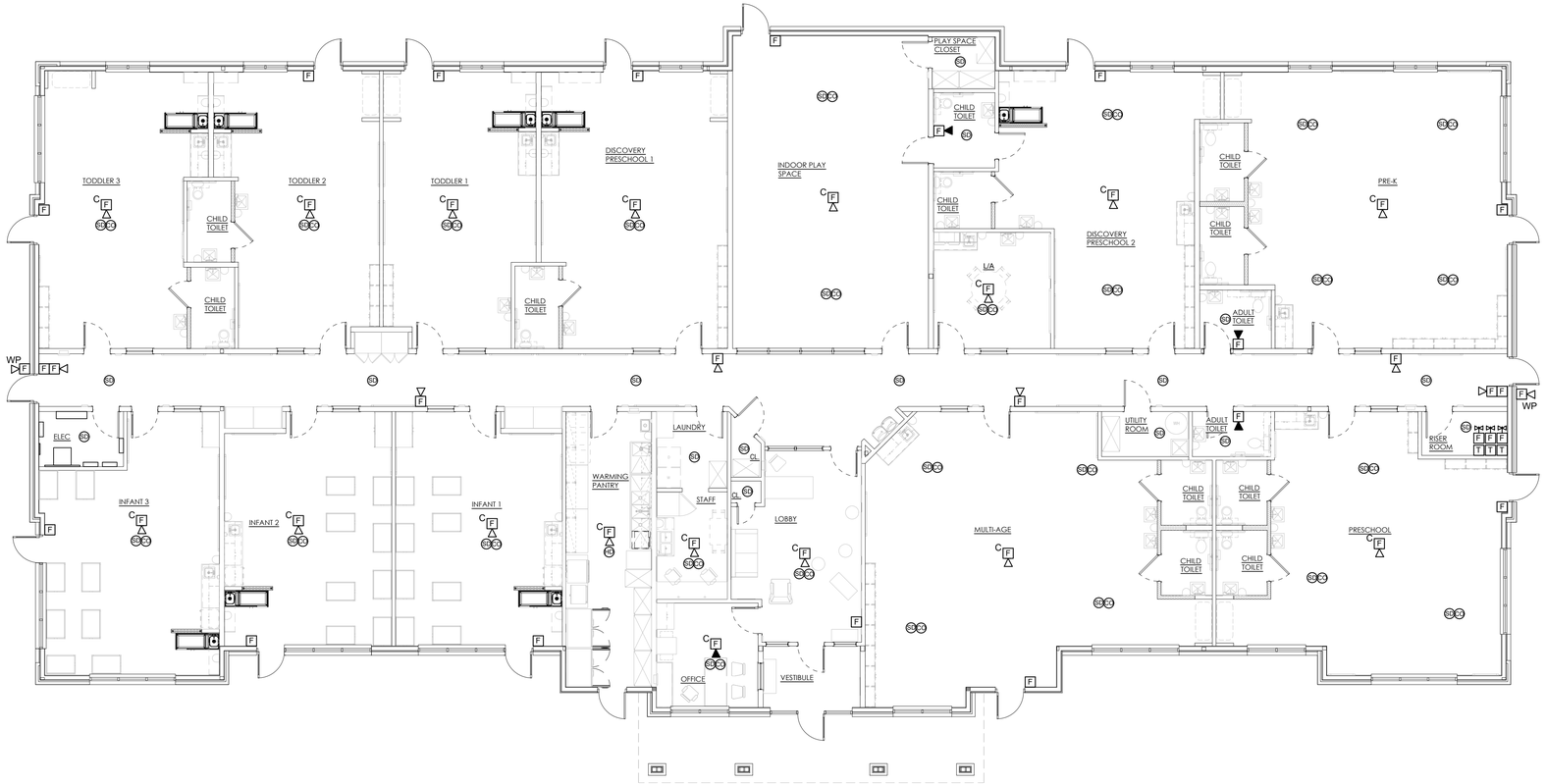
JOB NO. 25027

E2.0

SHEET NO.

THIS DRAWING SHALL BE USED FOR DESIGN INTENT AND BIDDING PURPOSES ONLY. STROBE INTENSITY AND SPEAKER WATTAGE FOR EACH ANNUNCIATION DEVICE SHALL MEET ALL CODES. SEE DRAWING E2.0 FOR ELECTRICAL CONTRACTOR / FIRE ALARM DESIGNER RESPONSIBILITIES.

SEE MECHANICAL DRAWINGS FOR DUCT MOUNTED SMOKE DETECTOR LOCATIONS AND REQUIREMENTS.



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FIRE ALARM PLAN

SCALE 1/8" = 1'-0"

Brian M. Schuler, P.E.

155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

BRIAN M. SCHULER
03-18-26

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033582 BRIAN M. SCHULER

N.C. PROFESSIONAL ENGINEER No. 033582

KinderCare EDUCATION

ADA ARCHITECTS
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FIRE ALARM PLAN

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JOB NO. 25027

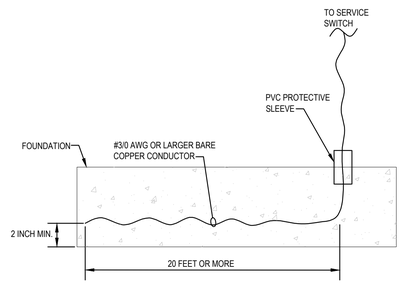
E2.1

SHEET NO.

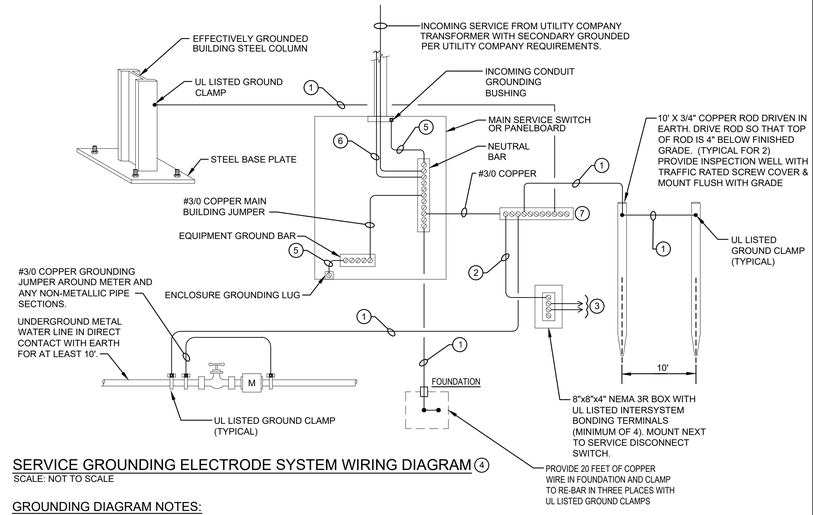
WIRE LEGEND

Tag	Fill	Tag	Fill	Tag	Fill
No Tag	(2) #12, #12GND-3/4"C	4-4	(4) #4, #4GND-1 1/4 "C	4/0-3	(3) #4/0, #2GND-2" C
12-3	(3) #12, #12GND-3/4"C	2-2	(2) #2, #4GND-1"C	4/0-4	(4) #4/0, #2GND-2 1/2"C
12-4	(4) #12, #12GND-3/4"C	2-3	(3) #2, #4GND-1 1/4 "C	300-2	(2) 300KCMIL, #1/0GND-2"C
10-2	(2) #10, #10GND-3/4"C	2-4	(4) #2, #4GND-1 1/4" C	300-3	(3) 300KCMIL, #1/0GND-21/2" C
10-3	(3) #10, #10GND-3/4"C	1-2	(2) #1, #4GND-1 1/4" C	300-4	(4) 300KCMIL, #1/0GND-2 1/2"C
10-4	(4) #10, #10GND-3/4"C	1-3	(3) #1, #4GND-1 1/4" C	350-2	(2) 350KCMIL, #3/0GND-2"C
8-2	(2) #8, #8GND-3/4"C	1-4	(4) #1, #4GND-1 1/2" C	350-3	(3) 350KCMIL, #3/0GND-2 1/2"C
8-3	(3) #8, #8GND-1"C	1/0-2	(2) #1/0, #2GND-1 1/4" C	350-4	(4) 350KCMIL, #3/0GND-3"C
8-4	(4) #8, #8GND-1"C	1/0-3	(3) #1/0, #2GND-1 1/2" C	500-2	(2) 500KCMIL, #3/0GND-2 1/2"C
6-2	(2)#6, #6GND-1"c	1/0-4	(4) #1/0, #2GND-1 1/2" C	500-3	(3) 500KCMIL, #3/0GND-3"C
6-3	(3) #6, #6GND-1"C	3/0-2	(2) #3/0, #2GND-1 1/2" C	500-4	(4) 500KCMIL, #3/0GND-3 1/2" C
6-4	(4) #6, #6GND-1"C	3/0-3	(3) #3/0, #2GND-2" C	600-2	(2) 600KCMIL, #3/0GND-3"C
4-2	(2) #4, #4GND-1"C	3/0-4	(4) #3/0, #2GND-2" C	600-3	(3) 600KCMIL, #3/0GND-3 1/2" C
4-3	(3) #4, #4GND-1"C	4/0-2	(2) #4/0, #2GND-2" C	600-4	(4) 600KCMIL, #3/0GND-3 1/2" C

NOTE: CONDUIT SIZES ARE FOR EMT & IMC. FOR PVC & RGC INCREASE CONDUIT BY (1) TRADE SIZE. FOR FLEXIBLE CONDUIT SIZES REFER TO NEC. ALL WIRE SIZES SHOWN ON DRAWINGS ARE FOR COPPER CONDUCTORS



FOUNDATION GROUNDING ELECTRODE DETAIL
SCALE: NOT TO SCALE



SERVICE GROUNDING ELECTRODE SYSTEM WIRING DIAGRAM (4)
SCALE: NOT TO SCALE

GROUNDING DIAGRAM NOTES:

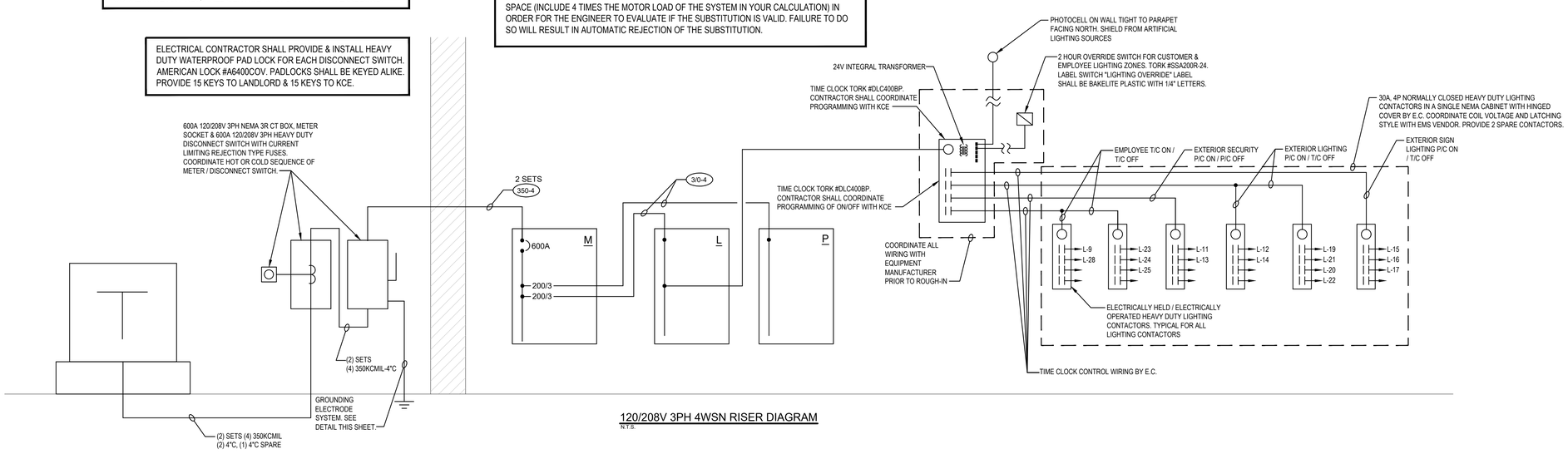
1. THE GROUNDING ELECTRODE CONDUCTORS SHALL BE 3/0 COPPER.
2. #2 AWG FOR INTERSYSTEM BONDING.
3. MINIMUM #6 AWG TO OTHER SYSTEMS (TELECOMMUNICATIONS, GAS, ETC.) FOR INTERSYSTEM BONDING PER NEC 250.94.
4. ALL WIRING & CONNECTIONS SHALL MEET THE NATIONAL ELECTRICAL CODE ARTICLE 250 & BE UL LISTED TO UL STANDARD 467.
5. #3/0 AWG BONDING JUMPER.
6. #3/0 SUPPLY SIDE BONDING JUMPER TO UTILITY METER (IF ALLOWED), METALLLIC WIREWAYS OR PULL BOXES.
7. PROVIDE A 1/2"x3"x16" GROUNDING ELECTRODE BUS BAR MOUNTED IN A 24"x24" NEMA 3R BOX & CONNECT TO NEUTRAL BAR WITH #3/0 COPPER. MOUNT BUS BAR ON ISOLATORS & BOND TO BOX. CONNECT GROUNDING ELECTRODE CONDUCTORS TO GROUNDING BUS BAR.

ANY SUBMITTED SHOP DRAWING SHALL BEAR THE ELECTRICAL CONTRACTOR'S SHOP DRAWING STAMP INDICATING CONTRACTOR REVIEW AND APPROVAL. FAILURE TO DO SO SHALL RESULT IN AUTOMATIC REJECTION OF THE SHOP DRAWING. SHOP DRAWINGS SHALL BE REVIEWED BY THE ENGINEER ONCE. ANY RESUBMITTED SHOP DRAWING REQUIRING REVIEW SHALL BE PAID FOR UP FRONT TO THE ARCHITECT BY THE ELECTRICAL CONTRACTOR. COSTS WILL BE BILLED HOURLY BASED ON THE ARCHITECT'S STANDARD CONTRACTUAL RATES FOR THIS PROJECT.

CONTRACTOR SHALL COORDINATE ALL LOCAL REQUIREMENTS WITH REGARDS TO CONNECTING THE ELECTRICAL SERVICE. METER, CT BOXES, DISCONNECT SWITCHES ETC. SHALL BE PURCHASED & INSTALLED PER THE LOCAL POWER COMPANY REQUIREMENTS & AUTHORITY HAVING JURISDICTION. COORDINATION SHALL OCCUR WITHIN ***1 WEEK*** OF RECEIVING CONTRACT. INCLUDE IN BID ANY EXPEDITED SHIPPING CHARGES FOR ANY LONG LEAD ELECTRICAL DISTRIBUTION EQUIPMENT. COORDINATE ANY REQUIRED SERVICE SHUT DOWNS WITH LANDLORD.

FOR ANY SUBSTITUTIONS OF THE ELECTRICAL DISTRIBUTION EQUIPMENT INVOLVING EQUIPMENT WITH A LOWER SHORT CIRCUIT RATING THAN WHAT IS SPECIFIED ON THE DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE IN WRITING THE AVAILABLE SHORT CIRCUIT CURRENT AT THE POWER COMPANY TRANSFORMER FROM THE POWER COMPANY AS WELL AS A SHORT CIRCUIT ANALYSIS TO THE MAIN PANEL POWERING THE SPACE (INCLUDE 4 TIMES THE MOTOR LOAD OF THE SYSTEM IN YOUR CALCULATION) IN ORDER FOR THE ENGINEER TO EVALUATE IF THE SUBSTITUTION IS VALID. FAILURE TO DO SO WILL RESULT IN AUTOMATIC REJECTION OF THE SUBSTITUTION.

ELECTRICAL CONTRACTOR SHALL PROVIDE & INSTALL HEAVY DUTY WATERPROOF PAD LOCK FOR EACH DISCONNECT SWITCH. AMERICAN LOCK #A6400COV. PADLOCKS SHALL BE KEYED ALIKE. PROVIDE 15 KEYS TO LANDLORD & 15 KEYS TO KCE.



120/208V 3PH 4WSN RISER DIAGRAM
N.T.S.

Brian M. Schuler, P.E.
155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

BRIAN M. SCHULER
03-18-26
NORTH CAROLINA PROFESSIONAL SEAL 033582 ENGINEER BRIAN M. SCHULER
N.C. PROFESSIONAL ENGINEER No. 033582

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR WAKE FOREST, NC

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RISER DIAGRAM SCHEDULES, DETAILS & LEGENDS

DATE 03/02/2026

JOB NO. 25027

SHEET NO. E3.0

M

MOUNTING: SURFACE
BUS RATING: 600A
600A MAIN CIRCUIT BREAKER
VOLTAGE: 120/208V-3PH-4W
COMMENTS:

LOCATION : ELECTRICAL ROOM
A.I.C.: 65,000
AMPS CONN.: 408.3
AMPS DEMAND: 446.7

BREAKER REMARKS
C-CONTACTOR CONTROLLED, S-SHUNT TRIP, L-LOCK ON, G-GFCI, A-ARC FAULT, SW-SWITCHING DUTY, HA-HACR, HI-HID

CKT.	DESCRIPTION	KVA CONNECTED LTG.	REC.	HVAC	MISC.	C/B	REMARKS		C/B	KVA CONNECTED MISC.	HVAC	REC.	LTG.	DESCRIPTION	CKT
1				2.4			-	-			2.8				2
3	RTU-01			2.4		35/3	-	-	45/3		2.8			RTU-02	4
5				2.4			-	-			2.8				6
7				2.4			-	-			3.9				8
9	RTU-03			2.4		35/3	-	-	50/3		3.9			RTU-04	10
11				2.4			-	-			3.9				12
13				2.9			-	-			2.5				14
15	RTU-05			2.9		45/3	-	-	40/3		2.5			RTU-06	16
17				2.9			-	-			2.5				18
19				2.4			-	-			2.4				20
21	RTU-07			2.4		35/3	-	-	35/3		2.4			RTU-6	22
23				2.4			-	-			2.4				24
25	EUH-1			2.8		30/2	-	-	20/2		1.4			EUH-2	26
27				2.8			-	-			1.4				28
29	EUH-3			1.4		20/2	-	-	20/2		1.4			EUH-4	30
31				1.4			-	-			1.4				32
33	SPARE			-			-	-					-	SPARE	34
35	SPARE			-			-	-					-		36
37							-	-							38
39	PANEL L	13.8	2.0	1.8	0.9	200/3	-	-	200/3	30.5	-	20.3	-	PANEL P	40
41							-	-							42
TOTALS		13.8	2.0	40.5	0.9					30.5	41.0	20.3	0.00	TOTALS	

LOAD	CONNECTED	DEMAND
LIGHTING	13.8	36.2
RECEPTACLE	20.3	15.2
HVAC	81.5	84.4
MISC	13.1	13.1
KITCHEN	18.3	11.9

L

MOUNTING: SURFACE
BUS RATING: 200A
200A MAIN LUG ONLY
VOLTAGE: 120/208V-3PH-4W

LOCATION : ELECTRICAL ROOM
A.I.C.: 65,000
AMPS CONN.: 57.5
AMPS DEMAND: 67.8

COMMENTS: CAN BE SERIES RATED WITH MANUFACTURERS TESTED BREAKER COMBINATION. UPSTREAM BREAKER CAN BE IN A SEPARATE PANEL OR A MAIN CIRCUIT BREAKER IN THIS PANEL. UPSTREAM BREAKER SHALL BE FULLY RATED TO THE AIC RATING SHOWN ON THIS PANEL. PROVIDE ALL NECESSARY DOCUMENTATION FROM THE MANUFACTURER ON PANELBOARDS PER NATIONAL ELECTRIC CODE.

BREAKER REMARKS
C-CONTACTOR CONTROLLED, S-SHUNT TRIP, L-LOCK ON, G-GFCI, A-ARC FAULT, SW-SWITCHING DUTY, HA-HACR, HI-HID

CKT.	DESCRIPTION	KVA CONNECTED LTG.	REC.	HVAC	MISC.	C/B	REMARKS		C/B	KVA CONNECTED MISC.	HVAC	REC.	LTG.	DESCRIPTION	CKT
1	TODDLER-1,2,3, LIGHTING	1.2				20/1	-	-	20/1				1.1	DISCOVERY 1 INDOOR PLAY LIGHTING	2
3	DISC.-2, PRE-K, L/A LIGHTING	1.5				20/1	-	-	20/1				0.8	PRESCHOOL, RISER, ADULT TOILET LTG	4
5	MULTI-AGE, UTILITY ROOM LIGHTING	0.9				20/1	-	-	20/1				0.6	KITCHEN, LAUNDRY, STAFF,INFANT 1 LTG	6
7	LOBBY, VESTIBULE LIGHTING	0.5				20/1	-	-	20/1				0.6	ELEC. INFANT 2,3 LIGHTING	8
9	CORRIDOR LIGHTING	0.8				20/1	L	-	20/1	0.2				TIMECLOCK	10
11	EXTERIOR SEC LIGHTING	0.3				20/1	C	C	20/1				0.1	EXTERIOR LIGHTING	12
13	EXTERIOR SEC LIGHTING	0.5				20/1	C	C	20/1				0.1	EXTERIOR LIGHTING	14
15	WALL SIGN	1.2				20/1	C	C	20/1				1.2	WALL SIGN	16
17	WALL SIGN	1.2				20/1	C	-	20/1				-	SPARE	18
19	SITE LIGHTING	0.5				20/2	C	C	20/1				0.2	SITE LIGHTING	20
21		0.5					C	C	20/1				0.2		22
23	EF-1			0.6		20/1	C	C	20/1		0.6			EF-2	24
25	EF-3			0.6		20/1	C	L,R	20/1	0.5			-	FACP (FIRE ALARM CIRCUIT)	26
27	WH-01	-			0.2	20/1	-	C	20/1	0.1			-	RP-1	28
29	SERVICE RECEPTACLE		1.0			20/1	-	-	20/1			1.0		SERVICE RECEPTACLE	30
31	DUCT DETECTOR	-			0.1	20/1	-	-	20/1		1.0			BACK FLOW PREVENTER HEATER	32
33	SPARE	-				20/1	-	-	20/1		1.0			BACK FLOW PREVENTER HEATER	34
35	SPARE	-				20/1	-	-	20/1				-	SPARE	36
37	SPARE	-				20/1	-	-	20/1				-	SPARE	38
39	SPARE	-				20/1	-	-	20/1				-	SPARE	40
41	SPARE	-				20/1	-	-	20/1				-	SPARE	42
TOTALS		9.1	1.0	1.2	0.3					0.8	2.6	1.0	4.9	TOTALS	

LOAD	CONNECTED	DEMAND
LIGHTING	14.0	17.5
RECEPTACLE	2.0	2.0
HVAC	3.8	4.0
MISC	0.9	0.9

P

MOUNTING: SURFACE
BUS RATING: 200A
200A MAIN LUG ONLY
VOLTAGE: 120/208V-3PH-4W

LOCATION : ELECTRICAL ROOM
A.I.C.: 65,000
AMPS CONN.: 141.1
AMPS DEMAND: 109.2

COMMENTS: CAN BE SERIES RATED WITH MANUFACTURERS TESTED BREAKER COMBINATION. UPSTREAM BREAKER CAN BE IN A SEPARATE PANEL OR A MAIN CIRCUIT BREAKER IN THIS PANEL. UPSTREAM BREAKER SHALL BE FULLY RATED TO THE AIC RATING SHOWN ON THIS PANEL. PROVIDE ALL NECESSARY DOCUMENTATION FROM THE MANUFACTURER ON PANELBOARDS PER NATIONAL ELECTRIC CODE.

BREAKER REMARKS
C-CONTACTOR CONTROLLED, S-SHUNT TRIP, L-LOCK ON, G-GFCI, A-ARC FAULT, SW-SWITCHING DUTY, HA-HACR, HI-HID
R-RED HANDLE

CKT.	DESCRIPTION	KVA CONNECTED LTG.	REC.	HVAC	MISC.	C/B	REMARKS		C/B	KVA CONNECTED MISC.	HVAC	REC.	LTG.	DESCRIPTION	CKT
1	TODDLER 3 RECEPTACLE		1.0			20/1	G	G	20/1			1.0		TODDLER 2 RECEPTACLE	2
3	TODDLER 1 RECEPTACLE		1.0			20/1	G	G	20/1			1.0		DISC 1 RECEPTACLE	4
5	INDOOR PLAY RECEPTACLE		1.0			20/1	G	G	20/1			1.0		DISC 2 RECEPTACLE	6
7	PRE K RECEPTACLE		1.0			20/1	G	G	20/1			1.0		L/A RECEPTACLE	8
9	INFANT 3 RECEPTACLE		1.0			20/1	G	G	20/1	0.8				INFANT 3 REFRIGERATOR	10
11	INFANT 2 RECEPTACLE		1.0			20/1	G	G	20/1	0.8				INFANT 2 REFRIGERATOR	12
13	INFANT 1 RECEPTACLE		1.0			20/1	G	G	20/1	0.8				INFANT 1 REFRIGERATOR	14
15	CORRIDOR RECEPTACLE		0.9			20/1	-	-	20/1			0.2		UTILITY RECEPTACLE	16
17	MICROWAVE				1.6	30/2	G	G	30/2		1.6			MICROWAVE	18
19					1.6						1.6				20
21	OVEN				2.5	30/2	G	G	30/2		2.3			DISHWASHER	22
23					2.5						2.3				24
25	FREEZER				1.3	20/1	G	G	20/1	0.8				REFRIGERATOR	26
27	WARMING PANTRY RECEPTACLE		0.4			20/1	-	-	20/1			0.4		WARMING PANTRY RECEPTACLE	28
29	DRYER				2.5	30/2	G	-	20/1			0.4		WARMING PANTRY RECEPTACLE	30
31					2.5			G	20/1	1.0				WASHER	32
33	LAUNDRY RECEPTACLE		0.4			20/1	-	G	20/1	0.8				STAFF REFRIGERATOR	34
35	STAFF MICROWAVE				1.0	20/1	G	-	20/1			0.8		STAFF RECEPTACLE	36
37	OFFICE RECEPTACLE		0.4			20/1	-	-	20/1	1.0				COPIER	38
39	OFFICE RECEPTACLE		0.8			20/1	G	-	20/1			0.8		LOBBY RECEPTACLE	40
41	EWC				1.0	20/1	G	-	20/1	0.1				DOOR STRIKE	42
43	TELEPHONE RECEPTACLE		0.4			20/1	-	-	20/1	0.1				DOOR BELL	44
45	MULTI AGE RECEPTACLE		1.4			20/1	-	G	20/1			1.4		PRE SCHOOL RECEPTACLE	46
47	ADULT TOILET RECEPTACLE		0.4			20/1	-	C	20/1			0.2		RISER ROOM RECEPTACLE	48
49	SPARE	-				20/1	-	-	20/1				-	SPARE	50
51	SPARE	-				20/1	-		20/1				-	SPARE	52
53	SPARE	-				20/1	-	-	20/1				-	SPARE	54
55	SPARE	-				20/1	-	-	20/1				-	SPARE	56
57	SPARE	-				20/1	-	-	20/1				-	SPARE	58
59	SPARE	-				20/1	-	-	20/1				-	SPARE	60
TOTALS		0.00	12.1	0.00	16.5					14.0	0.00	8.2	0.00	TOTALS	

LOAD	CONNECTED	DEMAND
LIGHTING	-	-
RECEPTACLE	20.3	15.2
HVAC	-	-
MISC	12.2	12.2
KITCHEN	18.3	11.9

IF GFCI BREAKERS SHOWN IN THE PANEL SCHEDULES ARE NOT AVAILABLE FROM THE PANEL MANUFACTURER AT THE SIZE AND SHORT CIRCUIT RATING CALLED FOR, THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL A LITTLE FUSE SHOCKBLOCK SERIES SB 5000 LOCATED IN THE SAME ROOM AS THE PANEL.

Brian M. Schuler, P.E.
155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

BRIAN M. SCHULER
03-18-26
NORTH CAROLINA PROFESSIONAL SEAL 033582 ENGINEER BRIAN M. SCHULER
N.C. PROFESSIONAL ENGINEER No. 033582

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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ELECTRICAL PANEL SCHEDULES

DATE 03/02/2026

JOB NO. 25027

E3.1
SHEET NO.

LIGHTING FIXTURE SCHEDULE

TYPE	LAMP	WATTS	DESCRIPTION	CATALOG NO.
A	LED 4000K	22	2'x2' RECESSED LED FIXTURE WITH FROSTED ACYLIC LENS, UNIVERSAL VOLTAGE, STANDARD 0-10V DIMMING DRIVER.	LITHONIA# CPANL-2X2-AL01-SWW7-M4
AE	LED 4000K	22	2'x2' RECESSED LED FIXTURE WITH FROSTED ACYLIC LENS, UNIVERSAL VOLTAGE 10 WATT FIELDED INSTALLED EMERGENCY BATTERY, STANDARD 0-10V DIMMING DRIVER.	LITHONIA# CPANL-2X2-AL01-SWW7-M4-ILBLP-CP10-HE-SD-A
B	LED 4000K	35	4' LONG LENSED SURFACE MOUNTED LED FIXTURE WITH FROSTED ACYLIC LENS, UNIVERSAL VOLTAGE, STANDARD 0-10V DIMMING DRIVER.	METALUX# 4SNLED-LD5-41SL-LW-UNV-L-840-CD1-U
BE	LED 4000K	35	4' LONG LENSED SURFACE MOUNTED LED FIXTURE WITH FROSTED ACYLIC LENS, UNIVERSAL VOLTAGE 14 WATT EMERGENCY BATTERY, STANDARD 0-10V DIMMING DRIVER.	METALUX# 4SNLED-LD5-41SL-LW-UNV-L-840-CD1-U-EL14W
C	LED 4000K	45	2'x4' RECESSED LED FIXTURE WITH FROSTED ACYLIC LENS, UNIVERSAL VOLTAGE, STANDARD 0-10V DIMMING DRIVER.	LITHONIA# CPANL-2X4-AL06-SWW7-M2
CE	LED 4000K	45	2'x4' RECESSED LED FIXTURE WITH FROSTED ACYLIC LENS, UNIVERSAL VOLTAGE 10 WATT FIELDED INSTALLED EMERGENCY BATTERY, STANDARD 0-10V DIMMING DRIVER.	LITHONIA# CPANL-2X4-AL06-SWW7-M2-ILBLP-CP10-HE-SD-A
D	LED 4000K	18	6" DIAMETER SURFACE MOUNTED LED FIXTURE, REGRESSED LENS WITH BLACK TRIM, UNIVERSAL VOLTAGE 0-10V DIMMING DRIVER	ALPHABET LIGHTING# BETA-6R-SW-25LM-40K-80-HE40-BK-BK-UNV-DIM10-SLAT-1-24MB-SF
DE	LED 4000K	18	6" DIAMETER SURFACE MOUNTED LED FIXTURE, REGRESSED LENS, UNIVERSAL VOLTAGE, REMOTE MOUNTED EMERGENCY BATTERY AND TEST SWITCH.	ALPHABET LIGHTING# BETA-6R-SW-25LM-40K-90-D40-BK-BK-UNV-DIM10-SLAT-1-24MB-SF-EM12
F	LED 4000K	22	6" DIAMETER RECESSED LED FIXTURE, REGRESSED LENS WITH WHITE BAFFLE, UNIVERSAL VOLTAGE 0-10V DIMMING DRIVER	COOPER LIGHTING# LD6C-20-900-4000K-D010-B26-M-0-MW
FE	LED 4000K	22	6" DIAMETER RECESSED LED FIXTURE, REGRESSED LENS, UNIVERSAL VOLTAGE 14W' EMERGENCY BATTERY W/ INTEGRAL TEST SWITCH.	COOPER LIGHTING# LD6C-20-90-4000K-D010-B26-M-0-MW-IEM14
G	LED 4000K	60	8' LONG AIRCRAFT CABLE HUNG LED LIGHT FIXTURE, UNIVERSAL VOLTAGE, 0-10V DIMMING DRIVER AND BLACK FINISH. MOUNT MINIMUM 8" BELOW CEILING	CORELITE# J2-WL-40L-8-40-1-D-UNV-STD-B-AC48-T1-8
GE	LED 4000K	60	8' LONG AIRCRAFT CABLE HUNG LED LIGHT FIXTURE, UNIVERSAL VOLTAGE, EMERGENCY BATTERY, 0-10V DIMMING DRIVER AND BLACK FINISH. MOUNT MINIMUM 8" BELOW CEILING	CORELITE# J2-WL-40L-8-40-1-D-UNV-STD-ILB12-B-AC48-T1-8
H	LED 4000K	16	6" DIAMETER RECESSED IC RATED LED FIXTURE, REGRESSED LENS WITH WHITE BAFFLE, UNIVERSAL VOLTAGE 0-10V DIMMING DRIVER	COOPER LIGHTING# LD6C-15IC-900-4000K-D010-B26-M-0-MW
HE	LED 4000K	16	6" DIAMETER RECESSED IC RATED LED FIXTURE, REGRESSED LENS, UNIVERSAL VOLTAGE 14W' EMERGENCY BATTERY W/ INTEGRAL TEST SWITCH.	COOPER LIGHTING# LD6C-15IC-900-4000K-D010-B26-M-0-MW-IEM7
XA	LED	5	UNIVERSAL MOUNTED EDGE LIT EXIT SIGN WITH WHITE FINISH, BATTERY BACK-UP & 6" HIGH RED LETTERS. DARKENED QUADRANTS INDICATE SIDES WITH FACES.	SURE-LITES# EUX7-10RZ-WH-SD
XB	LED	5	EXTERIOR WALL MOUNTED LED EMERGENCY FIXTURE WITH ALL WEATHER BATTERY & BRONZE FINISH.	SURE-LITES# SELD-WT--A29-BZ-SD
SA	LED 4000K	15	SURFACE MOUNTED LED EXTERIOR FIXTURE WITH UNIVERSAL DRIVER. WHITE HOUSING.	HALO# SM6DR-12-9S-WH-E
SB	LED 4000K	26	SURFACE MOUNTED EXTERIOR LED FIXTURE WITH UNIVERSAL DRIVER. BRONZE FINISH	LUMARK# XTOR3B-W
SP1	LED 4000K	155	POLE MOUNTED LED FIXTURE WITH TYPE III WIDE DISTRIBUTION, UNIVERSAL DRIVER AND BRONZE FINISH. MOUNT TO 25' TALL SQUARE STRAIGHT STEEL POLE	LSI# VALS-24L-3W-UNV-40K7-BRZ-SA POLE # 5SQ-B3-S11G-25-S-BRZ
SP2	LED 4000K	310	POLE MOUNTED (2 HEADS) LED FIXTURE WITH TYPE III WIDE DISTRIBUTION, UNIVERSAL DRIVER AND BRONZE FINISH. MOUNT TO 25' TALL SQUARE STRAIGHT STEEL POLE	LSI# (2HEADS) VALS-24L-3W-UNV-40K7-BRZ-SA POLE # 5SQ-B3-S11G-25-D180-BRZ
SP3	LED 4000K	111	POLE MOUNTED LED FIXTURE WITH TYPE II DISTRIBUTION, UNIVERSAL DRIVER AND BRONZE FINISH. MOUNT TO 22.5' TALL SQUARE STRAIGHT STEEL POLE	LSI# VALS-18L-2-UNV-40K7-BRZ-SA POLE # 5SQ-B3-S11G-22.5-S-BRZ
SP4	LED 4000K	91	POLE MOUNTED LED FIXTURE WITH TYPE II DISTRIBUTION, UNIVERSAL DRIVER AND BRONZE FINISH. MOUNT TO 22.5' TALL SQUARE STRAIGHT STEEL POLE	LSI# VALS-15L-2-UNV-40K7-BRZ-SA POLE # 5SQ-B3-S11G-22.5-S-BRZ

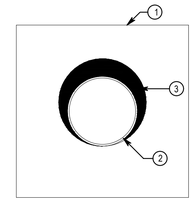

FIGURE 1

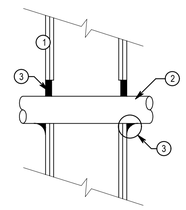

FIGURE 2

1. RATED GYPSUM WALLBOARD ASSEMBLY.
2. MAX 24" STEEL OR IRON PIPE, 6" COPPER PIPE OR TUBE, 6" STEEL CONDUIT, 4" EMT OR 1" FLEXIBLE METALLIC CONDUIT. THE ANNULAR SPACE WITHIN THE FIRESTOP SYSTEM SHALL RANGE FROM POINT CONTACT TO 1-3/4" MAX.
3. SPECSEAL® SERIES 100 SEALANT INSTALLED WITHIN ANNULUS TO 5/8" DEPTH. AT POINT CONTACT, INSTALL A 3/8" BEAD AT PENETRANT/GYPSUM WALLBOARD INTERFACE.

1 OR 2 HOUR RATED FIRESTOP FOR METALLIC PIPING THROUGH GYPSUM BOARD WALLS USING SPECSEAL® SERIES 100 SEALANT
SCALE: NONE

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
A-2	HOMERUN TO PANEL "A" INDICATING CIRCUIT NUMBER(S) - ALL WIRING SHALL BE #12 WITH EQUIPMENT GROUND WIRE UON (INCREASE TO #10 FOR CIRCUITS OVER 100 FT.) - ALL HOMERUNS ARE TO A 20 AMPERE, 1 POLE CIRCUIT BREAKER U.O.N. - QUANITY OF CONDUCTORS AS NECESSARY TO ACCOMMODATE CIRCUITS AND CONTROL INDICATED. CROSS HATCHES INDICATE REQUIRED LIGHTING CONTROL U.O.N. DOES NOT INLCUDE EQUIPMENT GROUND CONDUCTOR.
	CONDUIT RUN IN OR UNDER FLOOR SLAB (1" C. MINIMUM, UON)
	SCHEDULE 40 PVC CONDUIT RUN AT 36" BELOW FINISHED GRADE. CONTRACTOR SHALL BORE BELOW STREET. COORDINATE WITH CITY. TRANSITION TO HEAVYWALL RIGID STEEL CONDUIT 2 FEET BELOW GRADE WHEN CONDUIT IS TO RISE ABOVE GRADE.
S	SWITCH - 20 AMPERE, 120/277 VOLT, SINGLE POLE - MTD AT 48" AFF UON ("a"=DENOTES SWITCHING,"K" = KEY OPERATED, "P" = PILOT LIGHT, "IL"= ILLUMINATED TOGGLE, "3" = THREE-WAY, "4" = FOUR-WAY, "M"= MANUAL MOTOR STARTER.
S_D	0-10V LED DIMMER. LEVITON# AWSMG-70W
	DUPLEX RECEPTACLE - 20 AMPERE, 125 VOLT - MOUNTED AT 18" AFF UON. SUBSCRIPT "T" OR AS NOTED DENOTES TAMPER RESISTANT. C=WHITE RECEPTACLE & COVER MOUNTED FLUSH IN CEILING. IG= ISOLATED GROUND TYPE. TVSS= SURGE PROTECTED TYPE.
	DOUBLE DUPLEX RECEPTACLE - 20 AMPERE, 125 VOLT - MOUNTED AT 18" AFF UON
	2 GANG FLUSH FLOOR BOX WITH TAMPERPROOF DUPLEX RECEPTACLE AND DUPLEX RECEPTACLE CONFIGURED DATA OUTLET. RUN (2) 1" CONDUITS FROM BOX UP NEAREST WALL TO CEILING JOIST. EXTEND POWER TO PANEL AS INDICATED. PROVIDE (2) DUAL FLIP LID METAL ACTIVATION KITS.
	SINGLE 20 AMP 120 VOLT REGRESSED RECEPTACLE
J	JUNCTION BOX - MOUNTING HEIGHT AND SIZE AS REQUIRED BY CODE OR AS NOTED ON DRAWINGS
J_S	JUNCTION BOX - FOR SIGN. PROVIDE LOCAL DISCONNECT & COORDINATE LOCATION & MOUNTING HEIGHT WITH SIGN CONTRACTOR IN THE FIELD.
J_D	JUNCTION BOX ABOVE CEILING WITH 3/4" CONDUIT STUBBED INTO DOORFRAME & CONNECT TO ALL CONTROLLERS.
	HEAVY DUTY NON FUSIBLE DISCONNECT SWITCH.
15 A.F.	HEAVY DUTY FUSIBLE DISCONNECT SWITCH. FUSE SIZE TO BE DETERMINED FROM EQUIPMENT TO BE SERVED NAMEPLATE DATA
	FLUSH COMMUNICATIONS OUTLET FOR TELEPHONE WITH TWO GANG BOX SINGLE GANG EXTENSION RING, MOUNTED AT 18" AFF U.O.N., AND 1" CONDUIT, STUBBED TO NEAREST ACCESSIBLE CEILING. PROVIDE BUSHING & BLANK COVER. W=MOUNTED 48" AFF.
	SPECIAL NEMA CONFIGURED OUTLET MOUNTED AS REQUIRED TO SERVE APPLIANCE. VERIFY CONFIGURATION PRIOR TO ROUGH-IN AND ADJUST WIRING AND CIRCUIT BREAKER SIZE AS REQUIRED.
	FLUSH COMMUNICATIONS OUTLET FOR DATA WITH TWO GANG BOX SINGLE GANG EXTENSION RING, MOUNTED AT 18" AFF U.O.N., AND 1" CONDUIT, STUBBED TO NEAREST ACCESSIBLE CEILING. PROVIDE BUSHING & BLANK COVER. W=MOUNTED 48" AFF.
12-4	WIRE LEGEND TAG (12= CONDUCTOR SIZE, 4= QUANTITY OF CONDUCTORS.)
PC	PHOTO-CELL - MOUNT ON WALL FACING NORTH.
P	DOORSTRIKE PUSHBUTTON RELEASE
B	DOOR BELL - PUSH BUTTON — E.C. SHALL PROVIDE, WIRE & INSTALL A COMPLETE OPERATIONAL SYSTEM.
T	TRANSFORMER
K	KEYPAD
S_{Doc}	WALL MOUNTED INFRARED OCCUPANCY / VACANCY SENSOR WITH INTEGRAL DIMMER. CONNECT TO NEUTRAL. HUBBELL #LHD-IRS-3-N-WH.
	COMBINATION MAGNETIC MOTOR STARTER / FUSIBLE DISCONNECT SWITCH.
	LIFT CONTROLLER
	MOTOR / MECHANICAL EQUIPMENT CONNECTION. SEE MECH / PLUMBING DRAWINGS FOR EXACT LOCATIONS & DETAILS.
AFF	ABOVE FINISHED FLOOR
AC	INDICATES DEVICE MOUNTED AT 8" ABOVE COUNTER
BC	INDICATES DEVICE MOUNTED BELOW COUNTER, VERIFY EXACT LOCATION.
EC	ELECTRICAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER TYPE
UON	UNLESS OTHERWISE NOTED
NL	NIGHT LIGHT
EX	EXISTING TO REMAIN. ALL ITEMS ON DRAWINGS ARE NEW UNLESS TAGGED WITH AN 'EX'.
WP	WEATHER PROOF - NEMA 3R. DEVICE SHALL BE WEATHER RESISTANT.
OS	INTEGRATE ROOM CONTROLLER OCCUPANCY SENSOR — SEE DETAIL ON DRAWING E3.3 FOR DETAILS
PS	INTEGRATE ROOM CONTROLLER PHOTO SENSOR — SEE DETAIL ON DRAWING E3.3 FOR DETAILS
	INTEGRATE ROOM CONTROLLER 4 BUTTON SWITCH — SEE DETAIL ON DRAWING E3.3 FOR DETAILS
OS	CEILING MOUNTED VACANCY SENSOR / POWER PACK. WATTSTOPPER #DT300-BZ-250.
S_{LV}	LOW VOLTAGE CONTROLLER WITH DIMMING CAPABILITY MOUNTED AT 46" TO TOP. WATTSTOPPER #DCLV2
$S_{oc\,a,b}$	WALL MOUNTED MULTI TECHNOLOGY DUAL CIRCUIT VACANCY SENSOR WITH WHITE FINISH HUBBEL # LHDCMTD2-WH
Soc	WALL MOUNTED MULTI TECHNOLOGY SINGLE CIRCUIT OCCUPANCY SENSOR WITH WHITE FINISH HUBBEL # LHMTS1WH
R	20A 120 VOLT RECEPTACLE MOUNTED AT 18" AFF U.O.N. CONTROLLED BY LOCAL OCCUPANCY SENSOR. PROVIDE COVERPLATE WITH BLACK SCREENED LETTERS "SWITCHED". PROVIDE RECEPTACLE WITH POWER INDICATING LIGHT AS REQUIRED BY THE NEC ARTICLE 406.3

ALL DEVICES SHALL BE WHITE WITH WHITE COVER PLATE

ALL DEVICES SHALL BE WHITE WITH WHITE COVER PLATE

Brian M. Schuler, P.E.
155 Willamsburg Drive
Avon Lake, Ohio 44012
Phone: 216-244-4120

BRIAN M. SCHULER
03-18-26
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033582 BRIAN M. SCHULER
N.C. PROFESSIONAL ENGINEER No. 033582

KinderCare EDUCATION
ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR
WAKE FOREST, NC

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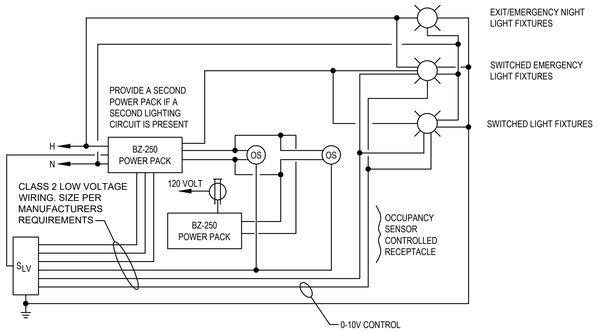
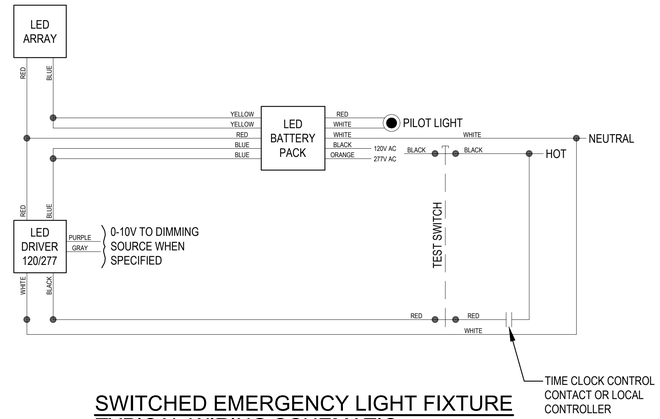
ELECTRICAL DETAILS

DATE 03/02/2026
JOB NO. 25027

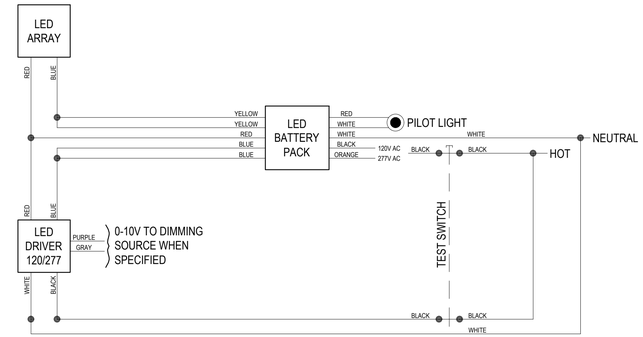
SHEET NO. E3.2



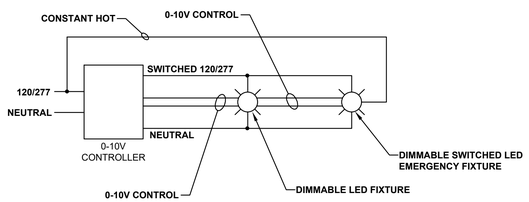
VACANCY / OCCUPANCY SENSOR WITH DIMMING CONTROL WIRING SCHEMATIC
N.T.S.



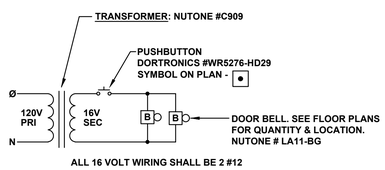
SWITCHED EMERGENCY LIGHT FIXTURE
TYPICAL WIRING SCHEMATIC
N.T.S.



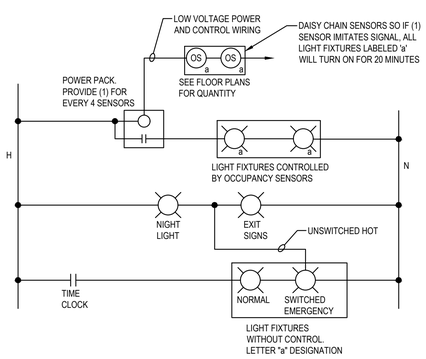
EMERGENCY NIGHT LIGHT FIXTURE
TYPICAL WIRING SCHEMATIC
N.T.S.



LED FIXTURE DIMMING SCHEMATICS
N.T.S.



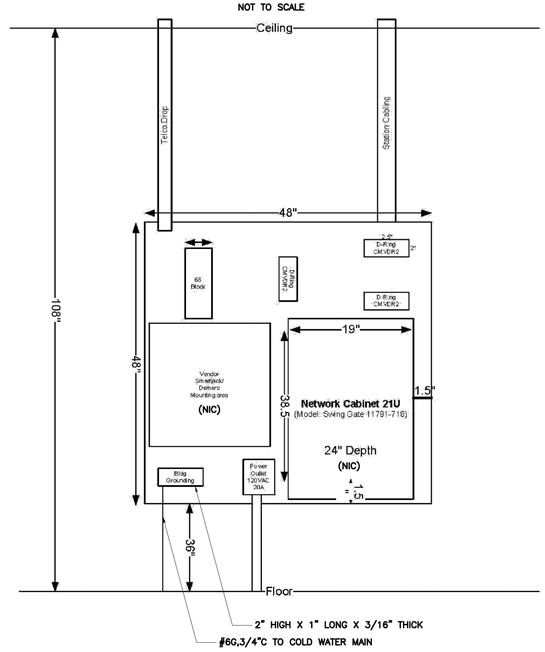
DOOR BELL WIRING DIAGRAM
N.T.S.

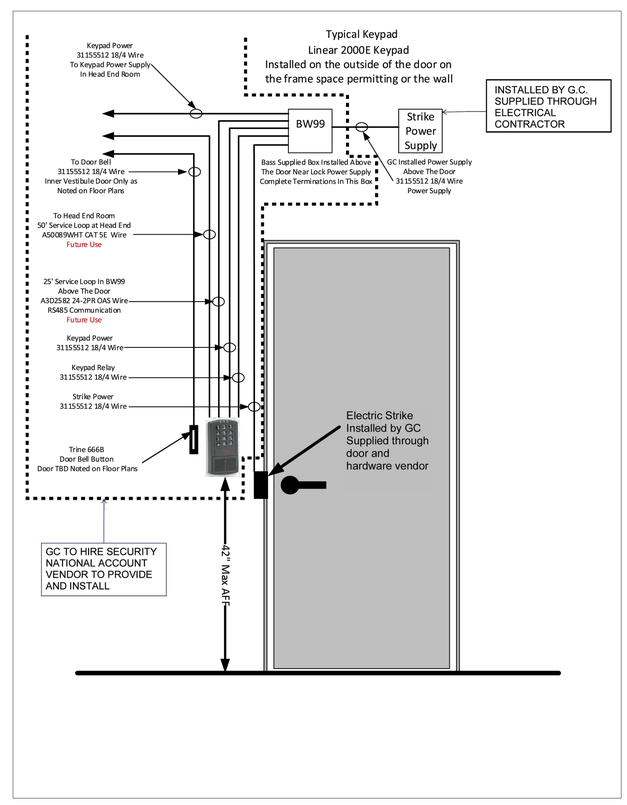


CORRIDOR LIGHTING SCHEMATIC
N.T.S.

Closet Design Backboard Layout

NOT TO SCALE





Brian M. Schuler, P.E.

155 Willamsburg Drive
Avon Lake, Ohio 44012
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KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
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DATE 03/02/2026

JOB NO. 25027

SHEET NO. E3.3

ABBREVIATIONS

(ALL ABBREVIATIONS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)

ABV	ABOVE
ADJ	ADJUSTABLE
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ANSI	AMERICAN NAT'L STANDARDS INSTITUTE
ARCH	ARCHITECT, ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGRS
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY OF TESTING & MATLS
AUX	AUXILIARY
AWS	AMERICAN WELDING SOCIETY
AWWA	AMERICAN WATER WORKS ASSOC.
B/F	BELOW FLOOR
BAS	BUILDING AUTOMATION SYSTEM
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
CC	CONCRETE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CL	CENTERLINE
CLG	CEILING
CO	CLEANOUT
CONN	CONNECT, CONNECTION
COP	CLEANOUT PLUG
COL	COLUMN
CTE	CONNECT TO EXISTING
CW	DOMESTIC COLD WATER
D	DEPTH
DEG	DEGREES
DIA (OR Ø)	DIAMETER
DIM	DIMENSION
DN	DOWN
DOM	DOMESTIC
DS	DOWNSPOUT
DWG	DRAWING
EA	EACH
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVATION
ELEC	ELECTRICAL
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EXH	EXHAUST
EX	EXISTING
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FS	FLOOR SINK
FLEX	FLEXIBLE
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FT	FOOT, FEET
FW	FILTERED WATER
°F	DEGREES FAHRENHEIT
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GI	GREASE INTERCEPTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRD	GROUND
GW	GREASE WASTE
H	HEIGHT
HD	HEAD, HUB DRAIN
HP	HORSEPOWER
HVAC	HEATING, VENTILATING & A/C
HW	DOMESTIC HOT WATER
HYD	HYDRANT
HZ	HERTZ
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH, INCHES
IN w.c	INCHES OF WATER COLUMN (GAS)
KEC	KITCHEN EQUIPMENT CONTRACTOR
LBS, #	POUNDS
LP	LOW PRESSURE
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MTD	MOUNTED
MUA	MAKE-UP AIR
N/A	NOT APPLICABLE
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MFR'S ASSOC.
NFPA	NATIONAL FIRE PROTECTION ASSOC.
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
O/H	OVERHEAD
OC	ON CENTER
OD	OVERFLOW DRAINAGE
OPNG	OPENING
ORD	OVERFLOW ROOF DRAIN
OS&Y	OUTSIDE STEM AND YOKE
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMIN.
PB	PUSH BUTTON
PD	PRESSURE DROP
PH, Ø	PHASE
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PSI	POUNDS PER SQUARE INCH
PRV	PRESSURE RELIEF VALVE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REINF	REINFORCING, REINFORCED
REL	RELOCATED
REQ	REQUIRED
REV	REVISION, REVISE
REX	REMOVE EXISTING
RHW	DOMESTIC HOT WATER RETURN
RPM	REVOLUTIONS PER MINUTE
RR	REMOVE AND RELOCATE
RWC	RAIN WATER CONDUCTOR
SAN	SANITARY
SECT	SECTION
SF	SQUARE FEET, SQUARE FOOT
SHT	SHEET
SPEC	SPECIFICATION
SQ	SQUARE
ST	STORM WATER
STD	STANDARD
SURF	SURFACE
SUSP	SUSPEND
TDH	TOTAL DYNAMIC HEAD
THRU	THROUGH
TP	TOTAL PRESSURE
TSP	TOTAL STATIC PRESSURE
TMV	THERMOSTATIC MIXING VALVE
TYP	TYPICAL
U/F	UNDERFLOOR
U/G	UNDERGROUND
U/S	UNDERSLAB
UL	UNDERWRITERS LABORATORIES, INC.
UON	UNLESS OTHERWISE NOTED
V	VENT
VAC	VACUUM
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WC	WATER COLUMN

SYMBOLS

	ELBOW UP
	ELBOW DOWN
	VALVE IN DROP
	DIRECTION OF FLOW
	TEE OUTLET UP
	TEE OUTLET DOWN
	UNION
	EXPANSION JOINT
	BALL VALVE
	OS&Y VALVE
	GATE VALVE
	CALIBRATED BALANCING VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
	3-WAY SELF OPERATING VALVE
	2-WAY SELF OPERATING VALVE
M	MOTOR OPERATED VALVE
	PIPE GUIDE
	HOSE BIB
SPR	SPRINKLER PIPING
	EXISTING PIPING TO REMAIN
	EXISTING PIPING TO BE REMOVED
	NEW PIPING / EQUIPMENT
	PIPING ABOVE FLOOR
	PIPING BELOW FLOOR
	CAP ON END LINE
FS	FLOW SWITCH
PS	PRESSURE SWITCH
	T&P RELIEF VALVE
	PRESSURE GAUGE WITH GAUGE COCK
	THERMOMETER
	FLEXIBLE CONNECTION
	PIPE FLANGE
	THERMOMETER WELL
	GAS VALVE
M	WATER METER
R	GAS REGULATOR
	WALL CLEANOUT OR CLEAOUT PLUG
	FLOOR CLEANOUT
	FLOOR SINK (FS)
	FLOOR DRAIN WITH P-TRAP
	POINT OF CONNECTION - NEW TO EXISTING
1	DRAWING NOTE REFERENCE
	PLUMBING FIXTURES
	GAS MANIFOLD LOCATION
DCV	DOUBLE CHECK BACKFLOW PREVENTER
	DOMESTIC WATER RISER
	STUB UP FOR FUTURE TENANT CONNECTION
	SPRINKLER HEAD (SEMI-RECESSED)
	SPRINKLER HEAD (FULLY-RECESSED)
	SPRINKLER HEAD (UPRIGHT)

(ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)

FIRE PROTECTION SPECIFICATIONS

1. THE BUILDING SHALL BE EQUIPPED THROUGHOUT WITH A NEW AUTOMATIC SPRINKLER SYSTEM TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE AND THE NEW SYSTEM SHALL BE INSTALLED PER THESE CONTRACT DOCUMENTS.

2. AUTOMATIC SPRINKLER SYSTEMS SHALL BE DESIGNED, FURNISHED, INSTALLED, AND TESTED IN ACCORDANCE WITH NORTH CAROLINA BUILDING CODE (2024), NORTH CAROLINA FIRE PREVENTION CODE (2024), NFPA 13 (2019), NFPA 14 (2019), NFPA 25 (2020) AND OWNER REQUIREMENTS.

3. FIRE SUPPRESSION CONTRACTOR SHALL PROVIDE A NEW FIRE WATER SUPPLY FROM THE WATER MAIN AT THE STREET:

a. AUTOMATIC SPRINKLER SYSTEMS SHALL BE HYDRAULICALLY CALCULATED WITH A MINIMUM SAFETY MARGIN OF 10 PSIG OR 10%, WHICHEVER IS GREATER.

b. THE FIRE SUPPRESSION CONTRACTOR SHALL PERFORM A NEW HYDRANT FLOW TEST.

4. FIRE SUPPRESSION CONTRACTOR SHALL BE REGISTERED AND LICENSED IN THE STATE OF NORTH CAROLINA TO DESIGN AND INSTALL FIRE PROTECTION SPRINKLER SYSTEMS AND SHALL STAMP OR SIGN ALL FIRE PROTECTION SHOP DRAWINGS AND CALCULATIONS.

5. PRIOR TO BID FIRE SUPPRESSION CONTRACTOR MUST BECOME FAMILIAR WITH THE REQUIREMENTS OF THE DRAWINGS, SPECIFICATIONS, GENERAL NOTES AS WELL AS ALL OTHER NOTES SHOWN ON THE CONTRACT DOCUMENTS. VISIT THE SITE TO ESTABLISH THE EXISTING CONDITIONS PRIOR TO BID AND PRIOR TO ANY EQUIPMENT FABRICATION.

6. FIRE SUPPRESSION CONTRACTOR SHALL PREPARE SHOP DRAWINGS, HYDRAULIC CALCULATIONS AND PRODUCT DATA IN ACCORDANCE WITH NFPA 13 FOR SUBMITTAL AND APPROVAL TO AUTHORITY HAVING JURISDICTION AND TES ENGINEERING. SHOP DRAWINGS SHALL HAVE ADEQUATE DETAILS AND SCALES AS NECESSARY TO CLEARLY SHOW CONSTRUCTION. INDICATE THE OPERATING CHARACTERISTICS FOR EACH REQUIRED ITEM AND DESIGN CONDITIONS. CLEARLY IDENTIFY EACH ITEM OF DRAWINGS AS TO MAKE, LOCATION AND USE.

7. NO SPRINKLERS, SPRINKLER PIPING OR EQUIPMENT CAN BE ORDERED, FABRICATED OR INSTALLED UNTIL SHOP DRAWINGS, HYDRAULIC CALCULATIONS AND PRODUCT DATA HAVE BEEN APPROVED BY THE AUTHORITY HAVING JURISDICTION AND TES ENGINEERING.

8. THE SUBMITTALS SHALL BE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENT'S DESIGN CRITERIA AND NOT FOR DIMENSIONS, QUANTITIES, ETC. THE RESPONSIBILITY OF CORRECT PROCUREMENT AND INSTALLATION REMAINS SOLELY WITH THE FIRE SUPPRESSION CONTRACTOR. REVIEW OF SUBMITTALS SHALL NOT RELIEVE THE FIRE SUPPRESSION CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR OMISSIONS AND DEVIATIONS FROM THE CONTRACT REQUIREMENTS.

9. FIRE SUPPRESSION CONTRACTOR SHALL BE RESPONSIBLE FOR CORE DRILLING AND SLEEVING TO MAKE WALL AND FLOOR PENETRATIONS IN ACCORDANCE WITH FIRE RATINGS AS INDICATED ON THE ARCHITECTURAL DRAWINGS. SEAL ALL PENETRATIONS THROUGH RATED PARTITIONS IN AN APPROVED MANNER.

10. FIRE SUPPRESSION CONTRACTOR SHALL INSTALL SLEEVES FOR SPRINKLER PIPING PASSING THROUGH PENETRATIONS IN FLOORS, PARTITIONS, ROOFS AND WALLS. SLEEVES SHALL BE GALVANIZED SCHEDULE 40 PIPE LARGE ENOUGH TO PROVIDE 1/4" ANNULAR CLEAR SPACE BETWEEN SLEEVE AND PIPE. CUT SLEEVE TO LENGTH FOR MOUNTING FLUSH WITH BOTH SURFACES. SEAL ANNULAR SPACE BETWEEN SLEEVE AND PIPING.

11. ALL CONTRACT DOCUMENTS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OR GEOMETRICAL RELATIONSHIPS OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, SEQUENCE, DEVICE, OPTION, FITTING, OR COMPONENT. DO NOT SCALE CONTRACT DRAWINGS.

12. FIRE SUPPRESSION CONTRACTOR SHALL KEEP ONE SET OF DRAWINGS ON-SITE ON WHICH THEY SHALL RECORD ANY DEVIATIONS OR CHANGES FROM SUCH CONTRACT DRAWINGS MADE DURING CONSTRUCTION. RECORD DRAWINGS SHALL BE KEPT CLEAN AND UNDAMAGED. UPON COMPLETION OF THE PROJECT, THE RECORD DRAWINGS SHALL BE DELIVERED TO THE OWNER.

13. COORDINATE PLACEMENT OF ALL FIRE PROTECTION RELATED EQUIPMENT AND DEVICES WITH OTHER TRADES. DO NOT POSITION OR INSTALL ANY FIRE PROTECTION EQUIPMENT OR DEVICES IN ANY SYSTEM IN SUCH A WAY THAT IT WILL BE INACCESSIBLE OR UN-MAINTAINABLE AFTER CONSTRUCTION IS COMPLETED. FIRE SUPPRESSION CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR CHECKING CLEARANCES AND INTERFACES WITH OTHER SUBTRADES TO PROVIDE A COMPATIBLE DESIGN.

14. NO OTHER TRADES ARE ALLOWED TO BE SUPPORTED FROM MATERIALS, EQUIPMENT OR DEVICES INSTALLED BY THE FIRE PROTECTION TRADES. LIKEWISE, ALL WORK INSTALLED BY THE FIRE PROTECTION TRADES MUST BE SUPPORTED FROM THE STRUCTURE ABOVE, FROM WALLS OR FROM THE FLOOR UNLESS OTHERWISE INDICATED.

15. REPLACE OR REPAIR ALL ARCHITECTURAL FEATURES REMOVED OR DAMAGED DURING THE COURSE OF THE WORK. REPAIR OR REPLACEMENT MUST, AS A MINIMUM, EQUAL ORIGINAL CONDITION. SPECIAL CARE MUST BE TAKEN ON THE ROOF TO PREVENT DAMAGE. ANY DAMAGE TO THE ROOF MUST BE PROMPTLY REPAIRED AT NO EXPENSE TO THE OWNER BY AN OWNER APPROVED ROOFING CONTRACTOR SO AS NOT TO VOID THE ROOF WARRANTY.

16. PROVIDE TO OWNER AFTER ALL EQUIPMENT IS IN OPERATION AND AT AN AGREEABLE TIME, COMPLETE INSTRUCTORS FOR THE PURPOSE OF TRAINING PERSONNEL IN ALL PHASES OF OPERATION AND MAINTENANCE OF EQUIPMENT AND SYSTEMS.

17. THE MATERIALS UTILIZED SHALL BE UNDERWRITERS LISTED (UL) OR FM GLOBAL (FM) APPROVED FOR FIRE PROTECTION AND LISTED IN THE MOST CURRENT VERSION OF THE FM AND UL APPROVAL GUIDES.

18. SPRINKLER PIPE SIZE SHALL BE DONE BY THE FIRE SUPPRESSION CONTRACTOR AND SHALL BE DETERMINED BY THE USE OF THE HAZEN-WILLIAMS FORMULA WITH A "C" COEFFICIENT OF 120 FOR BLACK STEEL PIPE. ALL ABOVEGROUND SPRINKLER PIPING SHALL BE BLACK STEEL.

19. ABOVEGROUND FIRE SUPPRESSION PIPING SHALL HAVE A MAXIMUM WATER VELOCITY OF 32 FT/S

20. SUPERVISORY AND WATERFLOW SWITCHES FOR NEW SPRINKLER SYSTEMS SHALL BE PROVIDED AND INSTALLED BY FIRE SUPPRESSION CONTRACTOR AND WIRED BY THE FIRE ALARM CONTRACTOR.

21. UTILIZE CONCEALED SPRINKLERS (WITH FLAT COVER PLATES WITH WHITE FACTORY PAINTED TO MATCH CEILING COLOR) IN ROOMS WITH SUSPENDED CEILINGS AND UPRIGHT SPRINKLERS FACTORY PAINTED WHITE IN ROOMS WITHOUT CEILINGS (OPEN TO STRUCTURE). COORDINATE THE COLOR AND FINISH FOR ALL SPRINKLER HEADS AND COVER PLATES WITH ARCHITECT PRIOR TO ORDERING. FAILURE TO COORDINATE THE CORRECT SPRINKLER HEAD FINISH TYPE WITH THE ARCHITECT PRIOR TO ORDERING AND INSTALLING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL NOT CAUSE ANY ADDED COST TO THE OWNER OR ADDED TIME FOR CONSTRUCTION SCHEDULE.

22. UTILIZE INTERMEDIATE TEMPERATURE SPRINKLERS IN MECHANICAL AND ELECTRICAL ROOMS.

23. IN AREAS PROTECTED BY WET PIPE SPRINKLER SYSTEMS WITH A MAXIMUM CEILING HEIGHT OF 20 FEET, THE AREA OF SYSTEM OPERATION SHALL BE PERMITTED TO BE REDUCED WITHOUTREVISING THE DENSITY PER NFPA 13.

24. FIRE SUPPRESSION CONTRACTOR SHALL REVIEW ALL HVAC, PLUMBING AND ELECTRICAL DRAWINGS AND DETAILS BEFORE BIDDING THIS PROJECT. FIRE SUPPRESSION CONTRACTORS BID MUST INCLUDE COST TO RESOLVE ALL INTERFERENCES BETWEEN EXISTING OR NEW SPRINKLER SYSTEM AND OTHER TRADES, PARTICULARLY HVAC.

25. HANGING, BRACING AND RESTRAINT OF SPRINKLER SYSTEM PIPING SHALL CONFORM TO NFPA 13.

26. FIRE SUPPRESSION PIPING WITH NPS 2 AND SMALLER SHALL BE SCHEDULE 40, BLACK-STEEL PIPE WITH THE FOLLOWING FITTINGS:

a. CAST IRON THREADED FITTINGS PER ASME B16.4, CLASS 125.

b. MALLEABLE IRON THREADED FITTINGS PER ASME B16.3, CLASS 150

27. FIRE SUPPRESSION PIPING WITH NPS 2-1/2" AND LARGER SHALL BE SCHEDULE 10, BLACK-STEEL PIPE AND JOINED BY FLANGES, WELDED OR ROLL-GROOVED COUPLINGS. FITTINGS SHALL BE ONE OF THE FOLLOWING:

a. STEEL PIPE FLANGES AND FLANGE FITTINGS PER ASME B16.5.

b. GROOVED COUPLINGS AND FITTINGS PER ASTM A536.

c. FACTORY-MADE WROUGHT STEEL BUTTWELD FITTINGS PER ASME B16.9.

28. FIRE SUPPRESSION CONTRACTOR SHALL PERFORM THE FOLLOWING TESTS AND INSPECTIONS:

a. AUTOMATIC WET-PIPE SPRINKLER SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 13.

b. PERFORM NEW FIRE HYDRANT FLOW TEST PER NFPA 291.

c. HYDROSTATIC TEST: ALL PIPING AND ATTACHED APPURTENANCES SHALL BE HYDROSTATICALLY TESTED PER NFPA 13. LEAKAGE OR PERFORMANCE DEFICIENCY EVIDENCED BY TESTING SHALL BE REPAIRED BY TIGHTENING OR REPLACING FITTINGS OR EQUIPMENT ONLY. CAULKING, WRAPPING OR OTHER MEANS SHALL BOT BE PERMITTED.

d. FLUSH ABOVE GROUND FIRE SUPPRESSION MAINS UPON COMPLETION. RUN UNTIL WATER IS CLEAR BUT NOT LESS THAN 10 MINUTES. MAKE PROVISIONS FOR PROPER DISPOSAL OF FIRE WATER.

29. FIRE SUPPRESSION CONTRACTOR SHALL CREATE COORDINATION DRAWINGS. COORDINATION DRAWINGS SHALL SHOW SPRINKLER SYSTEMS, DRAWN TO SCALE, ON WHICH OTHER SYSTEMS AND EQUIPMENT ARE SHOWN AND COORDINATED WITH EACH OTHER, USING INPUT FROM INSTALLERS OF THE ITEMS INVOLVED.

30. VALVES:

a. ALARM CHECK VALVE SHALL BE PER UL 193 WITH TRIM SETS FOR ALARM TEST VALVE, ALARM SHUT-OFF VALVE, MAIN DRAIN VALVE, SYSTEM AND SUPPLY PRESSURE GAGES, PRESSURE SWITCH, RETARDING CHAMBER AND ALARM LINE STRAINER. ELECTRICAL COMPONENTS SHALL BE LISTED AND LABELED BY NFPA 70.
APPROVED MANUFACTURERS: GLOBE, RELIABLE AUTOMATIC SPRINKLER, TYCO FIRE PROTECTION PRODUCTS, VICTAULIC, VIKING

b. BALL VALVES SHALL BE PER UL 1091 AND BE TWO PIECE, FULL PORT WITH FORGED BRASS OR BRONZE BODY WITH PTFE SEAT AND BRONZE OR STAINLESS STEEL STEM AND CHROME PLATED BALL.
APPROVED MANUFACTURERS: NIBCO, VICTAULIC

c. BRONZE BUTTERFLY VALVES SHALL BE PER UL 1091 WITH A BRONZE BODY, EPDM SEAT, BRONZE OR STAINLESS STEEL STEM AND EPDM COATED BRONZE DISC.
APPROVED MANUFACTURERS: GLOBE, MILWAUKEE

d. IRON BUTTERFLY VALVES SHALL BE PER UL 1091 WITH A CAST OR DUCTILE IRON BODY, EPDM SEAT, STAINLESS STEEL STEM AND EPDM COATED DUCTILE IRON DISC.
APPROVED MANUFACTURERS: GLOBE, NIBCO, VICTAULIC

e. CHECK VALVES SHALL BE SINGLE SWING TYPE PER UL 312 WITH A CAST IRON, DUCTILE IRON OR BRONZE BODY, DUCTILE IRON CLAPPER, ELASTOMERIC SEAL AND STAINLESS STEEL HINGE PIN.
APPROVED MANUFACTURERS: GLOBE, NIBCO, VICTAULIC

f. IRON OS&Y GATE VALVES SHALL BE PER UL 262 WITH A CAST OR DUCTILE IRON BODY AND BONNET, CAST IRON, DUCTILE IRON OR BRONZE WEDGE WITH ELASTOMERIC COATING, BRASS OR BRONZE STEM AND PTFE PACKING.
APPROVED MANUFACTURERS: CLOW, NIBCO, VICTAULIC

g. DOUBLE CHECK VALVE ASSEMBLY WITH UL LISTED RESILIENT OS&Y SHUT-OFF VALVES AND TEST COCKS, UL/FM APPROVED. AUXILLIARY LINE SHALL CONSIST OF AN APPROVED BACKFLOW PREVENTER AND WATER METER. DEVICE SHALL CONFORM TO ASSE 1048.
OTHER APPROVED MANUFACTURERS: APOLLO, WATTS, ZURN.

h. EXPOSED TYPE, WALL MOUNTED CONNECTION WITH TWO BRASS INLETS AND 4" OUTLET PER UL 405 STANDARD WITH CORROSION-RESISTANT METAL BODY. THREADS TO BE ACCORDING TO NFPA 1963 AND MATCHING LOCAL FIRE-DEPARTMENT SIZES COMPETE WITH BRASS CAPS, GASKET, CHAIN AND ROUND BRASS ESCUTCHEON PLATE LABELED "AUTO SPKR". FINISH TO BE POLISHED CHROME PLATED.
APPROVED MANUFACTURERS: ELKHART, CROKER, GUARDIAN

i. AUTOMATIC SPRINKLERS PER UL, 175-PSIG PRESSURE RATING MINIMUM WITH HEAT-RESPONSIVE ELEMENT. MINIMUM DISCHARGE COEFFICIENT OF 5.6 AND FOR "ORDINARY" TEMPERATURE CLASSIFICATION RATING UNLESS OTHERWISE INDICATED OR REQUIRED BY APPLICATION.
APPROVED MANUFACTURERS: RELIABLE, VICTAULIC, VIKING

j. VALVE SUPERVISORY SWITCHES SHALL MEET UL 346 STANDARD, ELECTRICALLY SUPERVISED, 120V, 1 PHASE, LISTED AND LABELED AS DEFINED IN NFPA 70.
APPROVED MANUFACTURERS: POTTER ELECTRIC, SYSTEM SENSOR

k. FLOW SWITCHES SHALL MEET UL 346 STANDARD, PADDLE OPERATED, ELECTRICALLY SUPERVISED AND OPERATE ON 120V, 1 PHASE POWER COMPLETE WITH FACTORY-SET, FIELD-ADJUSTABLE RETARD ELEMENT AND TAMPERPROOF COVER.
APPROVED MANUFACTURERS: POTTER ELECTRIC, SYSTEM SENSOR

l. ELECTRICALLY OPERATED ALARM BELL SHALL MEET UL 464 STANDARD, 6-INCH MINIMUM DIAMETER WITH RED-ENAMEL FACTORY FINISH, SUITABLE FOR OUTDOOR USE, 120V., 1 PHASE POWER, LISTED AND LABELED AS DEFINED IN NFPA 70.
APPROVED MANUFACTURERS: POTTER ELECTRIC, SYSTEM SENSOR

31. ESCUTCHEONS SHALL BE ONE-PIECE, CAST-BRASS TYPE: WITH POLISHED, CHROME-PLATED FINISH AND SETSCREW FASTENER. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS AND CEILINGS. INSTALL ESCUTCHEONS WITH INSIDE DIAMETER TO CLOSELY FIT AROUND PIPE WITH OUTSIDE DIAMETER THAT COMPLETELY COVERS OPENING.

DRAWN BY: MPW CHECKED BY: DLJ

DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC

25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

NORTH CAROLINA PROFESSIONAL SEAL 048534 ENGINEER NICHOLAS GINDERICH 03/18/26

KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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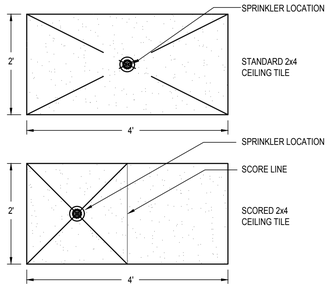
FIRE PROTECTION LEGENDS AND NOTES

DATE 03/02/2026

JOB NO. 25027

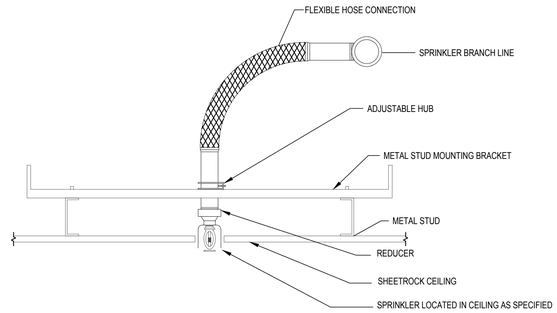
FP-0.1

SHEET NO.



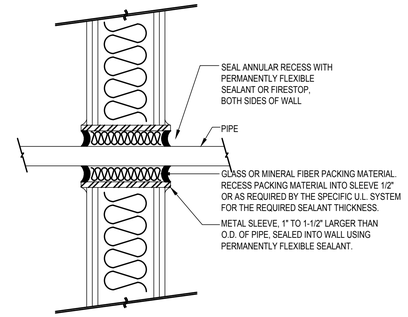
NOTE: REFER TO SPECIFICATION SECTION 15300 FOR SPRINKLER TYPES AND LOCATION REQUIREMENTS.

1	LOCATION OF SPRINKLER AT ACT
FP-0.2	SCALE: NONE



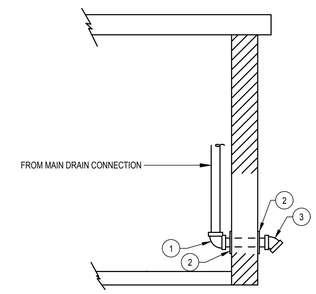
NOTES:
1. ALL FLEX HOSES SHALL BE 3'-0" MAXIMUM LENGTH. ANYTHING OVER 3'-0" LONG SHALL BE ATTACHED TO SCHEDULE 40 BLACK STEEL PIPE.

2	FLEXHEAD SHEETROCK CEILING DETAIL
FP0.2	SCALE: NONE



NOTES:
1. PIPE SHALL PENETRATE PERPENDICULARLY AT WALL.

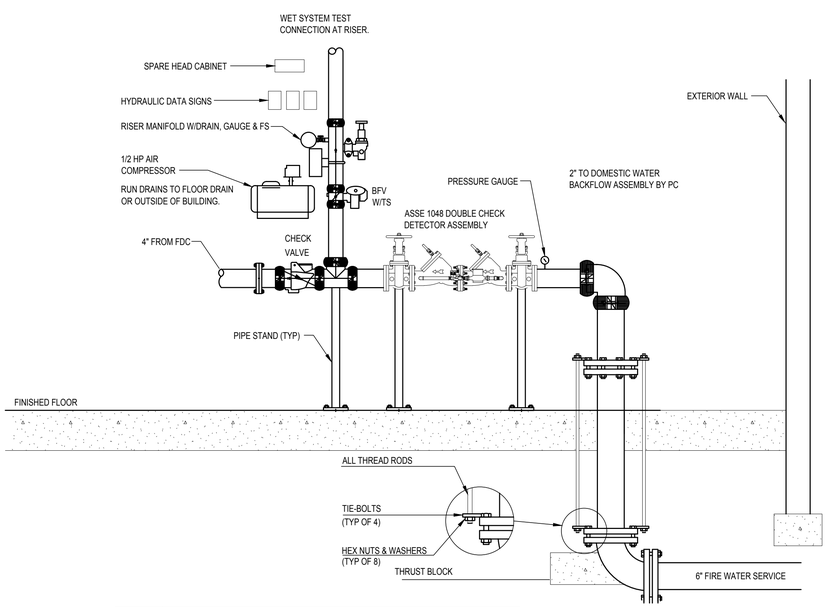
3	PIPE PENETRATION THROUGH GYPSUM WALL
FP-0.2	SCALE: NONE



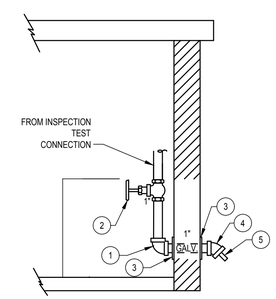
SHEET KEYNOTES

1 2" C.I. ELBOW.
2 2" WALL PLATE.
3 2" 45-DEG. GALV. ELBOW.

5	FIRE RISER MAIN DRAIN DETAIL
FP-0.2	SCALE: NONE



4	FIRE RISER DETAIL
FP-0.2	SCALE: NONE



DETAIL KEYNOTES

1 1" C.I. ELBOW
2 1" GLOBE VALVE WITH INSPECTORS TEST SIGN
3 1" WALL PLATE
4 1" 45 DEG. GALV. ELBOW
5 SMOOTH BORE CORROSION RESISTANT OUTLET GIVING FLOW EQUIVALENT TO ONE SPRINKLER (AIM PER ARCHITECTURAL DIRECTION)

NOTES:

1. COORDINATE LOCATION WITH OWNER PRIOR TO INSTALATION

6	INSPECTORS TEST FOR WET PIPE SYSTEMS
FP-0.2	SCALE: NONE

DRAWN BY: MPW CHECKED BY: DLJ

DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC
25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

NORTH CAROLINA PROFESSIONAL SEAL 048534 ENGINEER NICHOLAS GINGERICH
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KinderCare EDUCATION

ADA ARCHITECTS
17710 Detroit Avenue Lakewood, Ohio 44107
Phone (216) 521-5134 Fax (216) 521-4824
www.adaarchitects.com

KinderCare Education LLC

1005 STADIUM DR

WAKE FOREST, NC

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FIRE PROTECTION DETAILS

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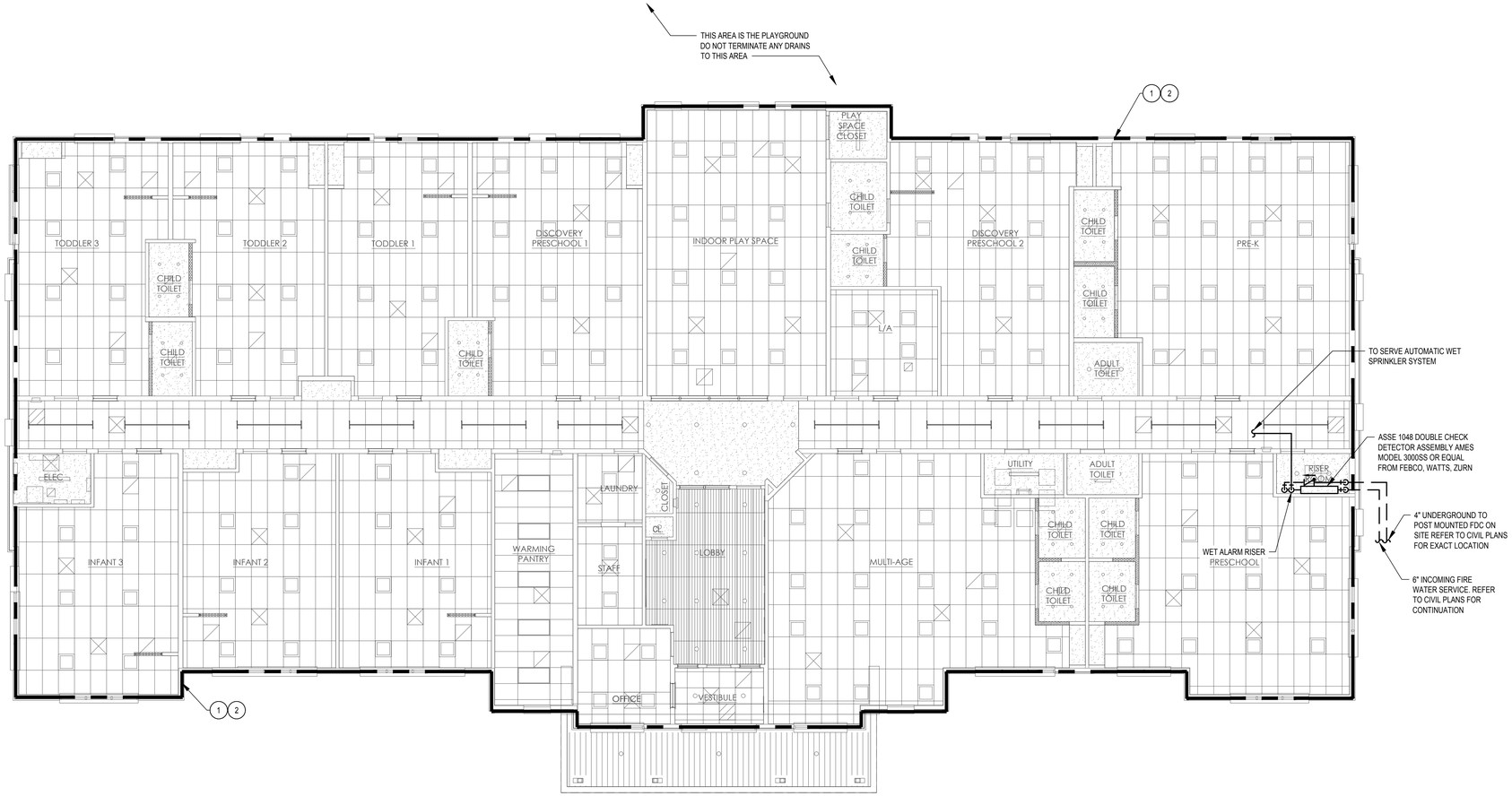

1	FIRE PROTECTION PLAN
FP-1.0	SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. ALL SPRINKLER LOCATIONS SHALL BE COORDINATED WITH CEILING OBSTACLES AND OBSTRUCTIONS INCLUDING MILLWORK. SPRINKLER LAYOUT AND COVERAGE TO BE COORDINATED BY INSTALLING STATE LICENSED FIRE PROTECTION CONTRACTOR. ALL SPRINKLER LOCATIONS, SPRINKLER HEADS, AND INSTALLATION HEIGHTS TO BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW.
2. INSTALLATION OF ALL SPRINKLER SYSTEM PIPING FROM THE POINT OF SERVICE MUST BE PERFORMED BY A STATE REGISTERED SPRINKLER CONTRACTOR. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL MUNICIPAL, STATE, AND FEDERAL CODES, LAWS, AND REGULATIONS.
3. CONTRACTOR SHALL VISIT SITE AND BE FULLY COGNIZANT OF ALL CONDITIONS PRIOR TO SUBMITTING PROPOSAL.
4. PROVIDE A VALVED DRAIN AT THE LOW POINT IN EACH PIPING SYSTEM.
5. ALL VALVES AND OTHER PIPING SPECIALTIES SHALL BE FULL LINE SIZE UNLESS OTHERWISE INDICATED.
6. SEAL AROUND ALL PIPES PENETRATING FIRE SEPARATIONS WITH APPROVED INCOMBUSTIBLE PACKING RETAINED BY METAL COLLARS.
7. COORDINATE ALL CUTTING AND PATCHING WITH GENERAL CONTRACTOR. THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING FOR HIS WORK.
8. AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED IN COMPLIANCE WITH NFPA 13 AND BUILDING CODE REQUIREMENTS.
9. REFER TO REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF LIGHT FIXTURES AND CEILING TYPES. COORDINATE EXACT LOCATION OF PIPING AND HEADS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
10. ALL SPRINKLER DRAWINGS, RISERS, CODE REQUIREMENTS ETC. ARE THE RESPONSIBILITY OF AND SHALL BE PROVIDED BY THE SPRINKLER DESIGN CONTRACTOR.
11. THE FIRE PROTECTIONS SPRINKLER SYSTEM SHALL BE DESIGNED TO MEET ORDINARY HAZARD CLASSIFICATION REQUIREMENTS.
12. IF NO CEILINGS OCCUR, IN MECHANICAL ROOMS, ETC., SPRINKLER HEADS AND PIPING TO BE EXPOSED BRASS UPRIGHT TYPE. ALL OTHER AREAS OF BUILDING WHERE SUSPENDED CEILINGS OCCUR SHALL BE CONCEALED SPRINKLER HEADS WITH WHITE COVER PLATE HEADS.
13. MAKE PROVISIONS FOR DRAINING AND PROVIDE INSPECTOR TESTS AS REQUIRED. ALL DRAIN PIPING SHALL BE PIPED TO OUTSIDE OR INDIRECTLY TO SINK OR F.D.
14. ALL PIPE AND FITTINGS SHALL MATCH LOCAL FIRE DEPARTMENT THREADS.
15. ALL FIRE SUPPRESSION WORK SHALL BE PERFORMED BY A STATE LICENSED FIRE PROTECTION CONTRACTOR.
16. ALL SPRINKLER HEADS SHALL BE LOCATED IN CENTER OF CEILING TILE.
17. NO CPVC PIPE SHALL BE PERMITTED.
18. THE FIRE PROTECTION CONTRACTOR SHALL VERIFY SPRINKLER PIPE LOCATIONS AND ELEVATIONS AND SHALL MODIFY PIPE ELEVATIONS, AS REQUIRED, TO ACCOMMODATE ANY NEW CEILING ELEVATIONS.
19. SPRINKLER PIPING SHALL BE INSTALLED TIGHT TO UNDERSIDE OF STRUCTURE AND THE FIRE PROTECTION CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO ENSURE THERE ARE NO CONFLICTS IN THE FIELD AND ALL CEILING HEIGHTS INDICATED ON THE ARCHITECTURAL DRAWINGS ARE MAINTAINED.
20. MAIN DRAINS, TEST DRAINS, AND AUXILIARY DRAINS SHALL TERMINATE TO THE OUTDOORS, NOT IN PLAY AREA. IN AN INSTANCE WHERE AN AUXILIARY DRAIN CANNOT TERMINATE TO THE OUTDOORS DUE TO FIELD CONDITIONS AND ROUTING, THE DRAIN MUST TERMINATE IN A MECHANICAL ROOM, JANITOR CLOSET, LAUNDRY ROOM, OR KITCHEN. NO DRAINS MAY BE LOCATED IN ANY FRONT OF HOUSE SPACE OR CHILD CARE ROOM.
21. SPRINKLER SYSTEM SHALL BE DESIGNED, INSTALLED, AND TESTED PER NFPA 13, NFPA 14, NFPA 25, AND FM GLOBAL REQUIREMENTS.

SHEET KEYNOTES

1 PROVIDE A NEW AUTOMATIC WET SPRINKLER SYSTEM TO SERVE THE ENTIRE BUILDING PER NFPA 13 AND FM GLOBAL REQUIREMENTS. SPRINKLER SYSTEM SHALL BE DESIGNED TO PROVIDE 0.10 GPM/SF OVER THE MOST REMOTE 1,500 SQ. FT. WITH A HOSE ALLOWANCE OF 100 GPM IN ALL AREAS WITH FLAT CEILINGS EXCEPT THE KITCHEN, LAUNDRY, AND STORAGE AREAS WHICH SHALL BE DESIGNED TO PROVIDE 0.15 GPM/SF OVER THE MOST REMOTE 1,500 SQ. FT. WITH A HOSE ALLOWANCE OF 250 GPM.

2 COORDINATE SPRINKLER LOCATION WITH MILLWORK, CEILING ELEMENTS AND ALL TRADES. IF OBSTACLES OBSTRUCT COVERAGE PROVIDE RECESSED SIDE WALL SPRINKLERS AS REQUIRED.

DRAWN BY: MPW CHECKED BY: DLJ

DEPENDABLE GUIDANCE
CONSULTING ENGINEERING, PLLC

25760 First Street
Cleveland, OH 44145
P 440 871 2410
F 440 871 7954
tesengineering.com

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FP-1.0

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