COUNTRYSIDE ELEMENTARY SCHOOL

Newton, MA

DESIGN DEVELOPMENT SUBMISSION
12 FEBRUARY 2024

Location Plan

Owner's Project Manager

ENTER CLIENT/OPM COMPANY NAME

NAME STREET
CITY, STATE ZIP
(###) ###-####

Architect

DINISCO DESIGN
architects + planner

99 Chauncy Street, Suite 901
Boston, MA 02111
(617) 426-2858

Consultants

Horsley Witten Group
Civil & Environmental Engineers
90 Route 6A, Unit 1
Sandwich, MA 02563
(508) 833-6600

Brown Sardina, Inc.
Landscape Architects
24 Roland Street
Boston, MA 02129
(617) 482-4703

Foley Buhl Roberts & Assoc., Inc.
Structural Engineers
2150 Washington Street
Newton, MA 02462
(617) 527-9600

Crabtree McGrath Assoc., Inc.
Food Service Consultants
161 West Main Street
Georgetown, MA 01833
(978) 352-8500

VAV International, Inc.
FP, Plumbing, & Mechanical Engineers
400 West Cummings Park S. 4700
Woburn, MA 01801
(781) 935-7228

Thompson Engineering Company, Inc.
Electrical Engineers
89 Newbury Street
Danvers, MA 01923
(617) 886-9066

EdVance Technology Design, Inc.
Technology Consultants
300 Brickstone Square, Suite 201
Andover, MA 01880
(978) 256-9900

Symbols & Materials

BUILDING SECTION

WALL SECTION

EXTERIOR ELEVATION

INTERIOR ELEVATION

DETAIL SECTION

DETAIL

ELEVATION

DOOR NUMBERS

FRAME TYPES

WINDOW TYPES

GLAZING TYPES

LOUVER TYPES

PARTITION TYPES

CASEWORK TYPES

PROJECT NORTH

COLUMN LINES

PROPERTY LIMIT LINE

MATCHLINE

CONCRETE MASONRY UNIT

CONCRETE

BRICK

GYPSUM BOARD

STEEL

BATT INSULATION

COMPRESSIBLE FILLER/ RIGID INSULATION

FINISHED WOOD

WOOD END GRAIN

CONTINUOUS WOOD BLOCKING

WOOD SHIM

General Abbreviations

+/- or ±	Plus or Minus / Approximately	JT	Joint
<	Angle		
[	Channel	KO	Knock Out
1HR	1-hour Fire Resistance Rated	KP	Kickplate
2HR	2-hour Fire Resistance Rated		
		L	Low
ACM	Aluminum Composite Panel	LCC	Lead Coated Copper
ACOUST	Acoustic / Acoustical	LCT	Linoleum Composite Tile
ACT	Acoustic Tile Ceiling	LGMF	Light Gauge Metal Framing
ADJ	Adjustable	LOW	Limit of Work
AFF	Above Finish Floor	LP	Low Point
ALT	Alternate	LSG	Linoleum Sheet Goods
ALUM	Aluminum		
AP	Access Panel	MAX	Maximum
AR	Abuse Resistant	MAG	Magnetic Hold Open
ASB	Asbestos	MB	Marker Board
ATHL	Athletic	MECH	Mechanical
A&VB	Air and Vapor Barrier	MFR	Manufacturer
		MH	Manhole
BLDG	Building	MIN	Minimum
BLK	Block	MISC	Miscellaneous
BM	Bench Mark	MO	Masonry Opening
B.O. or BOT	Bottom of	MTL	Metal
BRK	Brick	MTD	Mounted
BSMT	Basement	MWB	Magnetic White Board
C	Course(s)	NAT	Natural Finish
CB	Catch Basin / Chalkboard	ND	Feminine Napkin Disposal
CBB	Cementitious Backerboard	NIC	Not In Contract
CJ	Control Joint	NO.	Number
CL or ℄	Center Line	NPH	Non-pinch Safety Hinge
CLSRM	Classroom	NTS	Not To Scale
CLG	Ceiling	NV	Feminine Napkin Dispenser
CLR	Clear		
CM	Construction Manager	OC	On Center
CMP	Composite Metal Panel	OD	Outside Diameter
CMU	Concrete Masonry Unit	OH	Overhead
COL	Column	OPG	Opening
COMP	Compressible	OPP	Opposite
CONC	Concrete	ORD	Overflow Roof Drain
CONT	Continuous		
COORD	Coordinate / Coordination	PERF	Perforated
CPT	Carpet	PFC	Preformed Cladding
CR	Card Reader	PL or ₱	Plate
CRD	Cementitious Roof Deck	PLAM	Plastic Laminate
CT	Ceramic Tile	PLAS	Plaster
CU FT	Cubic Foot	PLYWD	Plywood
CUH	Cabinet Unit Heater	PM	Pressed Metal
CU YD	Cubic Yard	PNL	Panel
CVR	Cover	PORC	Porcelain Tile
CW	Curtain Wall	PR	Pair
		PREFAB	Prefabricated
DEMO	Demolition	PREFIN	Prefinished
DF	Drinking Fountain	PSF	Pounds per Square Foot
DIA or Ø	Diameter	PSI	Pounds per Square Inch
DIM	Dimension	PT	Pressure Treated / Paper Towel Dispenser
DN	Down		
DO	Door Opening / Door Operator	PTD	Painted
DR/DRS	Door / Doors	PVC	Polyvinyl Chloride
DTL	Detail		
DWG/DRWG	Drawing	QT	Quarry Tile
EA	Each	R	Riser
EJ	Expansion Joint	RAD	Radius
ELEC	Electric / Electrical	RCB	Resilient Cove Base
ELEV	Elevation / Elevator	RCP	Reflected Ceiling Plan
EMERG	Emergency	RD	Roof Drain
ENG	Engineer / Engineered	REINF	Reinforced
EOD	Edge of Deck	REQD/REQ'D	Required
EOS	Edge of Slab	RES	Resinous Flooring
EQ	Equal	RM	Room
EQUIP	Equipment	RO	Rough Opening
ETBR	Existing to be Removed	RTU	Roof Top Unit
ETR	Existing to Remain	RUB	Rubber Flooring
EUH	Electric Unit Heater		
EVSS	Exposed to View Structural Steel	SD	Soap Dispenser
EXIST/EXST'G	Existing	SECT	Section
EXP	Exposed	SF	Square Foot
EXT	Exterior	SFCMU	Split Face CMU
EWH	Electric Wall Heater	SFTU	Structural Facing Tile Unit
		SHT	Sheet
FAP	Fibrous Acoustic Panels	SIM	Similar
FCP	Fabric Covered Acoustic Panel	SP	Station Point
FCU	Fan Coil Unit	SPEC	Specification
FD	Floor Drain	SRB	Straight Resilient Base
FDN	Foundation	SS	Stainless Steel
FDVC	Fire Department Valve Connection	SSF	Synthetic Sports Flooring
FE	Fire Extinguisher	STD	Standard
FEC	Fire Extinguisher Cabinet	STL	Steel
FF	Finish Floor	STLP	Steel Liner Panel
FH	Fume Hood	STR	Stair
FHC	Fire Hose Cabinet	STRUCT	Structure / Structural
FIN	Finish	SUSP	Suspended
FLR	Floor	SYS	System
F.O.	Face of	SCI	Science
FOF	Face of Foundation		
FOM	Face of Masonry	T	Tread
FOS	Face of Stud	TB	Tackboard / Thermally Broken
FOW	Face of Window	TD	Trench Drain
FP	Fire Protection	TDF	Transparent Dye Finish
FR	Fire Rated	TERM	Termination
FRC	Fibrous Reinforced Cement	TERR	Terrazzo
FRP	Fiberglass Reinforced Panel	T&G	Tongue and Groove
FTR	Finned Tube Radiator	T.O.	Top of
FURN	Furnish / Furnished	TP	Toilet Paper Dispenser
		TS	Tack Surface
G90	Hot Dipped Galvanized	TYP	Typical
GA	Gauge		
GALV	Galvanized	UCD	Undercut Door
GC	General Contractor	UON	Unless Otherwise Noted
GFCMU	Ground Face CMU	USS	Underside of Structure
GFI or GFCI	Ground Fault Circuit Interruptor	UTIL	Utility / Utilities
GFRG	Glass Fiber Reinforced Gypsum	UV	Unit Ventilator
GL	Glass		
GLCMU	Glazed Face CMU	VCB	Vented Cove Base
GYP	Gypsum	VCP	Vitreous Clay Pipe
GWB	Gypsum Wall Board	VCT	Vinyl Composite Tile
GWF	Glazed Wall Finish (Epoxy)	VERT	Vertical
		VIF	Verify in Field
H	High	VSF	Vinyl Sheet Flooring
HC or HP	Handicapped	VTR	Vent Through Roof
HD	Head / Hand Dryer	VWC	Vinyl Wall Covering
HDW	Hardware		
HDWD	Hardwood	W	Wide
HM	Hollow Metal	W/ or w/	With
HORZ	Horizontal	WD	Wood
HP	High Point	WMP	Wire Mesh Partition
HR	Hour	WO	Window Opening
HSS	Hollow Structural Section	w/o	Without
HVC	Hose Valve Cabinet	WP	Working Point
		WR	Waste Receptacle
ID	Inside Diameter	WWF	Welded Wire Fabric
INCL	Include	WWM	Welded Wire Mesh
INST	Install / Installed		
INSUL	Insulation	Z	Zee
INT	Interior		
INV	Invert		

Division of Work Abbreviations

DIVISION 01-GENERAL REQUIREMENTS
011000-SUMMARY (Summary of Work)
012200-UNIT PRICE (Unit Prices)
012300-ALTERNATES (Alternates)
015000-TEMP FAC (Temporary Facilities and Controls)

DIVISION 02-EXST'G CONDITIONS
023000-SUBSURFACE EXPLORE (Subsurface Exploration Data)
024100-DEMO (Demolition)
024180-ASB ABATEMENT (Asbestos Abatement)

DIVISION 03-CONCRETE
033000-CAST CONC (Cast-In-Place Concrete)
034500-ARCH PRECAST CONC (Architectural Precast Concrete)

DIVISION 04-MASONRY
040001-MASONRY (*Masonry Work)

DIVISION 05-METALS
050001-MISC & ORN IRON (*Miscellaneous and Ornamental Iron)
051200-STRCT STL (Structural Steel Framing)
051226-SHEAR CONN (Shear Connectors)
052100-STL JSTS (Steel Joists)
053100-MTL DECK (Metal Decking)
055000-MISC MTL (Miscellaneous Metals (Part of 050001))
057000-ORN MTLS (Ornamental Metals)

DIVISION 06-WOOD, PLASTICS AND COMPOSITES
061000-RGH CARP (Rough Carpentry)
062000-FIN CARP (Finish Carpentry)

DIVISION 07-THERMAL AND MOISTURE PROTECTION
070001-WD&C (*Waterproofing, Dampproofing and Caulking)
070002-ROOF & FLSHG (*Roofing and Flashing)
071326-A&VB (Air and Vapor Barrier)
072100-INSUL (Insulation)
074213-PREFORM CLAD (Preformed Cladding)
077200-ROOF ACC (Roof Accessories)

DIVISION 08-OPENINGS
080001-MTL WINDOWS (*Metal Windows)
080002-GLASS/GLAZING (*Glass and Glazing)
081113-HOLLOW MTL (Hollow Metal Doors and Frames)
081416-WD / PLAS DRS (Wood & Plastic Doors)
083323-SPEC DRS (Special Doors)
087100-FIN HRDWR (Finish Hardware)

DIVISION 09-FINISHES
090002-TILE (*Tile)
090003-ACOUST TILE (*Acoustical Tile)
090005-RES FLR (*Resilient Flooring)
090007-PAINT (*Painting)
092116-GWB (Gypsum Board)
096466-ATHL FLR (Athletic Flooring)
096700-RES SEAMLESS FLR (Resinous Seamless Flooring)
096816-CARPET (Carpeting)
097700-FIBERGLASS WALL PNL (Fiberglass Reinforced Plastic Wall Panels)
098400-ACOUST WALL TRTMNT (Acoustical Wall Treatment)

DIVISION 10-SPECIALTIES
101100-MB & TB (Markerboards and Tackboards)
101400-IDENT DEV (Identifying Devices)
102113-COMPRT & CUBICLES (Compartments and Cubicles)
102226-OPER PART (Operable Partitions)
102800-PREFAB SPECS (Prefabricated Specialties)
102813-TOILET/BATH ACC (Toilet and Bath Accessories)
105113-LOCKERS (Lockers)

DIVISION 11-EQUIPMENT
113116-LD EQUIP (Loading Dock Equipment)
110640-STAGE RIG & DRAPES (Stage Rigging and Draperies)
113100-APPL (Appliances and Unit Kitchens)
114000-FOOD SRVC (Food Service Equipment)
115213-PROJ SCRN (Projection Screens)
116600-ATHL & SPRTS EQUIP (Athletic and Sports Equipment)

DIVISION 12-FURNISHINGS
122413-ROLLER SHADES (Roller Shades)
123533-CLSRM CASEWORK (Classroom Casework)
124813-MATS (Entrance Floor Mats and Frames)

DIVISION 14-CONVEYING EQUIPMENT
140001-ELEV (*Elevators and Lifts)

DIVISION 21-FIRE SUPPRESSION
210001-FIRE PROT (*Fire Protection)

DIVISION 22-PLUMBING
220001-PLUMB (*Plumbing)

DIVISION 23-HEATING VENTILATING AND AIR CONDITIONING
230001-HVAC (*Heating, Ventilating and Air-Conditioning)

DIVISION 26-ELECTRICAL
260001-ELEC (*Electrical Work)

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311000-SITE PREP (Site Preparation)
311320-EXSTG PLNTS (EXST'G Plants to Remain)
312000-EARTHWORK (Earthwork)
312219-FIN GRADE (Finish Grading)
312300-AGGR PIER REINFORC (Aggregate Pier Soil Reinforcement)
312500-EROSION/SEDIMENT CNTRL (Erosion and Sedimentation Control)

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321313-SITE CONC (Site Concrete)
321400-PRECAST PAVERS (Precast Unit Pavers)
321600-CURBS/GUTTERS (Curbs and Gutters)
321700-PAVING SPECS (Paving Specialties)
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321823-INFLD SURF (Infield Surfacing)
323000-MISC SITE IMPRVMNT (Miscellaneous Site Improvements)
323100-FENCE (Fencing)
327000-WETLANDS (Wetlands)
329000-PLANTS (Plantings)
329113-SOIL PREP (Soil Preparation)
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333000-SANITARY SEWER (Sanitary Sewerage)
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COUNTRYSIDE ELEMENTARY SCHOOL
191 Dedham Street Newton, MA 02461

LICENSE STAMP

Date: 12 FEBRUARY 2024

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Cover Sheet

G.0.01

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Applicable Codes

Code Type	Applicable Code (Model Code Basis)
Building	780 CMR: Massachusetts State Building Code, 10th Edition (2021 International Building Code)
Fire Prevention	527 CMR: Massachusetts Fire Prevention Regulations (2021 NFPA 1) M.G.L. Chapter 148 Section 26G – Sprinkler Protection
Accessibility	521 CMR: Massachusetts Architectural Access Board Regulations 2010 ADA Standards
Electrical	527 CMR 12.00: Massachusetts Electrical Code (2023 National Electrical Code)
Elevators	524 CMR: Massachusetts Elevator Code with 2018 Amendments (ASME A17.1-2013/CSA B44-13: Safety Code for Elevators and Escalators)
Mechanical	2021 International Mechanical Code (IMC)
Plumbing	248 CMR: Massachusetts Plumbing Code
Energy Conservation	2021 International Energy Conservation Code, Stretch Energy Code & Municipal Opt-In Code (225 CMR 23)

Overall Building Allowed Height and Area

Code Reference	Type IIB - Use Group A-2 & A-3		Type IIB - Use Group E	
	Height	Area	Height	Area
IBC Tables 504.3, 504.4 & 506.2: Tabular Value	3 stories (75 ft.)	28,500 SF	3 stories (75 ft.)	43,500 SF
IBC Section 506.3 Frontage Increase (100% Open)		+ 7,125 SF		+ 10,875 SF
Maximum Height & Area Allowed Per Floor	**3 stories (75 ft.)**	**35,625 SF**	**3 stories (75 ft.)**	**54,375 SF**
Actual Height & Footprint Area	**3 stories (47.5 ft.) 32,760 SF**			
The building will have a footprint area that is below the maximum allowed area for both occupancy types, therefore it can be considered a non-separated use occupancy (IBC 508.3).				

Table 6-1: Fire-Resistance Rating Requirements for Building Elements - Type IIB (780 CMR Table 601 & Table

Building Element	Required Fire Resistance Rating
	Type II B (Noncombustible - Unprotected)
Structural frame including columns, girders, trusses	0
Bearing Walls	
Exterior	0
Interior	0
Nonbearing Exterior Walls & Partitions (from Table	
Fire Separation Distance Less Than 5 ft	**1**
Fire Separation Distance Between 5 ft and 10 ft	**1**
Fire Separation Distance Between 10 ft and 30 ft	0
Fire Separation Distance greater than 30 ft	0
Nonbearing Interior Walls & Partitions	0
Floor Construction Including supporting beams and joists	0
Roof Construction Including supporting beams and joists	0

NOTES:

(1) Portions of the strucutral frame and floor construction that support rated wall assemblies must have the same rating as the wall supported. *(780 CMR 704.1)*

(2) Exit enclosures (including interior stairways and interior exit ramps) shall be enclosed with fire barriers carrying as resistance rating of… not less than 1 hour where connecting less than 4 floors.

(3) Shaft enclosures shall not be less than 1 hour rated for shafts connecting less than 4 floors. Duct penetrations not in shafts shall have automatic dampers at each floor.

Table 10-1: Occupant Load (780 CMR Table 1004.1.2)

Floor	Use	SF / Person	Area	Occupant Load by Table	Actual Number of Occupants [1]	Design Occupant Load [2]
First Floor	Kindergarten Classrooms (4) [4]	20 net	3,920 NSF	196	96	196
	Kindergarten Project Area	20 net	100 NSF	5	8	5
	Team Specialist & IEP Conference Room	20 net	433 NSF	22	14	22
	Quiet Room	50 net	99 NSF	2	2	2
	Small Group Room	15 net	125 NSF	9	7	9
	Extended Day	100 gross	253 GSF	3	2	3
	Cafeteria Storage (2)	300 gross	367 GSF	2	0	2
	Cafeteria (Assembly-Concentrated)	7 net	2,840 NSF	406	320	406
	Cafeteria (Typical School Use: Assembly Dining) [3]	*15 net*	*2,840 NSF*	*189*	*155*	
	Lunch Bunch	15 net	150 NSF	10	5	10
	Platform	15 net	1,024 NSF	69	61	69
	Kitchen (incl. Servery, Recycling, Freezer, Cooler, Toilet & Mop)	200 gross	1,175 GSF	6	5	6
	Kitchen Office	100 gross	99 GSF	1	1	1
	Dry Storage	300 gross	105 GSF	1	0	1
	Music Classroom	20 net	1,168 NSF	59	51	59
	Music Practice (2)	20 net	224 NSF	12	11	12
	General Office/Mail/Duplicate/Kit/Circ & Toilet	100 gross	720 GSF	8	3	8
	Principal's Office	100 gross	300 GSF	3	7	7
	Assistant Principal's Office	100 gross	125 GSF	2	3	3
	Records Room	300 gross	80 GSF	1	0	1
	Conference	15 net	220 NSF	15	14	15
	Nurse	100 gross	519 GSF	6	5	6
	Gymnasium (Max Assembly use)	7 net	3,924 NSF	561	466	561
	Gymnasium (Typical School Use: Gym Class) [3]	*50 gross*	*5,987 GSF*	*120*	*52*	
	PE Office/Storage	100 gross	308 GSF	4	1	4
	Custodian Office	100 gross	99 GSF	1	1	1
	PT	50 gross	469 GSF	10	7	10
	Receiving/Recycle/Trash/Custodian Store /Custodian Work Room, Water	300 gross	923 GSF	3	2	3
	Mechanical Room	300 gross	771 GSF	3	0	3
	Main Electrical/EE/Elec Closet	300 gross	378 GSF	2	0	2
	Total First Floor Occupant Load			1422	1,092	**1,427**
Second Floor	Classrooms (8)	20 net	6,864 NSF	344	207	344
	Literacy Center	20 net	858 NSF	43	19	43
	Lower Spark	20 net	858 NSF	43	14	43
	Project Areas (2)	20 net	200 NSF	10	16	10
	Small Group Room (2)	15 net	252 NSF	17	14	17
	Quiet Room	50 net	110 NSF	2	2	2
	BCBA	100 gross	150 GSF	2	5	2
	Storage	300 gross	79 GSF	1	0	1
	Literacy Specialist	20 net	175 NSF	9	5	9
	SPED Teaching Space	20 net	428 NSF	22	12	22
	SPED Teachers	100 gross	202 GSF	3	3	3
	Speech & Language	20 net	150 NSF	8	7	8
	ELL	20 net	312 NSF	16	7	16
	Staff Lunch Room	15 net	224 NSF	15	10	15
	Staff Workroom	100 gross	198 GSF	2	2	2
	Art Classroom	20 net	836 NSF	42	25	42
	Art Storage	300 gross	99 GSF	1	0	1
	Kiln	300 gross	50 GSF	1	0	1
	OT	50 gross	203 GSF	5	7	5
	Library/Media Center			47	51	51
	Reading	*50 net*	*271 NSF*	*[5]*		
	Teaching	*20 net*	*379 NSF*	*19*		
	Stacks/Office/Circulation Desk	*100 gross*	*2,111 GSF*	*22*		
	Custodian	300 gross	44 GSF	1	0	1
	Electrical Closet	300 gross	44 GSF	1	0	1
	Total Second Floor Occupant Load			680	406	**680**
Third Floor	Classrooms (9)	20 net	7,722 NSF	386	225	386
	Upper Spark	20 net	858 NSF	43	14	43
	Project Areas (3)	20 net	250 NSF	13	24	24
	Quiet Room	50 net	110 NSF	3	2	3
	Small Group Room (3)	15 net	378 NSF	26	21	26
	Custodian	300 gross	53 GSF	1	0	1
	Math Coach	20 net	150 NSF	8	5	8
	SPED Teaching Space	20 net	428 NSF	22	12	22
	SPED Teachers	100 gross	200 GSF	2	3	2
	Speech & Language	20 net	150 NSF	8	7	8
	Staff Lunch Room	15 net	229 NSF	16	10	16
	Staff Workroom	100 gross	210 GSF	3	2	2
	Lactation Room	100 gross	51 GSF	1	1	1
	Psych Office	100 gross	152 GSF	2	5	2
	SEL Coach/Intervention	100 gross	151 GSF	2	5	2
	Social Worker	100 gross	152 GSF	2	5	2
	Storage	300 gross	79 GSF	1	0	0
	Custodial Storage	300 gross	201 GSF	1	0	1
	Electrical Room/Electrical Closet	300 gross	226 GSF	1	0	1
	Data	300 gross	250 GSF	1	0	1
	ECR	300 gross	28 GSF	1	0	1
	BDA	300 gross	28 GSF	1	0	1
	Total Third Floor Occupant Load			544	341	**553**

1 Actual number of Occupants - The actual number of occupants for whom each occupied space, floor or building is designed.

2 Design Occupant Load (1004) - In determining means of egress requirements, the largest number of occupants computed in accordance with Sections 1004.1 through 1004.6.

3 Assembly Mode Occupancies - at Gym & Cafeteria are used for Total Floor Occupant load calculation (and to show adequacy of exits). Number of occupants during normal school operation: Cafeteria Lunch & Gym Class (smaller than Assembly Occupancies) are shown for information only and do not contribute to Total Floor Occupancy Load.

4 Kindergarten Classrooms - Occupancy shall be limited by placard to no more than 49 Occupants.

Table 8-1: Interior Wall & Ceiling Finish Requirements by Occupancy (780 CMR Table 803.11)

GROUP	SPRINKLERED		
	Exit stairways and ramps and exit passageways (a)	Corridors & enclusure for exit access Stairways & Ramps	Rooms and enclosed spaces
A-2 & A-3	B	B	C
E	B	C	C

(a) Class C shall be permitted for wainscotting or paneling of not more than 1000sf of surface area in grade lobby.

Table 10-2: Egress Width Per Occupant Served
(780 CMR Section 1005.3.1 exception 1 and Section 1005.3.2 exception 1)

OCCUPANCY	WITH SPRINKLER SYSTEM	
	Stairways (inches per occupant)	Other egress components (inches per occupant)
All Occupancies other than H & I-2	0.2	0.15

Table 10-3: Exit Access Travel Distance (780 CMR Table 1017.2)

Occupancy	Without Sprinkler System (feet)	With Sprinkler System (feet)
A, **E**, F-1, I-1, M, R, S-1	200	**250**

Table 10-4: Corridor Fire-Resistance Rating (780 CMR Table 1020.1)

Occupancy	Occupant Load Served By Corridor	Required Fire-Resistance Rating (hours)	
		Without Sprinkler System	With Sprinkler System
A, B, **E**, F, M, S, U	Greater than 30	1	**0**

Table 10-5: Minimum Number of Exits or Access to Exits per Story (780 CMR Table 1006.3.1)

Occupant Load per Story	Minimum Number of Exits or Access to Exits from Story
1-500	2
501-1,000	3
More than 1,000	4

Table 10-6: Number of Exits by Floor for Occupant Load

Floor	Occupant Load	Number of Exits Required	Number of Exits Provided	Total Capacity of Exits Provided
First Floor	1,427	4	8	3,562
Second Floor	680	3	3	870
Third Floor	553	3	3	870

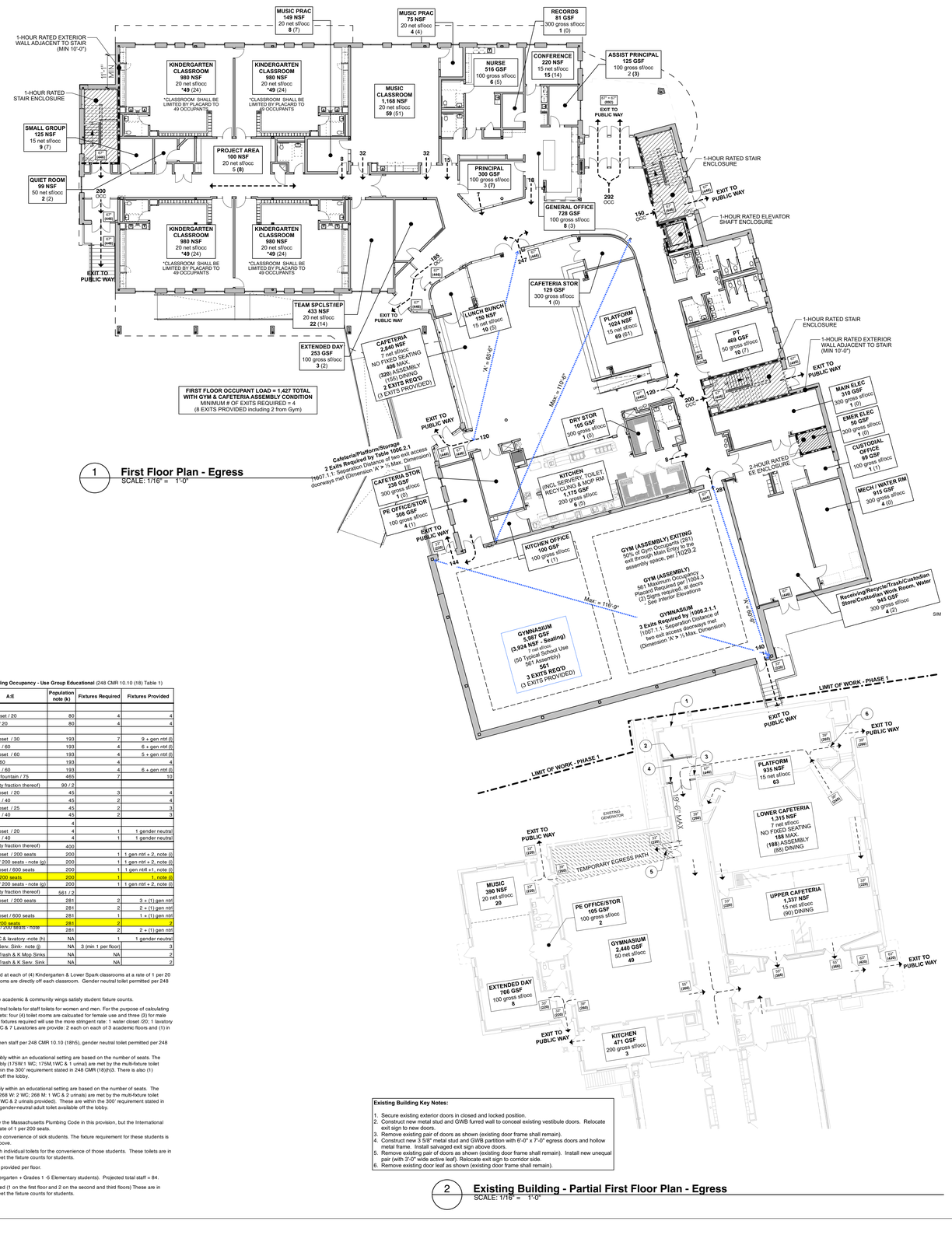
NOTES:

A. The total capacity of exits provided for the First Floor does not include exterior door exit capacity from Receiving/Recycling/Custodian spaces.

B. The total capacity of exits provided for the First Floor includes (2) exterior door exits from Gymnasium space. Ocupant Load listed for Gym in Assembly Mode (Maximum).

CODE PLAN LEGEND

- 1 HR RATED CONSTRUCTION
- 2 HR RATED CONSTRUCTION
- 1 HR WALL/OPENING PROTECTIVES
- 2 HR WALL/OPENING PROTECTIVES
- HORIZONTAL ASSEMBLY
- 32 — CUMMULATIVE OCCUPANT LOAD (at Element of Egress)
- Indicates Choice of Two or More Egress Paths Available
- EGRESS ELEMENT EXIT CAPACITY
  - 32" (446) — Width Available / Max. Occ. Served
- OCCUPANT EGRESS CRITERIA
  - CLASSROOM — Space Name
  - 858 NSF — Space Square Footage
  - 20 net sf/occ — Factor per Table 10-1
  - 43 (23) — (Design Occupancy)
  - Occupancy by Table (Note: the larger of the 2 occupancy criteria is indicated in **bold** and is used for exit calculations)
- 70'-0" — Separation Distance of two exit access doorways (where required) per 1007.1.1



1 **First Floor Plan - Egress**
SCALE: 1/16" = 1'-0"

Table 248 CMR 10-2: Min. Facilities for Building Occupancy - Use Group Educational (248 CMR 10.10 (18) Table 1)

	A:E	Population note (k)	Fixtures Required	Fixtures Provided
Kindergarten Students				
Note (a)	1 water closet / 20	80	4	4
	1 lavatory / 20	80	4	4
Elementary Students				
Note (b) Female	1 water closet / 30	193	7	9 + gen ntrl (i)
	1 lavatory / 60	193	4	6 + gen ntrl (i)
Male	1 water closet / 60	193	4	5 + gen ntrl (i)
	1 urinal / 60	193	4	4
	1 lavatory / 60	193	4	6 + gen ntrl (i)
All Students (Max), note (e)	1 drinking fountain / 75	465	7	10
Staff	* (or majority fraction thereof)	90 / 2		
Note (c) Female	1 water closet / 20	45	3	4
	1 lavatory / 40	45	2	4
Male	1 water closet / 25	45	2	3
	1 lavatory / 40	45	2	3
Kitchen Staff	note (c)	4		
Note (d)	1 water closet / 20	4	1	1 gender neutral
	1 lavatory / 40	4	1	1 gender neutral
Assembly Use of Cafeteria	* (or majority fraction thereof)	400		
Note (e) Female	1 water closet / 200 seats	200	1	1 gen ntrl + 2, note (i)
	1 lavatory / 200 seats - note (g)	200	1	1 gen ntrl + 2, note (i)
Male	1 water closet / 600 seats	200	1	1 gen ntrl +1, note (i)
	1 urinal / 200 seats	200	1	1, note (i)
	1 lavatory / 200 seats - note (g)	200	1	1 gen ntrl + 2, note (i)
Assembly Use of Gym (f)	* (or majority fraction thereof)	561 / 2		
Note (f) Female	1 water closet / 200 seats (g)	281	2	3 + (1) gen ntrl
		281	2	2 + (1) gen ntrl
Male	1 water closet / 600 seats	281	1	1 + (1) gen ntrl
	1 urinal / 200 seats	281	2	2
(Calc. for Max. - Community Use)	1 lavatory / 200 seats - note	281	2	2 + (1) gen ntrl
Other Fixtures.	Nurse's WC & lavatory -note (h)	NA	1	1 gender neutral
	Custodial Serv. Sink- note (j)	NA	3 (min 1 per floor)	3
	Rec/Recy/Trash & K Mop Sinks	NA	NA	2
	Rec/Recy/Trash & K Serv. Sink	NA	NA	2

NOTES:

(a) (1) Water closet and (1) lavatory are provided at each of (4) Kindergarten & Lower Spark classrooms at a rate of 1 per 20 Kindergarten & Lower Spark students. Toilet rooms are directly off each classroom. Gender neutral toilet permitted per 248 CMR 10.10 (18h2).

(b) (10) multi fixture toilets (5 Girls & 5 Boys) the academic & community wings satisfy student fixture counts.

(c) The project provides single user gender neutral toilets for staff toilets for women and men. For the purpose of calculating the total number of required gender-neutral toilets: four (4) toilet rooms are calculated for female use and three (3) for male use. The calculation of the minimum number of fixtures required will use the more stringent rate: 1 water closet /20; 1 lavatory /40 (90 staff, 5 WC, 4 lavatories required). 7 WC & 7 Lavatories are provide: 2 each on each of 3 academic floors and (1) in Administration.

(d) Separate toilet facilities are required for kitchen staff per 248 CMR 10.10 (18h5), gender neutral toilet permitted per 248 CMR 10.10 (18i3).

(e) The plumbing fixture requirement for assembly within an educational setting are based on the number of seats. The fixture requirements for the Cafeteria as Assembly (175W:1 WC; 175M;1WC & 1 urinal) are met by the multi-fixture toilet rooms located on the First floor. These are within the 300' requirement stated in 248 CMR (18h)i3. There is also (1) accessible gender-neutral adult toilet available off the lobby.

(f) The plumbing fixture requirement for assembly within an educational setting are based on the number of seats. The fixture requirements for the Gym as Assembly (268 W: 2 WC; 268 M: 1 WC & 2 urinals) are met by the multi-fixture toilet rooms located on the First floor (W: 3 WC, M: 1 WC & 2 urinals provided). These are within the 300' requirement stated in 248 CMR (18)h)3. There is also (1) accessible gender-neutral adult toilet available off the lobby.

(g) Lavatories are not specifically referred to by the Massachusetts Plumbing Code in this provision, but the International Plumbing Code recommends lavatories at the rate of 1 per 200 seats.

(h) The Toilet room off the Nurse suite is for the convenience of sick students. The fixture requirement for these students is fully met by the toilet rooms in notes (a) & (b) above.

(i) Lower Spark is a Special Education room with individual toilets for the convenience of those students. These toilets are in addition to the multi-fixture toilets which fully meet the fixture counts for students.

(j) Service Sinks: One (1) minimum service sink provided per floor.

(k) Projected actual enrollment = 465 (80 Kindergarten + Grades 1 -5 Elementary students). Projected total staff = 84.

(l) (5) Gender neutral student toilets are provided (1 on the first floor and 2 on the second and third floors) These are in addition to the multi-fixture toilets which fully meet the fixture counts for students.

Existing Building Key Notes:

1. Secure existing exterior doors in closed and locked position.
2. Construct new metal stud and GWB furred wall to conceal existing vestibule doors. Relocate exit sign to new doors.
3. Remove existing pair of doors as shown (existing door frame shall remain).
4. Construct new 3 5/8" metal stud and GWB partition with 6'-0" x 7'-0" egress doors and hollow metal frame. Install salvaged exit sign above doors.
5. Remove existing pair of doors as shown (existing door frame shall remain). Install new unequal pair (with 3'-0" wide active leaf). Relocate exit sign to corridor side.
6. Remove existing door leaf as shown (existing door frame shall remain).

2 **Existing Building - Partial First Floor Plan - Egress**
SCALE: 1/16" = 1'-0"

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KEY PLAN

N Called North

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: 0 16 32

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Code Analysis - Occupancy & Egress Capacity / Fire Resistance Ratings

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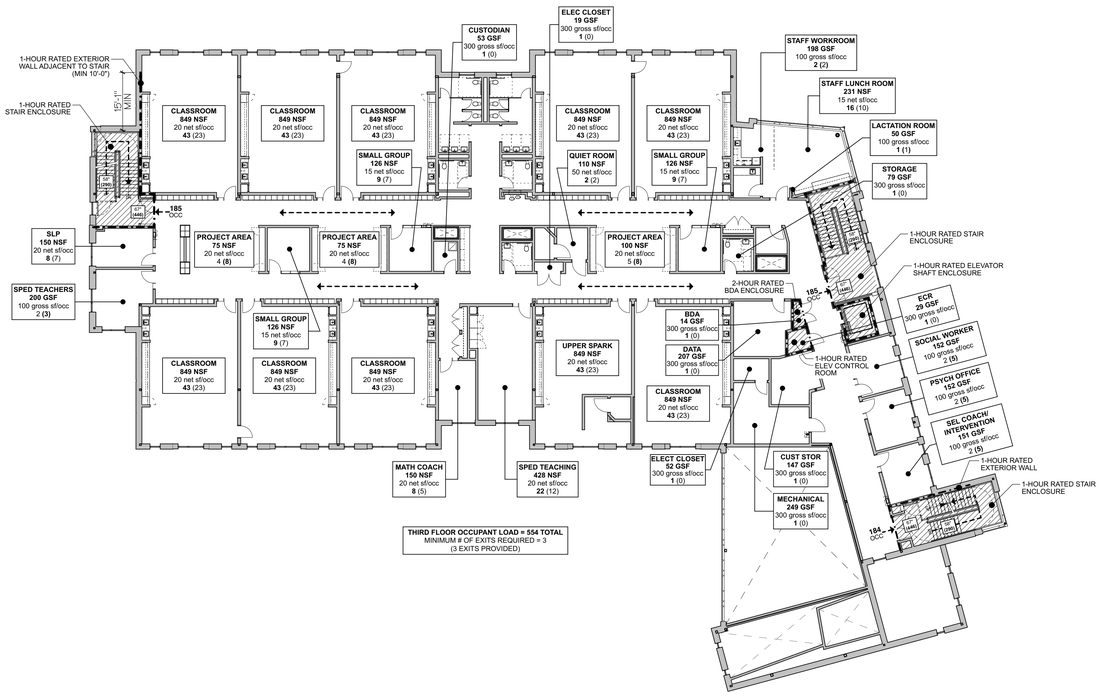

3 **Third Floor Plan - Egress**
SCALE: 1/16" = 1'-0"

2 **Second Floor Plan - Egress**
SCALE: 1/16" = 1'-0"

CODE PLAN LEGEND

- 1 HR RATED CONSTRUCTION
- 2 HR RATED CONSTRUCTION
- 1 HR WALL/OPENING PROTECTIVES
- 2 HR WALL/OPENING PROTECTIVES
- HORIZONTAL ASSEMBLY
- 32 — CUMMULATIVE OCCUPANT LOAD (at Element of Egress)
- Indicates Choice of Two or More Egress Paths Available
- EGRESS ELEMENT EXIT CAPACITY: 67 (446) — Width Available / Max. Occ. Served
- OCCUPANT EGRESS CRITERIA: CLASSROOM 858 NSF 20 net sf/occ 43 (23) — Space Name; Space Square Footage; Factor per Table 10-1 (Design Occupancy); Occupancy by Table (Note: the larger of the 2 occupancy criteria is indicated in **bold** and is used for exit calculations)
- "DIM" — Separation Distance of two exit access doorways (where required) per 1007.1.1

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

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Number	Date	Description

DESIGN DEVELOPMENT

Code Analysis - Occupancy & Egress Capacity / Fire Resistance Ratings

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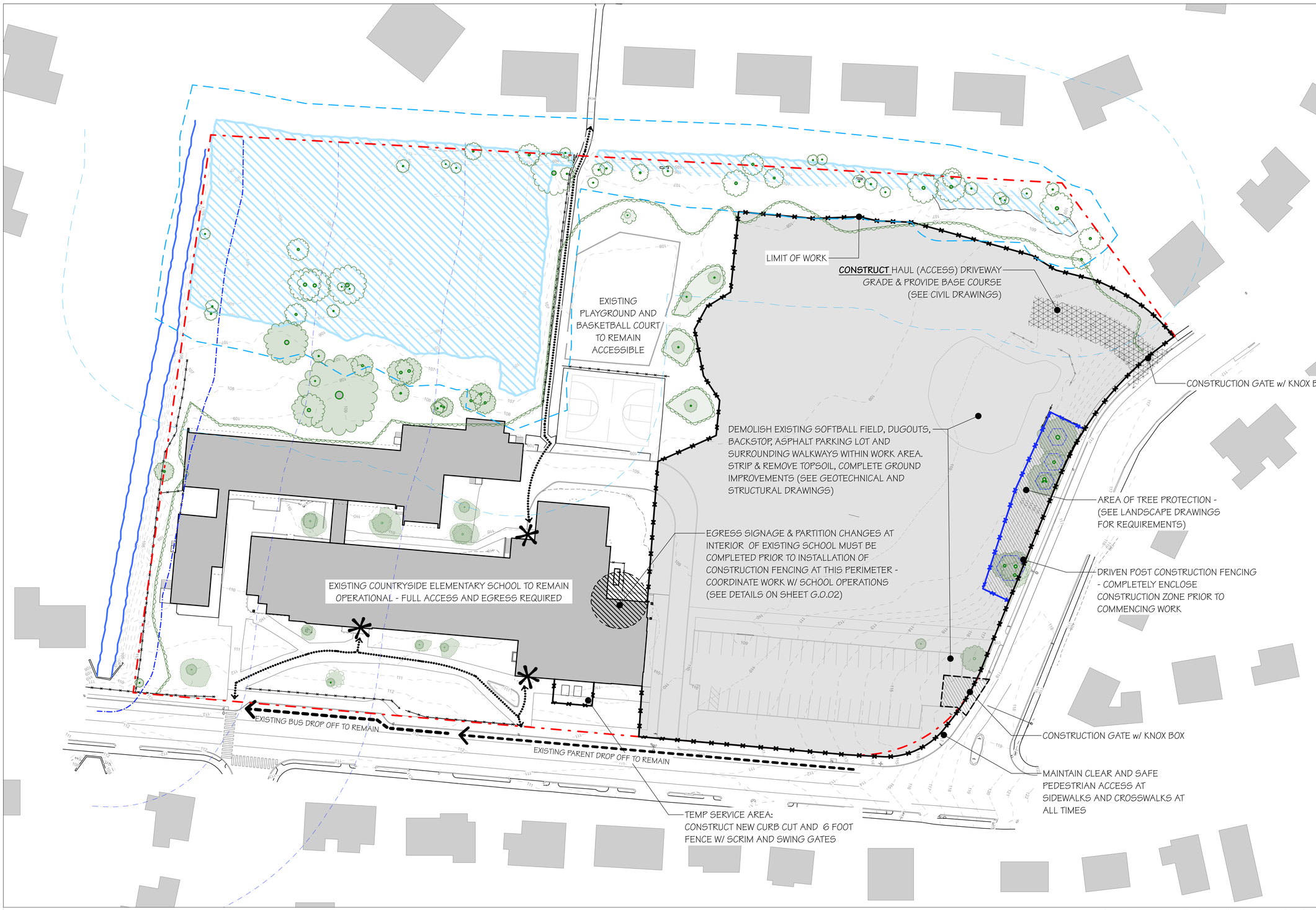

NOTE: THIS DRAWING IS BEING ISSUED IN COLOR

GENERAL PHASING NOTES:

DEFINITIONS & DATES

NOTE : Refer to the general conditions for a complete list of definitions and dates. If there are any discrepancies the general conditions document takes precedence.

Phase 1 . . . . . .Notice to Proceed-June 20, 2025
Phase 2 (Summer 1). . . . . June 23, 2025- Aug 23, 2025*
Phase 3. . . . . August 25, 2025* - June 19, 2026*
Phase 4 (Summer 2) . . . . . June 22, 2026* - Aug 21, 2026*
Phase 5 . . . . . Aug 24, 2026* - Dec 28, 2026
Phase 6 . . . . . .Dec 28, 2026 - May 31, 2027

Available school year calendars are included in the project manual, See SECTION 013100 Project Procedures. Dates are subject to change for snow days. *School Year 25/26 calendars will be issued when available.

(Phase 2 & Phase 4 correspond to School Summer Vacation)

1. CONTRACTOR USE AND ACCESS

a) The contractor shall confine construction activities within work limit areas and shall organize construction activities according to site phasing plans, and other contract requirements.

b) Limit of Work Area - access to work included in contract documents outside items a) above, if any, will be coordinated based upon review and approval of contractor's work plan by Owner's Representatives.

c) For those areas designated for school use, but available for construction during Summer 1 and Summer 2, Contractor shall secure areas and protect in a manner acceptable to Owner's Representatives. Protection shall include temporary fencing, gates for emergency vehicles, barriers, etc. and as required by contract documents.

2. NEWTON PUBLIC SCHOOLS (NPS) USE AND ACCESS

The NPS shall have use and access of the existing Countryside Elementary School (CES) building and playground, new construction and site as indicated in the phasing plans.

3. TEMPORARY BARRICADES/PROTECTION

Furnish and install temporary barricades/protection, temporary fences, gates, and signage as shown on the drawings and specified in contract documents for the duration of construction.

a) Contractor shall include within base contract twenty (15) signs and mounting at 30" x 30". Text, location requirements to be determined by Owner's Representatives.

4. TEMPORARY RELOCATIONS/ CONNECTIONS - GENERAL

Remove and relocate existing utilities, drainage/sewer, and electrical power as required for construction of the new building and to allow for continued occupancy of the existing building. See Civil Drawings.

Disconnection of utilities, drainage, sewage, etc. and reconnection for permanent systems shall conform to phasing schedules and contract documents.

The *Temporary Relocations/Connections* notes identified on the drawings identify specific requirements as a convenience to the contractor. These notes are limited in scope and do not relieve the contractor of full scope of work or other requirements included in the Contract Documents.

If specific dates are not provided for relocations and connections, the contractor shall submit a CPM Schedule for review by the Owner's representatives and where applicable by local/ state permitting authorities. s
If during the process of disconnecting, installing temporary or new utilities, the contractor shall repair and/or patch existing surfaces and walkways and access to existing buildings in kind to ensure uninterrupted access to existing buildings.

5. CONTRACTOR'S TRAILER, OWNER'S PROJECT MANAGER'S TRAILER AND PARKING SPACES

A suggested location for the (1) General Contractor's trailer and (1) Owner's Project Manager's trailer, and (1) other trailer/storage is shown on the Phasing Plans. Contractor Shall submit Phased Site Utilization Plans showing all proposed trailers, storage units and all contractor & subcontractor parking areas. (See Section 015000- TEMPORARY FACILITIES & CONTROLS)

SCOPE NOTES FOR EGRESS MODIFICATIONS AT THE EXISTING COUNTRYSIDE SCHOOL:
SEE SHEET G.0.02

1. Electrical Contractor shall reorient and replace exit signs at the existing Countryside Elementary School as shown on Drawing Sheet G.0.02.
2. General Contractor shall secure existing egress doors at the existing Countryside first floor corridor and construct weather tight, insulated partition at opening. Existing exterior canopy shall be removed, exterior masonry wall shall be made weather tight. Replace, rework other doors noted on Sheet G.0.02. All work must be completed off-hours & prior to commencement of other site activities, including but not limited to the fenced Limit of Work enclosure. Coordinate all work with Owner.
3. All exit signs removed and not reused as part of this work shall be turned over to the Owner.

PHASING KEY

- CONSTRUCTION LIMIT OF WORK
- AREA OF WORK
- COUNTRYSIDE ELEMENTARY SCHOOL BUILDING (SHADED WHEN IN USE BY SCHOOL DEPARTMENT)
- BINDER COURSE / TEMPORARY DRIVEWAY
- PRIMARY PEDESTRIAN ACCESS TO SCHOOL
- PRIMARY BUILDING ENTRANCES
- SCHOOL BUS CIRCULATION / DROP OFF
- PARENT VEHILCE CIRCULATION / DROP OFF
- CONSTRUCTION FENCE (DRIVEN POST)
- CONSTRUCTION FENCE (MOVABLE)

KEY PLAN

N
Called North

NORTH ARROW STAMP

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Drawn By: VL
Scale: 0 30 60

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Phasing - Phase 1

G.0.04

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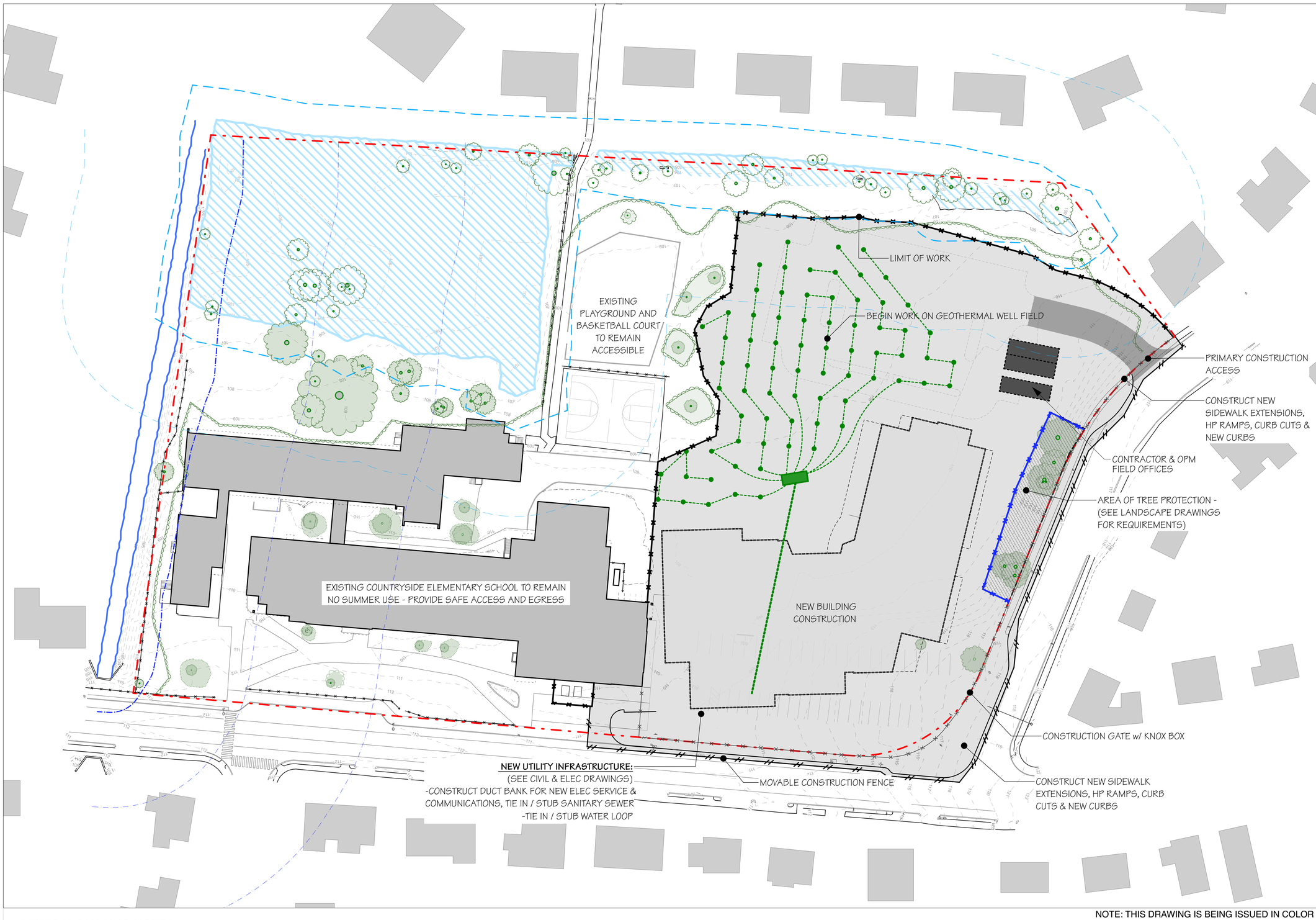

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KEY PLAN

N
Called North

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024
Drawn By: VL
Scale: 0 30 60

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Phasing - Phase 2

G.0.05

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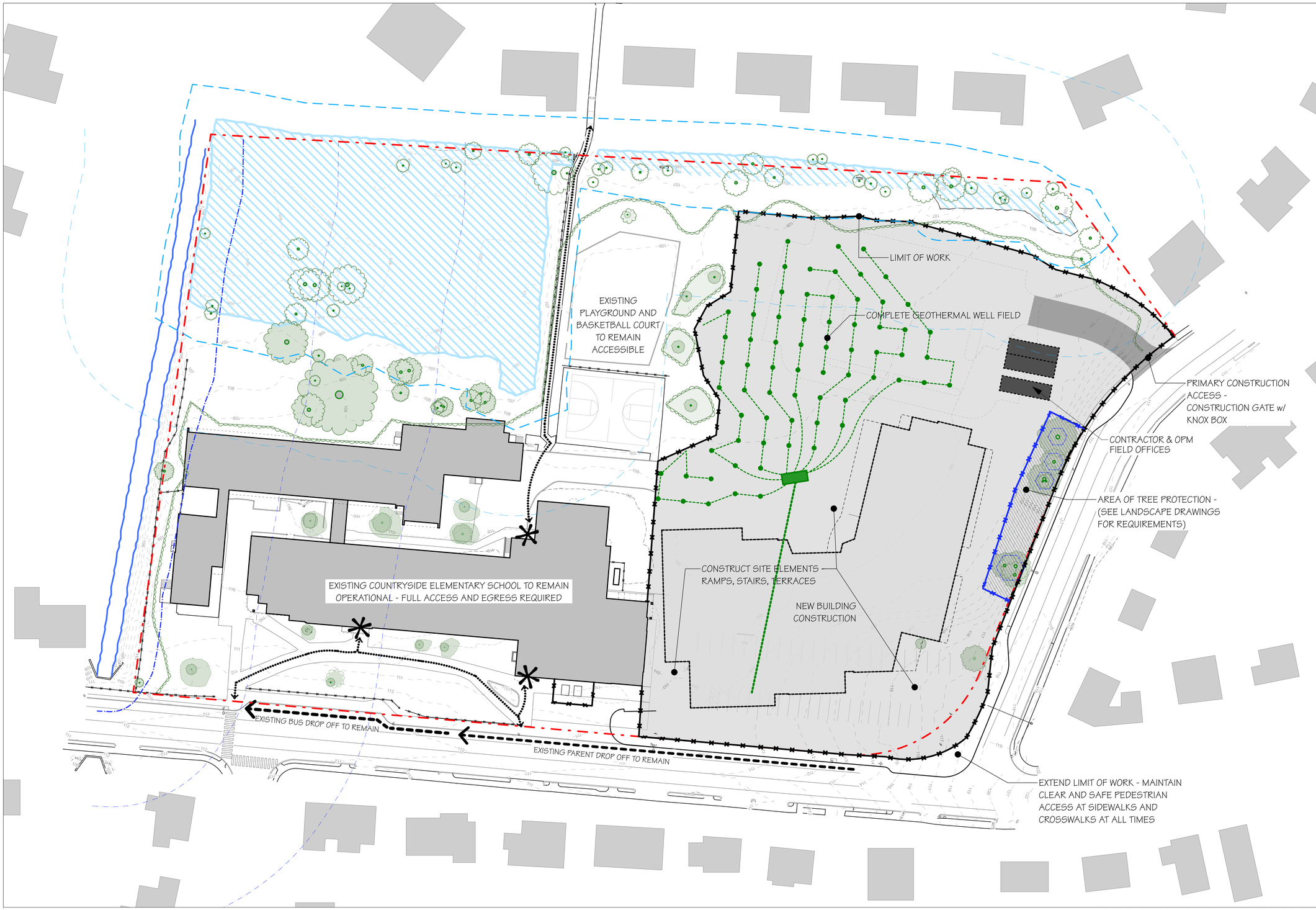

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: VL

Scale: 0 30 60

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Phasing - Phase 3

G.0.06

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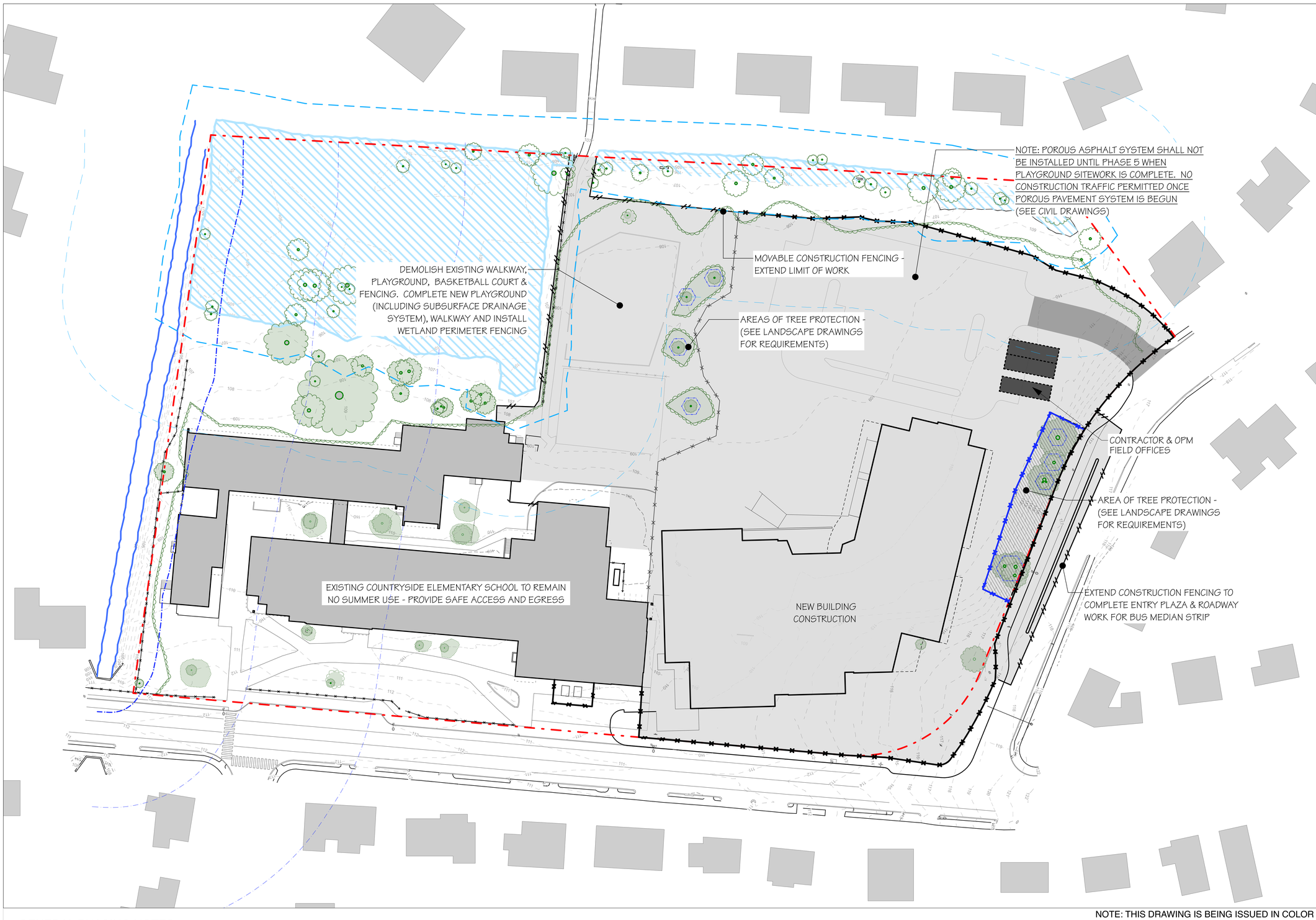

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KEY PLAN

N Called North

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: VL

Scale: 0 30 60

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Phasing - Phase 4

G.0.07

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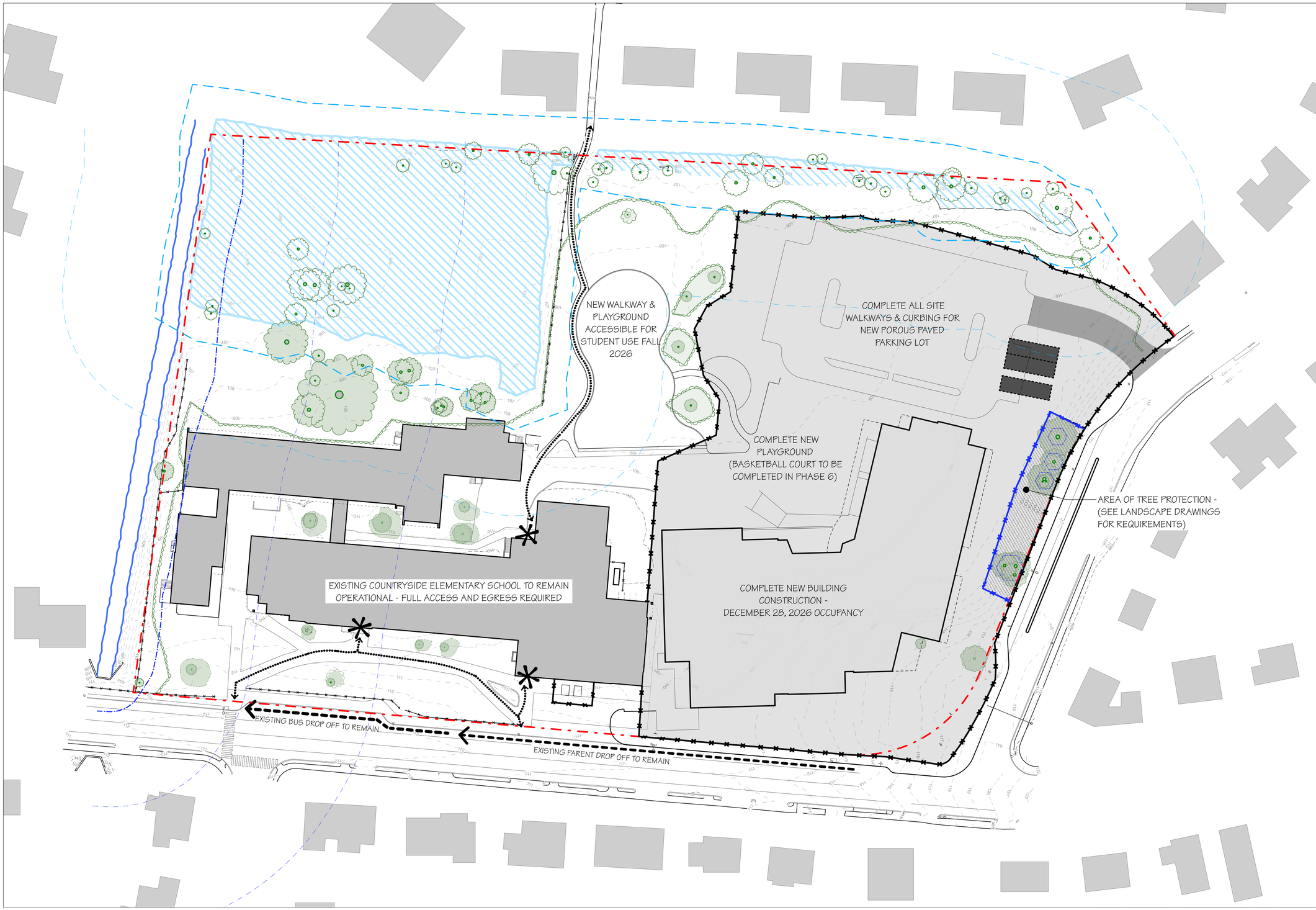

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Revisions

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DESIGN DEVELOPMENT

Phasing - Phase 5

G.0.08

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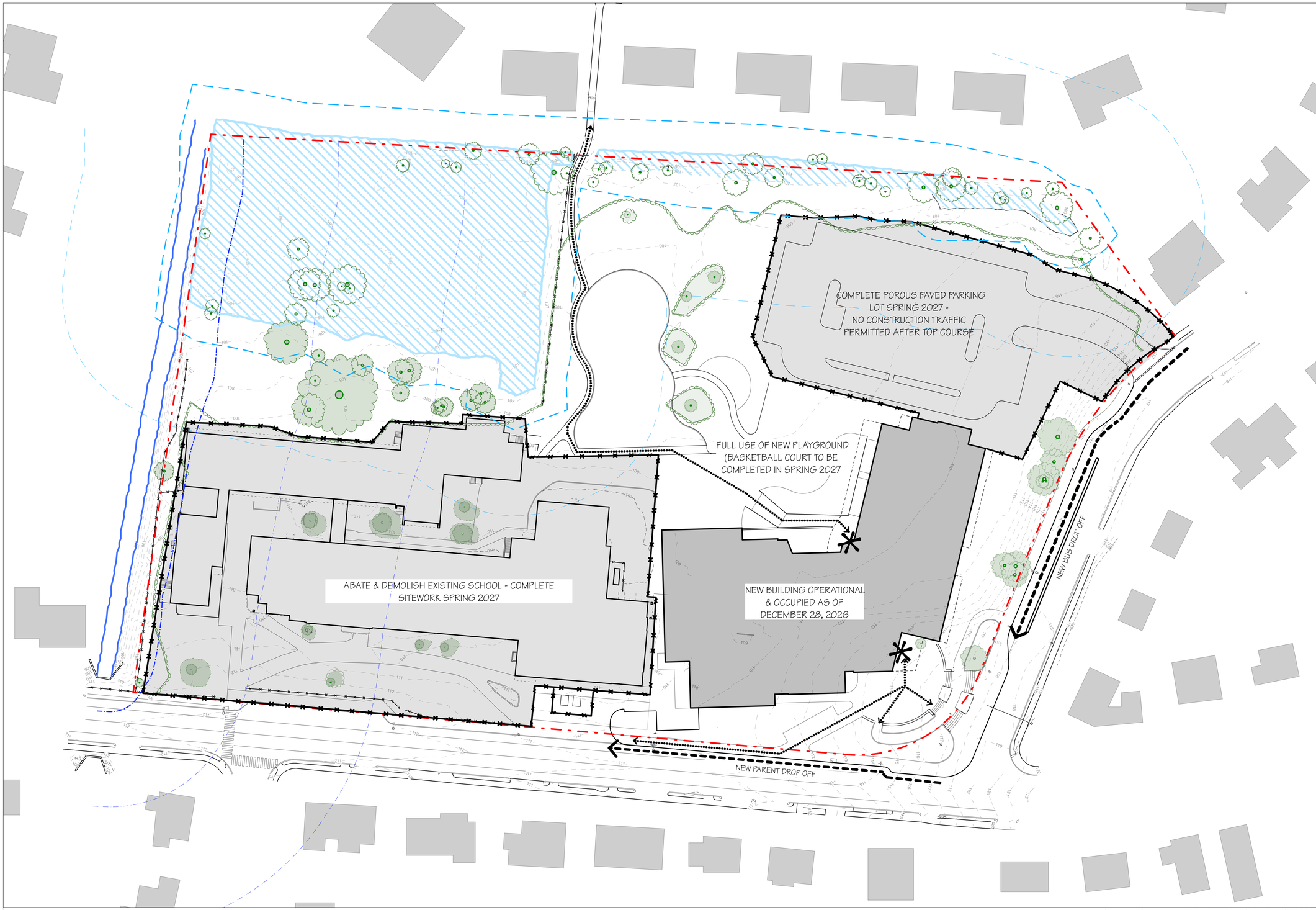

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THE PRINCIPAL GUIDELINES FOR UNDERGROUND UTILITY MAPPING ARE THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) CI/ASCE 38-02, STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA, 2003.

UTILITY QUALITY LEVEL INFORMATION INDEX (ASCE/CI 38-02):

QUALITY LEVEL D: "QLD". UTILITY INFORMATION PLOTTED ON THE DRAWING BASED SOLELY ON RECORD INFORMATION, INDIVIDUAL RECOLLECTIONS OR THE EXISTENCE OF UTILITY SERVICE. IT SHALL BE NOTED THAT ALL INFORMATION SHOWN (OTHER THAN AT TEST HOLE LOCATIONS, SEE "QLA" BELOW), INCLUDE BUT NOT LIMITED TO UTILITY SIZE, CAPACITY, MATERIAL COMPOSITION, CONDITION OR SERVICE STATUS SHALL BE CONSIDERED "QLD" EVEN THOUGH THE UTILITY MAY BE PLOTTED AND LABELED AS "QLC" OR "QLB".

QUALITY LEVEL C: "QLC". UTILITY INFORMATION OBTAINED AS ABOVE FOR QUALITY LEVEL D, PLOTTED TO CORRELATE WITH SURFACE UTILITY FEATURES WHICH HAVE BEEN FIELD VERIFIED, SURVEY LOCATED AND ACCURATELY REDUCED ONTO THE DESIGN/CONSTRUCTION DOCUMENTS. INCLUDED IN THIS CATEGORY ARE UTILITY DEPICTIONS, WHICH IN THE PROFESSIONAL OPINION OF THE SUBSURFACE UTILITY ENGINEER REPRESENT THE MOST PROBABLE APPROXIMATE HORIZONTAL LOCATION, TYPE AND/OR EXISTENCE OF A UTILITY.

QUALITY LEVEL B: "QLB". UTILITY INFORMATION DERIVED BY ESTABLISHING THE SURFACE HORIZONTAL LOCATION OF A UTILITY USING ELECTRONIC METHODS. SAID INFORMATION IS SUBSEQUENTLY FIELD LOCATED AND ACCURATELY REDUCED ONTO THE DESIGN/CONSTRUCTION DOCUMENTS.

QUALITY LEVEL A: "QLA". UTILITY INFORMATION WHICH HAS BEEN VISUALLY VERIFIED, SURVEY LOCATED (BOTH HORIZONTALLY AND VERTICALLY) AND ACCURATELY REDUCED ONTO THE DESIGN/CONSTRUCTION DOCUMENTS. THIS IS TYPICALLY SHOWN AS A TEST HOLE OR OTHER DIMENSIONED INFORMATION.

ALL UNDERGROUND UTILITIES SHOWN HEREON ARE QUALITY LEVEL "D" (QLD) PER ASCE STANDARD 38-02 DESIGNATION UNLESS OTHERWISE NOTED. THEY ARE APPROXIMATE ONLY AND WERE COMPILED ACCORDING AND WERE COMPILED ACCORDING TO AVAILABLE RECORDS FROM THE VARIOUS COMPANIES AND PUBLIC AGENCIES. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD. BEFORE DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORATION, REPAVING OR OTHER CONSTRUCTION, ALL UTILITY COMPANIES MUST BE NOTIFIED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN. SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS. CALL "DIG-SAFE" AT 1-888-344-7233 OR DIAL 811. DGT SURVEY GROUP ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE FUTURE CONNECTIONS, THE APPROPRIATE UTILITY ENGINEERING DEPARTMENTS MUST BE CONSULTED.

UTILITY LEGEND

QUALITY LEVEL "A" INFORMATION ("QLA")

C-QLA	COMMUNICATIONS: CABLE TELEVISION, ALARM OR SIGNAL LINES
D-QLA	DRAIN
E-QLA	ELECTRIC: ELEC. POWER LINES, CABLES, CONDUIT & LIGHTING CABLES
FO-QLA	COMMUNICATIONS: FIBER OPTIC
G-QLA	PRODUCT: GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS
S-QLA	SEWER
T-QLA	COMMUNICATIONS: TELEPHONE
U-QLA	UNVERIFIED / UNKNOWN UTILITY TYPE
W-QLA	WATER: LOW PRESSURE, HIGH PRESSURE, FIRE SERVICE

QUALITY LEVEL "B" INFORMATION ("QLB")

C-QLB	COMMUNICATIONS: CABLE TELEVISION, ALARM OR SIGNAL LINES
D-QLB	DRAIN
E-QLB	ELECTRIC: ELEC. POWER LINES, CABLES, CONDUIT & LIGHTING CABLES
FO-QLB	COMMUNICATIONS: FIBER OPTIC
G-QLB	PRODUCT: GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS
S-QLB	SEWER
T-QLB	COMMUNICATIONS: TELEPHONE
U-QLB	UNVERIFIED / UNKNOWN UTILITY TYPE
W-QLB	WATER: LOW PRESSURE, HIGH PRESSURE, FIRE SERVICE

QUALITY LEVEL "C" INFORMATION ("QLC")

C-QLC	COMMUNICATIONS: CABLE TELEVISION, ALARM OR SIGNAL LINES
D-QLC	DRAIN
E-QLC	ELECTRIC: ELEC. POWER LINES, CABLES, CONDUIT & LIGHTING CABLES
FO-QLC	COMMUNICATIONS: FIBER OPTIC
G-QLC	PRODUCT: GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS
S-QLC	SEWER
T-QLC	COMMUNICATIONS: TELEPHONE
U-QLC	UNVERIFIED / UNKNOWN UTILITY TYPE
W-QLC	WATER: LOW PRESSURE, HIGH PRESSURE, FIRE SERVICE

QUALITY LEVEL "D" INFORMATION ("QLD")

C	COMMUNICATIONS: CABLE TELEVISION, ALARM OR SIGNAL LINES
D	DRAIN
E	ELECTRIC: ELEC. POWER LINES, CABLES, CONDUIT & LIGHTING CABLES
FO	COMMUNICATIONS: FIBER OPTIC
G	PRODUCT: GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS
S	SEWER
T	COMMUNICATIONS: TELEPHONE
U	UNVERIFIED / UNKNOWN UTILITY TYPE
W	WATER: LOW PRESSURE, HIGH PRESSURE, FIRE SERVICE

NOTES

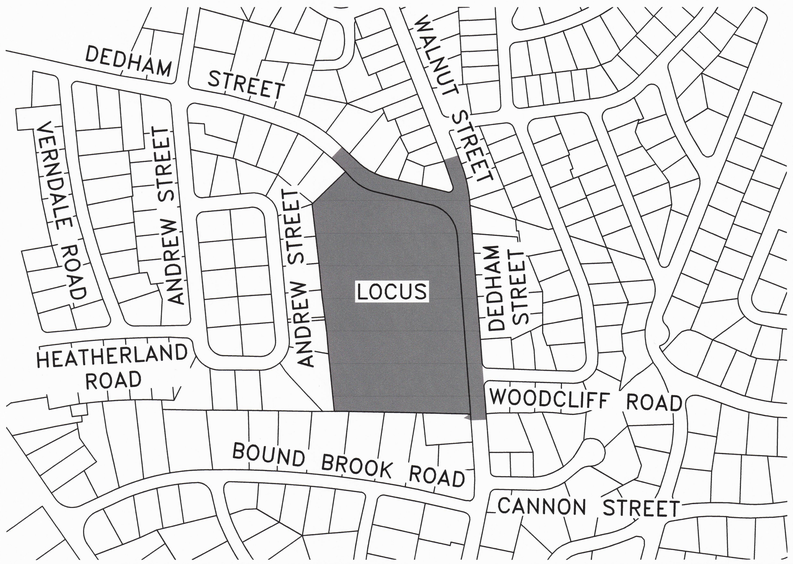
1. RECORD OWNER IS CITY OF NEWTON. SEE REGISTRATION BK. 572 PG. 13 & DEED BK. 7743 PG. 462.
2. ELEVATIONS REFER TO THE NAVD88 DATUM, DETERMINED BY GPS OBSERVATIONS USING GEOID18.
3. SEE NEWTON ASSESSOR'S PARCEL 83006 0011.
4. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT ASSESSOR'S RECORDS.
5. SEE MIDDLESEX SOUTH DISTRICT REGISTRY OF DEEDS FOR RECORD DOCUMENTS.
6. TOPOGRAPHIC FEATURES, SITE DETAILS AND SIGNIFICANT IMPROVEMENTS DEPICTED HEREON, WERE OBTAINED FROM A FIELD SURVEY CONDUCTED BY DGT ASSOCIATES IN JULY & NOVEMBER 2022 AND AUGUST 2023.
7. THIS TOPOGRAPHIC SURVEY BY DGT ASSOCIATES WAS PREPARED TO MEET NATIONAL MAP ACCURACY STANDARDS AT A SCALE OF 1"=20' HORIZONTALLY AND A 1 FOOT CONTOUR INTERVAL VERTICALLY. ANY REPRODUCTIONS OR RESCALING MAY AFFECT THE MAP ACCURACY.
8. WETLAND FLAGGING WAS CONDUCTED ON JULY 5, 2022 BY FREDERICK KING FROM DGT ASSOCIATES, INC.
9. THIS PARCEL LIES IN ZONE X WITH "NO SCREEN" (AREA OF MINIMAL FLOOD HAZARD); ZONE X "SCREENED" (0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE); AND ZONE AE (SPECIAL FLOOD HAZARD AREA) AS SHOWN ON FEMA FLOOD INSURANCE RATE MAPS NUMBER 25017C0554E & 25017C0562E DATED JUNE 4, 2010.
10. THE ELEVATION OF FLOOD ZONE AE IS 112.4 (NAVD88) FOR THIS PORTION OF SOUTH MEADOW BROOK IN BOTH THE CURRENT FEMA FLOOD INSURANCE STUDY NUMBER 25017CV007C DATED JULY 6, 2016 (WITH CORRECTIONS DATED APRIL 4, 2017) AND THE PRELIMINARY FLOOD INSURANCE STUDY NUMBER 25017CV014D DATED AUGUST 13, 2021, AND IS SHOWN ON THIS PLAN BASED ON THE GROUND ELEVATIONS SURVEYED BY DGT ASSOCIATES, INC.
11. LEGAL STATUS OF EASEMENTS, WAYS, AND RESTRICTIONS NOT DETERMINED BY THIS SURVEY.

LEGEND

AC		ASPHALT CURB	INV=		INVERT ELEVATION OF PIPE
BANK#3	▲	RIVER BANK FLAG	LP	☼	LIGHT POLE
B.M.	◆	BENCH MARK	MAHW#3	▲	MEAN ANNUAL HIGH WATER FLAG
BP	●	BOLLARD OR GUARD POST	MH	⊙	MAN HOLE
CB	■	CATCH BASIN	MH	▣	SQUARE MAN HOLE
CC		CONCRETE CURB	MW	◒	MONITORING WELL
CLF		CHAIN LINK FENCE	N/F		NOW OR FORMERLY
CONC.		CONCRETE	POST	○	POST
CSW		CONCRETE SIDEWALK	RCB	●	ROUND CATCH BASIN
DMH	◎	DRAIN MANHOLE	RET-WALL		RETAINING WALL
EHH	▣	ELECTRIC HAND HOLE/PULL BOX	SGC		SLOPED GRANITE CURB
EMH	Ⓔ	ELECTRIC MANHOLE		┤	SIGN
EOP		EDGE OF PAVEMENT	SIGN POST	○	SIGN POST
FF=	◆	FINISHED FLOOR ELEVATION	SILL=522.33	◆	SILL ELEVATION
FP	○	FLAG POLE	SLAB=518.11	◆	GARAGE SLAB ELEVATION
GC		GRANITE CURB	SMH	Ⓢ	SEWER MANHOLE
GG	■	GAS GATE		+125.33	SPOT ELEVATION, HARD SURFACE
GM	●	GAS METER		+125.3	SPOT ELEVATION, SOFT GROUND
GP	○	GUY POLE	T3-P3	◆	WETLAND TRANSECT BORING
GW	○	GUY WIRE	TOC=125.33	◆	TOP OF CONCRETE ELEVATION
HW		HEAD WALL	TOW=522.3	◆	TOP OF WALL ELEVATION
HYD	◆	HYDRANT		┼	TRAFFIC SIGNAL
			UP	○	UTILITY POLE
			UP W/	○-○	UTILITY POLE WITH LIGHT
			WF#A2	▲	WETLAND FLAG
			WG	⋈	WATER GATE
			WSO	⋈	WATER SHUT-OFF

BOUNDARY MONUMENTS OR MARKERS

(F)		FOUND
SBDH	■	STONE BOUND WITH DRILL HOLE



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KEY PLAN

NORTH ARROW

COMMONWEALTH OF MASSACHUSETTS
PETER A. LOTHIAN
NO. 40978
REGISTERED PROFESSIONAL ENGINEER AND SURVEYOR
9/15/2023

Date: 12 FEBRUARY 2024

Drawn By: DGT

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Existing Conditions Site Plan - Site Survey EC-1

1.0.01

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KEY PLAN

NORTH ARROW

COMMONWEALTH OF MASSACHUSETTS
PETER A. LOTHIAN
NO. 40078
PROFESSIONAL LAND SURVEYOR
9/15/2023

Date: 12 FEBRUARY 2024

Drawn By:

Scale: 0 20 40

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Existing Conditions Site Plan - Site Survey EC-2

1.0.02

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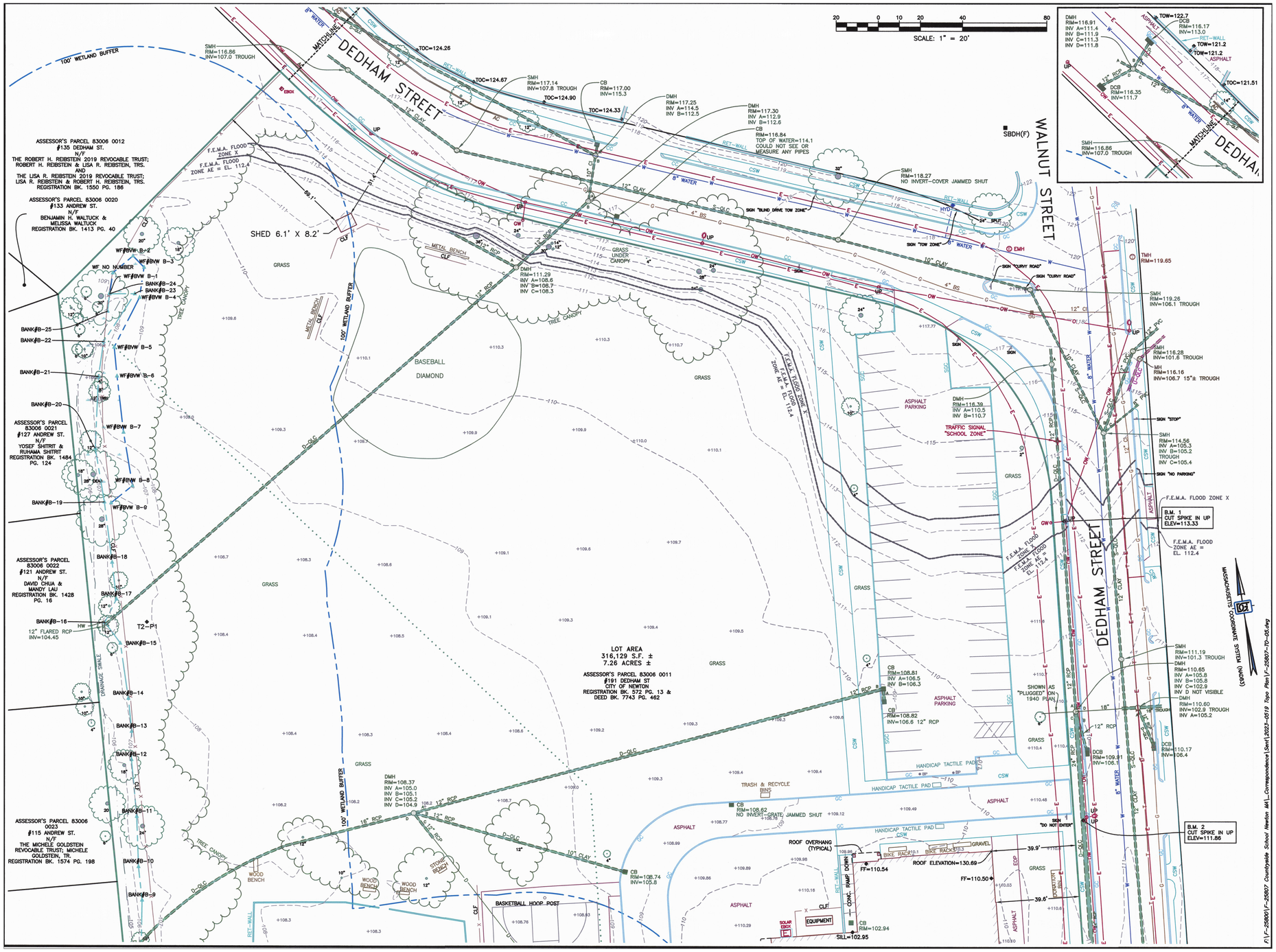

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KEY PLAN

NORTH ARROW

COMMONWEALTH OF MASSACHUSETTS
PETER A. LOTHAN
NO. 43078
PROFESSIONAL LAND SURVEYOR
9/15/2023

Date: 12 FEBRUARY 2024

Drawn By:

Scale: 0 20 40

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Existing Conditions Site Plan - Site Survey EC-3

1.0.03

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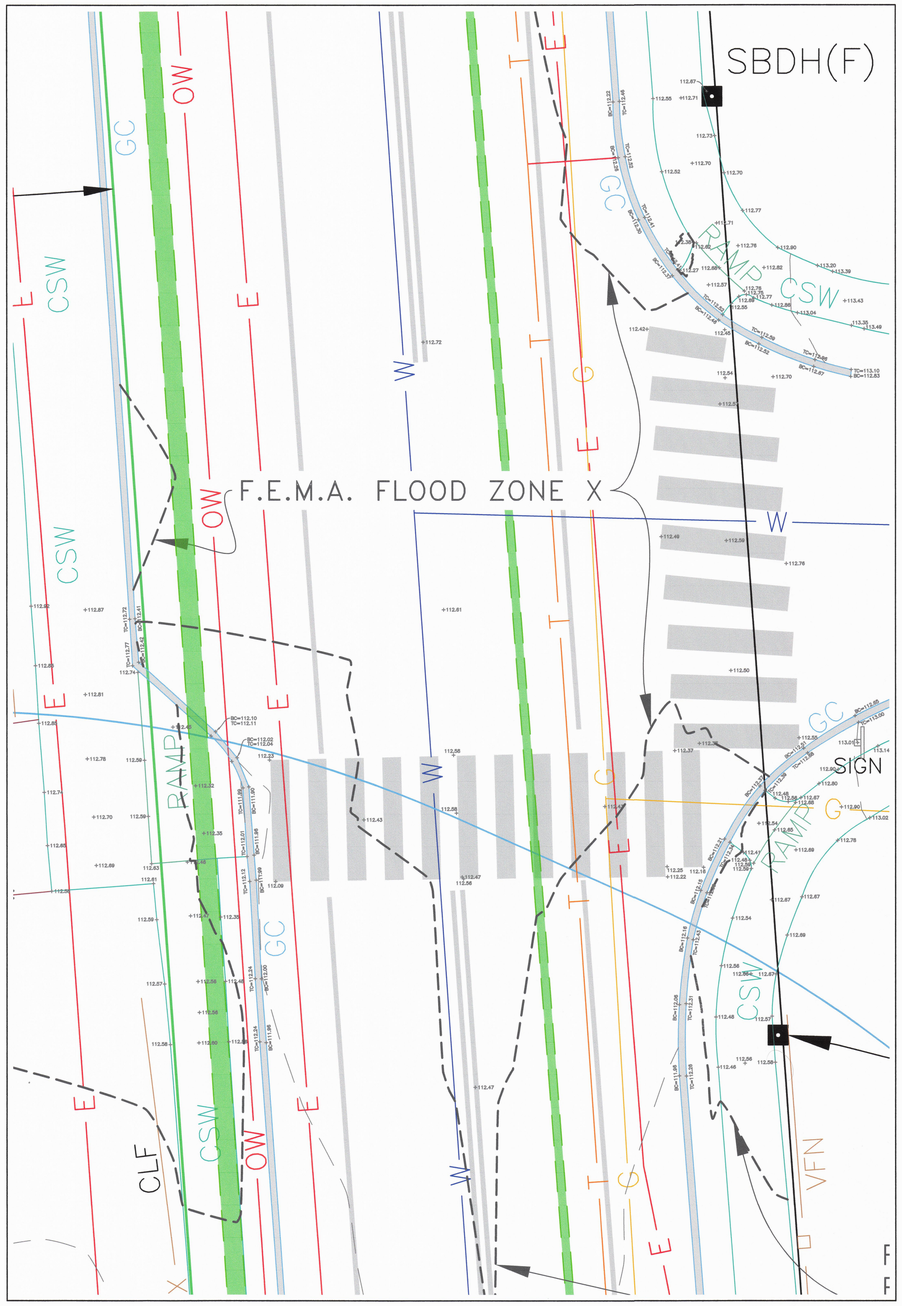
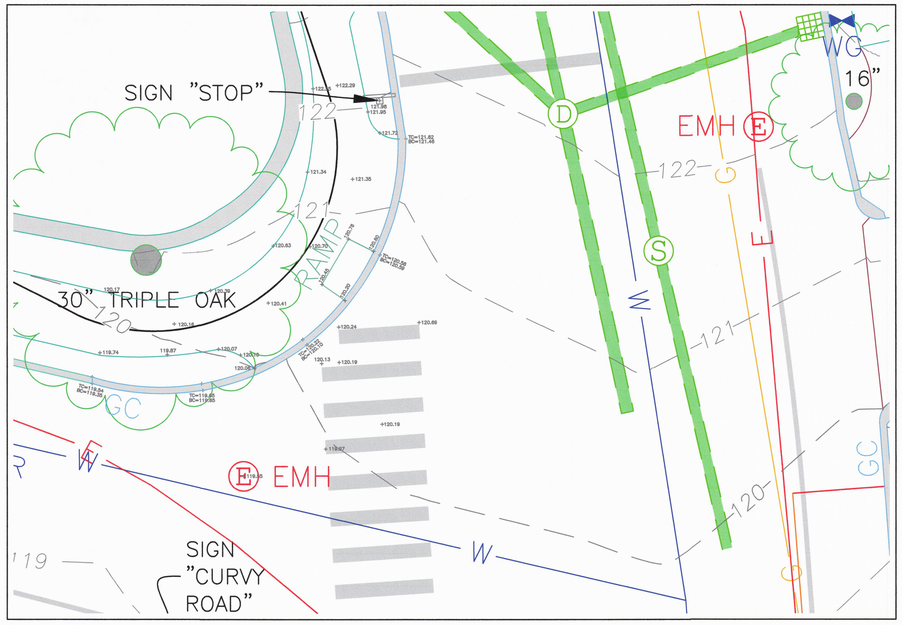
SCALE: 1" = 5'

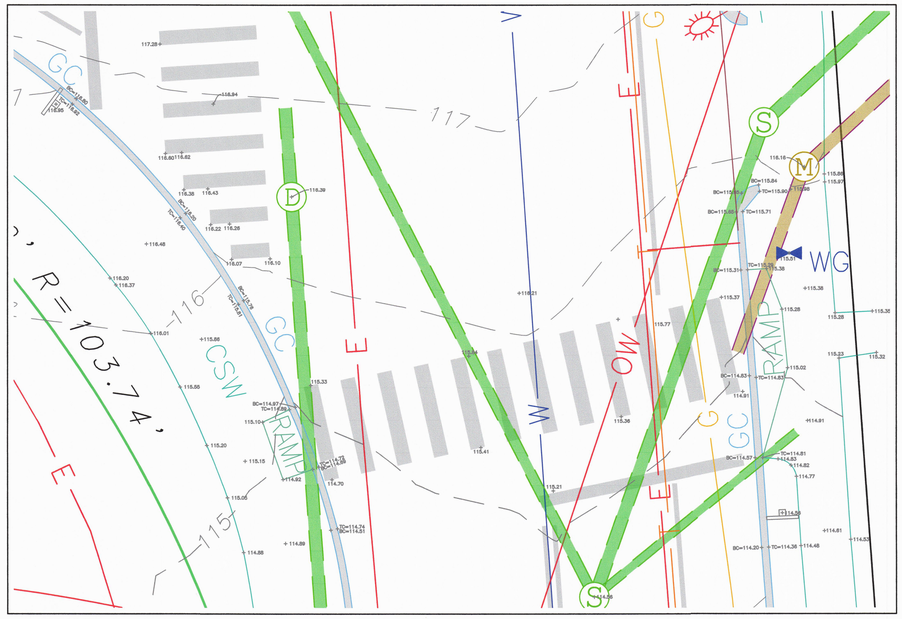
CROSSWALK DETAIL 1



CROSSWALK DETAIL 2



CROSSWALK DETAIL 3



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KEY PLAN

NORTH ARROW

COMMONWEALTH OF MASSACHUSETTS
PETER A. LOTHIAN
NO. 40978
REGISTERED PROFESSIONAL ENGINEER
AND SURVEYOR
9/15/2023

Date: 12 FEBRUARY 2024

Drawn By:

Scale: 0 5 10

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Existing Conditions Site Plan - Site Survey EC-4

1.0.04

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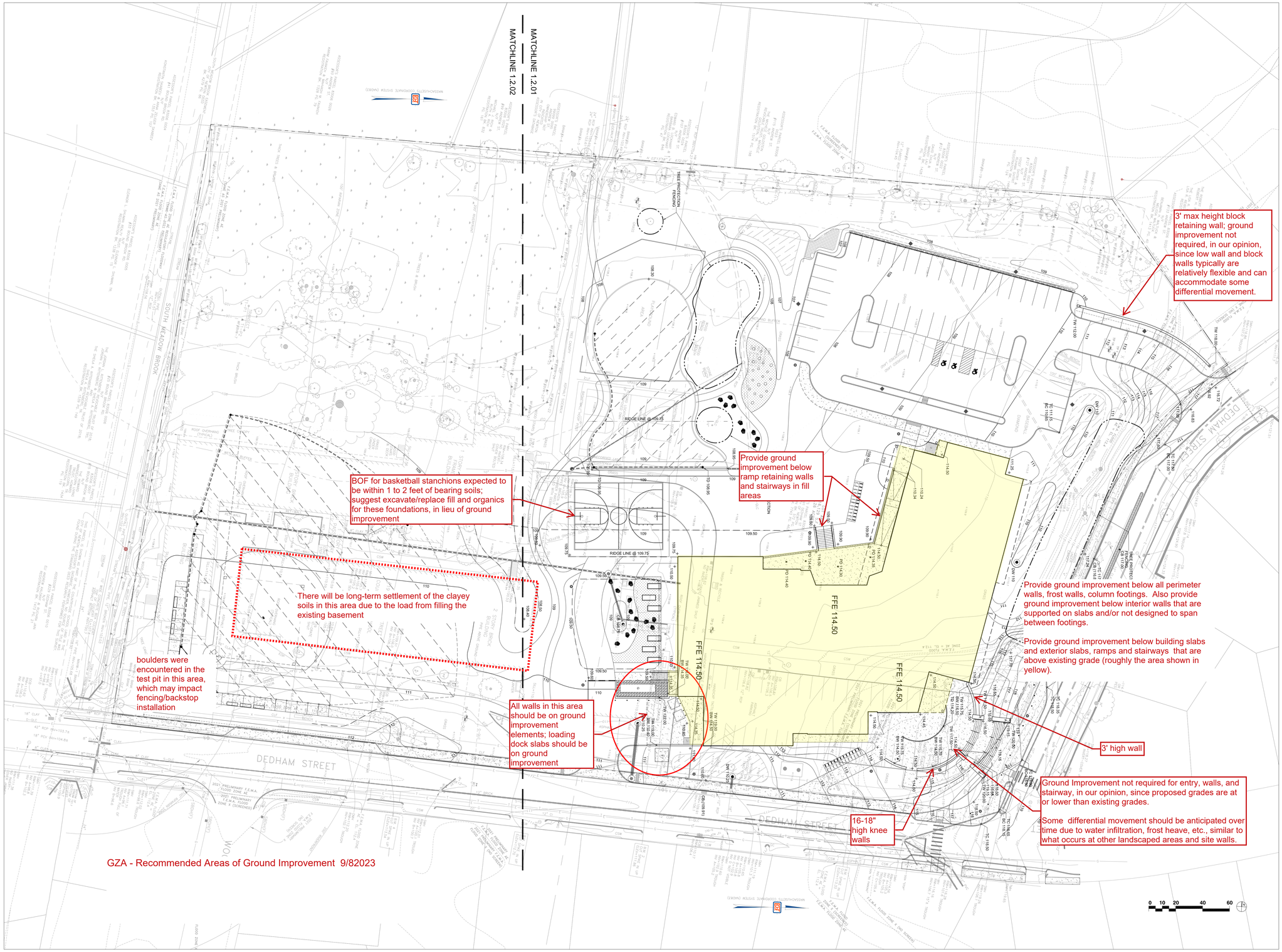
COUNTRYSIDE ELEMENTARY SCHOOL

Newton,, MA



GZA - Recommended Areas of Ground Improvement 9/82023

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By:

Scale: 0 30 60

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Ground Improvements Plan

1.0.05

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MATERIAL LEGEND	
ABBREVIATIONS	
HC	CURB CUT RAMP
PL	PLANTING AREA
EJ	EXPANSION JOINT
SEJ	SUBBASE EXPANSION JOINT
PED	PEDESTRIAN PAVEMENT
VEH	VEHICULAR PAVEMENT
SIM	SIMILAR
VIF	VERIFY IN THE FIELD
G	GENERATOR
T	TRANSFORMER

MATERIAL NOTES

1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION ON AND DEFINITIONS OF MATERIALS AND SITE IMPROVEMENTS SHOWN ON THIS PLAN.
2. REFER TO CIVIL DRAWINGS FOR:
   - 2.1. VEHICULAR PAVING AND CURBING LAYOUT.
   - 2.2. LINE PAINT AND LAYOUT OF CROSSWALKS, STOP LINES, PARKING SPACES, ACCESSIBLE PARKING MARKINGS AND ALL OTHER PAVEMENT MARKINGS.
   - 2.3. DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.
3. REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION ON SITE LIGHTING. LIGHTING LOCATIONS SHOWN FOR CONTEXT ONLY.
4. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION ON MISCELLANEOUS SITE IMPROVEMENTS.
5. CONTRACTOR TO FIELD VERIFY ALL SIDEWALK ELEVATIONS AND CURB CONDITIONS PRIOR TO INSTALLATION OF CROSSWALKS AND CURB CUTS ACROSS THE ABUTTING STREETS.
6. AREAS OUTSIDE THE LIMITS OF WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.
7. IT IS ASSUMED, TOTAL STATION OR SIMILAR WILL BE USED TO LAYOUT THE SITE IMPROVEMENTS.

WOOD GUARDRAIL
DETECTABLE TACTILE WARNING TILES - REPLACEABLE 7 1.5.01
SEGMENTAL RETAINING WALL 11 1.5.02
WOOD GUARDRAIL
POROUS BITUMINOUS CONCRETE PAVEMENT - VEHICULAR REFER TO CIVIL
18' LIGHT POLE, TYP
GRANITE CURBING, TYP REFER TO CIVIL
CONCRETE PAVEMENT - VEHICULAR @ APRON 3 1.5.01
(7) METAL BOLLARD TYP 5 1.5.02
DECORATIVE AGGREGATE 5 1.5.05
CONCRETE ACCESSIBLE RAMP WITH METAL HANDRAILS 2 1.5.04 3 1.5.04 5 1.5.04
CONCRETE STAIR C 5 1.5.03
PEDESTRIAN GUARDRAIL 2 1.5.05
CONCRETE STAIR HANDRAIL C 1 1.5.04
CURB CUT RAMP - TYPE 1 4 1.5.01
GRANITE CURBING TYP, REFER TO CIVIL
VEHICULAR PAVEMENT LINE STRIPING, REFER TO CIVIL
GRANITE FLUSH CURB REFER TO CIVIL
BITUMINOUS CONCRETE VEHICULAR AND ASPHALT COLOR PLAY SURFACING 3 1.5.01
(2) BASKETBALL HOOP TYP. 2 1.5.02
(12) BIKE RACK 3 1.5.02
(12) STONE BOULDER 7 1.5.05
BASKETBALL COURT W/ COLORED PLAY SURFACE 9 1.5.05
TRENCH DRAIN 12 1.5.02
(20) WOOD TRUNK SEAT 4 1.5.05
STONE DUST PAVING 6 1.5.05
BITUMINOUS CONCRETE PAVEMENT - PEDESTRIAN 1 1.5.01
PLAYGROUND SAFETY SURFACE 1 1.5.02
FLUSH GRANITE CURB 1B 1.5.02
BITUMINOUS CONCRETE PAVEMENT - PEDESTRIAN 1 1.5.01
4' CHAIN LINK FENCE 9 1.5.02
4' CHAIN LINK FENCE - ADD ALT 1 9 1.5.02
(8) BENCH TYP

CONCRETE PAVEMENT - PEDESTRIAN 2 1.5.01
GRANITE VERTICAL CURB REFER TO CIVIL
CONCRETE PAVEMENT - PEDESTRIAN 2 1.5.01
CURB CUT RAMP - TYPE 3 6 1.5.01
GRANITE VERTICAL CURB REFER TO CIVIL
CURB CUT RAMP - TYPE 1 4 1.5.01
CONCRETE STAIR A 1 1.5.03
(16) DECORATIVE METAL BOLLARD, TYP 7 1.5.02
CONCRETE PAVEMENT - PEDESTRIAN 2 1.5.01
GRANITE CURBING (TYP) REFER TO CIVIL
CONCRETE PAVEMENT PEDESTRIAN BETWEEN CURBING 2 1.5.01
ALUMINUM FENCING AT BUS DROP OFF 4 1.5.02
CONCRETE SEAT WALL 10 1.5.02
CONCRETE STAIRS A 1 1.5.03
CONCRETE STAIR HANDRAIL A 2 1.5.03
CONCRETE SEAT WALL 10 1.5.02
TRENCH DRAIN 12 1.5.02
FLAG POLE 8 1.5.05
PEDESTRIAN POLE LIGHT TYP, REFER TO ELECTRIAL
12 1.5.02 TRENCH DRAIN
CONCRETE WALL, REFER TO STRUCTURAL
2 1.5.05 PEDESTRIAN GUARDRAIL
12 1.5.02 TRENCH DRAIN
TREE TRENCH REFER TO CIVIL

GRANITE VERTICAL CURB REFER TO CIVIL
3 1.5.02 (12) BIKE RACK
2 1.5.01 CONCRETE PAVEMENT - PEDESTRIAN
3 1.5.05 (6) WOOD PLANTER
6 1.5.05 STONE DUST PAVING
1 1.5.01 BITUMINOUS CONCRETE PAVEMENT - VEHICULAR
7 1.5.05 (12) STONE BOULDERS
CONCRETE CHEEK WALL, REFER TO ARCH.
LOADING DOCK AND STAIRS - REFER TO ARCH
MASONRY WALL W/ DECORATIVE METAL SCREEN, REFER TO ARCH
5" 1.5.02 (21) METAL BOLLARD
3 1.5.01 CONCRETE PAVEMENT - VEHICULAR
5 1.5.05 DECORATIVE AGGREGATE
3 1.5.03 4 1.5.03 CONCRETE STAIR B W/ METAL HANDRAILS
7 1.5.01 DETECTABLE TACTILE WARNING TILES - REPLACEABLE
5 1.5.01 CURB CUT RAMP -TYPE 2
SIM 1.5.02 (1) METAL BOLLARD W/ CHAIN
MOUNTABLE GRANITE CURB REFER TO CIVIL
SIM 1.5.02 (1) METAL BOLLARD W/ CHAIN
3 1.5.01 CONCRETE PAVEMENT - VEHICULAR @ APRON
5 1.5.01 CURB CUT RAMP -TYPE 2
7 1.5.01 DETECTABLE TACTILE WARNING TILES - REPLACEABLE
1 1.5.01 BITUMINOUS CONCRETE PAVEMENT - PEDESTRIAN
2 1.5.01 CONCRETE PAVEMENT - PEDESTRIAN

MATCHLINE 1.1.01

MATCHLINE 1.1.02

0 10 20 40 60

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100% DESIGN DEVELOPMENT

KEY PLAN

Called North N

NORTH ARROW | STAMP

Date: 16 February 2024

Drawn By: NAB

Scale: 1" = 20'-0"

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Materials Plan

1.1.01

MATERIAL LEGEND	
ABBREVIATIONS	
HC	CURB CUT RAMP
PL	PLANTING AREA
EJ	EXPANSION JOINT
SEJ	SUBBASE EXPANSION JOINT
PED	PEDESTRIAN PAVEMENT
VEH	VEHICULAR PAVEMENT
SIM	SIMILAR
VIF	VERIFY IN THE FIELD
G	GENERATOR
T	TRANSFORMER

MATERIAL NOTES

1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION ON AND DEFINITIONS OF MATERIALS AND SITE IMPROVEMENTS SHOWN ON THIS PLAN.
2. REFER TO CIVIL DRAWINGS FOR:
   - 2.1. VEHICULAR PAVING AND CURBING LAYOUT.
   - 2.2. LINE PAINT AND LAYOUT OF CROSSWALKS, STOP LINES, PARKING SPACES, ACCESSIBLE PARKING MARKINGS AND ALL OTHER PAVEMENT MARKINGS.
   - 2.3. DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.
3. REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION ON SITE LIGHTING. LIGHTING LOCATIONS SHOWN FOR CONTEXT ONLY.
4. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION ON MISCELLANEOUS SITE IMPROVEMENTS.
5. CONTRACTOR TO FIELD VERIFY ALL SIDEWALK ELEVATIONS AND CURB CONDITIONS PRIOR TO INSTALLATION OF CROSSWALKS AND CURB CUTS ACROSS THE ABUTTING STREETS.
6. AREAS OUTSIDE THE LIMITS OF WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.
7. IT IS ASSUMED, TOTAL STATION OR SIMILAR WILL BE USED TO LAYOUT THE SITE IMPROVEMENTS.

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100% DESIGN DEVELOPMENT

KEY PLAN

NORTH ARROW | STAMP

Date: 16 February 2024

Drawn By: NAB

Scale: 1" = 20'-0"

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Materials Plan

1.1.02

GRADING LEGEND			
ABBREVIATIONS		*SYMBOLS*	
FFE	FINISHED FLOOR ELEVATION	50	PROPOSED CONTOUR (1 FOOT)
HP / LP	HIGH / LOW POINT	49.50	PROPOSED MID-CONTOUR (INTERVAL AS NOTED)
TC / BC	TOP / BOTTOM OF CURB	49.85	RIDGE LINE
TW / BW	TOP / BOTTOM OF WALL	+49.85	PROPOSED SPOT GRADE
TS / BS	TOP / BOTTOM OF STAIR	+(49.85)	EXISTING GRADE
TR / BR	TOP / BOTTOM OF RAMP	CB	CATCH BASIN, SEE CIVIL DWGS.
MEG	MEET EXISTING GRADE	PD	PAVEMENT DRAIN
FG	FINISH GRADE	YD	YARD DRAIN
D-INV	FLAT DRAIN INVERT	TD	TRENCH DRAIN
C-INV	COLLECTOR PIPE INVERT	CO / TM	CLEANOUT / TURF MANHOLE
			SOLID PVC PIPE
			PERFORATED FLEXIBLE PIPE
			PERFORATED FLAT DRAIN
			DRAINAGE STONE

GRADING NOTES

1. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED A SLOPE OF 1:50 (2%) IN ANY DIRECTION.
2. WALKWAY GRADES SHALL NOT HAVE SLOPES IN EXCESS OF 1:20 (5%) OR CROSS SLOPES IN EXCESS OF 1:50 (2%), UNLESS OTHERWISE NOTED.
3. WALK GRADIENTS AND CROSS SLOPES SHOWN ON THE GRADING PLANS ARE WITHIN, OR LESS THAN, THE REQUIREMENTS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD'S (MAAB) REGULATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONSTRUCT THE WORK SO THAT IT IS COMPLIANT WITH ALL REQUIRED REGULATIONS. NOTE THAT THE MAXIMUM GRADIENTS WITHIN THE REGULATIONS DO NOT RECOGNIZE "CONSTRUCTION TOLERANCES." EXCEEDING THE MAXIMUM GRADIENTS IN THE REGULATIONS IS ENTIRELY AT THE CONTRACTOR'S RISK. THE CONTRACTOR SHALL VERIFY IN WRITING THAT ALL WALKS HAVE BEEN CONSTRUCTED IN COMPLIANCE WITH THE MAAB'S REGULATIONS.
4. ARROWS ASSOCIATED WITH SUBDRAINAGE PIPING ANNOTATE FLOW DIRECTION.
5. REFER TO CIVIL DRAWINGS FOR INFORMATION ON ALL STORM DRAINAGE STRUCTURES, PIPING OF STORM DRAINAGE SYSTEM, AND ALL OTHER RELATED UTILITY STRUCTURES.

MATCHLINE 1.2.01

MATCHLINE 1.2.02

0 10 20 40 60

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100% DESIGN DEVELOPMENT

KEY PLAN

Called North N

NORTH ARROW | STAMP

Date: 16 February 2024

Drawn By: NAB

Scale: 1" = 20'-0"

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Grading Plan

1.2.01

GRADING LEGEND			
ABBREVIATIONS		*SYMBOLS*	
FFE	FINISHED FLOOR ELEVATION	50	PROPOSED CONTOUR (1 FOOT)
HP / LP	HIGH / LOW POINT	49.50	PROPOSED MID-CONTOUR (INTERVAL AS NOTED)
TC / BC	TOP / BOTTOM OF CURB	49.85	RIDGE LINE
TW / BW	TOP / BOTTOM OF WALL	+49.85	PROPOSED SPOT GRADE
TS / BS	TOP / BOTTOM OF STAIR	+(49.85)	EXISTING GRADE
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D-INV	FLAT DRAIN INVERT	TD	TRENCH DRAIN
C-INV	COLLECTOR PIPE INVERT	CO / TM	CLEANOUT / TURF MANHOLE
			SOLID PVC PIPE
			PERFORATED FLEXIBLE PIPE
			PERFORATED FLAT DRAIN
			DRAINAGE STONE

GRADING NOTES

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4. ARROWS ASSOCIATED WITH SUBDRAINAGE PIPING ANNOTATE FLOW DIRECTION.
5. REFER TO CIVIL DRAWINGS FOR INFORMATION ON ALL STORM DRAINAGE STRUCTURES, PIPING OF STORM DRAINAGE SYSTEM, AND ALL OTHER RELATED UTILITY STRUCTURES.

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100% DESIGN DEVELOPMENT

KEY PLAN

Called North N

NORTH ARROW | STAMP

Date: 16 February 2024

Drawn By: NAB

Scale: 1" = 20'-0"

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Grading Plan

1.2.02

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MATCHLINE - SEE SHEET 1.3.02
MATCHLINE - SEE SHEET 1.3.03

KEY PLAN

NORTH ARROW (Grid North) | STAMP

Date:	21 FEBRUARY 2024
Drawn By:	ABC
Scale:	1" = 30'

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

OVERALL VEHICULAR PAVEMENT LAYOUT & MATERIALS PLAN

1.3.01

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MATCHLINE - SEE SHEET 1.3.03

GRAPHIC SCALE
20 0 10 20 40 80
(in feet)
1 INCH = 20 FEET

KEY PLAN

NORTH ARROW | STAMP

Date: 21 FEBRUARY 2024
Drawn By: ABC
Scale: 1" = 20'

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

VEHICULAR PAVEMENT LAYOUT & MATERIALS PLAN (1)

1.3.02

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MATCHLINE - SEE SHEET 1.3.02

MATCHLINE - SEE SHEET 1.3.02

PLANTABLE CONCRETE PAVER SYSTEM

PAVED FLUME

STORMWATER TREATMENT AREA

BIKE RACKS

MOUNTABLE CURB 30 LF ±

CONCRETE SIDEWALK

BITUMINOUS ASPHALT

BITUMINOUS ASPHALT WALKING PATH (TYP)

SEE LANDSCAPE PLANS FOR PLAYGROUND LAYOUT AND MATERIALS

BASKETBALL HOOP POST

GAGA PIT

TRENCH DRAIN

PROPOSED BASKETBALL COURT

PROPOSED DRAINAGE STRUCTURE (TYP)

DUMPSTER PADS

LOADING DOCK

LANDSCAPED AREA (TYP)

GRANITE MOUNTABLE CURB 20 LF ±

STORMWATER TREATMENT AREA

WALL

TRANSFORMER PAD

B.M. 2
CUT SPIKE IN UP
ELEV=111.86

B.M. 3
CUT SPIKE IN UP
ELEV=112.70

B.M. 4
CUT SPIKE IN UP
ELEV=113.54

PROPERTY LINE

PROPERTY LINE (TYP)

WETLAND FLAG TYP.

ADA RAMP

PEDESTRIAN CROSSWALK

F.E.M.A. FLOOD ZONE AE = EL. 112.4

F.E.M.A. FLOOD ZONE X

F.E.M.A. FLOOD ZONE AE REGULATORY FLOODWAY (SAME AS ON 2021 PRELIMINARY FLOOD MAP)

TRANSECT T1–P1 T1–P2

100' WETLAND BUFFER

100' RIPARIAN ZONE

200' RIVERFRONT

25' NO–DISTURB

ROOF OVERHANG (TYPICAL)

2 STORY BRICK BUILDING

1 STORY WOOD FRAME BUILDING

1 STORY PASSAGEWAY

1 STORY BRICK BUILDING

1 STORY WOOD FRAME BUILDING

#191 DEDHAM STREET
COUNTRYSIDE SCHOOL

SOUTH MEADOW BROOK

STREAM

DEDHAM STREET

WOOD

ASSESSOR'S PARCEL 83006 0023
#115 ANDREW ST.
N/F
THE MICHELE GOLDSTEIN REVOCABLE TRUST; MICHELE GOLDSTEIN, TR.
REGISTRATION BK. 1574 PG. 198

ASSESSOR'S PARCEL 83006 0024
#107 ANDREW ST.
N/F
EDWARD B. LOCKHART & BARBARA LOCKHART
REGISTRATION BK. 846 PG. 47

ASSESSOR'S PARCEL 99099 0095
ANDREW ST.
OWNERSHIP NOT INDICATED IN CITY OF NEWTON ASSESSOR'S DATABASE

ASSESSOR'S PARCEL 83006 0025
#99 ANDREW ST.
N/F
MICHAEL J. RICH & RUTH A. RICH
REGISTRATION BK. 832 PG. 161

ASSESSOR'S PARCEL 83006 0026
#93 ANDREW ST.
N/F
KARIM FAVAKEH & MAHVASH M. FAVAKEH
REGISTRATION BK. 1328 PG. 79

ASSESSOR'S PARCEL 83006 0004
#41 BOUND BROOK RD.
N/F
KONSTANTIN SKABEEV & ANNA ZELIGER SKABEEV
REGISTRATION BK. 1353 PG. 107

ASSESSOR'S PARCEL 83006 0005
#33 BOUND BROOK RD.
N/F
ELEANOR L. SHUMAN REALTY TRUST; ELEANOR L. SHUMAN, TR.
REGISTRATION BK. 1238 PG. 15

ASSESSOR'S PARCEL 83006 0006
#25 BOUND BROOK RD.
N/F
THE JORDAN L. RITTENBERG REVOCABLE TRUST OF 2018; JORDAN L. RITTENBERG & SHEILA A. RITTENBERG, TRS.
AND
THE SHEILA A. RITTENBERG REVOCABLE TRUST OF 2018; SHEILA A. RITTENBERG, TR.
REGISTRATION BK. 1539 PG. 149

ASSESSOR'S PARCEL 83006 0007
#15 BOUND BROOK RD.
N/F
THE HOWARD MANDELCORN LIVING TRUST; HOWARD MANDELCORN, TR.
REGISTRATION BK. 1434 PG. 119

THIS PARCEL IS SHOWN AS PART OF THE COUNTRYSIDE SCHOOL LAND IN THE CITY OF NEWTON ASSESSOR'S DATABASE, HOWEVER, NO SOURCE OF TITLE WAS FOUND DURING THE STANDARD DEED RESEARCH PERFORMED FOR THIS SURVEY.

ASSESSOR'S PARCEL 83006 0010
#229 DEDHAM ST.
N/F
ELI ANDREW KALDANY & RUCHIRA JAIN
REGISTRATION BK. 1473 PG. 21

ASSESSOR'S PARCEL 83006 0026
#191 DEDHAM ST
CITY OF NEWTON
REGISTRATION BK. 5572 PG. 137 &
DEED BK. 7745 PG. 402

MASSACHUSETTS COORDINATE SYSTEM (NAD83)

GRAPHIC SCALE
20 0 10 20 40 80
(in feet)
1 INCH = 20 FEET

KEY PLAN

NORTH ARROW — STAMP

Date: 21 FEBRUARY 2024

Drawn By: ABC

Scale: 1" = 20'

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

VEHICULAR PAVEMENT LAYOUT & MATERIALS PLAN (2)

1.3.03

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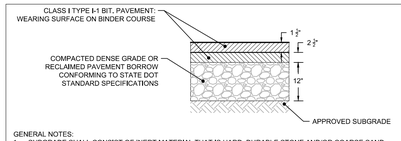
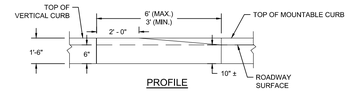
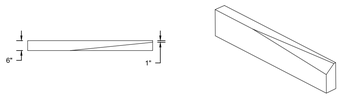


GENERAL NOTES:
1. SUBGRADE SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND/OR COARSE SAND, FREE FROM LOAM AND CLAY TO A DEPTH NOT LESS THAN 4-FT BELOW THE FINISH PAVEMENT SURFACE. EXCAVATE SANDY-LOAM AND/OR LOAMY-SAND TOPSOIL MATERIAL FROM ALL PAVED AREAS PRIOR TO SUB-BASE INSTALLATION.
2. COMPACT SUBGRADE FILL TO 95% COMPACTION.
3. SEE SITE PLAN FOR PAVEMENT LAYOUT.
4. SEE GRADING PLANS FOR PAVEMENT SLOPE AND CROSS SLOPE.
5. SWEEP CLEAN THE EXISTING BINDER COURSE SURFACE PRIOR TO INSTALLING THE WEARING COURSE BY A STREET SWEEPING MACHINE .
6. APPLY A TACK COAT PER SPECIFICATIONS.

BITUMINOUS PAVEMENT
NOT TO SCALE

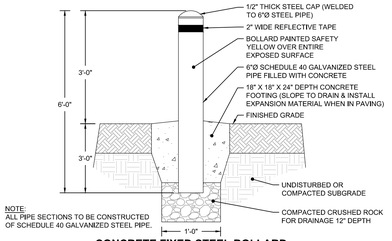


PROFILE



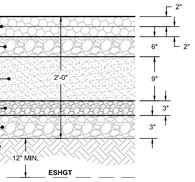
MOUNTABLE TO VERTICAL TRANSITION
NOT TO SCALE

TRAFFIC SIGN (STAFF PARKING ONLY)
NOT TO SCALE



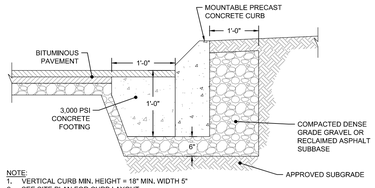
NOTE:
ALL PIPE SECTIONS TO BE CONSTRUCTED OF SCHEDULE 40 GALVANIZED STEEL PIPE.

CONCRETE FIXED STEEL BOLLARD
NOT TO SCALE



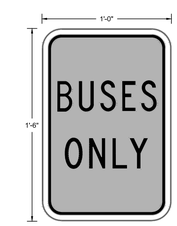
GENERAL NOTES:
1. SUBGRADE SHALL CONSIST OF INERT MATERIAL THAT IS FREE FROM DELETERIOUS MATERIAL TO A DEPTH NOT LESS THAN 12" BELOW THE FINISH PAVEMENT SURFACE.
2. SUBGRADE FILL SHALL BE COMPACTED TO 95% COMPACTION.
3. SEE SITE LAYOUT PLAN FOR PAVEMENT WIDTH AND LOCATION.
4. SEE GRADING PLANS FOR PAVEMENT SLOPE AND CROSS SLOPE.

POROUS ASPHALT SECTION
NOT TO SCALE

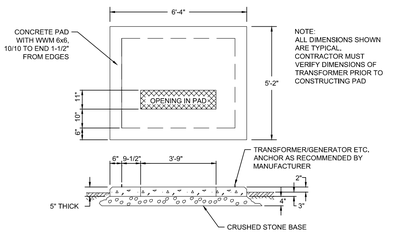


NOTE:
1. VERTICAL CURB MIN. HEIGHT = 18" MIN. WIDTH 5"
2. SEE SITE PLAN FOR CURB LAYOUT.
3. CEMENT JOINTS AND PROVIDE EXPANSION JOINTS AT 5'-0" TO 6'-0" O.C.
4. CURB REPLACEMENT IN EXISTING PAVEMENT SAWCUT EDGE 1'-0" FROM CURB.
5. CONCRETE CURB - PROVIDE ¾" CHAMFER ALONG PAVEMENT SIDE EDGE.
6. CONCRETE CURB - TO HAVE A MINIMUM CONCRETE STRENGTH OF 4,000 PSI

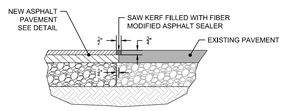
MOUNTABLE CONCRETE CURB
NOT TO SCALE



TRAFFIC SIGN (BUSES ONLY)
NOT TO SCALE

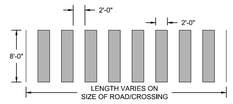


CONCRETE UTILITY PAD
NOT TO SCALE



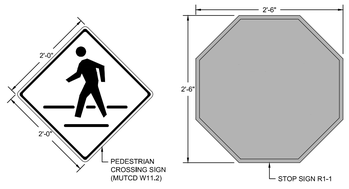
NOTES:
1. EXISTING BITUMINOUS PAVEMENT SHALL BE REMOVED TO A CLEAN STRAIGHT EDGE VIA SAW CUTTING. THE SAW CUT SHALL BE COMPLETED PERPENDICULAR TO THE ROADWAY/SIDEWALK.
2. PRIOR TO INSTALLING THE WEARING COURSE THE EXISTING VERTICAL PAVEMENT SURFACE SHALL BE SWEPT COMPLETELY CLEAN.
3. AFTER PROPER COMPACTION (SEE PAVEMENT DETAIL) SAW CUT NEW PAVEMENT ABUTMENT 3/4" DEEP AND FILL WITH FIBER MODIFIED ASPHALT SEALER AS SHOWN.

PAVEMENT PATCH
NOT TO SCALE

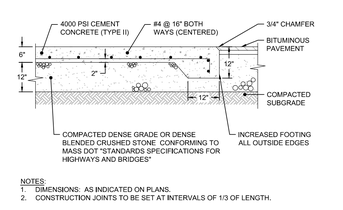


NOTES:
1. STRIPING TO BE NON-SKID.
2. PAINT LINES TO BE WHITE.

CROSSWALK STRIPING
NOT TO SCALE

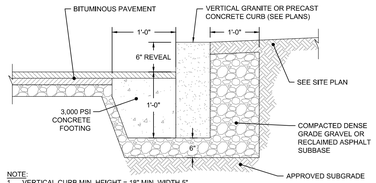


TRAFFIC SIGNS
NOT TO SCALE



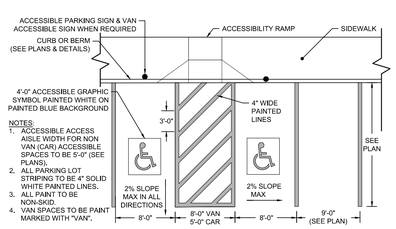
NOTES:
1. DIMENSIONS: AS INDICATED ON PLANS.
2. CONSTRUCTION JOINTS TO BE SET AT INTERVALS OF 1/3 OF LENGTH.

DUMPSTER PAD
NOT TO SCALE



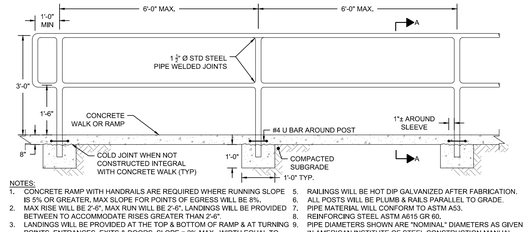
NOTE:
1. VERTICAL CURB MIN. HEIGHT = 18" MIN. WIDTH 5"
2. SEE SITE PLAN FOR CURB LAYOUT.
3. CEMENT JOINTS AND PROVIDE EXPANSION JOINTS AT 5'-0" TO 6'-0" O.C.
4. CURB REPLACEMENT IN EXISTING PAVEMENT SAWCUT EDGE 1'-0" FROM CURB.
5. CONCRETE CURB - PROVIDE ¾" CHAMFER ALONG PAVEMENT SIDE EDGE.
6. CONCRETE CURB - TO HAVE A MINIMUM CONCRETE STRENGTH OF 4,000 PSI

VERTICAL CURB
NOT TO SCALE



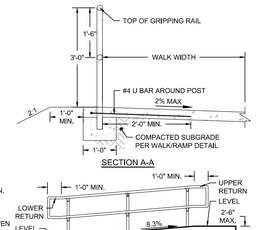
NOTES:
1. ACCESSIBLE ACCESS AISLE WIDTH FOR NON VAN (CAR) ACCESSIBLE SPACES TO BE 5'-0" (SEE PLANS).
2. ALL PARKING LOT STRIPING TO BE 4" SOLID WHITE PAINTED LINES.
3. ALL PAINT TO BE NON-SKID.
4. VAN SPACES TO BE PAINT MARKED WITH "VAN".

ACCESSIBLE & STANDARD PARKING SPACES
NOT TO SCALE



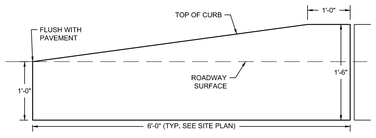
NOTES:
1. CONCRETE RAMP WITH HANDRAILS ARE REQUIRED WHERE RUNNING SLOPE IS 5% OR GREATER, MAX SLOPE FOR POINTS OF EGRESS WILL BE 8%,
2. MAX RISE WILL BE 2'-6", MAX RUN WILL BE 2'-6", LANDINGS WILL BE PROVIDED BETWEEN TO ACCOMMODATE RISES GREATER THAN 2'-6".
3. LANDINGS WILL BE PROVIDED AT THE TOP & BOTTOM OF RAMP & AT TURNING POINTS, ENTRANCES, EXITS & DOORS. SLOPE = 2% MAX., WIDTH EQUAL TO RAMP WIDTH, LENGTH = 5'-0" MIN.
4. LANDING FOR CHANGES IN DIRECTION WILL BE 5'-0" BY 5'-0" MIN.
5. RAILINGS WILL BE HOT DIP GALVANIZED AFTER FABRICATION.
6. ALL POSTS WILL BE PLUMB & RAILS PARALLEL TO GRADE.
7. PIPE MATERIAL WILL CONFORM TO ASTM A53.
8. REINFORCING STEEL ASTM A615 GR 60.
9. PIPE DIAMETERS SHOWN ARE "NOMINAL" DIAMETERS AS GIVEN IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.

CONCRETE RAMP WITH RAILING
NOT TO SCALE



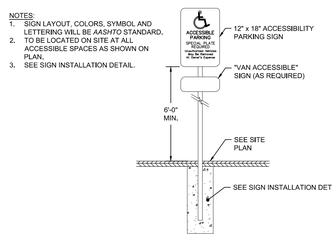
SECTION A-A

RUN SECTION



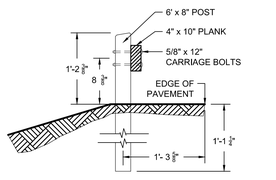
NOTES:
1. SEE VERTICAL CURB DETAIL FOR FOOTING AND SUBBASE REQUIREMENTS.
2. SEE ADA RAMP DETAILS FOR TRANSITION CURB PLACEMENT AND FULL DIMENSIONS.

FLUSH TO VERTICAL TRANSITION
NOT TO SCALE

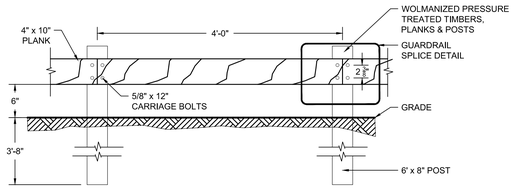


NOTES:
1. SIGN LAYOUT, COLORS, SYMBOL AND LETTERING WILL BE AASHTO STANDARD.
2. TO BE LOCATED ON SITE AT ALL ACCESSIBLE SPACES AS SHOWN ON PLAN.
3. SEE SIGN INSTALLATION DETAIL.

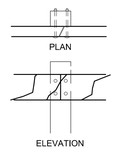
ACCESSIBLE PARKING SIGN
NOT TO SCALE



SECTION

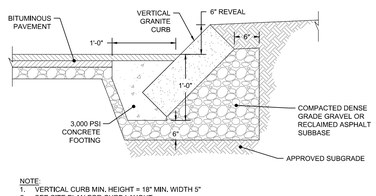


PROFILE



GUARDRAIL SPLICE

TIMBER GUARDRAIL
NOT TO SCALE



NOTE:
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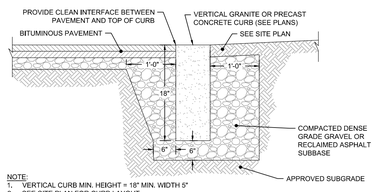
2. SEE SITE PLAN FOR CURB LAYOUT.
3. CEMENT JOINTS AND PROVIDE EXPANSION JOINTS AT 5'-0" TO 6'-0" O.C.
4. CURB REPLACEMENT IN EXISTING PAVEMENT SAWCUT EDGE 1'-0" FROM CURB.

MOUNTABLE GRANITE CURB
NOT TO SCALE



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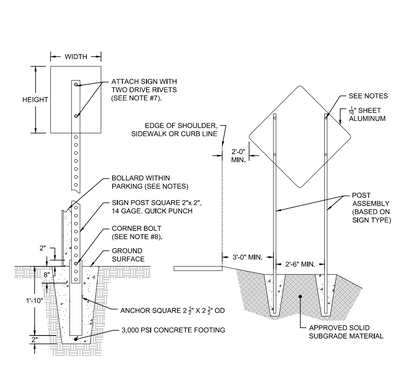
6. CONCRETE CURB - TO HAVE A MINIMUM CONCRETE STRENGTH OF 4,000 PSI

FLUSH CURB
NOT TO SCALE



NOTES:
1. METAL STOP AND YIELD SIGN POSTS WILL HAVE ALTERNATING 1'-0" BANDS OF RED AND WHITE REFLECTIVE SHEETING, ALL OTHER POSTS WILL BE UNSHEETED.
2. FOR IN-SIDEWALK INSTALLATIONS, CORE 4" DIAMETER HOLE, ANCHOR LENGTH MAY BE DECREASED TO 1'-0".
3. ANCHOR WILL HAVE FOUR 7/16" HOLES ONE EACH SIDE 2" FROM TOP END.
4. SIGN POSTS WITHIN PARKING AREAS (PAVEMENT) WILL BE A BOLLARD TYPE WITH A 6"DIAMETER DUCTILE IRON PIPE FILLED WITH CONCRETE EXTENDING A MINIMUM 4'-0" FROM GROUND SURFACE.

SIGN INSTALLATION
NOT TO SCALE

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: ABC

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

VEHICULAR PAVEMENT LAYOUT & MATERIALS DETAILS

1.3.04

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GRAPHIC SCALE

30 0 15 30 60 120

(in feet)

1 INCH = 30 FEET

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KEY PLAN

NORTH ARROW (Called North) STAMP

Date: 21 FEBRUARY 2024

Drawn By: MCL

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

OVERALL STORMWATER MANAGEMENT & UTILITIES PLAN

1.3.05

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LIMIT OF WORK
6" GATE VALVE
6" CLDI WATER
FIRE HYDRANT (TYP)
INLET PROTECTION (TYP)
EXISTING FIRE HYDRANT
TREE PROTECTION (TYP)
DRYWELL 001
RIM:110.25
DRYWELL 002
RIM:110.25
6" INV IN:108.00
ROOF DRAIN
6" INV:108.25
PERFORATED PIPE IN STONE
VEGETATED CONVEYANCE SWALE
CULTEC R-360HD
42 (14 X 3) CHAMBERS
INV. IN:112.00
INV. OUT:111.90
BOTTOM OF STONE:109.00
ROOF DRAIN
6" INV:112.05
DB 003
RIM:114.10
8" INV IN:111.90
8" INV OUT:111.90
COUNTRYSIDE ELEMENTARY PROPOSED FFE:114.50
CLEAN AND PROTECT EXISTING DRAIN LINE
4.000 GAL GREASE TRAP
SEE PLUMBING PLAN SHEET 8.4.00
6" PVC SSWR
SEE PLUMBING PLANS SHEET 8.4.00
WYE SADDLE CONNECTION
6" PVC SSWR
SEE PLUMBING PLAN SHEET 8.4.00
WYE SADDLE CONNECTION
CLEAN HEADWALL AND PIPE OF SEDIMENT
EX 12" OUTFALL
INV:104.45
4" PVC CHAMBER VENT
4" PVC KITCHEN WASTE SERVICE
RAIN GARDEN
DB 004
RIM:110.65
12" INV OUT:104.00
NEW CONNECTION TO EX DMH
8" PVC PIPE
INV OUT:111.75
FLARED END SECTION AND PIPE END STABILIZATION
TAPPING GATE AND SLEEVE (2)
COORDINATE WATER, FIRE AND SANITARY SERVICE WITH PLUMBING PLANS
6" CLDI WATER (2)
6" GATE VALVE (2)
FIRE DEPT. CONNECTION
SEE FIRE PROTECTION PLAN SHEET 7.4.01
GENERATOR PAD
TRANSFORMER PAD
TAPPING GATE AND SLEEVE
6" CLDI WATER
6" GATE VALVE
FIRE HYDRANT (TYP.)
PLANTABLE CONCRETE PAVER SYSTEM
FOREBAY
EL:106.45
PAVED FLUME
CHECKDAM
EL:106.95
CLEAN AND PROTECT EXISTING DRAIN LINE
DB 101
RIM:108.65
12" INV IN:106.50
12" RCP OUT:105.30±
MAINTAIN EXISTING DRAIN MANHOLE
STORMWATER POLLINATOR GARDEN
TREE PROTECTION (TYP)
ROOF DRAIN
10" INV:104.70
RIDGE LINE
FLOW
DB 100
RIM:106.75
12" RCP OUT:104.45±
TRENCH DRAIN
RIM:108.75
CDS 2015-4
RIM:109.75
6" INV OUT:107.75
DB 201
RIM:108.75
12" INV OUT:105.00
DMH 200
RIM:109.55
12" INV IN:104.50
12" INV IN:104.50
12" INV OUT:104.40
12" INV OUT:106.45
CLEANOUT
DMH 005 (DOGHOUSE)
RIM:111.25
12" INV IN:107.00
24" RCP OUT:103.00±
CLEAN HEADWALL AND PIPE OF SEDIMENT
EX 12" OUTFALL
INV:104.27
MATCHLINE - SEE SHEET 1.3.07
MATCHLINE - SEE SHEET 1.3.07
REPLACE EXISTING CULVERTS
PERFORATED FLAT PIPE TYP.
CONNECT TO EXISTING DRAIN LINE
INFILTRATION TRENCH
BOTTOM OF STONE:103.75
DB-006
RIM:111.00
12" INV OUT:107.35
8" INV OUT:104.85
DB 102
RIM:108.80
EX. 12" INV OUT:105.90
12" INV IN:106.00
2 STORY BRICK BUILDING
1 STORY WOOD FRAME BUILDING

GRAPHIC SCALE
20 0 10 20 40 80
(in feet)
1 INCH = 20 FEET

KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: MCL

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

STORMWATER MANAGEMENT & UTILITIES PLAN (1)

1.3.06

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: MCL

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

STORMWATER MANAGEMENT & UTILITIES PLAN (2)

1.3.07

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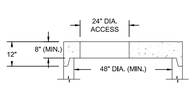
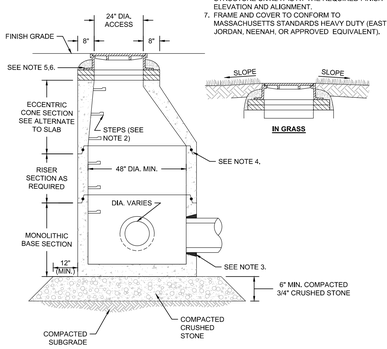


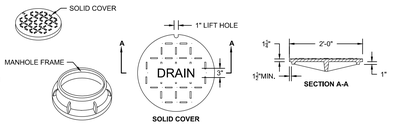
ALTERNATE TOP SLAB



NOTES:
1. ALL SECTIONS TO BE DESIGNED FOR H-20 LOADING.
2. COPOLYMER MANHOLE STEPS TO BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE, MORTAR ALL PIPE CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS TO BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER TO BE SET IN FULL 12" MORTAR BED, ADJUST TO GRADE WITH PRECAST CONCRETE RISER OR BRICK.
6. DO NOT PLACE MORTAR BED AROUND STRUCTURE UNTIL IT IS AT THE REQUIRED FINISH ELEVATION AND ALIGNMENT.
7. FRAME AND COVER TO CONFORM TO MASSACHUSETTS STANDARDS HEAVY DUTY (EAST JORDAN, NEENAH, OR APPROVED EQUIVALENT).

IN GRASS

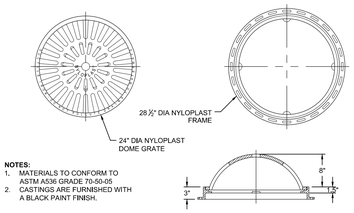
PRECAST DRAIN MANHOLE (DMH)
NOT TO SCALE



SOLID COVER

NOTES:
1. FRAME AND COVER TO CONFORM TO MASSDOT STANDARDS.
2. ALL COMPONENTS TO BE CAST IRON, H20 LOADING.

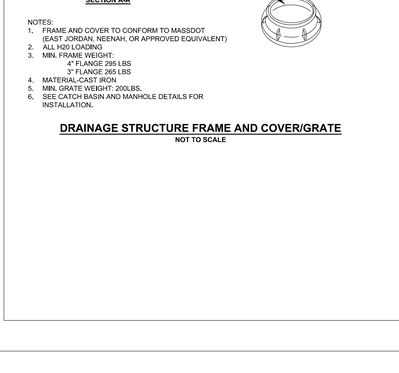
FRAME AND COVER
NOT TO SCALE



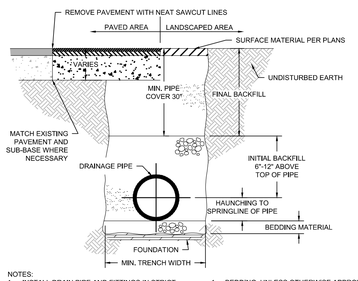
NOTES:
1. MATERIALS TO CONFORM TO ASTM A536 GRADE 70-50-05
2. CASTINGS ARE FURNISHED WITH A BLACK PAINT FINISH.

TYPICAL DOME FRAME AND GRATE DETAIL
NOT TO SCALE

NOTES:
1. ALL COMPONENTS TO BE DESIGNED FOR H20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE, MORTAR ALL PIPE CONNECTIONS.
3. RECHARGE BASIN FRAME TO BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH PRECAST CONCRETE RISER.
4. GEOTEXTILE FILTER FABRIC TO BE MIRAFI 140N OR EQUIVALENT



DRYWELL (DW)
NOT TO SCALE



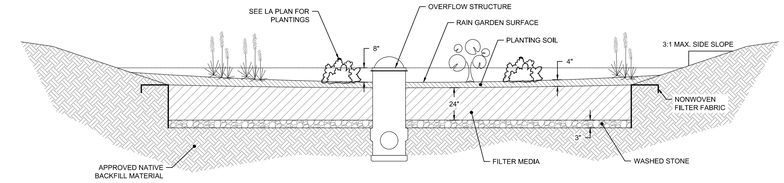
NOTES:
1. INSTALL DRAIN PIPE AND FITTINGS IN STRICT ACCORDANCE WITH THE INSTALLATION RECOMMENDATIONS OF THE PIPE FITTING MANUFACTURER. SUCH INSTRUCTIONS INCLUDE BUT ARE NOT LIMITED TO CUTTING, SOLVENT CEMENTING AND PRIMING, JOINTS, CONNECTIONS, TRANSITIONS AND ALLOWANCE FOR THERMAL EXPANSION.
2. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A SUITABLE COMPACTED GRAVEL MATERIAL OR AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
3. BEDDING, HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL CONSIST OF CLEAN, HARD, PARTICLES OF GRAVEL MEETING THE FOLLOWING:

SIEVE SIZE	PERCENT PASSING
3/4"	85-95
# 4	5-15
# 8	0-3

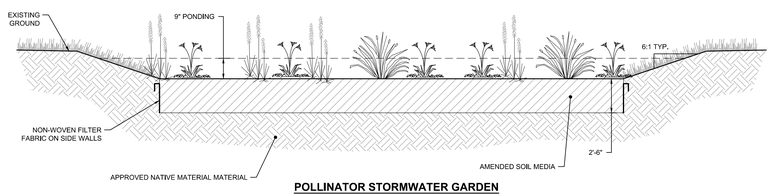
4. BEDDING: UNLESS OTHERWISE APPROVED BY ENGINEER MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" FOR 4"-24" PIPE, 6" FOR 30"-42", AND 12" FOR 48" AND LARGER PIPE.
5. FINAL BACKFILL: COMPACTED NATIVE GRAVEL OR FLOWABLE FILL.
6. GENERAL BACKFILLING: (INCLUDING DISTURBED AREAS SURROUNDING TRENCHES) SHALL BE PLACED AND COMPACTED IN 12" MAXIMUM VERTICAL LIFTS, CONTRACTOR SHALL ACHIEVE 95% COMPACTION FOR THE BEDDING UNLESS OTHERWISE APPROVED BY THE ENGINEER.
7. TRENCH WIDTH: UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:

NOMINAL Ø	MIN. RECOMMENDED TRENCH WIDTH
8"	30"
10"	36"
12"	36"
15"	42"
>18"	60"

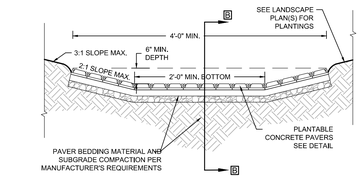
DRAINAGE PIPE TRENCH
NOT TO SCALE



RAIN GARDEN
NOT TO SCALE



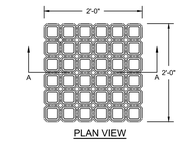
POLLINATOR STORMWATER GARDEN
NOT TO SCALE

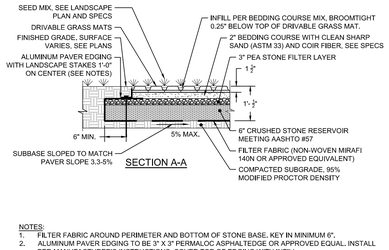


SECTION A-A

NOTES:
1. SEE PLANTABLE CONCRETE PAVERS DETAIL AND SPECIFICATIONS FOR PLANTABLE PAVER REQUIREMENTS.
2. INSTALL PLANTABLE/PERMEABLE PAVER SYSTEM PER MANUFACTURERS REQUIREMENTS.
3. PROVIDE TRAPEZOIDAL CHANNEL WITH MIN. 6" SIDE SLOPE DEPTH. DO NOT EXCEED 2:1 SIDE SLOPES FOR PAVER AREA AND 3:1 FOR SURROUNDING LANDSCAPED AREA.

SEDIMENT FOREBAY
NOT TO SCALE

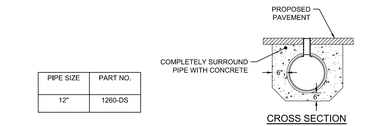




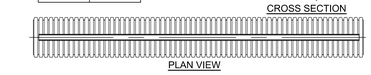
SECTION A-A

NOTES:
1. FILTER FABRIC AROUND PERIMETER AND BOTTOM OF STONE BASE. KEY IN MINIMUM 6".
2. ALUMINUM PAVER EDGING TO BE 3" X 2" PERMALOC ASPHALTEDGE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS. COVER TOP OF EDGING WITH INFILL.
3. GRASS PAVERS TO BE DRIVABLE GRASS MANUFACTURED BY SOIL RETENTION OR AN ENGINEER APPROVED EQUAL.
4. SEE LANDSCAPE PLANS AND SPECS FOR GRASS/PLANT TYPES

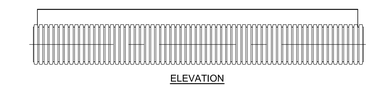
PLANTABLE CONCRETE PAVER SYSTEM
NOT TO SCALE



PIPE SIZE	PART NO.
12"	1260-DS

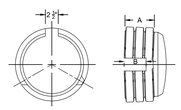


PLAN VIEW



ELEVATION

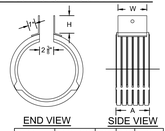
12"DURASLOT END CAP



END VIEW TOP VIEW

MODIFIED PART NO.	ORIGINAL PART NO.	PIPE SIZE	A	B
1233-DS	1267-AA	12"	5.76"	4.25"

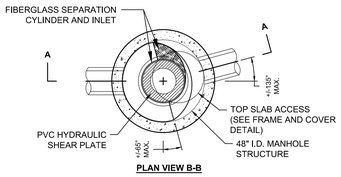
12" DURASLOT COUPLER BANDS



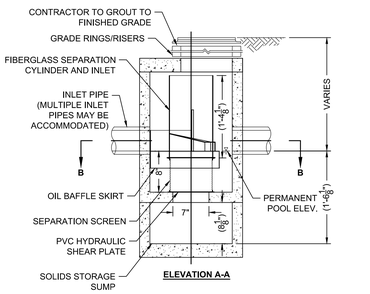
END VIEW SIDE VIEW

MODIFIED PART NO.	ORIGINAL PART NO.	H	W	A
1221-DS	1265-AA	2"	8"	7.75"
1226-DS	1265-AA	5.5"	8"	7.75"
1526-DS	1565-AA	5.5"	9"	10.5"
1826-DS	1865-AA	5.5"	9"	10.5"
2426-DS	2465-AA	5.5"	9"	12.625"
3026-DS	3065-AA	5"	10"	16.5"

TRENCH DRAIN (DURASLOT)
NOT TO SCALE

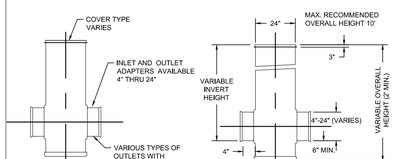


PLAN VIEW B-B



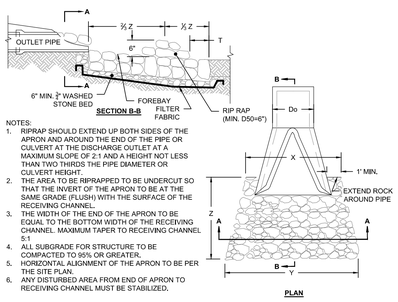
ELEVATION A-A

HYDRODYNAMIC WATER QUALITY UNIT
NOT TO SCALE

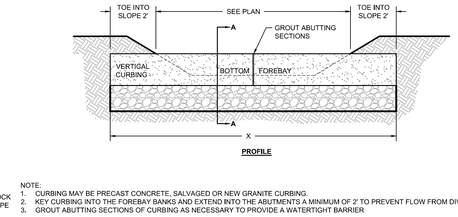


NOTE:
ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0% TO 359% TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE NYLOPLAST DRAWINGS.

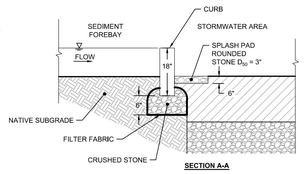
DRAIN BASIN
NOT TO SCALE



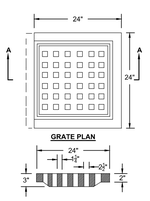
NOTES:
1. RIPRAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.
2. THE AREA TO BE RIPRAPPED TO BE UNDERCUT SO THAT THE INVERT OF THE APRON TO BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL.
3. THE WIDTH OF THE END OF THE APRON TO BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL. MAXIMUM TAPER TO RECEIVING CHANNEL 5:1
4. ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 95% OR GREATER.
5. HORIZONTAL ALIGNMENT OF THE APRON TO BE PER THE SITE PLAN.
6. ANY DISTURBED AREA FROM END OF APRON TO RECEIVING CHANNEL MUST BE STABILIZED.

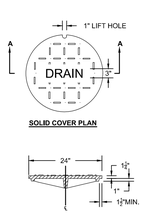


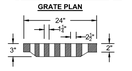
NOTE:
1. CURBING MAY BE PRECAST CONCRETE, SALVAGED OR NEW GRANITE CURBING.
2. KEY CURBING INTO THE FOREBAY BANKS AND EXTEND INTO THE ABUTMENTS A MINIMUM OF 2' TO PREVENT FLOW FROM DIVERTING THE CHECK DAM.
3. GROUT ABUTTING SECTIONS OF CURBING AS NECESSARY TO PROVIDE A WATERTIGHT BARRIER

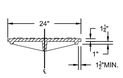


SEDIMENT FOREBAY CHECKDAM
NOT TO SCALE

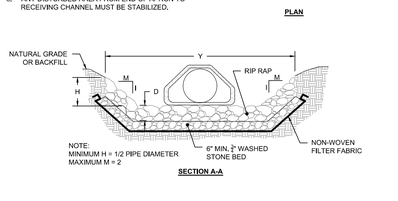




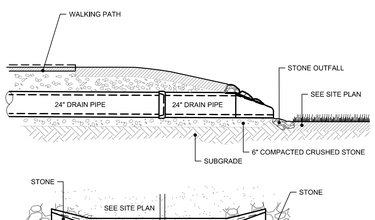


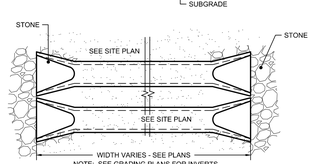


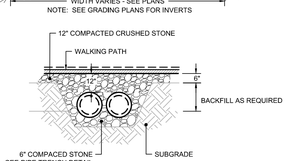
DRAINAGE STRUCTURE FRAME AND COVER/GRATE
NOT TO SCALE



TYPICAL RIP RAP OUTFALL DETAIL
NOT TO SCALE

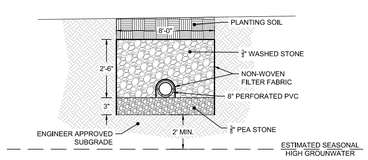






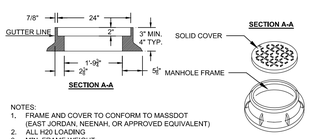
VEGETATED CONVEYANCE SWALE
NOT TO SCALE

CULVERT DETAIL
NOT TO SCALE



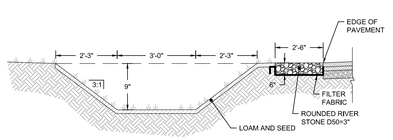
INFILTRATION TRENCH
NOT TO SCALE

NOTE:
REMOVE ALL ORGANICS WITHIN 4 FEET BELOW BOTTOM OF INFILTRATORS



NOTES:
1. FRAME AND COVER TO CONFORM TO MASSDOT (EAST JORDAN, NEENAH, OR APPROVED EQUIVALENT)
2. ALL H20 LOADING
3. MIN. FRAME WEIGHT:
   4" FLANGE 295 LBS
   3" FLANGE 265 LBS
4. MATERIAL-CAST IRON.
5. MIN. GRATE WEIGHT: 200LBS.
6. SEE CATCH BASIN AND MANHOLE DETAILS FOR INSTALLATION.

DRAINAGE STRUCTURE FRAME AND COVER/GRATE
NOT TO SCALE



VEGETATED CONVEYANCE SWALE
NOT TO SCALE

COUNTRYSIDE ELEMENTARY SCHOOL

Newton, MA

DINISCO DESIGN
architects + planners
99 Chauncy Street, Suite 901
Boston, MA 02111
(617) 426-2858

Horsley Witten Group
Civil & Environmental Engineers
90 Route 6A, Unit 1
Sandwich, MA 02563
(508) 833-6600

Brown Sardina, Inc.
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Foley Buhl Roberts & Assoc., Inc.
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Woburn, MA 01801
(781) 935-7228

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Danvers, MA 01923
(617) 886-9066

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Technology Consultants
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Andover, MA 01880
(978) 256-9900

KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: ABC

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

STORMWATER DETAILS (1)

1.3.08

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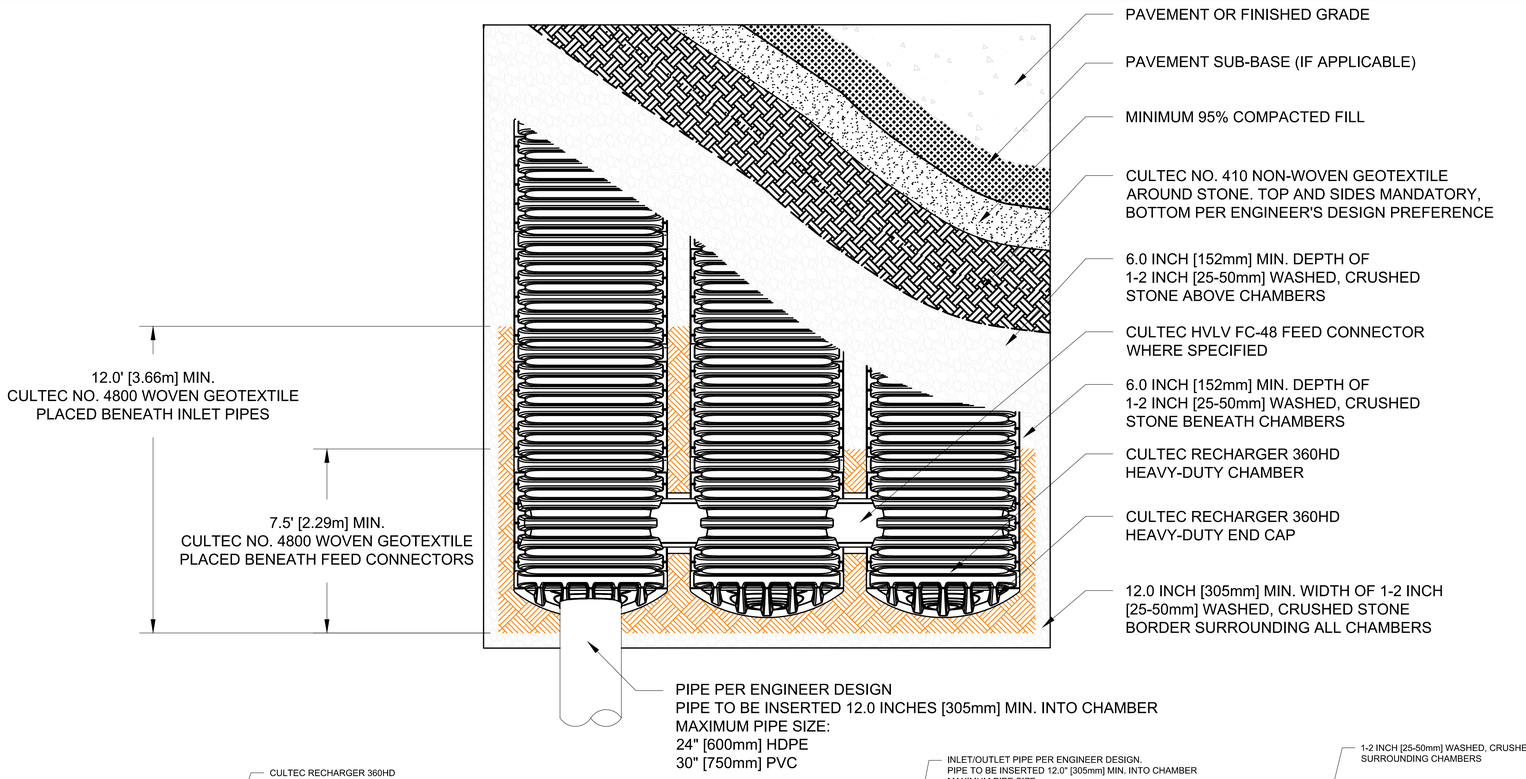
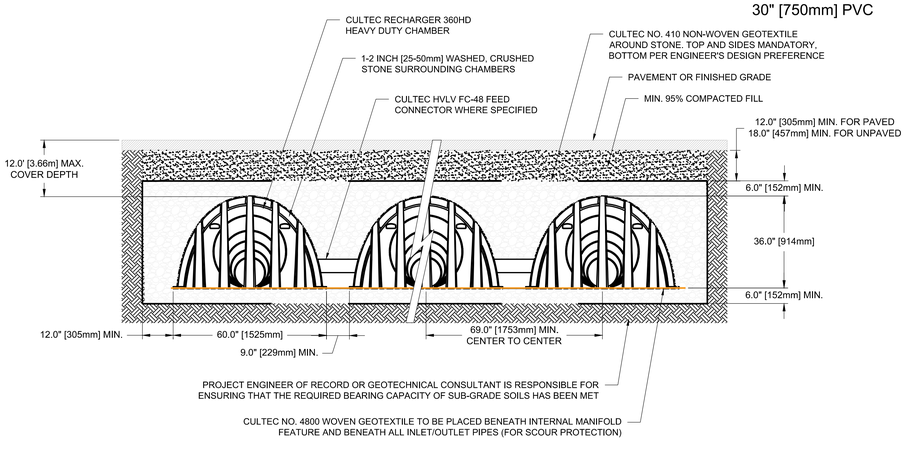
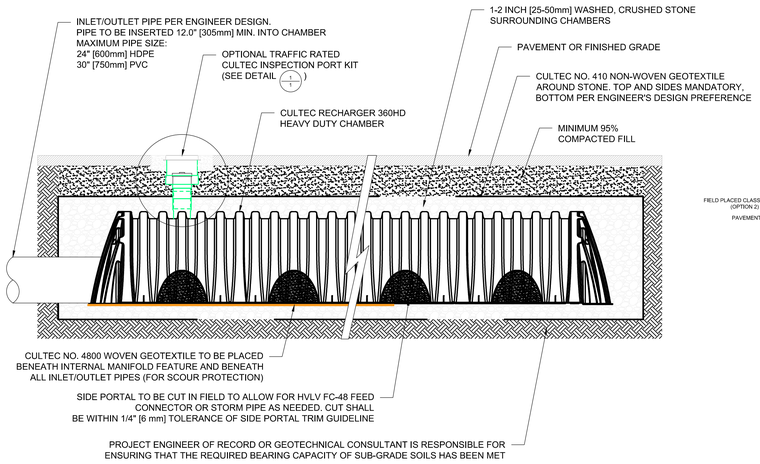
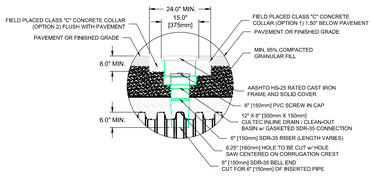
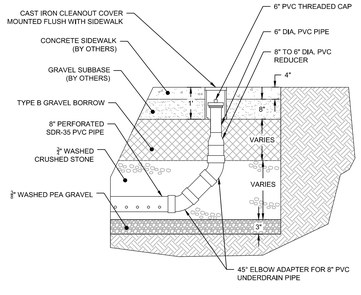




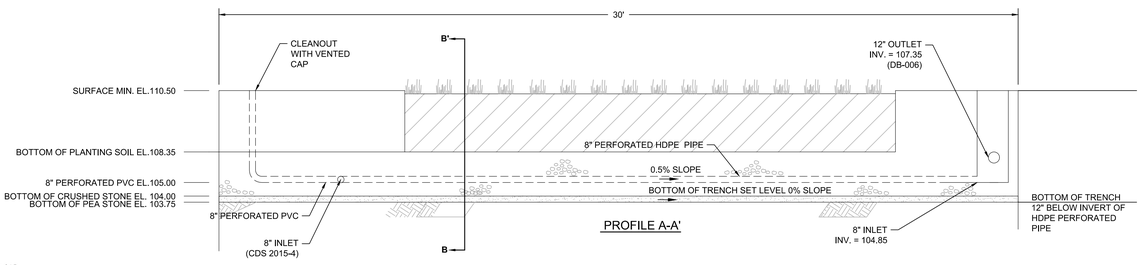




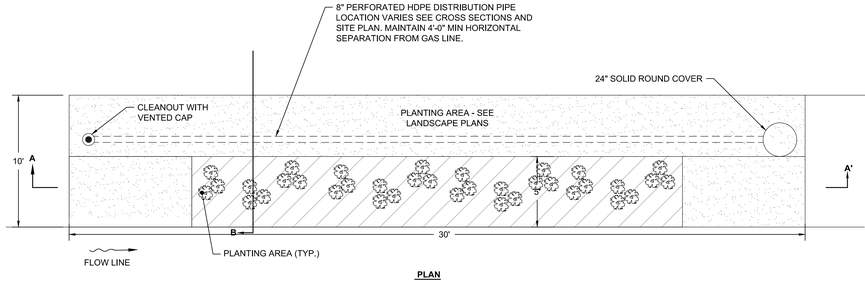
NOTE:
REMOVE ALL ORGANICS WITHIN 4 FEET BELOW BOTTOM OF INFILTRATORS



CLEANOUT DETAIL FOR TREE/INFILTRATION TRENCH
NOT TO SCALE

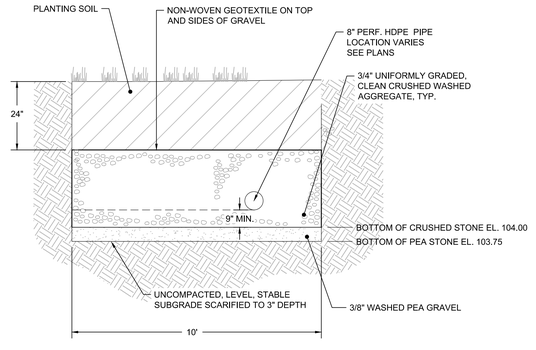


PROFILE A-A'



PLAN

INFILTRATION TRENCH PLAN
NOT TO SCALE



NOTES:
1. PLANTING SOIL DEPTH VARIES BASED UPON TOP OF ¾" GRAVEL.
2. ¾" GRAVEL DEPTH VARIES BASED UPON INLET PIPE INVERT, PIPE SLOPE AND PIPE COVER REQUIREMENTS.

CROSS SECTION B-B'

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: ABC

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

STORMWATER DETAILS (2)

1.3.09

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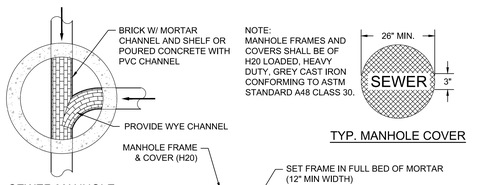
UTILITY NOTES:

1. ALL NEW SEWER SERVICE(S) SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE CITY CONSTRUCTION SPECIFICATIONS & STANDARDS AND INSPECTED VIA CLOSED CIRCUIT TELEVISION CCTV INSPECTION AFTER INSTALLATION IS COMPLETED. A COPY OF THE VIDEO INSPECTION AND WRITTEN REPORT SHALL BE SUBMITTED TO THE CITY ENGINEER OR HIS REPRESENTATIVE. THE SEWER SERVICE WILL NOT BE ACCEPTED UNTIL THE TWO METHODS OF INSPECTION ARE COMPLETED AND WITNESSED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION. A CERTIFICATE OF OCCUPANCY WILL NOT BE RECOMMENDED UNTIL THESE TESTS ARE COMPLETED TO THE SATISFACTION OF THE CITY ENGINEER.
2. ALL SANITARY SEWER MANHOLE(S) SHALL BE VACUUM TESTED IN ACCORDANCE WITH THE CITY'S CONSTRUCTION STANDARDS & SPECIFICATIONS, THE SEWER SERVICE AND MANHOLE WILL NOT BE ACCEPTED UNTIL THE MANHOLE(S) PASS THE TESTING REQUIREMENTS. ALL TESTING MUST BE WITNESSED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION. A CERTIFICATE OF OCCUPANCY WILL NOT BE RECOMMENDED UNTIL THIS TEST IS COMPLETED TO THE SATISFACTION OF THE CITY ENGINEER AND A WRITTEN REPORT OF THE TEST RESULTS IS SUBMITTED TO THE CITY ENGINEER.
3. WITH THE EXCEPTION OF NATURAL GAS SERVICE(S), ALL UTILITY TRENCHES WITHIN THE RIGHT OF WAY SHALL BE BACKFILLED WITH CONTROL DENSITY FILL (CDF) EXCAVATABLE TYPE I-E UP TO WITHIN 18-INCHES OF THE ASPHALT BINDER LEVEL, AFTER WHICH DENSE GRADE GRAVEL COMPACTED TO 95 % PROCTOR TESTING SHALL BE PLACED OVER THE CDF. DETAILS OF THIS REQUIREMENT IS THE ENGINEERING DIVISION WEBSITE "STANDARD CONSTRUCTION DETAILS".
4. ALL WATER SERVICES SHALL BE CHLORINATED, AND PRESSURE TESTED IN ACCORDANCE WITH THE AWWA AND THE CITY CONSTRUCTION STANDARDS & SPECIFICATIONS PRIOR TO COMING ONLINE. THESE TESTS MUST BE WITNESSED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION.
5. APPROVAL OF THE FINAL CONFIGURATIONS OF THE WATER SERVICE(S) SHALL BE DETERMINED BY THE FIRE DEPARTMENT & UTILITIES DIVISION, THE ENGINEER OF RECORD SHALL SUBMIT A PLAN TO THE DIRECTOR OF UTILITIES FOR APPROVAL.
6. ALL TRENCH EXCAVATION SHALL COMPLY WITH MASSACHUSETTS GENERAL LAW CHAPTER 82A, TRENCH EXCAVATION SAFETY REQUIREMENTS, AND OSHA STANDARDS TO PROTECT THE GENERAL PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES OR EXCAVATIONS. TRENCH EXCAVATION PERMIT IS REQUIRED PRIOR TO ANY CONSTRUCTION. THIS APPLIES TO ALL TRENCHES ON PUBLIC AND PRIVATE PROPERTY.
7. THE CONTRACTOR OF RECORD IS RESPONSIBLE FOR CONTACTING THE ENGINEERING DIVISION AND SCHEDULING AN APPOINTMENT 48-HOURS PRIOR TO THE DATE WHEN THE UTILITIES WILL BE MADE AVAILABLE FOR AN INSPECTION OF WATER SERVICES, SEWER SERVICES AND DRAINAGE SYSTEM INSTALLATION. THE UTILITY IN QUESTION SHALL BE FULLY EXPOSED FOR THE INSPECTOR TO VIEW, BACKFILLING SHALL ONLY TAKE PLACE WHEN THE CITY ENGINEER'S INSPECTOR HAS GIVEN THEIR APPROVAL.
8. BEFORE REQUESTING A CERTIFICATE OF OCCUPANCY, AN AS BUILT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DIVISION IN BOTH DIGITAL AND PAPER FORMAT. THE PLAN SHALL SHOW ALL UTILITIES AND FINAL GRADES, ANY EASEMENTS AND IMPROVEMENTS AND LIMITS OF RESTORATION. THE PLAN SHALL INCLUDE PROFILES OF THE VARIOUS NEW UTILITIES INCLUDING BUT NOT LIMITED TO RIM & INVERT ELEVATIONS (CITY OF NEWTON DATUM), SLOPES OF PIPES, PIPE MATERIALS, AND SWING TIES FROM PERMANENT BUILDING CORNERS. THE AS BUILT SHALL BE STAMPED BY BOTH A MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER AND REGISTERED PROFESSIONAL LAND SURVEYOR. ONCE THE AS BUILT PLAN IS RECEIVED THE ENGINEERING DIVISION SHALL PERFORM A FINAL SITE INSPECTION AND THEN MAKE A DETERMINATION TO ISSUE A CERTIFICATE OF OCCUPANCY.
9. ALL SITE WORK INCLUDING TRENCH RESTORATION, SIDEWALK, CURB, APRON, AND LOAM BORDER (WHERE APPLICABLE) SHALL BE COMPLETED BEFORE A CERTIFICATE OF OCCUPANCY IS ISSUED.

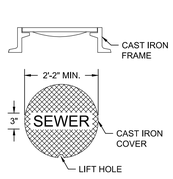


SEWER MANHOLE INVERT PLAN VIEW

NOTE: MANHOLE FRAMES AND COVERS SHALL BE OF H20 LOADED, HEAVY DUTY, GREY CAST IRON CONFORMING TO ASTM STANDARD A48 CLASS 30.

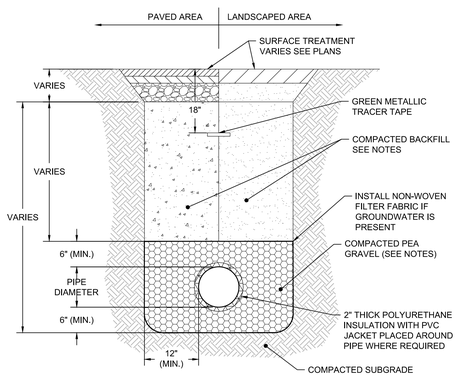
TYP. MANHOLE COVER

PRECAST CONCRETE SEWER MANHOLE (SMH)
NOT TO SCALE



NOTES:
1. MANHOLE FRAMES & COVERS WILL BE H20 LOADED, HEAVY DUTY, CAST IRON CONFORMING TO ASTM STANDARD A48 CLASS 30.

MANHOLE FRAME & COVER
NOT TO SCALE

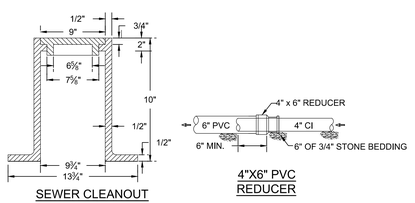


NOTES:
1. GRAVITY SEWER & FORCE MAIN WILL BE INSULATED WHEN VERTICAL OR HORIZONTAL SOIL COVER IS LESS THAN 4'-0" & WHERE SHOWN ON PLANS.
2. TRACER TAPE FOR NON-FERROUS PIPE WILL BE CONSTRUCTED OF A METALLIC CORE BONDED TO PLASTIC LAYERS. THE METALLIC TRACER TAPE WILL BE A MINIMUM 5MM THICK & MUST BE LOCATABLE AT A DEPTH OF 1'-6" WITH ORDINARY PIPE LOCATORS.
3. TRENCH BACKFILL:
   BENEATH PAVEMENT: BACKFILL WILL BE ROADBASE & COMPACTED TO PAVEMENT SUBBASE REQUIREMENTS (SEE DETAIL).
   OUTSIDE PAVEMENT: GRAVEL BORROW TYPE B (3" MINUS) COMPACTED IN MAXIMUM 8" LIFTS TO 95% COMPACTION.
4. BACKFILL PLACED IN UTILITY TRENCHES INCLUDING DISTURBED AREAS SURROUNDING UTILITY TRENCHES WILL BE PLACED & COMPACTED IN 8" MAXIMUM VERTICAL LIFTS.
5. CONTRACTOR WILL ACHIEVE 95% COMPACTION FOR THE BEDDING.
6. PEA GRAVEL WILL CONSIST OF CLEAN, HARD, ROUND PARTICLES OF GRAVEL MEETING THE FOLLOWING:

SIEVE SIZE	PERCENT PASSING
3/8"	85-95
NO. 4	5-15
NO. 8	0-2

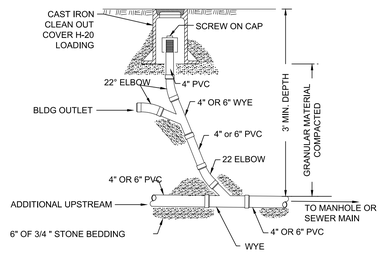
7. UTILITY WILL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE UTILITY COMPANY STANDARDS THAT MAY BE MORE STRINGENT THAN THIS DETAIL.

SEWER TRENCH
NOT TO SCALE

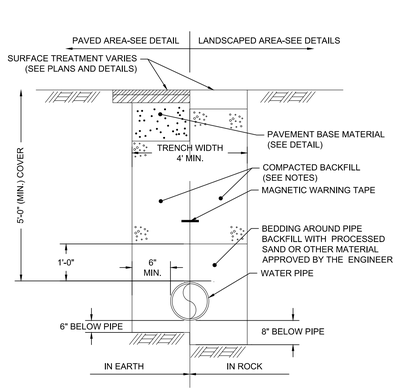


SEWER CLEANOUT RING & COVER

4"X6" PVC REDUCER



SEWER CLEAN OUT
NOT TO SCALE

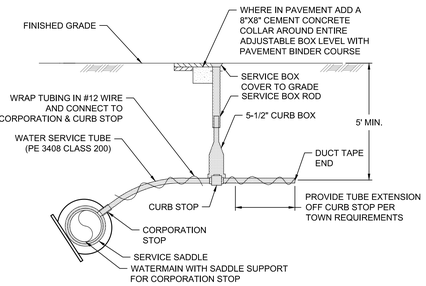


NOTES:
1. TRENCH BACKFILL:
   BENEATH PAVEMENT: ROADBASE & COMPACTED TO PAVEMENT SUBGRADE REQUIREMENTS (SEE DETAIL).
   OUTSIDE PAVEMENT: GRAVEL BORROW TYPE B (3" MINUS) COMPACTED IN MAXIMUM 8" LIFTS TO 95% COMPACTION.
2. TRACER TAPE FOR NON-FERROUS PIPE WILL BE CONSTRUCTED OF A METALLIC CORE BONDED TO PLASTIC LAYERS. A MINIMUM 5MM THICK METALLIC TRACER TAPE MUST BE LOCATABLE AT A DEPTH OF 1'-6"WITH ORDINARY PIPE LOCATORS.
3. ACHIEVE 95% COMPACTION FOR THE BEDDING.
4. PEA GRAVEL CONSISTS OF CLEAN, HARD, ROUND PARTICLES OF GRAVEL MEETING THE FOLLOWING:

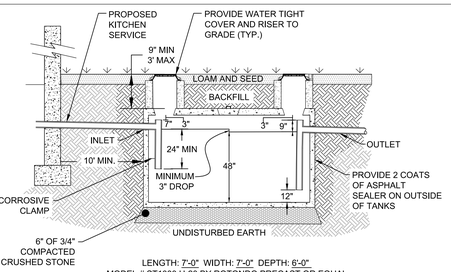
SIEVE SIZE	PERCENT PASSING
3/8"	85-95
NO. 4	5-15
NO. 8	0-2

5. INSTALL UTILITY IN ACCORDANCE WITH ALL APPLICABLE UTILITY COMPANY STANDARDS THAT MAY BE MORE STRINGENT THAN THIS DETAIL.

WATER TRENCH
NOT TO SCALE

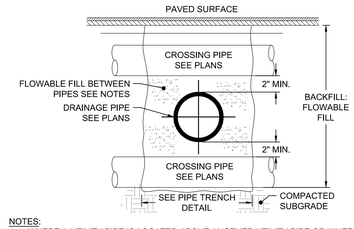


WATER SERVICE CONNECTION
NOT TO SCALE



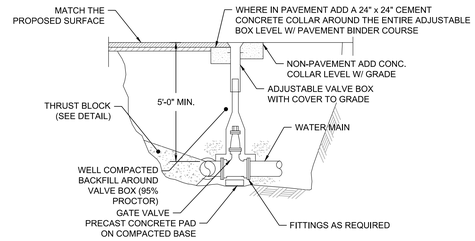
LENGTH: 7'-0" WIDTH: 7'-0" DEPTH: 6'-0"
MODEL # ST1000 H-20 BY ROTONDO PRECAST OR EQUAL

4000 GALLON GREASE TRAP
NOT TO SCALE



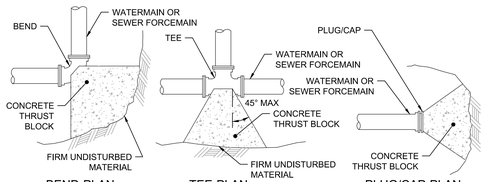
NOTES:
1. WHERE A UTILITY PIPE IS LOCATED ABOVE ANOTHER UTILITY PIPE OR WHERE TWO UTILITIES CROSS, USE FLOWABLE FILL FOR BACKFILL (INCLUDING DISTURBED AREAS SURROUNDING TRENCHES) AT THE AREA OF THE PIPE CROSSINGS.
2. THE FLOWBALE FILL MIX MUST BE FINE ENOUGH TO FILL THE VOID SPACE BETWEEN THE CROWN OF THE PIPE BELOW & THE BOTTOM OF PIPE ABOVE.
3. THE FLOWABLE FILL MUST ENCOMPASS THE ENTIRE SPACE BETWEEN THE PIPES AS WELL AS AROUND THE PIPES.

PIPE CROSSING
NOT TO SCALE



NOTES:
1. THRUST BLOCKS WILL BE A MINIMUM OF 3'-0" FT^3 IN VOLUME.
2. INSTALL ROOFING FELT BETWEEN CONCRETE PAD & WATERMAIN FITTINGS WHERE NECESSARY.

GATE VALVE INSTALLATION
NOT TO SCALE



BEND-PLAN TEE-PLAN PLUG/CAP-PLAN

NOTES:
1. CONCRETE FOR THRUST BLOCKS: MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
2. THRUST BLOCK BEARING AREAS TO BE IN ACCORDANCE WITH TABLE, UNLESS DETERMINED OTHERWISE BY THE ENGINEER BECAUSE OF SOIL CONDITIONS.
3. THRUST BLOCK: PRECAST OR CAST-IN PLACE W/ SIDES FORMED WITH PLYWOOD.

TABLE OF BEARING AREAS (S.F.)			
SIZE OF MAIN (IN.)	BEND (90)	BENDS (45 & <)	TEES,CAPS OR PLUGS
8 & <	6	3	4
10 & 12	12	7	9
16 & >	18	10	14

THRUST BLOCK
NOT TO SCALE

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KEY PLAN

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: ABC

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

UTILITY DETAILS

1.3.10

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GRAPHIC SCALE

30 0 15 30 60 120

(in feet)

1 INCH = 30 FEET

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: ABC

Scale: 1" = 30'

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

PHASING PLAN

1.3.11

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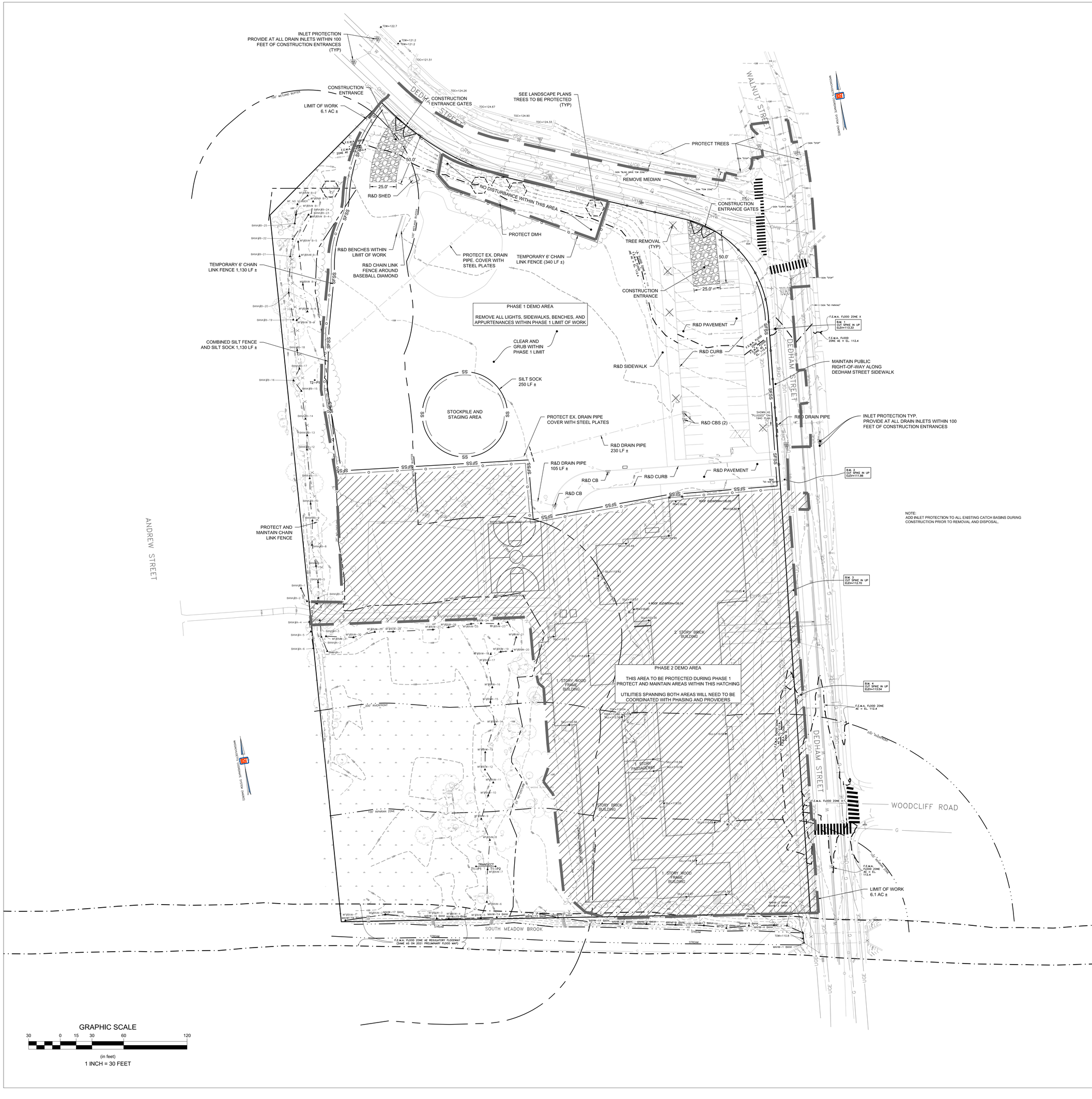

KEY PLAN

NORTH ARROW | STAMP

Date: 21 FEBRUARY 2024

Drawn By: ABC

Scale: 1" = 30'

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

PHASE 1 EROSION CONTROL PLAN

1.3.12

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NOTES:

1. EXISTING WATER AND SEWER SERVICES TO BUILDING(S) SHALL BE CUT AND CAPPED AT THE RESPECTIVE MAINS AND COMPLETELY REMOVED FROM THE MAIN(S) AND ITS ENTIRE LENGTH AND PROPERLY BACKFILLED. THE ENGINEERING DIVISION MUST INSPECT AND APPROVE THIS WORK, FAILURE TO HAVE THIS WORK INSPECTED WILL RESULT IN DELAY OF ISSUANCE OF THE NEW UTILITY CONNECTION OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

GRAPHIC SCALE

30 0 15 30 60 120

(in feet)

1 INCH = 30 FEET

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KEY PLAN

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: ABC

Scale: 1" = 30'

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

PHASE 2 EROSION CONTROL PLAN

1.3.13

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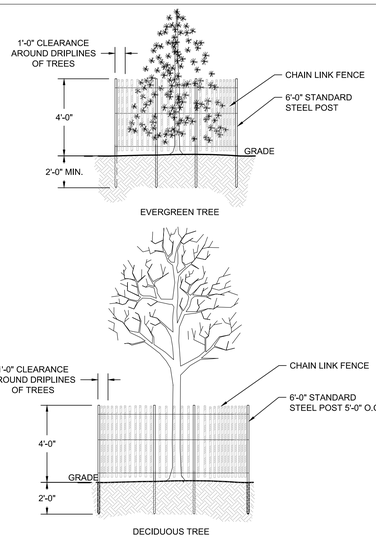
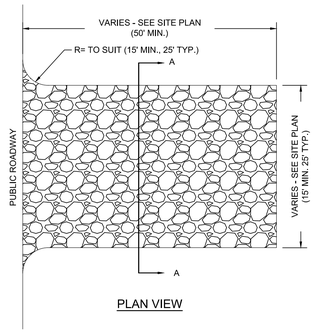
EROSION & SEDIMENT CONTROL NOTES:

1. DESIGNATE THE SITE CONSTRUCTION FOREMAN AS THE ON-SITE PERSONNEL RESPONSIBLE FOR THE DAILY INSPECTION AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROLS AND IMPLEMENTATION OF ALL NECESSARY MEASURES TO CONTROL EROSION AND PREVENT SEDIMENT FROM LEAVING THE SITE.
2. INSTALL ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES AS INDICATED ON DRAWINGS IN CONSULTATION WITH THE CONSERVATION AGENT AND ENGINEER **BEFORE ANY CONSTRUCTION ACTIVITIES BEGIN**. INSPECT, MAINTAIN, REPAIR, AND REPLACE EROSION CONTROL MEASURES AS NECESSARY DURING THE ENTIRE CONSTRUCTION PERIOD OF THE PROJECT. THE SITE PERIMETER EROSION CONTROLS ARE THE DESIGNATED LIMIT OF WORK. INFORM ALL PERSONNEL WORKING ON THE PROJECT SITE THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
3. MAINTAIN A MINIMUM SURPLUS OF 100 FEET OF EROSION CONTROL BARRIER (SILT SOCK AND/OR SILT FENCE) ON SITE AT ALL TIMES.
4. PROTECT THE ADJACENT RESOURCE AREA FROM SEDIMENTATION DURING PROJECT CONSTRUCTION UNTIL ACCEPTANCE BY THE OWNER AND IN CONFORMANCE WITH THE ORDER OF CONDITIONS.
5. PROVIDE CONSTRUCTION EXITS AS INDICATED ON DRAWINGS TO SHED DIRT FROM CONSTRUCTION VEHICLE TIRES. CLEAN AND/OR REPLACE THE CRUSHED STONE PAD AS NECESSARY TO MAINTAIN ITS EFFECTIVENESS.
6. KEEP THE LIMIT OF CLEARING, GRADING, AND DISTURBANCE TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. PHASE THE SITE WORK IN A MANNER TO MINIMIZE AREAS OF EXPOSED SOIL. IF TREES ARE TO BE CUT ON THE ENTIRE SITE, CLEAR AND GRUB ONLY THOSE AREAS WHICH ARE ACTIVELY UNDER CONSTRUCTION. PROPERLY INSTALL THE SEDIMENTATION CONTROLS **PRIOR TO BEGINNING ANY LAND CLEARING ACTIVITY** AND/OR OTHER CONSTRUCTION RELATED WORK.
7. MONITOR LOCAL WEATHER REPORTS DURING CONSTRUCTION AND PRIOR TO SCHEDULING EARTHMOVING OR OTHER CONSTRUCTION ACTIVITIES WHICH LEAVE LARGE DISTURBED AREAS UN-STABILIZED. IF INCLEMENT WEATHER IS PREDICTED, USE BEST PROFESSIONAL JUDGEMENT AND GOOD CONSTRUCTION PRACTICES WHEN SCHEDULING CONSTRUCTION ACTIVITIES AND ENSURE THE NECESSARY EROSION CONTROL DEVICES ARE INSTALLED AND FUNCTIONING PROPERLY TO MINIMIZE EROSION FROM ANY IMPENDING WEATHER EVENTS.
8. INSPECT EROSION AND SEDIMENT CONTROL DEVICES AND STABILIZED SLOPES ON A WEEKLY BASIS AND AFTER EACH RAINFALL EVENT OF 1/4 INCH OR GREATER. REPAIR IDENTIFIED PROBLEMS WITHIN 24 HOURS TO ENSURE EROSION AND SEDIMENT CONTROLS ARE IN GOOD WORKING ORDER. RESET OR REPLACE MATERIALS AS REQUIRED.
9. SURROUND THE PERIMETER OF SOIL STOCKPILES WITH SILT SOCK, SILT FENCE, STRAW BALES, OR A COMBINATION OF SILT FENCE WITH STRAW BALE AS DETERMINED NECESSARY.
10. DISTURBED AREAS AND SLOPES MUST NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON. PROVIDE APPROPRIATE STABILIZATION PRACTICES ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED. REINFORCE TEMPORARY AREAS HAVING A SLOPE GREATER THAN 4:1 WITH EROSION BLANKETS OR APPROVED EQUAL UNTIL THE SITE IS PROPERLY STABILIZED. TEMPORARY SWALES MAY ALSO BE REQUIRED IF DETERMINED NECESSARY IN THE FIELD BY THE ENGINEER.
11. INSTALL SILT SACKS OR APPROVED EQUIVALENT IN EACH EXISTING CATCH BASIN RECEIVING RUNOFF FROM THE SITE. UPON THE INSTALLATION OF EACH NEW INLET STRUCTURE, INSTALL A SILT SACK OR APPROVED EQUIVALENT. INSPECT SILT SACKS AFTER EACH SIGNIFICANT STORM EVENT AND REMOVE AND EMPTY PERIODICIALLY FOR THE DURATION OF CONSTRUCTION ACTIVITY.
12. SMALL SEDIMENTATION BASINS MAY BE CONSTRUCTED ON AN AS-NEEDED BASIS DURING CONSTRUCTION TO AID IN THE CAPTURE OF SITE RUNOFF AND SEDIMENT. IT WILL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR IN CONSULTATION WITH THE ENGINEER TO SIZE AND CREATE THESE BASINS IN APPROPRIATE LOCATIONS.
13. CONTAIN ALL SEDIMENT ONSITE. SWEEP ALL EXITS FROM THE SITE AS NECESSARY INCLUDING ANY SEDIMENT TRACKING. SWEEP PAVED AREAS AS NEEDED TO REMOVE SEDIMENT AND POTENTIAL POLLUTANTS ACCUMULATED DURING SITE CONSTRUCTION.
14. REMOVE ACCUMULATED SEDIMENT FROM ALL TEMPORARY PRACTICES AND DISPOSE OF IN A PRE-APPROVED LOCATION.
15. PROVIDE ON SITE OR MAKE READILY AVAILABLE THE NECESSARY EQUIPMENT AND SITE PERSONNEL DURING CONSTRUCTION HOURS FOR THE DURATION OF THE PROJECT TO ENSURE ALL EROSION AND SEDIMENTATION CONTROL DEVICES ARE PROPERLY MAINTAINED AND REPAIRED IN A TIMELY AND RESPONSIBLE MANNER. IF SITE WORK IS SUSPENDED DURING THE WINTER MONTHS **THE CONTRACTOR MUST CONTINUE** TO PROVIDE PERSONNEL AND EQUIPMENT EITHER ON SITE OR READILY AVAILABLE TO PROPERLY MAINTAIN AND REPAIR ALL EROSION AND SEDIMENTATION CONTROL DEVICES IN A TIMELY AND RESPONSIBLE MANNER.
16. PRIOR TO THE INSTALLATION OF FILTER FABRIC AND MEDIA WITHIN THE STORMWATER CONTROL AREAS, REMOVE AND PROPERLY DISPOSE OF SEDIMENT ACCUMULATED IN ANY PARTIALLY CONSTRUCTED OR TEMPORARY DRAINAGE AREA USED FOR SEDIMENT CONTROL DURING CONSTRUCTION. PROVIDE A SURFACE ELEVATION AT A MINIMUM 1-FOOT ABOVE THE BOTTOM OF MEDIA ELEVATION AS SHOWN IN THE STORMWATER AND DRAINAGE DETAILS FOR PARTIALLY CONSTRUCTED STORMWATER CONTROL AREAS. THIS ALLOWS FOR AN OVER-DIG OF THE COLLECTED SEDIMENT PRIOR TO MEDIA/FABRIC INSTALLATION.
17. CONTROL DUST BY WATERING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE ENGINEER.
18. THE CONTRACTOR IS RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE DURING CONSTRUCTION OF ALL STORMWATER FACILITIES INSTALLED OR AFFECTED BY THE PROJECT. REMOVE SEDIMENT OR DEBRIS COLLECTED WITHIN THESE FACILITIES FROM THE PROJECT WORK PRIOR TO THE OWNER'S ACCEPTANCE.
19. STABILIZED DRIVEWAY CONSTRUCTION ENTRANCE(S) WILL BE REQUIRED FOR THE DURATION OF THE CONSTRUCTION WHICH WILL PROVIDE A TRUCK WASH TO PREVENT TRACKING OF MUD AND SILT ONTO CITY STREETS.
20. ALL TREE REMOVAL SHALL COMPLY WITH THE CITY'S TREE ORDINANCE.
21. THE CONTRACTOR OF RECORD SHALL CONTACT THE NEWTON POLICE DEPARTMENT 48-HOURS IN ADVANCED AND ARRANGE FOR POLICE DETAIL TO HELP RESIDENTS AND COMMUTERS NAVIGATE AROUND THE CONSTRUCTION ZONE.
22. IF ANY CHANGES FROM THE FINAL APPROVED DESIGN PLAN ARE REQUIRED DUE TO UNFORESEEN SITE CONDITIONS, THE CONTRACTOR OF RECORD SHALL CONTACT THE DESIGN ENGINEER OF RECORD AND SUBMIT REVISED DESIGN AND STAMPED FULL SCALE PLANS FOR REVIEW AND APPROVAL PRIOR TO CONTINUING WITH CONSTRUCTION.

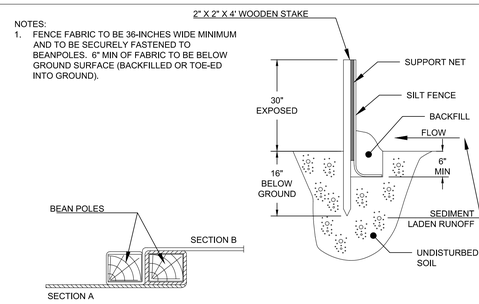


NOTES:
1. FENCING SHALL BE CHAIN LINK FENCE AS DIRECTED BY LANDSCAPE ARCHITECT OR APPROVED EQUIVALENT.
2. POST SHALL BE HOT ROLLED RAIL STEEL AND FORMED INTO A "T". DIMENSIONS OF "T" POST SECTION, APPROXIMATELY 1 7/16" X 1 5/16" X 1/8" X 6' (SIX FEET) LONG. THE POST SHALL BE PAINTED GREEN OR GALVANIZED.
3. THE FENCING SHALL REMAIN IN PLACE UNTIL ALL EXCAVATION HAS BEEN COMPLETED AND THE SURFACE HAS BEEN RE-ESTABLISHED

TREE PROTECTION
NOT TO SCALE

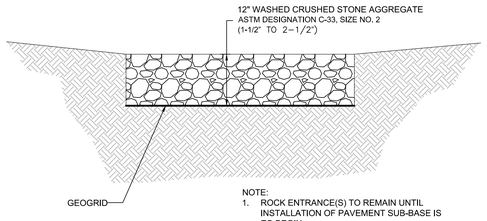


PLAN VIEW



NOTES:
1. FENCE FABRIC TO BE 36-INCHES WIDE MINIMUM AND TO BE SECURELY FASTENED TO BEANPOLES. 6" MIN OF FABRIC TO BE BELOW GROUND SURFACE (BACKFILLED OR TOE-ED INTO GROUND).

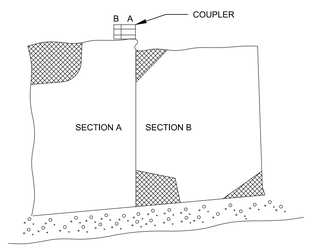
TOP VIEW



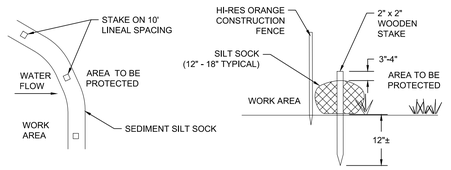
NOTE:
1. ROCK ENTRANCE(S) TO REMAIN UNTIL INSTALLATION OF PAVEMENT SUB-BASE IS TO BEGIN.
2. SEE SITE PLAN FOR LOCATION & ACTUAL DIMENSIONS

SECTION A-A

STONE CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



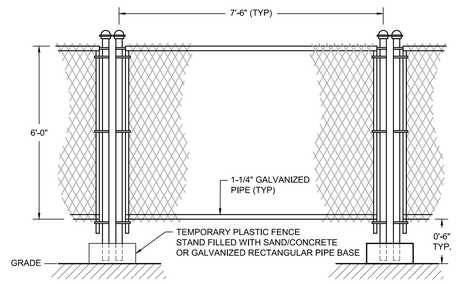
JOINING SECTIONS OF FENCE



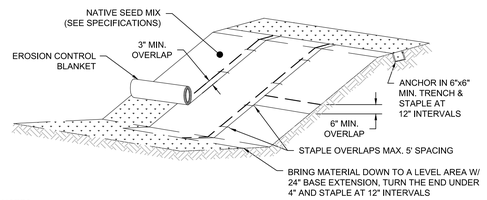
PLAN VIEW **SECTION**

NOTES:
1. SILT SOCK MANUFACTURER TO BE SILT SOXX OR ENGINEER APPROVED EQUAL.
2. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
3. SEDIMENT SILT SOCK TO BE FILLED WITH LEAF COMPOST AND/OR WOODY MULCH PER MANUFACTURER'S REQUIREMENTS.
4. FOLLOWING CONSTRUCTION AND SITE STABILIZATION, COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE, AS APPROVED BY THE ENGINEER.

SEDIMENT SILT SOCK DETAIL
NOT TO SCALE



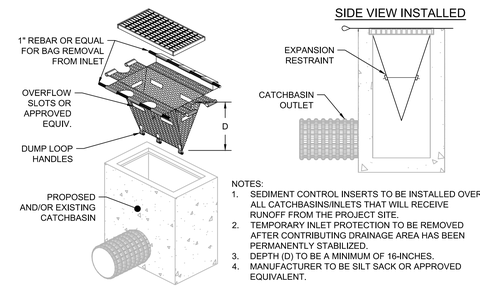
TEMPORARY CONSTRUCTION FENCE
NOT TO SCALE



NOTES:
1. EROSION CONTROL BLANKET TO BE ALL NATURAL MATERIAL SUITABLE FOR TEMPORARY STABILIZATION - NORTH AMERICAN GREEN BIONET S150BN OR APPROVED EQUIVALENT.
2. SLOPE SURFACE SHALL BE SMOOTH BEFORE PLACEMENT FOR PROPER SOIL CONTACT.
3. STAPLING PATTERN AS PER MANUFACTURER'S RECOMMENDATIONS.
4. DO NOT STRETCH BLANKETS/MATTINGS TIGHT. ALLOW THE ROLLS TO MOLD TO ANY IRREGULARITIES.
5. FOR SLOPES LESS THAN 3H:1V, ROLLS MAY BE PLACED IN HORIZONTAL STRIPS.
6. LIME, FERTILIZE AND SEED BEFORE INSTALLATION. PLANTING OF SHRUBS, TREES, ETC. SHOULD OCCUR AFTER INSTALLATION.

EROSION CONTROL BLANKET
NOT TO SCALE

EROSION/SILTATION CONTROL FENCE
NOT TO SCALE



NOTES:
1. SEDIMENT CONTROL INSERTS TO BE INSTALLED OVER ALL CATCHBASINS/INLETS THAT WILL RECEIVE RUNOFF FROM THE PROJECT SITE.
2. TEMPORARY INLET PROTECTION TO BE REMOVED AFTER CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.
3. DEPTH (D) TO BE A MINIMUM OF 16-INCHES.
4. MANUFACTURER TO BE SILT SACK OR APPROVED EQUIVALENT.

TEMPORARY CATCH BASIN INSERT WITH INLET PROTECTION
NOT TO SCALE

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: ABC

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

EROSION CONTROL DETAILS

1.3.14

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COUNTRYSIDE ELEMENTARY SCHOOL

Newton, MA

PLANTING LEGEND

ABBREVIATIONS		*SYMBOLS*	
EVER	EVERGREEN TREE		PROPOSED SHRUBS, GROUNDCOVER, PERENNIALS AND ANNUALS REFER TO PLANTING SCHEDULE
DEC	DECIDUOUS TREE		
S	SHRUBS		
CAL	CALIPER		PROPOSED TREES (DECIDUOUS AND EVERGREEN)
B&B	BALLED IN BURLAP		
TRIA. SP.	TRIANGULAR SPACING		
O.C.	ON CENTER SPACING		EXISTING TREES TO REMAIN
#3 CONT	#3 SIZED CONTAINER		
HT	HEIGHT		
SPR	SPREAD		LIMIT OF SEED MIX
SF	SQUARE FEET		

PLANTING NOTES

1. REFER TO LAWNS AND GRASSES SPECIFICATIONS FOR FURTHER INFORMATION ON LAWN SEED MIXES.
2. ANY AREAS OF THE SITE, NOT OTHERWISE DESIGNATED, WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE HYDROSEEDED LAWN, UNLESS OTHERWISE DIRECTED.
3. PLACE A 2" LAYER OF SHREDDED PINE BARK MULCH OVER ALL BEDS AND OVER ALL TREE PITS.
4. CONTRACTOR SHALL VERIFY PLANT COUNTS BY CONFIRMING PLANTING PLAN AND PLANT LIST FOR ACCURACY DURING THE BIDDING PROCESS. REPORT ANY DISCREPANCIES IMMEDIATELY FOR CLARIFICATION BY THE LANDSCAPE ARCHITECT DURING THE ADDENDUM PHASE OF THE PROJECT.
5. NO TREE OR SHRUB SHALL BE PLANTED BEFORE ACCEPTANCE OF FINISHED GRADING. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO ORIGINAL GRADE PRIOR TO DIGGING.

(1) QB
(1) LSM
(1) AS
SEED MIX
(282 SF) SHRUBS
(3) ARB
(192 SF) SHRUBS
(2) CO
(181 SF) SHRUBS
(3) ARB
(422 SF) SHRUBS
(1) LTE
(1) TL
POLLINATOR GARDEN (705 SF) SHRUBS
(2) ARB
(1615 SF) SHRUBS
(1) LSM
(1290 SF) SHRUB
SEED MIX
(1) TL
(1115 SF) SHRUBS
(1839 SF) SHRUBS
(1) TL
(4) ARB
(250 SF) SHRUBS
(1590 SF) SHRUBS
(1445 SF) SHRUBS
SEED MIX
(1) AS
(555 SF) SHRUBS
(135 SF) SHRUBS
(4) ARB
(160 SF) SHRUBS
(75 SF) SHRUBS
(620 SF) SHRUBS
(210 SF) SHRUBS
(75 SF) SHRUBS
SEED MIX
(112 SF) SHRUBS
(152 SF) SHRUBS
(1) ARB
(2) NS
SEED MIX
(279 SF) SHRUBS
(1) AS
(3) BNH
(70 SF) SHRUBS
(1) AS
(250 SF) SHRUBS
(2) ARB
(2) UAP
(1) QB
(1) AS
(3) NS
TREE TRENCH SHRUBS (202 SF)
SEED MIX
(1) AS

MATCHLINE 1.4.01 PLANTING

MATCHLINE 1.4.02 PLANTING

0 10 20 40 60

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100% DESIGN DEVELOPMENT

KEY PLAN

Called North N

NORTH ARROW | STAMP

Date: 16 February 2024

Drawn By: NAB

Scale: 1" = 20'-0"

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Planting Plan

1.4.01

PLANTING SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE			REMARKS
TREES (T) - DECIDUOUS - REFER TO NOTE 6						
ARB	ACER RUBRUM 'BOWHALL'	BOWHALL RED MAPLE	3 - 3½"	CAL.	B&B	NO BRANCHING BELOW 6' MIN.
AS	ACER SACCHARUM	SUGAR MAPLE	3 - 3½"	CAL.	B&B	NO BRANCHING BELOW 6' MIN.
BNH	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	8 - 10'	HT.	B&B	MULTISTEM
CO	CELTIS OCCIDENTALIS 'PRAIRIE SENTINEL'	PRAIRIE SENTINEL HACKBERRY	3 - 3½"	CAL.	B&B	NO BRANCHING BELOW 6' MIN.
LSM	LIQUIDAMBAR STYRACIFLUA 'MORAINE'	MORAINE SWEETGUM	3 - 3½"	CAL.	B&B	NO BRANCHING BELOW 6' MIN., FRUITLESS
LTE	LIRIODENDRON TULIPIFERA 'EMERALD CITY'	EMERALD CITY TULIP TREE	3 - 3½"	CAL.	B&B	NO BRANCHING BELOW 6' MIN., FRUITLESS
NS	NYSSA SYLVATICA	BLACKGUM	3 - 3½"	CAL.	B&B	NO BRANCHING BELOW 6' MIN.
QB	QUERCUS BICOLOR	SWAMP WHITE OAK	3 - 3½"	CAL.	B&B	NO BRANCHING BELOW 6' MIN.
TL	TILIA AMERICANA 'LEGEND'	LEGEND LINDEN	3 - 3½"	CAL.	B&B	NO BRANCHING BELOW 6' MIN.
UAP	ULMUS AMERICANA 'PRINCETON'	AMERICAN ELM	3 - 3½"	CAL.	B&B	NO BRANCHING BELOW 6' MIN.
SHRUBS (S) - DECIDUOUS						
CAH	CLETHERA ALNIFOLIA 'HUMMINGBIRD'	HUMMINGBIRD SUMMERSWEET	18 - 24"	HT. & SPR.	CONT.	30" O.C. TRIA. SP.
FG	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	18 - 24"	HT. & SPR.	CONT.	42" O.C. TRIA. SP., WHITE
HA	HYDRANGEA ARBORESCENS	SMOOTH HYDRANGEA	24 - 30"	HT. & SPR.	CONT.	36" O.C. TRIA. SP.
IV	ITEA VIRGINICA 'HENRY GARNET'	HENRY GARNET SWEETSPIRE	24 - 30"	HT. & SPR.	CONT.	36" O.C., TRIA. SP.
PF	POTENTILLA FRUTICOSA	SHRUBBY CINQUEFOIL	18 - 24"	HT. & SPR.	CONT.	48" O.C. TRIA. SP.
RA	RHUS AROMATICA 'GROW LOW'	GRO-LOW FRAGRANT SUMAC	18 - 24"	HT. & SPR.	CONT.	42" O.C. TRIA. SP.
SA	SPIREA ALBA LATIFOLIA	MEADOW SWEET	24 - 30"	HT. & SPR.	CONT.	48" O.C. TRIA. SP.
SB	SPIREA BUMALDA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	24"	HT. & SPR.	CONT.	48" O.C. TRIA. SP.
XS	XANTHORHIZA SIMPLICISSIMA	YELLOWROOT	12 - 15"	HT. & SPR.	CONT	24" O.C. TRIA. SP.
SHRUBS (S) - EVERGREEN						
IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY - COMPACT	30"	HT. & SPR.	CONT.	42" O.C. TRIA. SP. OR AS SHOWN
JUC	JUNIPERUS CHINENSIS SARGENTII	SARGENTII JUNIPER	18"	HT. & SPR.	CONT.	42" O.C. TRIA. SP.
JUH	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR JUNIPER	18"	HT. & SPR.	CONT.	42" O.C. TRIA. SP.
KLP	KALMIA LATIFOLIA PRISTINE	PRISTINE MOUNTAIN LAUREL	18 - 24"	HT.	CONT.	30" O.C. TRIA. SP.
LF	LEUCOTHOE FONTANESIANA	DROOPING LEUCOTHOE	#3		CONT.	36" O.C. TRIA. SP. OR AS SHOWN
RCR	RHODODENDRON CATAWBIENSE	RHODODENDRON	24 - 30"	HT. & SPR.	CONT.	40" O.C. TRIA. SP. OR AS SHOWN
SHRUBS (S) - GROUNDCOVER						
AU	ARCTOSTAPHYLOS UVA-URSI	BEARBERRY	#1		CONT.	24" O.C., TRIA. SP.
PP	PACHYSANDRA PROCUMBENS	ALLEGHENY SPURGE	#1		CONT.	18" O.C., TRIA. SP.
PERENNIALS (P) - GRASSES						
CP	CAREX PENSYLVANICA	PENNSYLVANIA SEDGE	#1		CONT.	8" O.C., TRIA. SP.
ES	ERAGROSTIS SPECTABILIS	PURPLE LOVEGRASS	#1		CONT.	12" O.C., TRIA. SP.
PV	PANICUM VIRGATUM	SWITCH GRASS	#1		CONT.	24" O.C., TRIA. SP.
SS	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	#2		CONT.	AS SHOWN

POLLINATOR GARDEN PLANTING SCHEDULE

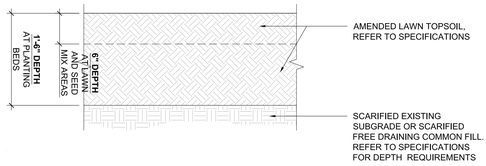
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE			REMARKS
TREES (T) - DECIDUOUS						
SC	SALIX DISCOLOR	PUSSY WILLOW	8 - 10'	HT.	B&B	LOW BRANCHING
TREES (T) - FLOWERING						
HV	HAMAMELIS VIRGINIANA	VIRGINIANA WITCHHAZEL	8 - 10'	HT.	B&B	HEAVY, YELLOW
SHRUBS (S) - DECIDUOUS						
ST	SPIREA TOMENTOSA	STEEPLEBUSH	18 - 24"	HT. & SPR.	CONT.	42" O.C. TRIA. SP., WHITE
PERENNIALS (P) - FLOWERING						
CL	COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS	#1		CONT.	15" O.C., TRIA. SP.
EP	ECHINACEA PURPUREA	EASTERN PURPLE CONEFLOWER	#1		CONT.	18" O.C., TRIA. SP.
ED	EURYBIA DIVARICATA	WHITE WOOD ASTER	#1		CONT.	15" O.C., TRIA. SP.
LS	LIATRIS SPICATA	BLAZING STAR	#1		CONT.	30" O.C., TRIA. SP.
PED	PENSTEMON DIGITALIS	FOXGLOVE BEARD TOUNGE	#1		CONT.	24" O.C., TRIA. SP.
RP	RATIBIDA PINNATA	GREY-HEAD CONEFLOWER	#1		CONT.	18" O.C., TRIA. SP.
RH	RUDBECKIA HIRTA	BLACK EYED SUSAN	#2		CONT.	24" O.C., TRIA. SP.
SR	SOLIDAGO RUGOSE	GOLDENROD	#1		CONT.	30" O.C., TRIA. SP.
SN	SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	#2		CONT.	24" O.C., TRIA. SP.
VV	VERONICASTRUM VIRGINICUM	CULVER'S ROOT	#2		CONT.	18" O.C., TRIA. SP.

PLANTING LEGEND

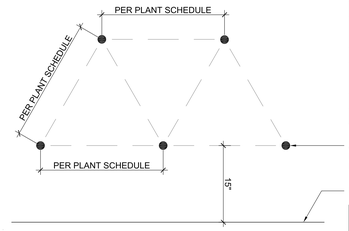
ABBREVIATIONS		SYMBOLS	
EVER	EVERGREEN TREE		PROPOSED SHRUBS, GROUNDCOVER, PERENNIALS AND ANNUALS REFER TO PLANTING SCHEDULE
DEC	DECIDUOUS TREE		
S	SHRUBS		
CAL	CALIPER		PROPOSED TREES (DECIDUOUS AND EVERGREEN)
B&B	BALLED IN BURLAP		
TRIA. SP.	TRIANGULAR SPACING		
O.C.	ON CENTER SPACING		EXISTING TREES TO REMAIN
#3 CONT	#3 SIZED CONTAINER		
HT	HEIGHT		
SPR	SPREAD		LIMIT OF SEED MIX
SF	SQUARE FEET		

PLANTING NOTES

1. REFER TO LAWNS AND GRASSES SPECIFICATIONS FOR FURTHER INFORMATION ON LAWN SEED MIXES.
2. ANY AREAS OF THE SITE, NOT OTHERWISE DESIGNATED, WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE HYDROSEEDED LAWN, UNLESS OTHERWISE DIRECTED.
3. PLACE A 2" LAYER OF SHREDDED PINE BARK MULCH OVER ALL BEDS AND OVER ALL TREE PITS.
4. CONTRACTOR SHALL VERIFY PLANT COUNTS BY CONFIRMING PLANTING PLAN AND PLANT LIST FOR ACCURACY DURING THE BIDDING PROCESS. REPORT ANY DISCREPANCIES IMMEDIATELY FOR CLARIFICATION BY THE LANDSCAPE ARCHITECT DURING THE ADDENDUM PHASE OF THE PROJECT.
5. NO TREE OR SHRUB SHALL BE PLANTED BEFORE ACCEPTANCE OF FINISHED GRADING. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO ORIGINAL GRADE PRIOR TO DIGGING.



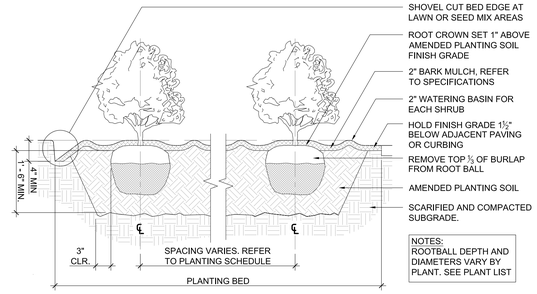
4 1.4.02 SOIL PREPARATION
SCALE: 1" = 1'-0"



NOTES:
NOTED DIMENSIONS ARE TO THE APPROXIMATE CENTER OF PLANT

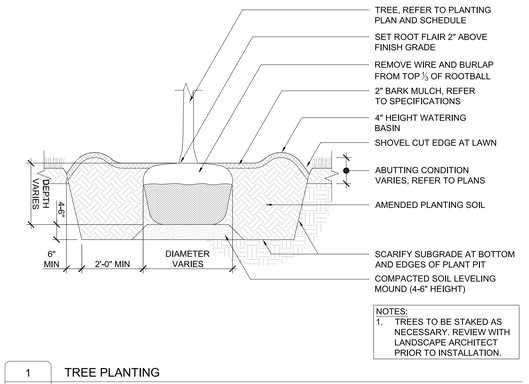
PLANT SPACING	PLANTS / S.F.
8" O.C.	2.6
10" O.C.	1.66
12" O.C.	1.15
15" O.C.	.733
18" O.C.	.512
24" O.C.	.291
30" O.C.	.185
36" O.C.	.128
42" O.C.	.105
48" O.C.	.0725

3 1.4.02 TRIANGULAR SPACING DIAGRAM
SCALE: 1" = 1'-0"



NOTES:
ROOTBALL DEPTH AND DIAMETERS VARY BY PLANT. SEE PLANT LIST

2 1.4.02 SHRUB / GROUNDCOVER / PERRENIAL PLANTING
SCALE: NTS



NOTES:
1. TREES TO BE STAKED AS NECESSARY. REVIEW WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

1 1.4.02 TREE PLANTING
SCALE: 1/2" = 1'-0"

MATCHLINE 1.4.01 PLANTING

MATCHLINE 1.4.02 PLANTING

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100% DESIGN DEVELOPMENT

KEY PLAN

Called North

NORTH ARROW | STAMP

Date: 16 February 2024
Drawn By: NAB
Scale: 1" = 20'-0"

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Planting Plan

1.4.02

DEMOLITION LEGEND	
— —	LIMIT OF WORK (LOW)
— · —	PROPERTY LINE
◯	TREE TO REMAIN
⊗	TREE TO BE REMOVED
⊗	TREE DOES NOT EXIST
— - —	TREE PROTECTION FENCING

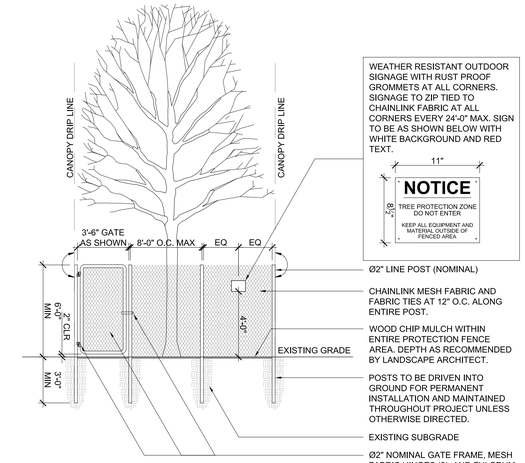
NOTES
1. ALL TREES SHOWN OUTSIDE THE LIMIT OF WORK ARE TO BE SAVED

TREE PROTECTION AND REMOVAL SCHEDULE

TYPE	4" (NOT INCLUDED IN CAL COUNT)	6"	8"	10"	14"	18"	24"	TOTAL TREE QTY.	TOTAL CAL. IN
TREES TO BE REMOVED	4	1	3	4	1	2	1	16	160
TREES TO BE REMOVED OVER 6" CALIPER								12	144

PROPOSED TREES TO OFFSET TREE REMOVAL (SEE SHEET 1.4.01 AND 1.4.02)

TYPE	3" CAL	TOTAL TREE QTY.	TOTAL CAL. IN
DECIDUOUS TREES	48		
OVERALL TOTAL PROPOSED		48	144



NOTE:
1. ALL FENCING MATERIALS AND HARDWARE TO BE GALVANIZED STEEL UNLESS OTHERWISE NOTED.
2. DO NOT STORE ANY MACHINERY OR MATERIALS WITHIN FENCED AREA UNLESS OTHERWISE DIRECTED.

1 / 1.4.03 TREE PROTECTION FENCING
SCALE: 1/2" = 1'-0"

TREE PROTECTION FENCING
4" CAL TREE TO BE REMOVED NOT INCLUDED IN TREE REMOVAL COUNT
4" CAL TREE TO BE REMOVED NOT INCLUDED IN TREE REMOVAL COUNT
4" CAL TREE TO BE REMOVED NOT INCLUDED IN TREE REMOVAL COUNT
TREE PROTECTION FENCING
TREE PROTECTION FENCING
TREE PROTECTION FENCING
TREE PROTECTION FENCING

0 10 30 60 90

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100% DESIGN DEVELOPMENT

KEY PLAN

Called North N

NORTH ARROW | STAMP

Date: 16 February 2024

Drawn By: NAB

Scale: 1" = 30'-0"

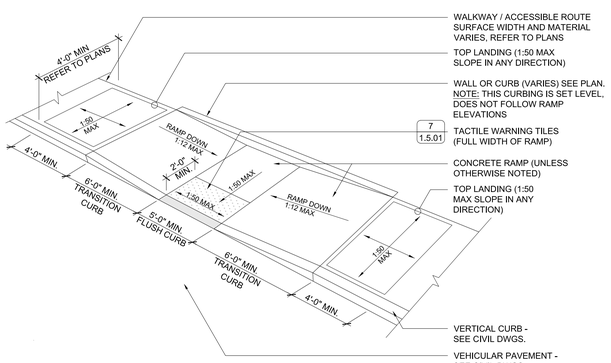
Revisions

Number	Date	Description

DESIGN DEVELOPMENT

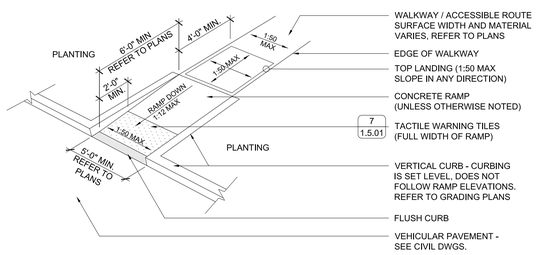
TREE PROTECTION AND REMOVAL PLAN

1.4.03



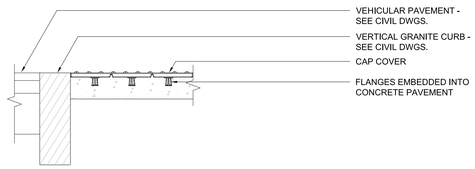
5 1.5.01 CURB CUT RAMP - TYPE 2

SCALE: 1/4" = 1'-0"

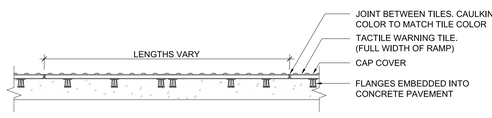


6 1.5.01 CURB CUT RAMP - TYPE 3

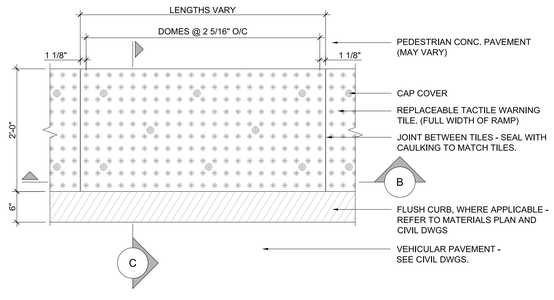
SCALE: 1/4" = 1'-0"



C SECTION - AT CURB



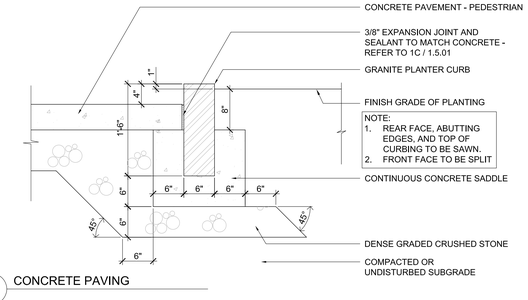
B SECTION - TYPICAL



A PLAN - TYPICAL

7 1.5.01 DETECTABLE TACTILE WARNING TILES - REPLACEABLE

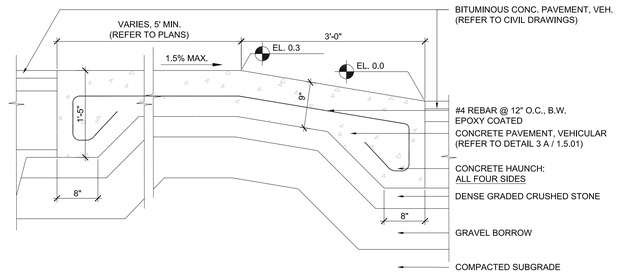
SCALE: 1" = 1'-0"



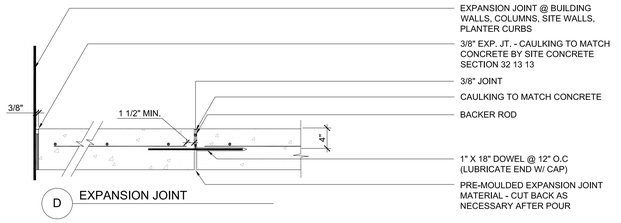
A CONCRETE PAVING

8 1.5.01 GRANITE PLANTER CURB

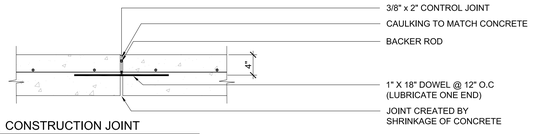
SCALE: 1" = 1'-0"



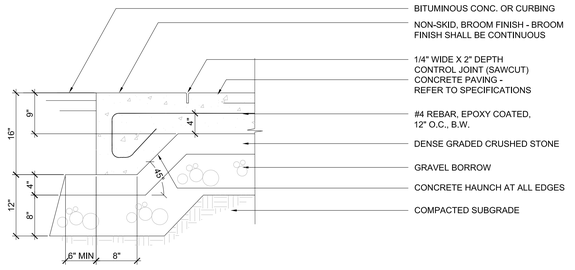
E APRONS AT ENTRY DRIVE



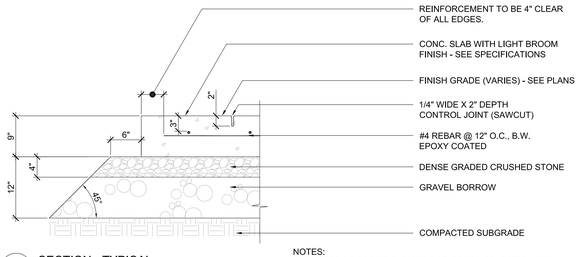
D EXPANSION JOINT



C CONSTRUCTION JOINT



B AT ABUTTING PAVEMENT

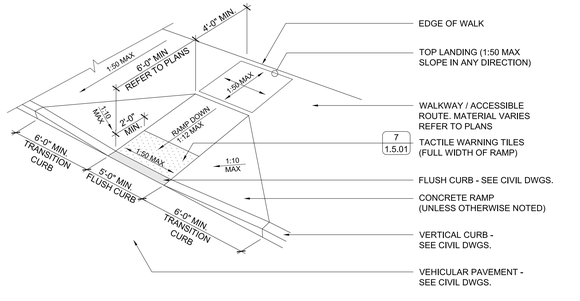


A SECTION - TYPICAL

NOTES:
1. REFER TO SPECIFICATIONS FOR COLOR SELECTION AND FURTHER INFORMATION.
2. EXPANSION JOINTS 20'-0" O.C. UNLESS SHOWN OTHERWISE.
3. SAWCUT EDGES AND JOINTS, ALL PANELS.
4. WHERE SAWCUT JOINT IS REQUIRED, DEPTH TO BE 2".
5. WHERE EXPANSION JOINT ABUTS WALL OR OTHER VERTICAL SURFACE, DELETE EXPANSION SLEEVE AND DOWEL.
6. ALL TOOL MARKS ARE TO BE SMOOTHED OUT BY A LIGHT BROOM FINISH AFTER APPLICATION UNLESS SPECIAL TREATMENT IS CALLED FOR - SEE PLANS. NO RE-TOOLING OF JOINTS AFTER APPLICATION OF BROOM FINISH.

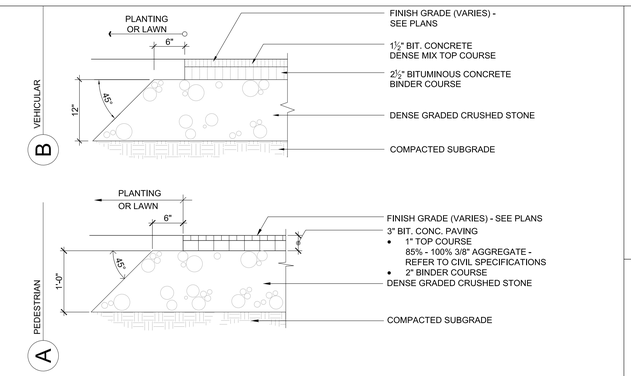
3 1.5.01 CONCRETE PAVEMENT - VEHICULAR

SCALE: 1" = 1'-0"



4 1.5.01 CURB CUT RAMP - TYPE 1

SCALE: 1/4" = 1'-0"

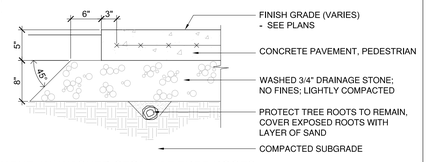


1 1.5.01 BITUMINOUS CONCRETE PAVEMENT

SCALE: 1" = 1'-0"

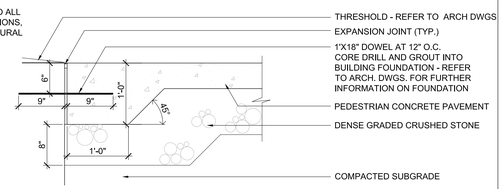
NOTES:

1. EXCAVATE W/ AIR-SPADE ONLY OR BY HAND. NO MECHANICAL EQUIPMENT TO BE USED FOR EXCAVATION AROUND TREE ROOTS.
2. IF ROOTS ARE ENCOUNTERED, CONTACT ARBORIST AND LANDSCAPE ARCHITECT. DO NOT TEAR OR DRAG ANY ROOTS. CLEAN CUT THEM ONLY.
3. REFER TO DETAIL 2 A / 1.5.01 FOR ADDITIONAL INFORMATION REGARDING CONCRETE PAVEMENT.

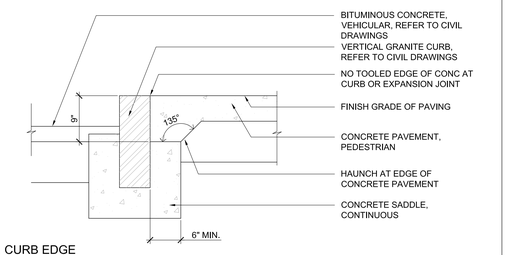


G CONC. PAVEMENT. W/ WASHED STONE AT TREE ROOTS

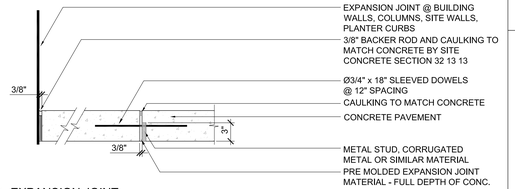
NOTE: FOR FURTHER INFORMATION ON THIS AND ALL OTHER DOOR SILL CONDITIONS, REFER TO THE ARCHITECTURAL AND STRUCTURAL DWGS.



F CONC. PAVEMENT. AT DOOR THRESHOLD



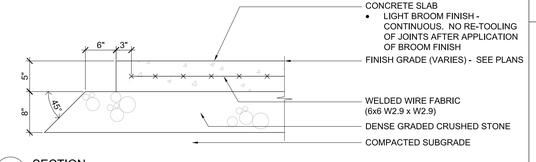
E CURB EDGE



D EXPANSION JOINT

C CONSTRUCTION JOINT

B CONTROL JOINT



A SECTION

2 1.5.01 CONCRETE PAVEMENT - PEDESTRIAN

SCALE: 1" = 1'-0"

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100% DESIGN DEVELOPMENT

KEY PLAN

Called North N

NORTH ARROW | STAMP

Date: 16 February 2024

Drawn By: NAB

Scale: AS NOTED

Revisions

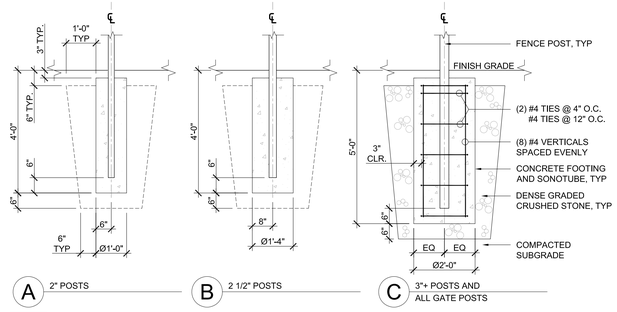
Number	Date	Description

DESIGN DEVELOPMENT

Details

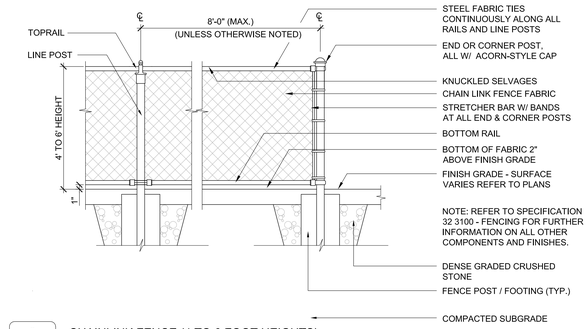
1.5.01

NOTE:
1. **ALL PIPE SIZES NOTED ARE NOMINAL PIPE SIZES (NPS)** - REFER TO SPECIFICATIONS SECTION 32 3100-FENCING FOR SPECIFIC PIPE SIZES FOR ALL POSTS.
2. ALL CONCRETE FOOTINGS TO BE HELD 3" BELOW FINISH GRADE AND SLOPED TO DRAIN WATER AWAY FROM POST.
3. ALL NOTES ON SUB-DETAIL A ARE TYPICAL TO SUB-DETAIL B AND C, UNLESS OTHERWISE NOTED.
4. PROVIDE FULL DIMENSIONED AND ENGINEER STAMPED SHOP DRAWINGS AND CALCULATIONS FOR REINFORCED CONCRETE FOOTING.

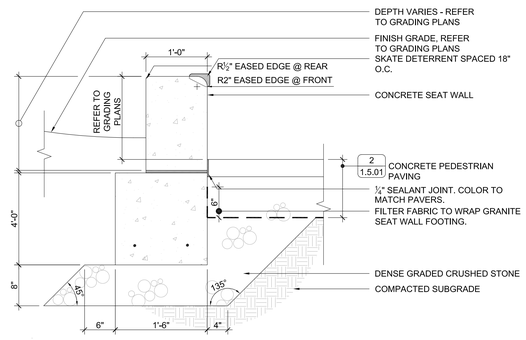


A 2" POSTS
B 2 1/2" POSTS
C 3"+ POSTS AND ALL GATE POSTS

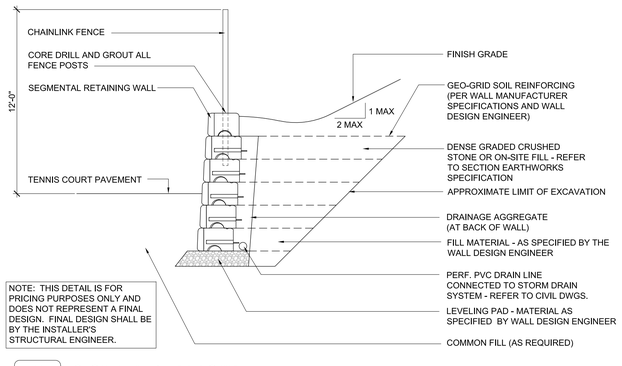
6 / 1.5.02 CHAINLINK FENCE AND GATE POST FOOTINGS
SCALE: 1/2" = 1'-0"



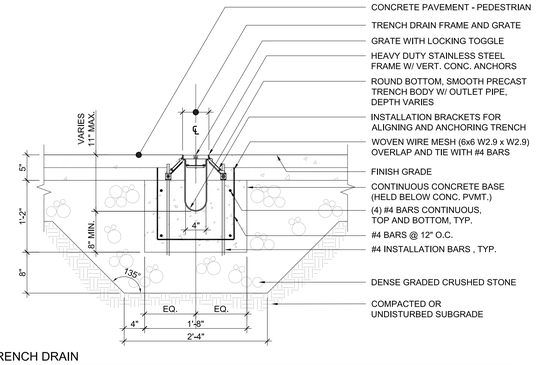
9 / 1.5.02 CHAINLINK FENCE (4 TO 6 FOOT HEIGHTS)
SCALE: 1/2" = 1'-0"



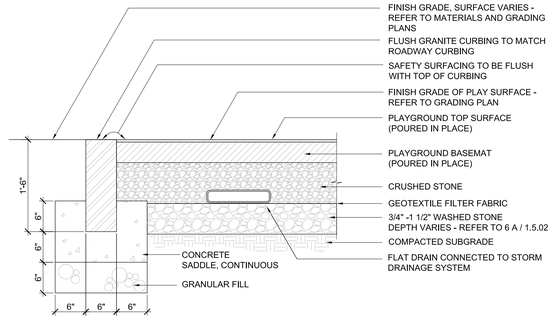
10 / 1.5.02 CONCRETE SEAT WALL
SCALE: 1" = 1'-0"



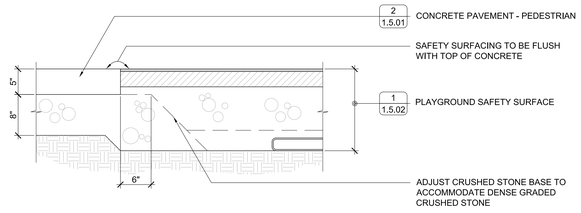
11 / 1.5.02 SEGMENTAL RETAINING WALL
SCALE: 1/4" = 1'-0"



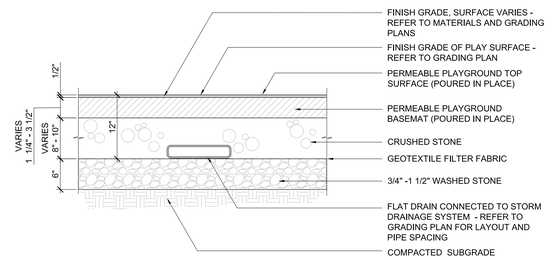
12 / 1.5.02 TRENCH DRAIN
SCALE: 1" = 1'-0"



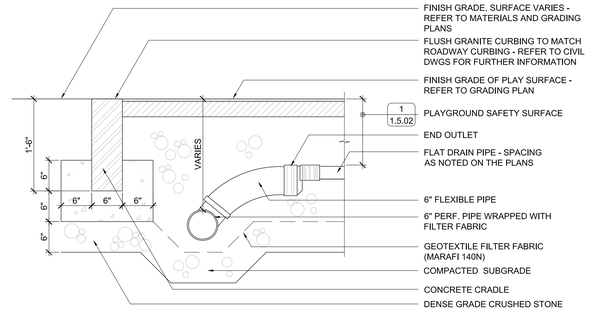
B FLUSH GRANITE CURBING AT PLAYGROUND SAFETY SURFACE



D SAFETY SURFACING AT CONC. PVMT. / TRENCH DRAIN



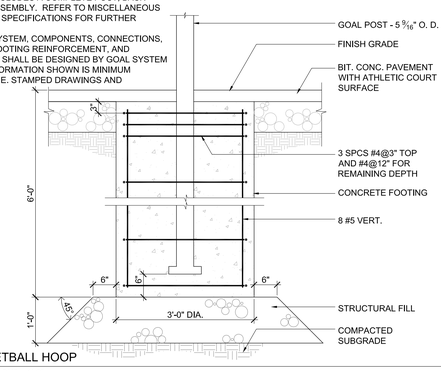
A PLAYGROUND SAFETY SURFACE - SECTION



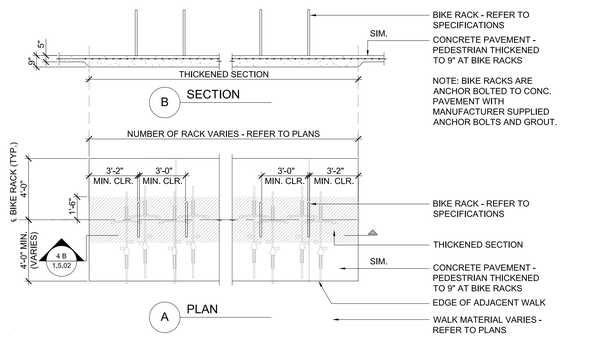
C COLLECTOR DRAIN PIPE

1 / 1.5.02 PLAYGROUND SAFETY SURFACE
SCALE: 1" = 1'-0"

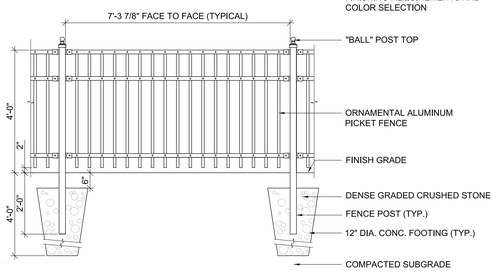
NOTES:
1. BASKETBALL GOAL INCLUDES A COMPLETE POST, BACK BOARD AND HOOP ASSEMBLY. REFER TO MISCELLANEOUS SITE IMPROVEMENTS SPECIFICATIONS FOR FURTHER INFORMATION.
2. BASKETBALL GOAL SYSTEM, COMPONENTS, CONNECTIONS, POSTS, FOOTINGS, FOOTING REINFORCEMENT, AND EMBEDMENT DEPTHS SHALL BE DESIGNED BY GOAL SYSTEM MANUFACTURER. INFORMATION SHOWN IS MINIMUM REQUIRED. SUBMIT P.E. STAMPED DRAWINGS AND CALCULATIONS.



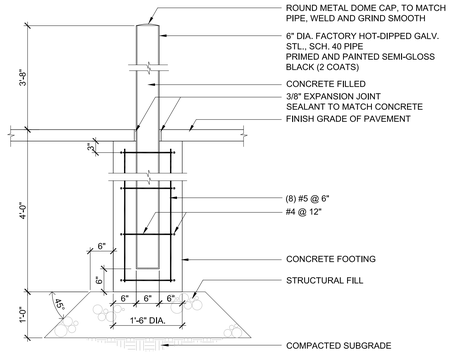
2 / 1.5.02 BASKETBALL HOOP
SCALE: 3/4" = 1'-0"



3 / 1.5.02 BIKE RACKS
SCALE: 1/4" = 1'-0"

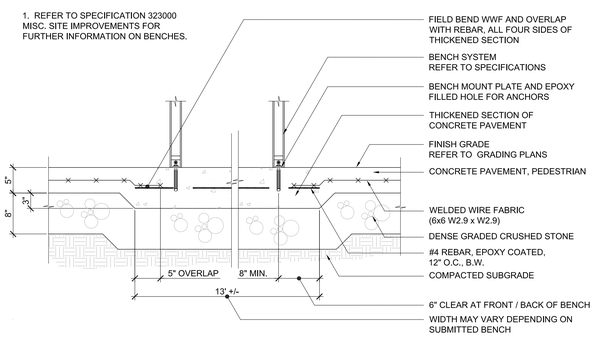


4 / 1.5.02 ALUMINUM PICKET FENCE AND FOOTINGS
SCALE: 1/2" = 1'-0"

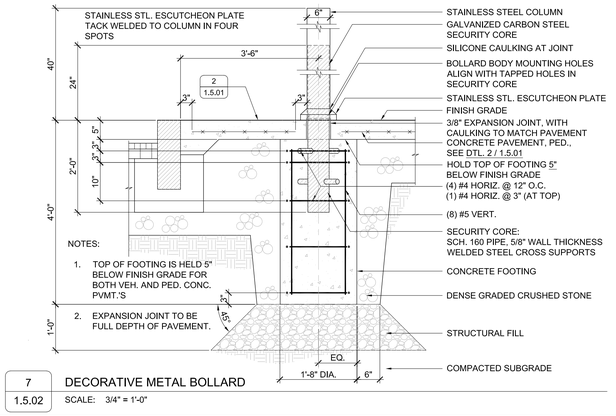


5 / 1.5.02 METAL BOLLARD
SCALE: 3/4" = 1'-0"

NOTE:
1. REFER TO SPECIFICATION 323000 MISC. SITE IMPROVEMENTS FOR FURTHER INFORMATION ON BENCHES.



6 / 1.5.02 BENCH MOUNT - ON GRADE AND THICKENED SLAB
SCALE: 1" = 1'-0"



7 / 1.5.02 DECORATIVE METAL BOLLARD
SCALE: 3/4" = 1'-0"

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100% DESIGN DEVELOPMENT

KEY PLAN

Called North N

NORTH ARROW | STAMP

Date: 16 February 2024

Drawn By: NAB

Scale: AS NOTED

Revisions

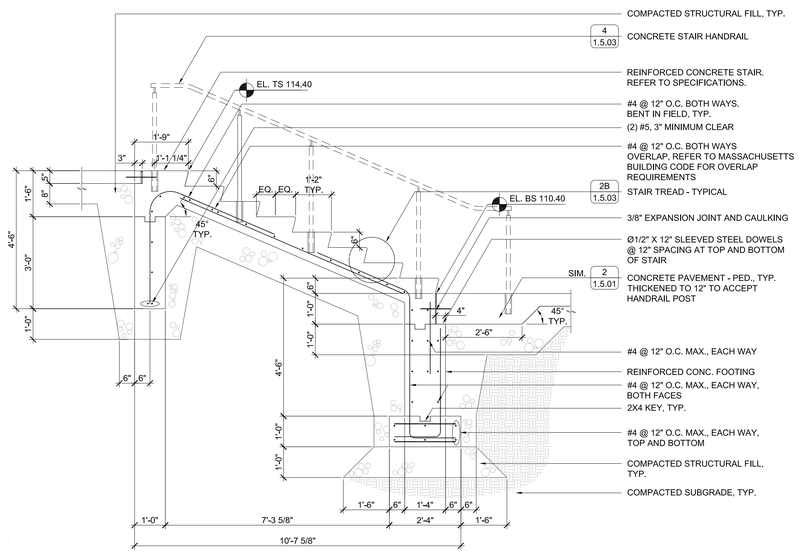
Number	Date	Description

DESIGN DEVELOPMENT

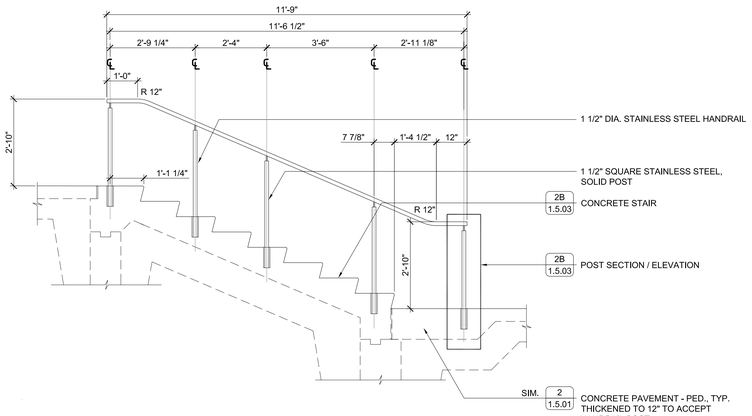
Details

1.5.02

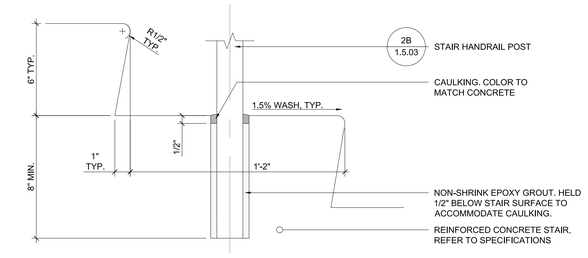
NOTES:
1. ALL STAIR SURFACES SHALL HAVE A LIGHT SAND BLAST FINISH



3 / 1.5.03 CONCRETE STAIR B - SECTION
SCALE: 1/2" = 1'-0"

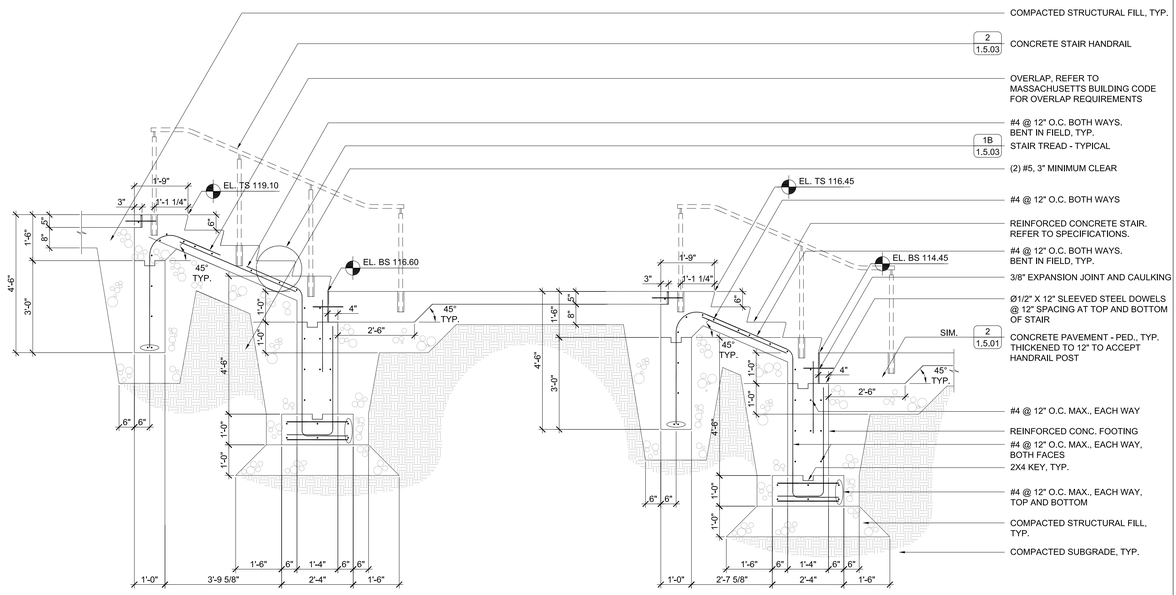


4 / 1.5.03 CONCRETE STIAR HANDRAIL B - EVEVATION
SCALE: 1/2" = 1'-0"



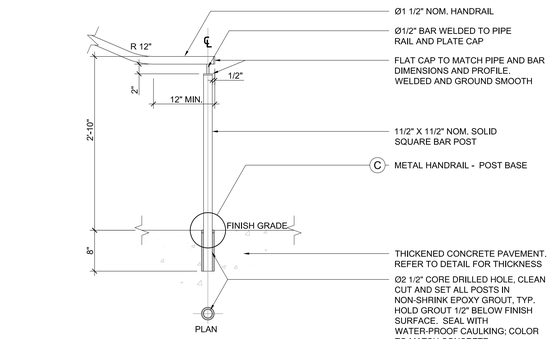
B STAIR TREAD ENLARGEMENT (6 RISER : 14 TREAD)
SCALE: 3" = 1'-0"

NOTES:
1. ALL STAIR SURFACES SHALL HAVE A LIGHT SAND BLAST FINISH

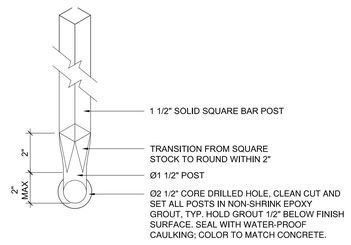


A SECTION
SCALE: 1/2" = 1'-0"

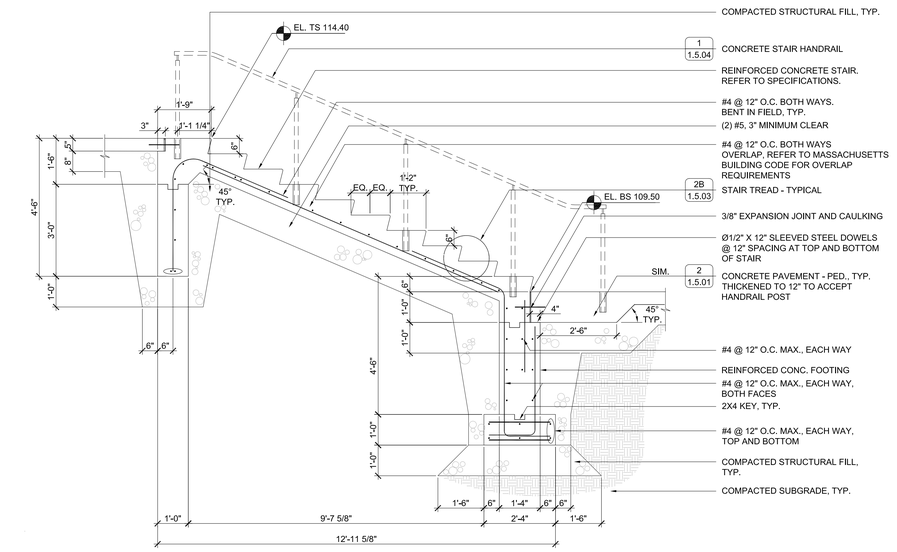
1 / 1.5.03 CONCRETE STAIR A - SECTION
SCALE: 1/2" = 1'-0"



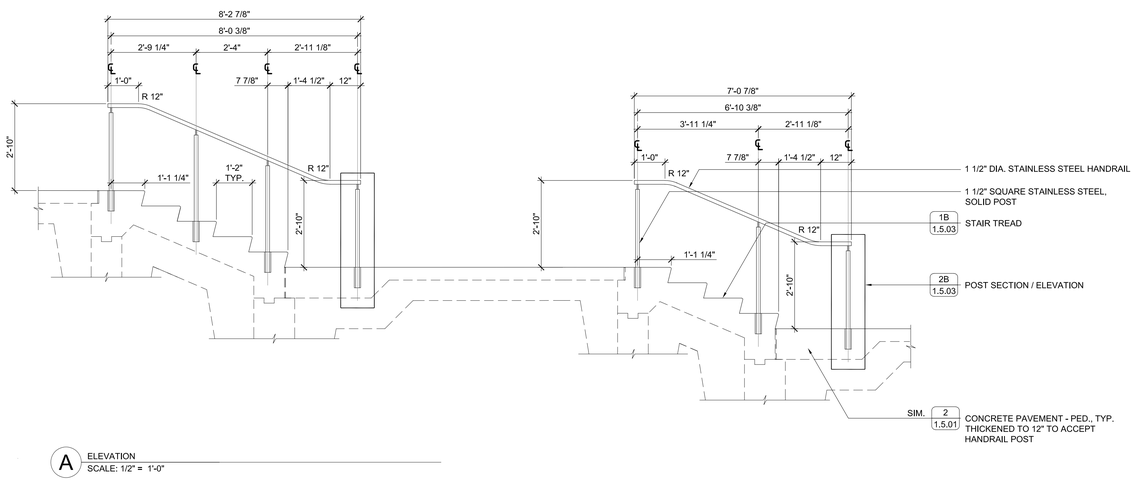
B POST SECTION / ELEVATION
SCALE: 1" = 1'-0"



C POST BASE - ISOMETRIC
SCALE: 3" = 1'-0"



5 / 1.5.03 CONCRETE STAIR C - SECTION
SCALE: 1/2" = 1'-0"



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

2 / 1.5.03 CONCRETE STAIR HANDRAIL A - EVEVATION
SCALE: 1/2" = 1'-0"

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100% DESIGN DEVELOPMENT

KEY PLAN

Called North N

NORTH ARROW STAMP

Date: 16 February 2024

Drawn By: NAB

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Number	Date	Description

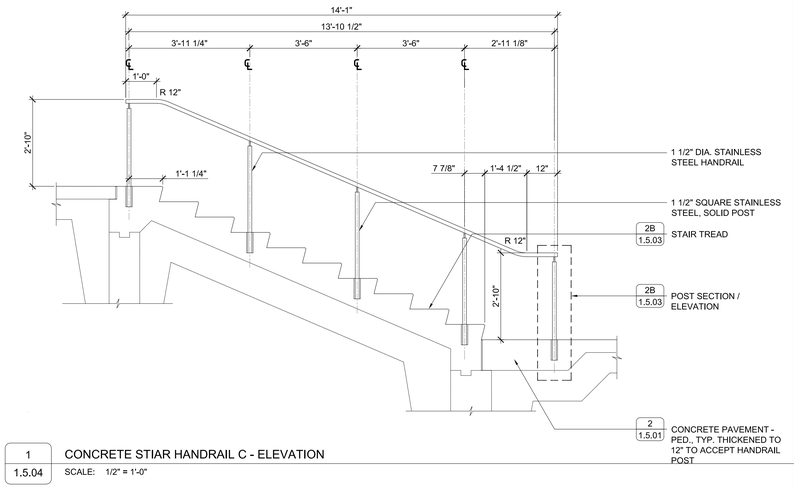
DESIGN DEVELOPMENT

Details

1.5.03

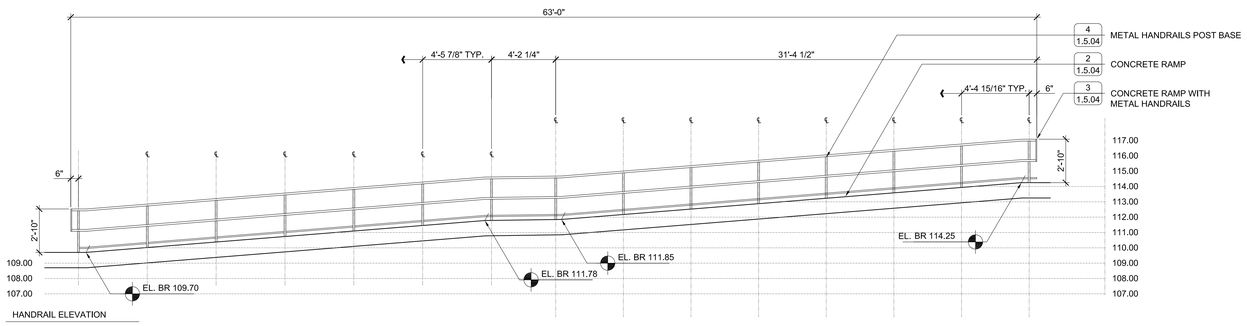
5 | 1.5.04 HANDICAPPED RAMP ELEATION KEY PLAN

SCALE: 1" = 10'-0"



1 | 1.5.04 CONCRETE STIAR HANDRAIL C - ELEVATION

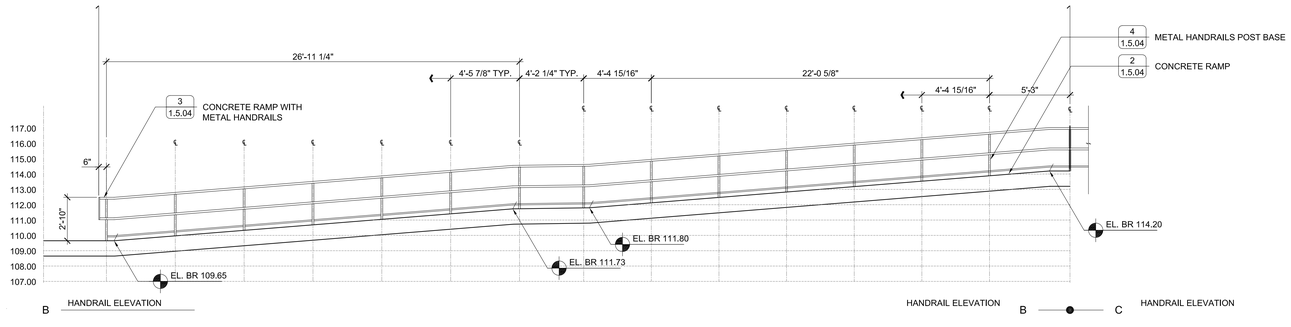
SCALE: 1/2" = 1'-0"



A HANDRAIL ELEVATION

6 | 1.5.04 HANDICAPPED RAMP RAILING ELEVATION A

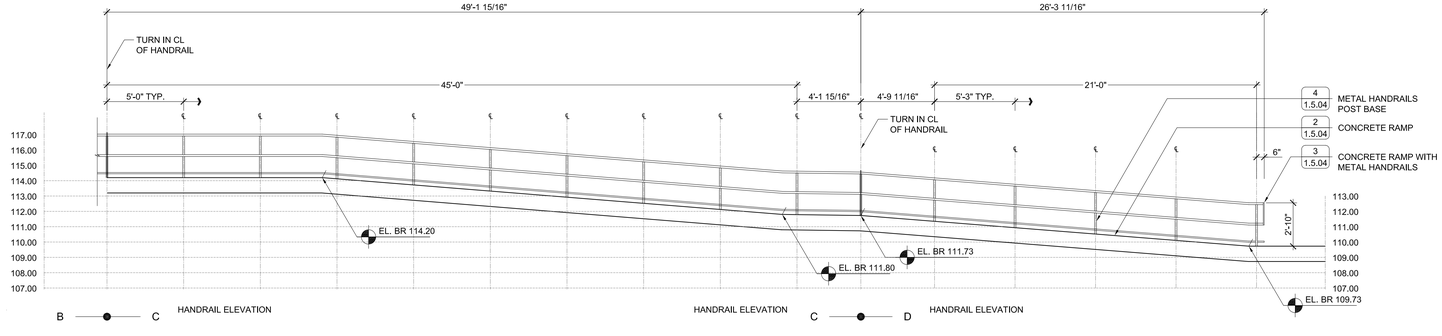
SCALE: 1/4" = 1'-0"



B HANDRAIL ELEVATION — HANDRAIL ELEVATION B ● C HANDRAIL ELEVATION

7 | 1.5.04 HANDICAPPED RAMP RAILING ELEVATION B

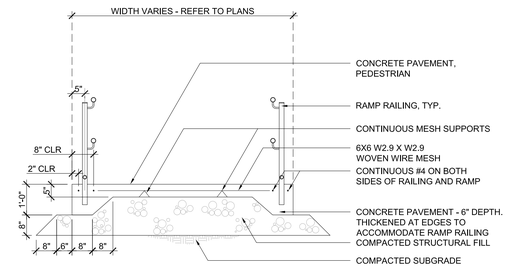
SCALE: 1/4" = 1'-0"



B ● C HANDRAIL ELEVATION — HANDRAIL ELEVATION C ● D HANDRAIL ELEVATION

8 | 1.5.04 HANDICAPPED RAMP RAILING ELEVATION C AND D

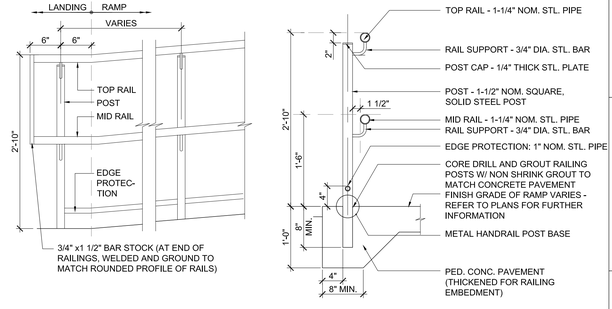
SCALE: 1/4" = 1'-0"



A SECTION

2 | 1.5.04 CONCRETE RAMP

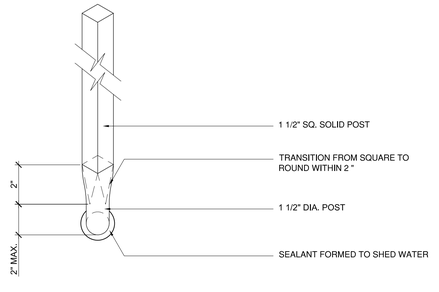
SCALE: 1/2" = 1'-0"



B ELEVATION — C SECTION

3 | 1.5.04 CONCRETE RAMP WITH METAL HANDRAILS

SCALE: 1" = 1'-0"



4 | 1.5.04 METAL HANDRAILS POST BASE

SCALE: 3" = 1'-0"

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KEY PLAN

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NORTH ARROW — STAMP

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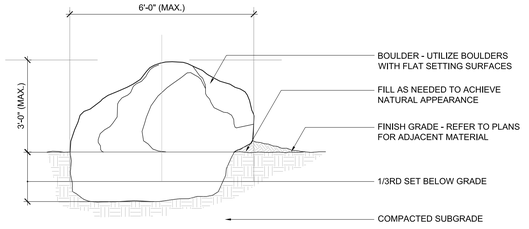
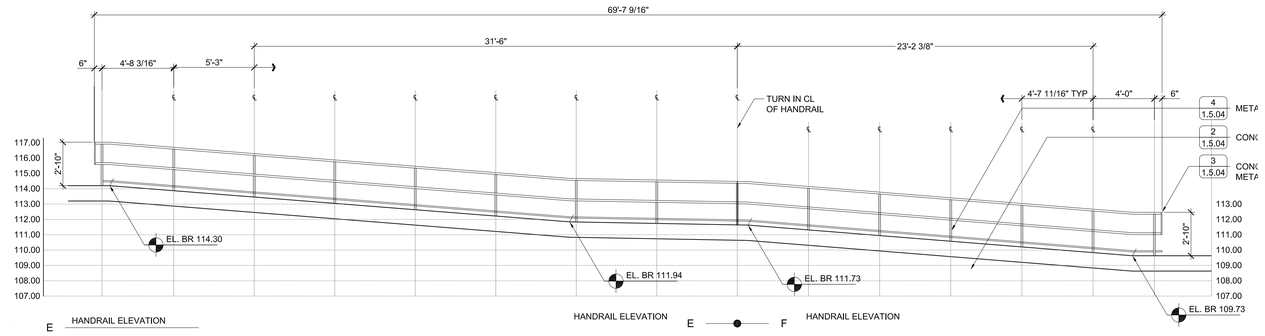
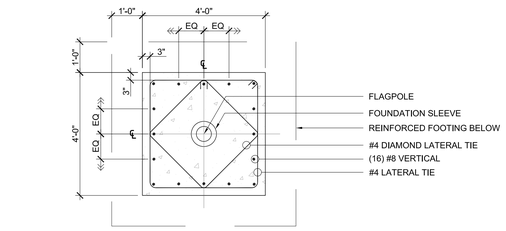
1.5.04



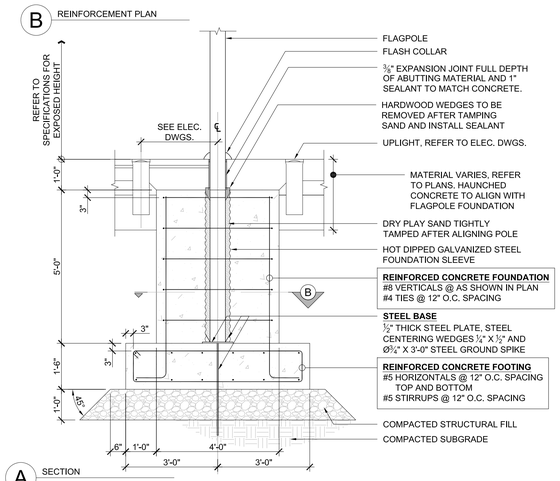
7 / 1.5.05 STONE BOULDER
SCALE: 1/2" = 1'-0"



1 / 1.5.05 HANDICAPPED RAMP RAILING ELEVATION E AND F
SCALE: 1/4" = 1'-0"



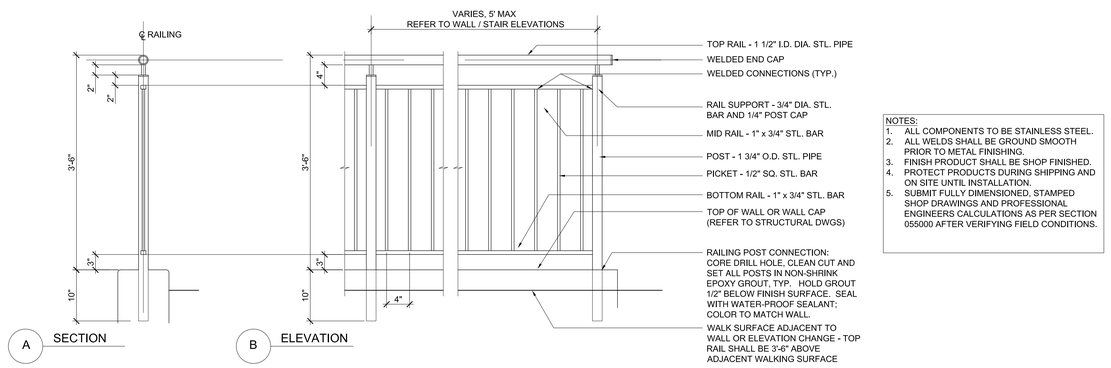
B REINFORCEMENT PLAN



A SECTION

NOTE:
1. INFORMATION SHOWN IS MINIMUM REQUIRED. PROVIDE FULL DIMENSIONED AND ENGINEER STAMPED SHOP DRAWINGS AND CALCULATIONS.
2. FOUNDATION DESIGN BASED ON FLAGPOLE MAXIMUM(S):
   (a) 45'-0" HEIGHT
   (b) 10" BUTT DIAMETER
   (c) FLAG AREA OF 150 SQ FT.

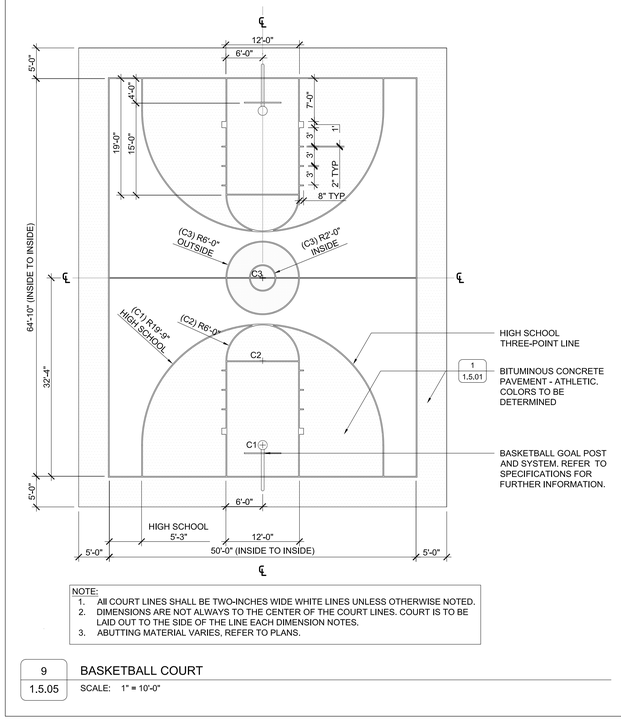
8 / 1.5.05 FLAGPOLE BASE
SCALE: 1/2" = 1'-0"



A SECTION
B ELEVATION

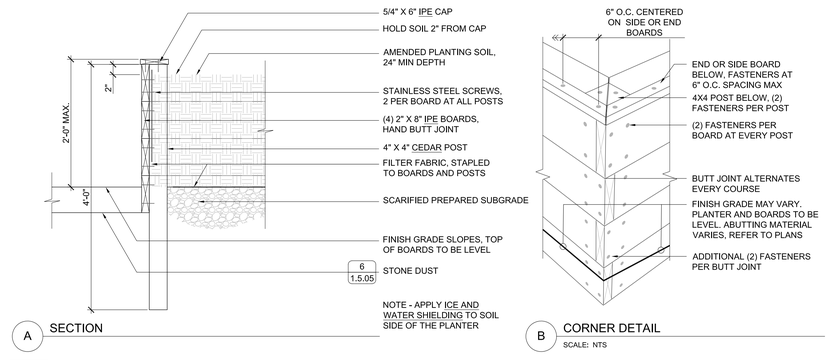
NOTES:
1. ALL COMPONENTS TO BE STAINLESS STEEL.
2. ALL WELDS SHALL BE GROUND SMOOTH PRIOR TO METAL FINISHING.
3. FINISH PRODUCT SHALL BE SHOP FINISHED.
4. PROTECT PRODUCTS DURING SHIPPING AND ON SITE UNTIL INSTALLATION.
5. SUBMIT FULLY DIMENSIONED, STAMPED SHOP DRAWINGS AND PROFESSIONAL ENGINEERS CALCULATIONS AS PER SECTION 055000 AFTER VERIFYING FIELD CONDITIONS.

2 / 1.5.05 PEDESTRIAN GUARDRAIL
SCALE: 1" = 1'-0"



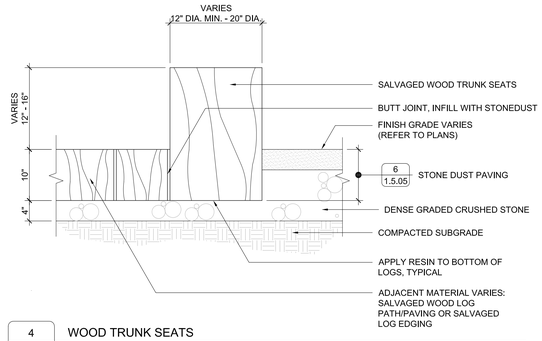
NOTE:
1. All COURT LINES SHALL BE TWO-INCHES WIDE WHITE LINES UNLESS OTHERWISE NOTED.
2. DIMENSIONS ARE NOT ALWAYS TO THE CENTER OF THE COURT LINES. COURT IS TO BE LAID OUT TO THE SIDE OF THE LINE EACH DIMENSION NOTES.
3. ABUTTING MATERIAL VARIES, REFER TO PLANS.

9 / 1.5.05 BASKETBALL COURT
SCALE: 1" = 10'-0"

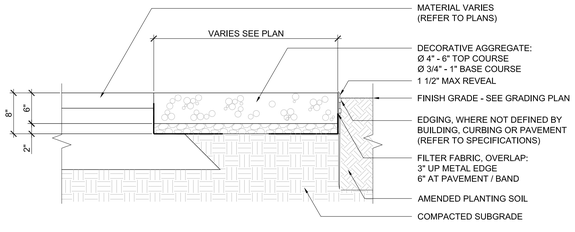


A SECTION
B CORNER DETAIL
SCALE: NTS

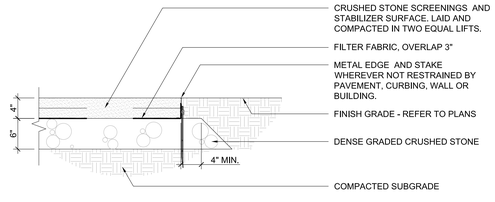
3 / 1.5.05 WOOD PLANTER
SCALE: 1" = 1'-0"



4 / 1.5.05 WOOD TRUNK SEATS
SCALE: 1" = 1'-0"



5 / 1.5.05 DECORATIVE AGGREGATE BED
SCALE: 1" = 1'-0"



6 / 1.5.05 STONE DUST PAVING
SCALE: 1" = 1'-0"

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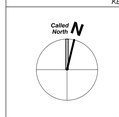
100% DESIGN DEVELOPMENT

KEY PLAN



NORTH ARROW STAMP

Date: 16 February 2024

Drawn By: NAB

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Details

1.5.05

SYMBOLS

	COMPOUND PRESSURE GAUGE		PRESSURE RELIEF VALVE
	PRESSURE GAUGE 0-100 PSI		MOTORIZED BALL VALVE
	PRESSURE SUSTAINING VALVE		ISOLATION VALVE
	TEMPERATURE GAUGE		CHECK VALVE
TS	TEMPERATURE SENSOR	DPT	DIFFERENTIAL PRESSURE TRANSDUCER
PT	PRESSURE TRANSDUCER		CIRCUIT SETTER
	PETE'S TEST PORT		CONCENTRIC REDUCER
	PUMP	BTU	BTU METER
	3-WAY VALVE		CIRCUIT SETTER
	EXPANSION TANK		STRAINER
FM	FLOW METER		FLUSH/PURGE TANK

HATCHES

CONCRETE / FACILITY

FINISHED GRADE

BEDROCK

OVERBURDEN

FOAM

SHEET INDEX

SHEET NUMBER	SHEET DESCRIPTION
1.8.01	GEOTHERMAL GENERAL
1.8.02	GEOTHERMAL GSHX SITE LAYOUT
1.8.03	GEOTHERMAL DETAILS
1.8.04	GEOTHERMAL DIAGRAMS AND SCHEDULES
1.8.05	GEOTHERMAL TESTING

DESIGN BASIS:

1. HEATING/COOLING PEAK LOAD BASIS PER VAV INTERNATIONAL 01/29/24. ANNUAL ENERGY BASIS PER THORNTON TOMASETTI HOURLY LOADS MODEL 02/08/24.
   -HEATING PEAK LOAD 1306.9 MBH
   -HEATING ANNUAL ENERGY 187,236 KBTU
   -COOLING PEAK LOAD 2364 MBH (197 TONS)
   -COOLING ANNUAL ENERGY 948,841 KBTU
2. ALTERNATE LOAD OF ADDITIONAL 21 TONS COOLING FOR ELECTRICAL AND IT ROOM.
3. DESIGN BASED UPON NINE (9) MITSUBISHI PORY \RF HEAT PUMP/RECOVERY MODULES, 188 NOMINAL TONS "OTAL.
4. FROM THE ABOVE LOAD AND ENERGY BASIS, ALONG WITH DESIGN DETAILS HEREIN, THE ENTERING WATER TEMPERATURE FROM THE GEOTHERMAL SYSTEM DESIGN LIMITS ARE 32F MINIMUM, 85F MAXIMUM.
5. SEE SPECIFICATION 237000 FOR DETAILS ON INSTALLATION AND STARTUP OF GEOTHERMAL BOREFIELD AND SYSTEM.

GENERAL NOTES:

1. TRENCHING, SAND BEDDING, BACKFILL, AND VAULT INSTALLATION BY GEOTHERMAL CONTRACTOR. ALL OSHA, STATE AND LOCAL SAFETY REGULATIONS MUST BE MET.
2. GEOTHERMAL CONTRACTOR TO TEST, BACK FILL AND CHARGE GEOTHERMAL PIPING UP TO ISOLATION VALVES INSIDE BUILDING WITH 25% SOLUTION BY VOLUME OF PROPYLENE GLYCOL ANTIFREEZE PER SPECIFICATIONS.
3. ALL NON-MANIFOLD PIPING SHALL BE SIZED TO NOT EXCEED 5.0 FPS AT PEAK FLOW.
4. TOTAL DYNAMIC HEAD OF GEOTHERMAL CIRCULATOR PUMP TO BE FINALIZED AFTER BORES AND MANIFOLD HAVE BEEN FINALIZED TO PREVENT UNDER OR OVERSIZING.
5. ALL HORIZONTAL UNDERGROUND PIPING TO BE HDPE PER SPECIFICATION & MIN 4' DEPTH.
6. ALL UNDERGROUND CONNECTIONS TO BE HEAT FUSED BY AN IGSHPA CERTIFIED INSTALLER.
7. ALL BOREHOLE PARAMETERS SHOWN ARE TYPICAL & SUBJECT TO CHANGE AFTER BORES ARE DRILLED TESTED
8. INSTALLED U-BENDS IN BORES SHALL BE GROUTED PER SPECIFICATIONS
9. ALL BOREHOLES SHALL BE IN PARALLEL CONFIGURATION WITH UNIFORM DEPTHS, OTHER THAN THE INCORPORATED TEST BORES WHICH ARE SHORTER.
10. PRIOR TO ADDING ANTIFREEZE, WATER IN GSHX MUST MEET THE MINIMUM WATER QUALITY STANDARDS OF THE ANTIFREEZE AND HEAT PUMP MANUFACTURERS. IN-PLACE CONDITIONING OF THE GSHX WATER MAY BE NECESSARY.
11. SYSTEM SHALL BE PRE-CHARGED TO 50PSI FOR WINTER INSTALLATION, 30PSI FOR SUMMER INSTALLATION.
12. INSULATE ANY WATER BEARING CONDUITS WITHIN 5FT OF GEOTHERMAL HDPE PIPING PER 3.1 OF SPECIFICATION 237000.

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KEY PLAN

N Called North

NORTH ARROW

STAMP

Date: 21 FEBRUARY 2024

Drawn By: ***CR***

Scale: **NTS**

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

GEOTHERMAL GENERAL

1.8.01

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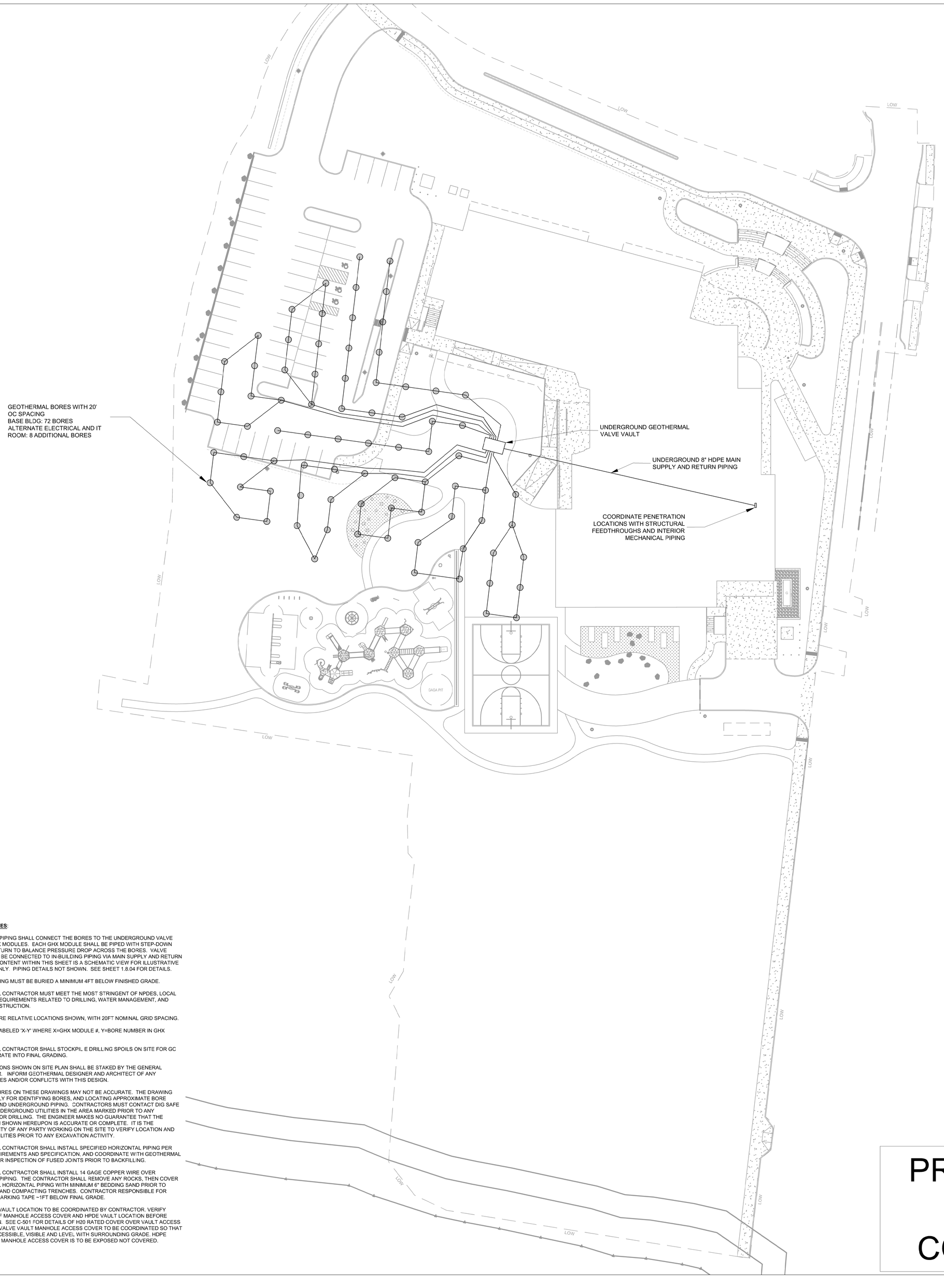

SITE LAYOUT NOTES:

1. HORIZONTAL PIPING SHALL CONNECT THE BORES TO THE UNDERGROUND VALVE VAULT IN GHX MODULES. EACH GHX MODULE SHALL BE PIPED WITH STEP-DOWN REVERSE RETURN TO BALANCE PRESSURE DROP ACROSS THE BORES. VALVE VAULT SHALL BE CONNECTED TO IN-BUILDING PIPING VIA MAIN SUPPLY AND RETURN PIPES. THE CONTENT WITHIN THIS SHEET IS A SCHEMATIC VIEW FOR ILLUSTRATIVE PURPOSES ONLY. PIPING DETAILS NOT SHOWN. SEE SHEET 1.8.04 FOR DETAILS.
2. ALL HDPE PIPING MUST BE BURIED A MINIMUM 4FT BELOW FINISHED GRADE.
3. GEOTHERMAL CONTRACTOR MUST MEET THE MOST STRINGENT OF NPDES, LOCAL AND STATE REQUIREMENTS RELATED TO DRILLING, WATER MANAGEMENT, AND TRENCH CONSTRUCTION.
4. VERTICAL BORE RELATIVE LOCATIONS SHOWN, WITH 20FT NOMINAL GRID SPACING.
5. BORES ARE LABELED 'X-Y' WHERE X=GHX MODULE #, Y=BORE NUMBER IN GHX MODULE.
6. GEOTHERMAL CONTRACTOR SHALL STOCKPIL E DRILLING SPOILS ON SITE FOR GC TO INCORPORATE INTO FINAL GRADING.
7. BORE LOCATIONS SHOWN ON SITE PLAN SHALL BE STAKED BY THE GENERAL CONTRACTOR. INFORM GEOTHERMAL DESIGNER AND ARCHITECT OF ANY DISCREPANCIES AND/OR CONFLICTS WITH THIS DESIGN.
8. OTHER FEATURES ON THESE DRAWINGS MAY NOT BE ACCURATE. THE DRAWING INTENT IS ONLY FOR IDENTIFYING BORES, AND LOCATING APPROXIMATE BORE LOCATIONS AND UNDERGROUND PIPING. CONTRACTORS MUST CONTACT DIG SAFE AND HAVE UNDERGROUND UTILITIES IN THE AREA MARKED PRIOR TO ANY EXCAVATION OR DRILLING. THE ENGINEER MAKES NO GUARANTEE THAT THE INFORMATION SHOWN HEREUPON IS ACCURATE OR COMPLETE. IT IS THE RESPONSIBILITY OF ANY PARTY WORKING ON THE SITE TO VERIFY LOCATION AND DEPTH OF UTILITIES PRIOR TO ANY EXCAVATION ACTIVITY.
9. GEOTHERMAL CONTRACTOR SHALL INSTALL SPECIFIED HORIZONTAL PIPING PER IGSHPA REQUIREMENTS AND SPECIFICATION, AND COORDINATE WITH GEOTHERMAL ENGINEER FOR INSPECTION OF FUSED JOINTS PRIOR TO BACKFILLING.
10. GEOTHERMAL CONTRACTOR SHALL INSTALL 14 GAGE COPPER WIRE OVER HORIZONTAL PIPING. THE CONTRACTOR SHALL REMOVE ANY ROCKS, THEN COVER GEOTHERMAL HORIZONTAL PIPING WITH MINIMUM 6" BEDDING SAND PRIOR TO BACKFILLING AND COMPACTING TRENCHES. CONTRACTOR RESPONSIBLE FOR INSTALLING MARKING TAPE ~1FT BELOW FINAL GRADE.
11. HDPE VALVE VAULT LOCATION TO BE COORDINATED BY CONTRACTOR. VERIFY ELEVATION OF MANHOLE ACCESS COVER AND HPDE VAULT LOCATION BEFORE INSTALLATION. SEE C-501 FOR DETAILS OF H20 RATED COVER OVER VAULT ACCESS PORT. HPDE VALVE VAULT MANHOLE ACCESS COVER TO BE COORDINATED SO THAT COVER IS ACCESSIBLE, VISIBLE AND LEVEL WITH SURROUNDING GRADE. HDPE VALVE VAULT MANHOLE ACCESS COVER IS TO BE EXPOSED NOT COVERED.

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KEY PLAN

NORTH ARROW | STAMP

Date: 21 FEBRUARY 2024

Drawn By: ***CR***

Scale: **NTS**

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

GEOTHERMAL GSHX SITE LAYOUT

1.8.02

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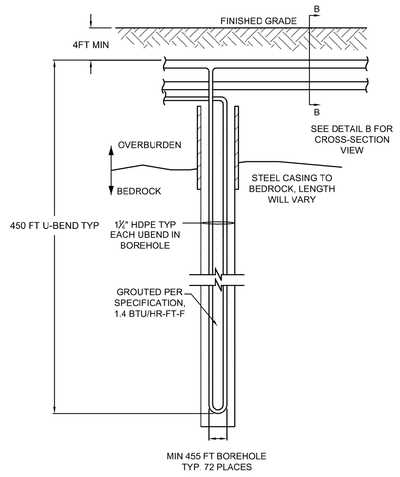
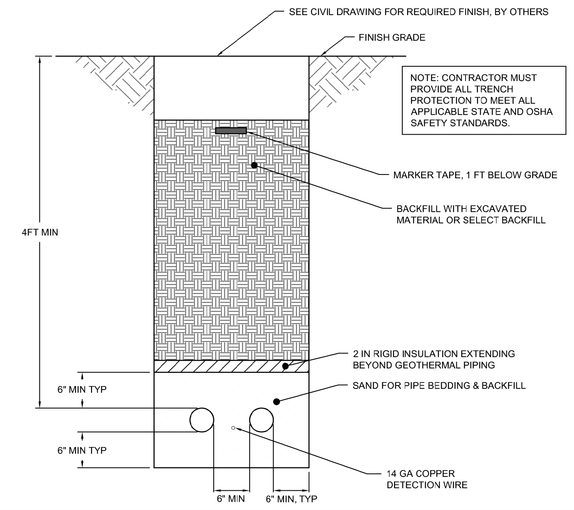
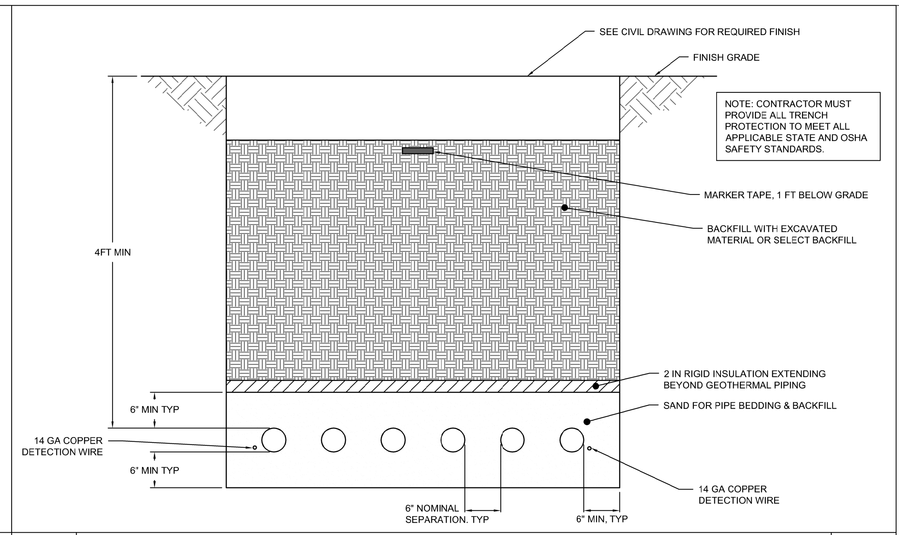


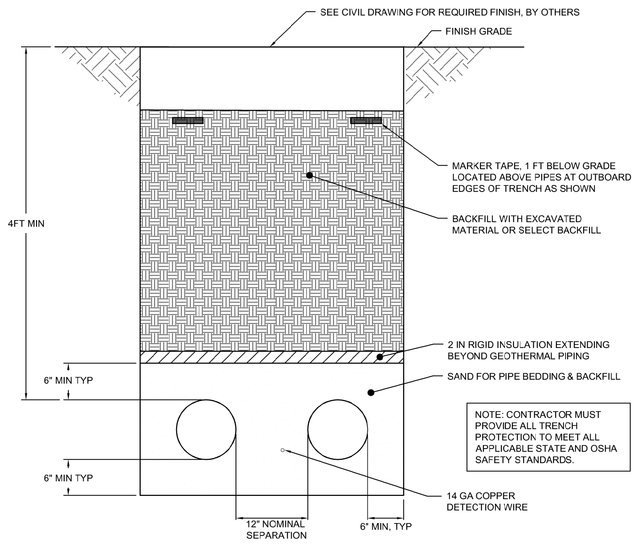
DETAIL		SCALE
A	VERTICAL BORE DETAIL	N.T.S.



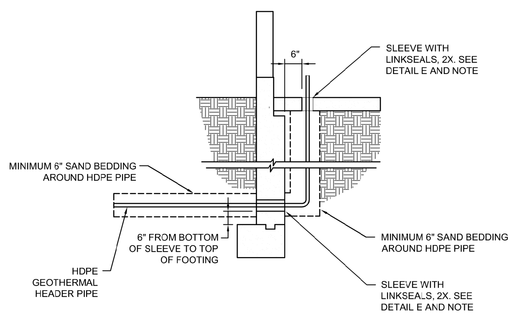
DETAIL		SCALE
B	TRENCH FOR SINGLE SUPPLY/RETURN PIPE PAIR UP TO 4" DIAMETER	N.T.S.



DETAIL		SCALE
C	COMMON TRENCH FOR MULTIPLE SUPPLY RETURN PIPE PAIRS UP TO 4" DIAMETER	N.T.S.

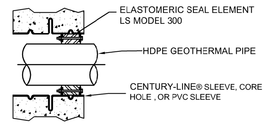


DETAIL		SCALE
D	TRENCH FOR SINGLE SUPPLY/RETURN PIPE PAIR GREATER THAN 4" DIAMETER	N.T.S.

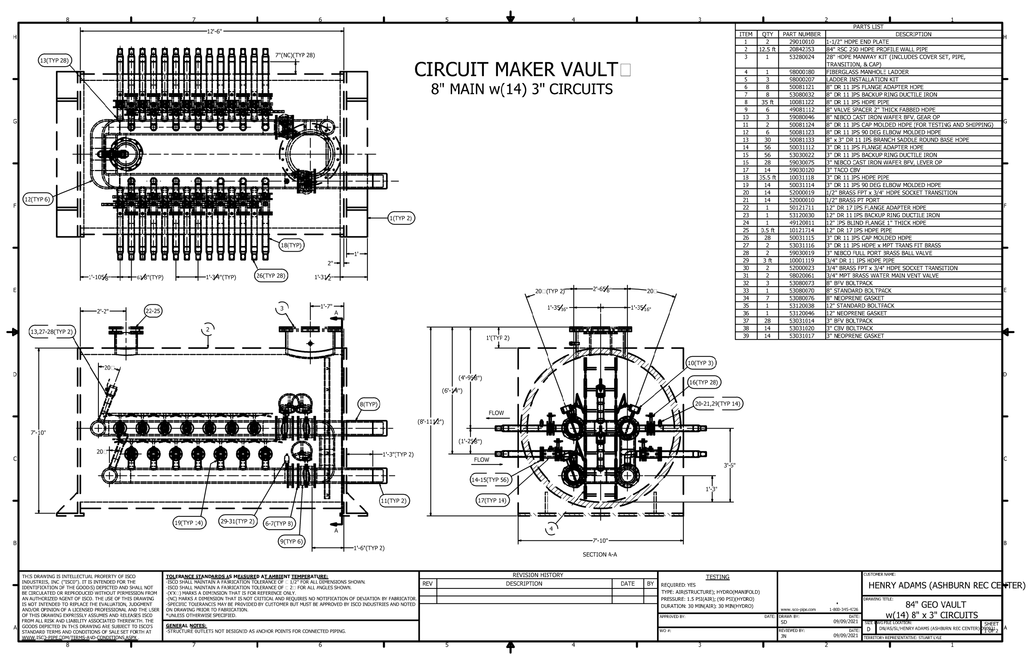


NOTE: REFER TO ARCHITECTUAL AND STRUCTURAL DRAWINGS FOR DETAILS, AND G-003 FOR SPACING. GEOTHERMAL CONTRACTOR SHALL PROVIDE GEOTHERMAL PIPE AND LINKSEA..S, AND PRESSURE TEST PRIOR TO POURING SLAB.

DETAIL		SCALE
D	GEOTHERMAL HEADER PIPING THROUGH FOUNDATION	N.T.S.



DETAIL		SCALE
F	LINKSEAL SEALING SYSTEM	N.T.S.



ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	29018615	2-1/2" HDPE END PLATE
2	12.5 ft	20847253	HPT PSC 250 HDPE PROFILE WALL PIPE
3	1	53280624	28" HDPE MANWAY KIT (INCLUDES COVER SET, PIPE, TRANSITION, & CAP)
4	1	58000180	FIBERGLASS MANHOLE LADDER
5	1	09000207	LADDER INSTALLATION KIT
6	8	50081121	8" DR 11 IPS FLANGE ADAPTER HDPE
7	8.5	53080832	8" DR 11 IPS BACKUP RING DUCTILE IRON
8	35.5	30081122	8" DR 11 IPS HDPE PIPE
9	6	49081112	8" VALVE SPACER 7" THICK RABBED HDPE
10	2	59080846	8" NIBCO CAST IRON WAFER BFV, GEAR OP
11	2	50081124	8" DR 11 IPS CAP MOLDED HDPE (FOR TESTING AND SHIPPING)
12	2	50081131	8" DR 11 IPS REDUCER MOLDED HDPE
13	30	50081133	8" x 3" DR 11 IPS BALANCING MOLDED BASE HDPE
14	56	50031122	3" DR 11 IPS FLANGE ADAPTER HDPE
15	56	53030622	3" DR 11 IPS BACKUP RING DUCTILE IRON
16	28	59030835	3" NIBCO CAST IRON WAFER BFV, LEVER OP
17	14	59030120	3" TADU CRV
18	15.5 ft	20031108	3" DR 11 IPS HDPE PIPE
19	14	50031144	3" DR 11 IPS 90 DEG ELBOW MOLDED HDPE
20	14	52000819	1/2" BRASS FPT x 3/4" HDPE SOCKET TRANSITION
21	14	52000810	1/2" BRASS PT PORT
22	1	50121711	12" DR 17 IPS FLANGE ADAPTER HDPE
23	1	51135030	12" DR 11 IPS BACKUP RING DUCTILE IRON
24	1	49120911	12" IPS BLIND FLANGE 1" THICK HDPE
25	3.5 ft	20121114	12" DR 11 IPS HDPE PIPE
26	1	50121144	12" DR 11 IPS CAP MOLDED HDPE
27	7	53031116	1" DR 11 IPS HDPE x MPT TRANS FIT BRASS
28	2	59030819	1" NIBCO FULL PORT, BRASS BALL VALVE
29	3 ft	10001119	1/4" DR 11 IPS HDPE PIPE
30	2	52000823	1/4" BRASS FPT x 3/4" HDPE SOCKET TRANSITION
31	2	08020661	1/4" MPT BRASS WATER MAIN VENT VALVE
32	3	53080973	8" BFV BOLTPACK
33	3	53080870	8" STANDARD BOLTPACK
34	7	53080875	8" NEOPRENE GASKET
35	1	53120038	3" STANDARD BOLTPACK
36	1	53120945	3" NEOPRENE GASKET
37	28	53031014	3" BFV BOLTPACK
38	14	53031020	3" CRV BOLTPACK
39	14	53031017	3" NEOPRENE GASKET

HDPE VAULT REQUIREMENTS

1. SEE SPECIFICATION 237000 FOR DETAILED REQUIREMENTS OF HDPE VAULT, INCLUDING INSTALLATION.
2. MUST HAVE THE FOLLOWING:
   - 2.1. 8" MAIN SUPPLY/RETURN PIPING
   - 2.2. 3" GHX MODULE CIRCUIT SUPPLY/RETURN PIPING, 10 PLACES
   - 2.3. P/T PORTS ON ALL CIRCUITS AND MAINS
   - 2.4. BUTTERFLY SHUTOFF VALVES ON ALL CIRCUITS AND MAINS
   - 2.5. OSHA MANWAY AND LADDER
   - 2.6. FULL SIZE BYPASS VALVE CONNECTING SUPPLY AND RETURN HEADERS
   - 2.7. PURGE AND FLUSH PORTS WITH ISOLATION VALVES
   - 2.8. 16" TOP PORT AT OPPOSITE END FROM MANWAY
   - 2.9. PREWIRED LIGHTING AND 120V OUTLET
3. MUST BE INSTALLED WITH ANTI-BOUYANCY MEASURES PER THE MANUFACTURER
4. MUST BE INSTALLED WITH RECOMMENDED BACKFILL PER THE MANUFACTURER
5. WATER DETECTION SENSOR SHALL BE INSTALLED BY VAULT MANUFACTURER AND CONNECTED TO BUILDING BAS

HDPE GEOTHERMAL VALVE VAULT

THIS DETAIL IS PROVIDED TO SHOW THE INTENT OF THE DESIGN.
SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
EQUAL PRODUCTS MAY BE SUBMITTED AND APPROVED.

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KEY PLAN

NORTH ARROW — STAMP

Date: 21 FEBRUARY 2024

Drawn By: *CR*

Scale: **NTS**

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

GEOTHERMAL DETAILS

1.8.03

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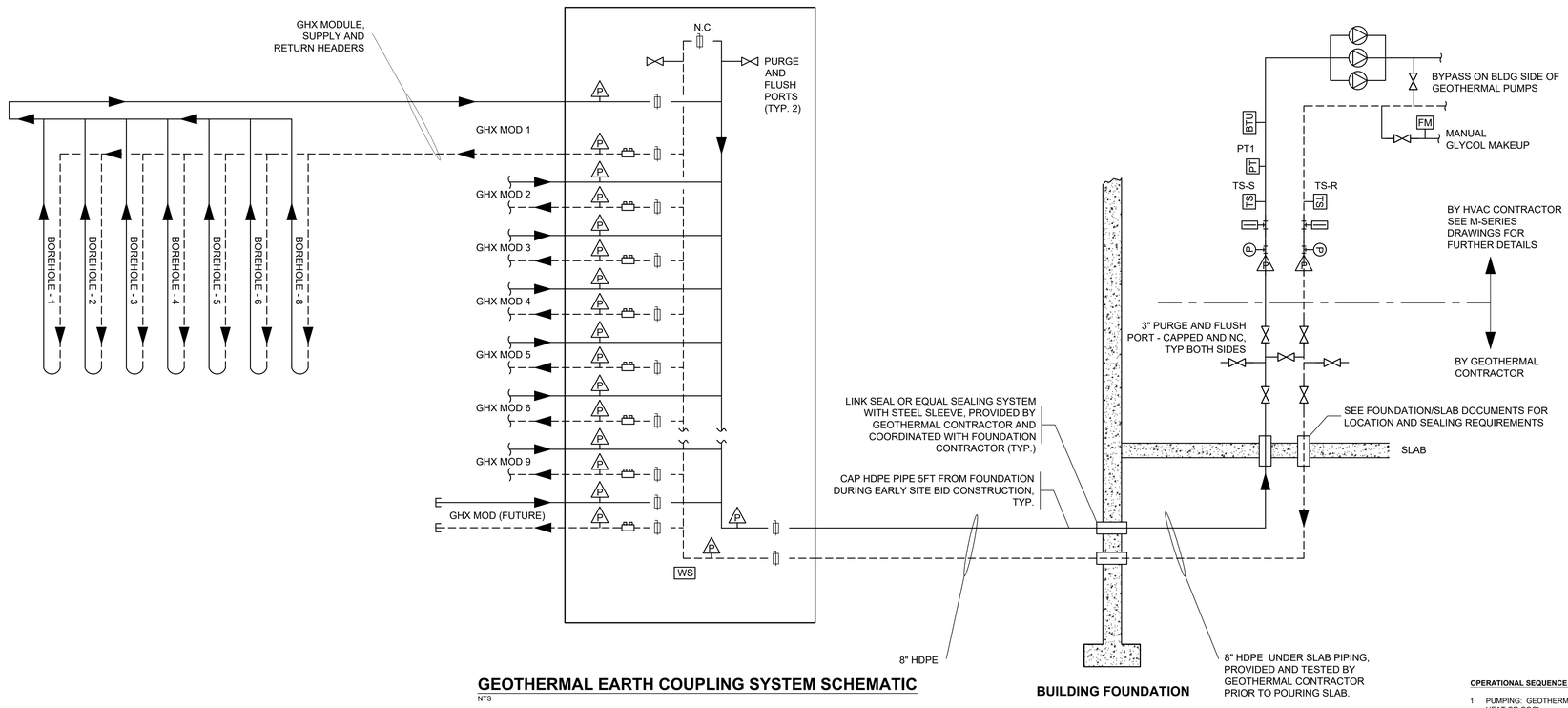

GEOTHERMAL EARTH COUPLING SYSTEM SCHEMATIC

NTS

BUILDING FOUNDATION

OPERATIONAL SEQUENCE (SEE HVAC DWGS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS):

1. PUMPING: GEOTHERMAL PUMPS TO PROVIDE NOMINAL 3GPM/TON OF HEAT PUMPS CALLED TO HEAT OR COOL
2. HEAT PUMP CONTROL: HEAT PUMPS MUST HAVE CONTROL VALVE WHICH OPENS ONLY DURING CALL FOR HEATING OR COOLING.
3. BAS SYSTEM MUST MONITOR THE FOLLOWING:
   - TS-S: SUPPLY TEMPERATURE
   - TS-R: RETURN TEMPERATURE
   - PT1: BOREFIELD PRESSURE (SET ALARM IF BELOW 15PSI)
   - WS: WATER DETECTION SENSOR (SET ALARM IF WATER DETECTED IN VAULT)
   - BTU: BTU METER (MUST BE APS COMPLIANT)

GSHP SYSTEM SHALL COMPLY WITH 225 CMR 16.00 ALTERNATIVE ENERGY PORTFOLIO STANDARD (APS) AS ADMINISTERED BY THE MA DEPARTMENT OF ENERGY RESOURCES (MA DOER).

ALL RTGUS [RENEWABLE THERMAL GENERATION UNITS] MUST INCLUDE A DATA ACQUISITION SYSTEM (DAS) WHICH MUST MEET THE FOLLOWING MINIMUM FUNCTIONAL CRITERIA:

(A) INPUT: INPUT MUST COME FROM EACH APS METERING SYSTEM AND COMPONENT, AT AN INTERVAL THAT DOES NOT TO EXCEED 5 MINUTE BETWEEN INPUTS
(B) STORAGE: 100 DAYS OF CUMULATIVE INPUT DATA
(C) OUTPUT:
- (I) HAVE REMOTE ELECTRONIC ACCESS TO TIME STAMPED DATA OF EACH INPUT IN FIVE MINUTE INTERVALS THAT CAN BE EXPORTED AS A COMMA SEPARATED VALUES (.CSV) FILE
- (II) DATA IS TO BE ACCESSIBLE BY AND TRANSFERRED DIRECTLY TO THE SYSTEM INDEPENDENT VERIFIER AND NOT VIA A THIRD PARTY THE DAS MAY BE A STAND-ALONE DEDICATED UNIT OR BE INTEGRATED INTO AN EXISTING SYSTEM

THE ABOVE MONITORED DATA MUST BE LOGGED AND ACCESSIBLE ON AND ONGOING BASIS FOR A MINIMUM OF 1 YEAR FOR TROUBLESHOOTING PURPOSES, IN ADDITION TO ANY FURTHER REQUIREMENTS OF THE APS.

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N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: *CR*

Scale: NTS

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

GEOTHERMAL DIAGRAMS AND SCHEDULES

1.8.04

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FIELD TESTING OF INDIVIDUAL VERTICAL U-BENDS AND INSTALLATION

1. PRIOR TO INSTALLATION INTO A BOREHOLE, THE CONTRACTOR SHALL VISUALLY INSPECT EACH U-BEND FOR ANY SIGNIFICANT DAMAGE (SCRATCHES, GOUGES, ETC.) THAT EXCEEDS 10% OF THE PIPE WALL THICKNESS. U-BENDS SHALL ALSO BE TESTED FOR LEAKS PRIOR TO INSERTION INTO THE BOREHOLE. ANY U-BEND LOOP ASSEMBLY THAT HAS SIGNIFICANT DAMAGE OR LEAKS SHALL NOT BE REPAIRED AND SHALL NOT BE INSERTED INTO A BOREHOLE. LEAK TESTING SHALL BE DONE BY EITHER OF THE FOLLOWING, AND THE RESULTS SUBMITTED UTILIZING THE TEST LOG SHEETS AT THE

   1.1. WITNESS RELEASE OF PRESSURE IN LOOPS THAT ARE PRE-PRESSURIZED AND SEALED BY THE MANUFACTURER. A LACK OF CLEARLY NOTICEABLE PRESSURE RELEASE SHALL REQUIRE VERIFICATION VIA 1.2 BELOW.
   1.2. PERFORM HYDROSTATIC PRESSURE TEST AT ~60PSI AND OBSERVE NO LEAKS

2. AFTER INSERTION OF EACH LEAK FREE AND SIGNIFICANT DAMAGE FREE U-BEND INTO A BOREHOLE, SEAL THE BOREHOLE WITH THE APPROVED GROUT PER THE DESIGN DOCUMENTS. GROUT SAMPLES SHALL BE COLLECTED, TESTED AND SUBMITTED AS

   2.1. EACH GROUT SAMPLE SHALL BE LABELED WITH THE BORE ID,DATE AND THE

   2.2. ONLY 1 GROUT SAMPLE SHALL BE TAKEN FROM ANY INDIVIDUAL BATCH OF GROUT

   2.3. TWO GROUT SAMPLES SHALL BE TAKEN FROM THE FIRST BOREHOLE GROUTED. AFTER THE FIRST BOREHOLE, TAKE ONE GROUT SAMPLE FOR EVERY 4TH

   2.4. THE GROUT SAMPLES SHALL BE TESTED BY AN INDEPENDENT TESTING LABORATORY PER ASTM D5334, AND SUBMITTED FOR THE PROJECT RECORD.

3. AFTER GROUTING THE U-BEND IN EACH BORE, PERFORM BOTH A FLOW PRESSURE DROP TEST AND HYDROSTATIC PRESSURE HOLD TEST PER THE FOLLOWING, AND SUBMIT THE RESULTS UTILIZING THE TEST LOG SHEETS AT THE END OF SPECIFICATION

   3.1. REFER TO FIGURE 1 BELOW FOR THE TEST SETUP.
      3.1.1. THE PT TEST PORTS MUST BE LOCATED TO AVOID ADDITIONAL PRESSURE DROP FROM THE SETUP. LOCATE PT PORTS WITHIN 2FT OF U-BEND PIPING, AND UTILIZE PIPE AND FITTINGS OF SAME OR LARGER DIAMETER THAN U-BEND
      3.1.2. ONE INSERTION PRESSURE GAGE SHALL BE USED AT THE PT TEST PORTS DURING THE TESTING. THE GAGE SHALL HAVE GRADUATIONS DOWN TO ½ PSI INCREMENTS FOR ACCURATE READINGS.
      3.1.3. THE FLOW RATE SHALL BE MEASURED TO THE NEAREST HALF GALLON PER
      3.2.1. FLOW WATER THROUGH U-BEND AT A MINIMUM OF 2 FT/SECOND FOR A MINIMUM OF 15 MINUTES, UNTIL FULLY FLUSHED OF DEBRIS AND PURGED OF AIR. SEE THE MINIMUM PURGING FLOW RATE ON MG600N TABLE 'GHX SYSTEM DESIGN INFORMATION'. NOTE THAT HIGHER PURGE FLOW RATES WILL RESULT IN FASTER FLUSHING AND PURGING, BUT KEEP PRESSURES BELOW THE PIPE
      3.2.2. AFTER FULLY FLUSHED AND PURGED, SET THE FLOW RATE TO THE VALUES ON SHEET MG600N AS SHOWN IN TABLE 'TYPICAL REVERSE-RETURN GHX MODULE' FOR 'MINIMUM PURGING FLOW' OF THE U-BEND.
      3.2.3. MEASURE THE PRESSURE DROP (THE DIFFERENCE BETWEEN PRESSURE READINGS AT THE 'IN' AND 'OUT' PT SAMPLING PORTS). USE THE SAME INSERTION GAGE AT EACH PORT WHILE THE FLOW REMAINS CONSTANT.
      3.2.4. COMPARE THE MEASURED PRESSURE DROP TO THE ANTICIPATED PRESSURE DROP FOR THE U-BEND PER MG600N. A VALUE MORE THAN 10% HIGHER THAN THE ANTICIPATED PRESSURE DROP INDICATES THAT THE U-BEND IS NOT FULLY FLUSHED OR PURGED, OR IS PARTIALLY COLLAPSED OR KINKED. IF FURTHER FLUSHING AND PURGING DOES NOT RESULT IN AN ACCEPTABLE PRESSURE DROP, THEN THE U-BEND MUST BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.
   3.3. HYDROSTATIC PRESSURE HOLD TEST
      3.3.1. UTILIZE ASTM F2164-18 FOR THE STANDARD PRACTICES FOR FIELD LEAK TESTING OF POLYETHYLENE PIPING USING HYDROSTATIC PRESSURE. THE FOLLOWING PROVIDES A SUMMARY OF THE TESTING PROCESS FOR CONVENIENCE. REFER TO THE ASTM STANDARD FOR DETAILS, ESPECIALLY RELATED TO SAFETY.
      3.3.2. INITIAL EXPANSION PHASE: AFTER THE U-BEND IS FULLY PURGED OF AIR, PRESSURIZE THE U-BEND TO 100 PSI FOR 4 HOURS. RE-PRESSURIZE AS NEEDED TO 100 PSI DURING THIS PERIOD.
      3.3.3. TEST PHASE: REDUCE THE PRESSURE TO 90 PSI AND MONITOR FOR 1 HOUR WITHOUT INCREASING PRESSURE OR ADDING MAKE-UP WATER.
      3.3.4. PASS/FAIL: THE U-BEND PASSES THE TEST IF FOR 1 HOUR THERE IS NO VISUAL LEAKAGE AND THE PRESSURE REMAINS WITHIN 5% OF 90 PSI.
      3.3.5. A U-BEND THAT DOES NOT PASS THE TEST MUST BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.

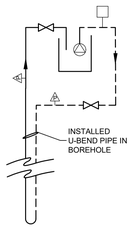
FIELD TESTING OF COMPLETED GHX MODULE OR HEADER PIPING PRIOR TO BEDDING AND BACKFILL

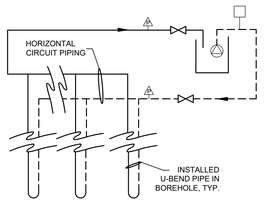
1. THE HDPE PIPING FUSED JOINTS MUST BE VISUALLY INSPECTED BY THE GEOTHERMAL DESIGNER OR OTHER QUALIFIED AND APPROVED INSPECTOR. ANY VISUALLY UNACCEPTABLE FUSED JOINTS, OR SIGNIFICANT DAMAGE THAT EXCEEDS 10% OF THE PIPE WALL THICKNESS, MUST BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.

2. AFTER ALL THE PIPING AND FUSED JOINTS ARE VISUALLY ACCEPTABLE TO THE INSPECTOR, PERFORM BOTH A FLOW PRESSURE DROP TEST AND HYDROSTATIC PRESSURE HOLD TEST PER THE FOLLOWING, AND SUBMIT THE RESULTS UTILIZING THE TEST LOG SHEETS AT THE END OF SPECIFICATION SECTION 237000.
   2.1. REFER TO FIGURE 2 BELOW FOR THE TEST SETUP.
      2.1.1. THE PT TEST PORTS MUST BE LOCATED TO AVOID ADDITIONAL PRESSURE DROP FROM THE SETUP. LOCATE PT PORTS WITHIN 2FT OF GHX MODULE HEADER PIPING, AND UTILIZE PIPE AND FITTINGS OF SAME OR LARGER DIAMETER THAN HEADER PIPING.
      2.1.2. ONE INSERTION PRESSURE GAGE SHALL BE USED AT THE PT TEST PORTS DURING THE TESTING. THE GAGE SHALL HAVE GRADUATIONS DOWN TO ½ PSI INCREMENTS FOR ACCURATE READINGS.
      2.1.3. THE FLOW RATE SHALL BE MEASURED TO THE NEAREST HALF GALLON PER MINUTE (GPM).
   2.2. FLOW PRESSURE DROP TEST
      2.2.1. FLOW WATER THROUGH EACH GHX MODULE OR HEADERS AT A MINIMUM OF 2 FT/SECOND THROUGH EVERY SECTION OF PIPE FOR A MINIMUM OF 15 MINUTES, UNTIL FULLY FLUSHED OF DEBRIS AND PURGED OF AIR. SEE THE MINIMUM PURGING FLOW RATE ON MG600N TABLE 'GHX SYSTEM DESIGN INFORMATION'. NOTE THAT HIGHER PURGE FLOW RATES WILL RESULT IN FASTER FLUSHING AND PURGING, BUT KEEP PRESSURES BELOW THE PIPE PRESSURE RATINGS.
      2.2.2. AFTER FULLY FLUSHED AND PURGED, SET THE FLOW RATE TO THE VALUES ON SHEET MG600N AS SHOWN IN TABLE 'GHX SYSTEM DESIGN INFORMATION' FOR 'PURGING PRESSURE DROP' OF THE GHX MODULE.
      2.2.3. MEASURE THE PRESSURE DROP (THE DIFFERENCE BETWEEN PRESSURE READINGS AT THE 'IN' AND 'OUT' PT SAMPLING PORTS). USE THE SAME INSERTION GAGE AT EACH PORT WHILE THE FLOW REMAINS CONSTANT.
      2.2.4. COMPARE THE MEASURED PRESSURE DROP TO THE ANTICIPATED PRESSURE DROP FOR THE GHX MODULE OR HEADERS PER MG600N. A VALUE MORE THAN 10% HIGHER THAN THE ANTICIPATED PRESSURE DROP INDICATES THAT THE PIPING IS NOT FULLY FLUSHED OR PURGED, OR SOME OTHER ISSUE. THE CONTRACTOR MUST FIND AND FIX THE ISSUE UNTIL IT PASSES RETESTING AT NO ADDITIONAL COST.
   2.3. HYDROSTATIC PRESSURE HOLD TEST
      2.3.1. FOR EACH GHX MODULE OR HEADER, UTILIZE ASTM F2164-18 FOR THE STANDARD PRACTICES FOR FIELD LEAK TESTING OF POLYETHYLENE PIPING USING HYDROSTATIC PRESSURE. THE FOLLOWING PROVIDES A SUMMARY OF THE TESTING PROCESS FOR CONVENIENCE. REFER TO THE ASTM STANDARD FOR DETAILS, ESPECIALLY RELATED TO SAFETY.
      2.3.2. INITIAL EXPANSION PHASE: AFTER THE PIPING IS FULLY PURGED OF AIR, PRESSURIZE TO 100 PSI FOR 4 HOURS. RE-PRESSURIZE AS NEEDED TO 100 PSI DURING THIS PERIOD.
      2.3.3. TEST PHASE: REDUCE THE PRESSURE TO 90 PSI AND MONITOR FOR 1 HOUR WITHOUT INCREASING PRESSURE OR ADDING MAKE-UP WATER.
      2.3.4. PASS/FAIL: THE PIPING PASSES THE TEST IF FOR 1 HOUR THERE IS NO VISUAL LEAKAGE AND THE PRESSURE REMAINS WITHIN 5% OF 90 PSI.
      2.3.5. PIPING THAT DOES NOT PASS THE TEST MUST BE REPAIRED AND RETESTED UNTIL IT PASSES BY THE CONTRACTOR AT NO ADDITIONAL COST.
   2.4. THE PIPING IS READY TO BE BEDDED AND BACKFILLED PER DRAWING AND SPECIFICATION REQUIREMENTS AFTER SATISFACTORILY PASSING ALL TESTS.

FIELD TESTING OF COMPLETED GEOTHERMAL PIPING SYSTEM

1. AFTER THE ENTIRE GEOTHERMAL PIPING SYSTEM IS INSTALLED AND BACKFILLED ACCORDING TO THE PROJECT DOCUMENTS, PERFORM BOTH A FLOW PRESSURE DROP TEST ON EACH GHX MODULE AND HYDROSTATIC PRESSURE HOLD TEST ON THE ENTIRE GEOTHERMAL PIPING NETWORK PER THE FOLLOWING. SUBMIT THE RESULTS UTILIZING THE TEST LOG SHEETS AT THE END OF SPECIFICATION SECTION 237000.
   1.1. UTILIZE THE PT TEST PORTS AT THE TAKEOFFS FOR EACH GHX MODULE AT THE MANIFOLD IN THE VALVE VAULT.
   1.2. ONE INSERTION PRESSURE GAGE SHALL BE USED AT THE PT TEST PORTS DURING THE TESTING. THE GAGE SHALL HAVE GRADUATIONS DOWN TO ½ PSI INCREMENTS FOR ACCURATE READINGS.
   1.3. THE FLOW RATE SHALL BE MEASURED TO THE NEAREST HALF GALLON PER MINUTE (GPM).
   1.1. FLOW PRESSURE DROP TEST
      1.1.1. FLOW WATER THROUGH EACH GHX MODULE AT A MINIMUM OF 2 FT/SECOND THROUGH EVERY SECTION OF PIPE FOR A MINIMUM OF 15 MINUTES, UNTIL FULLY FLUSHED OF DEBRIS AND PURGED OF AIR. SEE THE MINIMUM PURGING FLOW RATE ON MG600N TABLE 'GHX SYSTEM DESIGN INFORMATION'. NOTE THAT HIGHER PURGE FLOW RATES WILL RESULT IN FASTER FLUSHING AND PURGING, BUT KEEP PRESSURES BELOW THE PIPE PRESSURE RATINGS.
      1.1.2. AFTER FULLY FLUSHED AND PURGED, SET THE FLOW RATE TO THE VALUES ON SHEET MG600N AS SHOWN IN TABLE 'GHX SYSTEM DESIGN INFORMATION' FOR 'PURGING PRESSURE DROP' OF THE GHX MODULE.
      1.1.3. MEASURE THE PRESSURE DROP ACROSS THE GHX MODULE. USE THE SAME INSERTION GAGE AT EACH PORT WHILE THE FLOW REMAINS CONSTANT.
      1.1.4. COMPARE THE MEASURED PRESSURE DROP TO THE ANTICIPATED PRESSURE DROP FOR THE GHX MODULE PER MG600N. A VALUE MORE THAN 10% HIGHER THAN THE ANTICIPATED PRESSURE DROP INDICATES THAT THE PIPING IS NOT FULLY FLUSHED OR PURGED, OR SOME OTHER ISSUE. THE CONTRACTOR MUST FIND AND FIX THE ISSUE UNTIL IT PASSES RETESTING AT NO ADDITIONAL COST.
   1.2. HYDROSTATIC PRESSURE HOLD TEST
      1.2.1. FOR THE ENTIRE PIPING SYSTEM WITH ALL VALVES OPEN (OTHER THAN ISOLATION VALVES FROM THE IN-BUILDING PIPING INSIDE THE MECHANICAL ROOM), UTILIZE ASTM F2164-18 FOR THE STANDARD PRACTICES FOR FIELD LEAK TESTING OF POLYETHYLENE PIPING USING HYDROSTATIC PRESSURE. THE FOLLOWING PROVIDES A SUMMARY OF THE TESTING PROCESS FOR CONVENIENCE. REFER TO THE ASTM STANDARD FOR DETAILS, ESPECIALLY RELATED TO SAFETY.
      1.2.2. INITIAL EXPANSION PHASE: AFTER THE PIPING IS FULLY PURGED OF AIR, PRESSURIZE TO 100 PSI FOR 4 HOURS. RE-PRESSURIZE AS NEEDED TO 100 PSI DURING THIS PERIOD.
      1.2.3. TEST PHASE: REDUCE THE PRESSURE TO 90 PSI AND MONITOR FOR 1 HOUR WITHOUT INCREASING PRESSURE OR ADDING MAKE-UP WATER.
      1.2.4. PASS/FAIL: THE PIPING PASSES THE TEST IF FOR 1 HOUR THERE IS NO VISUAL LEAKAGE AND THE PRESSURE REMAINS WITHIN 5% OF 90 PSI.
      1.2.5. PIPING THAT DOES NOT PASS THE TEST MUST BE REPAIRED AND RETESTED UNTIL IT PASSES BY THE CONTRACTOR AT NO ADDITIONAL COST.
   1.3. THE GEOTHERMAL PIPING SYSTEM PIPING IS READY TO HAVE WATER QUALITY ADJUSTED AND ANTIFREEZE ADDED PER DRAWING AND SPECIFICATION REQUIREMENTS AFTER SATISFACTORILY PASSING ALL TESTS.





PROGRESS SET - NOT FOR CONSTRUCTION

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024
Drawn By: *CR*
Scale: NTS

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

GEOTHERMAL TESTING

1.8.05

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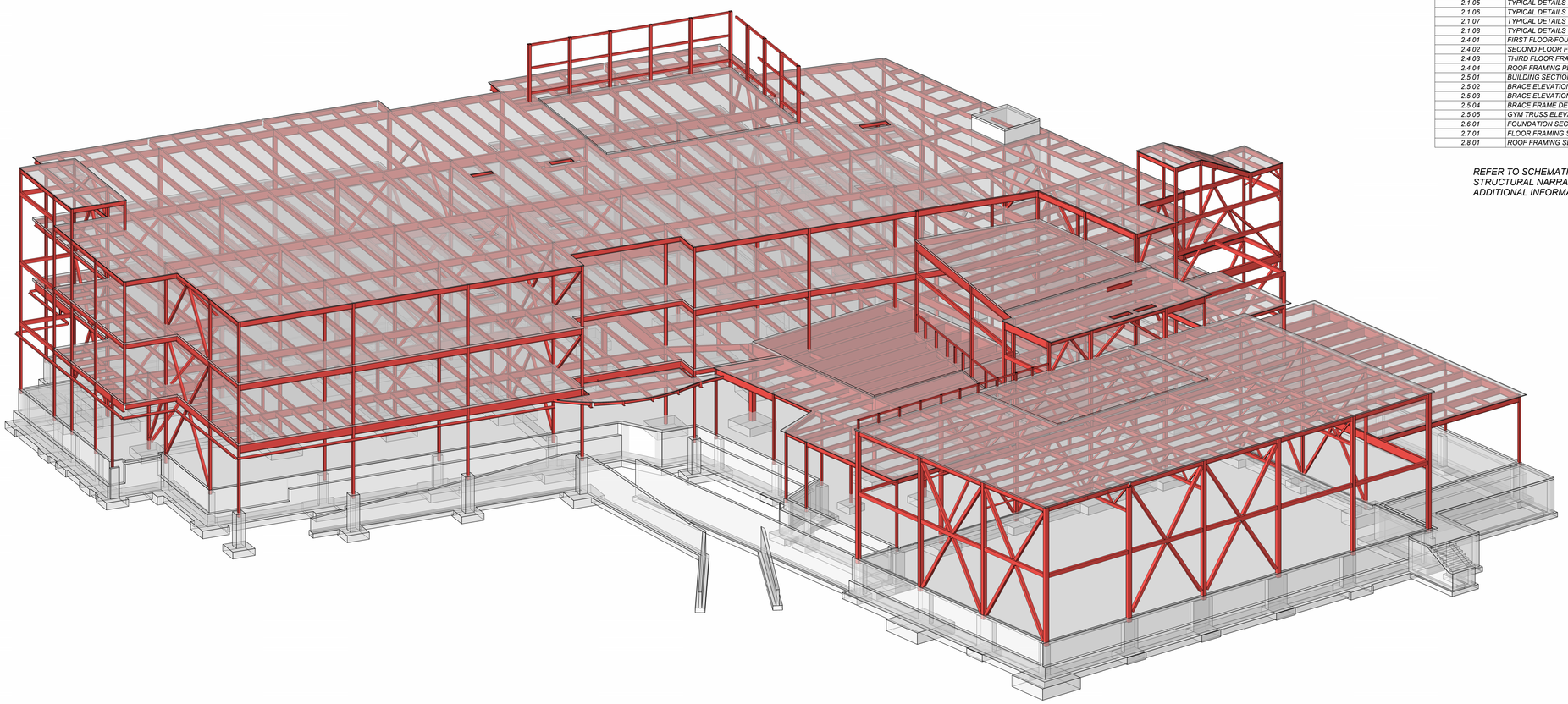
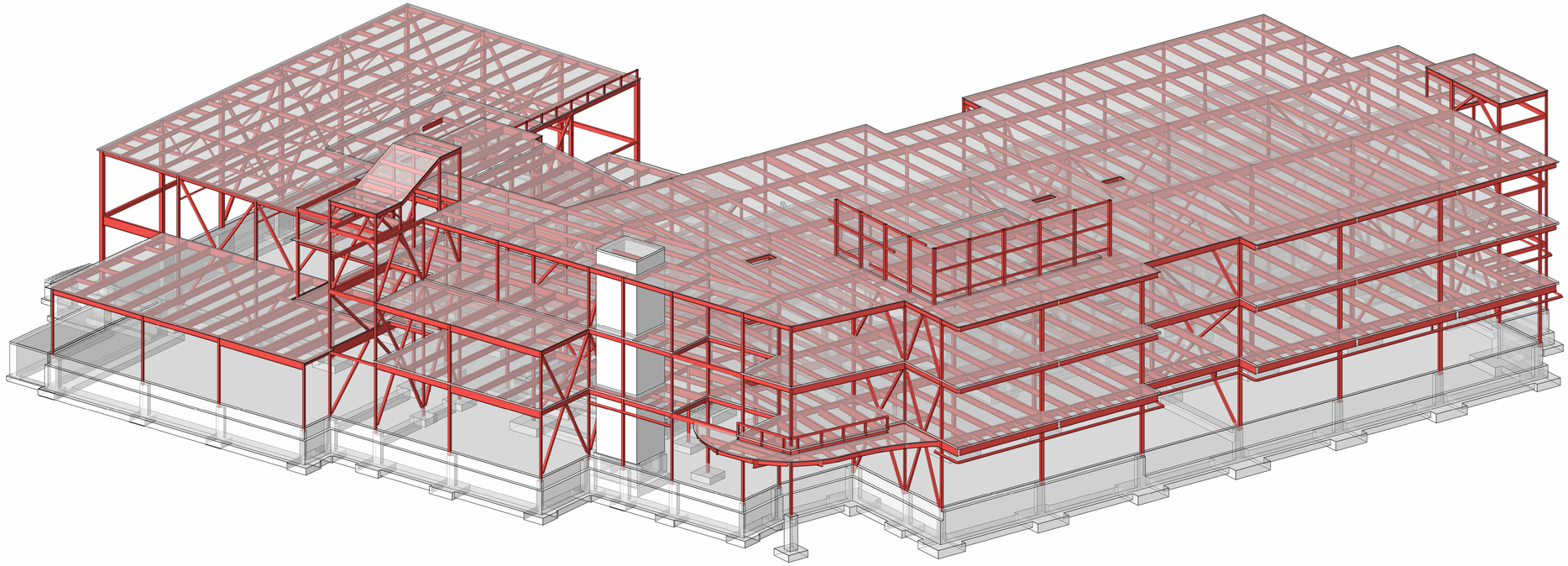
FBRA STRUCTURAL DRAWING LIST	
Drawing Number	**Drawing Name**
2.1.00	STRUCTURAL FRAMING
2.1.01	GENERAL NOTES
2.1.02	TYPICAL DETAILS I
2.1.03	TYPICAL DETAILS II
2.1.04	TYPICAL DETAILS III
2.1.05	TYPICAL DETAILS IV
2.1.06	TYPICAL DETAILS V
2.1.07	TYPICAL DETAILS VI
2.1.08	TYPICAL DETAILS VII
2.4.01	FIRST FLOOR/FOUNDATION PLAN
2.4.02	SECOND FLOOR FRAMING PLAN
2.4.03	THIRD FLOOR FRAMING PLAN
2.4.04	ROOF FRAMING PLAN
2.5.01	BUILDING SECTIONS
2.5.02	BRACE ELEVATIONS I
2.5.03	BRACE ELEVATIONS II
2.5.04	BRACE FRAME DETAILS
2.5.05	GYM TRUSS ELEVATION AND DETAILS
2.6.01	FOUNDATION SECTIONS
2.7.01	FLOOR FRAMING SECTIONS
2.8.01	ROOF FRAMING SECTIONS

REFER TO SCHEMATIC DESIGN STRUCTURAL NARRATIVE FOR ADDITIONAL INFORMATION





STRUCTURAL FRAMING

SCHEMATIC FRAMING DIAGRAM

THREE DIMENSIONAL FRAMING DIAGRAM IS SCHEMATIC ONLY.
-REFER TO THE PLANS, SECTIONS AND ELEVATIONS FOR SPECIFIC DETAILS.

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KEY PLAN

Called North

NORTH ARROW | STAMP

Date 2/21/2024

Drawn By RAB

Scale As Noted

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

STRUCTURAL FRAMING

File Name

2.1.00

2017168

GENERAL

G1. THE GENERAL NOTES APPLY UNLESS NOTED OTHERWISE ON THE DRAWINGS OR IN THE SPECIFICATIONS.

G2. STRUCTURAL WORK SHALL CONFORM TO REQUIREMENTS OF THE "MASSACHUSETTS STATE BUILDING CODE" 780 CMR, NINTH EDITION AND ALL AMENDMENTS.

G3. THE INTENT OF THE STRUCTURAL DRAWINGS IS TO SHOW THE MAIN STRUCTURAL FEATURES AND DESIGN FOR THE COMPLETED PROJECT. ARCHITECTURAL DETAILS AND OTHER COMPONENTS THAT MAY BE NECESSARY TO CONSTRUCT THE PROJECT ARE SHOWN INCIDENTALLY ONLY AND NOT COMPLETELY.

G4. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, SITE, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS, APPROVED SHOP DRAWINGS, AND SPECIFICATIONS.

G5. REFER TO ARCHITECTURAL, SITE, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR VERIFICATION OF LOCATIONS AND DIMENSIONS OF ALL SHAFTS, INSERTS, CURBS, OPENINGS, SLEEVES, ANCHOR BOLTS, FLOOR PITCHES, ANGLE FRAMES, AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.

G6. THE CONTRACTOR SHALL INFORM THE ARCHITECT OF ALL DISCREPANCIES BETWEEN DRAWINGS OF DIFFERENT TRADES PRIOR TO INITIATION OF ANY WORK.

G7. EXISTING DIMENSIONS AND CONDITIONS MUST BE VERIFIED OR DETERMINED IN THE FIELD AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.

G8. THE CONTRACTOR SHALL PROVIDE ALL THE NECESSARY ENGINEERED TEMPORARY BRACING AND SHORING TO SAFELY SUPPORT THE NEW AND EXISTING WORK AND THE APPLIED LOADS UNTIL THE PERMANENT STRUCTURE IS FULLY INSTALLED AND AT FULL STRENGTH.

G9. SHOP DRAWINGS FOR REINFORCING STEEL, STRUCTURAL STEEL, AND STEEL DECK SHALL BE SUBMITTED TO THE ARCHITECT AND A STAMPED APPROVAL RECEIVED BEFORE FABRICATION MAY PROCEED. FABRICATION AND ERECTION SHALL PROCEED FROM APPROVED SHOP DRAWINGS ONLY.

G10. NOTES AND DETAILS SHOWN ON ANY STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS, UNLESS NOTED.

G11. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.

G12. THE CONTRACTOR SHALL SUBMIT LOADING DATA FOR ANY EQUIPMENT SUCH AS LIFTS, ETC. PROPOSED FOR USE ON THE BUILDING DURING CONSTRUCTION.

G13. BUILDING CONSTRUCTION TYPE IS IIB, FLOOR AND ROOF CONSTRUCTION ARE TO BE CONSIDERED RESTRAINED.

STRUCTURAL LOADS - MASSACHUSETTS STATE BUILDING CODE (780 CMR) - NINTH EDITION (IBC 2015 WITH MASSACHUSETTS AMENDMENTS)

L1. DEAD LOADS

A.	WEIGHT OF BUILDING COMPONENTS	
1.	FLOOR (TYPICAL)	80 PSF
2.	ROOF (TYPICAL)	25 PSF
3.	ROOF (PV AREAS - SEE ARCH DWGS)	40 PSF
4.	ROOF (F5.0 AREAS)	80 PSF
5.	ROOF (GYM - F6.5 AREAS)	110 PSF (INCLUDES 15 PSF FOR GYM EQUIP)
6.	ROOF (GYM - R3.0A AREAS)	60 PSF (INCLUDES 15 PSF FOR GYM EQUIP + 10 PSF FOR PV)
B.	TYPICAL PARTITIONS ALLOWANCE - (IBC - SECTION 1607.5)	15 PSF

L2. SNOW LOADS

A.	GROUND SNOW LOAD - (MA TABLE 1604.11)	P_g = 40 PSF
B.	FLAT ROOF SNOW LOAD - (ASCE 7-10 - SECTION 7.3)	P_f = 31 PSF
C.	SNOW EXPOSURE FACTOR - (ASCE 7-10 - TABLE 7-2)	C_e = 1.0
D.	SNOW IMPORTANCE FACTOR - (ASCE 7-10 - TABLE 1.5-2)	I_s = 1.1
E.	ROOF THERMAL FACTOR - (ASCE 7-10 - TABLE 7-3)	C_t = 1.0
F.	ROOF SLOPE FACTOR - (ASCE 7-10 - FIGURE 7-2)	C_s = 1.0
G.	SNOW DRIFT - (ASCE 7-10 - FIGURES 7-7, 7-8 & 7-9)	

L3. LIVE LOADS

A.	LOADS - (IBC - TABLE 1607.1)	
1.	CLASSROOMS	65 PSF (INCLUDING PARTITION ALLOWANCE)
2.	OFFICES	65 PSF (INCLUDING PARTITION ALLOWANCE)
3.	CORRIDORS ABOVE THE FIRST FLOOR	80 PSF
4.	LOBBIES AND FIRST FLOOR CORRIDORS	100 PSF
5.	STAIRS	100 PSF
6.	OPEN PLAN AREAS (LIBRARY AND AUDITORIUM LOBBY)	100 PSF
7.	AUDITORIUM FIXED SEATING AREAS	60 PSF
8.	MECHANICAL EQUIPMENT ROOMS	150 PSF (100PSF+50PSF EQUIPMENT PADS)
9.	EXTERIOR PLAZAS	100 PSF
B.	LIVE LOAD REDUCTION - (IBC - SECTION 1607.10)	
C.	CONSTRUCTION LOADS	
1.	UNIFORM LOAD (STEEL DECK)	20 PSF
2.	CONCENTRATED LOAD (BARE STEEL DECK)	150 PLF (PERPENDICULAR TO DECK SPAN)
3.	CONCENTRATED LOAD (SLABS ON COMPOSITE DECK)	1500 LBS. MAX WHEEL LOAD

L4. WIND LOADS

NOTE: PER ASCE 7-10 AND 2015 IBC, THE DESIGN WIND PRESSURES LISTED BELOW REFLECT ULTIMATE STRENGTH VALUES. PER IBC SECTION 1605.4, ASD LOAD COMBINATIONS NOW INCLUDE A 0.6 FACTOR FOR WIND LOADING

A.	WIND LOAD PARAMETERS - (ASCE 7-10 - CHAPTER 26)		CATEGORY III
1.	RISK CATEGORY - (IBC 2015 - TABLE 1604.5)	V_{ult}	= 138 MPH
2.	ULTIMATE DESIGN WIND SPEED - (MA TABLE 1604.11)	V_{asd}	= 107 MPH
3.	NOMINAL DESIGN WIND SPEED - (IBC 2015 - EQUATION 16-33)	K_d	= 0.85
4.	WIND DIRECTIONALITY FACTOR - (ASCE 7-10 - TABLE 26.6-1		EXPOSURE C
5.	WIND EXPOSURE CATEGORY - (ASCE 7-10 - SECTION 26.7)	K_{zt}	= 1.0
6.	TOPOGRAPHIC FACTOR - (ASCE 7-10 - FIGURE 26.8-1)		ENCLOSED
7.	ENCLOSURE CLASSIFICATION - (ASCE 7-10 - SECTION 26.10)	GC_{pi}	= ± 0.18
8.	INTERNAL PRESSURE COEFFICIENT - (ASCE 7-10 - TABLE 26.11-1)	K_h	= 1.05
9.	VELOCITY PRESSURE COEFFICIENT - (ASCE 7-10 - TABLE 26.3-1)	q_h	= 43.7 PSF
10.	VELOCITY PRESSURE - (ASCE 7-10 - EQUATION 28.3-1)		
B.	COMPONENTS AND CLADDING - (ASCE 7-10 - CHAPTER 30, PART 1: LOW-RISE BUILDINGS)		
1.	EFFECTIVE WIND AREA - (ASCE 7-10 - FIGURE 30.4-1)	A_{eff}	≤ 10 SQ. FT.
2.	WIDTH OF SALIENT ZONE	a	= 20 FEET
3.	NET DESIGN WIND PRESSURES - (ASCE 7-10 - EQUATION 30.4-1)		
a.	WALL ELEMENTS		
i.	AT A NON-SALIENT AREA	p_{net}	= +47 PSF / -51 PSF
ii.	AT A SALIENT CORNER	p_{net}	= +47 PSF / -63 PSF
b.	ROOF ELEMENTS		
i.	AT A NON-SALIENT AREA	p_{net}	= +21 PSF / -52 PSF
ii.	AT AN EDGE	p_{net}	= +21 PSF / -87 PSF
iii.	AT A SALIENT CORNER	p_{net}	= +21 PSF / -130 PSF
c.	OVERHANG ELEMENTS		
i.	AT AN EDGE	p_{net}	= -82 PSF
ii.	AT A SALIENT CORNER	p_{net}	= -130 PSF

L5. SEISMIC LOADS

A.	SEISMIC OCCUPANCY CATEGORY - (ASCE 7-10 - TABLE 1.5-1)		RISK CATEGORY III
B.	MAPPED SPECTRAL ACCELERATION FOR SHORT PERIODS - (MA TABLE 1604.11)	S_S	= 0.208g
C.	DESIGN SPECTRAL RESPONSE ACCELERATION FOR SHORT PERIODS	S_{DS}	= 0.222g
D.	MAPPED SPECTRAL ACCELERATION FOR 1-SECOND PERIOD - (MA TABLE 1604.11)	S_1	= 0.068g
E.	DESIGN SPECTRAL RESPONSE ACCELERATION FOR 1-SECOND PERIOD	S_{D1}	= 0.109g
F.	SITE CLASS - REFER TO GEOTECHNICAL REPORT		SITE CLASS D
G.	SEISMIC DESIGN CATEGORY - (ASCE 7-10 - TABLES 11.6-1 & 11.6-2)		CATEGORY B
H.	BASIC SEISMIC-FORCE-RESISTING SYSTEM - (ASCE 7-10 - TABLE 12.2-1)		STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
I.	RESPONSE MODIFICATION COEFFICIENT - (ASCE 7-10 - TABLE 12.2-1)	R	= 3.0
J.	DEFLECTION AMPLIFICATION FACTOR - (ASCE 7-10 - TABLE 12.2-1)	C_d	= 3.0
K.	SYSTEM OVERSTRENGTH FACTOR - (ASCE 7-10 -TABLE 12.2-1)	Ω_0	= 3.0
L.	SEISMIC IMPORTANCE FACTOR - (ASCE 7-10 - TABLE 11.5-1)	I_E	= 1.25
M.	SEISMIC RESPONSE COEFFICIENT	C_s	= 0.074
N.	DESIGN BASE SHEAR		V = 564 KIPS (EAST-WEST) V = 564 KIPS (NORTH-SOUTH)
O.	ANALYSIS PROCEDURE USED		EQUIVALENT LATERAL FORCE

FOUNDATION (SECTION 310000 AND 312000)

F1. FOUNDATION WORK SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT BY GZA FILE # 175875.20, DATED OCTOBER 25, 2023.

F2. THE OWNER AND ARCHITECT ASSUME NO RESPONSIBILITY FOR THE VALIDITY OF THE SUBSURFACE CONDITIONS DESCRIBED ON THE DRAWINGS, SPECIFICATIONS, BORING LOGS, OR TEST PITS. THIS DATA IS INCLUDED ONLY TO ASSIST THE CONTRACTOR DURING BIDDING AND SUBSEQUENT CONSTRUCTION AND REPRESENT CONDITIONS ONLY OF THOSE SPECIFIED LOCATIONS AT THE PARTICULAR TIME THEY WERE MADE.

F3. THE CONTRACTOR SHALL INFORM THE ARCHITECT AND RELOCATE, AS REQUIRED, ANY EXISTING UTILITY LINES THAT MAY INTERFERE WITH NEW FOUNDATIONS. THE CONTRACTOR SHALL REMOVE ANY EXISTING UTILITY LINES THAT ARE BEING ABANDONED IN THE VICINITY OF THE NEW FOUNDATION AND BACKFILL THE AREA WITH COMPACTED STRUCTURAL FILL.

F4. FOUNDATIONS SHALL BE REINFORCED CONCRETE SPREAD FOOTINGS OVER A 6" MINIMUM THICK COMPACTED CRUSHED STONE LAYER OVER EXISTING SOILS IMPROVED WITH GROUTED AGGREGATE PIERS WITH A MINIMUM ALLOWABLE BEARING PRESSURE OF 2.5 TONS PER SQUARE FOOT.

F5. THE ESTIMATED BOTTOM ELEVATION OF EACH FOOTING IS INDICATED THUS [X'-X"] ON PLAN. THE BOTTOM OF EACH EXTERIOR FOOTING SHALL BE A MINIMUM OF 4'-0" BELOW ADJACENT EXTERIOR FINISH GRADE.

F6. SLABS ON GRADE WILL BE SUPPORTED BY A 12" MINIMUM LAYER OF COMPACTED SAND - GRAVEL FILL. PROVIDE A MEMBRANE VAPOR BARRIER UNDER INTERIOR SLABS ON GRADE. PROVIDE A 2'-0" WIDTH OF 2" RIGID INSULATION BELOW INTERIOR SLABS ON GRADE AROUND PERIMETER OF THE BUILDING.

F7. BACKFILL AGAINST WALLS, MATS, AND FOOTINGS SHALL BE ENGINEERED BACKFILL COMPACTED IN SPECIFIED LIFTS TO 95 PERCENT OF MAXIMUM DENSITY, UNLESS OTHERWISE INDICATED OR SPECIFIED. REFER TO GEOTECHNICAL REPORT AND EARTHWORK SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

F8. VERIFY LOCATIONS AND REQUIREMENTS FOR INSERTS, SLEEVES, CONDUITS, EMBEDMENTS, AND PENETRATIONS WITH RESPECTIVE TRADES BEFORE PLACING CONCRETE.

F9. FOUNDATIONS SHALL BE CENTERED UNDER SUPPORTED MEMBERS, UNLESS NOTED OTHERWISE.

F10. DOWELS FROM FOUNDATIONS INTO PIERS, COLUMNS, BUTTRESSES, OR WALLS SHALL BE THE SAME SIZE AND NUMBER AS REINFORCEMENT IN PIERS, COLUMNS, AND BUTTRESSES, OR WALLS ABOVE, UNLESS NOTED OTHERWISE.

F11. NO CONCRETE SHALL BE PLACED UNDER WATER OR ON FROZEN SUBGRADE. PROTECT IN-PLACE FOUNDATIONS AND SLABS FROM FROST PENETRATION UNTIL PROJECT IS COMPLETED.

F12. DO NOT BACK FILL FOUNDATION WALLS RETAINING EARTH UNTIL WALLS HAVE REACHED THEIR 28 DAY STRENGTH.

CAST-IN-PLACE CONCRETE (SECTION 033000)

C1. CONCRETE WORK SHALL CONFORM TO THE LATEST "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318)".

C2. CONCRETE SHALL BE PLACED IN THE PRESENCE OF THE APPROVED TESTING AGENCY.

C3. CONCRETE QUALITY IN ACCORDANCE WITH THE REQUIREMENTS OF THESE DRAWINGS AND SPECIFICATIONS IS ESSENTIAL TO THE STRUCTURAL PERFORMANCE OF THE BUILDING. CONCRETE THAT IS NOT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS WILL NOT BE ACCEPTED.

C4. CONCRETE EXPOSED TO WEATHER SHALL CONTAIN AN AIR ENTRAINMENT ADMIXTURE.

C5. NORMAL WEIGHT CONCRETE SHALL HAVE AN AIR-DRY UNIT WEIGHT OF 145 PCF.

C6. CONCRETE MINIMUM 28-DAY STRENGTH, UNLESS NOTED OTHERWISE, SHALL CONFORM TO FOLLOWING:

A.	FOOTINGS & GRADE BEAMS:	4000 PSI (NORMAL WEIGHT)
B.	SLABS ON GRADE & SLABS ON METAL DECK:	4000 PSI (NORMAL WEIGHT)
C.	FOUNDATION WALLS & PIERS:	4000 PSI (NORMAL WEIGHT)
D.	EXTERIOR SLABS:	5000 PSI (NORMAL WEIGHT)

C7. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED BARS. LAP ALL CONTINUOUS BARS A MINIMUM OF 40 DIAMETERS, UNLESS NOTED. PROVIDE MATCHING CORNER AND INTERSECTION BARS.

C8. PROVIDE A MINIMUM OF #4 AT 12" EACH WAY, EACH FACE, FOR ALL WALLS, FOOTINGS, PITS, OR PADS, UNLESS NOTED OTHERWISE.

C9. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 1064 IN FLAT SHEETS. LAP ONE AND ONE-HALF SQUARES AT ALL JOINTS AND TIE AT 3'-0" o.c. AT SLAB ON GRADE, PLACE WELDED WIRE FABRIC ON SLAB BOLSTERS WITH SAND PLATES SPACED AT 3'-0" o.c. EACH WAY.

C10. PROVIDE REINFORCING STEEL DETAILING, LAP SPLICES, EMBEDMENTS, BAR SUPPORTS, SPACERS, AND ACCESSORIES AS RECOMMENDED IN THE LATEST EDITION OF THE "ACI DETAILING MANUAL". ACCESSORIES, SUCH AS SLAB BOLSTERS AND BEAM AND SLAB CHAIRS, IN CONTACT WITH EXPOSED SURFACES, SHALL BE ZINC COATED AND PLASTIC TIPPED.

C11. REINFORCING STEEL DETAILS NOT SHOWN ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH THE "ACI DETAILING MANUAL 2004".

C12. CLEAR CONCRETE COVER FOR REINFORCING BARS OR WELDED WIRE FABRIC SHALL CONFORM TO THE FOLLOWING, UNLESS NOTED:

A.	FOOTINGS,	3"
B.	FOUNDATION WALLS:	1-1/2"
C.	PILASTERS:	1-1/2" TO TIES
D.	PIERS:	1-1/2" TO TIES
E.	INTERIOR SLABS ON GRADE:	MID-DEPTH
F.	EXTERIOR SLABS ON GRADE:	MID-DEPTH
G.	BEAMS:	1-1/2" TO STIRRUPS
H.	TOPPINGS ON METAL DECK:	1" FROM TOP

C13. SET AND TIE ALL REINFORCING STEEL BEFORE PLACING CONCRETE. SETTING DOWELS AND REINFORCING STEEL INTO WET CONCRETE IS PROHIBITED.

C14. NO REINFORCING STEEL SHALL BE CUT OR OMITTED IN THE FIELD BECAUSE OF CONFLICT WITH SLEEVES, DUCT OPENINGS, OR RECESSES. REINFORCING STEEL MAY BE MOVED ASIDE WITHOUT CHANGE IN LEVEL, WITH THE APPROVAL OF THE ARCHITECT.

C15. NO CHASES, RECESS, OPENINGS, OR SLEEVES SHALL BE INSTALLED IN CONCRETE WITHOUT APPROVAL OF THE ARCHITECT.

C16. NO CONDUITS SHALL BE PLACED IN CONCRETE SLABS ON DECK OR SLABS ON GRADE.

C17. KEYS SHALL BE A MINIMUM OF 2" x 4" WITH BEVELED SIDES, UNLESS NOTED OTHERWISE.

C18. DOWELS AND ANCHOR RODS SHALL BE SET BY TEMPLATE. SET EMBEDDED ITEMS FOR CONNECTION OF OTHER WORK ACCURATELY.

C19. HORIZONTAL CONSTRUCTION JOINTS SHALL BE AS INDICATED ON THE DRAWINGS. VERTICAL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE ARCHITECT. CONSTRUCTION JOINTS SHALL BE FORMED WITH A STANDARD KEY AND ALL REINFORCING STEEL EXTENDED A MINIMUM OF 40 DIAMETERS, UNLESS NOTED. ALL CONSTRUCTION JOINTS BELOW GRADE SHALL HAVE CONTINUOUS BENTONITE WATERSTOPS.

C20. CONSTRUCTION AND CONTROL JOINT LOCATIONS OTHER THAN THOSE SHOWN ON THE DRAWINGS MAY BE PERMITTED SUBJECT TO THE PRIOR APPROVAL OF THE ARCHITECT. EXPANSION JOINT LOCATIONS ARE MANDATORY AS SHOWN.

C21. SEE ARCHITECTURAL AND SITE DRAWINGS FOR FINISHES, DEPRESSIONS, REGLETS, NOTCHES, AND OTHER ARCHITECTURAL FEATURES.

C22. PROVIDE CONCRETE PADS FOR MECHANICAL EQUIPMENT ACCORDING TO THE REQUIREMENTS OF THE MANUFACTURER AND IN ACCORDANCE WITH THE TYPICAL DETAILS. COORDINATE LOCATIONS WITH M.E.P. WORK.

C23. PROVIDE SEALANT FOR ALL EXPOSED-TO-VIEW CONSTRUCTION JOINTS, CONTROL JOINTS, AND SHEAR KEYS.

C24. EXPOSED EDGES OF CONCRETE ELEMENTS SHALL HAVE A 1-INCH CHAMFER UNLESS NOTED OTHERWISE.

C25. NOT ALL OPENINGS THROUGH CONCRETE SLABS AND WALLS ARE SHOWN ON STRUCTURAL DRAWINGS. OPENINGS INDICATED, OR ANY ADDITIONAL OPENINGS OR INSERTS REQUIRED, SHALL BE VERIFIED WITH RESPECTIVE TRADES PRIOR TO PLACING CONCRETE.

C26. FLOOR SLABS SHALL BE PLACED TO THE REQUIRED ELEVATIONS, INCLUDING TOLERANCES FOR FLATNESS AND LEVELNESS. SLAB THICKNESSES INDICATED ARE MINIMUM. QUANTITY OF CONCRETE USED SHALL TAKE INTO ACCOUNT THE DEFLECTIONS OF SUPPORTING STRUCTURAL MEMBERS AND FORMS.

UNIT MASONRY (SECTION 042000)

M1. CONCRETE MASONRY CONSTRUCTION WORK SHALL CONFORM TO LATEST EDITION OF "BUILDING CODE REQUIREMENTS AND COMMENTARY FOR MASONRY STRUCTURES (ACI 530/530R)" AND "SPECIFICATIONS FOR MASONRY STRUCTURES AND RELATED COMMENTARIES (ACI 530.1/530.1R)". CONCRETE MASONRY WALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH LOW LIFT GROUTING METHOD.

M2. CONCRETE MASONRY STRENGTH (f'm) SHALL NOT BE LESS THAN 1500 PSI WITH SPECIAL INSPECTION.

M3. CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO ASTM C90, NORMAL WEIGHT, TYPE 1 AND TO NCMA "REQUIREMENTS FOR LOAD BEARING CONCRETE MASONRY". COMPRESSIVE STRENGTH SHALL BE AS REQUIRED FOR SPECIFIED CONCRETE MASONRY STRENGTH (f'm), BUT NOT LESS THAN 1900 PSI FOR THE AVERAGE OF 3 UNITS OR 1700 PSI FOR AN INDIVIDUAL UNIT, BASED ON THE AVERAGE NET AREA.

M4. MORTAR FOR REINFORCED CMU SHALL CONFORM TO ASTM C270, TYPE M OR S, AND HAVE A 28-DAY COMPRESSIVE STRENGTH EQUAL TO THE SPECIFIED CONCRETE MASONRY STRENGTH (f'm), BUT NOT LESS THAN 1800 PSI.

M5. GROUT SHALL CONFORM TO ASTM C476, FINE TYPE, AND HAVE A 28-DAY COMPRESSIVE STRENGTH EQUAL TO THE SPECIFIED CONCRETE MASONRY STRENGTH (f'm), BUT NOT LESS THAN 3000 PSI.

M6. GROUTING SHALL BE LIMITED TO A MAXIMUM WALL HEIGHT OF 5'-4" PER LIFT.

M7. HORIZONTAL JOINT REINFORCEMENT SHALL CONFORM TO ASTM A82, LADDER TYPE, #9 WIRE. PROVIDE PREFABRICATED CORNERS AND TEES.

M8. MINIMUM HORIZONTAL JOINT REINFORCEMENT FOR WALLS AND PARTITIONS SHALL BE #9 WIRE SPACED VERTICALLY AT 16"o.c. AT A MINIMUM, PROVIDE A BOND BEAM, WITH 2-#5 HORIZONTAL AND CONTINUOUS BARS, AT EACH FLOOR LEVEL AND AT THE TOP OF WALL.

M9. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED BARS. LAP ALL CONTINUOUS BARS A MINIMUM OF 48 DIAMETERS.

M10. STAIR AND ELEVATOR SHAFT WALLS SHALL BE FULLY GROUTED SOLID AND IN ADDITION TO HORIZONTAL REINFORCEMENT SHALL BE REINFORCED VERTICALLY WITH A MINIMUM OF #5 BARS AT 32" O.C., UNLESS NOTED.

M11. THE TOP OF CMU WALLS AND PARTITIONS SHALL BE ANCHORED AS SHOWN IN THE TYPICAL DETAILS AND THE SECTIONS.

M12. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR REQUIRED FIRE RATINGS.

STRUCTURAL STEEL FRAMING (SECTION 051200)

S1. STRUCTURAL STEEL WORK SHALL CONFORM TO THE LATEST EDITIONS OF AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", AS MODIFIED BY THE SPECIFICATIONS.

S2. WELDING SHALL BE IN ACCORDANCE WITH THE LATEST AWS "D1.1-STRUCTURAL WELDING CODE-STEEL".

S3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING, UNLESS NOTED:

A.	W, WT, C, AND MC SHAPES:	ASTM A992	Fy = 50KSI
B.	ALL OTHER STRUCTURAL SHAPES:	ASTM A572	Fy = 50KSI
C.	SQUARE, RECTANGULAR, AND ROUND HSS:	ASTM A500 GRADE C	Fy = 50KSI
D.	STRUCTURAL STEEL PIPE:	ASTM A53 GRADE B	Fy = 35KSI
E.	STRUCTURAL STEEL PLATES AND BARS:	ASTM A572	Fy = 50KSI

S4. CONNECTIONS MAY BE BOLTED OR WELDED, UNLESS SPECIFICALLY NOTED OTHERWISE. CONNECTIONS SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH AISC STANDARDS, USING THE ASD METHOD.

S5. CONNECTIONS SHALL BE WELDED TO CONFORM TO ASTM A233, E70 SERIES, OR BOLTED TO CONFORM TO ASTM A325, TYPE N BOLTS.

S6. PROVIDE 3/4" DIAMETER MINIMUM HEADED TYPE ANCHOR RODS AT COLUMNS AND POSTS, UNLESS NOTED OTHERWISE.

S7. FURNISH AND INSTALL ONE WASHER AND ONE HEAVY HEX NUT WITH ALL ANCHOR RODS, UNLESS NOTED OTHERWISE.

S8. SIMPLY SUPPORTED BEAM-TO-BEAM CONNECTIONS SHALL BE DOUBLE ANGLE TYPE IN CONFORMANCE WITH THE AISC "MANUAL OF STEEL CONSTRUCTION", UNLESS SPECIFICALLY NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.

S9. PROVIDE A 1/4" THICK LEVELING PLATE UNDER EACH COLUMN BASE PLATE FOR USE IN ALIGNING ANCHOR RODS AND BASE PLATES. LEVELING PLATE SHALL BE SET AND GROUTED WITH AN APPROVED NON-SHRINK, NON-METALLIC GROUT. GROUT SHALL HAVE ATTAINED DESIGN STRENGTH BEFORE ERECTION OF COLUMN.

S10. PROVIDE A 1/4" THICK MINIMUM CAP PLATE WELDED AT TOP OF HSS COLUMNS, UNLESS NOTED OTHERWISE.

S11. PROVIDE A MINIMUM OF A 3/8" THICK WEB STIFFENER PLATE EACH SIDE OF A BEAM OVER A COLUMN OR AT A BEAM UNDER A COLUMN.

S12. SPLICING STRUCTURAL MEMBERS WHERE NOT DETAILED ON DRAWINGS IS PROHIBITED WITHOUT PRIOR APPROVAL OF ARCHITECT.

S13. STRUCTURAL STEEL EXPOSED TO THE WEATHER IN THE FINISHED PROJECT SHALL BE HOT DIP GALVANIZED TO CONFORM TO ASTM A123.

S14. STRUCTURAL STEEL EXPOSED TO VIEW IN THE COMPLETED PROJECT SHALL BE EXPOSED TO VIEW STRUCTURAL STEEL (E.V.S.S.). REFER TO THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS.

S15. REFER TO THE SPECIFICATION FOR PAINTING AND SURFACE PREPARATION REQUIREMENTS.

S16. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE NEW STRUCTURE FOR WIND AND CONSTRUCTION LOADS. TEMPORARY SUPPORTS SHALL REMAIN IN PLACE UNTIL ALL ELEMENTS REQUIRED FOR STABILITY OF THE STEEL FRAME ARE COMPLETED.

SHEAR CONNECTORS (SECTION 051226)

SC1. SHEAR CONNECTORS SHALL BE HEADED STUDS CONFORMING TO ASTM A108, GRADES 1010, 1015, OR 1020.

SC2. SHEAR CONNECTORS SHALL BE 3/4" DIAMETER WITH A LENGTH EQUAL TO TOTAL SLAB THICKNESS MINUS 1 1/2 INCHES UNLESS NOTED OTHERWISE.THE NUMBER OF SHEAR CONNECTORS REQUIRED PER BEAM IS INDICATED THUS (X) ON THE DRAWINGS. INSTALL CONNECTORS UNIFORMLY ALONG THE LENGTH OF THE BEAM UNLESS NOTED. INSTALL AT LEAST ONE CONNECTOR PER FOOT OF BEAM LENGTH ON ALL BEAMS SUPPORTING CONCRETE SLABS OVER COMPOSITE DECK.

STEEL DECK (SECTION 053100)

D1. STEEL DECK WORK SHALL CONFORM TO "SPECIFICATION FOR DESIGN OF LIGHT GAUGE COLD-FORMED STEEL STRUCTURAL MEMBERS (AISI)"; "STEEL DECK INSTITUTE DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOF DECKS"; "STRUCTURAL STEEL WELDING CODE - STEEL (AWS D1.1)"; AND "STRUCTURAL WELDING CODE - SHEET STEEL (AWS D1.3)".

D2. COMPOSITE STEEL FLOOR DECK SHALL BE MADE FROM STEEL CONFORMING TO ASTM A653 - MINIMUM GRADE 40 (Fy = 40 KSI) AND GALVANIZED IN ACCORDANCE WITH ASTM A653, COATING CLASS G60. COMPOSITE STEEL FLOOR DECK TYPE, DEPTH, AND GAUGE SHALL BE AS NOTED ON THE DRAWINGS.

D3. STEEL ROOF DECK SHALL BE MADE FROM STEEL CONFORMING TO ASTM A653 - GRADE 33 (Fy = 33 KSI) AND GALVANIZED IN ACCORDANCE WITH ASTM A653, COATING CLASS G60. STEEL ROOF DECK TYPE, DEPTH, AND GAUGE SHALL BE AS NOTED ON THE DRAWINGS.

D4. PROVIDE CONTINUOUS POUR STOP ANGLES WITH RETURN LIP AT BUILDING PERIMETER AND AT ALL INTERIOR OPENINGS. REFER TO THE SCHEDULE FOR GAUGE.

D5. COMPOSITE STEEL FLOOR DECK SHALL BE ATTACHED TO THE SUPPORTING STRUCTURE WITH THE FOLLOWING MINIMUM REQUIREMENTS:

A.	PANEL ENDS AND END LAPS	5/8"Ø PUDDLE WELD AT 12" o.c. MAX.
B.	INTERMEDIATE SUPPORTS	5/8"Ø PUDDLE WELD AT 12" o.c. MAX.
C.	LONGITUDINAL EDGES AT SIDE SUPPORTS	5/8"Ø PUDDLE WELD AT 12" o.c. MAX.
D.	SIDE LAPS OF ADJACENT UNITS	BUTTON PUNCHED OR #10 SCREWS AT 24" o.c. MAX.

D6. STEEL ROOF DECK SHALL BE ATTACHED TO THE SUPPORTING STRUCTURE WITH THE FOLLOWING MINIMUM REQUIREMENTS:

A.	PANEL ENDS AND END LAPS	5/8"Ø PUDDLE WELD AT EACH RIB
B.	INTERMEDIATE SUPPORTS	5/8"Ø PUDDLE WELD AT EACH RIB
C.	LONGITUDINAL EDGES A SIDE SUPPORTS	5/8"Ø PUDDLE WELD AT 12" o.c. MAX.
D.	SIDE LAPS OF ADJACENT UNITS	#12 SCREWS AT 24" o.c. MAX.

D7. CELLULAR ACOUSTIC STEEL FLOOR AND ROOF DECK SHALL BE ATTACHED TO THE SUPPORTING STRUCTURE WITH THE FOLLOWING MINIMUM REQUIREMENTS:

A.	PANEL ENDS AND END LAPS	5/8"Ø PUDDLE WELD AT EACH RIB
B.	INTERMEDIATE SUPPORTS	5/8"Ø PUDDLE WELD AT EACH RIB
C.	LONGITUDINAL EDGES AT SIDE SUPPORTS	5/8"Ø PUDDLE WELD AT 12" o.c. MAX.
D.	SIDE LAPS OF ADJACENT UNITS	1-1/2" SEAM WELD AT 24" o.c. MAX.

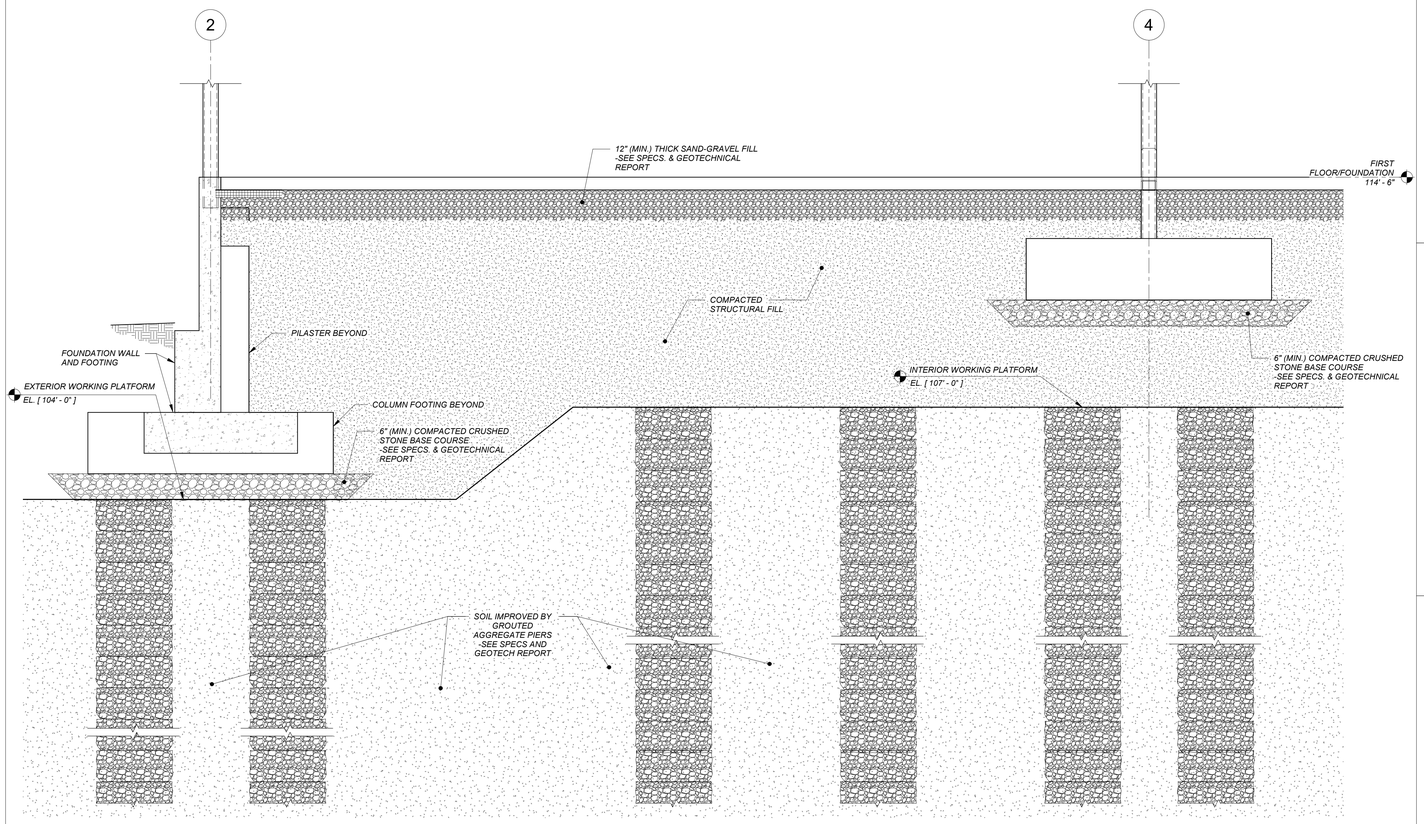
D8. DO NOT HANG M.E.P., F.P. OR ARCHITECTURAL COMPONENTS FROM METAL ROOF DECK. PROVIDE ENGINEERED SUPPLEMENTAL FRAMING BY THE COMPONENT CONTRACTOR TO SPAN BETWEEN STRUCTURAL BEAMS.

FBRA STRUCTURAL DRAWING LIST

Drawing Number	Drawing Name
2.1.00	STRUCTURAL FRAMING
2.1.01	GENERAL NOTES
2.1.02	TYPICAL DETAILS I
2.1.03	TYPICAL DETAILS II
2.1.04	TYPICAL DETAILS III
2.1.05	TYPICAL DETAILS IV
2.1.06	TYPICAL DETAILS V
2.1.07	TYPICAL DETAILS VI
2.1.08	TYPICAL DETAILS VII
2.4.01	FIRST FLOOR/FOUNDATION PLAN
2.4.02	SECOND FLOOR FRAMING PLAN
2.4.03	THIRD FLOOR FRAMING PLAN
2.4.04	ROOF FRAMING PLAN
2.5.01	BUILDING SECTIONS
2.5.02	BRACE ELEVATIONS I
2.5.03	BRACE

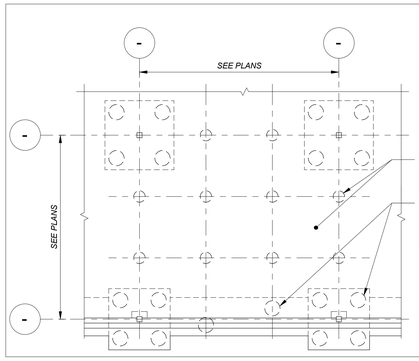
EARTHWORK NOTES: (ALL DETAILS)

1. EARTHWORK DIAGRAM IS SCHEMATIC ONLY AND DOES NOT DEPICT SPECIFIC CONDITIONS AT THE SITE. ACTUAL CONDITIONS WILL VARY OVER THE SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING CONDITIONS. THE DIAGRAMS ARE INTENDED TO SHOW BASIC EARTHWORK REQUIREMENTS ONLY. REFER TO THE REFERENCED GEOTECHNICAL ENGINEERING REPORT AND THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.



GENERAL EARTHWORK SCHEMATIC DIAGRAM WITHIN PROPOSED BUILDING AREA

NO SCALE



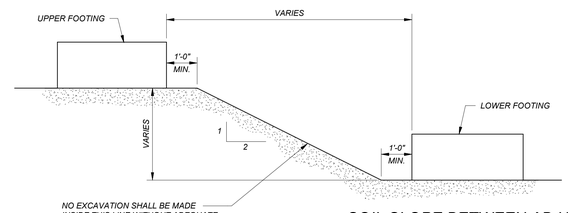
NOTE:

1. PROVIDE A MIN. OF THREE GROUTED AGGREGATE PIERS BELOW INDIVIDUAL COLUMN FOOTINGS.
2. GROUTED AGGREGATE PIERS SUPPORTING SLAB ON GRADE ONLY SHALL BE INSTALLED ON A RECTANGULAR GRID WITH A MAXIMUM 9'-0" SPACING IN EACH DIRECTION.
3. GROUTED AGGREGATE PIERS SHOWN ARE SCHEMATIC AND DO NOT REPRESENT THE ACTUAL QUANTITY OR SIZE (DETERMINED BY THE CONTRACTOR)

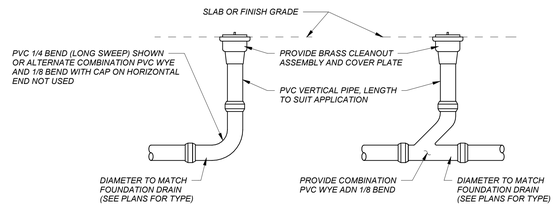
SLAB ON GRADE BEARING ON SOIL IMPROVED WITH A GROUTED AGGREGATE PIER SOIL IMPROVEMENT SYSTEM DESIGNED AND CONSTRUCTED BY THE CONTRACTOR. -REFER TO FOUNDATION PLANS FOR LOADINGS AND SPECIFICATIONS.

WALL AND COLUMN FOUNDATIONS BEARING ON SOIL IMPROVED WITH A GROUTED AGGREGATE PIER SOIL IMPROVEMENT SYSTEM DESIGNED AND CONSTRUCTED BY THE CONTRACTOR. -REFER TO FOUNDATION PLANS FOR LOADINGS AND SPECIFICATIONS.

SCHEMATIC PART PLAN OF GROUTED AGGREGATE PIER SYSTEM
EARTHWORK E9



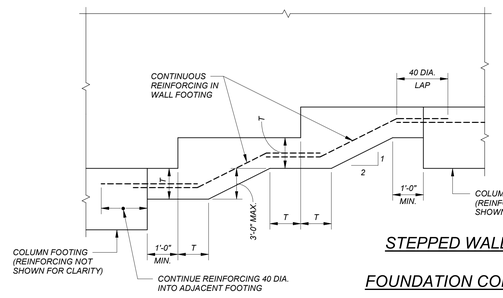
SOIL SLOPE BETWEEN ADJACENT FOOTINGS
EARTHWORK E4



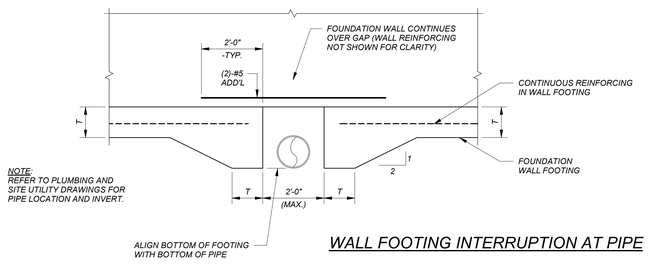
NOTES:

1. GENERAL CONTRACTOR SHALL PROVIDE THE NECESSARY BRACING FOR THE CORECT PLACEMENT AND TO PREVENT DAMAGE OF THE FOUNDATION DRAIN AND CLEANOUT SYSTEM.
2. PIPING AND CLEANOUT MATERIALS SHALL MATCH MATERIALS OF FOUNDATION DRAIN UNLESS NOTED OTHERWISE.

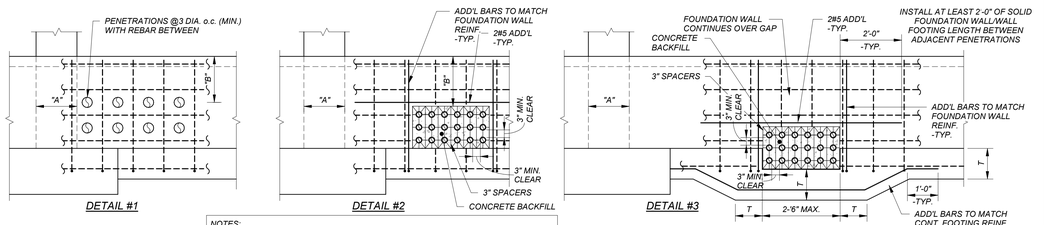
FOUNDATION DRAIN CLEANOUT
EARTHWORK E5



STEPPED WALL FOOTING
FOUNDATION CONSTRUCTION CF1



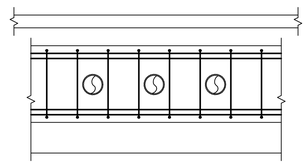
WALL FOOTING INTERRUPTION AT PIPE
FOUNDATION CONSTRUCTION CF2



NOTES:

A. DO NOT PENETRATE PIER OR COLUMN BEARING ZONES
B. DO NOT PENETRATE THE TOP 18" OF WALL BELOW THE MASONRY SHELF OR TOP 2 LAYERS OF HORIZ. REBAR
C. SUBMIT PENETRATION COORDINATION PLANS FOR APPROVAL PRIOR TO SUBMITTING REBAR SHOP DRAWINGS
D. REFER TO MEP AND SITE UTILITIES DWGS. FOR LOCATIONS AND INVERTS

FOUNDATION WALL PENETRATION DETAILS
FOUNDATION CONSTRUCTION CF4



LOCATE PENETRATIONS AT MID-DEPTH OF GRADE BEAMS & WALLS, MAX. 10" OUTER DIA., MIN. SPACING OF 3 DIA., AVOID REBAR (DO NOT INTERRUPT REBAR)

SUBMIT PENETRATION COORDINATION PLANS FOR APPROVAL PRIOR TO SUBMITTING REBAR SHOP DRAWINGS.

PENETRATIONS THROUGH GRADE BEAMS
FOUNDATION CONSTRUCTION CF5

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KEY PLAN

Called North

NORTH ARROW STAMP

Date 2/21/2024

Drawn By RAB

Scale As Noted

Revisions

Number	Date	Description

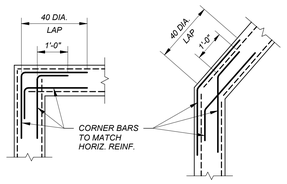
DESIGN DEVELOPMENT

TYPICAL DETAILS I

File Name

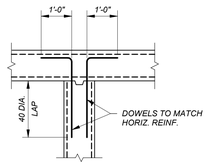
2.1.02

2017168



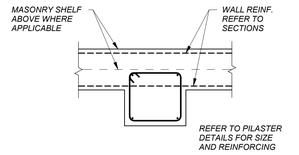
CORNER

CONCRETE WALLS CW1



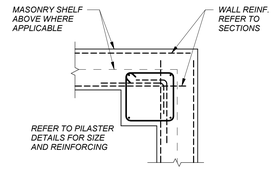
INTERSECTION

CONCRETE WALLS CW2



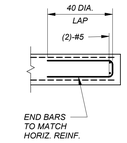
EDGE PILASTER

CONCRETE WALLS CW3



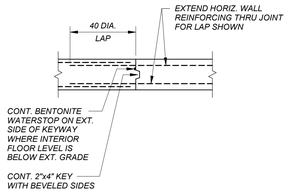
CORNER PILASTER

CONCRETE WALLS CW4



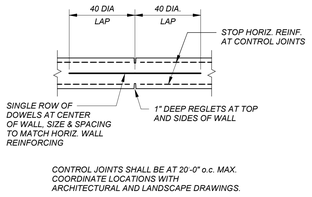
END

CONCRETE WALLS CW5



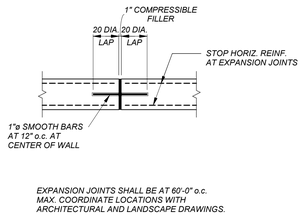
CONSTRUCTION JOINT

CONCRETE WALLS CW6



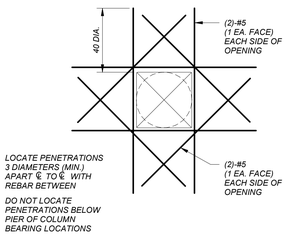
CONTROL JOINT AT SITE WALLS ONLY

CONCRETE WALLS CW7



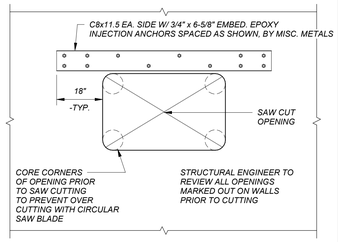
EXPANSION JOINT AT SITE WALLS ONLY

CONCRETE WALLS CW8



PENETRATIONS

CONCRETE WALLS CW9



WALL PENETRATION CUTTING

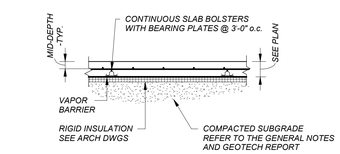
CONCRETE WALLS CW10

WALL THICKNESS	NO. OF ROWS EACH WAY	HORIZONTAL REINF.	VERTICAL REINF.
6" TO 8"	1	#4 @ 9"	#4 @ 9"
9" TO 11"	2	#4 @ 12"	#4 @ 12"
12" TO 14"	2	#4 @ 12"	#4 @ 12"
15" TO 17"	2	#5 @ 12"	#4 @ 12"
18" TO 20"	2	#5 @ 12"	#4 @ 12"

NOTES:
1. WALLS OF FRACTIONAL THICKNESS SHALL BE ROUNDED OFF TO THE NEXT HIGHEST THICKNESS.
2. WALL THICKNESSES NOT SHOWN SHALL BE A MULTIPLE OF THOSE INDICATED.

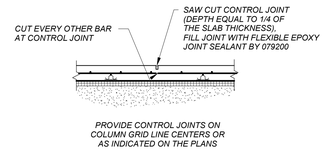
MINIMUM WALL REINFORCING

CONCRETE WALLS CW11



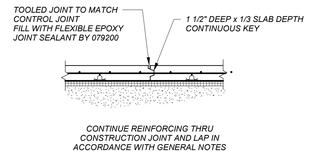
GENERAL CONSTRUCTION

SLAB ON GRADE CS1



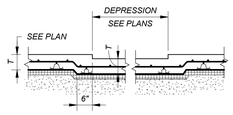
CONTROL JOINT

SLAB ON GRADE CS2



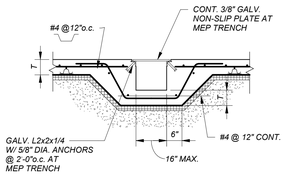
CONSTRUCTION JOINT

SLAB ON GRADE CS3



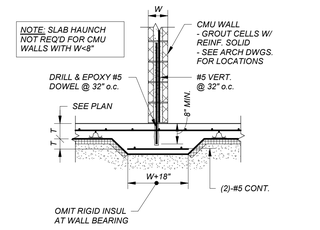
DEPRESSION

SLAB ON GRADE CS4



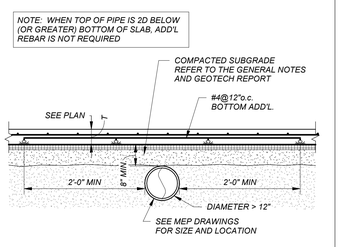
TRENCH DRAIN

SLAB ON GRADE CS5



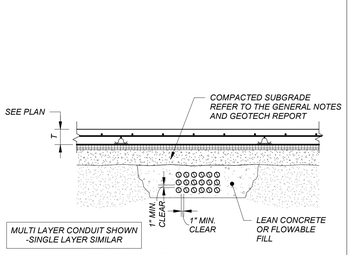
AT NON-BEARING, FULL AND PARTIAL HEIGHT, INTERIOR CMU WALL

SLAB ON GRADE CS6



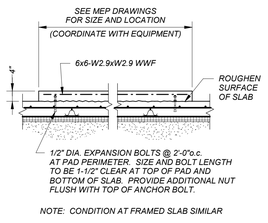
OVER BURIED M.E.P.

SLAB ON GRADE CS8



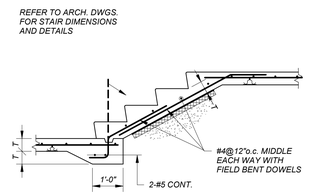
EMBEDDED CONDUIT

SLAB ON GRADE CS9



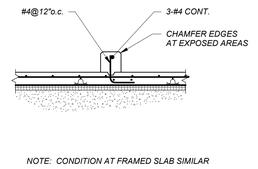
HOUSEKEEPING PAD

SLAB ON GRADE CS11



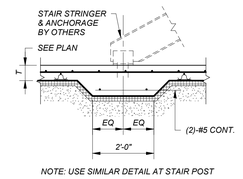
STAIR

SLAB ON GRADE CS12



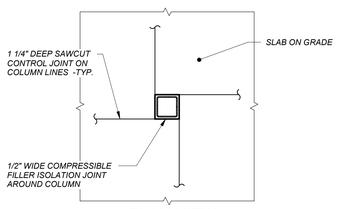
CURB

SLAB ON GRADE CS13



STAIR BEARING

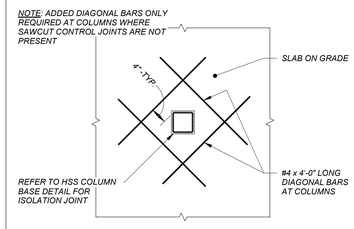
SLAB ON GRADE CS7



PLAN VIEW

CONTROL JOINT

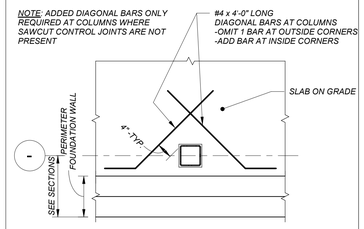
SLAB ON GRADE CSX



PLAN VIEW

ADDED REBAR AT INTERIOR COLUMNS

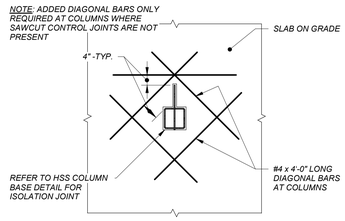
SLAB ON GRADE CSX



PLAN VIEW

ADDED REBAR AT PERIMETER COLUMNS

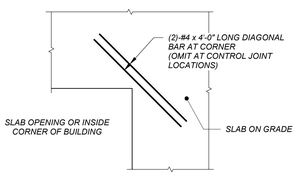
SLAB ON GRADE CSX



PLAN VIEW

ADDED REBAR AT BRACE COLUMNS

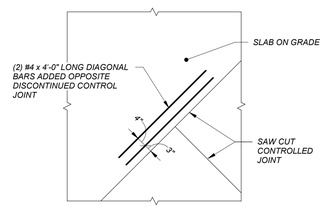
SLAB ON GRADE CSX



PLAN VIEW

ADDED REBAR AT INSIDE CORNERS

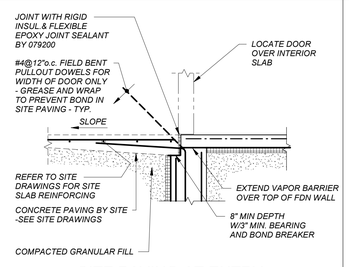
SLAB ON GRADE CSX



PLAN VIEW

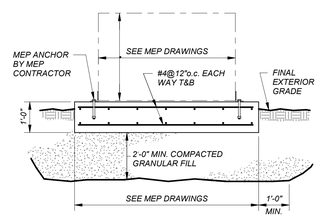
ADDED REBAR AT DISCONTINUED CONTROL JOINTS

SLAB ON GRADE CSX



SITE PAVING AT ENTRY

SLAB ON GRADE CS14



EQUIPMENT PAD

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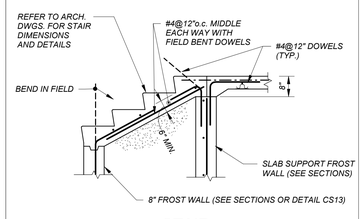

STAIR

SLAB ON GRADE CS12

2017168

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KEY PLAN

Called North

NORTH ARROW STAMP

Date 2/21/2024

Drawn By RAB

Scale As Noted

Revisions

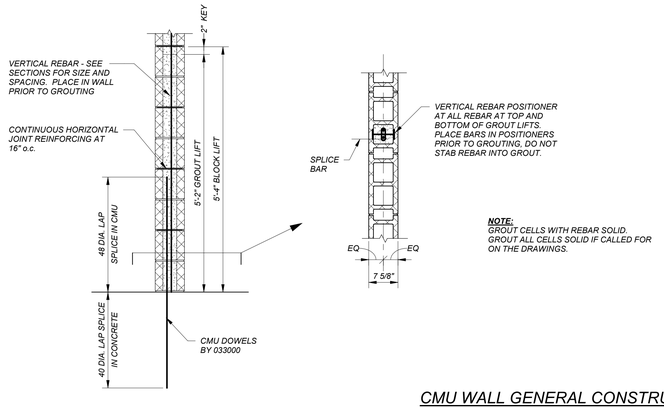
Number	Date	Description

DESIGN DEVELOPMENT

TYPICAL DETAILS II

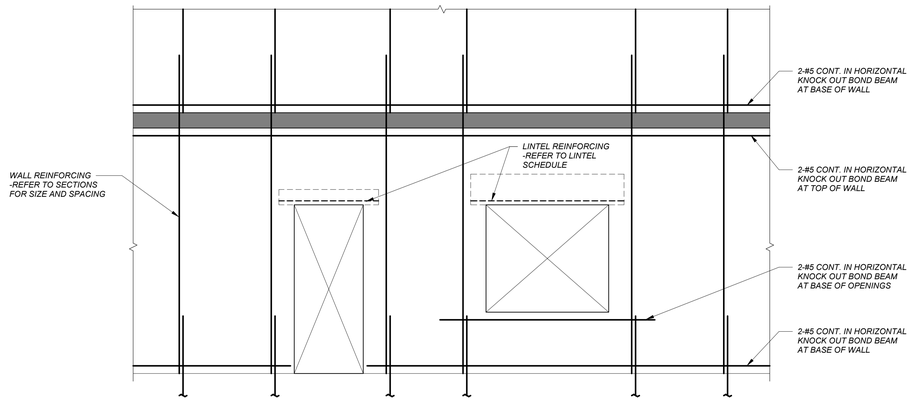
File Name

2.1.03



CMU WALL GENERAL CONSTRUCTION

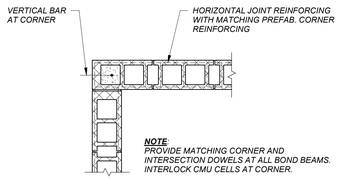
MASONRY CONSTRUCTION M1



NOTE:
GROUT CMU CELLS WITH REINFORCING SOLID.
GROUT ENTIRE WALL 100% SOLID IF CALLED FOR IN THE SECTIONS AND NOTES.

CMU WALL ELEVATION

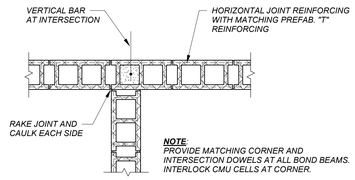
MASONRY CONSTRUCTION M2



NOTE:
PROVIDE MATCHING CORNER AND INTERSECTION DOWELS AT ALL BOND BEAMS. INTERLOCK CMU CELLS AT CORNER.

CMU WALL CORNER

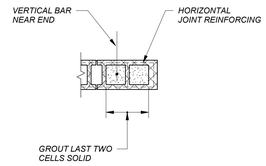
MASONRY CONSTRUCTION M3



NOTE:
PROVIDE MATCHING CORNER AND INTERSECTION DOWELS AT ALL BOND BEAMS. INTERLOCK CMU CELLS AT CORNER.

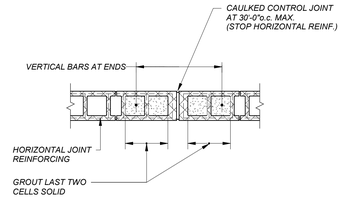
CMU WALL INTERSECTION

MASONRY CONSTRUCTION M4



CMU WALL END AND JAMB

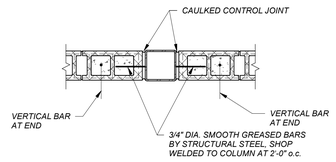
MASONRY CONSTRUCTION M5



SEE PLANS FOR LOCATIONS

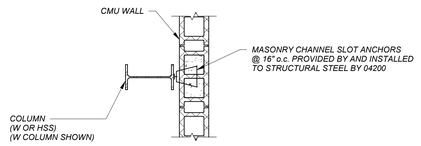
CMU WALL CONTROL JOINT

MASONRY CONSTRUCTION M6



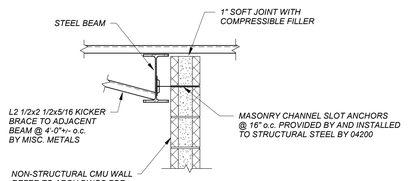
CMU WALL TO COLUMN SLIP CONNECTION

MASONRY CONSTRUCTION M7



CMU WALL ANCHORAGE TO COLUMN

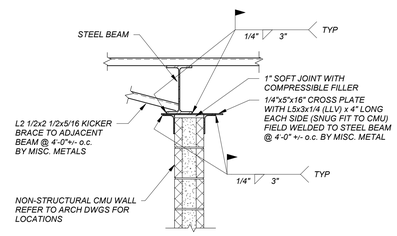
MASONRY CONSTRUCTION M8



REFER TO ARCH. DRAWINGS FOR WALL LOCATIONS AND THICKNESSES.

CMU WALL ANCHORAGE TO BEAM SIDE

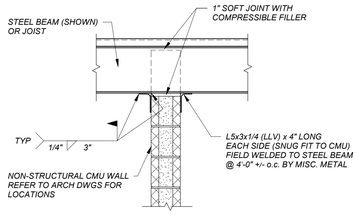
MASONRY CONSTRUCTION M9



REFER TO ARCH. DRAWINGS FOR WALL LOCATIONS AND THICKNESSES.

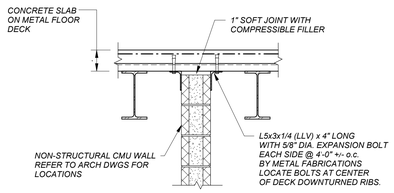
CMU WALL ANCHORAGE TO BEAM BOTTOM

MASONRY CONSTRUCTION M10



CMU WALL ANCHORAGE TO BEAM BOTTOM

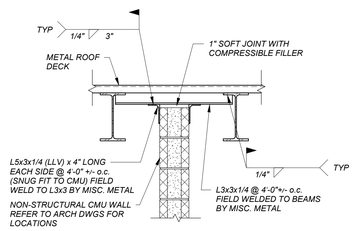
MASONRY CONSTRUCTION M11



NOTE:
IF WALL RUNS PARALLEL TO DECK SPAN ENSURE EXPANSION BOLTS WILL CENTER INTO DECK FLUTES BY PROVIDING 1/4" FACE PLATE TO BOLT THRU.

CMU WALL ANCHORAGE TO SLAB BOTTOM

MASONRY CONSTRUCTION M12



CMU WALL ANCHORAGE TO DECK BOTTOM

MASONRY CONSTRUCTION M13

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KEY PLAN

Called North

NORTH ARROW STAMP

Date 2/21/2024

Drawn By RAB

Scale As Noted

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

TYPICAL DETAILS III

File Name

2.1.04

2017168

LOOSE LINTEL SCHEDULE AT MASONRY
(BY MISC. METAL)

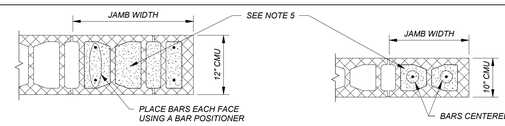
MASONRY OPENING	LINTEL SIZE		MIN. BEARING AT EACH END
UP TO 3'-0"	L3-1/2 x 3-1/2 x 5/16		8"
3'-1" TO 4'-6"	L4 x 3-1/2 x 5/16	(4" LEG VERT.)	8"
4'-7" TO 6'-0"	L5 x 3-1/2 x 3/8	(5" LEG VERT.)	8"
6'-1" TO 8'-0"	L6 x 3-1/2 x 3/8	(6" LEG VERT.)	8"

NOTES:

1. PROVIDE LINTELS OVER ALL OPENINGS (INCLUDING M.E.P. OPENINGS EXCEPT WHERE LINTEL BLOCKS ARE PROVIDED.
2. PROVIDE ONE ANGLE FOR EACH 4" OF WALL THICKNESS. FOR 6" WALLS, PROVIDE A TEE OR BUILT-UP SECTION WITH PROPERITES EQUAL TO OR GREATER THAN 1.5 TIMES THE ANGLE PROPERTIES FOR A 4" WALL THICKNESS.
3. ALL EXTERIOR LINTELS SHALL BE GALVANIZED BY THE HOT DIP PROCESS.

LOOSE LINTEL SCHEDULE AT MASONRY

MASONRY CONSTRUCTION M15



DOUBLY REINFORCED WALL/JAMB **SINGLY REINFORCED WALL/JAMB**

TYPE	WALL DESCRIPTION	f'_m (psi)	TYPICAL WALL REINFORCING			JAMB SIZES AND REINFORCING [5] (SEE DETAIL ABOVE) FOR OPENINGS:					
			VERTICAL [1] REINFORCING	HORIZONTAL REINFORCING		TO 4'-0"		TO 6'-4"		TO 10'-0"	
				BOND BEAM [2]	JOINT	WIDTH	REBAR	WIDTH	REBAR	WIDTH	REBAR
A	12" INTERIOR WALL (32'-0" MAX HEIGHT)	2000	#5@48"	2-#4 TOP	9 GA.@16"	8"	1-#6	16"	2-#6	24"	3-#6
B	10" INTERIOR WALL (26'-0" MAX HEIGHT)	2000	#4@48"	2-#4 TOP	9 GA.@16"	8"	1-#4	16"	2-#4	24"	3-#4
C	8" EXTERIOR WALL (14'-0" MAX HEIGHT)	2000	#4@32"	2-#4 TOP	9 GA.@16"	16"	2-#4	16"	2-#5	24"	3-#5
D	8" INTERIOR WALL (16'-0" MAX HEIGHT)	1500	#4@48"	2-#4 TOP	9 GA.@16"	8"	1-#4	8"	1-#4	16"	2-#4
E	6" INTERIOR WALL (16'-0" MAX HEIGHT)	1500	#4@48"	2-#4 TOP	9 GA.@16"	8"	1-#4	8"	1-#4		
F	6" EXTERIOR WALL (14'-0" MAX HEIGHT)	1500	#4@32"	2-#4 TOP	9 GA.@16"						

NOTES:
1. PROVIDE SINGLE LAYER OF VERTICAL REINFORCING CENTERED IN WALL EXCEPT WHERE NOTED E.F. (EACH FACE) POSITION BARS WITH A TWIN BAR POSITIONER.
2. PROVIDE BOND BEAMS AT TOP OF ALL WALLS AND BELOW ALL BEAM BEARING POCKETS.
3. ADDITIONAL REINFORCING REQUIRED AT CORNERS AND ENDS OF WALLS PER TYPICAL DETAILS.
4. SEE MASONRY LINTEL SCHEDULE FOR LINTEL REINFORCING REQUIREMENTS.
5. VERTICAL REINFORCING SHALL RUN THE FULL HEIGHT OF THE WALL. ALL CORES IN JAMB "WIDTH" SHALL BE GROUTED SOLID FULL HEIGHT.

MASONRY WALL REINFORCEMENT SCHEDULE

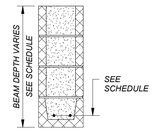
MASONRY CONSTRUCTION M17

CMU LINTEL BEAM SCHEDULE

MASONRY OPENING	DEPTH	REINFORCING
IN 8" WALLS		
UP TO 4'-0"	2 COURSES	2-#5
4'-1" TO 6'-0"	3 COURSES	2-#5
6'-1" TO 10'-0'	4 COURSES	2-#6
10'-1" TO 14'-0"	5 COURSES	2-#7
IN 12" WALLS		
UP TO 4'-0"	2 COURSES	2-#5
4'-1" TO 6'-0"	3 COURSES	2-#5
6'-1" TO 10'-0"	4 COURSES	2-#6
10'-1" TO 14'-0"	5 COURSES	2-#7

NOTES:

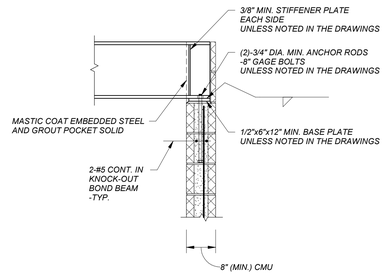
1. PLACE REINFORCING IN THE FIRST COURSE AND OPENING.
2. PROVIDE 12" OF BEARING EACH END ON SOLID GROUTED CMU.
3. PROVIDE TEMPORARY SHORING AS REQUIRED UNTIL LINTEL HAS REACHED FULL 28 DAY STRENGTH.



SECTION

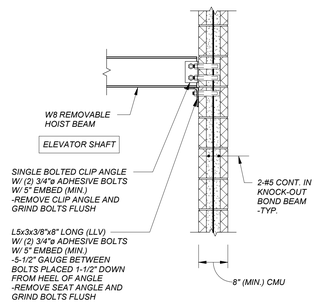
CMU LINTEL BEAM SCHEDULE

MASONRY CONSTRUCTION M18



BEAM BEARING ON CMU

MASONRY CONSTRUCTION M20



REMOVABLE ELEVATOR HOIST BEAM

MASONRY CONSTRUCTION M22

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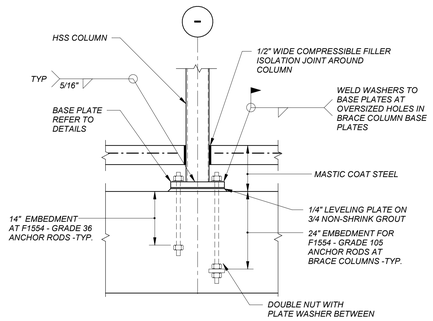
DESIGN DEVELOPMENT

TYPICAL DETAILS IV

File Name

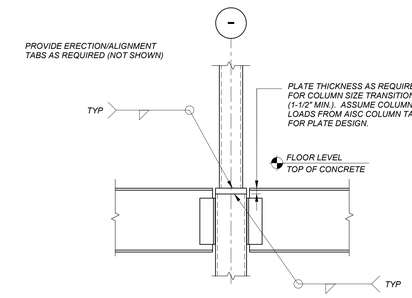
2.1.05

2017168



HSS COLUMN BASE DETAIL

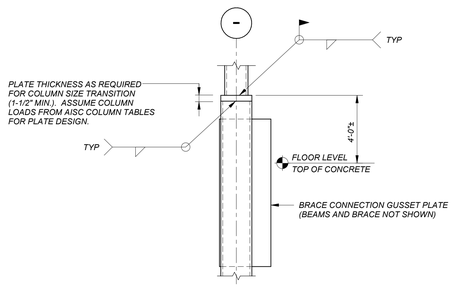
STEEL CONSTRUCTION S1



DETAIL SIMILAR AT SAME SIZE COLUMN SPLICE

HSS COLUMN SPLICE

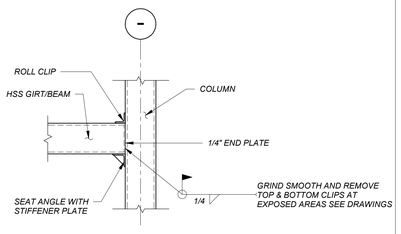
STEEL CONSTRUCTION S3



DETAIL SIMILAR AT SAME SIZE COLUMN SPLICE

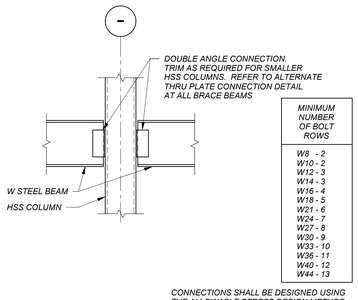
HSS BRACE COLUMN SPLICE

STEEL CONSTRUCTION S4



HSS BEAM TO HSS COLUMN CONNECTION

STEEL CONSTRUCTION S9A

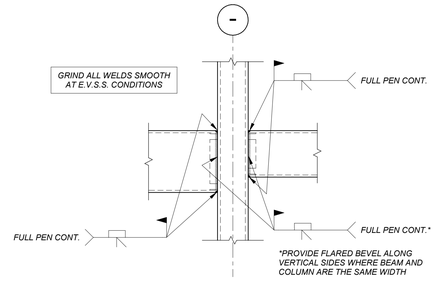


MINIMUM NUMBER OF BOLT ROWS
W8 - 2
W10 - 2
W12 - 3
W14 - 3
W16 - 4
W18 - 5
W21 - 6
W24 - 7
W27 - 8
W30 - 9
W33 - 10
W36 - 11
W40 - 12
W44 - 13

CONNECTIONS SHALL BE DESIGNED USING THE ALLOWABLE STRESS DESIGN METHOD -REFER TO SPECIFICATIONS

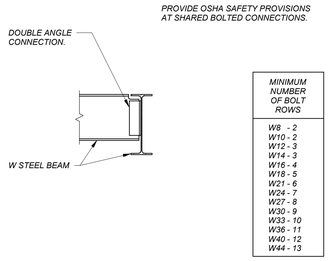
BEAM TO HSS COLUMN CONNECTION

STEEL CONSTRUCTION S10



HSS BEAM TO HSS COLUMN MOMENT CONNECTION

STEEL CONSTRUCTION S10b



MINIMUM NUMBER OF BOLT ROWS
W8 - 2
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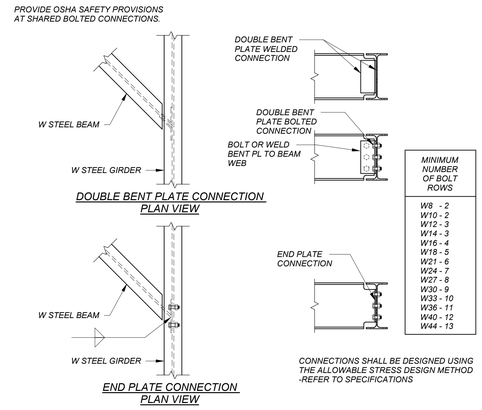
W12 - 3
W14 - 3
W16 - 4
W18 - 5
W21 - 6
W24 - 7
W27 - 8
W30 - 9
W33 - 10
W36 - 11
W40 - 12
W44 - 13

CONNECTIONS SHALL BE DESIGNED USING THE ALLOWABLE STRESS DESIGN METHOD -REFER TO SPECIFICATIONS

BEAM TO BEAM CONNECTION

STEEL CONSTRUCTION S12

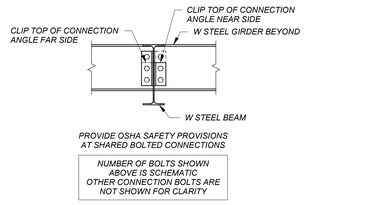


MINIMUM NUMBER OF BOLT ROWS
W8 - 2
W10 - 2
W12 - 3
W14 - 3
W16 - 4
W18 - 5
W21 - 6
W24 - 7
W27 - 8
W30 - 9
W33 - 10
W36 - 11
W40 - 12
W44 - 13

CONNECTIONS SHALL BE DESIGNED USING THE ALLOWABLE STRESS DESIGN METHOD -REFER TO SPECIFICATIONS

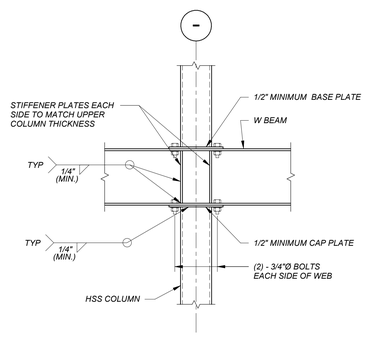
SKEWED BEAM TO BEAM CONNECTION

STEEL CONSTRUCTION SX



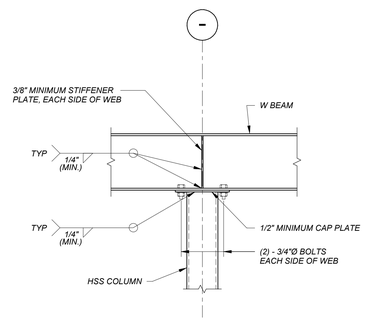
SHARED BOLT CONNECTION

STEEL CONSTRUCTION SX



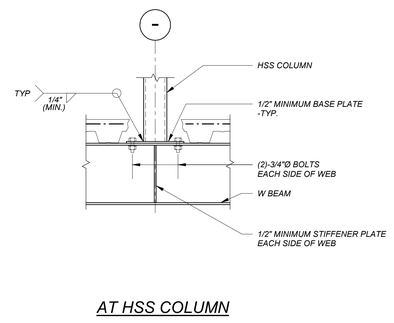
BEAM WITH COLUMN ABOVE & BELOW

STEEL CONSTRUCTION S13a



BEAM BEARING ON COLUMN CONNECTION

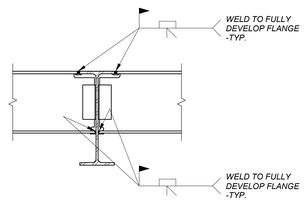
STEEL CONSTRUCTION S14a



AT HSS COLUMN

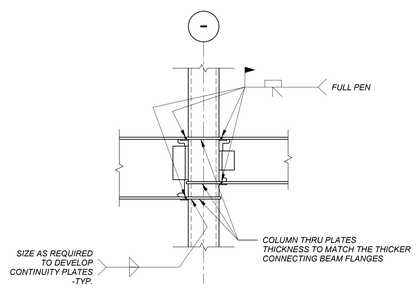
COLUMN BEARING ON BEAM CONNECTION

STEEL CONSTRUCTION S15



BEAM TO BEAM MOMENT CONNECTION

STEEL CONSTRUCTION S16a



BEAM TO COLUMN MOMENT CONNECTION

STEEL CONSTRUCTION S17a

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TYPICAL DETAILS V

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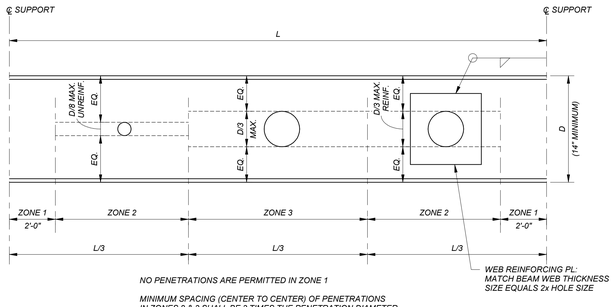
2.1.06

2017168



NO PENETRATIONS ARE PERMITTED IN ZONE 1

MINIMUM SPACING (CENTER TO CENTER) OF PENETRATIONS IN ZONES 2 & 3 SHALL BE 3 TIMES THE PENETRATION DIAMETER (USE THE LARGER PENETRATION DIAMETER IF SIZES VARY).

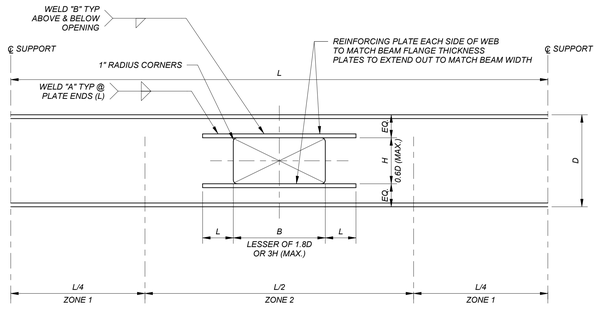
NOTES:

1. REFER TO ALL THE DRAWINGS IN THE SET (MEP, ARCH, STR, ETC) TO DETERMINE THE QUANTITY, SIZE AND LOCATION OF OPENINGS REQUIRED THROUGH STEEL BEAMS AND GIRDERS. ALL PENETRATIONS MIGHT NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.

   FOR BIDDING PURPOSES, ASSUME 50 SHOP INSTALLED AND 20 FIELD INSTALLED PENETRATIONS WILL BE REQUIRED (IN ADDITION TO THOSE SHOWN ON THE DRAWINGS). INCLUDE ADD/DEDUCT UNIT PRICES IN THE BID.
2. ALL OPENINGS ARE TO BE SHOWN ON THE SHOP DRAWINGS AND SUBMITTED TO THE DESIGN TEAM FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. FIELD CUTTING OPENINGS IS NOT PERMITTED . FIELD DRILLING OPENINGS OR PLASMA CUTTING MAY BE PERMITTED WITH THE SPECIFIC APPROVAL OF THE STRUCTURAL ENGINEER.
3. OTHER SPECIAL OPENING CASES MAY BE SHOWN ON THE STRUCTURAL DRAWINGS.
4. DO NOT PENETRATE BEAMS WITHIN THE LATERAL BRACING SYSTE

SMALL BEAM PENETRATION

STEEL CONSTRUCTION S19



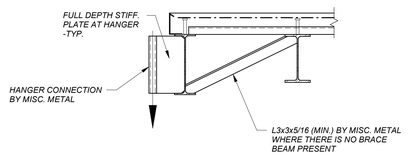
NOTES:

1. REFER TO ALL THE DRAWINGS IN THE SET (MEP, ARCH, STR, ETC) TO DETERMINE THE QUANTITY, SIZE AND LOCATION OF OPENINGS REQUIRED THROUGH STEEL BEAMS AND GIRDERS. ALL PENETRATIONS MIGHT NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.

   FOR BIDDING PURPOSES, ASSUME 20 SHOP INSTALLED AND 10 FIELD INSTALLED PENETRATIONS WILL BE REQUIRED (IN ADDITION TO THOSE SHOWN ON THE DRAWINGS). INCLUDE ADD/DEDUCT UNIT PRICES IN THE BID.
2. ALL OPENINGS ARE TO BE SHOWN ON THE SHOP DRAWINGS AND SUBMITTED TO THE DESIGN TEAM FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. FIELD CUTTING OPENINGS IS NOT PERMITTED . FIELD DRILLING OPENINGS OR PLASMA CUTTING MAY BE PERMITTED WITH THE SPECIFIC APPROVAL OF THE STRUCTURAL ENGINEER.
3. OTHER SPECIAL OPENING CASES MAY BE SHOWN ON THE STRUCTURAL DRAWINGS.
4. DO NOT PENETRATE BEAMS WITHIN THE LATERAL BRACING SYSTEM.
5. NO PENETRATIONS ARE PERMITTED IN ZONE 1.
6. SIZE PLATE EXTENSIONS "L" AND WELD "A" AS REQUIRED TO FULLY DEVELOP PLATES.
7. STEEL PLATES SHALL CONFORM TO ASTM A992 OR A572 Fy 50 KSI

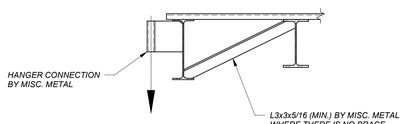
LARGE BEAM PENETRATION

STEEL CONSTRUCTION S20



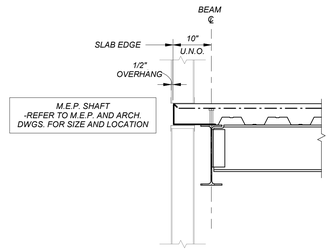
BEAM AT STAIR STRINGER

STEEL CONSTRUCTION S21



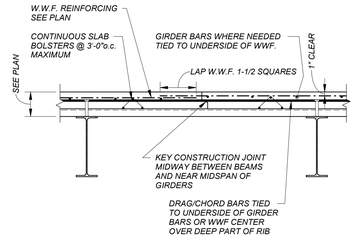
BEAM AT STAIR STRINGER

STEEL CONSTRUCTION S21



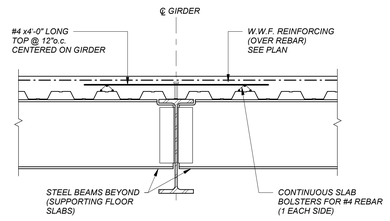
MECHANICAL SHAFT FRAMING

STEEL CONSTRUCTION S25



CONCRETE ON COMPOSITE DECK

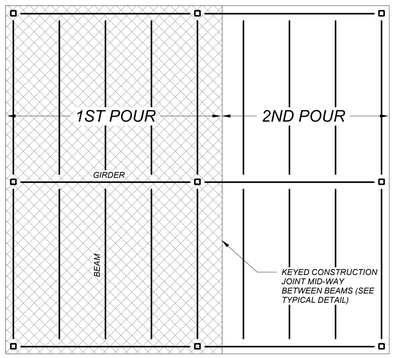
STEEL CONSTRUCTION SD4



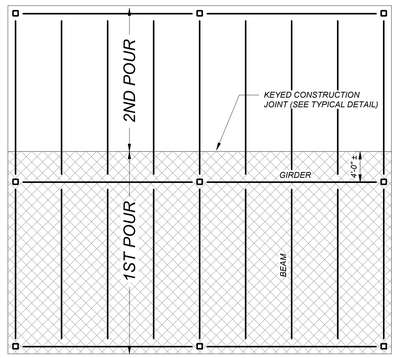
(ALSO PROVIDE REBAR AT BRACE BEAM/GIRDER LOCATIONS)

ADDED REBAR OVER GIRDERS

STEEL CONSTRUCTION SD6



PARALLEL TO BEAMS



PARALLEL TO GIRDERS

CONSTRUCTION JOINT LAYOUT

CONCRETE ON METAL DECK SD2

COUNTRYSIDE ELEMENTARY SCHOOL

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KEY PLAN

Called North

NORTH ARROW STAMP

Date 2/21/2024

Drawn By RAB

Scale As Noted

Revisions

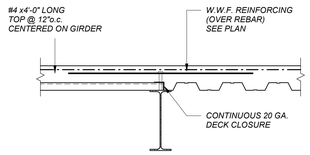
Number	Date	Description

DESIGN DEVELOPMENT

TYPICAL DETAILS VI

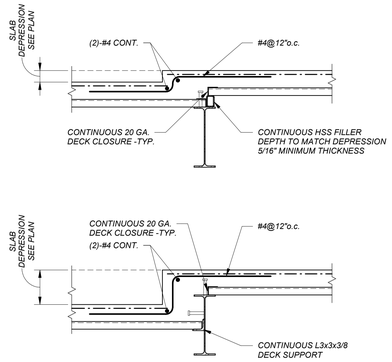
File Name

2.1.07



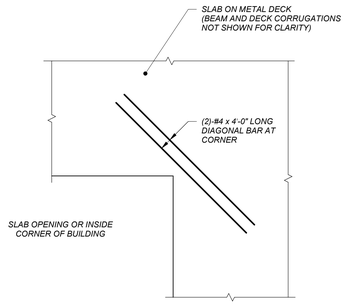
DECK CHANGE IN DIRECTION

STEEL CONSTRUCTION SD8



DECK CHANGE IN ELEVATION

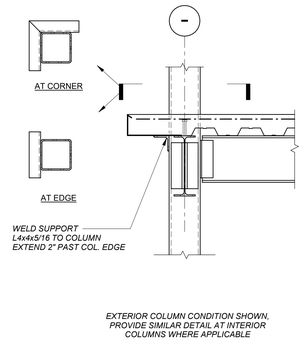
STEEL CONSTRUCTION SD11



PLAN VIEW

ADDED REBAR AT INSIDE CORNERS

STEEL CONSTRUCTION SD12



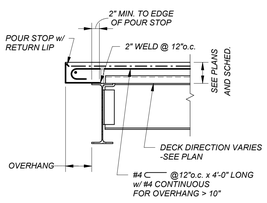
EXTERIOR COLUMN CONDITION SHOWN, PROVIDE SIMILAR DETAIL AT INTERIOR COLUMNS WHERE APPLICABLE

DECK SUPPORT AT COLUMNS

STEEL CONSTRUCTION SD18

POUR STOP SCHEDULE
5-1/2" SLAB

SLAB OVERHANG BEYOND EDGE OF BEAM FLANGE	POUR STOP GAUGE
<2"	18 GA.
2"+ TO 4"	16 GA.
4"+ TO 6"	14 GA.
6"+ TO 9"	12 GA.
9"+ TO 11"	10 GA.
>11"	16 GA. + TEMP. SUPPORT

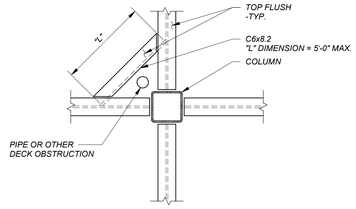


NOTES:

1. POUR STOP SCHEDULE INDICATES MINIMUM POUR STOP REQUIREMENTS. REFER TO SECTIONS AND DETAILS FOR FURTHER REQUIREMENTS.
2. IN THE CASE OF CONFLICT BETWEEN THE SCHEDULE AND DETAIL, THE DETAIL SHALL GOVERN.
3. IN CASES WHERE DECK RIBS ARE PERPENDICULAR TO AND CANTILEVER FROM SUPPORTING BEAMS, PROVIDE CONTINUOUS 18 GA. CELL CLOSURE PLUS 18. GA. POUR STOP ANGLE.

POUR STOP SCHEDULE AND DETAILS

STEEL CONSTRUCTION SD19



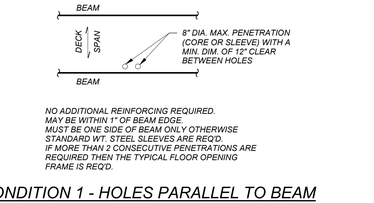
PLAN VIEW

NOTE:

THIS DETAIL IS TO BE USED AT CONDITIONS WHERE DECK IS OBSTRUCTED BY OPENINGS, MOMENT CONNECTIONS, OR OTHER SIMILAR CONDITIONS.

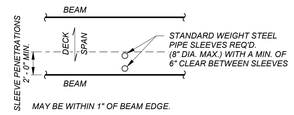
DECK SUPPORT AT COLUMNS

STEEL CONSTRUCTION SD21



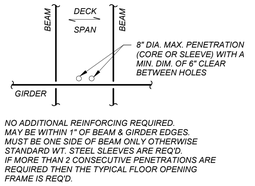
NO ADDITIONAL REINFORCING REQUIRED.
MAY BE WITHIN 1" OF BEAM EDGE.
MUST BE ONE SIDE OF BEAM ONLY OTHERWISE
STANDARD WT. STEEL SLEEVES ARE REQ'D.
IF MORE THAN 2 CONSECUTIVE PENETRATIONS ARE
REQUIRED THEN THE TYPICAL FLOOR OPENING
FRAME IS REQ'D.

CONDITION 1 - HOLES PARALLEL TO BEAM



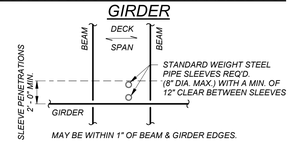
MAY BE WITHIN 1" OF BEAM EDGE.

CONDITION 2- HOLES PERPENDICULAR TO BEAM



NO ADDITIONAL REINFORCING REQUIRED.
MAY BE WITHIN 1" OF BEAM & GIRDER EDGES.
MUST BE ONE SIDE OF BEAM ONLY OTHERWISE
STANDARD WT. STEEL SLEEVES ARE REQ'D.
IF MORE THAN 2 CONSECUTIVE PENETRATIONS ARE
REQUIRED THEN THE TYPICAL FLOOR OPENING
FRAME IS REQ'D.

CONDITION 3 - HOLES PARALLEL TO GIRDER



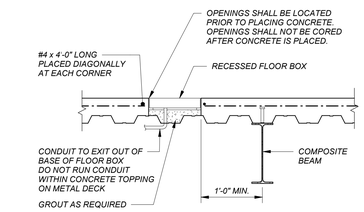
MAY BE WITHIN 1" OF BEAM & GIRDER EDGES.

IF MORE THAN 2 CONSECUTIVE PENETRATIONS ARE REQUIRED THEN THE TYPICAL FLOOR OPENING FRAME IS REQ'D.

CONDITION 4 - HOLES PERPENDICULAR TO GIRDER

DECK PENETRATION GUIDELINES

STEEL CONSTRUCTION SD22

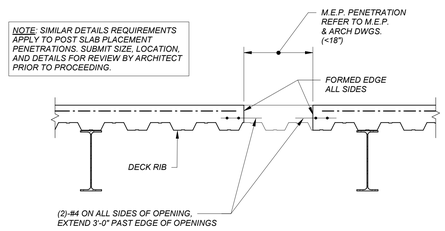


NOTE:

REFER TO ARCH. DRAWINGS FOR FLOOR BOX LOCATIONS.

FLOOR BOX EMBEDMENT

STEEL CONSTRUCTION SD23

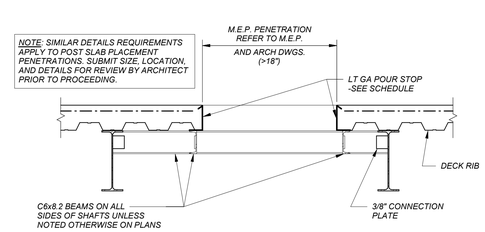


NOTE:

1. REFER TO ARCHITECTURAL AND M.E.P. DRAWINGS FOR SIZE AND LOCATION OF OPENINGS. COORDINATE WITH EQUIPMENT REQUIREMENTS. OPENINGS ARE NOT SHOWN ON THE STRUCTURAL PLANS. FOR BIDDING PURPOSES, ASSUME 50 OPENINGS WILL BE REQUIRED. INCLUDE ADD/DEDUCT UNIT PRICES IN THE BID.
2. DECK RUNS CONTINUOUSLY THROUGH PENETRATION DURING CONCRETE PLACEMENT, CUT DECK AFTER SLAB HAS REACHED FULL STRENGTH.

SMALL FLOOR PENETRATIONS (<18" WIDE PERPENDICULAR TO DECK RIBS)

STEEL CONSTRUCTION SD24

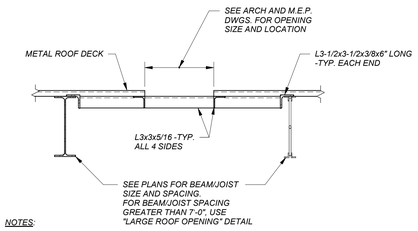


NOTES:

1. REFER TO ARCHITECTURAL AND M.E.P. DRAWINGS FOR SIZE AND LOCATION OF OPENINGS. COORDINATE WITH EQUIPMENT REQUIREMENTS. OPENINGS ARE NOT ALL SHOWN ON THE STRUCTURAL PLANS. FOR BIDDING PURPOSES, ASSUME 20 FRAMES WILL BE REQUIRED IN ADDITION TO THOSE SHOWN ON THE DRAWINGS. INCLUDE ADD/DEDUCT UNIT PRICES IN THE BID.
2. FRAMES ARE REQUIRED AT GROUPS OF PENETRATIONS WHERE THE AGGREGATE WIDTHS/DIAMETERS EXCEED 18" PERPENDICULAR TO THE RIBS, UNLESS ADEQUATE SPACING OF PENETRATIONS IS PROVIDED PER DECK PENETRATION GUIDELINES.
3. PROVIDE (2)-#4 x 4'-0" LONG DIAGONAL BARS AT RE-ENTRANT CORNERS CREATED BY FLOOR OPENINGS.

LARGE FLOOR PENETRATIONS (>18" WIDE PERPENDICULAR TO DECK RIBS)

STEEL CONSTRUCTION SD25

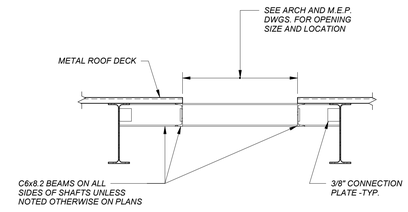


NOTES:

1. DETAIL ABOVE APPLIES TO OPENINGS IN ROOF STRUCTURE TO BE PROVIDED FOR ROOF DRAINS, FANS, M.E.P. SHAFTS, ETC.
2. REFER TO ARCHITECTURAL AND M.E.P. DRAWINGS FOR SIZE AND LOCATION OF OPENINGS. COORDINATE WITH EQUIPMENT REQUIREMENTS. OPENINGS ARE NOT ALL SHOWN ON THE STRUCTURAL PLANS. FOR BIDDING PURPOSES, ASSUME 50 OPENINGS WILL BE REQUIRED IN ADDITION TO THOSE SHOWN ON THE DRAWINGS. INCLUDE ADD/DEDUCT UNIT PRICES IN THE BID.
3. FRAMING SHOWN ON THE PLANS GOVERN OVER THAT WHICH IS INDICATED ON THE DETAIL ABOVE.
4. WHERE ADDED LOAD TO JOISTS OCCURS BETWEEN TOP CHORD PANEL POINTS, ADD L1-1/2x1-1/2x1/4 TO BOTTOM CHORD PANEL POINT.

SMALL ROOF OPENINGS (LESS THAN 18")

STEEL CONSTRUCTION SD27

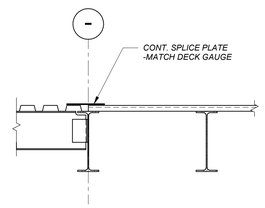


NOTES:

1. DETAIL ABOVE APPLIES TO OPENINGS IN ROOF STRUCTURE TO BE PROVIDED FOR ROOF DRAINS, FANS, M.E.P. SHAFTS, ETC.
2. REFER TO ARCHITECTURAL AND M.E.P. DRAWINGS FOR SIZE AND LOCATION OF OPENINGS. COORDINATE WITH EQUIPMENT REQUIREMENTS. OPENINGS ARE NOT ALL SHOWN ON THE STRUCTURAL PLANS. FOR BIDDING PURPOSES, ASSUME 20 FRAMES WILL BE REQUIRED IN ADDITION TO THOSE SHOWN ON THE DRAWINGS. INCLUDE ADD/DEDUCT UNIT PRICES IN THE BID.
3. FRAMING SHOWN ON THE PLANS GOVERN OVER THAT WHICH IS INDICATED ON THE DETAIL ABOVE.
4. WHERE ADDED LOAD TO JOISTS OCCURS BETWEEN TOP CHORD PANEL POINTS, ADD L1-1/2x1-1/2x1/4 TO BOTTOM CHORD PANEL POINT.

LARGE ROOF OPENINGS (LARGER THAN 18")

STEEL CONSTRUCTION SD28



ROOF DECK SPLICE

STEEL CONSTRUCTION SD31

COUNTRYSIDE ELEMENTARY SCHOOL

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KEY PLAN

Called North

NORTH ARROW STAMP

Date 2/21/2024

Drawn By RAB

Scale As Noted

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

TYPICAL DETAILS VII

File Name

2.1.08

2017168

COUNTRYSIDE ELEMENTARY SCHOOL

Newton, MA

NOTES:

1. FOR GENERAL NOTES AND TYPICAL DETAILS REFER TO DRAWINGS 2.1.01 THROUGH 2.1.08.
2. FOR TOP OF CONCRETE EL. SEE PLAN.
3. INDICATES A DEPRESSION. REFER TO ARCHITECTURAL DRAWINGS FOR DEPTH AND EXTENTS. COORDINATE WITH FLOORING MANUFACTURER.
4. COLUMN SIZES ARE SHOWN ON PLANS AT THEIR LOWEST LEVELS OR AT SPLICES. REFER TO FOUNDATION PLANS AND FRAMING PLANS.
5. FOR PIER, PILASTER AND BASE PLATE DETAILS REFER TO DRAWING 2.5.06.
6. BR-X INDICATES A BRACED FRAME IN THE LATERAL LOAD RESISTING SYSTEM. FOR ELEVATIONS AND DETAILS REFER TO DRAWINGS 2.5.02 THROUGH 2.5.04.
7. * INDICATES EXPOSED TO VIEW STRUCTURAL STEEL (E.V.S.S.). REFER TO THE SPECIFICATION FOR SURFACE PREPARATION AND FINISH REQUIREMENTS. COORDINATE LOCATIONS OF E.V.S.S. WITH ARCHITECTURAL DRAWINGS. ALL E.V.S.S. TO RECEIVE INTUMESCENT PAINT UNLESS NOTED OTHERWISE.
8. "G.B." INDICATES A REINFORCED CONCRETE GRADE BEAM. SEE SECTIONS FOR SIZE AND REINFORCING. EXTEND AND HOOK LONGITUDINAL REINFORCING INTO FOOTING/PIER AT EACH END AND PROVIDE CLASS B SPLICES WHERE REQUIRED.
9. ESTIMATED ELEVATION OF BOTTOM OF FOOTING IS INDICATED THUS [X'-X"] ON PLAN. BOTTOM OF EACH EXTERIOR FOOTING SHALL BE A MINIMUM OF 4'-0" BELOW ADJACENT FINISH GRADE.
10. REFER TO ARCHITECTURAL DRAWINGS FOR DOOR THRESHOLDS AND SLOPING SLABS TO DRAINS.
11. COORDINATE DIMENSIONS AND LOCATIONS OF ANY PIPES OR DUCTS TO BE PLACED UNDER OR THROUGH THE SLABS OR FOUNDATION WALL WITH ARCHITECTURAL AND MEP DRAWINGS.
12. SEE ARCHITECTURAL DRAWINGS FOR EXTENT OF STEEL FIREPROOFING.
13. ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED.

CONT. FOOTING SCHEDULE

TYPE	DIMENSIONS WIDTH	DEPTH	REINFORCING
F2.0C	2' - 0"	12"	2-#5 BOT CONT
R5.0C	5' - 0"	16"	6-#5 BOT CONT, #5@12"o.c. TRANSVERSE

SPREAD FOOTING SCHEDULE

TYPE	DIMENSIONS WIDTH	LENGTH	DEPTH	REINFORCING	MAX COL LOAD
F4.0	4' - 0"	4' - 0"	18"	5-#5 BOT. EACH WAY	80K
F4.0BR	4' - 0"	4' - 0"	18"	5-#5 TOP & BOT. EACH WAY	80K
F5.0	5' - 0"	5' - 0"	18"	7-#6 BOT. EACH WAY	125K
F5.0BR	5' - 0"	5' - 0"	18"	7-#6 TOP & BOT. EACH WAY	125K
F6.0	6' - 0"	6' - 0"	20"	7-#7 BOT. EACH WAY	180K
F6.0BR	6' - 0"	6' - 0"	20"	7-#6 TOP & BOT. EACH WAY	<varies>
F7.0	7' - 0"	7' - 0"	22"	8-#7 BOT. EACH WAY	245K
F7.0BR	7' - 0"	7' - 0"	22"	8-#7 TOP & BOT. EACH WAY	245K
F8.0	8' - 0"	8' - 0"	24"	9-#7 BOT. EACH WAY	320K
F8.0BR	8' - 0"	8' - 0"	24"	11-#7 TOP & BOT. EACH WAY	320K
F9.0BR	9' - 0"	9' - 0"	24"	10-#9 TOP & BOT. EACH WAY	405K
F9.0X5.0BR	9' - 0"	5' - 0"	30"	10-#6 LONG TOP & BOT, 23-#6 TRANS TOP AND BOT.	225K
F10.0BR	10' - 0"	10' - 0"	30"	12-#7 TOP & BOT. EACH WAY	500K
F10.0X5.0	10' - 0"	5' - 0"	18"	10-#6 LONG. BOT., 20-#5 TRANS. BOT.	250K

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(617) 886 9066

EdVance Technology Design, Inc
Technology Consultants
300 Brickstone Square Suite 201
Andover, MA 01880
(978) 256 9900

KEY PLAN

NORTH ARROW (Called North) | STAMP

Date 2/21/2024
Drawn By RAB
Scale As Noted

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

FIRST FLOOR/FOUNDATION PLAN

File Name

2.4.01

2017168

COUNTRYSIDE ELEMENTARY SCHOOL

Newton, MA

DINISCO DESIGN
architects + planners

99 Chauncy Street, Suite 901
Boston, MA 02111
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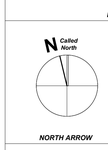
KEY PLAN



NORTH ARROW | STAMP

Date 2/21/2024

Drawn By RAB

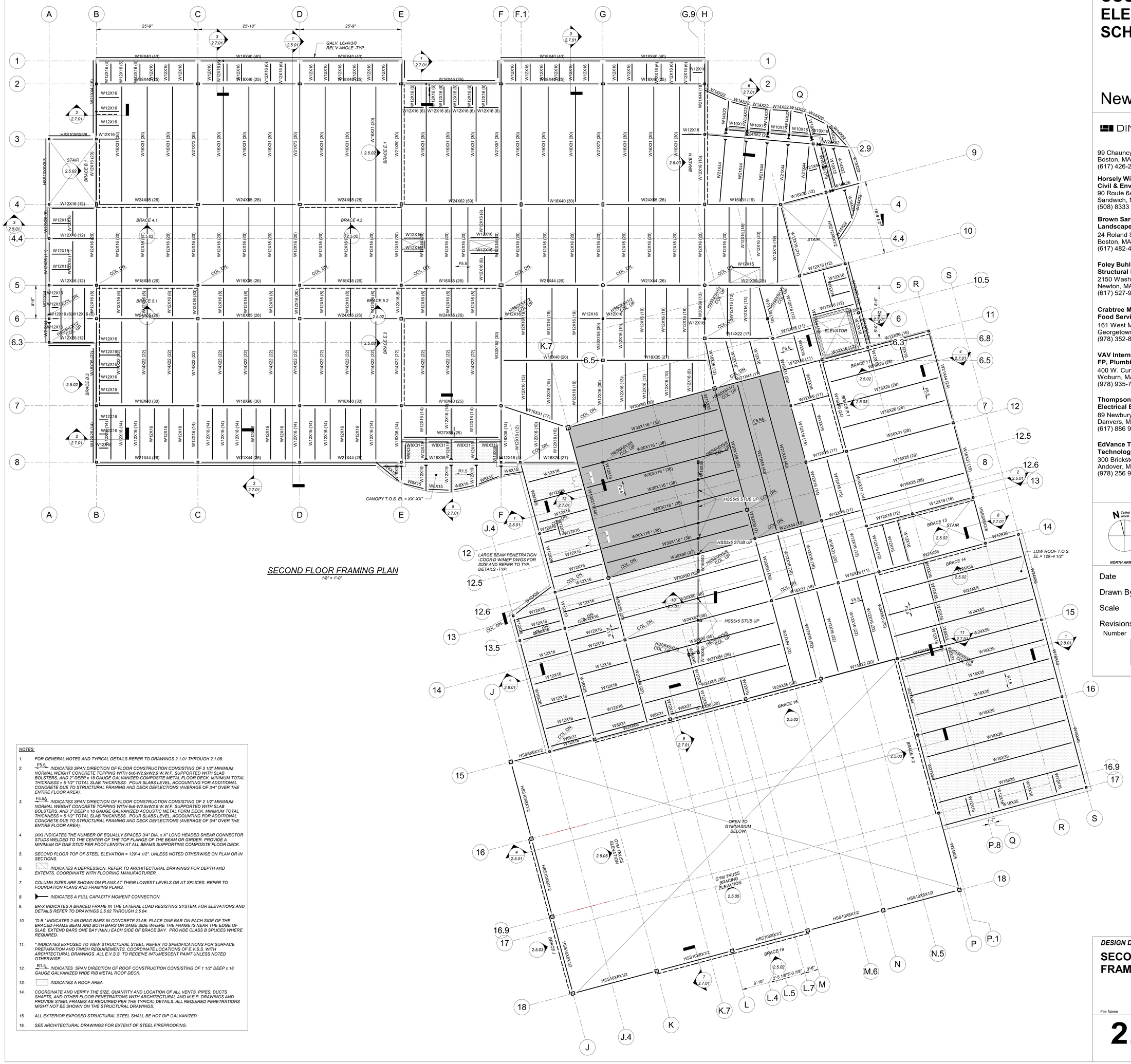
Scale As Noted

Revisions

Number	Date	Description

SECOND FLOOR FRAMING PLAN

1/8" = 1'-0"



NOTES:

1. FOR GENERAL NOTES AND TYPICAL DETAILS REFER TO DRAWINGS 2.1.01 THROUGH 2.1.08.
2. F5.5 INDICATES SPAN DIRECTION OF FLOOR CONSTRUCTION CONSISTING OF 3 1/2" MINIMUM NORMAL WEIGHT CONCRETE TOPPING WITH 6x6-W2.9xW2.9 W.W.F. SUPPORTED WITH SLAB BOLSTERS, AND 2" DEEP x 18 GAUGE GALVANIZED COMPOSITE METAL FLOOR DECK. MINIMUM TOTAL THICKNESS = 5 1/2" TOTAL SLAB THICKNESS. POUR SLABS LEVEL, ACCOUNTING FOR ADDITIONAL CONCRETE DUE TO STRUCTURAL FRAMING AND DECK DEFLECTIONS (AVERAGE OF 3/4" OVER THE ENTIRE FLOOR AREA).
3. F5.5A INDICATES SPAN DIRECTION OF FLOOR CONSTRUCTION CONSISTING OF 2 1/2" MINIMUM NORMAL WEIGHT CONCRETE TOPPING WITH 6x6-W2.9xW2.9 W.W.F. SUPPORTED WITH SLAB BOLSTERS, AND 3" DEEP x 18 GAUGE GALVANIZED ACOUSTIC METAL FORM DECK. MINIMUM TOTAL THICKNESS = 5 1/2" TOTAL SLAB THICKNESS. POUR SLABS LEVEL, ACCOUNTING FOR ADDITIONAL CONCRETE DUE TO STRUCTURAL FRAMING AND DECK DEFLECTIONS (AVERAGE OF 3/4" OVER THE ENTIRE FLOOR AREA).
4. (XX) INDICATES THE NUMBER OF EQUALLY SPACED 3/4" DIA. x X" LONG HEADED SHEAR CONNECTOR STUDS WELDED TO THE CENTER OF THE TOP FLANGE OF THE BEAM OR GIRDER. PROVIDE A MINIMUM OF ONE STUD PER FOOT LENGTH AT ALL BEAMS SUPPORTING COMPOSITE FLOOR DECK.
5. SECOND FLOOR TOP OF STEEL ELEVATION = 129'-4 1/2". UNLESS NOTED OTHERWISE ON PLAN OR IN SECTIONS.
6. INDICATES A DEPRESSION. REFER TO ARCHITECTURAL DRAWINGS FOR DEPTH AND EXTENTS. COORDINATE WITH FLOORING MANUFACTURER.
7. COLUMN SIZES ARE SHOWN ON PLANS AT THEIR LOWEST LEVELS OR AT SPLICES. REFER TO FOUNDATION PLANS AND FRAMING PLANS.
8. INDICATES A FULL CAPACITY MOMENT CONNECTION.
9. BR-X INDICATES A BRACED FRAME IN THE LATERAL LOAD RESISTING SYSTEM. FOR ELEVATIONS AND DETAILS REFER TO DRAWINGS 2.5.02 THROUGH 2.5.04.
10. "D.B." INDICATES 2-#5 DRAG BARS IN CONCRETE SLAB. PLACE ONE BAR ON EACH SIDE OF THE BRACED FRAME BEAM AND BOTH BARS ON SAME SIDE WHERE THE FRAME IS NEAR THE EDGE OF SLAB. EXTEND BARS ONE BAY (MIN.) EACH SIDE OF BRACE BAY. PROVIDE CLASS B SPLICES WHERE REQUIRED.
11. * INDICATES EXPOSED TO VIEW STRUCTURAL STEEL. REFER TO SPECIFICATIONS FOR SURFACE PREPARATION AND FINISH REQUIREMENTS. COORDINATE LOCATIONS OF E.V.S.S. WITH ARCHITECTURAL DRAWINGS. ALL E.V.S.S. TO RECEIVE INTUMESCENT PAINT UNLESS NOTED OTHERWISE.
12. R1.5 INDICATES SPAN DIRECTION OF ROOF CONSTRUCTION CONSISTING OF 1 1/2" DEEP x 18 GAUGE GALVANIZED WIDE RIB METAL ROOF DECK.
13. INDICATES A ROOF AREA.
14. COORDINATE AND VERIFY THE SIZE, QUANTITY AND LOCATION OF ALL VENTS, PIPES, DUCTS SHAFTS, AND OTHER FLOOR PENETRATIONS WITH ARCHITECTURAL AND M.E.P. DRAWINGS AND PROVIDE STEEL FRAMES AS REQUIRED PER THE TYPICAL DETAILS. ALL REQUIRED PENETRATIONS MIGHT NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.
15. ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED.
16. SEE ARCHITECTURAL DRAWINGS FOR EXTENT OF STEEL FIREPROOFING.

DESIGN DEVELOPMENT

SECOND FLOOR FRAMING PLAN

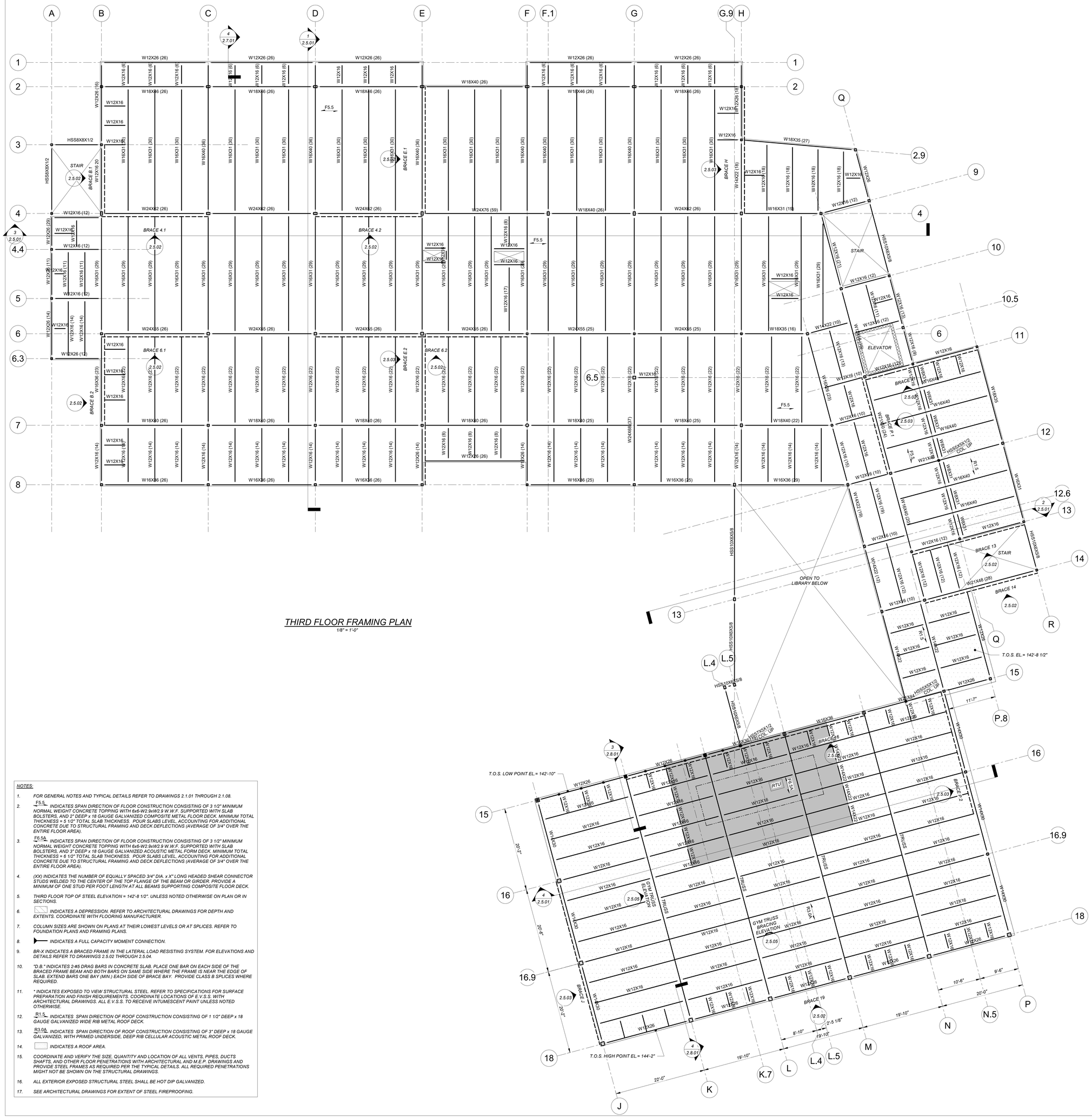
File Name

2.4.02

2017168

COUNTRYSIDE ELEMENTARY SCHOOL

Newton, MA


A
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6.3
7
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16.9
18
L.4
L.5
K.7
K
J
L
M
N
N.5
P
6.5
STAIR
ELEVATOR
BRACE 4.1
BRACE 4.2
BRACE 6.1
BRACE 6.2
BRACE E.1
BRACE E.2
BRACE H
BRACE F.1
BRACE J
BRACE 13
BRACE 14
BRACE 19
BRACE B.1
BRACE B.2
OPEN TO LIBRARY BELOW
GYM TRUSS ELEVATION
GYM TRUSS BRACING ELEVATION
RTU
T.O.S. EL. = 142'-8 1/2"
T.O.S. LOW POINT EL. = 142'-10"
T.O.S. HIGH POINT EL. = 144'-2"
HSS8X8X1/2
HSS10X6X5/8
HSS10X8X5/8
HSS5X5X1/2 COL. UP
HSS7X5X1/2 COL. UP
W12X26 (26)
W18X40 (26)
W24X62 (26)
W24X76 (59)
W24X55 (25)
W18X35 (27)
W18X35 (16)
W16X36 (26)
W16X36 (25)
W18X40 (26)
W18X40 (22)
W18X40 (25)
W24X68 (37)
W12X16 (12)
W12X16 (11)
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F5.5
F6.5A
R1.5
R3.0A
W12X16
W16X31
W16X40
W16X36
W12X26
W14X22
W14X30
W21X48
W18X35
HSS10X6X5/8
HSS10X8X5/8
HSS5X5X1/2 COL. UP
HSS7X5X1/2 COL. UP
HSS10X8X5/8
W12X16 (6)
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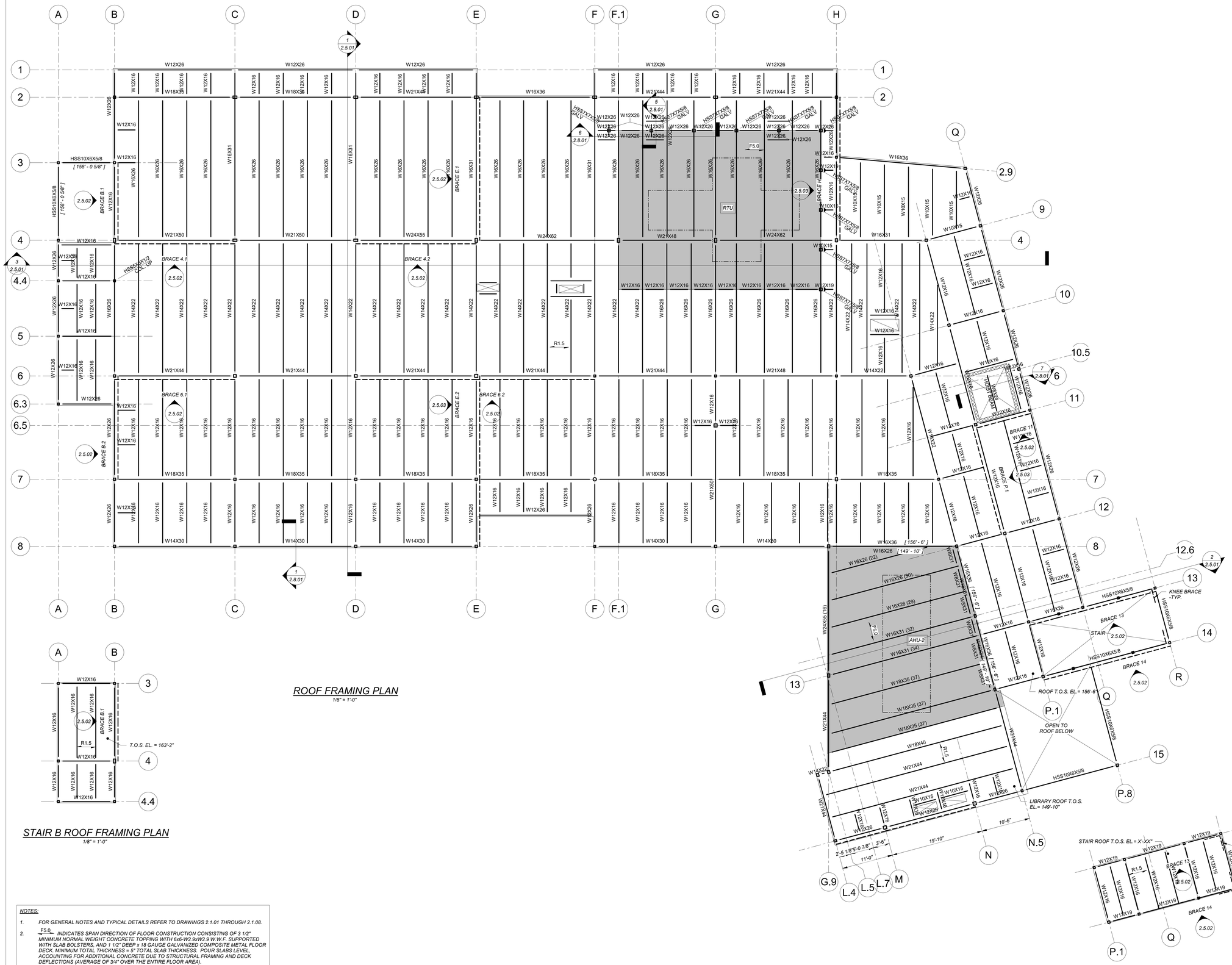

ROOF FRAMING PLAN
1/8" = 1'-0"

STAIR B ROOF FRAMING PLAN
1/8" = 1'-0"

STAIR A ROOF FRAMING PLAN
1/8" = 1'-0"

NOTES:

1. FOR GENERAL NOTES AND TYPICAL DETAILS REFER TO DRAWINGS 2.1.01 THROUGH 2.1.08.
2. F5.0 INDICATES SPAN DIRECTION OF FLOOR CONSTRUCTION CONSISTING OF 3 1/2" MINIMUM NORMAL WEIGHT CONCRETE TOPPING WITH 6x6-W2.9xW2.9 W.W.F. SUPPORTED WITH SLAB BOLSTERS, AND 1 1/2" DEEP x 18 GAUGE GALVANIZED COMPOSITE METAL FLOOR DECK. MINIMUM TOTAL THICKNESS = 5" TOTAL SLAB THICKNESS. POUR SLABS LEVEL, ACCOUNTING FOR ADDITIONAL CONCRETE DUE TO STRUCTURAL FRAMING AND DECK DEFLECTIONS (AVERAGE OF 3/4" OVER THE ENTIRE FLOOR AREA).
3. R1.5 INDICATES SPAN DIRECTION OF ROOF CONSTRUCTION CONSISTING OF 1 1/2" DEEP x 18 GAUGE GALVANIZED WIDE RIB METAL ROOF DECK.
4. R3.0A INDICATES SPAN DIRECTION OF ROOF CONSTRUCTION CONSISTING OF 3" DEEP x 18/20 GAUGE GALVANIZED, WITH PRIMED UNDERSIDE, DEEP RIB CELLULAR ACOUSTIC METAL ROOF DECK.
5. ROOF TOP OF STEEL ELEVATION = 156'-6" UNLESS NOTED OTHERWISE ON PLAN OR IN SECTIONS.
6. ▶— INDICATES A FULL CAPACITY MOMENT CONNECTION.
7. BR-X INDICATES A BRACED FRAME IN THE LATERAL LOAD RESISTING SYSTEM. FOR ELEVATIONS AND DETAILS REFER TO DRAWINGS 2.5.02 THROUGH 2.5.04.
8. * INDICATES EXPOSED TO VIEW STRUCTURAL STEEL. REFER TO SPECIFICATIONS FOR SURFACE PREPARATION AND FINISH REQUIREMENTS. COORDINATE LOCATIONS OF E.V.S.S. WITH ARCHITECTURAL DRAWINGS. ALL E.V.S.S. TO RECEIVE INTUMESCENT PAINT UNLESS NOTED OTHERWISE.
9. ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED.
10. SEE ARCHITECTURAL DRAWINGS FOR EXTENT OF STEEL FIREPROOFING.
11. COORDINATE AND VERIFY THE SIZE, QUANTITY AND LOCATION OF ALL ROOF DRAINS (NOTED ON PLAN AS "R.D."), VENTS, DUCTS, SKYLIGHTS AND OTHER ROOF PENETRATIONS WITH THE ARCHITECTURAL AND MEP DRAWINGS AND PROVIDE STEEL FRAMES AS REQUIRED PER THE TYPICAL DETAILS. ALL REQUIRED PENETRATIONS MIGHT NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.

COUNTRYSIDE ELEMENTARY SCHOOL

Newton, MA

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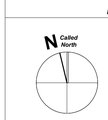
KEY PLAN



NORTH ARROW | STAMP

Date 2/21/2024

Drawn By RAB

Scale As Noted

Revisions

Number	Date	Description

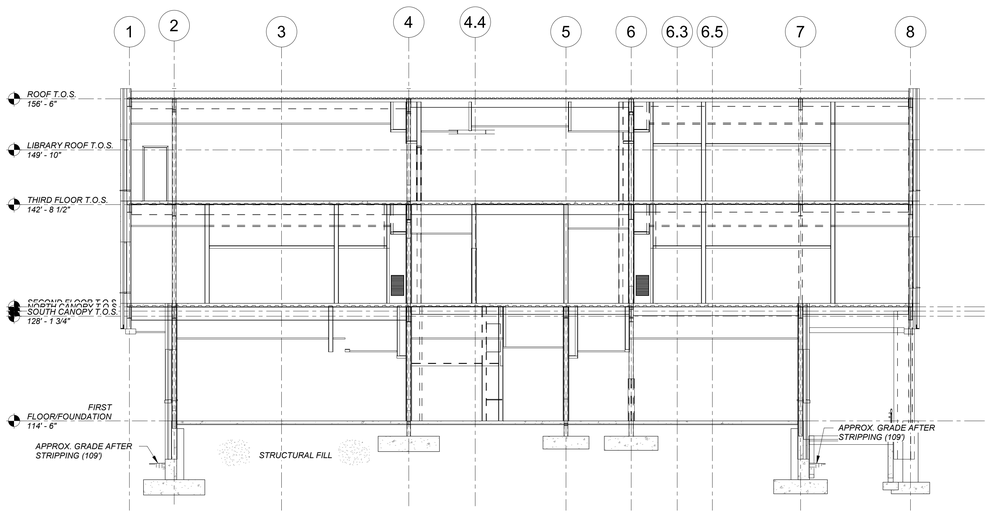
DESIGN DEVELOPMENT

ROOF FRAMING PLAN

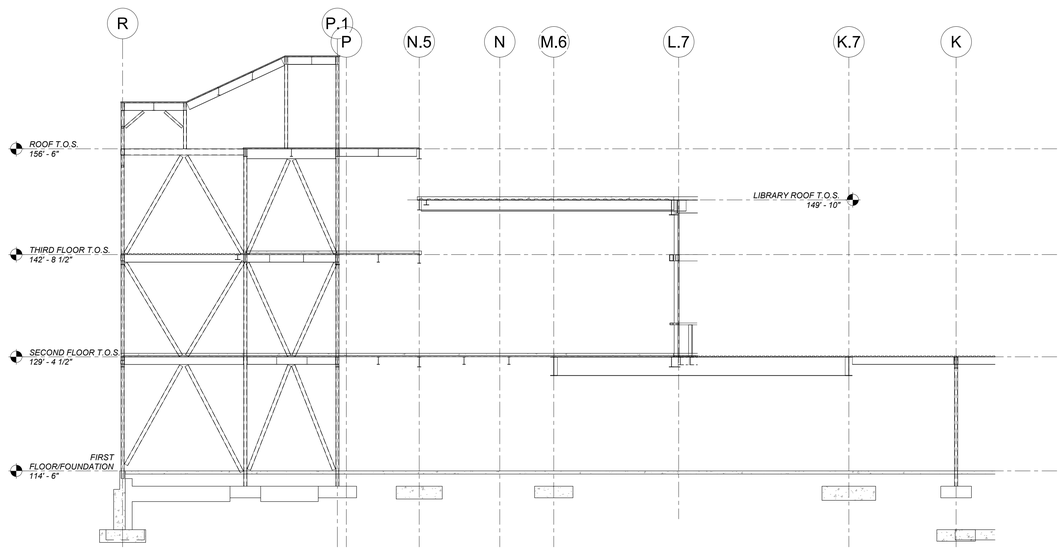
File Name

2.4.04

2017168



1 SECTION
1/8" = 1'-0"



2 SECTION
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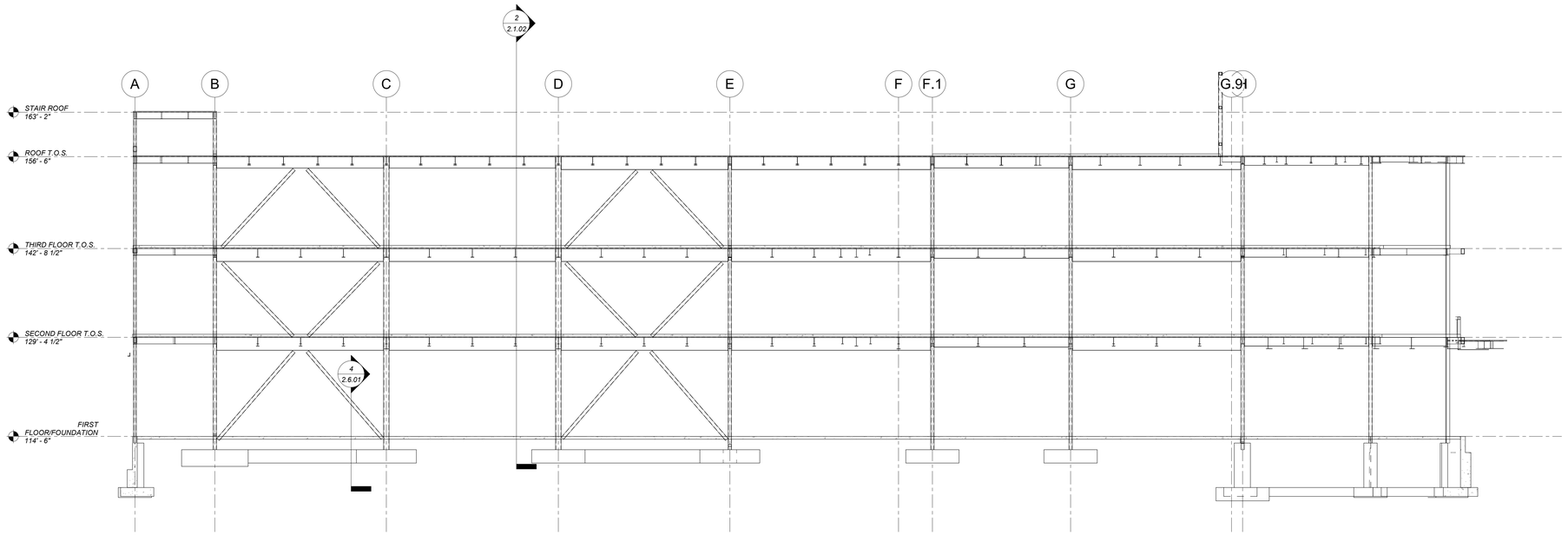

3 SECTION
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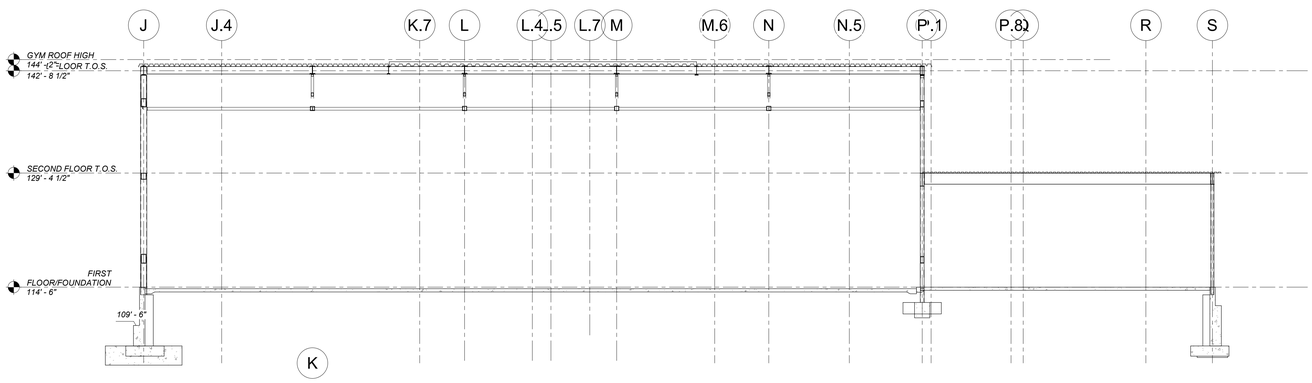

4 SECTION
1/8" = 1'-0"

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KEY PLAN

Called North

NORTH ARROW | STAMP

Date 2/21/2024

Drawn By RAB

Scale As Noted

Revisions

Number	Date	Description

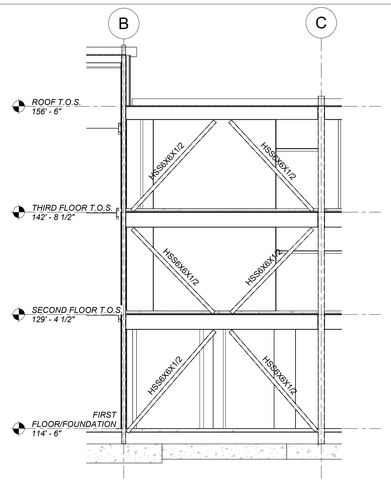
DESIGN DEVELOPMENT

BUILDING SECTIONS

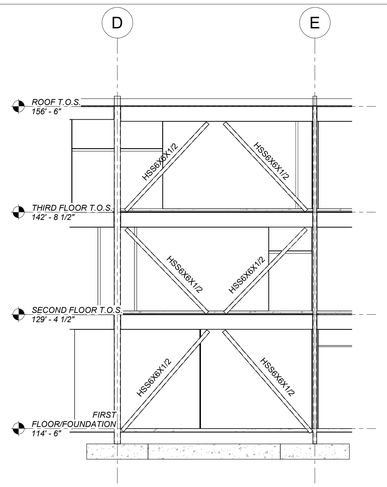
File Name

2.5.01

2017168



BR 4.1
1/8" = 1'-0"



BR 4.2
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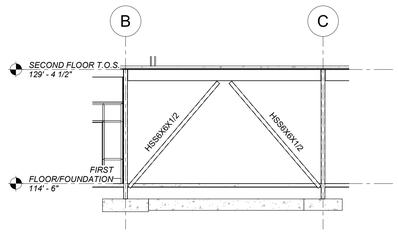

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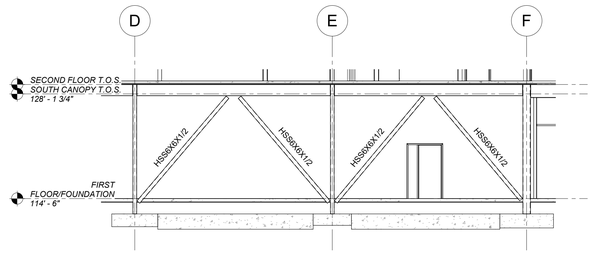

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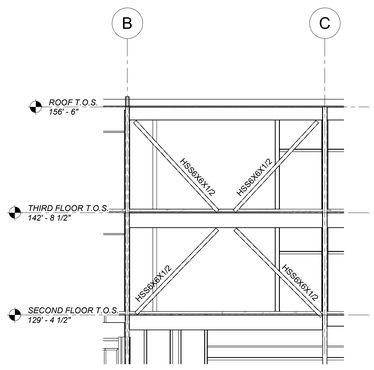

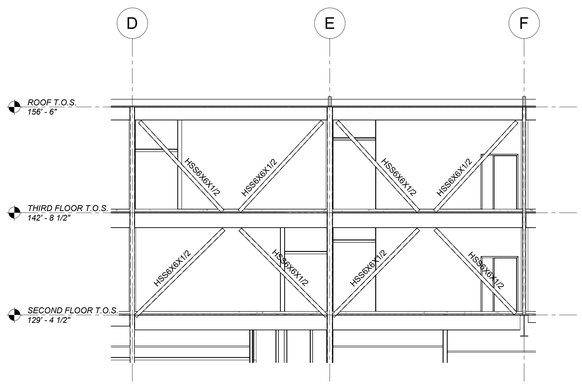

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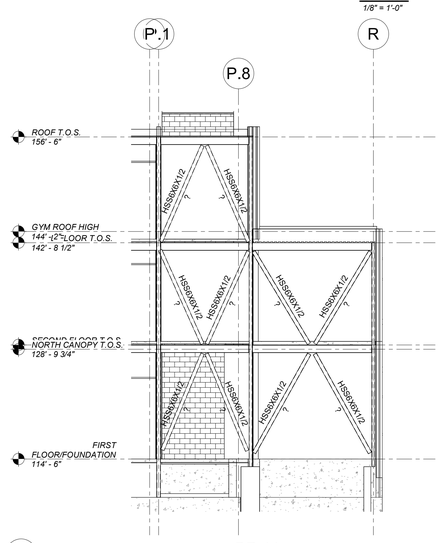

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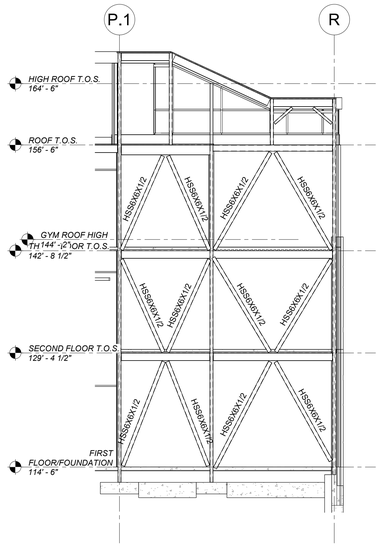

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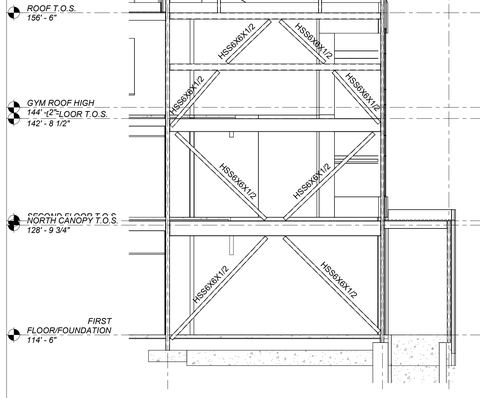

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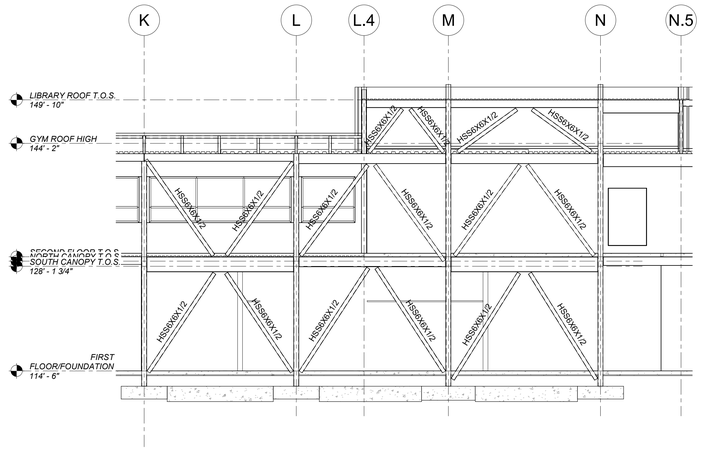

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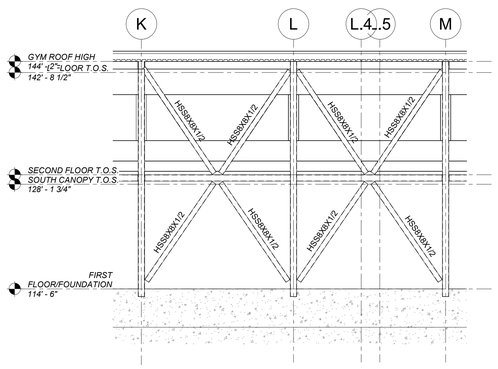

BR 19
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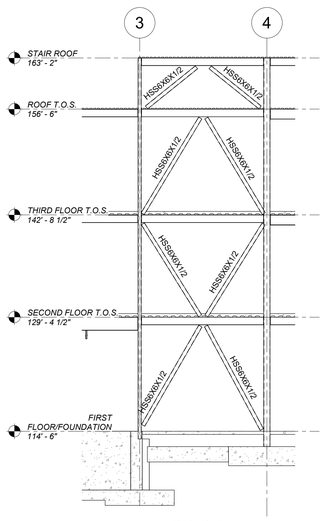
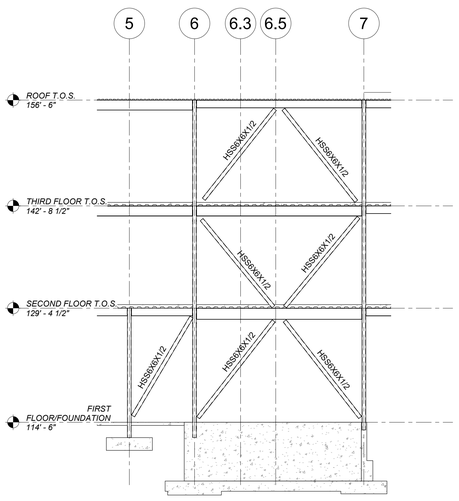


BR-B.1
1/8" = 1'-0"



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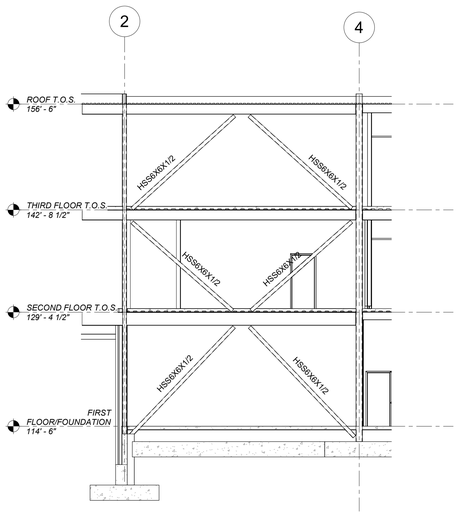

BR E.1
1/8" = 1'-0"

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Date 2/21/2024

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Scale As Noted

Revisions

Number	Date	Description

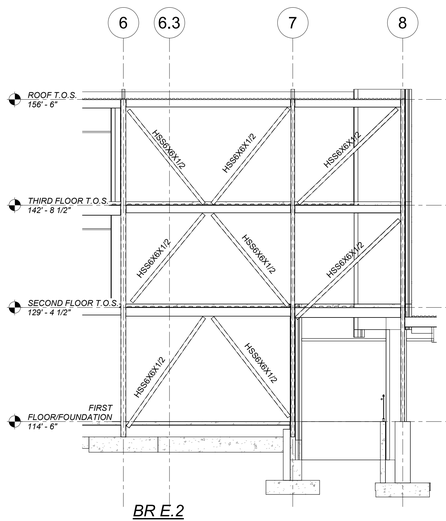
DESIGN DEVELOPMENT

BRACE ELEVATIONS I

File Name

2.5.02

2017168



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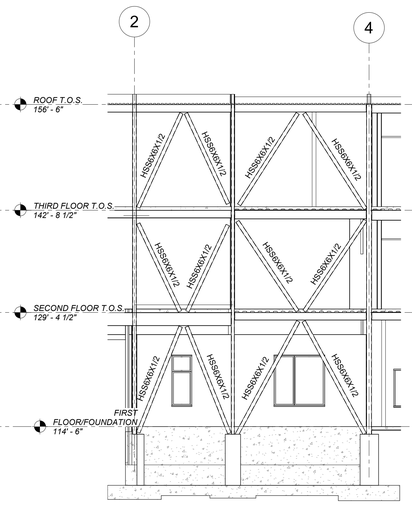

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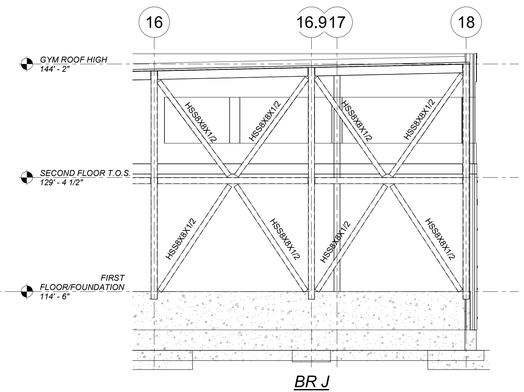

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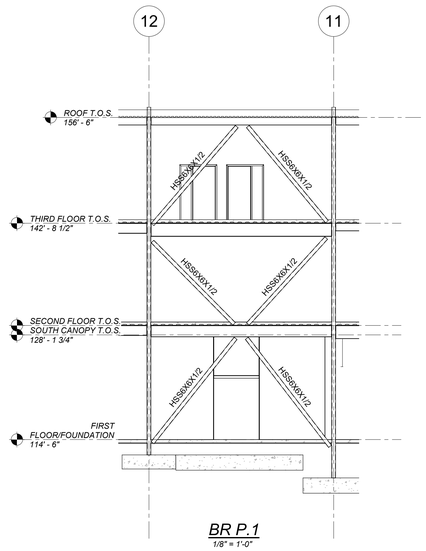

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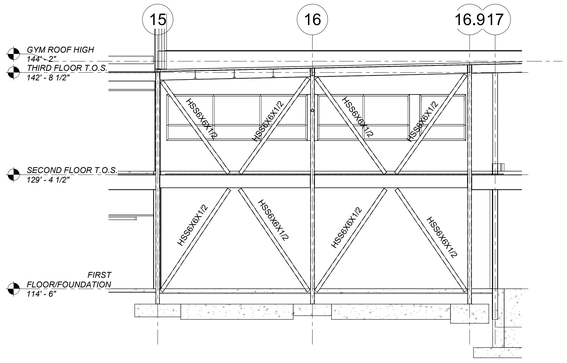

BR P.2
1/8" = 1'-0"

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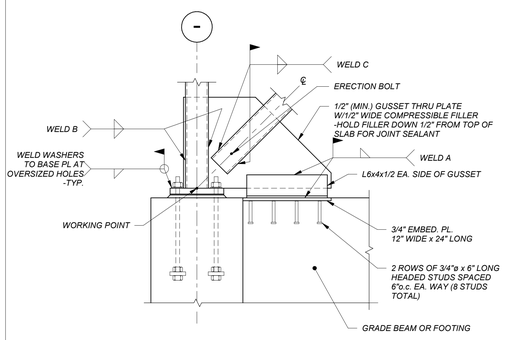
DESIGN DEVELOPMENT

BRACE ELEVATIONS II

File Name

2.5.03

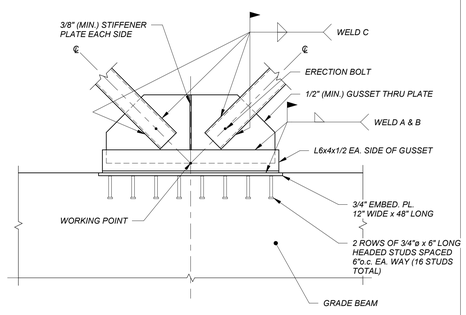
2017168



HSS COLUMN BASE AT BRACE DETAIL

STEEL BRACE CONSTRUCTION BF2

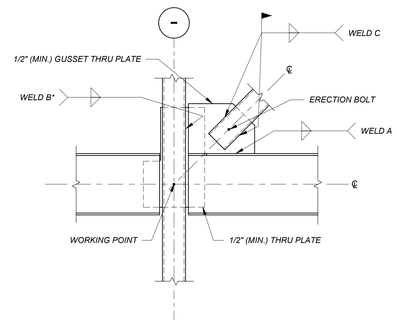
1 *DETAIL* 3/4" = 1'-0"



HSS V BRACE BASE DETAIL

STEEL BRACE CONSTRUCTION BF5

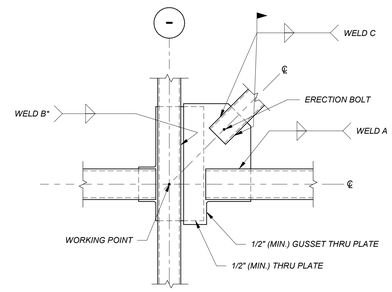
2 *DETAIL* 3/4" = 1'-0"



HSS COLUMN TO W BEAM BRACE DETAIL

STEEL BRACE CONSTRUCTION BF6

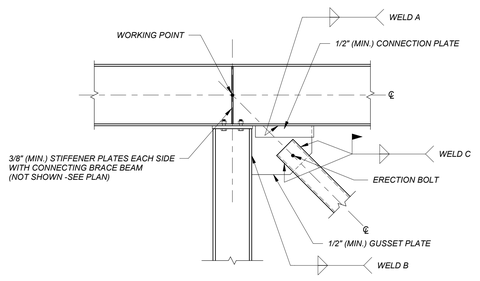
3 *DETAIL* 3/4" = 1'-0"



HSS COLUMN TO HSS BEAM BRACE DETAIL

STEEL BRACE CONSTRUCTION BF6a

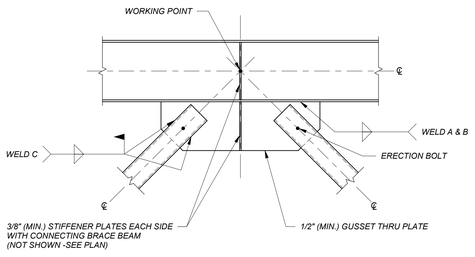
4 *DETAIL* 3/4" = 1'-0"



W BEAM OVER COL. BRACE DETAIL

STEEL BRACE CONSTRUCTION BF8

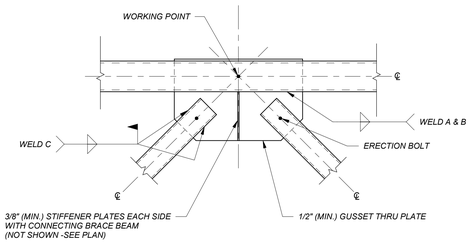
5 *DETAIL* 3/4" = 1'-0"



W BEAM BRACE DETAIL

STEEL BRACE CONSTRUCTION BF9

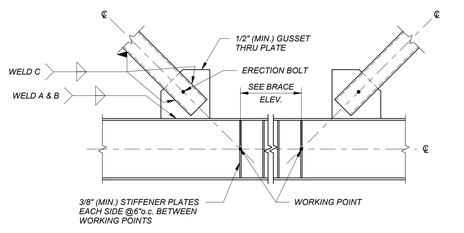
6 *DETAIL* 3/4" = 1'-0"



HSS BEAM BRACE DETAIL

STEEL BRACE CONSTRUCTION BF9a

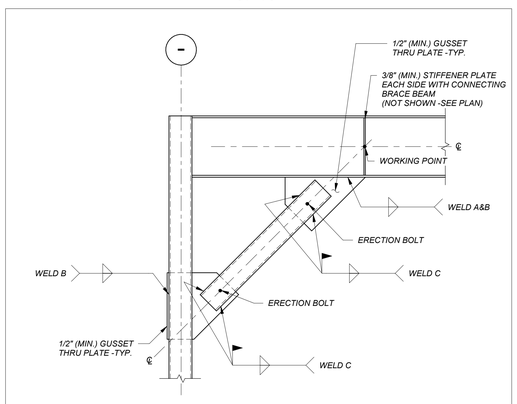
7 *DETAIL* 3/4" = 1'-0"



W BEAM SPREAD CONNECTION BRACE DETAIL

STEEL BRACE CONSTRUCTION BF9b

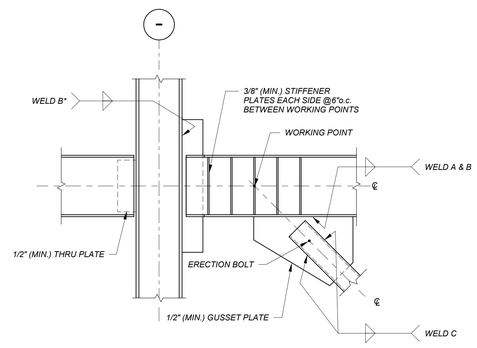
8 *DETAIL* 3/4" = 1'-0"



KNEE BRACE DETAIL

STEEL BRACE CONSTRUCTION BF11

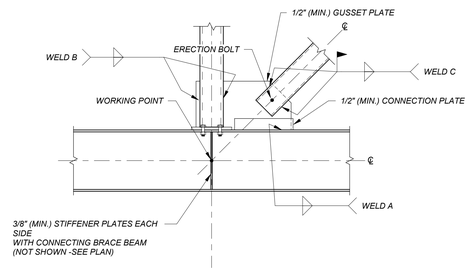
9 *DETAIL* 3/4" = 1'-0"



HSS COLUMN TO W BEAM ECCENTRIC BRACE DETAIL

STEEL BRACE CONSTRUCTION BF16

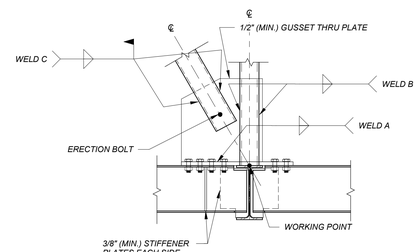
10 *DETAIL* 3/4" = 1'-0"



HSS COLUMN OVER PARALLEL W BEAM BRACE DETAIL

STEEL BRACE CONSTRUCTION BF17

11 *DETAIL* 3/4" = 1'-0"



HSS COLUMN OVER PERPENDICULAR W BEAM BRACE DETAIL

STEEL BRACE CONSTRUCTION BF17a

19 *DETAIL* 3/4" = 1'-0"

LATERAL LOAD RESISTING SYSTEM NOTES:

1. *BRACING ELEVATIONS AND DETAILS ARE SCHEMATIC ONLY AND ARE INTENDED TO SHOW BRACING CONFIGURATIONS AND CONNECTIONS DESIGN REQUIREMENTS.*
2. *BRACE FORCE (KIPS) TO BE USED FOR CONNECTION DESIGN IS INDICATED THUS (xΩ.0 K) ON THE FRAME ELEVATIONS. THE AMPLIFICATION FACTOR REQUIRED BY THE BUILDING CODE FOR CONNECTION DESIGN HAS BEEN INCLUDED IN THIS VALUE. CONNECTIONS ARE TO BE DESIGNED USING THE ALLOWABLE STRESS DESIGN (A.S.D.) METHOD.*
3. *BRACE OFFSET DIMENSIONS ARE MEASURED FROM INTERSECTION OF CENTER OF BEAMS AND BRACES TO GRID LINES.*
4. *COORDINATE SIZE AND LOCATION OF BRACING WITH WALL OPENINGS SHOWN ON ARCHITECTURAL DRAWINGS.*
5. *REFER TO PLANS FOR BEAM SIZES, COLUMN SIZES, AND BRACING LOCATIONS.*
6. *TOP CONNECTION OF EACH BRACING MEMBER SHALL REMAIN LOOSE AND ACCESSIBLE UNTIL THE BUILDING HAS BEEN PLUMBED.*
7. *BOLTED BRACE CONNECTIONS SHALL BE SLIP-CRITICAL (SC) TYPE.*
8. *ALL WELDS SHALL BE DESIGNED FOR THE CONNECTION LOADS INDICATED ON THE ELEVATIONS, BUT SHALL BE NO LESS THAN THREE INCHES.*
9. ** INDICATES EXPOSED TO VIEW STRUCTURAL STEEL. REFER TO SPECIFICATIONS FOR SURFACE PREPARATION AND FINISH REQUIREMENTS. COORDINATE LOCATIONS OF E.V.S.S. WITH ARCHITECTURAL DRAWINGS. ALL E.V.S.S. TO RECEIVE INTUMESCENT PAINT UNLESS NOTED OTHERWISE.*

DETAIL NOTES:

WELD A: WELD SIZED TO FULLY DEVELOP THE HORIZONTAL COMPONENT OF THE BRACE FORCE SHOWN.

WELD B: WELD SIZED TO FULLY DEVELOP THE VERTICAL COMPONENT OF THE BRACE FORCE SHOWN.

WELD B: WELD SIZED TO FULLY DEVELOP THE VERTICAL COMPONENT OF THE BRACE FORCE SHOWN PLUS THE SPECIFIED BEAM REACTIONS FOR GRAVITY LOADS.*

WELD C: WELD SIZED TO FULLY DEVELOP THE BRACE FORCE SHOWN.

BRACE FRAME DETAILS

AS AN ALTERNATE TO DESIGNING FOR WELDS A AND B AS DEFINED ABOVE, THE UNIFORM FORCE METHOD CAN BE USED IN THE DESIGN OF THE BRACE CONNECTIONS AT BEAM-TO-COLUMN INTERSECTIONS. REFER TO THE AISC MANUAL AND THE AISC DESIGN GUIDE NO. 29 FOR INFORMATION.

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Revisions

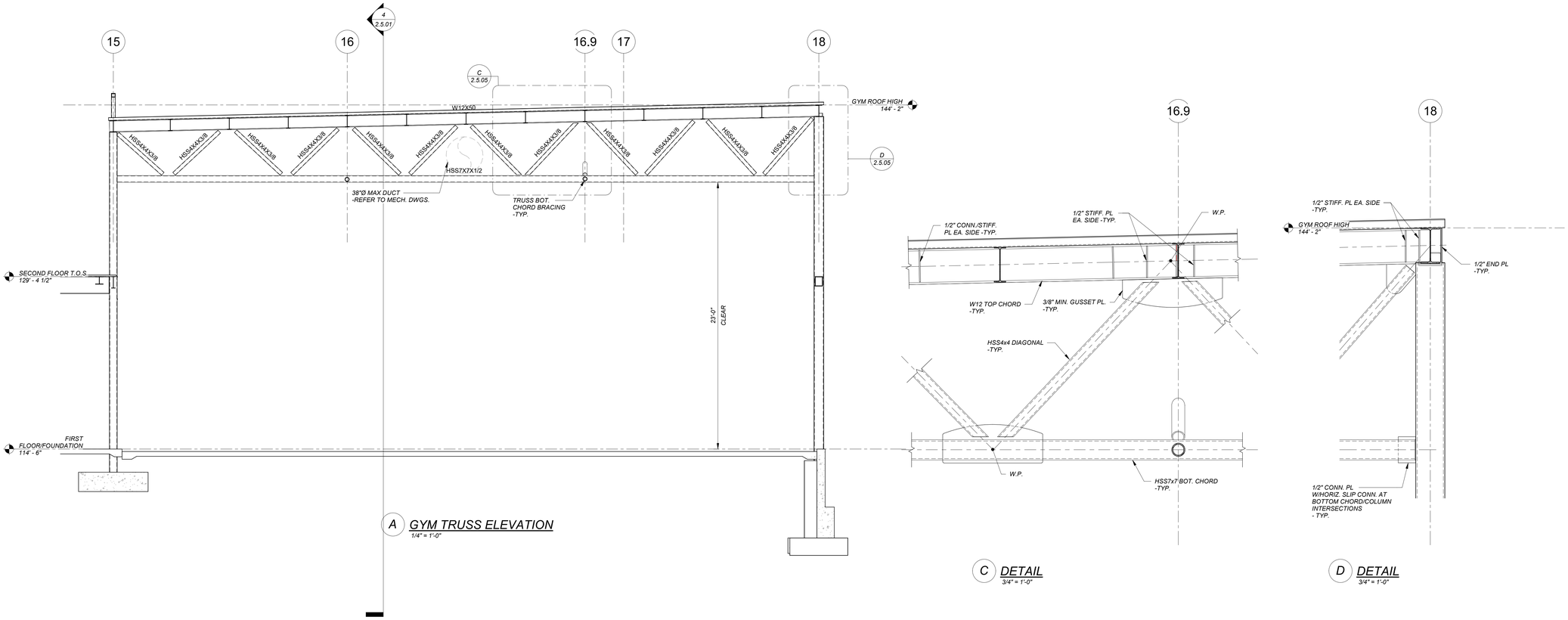
Number	Date	Description

DESIGN DEVELOPMENT

BRACE FRAME DETAILS

File Name

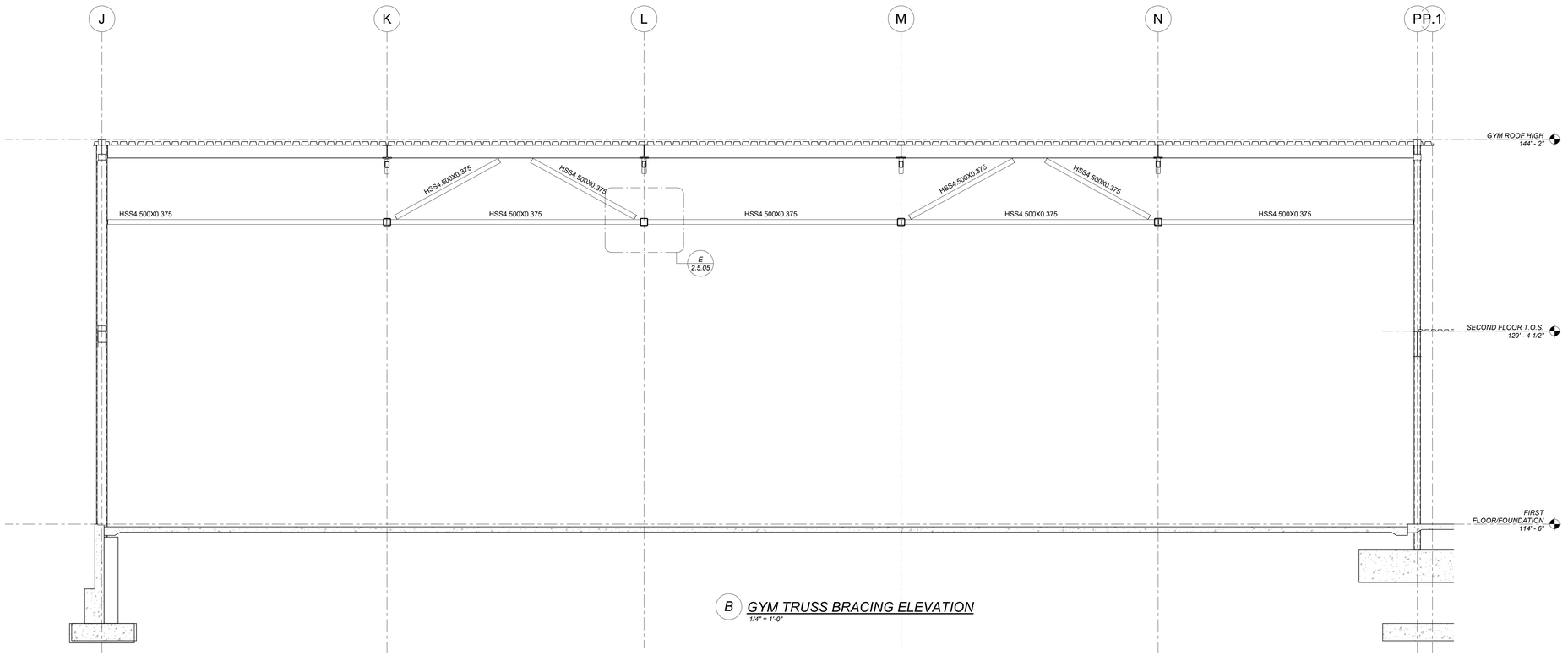
2.5.04



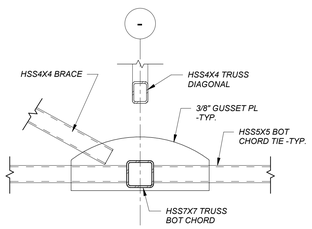
A GYM TRUSS ELEVATION
1/4" = 1'-0"

C DETAIL
3/4" = 1'-0"

D DETAIL
3/4" = 1'-0"



B GYM TRUSS BRACING ELEVATION
1/4" = 1'-0"



E DETAIL
3/4" = 1'-0"

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DESIGN DEVELOPMENT

GYM TRUSS ELEVATION AND DETAILS

File Name

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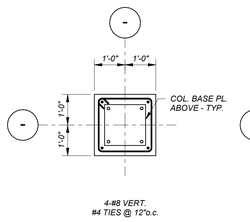
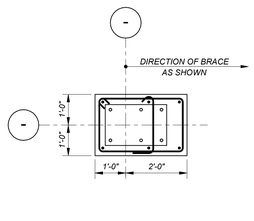
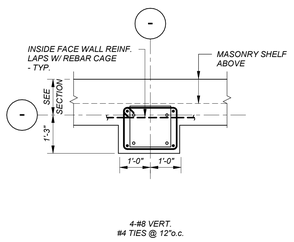


P-1



P-1BR



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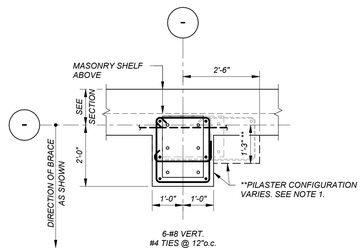

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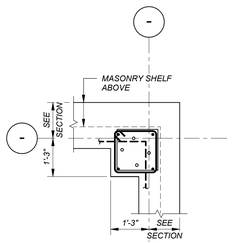

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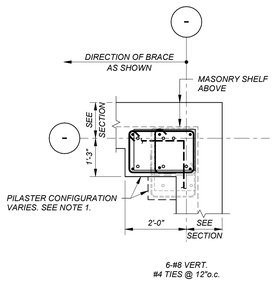
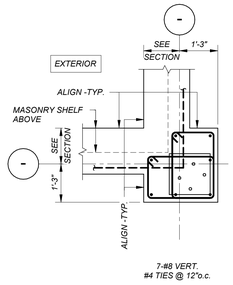


P-3BR



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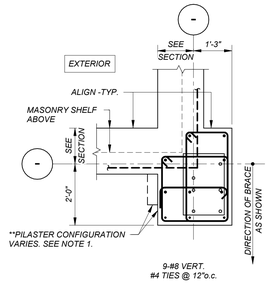
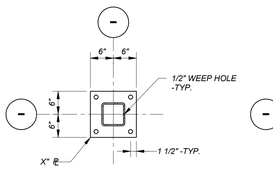


P-4BR

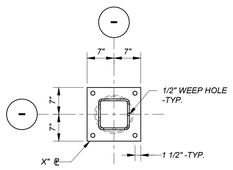
NOTES:

1. AT PIERS/PILASTERS SUPPORTING BRACE COLUMNS (PIERS/PILASTERS WITH THE "BR" SUFFIX (EX. P-1BR)) ENLARGE THE 12" DIMENSION TO 24" IN THE DIRECTION OF THE BRACE TO SUPPORT THE ENLARGED BRACE COLUMN BASE PLATE -TYPICAL. COORDINATE PIER/PILASTER EXTENSIONS WITH PLANS AND BRACE ELEVATIONS.
2. AT THE TOP OF PIERS/PILASTERS, PROVIDE TIES WITH 4 SPACES @ 3" o.c. AND THE BALANCE AS INDICATED ABOVE (SEE SECTIONS) -TYPICAL.
3. WALL REINFORCING NOT SHOWN FOR CLARITY, CONTINUE THROUGH PILASTER.
4. REFER TO SECTIONS FOR WALL THICKNESS, REINFORCING, AND LOCATION FROM COLUMN GRID.



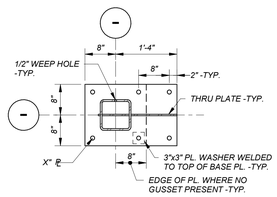
HSS5x5

TYPE A



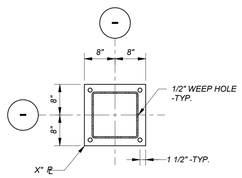
HSS6x6, HSS7x7, HSS8x8, HSS10x6, HSS8Ø, HSS10Ø

TYPE B



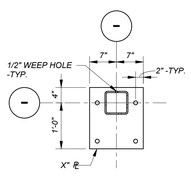
HSS6x6, HSS7x7, HSS8x8, HSS10x6, HSS12x8

TYPE B-BR



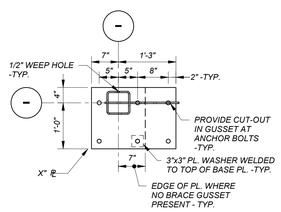
HSS9x9, HSS10x10, HSS12x12

TYPE C



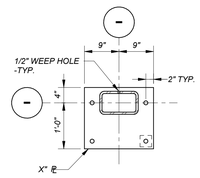
HSS5x5, HSS6x6 (4) AB-2

TYPE D



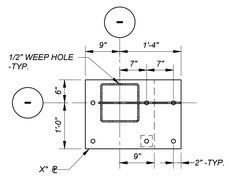
HSS5x5, HSS6x6 (6) AB-2 OR (4) AB-2 IF NO BRACE GUSSET

TYPE D-BR



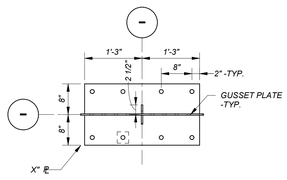
HSS10X6

TYPE E



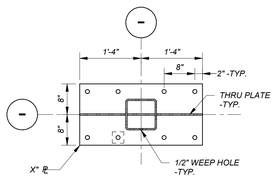
HSS10x10, HSS10X6

TYPE E-BR



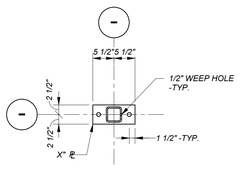
V BRACE CONNECTIONS

TYPE BR



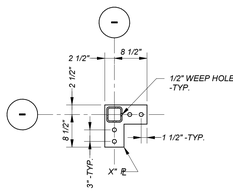
HSS8x8, HSS10Ø

TYPE F-BR



HSS4x4

TYPE X

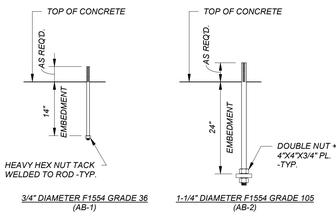


HSS4x4

TYPE X

NOTES:

1. BASE PLATE TYPE NOTED ON PLAN AS BP-"X".
2. PROVIDE 3/4"ø x14" EMBEDMENT F1554-36 ANCHOR RODS W/ TACK WELDED NUT AT ALL BASE PLATES UNLESS NOTED OTHERWISE.
3. PROVIDE 1 1/4"ø x24" EMBEDMENT F1554-105 ANCHOR RODS W/ 4"x4"x3/4" PLATE WASHERS IN BETWEEN DOUBLE NUTS AT BRACE COLUMNS (NOTED ON PLANS AS BASE PLATE TYPE BP-"X" BR.)
4. PROVIDE 3"X3"X1/2" PLATE WASHERS UNDER NUTS ON TOP OF TYPE "X"-BR BASE PLATES. OVERSIZED HOLES IN BASE PLATES TO BE GROUTED SOLID PRIOR TO INSTALLING TOP NUTS AND WASHERS AND PLATE WASHERS TO BE WELDED ALL AROUND TO BASE PLATES. TYPICAL AT BRACE COLUMNS.
5. PROVIDE 1/4" LEVELING PLATE AND 3/4" NON-SHRINK GROUT UNDER ALL BASE PLATES.



3/4" DIAMETER F1554 GRADE 36 (AB-1)

1-1/4" DIAMETER F1554 GRADE 105 (AB-2)

ANCHOR ROD DETAILS

COUNTRYSIDE ELEMENTARY SCHOOL

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KEY PLAN

Called North

NORTH ARROW STAMP

Date 2/21/2024

Drawn By Author

Scale As Noted

Revisions

Number	Date	Description

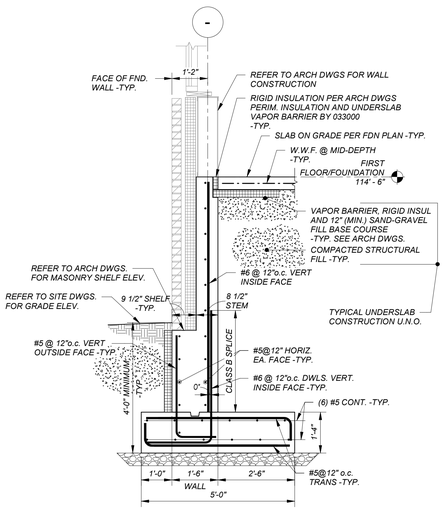
DESIGN DEVELOPMENT

PIER, PILASTER, AND BASE PLATE DETAILS

File Name

2.5.06

2017168



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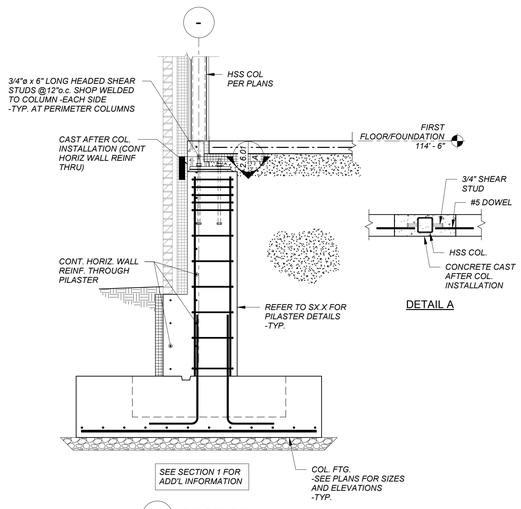
1/2" = 1'-0"



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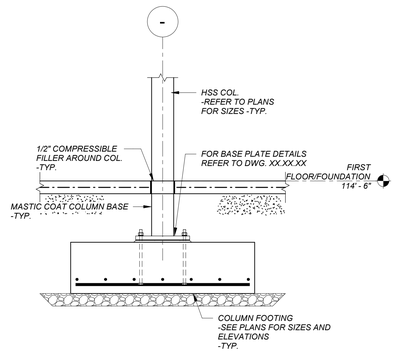

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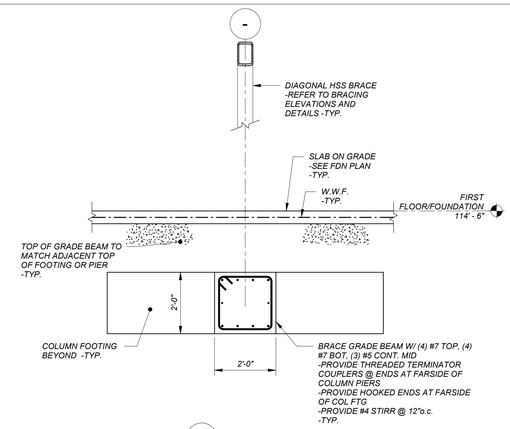

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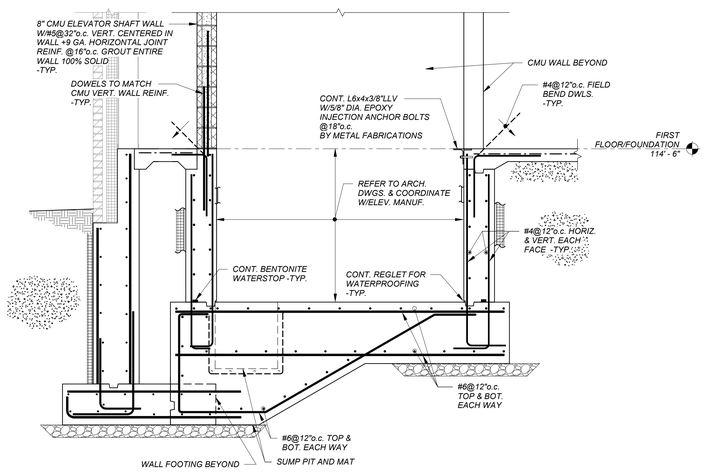

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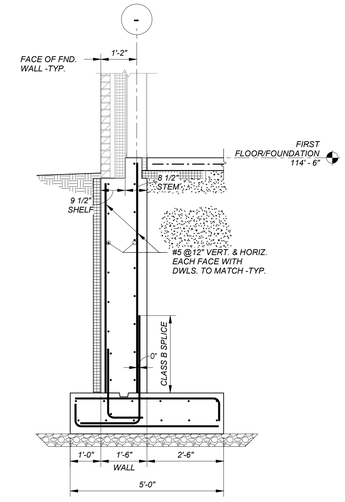

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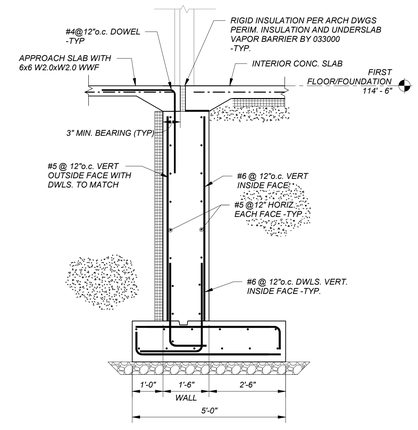

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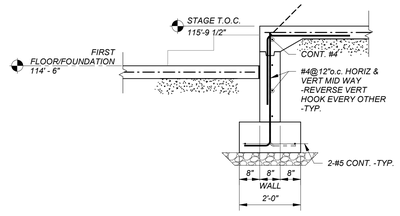

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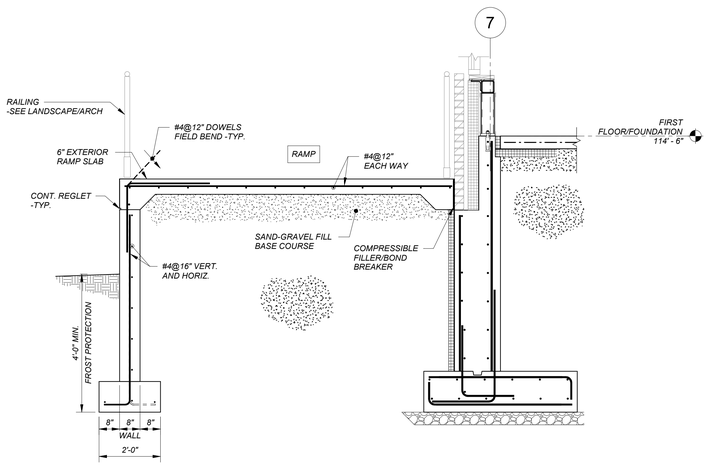

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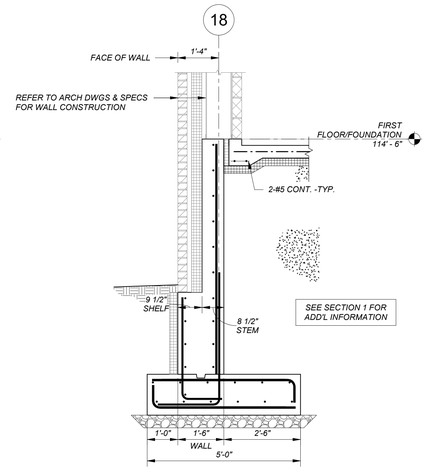

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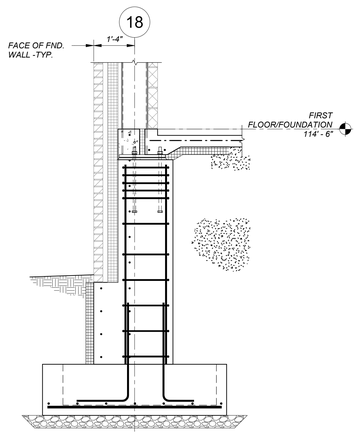

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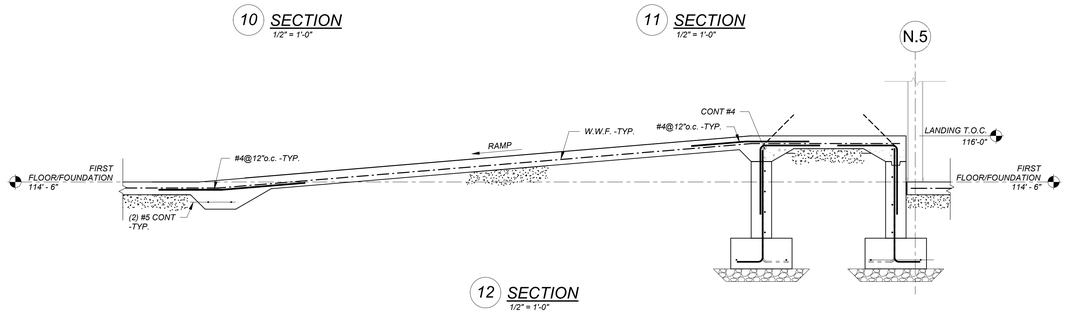

12 SECTION
1/2" = 1'-0"

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KEY PLAN

Called North

NORTH ARROW | STAMP

Date 2/21/2024

Drawn By RAB

Scale As Noted

Revisions

Number	Date	Description

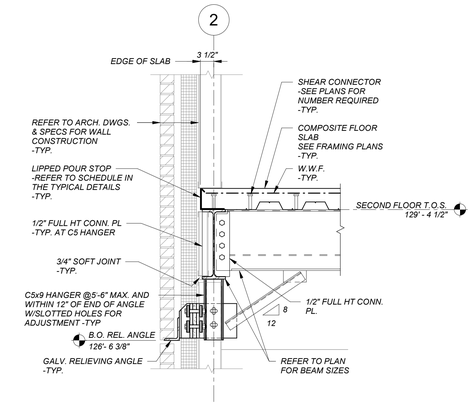
DESIGN DEVELOPMENT

FOUNDATION SECTIONS

File Name

2.6.01

2017168



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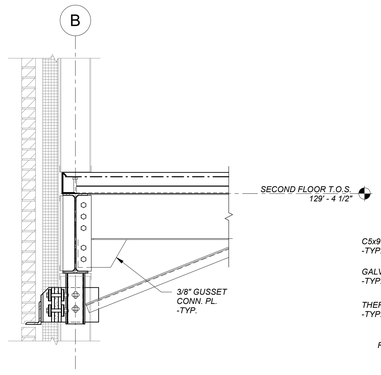

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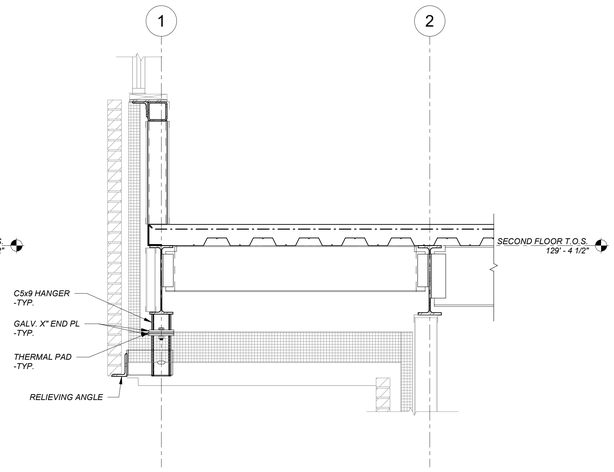

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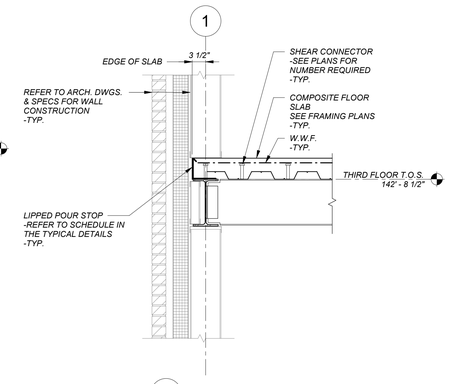

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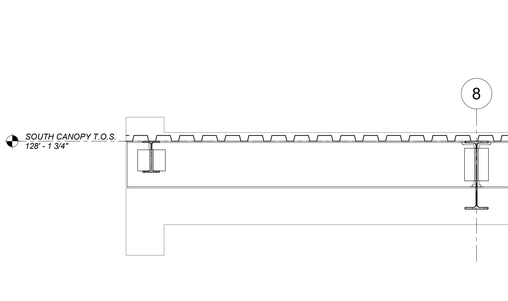

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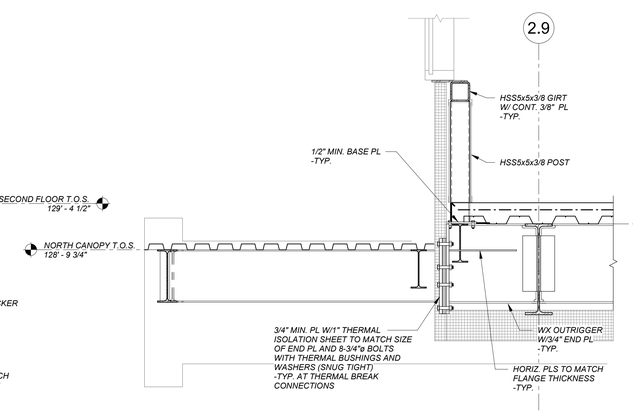

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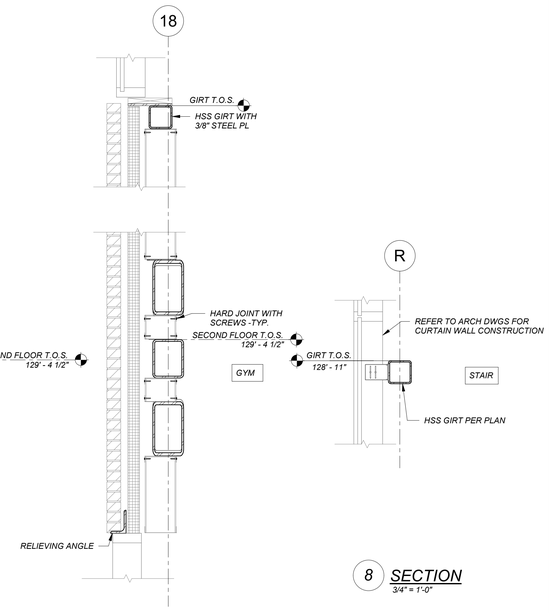
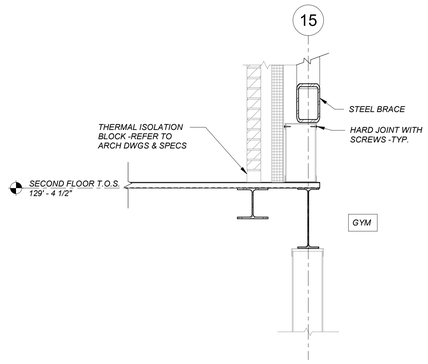


7 SECTION
3/4" = 1'-0"

8 SECTION
3/4" = 1'-0"



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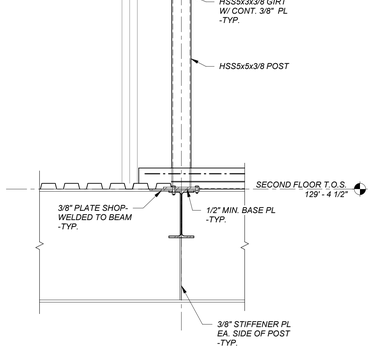

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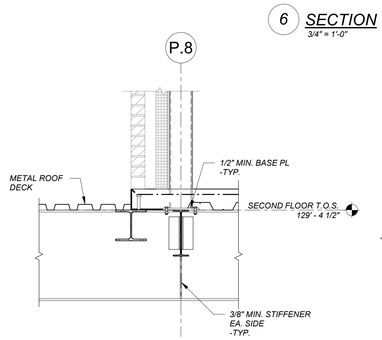

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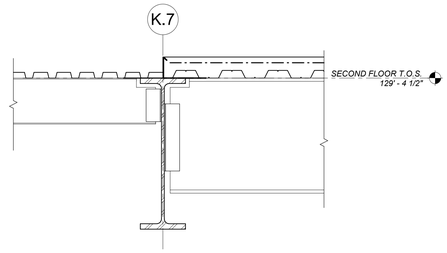

12 SECTION
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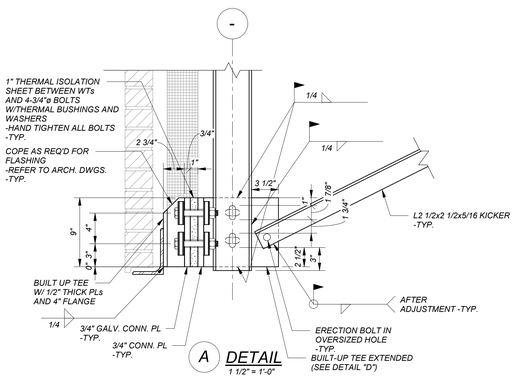

A DETAIL
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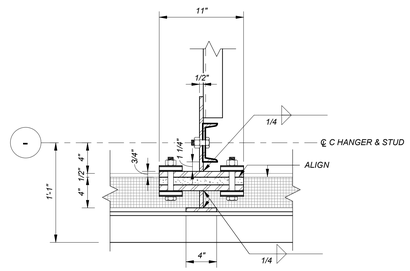
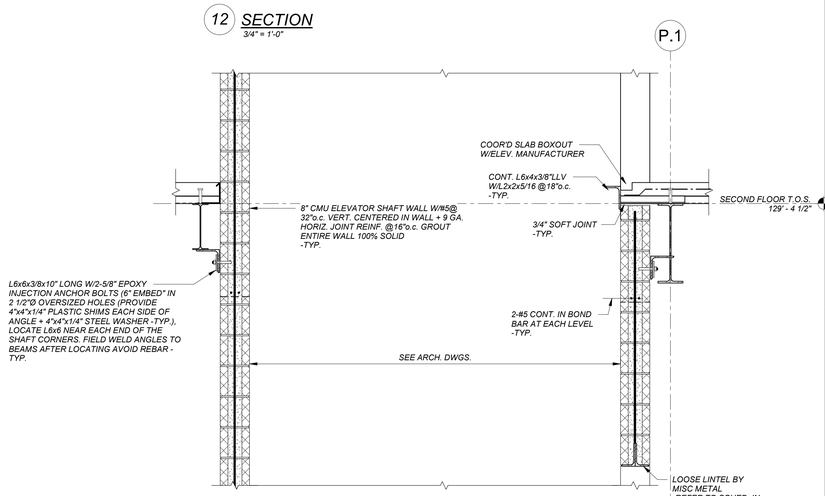


REL ANGLE PLAN VIEW



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3/4" = 1'-0"

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KEY PLAN

Called North

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Date 2/21/2024

Drawn By Author

Scale As Noted

Revisions

Number	Date	Description

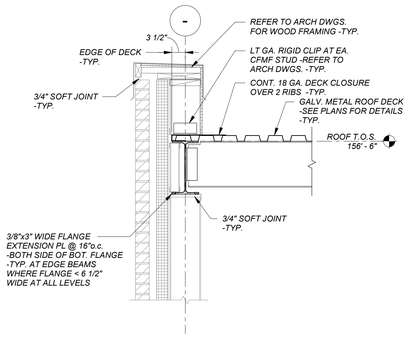
DESIGN DEVELOPMENT

FLOOR FRAMING SECTIONS

File Name

2.7.01

2017168



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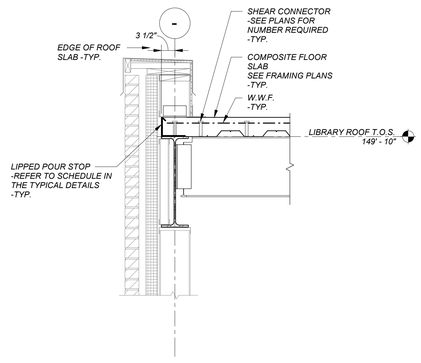

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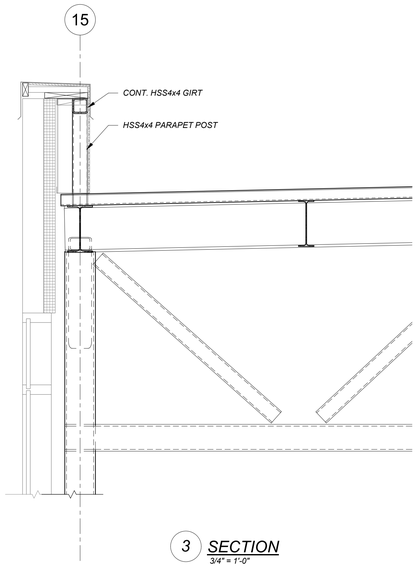
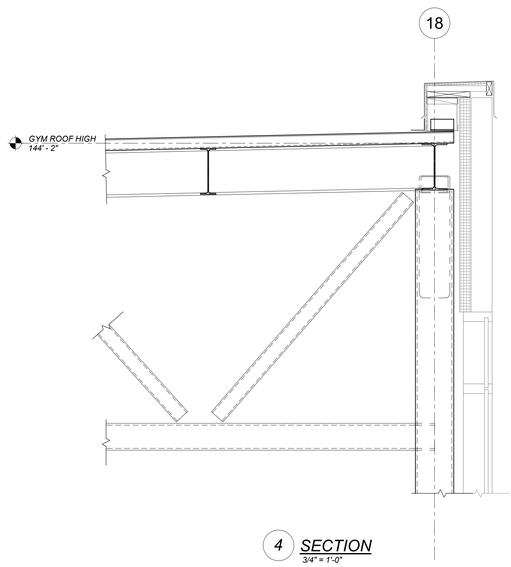
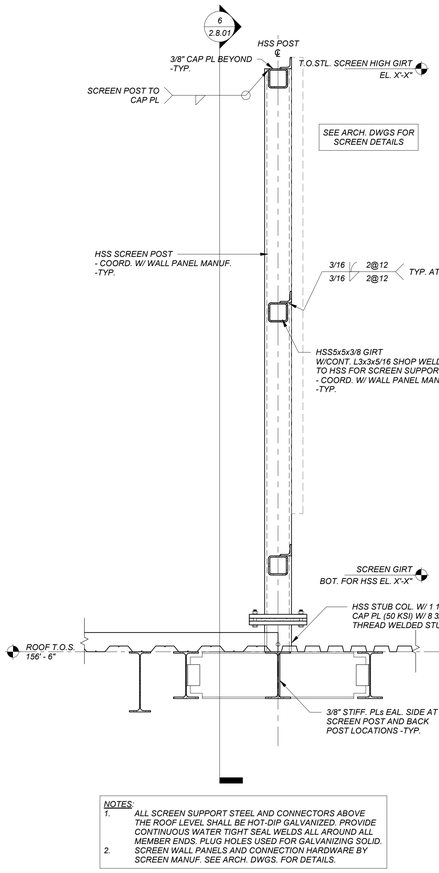


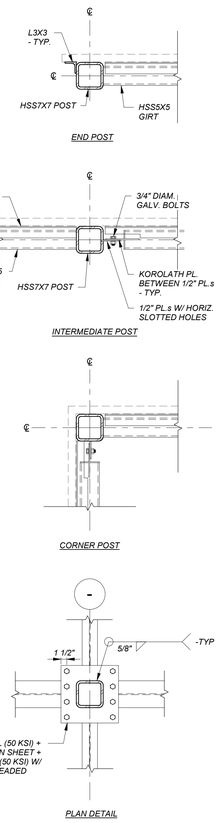
3 SECTION
3/4" = 1'-0"



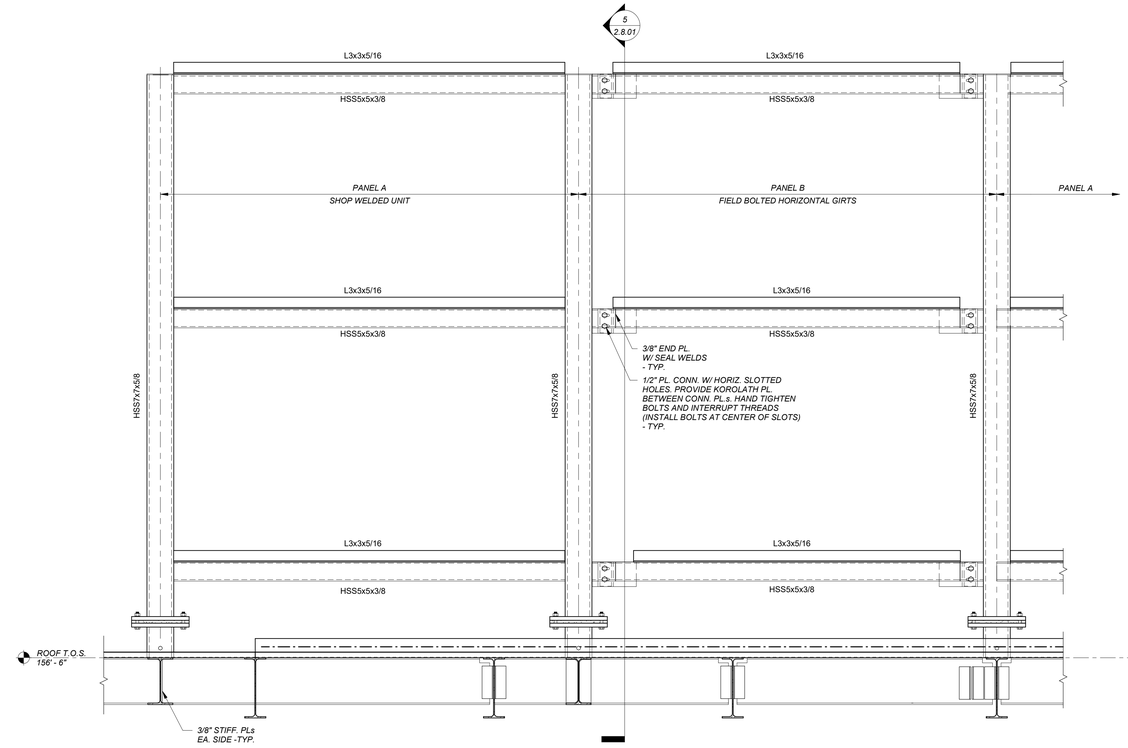
4 SECTION
3/4" = 1'-0"



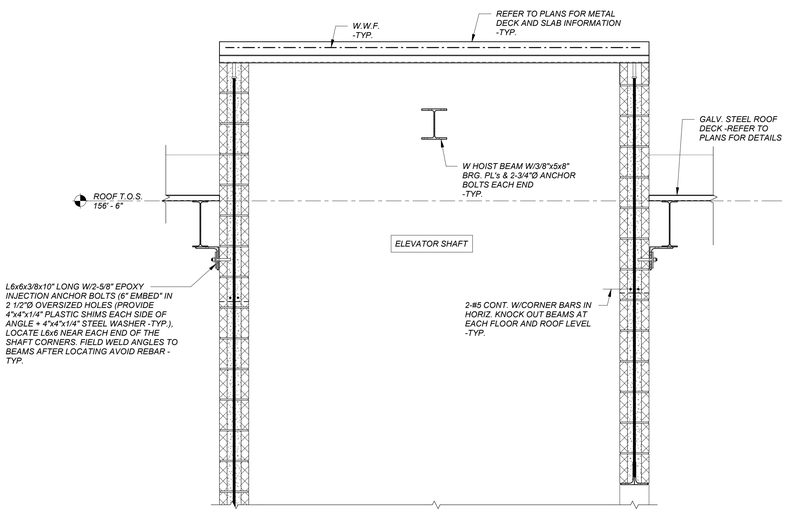
NOTES:
1. ALL SCREEN SUPPORT STEEL AND CONNECTORS ABOVE THE ROOF LEVEL SHALL BE HOT-DIP GALVANIZED. PROVIDE CONTINUOUS WATER TIGHT SEAL WELDS ALL AROUND ALL MEMBER ENDS. PLUG HOLES USED FOR GALVANIZING SOLID.
2. SCREEN WALL PANELS AND CONNECTION HARDWARE BY SCREEN MANUF. SEE ARCH. DWGS. FOR DETAILS.



5 SECTION
3/4" = 1'-0"



6 SECTION
3/4" = 1'-0"



7 SECTION
3/4" = 1'-0"

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KEY PLAN

Called North

NORTH ARROW | STAMP

Date 2/21/2024

Drawn By RAB

Scale As Noted

Revisions

Number	Date	Description

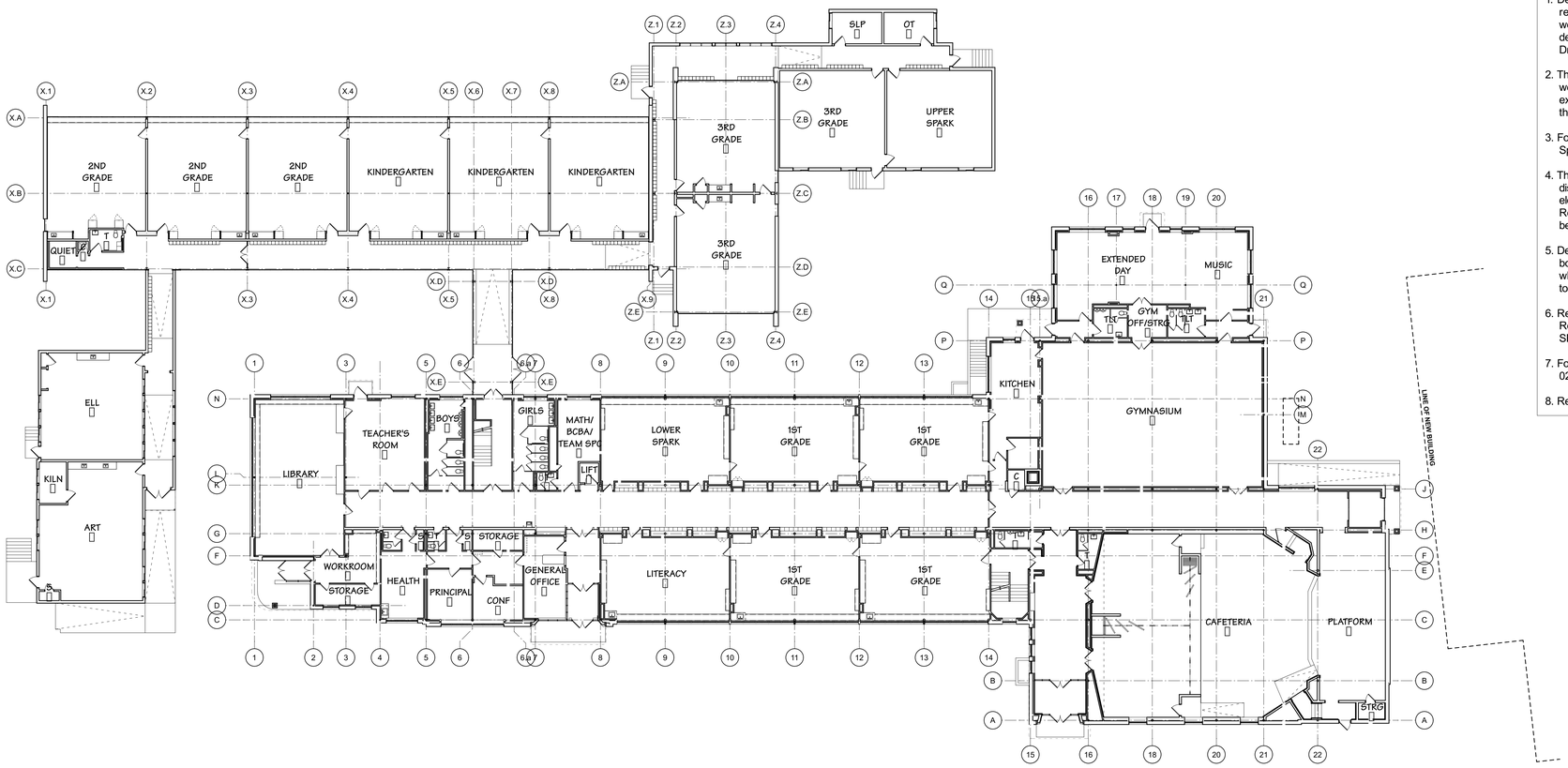
DESIGN DEVELOPMENT

ROOF FRAMING SECTIONS

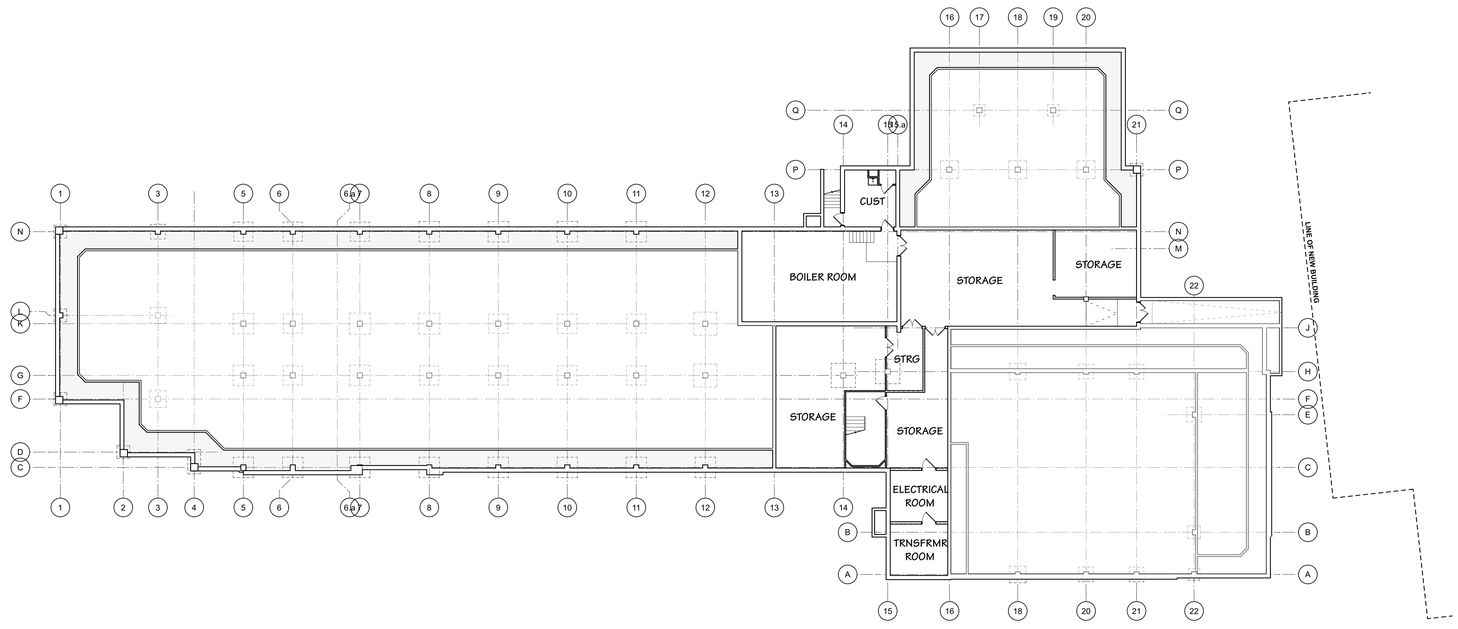
File Name

2.8.01

2017168



2 **Existing - First Floor Plan - Demolition**
SCALE: 1/16" = 1'-0"



1 **Existing - Basement/Boiler Room Floor Plan - Demolition**
SCALE: 1/16" = 1'-0"

General Demolition Notes
(By SECT 024100-DEMOLITION Unless Otherwise Noted)
(Applicable to All Demolition Drawings)

1. Demolition drawings are general in nature. The Contract Drawings require all demolition necessary to accomplish the final result of the work as shown in the Contract Documents whether or not such demolition is specifically noted on the Demolition or other Contract Drawings.
2. The Contractor shall verify all existing conditions prior to commencing work. The Contractor is responsible for notifying Architect of any existing conditions that deviate from the Drawings which will impact the Work.
3. For additional information pertaining to demolition, refer to the Specifications and other Contract Documents.
4. The Plumbing, HVAC, and Electrical Sub-Contractors shall perform disconnecting and capping of all existing plumbing, mechanical, and electrical equipment, services and items throughout the building. Removal of all existing plumbing, HVAC, and electrical systems shall be by Section 024100-DEMOLITION.
5. Demolition includes removal of built-in cabinetry, chalk and tack boards, furnishings equipment and associated mountings except where specifically designated otherwise. Refer to drawings for items to be retained and relocated.
6. Remove all roofing, coping, accessories and insulation to the deck. Roofing shall be removed by SECTION 024100-DEMOLITION and SECTION 024180-ASBESTOS REMOVAL.
7. For Asbestos Removal and relocated demolition, see SECTION 024180-ASBESTOS REMOVAL.
8. Refer to phasing drawings.

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: 0 16 32

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Demolition Plans - Basement & First Floor

3.1.01

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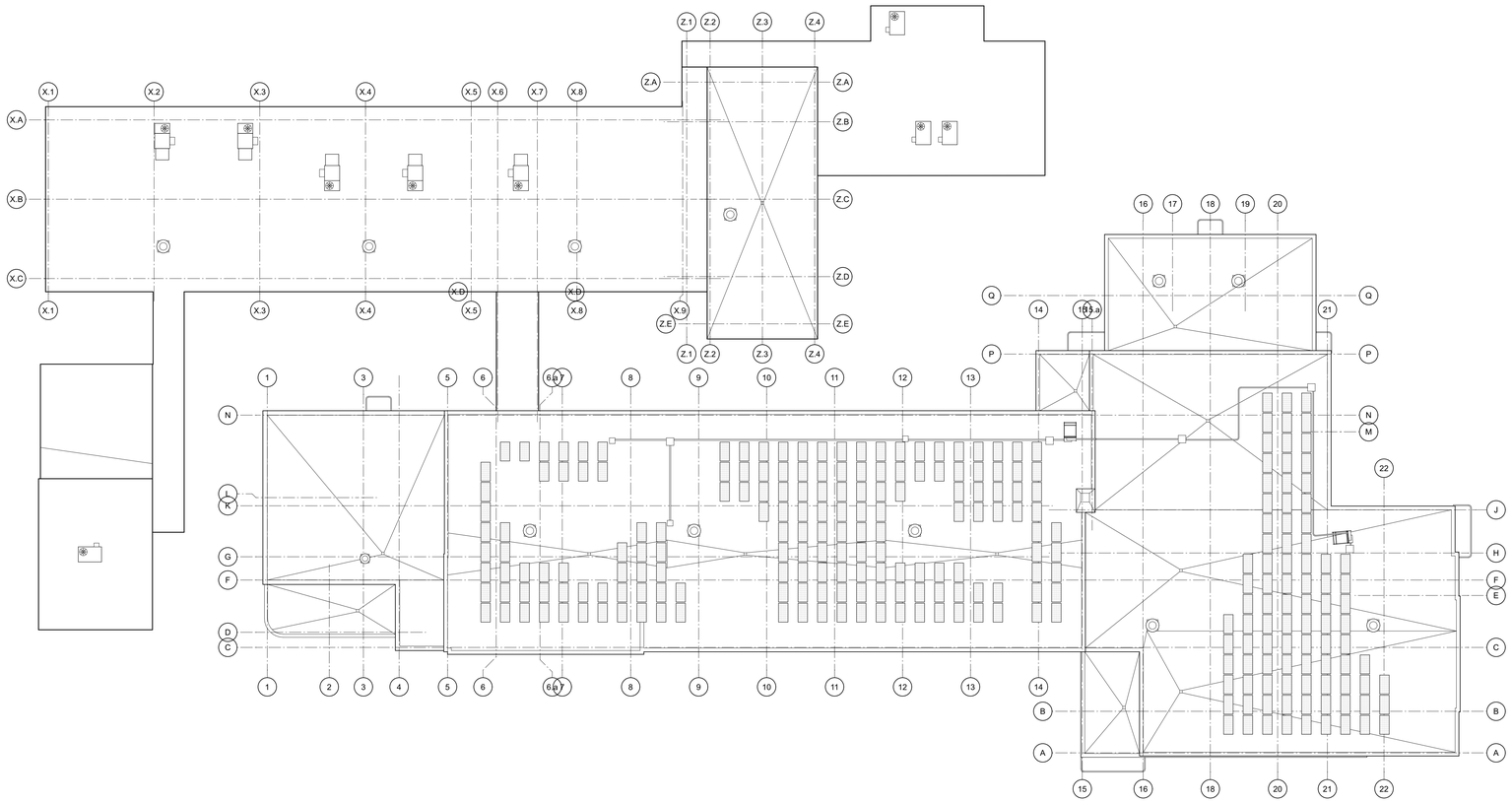
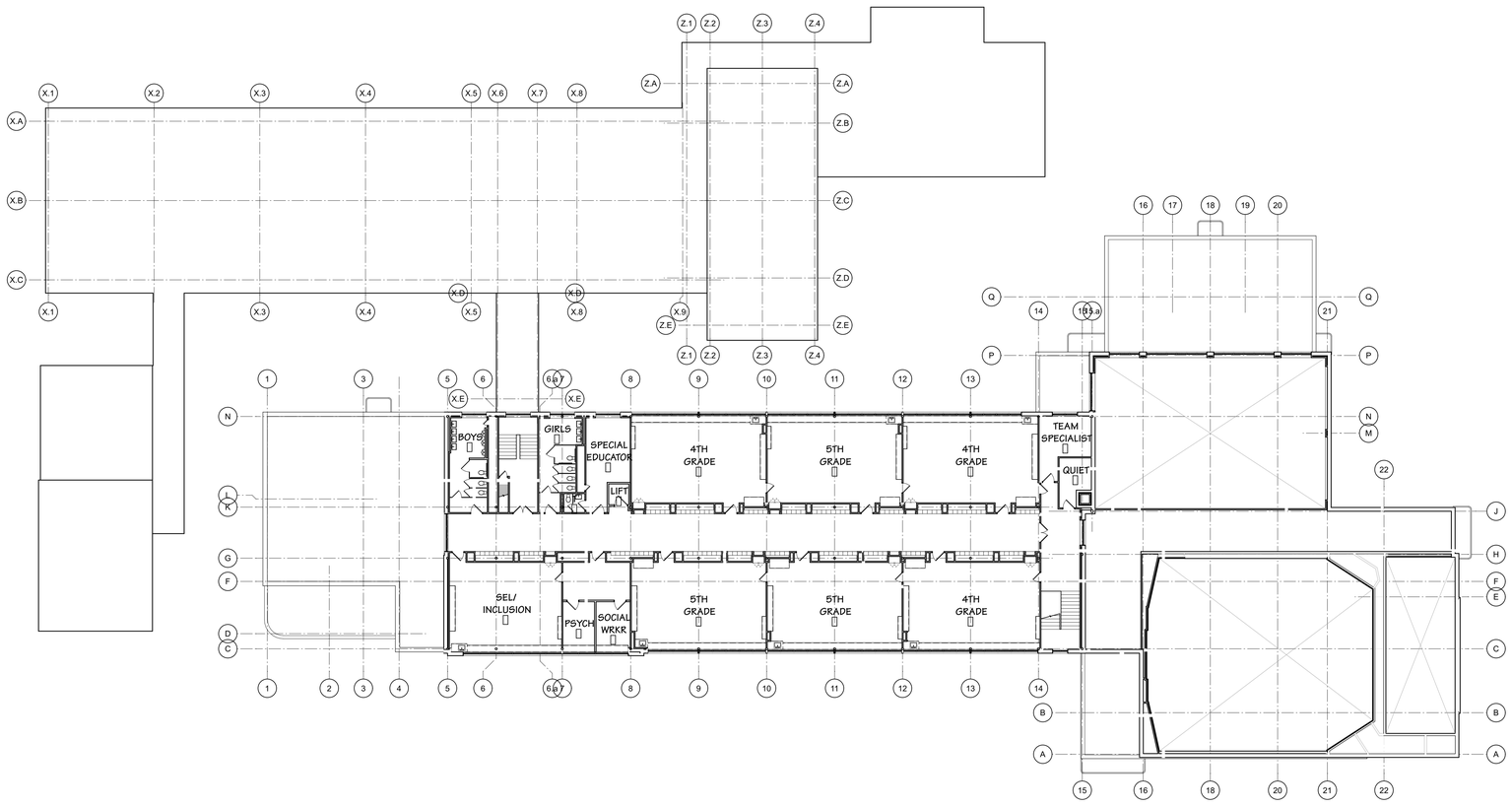


2 **Existing - Roof Plan - Demolition**
SCALE: 1/16" = 1'-0"



1 **Existing - Second Floor Plan - Demolition**
SCALE: 1/16" = 1'-0"

General Demolition Notes
(By SECT 024100-DEMOLITION Unless Otherwise Noted)
(Applicable to All Demolition Drawings)

1. Demolition drawings are general in nature. The Contract Drawings require all demolition necessary to accomplish the final result of the work as shown in the Contract Documents whether or not such demolition is specifically noted on the Demolition or other Contract Drawings.
2. The Contractor shall verify all existing conditions prior to commencing work. The Contractor is responsible for notifying Architect of any existing conditions that deviate from the Drawings which will impact the Work.
3. For additional information pertaining to demolition, refer to the Specifications and other Contract Documents.
4. The Plumbing, HVAC, and Electrical Sub-Contractors shall perform disconnecting and capping of all existing plumbing, mechanical, and electrical equipment, services and items throughout the building. Removal of all existing plumbing, HVAC, and electrical systems shall be by Section 024100-DEMOLITION.
5. Demolition includes removal of built-in cabinetry, chalk and tack boards, furnishings equipment and associated mountings except where specifically designated otherwise. Refer to drawings for items to be retained and relocated.
6. Remove all roofing, coping, accessories and insulation to the deck. Roofing shall be removed by SECTION 024100-DEMOLITION and SECTION 024180-ASBESTOS REMOVAL.
7. For Asbestos Removal and relocated demolition, see SECTION 024180-ASBESTOS REMOVAL.
8. Refer to phasing drawings.

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: 0 16 32

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Demolition Plans - Second Floor & Roof

3.1.02

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NORTH ARROW

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Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

First Floor Plan

3.4.01

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Revisions

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DESIGN DEVELOPMENT

Second Floor Plan

3.4.02

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Third Floor Plan

3.4.03

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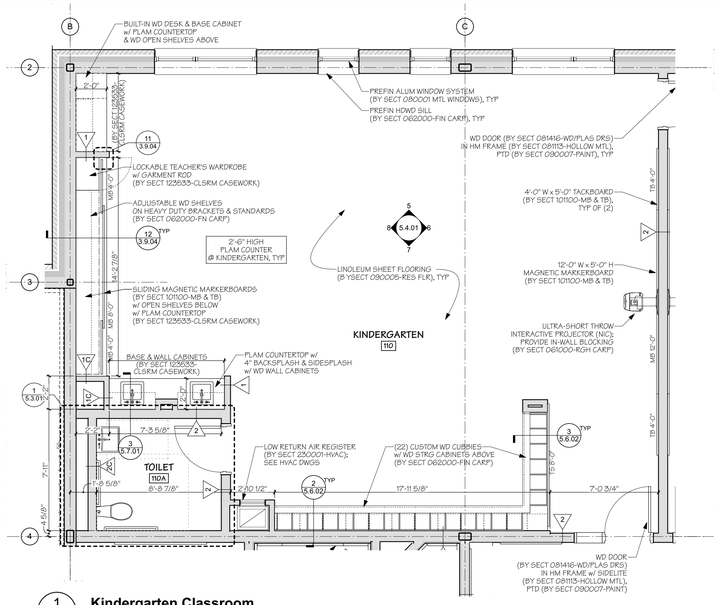

1 TYP **Kindergarten Classroom**
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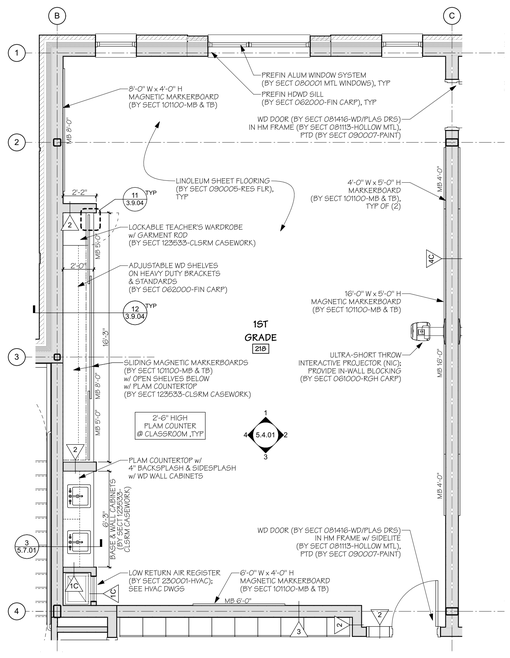
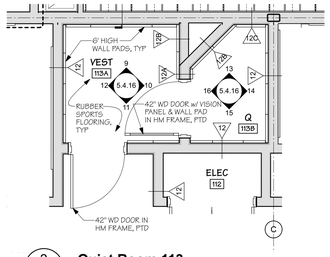
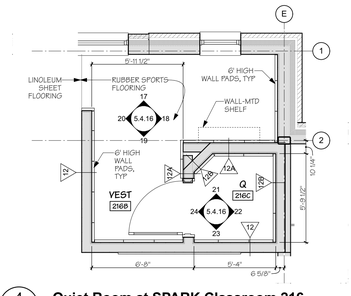


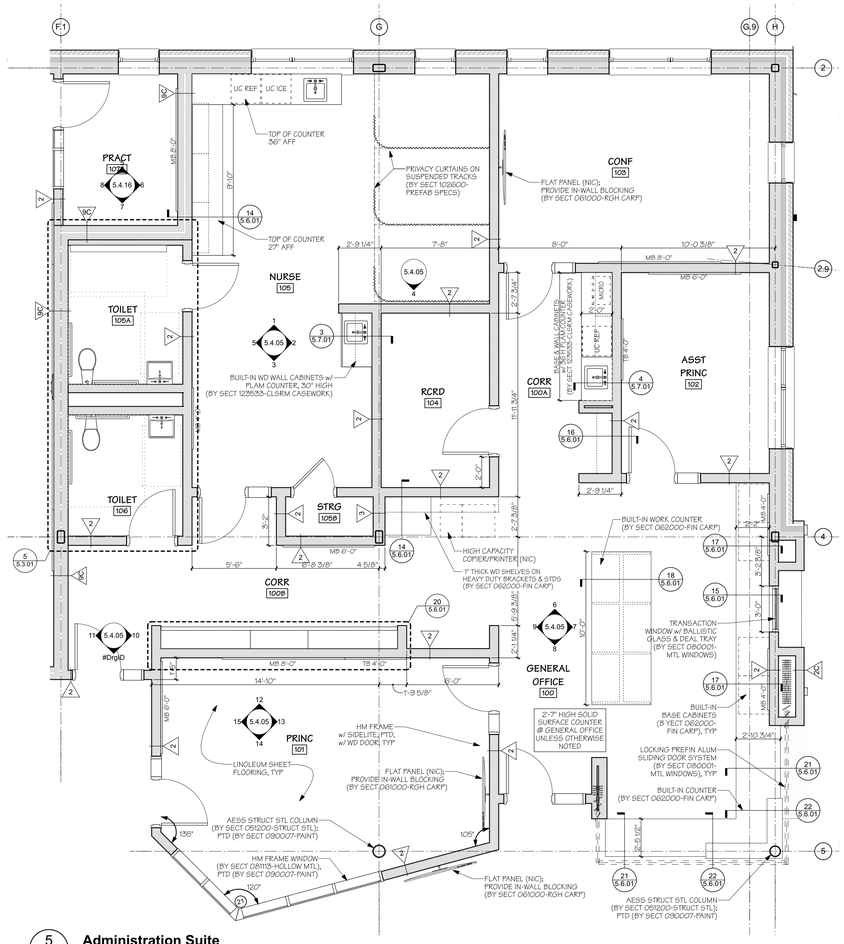
2 TYP **Classroom**
SCALE: 1/4" = 1'-0"



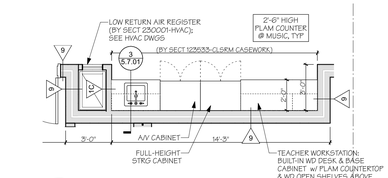
3 **Quiet Room 113**
SCALE: 1/4" = 1'-0"



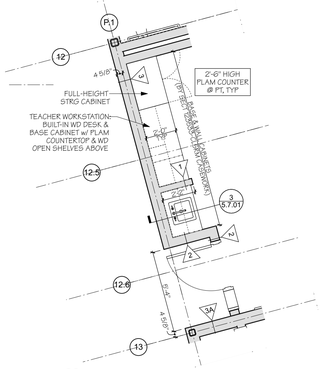
4 **Quiet Room at SPARK Classroom 216**
SCALE: 1/4" = 1'-0"



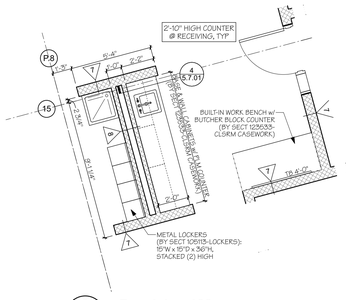
5 **Administration Suite**
SCALE: 1/4" = 1'-0"



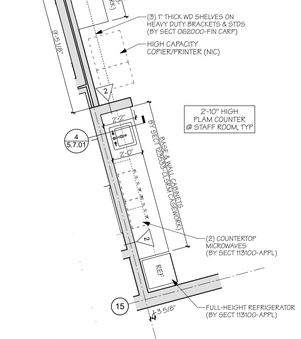
7 **Music Classroom 107**
SCALE: 1/4" = 1'-0"



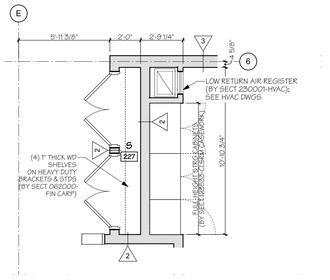
8 **PT 125**
SCALE: 1/4" = 1'-0"



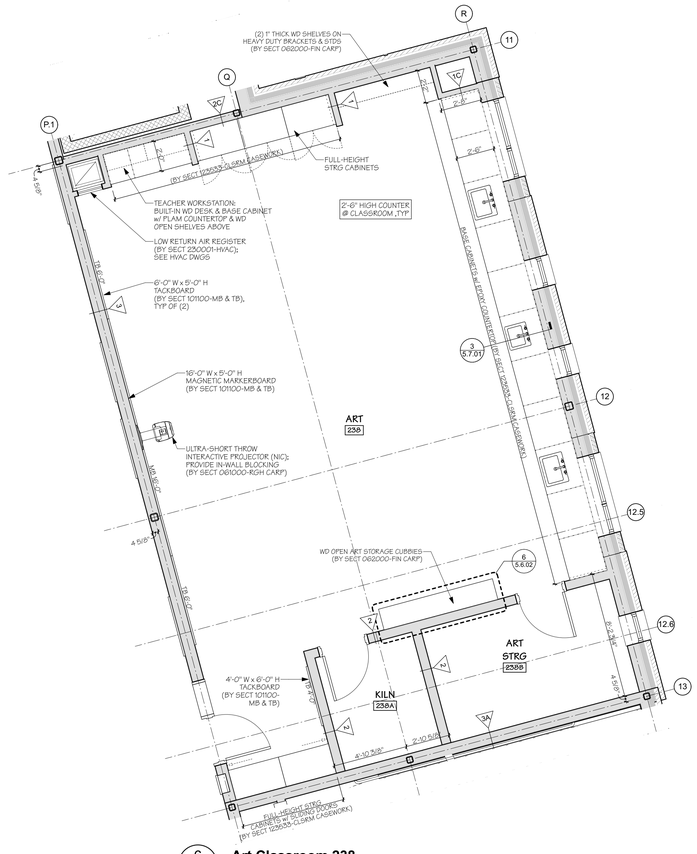
9 **Receiving 123**
SCALE: 1/4" = 1'-0"



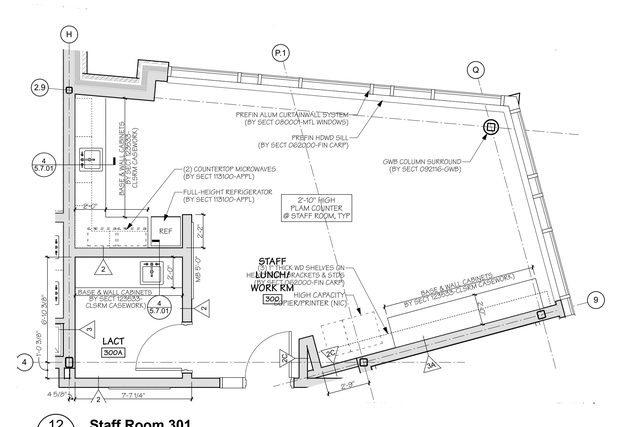
11 **Staff Room 237**
SCALE: 1/4" = 1'-0"



10 **Storage Room 227 & Classroom 229**
SCALE: 1/4" = 1'-0"



6 **Art Classroom 238**
SCALE: 1/4" = 1'-0"



12 **Staff Room 301**
SCALE: 1/4" = 1'-0"

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KEY PLAN

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Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Enlarged Floor Plans

3.4.04

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ROOF PLAN LEGEND

- RD — ROOF DRAIN
- OFD RD — ROOF DRAIN AND OVERFLOW DRAIN
- SD/DS — PREFINISHED ALUM SCUPPER DRAIN BOX AND DOWNSPOUT (BY SECT 074213-PREFORM CLAD) PROVIDE 24" x 24" WALKWAY MEMBRANE AT LOWER ROOF SURFACE (BY SECT 070002-ROOF & FLSHG), TYP
- INDICATES DIRECTION OF ROOF SLOPE
- +6 1/2" — DENOTES THICKNESS OF TAPERED INSULATION ABOVE TOP OF METAL OR CONCRETE ROOF DECK, UON
- INDICATES EXTENT OF ROOF WITH CONCRETE SLAB BELOW INSULATION (SEE STRUCTURAL DRAWINGS)
- INDICATES ROOF AREA FRAMED WITH SLOPED STEEL
- WALKWAY PROTECTION MEMBRANE (BY SECT 070002-ROOF & FLSHG), TYP
- ROOF MOUNTED HVAC DUCTWORK AND DUCTWORK SUPPORTS (SEE DETAIL 10/3.5.04)
- ACCU — CONDENSING UNIT (SEE HVAC DRAWINGS)
- EF — EXHAUST FAN (SEE HVAC DRAWINGS)
- KEF — KITCHEN EXHAUST FAN (SEE HVAC DRAWINGS)
- PV — PLUMBING VENT
- EX — FLUE EXHAUST
- CAI — COMBUSTION AIR INTAKE
- RAD Ø — RADON VENT PIPE (CAPPED ABOVE ROOF)

ACOUSTICAL ROOF SCREEN

OUTLINE OF AREA FOR PHOTOVOLTAIC PANELS, TYP (PANELS N.I.C.)

STAIR C — SC04 — +154'-10"

STAIR A — SA04 — +158'-3"

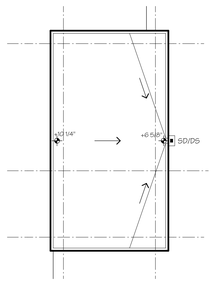
ENCLOSURE #1 · ENCLOSURE #2 · ENCLOSURE #3 · ENCLOSURE #4 · ENCLOSURE #5

ROOF LADDER

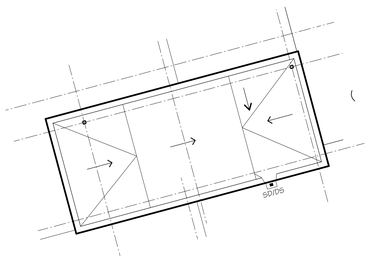
PREFIN ALUM DOWNSPOUT FROM STAIR ROOF

PREFIN ALUM CURTAINWALL CLERESTORY w/ FROSTED GLASS, TYP @ ROOF LEVEL

CONT SOIL PIPE DOWN BEHIND



1 **High Roof Plan - Stair C**
SCALE: 1/8" = 1'-0"



2 **High Roof Plan - Stair A**
SCALE: 1/8" = 1'-0"

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NORTH ARROW — LICENSE STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ, ADW

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Roof Plan

3.5.01

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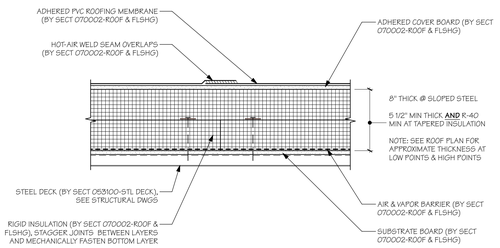
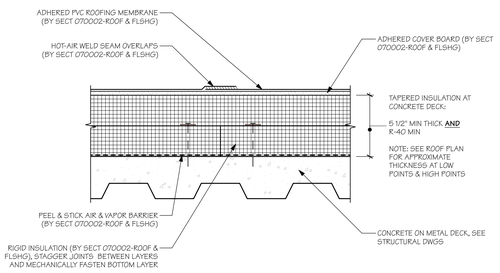


1 TYP **PVC Roof System at Steel Deck**
SCALE: 1 1/2"= 1'-0"



2 TYP **PVC Roof System at Concrete Deck**
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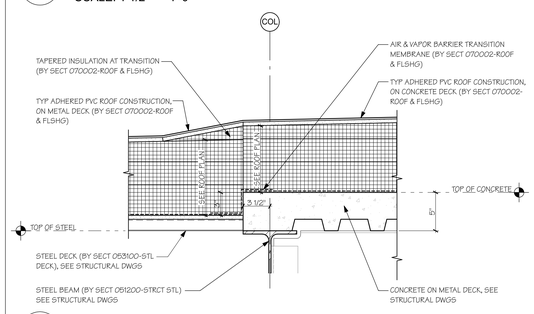
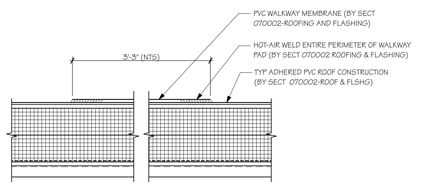
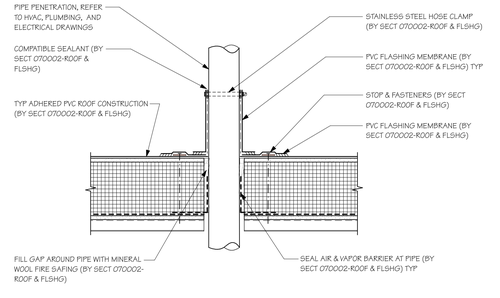


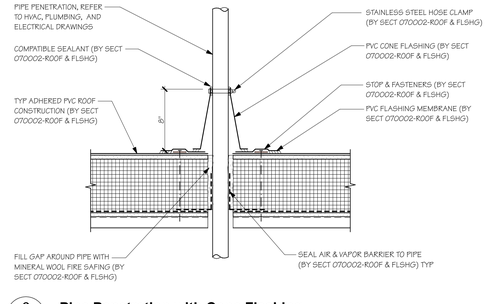
3 TYP **Roof Transition - Steel to Concrete Deck**
SCALE: 1 1/2"= 1'-0"



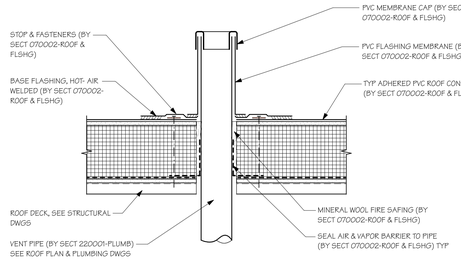
4 TYP **Walkway Membrane**
SCALE: 1 1/2"= 1'-0"



5 TYP **Pipe Penetration**
SCALE: 1 1/2"= 1'-0"



6 TYP **Pipe Penetration with Cone Flashing**
SCALE: 1 1/2"= 1'-0"



7 TYP **Vent Pipe Penetration**
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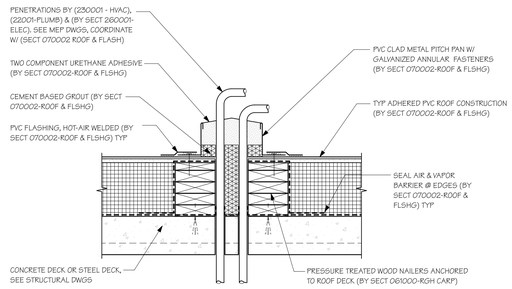
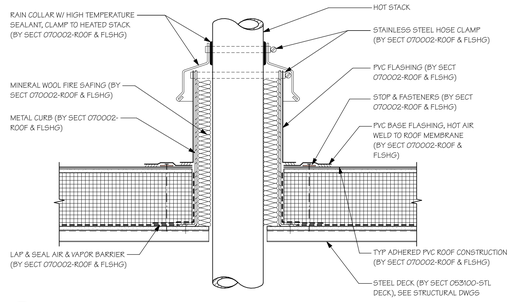
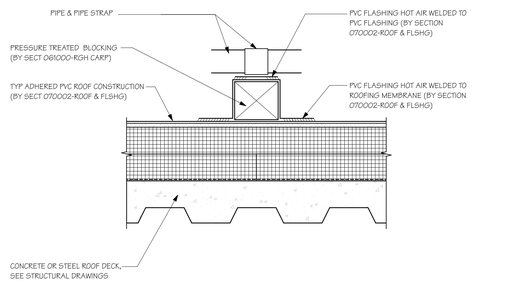


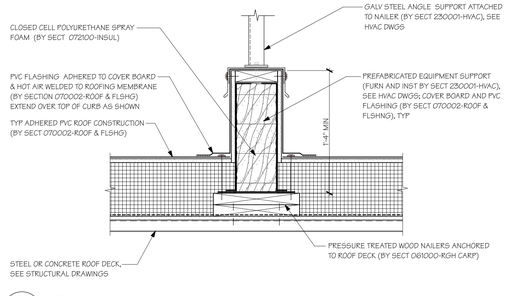
8 TYP **Pitch Pocket Detail**
SCALE: 1 1/2"= 1'-0"



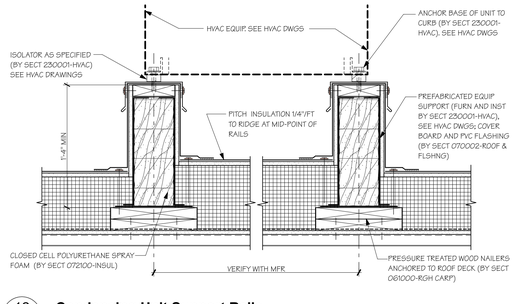
9 TYP **Hot Stack Penetration**
SCALE: 1 1/2"= 1'-0"



10 TYP **Over-Roof Piping Sleeper**
SCALE: 1 1/2"= 1'-0"



11 TYP **Roof Mounted Ductwork Support**
SCALE: 1 1/2"= 1'-0"



12 TYP **Condensing Unit Support Rails**
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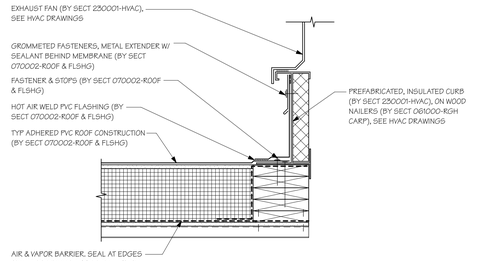
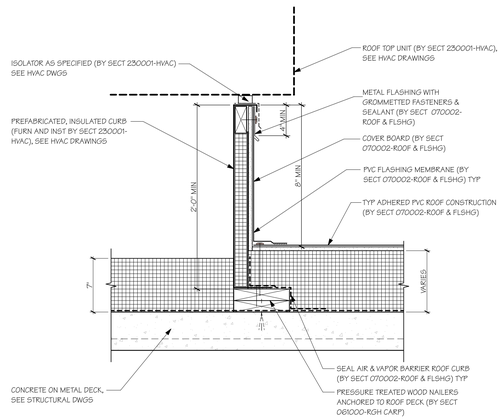
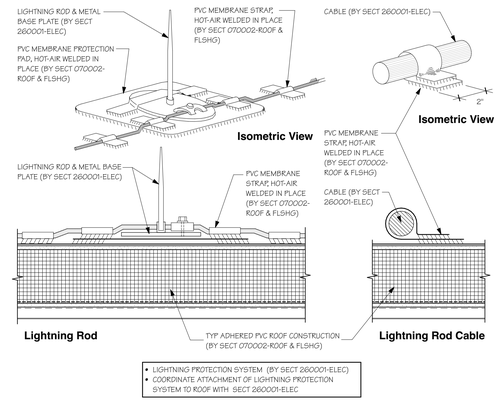


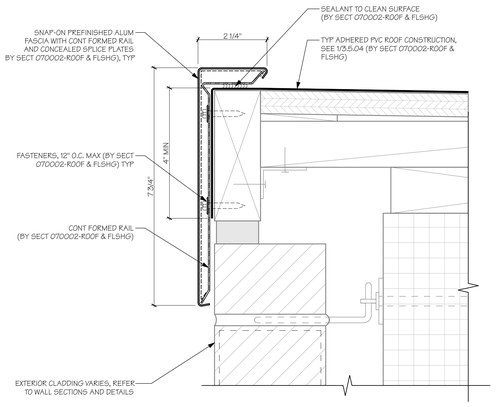
13 TYP **Exhaust Fan Curb**
SCALE: 1 1/2"= 1'-0"



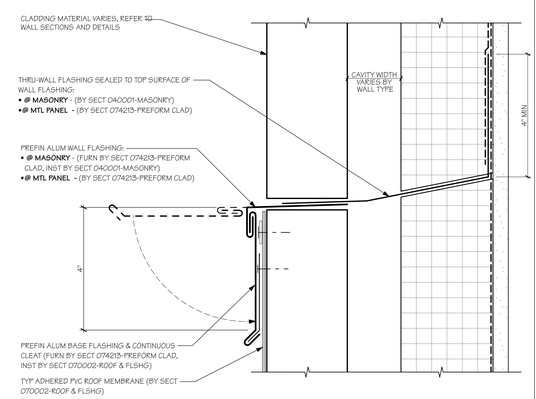
14 TYP **Roof Top Unit Curb**
SCALE: 1 1/2"= 1'-0"



15 TYP **Lightning Rod and Cable**
SCALE: 1 1/2"= 1'-0"



16 TYP **Roof Edge Detail**
SCALE: 6" = 1'-0"



17 TYP **Base Flashing Detail**
SCALE: 6" = 1'-0"

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Roof Details

3.5.02

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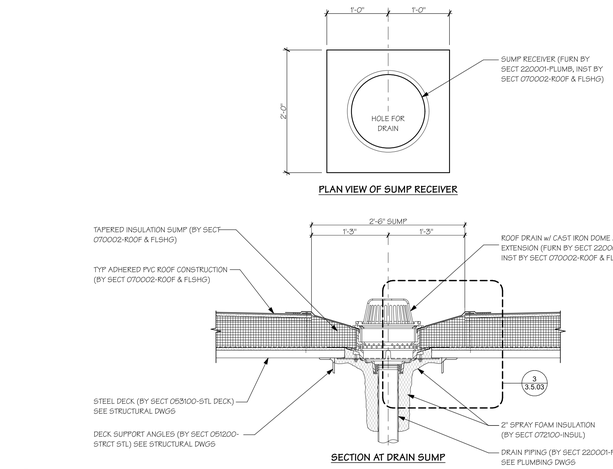
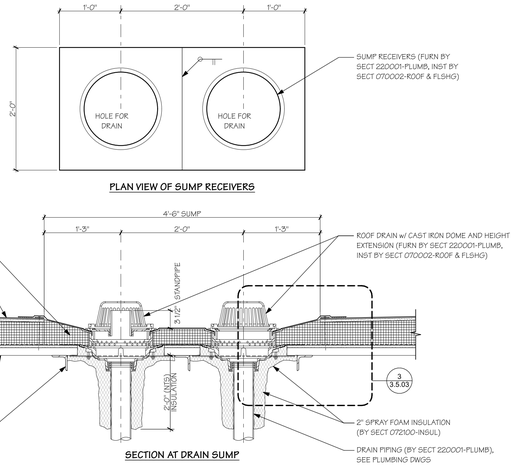


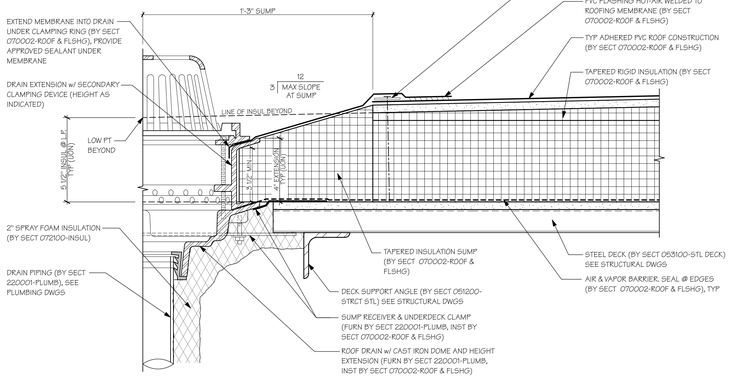
1 TYP **Roof Drain Sump Detail**

SCALE: 1" = 1'-0"



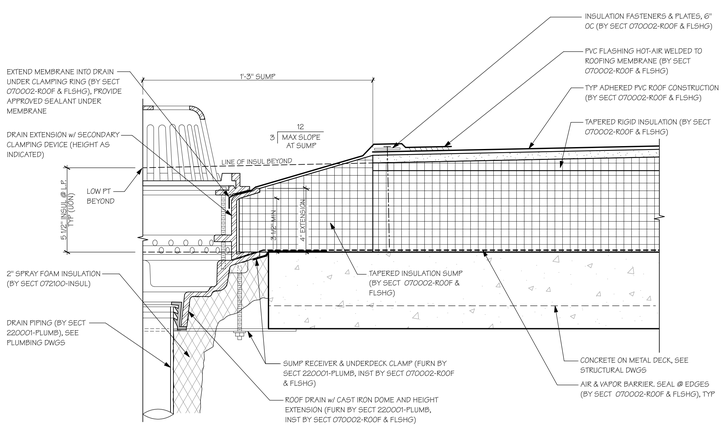
2 TYP **Roof Drain and Overflow Drain Sump Detail**

SCALE: 1" = 1'-0"



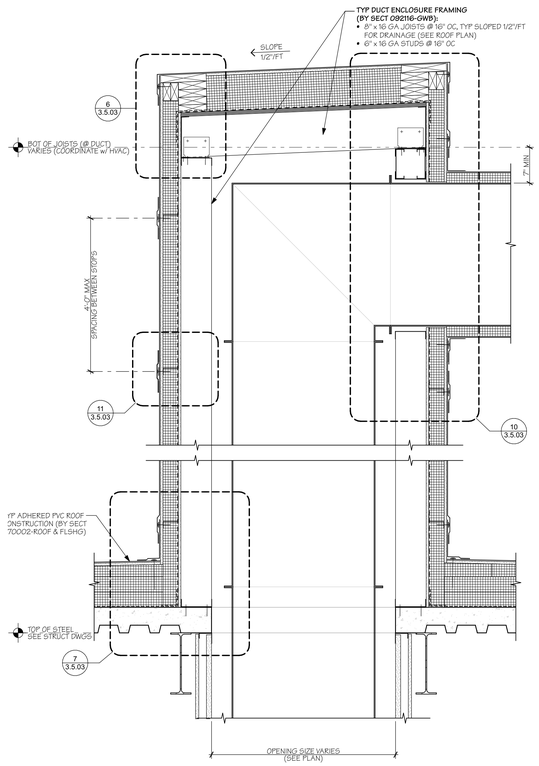
3 TYP **Roof Drain at Steel Deck**

SCALE: 3" = 1'-0"



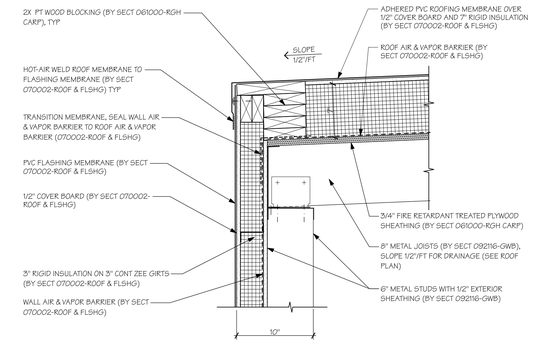
4 TYP **Roof Drain at Concrete Deck**

SCALE: 3" = 1'-0"



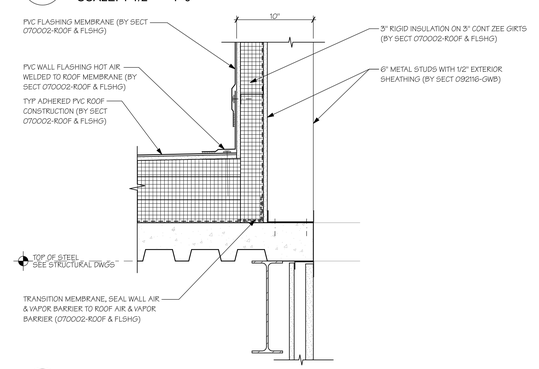
5 TYP **HVAC Duct Enclosure Wall Section**

SCALE: 1" = 1'-0"



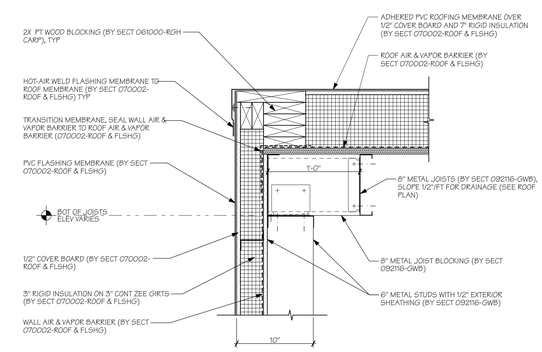
6 TYP **HVAC Duct Enclosure Eave Detail**

SCALE: 1 1/2"= 1'-0"



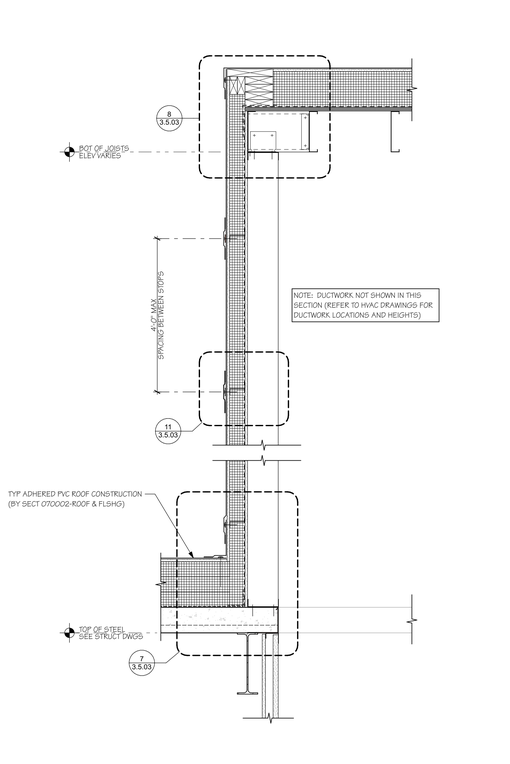
7 TYP **HVAC Duct Enclosure Wall to Roof Detail**

SCALE: 1 1/2"= 1'-0"



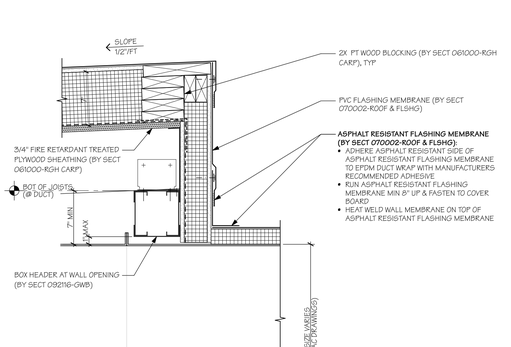
8 TYP **HVAC Duct Enclosure Rake Detail**

SCALE: 1 1/2"= 1'-0"



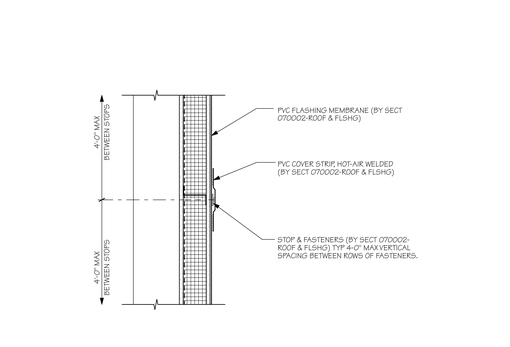
9 TYP **HVAC Duct Enclosure Rake Wall Section**

SCALE: 1" = 1'-0"



10 TYP **HVAC Duct Enclosure Detail at Duct Penetration**

SCALE: 1 1/2"= 1'-0"



11 TYP **HVAC Duct Enclosure Horizontal Stop & Cover Strip**

SCALE: 1 1/2"= 1'-0"

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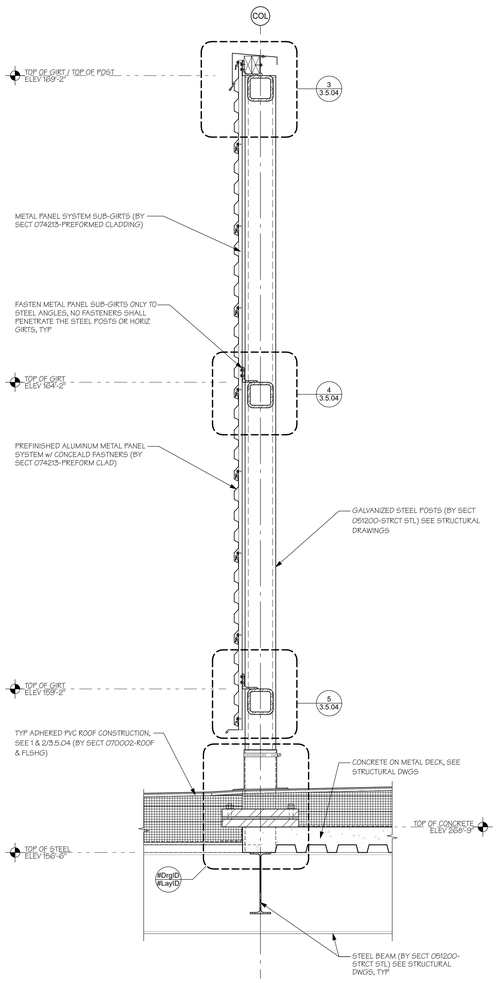
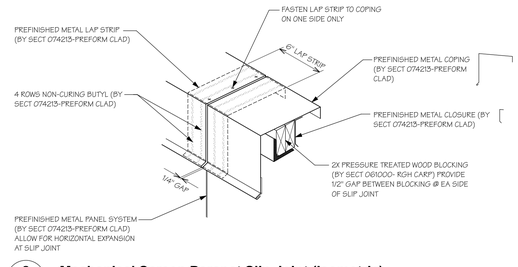
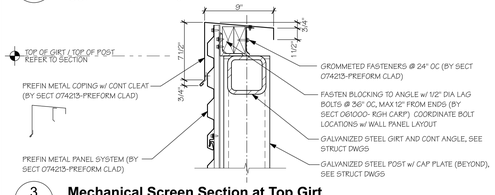


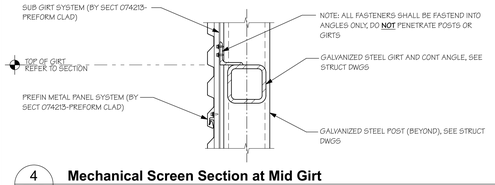
1 TYP **Mechanical Screen Section**
SCALE: 1" = 1'-0"



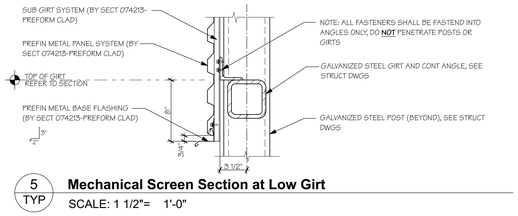
2 TYP **Mechanical Screen Parapet Slip Joint (Isometric)**
SCALE: 1 1/2"= 1'-0"



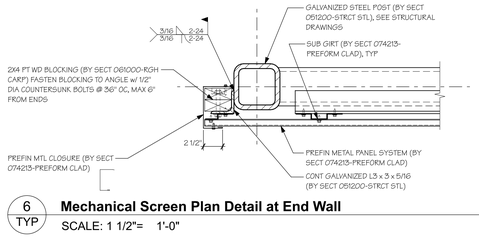
3 TYP **Mechanical Screen Section at Top Girt**
SCALE: 1 1/2"= 1'-0"



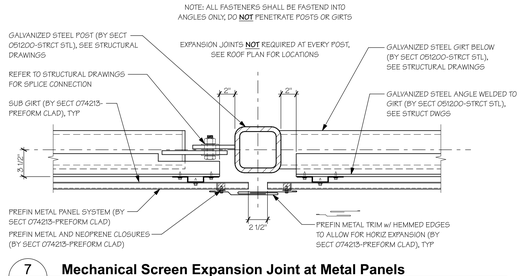
4 TYP **Mechanical Screen Section at Mid Girt**
SCALE: 1 1/2"= 1'-0"



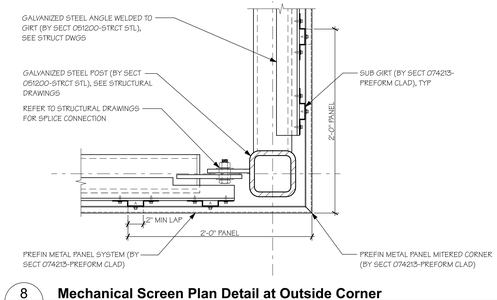
5 TYP **Mechanical Screen Section at Low Girt**
SCALE: 1 1/2"= 1'-0"



6 TYP **Mechanical Screen Plan Detail at End Wall**
SCALE: 1 1/2"= 1'-0"



7 TYP **Mechanical Screen Expansion Joint at Metal Panels**
SCALE: 1 1/2"= 1'-0"



8 TYP **Mechanical Screen Plan Detail at Outside Corner**
SCALE: 1 1/2"= 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Roof Details - Mechanical Screen

3.5.04

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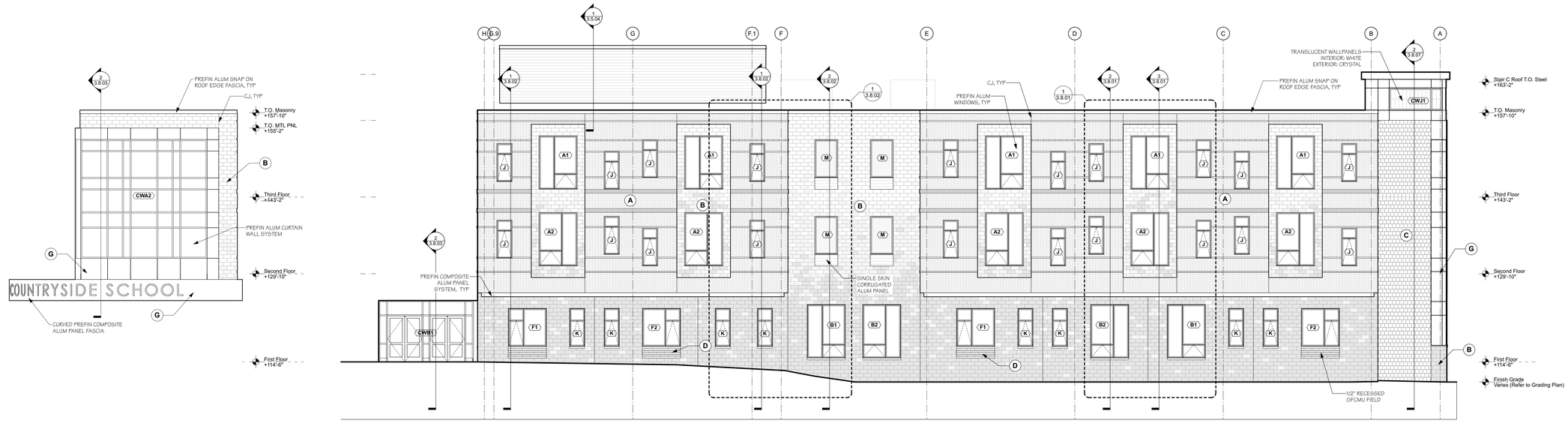

1 **North Elevation - Front Entrance**
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2 **North Elevation - Overall**
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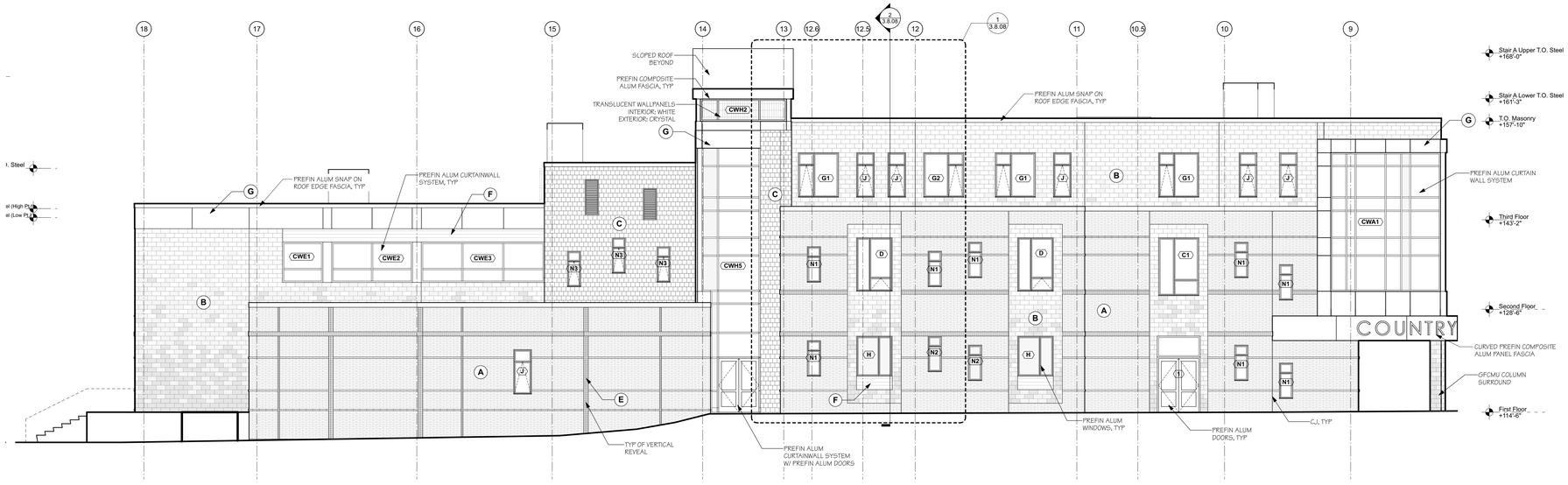

3 **East Elevation - Overall**
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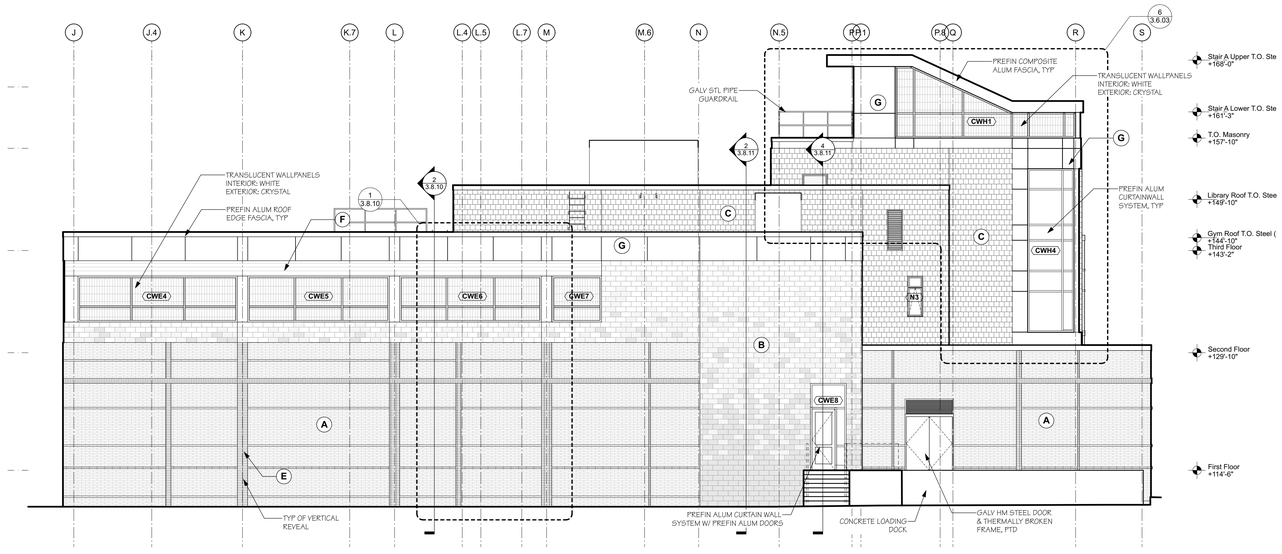

4 **South Elevation- Gymnasium**
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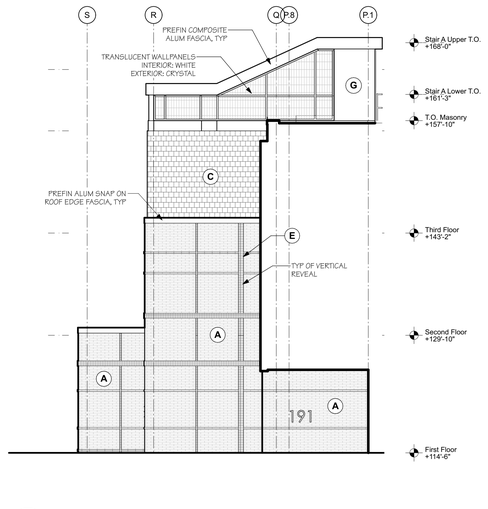

5 **North Elevation - Stair & Art**
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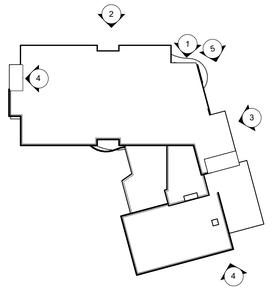

EXTERIOR WALL CLADDING GRAPHICS LEGEND

- A1 BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY VELOUR COLOR, NORMAN SIZE, RUNNING BOND
- A2 BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, MODULAR SIZE, SOLDIER BOND
- A3 BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, NORMAN SIZE, RUNNING BOND
- A4 BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), ROSE SMOOTH COLOR, NORMAN SIZE, RUNNING BOND
- B1 POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), P-107 COLOR, MODULAR SIZE, RUNNING BOND
- B2 POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 230B COLOR, MODULAR SIZE, RUNNING BOND
- B3 POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), ??? COLOR, MODULAR SIZE, RUNNING BOND
- C BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, TRIPLE SIZE, RUNNING BOND
- D POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), P-107 COLOR, HALF HEIGHT SIZE, RUNNING BOND
- E BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), MEDIUM IRONSPOT 46 SMOOTH COLOR, MODULAR SIZE, STACKING BOND
- F PREFIN SINGLE SKIN ALUM PANEL SYSTEM
- G PREFIN ALUM COMPOSITE PANEL SYSTEM

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Exterior Elevations

3.6.01

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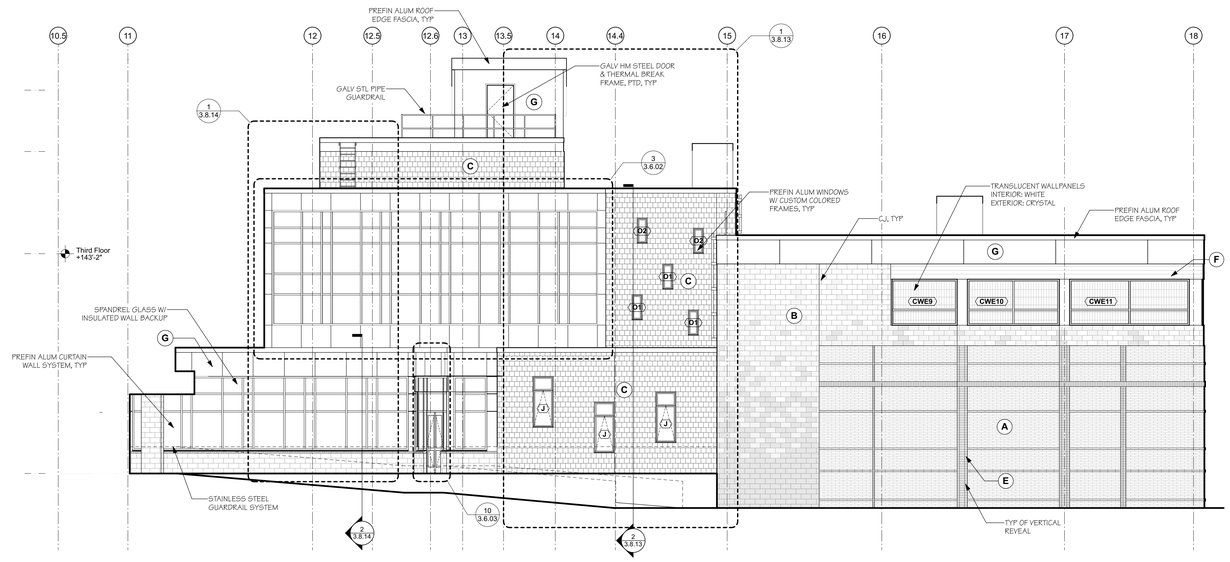
1 **South Elevation - Academic Wing**
SCALE: 1/8" = 1'-0"



2 **West Elevation - Gymnasium & Cafeteria**
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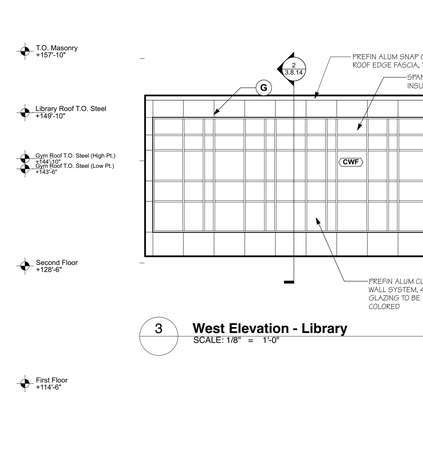

3 **West Elevation - Library**
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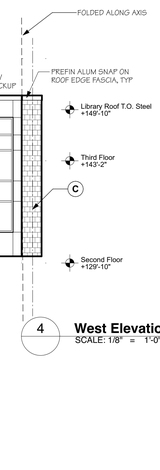
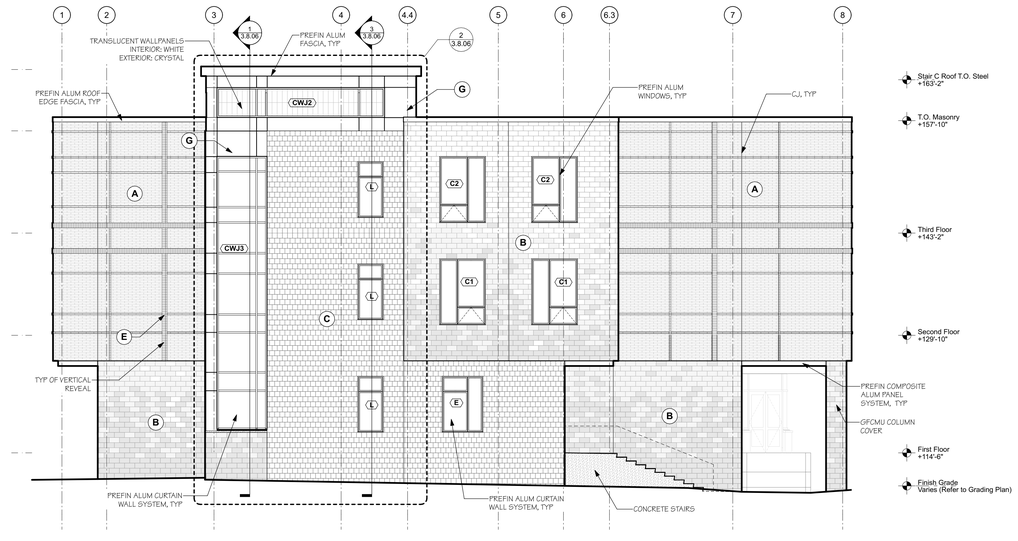
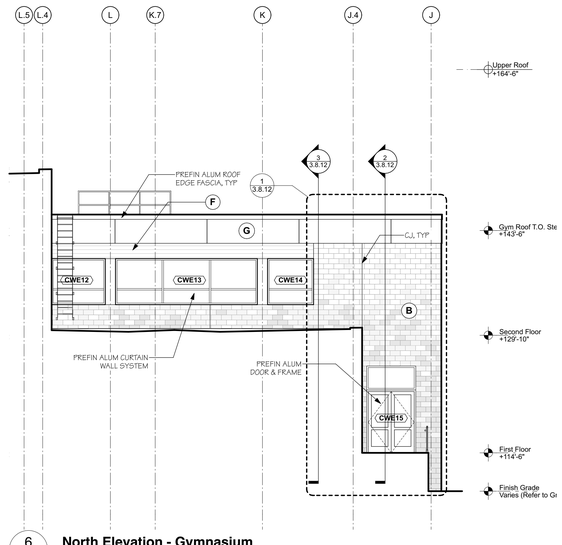


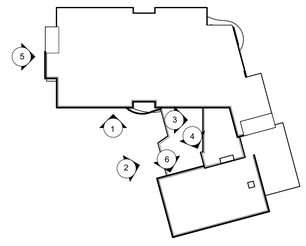
4 **West Elevation - Library North Side**
SCALE: 1/8" = 1'-0"



5 **West Elevation - Academic Wing**
SCALE: 1/8" = 1'-0"



6 **North Elevation - Gymnasium**
SCALE: 1/8" = 1'-0"



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- A — A1: BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY VELOUR COLOR, NORMAN SIZE, RUNNING BOND
- A — A2: BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, MODULAR SIZE, SOLDIER BOND
- A — A3: BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, NORMAN SIZE, RUNNING BOND
- A — A4: BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), ROSE SMOOTH COLOR, NORMAN SIZE, RUNNING BOND
- B — B1: POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), P-107 COLOR, MODULAR SIZE, RUNNING BOND
- B — B2: POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), ZC09 COLOR, MODULAR SIZE, RUNNING BOND
- B — B3: POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 777 COLOR, MODULAR SIZE, RUNNING BOND
- C: BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, TRIPLE SIZE, RUNNING BOND
- D: POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), P-107 COLOR, HALF HEIGHT SIZE, RUNNING BOND
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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Exterior Elevations

3.6.02

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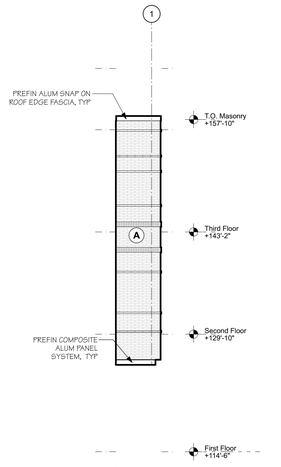
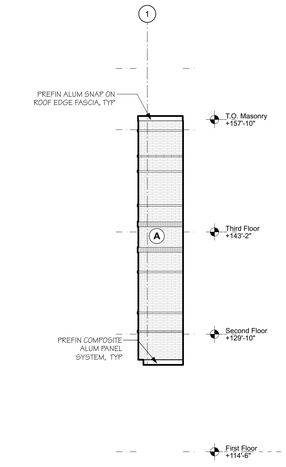


1 **North Elevation - Academic Wing (East Side)**
SCALE: 1/8" = 1'-0"



2 **North Elevation - Academic Wing (West Side)**
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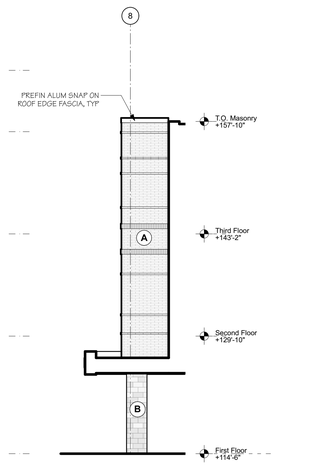
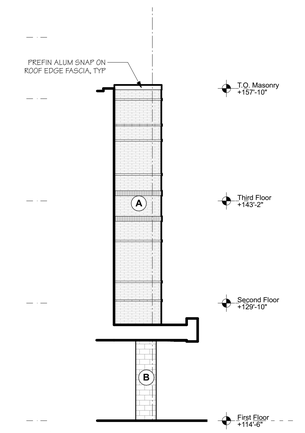
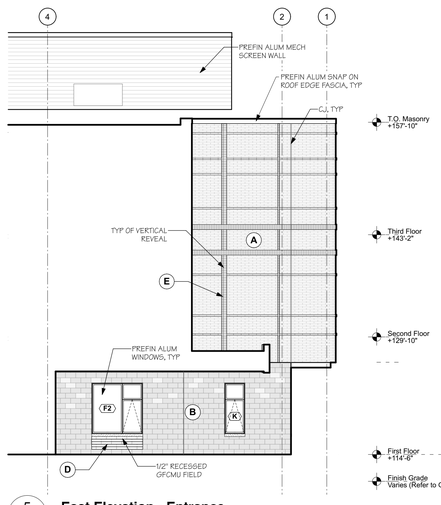


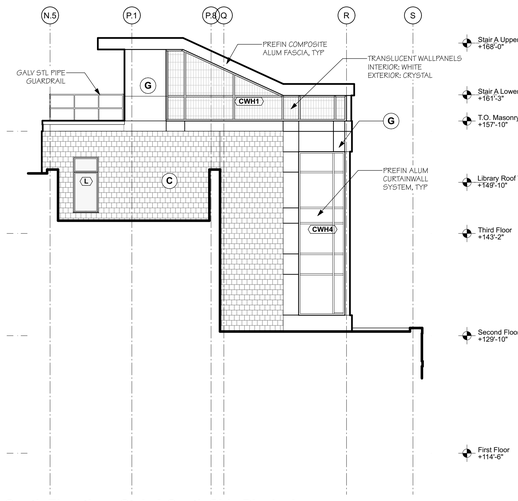
3 **South Elevation - Academic Wing (East Side)**
SCALE: 1/8" = 1'-0"



4 **South Elevation - Academic Wing (West Side)**
SCALE: 1/8" = 1'-0"



5 **East Elevation - Entrance**
SCALE: 1/8" = 1'-0"



6 **South Elevation - Stair A South Side Blocked**
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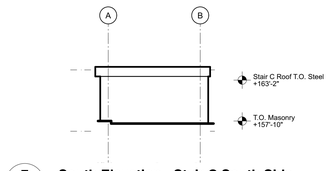
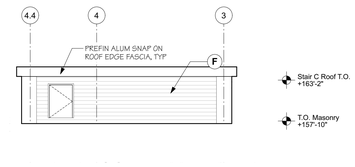


7 **South Elevation - Stair C South Side**
SCALE: 1/8" = 1'-0"



8 **East Elevation - Stair C Roof**
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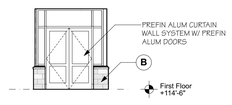

9 **West Elevation - Playground Entrance**
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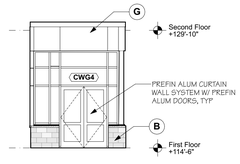
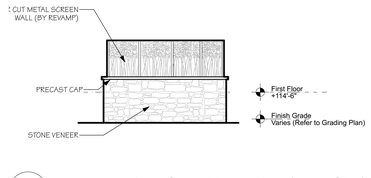
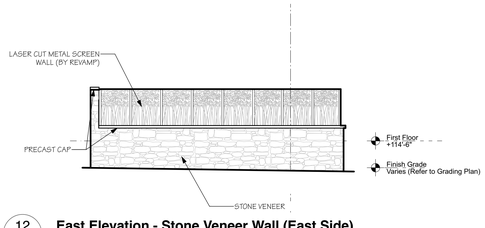


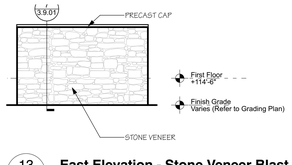
10 **North Elevation - Cafeteria Entrance**
SCALE: 1/8" = 1'-0"



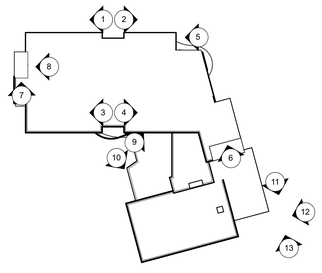
11 **East Elevation - Stone Veneer Wall (North Side)**
SCALE: 1/8" = 1'-0"



12 **East Elevation - Stone Veneer Wall (East Side)**
SCALE: 1/8" = 1'-0"



13 **East Elevation - Stone Veneer Blast Wall (South Side)**
SCALE: 1/8" = 1'-0"



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- A — A2: BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, MODULAR SIZE, SOLDIER BOND
- A — A3: BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, NORMAN SIZE, RUNNING BOND
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- B — B1: POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), P-107 COLOR, MODULAR SIZE, RUNNING BOND
- B — B2: POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 2308 COLOR, MODULAR SIZE, RUNNING BOND
- B — B3: POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 777 COLOR, MODULAR SIZE, RUNNING BOND
- C: BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, TRIPLE SIZE, RUNNING BOND
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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Exterior Elevations

3.6.03

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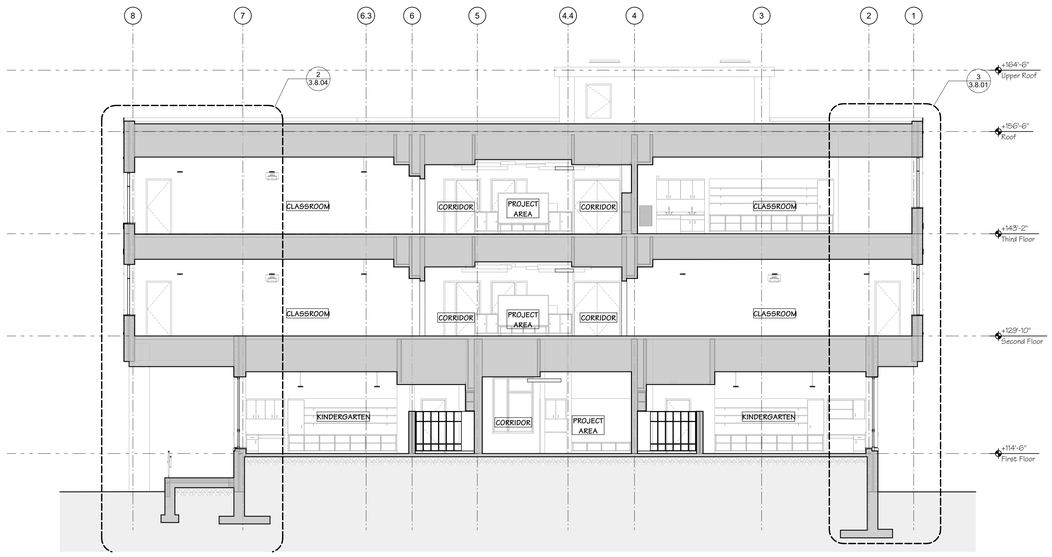
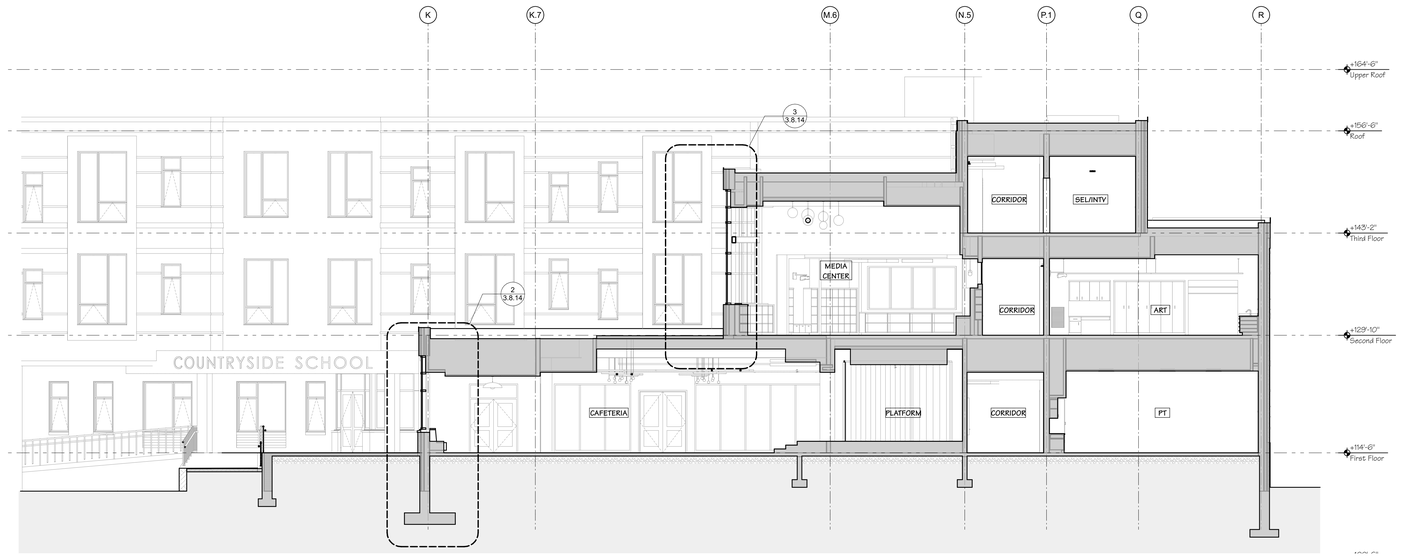


1 **Academic - Cross Section**
SCALE: 1/8" = 1'-0"



2 **Cafe/Library - Cross Section**
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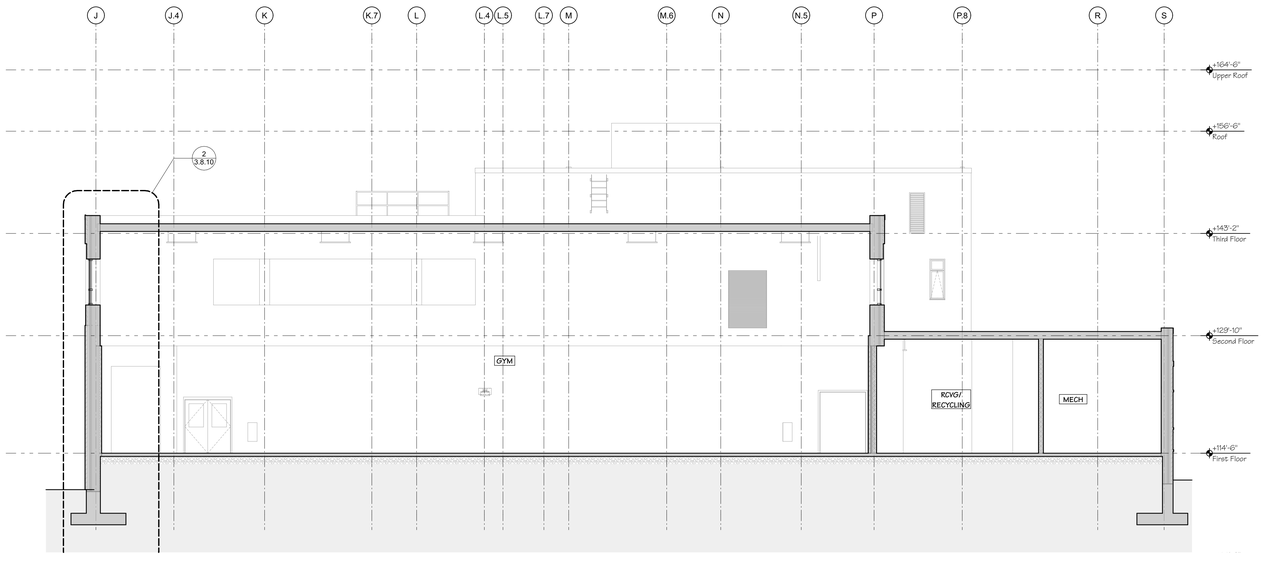

3 **Gym - Cross Section**
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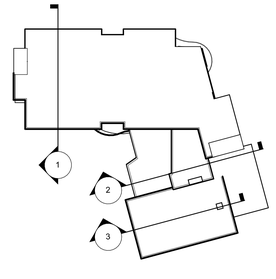

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KEY PLAN

NORTH ARROW | STAMP

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Building Sections

3.7.01

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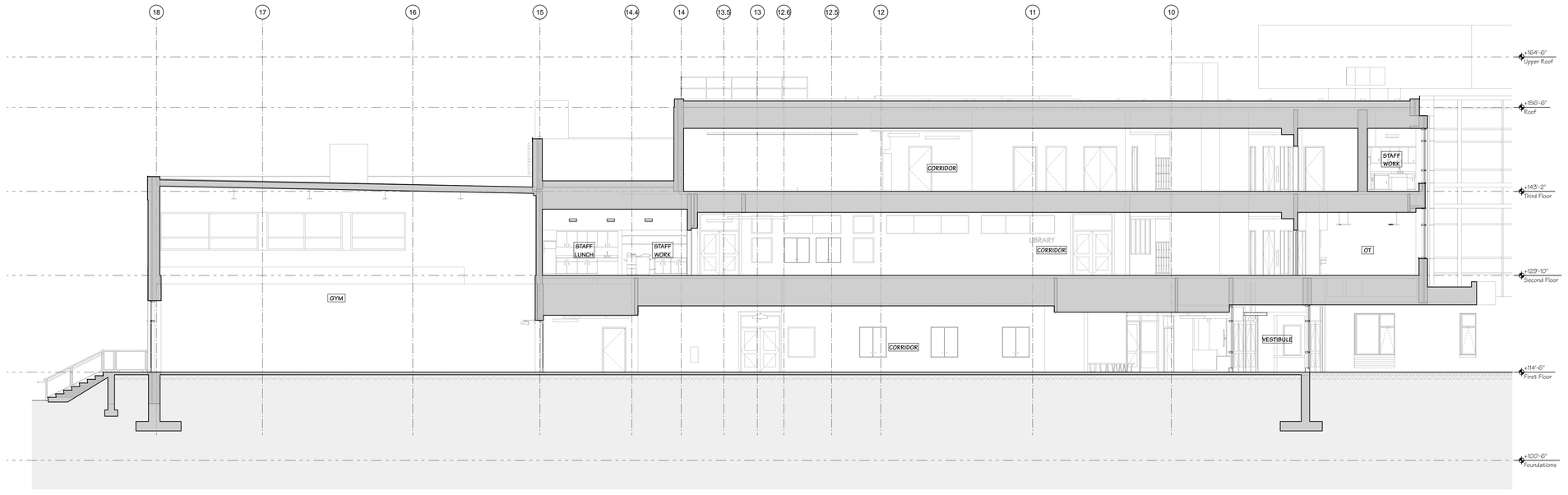
1 **Academic - Longitudinal Section**
SCALE: 1/8" = 1'-0"



2 **Gym/Cafe - Longitudinal Section**
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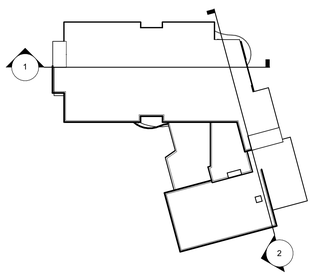

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Number	Date	Description

DESIGN DEVELOPMENT

Building Sections

3.7.02

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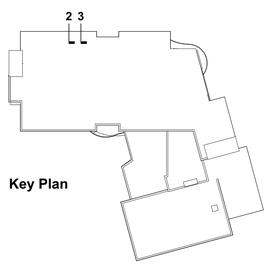
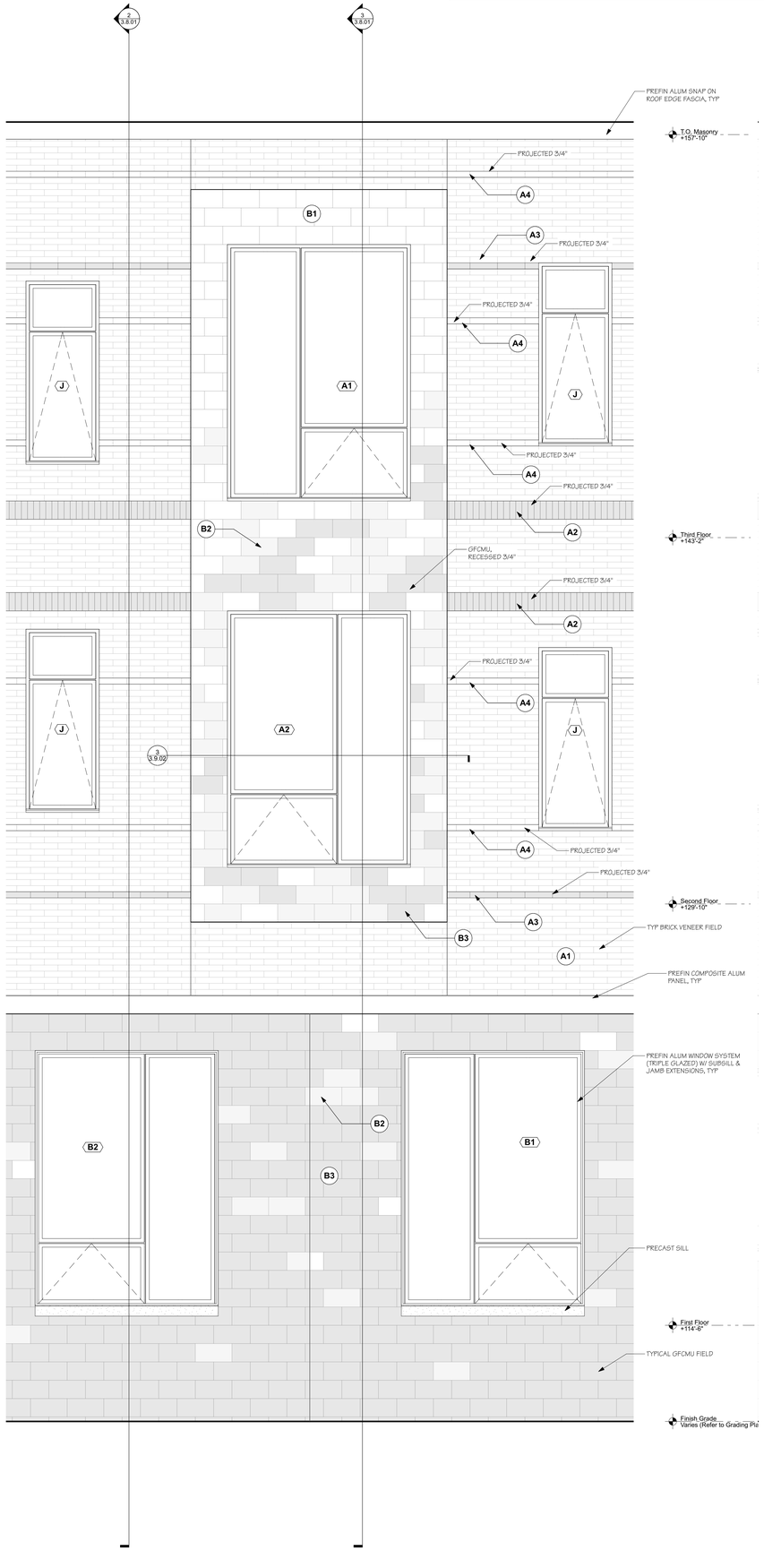
EXTERIOR WALL CLADDING GRAPHICS LEGEND

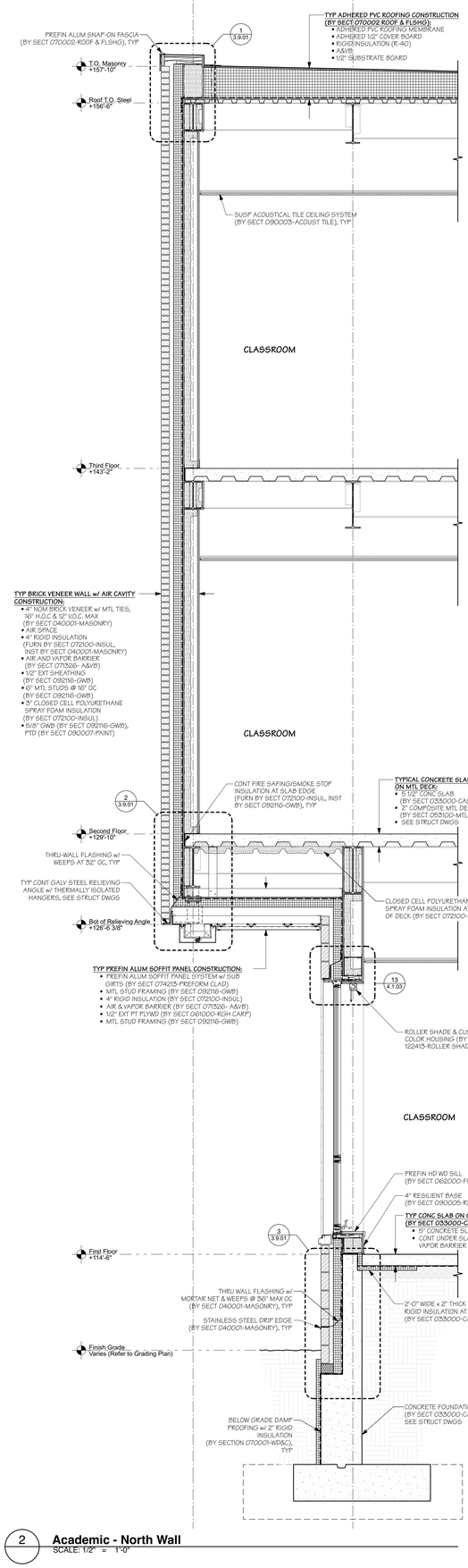
A1	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY VELOUR COLOR, NORMAN SIZE, RUNNING BOND	B1	POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), P-107 COLOR, MODULAR SIZE, RUNNING BOND
A2	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, MODULAR SIZE, SOLDIER BOND	B2	POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 2308 COLOR, MODULAR SIZE, RUNNING BOND
A3	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, NORMAN SIZE, RUNNING BOND	B3	POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), ??? COLOR, MODULAR SIZE, RUNNING BOND
A4	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), ROSE SMOOTH COLOR, NORMAN SIZE, RUNNING BOND		



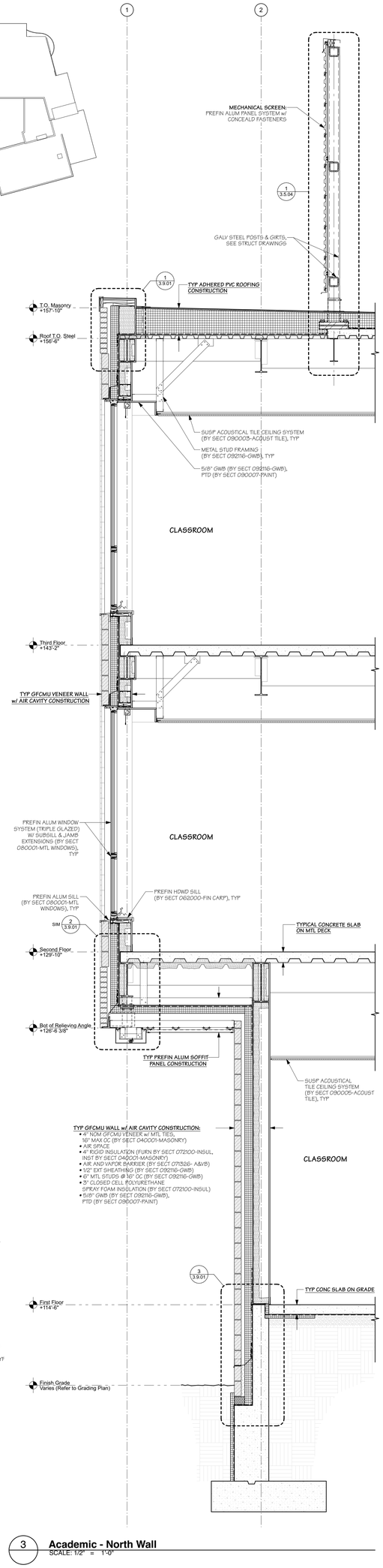
Key Plan



1 **Enlarged North Academic Wing Elevation**
SCALE: 1/2" = 1'-0"



2 **Academic - North Wall**
SCALE: 1/2" = 1'-0"



3 **Academic - North Wall**
SCALE: 1/2" = 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: 0 2 4

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Wall Sections

3.8.01

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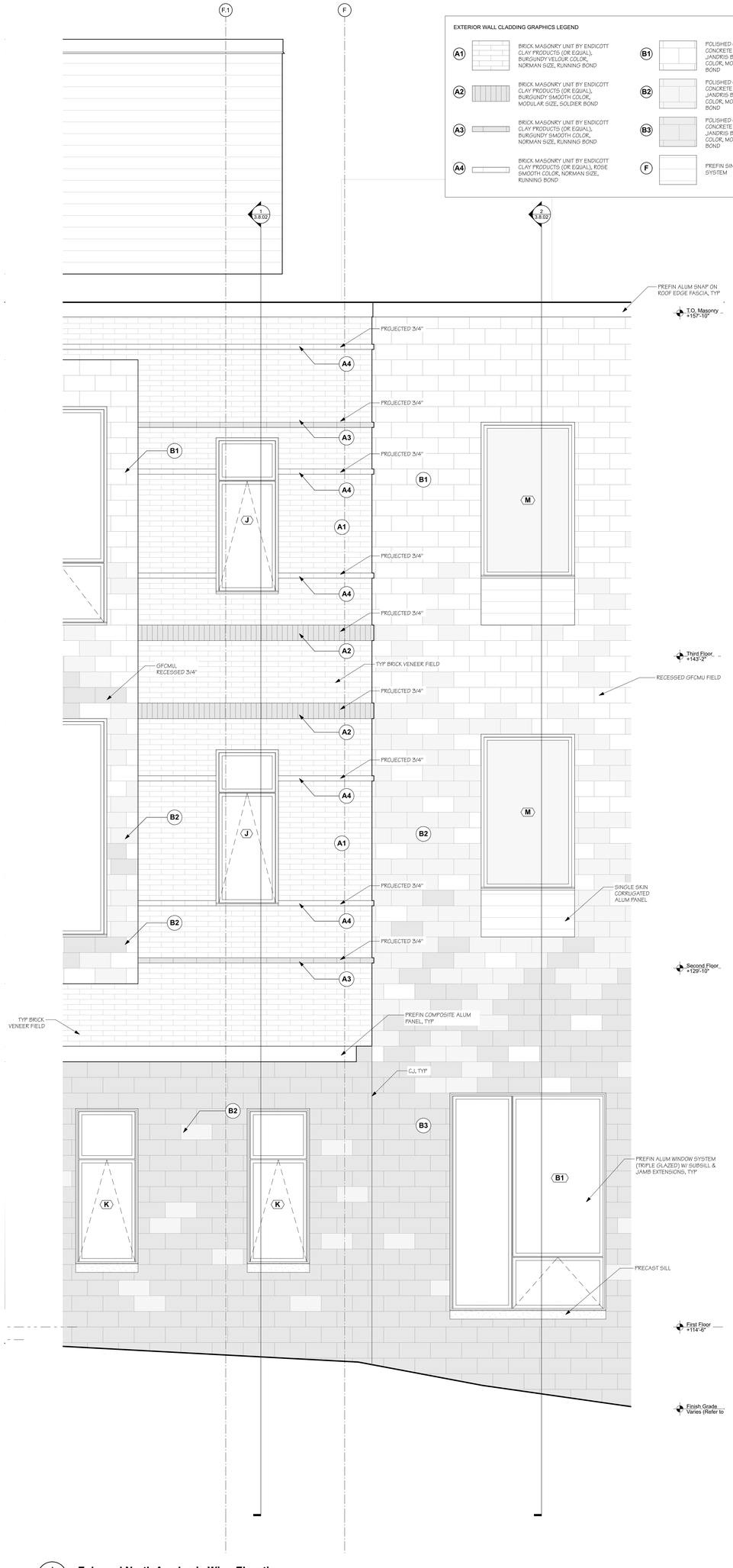
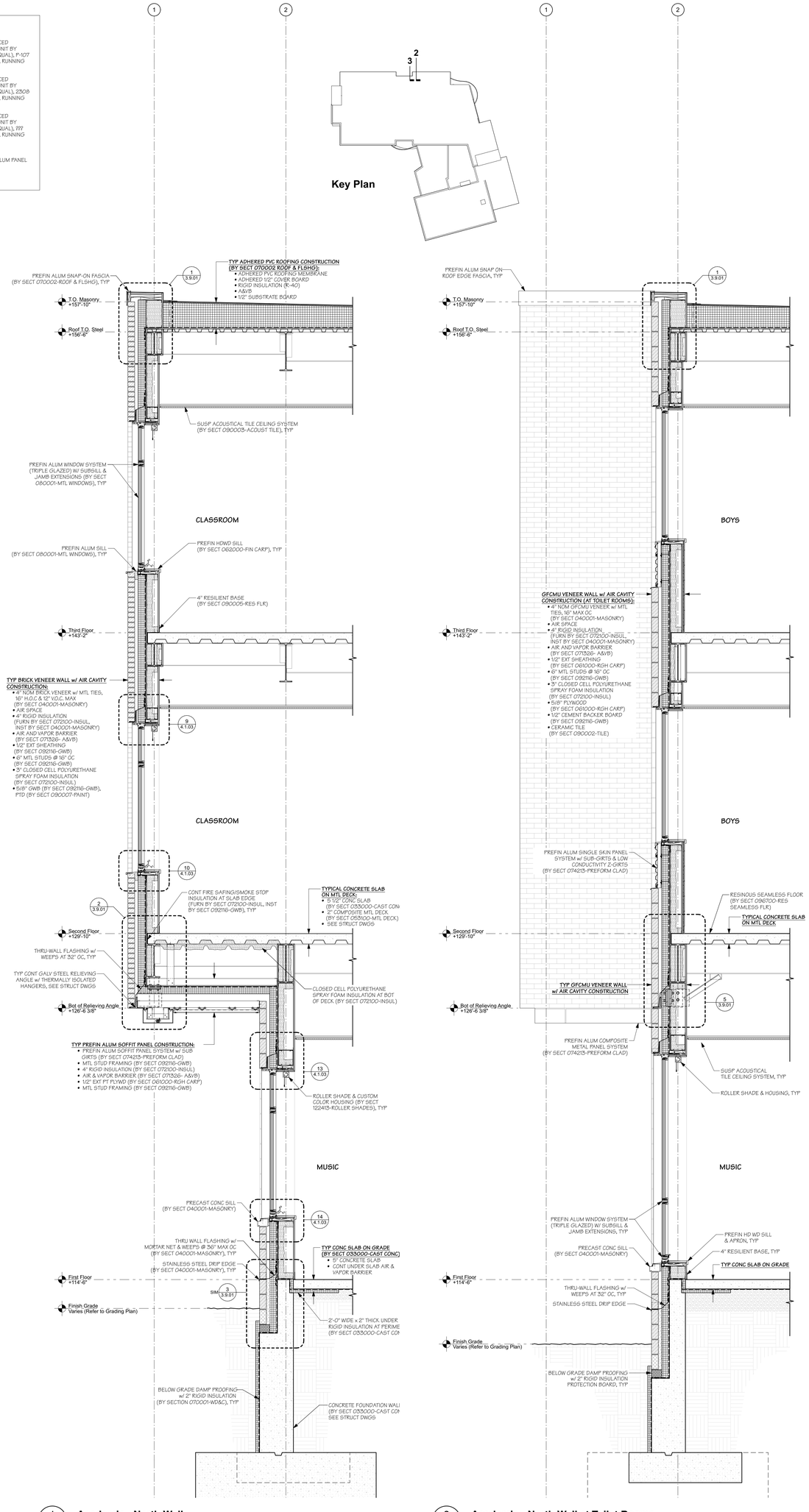
EXTERIOR WALL CLADDING GRAPHICS LEGEND

A1	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY VELOUR COLOR, NORMAN SIZE, RUNNING BOND	B1	POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), P-107 COLOR, MODULAR SIZE, RUNNING BOND
A2	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, MODULAR SIZE, SOLDIER BOND	B2	POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 2308 COLOR, MODULAR SIZE, RUNNING BOND
A3	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, NORMAN SIZE, RUNNING BOND	B3	POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), ??? COLOR, MODULAR SIZE, RUNNING BOND
A4	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), ROSE SMOOTH COLOR, NORMAN SIZE, RUNNING BOND	F	PREFIN SINGLE SKIN ALUM PANEL SYSTEM



1 **Enlarged North Academic Wing Elevation**
SCALE: 1/2" = 1'-0"



1 **Academic - North Wall**
SCALE: 1/2" = 1'-0"

2 **Academic - North Wall at Toilet Rooms**
SCALE: 1/2" = 1'-0"

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KEY PLAN

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DESIGN DEVELOPMENT

Wall Sections

3.8.02

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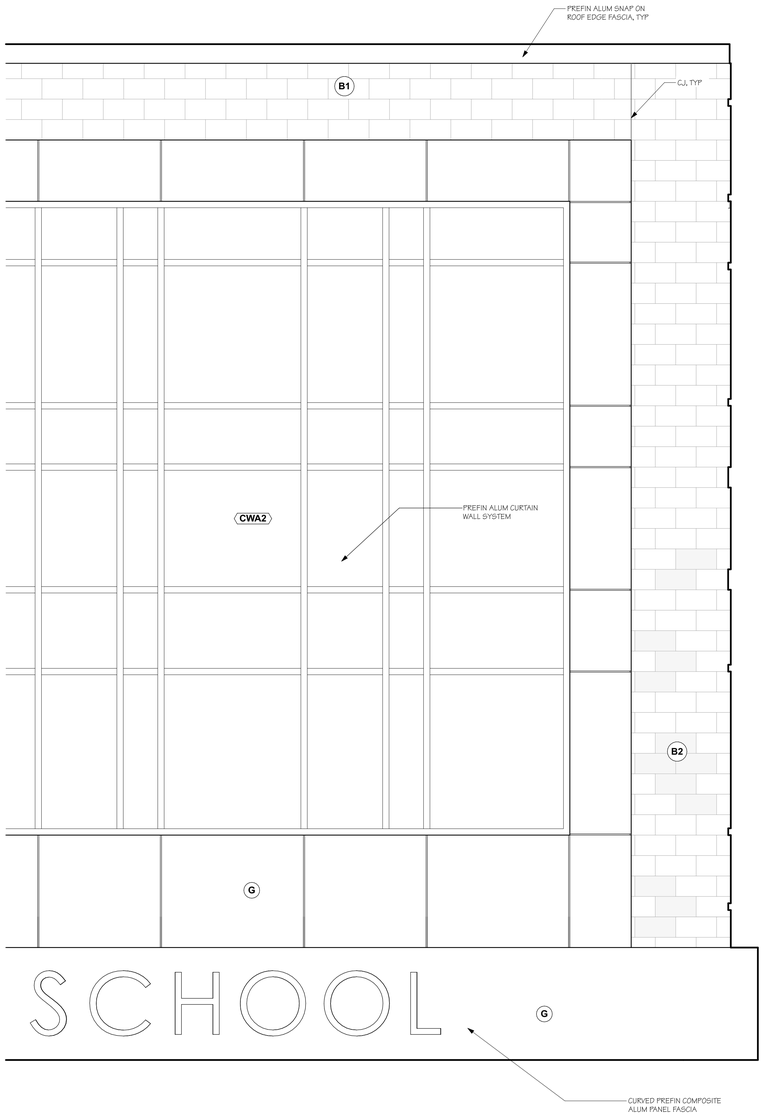
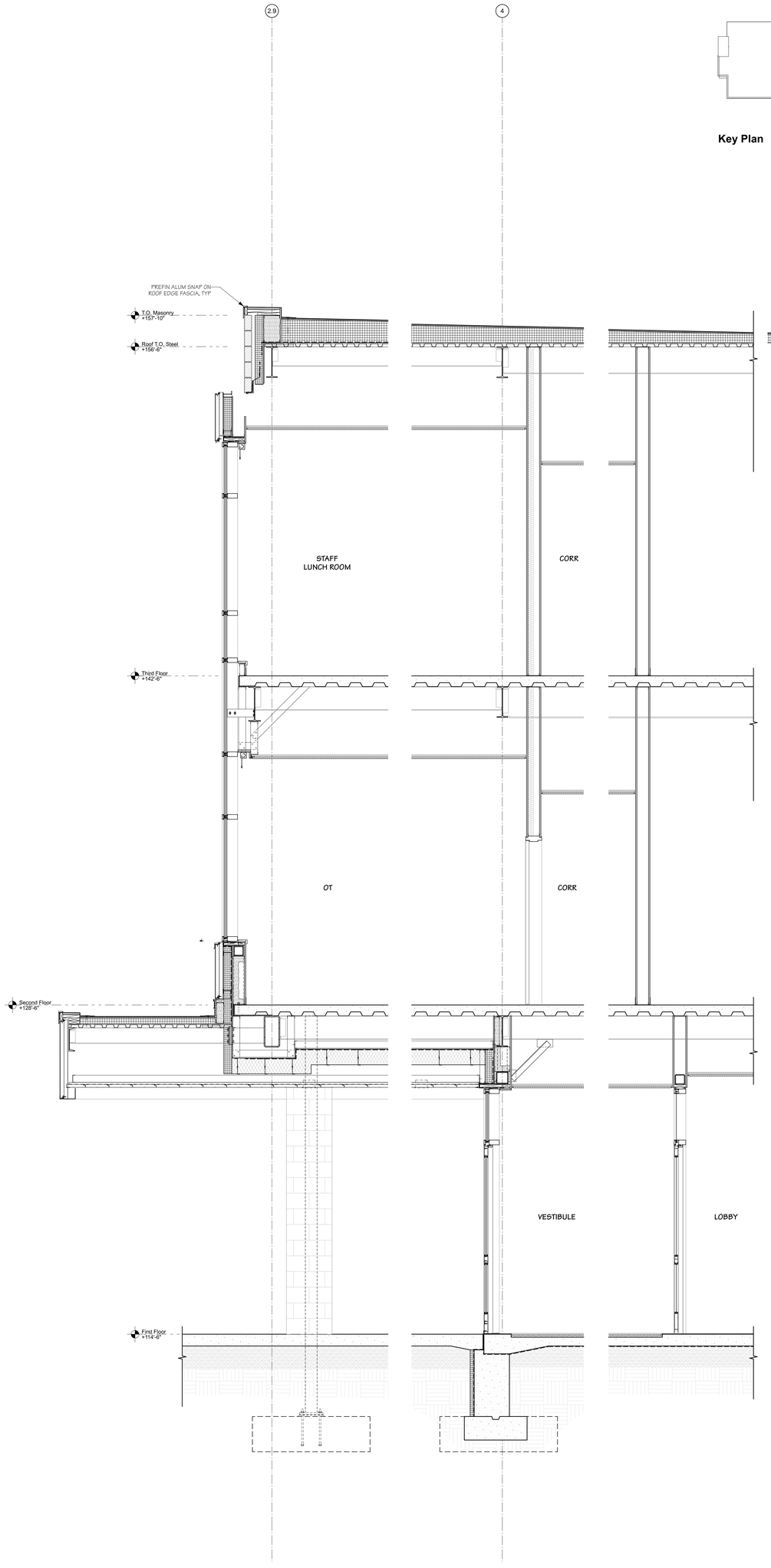
EXTERIOR WALL CLADDING GRAPHICS LEGEND

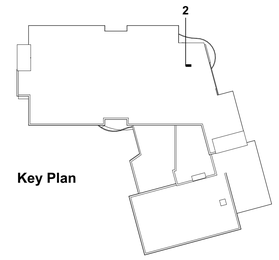
- B1 — POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), P-107 COLOR, MODULAR SIZE, RUNNING BOND
- B2 — POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 2308 COLOR, MODULAR SIZE, RUNNING BOND
- B3 — POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 777 COLOR, MODULAR SIZE, RUNNING BOND
- G — PREFIN ALUM COMPOSITE PANEL SYSTEM



1 **Enlarged North Elevation - Front Plaza**
SCALE: 1/2" = 1'-0"



2 **Main Entry at Vestibule**
SCALE: 1/2" = 1'-0"



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DESIGN DEVELOPMENT

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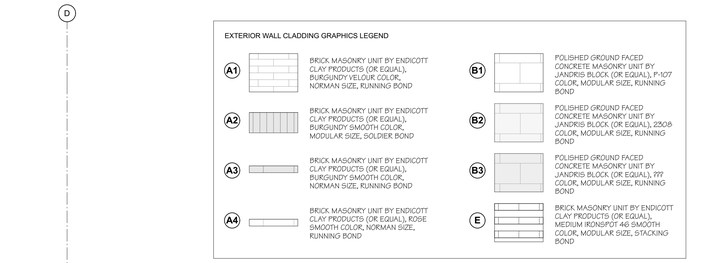
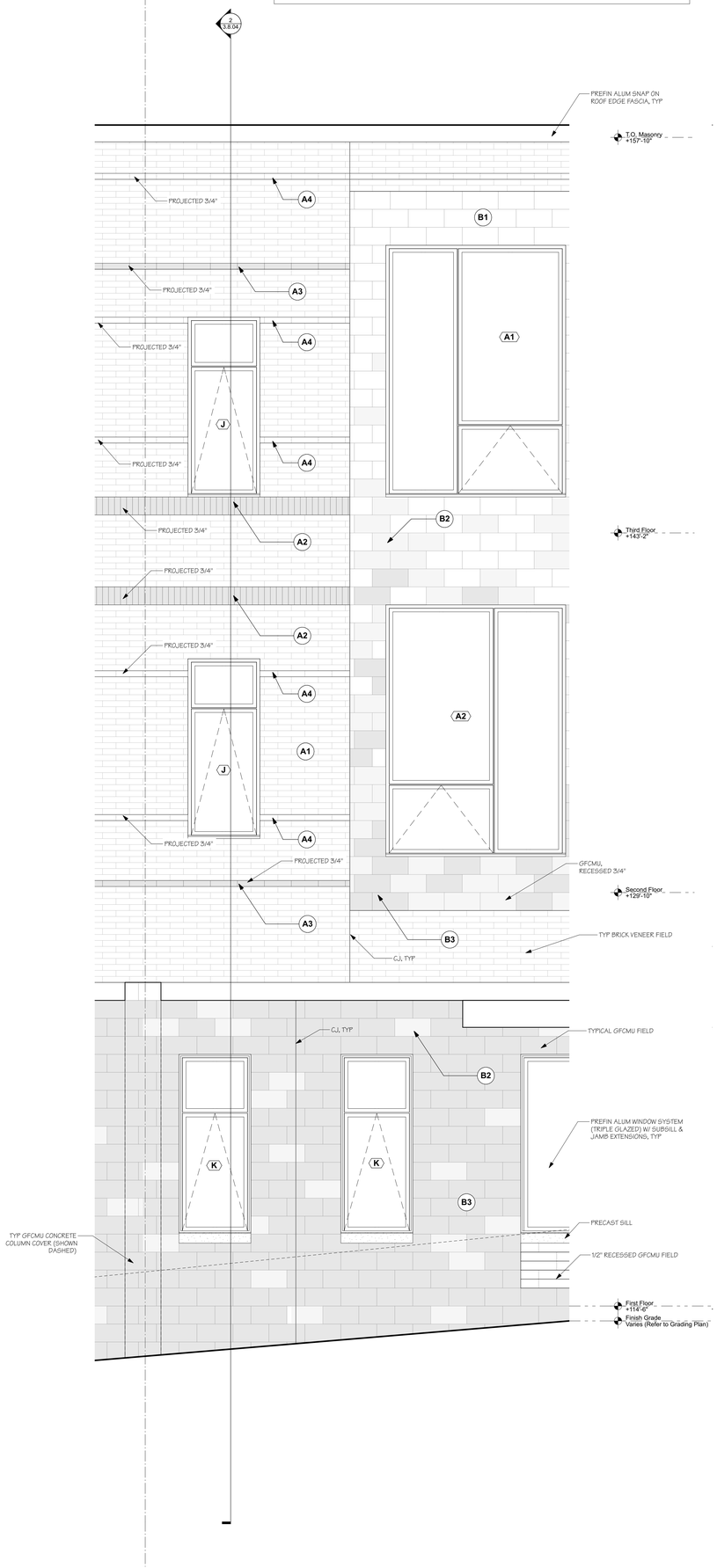
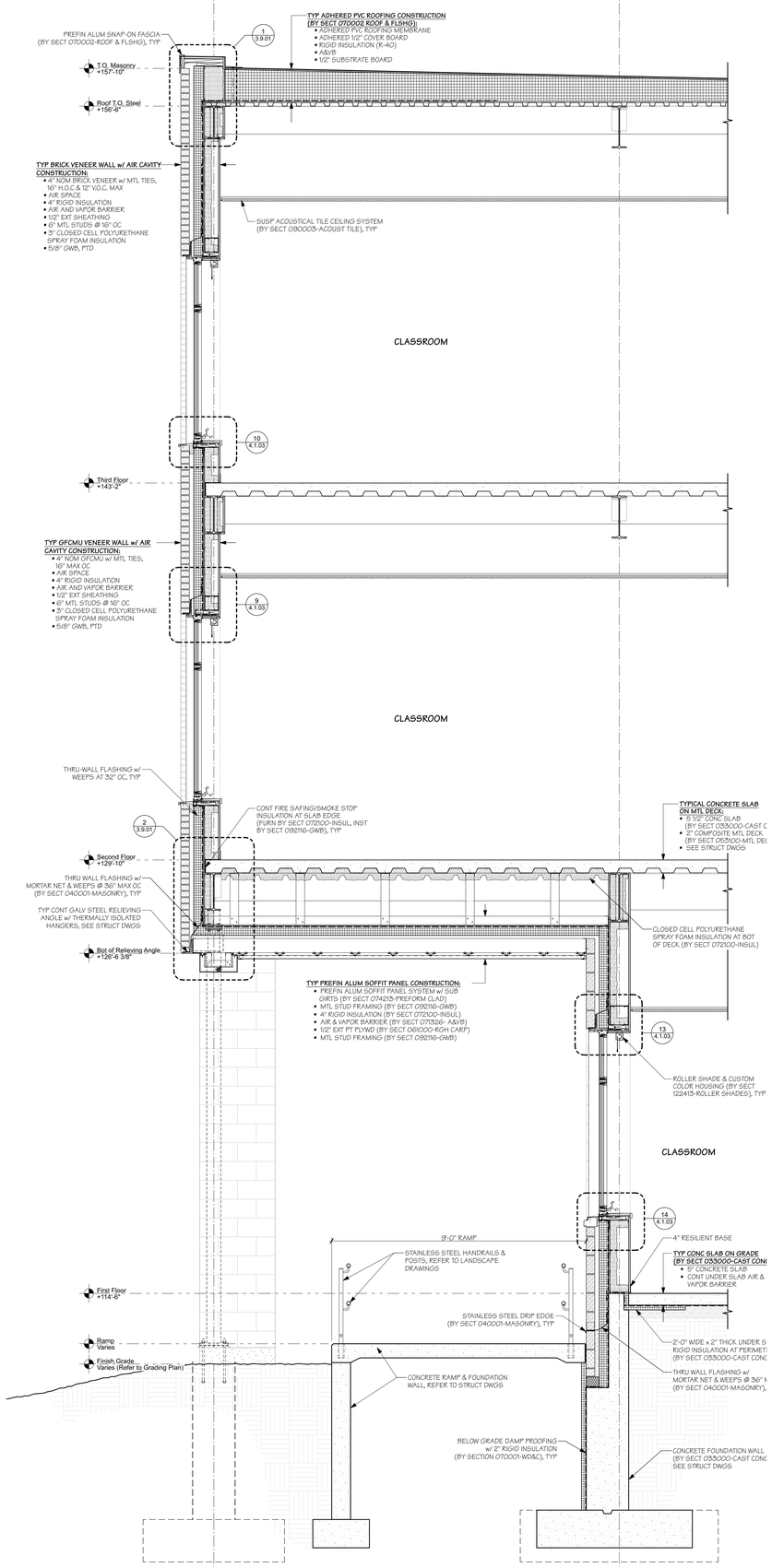
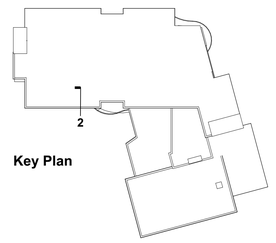




1 **Enlarged South Academic Wing Elevation**
SCALE: 1/2" = 1'-0"



2 **Academic - South Wall at Ramp**
SCALE: 1/2" = 1'-0"



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KEY PLAN

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Number	Date	Description

DESIGN DEVELOPMENT

Wall Sections

3.8.04

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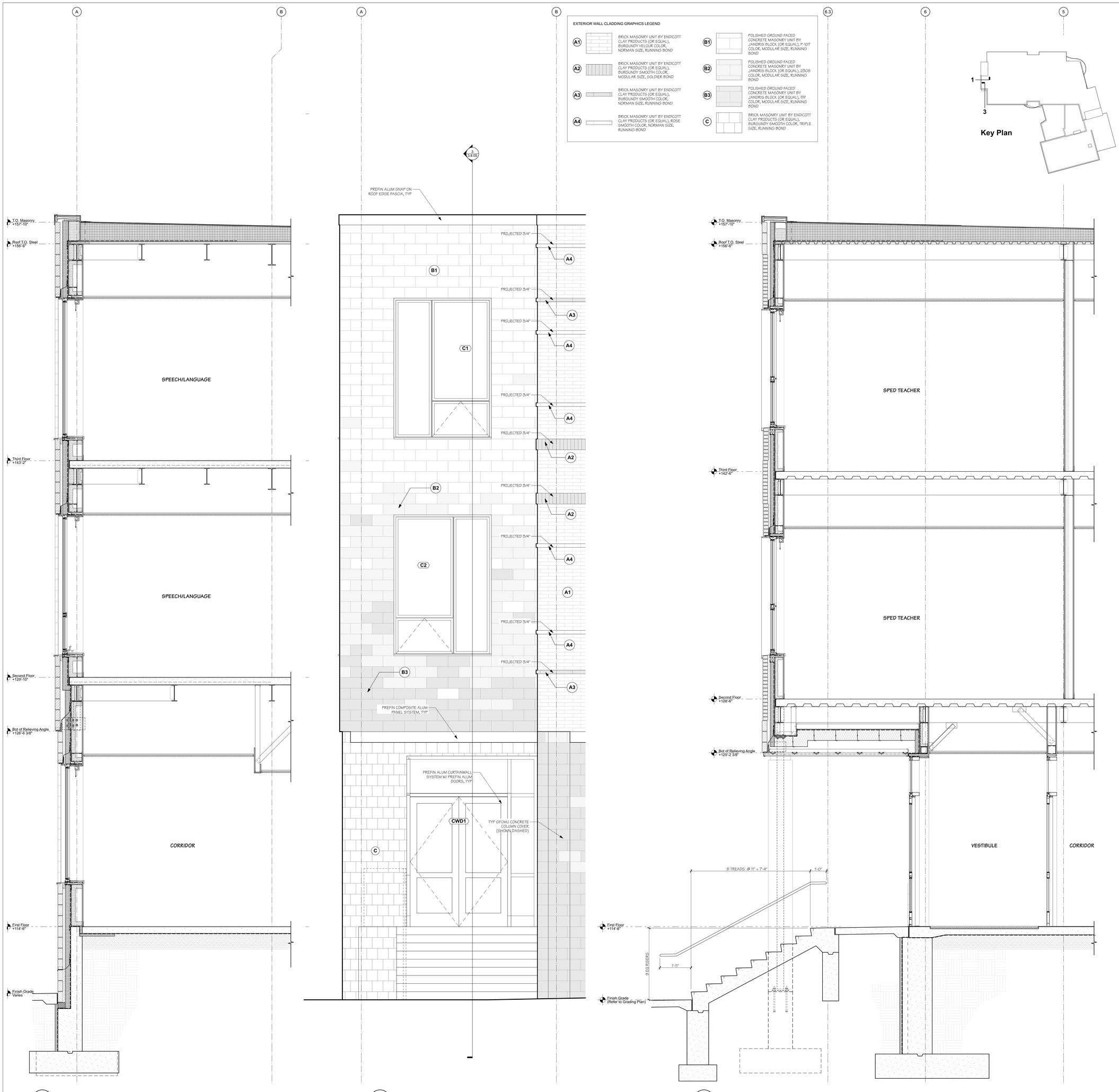

1 **Academic - West Wall**
SCALE: 1/2" = 1'-0"

2 **Enlarged South Academic Wing Elevation**
SCALE: 1/2" = 1'-0"

3 **Academic - South Wall at Vestibule**
SCALE: 1/2" = 1'-0"

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KEY PLAN

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Revisions

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DESIGN DEVELOPMENT

Wall Sections

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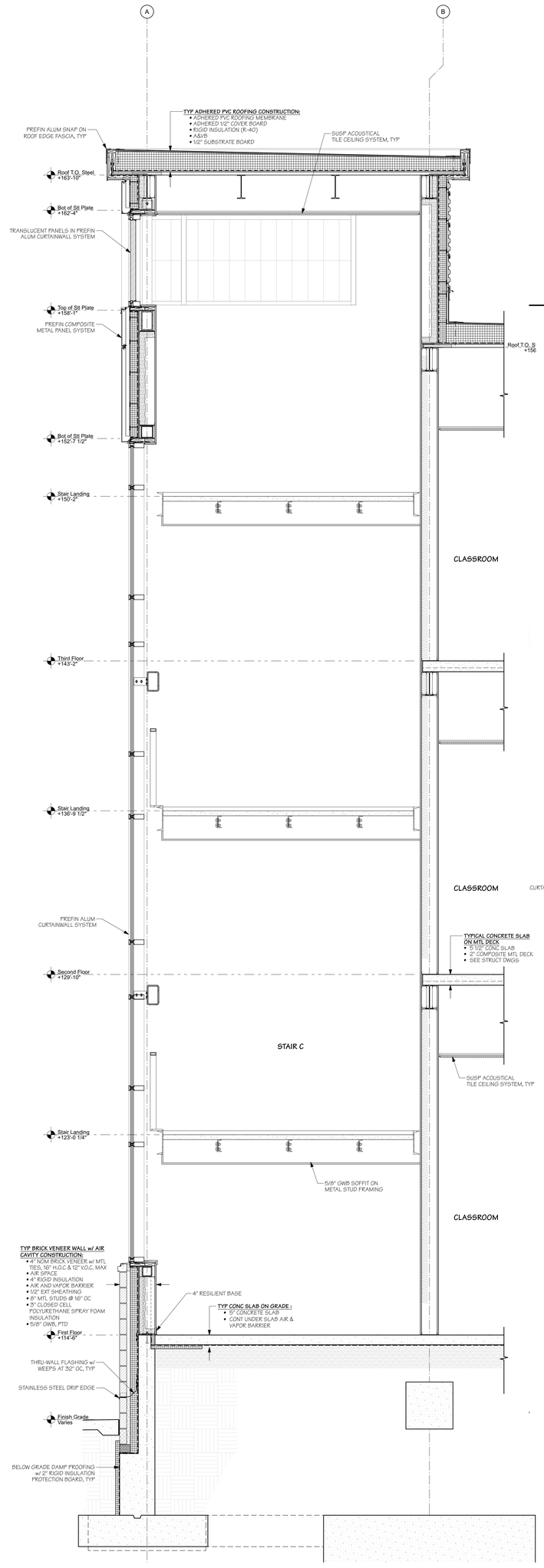
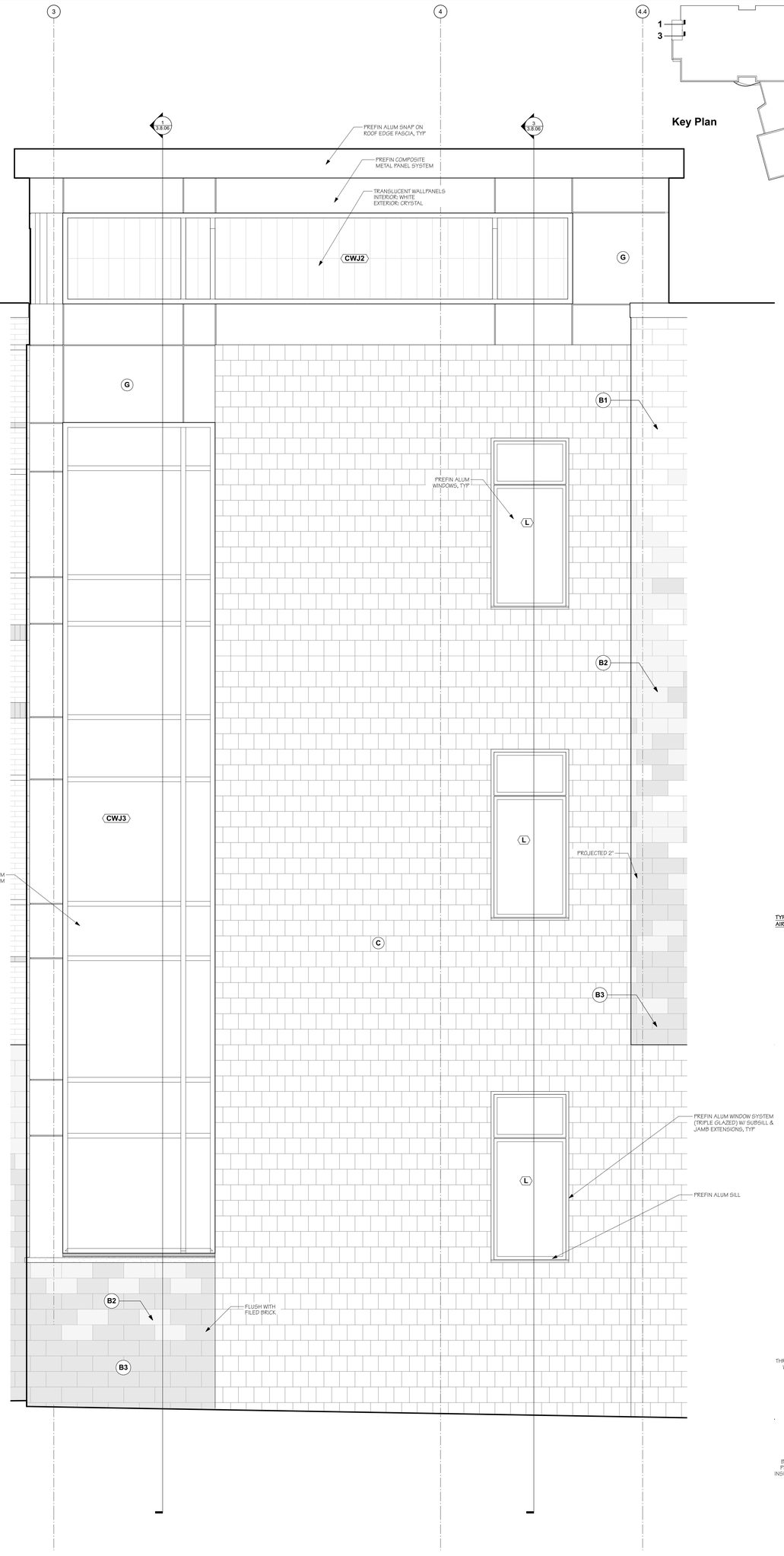
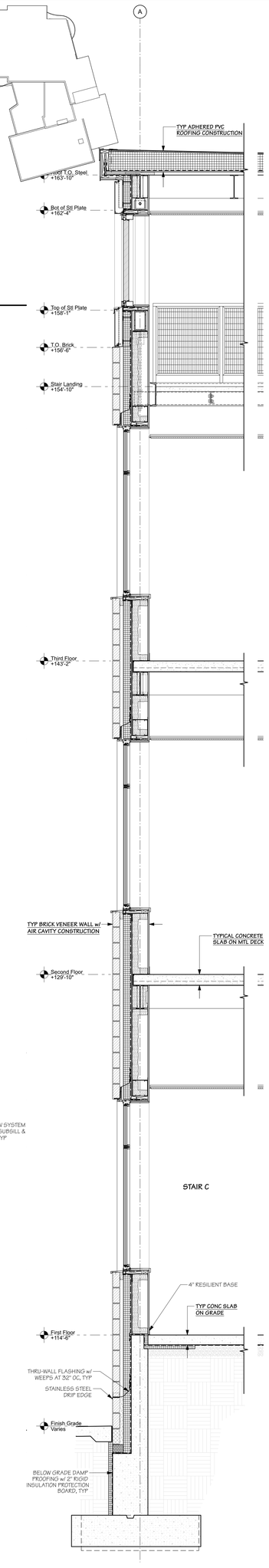


1 **Stair C - West Wall at Curtainwall**
SCALE: 1/2" = 1'-0"



2 **Enlarged West Elevation - Stair C**
SCALE: 1/2" = 1'-0"



3 **Stair C - West Wall at Brick Veneer**
SCALE: 1/2" = 1'-0"

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KEY PLAN

NORTH ARROW STAMP

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Scale: 0 2 4

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Wall Sections

3.8.06

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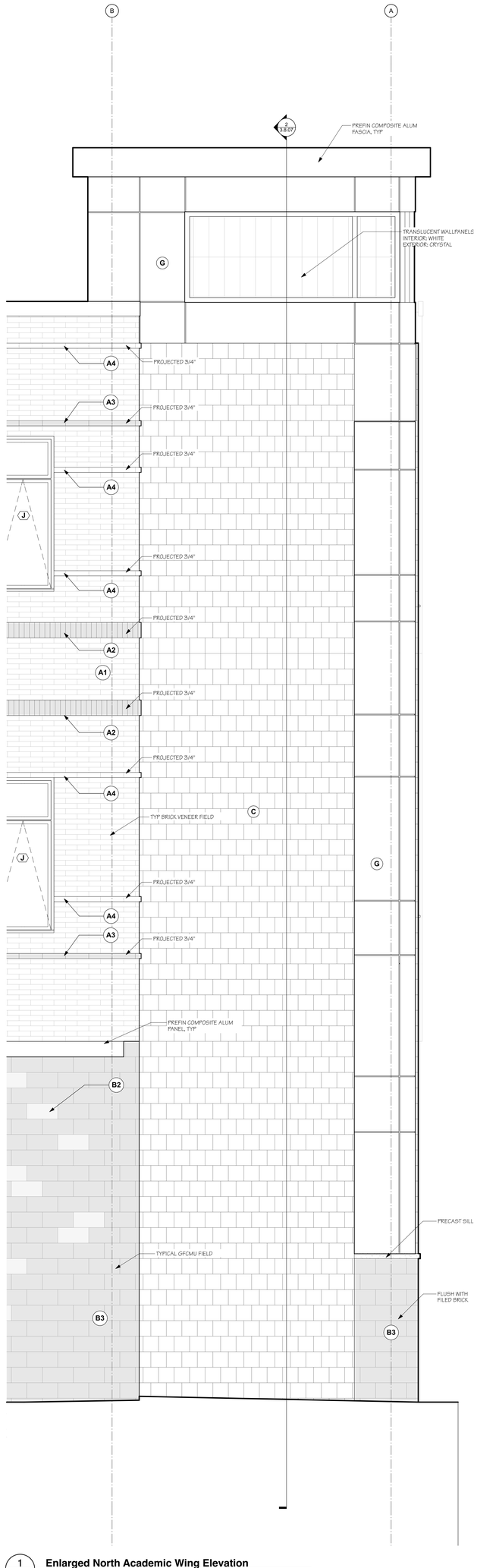
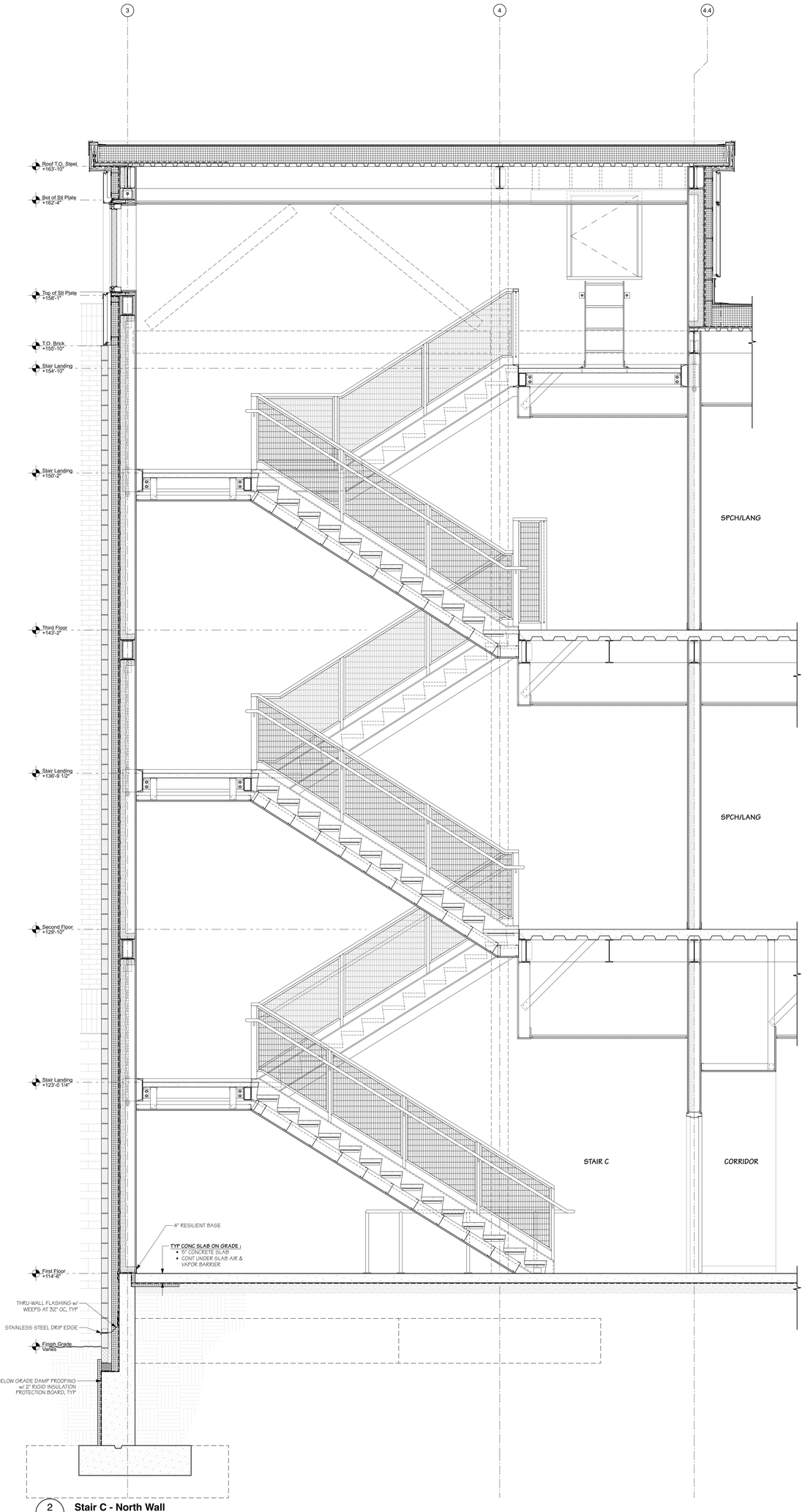
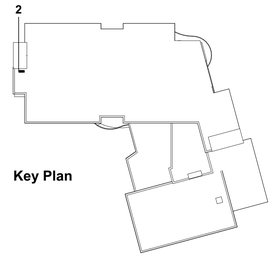


1 **Enlarged North Academic Wing Elevation**
SCALE: 1/2" = 1'-0"



2 **Stair C - North Wall**
SCALE: 1/2" = 1'-0"



Key Plan

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: 0 2 4

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Wall Sections

3.8.07

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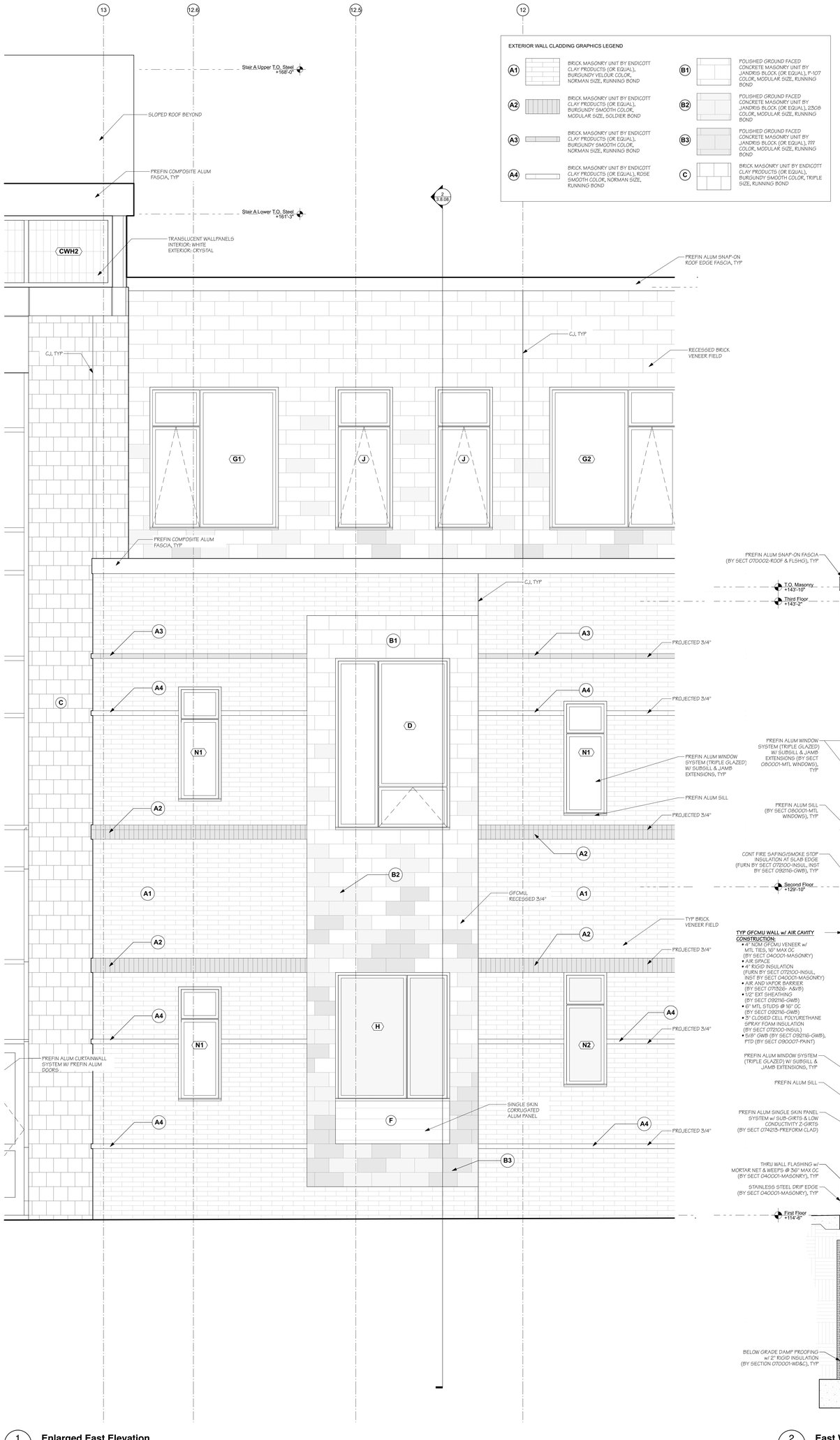
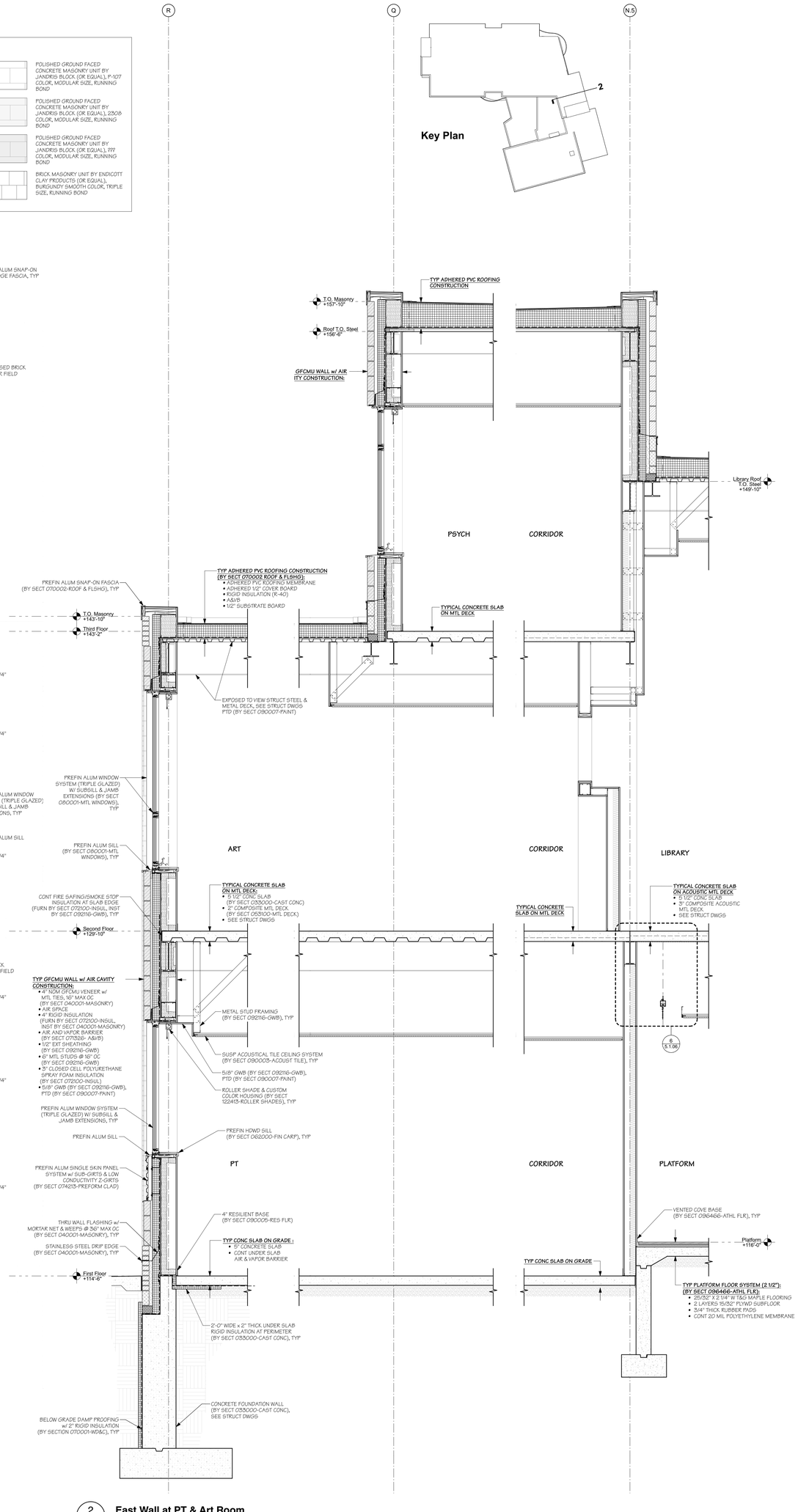


1 **Enlarged East Elevation**
SCALE: 1/2" = 1'-0"

EXTERIOR WALL CLADDING GRAPHICS LEGEND

A1	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY VELOUR COLOR, NORMAN SIZE, RUNNING BOND	B1	POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), P-107 COLOR, MODULAR SIZE, RUNNING BOND
A2	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, MODULAR SIZE, SOLDIER BOND	B2	POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 2308 COLOR, MODULAR SIZE, RUNNING BOND
A3	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, NORMAN SIZE, RUNNING BOND	B3	POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), ??? COLOR, MODULAR SIZE, RUNNING BOND
A4	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), ROSE SMOOTH COLOR, NORMAN SIZE, RUNNING BOND	C	BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, TRIPLE SIZE, RUNNING BOND



2 **East Wall at PT & Art Room**
SCALE: 1/2" = 1'-0"

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Wall Sections

3.8.08

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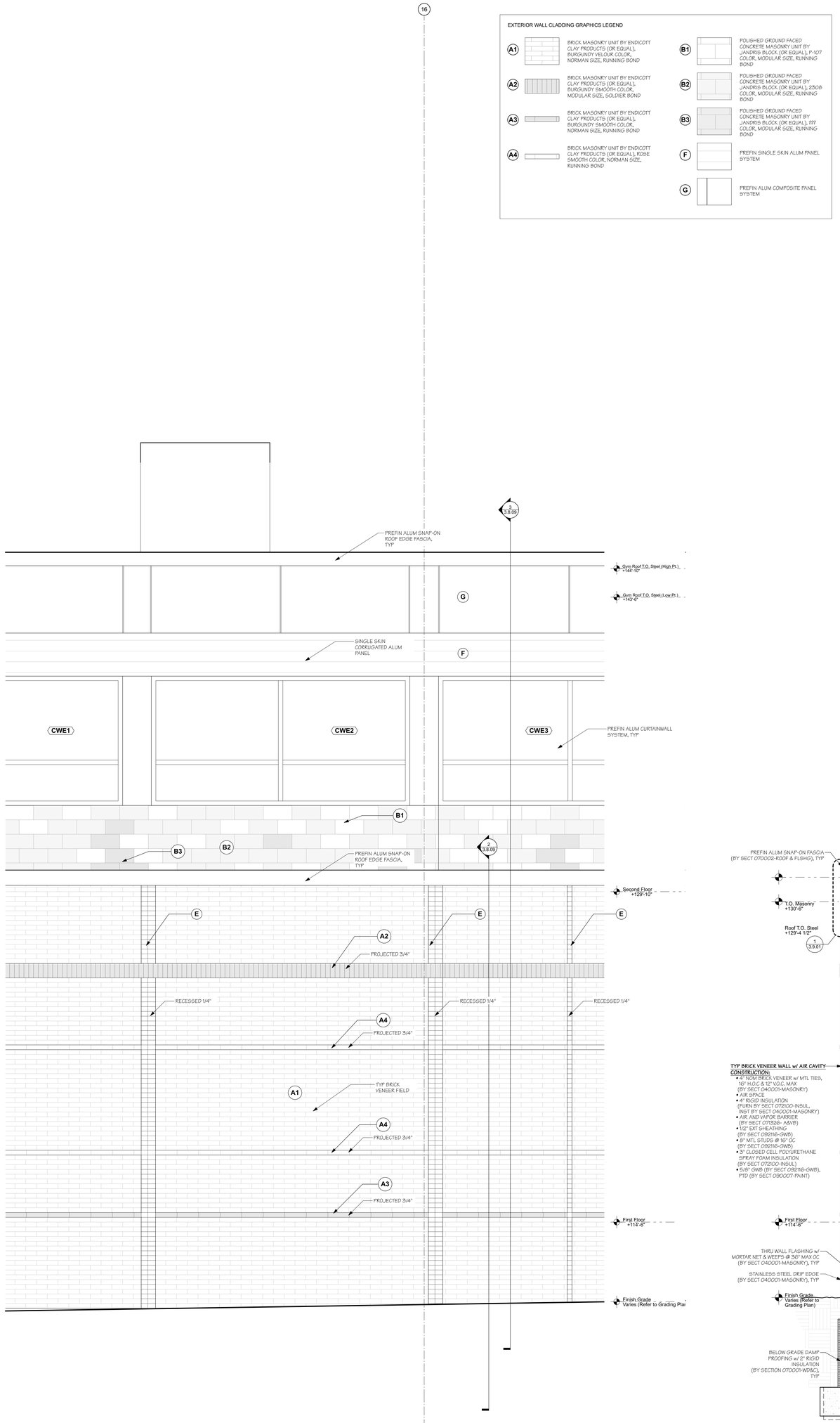

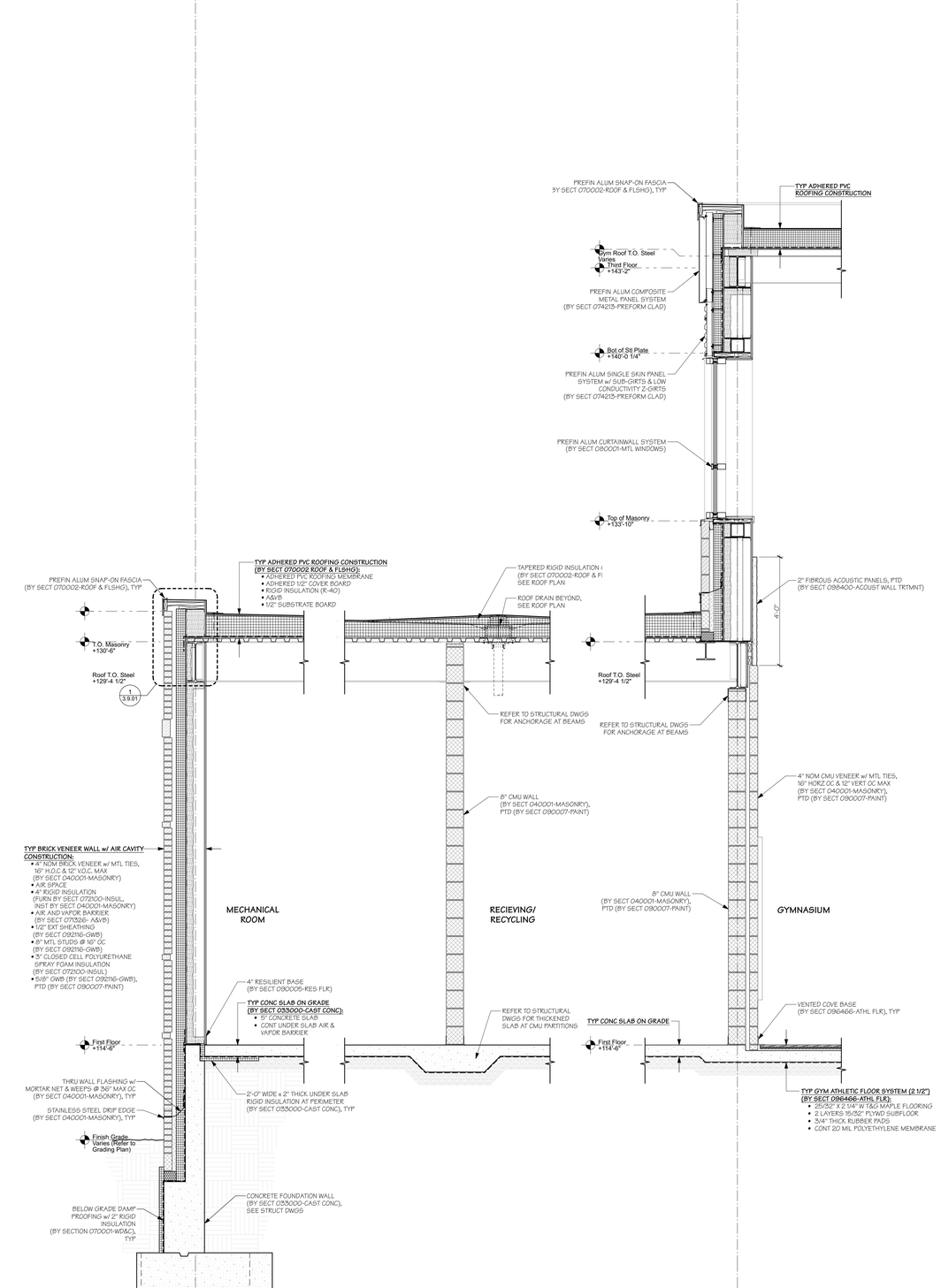

1 **Enlarged East Elevation**
SCALE: 1/2" = 1'-0"

2 **East Wall at Mechanical Room**
SCALE: 1/2" = 1'-0"

3 **East Wall at Gymnasium**
SCALE: 1/2" = 1'-0"

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Wall Sections

3.8.09

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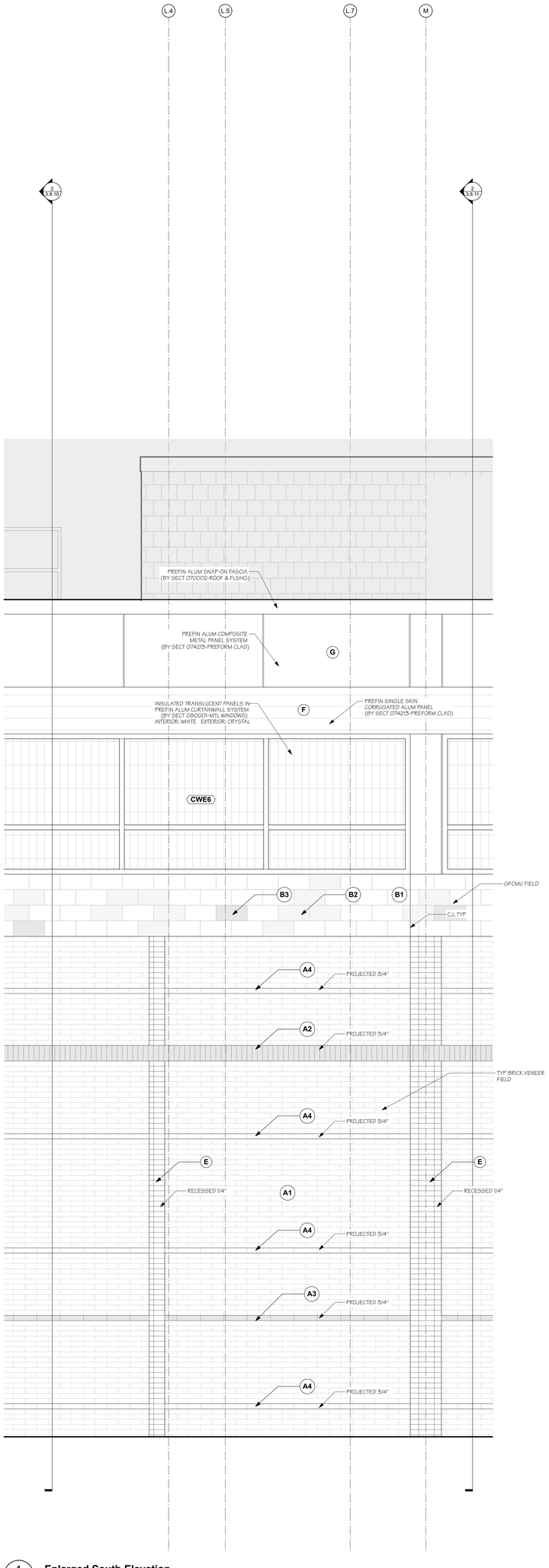
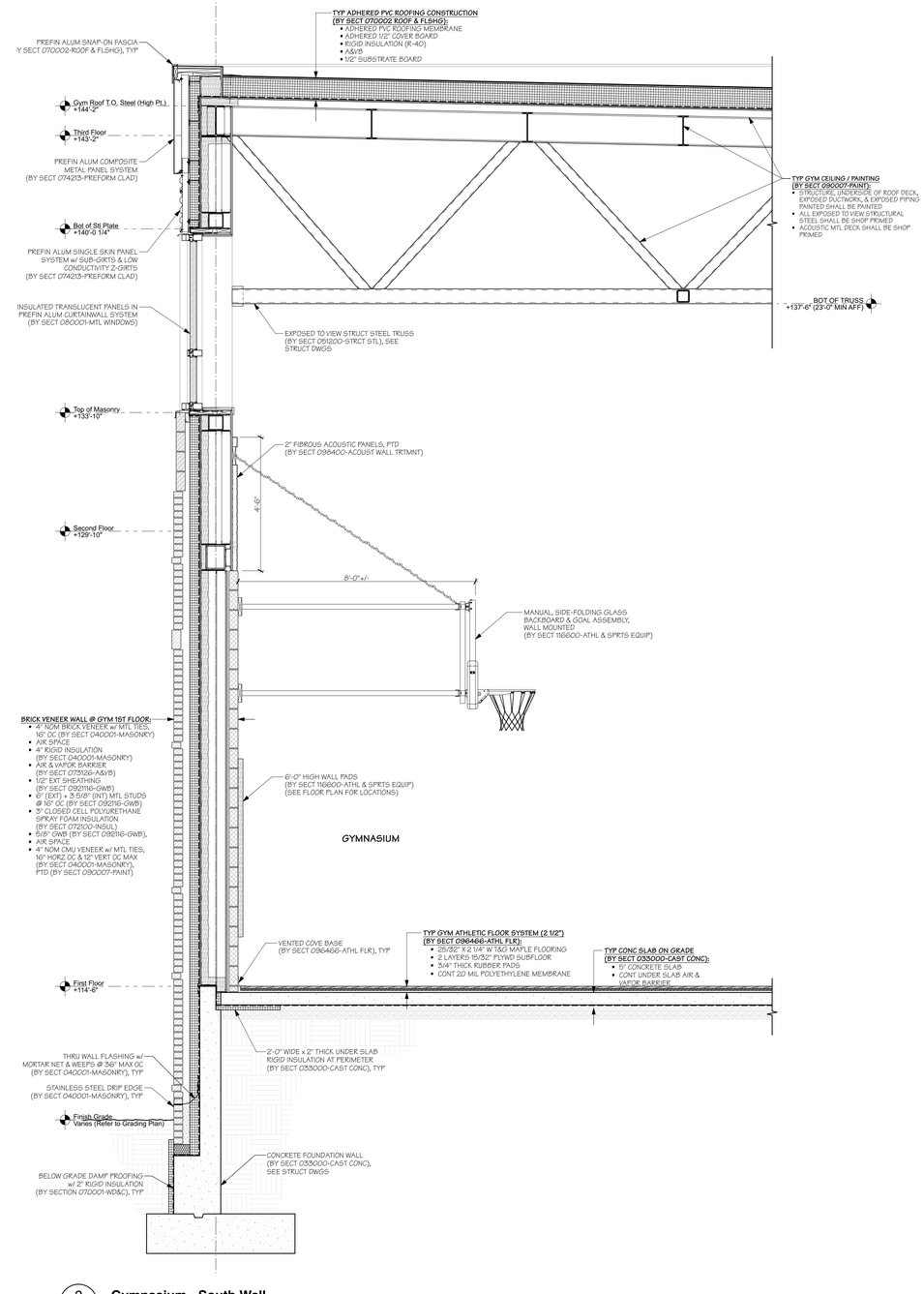


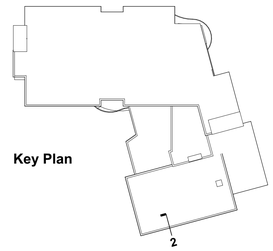
1 **Enlarged South Elevation**
SCALE: 1/2" = 1'-0"

EXTERIOR WALL CLADDING GRAPHICS LEGEND

- A1 — BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY VELOUR COLOR, NORMAN SIZE, RUNNING BOND
- A2 — BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, MODULAR SIZE, SOLDIER BOND
- A3 — BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, NORMAN SIZE, RUNNING BOND
- A4 — BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), ROSE SMOOTH COLOR, NORMAN SIZE, RUNNING BOND
- B1 — POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), F-107 COLOR, MODULAR SIZE, RUNNING BOND
- B2 — POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 2508 COLOR, MODULAR SIZE, RUNNING BOND
- B3 — POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 777 COLOR, MODULAR SIZE, RUNNING BOND
- F — PREFIN SINGLE SKIN ALUM PANEL SYSTEM
- G — PREFIN ALUM COMPOSITE PANEL SYSTEM



2 **Gymnasium - South Wall**
SCALE: 1/2" = 1'-0"



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KEY PLAN

NORTH ARROW STAMP

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Revisions

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DESIGN DEVELOPMENT

Wall Sections

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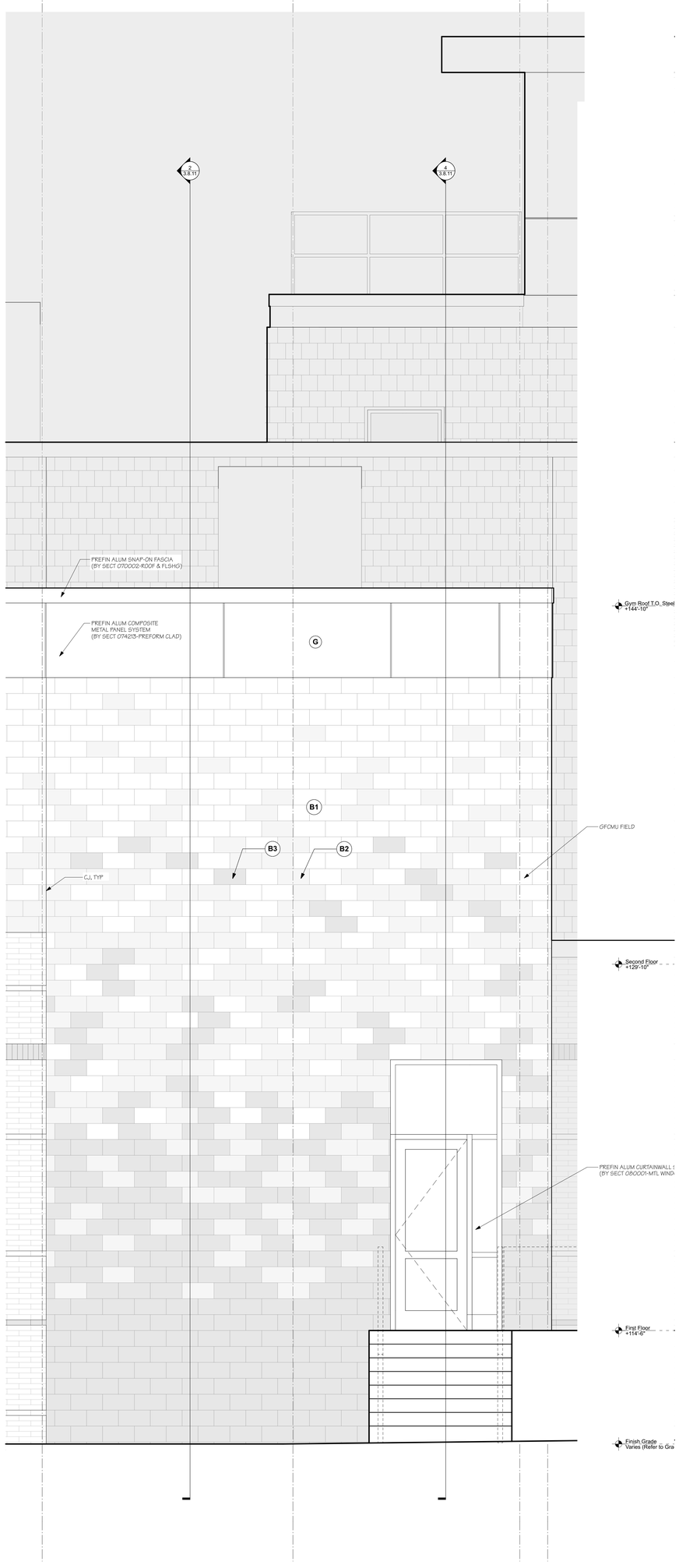

1 **Enlarged South Elevation**
SCALE: 1/2" = 1'-0"

EXTERIOR WALL CLADDING GRAPHICS LEGEND

- A1 — BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY VELOUR COLOR, NORMAN SIZE, RUNNING BOND
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- A3 — BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, NORMAN SIZE, RUNNING BOND
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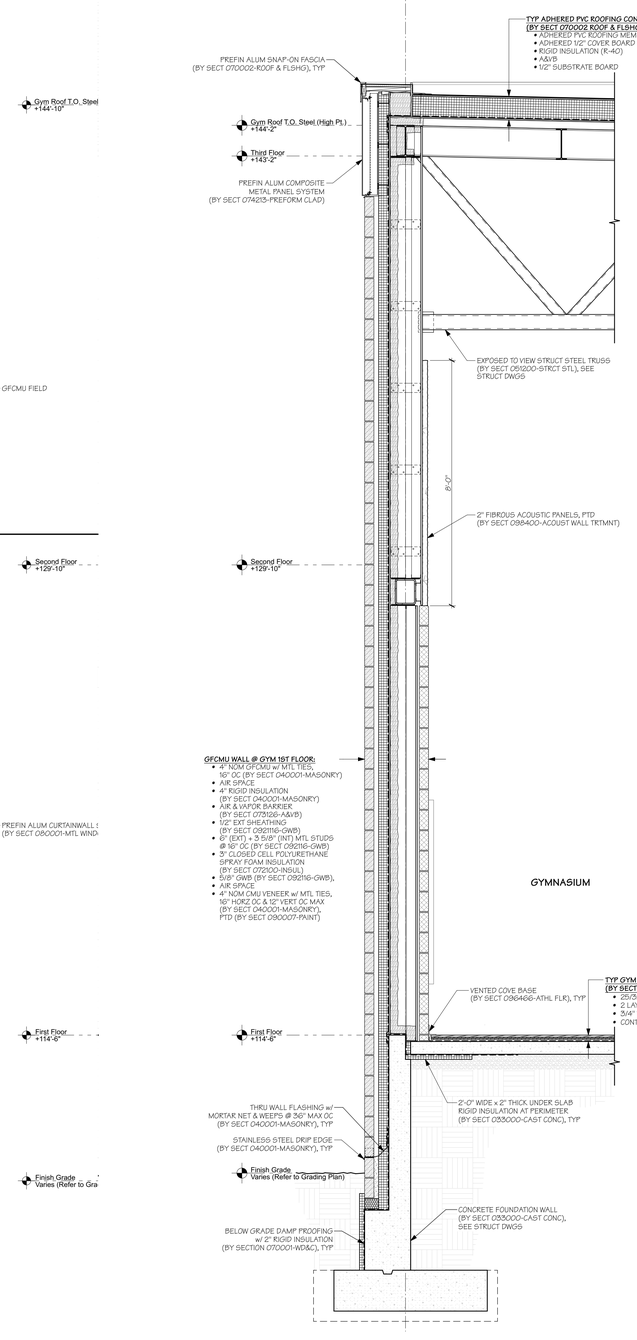
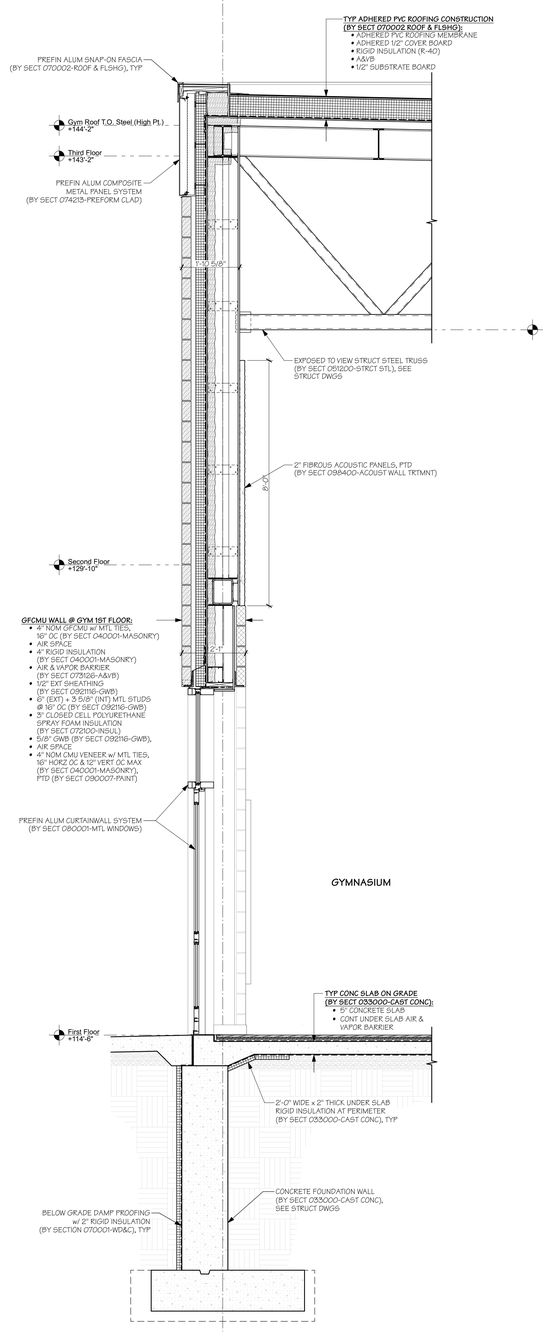
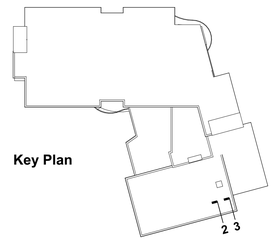
- B2 — POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 23018 COLOR, MODULAR SIZE, RUNNING BOND
- B3 — POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), 777 COLOR, MODULAR SIZE, RUNNING BOND
- F — PREFIN SINGLE SKIN ALUM PANEL SYSTEM
- G — PREFIN ALUM COMPOSITE PANEL SYSTEM



2 **Gymnasium - South Wall**
SCALE: 1/2" = 1'-0"



4 **Gymnasium - South Wall at Exit**
SCALE: 1/2" = 1'-0"



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KEY PLAN

NORTH ARROW *STAMP*

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Revisions

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DESIGN DEVELOPMENT

Wall Sections

3.8.11

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J.4 J 15 15 15

EXTERIOR WALL CLADDING GRAPHICS LEGEND

- A1 — BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY VELOUR COLOR, NORMAN SIZE, RUNNING BOND
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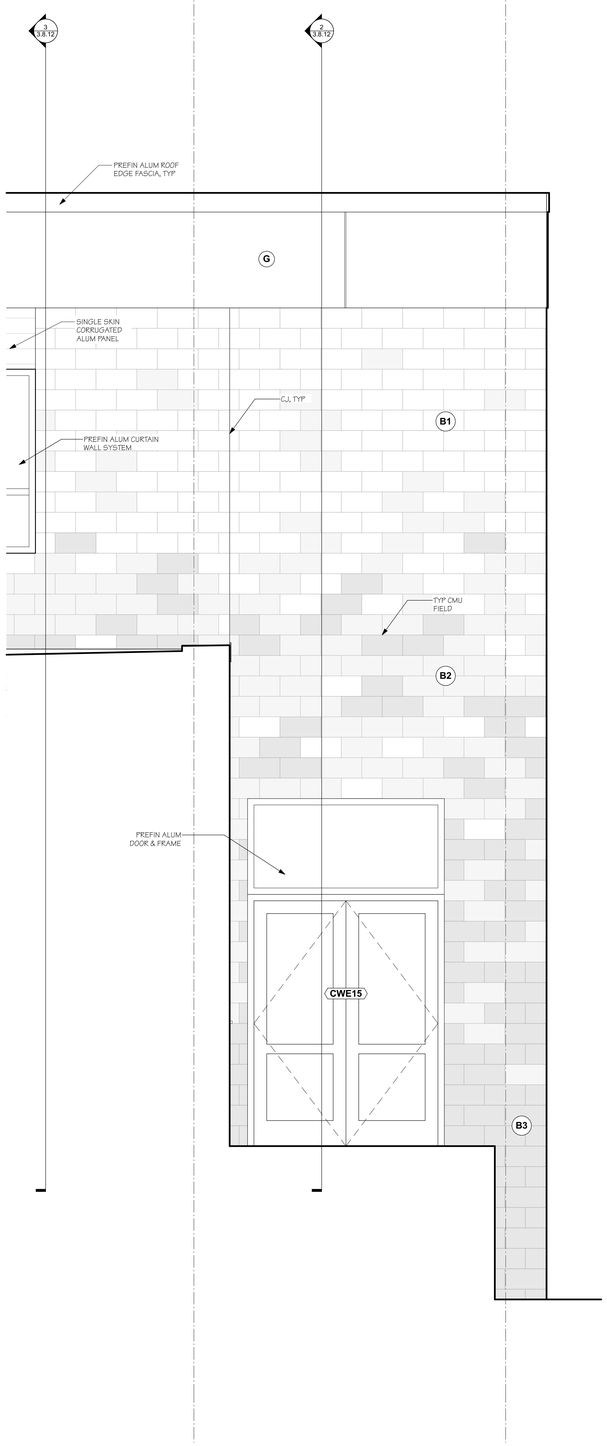
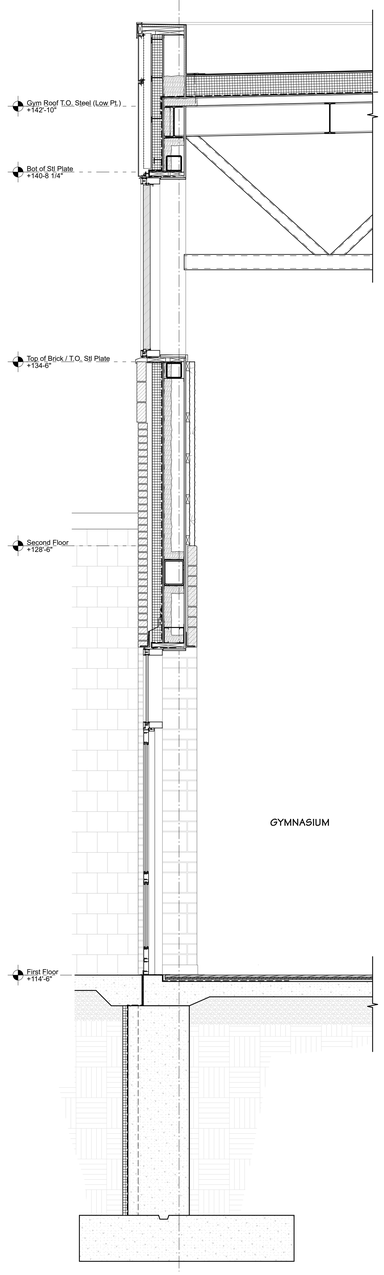
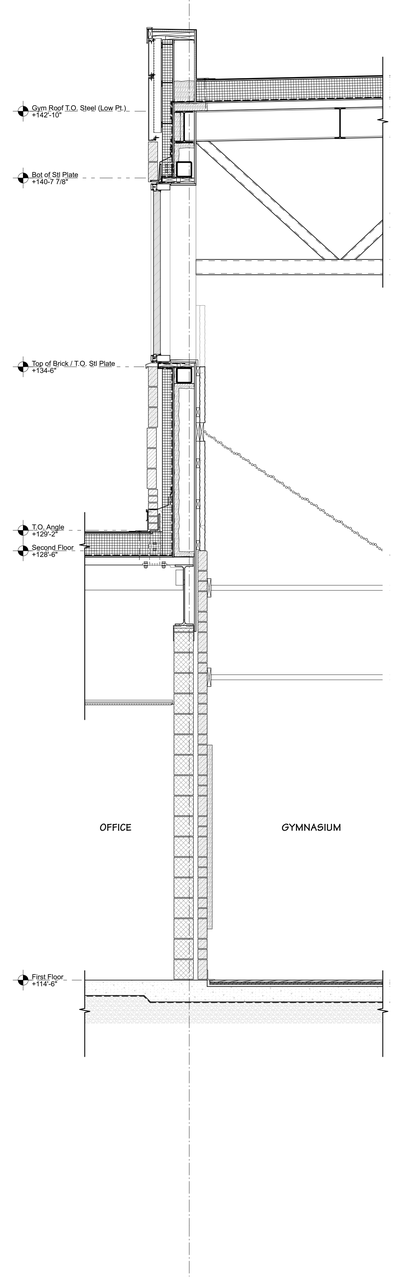
- B3 — POLISHED GROUND FACED CONCRETE MASONRY UNIT BY JANDRIS BLOCK (OR EQUAL), ??? COLOR, MODULAR SIZE, RUNNING BOND
- F — PREFIN SINGLE SKIN ALUM PANEL SYSTEM
- G — PREFIN ALUM COMPOSITE PANEL SYSTEM



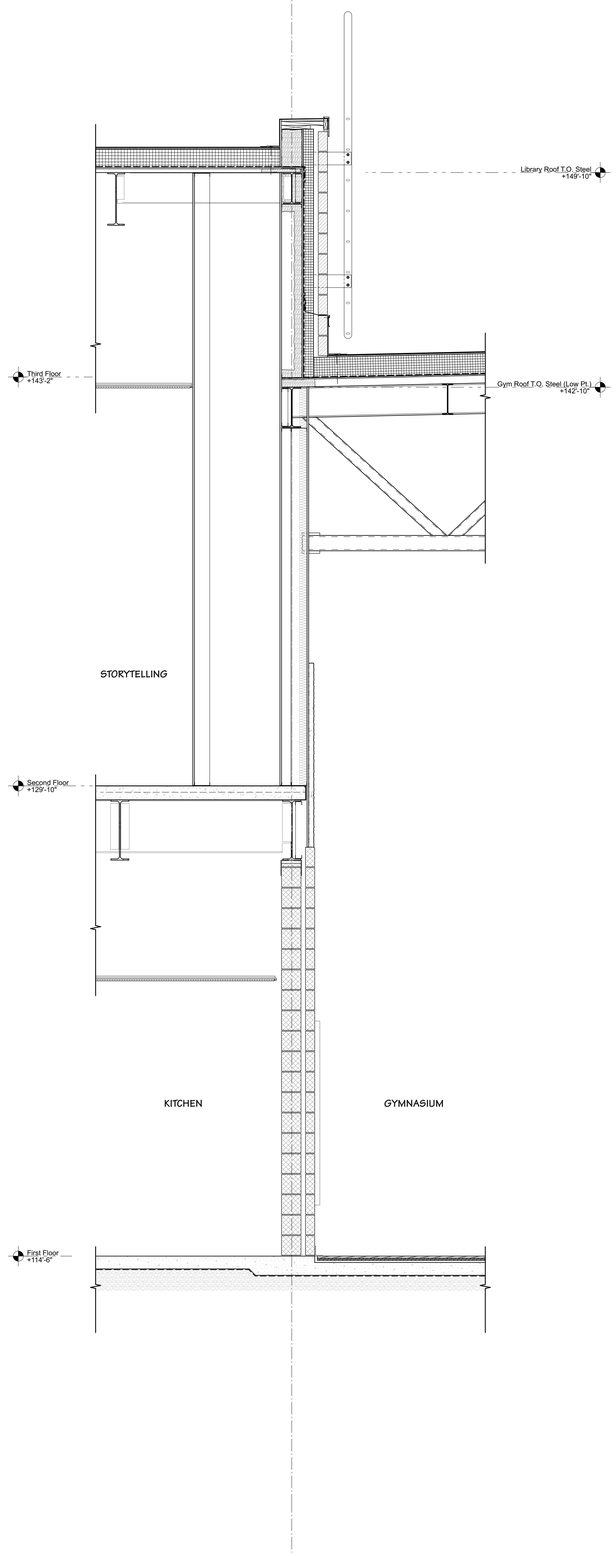
1 **Enlarged North Elevation - Gym**
SCALE: 1/2" = 1'-0"



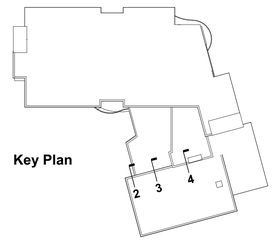
2 **Gymnasium - North Wall at Exit**
SCALE: 1/2" = 1'-0"



3 **Gymnasium - North Wall**
SCALE: 1/2" = 1'-0"



4 **Gymnasium - North Wall at Library**
SCALE: 1/2" = 1'-0"



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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Wall Sections

3.8.12

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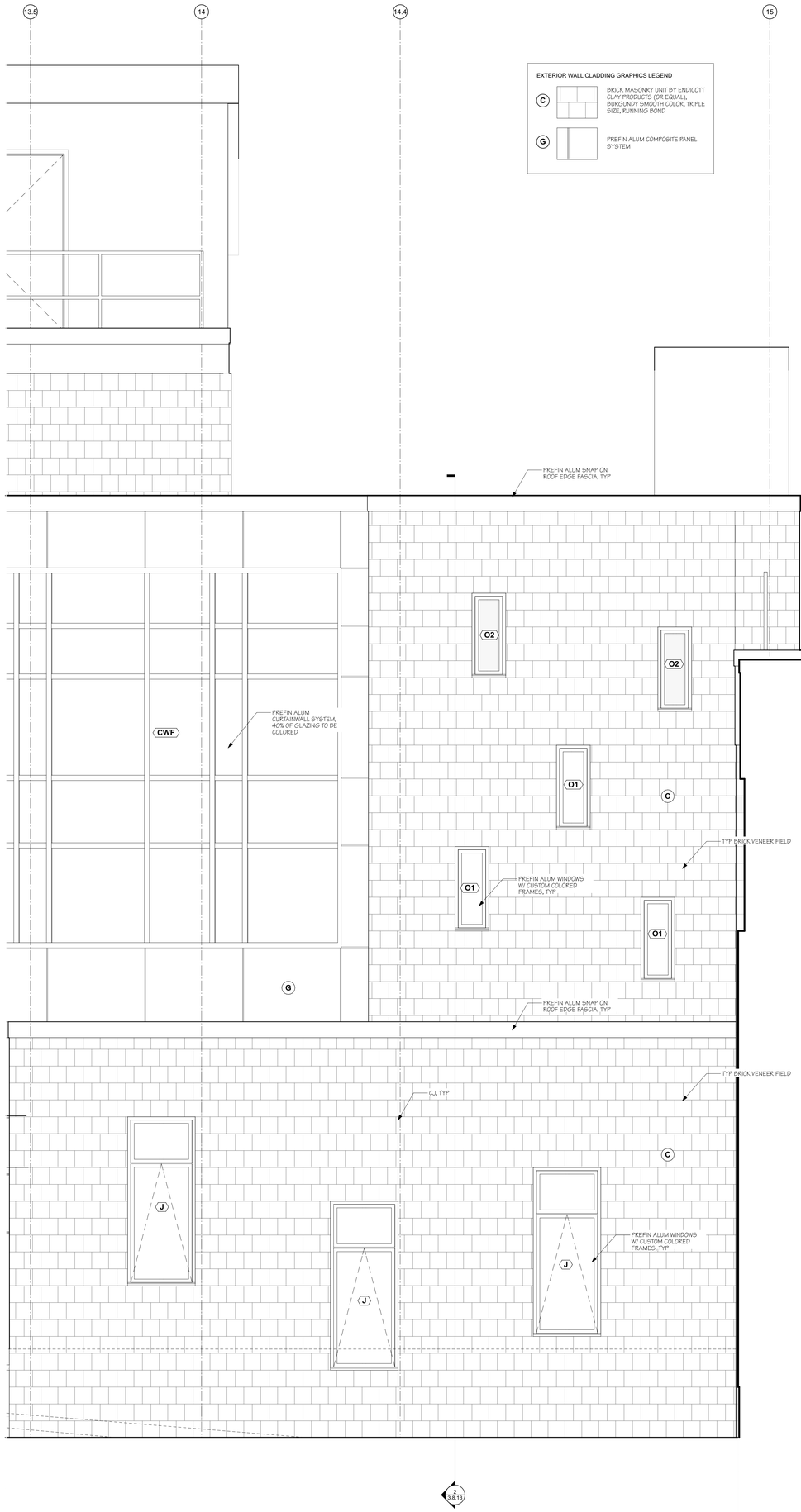
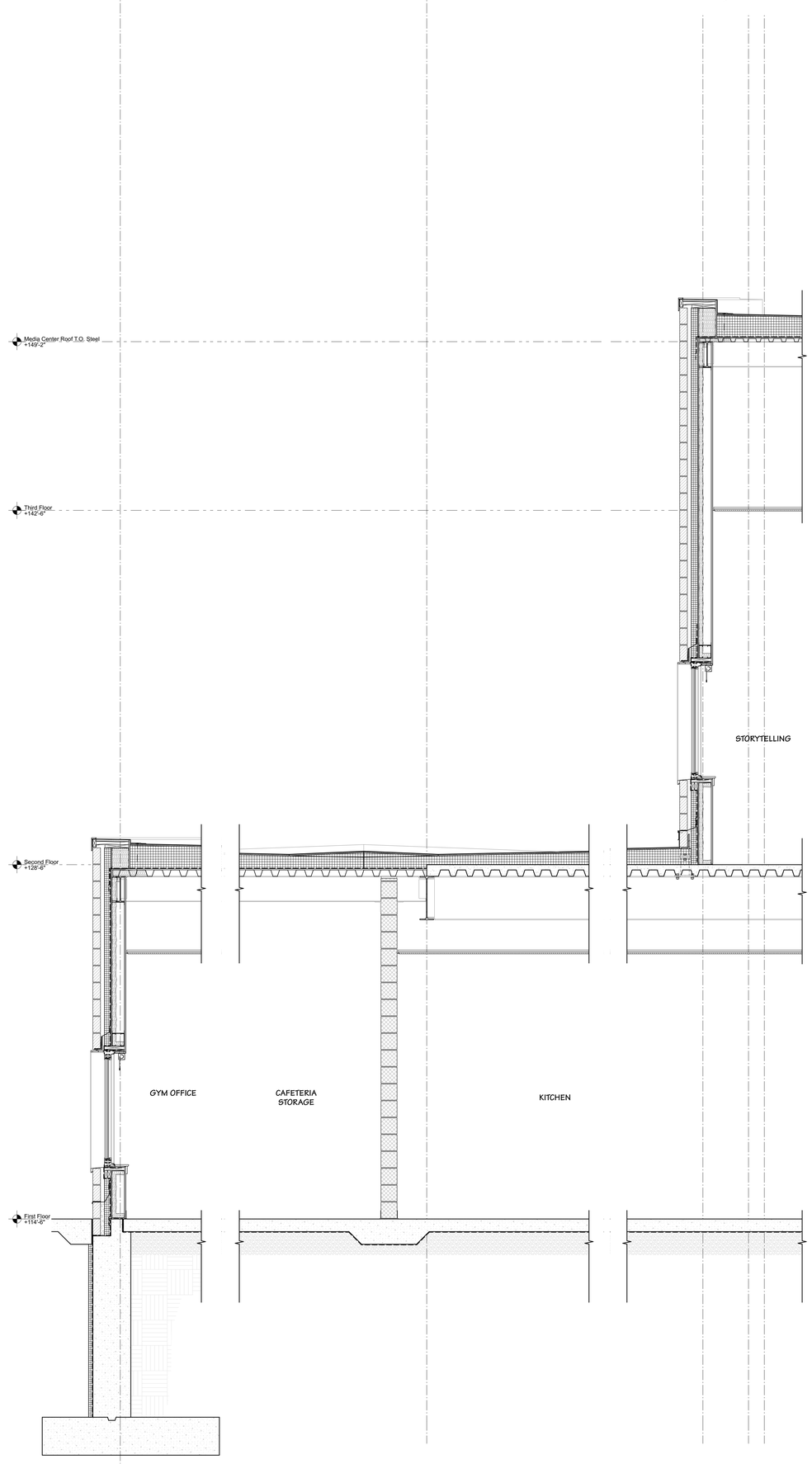
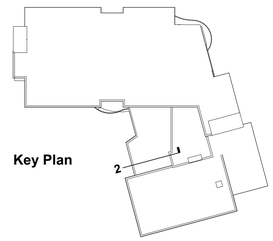


1 **Enlarged West Elevation**
SCALE: 1/2" = 1'-0"



2 **Gym Office/Storage**
SCALE: 1/2" = 1'-0"



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DESIGN DEVELOPMENT

Wall Sections

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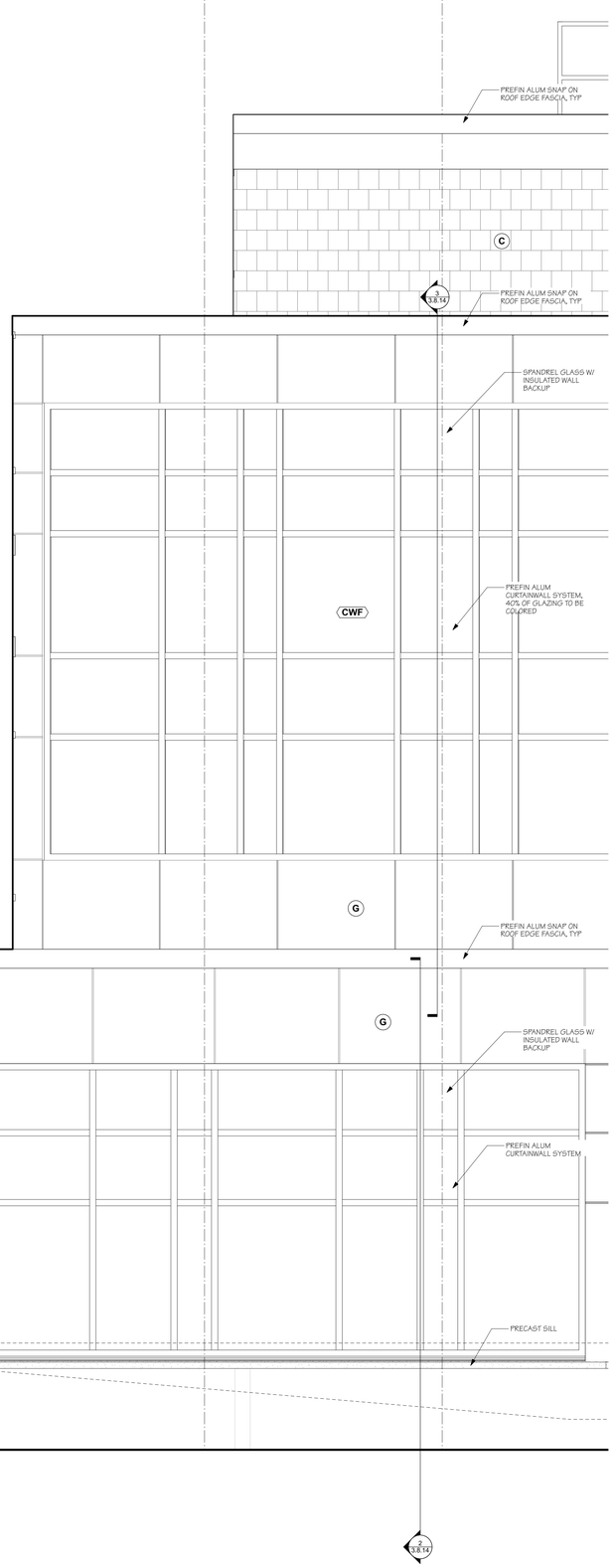
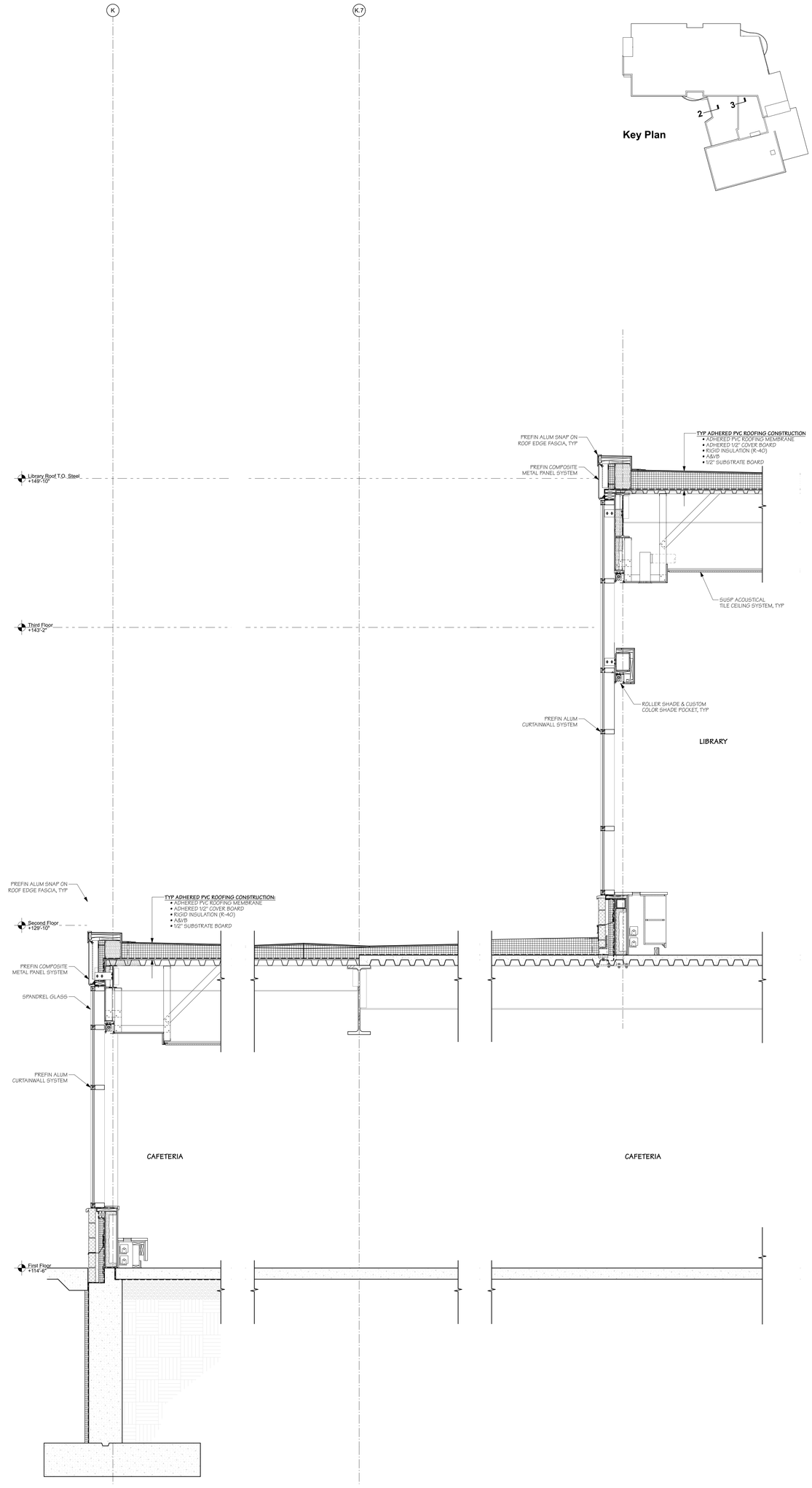
EXTERIOR WALL CLADDING GRAPHICS LEGEND

C — BRICK MASONRY UNIT BY ENDICOTT CLAY PRODUCTS (OR EQUAL), BURGUNDY SMOOTH COLOR, TRIPLE SIZE, RUNNING BOND

G — PREFIN ALUM COMPOSITE PANEL SYSTEM



1 **Enlarged West Elevation - Cafe & Library**
SCALE: 1/2" = 1'-0"



2 **Cafeteria/Library**
SCALE: 1/2" = 1'-0"

3 **Cafeteria/Library**
SCALE: 1/2" = 1'-0"

Key Plan

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: 0 2 4

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Wall Sections

3.8.14

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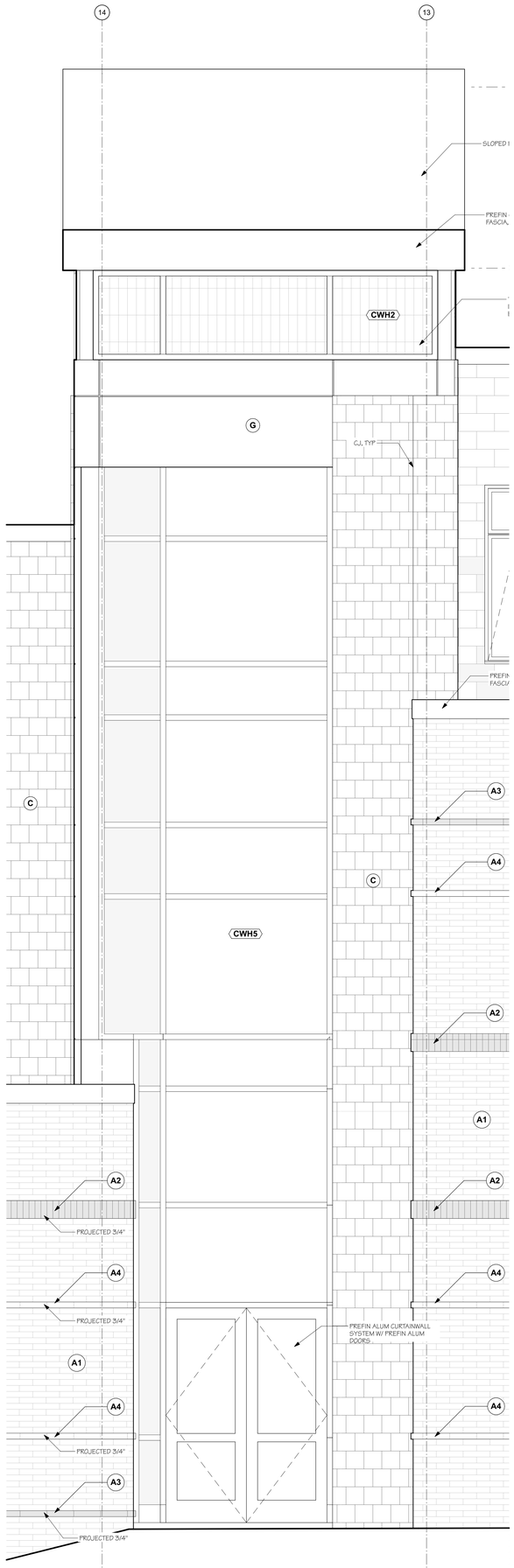
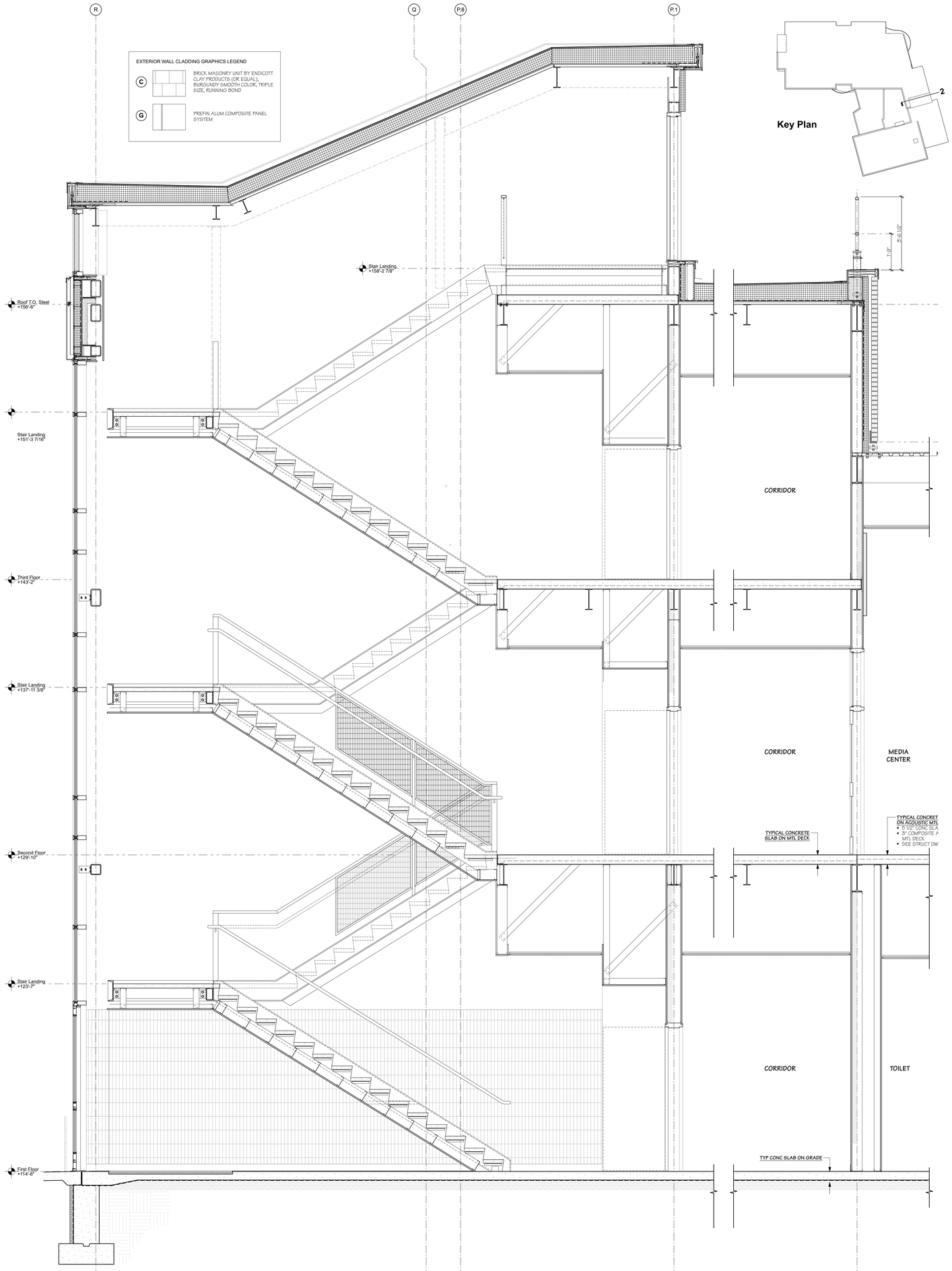


1 **Enlarged East Elevation**
SCALE: 1/2" = 1'-0"



2 **Stair A - East Wall**
SCALE: 1/2" = 1'-0"

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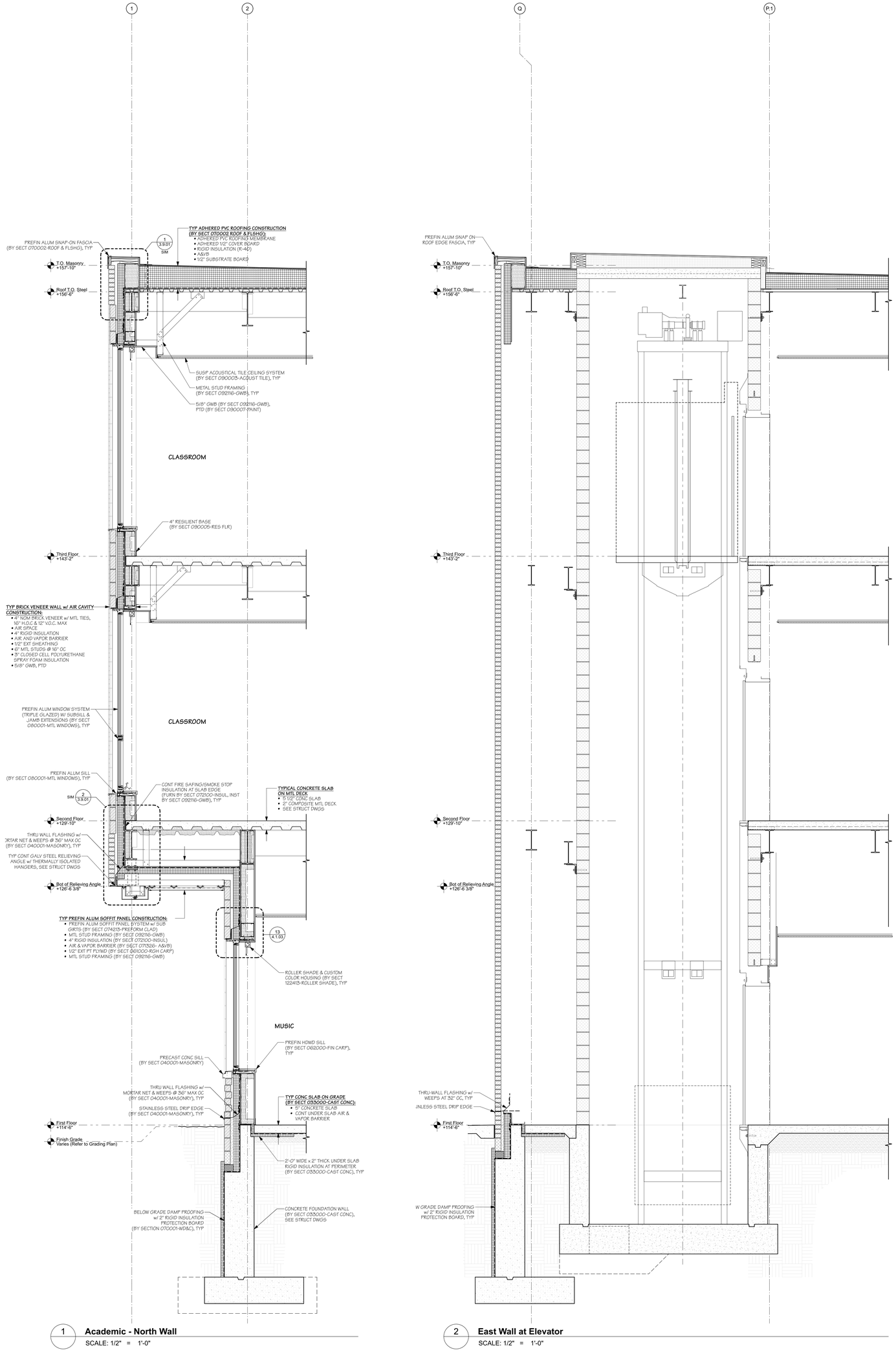
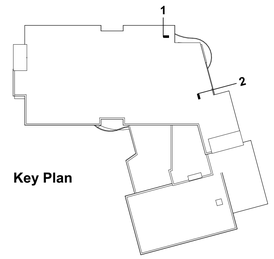


1 **Academic - North Wall**
SCALE: 1/2" = 1'-0"

2 **East Wall at Elevator**
SCALE: 1/2" = 1'-0"



Key Plan

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KEY PLAN

NORTH ARROW *STAMP*

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DESIGN DEVELOPMENT

Wall Sections

3.8.16

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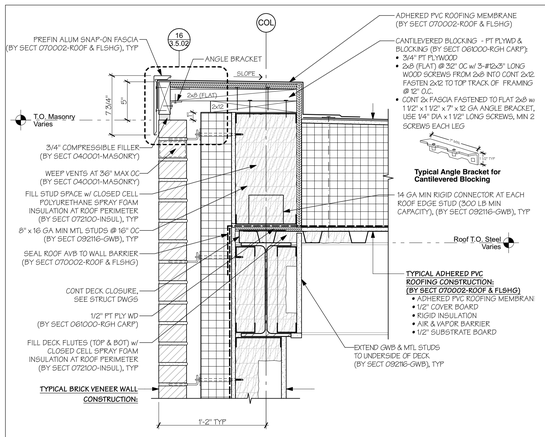
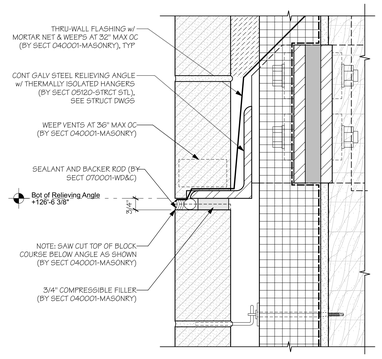


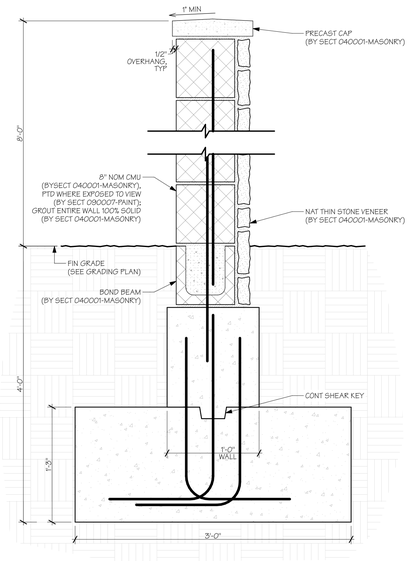
1 Roof Edge at Masonry Veneer

SCALE: 1 1/2"= 1'-0"



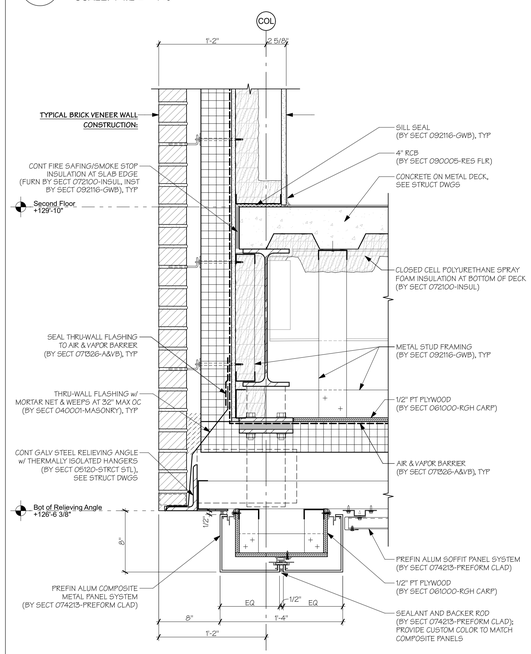
4 Masonry Relieving Angle

SCALE: 3" = 1'-0"



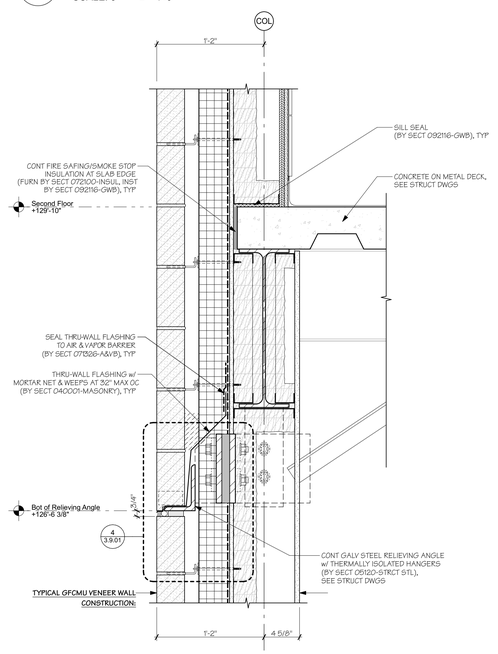
7 Blast Wall at Generator Enclosure

SCALE: 1 1/2"= 1'-0"



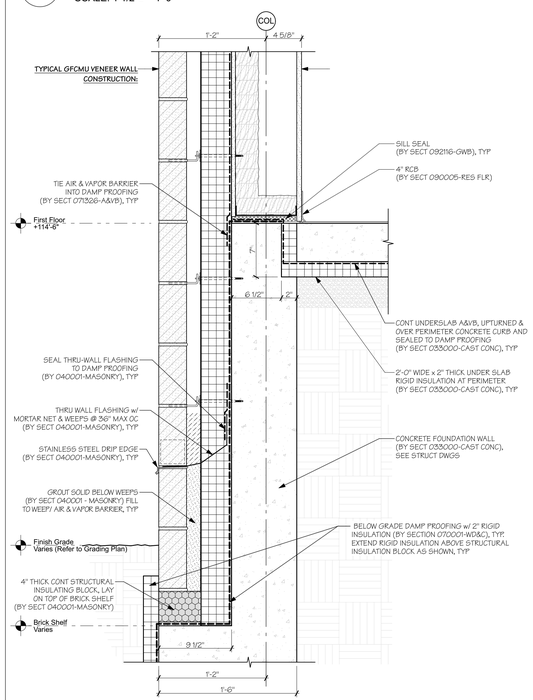
2 Overhang at North Wall

SCALE: 1 1/2"= 1'-0"



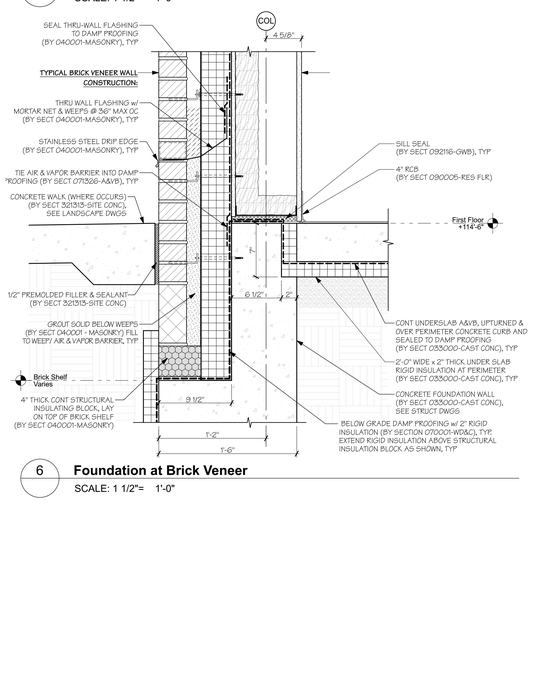
5 Section at Masonry Relieving Angle (Grid Line 2)

SCALE: 1 1/2"= 1'-0"



3 Foundation at GFCMU Veneer

SCALE: 1 1/2"= 1'-0"



6 Foundation at Brick Veneer

SCALE: 1 1/2"= 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

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Scale: 0 8" 16"

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Construction Details Exterior

3.9.01

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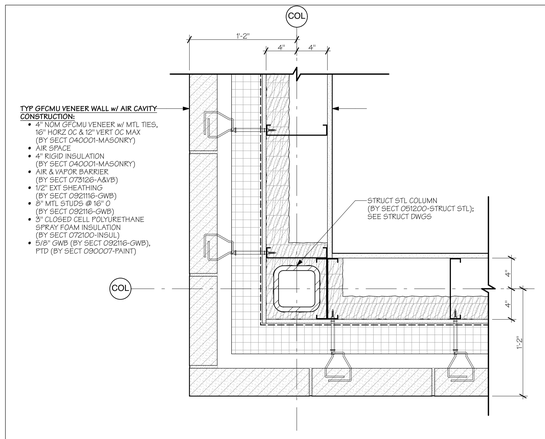
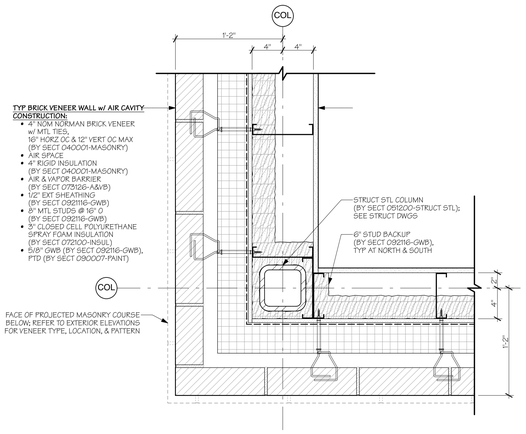


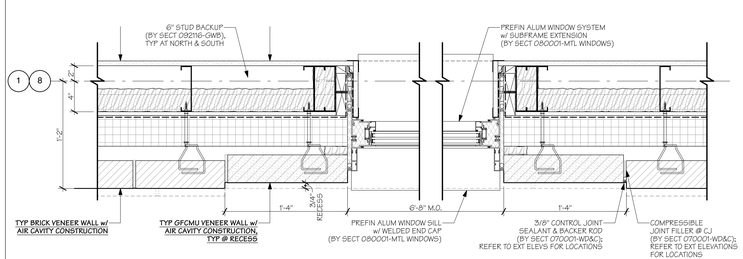
1 TYP **Corner at First Floor Academic Wing**

SCALE: 1 1/2"= 1'-0"



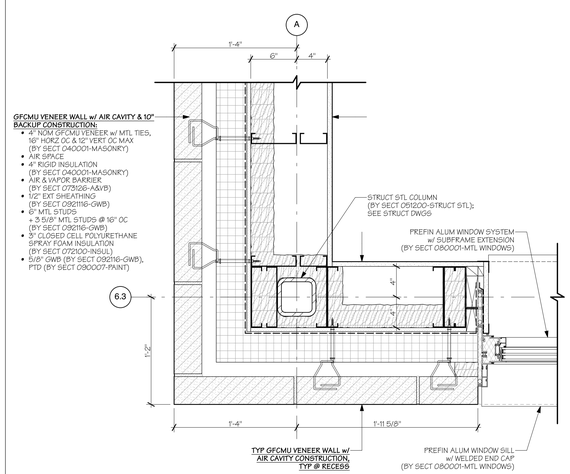
2 TYP **Corner at Second Floor Academic Wing**

SCALE: 1 1/2"= 1'-0"



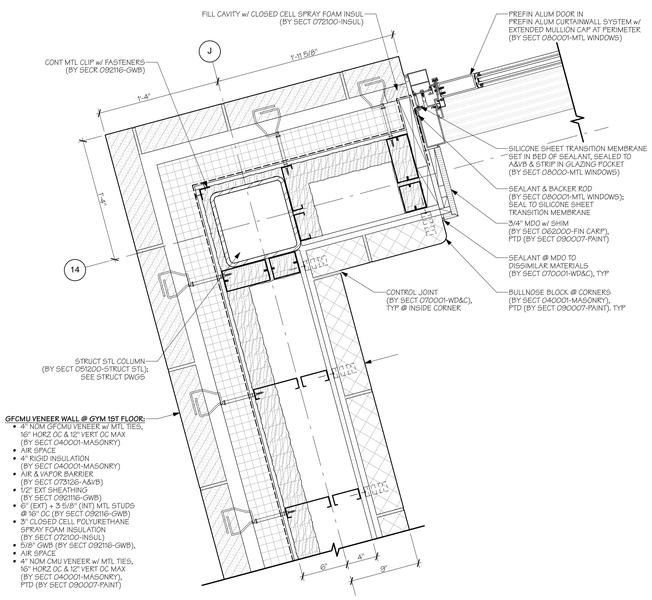
3 TYP **Academic Wing GFCMU Recess**

SCALE: 1 1/2"= 1'-0"



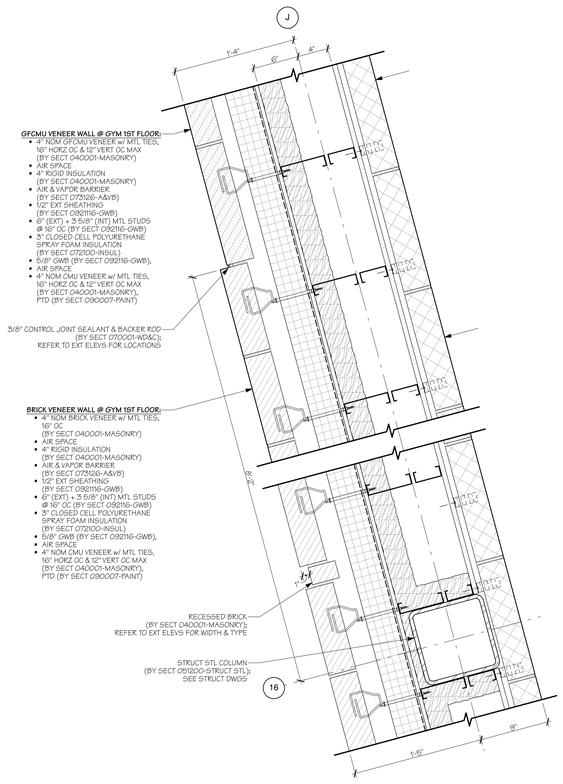
4 TYP **Southwest Corner of Classroom 221**

SCALE: 1 1/2"= 1'-0"



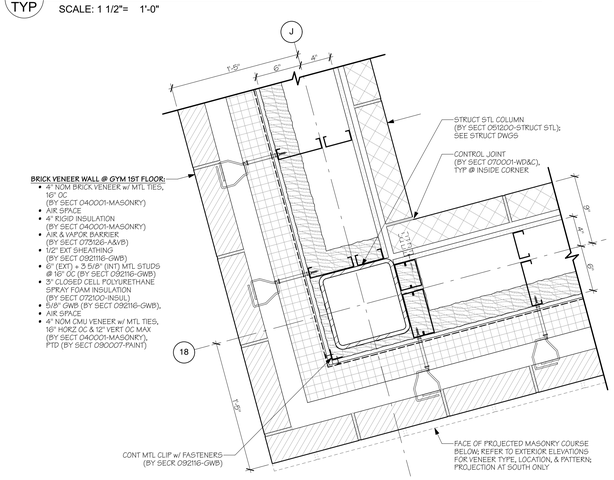
5 TYP **Gym First Floor Northwest Corner**

SCALE: 1 1/2"= 1'-0"



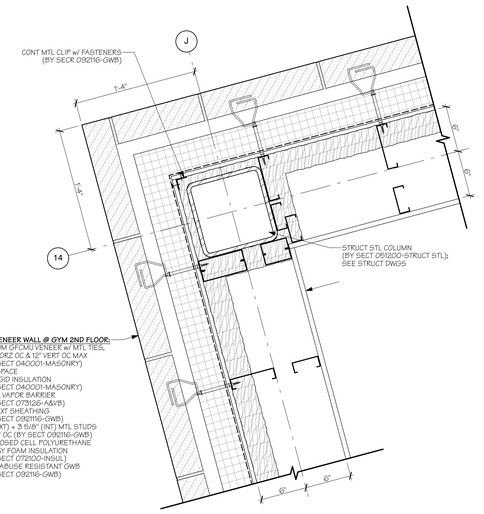
6 TYP **Gym First Floor Transition from GFCMU to Brick**

SCALE: 1 1/2"= 1'-0"



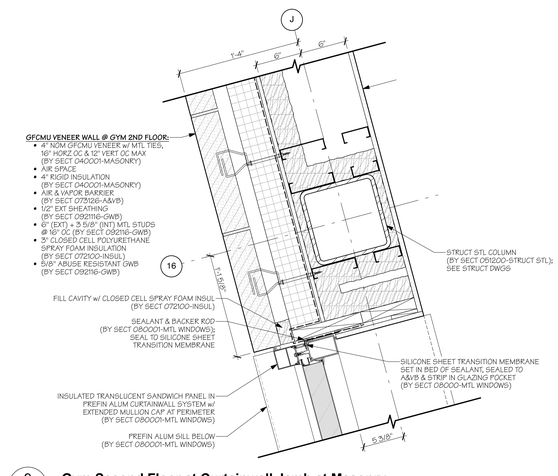
7 TYP **Gym First Floor at Southwest Corner**

SCALE: 1 1/2"= 1'-0"



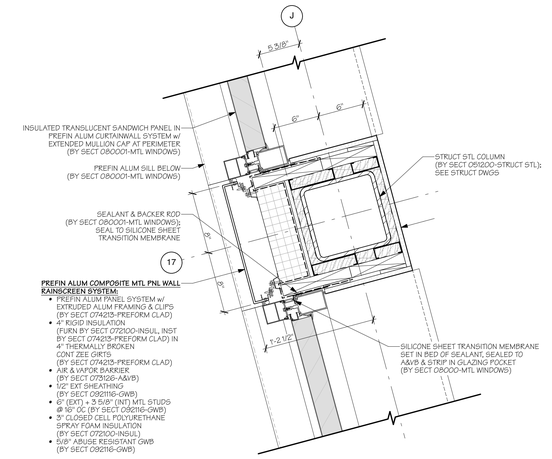
8 TYP **Gym Second Floor at Northwest Corner**

SCALE: 1 1/2"= 1'-0"



9 TYP **Gym Second Floor at Curtainwall Jamb at Masonry**

SCALE: 1 1/2"= 1'-0"



10 TYP **Gym Second Floor at Curtainwall Jamb at Mtl Panel**

SCALE: 1 1/2"= 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: ADW

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Construction Details Exterior

3.9.02

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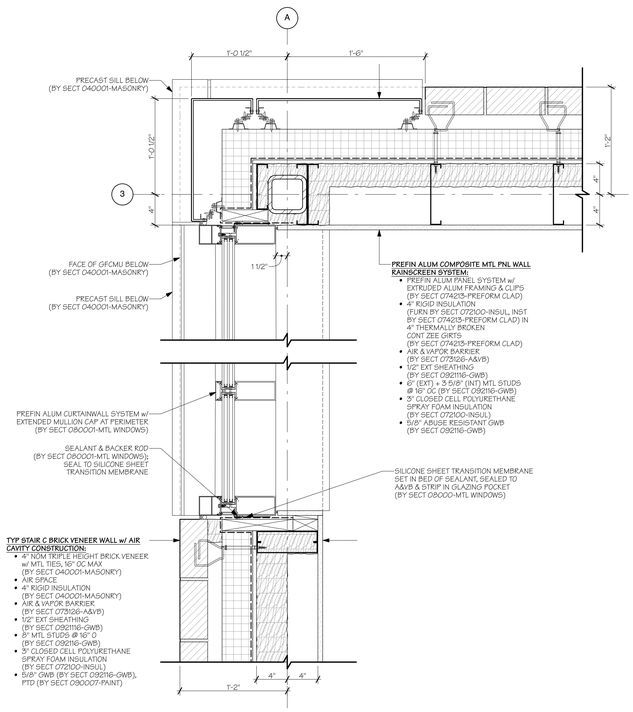

1 **Northwest Corner at Stair C at First Floor**

SCALE: 1 1/2"= 1'-0"

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3.9.03

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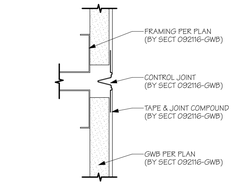
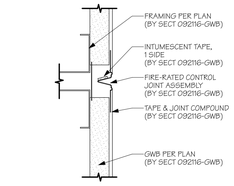
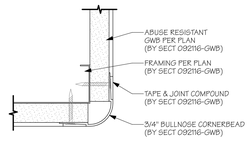


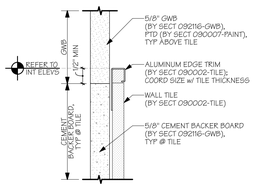
1 TYP **GWB Control Joint**
SCALE: 6" = 1'-0"



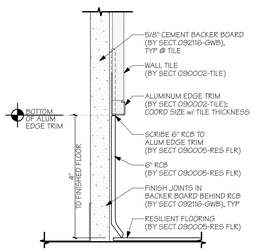
2 TYP **GWB Control Joint - Fire Rated**
SCALE: 6" = 1'-0"



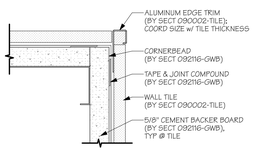
3 TYP **GWB Abuse Resistant Cornerbead**
SCALE: 6" = 1'-0"



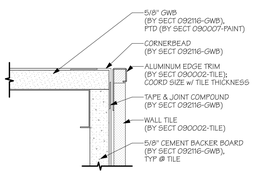
4 TYP **Tile Termination Trim at Top of Tile**
SCALE: 6" = 1'-0"



5 TYP **Tile Termination Trim at Resilient Cove Base**
SCALE: 6" = 1'-0"



6 TYP **Tile Termination Trim at Outside Corner**
SCALE: 6" = 1'-0"

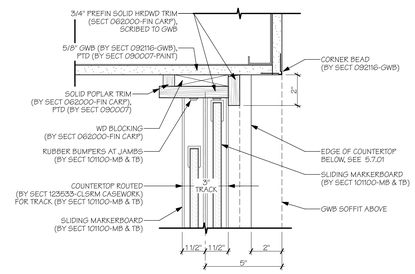


7 TYP **Tile Termination Trim at GWB Outside Corner**
SCALE: 6" = 1'-0"

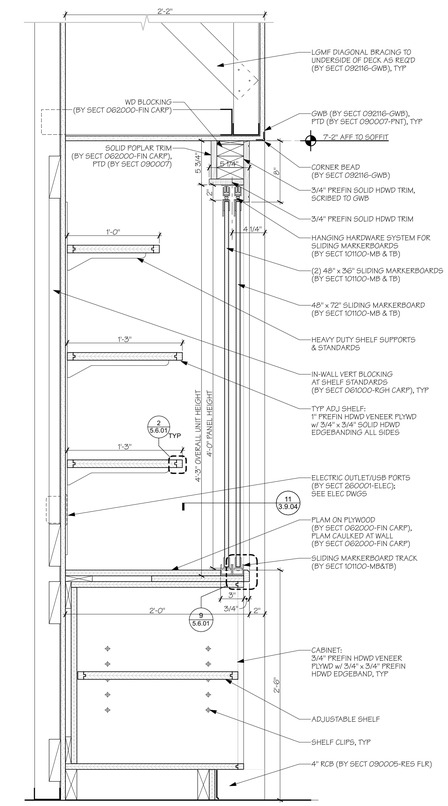
8 TYP **Tile Termination Trim at Inside Corner**
SCALE: 6" = 1'-0"

9 TYP **Tile Termination Trim at GWB Inside Corner**
SCALE: 6" = 1'-0"

10 TYP **Tile Termination Trim at Door Frame**
SCALE: 6" = 1'-0"



11 TYP **Jamb at Classroom Storage Wall**
SCALE: 3" = 1'-0"



12 TYP **Classroom: Storage Wall Section**
SCALE: 1 1/2"= 1'-0"

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(508) 833-6600

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Crabtree McGrath Assoc., Inc.
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Georgetown, MA 01833
(978) 352-8500

VAV International, Inc.
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Woburn, MA 01801
(781) 935-7228

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(617) 886-9066

EdVance Technology Design, Inc.
Technology Consultants
300 Brickstone Square, Suite 201
Andover, MA 01880
(978) 256-9900

KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By:

Scale: 0 8" 16"

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Construction Details Interior

3.9.04

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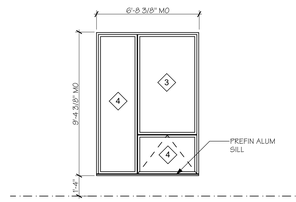
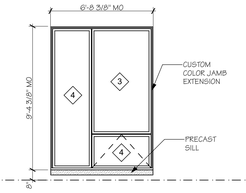
EXTERIOR WINDOW TYPES



A1 North & South Elevations

A2 North & South Elevations
Opposite Hand



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B2 North & South Elevations
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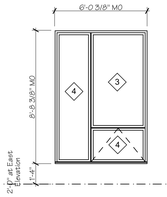
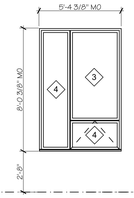
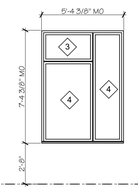


C1 S, W & E Elevations

C2 South & West Elevations
Opposite Hand



D East Elevation



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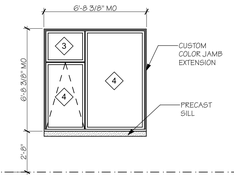
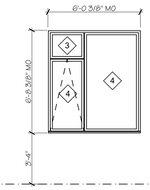


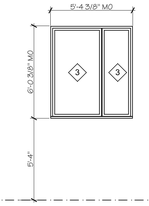
F1 North & South Elevations

F2 North & South Elevations
Opposite Hand



G1 East Elevation

G2 East Elevation
Opposite Hand



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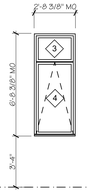
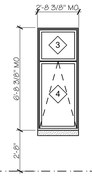
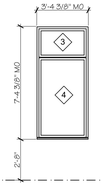


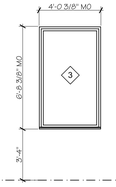
J N,S,E,W Elevations



K North & South Elevations



L West Elevation



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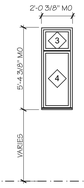
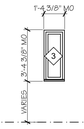


N1 East Elevation

N2 East Elevation
Frosted Glass

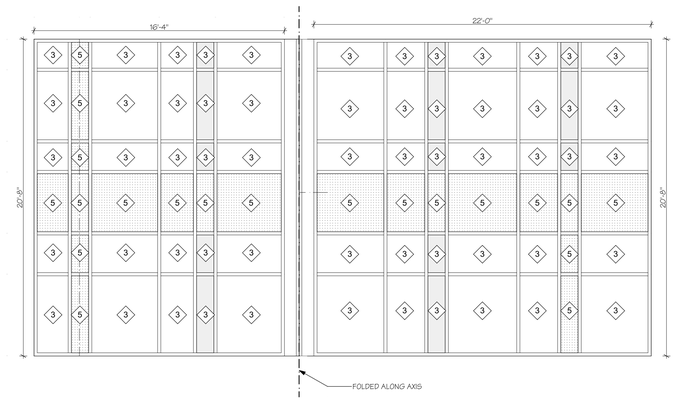
N3 East & South Elevations
Operable



O1 West Elevation

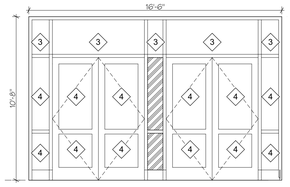
O2 West Elevation
Frosted Glass

EXTERIOR CURTAINWALL TYPES

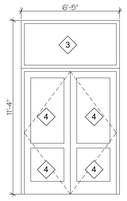


CWA1 East Elevation - Front Entrance

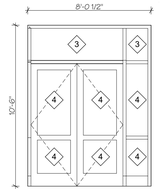
CWA2 North Elevation - Front Entrance



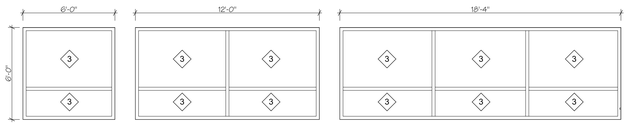
CWB1 North Elevation - Front Entrance



CWC East Elevation - Stair B



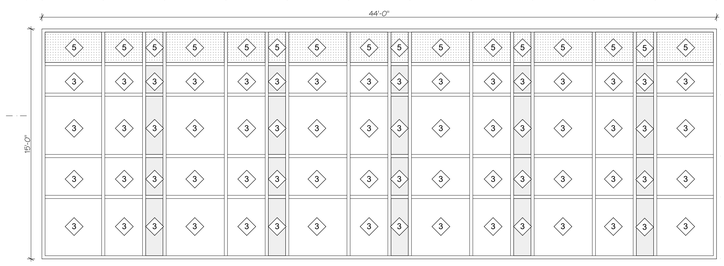
CWD1 South Elevation - Stair C



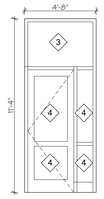
CWE1 East Elevation - Gym

CWE2 East Elevation - Gym

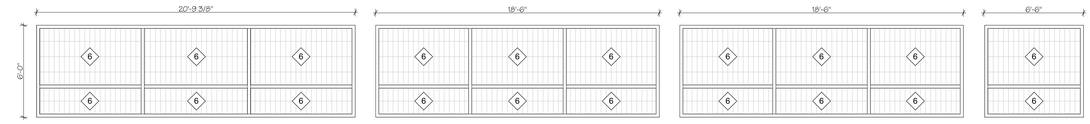
CWE3 East Elevation - Gym



CWF West Elevation - Library



CWE8 South Elevation - Gym

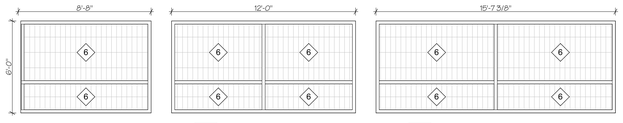


CWE4 South Elevation - Gym

CWE5 South Elevation - Gym

CWE6 South Elevation - Gym

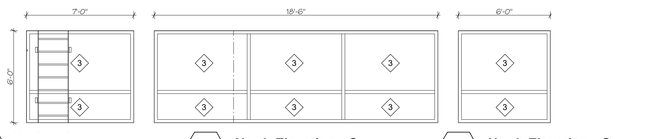
CWE7 South Elevation - Gym



CWE9 West Elevation - Gym

CWE10 West Elevation - Gym

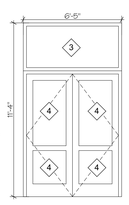
CWE11 West Elevation - Gym



CWE12 North Elevation - Gym

CWE13 North Elevation - Gym

CWE14 North Elevation - Gym



CWE15 North Elevation - Gym

GLAZING SCHEDULE
(BY SECT 080001-MTL WINDOWS)

1. 1/4" CLEAR FLOAT GLASS
2. 1/4" LAMINATED SAFETY GLASS
3. 1 3/4" TRIPLE GLAZED INSULATED LOW-E GLASS
4. 1 3/4" TEMPERED TRIPLE GLAZED INSULATED LOW-E GLASS
5. 1 3/4" TRIPLE GLAZED INSULATED SPANDREL LOW-E GLASS
6. 2-3/4" INSULATED TRANSLUCENT SANDWICH PANEL DAYLIGHTING SYSTEM

GLAZING LEGEND

SB60 SOLAR CONTROL 1 (AT NORTH & EAST ELEVATIONS)

SB70 SOLAR CONTROL 2 (AT SOUTH & WEST ELEVATIONS)

GENERAL NOTES

1. ALL ROUGH OPENINGS SHALL BE FIELD VERIFIED PRIOR TO WINDOW FABRICATION.
2. ALL CLEAR GLASS IS INSIDE GLAZED U.N.O.
3. ALL SPANDREL GLASS IS OUTSIDE GLAZED U.N.O.
4. ALL WINDOW FRAMES, EXTENSIONS, AND CURTAINWALL COMPONENTS ARE COLOR 1 U.N.O.
5. FILL ALL VOIDS AND CAVITY WALLS (FURN BY SECT 072100-INSUL, INST BY SECT 080001-MTL WINDOWS) WITH SEMI-RIGID INSULATION.
6. EXTEND ALL FLASHINGS MIN. OF 6" BEYOND WINDOW OPENINGS. TURN UP END DAMS AT FLASHINGS, TYPICAL FOR ALL OPENINGS.
7. SEE TYPICAL AV&B LAPPING DIAGRAMS ON SHEET 4.1.03.
8. A&VB SHALL OVERLAP ALL HEAD & SUBFLASHING A MIN OF 4".
9. INTERNAL STEEL REINFORCEMENT TO BE USED TO MAINTAIN WINDOW PROFILES WHERE NOTED. NO EXTERNAL REINFORCING WILL BE ACCEPTED.
10. PROVIDE ISOLATION TAPE, OR OTHERWISE ISOLATE ALL DISIMILAR METALS.
11. COORDINATE MASONRY TIES WITH A&VB AND FLASHING. SEAL ALL A&VB AND FLASHING PENETRATIONS WATER TIGHT.

GLAZING GRAPHICS LEGEND

- INSULATED SPANDREL GLASS (BY SECT 080001-MTL WINDOWS)
- FROSTED GLASS (BY SECT 080001-MTL WINDOWS)
- ALUMINUM INFILL PANEL (BY SECT 080001-MTL WINDOWS)
- ANCHOR ATTACHMENTS (BY SECT 080001-MTL WINDOWS)

COUNTRYSIDE ELEMENTARY SCHOOL

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ, TRJ

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Window & Curtainwall Elevations

4.1.01

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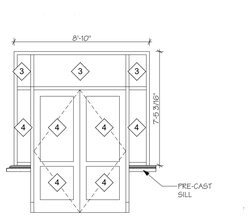
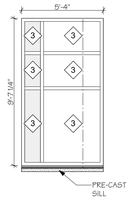
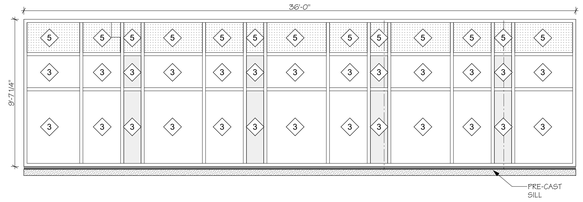
EXTERIOR CURTAINWALL TYPES



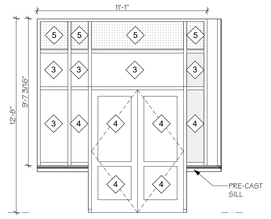
CWG1 **West Elevation - Playground Entrance**



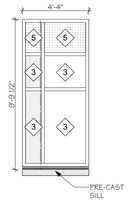
CWG2 **South Elevation - Cafeteria**



CWG3 **West Elevation - Cafeteria**



CWG4 **West Elevation - Cafeteria Entrance**



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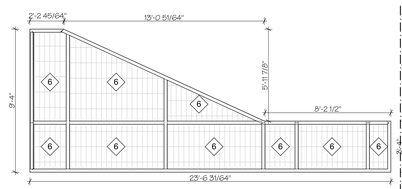
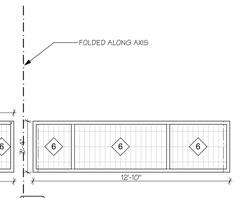


CWH1 **North Elevation - Stair A**



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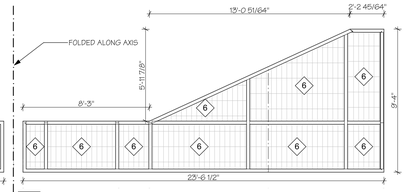
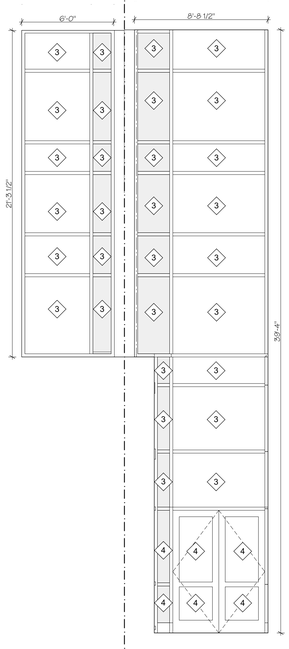
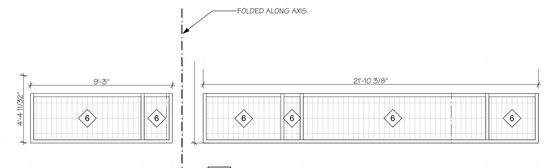


CWH3 **North Elevation - Stair A**



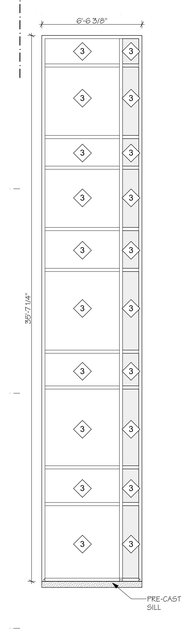
CWH4 **East Elevation - Stair A**

CWH5 **East Elevation - Stair A**



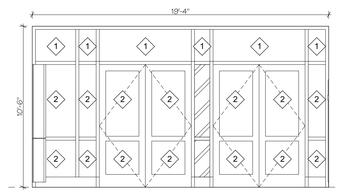
CWJ1 **North Elevation - Stair C**

CWJ2 **West Elevation - Stair C**

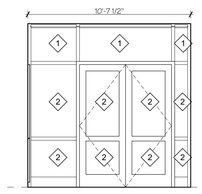


CWJ3 **West Elevation - Stair C**

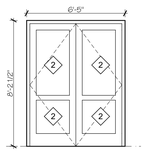
INTERIOR CURTAINWALL TYPES



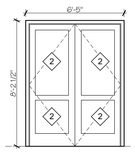
CWB2 **Front Entrance Interior Curtainwall**



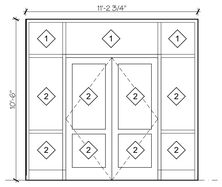
CWG6 **Playground Entrance Interior Curtainwall**



CWG7 **Cafeteria Entrance Interior Curtainwall**



CWE16 **Gym Lobby Interior Entrance**



CWD2 **West Entrance Interior Curtainwall**

GLAZING SCHEDULE
(BY SECT 080001-MTL WINDOWS)

1. 1/4" CLEAR FLOAT GLASS
2. 1/4" LAMINATED SAFETY GLASS
3. 1 3/4" TRIPLE GLAZED INSULATED LOW-E GLASS
4. 1 3/4" TEMPERED TRIPLE GLAZED INSULATED LOW-E GLASS
5. 1 3/4" TRIPLE GLAZED INSULATED SPANDREL LOW-E GLASS
6. 2-3/4" INSULATED TRANSLUCENT SANDWICH PANEL DAYLIGHTING SYSTEM

GLAZING LEGEND

SB60 SOLAR CONTROL 1 (AT NORTH & EAST ELEVATIONS)

SB70 SOLAR CONTROL 2 (AT SOUTH & WEST ELEVATIONS)

GENERAL NOTES

1. ALL ROUGH OPENINGS SHALL BE FIELD VERIFIED PRIOR TO WINDOW FABRICATION.
2. ALL CLEAR GLASS IS INSIDE GLAZED U.N.O.
3. ALL SPANDREL GLASS IS OUTSIDE GLAZED U.N.O.
4. ALL WINDOW FRAMES, EXTENSIONS, AND CURTAINWALL COMPONENTS ARE COLOR 1 U.N.O.
5. FILL ALL VOIDS AND CAVITY WALLS (FURN BY SECT 072100-INSUL, INST BY SECT 080001-MTL WINDOWS) WITH SEMI-RIGID INSULATION.
6. EXTEND ALL FLASHINGS MIN. OF 6" BEYOND WINDOW OPENINGS. TURN UP END DAMS AT FLASHINGS, TYPICAL FOR ALL OPENINGS.
7. SEE TYPICAL A\VB LAPPING DIAGRAMS ON SHEET 4.1.03.
8. A&VB SHALL OVERLAP ALL HEAD & SUBFLASHING A MIN.OF 4".
9. INTERNAL STEEL REINFORCEMENT TO BE USED TO MAINTAIN WINDOW PROFILES WHERE NOTED. NO EXTERNAL REINFORCING WILL BE ACCEPTED.
10. PROVIDE ISOLATION TAPE, OR OTHERWISE ISOLATE ALL DISIMILAR METALS.
11. COORDINATE MASONRY TIES WITH A&VB AND FLASHING. SEAL ALL A&VB AND FLASHING PENETRATIONS WATER TIGHT.

GLAZING GRAPHICS LEGEND

- INSULATED SPANDREL GLASS (BY SECT 080001-MTL WINDOWS)
- FROSTED GLASS (BY SECT 080001-MTL WINDOWS)
- ALUMINUM INFILL PANEL (BY SECT 080001-MTL WINDOWS)
- ANCHOR ATTACHMENTS (BY SECT 080001-MTL WINDOWS)

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ, TRJ

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Curtainwall Elevations

4.1.02

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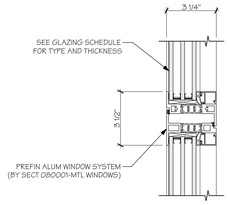
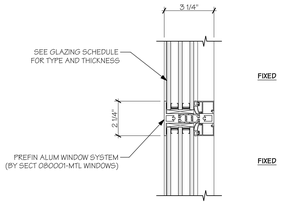


1 TYP **Horiz Mullion - Fixed / Project Out**
SCALE: 3" = 1'-0"



7 TYP **Horiz Mullion - Fixed-Fixed**
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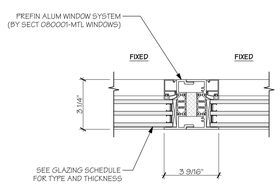

2 TYP **Vert Stack Mullion - Fixed-Fixed**
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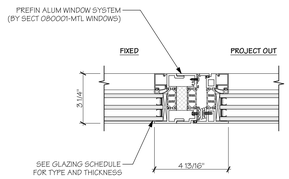

3 TYP **Vert Stack Mullion - Fixed-Project Out**
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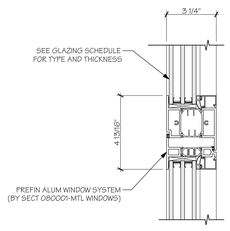

4 TYP **Horiz Meeting Rail - Fixed / Project Out**
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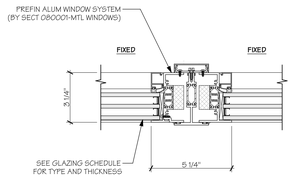

5 TYP **Vert Mullion - Fixed-Fixed**
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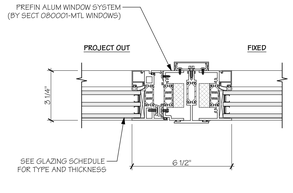
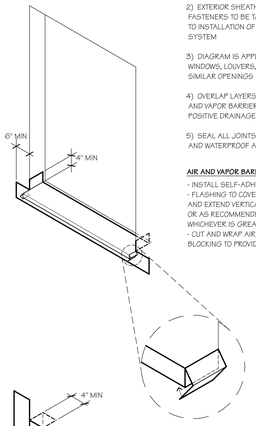


6 TYP **Vert Mullion - Project Out-Fixed**
SCALE: 3" = 1'-0"



AIR AND VAPOR BARRIER LAPPING DIAGRAM 1
- INSTALL SELF-ADHERED PAN FLASHING AT SILL
- FLASHING TO COVER FULL DEPTH OF OPENING AND EXTEND VERTICALLY UP JAMBS MINIMUM 4" OR AS RECOMMENDED BY MANUFACTURER, WHICHEVER IS GREATER
- CUT AND WRAP AIR AND VAPOR BARRIER AROUND BLOCKING TO PROVIDE CONTINUOUS COVERAGE

AIR AND VAPOR BARRIER LAPPING DIAGRAM 2
- INSTALL SELF-ADHERED FLASHING AT SIDES OF OPENING AND FOLD ONTO HEAD AND JAMBS
- OVERLAP SILL FLASHING
- EXTEND JAMB FLASHING MINIMUM 1-INCH GREATER THAN SILL FLASHING
- FLASHING TO COVER FULL DEPTH OF OPENING AND EXTEND HORIZONTALLY AT HEAD MINIMUM 4" OR AS RECOMMENDED BY MANUFACTURER, WHICHEVER IS GREATER

AIR AND VAPOR BARRIER LAPPING DIAGRAM 3
- INSTALL SELF-ADHERED FLASHING AT TOP OF OPENING AND FOLD ONTO HEAD AND JAMBS
- OVERLAP SILL FLASHING
- EXTEND HEAD FLASHING MINIMUM 1-INCH GREATER THAN JAMB FLASHING VERTICALLY AND HORIZONTALLY
- FLASHING TO COVER FULL DEPTH OF OPENING AND EXTEND VERTICALLY DOWN JAMBS MINIMUM 4" OR AS RECOMMENDED BY MANUFACTURER, WHICHEVER IS GREATER

AIR AND VAPOR BARRIER LAPPING DIAGRAM 4
- INSTALL AIR AND VAPOR BARRIER MEMBRANE SYSTEM, OVERLAP FLASHING AT OPENING MINIMUM 4" OR AS RECOMMENDED BY MANUFACTURER, WHICHEVER IS GREATER

8 TYP **Air & Vapor Barrier at Openings Diagrams**
NOT TO SCALE

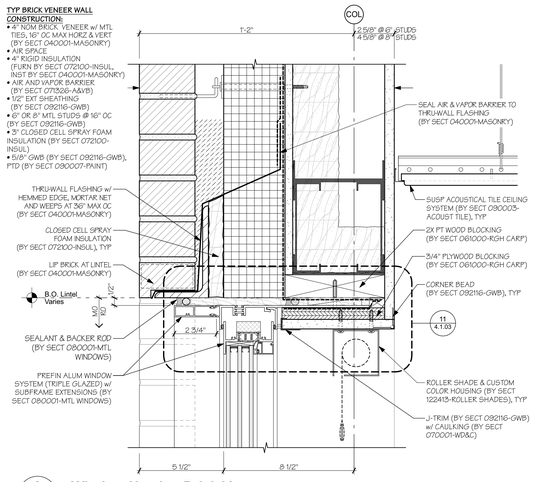
GENERAL NOTES
1) AIR AND VAPOR BARRIER AND ASSOCIATED SEALANTS BY SECTION 071326-A&VB

2) EXTERIOR SHEATHING SYSTEM JOINTS AND FASTENERS TO BE TAPED AND SEALED PRIOR TO INSTALLATION OF AIR AND VAPOR BARRIER SYSTEM

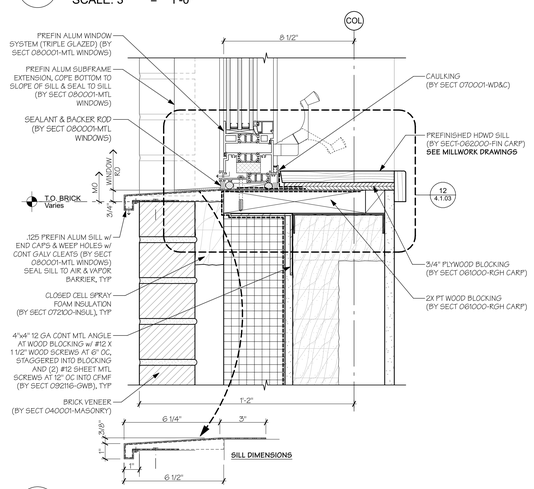
3) DIAGRAM IS APPLICABLE TO EXTERIOR WINDOWS, LOUVERS, DOORS AND OTHER SIMILAR OPENINGS

4) OVERLAP LAYERS OF FLASHING AND AIR AND VAPOR BARRIER MEMBRANE TO CREATE POSITIVE DRAINAGE AT ALL CONDITIONS, TYP

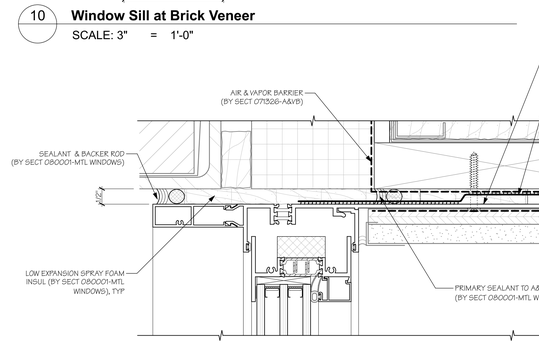
5) SEAL ALL JOINTS TO CREATE A CONTINUOUS AND WATERPROOF AIR AND VAPOR BARRIER



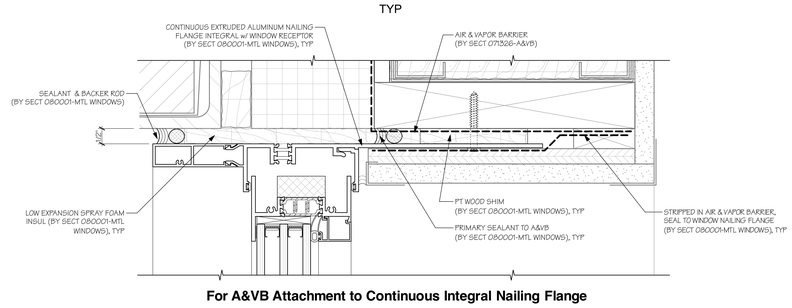
9 **Window Head at Brick Veneer**
SCALE: 3" = 1'-0"



10 **Window Sill at Brick Veneer**
SCALE: 3" = 1'-0"

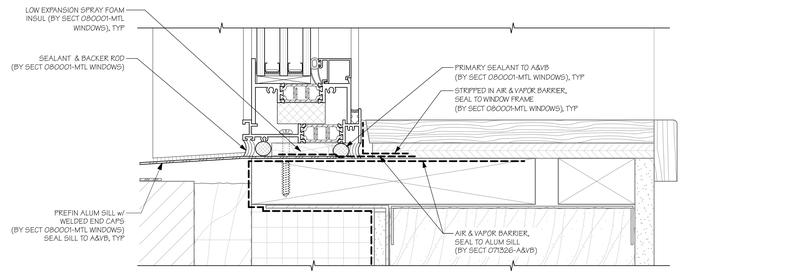


Alternate Detail - For Attachment to Non-Continuous Clips
TYP

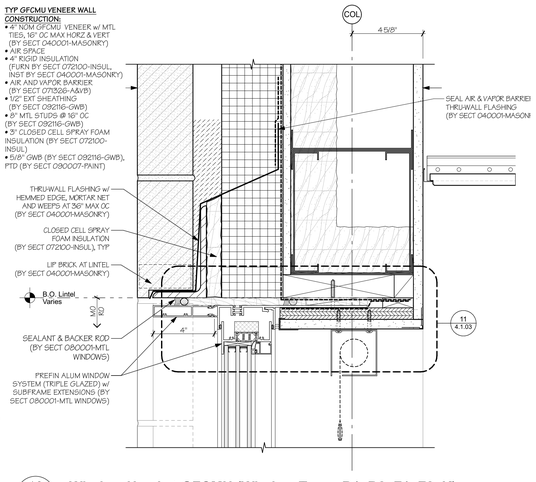


For A&VB Attachment to Continuous Integral Nailing Flange

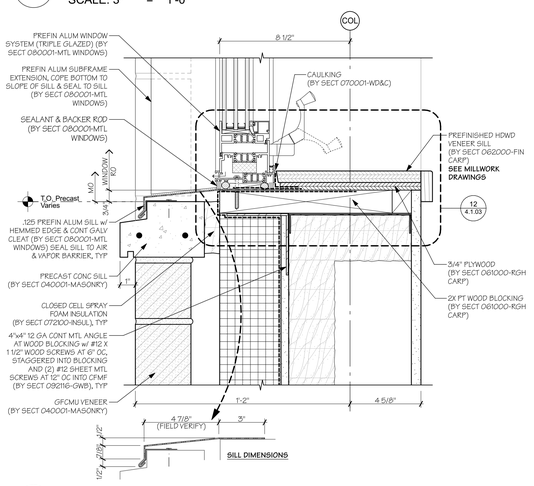
11 TYP **Window Head Air & Vapor Barrier Tie-In (Jamb Similar)**
SCALE: 6" = 1'-0"



12 TYP **Window Sill Air & Vapor Barrier Tie-In**
SCALE: 6" = 1'-0"



13 **Window Head at GFCMU (Window Types B1, B2, F1, F2, K)**
SCALE: 3" = 1'-0"



14 **Window Sill at GFCMU / Precast Sill (Window Types B1, B2, K)**
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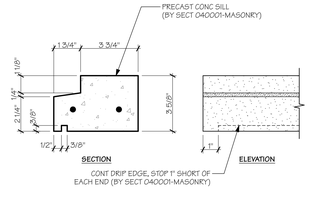

15 **Precast Sill Dimensions**
SCALE: 3" = 1'-0"

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Window Details

4.1.03

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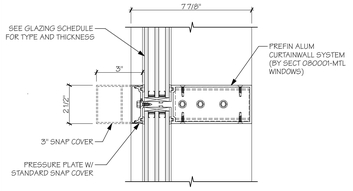
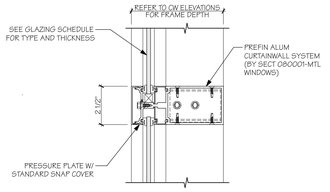
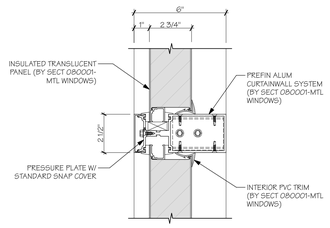


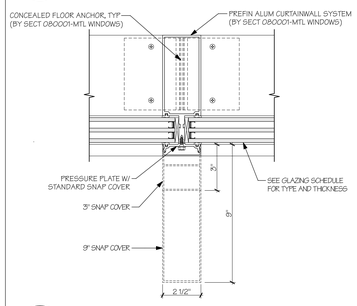
AA TYP **Horizontal Mullion - Exterior**
SCALE: 3" = 1'-0"



GG TYP **Horizontal Mullion - Interior**
SCALE: 3" = 1'-0"



NN TYP **Horizontal Mullion at Translucent Panels**
SCALE: 3" = 1'-0"



BB TYP **Vertical Mullion - Exterior**
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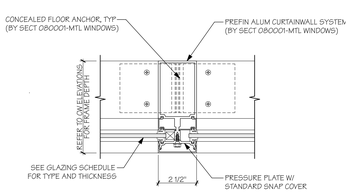
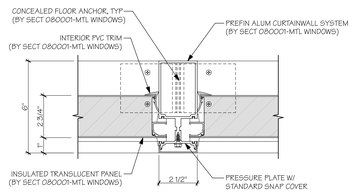
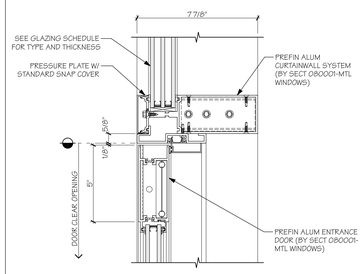


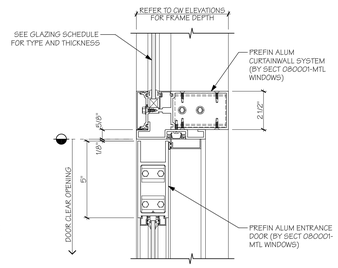
HH TYP **Vertical Mullion - Interior**
SCALE: 3" = 1'-0"



PP TYP **Vertical Mullion at Translucent Panels**
SCALE: 3" = 1'-0"



CC TYP **Horiz Mullion at Door Head - Exterior**
SCALE: 3" = 1'-0"



JJ TYP **Horiz Mullion at Door Head - Interior**
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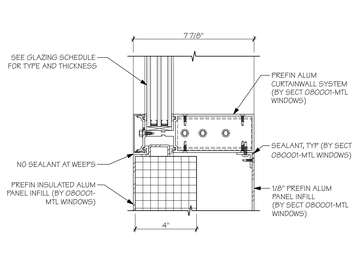
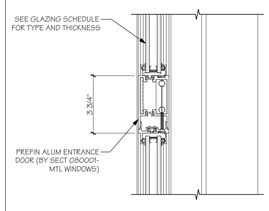
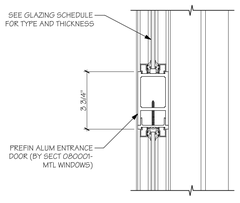


QQ TYP **Horiz Mullion w/ Metal Infill Panel - Ext**
SCALE: 3" = 1'-0"



DD TYP **Door Mid-Rail - Exterior**
SCALE: 3" = 1'-0"



KK TYP **Door Mid-Rail - Interior**
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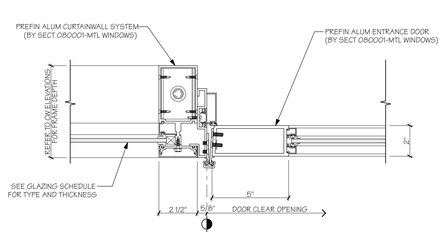
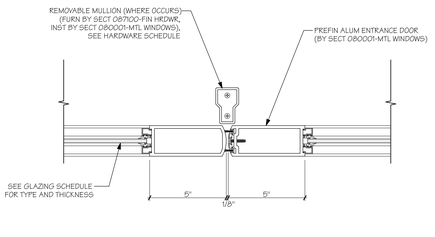


RR TYP **Vertical Mullion at Door Jamb - Interior**
SCALE: 3" = 1'-0"



UU TYP **Door Meeting Stiles - Interior**
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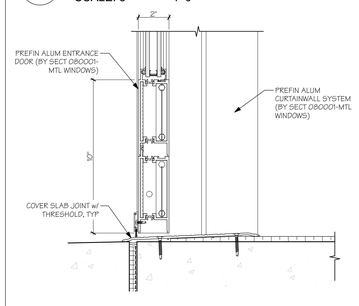
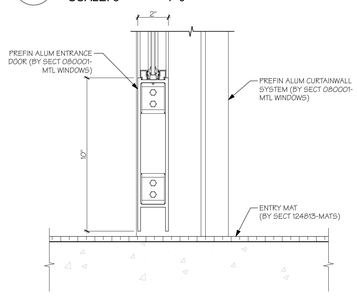
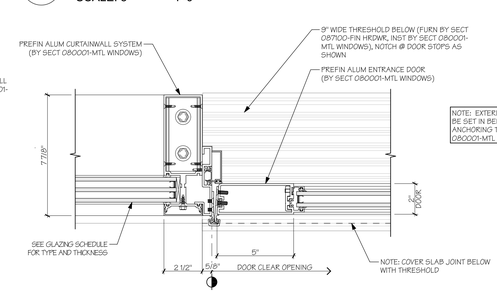


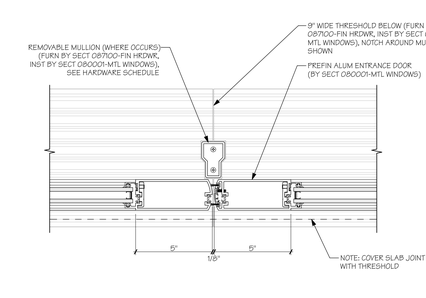
EE TYP **Door Bottom Rail - Exterior**
SCALE: 3" = 1'-0"



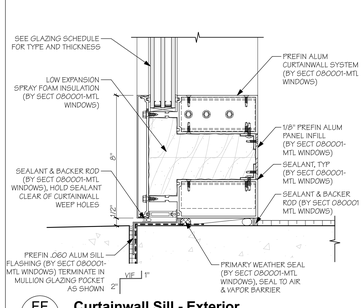
LL TYP **Door Bottom Rail - Interior**
SCALE: 3" = 1'-0"



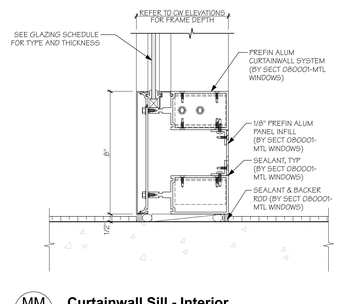
SS TYP **Vertical Mullion at Door Jamb - Exterior**
SCALE: 3" = 1'-0"



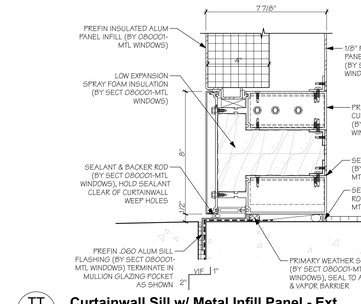
VV TYP **Door Meeting Stiles - Exterior**
SCALE: 3" = 1'-0"



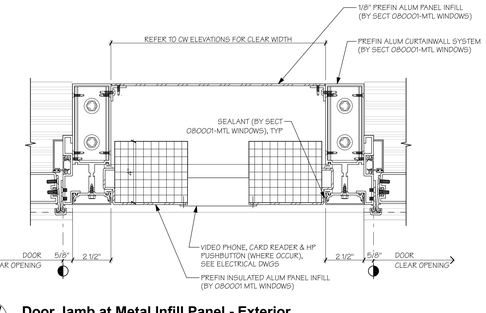
FF TYP **Curtainwall Sill - Exterior**
SCALE: 3" = 1'-0"



MM TYP **Curtainwall Sill - Interior**
SCALE: 3" = 1'-0"



TT TYP **Curtainwall Sill w/ Metal Infill Panel - Ext**
SCALE: 3" = 1'-0"



WW TYP **Door Jamb at Metal Infill Panel - Exterior**
SCALE: 3" = 1'-0"

COUNTRYSIDE ELEMENTARY SCHOOL

Newton,, MA

DINISCO DESIGN
architects + planners

99 Chauncy Street, Suite 901
Boston, MA 02111
(617) 426-2858

Horsley Witten Group
Civil & Environmental Engineers
90 Route 6A, Unit 1
Sandwich, MA 02563
(508) 833-6600

Brown Sardina, Inc.
Landscape Architects
24 Roland Street
Boston, MA 02129
(617) 482-4703

Foley Buhl Roberts & Assoc., Inc.
Structural Engineers
2150 Washington Street
Newton, MA 02462
(617) 527-9600

Crabtree McGrath Assoc., Inc.
Food Service Consultants
161 West Main Street
Georgetown, MA 01833
(978) 352-8500

VAV International, Inc.
FP, Plumbing, & Mechanical Engineers
400 West Cummings Park S. 4700
Woburn, MA 01801
(781) 935-7228

Thompson Engineering Company, Inc.
Electrical Engineers
89 Newbury Street
Danvers, MA 01923
(617) 886-9066

EdVance Technology Design, Inc.
Technology Consultants
300 Brickstone Square, Suite 201
Andover, MA 01880
(978) 256-9900

KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: 0 4" 8"

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Curtainwall Details

4.1.04

© 2024 DiNisco Design - [36" x 42"] - 2/21/24

DOOR SCHEDULE

DOOR NO.		DOOR							HARDWARE SET	FRAME						NOTES/REMARKS (See Notes On Sheet 4.X)
ROOM	#	TYPE	WIDTH	HT	THK	MAT	FIN	LABEL		TYPE	MAT	FIN	HEAD	JAMB	THRESH	
100	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	6	HM	PTD	1/4.2.03	1/4.2.03	-	
100B	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	3	HM	PTD	1/4.2.03	1/4.2.03	-	
101	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	3	HM	PTD	1/4.2.03	1/4.2.03	-	
101	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	3	HM	PTD	1/4.2.03	1/4.2.03	-	
102	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
103	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	3	HM	PTD	1/4.2.03	1/4.2.03	-	
104	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	-	
105	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
105A	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	2/4.2.03 3/4.2.03	15/4.2.04	G90, UC, NPH
105B	1	A	2'-8"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	-	
106	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	2/4.2.03	15/4.2.04	G90, UC
107	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	5A	HM	PTD	13/4.2.03 14/4.2.03	13/4.2.03 14/4.2.03	-	
107	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	5A	HM	PTD	13/4.2.03 14/4.2.03	13/4.2.03 14/4.2.03	-	
107A	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	-	
107A	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	12	HM	PTD	1/4.2.03	1/4.2.03	-	
107B	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	12	HM	PTD	1/4.2.03	1/4.2.03	-	
108	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	2/4.2.03	15/4.2.04	G90, UC
108A	1	A	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	G90, UC
109	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	5	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	-	NPH
109	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	7/4.2.03	7/4.2.03 9/4.2.03	-	NPH
109A	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	2/4.2.03 3/4.2.03	15/4.2.04	G90, UC, NPH
110	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	5	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	-	NPH
110A	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	2/4.2.03 3/4.2.03	15/4.2.04	G90, UC, NPH
112	1	AA	5'-6"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
113A	1	A	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	16/4.2.04	NPH
113B	1	B	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	-	NPH, Laminated Glass
114	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	8	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	-	NPH
115	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	5	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	-	NPH
115A	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	2/4.2.03 3/4.2.03	15/4.2.04	G90, UC, NPH
116	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	5	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	-	
116	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	7/4.2.03	7/4.2.03 9/4.2.03	-	NPH
116A	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	2/4.2.03 3/4.2.03	15/4.2.04	G90, UC, NPH
117	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	3	HM	PTD	1/4.2.03	1/4.2.03	-	
118	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	9	HM	PTD	1/4.2.03	1/4.2.03	-	
119	1	C	6'-0"	8'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	-	
119	2	C	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	10	HM	PTD	1/4.2.03	1/4.2.03	-	
119A	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
119B	1	C	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	10	HM	PTD	1/4.2.03	1/4.2.03	-	
119C	1	E	6'-0"	8'-0"	2"	ALUM	-	-	-	CWG4	ALUM	-			9/4.2.04	CR
119C	2	F	6'-0"	8'-0"	2"	ALUM	-	-	-	CWG7	ALUM	-			1/4.2.04	CR
119D	1	AA	6'-0"	8'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
121	1	A	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	7/4.2.03 SIM	
121	2	A	3'-0"	8'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	7/4.2.03 SIM	G90
121A	1	B	3'-0"	7'-0"	-	WD	NAT	-	-	1	HM	PTD	5/4.2.03	6/4.2.03	-	G90
121D	1	-	3'-0"	7'-0"	0.00"	-	-	-	-	1N	HM	PTD	5/4.2.03 SIM	6/4.2.03 SIM	-	G90
121E	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1M	HM	PTD	5/4.2.03	6/4.2.03	-	G90, UC
121F	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1M	HM	PTD	5/4.2.03	6/4.2.03	-	G90
122	1	F	6'-0"	8'-0"	2"	ALUM	-	-	-	CWE16	ALUM	-			10/4.2.04	180° Swing
122	2	D	3'-0"	8'-0"	2"	ALUM	-	-	-	CWE8	ALUM	-			3/4.2.04	
122	3	E	6'-0"	8'-0"	2"	ALUM	-	-	-	CWE15	ALUM	-			3/4.2.04	
122A	1	BB	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	2M	HM	PTD	5/4.2.03 SIM	6/4.2.03 SIM	10/4.2.04	
123	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
123	2	AA	6'-0"	7'-0"	1 3/4"	HM	PTD	-	-	2M	HM	PTD			14/4.2.04	G90, TBF, CR
123A	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	2M	HM	PTD	5/4.2.03	6/4.2.03	-	G90
123B	1	A	3'-6"	7'-0"	1 3/4"	WD	NAT	90 Min	-	1M	HM	PTD	5/4.2.03	6/4.2.03	-	G90
123C	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	3M	HM	PTD	5/4.2.03 11/4.2.03	6/4.2.03 12/4.2.03	-	G90
123D	1	A	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1M	HM	PTD	5/4.2.03	6/4.2.03	-	G90
125	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	3	HM	PTD	1/4.2.03	1/4.2.03	-	
126	1	A	3'-0"	7'-0"	-	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 2/4.2.03	15/4.2.04	G90, UC
127B	1	-	3'-0"	7'-0"	-	-	-	-	-	1A	HM	PTD	4/4.2.03	4/4.2.03	15/4.2.04	G90
127G	1	-	3'-0"	7'-0"	0.00"	-	-	-	-	1A	HM	PTD	4/4.2.03	4/4.2.03	15/4.2.04	G90
128	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 2/4.2.03	15/4/2.04	G90, UC
200	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
201	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
202	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
203	1	AA	6'-8"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
204	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	8	HM	PTD	1/4.2.03	1/4.2.03	-	
205	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
205	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	7/4.2.03	7/4.2.03	-	
206	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
208	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 2/4.2.03	15/4.2.04	G90, UC
209	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	G90
210	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 2/4.2.03	15/4.2.04	G90, UC
212B	1	-	4'-0"	7'-0"	1.75"	-	-	-	-	1A	HM	PTD	4/4.203	4/4.2.03	15/4.2.04	G90
212G	1	-	4'-0"	7'-0"	1.75"	-	-	-	-	1A	HM	PTD	4/4.2.03	4/4.2.03	15/4.204	G90
213A	1	A	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	16/4.2.04	NPH
213B	1	B	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	-	NPH, Laminated Glass
214	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
215	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	-	
216	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	-	NPH
216A	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	2/4.2.03 3/4.2.03	15/4.2.03	G90, UC, NPH
216C	1	B	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	-	NPH, Laminated Glass
217	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
217	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	7/4.2.03	7/4.2.03	-	
218	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
220	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
221	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
222	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
223	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
223	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	7/4.2.03	7/4.2.03	-	
224	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	8	HM	PTD	1/4.2.03	1/4.2.03	-	
225	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
227	1	AA	4'-8"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
227	2	AA	4'-8"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
228	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
229	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
230	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 2/4.2.03	15/4.2.04	G90, UC
231	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
231	2	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
233	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
234	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
234	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	7/4.2.03	7/4.2.03	-	
235	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 2/4.2.03	15/4.2.04	G90, UC
236	1	C	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	10	HM	PTD	1/4.2.03	1/4.2.03	5/4.2.04	
236A	1	C	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	10	HM	PTD	1/4.2.03	1/4.2.03	5/4.2.04	
236C	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	13	HM	PTD	1/4.2.03	1/4.2.03	-	
237	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
238	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	7	HM	PTD	1/4.2.03	1/4.2.03	-	
238A	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	-	
238B	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	-	

DOOR SCHEDULE

DOOR NO.		DOOR							HARDWARE SET	FRAME						NOTES/REMARKS (See Notes On Sheet 4.X)
ROOM	#	TYPE	WIDTH	HT	THK	MAT	FIN	LABEL		TYPE	MAT	FIN	HEAD	JAMB	THRESH	
300	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
300A	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	-	
302	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
303	1	AA	6'-8"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
304	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	8	HM	PTD	1/4.2.03	1/4.2.03	-	
305	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
305	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	7/4.2.03	7/4.2.03	-	
306	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
310	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 2/4.2.03	15/4.2.04	G90, UC
312B	1	-	4'-0"	7'-0"	0.00"	-	-	-	-	1A	HM	PTD	3/4.2.03	3/4.2.03	15/4.2.04	G90
312G	1	-	4'-0"	7'-0"	0.00"	-	-	-	-	1A	HM	PTD	3/4.2.03	3/4.2.03	15/4.2.04	G90
313	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 2/4.203	15/4.2.04	G90, UC
314	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	8	HM	PTD	1/4.2.03	1/4.2.03	-	
316	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
316	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	7/4.2.03	7/4.2.03	-	
317	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
318	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
320	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
321	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
322	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
323	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
323	2	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	7/4.2.03	7/4.2.03	-	
324	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	8	HM	PTD	1/4.2.03	1/4.2.03	-	
325	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
326	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	G90
327	1	AA	5'-8"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
327	2	AA	5'-8"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
328	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
329	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
330	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 2/4.2.03	15/4.2.04	G90, UC
331	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	-	-	2	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
332A	1	A	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 3/4.2.03	16/4.2.04	NPH
332B	1	B	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 3/4..2.03	-	NPH, Laminated Glass
333	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
333B	1	B	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	-	NPH, Laminated Glass
334	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
335	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03 2/4.2.03	15/4.2.04	G90, UC
336	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	CR
337	1	AA	5'-0"	7'-0"	1 3/4"	WD	NAT	90 Min	-	2	HM	PTD	10/4.2.03	10/4.2.03	4//4.2.04	
338	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	60 Min	-	1	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
339	1	A	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
340	1	A	3'-6"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	4/4.2.04	
340A	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	1	HM	PTD	1/4.2.03	1/4.2.03	-	
341	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
342	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
343	1	A	3'-0"	7'-0"	1 3/4"	WD	NAT	-	-	4	HM	PTD	1/4.2.03	1/4.2.03	-	
C100	1	E	6'-0"	8'-0"	2"	ALUM	-	-	-	CWB1	ALUM	-			1/4.2.04	CR, DO
C100	2	E	6'-0"	8'-0"	2"	ALUM	-	-	-	CWB1	ALUM	-			1/4.2.04	CR, DO
C100	3	F	6'-0"	8'-0"	2"	ALUM	-	-	-	CWB2	ALUM	-			8/4.2.03	DO
C100	4	F	6'-0"	8'-0"	2"	ALUM	-	-	-	CWB2	ALUM	-			8/4.2.03	DO
C102	1	E	6'-0"	8'-0"	2"	ALUM	-	-	-	CWG1	ALUM	-			1/4.2.04	CR, DO
C102	2	F	6'-0"	8'-0"	2"	ALUM	-	-	-	CWG6	ALUM	-			8/4.2.04	DO
C104	1	AA	7'-0"	7'-0"	1 3/4"	WD	NAT	-	-	11	HM	PTD			10/4.2.04	MAG
C107	1	E	6'-0"	8'-0"	2"	ALUM	-	-	-	CWD1	ALUM	-			1/4.2.04	CR
C107	2	F	6'-0"	8'-0"	2"	ALUM	-	-	-	CWD2	ALUM	-			8/4.2.04	
SA01	1	E	6'-0"	8'-0"	2"	ALUM	-	-	-	CWH5	ALUM	-			12/4.2.04	
SA01	2	AA	6'-0"	8'-0"	1 3/4"	WD	NAT	60 Min	-	2	HM	PTD	1/4.2.03	1/4.2.03	-	MAG
SA02	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	60 Min	-	10	HM	PTD	1/4.2.03	1/4.2.03	-	
SA03	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	60 Min	-	10	HM	PTD	1/4.2.03	1/4.2.03	-	
SA04	1	A	3'-6"	7'-0"	1 3/4"	HM	PTD	-	-	1	HM	PTD				
SB01	1	E	6'-0"	8'-0"	2"	ALUM	-	-	-	CWC	ALUM	-			12/4.2.04 SIM	
SB01	2	AA	6'-0"	8'-0"	1 3/4"	WD	NAT	60 Min	-	2	HM	PTD	1/4.2.03	1/4.2.03	-	
SB02	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	60 Min	-	10	HM	PTD	1/4.2.03	1/4.2.03	-	
SB03	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	60 Min	-	10	HM	PTD	1/4.2.03	1/4.2.03	-	
SC01	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	60 Min	-	10	HM	PTD	1/4.2.03	1/4.2.03	-	
SC02	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	60 Min	-	10	HM	PTD	1/4.2.03	1/4.2.03	-	
SC03	1	AA	6'-0"	7'-0"	1 3/4"	WD	NAT	60 Min	-	10	HM	PTD	1/4.2.03	1/4.2.03	-	
SC04	1	A	3'-0"	4'-3 1/2"	1 3/4"	HM	PTD	-	-	1	HM	PTD				

DOOR SCHEDULE NOTES

CR	Card Reader / Electronic Hardware
DO	Door Operators & Actuators
MAG	Magnetic Hold Opens (Coordinate with Electrical Drawings)
NPH	Non-pinch Safety Hinges (No stop rabbet on hinge side of frame) Refer to Detail 3/4.2.03
G90	Hot Dipped Galvanized Frame (& Door if MTL)
TBF	Thermally Broken Exterior Frame
UCD	Undercut Door

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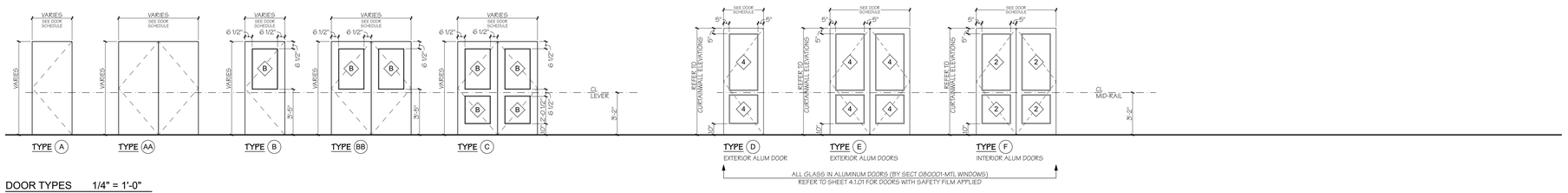
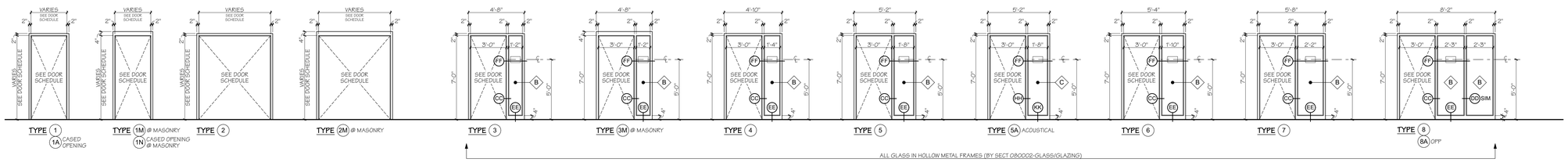
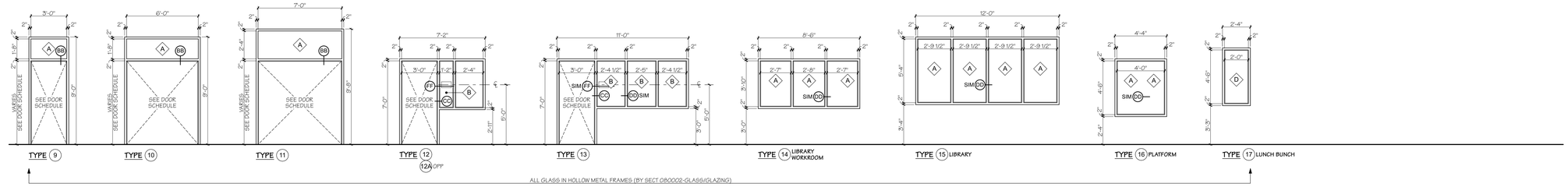
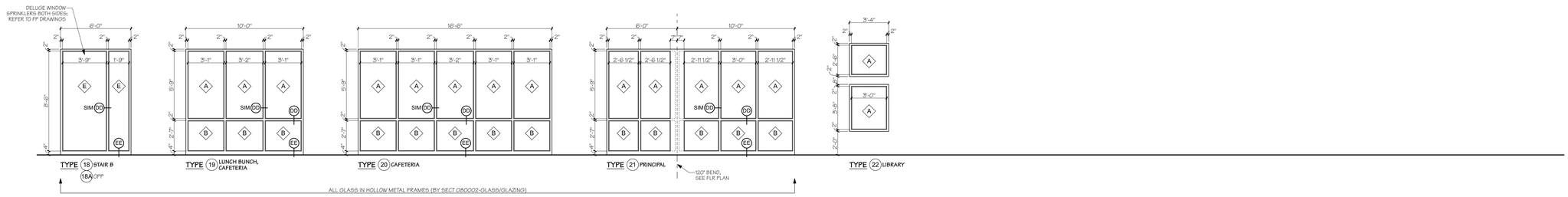


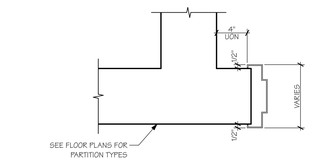
DOOR TYPES 1/4" = 1'-0"



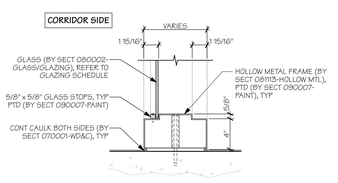




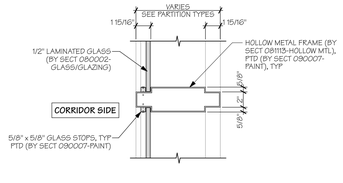
FRAME TYPES 1/4" = 1'-0"



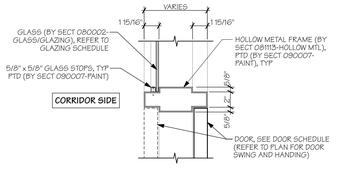
AA TYP **Hinge Jamb at Adjacent Wall**
SCALE: 1 1/2"= 1'-0"



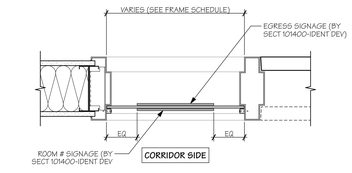
EE TYP **HM Frame - Sill at Floor**
SCALE: 1 1/2"= 1'-0"



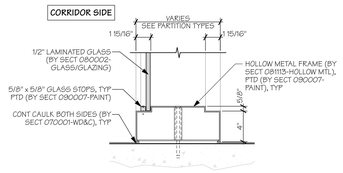
JJ TYP **Acoustic Frame - Horiz Mullion**
SCALE: 1 1/2"= 1'-0"



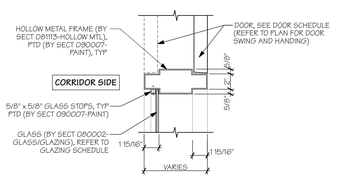
BB TYP **HM Frame - Door Head at Transom**
SCALE: 1 1/2"= 1'-0"



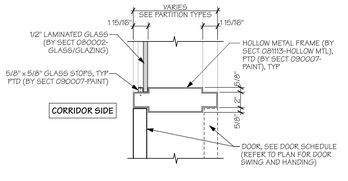
FF TYP **Signage at Sidelight**
SCALE: 1 1/2"= 1'-0"



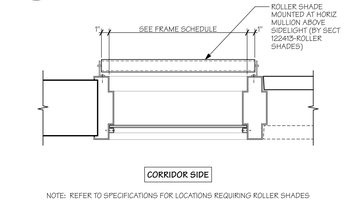
KK TYP **Acoustic Frame - Sill at Floor**
SCALE: 1 1/2"= 1'-0"



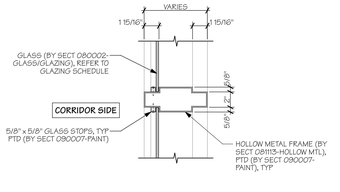
CC TYP **HM Frame - Vert Mullion at Door**
SCALE: 1 1/2"= 1'-0"



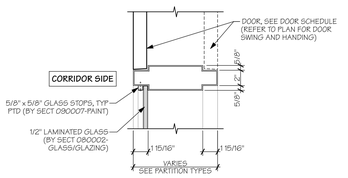
GG TYP **Acoustic Frame - Door Head at Transom**
SCALE: 1 1/2"= 1'-0"



LL TYP **Roller Shade at Sidelight**
SCALE: 1 1/2"= 1'-0"



DD TYP **HM Frame - Horizontal Mullion**
SCALE: 1 1/2"= 1'-0"



HH TYP **Acoustic Frame - Vert Mullion at Door**
SCALE: 1 1/2"= 1'-0"

NOTE: REFER TO SPECIFICATIONS FOR LOCATIONS REQUIRING ROLLER SHADES

LL TYP **Roller Shade at Sidelight**
SCALE: 1 1/2"= 1'-0"

GLAZING SCHEDULE
(BY SECT 080002-GLASS/GLAZING)

A	1/4" CLEAR FLOAT GLASS
B	1/4" CLEAR LAMINATED SAFETY GLASS
C	1/2" CLEAR LAMINATED GLASS (ACOUSTIC)
D	1/2" FROSTED LAMINATED GLASS
E	1/2" FRITTED LAMINATED GLASS

GLAZING SCHEDULE
(BY SECT 080001-MTL WINDOWS)

2	1/4" CLEAR LAMINATED SAFETY GLASS
4	1" TEMPERED, INSULATED LOW-E GLASS

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EdVance Technology Design, Inc.
Technology Consultants
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Andover, MA 01880
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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024
Drawn By: TRJ, ADW
Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Door & Frame Types & Sidelight Details

4.2.02

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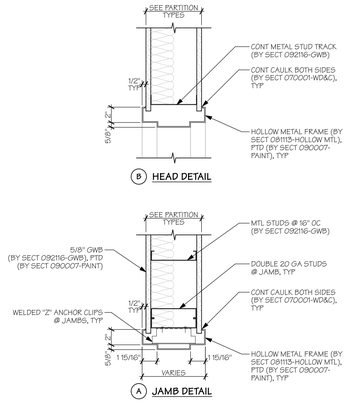
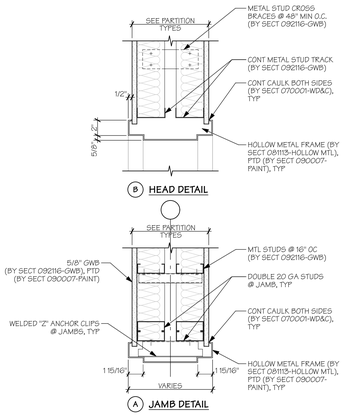


NOTE: REFER TO FLOOR PLAN FOR DOOR SWING AND HANDING

1 TYP Jamb / Head at GWB Partition

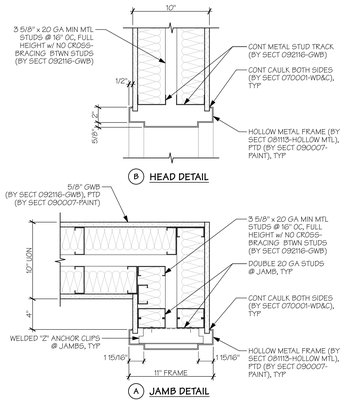
SCALE: 1 1/2"= 1'-0"



NOTE: REFER TO FLOOR PLAN FOR DOOR SWING AND HANDING

7 TYP Jamb / Head at GWB Chase Wall

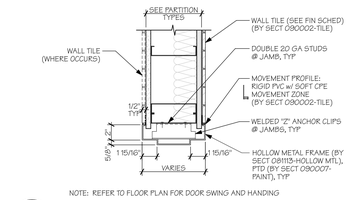
SCALE: 1 1/2"= 1'-0"



NOTE: REFER TO FLOOR PLAN FOR DOOR SWING AND HANDING

13 TYP Jamb / Head at Acoustic Wall

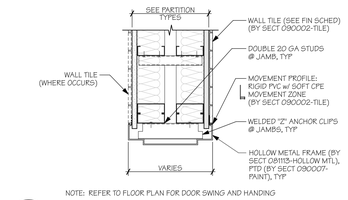
SCALE: 1 1/2"= 1'-0"



NOTE: REFER TO FLOOR PLAN FOR DOOR SWING AND HANDING

2 TYP Jamb at GWB Partition w/ Wall Tile

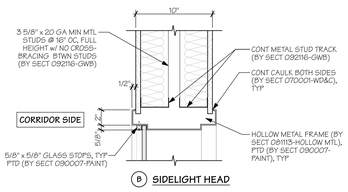
SCALE: 1 1/2"= 1'-0"



NOTE: REFER TO FLOOR PLAN FOR DOOR SWING AND HANDING

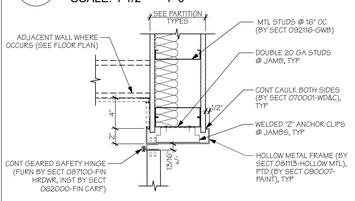
8 TYP Jamb at GWB Chase Wall w/ Wall Tile

SCALE: 1 1/2"= 1'-0"



14 TYP Sidelight Jamb / Head at Acoustic Wall

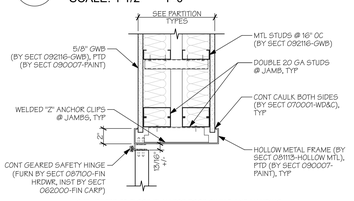
SCALE: 1 1/2"= 1'-0"



NOTE: CASED OPENING FRAME AT HINGE SIDE ONLY

3 TYP Jamb at GWB Partition w/ Safety Hinge

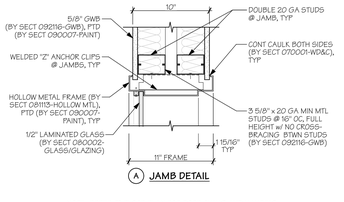
SCALE: 1 1/2"= 1'-0"



NOTE: REFER TO FLOOR PLAN FOR DOOR SWING AND HANDING

9 TYP Jamb at GWB Chase Wall w/ Safety Hinge

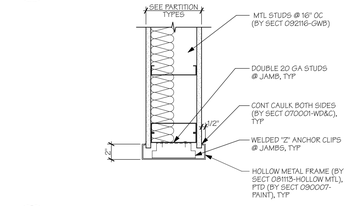
SCALE: 1 1/2"= 1'-0"



NOTE: REFER TO FLOOR PLAN FOR DOOR SWING AND HANDING

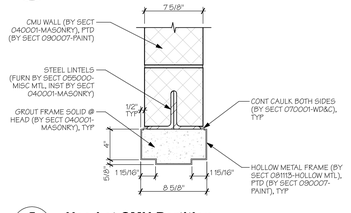
14 TYP Sidelight Jamb / Head at Acoustic Wall

SCALE: 1 1/2"= 1'-0"



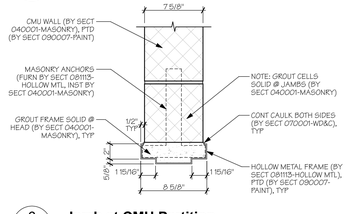
4 TYP Cased Opening Jamb (Head Similar)

SCALE: 1 1/2"= 1'-0"



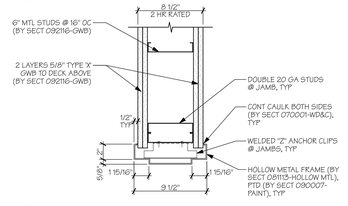
5 TYP Head at CMU Partition

SCALE: 1 1/2"= 1'-0"



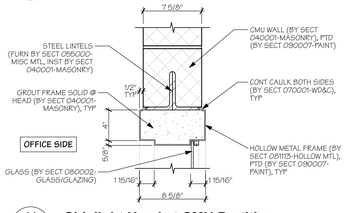
6 TYP Jamb at CMU Partition

SCALE: 1 1/2"= 1'-0"



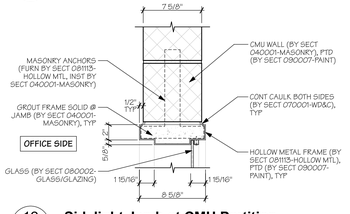
10 TYP Jamb at 2 Hour Rated Wall (Head Similar)

SCALE: 1 1/2"= 1'-0"



11 TYP Sidelight Head at CMU Partition

SCALE: 1 1/2"= 1'-0"



12 TYP Sidelight Jamb at CMU Partition

SCALE: 1 1/2"= 1'-0"

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Technology Consultants
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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: AS NOTED

Revisions

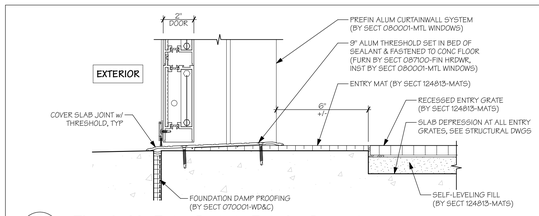
Number	Date	Description

DESIGN DEVELOPMENT

Hollow Metal Door & Frame Details

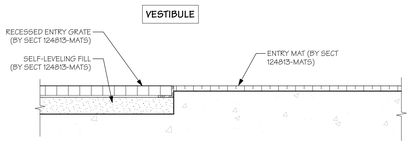
4.2.03

© 2024 DiNisco Design - [36" x 42"] - 2/21/24



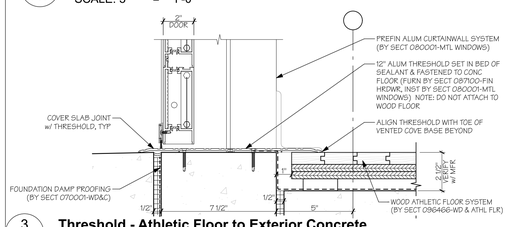
1 TYP **Threshold - Entry Grate to Exterior Concrete**

SCALE: 3" = 1'-0"



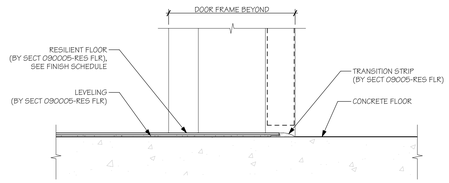
2 TYP **Floor Transition - Entry Grate to Entry Mat**

SCALE: 3" = 1'-0"



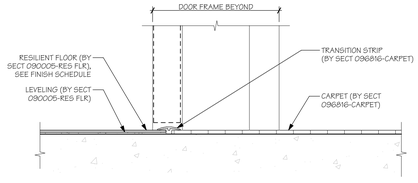
3 TYP **Threshold - Athletic Floor to Exterior Concrete**

SCALE: 3" = 1'-0"



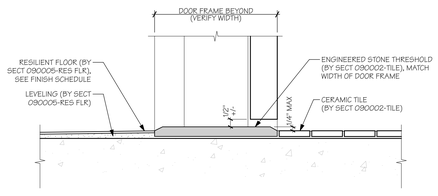
4 TYP **Transition - Resilient Floor to Concrete**

SCALE: 3" = 1'-0"



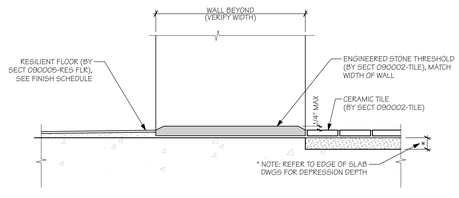
5 TYP **Transition - Resilient Floor to Carpet**

SCALE: 3" = 1'-0"



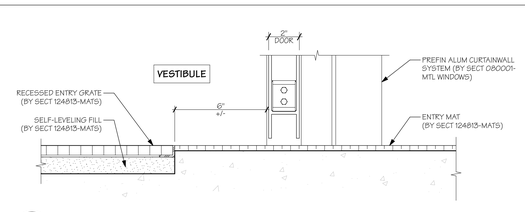
6 TYP **Threshold - Resilient Floor to Ceramic Tile**

SCALE: 3" = 1'-0"



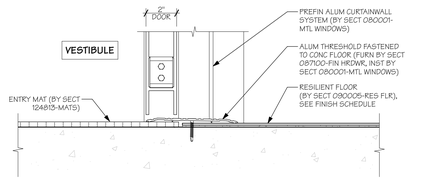
7 TYP **Threshold - Ceramic Tile to Resilient Flooring**

SCALE: 3" = 1'-0"



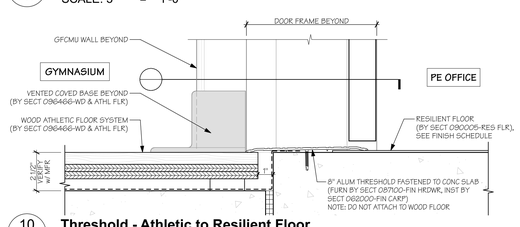
8 TYP **Transition - Entry Grate to Entry Mat**

SCALE: 3" = 1'-0"



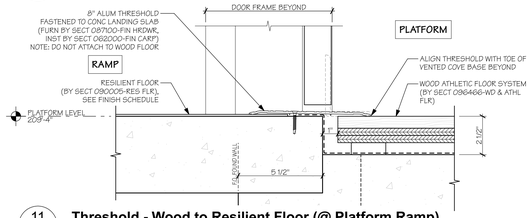
9 TYP **Transition - Entry Mat to Resilient Floor**

SCALE: 3" = 1'-0"



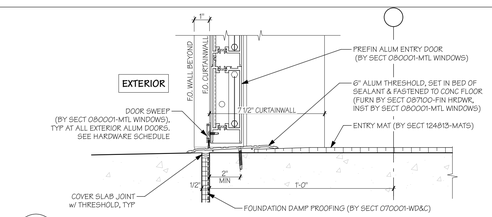
10 TYP **Threshold - Athletic to Resilient Floor**

SCALE: 3" = 1'-0"



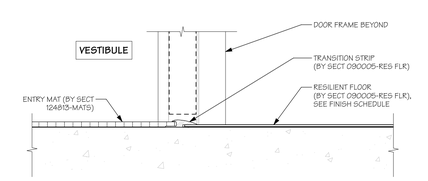
11 TYP **Threshold - Wood to Resilient Floor (@ Platform Ramp)**

SCALE: 3" = 1'-0"



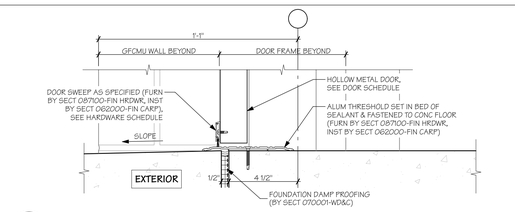
12 TYP **Threshold - Entry Mat to Ext Concrete**

SCALE: 3" = 1'-0"



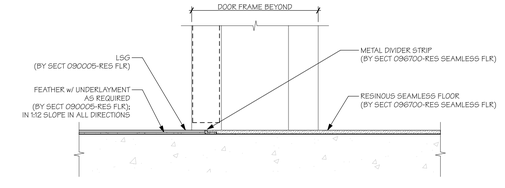
13 TYP **Floor Transition - Entry Mat to Resilient Floor**

SCALE: 3" = 1'-0"



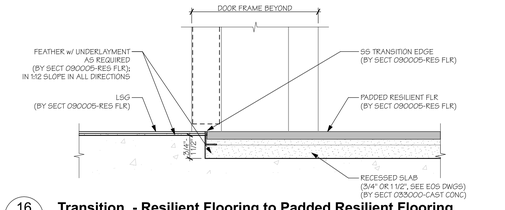
14 TYP **Threshold - Concrete Floor to Exterior Concrete**

SCALE: 3" = 1'-0"



15 TYP **Transition - Resilient Floor to Resinous Seamless Floor**

SCALE: 3" = 1'-0"



16 TYP **Transition - Resilient Flooring to Padded Resilient Flooring**

SCALE: 3" = 1'-0"

GENERAL NOTE:

UNLESS OTHERWISE NOTED, TRANSITIONS BETWEEN DISSIMILAR MATERIALS OR DISSIMILAR COLORS SHALL OCCUR BENEATH DOOR PANEL IN CLOSED POSITION

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: NTS

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Threshold Details

4.2.04

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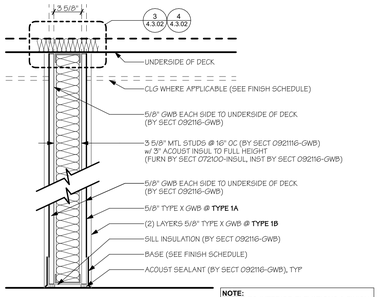
FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WAINSCOT		WALLS								CEILING			NOTES
				FIN	HT	NORTH		EAST		SOUTH		WEST		MAT	FIN	HT	
						MAT	FIN	MAT	FIN	MAT	FIN	MAT	FIN				
	ELEV	LSG	SS	---	---	PLAM	---	PLAM	---	PLAM	---	PLAM	---	SS	---	SEE RCP	
100	GENERAL OFFICE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
100A	CORR	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
100B	CORR	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
101	PRINC	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
102	ASST PRINC	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
103	CONF	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
104	RCRD	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
105	NURSE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
105A	TOILET	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	CT	---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL HT TILE @ WET WALL
105B	STRG	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
106	TOILET	RSF	RSF	CT	4'-8"	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL HT TILE @ WET WALL
107	MUSIC	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
107A	PRACT	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
107B	PRACT	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
108	STAFF	RSF	RSF	CT	4'-8"	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL HT TILE AT WET WALL
108A	MOP	CONC, SEALED	RCB	---	---	GWB; FRP	PTD; ---	GWB; FRP	PTD; ---	GWB; FRP	PTD; ---	GWB; FRP	PTD; ---	ATC	---	SEE RCP	FRP PANELS TO 48" A.F.F.
109	KINDERGARTEN	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
109A	TOILET	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL HT TILE @ WET WALL
110	KINDERGARTEN	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
110A	TOILET	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	CT	---	ATC	---	SEE RCP	FULL HT TILE @ WET WALL
111	PROJECT AREA	LSG	RCB	---	---	GWB	PTD	GWB	PTD	---	---	GWB	PTD	ATC; GWB	PTD	SEE RCP	
112	ELEC	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
113A	VEST	SSF	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	ATC	---	SEE RCP	FULL HEIGHT WALL PADS (6' H. NOMINAL)
113B	Q	SSF	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	ATC	---	SEE RCP	FULL HEIGHT WALL PADS (6' H. NOMINAL)
114	SM GRP	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
115	KINDERGARTEN	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
115A	TOILET	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	CT	---	ATC	---	SEE RCP	KINDERGARTEN: FULL HT TILE @ WET WALL
116	KINDERGARTEN	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
116A	TOILET	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	KINDERGARTEN: FULL HT TILE @ WET WALL
117	TEAM SPCLST/IEP	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
118	EXT DAY	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
119	CAFETERIA	LSG	RCB	---	---	GWB/AR; WD	PTD; NAT FIN	GWB/AR; WD	PTD; NAT FIN	GWB/AR; CT	PTD; ---	GWB/AR; WD	PTD; NAT FIN	ATC; GWB	PTD	SEE RCP	
119A	CAFE STRG	LSG	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	EXP STRUCT	PTD	SEE RCP	
119B	LUNCH BUNCH	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
119C	VEST	MAT; GRATE	RCB	---	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	CT TO 7'-0" A.F.F.
119D	CAFE STRG	LSG	RCB	---	---	CMU	GWF	CMU	GWF	CMU	GWF	CMU	GWF	EXP STRUCT	PTD	SEE RCP	
120	PLATFORM	WOOD	VCB	---	---	GWB/AR	GWF	GWB/AR	GWF	GWB/AR	GWF	GWB/AR	GWF	ATC; GWB	PTD	SEE RCP	
120A	RAMP	LCT	RCB	---	---	GWB/AR; WD	PTD; NAT FIN	GWB/AR; WD	PTD; NAT FIN	GWB/AR; WD	PTD; ---	---	---	ATC	---	SEE RCP	
121	KITCHEN	QT	QT	---	---	GWB; CT	PTD; ---	CMU	GWF	CMU	GWF	CMU	GWF	ATC	---	SEE RCP	CT ON HALF WALL BOTH SIDES AT PREP AREA
121A	KITCHEN OFFICE	QT	QT	---	---	GWB	PTD	CMU	PTD	CMU	PTD	GWB	PTD	ATC	---	SEE RCP	
121B	COOLER	QT	QT	---	---	---	---	---	---	---	---	---	---	---	---	SEE RCP	QT FLOOR/BASE - OTHER FINISHES BY 114000-FOODSERVICE
121C	FREEZER	QT	QT	---	---	---	---	---	---	---	---	---	---	---	---	SEE RCP	QT FLOOR/BASE - OTHER FINISHES BY 114000-FOODSERVICE
121D	MOP	QT	QT	---	---	CMU	GWF	GWB	PTD	GWB; CMU	GWF	CMU	GWF	ATC	---	SEE RCP	FRP ON EAST & SOUTH WALL (BEHIND SLOP SINK) TO 60" AFF
121E	K TOILET	QT	QT	---	---	GWB	PTD	GWB	PTD	CMU	GWF	CMU	GWF	ATC	---	SEE RCP	FULL HT TILE @ WET WALL
121F	DRY STRG	QT	QT	---	---	GWB	PTD	CMU	GWF	CMU	GWF	GWB; CMU	GWF	ATC	---	SEE RCP	
122	GYMNASIUM	WD ATHLETIC	VCB	---	---	GWB; CMU; FAP	PTD	GWB; CMU; FAP	PTD	GWB; CMU; FAP	PTD	GWB; CMU; FAP	PTD	EXP STL	PTD	SEE RCP	SEE INT ELEVATIONS FOR WALL PADS & FAPS
122A	GYM OFF/ STRG	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
123	RCVG/ RECYCLING	CONC, SEALED	RCB	---	---	CMU	PTD	CMU	PTD	CMU	PTD	GWB/AR; CMU	PTD	EXP STRUCT	PTD	SEE RCP	
123A	MAIN ELEC	CONC, SEALED	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	CMU	PTD	GWB/AR	PTD	EXP STRUCT	PTD	SEE RCP	
123B	EE	CONC, SEALED	RCB	---	---	CMU	PTD	GWB/AR	PTD	CMU	PTD	CMU	PTD	EXP STRUCT	PTD	SEE RCP	
123C	CUST OFF	LSG	RCB	---	---	CMU	PTD	GWB	PTD	CMU	PTD	CMU	PTD	ATC	---	SEE RCP	
123D	MECH	CONC, SEALED	RCB	---	---	CMU	PTD	GWB	PTD	CMU	PTD	CMU	PTD	EXP STRUCT	PTD	SEE RCP	
125	PT	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
126	STAFF	RSF	RSF	---	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	CT	---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL HT TILE AT WET WALL
127B	BOYS	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC; GWB	PTD	SEE RCP	FULL HT TILE @ WET WALLS
127G	GIRLS	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC; GWB	PTD	SEE RCP	FULL HT TILE @ WET WALLS
128	UNISEX	RSF	RSF	CT	4'-8"	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL HT TILE @ WET WALL
129	ELEV	LSG	SS	---	---	PLAM	---	PLAM	---	PLAM	---	PLAM	---	SS	---	SEE RCP	
200	ELL	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
201	OT	LCT	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
202	STR RM	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
203	STRG	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
204	SM GRP	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
205	2ND GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
206	2ND GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
207	PROJECT AREA	LSG	RCB	---	---	---	---	GWB	PTD	---	---	GWB	PTD	ATC; GWB	PTD	SEE RCP	
208	STAFF	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	CT	---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL HT TILE AT WET WALL
209	CUST	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	FRP ON EAST & SOUTH WALLS (BEHIND SLOP SINK) TO 60" A.F.F.
210	UNISEX	RSF	RSF	CT	4'-8"	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL HT TILE @ WET WALL
212B	BOYS	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC; GWB	PTD	SEE RCP	FULL HT TILE @ WET WALLS
212G	GIRLS	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC; GWB	PTD	SEE RCP	FULL HT TILE @ WET WALLS
213A	VEST	SSF	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	ATC	---	SEE RCP	FULL HT WALL PADS (6' H. NOMINAL)
213B	Q	SSF	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	ATC	---	SEE RCP	FULL HT WALL PADS (6' H. NOMINAL)
214	BCBA	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
215	CUST STRG	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
216	LOWER SPARK	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
216A	TOILET	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	CT	---	GWB	PTD	ATC	---	SEE RCP	FULL HT TILE @ WET WALL
216B	VEST	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	FULL HT WALL PADS (6' H. NOMINAL)
216C	Q	SSF	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	ATC; GWB	PTD	SEE RCP	FULL HT WALL PADS (6' H. NOMINAL)
217	1ST GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
217A	CORR	LSG	RCB		---	---	---	---	---		---	GWB	PTD	ATC; GWB	PTD	SEE RCP	
218	1ST GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
219	PROJECT AREA	LSG	RCB	---	---	---	---	GWB	PTD	---	---	GWB	PTD	ATC; GWB	PTD	SEE RCP	
220	SPCH/ LANG	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
221	SPED TEACHER	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
222	1ST GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
223	1ST GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
224	SM GRP	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
225	LITERACY CENTER	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
227	S	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	SEE RCP	
228	LIT SPEC	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
229	SPED TEACHING SPACE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
230	STAFF	RSF	RSF	CT	4'-8"	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL HT TILE AT WET WALL
231	ELEC	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
233	2ND GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
234	2ND GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
235	UNISEX	RSF	RSF	CT	4'-8"	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL HT TILE @ WET WALL
236	LIBRARY	CPT	SRB	---	---	---	---	GWB; WD	PTD; NAT FIN	GWB	PTD	GWB; WD	PTD; NAT FIN	ATC; GWB	PTD	SEE RCP	
236A	LIBRARY CLASSROOM	CPT	SRB	---	---	GWB	PTD	GWB	PTD	---	---	GWB	PTD	ATC; GWB	PTD	SEE RCP	
236B	STORYTELLING	CPT	SRB	---	---	GWB; WD	PTD; NAT FIN	GWB	PTD	GWB; WD	PTD; NAT FIN	GWB; WD	PTD; NAT FIN	ATC; GWB	PTD	SEE RCP	
236C	WORK ROOM	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
237	STAFF LUNCH/ WORK ROOM	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
238	ART	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; EXP STRUCT	PTD	SEE RCP	
238A	KILN	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	1 HR CONSTRUCTION
238B	ART STRG	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
300	STAFF LUNCH/ WORK RM	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	

FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WAINSCOT		WALLS								CEILING			
				FIN	HT	NORTH		EAST		SOUTH		WEST		MAT	FIN	HT	
						MAT	FIN	MAT	FIN	MAT	FIN	MAT	FIN				
300A	LACT	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
302	STR RM	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
303	STRG	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
304	SM GRP	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
305	5TH GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
306	5TH GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
307	PROJECT AREA	LSG	RCB	---	---	---	---	GWB	PTD	---	---	GWB	PTD	ATC; GWB	PTD	SEE RCP	
310	UNISEX	RSF	RSF	CT	4'-8"	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL
312B	BOYS	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC; GWB	PTD	SEE RCP	FULL
312G	GIRLS	RSF	RSF	CT	4'-8"	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC; GWB	PTD	SEE RCP	FULL
313	STAFF	RSF	RSF	CT	4'-8"	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL
314	SM GRP	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
315	PROJECT AREA	LSG	RCB	---	---	---	---	GWB	PTD	---	---	GWB	PTD	ATC; GWB	PTD	SEE RCP	
316	4TH GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
317	4TH GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
317A	CORR	LSG	RCB	---	---	GWB/AR	---	GWB/AR	---	GWB/AR	---	GWB/AR	PTD	ATC; GWB	PTD	SEE RCP	
318	3RD GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
319	PROJECT AREA	LSG	RCB	---	---	---	---	GWB	PTD	---	---	---	---	ATC; GWB	PTD	SEE RCP	
320	SPCH/ LANG	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
321	SPED TEACHER	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
322	3RD GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
323	3RD GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
324	SM GRP	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
325	4TH GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
326	CUST	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	FRP
327	S	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	SEE RCP	
328	MATH	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	PTD	SEE RCP	
329	SPED TEACHING SPACE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
330	STAFF	RSF	RSF	CT	4'-8"	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL
331	ELEC	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
332A	VEST	SSF	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	ATC	---	SEE RCP	FULL NON
332B	Q	SSF	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	ATC	---	SEE RCP	FULL NON
333	UPPER SPARK	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
333A	VEST	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
333B	Q	SSF	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	ATC	---	SEE RCP	
334	5TH GRADE	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC; GWB	PTD	SEE RCP	
335	UNISEX	RSF	RSF	CT	4'-8"	CT	---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	GWB; CT	PTD; ---	ATC	---	SEE RCP	FULL
336	DATA	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
337	BDA	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
338	ECR	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
339	CUST STRG	CONC, SEALED	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	EXP STRUCT	PTD	SEE RCP	
340	MECH	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
340A	ELEC	CONC, SEALED	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	EXP STRUCT	PTD	SEE RCP	
341	SOC WORK	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
342	PSYCH	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
343	SEL/ INTV	LSG	RCB	---	---	GWB	PTD	GWB	PTD	GWB	PTD	GWB	PTD	ATC	---	SEE RCP	
C100	VEST	MAT; GRATE	RCB	---	---	GWB/AR	PTD	GWB/AR; WD	PTD; NAT FIN	GWB/AR	PTD	GWB/AR; CT, WD	PTD; NAT FIN; ---	ATC	---	SEE RCP	
C101A	LOBBY	LSG	RCB	---	---	GWB/AR	PTD	GWB/AR; CT; WD	PTD; NAT FIN; ---	GWB/AR; CT, WD	PTD; NAT FIN; ---	GWB/AR; WD	PTD; NAT FIN	ATC; GWB	PTD	SEE RCP	SEE TILE
C101B	LOBBY	LSG	RCB	---	---	GWB/AR; CT; WD	PTD; NAT FIN; ---	---	---	GWB/AR; CT, WD	PTD; NAT FIN; ---	GWB/AR	PTD	ATC; GWB	PTD	SEE RCP	SEE TILE
C102	VEST	MAT; GRATE	RCB	---	---	GWB/AR; WD	PTD; ---	GWB/AR	PTD	GWB/AR; CT	PTD; ---	GWB/AR; CT	PTD; ---	ATC	---	SEE RCP	
C103	CORR	LSG	RCB	---	---	GWB/AR; CT	PTD; ---	GWB/AR; CT	PTD; ---	GWB/AR; CT	PTD; ---	GWB/AR	PTD	ATC	---	SEE RCP	
C104	CORR	LSG	RCB	---	---	GWB/AR	PTD	---	---	GWB/AR	PTD	---	---	ATC; GWB	PTD	SEE RCP	
C106	CORR	LSG	RCB		---	GWB/AR	PTD	---	---	GWB/AR	PTD	GWB/AR; CT	PTD; ---	ATC; GWB	PTD	SEE RCP	FULL
C107	VEST	MAT; GRATE	RCB	---	---	GWB/AR	PTD	GWB/AR; CT	PTD; ---	GWB/AR; CT	PTD; ---	GWB/AR; CT	PTD; CT	ATC	---	SEE RCP	FULL
C108	CORR	LSG	RCB		---	---	---	GWB/AR; CT; WD	PTD; NAT FIN; ---	---	---	GWB/AR; CT, WD	PTD; NAT FIN; ---	ATC; GWB	PTD	SEE RCP	SEE TILE
C109	CORR	LSG	RCB		---	GWB/AR; CT	PTD; ---	CT	---	GWB/AR; CT	PTD	---	---	ATC; GWB	PTD	SEE RCP	SEE TILE
C110	GYM LOBBY	LSG	RCB	---	---	GWB/AR; CT	PTD; ---	GWB/AR; CT	PTD; ---	GWB/AR; CT	PTD; ---	GWB/AR; CT	PTD; ---	ATC; GWB	PTD	SEE RCP	SEE TILE
C200	CORR	LSG	RCB		---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	---	---	ATC; GWB	PTD	SEE RCP	
C201	CORR	LSG	RCB		---	CT	---	---	---	GWB/AR	PTD	---	---	ATC; GWB	PTD	SEE RCP	INCL OF D
C201A	CORR	LSG	RCB		---	CT	---	CT	---	---	---	CT	PTD; ---	ATC; GWB	PTD	SEE RCP	
C201B	CORR	LSG	RCB		---	---	---	GWB/AR	PTD	---	---	GWB/AR	PTD	ATC; GWB	PTD	SEE RCP	
C202	CORR	LSG	RCB		---	GWB/AR	PTD	---	---	GWB/AR	PTD	GWB/AR	PTD	ATC	---	SEE RCP	
C203	CORR	LSG	RCB	---	---	GWB/AR	PTD	---	---	GWB/AR	PTD	GWB/AR	PTD	ATC	---	SEE RCP	
C204	CORR	LSG	RCB	---	---	GWB/AR	PTD; ---	---	---	GWB/AR	PTD	---	---	ATC	---	SEE RCP	
C204A	CORR	LSG	RCB	---	---	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	ATC; GWB	PTD	SEE RCP	
C205	CORR	LSG	RCB	---	---	GWB/AR	PTD	---	---	GWB/AR	PTD	---	---	ATC; GWB	PTD	SEE RCP	
C206	CORR	LSG	RCB	---	---	GWB/AR	PTD	GWB/AR; CT	PTD; ---	---	---	GWB/AR	PTD	ATC; GWB	PTD	SEE RCP	FULL SUR
C207	CORR	LSG	RCB	---	---	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	ATC; GWB	PTD	SEE RCP	
C300	CORR	LSG	RCB	---	---	GWB/AR	PTD	GWB/AR	PTD	GWB/AR	PTD	---	---	ATC; GWB	PTD	SEE RCP	
C301	CORR	LSG	RCB	---	---	GWB/AR; CT	PTD; ---	---	---	GWB/AR	PTD	---	---	ATC; GWB	PT



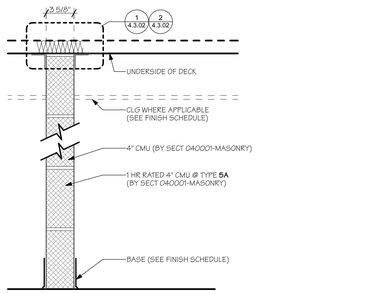
NOTE:
REFER TO INTERIOR ELEVATIONS & FINISH SCHEDULE FOR CERAMIC TILE FINISH REQUIRING CEMENT BACKER BOARD

1 3 5/8" MTL Stud Partition

1A 3 5/8" MTL Stud Partition - 1 Hour Rated

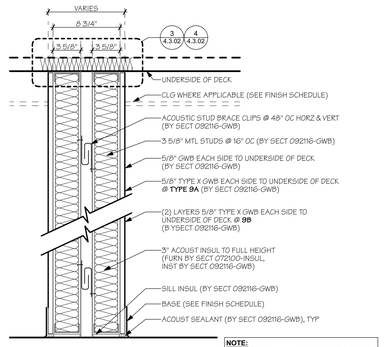
1B 3 5/8" MTL Stud Partition - 2 Hour Rated

1C 3 5/8" MTL Stud Partition - Finish One Side Only



5 4" CMU Partition

5A 4" CMU Partition - 1 Hour Rated

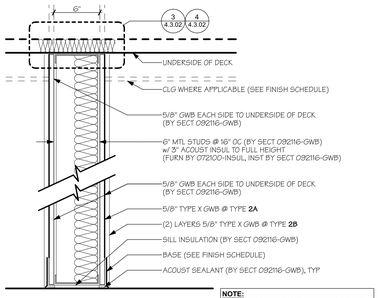


NOTE:
REFER TO INTERIOR ELEVATIONS & FINISH SCHEDULE FOR CERAMIC TILE FINISH REQUIRING CEMENT BACKER BOARD

9 Acoustical Partition

9A Acoustical Partition - 1 Hour Rated

9B Acoustical Partition - 2 Hour Rated



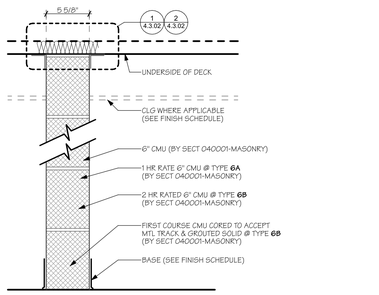
NOTE:
REFER TO INTERIOR ELEVATIONS & FINISH SCHEDULE FOR CERAMIC TILE FINISH REQUIRING CEMENT BACKER BOARD

2 6" MTL Stud Partition

2A 6" MTL Stud Partition - 1 Hour Rated

2B 6" MTL Stud Partition - 2 Hour Rated

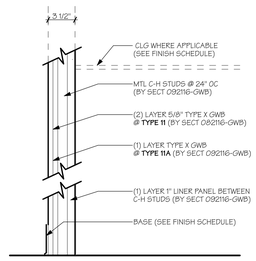
2C 6" MTL Stud Partition - Finish One Side Only



6 6" CMU Partition

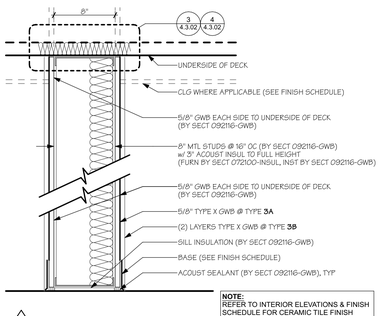
6A 6" CMU Partition - 1 Hour Rated

6B 6" CMU Partition - 2 Hour Rated



10 2 Hour Shaft Wall Fire Separation

10A 1 Hour Shaft Wall Construction



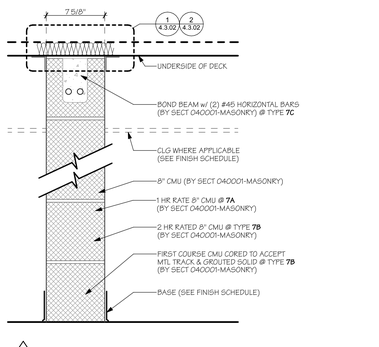
NOTE:
REFER TO INTERIOR ELEVATIONS & FINISH SCHEDULE FOR CERAMIC TILE FINISH REQUIRING CEMENT BACKER BOARD

3 8" MTL Stud Partition

3A 8" MTL Stud Partition - 1 Hour Rated

3B 8" MTL Stud Partition - 2 Hour Rated

3C 8" MTL Stud Partition - Finish One Side Only

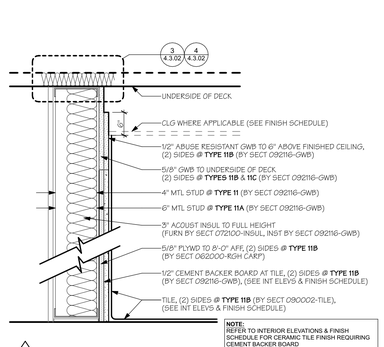


7 8" CMU Partition

7A 8" CMU Partition - 1 Hour Rated

7B 8" CMU Partition - 2 Hour Rated

7C 8" CMU Additionally Reinforced Partition



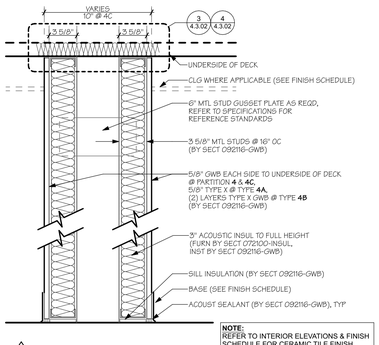
NOTE:
REFER TO INTERIOR ELEVATIONS & FINISH SCHEDULE FOR CERAMIC TILE FINISH REQUIRING CEMENT BACKER BOARD

11 4" MTL Stud w/ Tile at Multifixture Toilet Rooms - One Side

11A 6" MTL Stud w/ Tile at Multifixture Toilet Rooms - One Side

11B 6" MTL Stud w/ Tile at Multifixture Toilet Rooms - Two Sides

11C 6" MTL Stud w/ Tile at Multifixture Toilet Rooms - One Side; GWB Opposite Side



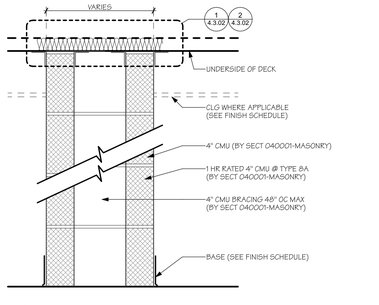
NOTE:
REFER TO INTERIOR ELEVATIONS & FINISH SCHEDULE FOR CERAMIC TILE FINISH REQUIRING CEMENT BACKER BOARD

4 3 5/8" MTL Stud Chase Wall

4A 3 5/8" MTL Stud Chase Wall - 1 Hour Rated

4B 3 5/8" MTL Stud Chase Wall - 2 Hour Rated

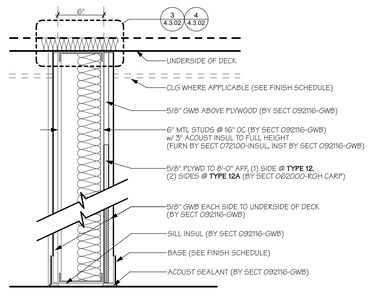
4C 3 5/8" MTL Stud Chase Wall @ Structural Bracing



8 4" CMU Chase Wall

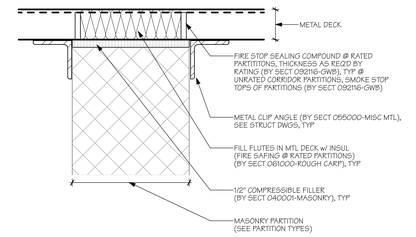
8A 4" CMU Chase Wall - 1 Hour Rated

8B 4" CMU Chase Wall - 2 Hour Rated

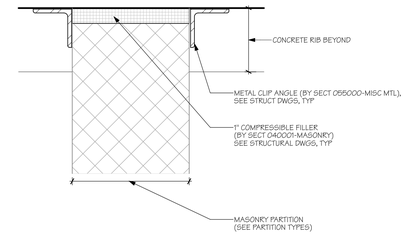


12 6" MTL Stud Partition w/ Plywood - One Side

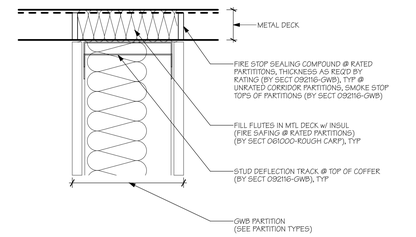
12A 6" MTL Stud Partition w/ Plywood - Two Sides



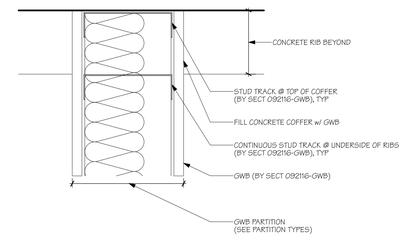
1 TYP **Top of CMU Partition @ MTL Deck, TYP**
SCALE: 3" = 1'-0"



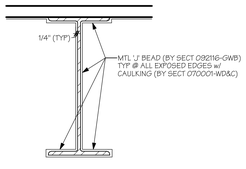
2 TYP **Top of CMU Partition @ CONC Deck, TYP**
SCALE: 3" = 1'-0"



3 TYP **Top of MTL Stud Partition @ MTL Deck, TYP**
SCALE: 3" = 1'-0"



4 TYP **Top of MTL Stud Partition @ CONC Deck, TYP**
SCALE: 3" = 1'-0"



5 TYP **Exposed Beam Penetration**
SCALE: 1 1/2" = 1'-0"

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: ADW

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Wall Details & Partition Types

4.3.02

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3 **Cafeteria Area RCP at Underside of Deck**
SCALE: 1/8" = 1'-0"

REFLECTED CEILING PLAN LEGEND

- 2' x 2' ACOUSTIC CEILING TILE SYSTEM (BY SECT 093000-ACOUST TILE)
- 2' x 2' PREFIN CUSTOM COLORED ACOUSTIC CEILING TILE SYSTEM w/ COLOR MATCHED GRID & FASICA (BY SECT 093000-ACOUST TILE)
- 2' x 4' PREFIN CUSTOM COLORED ACOUSTIC CEILING TILE SYSTEM w/ COLOR MATCHED GRID & FASICA (BY SECT 093000-ACOUST TILE)
- GYPSUM WALLBOARD CEILING/ SOFFIT (BY SECT 092116-GWB), PTD (BY SECT 099007-PAINT)
- EXPOSED DECK, STRUCT, PIPING, & DUCTWORK, PTD (BY SECT 099007-PAINT)
- HVAC SUPPLY AIR GRILL
- HVAC RETURN AIR GRILL
- HVAC LINEAR DIFFUSER
- HVAC LINEAR RETURN GRILL
- HVAC SIDEWALL MOUNTED SUPPLY & RETURN AIR GRILLS
- ACCESS PANEL
- FAN COIL UNIT (FCU)
- HIGH WALL MOUNTED AIR CONDITIONING UNIT
- UNIT HEATER (UH)
- LED LIGHTING IN ARCHITECTURAL COVE OR SLOT
- PENDANT MTD LINEAR LED LIGHT FIXTURE
- RECESSED LED LIGHT FIXTURE
- SURFACE MTD LED LIGHT FIXTURE
- WALL MTD LED LIGHT FIXTURE
- UNDERCOUNTER LED LIGHT FIXTURE
- PENDANT MTD LED LIGHT FIXTURE
- PENDANT MTD GLOBE LED LIGHT FIXTURE
- RECESSED LED DOWNLIGHT FIXTURE
- RECESSED LED WALL WASH LIGHT FIXTURE
- LED WALL SCONCE
- TRACK MOUNTED PERFORMANCE LIGHTING
- LED EXIT SIGNAGE
- SPRINKLER HEAD
- CEILING HEIGHT
- CEILING MATERIAL

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NORTH ARROW — LICENSE STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ, ADW

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Reflected Ceiling Plan First Floor

5.1.01

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N Called North

NORTH ARROW | LICENSE STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ, ADW

Scale: 0 8 16

Revisions

Number	Date	Description

REFLECTED CEILING PLAN LEGEND

- 2' x 2' ACOUSTIC CEILING TILE SYSTEM (BY SECT 090005-ACOUST TILE)
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- EXPOSED DECK, STRUCT, PIPING, & DUCTWORK, PTD (BY SECT 090007-PAINT)
- HVAC SUPPLY AIR GRILL
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- LED EXIT SIGNAGE
- SPRINKLER HEAD
- CEILING HEIGHT
- CEILING MATERIAL

DESIGN DEVELOPMENT

Reflected Ceiling Plan Second Floor

5.1.02

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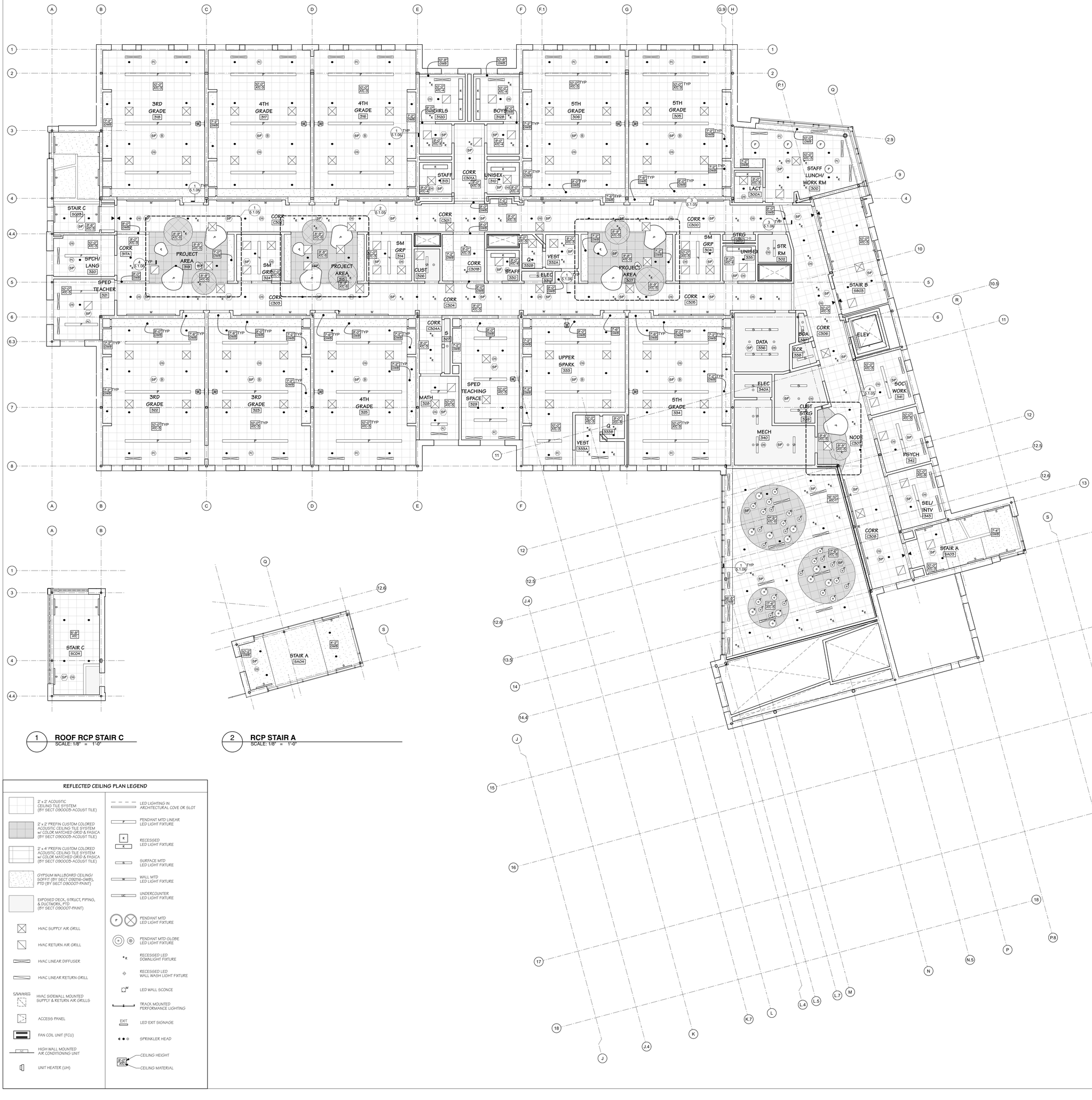

1 **ROOF RCP STAIR C**
SCALE: 1/8" = 1'-0"

2 **RCP STAIR A**
SCALE: 1/8" = 1'-0"

REFLECTED CEILING PLAN LEGEND

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- CEILING MATERIAL

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NORTH ARROW — LICENSE STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ, ADW

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Reflected Ceiling Plan Third Floor

5.1.03

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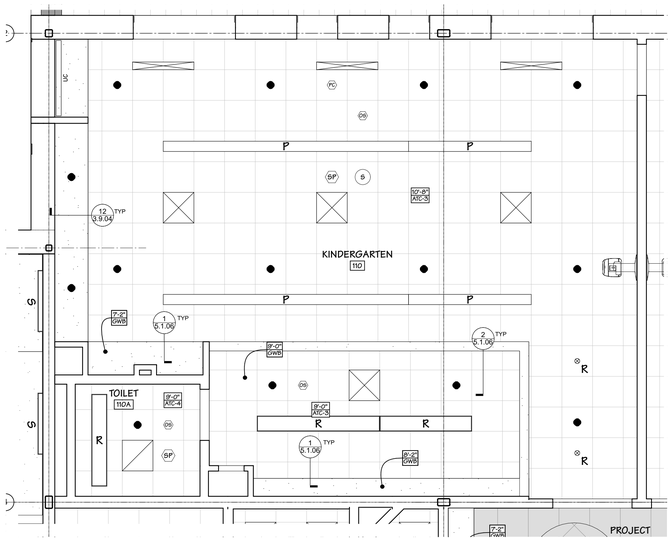
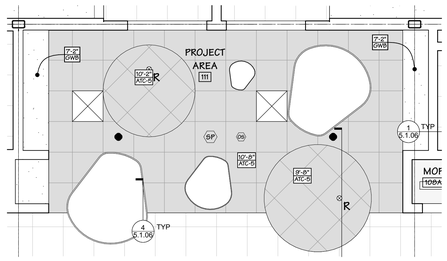
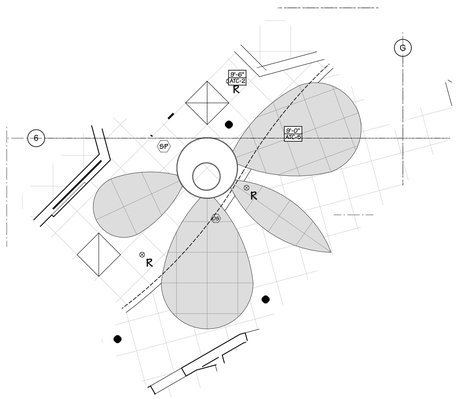


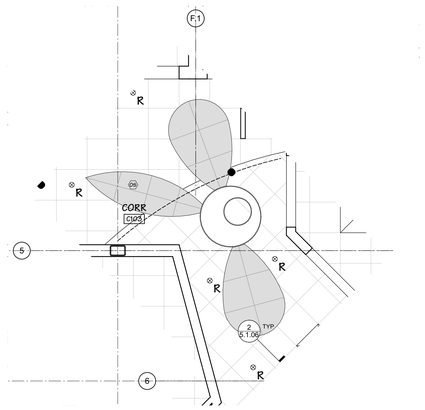
1 **Enlarged RCP - First Floor Project Area**
SCALE: 1/4" = 1'-0"



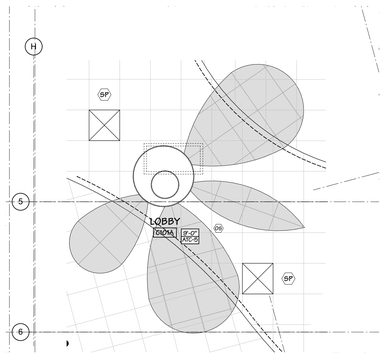
2 **Enlarged RCP - First Floor Project Area**
SCALE: 1/4" = 1'-0"



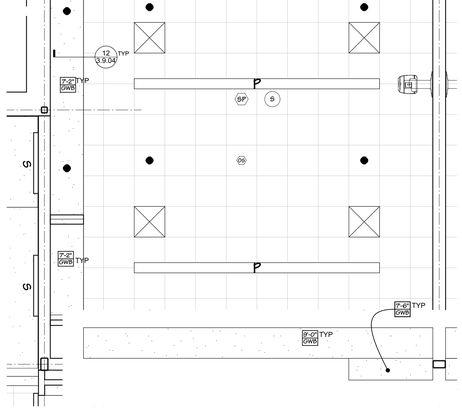
3 **Enlarged RCP - First Floor Project Area**
SCALE: 1/4" = 1'-0"



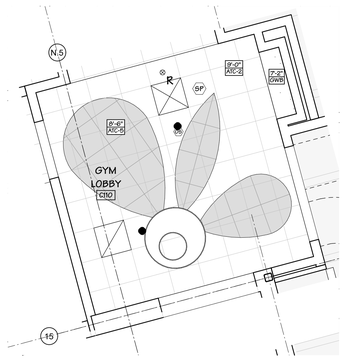
4 **Enlarged RCP - First Floor Project Area**
SCALE: 1/4" = 1'-0"



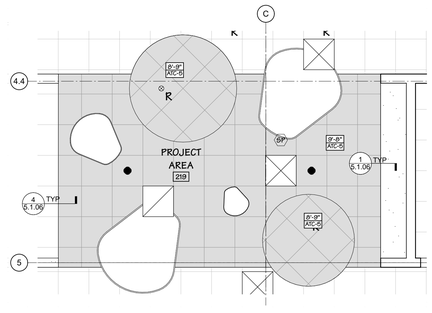
5 **Enlarged RCP - First Floor Project Area**
SCALE: 1/4" = 1'-0"



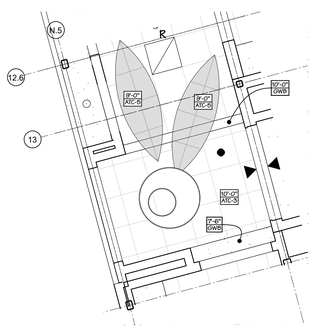
6 **Enlarged RCP - Second Floor Project Area**
SCALE: 1/4" = 1'-0"



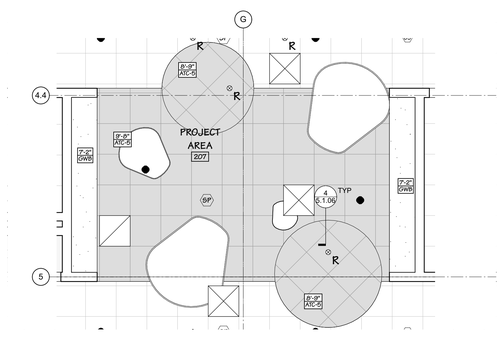
7 **Enlarged RCP - First Floor Project Area**
SCALE: 1/4" = 1'-0"



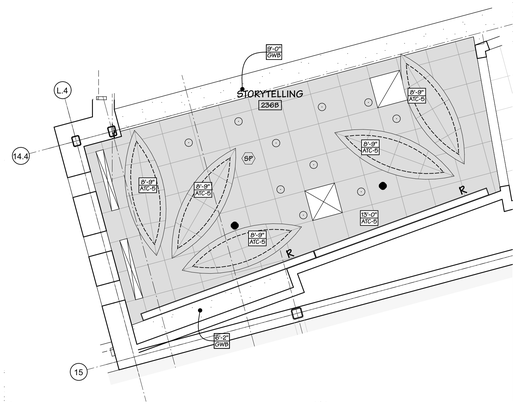
8 **Enlarged RCP - Second Floor Project Area**
SCALE: 1/4" = 1'-0"



9 **Enlarged RCP - Second Floor Project Area**
SCALE: 1/4" = 1'-0"



10 **Enlarged RCP - Second Floor Project Area**
SCALE: 1/4" = 1'-0"



11 **Enlarged RCP - Second Floor Storytelling Area**
SCALE: 1/4" = 1'-0"

REFLECTED CEILING PLAN LEGEND

- 2' x 2' ACOUSTIC CEILING TILE SYSTEM (BY SECT 090005-ACOUST TILE)
- 2' x 2' PREFIN CUSTOM COLORED ACOUSTIC CEILING TILE SYSTEM w/ COLOR MATCHED GRID & FASICA (BY SECT 090005-ACOUST TILE)
- 2' x 4' PREFIN CUSTOM COLORED ACOUSTIC CEILING TILE SYSTEM w/ COLOR MATCHED GRID & FASICA (BY SECT 090005-ACOUST TILE)
- GYPSUM WALLBOARD CEILING/ SOFFIT (BY SECT 092116-GWB), PTD (BY SECT 090007-PAINT)
- EXPOSED DECK, STRUCT, PIPING, & DUCTWORK, PTD (BY SECT 090007-PAINT)
- HVAC SUPPLY AIR GRILL
- HVAC RETURN AIR GRILL
- HVAC LINEAR DIFFUSER
- HVAC LINEAR RETURN GRILL
- HVAC SIDEWALL MOUNTED SUPPLY & RETURN AIR GRILLS
- ACCESS PANEL
- FAN COIL UNIT (FCU)
- HIGH WALL MOUNTED AIR CONDITIONING UNIT
- UNIT HEATER (UH)
- LED LIGHTING IN ARCHITECTURAL COVE OR SLOT
- PENDANT MTD LINEAR LED LIGHT FIXTURE
- RECESSED LED LIGHT FIXTURE
- SURFACE MTD LED LIGHT FIXTURE
- WALL MTD LED LIGHT FIXTURE
- UNDERCOUNTER LED LIGHT FIXTURE
- PENDANT MTD LED LIGHT FIXTURE
- PENDANT MTD GLOBE LED LIGHT FIXTURE
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- RECESSED LED WALL WASH LIGHT FIXTURE
- LED WALL SCONCE
- TRACK MOUNTED PERFORMANCE LIGHTING
- LED EXIT SIGNAGE
- SPRINKLER HEAD
- CEILING HEIGHT
- CEILING MATERIAL

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: XZ

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Enlarged Reflected Ceiling Plans

5.1.04

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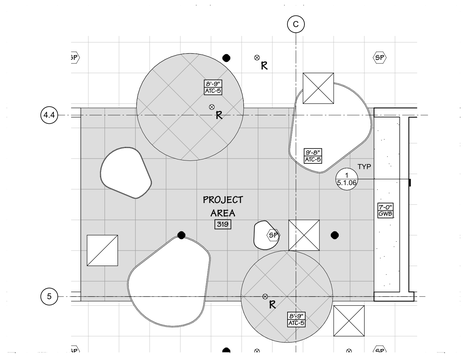
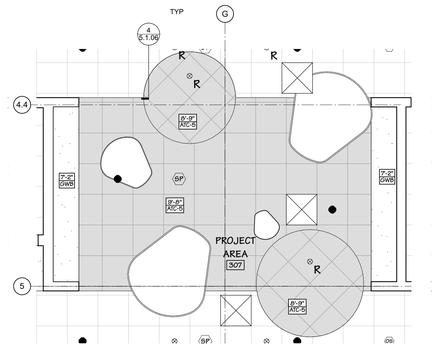
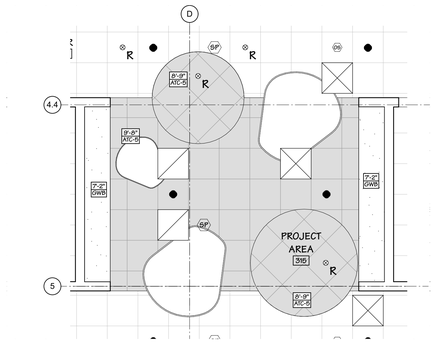


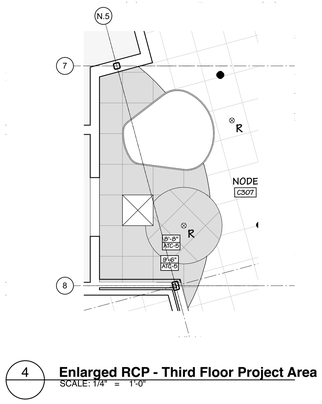
1 **Enlarged RCP - Third Floor Project Area**
SCALE: 1/4" = 1'-0"



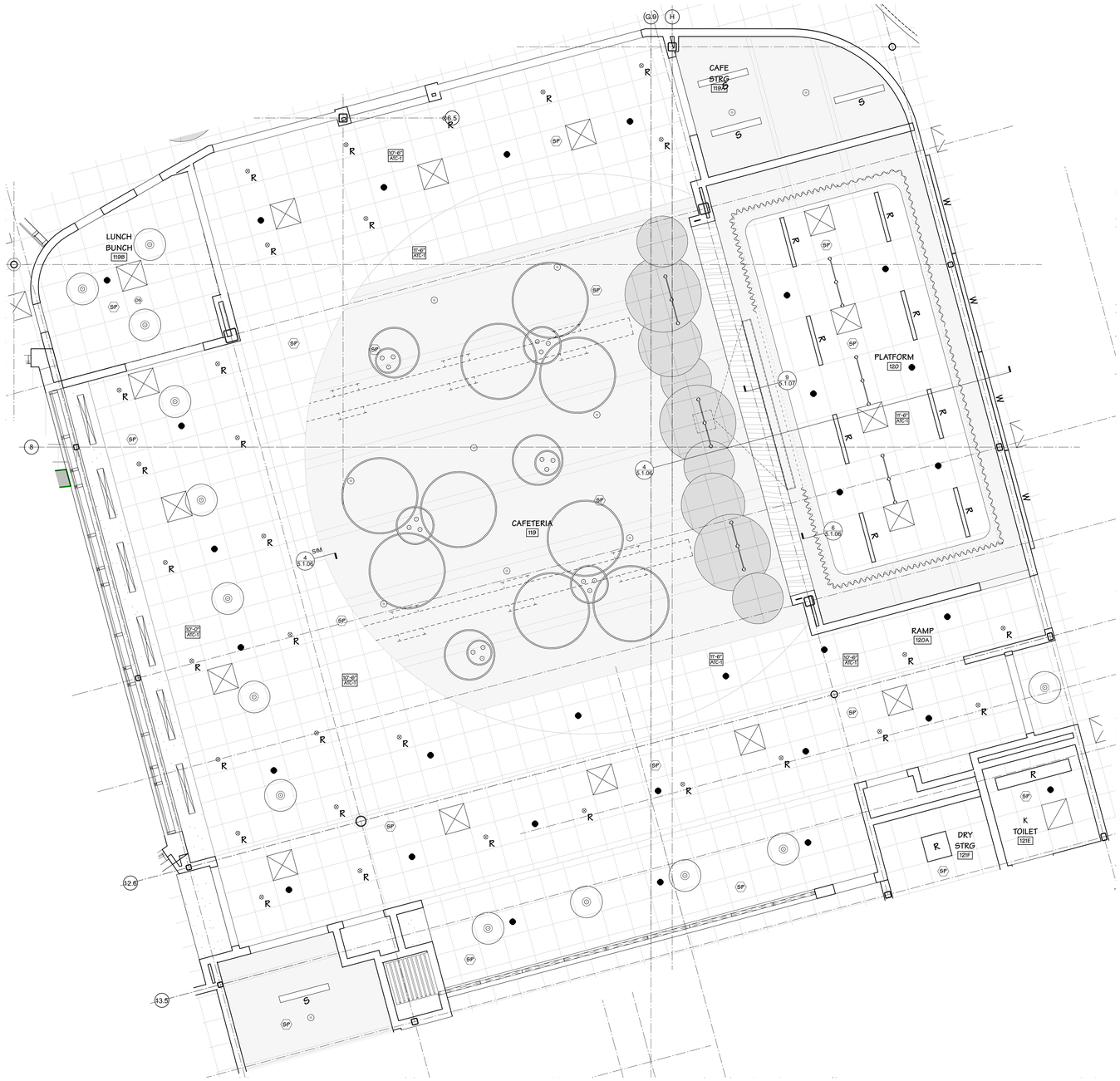
2 **Enlarged RCP - Third Floor Project Area**
SCALE: 1/4" = 1'-0"



3 **Enlarged RCP - Third Floor Project Area**
SCALE: 1/4" = 1'-0"



4 **Enlarged RCP - Third Floor Project Area**
SCALE: 1/4" = 1'-0"



5 **Enlarged RCP - First Floor Project Area**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

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Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Enlarged Reflected Ceiling Plans

5.1.05

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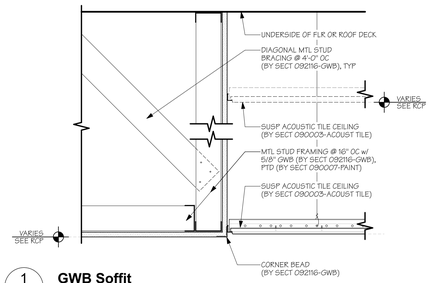
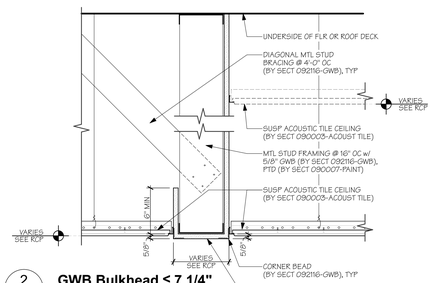
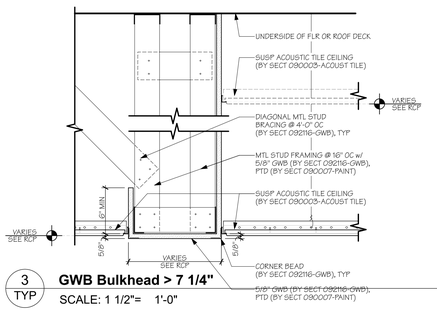


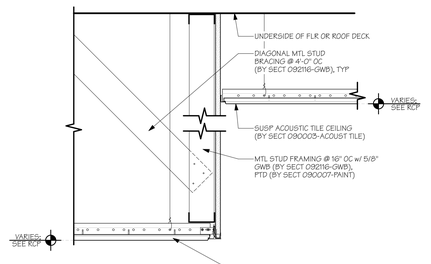
1 TYP **GWB Soffit**
SCALE: 1 1/2"= 1'-0"



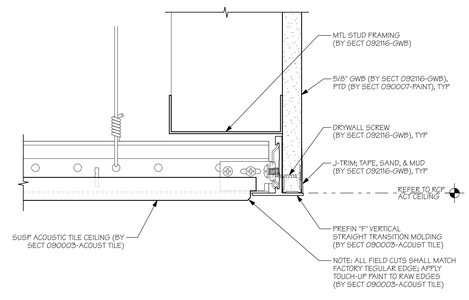
2 TYP **GWB Bulkhead ≤ 7 1/4"**
SCALE: 1 1/2"= 1'-0"



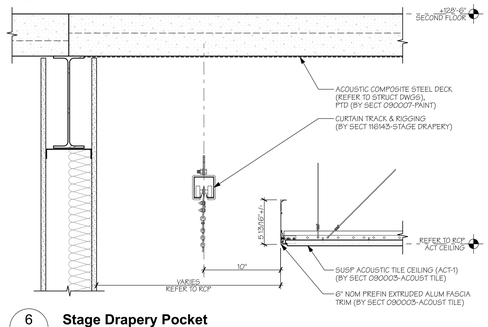
3 TYP **GWB Bulkhead > 7 1/4"**
SCALE: 1 1/2"= 1'-0"



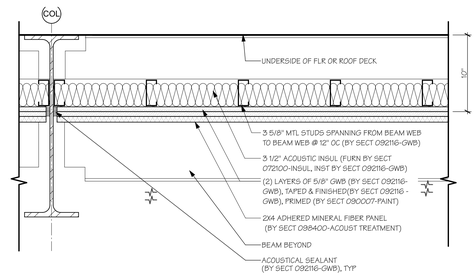
4 TYP **GWB Vertical Transition at Acoustic Tile Ceiling**
SCALE: 1 1/2"= 1'-0"



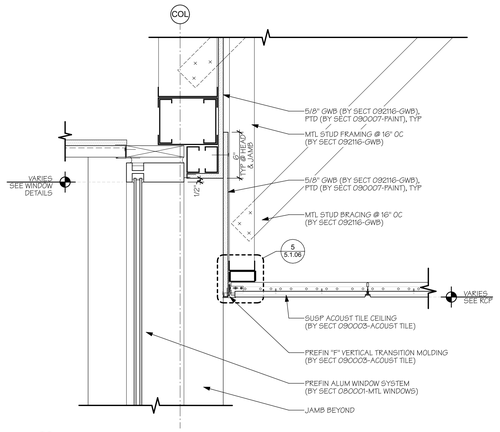
5 TYP **ACT to Vertical GWB Transition Trim**
SCALE: 6" = 1'-0"



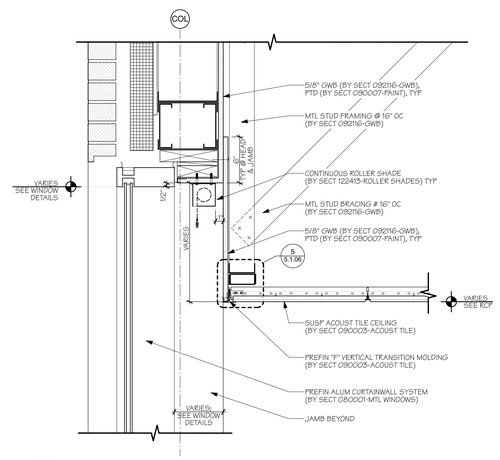
6 TYP **Stage Drapery Pocket**
SCALE: 1 1/2"= 1'-0"



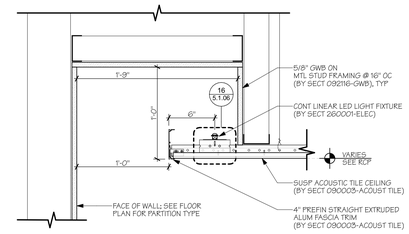
10 **Acoustic Ceiling at Cafeteria**
SCALE: 1 1/2"= 1'-0"



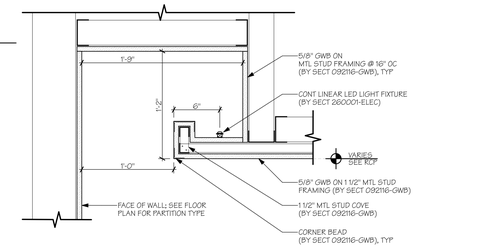
11 TYP **Pocket at Exterior Glazing**
SCALE: 1 1/2"= 1'-0"



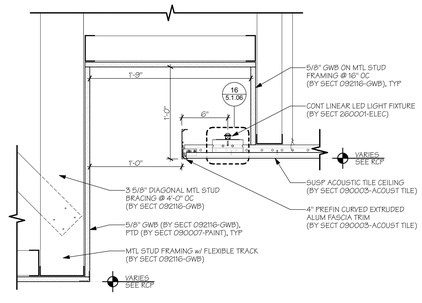
12 TYP **Roller Shade Pocket at Exterior Glazing**
SCALE: 1 1/2"= 1'-0"



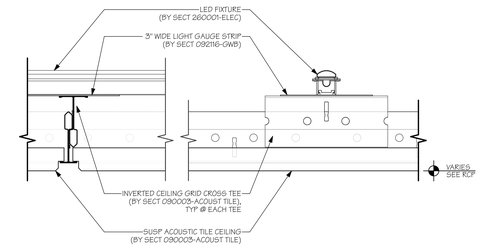
13 TYP **Light Cove at ATC**
SCALE: 1 1/2"= 1'-0"



14 TYP **Light Cove at GWB Ceiling**
SCALE: 1 1/2"= 1'-0"



15 TYP **Light Cove at Curved GWB Soffit**
SCALE: 1 1/2"= 1'-0"



16 TYP **LED Light Mounting Detail**
SCALE: 6" = 1'-0"

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Typical Ceiling Details

5.1.06

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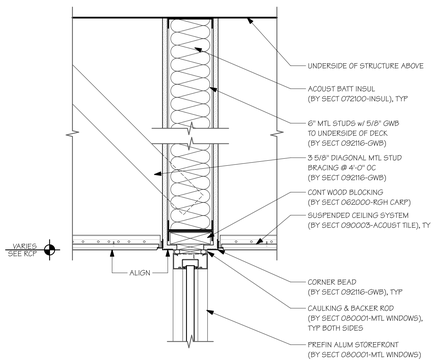
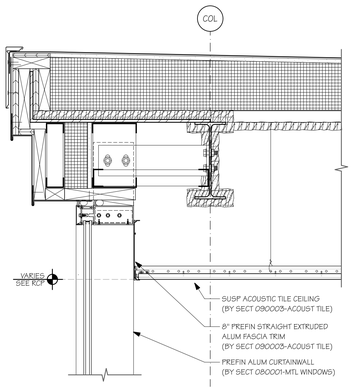
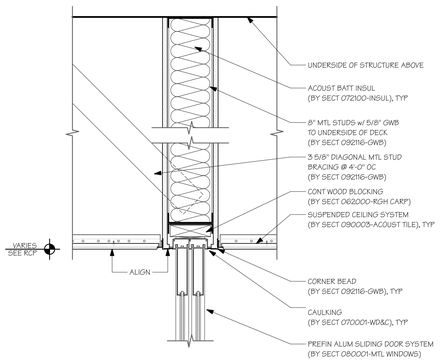


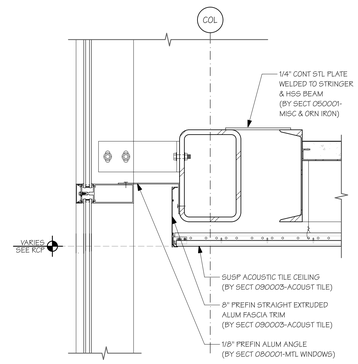
1 TYP **Bulkhead at Interior Storefront Head**
SCALE: 1 1/2"= 1'-0"



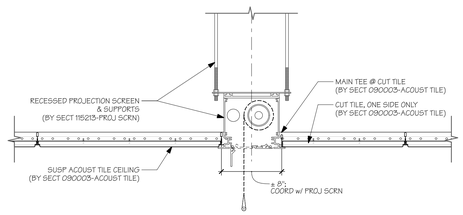
5 TYP **Ceiling Edge at Curtainwall Head**
SCALE: 1 1/2"= 1'-0"



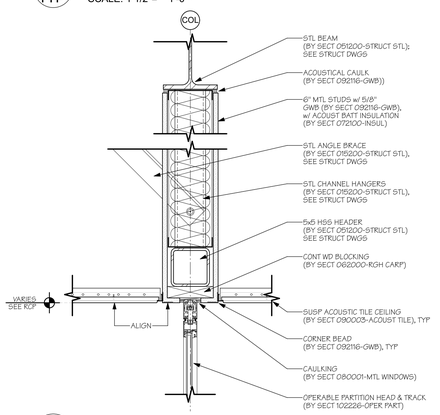
2 TYP **Bulkhead at Sliding Glass Security Door**
SCALE: 1 1/2"= 1'-0"



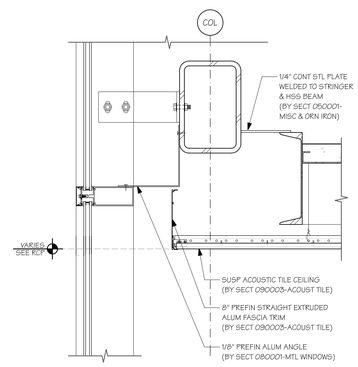
6 TYP **Vestibule Ceiling at Curtainwall - Condition A**
SCALE: 1 1/2"= 1'-0"



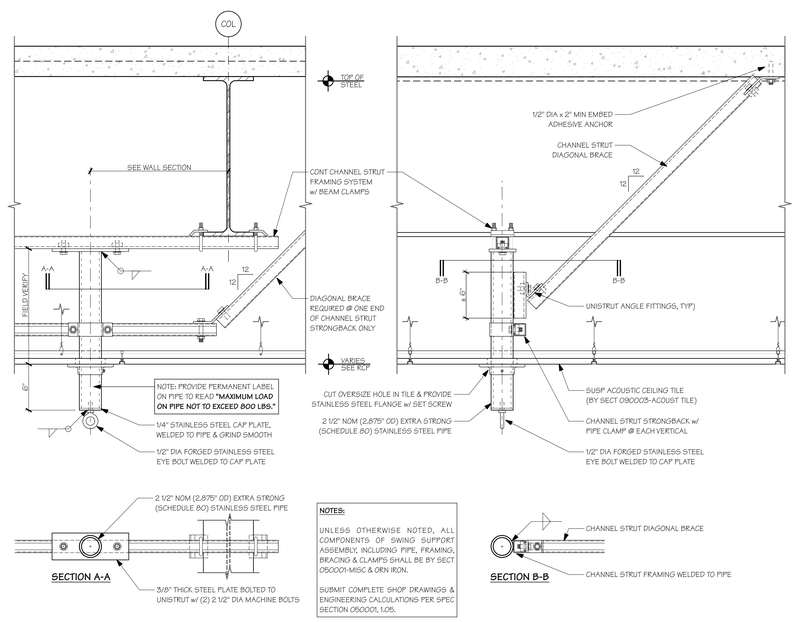
9 TYP **Recessed Projection Screen**
SCALE: 1 1/2"= 1'-0"



3 TYP **Bulkhead at Operable Partition**
SCALE: 1 1/2"= 1'-0"



7 TYP **Vestibule Ceiling at Curtainwall - Condition B**
SCALE: 1 1/2"= 1'-0"

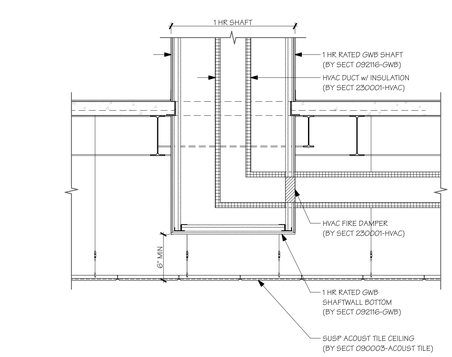


NOTES:

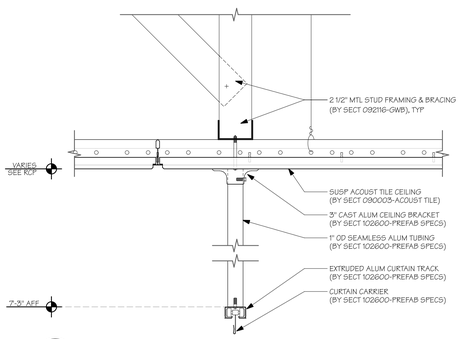
UNLESS OTHERWISE NOTED, ALL COMPONENTS OF SWING SUPPORT ASSEMBLY, INCLUDING PIPE, FRAMING, BRACING & CLAMPS SHALL BE BY SECT 050001-MISC & ORN IRON.

SUBMIT COMPLETE SHOP DRAWINGS & ENGINEERING CALCULATIONS PER SPEC SECTION 050001, 1.05.

10 TYP **Physical Therapy Swing Support**
SCALE: 1 1/2"= 1'-0"



4 TYP **Fire Rated HVAC Shaft Bottom**
SCALE: 1/2" = 1'-0"



8 TYP **Exam Room Curtain Support**
SCALE: 3" = 1'-0"

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: ADW

Scale: 0 8" 16"

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Typical Ceiling Details

5.1.07

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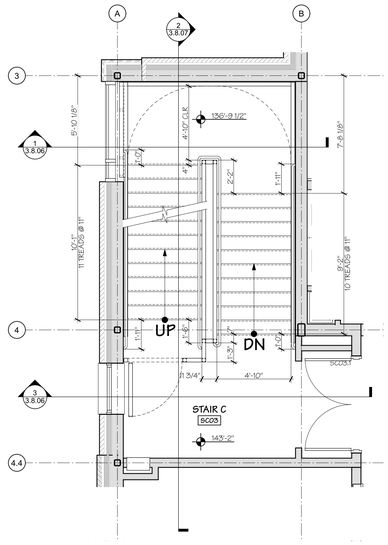
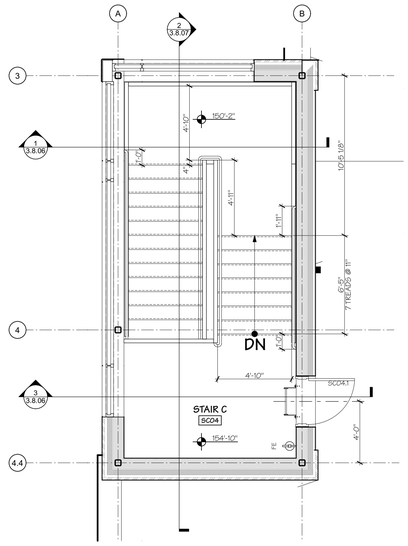
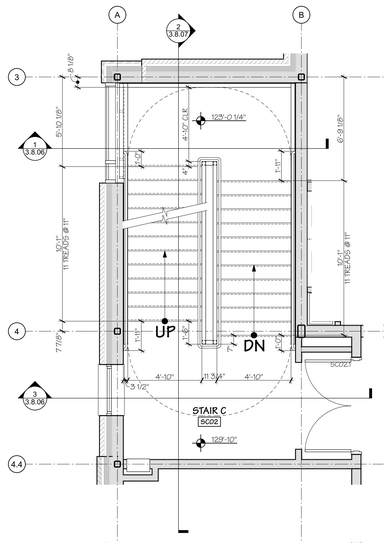


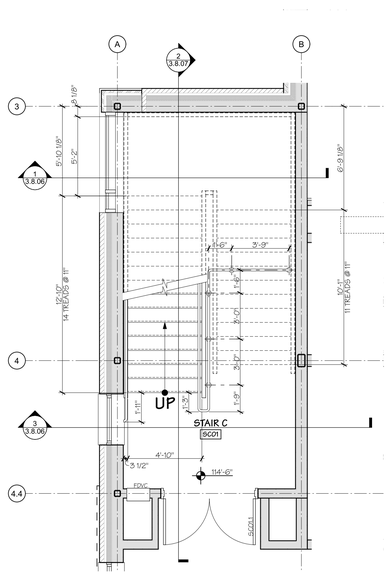
3 **Stair C - Third Floor Plan**
SCALE: 1/4" = 1'-0"



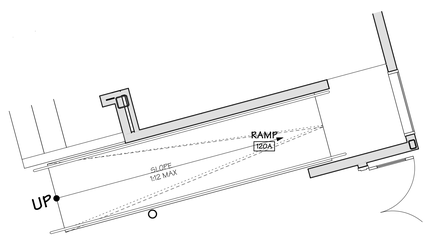
4 **Stair C - Roof Level Floor Plan**
SCALE: 1/4" = 1'-0"



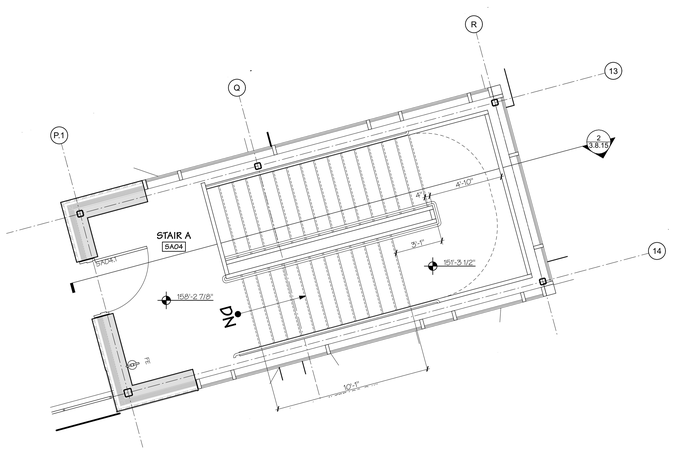
2 **Stair C - Second Floor Plan**
SCALE: 1/4" = 1'-0"



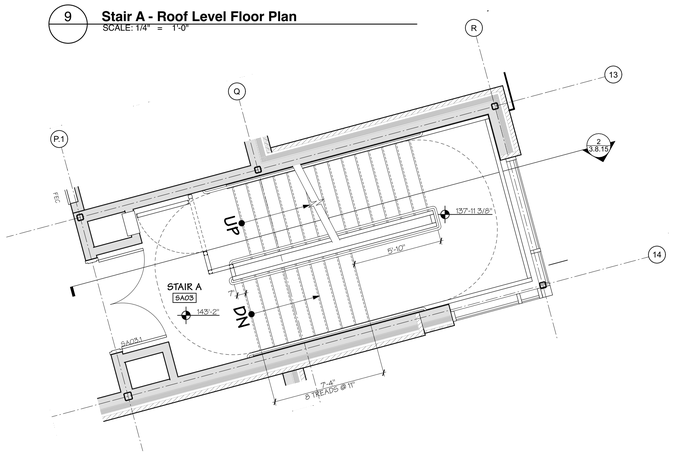
1 **Stair C - First Floor Plan**
SCALE: 1/4" = 1'-0"

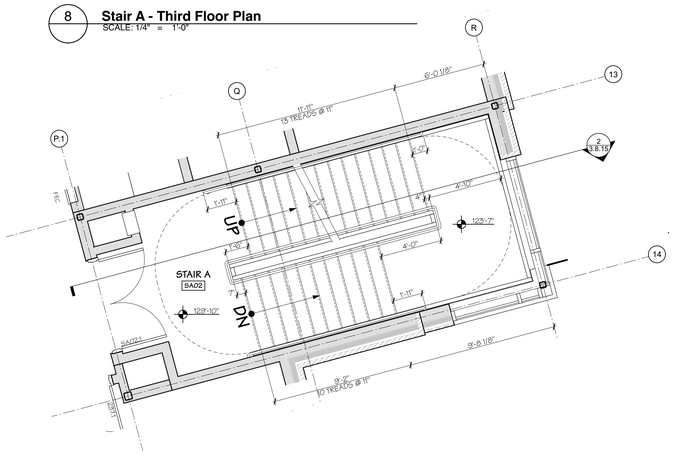


5 **Ramp at Platform - Plan**
SCALE: 1/4" = 1'-0"



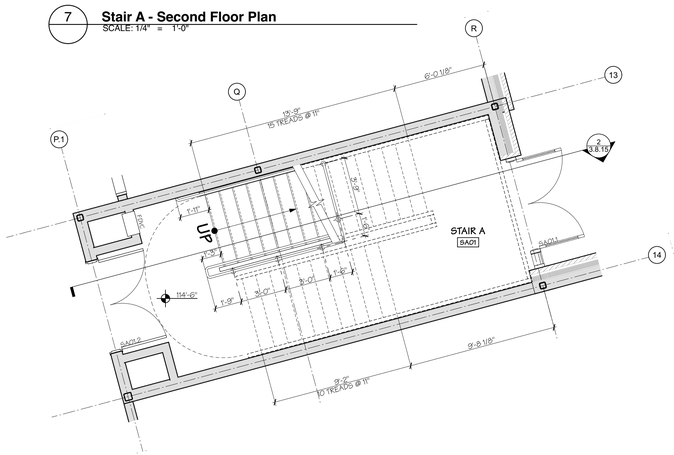
9 **Stair A - Roof Level Floor Plan**
SCALE: 1/4" = 1'-0"





8 **Stair A - Third Floor Plan**
SCALE: 1/4" = 1'-0"

7 **Stair A - Second Floor Plan**
SCALE: 1/4" = 1'-0"



6 **Stair A - First Floor Plan**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Stairs A & C - Enlarged Plans

5.2.01

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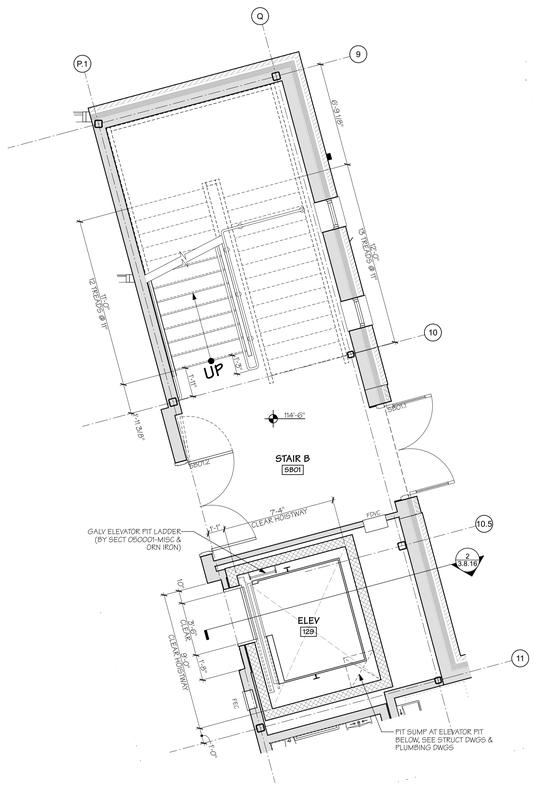
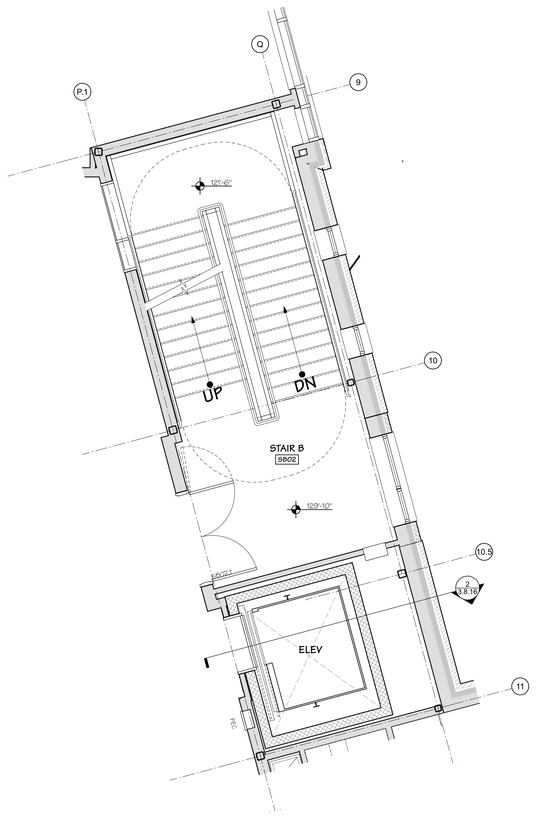
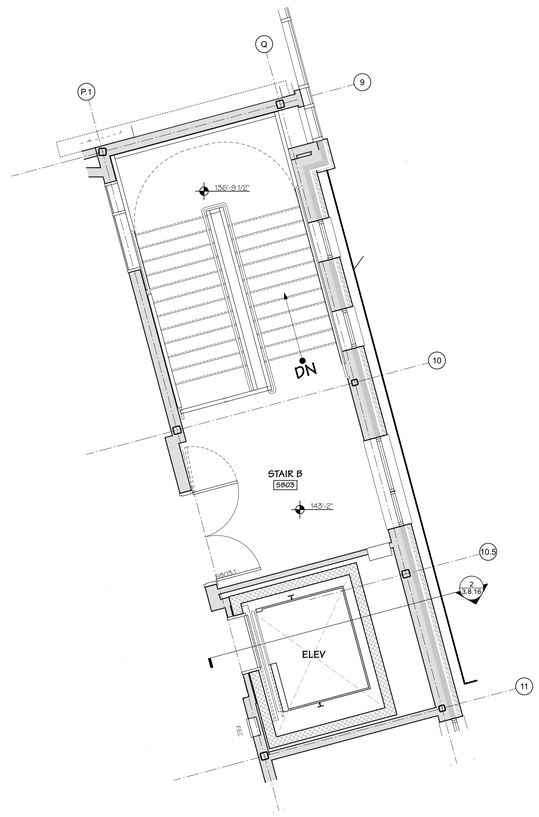


1 **Stair B & Elevator - First Floor Plan**
SCALE: 1/4" = 1'-0"



2 **Stair B & Elevator - Second Floor Plan**
SCALE: 1/4" = 1'-0"



3 **Stair B & Elevator- Third Floor Plan**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Stair B & Elevator - Enlarged Plans

5.2.02

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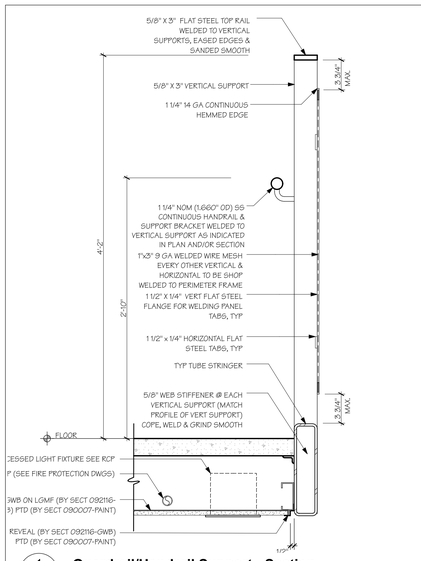
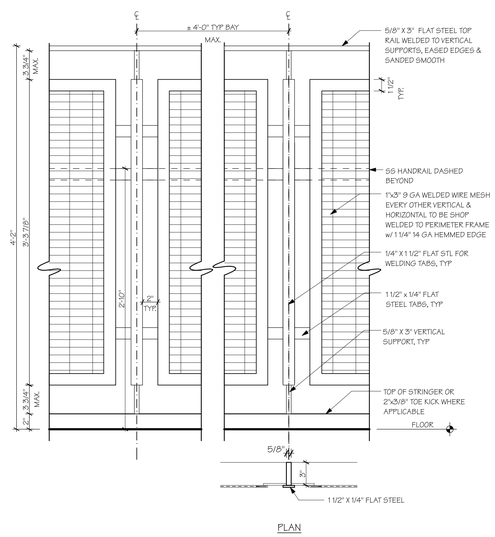
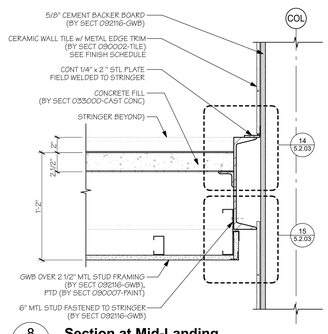


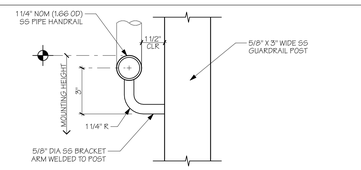
1 TYP **Guardrail/Handrail Support - Section**
SCALE: 1' = 1'-0"



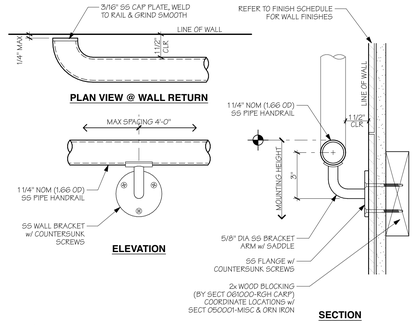
5 TYP **Guardrail/Handrail Support - Elevation**
SCALE: 1' = 1'-0"



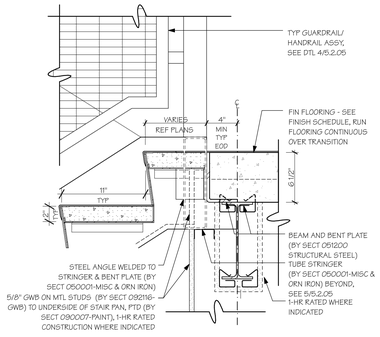
8 TYP **Section at Mid-Landing**
SCALE: 1 1 1/2"= 1'-0"



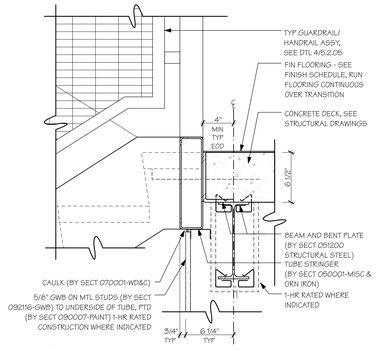
12 TYP **Handrail Support at Post**
SCALE: 3" = 1'-0"



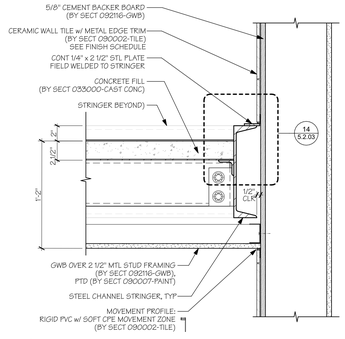
13 TYP **Handrail Details at Wall**
SCALE: 3" = 1'-0"



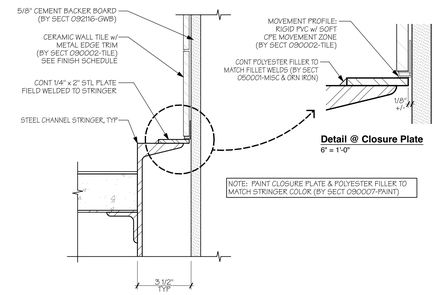
2 TYP **Stair at Slab and Beam**
SCALE: 1' = 1'-0"



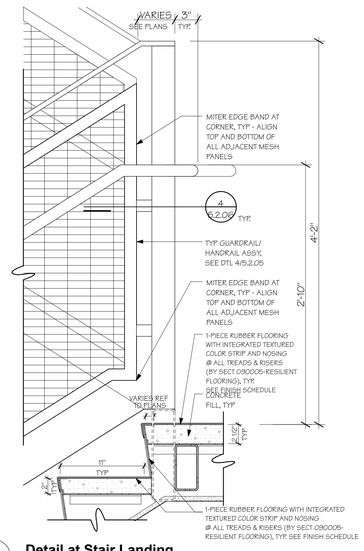
6 TYP **Stair at Slab and Beam**
SCALE: 1' = 1'-0"



9 TYP **Section at Mid-Landing Stringer**
SCALE: 1 1 1/2"= 1'-0"

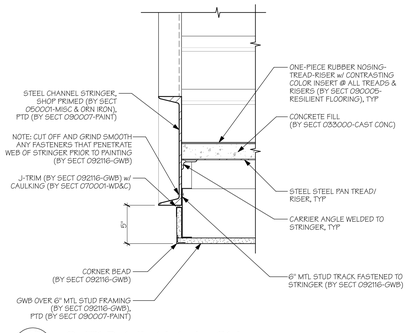


14 TYP **Closure Plate at Top of Stringer**
SCALE: 3" = 1'-0"

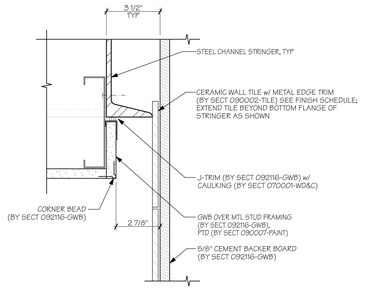


3 TYP **Detail at Stair Landing**
SCALE: 1' = 1'-0"

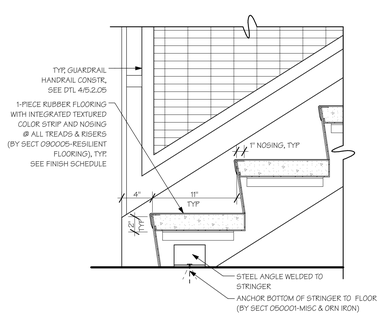
NOTE:
ALL METAL PRODUCTS BY SECT 050001-MISCELLANEOUS AND ORNAMENTAL IRON
ALL METAL IRON PAINTED - BY SECT 090007-PAINT
ALL HANDRAILS STAINLESS STEEL - BY SECT 050001-MISCELLANEOUS AND ORNAMENTAL IRON
SEE SPECIFICATIONS FOR SHOP DRAWING AND ENGINEERING REQUIREMENTS



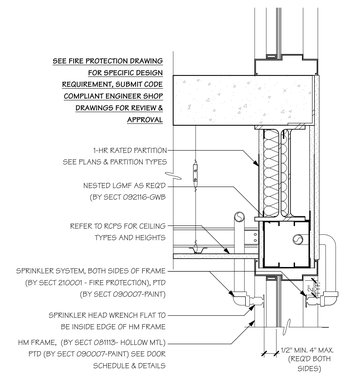
10 TYP **Soffit Detail at Interior Stringers**
SCALE: 1 1/2"= 1'-0"



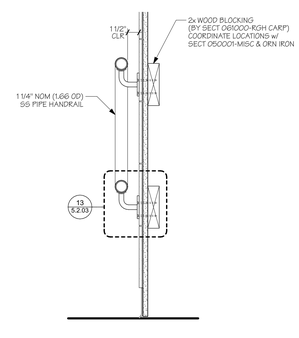
15 TYP **Soffit Detail at Bottom of Stringer**
SCALE: 3" = 1'-0"



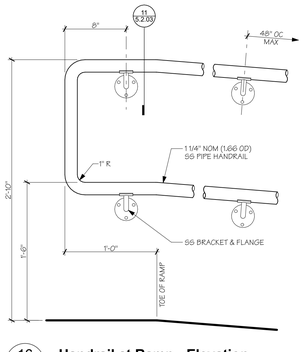
4 TYP **Stair Nosing at Floor Slab**
SCALE: 1' = 1'-0"



7 TYP **Sidewall Sprinkler at Stair B HM Frame Head**
SCALE: 1' = 1'-0"



11 TYP **Handrail at Ramp - Section**
SCALE: 1 1 1/2"= 1'-0"



16 TYP **Handrail at Ramp - Elevation**
SCALE: 1 1/2"= 1'-0"

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: TRJ

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Stair Details

5.2.03

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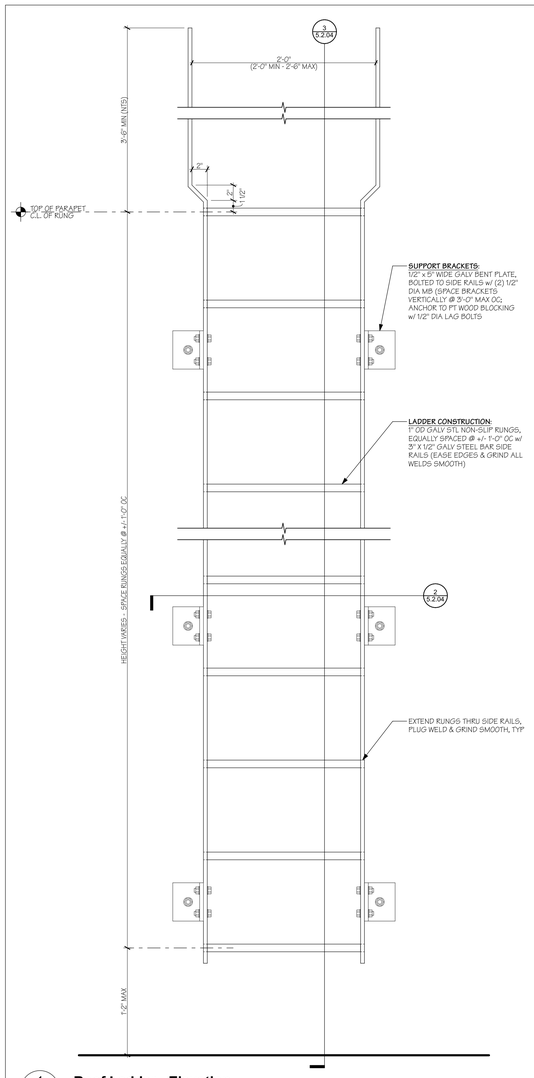
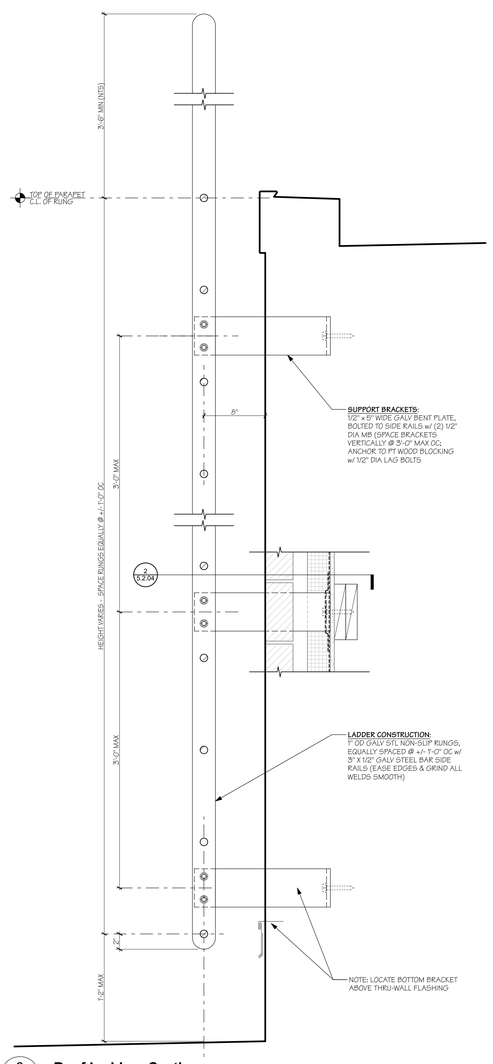


1 TYP **Roof Ladder - Elevation**
SCALE: 1 1/2"= 1'-0"



3 TYP **Roof Ladder - Section**
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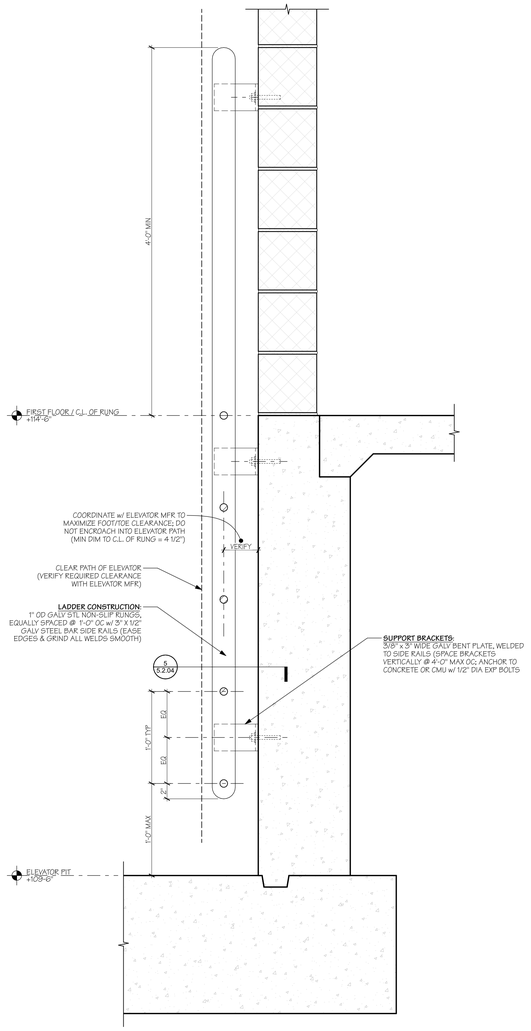
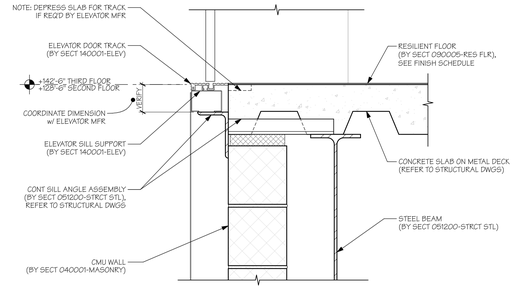
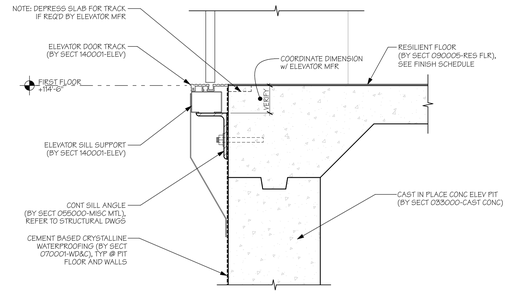


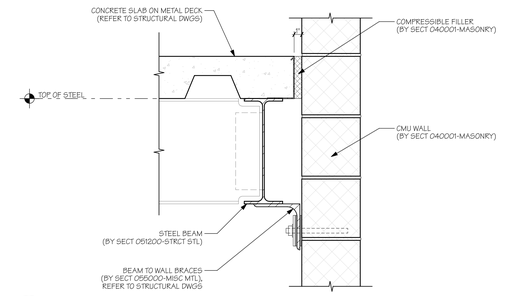
4 **Elevator Pit Ladder - Section**
SCALE: 1 1/2"= 1'-0"



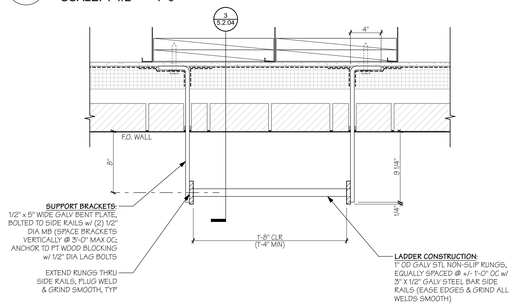
7 TYP **Elevator Sill at Second & Third Floors**
SCALE: 1 1/2"= 1'-0"



8 TYP **Elevator Sill at First Floor**
SCALE: 1 1/2"= 1'-0"



6 TYP **Floor Connection at Elevator Shaft**
SCALE: 1 1/2"= 1'-0"



2 TYP **Roof Ladder - Plan**
SCALE: 1 1/2"= 1'-0"

NOTES (Ladders):

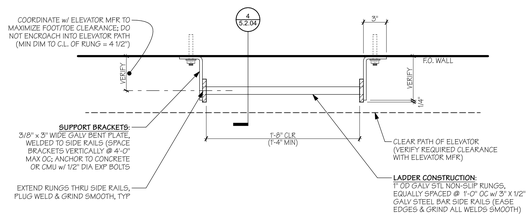
1. ALL LADDER WORK BY SECT 050001-MISC & ORN IRON) UON.

2. ALL STEEL COMPONENTS SHALL BE HOT DIPPED GALVANIZED (GALVANIZE ASSEMBLIES AFTER FABRICATION).

3. ALL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE NOTED.

4. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.

5. REFER TO SPECIFICATIONS FOR SHOP DRAWING AND ENGINEERING REQUIREMENTS.



5 **Elevator Pit Ladder - Plan**
SCALE: 1 1/2"= 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By:

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Ladder & Elevator Details

5.2.04

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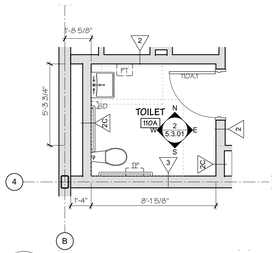
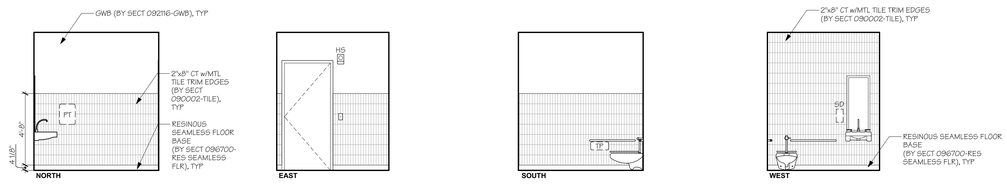
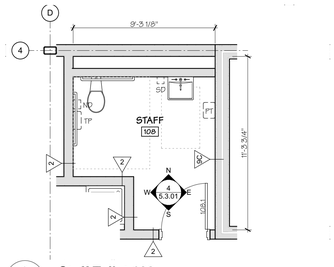


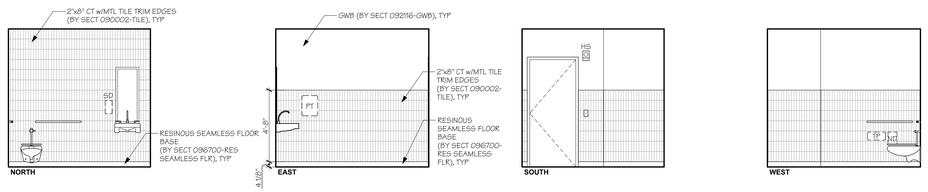
1 TYP **Kindergarten Classroom Toilet**
SCALE: 1/4" = 1'-0"



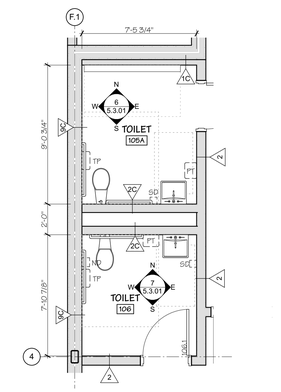
2 TYP **Kindergarten Classroom Toilet 110A - 109A, 115A, 116A SIM**
SCALE: 1/4" = 1'-0"



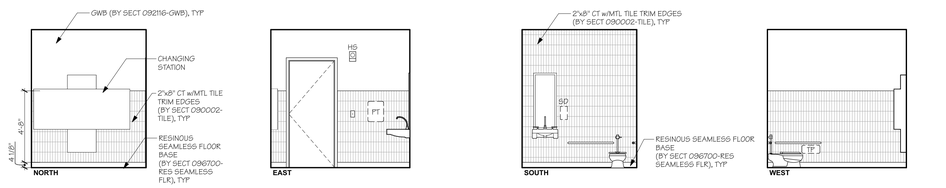
3 **Staff Toilet 108**
SCALE: 1/4" = 1'-0"



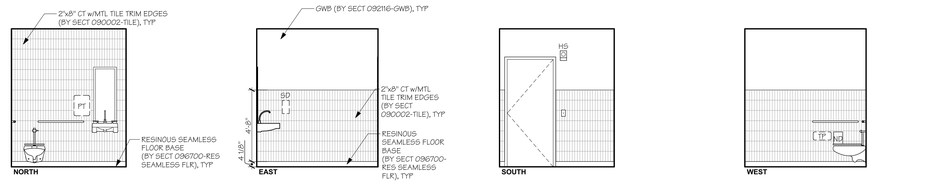
4 **Staff Toilet 108**
SCALE: 1/4" = 1'-0"



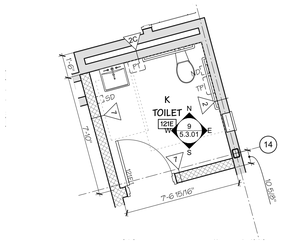
5 **Nurse Toilet 105A & Staff Toilet 106**
SCALE: 1/4" = 1'-0"



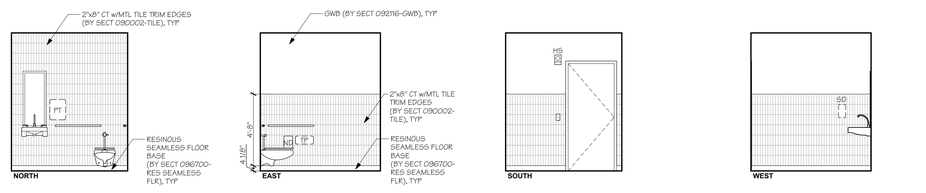
6 **Nurse Toilet 105 A**
SCALE: 1/4" = 1'-0"



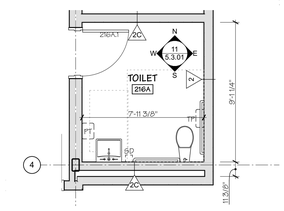
7 **Single User Toilet 106**
SCALE: 1/4" = 1'-0"



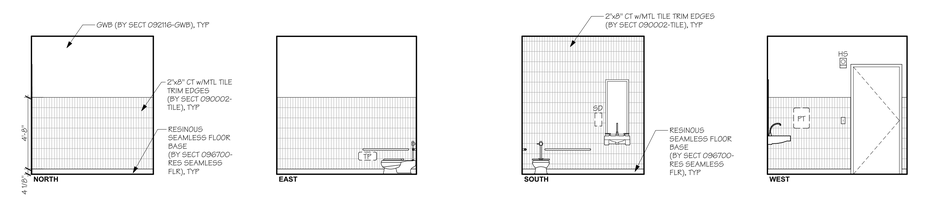
8 **Kitchen Toilet 121E**
SCALE: 1/4" = 1'-0"



9 **Kitchen Toilet 121E**
SCALE: 1/4" = 1'-0"

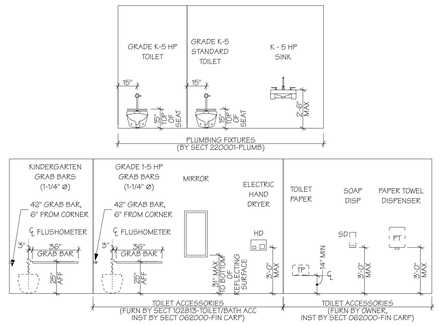


10 **Lower SPARK Toilet 213A**
SCALE: 1/4" = 1'-0"

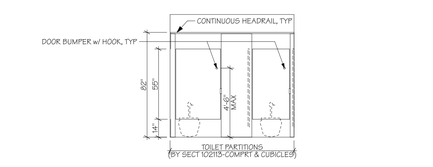


11 **Lower SPARK Toilet 213A**
SCALE: 1/4" = 1'-0"

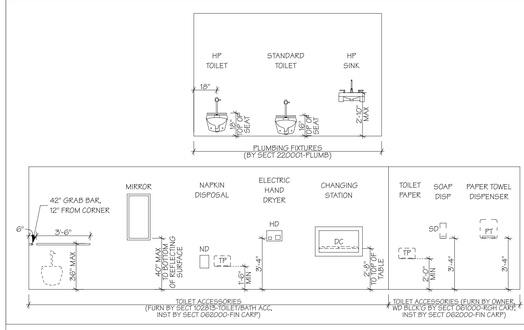
TYPICAL TOILET ROOM MOUNTING HEIGHTS LEGEND:
GRADES PRE-K - 5



TYPICAL TOILET PARTITION LEGEND



TYPICAL TOILET ROOM MOUNTING HEIGHTS LEGEND:
STAFF / ADULT



NOTES:

1. SOLID IN WALL BLOCKING SHALL BE INSTALLED AT TOILET PARTITIONS AND TOILET ACCESSORIES BY SECTION 061000-RGH CARP, INCLUDING CLASSROOMS AND STAFF SPACES.
2. TOILET PAPER DISPENSERS, WALL MOUNTED SOAP DISPENSERS, AND PAPER TOWEL DISPENSERS WILL BE PROVIDED BY OWNER. SOLID IN WALL BLOCKING SHALL BE INSTALLED BY SECTION 061000-RGH CARP. OWNER PROVIDED DISPENSERS SHALL BE INSTALLED BY SECTION 062000-FIN CARP.
3. FIXTURES AND ACCESSORIES IN SINGLE USER TOILET ROOMS SHALL BE MOUNTED AT ACCESSIBLE HEIGHTS.
4. WALL TILES SHALL EXTEND BEHIND ALL SURFACE MOUNTED TOILET ACCESSORIES, MIRRORS, ETC. WHERE ACCESSORIES, MIRRORS, ETC. ARE NOT MOUNTED ENTIRELY ON TILED SURFACE, PROVIDE POPLAR SHIMMING (BY SECT 062000-FIN CARP), PAINTED (BY SECT 090007-PAINT). CAULK AROUND PERIMETER OF NON-TILED SURFACE, TYPICAL-INCLUDING ACCESSORIES PROVIDED BY OWNER.

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Enlarged Toilet Plans & Elevations

5.3.01

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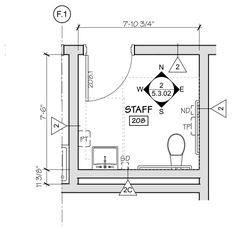
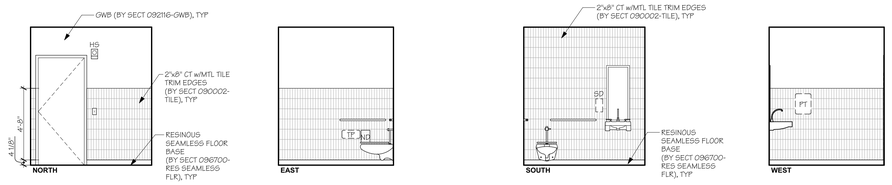
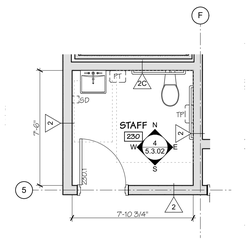


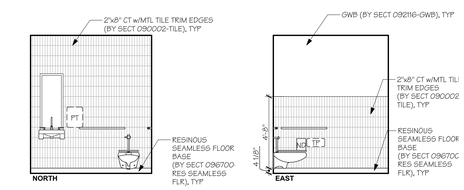
1 **Single User Toilet 208**
SCALE: 1/4" = 1'-0"



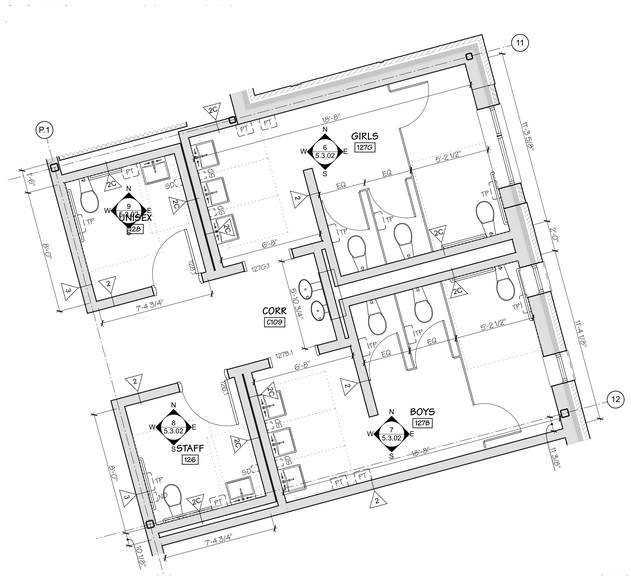
2 **Single User Toilet 208**
SCALE: 1/4" = 1'-0"



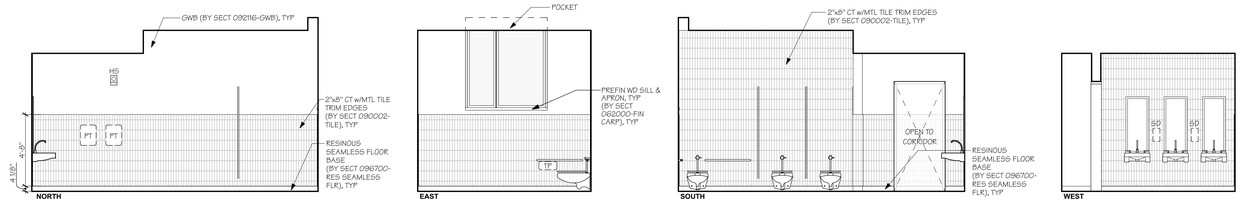
3 **Staff Toilet 230, 330**
SCALE: 1/4" = 1'-0"



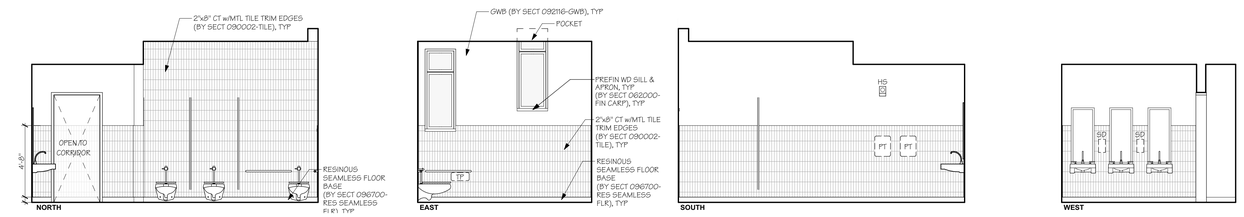
4 **Single User Toilet 230, 330**
SCALE: 1/4" = 1'-0"



5 **Multi Fixture Toilet Rooms (Community Wing), Unisex Toilet 128 & Staff Toilet 126**
SCALE: 1/4" = 1'-0"

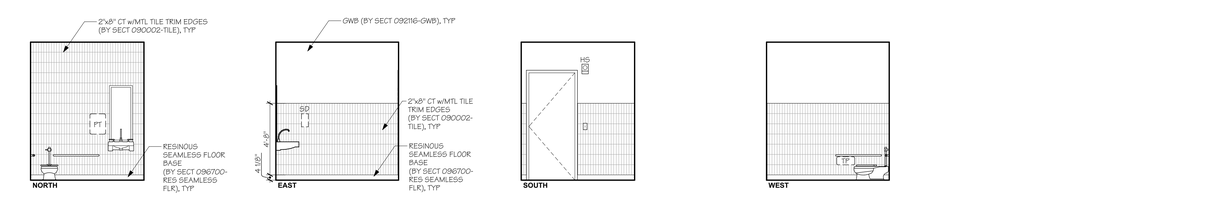


6 **Multi Fixture Girl's Toilet (Community Wing)**
SCALE: 1/4" = 1'-0"



7 **Multi Fixture Boy's Toilet (Community Wing)**
SCALE: 1/4" = 1'-0"

8 **Staff Toilet 126**
SCALE: 1/4" = 1'-0"



9 **Unisex Toilet 128**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Enlarged Toilet Plans & Elevations

5.3.02

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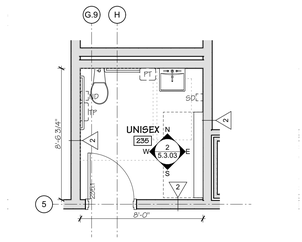
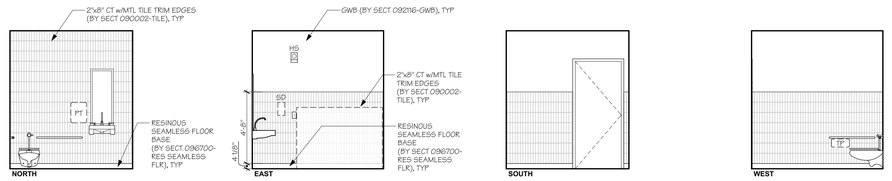
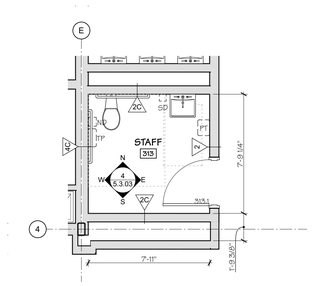


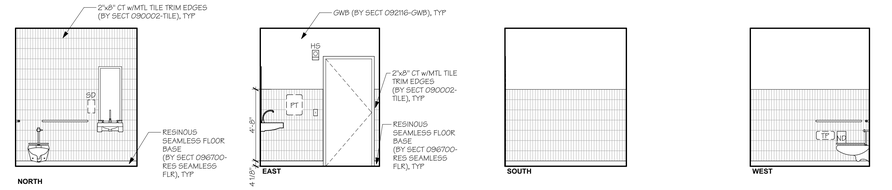
1 **Unisex Toilet 235, 335**
SCALE: 1/4" = 1'-0"



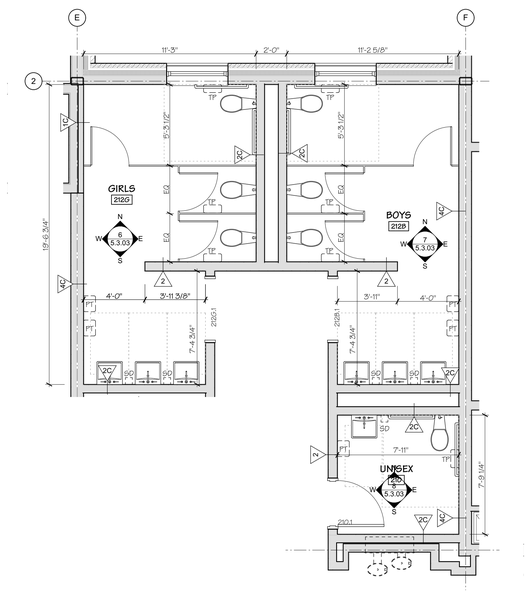
2 **Unisex Toilet 235, 335**
SCALE: 1/4" = 1'-0"



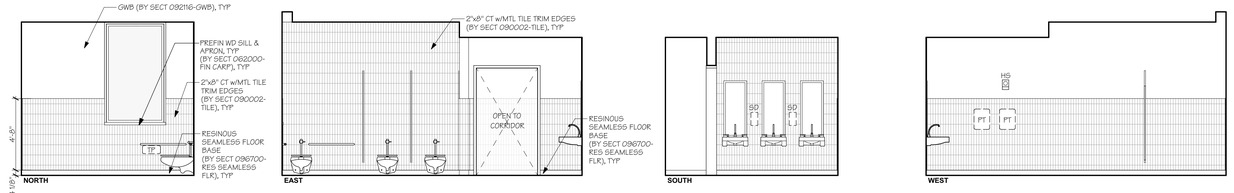
3 **Staff Toilet 313**
SCALE: 1/4" = 1'-0"



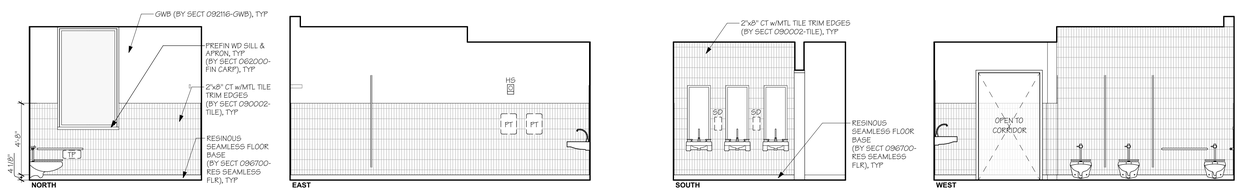
4 **Staff Toilet 313**
SCALE: 1/4" = 1'-0"



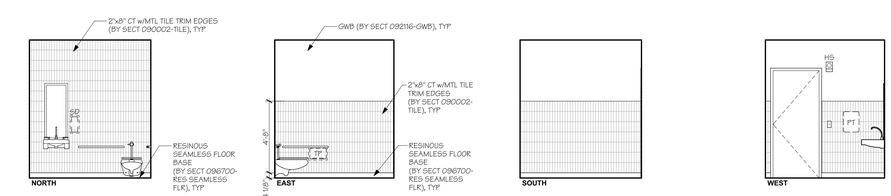
5 **Multi Fixture Toilet Rooms (Academic Wing) & Unisex Toilet 210, 310**
SCALE: 1/4" = 1'-0"



6 **Multi Fixture Girl's Toilet (Academic Wing)**
SCALE: 1/4" = 1'-0"



7 **Multi Fixture Boy's Toilet**
SCALE: 1/4" = 1'-0"



8 **Unisex Toilet 210, 310**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: XZ

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Enlarged Toilet Plans & Elevations

5.3.03

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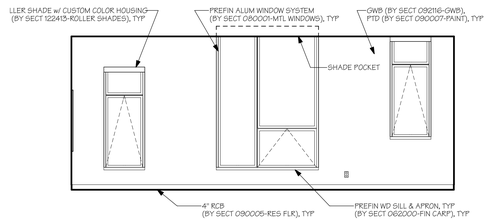
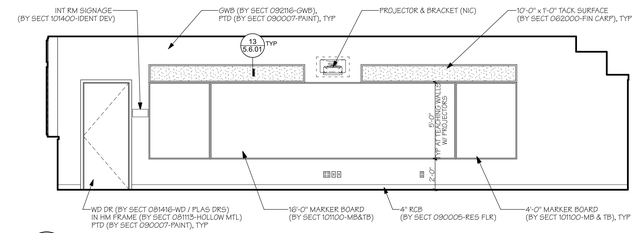
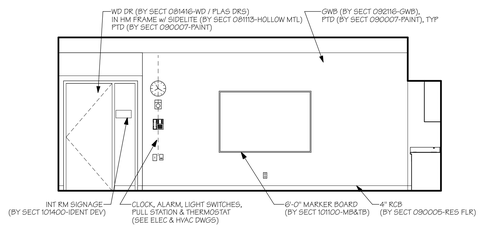


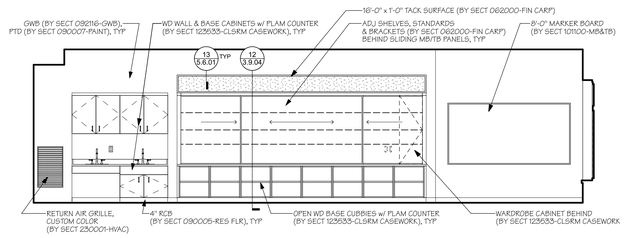
1 TYP **Classroom - North**
SCALE: 1/4" = 1'-0"



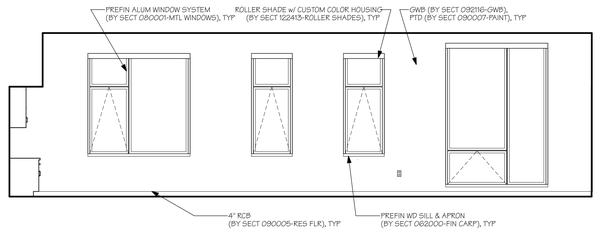
2 TYP **Classroom - East**
SCALE: 1/4" = 1'-0"



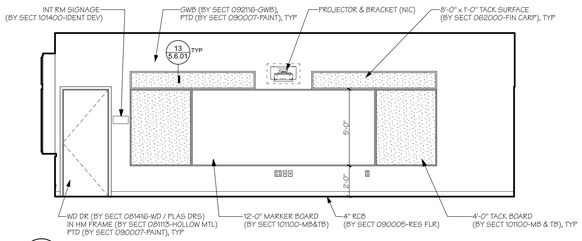
3 TYP **Classroom - South**
SCALE: 1/4" = 1'-0"



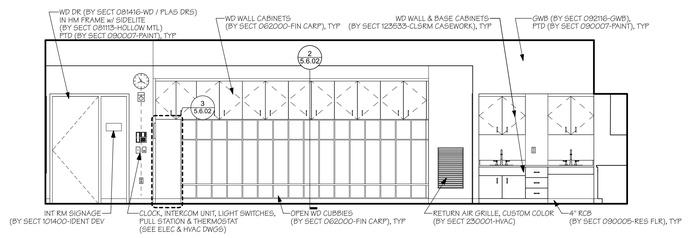
4 TYP **Classroom - West**
SCALE: 1/4" = 1'-0"



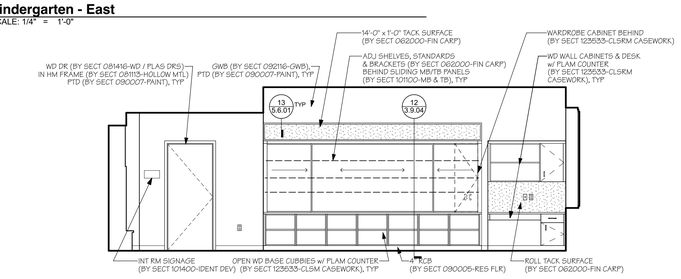
5 TYP **Kindergarten - North**
SCALE: 1/4" = 1'-0"



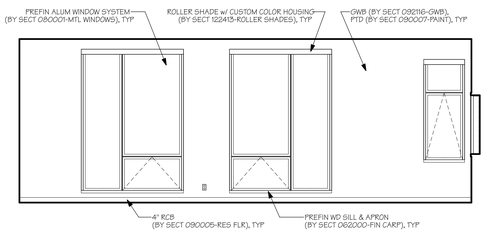
6 TYP **Kindergarten - East**
SCALE: 1/4" = 1'-0"



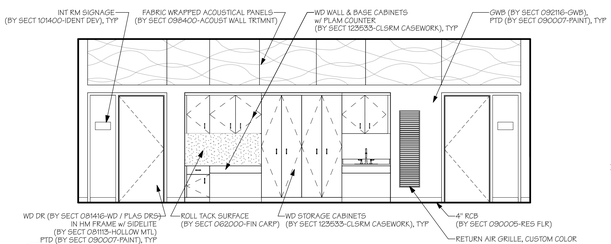
7 TYP **Kindergarten - South**
SCALE: 1/4" = 1'-0"



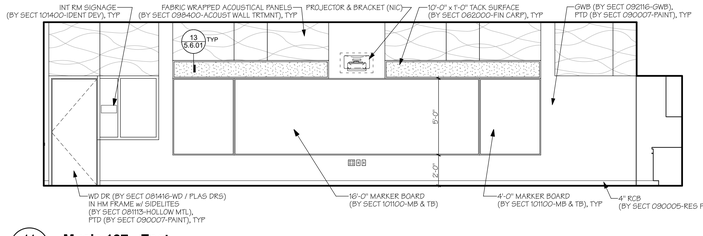
8 TYP **Kindergarten - West**
SCALE: 1/4" = 1'-0"



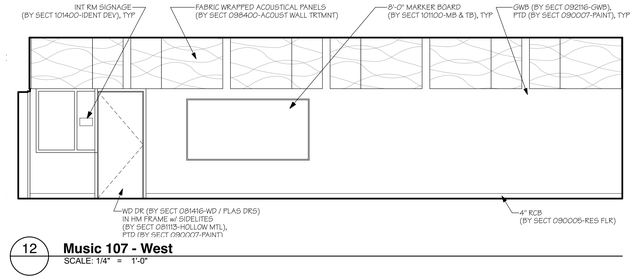
9 **Music 107 - North**
SCALE: 1/4" = 1'-0"



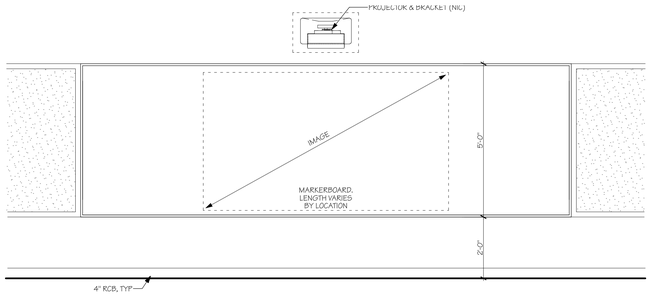
10 **Music 107 - South**
SCALE: 1/4" = 1'-0"



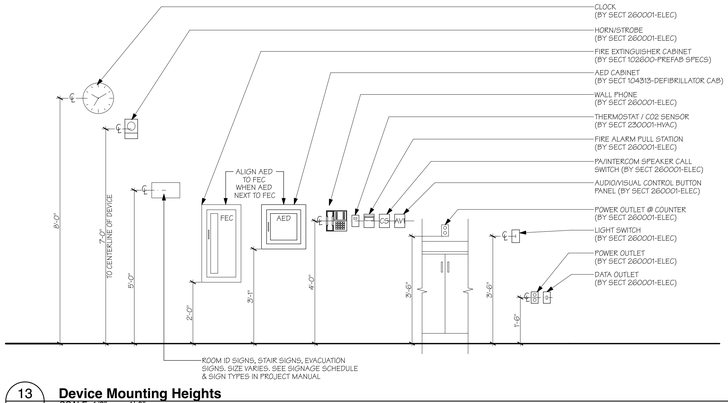
11 **Music 107 - East**
SCALE: 1/4" = 1'-0"



12 **Music 107 - West**
SCALE: 1/4" = 1'-0"



14 **Device Mounting Heights**
SCALE: 1/2" = 1'-0"



13 **Device Mounting Heights**
SCALE: 1/2" = 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: MEH, GW

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Interior Elevations - Classrooms

5.4.01

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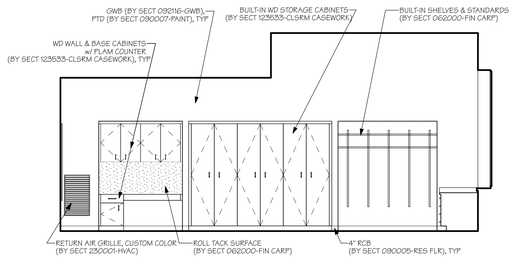
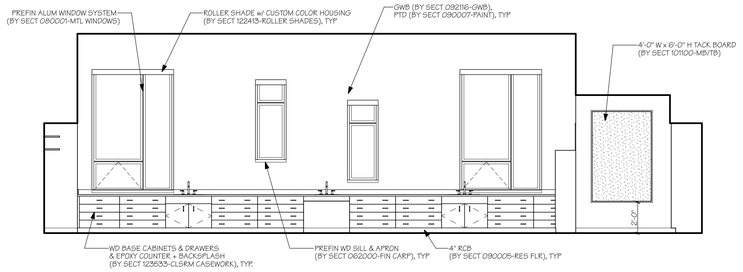
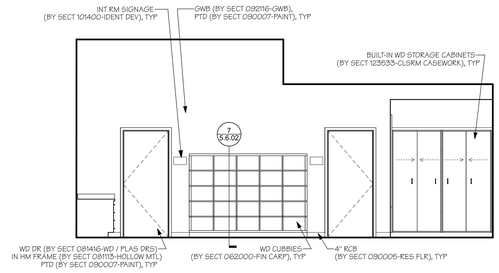


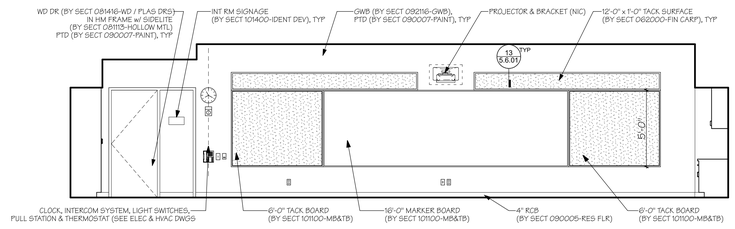
1 TYP **Art 238 - North**
SCALE: 1/4" = 1'-0"



2 TYP **Art 238 - East**
SCALE: 1/4" = 1'-0"



3 TYP **Art 238 - South**
SCALE: 1/4" = 1'-0"



4 TYP **Art 238 - West**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: GW

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Interior Elevations - Classrooms

5.4.02

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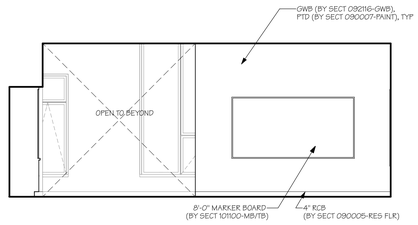
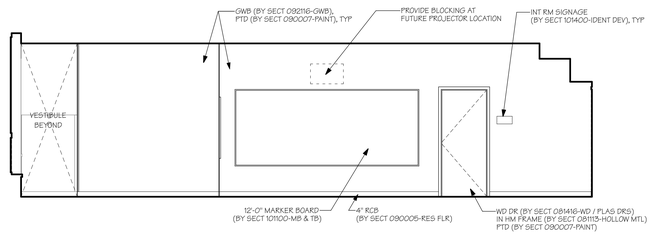
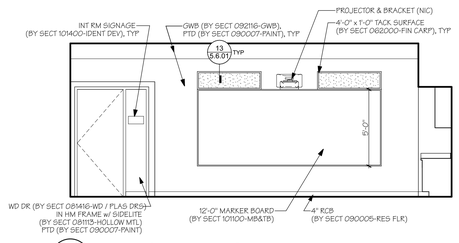


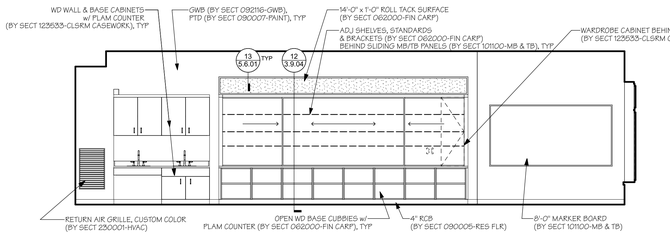
1 **Lower SPARK 216 - North**
SCALE: 1/4" = 1'-0"



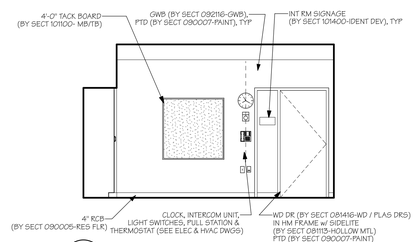
2 **Lower SPARK 216 - East**
SCALE: 1/4" = 1'-0"



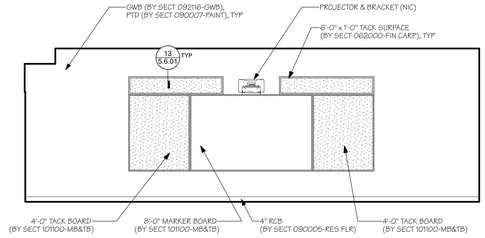
3 **Lower SPARK 216 - South**
SCALE: 1/4" = 1'-0"



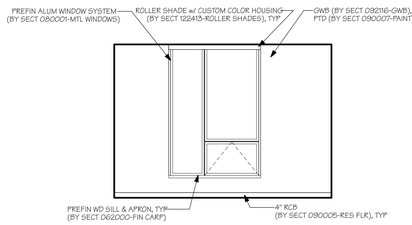
4 **Lower SPARK 216 - West**
SCALE: 1/4" = 1'-0"



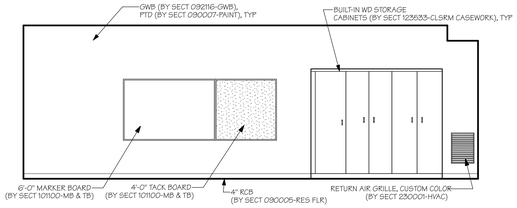
5 **SPED Teaching Space 229 - North**
SCALE: 1/4" = 1'-0"



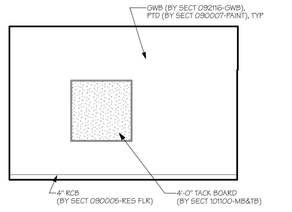
6 **SPED Teaching Space 229 - East**
SCALE: 1/4" = 1'-0"



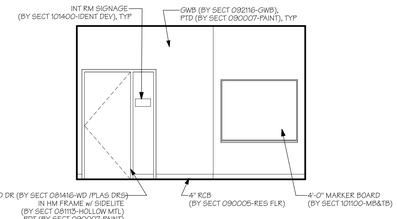
7 **SPED Teaching Space 229 - South**
SCALE: 1/4" = 1'-0"



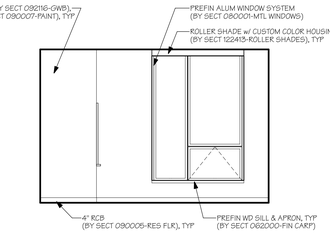
8 **SPED Teaching Space 229 - West**
SCALE: 1/4" = 1'-0"



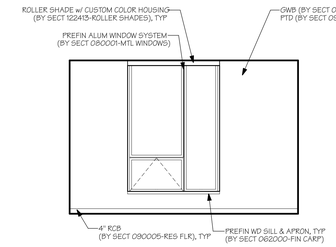
10 **SPED Teacher 221 - North**
SCALE: 1/4" = 1'-0"



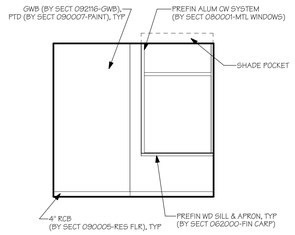
9 **SPED Teacher 221 - East**
SCALE: 1/4" = 1'-0"



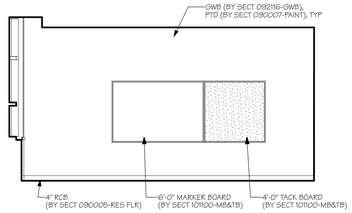
11 **SPED Teacher 221 - South**
SCALE: 1/4" = 1'-0"



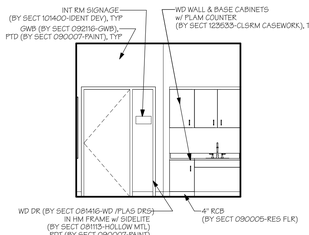
12 **SPED Teacher 221 - West**
SCALE: 1/4" = 1'-0"



13 **OT 201 - North**
SCALE: 1/4" = 1'-0"



14 **OT 201 - East**
SCALE: 1/4" = 1'-0"



15 **OT 201 - South**
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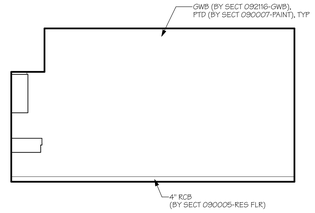
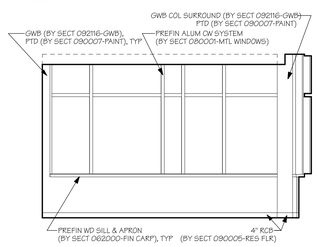
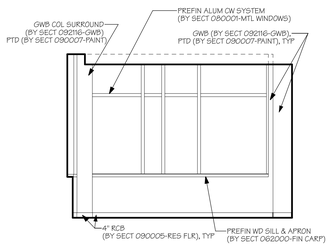


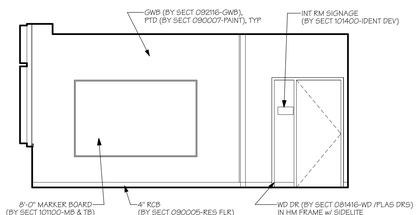
16 **OT 201 - West**
SCALE: 1/4" = 1'-0"



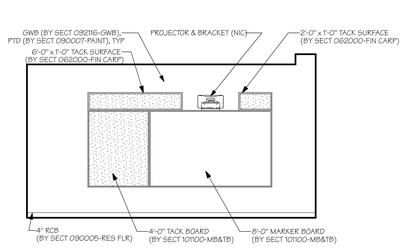
20 **ELL 200 - North**
SCALE: 1/4" = 1'-0"



18 **ELL 200 - East**
SCALE: 1/4" = 1'-0"



19 **ELL 200 - South**
SCALE: 1/4" = 1'-0"



17 **ELL 200 - West**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: MEH, GW

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Interior Elevations

5.4.03

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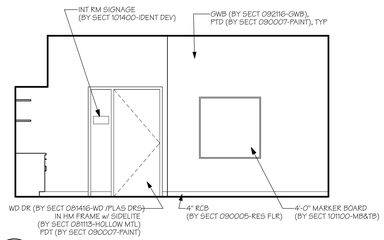
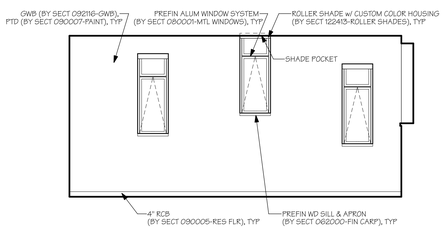
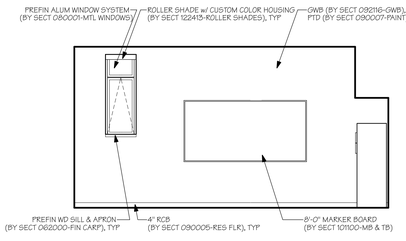


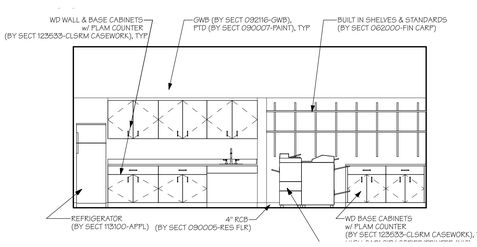
1 **Staff Lunch / Work Room 237 - North**
SCALE: 1/4" = 1'-0"



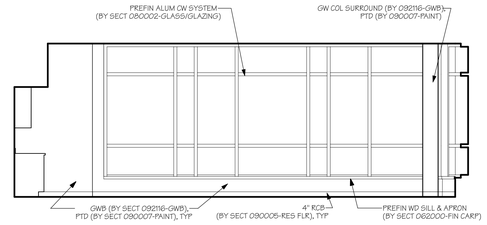
2 **Staff Lunch / Work Room 237**
SCALE: 1/4" = 1'-0"



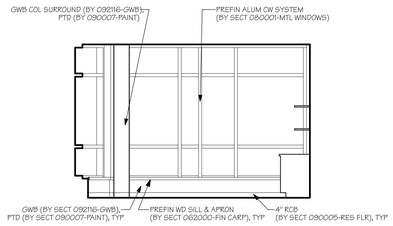
3 **Staff Lunch / Work Room 237 - South**
SCALE: 1/4" = 1'-0"



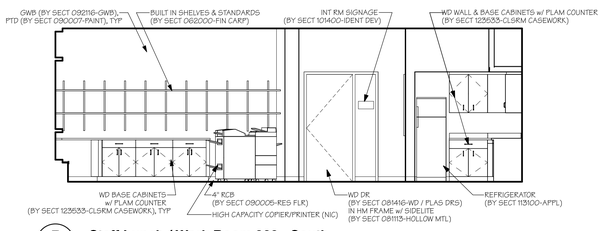
4 **Staff Lunch / Work Room 237 - West**
SCALE: 1/4" = 1'-0"



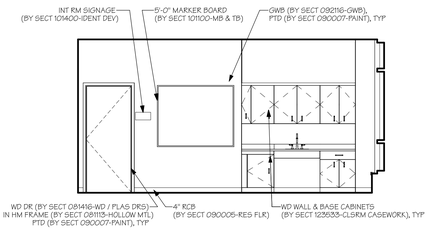
5 **Staff Lunch / Work Room 300 - North**
SCALE: 1/4" = 1'-0"



6 **Staff Lunch / Work Room 300 - East**
SCALE: 1/4" = 1'-0"



7 **Staff Lunch / Work Room 300 - South**
SCALE: 1/4" = 1'-0"



8 **Staff Lunch / Work Room 300 - West**
SCALE: 1/4" = 1'-0"

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5.4.04

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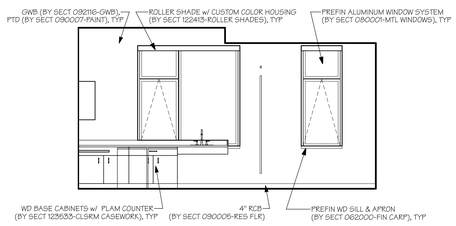
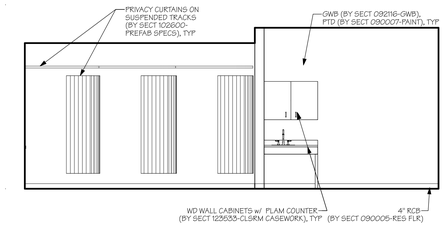
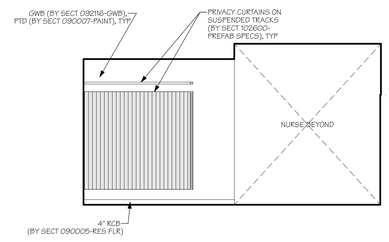


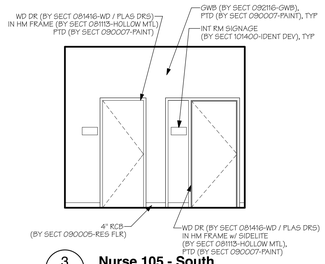
1 **Nurse 105 - North**
SCALE: 1/4" = 1'-0"



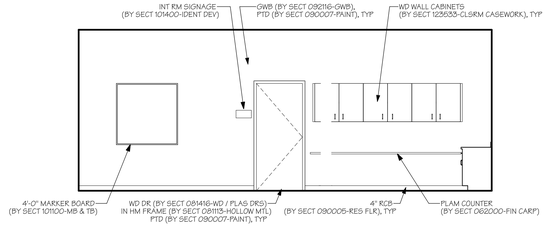
2 **Nurse 105 - East**
SCALE: 1/4" = 1'-0"



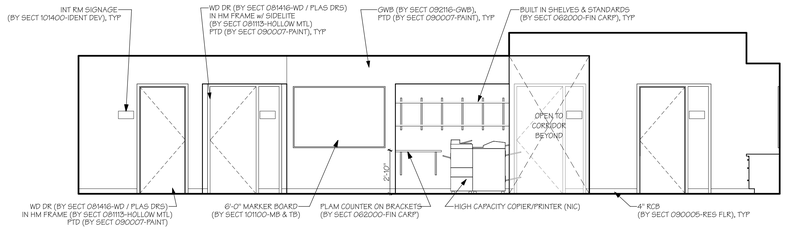
4 TYP **Nurse 105 - South**
SCALE: 1/4" = 1'-0"



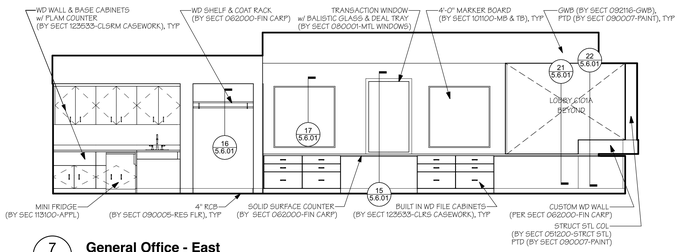
3 **Nurse 105 - South**
SCALE: 1/4" = 1'-0"



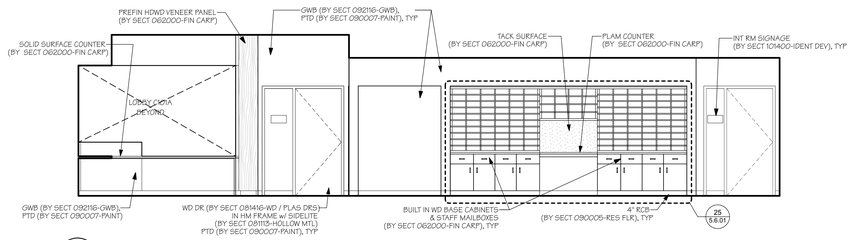
5 **Nurse 105 - West**
SCALE: 1/4" = 1'-0"



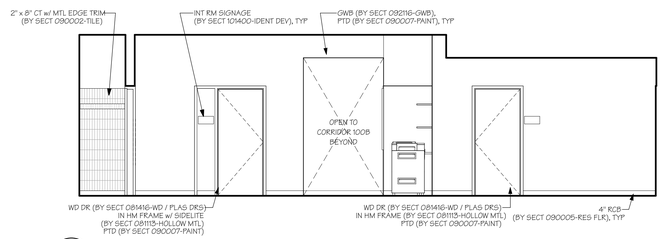
6 **General Office - North**
SCALE: 1/4" = 1'-0"



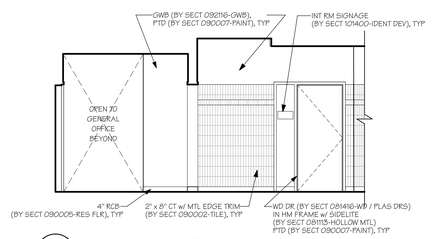
7 **General Office - East**
SCALE: 1/4" = 1'-0"



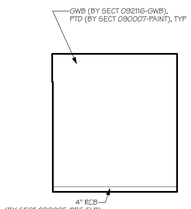
8 **General Office - South**
SCALE: 1/4" = 1'-0"



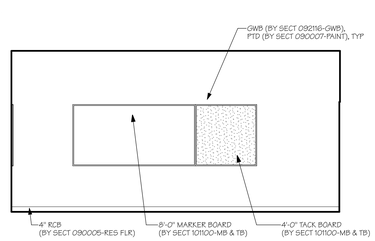
9 **General Office - West**
SCALE: 1/4" = 1'-0"



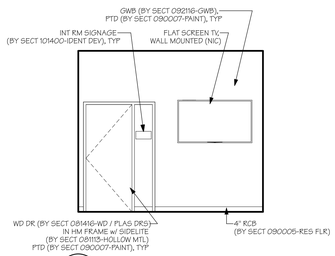
10 **Corridor 100B - East**
SCALE: 1/4" = 1'-0"



11 **Corridor 100B - West**
SCALE: 1/4" = 1'-0"



12 **Principal 101 - North**
SCALE: 1/4" = 1'-0"



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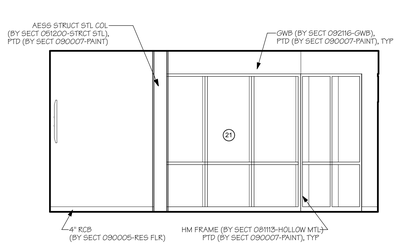
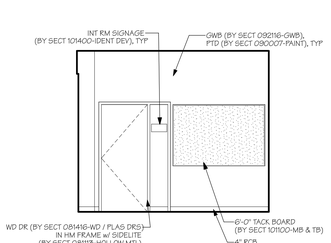
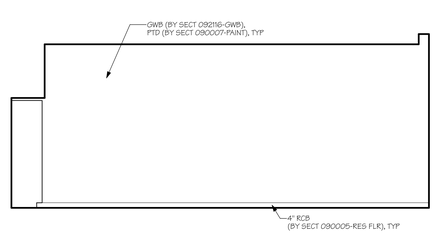
SCALE: 1/4" = 1'-0"



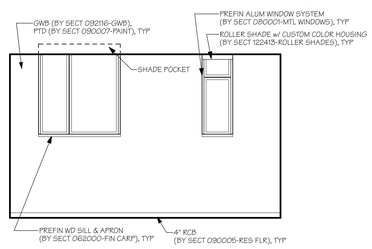
14 **Principal 101 - South**
SCALE: 1/4" = 1'-0"



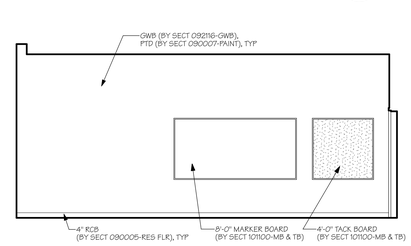
15 **Principal 101 - West**
SCALE: 1/4" = 1'-0"



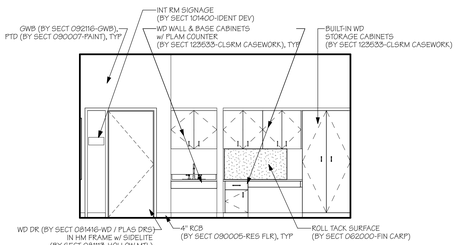
16 **PT 125 - North**
SCALE: 1/4" = 1'-0"



17 **PT 125 - East**
SCALE: 1/4" = 1'-0"



18 **PT 125 - South**
SCALE: 1/4" = 1'-0"



19 **PT 125 - West**
SCALE: 1/4" = 1'-0"

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Revisions

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5.4.05

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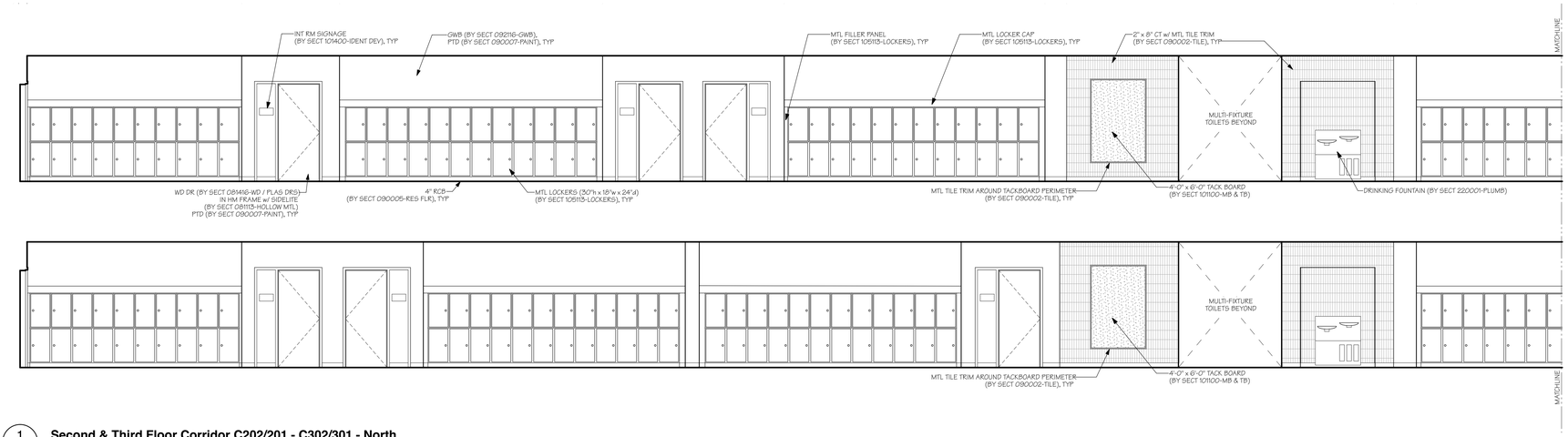
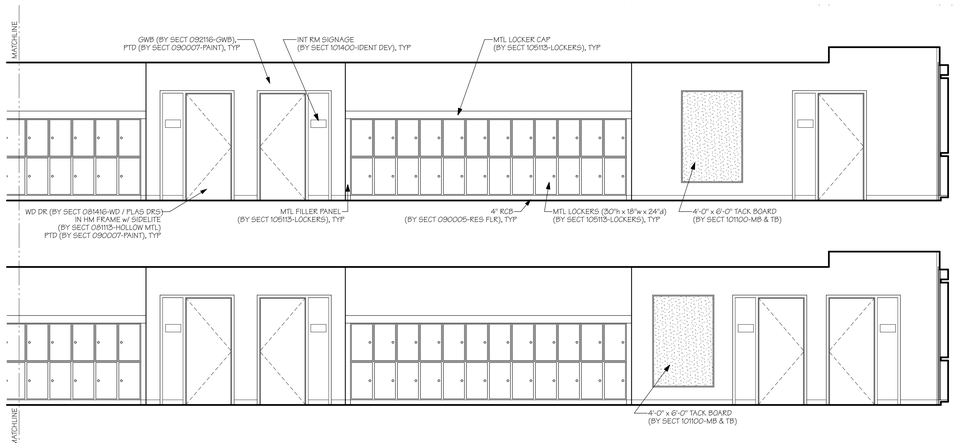
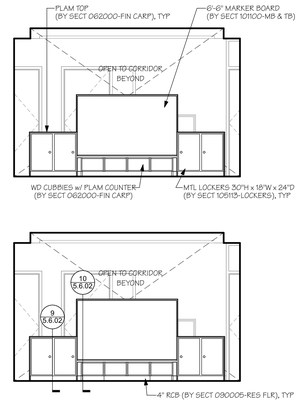


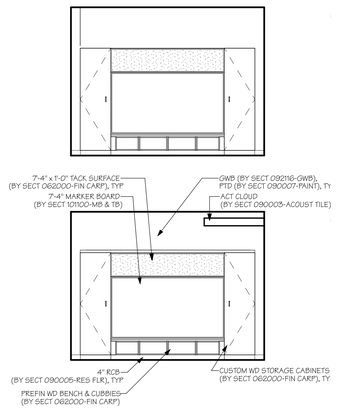
1 **Second & Third Floor Corridor C202/201 - C302/301 - North**
SCALE: 1/4" = 1'-0"



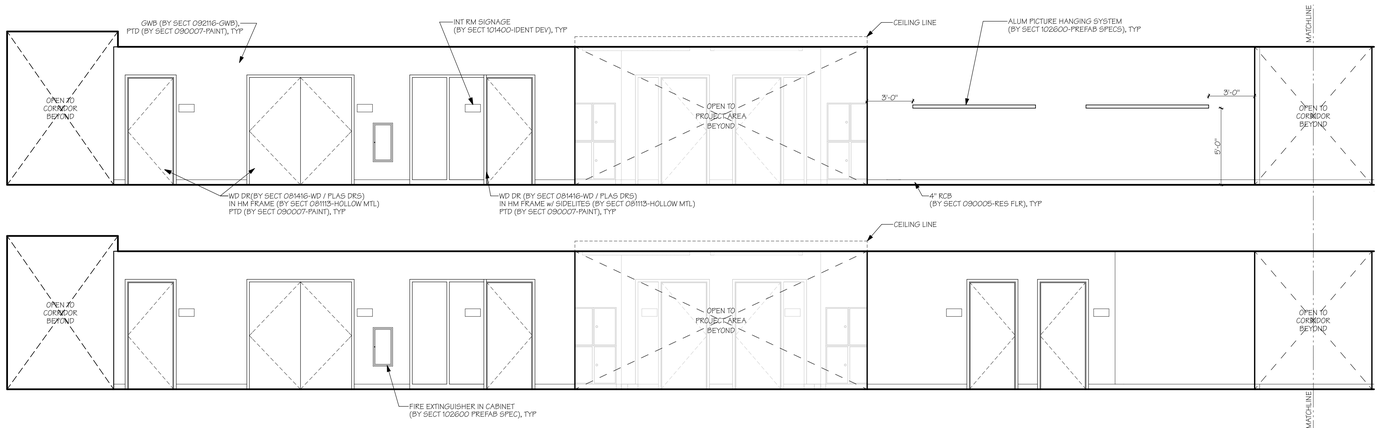
2 **Second & Third Floor Corridor C200/C300 - North**
SCALE: 1/4" = 1'-0"



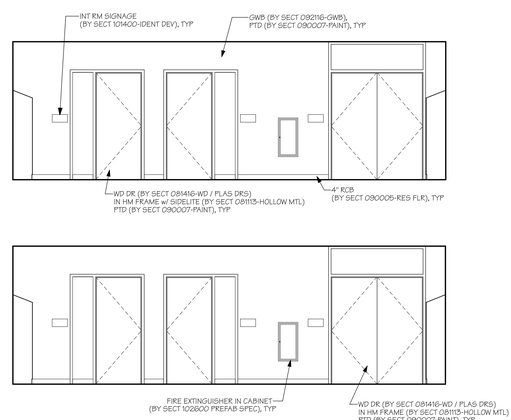
3 **Project Area - West**
SCALE: 1/4" = 1'-0"



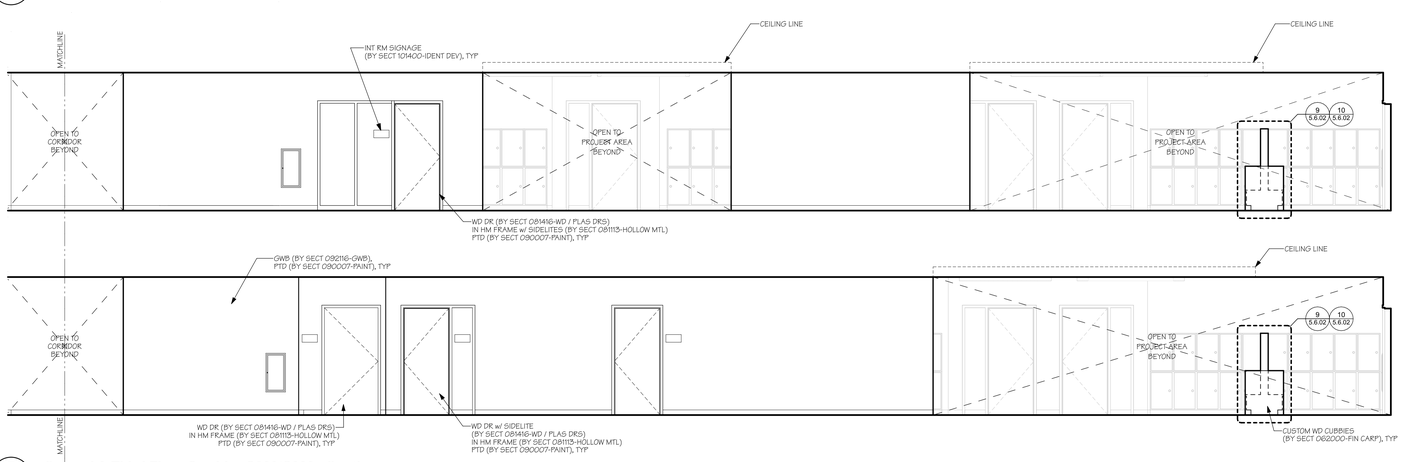
4 TYP **Project Area - East**
SCALE: 1/4" = 1'-0"



5 **Second & Third Floor Corridor C200/C300 - C201/C301 - South**
SCALE: 1/4" = 1'-0"



6 **Second & Third Floor Corridor 217A & 317A - West**
SCALE: 1/4" = 1'-0"



7 **Second & Third Floor Corridor C202/302 - South**
SCALE: 1/4" = 1'-0"

NOTE:
Base scope for 2nd and 3rd Floor Corridors to be abuse resistant GWB, painted. Provide Alternate pricing for tile wainscot as shown on Sheets 5.4.02 and 5.4.03 (2nd and 3rd Floor Only)

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5.4.06

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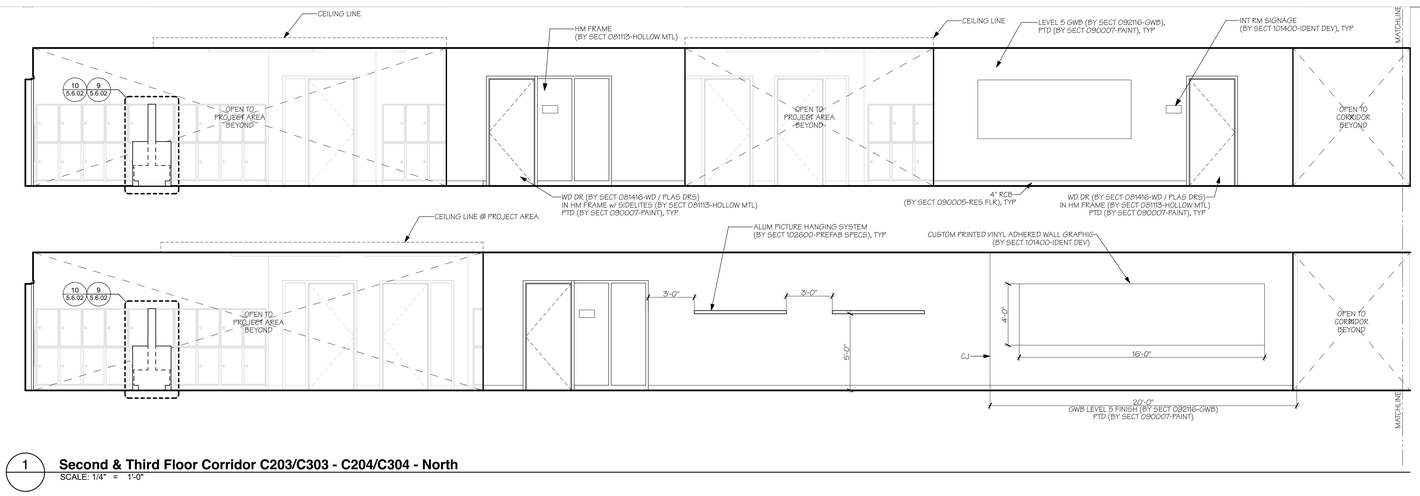

1 **Second & Third Floor Corridor C203/C303 - C204/C304 - North**
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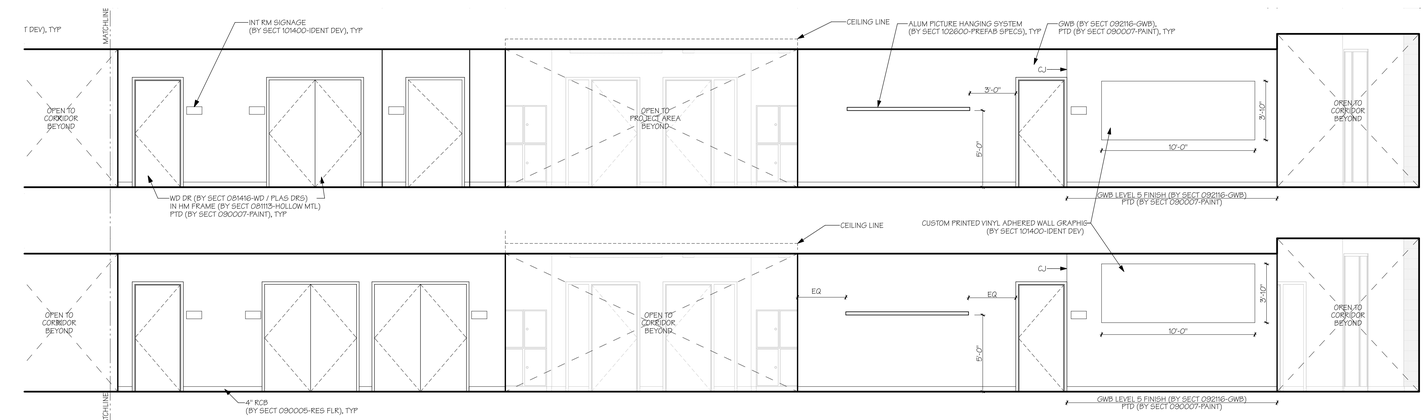

2 **Second & Third Floor Corridor C204/C304 - C205/C305**
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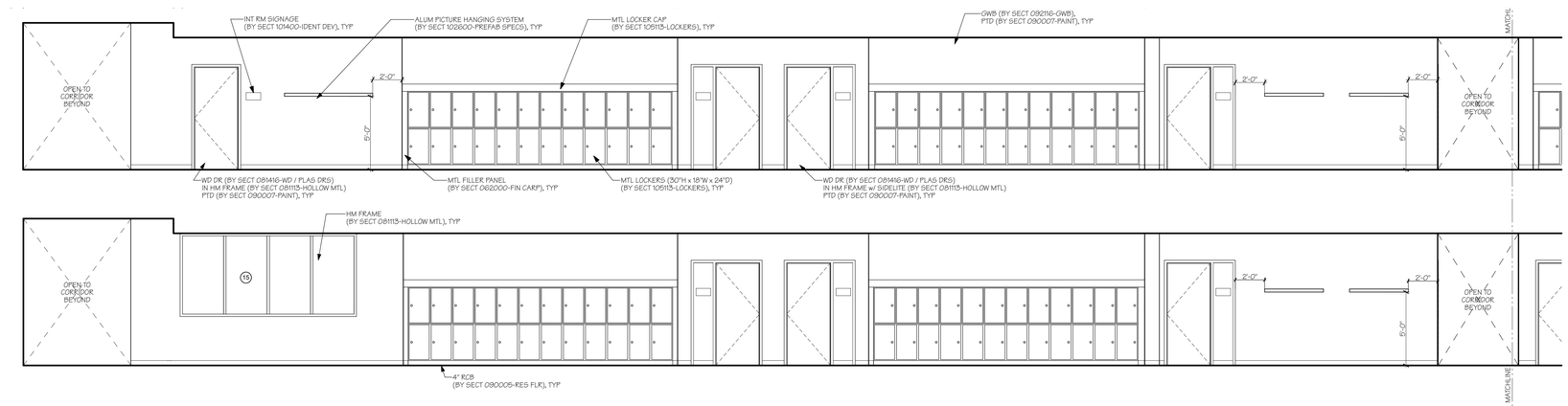
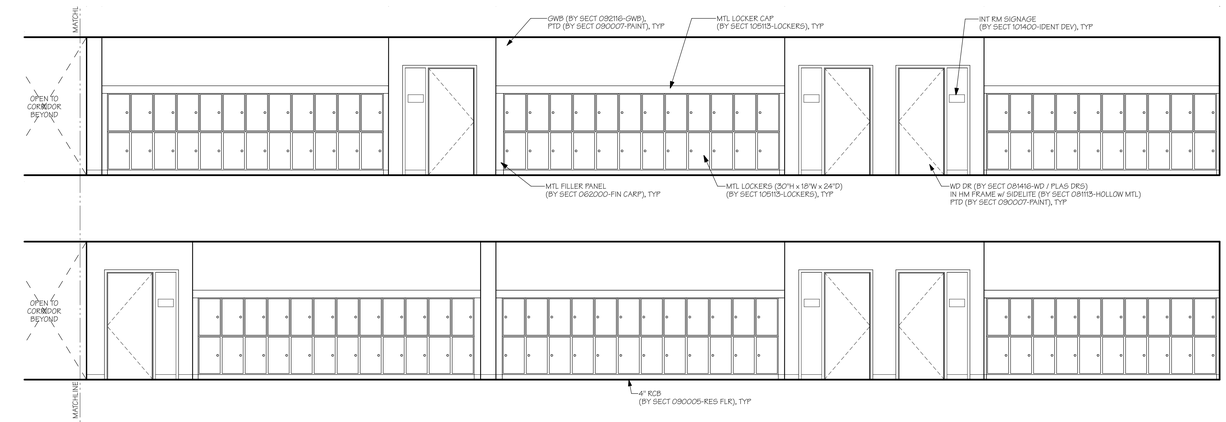


3 **Second & Third Floor Corridor C205/C305 - C204/C304**
SCALE: 1/4" = 1'-0"



4 **Second & Third Floor Corridor C204/C304 - C203/C303**
SCALE: 1/4" = 1'-0"

NOTE:
Base scope for 2nd and 3rd Floor Corridors to be abuse resistant GWB, painted. Provide Alternate pricing for tile wainscot as shown on Sheets 5.4.02 and 5.4.03 (2nd and 3rd Floor Only)

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: MEH, GW

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Interior Elevations - Corridors

5.4.07

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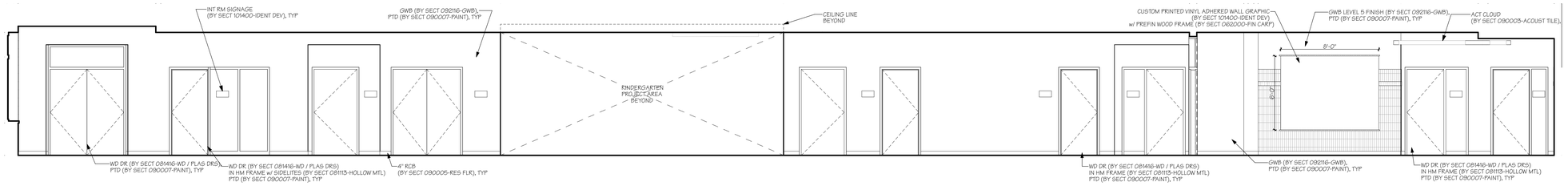
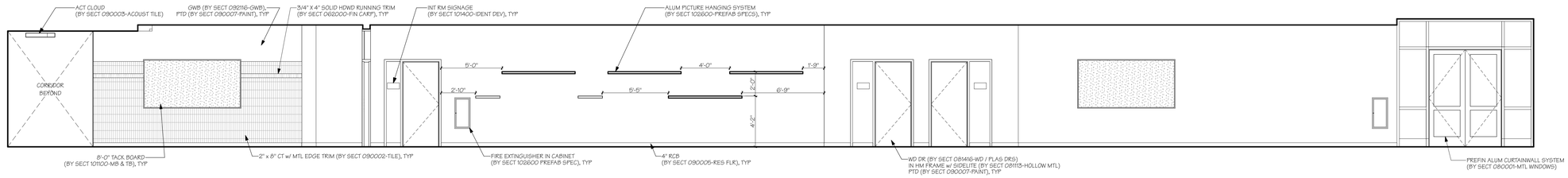
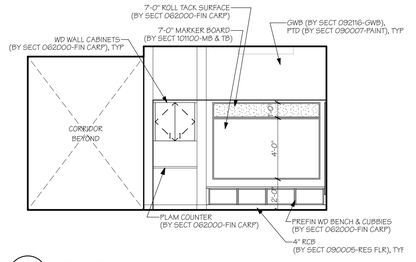


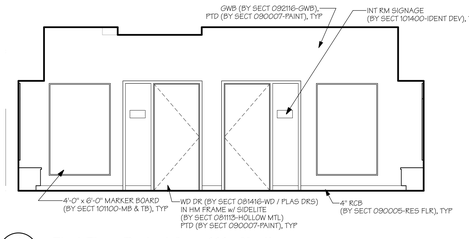
1 **First Floor Corridor C106 - C103 N**
SCALE: 1/4" = 1'-0"



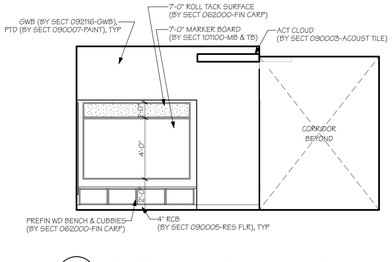
2 TYP **First Floor Corridor C103 - South**
SCALE: 1/4" = 1'-0"



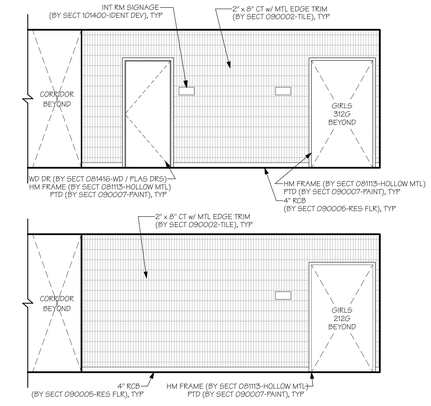
3 **First Floor Project Area 111 - West**
SCALE: 1/4" = 1'-0"



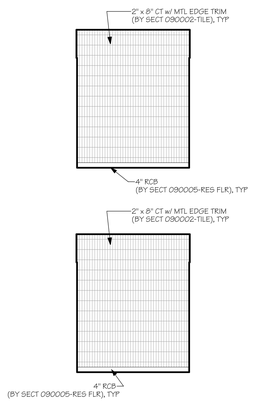
4 **First Floor Project Area 111 - North**
SCALE: 1/4" = 1'-0"



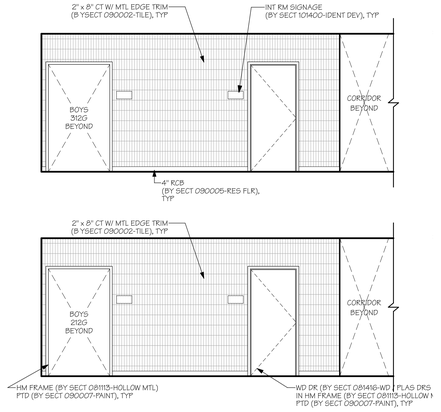
5 **First Floor Project Area 111 - East**
SCALE: 1/4" = 1'-0"



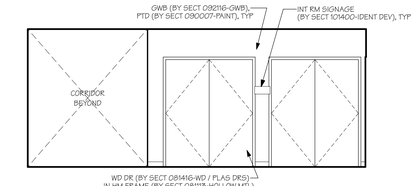
6 **Corridor C201A & C301A - West**
SCALE: 1/4" = 1'-0"



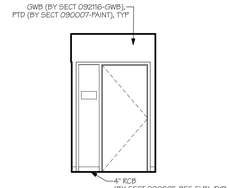
7 **Corridor C201A & C301A - North**
SCALE: 1/4" = 1'-0"



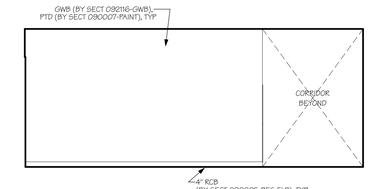
8 **Corridor C201A & C301A - East**
SCALE: 1/4" = 1'-0"



9 **Corridor C204A & C304A - East**
SCALE: 1/4" = 1'-0"



10 **Corridor C204A & C304A - South**
SCALE: 1/4" = 1'-0"



11 **Corridor C204A & C304A - West**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW STAMP

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Interior Elevations - Corridors

5.4.08

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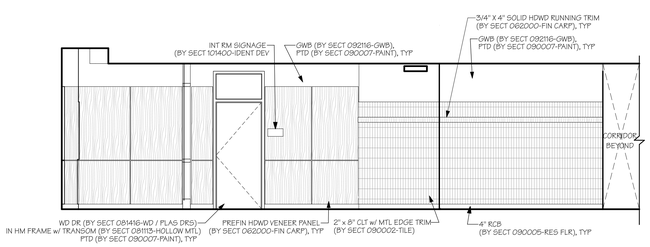

1 **Lobby C101B - North**
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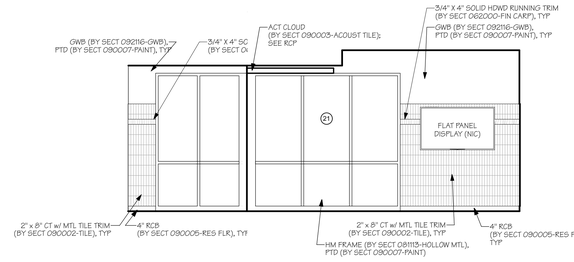
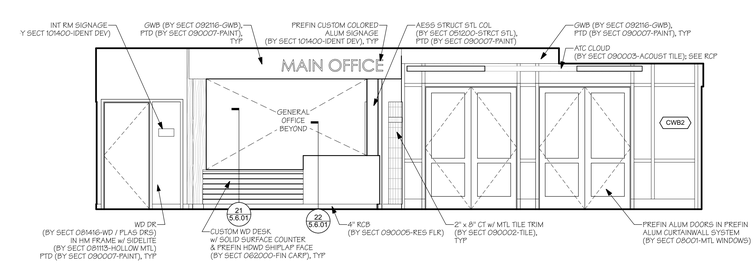
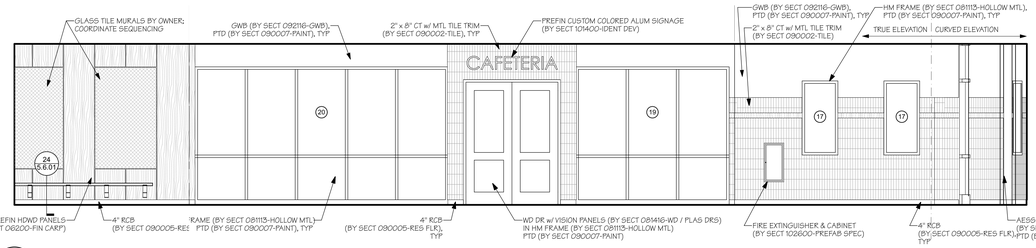
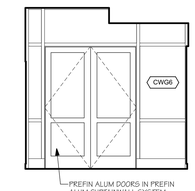


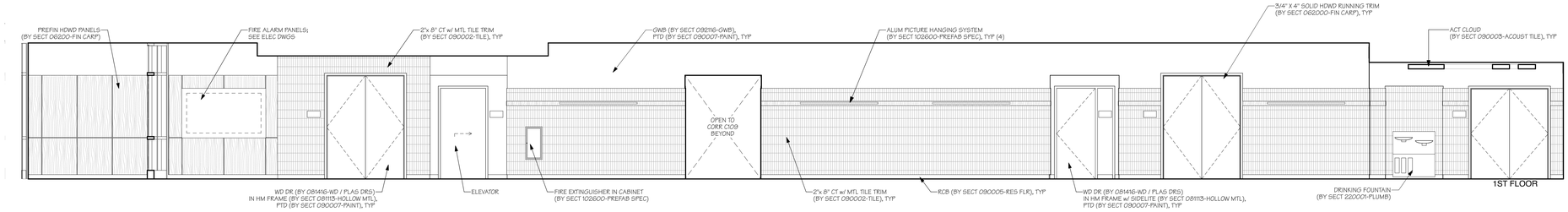




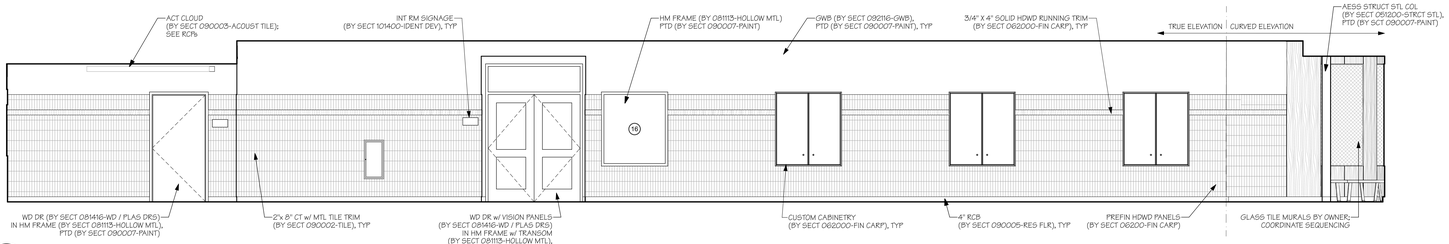
2 **Lobby C101A - South**
SCALE: 1/4" = 1'-0"



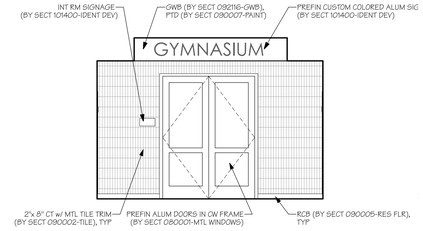
3 **Lobby C101B - West**
SCALE: 1/4" = 1'-0"



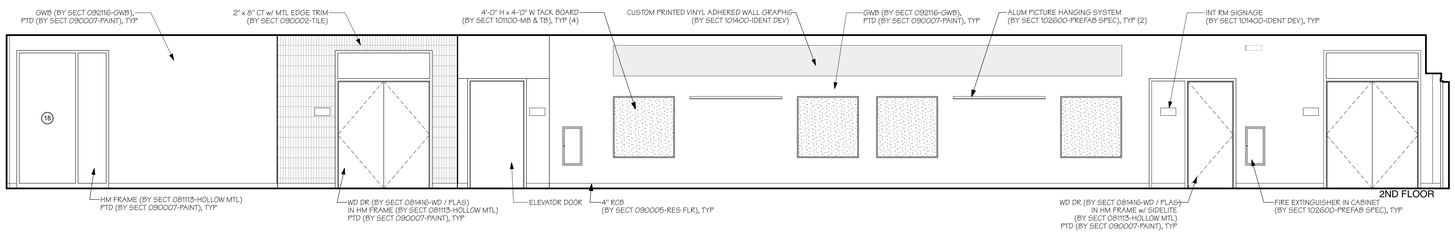
4 **Corridor C108 - East**
SCALE: 1/4" = 1'-0"



5 **Corridor C108 - West**
SCALE: 1/4" = 1'-0"



6 TYP **Corridor C108 - South**
SCALE: 1/4" = 1'-0"



7 TYP **Corridor C207 - East**
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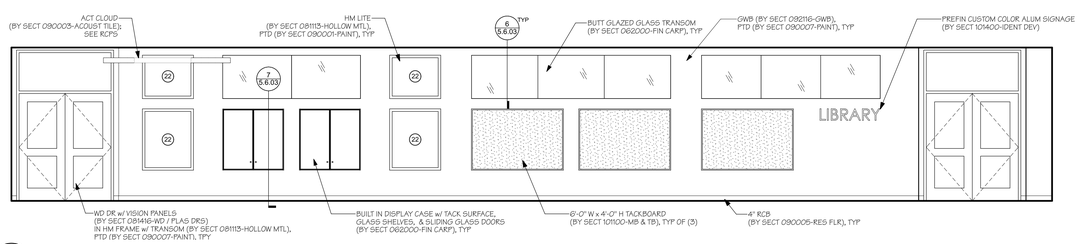
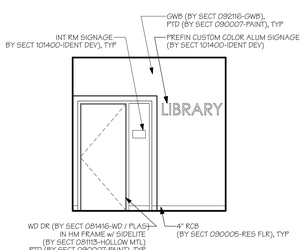
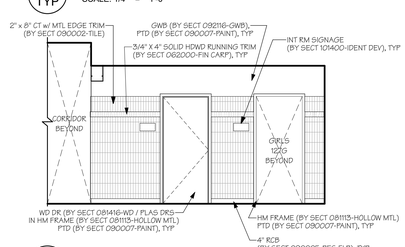


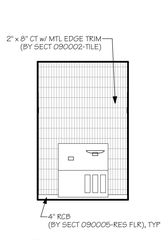
9 TYP **Corridor C207 - West**
SCALE: 1/4" = 1'-0"



11 TYP **Corridor C207 - South**
SCALE: 1/4" = 1'-0"



10 **Corridor C109 - North**
SCALE: 1/4" = 1'-0"



11 **Corridor C109 - East**
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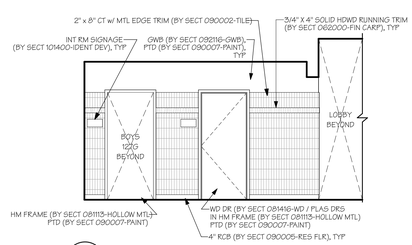

12 **Corridor C109 - South**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: MEH, ADW, GMW

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Interior Elevations - Lobby & Corridors

5.4.09

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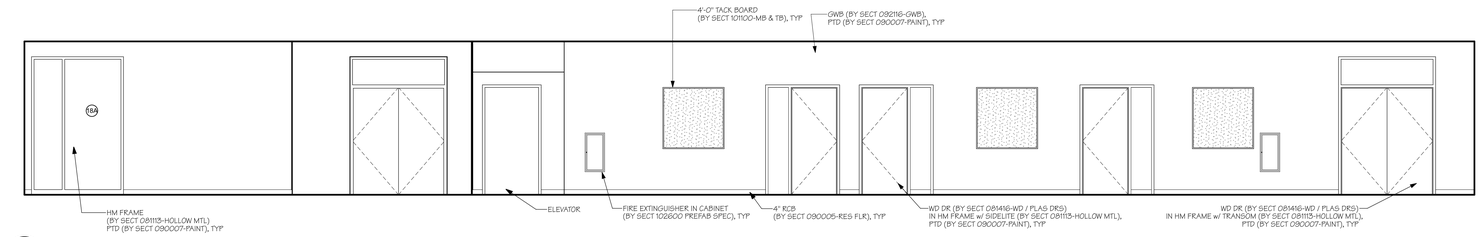
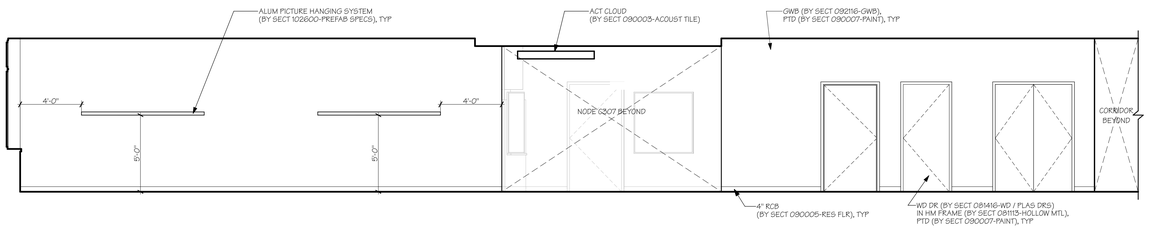


1 TYP **Corridor C308 - East**
SCALE: 1/4" = 1'-0"



3 TYP **Corridor C308 - West**
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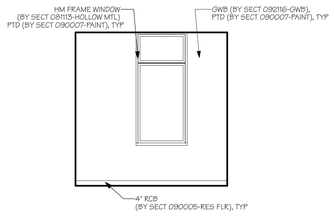

2 TYP **Corridor C308 - South**
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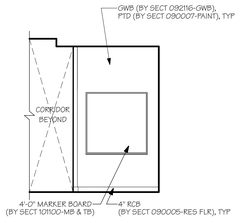
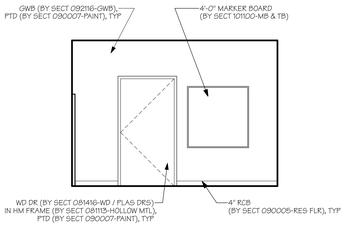


4 TYP **Node C307 - South**
SCALE: 1/4" = 1'-0"



5 TYP **Node C307 - West**
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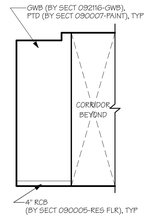

6 TYP **Node C307 - North**
SCALE: 1/4" = 1'-0"

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KEY PLAN

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Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Interior Elevations - Corridors

5.4.10

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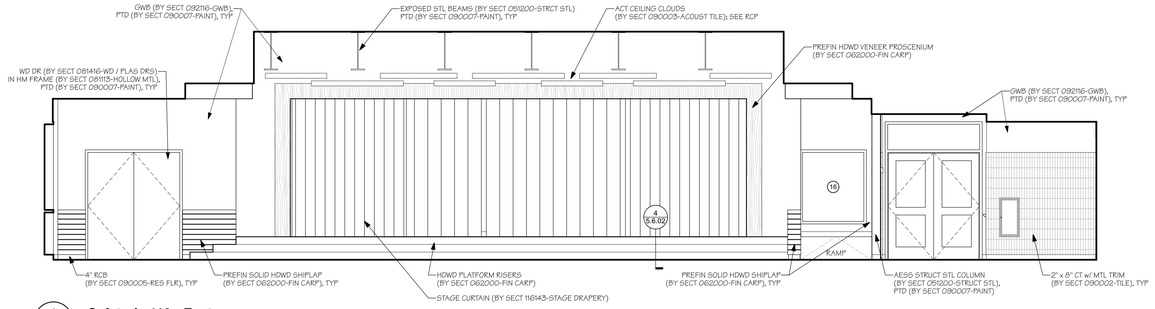

1 **Cafeteria 119 - East**
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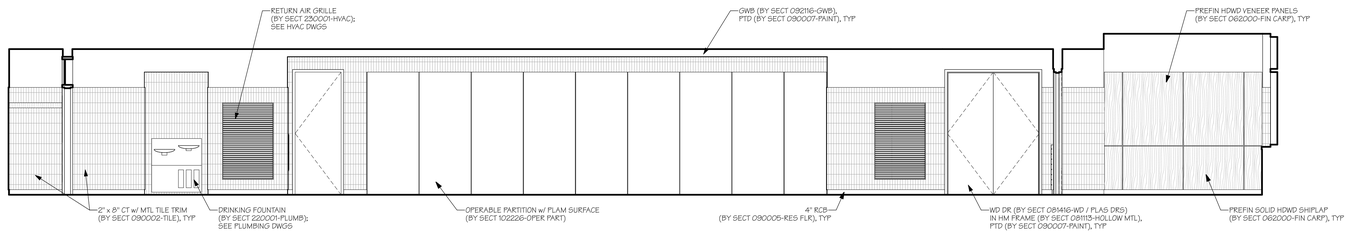
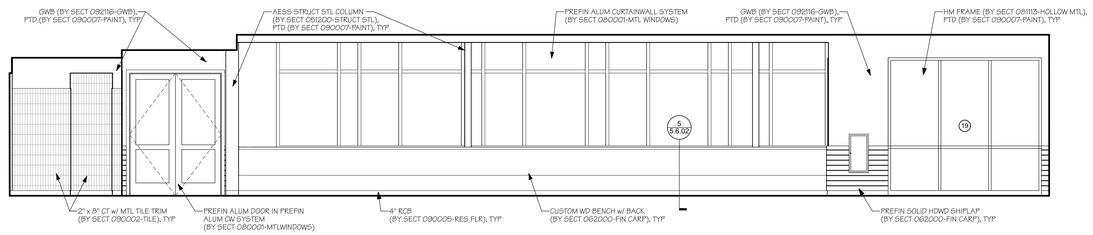


2 **Cafeteria 119 - South**
SCALE: 1/4" = 1'-0"



3 **Cafeteria 119 - West**
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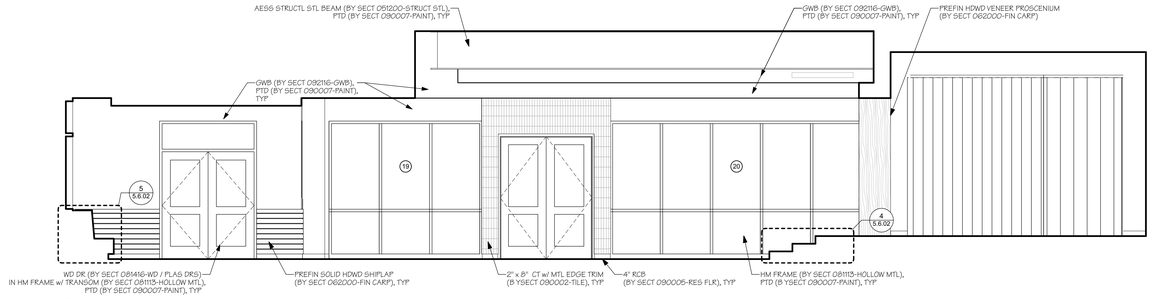
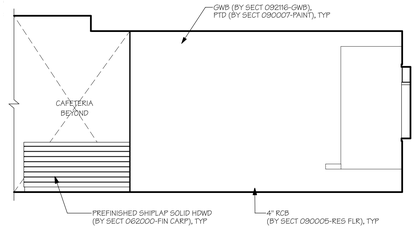
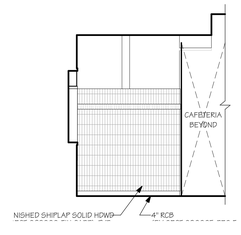


4 **Cafeteria 119 - North**
SCALE: 1/4" = 1'-0"

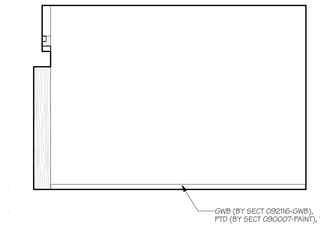


5 **Ramp 120A - North**
SCALE: 1/4" = 1'-0"

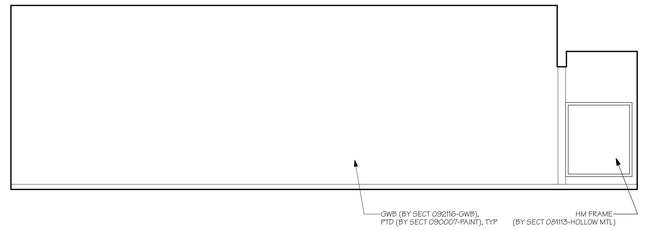


6 **Ramp 120A - South**
SCALE: 1/4" = 1'-0"

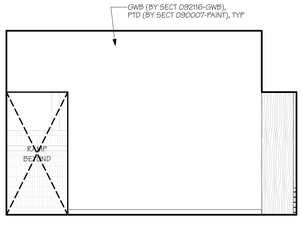
7 **Platform 120 - West**
SCALE: 1/4" = 1'-0"



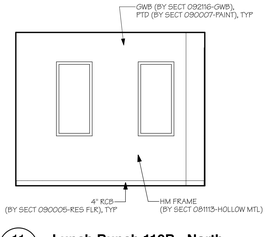
8 **Platform 120 - North**
SCALE: 1/4" = 1'-0"



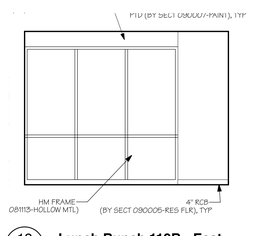
9 **Platform 120 - East**
SCALE: 1/4" = 1'-0"



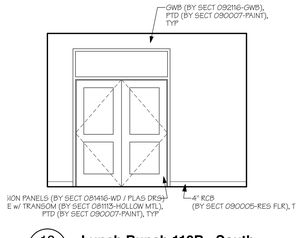
10 **Platform 120 - South**
SCALE: 1/4" = 1'-0"



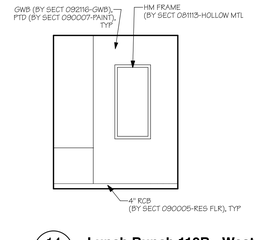
11 **Lunch Bunch 119B - North**
SCALE: 1/4" = 1'-0"



12 **Lunch Bunch 119B - East**
SCALE: 1/4" = 1'-0"



13 **Lunch Bunch 119B - South**
SCALE: 1/4" = 1'-0"



14 **Lunch Bunch 119B - West**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW STAMP

Date: 12 FEBRUARY 2024

Drawn By: MEH, ADW, GMW

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Interior Elevations - Cafeteria

5.4.11

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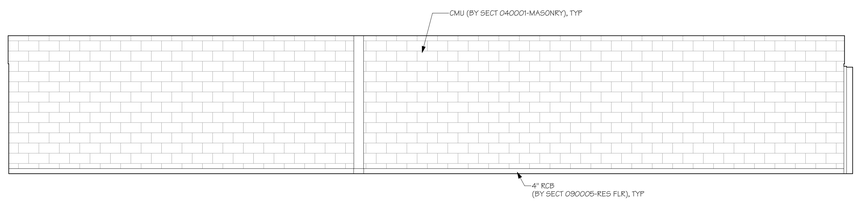
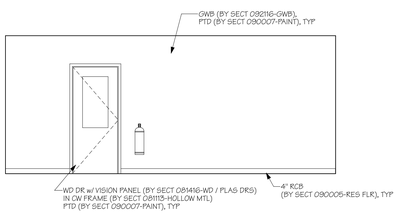
1 **Kitchen - North**
SCALE: 1/4" = 1'-0"

2 **Kitchen - East**
SCALE: 1/4" = 1'-0"



3 **Kitchen - South**
SCALE: 1/4" = 1'-0"



4 **Kitchen - West**
SCALE: 1/4" = 1'-0"

KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: GMW

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Interior Elevations - Cafeteria

5.4.12

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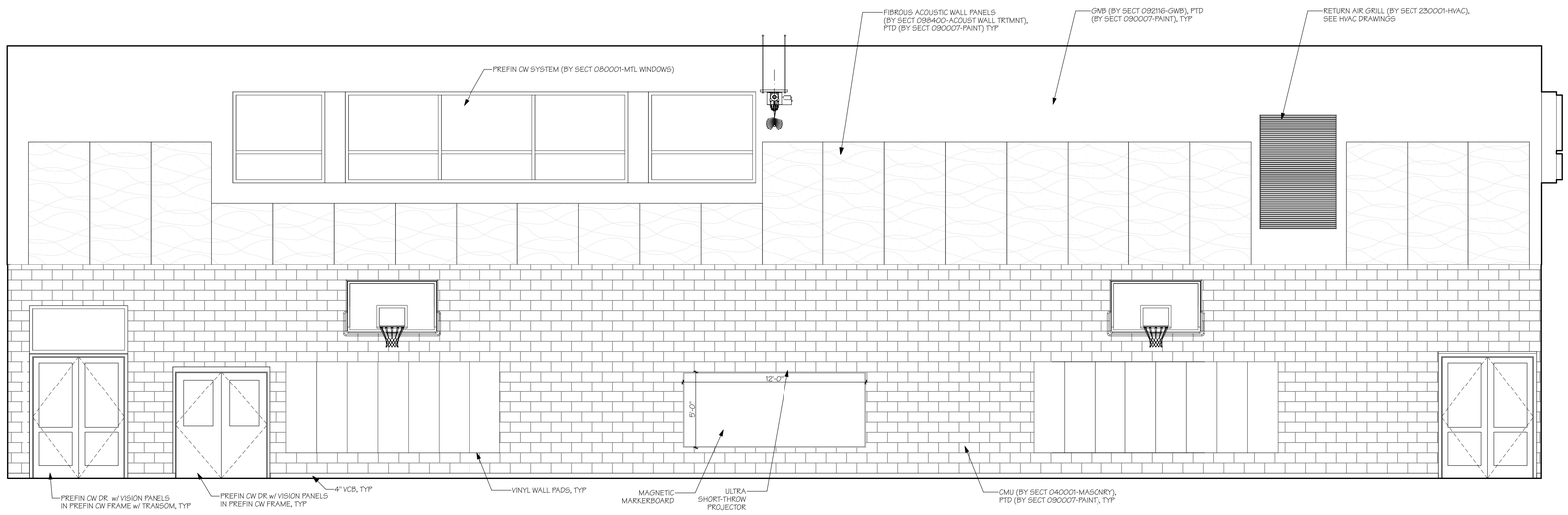
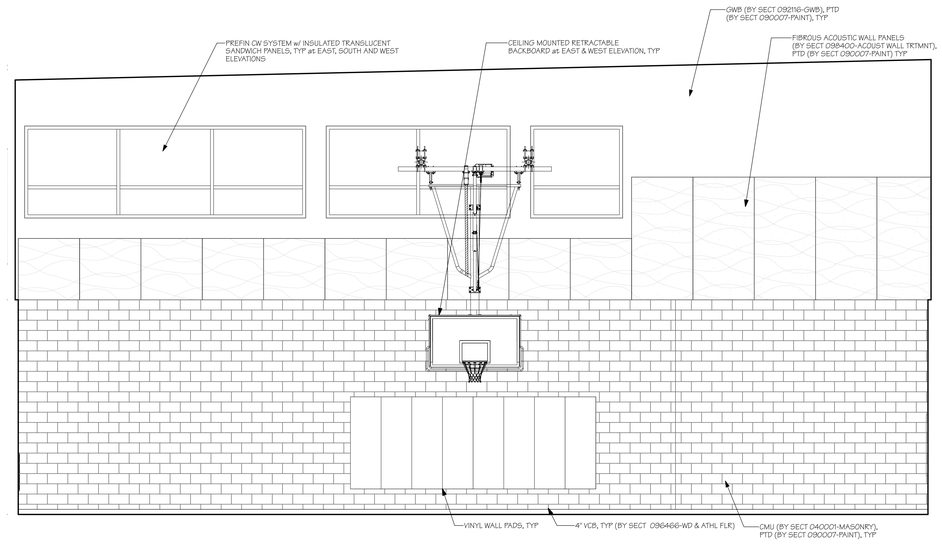
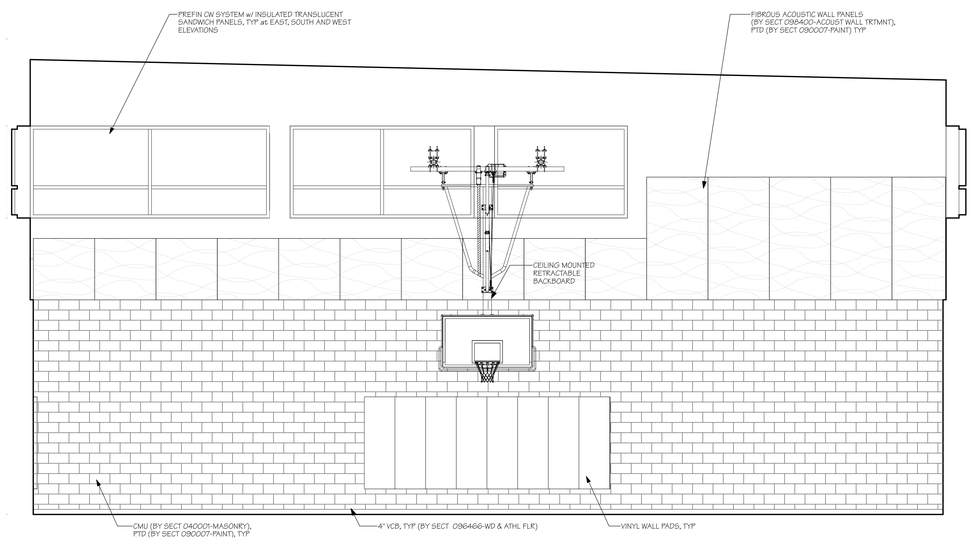


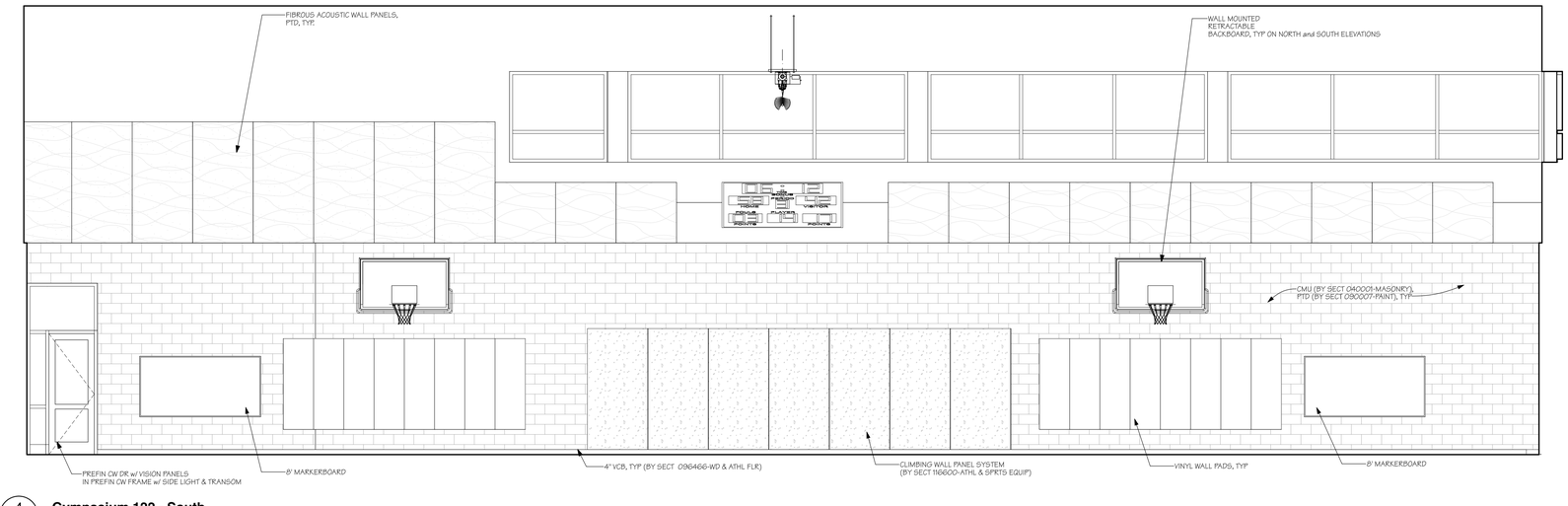
1 **Gymnasium 122 - North**
SCALE: 1/4" = 1'-0"



2 **Gymnasium 122 - East**
SCALE: 1/4" = 1'-0"



3 **Gymnasium 122 - West**
SCALE: 1/4" = 1'-0"



4 **Gymnasium 122 - South**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

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Revisions

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DESIGN DEVELOPMENT

Interior Elevations - Gymnasium

5.4.13

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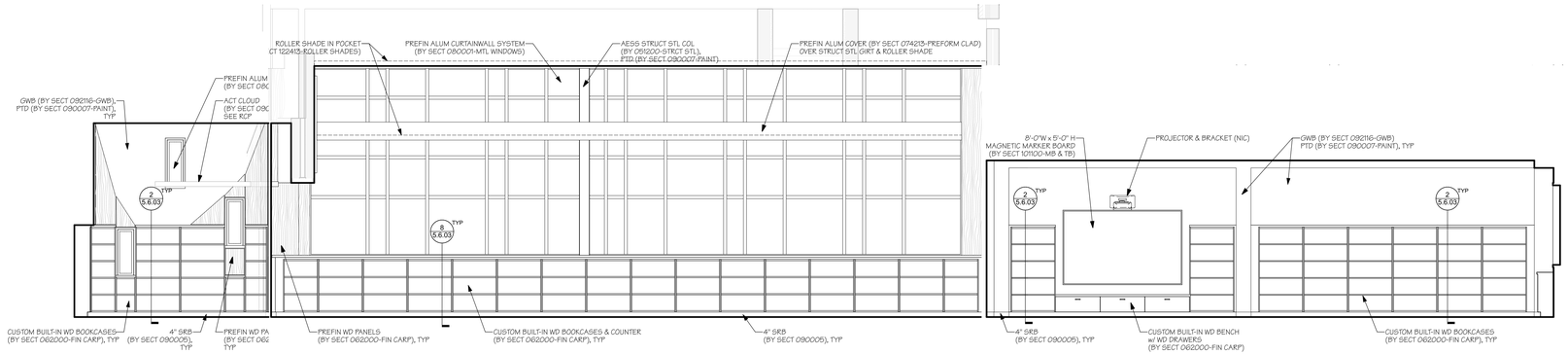
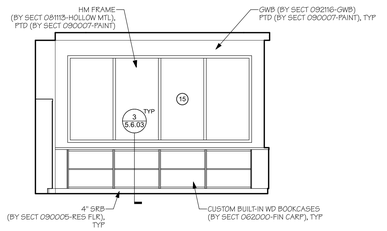
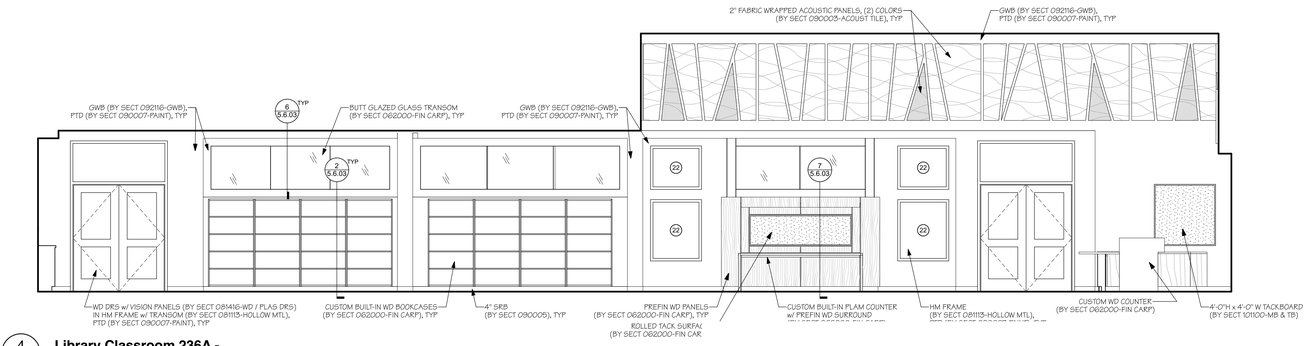


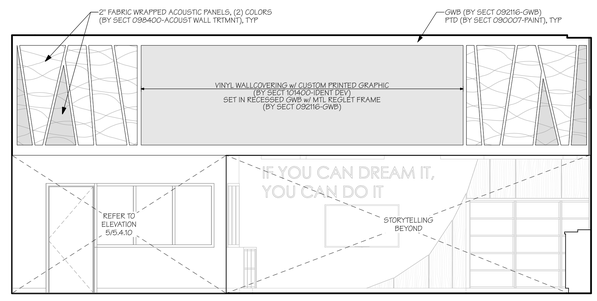
1 **Media Center 236 - West**
SCALE: 1/4" = 1'-0"



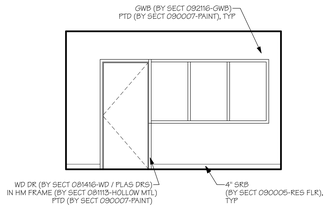
3 **Library Classroom 236A -**
SCALE: 1/4" = 1'-0"



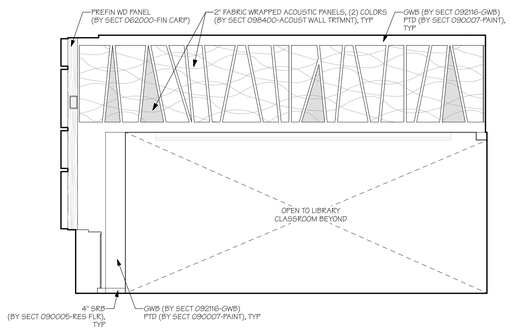
4 **Library Classroom 236A -**
SCALE: 1/4" = 1'-0"



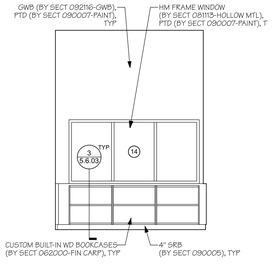
5 **Library 236 -**
SCALE: 1/4" = 1'-0"



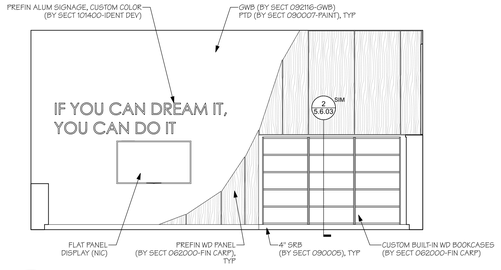
11 **Library 236 Work Room Wall -**
SCALE: 1/4" = 1'-0"



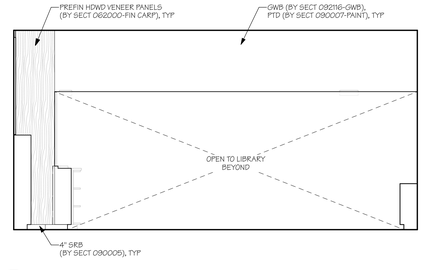
7 **Library 236 -**
SCALE: 1/4" = 1'-0"



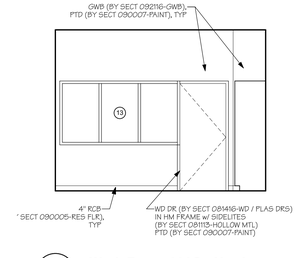
8 **Storytelling 236B - East**
SCALE: 1/4" = 1'-0"



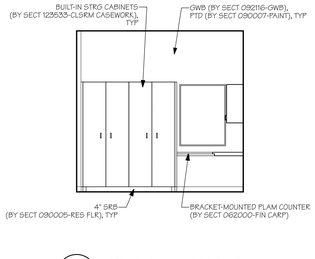
9 **Storytelling 236B - South**
SCALE: 1/4" = 1'-0"



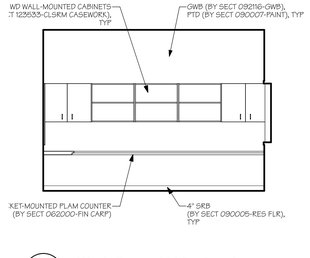
10 **Storytelling 236B - North**
SCALE: 1/4" = 1'-0"



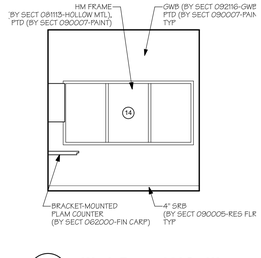
12 **Work Room 236C - North**
SCALE: 1/4" = 1'-0"



13 **Work Room 236C - East**
SCALE: 1/4" = 1'-0"



14 **Work Room 236C - South**
SCALE: 1/4" = 1'-0"



15 **Work Room 236C - West**
SCALE: 1/4" = 1'-0"

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KEY PLAN

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Revisions

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DESIGN DEVELOPMENT

Interior Elevations - Library

5.4.14

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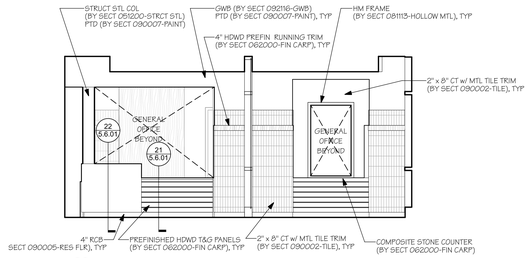
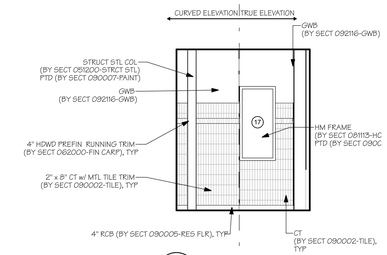
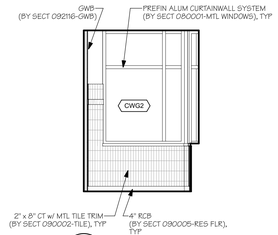


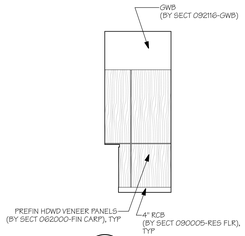
1 **Vestibule C100 - West**
SCALE: 1/4" = 1'-0"



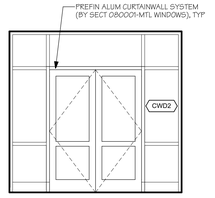
2 **Vestibule C102 - East**
SCALE: 1/4" = 1'-0"



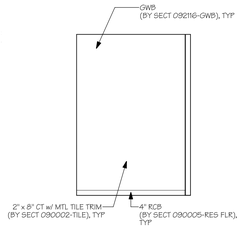
3 **Vestibule C102 - South**
SCALE: 1/4" = 1'-0"



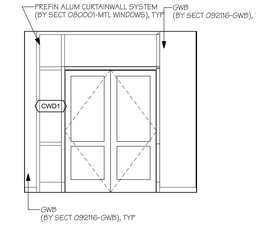
4 **Vestibule C102 - West**
SCALE: 1/4" = 1'-0"



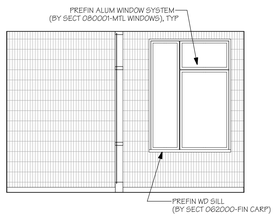
7 **Vestibule C107 - North**
SCALE: 1/4" = 1'-0"



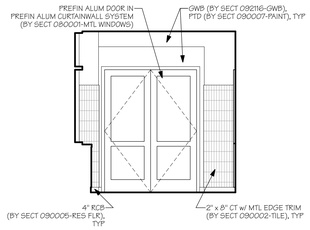
6 **Vestibule C107 - East**
SCALE: 1/4" = 1'-0"



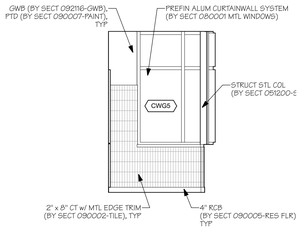
8 **Vestibule C107 - South**
SCALE: 1/4" = 1'-0"



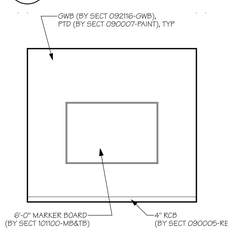
9 **Vestibule C107 - West**
SCALE: 1/4" = 1'-0"



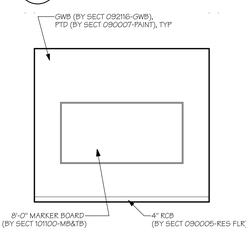
10 **Vestibule 119C - East**
SCALE: 1/4" = 1'-0"



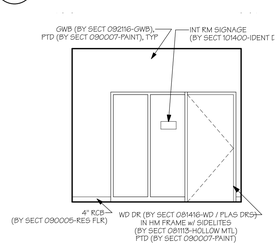
11 **Vestibule 119C - West**
SCALE: 1/4" = 1'-0"



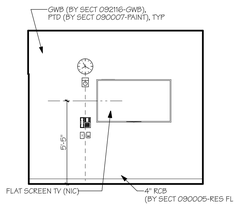
12 **Small Group 224 - North**
SCALE: 1/4" = 1'-0"



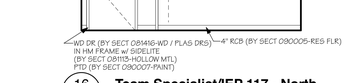
13 **Small Group 224 - East**
SCALE: 1/4" = 1'-0"



14 **Small Group 224 - South**
SCALE: 1/4" = 1'-0"



15 **Small Group 224 - West**
SCALE: 1/4" = 1'-0"



16 **Team Specialist/IEP 117 - North**
SCALE: 1/4" = 1'-0"

17 **Team Specialist/IEP 117 - East**
SCALE: 1/4" = 1'-0"

18 **Team Specialist/IEP 117 - South**
SCALE: 1/4" = 1'-0"

19 **Team Specialist/IEP 117 - West**
SCALE: 1/4" = 1'-0"

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(617) 886-9066

EdVance Technology Design, Inc.
Technology Consultants
300 Brickstone Square, Suite 201
Andover, MA 01880
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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: ADW, MEH, GW

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Interior Elevations - Entry Vestibules & Misc. Rooms

5.4.15

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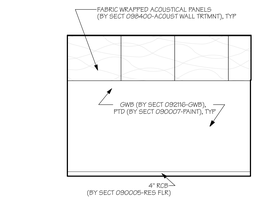
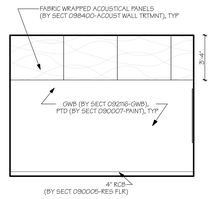
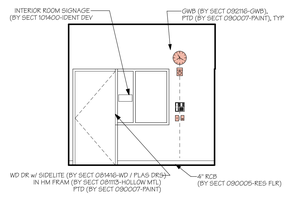


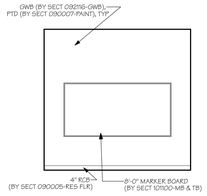
1 **Practice 107A - North**
SCALE: 1/4" = 1'-0"



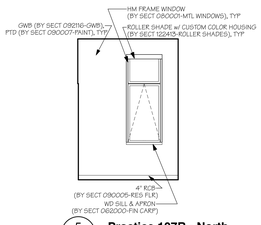
2 **Practice 107A - East**
SCALE: 1/4" = 1'-0"



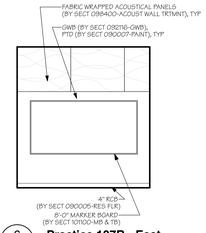
3 **Practice 107A - South**
SCALE: 1/4" = 1'-0"



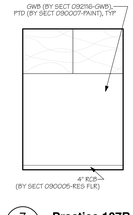
4 **Practice 107A - West**
SCALE: 1/4" = 1'-0"



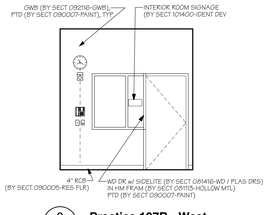
5 **Practice 107B - North**
SCALE: 1/4" = 1'-0"



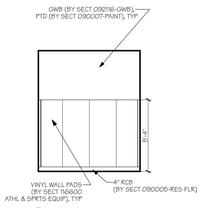
6 **Practice 107B - East**
SCALE: 1/4" = 1'-0"



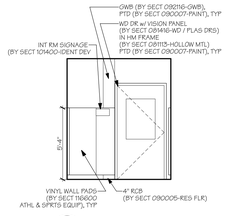
7 **Practice 107B - South**
SCALE: 1/4" = 1'-0"



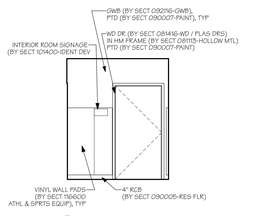
8 **Practice 107B - West**
SCALE: 1/4" = 1'-0"



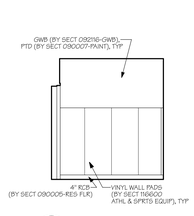
9 **Vestibule 113A - North**
SCALE: 1/4" = 1'-0"



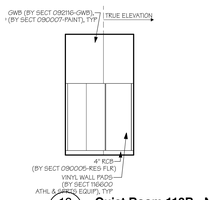
10 **Vestibule 113A - East**
SCALE: 1/4" = 1'-0"



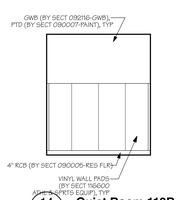
11 **Vestibule 113A - South**
SCALE: 1/4" = 1'-0"



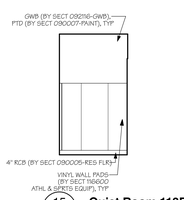
12 **Vestibule 113A - West**
SCALE: 1/4" = 1'-0"



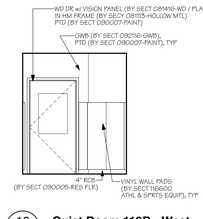
13 **Quiet Room 113B - North**
SCALE: 1/4" = 1'-0"



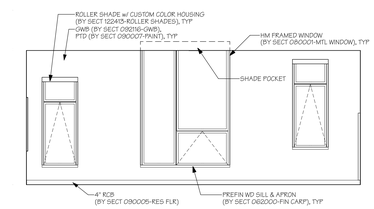
14 **Quiet Room 113B - East**
SCALE: 1/4" = 1'-0"



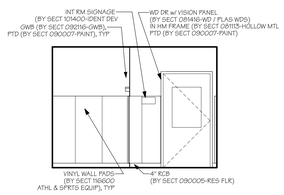
15 **Quiet Room 113B - South**
SCALE: 1/4" = 1'-0"



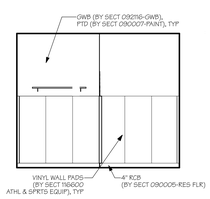
16 **Quiet Room 113B - West**
SCALE: 1/4" = 1'-0"



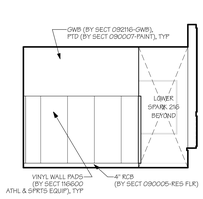
17 **Lower Spark - North**
SCALE: 1/4" = 1'-0"



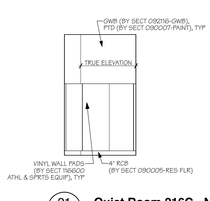
18 **Vestibule 216B - East**
SCALE: 1/4" = 1'-0"



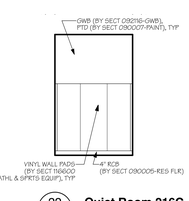
19 **Vestibule 216B - South**
SCALE: 1/4" = 1'-0"



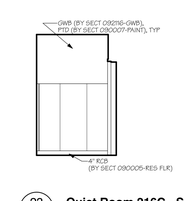
20 **Vestibule 216B - West**
SCALE: 1/4" = 1'-0"



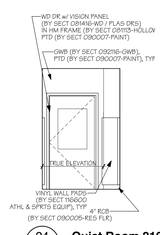
21 **Quiet Room 216C - North**
SCALE: 1/4" = 1'-0"



22 **Quiet Room 216C - East**
SCALE: 1/4" = 1'-0"



23 **Quiet Room 216C - South**
SCALE: 1/4" = 1'-0"



24 **Quiet Room 216C - West**
SCALE: 1/4" = 1'-0"

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KEY PLAN

NORTH ARROW | STAMP

Date: 12 FEBRUARY 2024

Drawn By: GW

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Misc. Rooms

5.4.16

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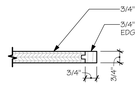
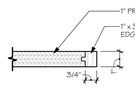
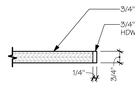
UNLESS OTHERWISE NOTED, ALL MILLWORK IS BY SECT 062000-FIN CARP



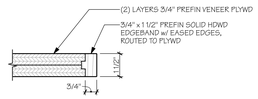
1 TYP **3/4" x 3/4" Edgeband**
SCALE: 3" = 1'-0"



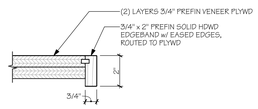
2 TYP **3/4" x 1" Edgeband**
SCALE: 3" = 1'-0"



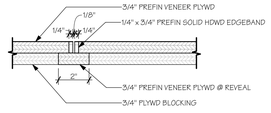
3 TYP **3/4" x 1/4" Edgeband**
SCALE: 3" = 1'-0"



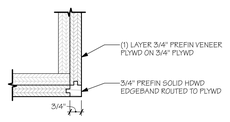
4 TYP **3/4" x 1 1/2" Edgeband**
SCALE: 3" = 1'-0"



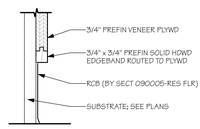
5 TYP **3/4" x 2" Edgeband**
SCALE: 3" = 1'-0"



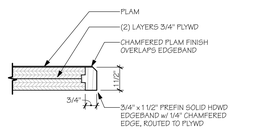
6 TYP **Panel Edges at Reveal**
SCALE: 3" = 1'-0"



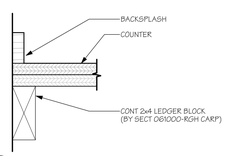
7 TYP **Corner Detail**
SCALE: 3" = 1'-0"



8 TYP **Base Detail**
SCALE: 3" = 1'-0"



9 TYP **Countertop Edgeband**
SCALE: 3" = 1'-0"



10 TYP **Counter Support**
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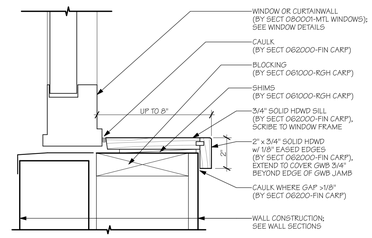
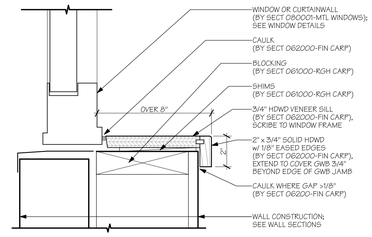
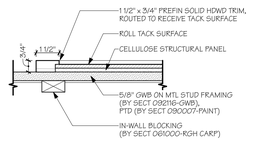


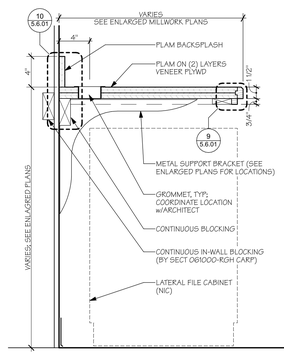
11 TYP **Window Sill ≤ 8"**
SCALE: 3" = 1'-0"



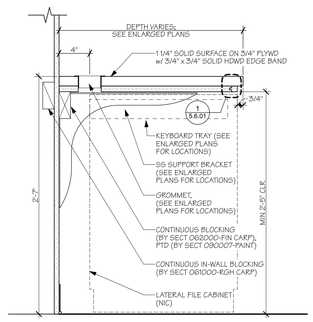
12 TYP **Window Sill > 8"**
SCALE: 3" = 1'-0"



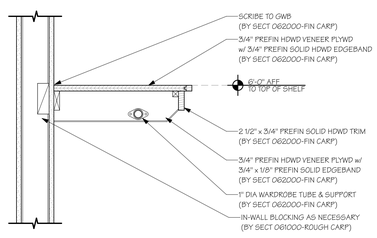
13 TYP **Frame at Roll Tack Surface**
SCALE: 3" = 1'-0"



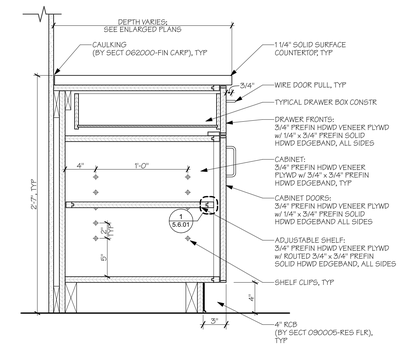
14 TYP **PLAM Counter**
SCALE: 1 1/2"= 1'-0"



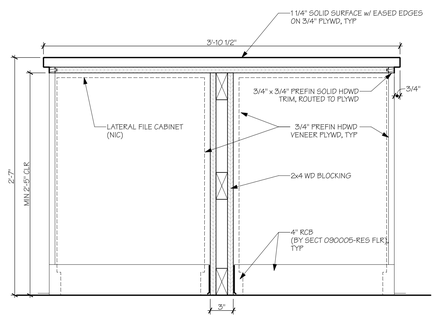
15 TYP **Solid Surface Counter**
SCALE: 1 1/2"= 1'-0"



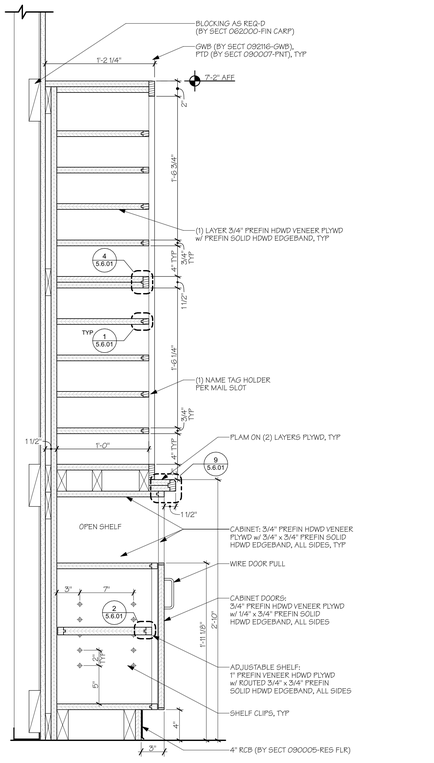
16 TYP **Admin: Hat Shelf with Garment Rod**
SCALE: 1 1/2"= 1'-0"



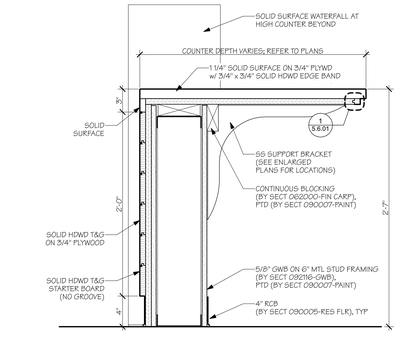
17 **Admin: Solid Surface Counter at Cabinet**
SCALE: 1 1/2"= 1'-0"



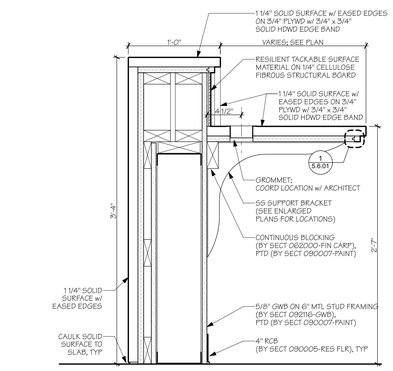
18 **Admin: Island Counter**
SCALE: 1 1/2"= 1'-0"



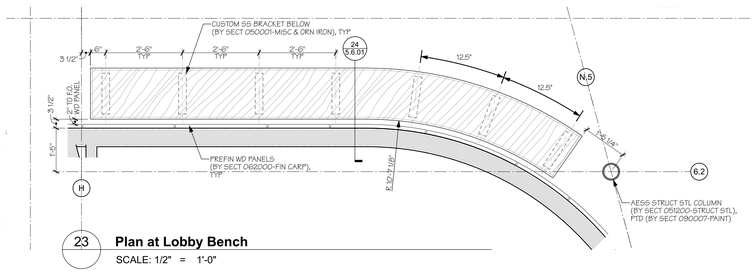
19 **Admin: Staff Mailbox Section**
SCALE: 1 1/2"= 1'-0"



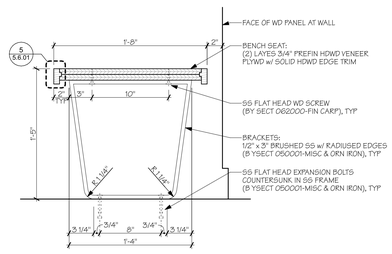
21 **Admin: Counter at Lobby**
SCALE: 1 1/2"= 1'-0"



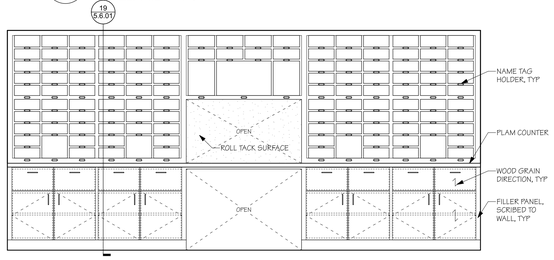
22 **Admin: High Counter at Lobby**
SCALE: 1 1/2"= 1'-0"



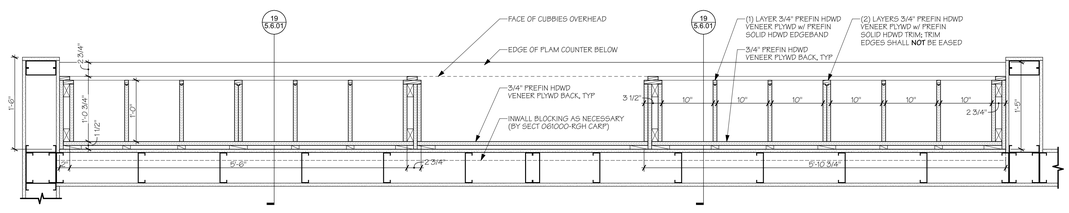
23 **Plan at Lobby Bench**
SCALE: 1/2" = 1'-0"



24 **Lobby: Section at Bench**
SCALE: 1 1/2"= 1'-0"



25 **Admin: Staff Mailbox Elevation**
SCALE: 1/2" = 1'-0"



20 **Admin: Staff Mailbox Plan**
SCALE: 1" = 1'-0"

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024
Drawn By: ADW
Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Millwork Details

5.6.01

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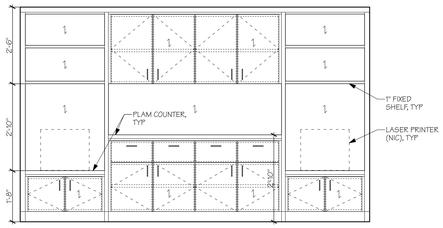
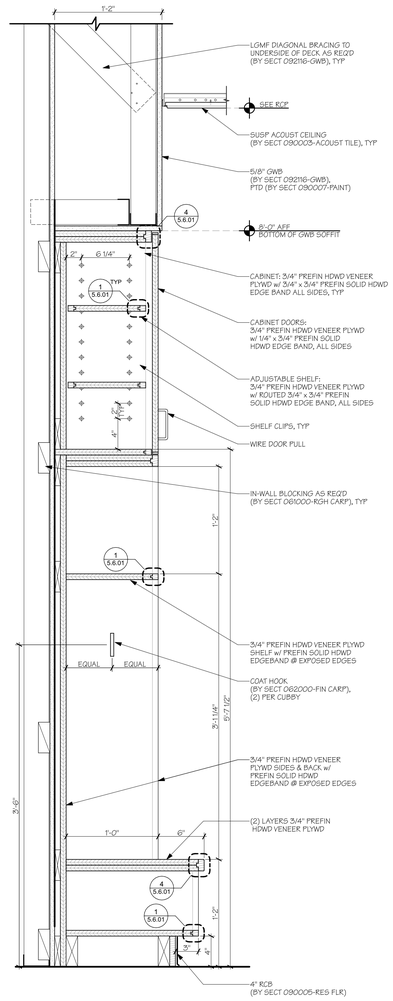
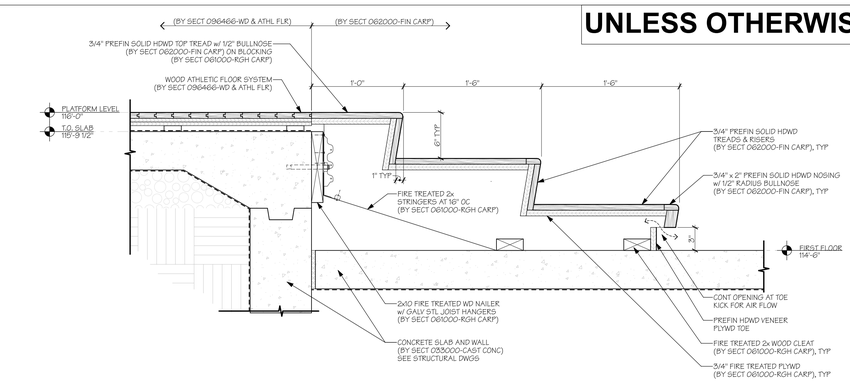


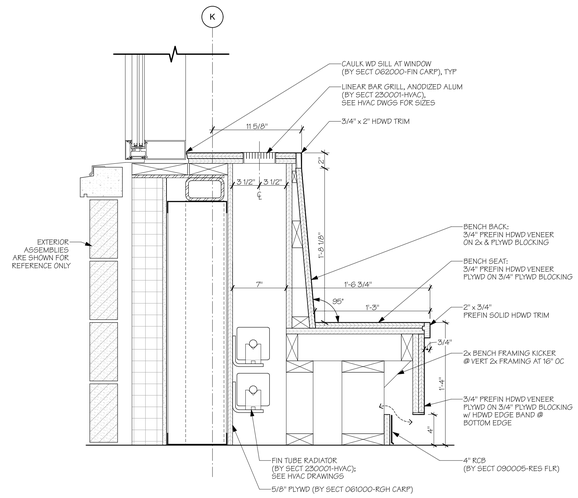
1 TYP **Academic Wing: Tech Center Elevation**
SCALE: 1/2" = 1'-0"



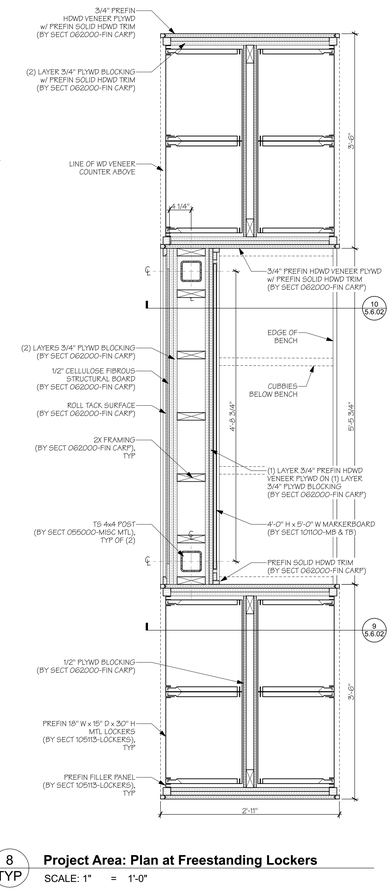
2 TYP **Kindergarten: Cubby & Cabinet Section**
SCALE: 1 1/2"= 1'-0"



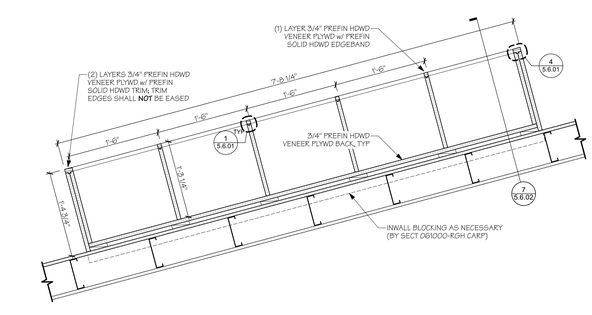
4 TYP **Cafeteria: Platform Risers**
SCALE: 1 1/2"= 1'-0"



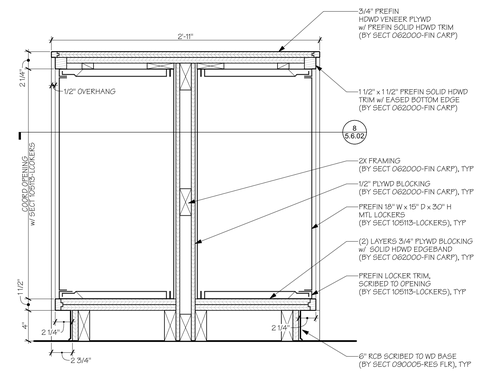
5 TYP **Cafeteria: Bench at Window**
SCALE: 1 1/2"= 1'-0"



8 TYP **Project Area: Plan at Freestanding Lockers**
SCALE: 1" = 1'-0"



6 **Art: Storage Cubby Plan**
SCALE: 1" = 1'-0"



9 **Project Area: Section at Freestanding Lockers**
SCALE: 1 1/2"= 1'-0"

3 TYP **Kindergarten: Cubby Section**
SCALE: 1 1/2"= 1'-0"

7 **Art: Storage Cubby Section**
SCALE: 1 1/2"= 1'-0"

10 **Project Area: Section at Freestanding Bench**
SCALE: 1 1/2"= 1'-0"

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: ADW

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Millwork Details & Elevations

5.6.02

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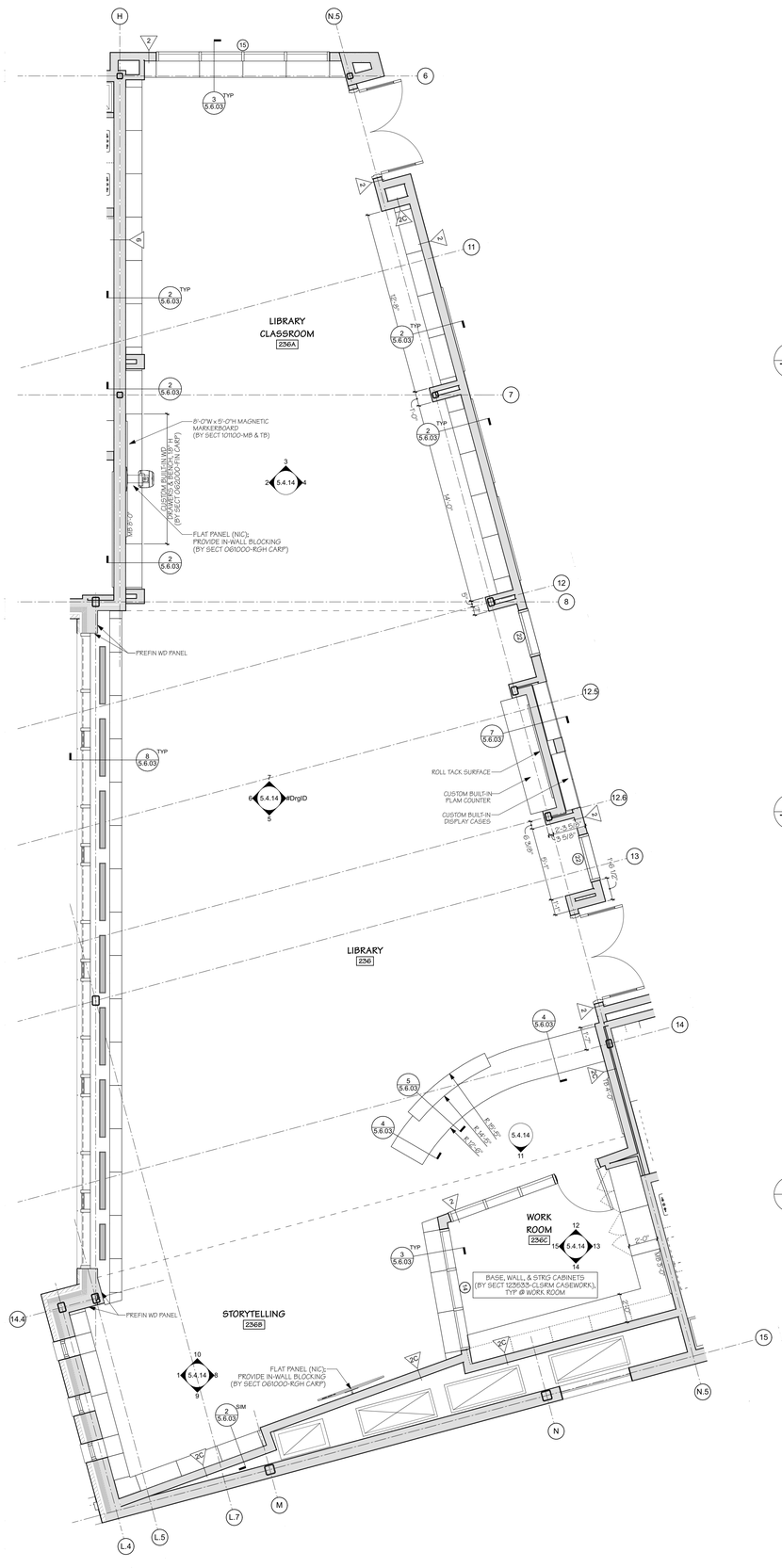
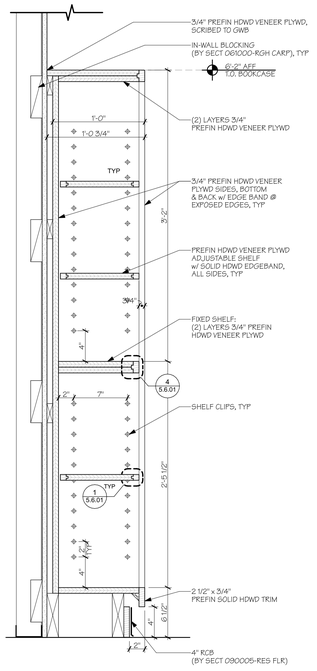
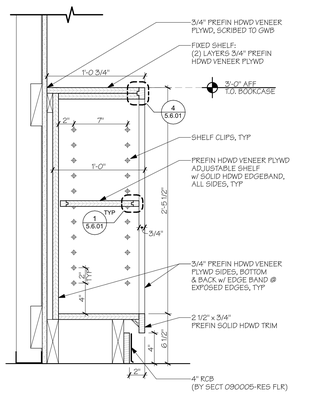


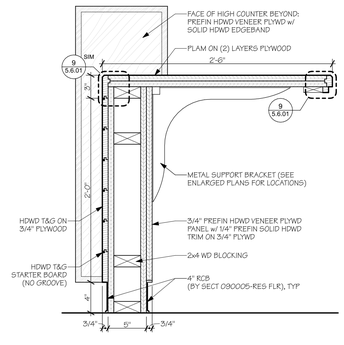
1 **Library - Enlarged Millwork Plan**
SCALE: 1/4" = 1'-0"



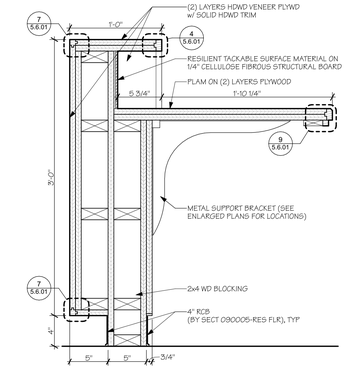
2 TYP **Library: Tall Bookcase at Classroom**
SCALE: 1 1/2"= 1'-0"



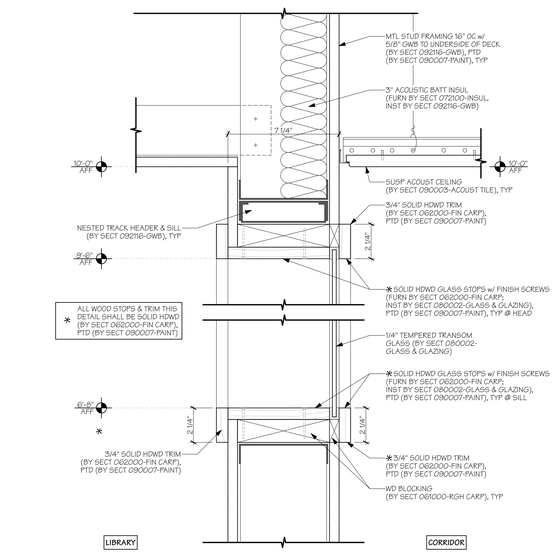
3 TYP **Library: Low Bookcase at Classroom**
SCALE: 1 1/2"= 1'-0"



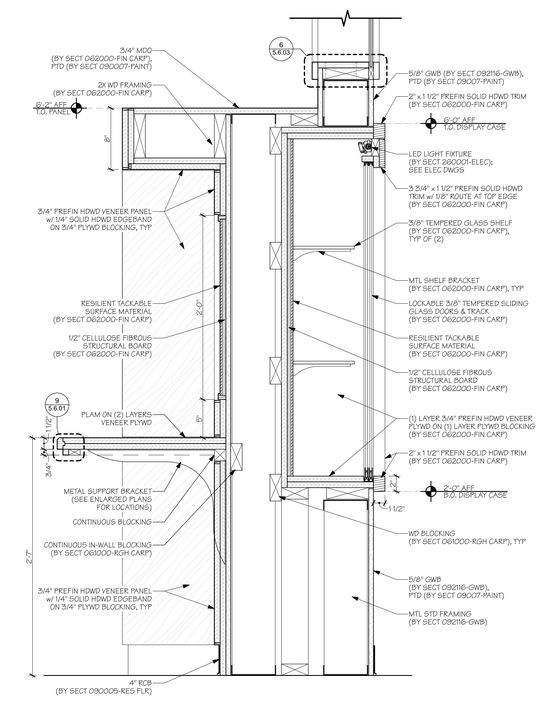
4 **Library: Circulation Desk Low Counter**
SCALE: 1 1/2"= 1'-0"



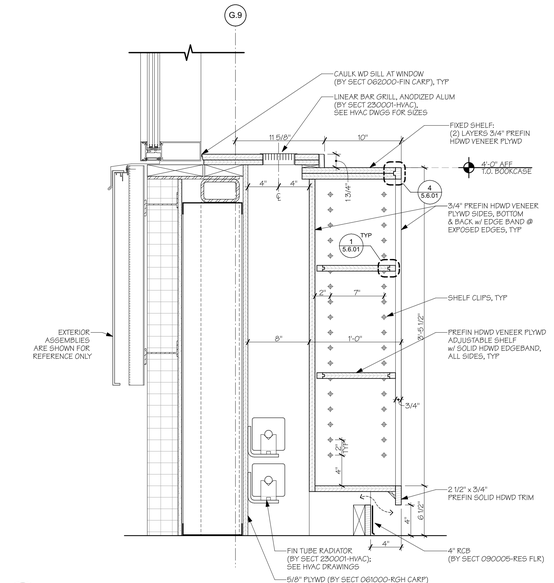
5 **Library: Circulation Desk High Counter**
SCALE: 1 1/2"= 1'-0"



6 **Library: Transom at Corridor**
SCALE: 3" = 1'-0"



7 **Library: Lookup Station & Corridor Display Case**
SCALE: 1 1/2"= 1'-0"



8 **LIbrary: Bookcase at Windows**
SCALE: 1 1/2"= 1'-0"

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024
Drawn By: ADW
Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Millwork Details & Elevations - Library

5.6.03

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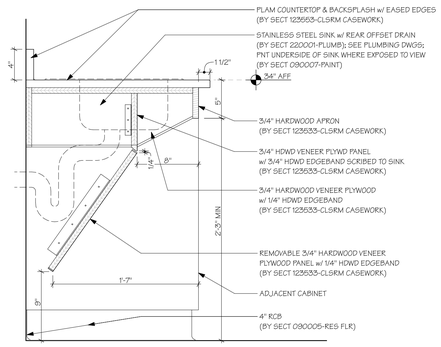
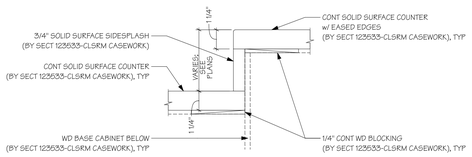
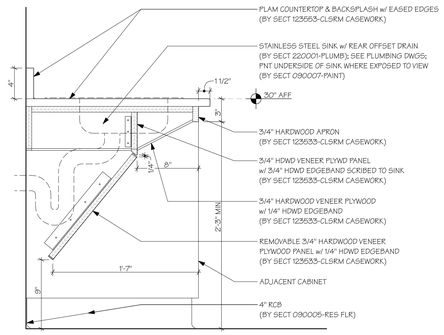


4 **Casework Countertop Detail at 34" HP Sink**
SCALE: 1 1/2" = 1'-0"



2 **Casework Sidesplash Detail at HP Counter/Typ Counter**
SCALE: 3" = 1'-0"



3 **Casework Countertop Detail at 30" HP Sink**
SCALE: 1 1/2" = 1'-0"

CASEWORK SCHEDULE (BY SECT 123533-CLSRM CASEWORK)

*ALL CAB. DOORS & DRAWERS TO BE LOCKABLE

Number	Description	Number	Description	Number	Description
B1	2 Door Sink / Base Cabinet 37 1/2" W x 24" D x 29" H w/ Adj Shelf & 1" thick Countertop	SC1	2 Door Storage Cabinet 37" W x 23" D x 84" H w/ Fixed & Adjustable Shelves	WC1	2 Door Wall Case 31 1/2" W x 13" D x 30" H w/ 2 Adj Shelves
B2	1 Door Base Cabinet w/ 1 Drawer 19" W x 24" D x 29" H w/ Adj Shelf & 1" thick Countertop	SC2	1 Door Instructor Storage Cabinet 25 1/2" W x 18" D x 54" H w/ Fixed Shelves & Garment Hanger	WC2	2 Door Wall Case 28 1/2" W x 13" D x 30" H w/ 2 Adj Shelves
B3	Base Cabinet w/ No Doors 24" W x 24" D x 29" H w/ 1" thick Countertop	HP2	HP Accessible Counter w/ Sink 63" W x 34" H (see enlarged plans for Depth) w/ 1" thick Countertop Type to match adjacent units		
B4	3-Drawer Cabinet 19 1/2" W x 24" D x 28 3/4" H w/ 1" thick Countertop	HP6	HP Accessible Counter w/ Sink 36" W x 34" H (see enlarged plans for Depth) w/ 1 1/4" thick Countertop Type to match adjacent units		
C1	Teacher Desk 24" D x 30" H (see enlarged plans for Width) w/ 1 1/4" thick Countertop & Type to match adjacent units				
C2	Counter at Undercounter Appliances 24" D x 36" H (see enlarged plans for Width) w/ 1" thick Countertop w/ no apron				

NOTE:
COUNTERTOPS (BY SECT 123533-CLSRM CASEWORK), UNLESS OTHERWISE NOTED

COUNTER BRACKETS (BY SECT 123533-CLSRM CASEWORK), UNLESS OTHERWISE NOTED

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KEY PLAN

NORTH ARROW *STAMP*

Date: 12 FEBRUARY 2024

Drawn By: MEA

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Casework Schedule & Details

5.7.01

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Technology Consultants
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NORTH ARROW

LICENSE STAMP

Date: 12 FEBRUARY 2024

Drawn By: MEA, ADW

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Furniture Plans - First Floor

5.9.01

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Civil & Environmental Engineers
90 Route 6A, Unit 1
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N Called North

NORTH ARROW

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Furniture Plans - Second Floor

5.9.02

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Furniture Plans - Third Floor

5.9.03

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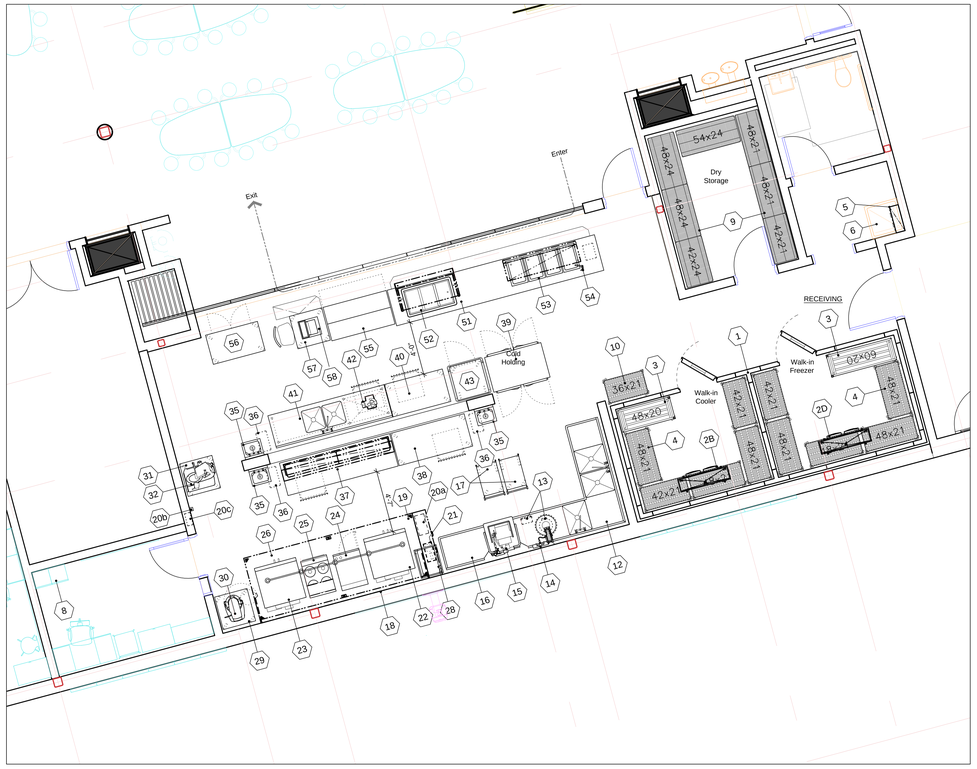
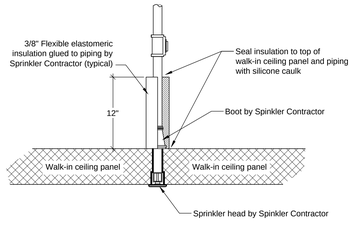


FOODSERVICE EQUIPMENT PLAN

Scale: 1/4" = 1'-0"

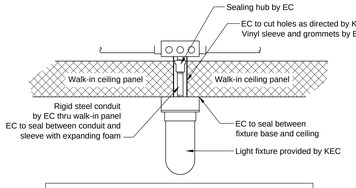
SCHEDULE OF FOODSERVICE EQUIPMENT AND CONNECTIONS

Item	Qty	Description	Plumbing	Electrical	Remarks
1	1	Walk-in cooler and freezer		1.8 KW - 120/1 (lights, temp alram, etc.) Low voltage wiring from temp monitor to BMS 20 A circuit - 120/1 DR (heat trace)	Requires floor depression by GC
2A	1	Cooler condensing unit, air-cooled		4.8 A - 208-230/3	See Detail on K 6.1.1
2B	1	Cooler evaporator coil	1" IW to FD by KEC	2 A - 115/1 Low voltage wiring from temp monitor to BMS	Remote refrigeration lines by KEC from item 2A
2C	1	Freezer condensing unit, air-cooled		8.6 A - 208-230/3	See Detail on K 6.1.1
2D	1	Freezer evaporator coil	1" IW to FD by KEC	8.2 A - 208-230/1 Low voltage wiring from temp monitor to BMS	Remote refrigeration lines by KEC from item 2C
3	2	Mobile dunnage racks			
4	10	Mobile shelving, four-tier			
5	1	Wall shelf and mop hanger			
6	1	Mop sink and faucet (by Section 22 00 01)	1/2" H&CW; drain in floor		
7	-	Spare number			
8	3	Lockers (by Section 1051013)			
9	7	Fixed shelving, five-tier			
10	2	Mobile shelving, four-tier			
11	-	Spare number			
12	1	Three-compartment sink/soiled table	(2) 3/4" 120° FH&CW; (3) 2" W		
13	1	Disposer with control panel	1/2" CW; 2" W	6.6 A - 208/3	
14	1	Hose reel	1/2" H&CW		
15	1	Dish machine, ventless Drain tempering kit	3/4" CW (55° F); 1-1/2" IW to FS 1/2" CW	53.5 A - 208-240/3	Section 22 00 01 to provide thermostatic mixing valve for machine cold water supply; tempering kit sipplied by KEC
16	1	Clean dish table			
17	2	Utility carts			
18	1	Stainless steel wall flashing			
19	1	Exhaust ventilator COLLAR: 2,800 CFM EXH thru two 14" diameter collars @ 0.688" SP		Power to lights from item 20	Coordinate hanging supports with structure above
20a	1	Ventilator fan management system		15 A circuit - 120/1	See Note E-20 on the rough-in utility plan
20b	1	Fan management system room temperature sensor		Sensor wiring from item 20a	
20c	1	Fan management system control interface		Cable from item 20a	
21	1	Fire suppression system		120/1; J-box for connection to building alarm system & equipment shutdown	
22	1	Convection ovens, stacked		(2) 11 KW - 480/3	
23	1	Convection ovens, single		11 KW - 480/3	
24	1	Steamer, ten-pan	3/8" CW 1" IW to FS	20 KW - 480/3	
25	1	Range with standard oven		13 KW - 480/3	Requires floor depression by GC
26	1	Floor trough	3" W conn 7" BFF		
27	-	Spare number			
28	-	Spare number			
29	1	Mobile equipment stand			
30	1	Twenty-quart mixer		8 A - 120/1 - C&P	
31	1	Mobile equipment stand			
32	1	Slicer		5.6 A - 120/1 - C&P	
33	-	Spare number			
34	-	Spare number			
35	3	Hand sink with side splshes	1/2" H&CW; 1-1/2" W		
36	3	Waste cans (by Owner)			
37	1	Cook's table with overhead rack		(2) 20 A circuits - 120/1; wall mtd DR's	
38	1	Mobile work table		(2) 20 A circuits - 120/1; wall mtd DR's	
39	1	Pass-thru refrigerator, two-doors		6.4 A - 120/1 - C&P; DFA	
40	1	Mobile work table		(2) 20 A circuits - 120/1; wall mtd DR's	
41	1	Work table with sinks	1/2" H&CW; 2" IW to FS	(2) 20 A circuits - 120/1; wall mtd DR's	
42	1	Food processor		12 A - 120/1 - C&P (power from item 41)	
43	2	Mobile heated cabinets		13.75 A - 120/1 - C&P	
44	-	Spare number			
45	-	Spare number			
46	-	Spare number			
47	-	Spare number		(2) 20 A circuits - 120/1 mtd DR's by KEC	Requires stub-up
48	-	Spare number	3/4" IW to FS	6 A - 120/1 - C&P (from mtd DR by KEC)	Requires stub-up
49	-	Spare number	1" IW to FS (per group)	3 KW - 208/1 (total per group)	Requires stub-up
50	-	Spare number	1/2" CW		Requires stub-up
51	1	Serving counter with breath guards		(2) 20 A circuits - 120/1 mtd DR's by KEC	Requires stub-up
52	1	Refrigerated wells	3/4" IW to FS	6 A - 120/1 - C&P (from mtd DR by KEC)	Requires stub-up
53	1	Hot wells (group of Four)	1" IW to FS (per group)	4 KW - 208/1 (total per group)	Requires stub-up
54	1	Faucet	1/2" CW		Require stub-up
55	1	Milk cooler		3.7 A - 120/1 - C&P	Receptacles flush in floor
56	2	Mobile condiment counters			
57	2	Mobile cashier stations			
58	2	Point of sales registers (by Owner)		(Stub-up) 20 A - 120/1 - C&P; Data cable	Receptacles flush in floor



Detail - Refrigerated Room Fire Spinkler

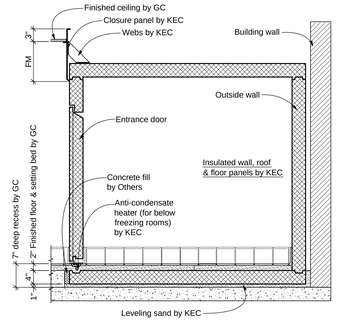
Typical NTS



Notes:
1. All light fixture to be furnished by KEC
2. Mounting light fixtures, all conduit and interwiring by EC
3. All conduit to be on exterior of walk-in by EC
4. All penetrations thru walk-in panels to be thoroughly sealed by EC

Detail - Refrigerated Room Light Fixture

Typical NTS

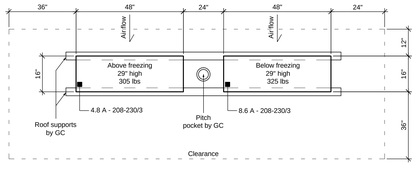


Installation note:

General Contractor to provide an exterior and interior 4" high integral perimeter coved base with 3/8" radius at the floor junction.

Detail - Walk-In Cooler/Freezer

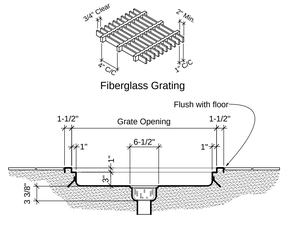
Scale: 1" = 1'-0"



Mount on roof per Architectural plans

Detail - Condensing Units

Part of Item 2A & 2C NTS



Detail - Floor Troughs

Item 26 NTS

PLAN NOTES

1) IT IS THE RESPONSIBILITY OF THE KITCHEN EQUIPMENT CONTRACTOR TO FIELD VERIFY THE DELIVERY PATH OF ALL EQUIPMENT WITHIN THEIR SCOPE WITH BUILDING CONDITIONS PRIOR TO ORDERING TO CONFIRM ALL EQUIPMENT FITS WITHIN THE DESIGNATED SPACE AS LOCATED ON PLANS.

2) KITCHEN EQUIPMENT CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AS NECESSARY FOR OPENINGS IN BUILDING, WALL LEAVE OUTS, DOOR WIDTHS AND HEADER HEIGHTS REQUIRED FOR DELIVERY AND INSTALLATION MEANS.

3) FINISHES TO ALL WALLS, FLOORS AND CEILINGS ARE TO BE PROVIDED BY THE GENERAL CONTRACTOR AS SPECIFIED BY THE PROJECT ARCHITECT TO MEET THE REQUIREMENTS OF THE LOCAL HEALTH DEPARTMENT.

4) REVISIONS TO THESE PLANS DUE TO FIELD CONDITIONS MUST BE SUBMITTED TO THE PROJECT DESIGN TEAM FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH CONSTRUCTION.

5) FLOORING MATERIAL SPECIFIED BY THE ARCHITECT MUST BE PROVIDED WITH A COVED BASE AT ALL WALLS TO INCLUDE THE INTERIOR AND EXTERIOR OF WALK-IN REFRIGERATED ROOMS.

6) ALL FOODSERVICE EQUIPMENT AND CUSTOM FABRICATED ITEMS MUST MEET THE STANDARDS OF THE NATIONAL SANITATION FOUNDATION AND SHALL BE LABELLED ACCORDINGLY.

SCHEDULE NOTES

1) UTILITIES SHOWN IN THESE SCHEDULES ARE SPECIFIC TO THE PRIME MANUFACTURER LISTED IN THE WRITTEN SPECIFICATION SECTION 114000. IF EQUIPMENT FROM AN ALTERNATE MANUFACTURER IS PROVIDED, IT IS THE RESPONSIBILITY OF THE KITCHEN EQUIPMENT CONTRACTOR TO COORDINATE AND SUBMIT TO THE PROJECT DESIGN TEAM FOR REVIEW.

2) UTILITIES LISTED ON THIS SCHEDULE FOR OWNER FURNISHED OR VENDOR SUPPLIED EQUIPMENT ARE ESTIMATES ASSUMED FOR ENGINEERING PURPOSES ONLY. IT IS THE RESPONSIBILITY OF THE OWNER TO PROVIDE EQUIPMENT CUT SHEETS OF THIS EQUIPMENT TO CRABTREE-MCGRATH ASSOCIATES PRIOR TO CONSTRUCTION.

3) INSTALLING SUB-CONTRACTORS MUST NOTIFY CRABTREE-MCGRATH ASSOCIATES IF A UTILITY REQUIREMENT LISTED ON THIS EQUIPMENT SCHEDULE IS NOT AVAILABLE.

4) REFER TO THE ABBREVIATIONS NOTES PROVIDED ON THIS SHEET FOR CLARIFICATION OF ABBREVIATIONS USED WITHIN THIS EQUIPMENT SCHEDULE.

Abbreviations used:

A	Amperes	EXH	Exhaust	IW	Indirect waste
AFF	Above finished floor	FD	Floor drain	KEC	Kitchen Equip. Contractor
BFF	Below finished floor	FFD	Funnel floor drain	KW	Kilowatt
BTC	Branch to connection	FHW	Fahrenheit hot water	MBTU	BTU per hour/1000
C&P	Cord & plug provided	FS	Floor sink	MUA	Make-up air
CFM	Cubic feet per minute	G	Gas	PC	Plumbing Contractor
CR	Condensate return	GC	General Contractor	QD	Quick disconnect
CW	Cold water	GI	Grease interceptor	SP	Static pressure (WG)
DFA	Drop from above	HP	Horsepower	SR	Single receptacle
DR	Duplex receptacle	HW	Hot water	SS	Steam supply
EC	Electrical contractor	H&CW	Hot & cold water	W	Waste (direct connection)

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KEY PLAN

NORTH ARROW (Called North) STAMP

Date: 21 FEBRUARY 2024

Drawn By: ABC

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Foodservice Equipment Plan

6.1.1

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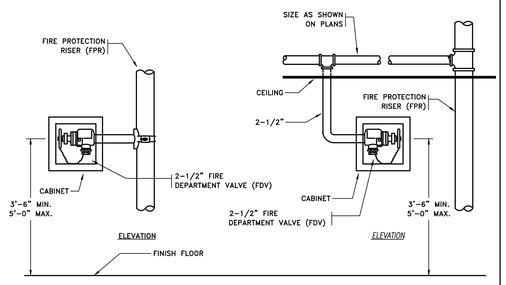
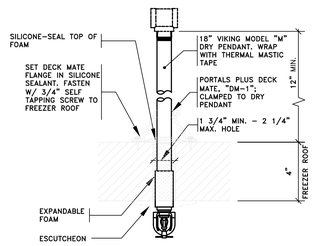
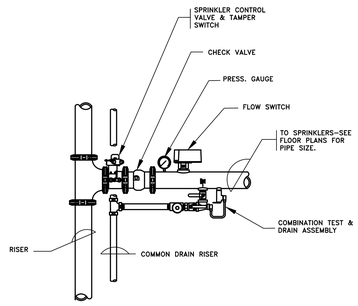


A FDV IN CABINET DETAIL
NOT TO SCALE



B DRY PENDANT SPRINKLER DETAIL (WALK-IN COOLER/FREEZER)
NOT TO SCALE



C ZONE CONTROL VALVE ASSEMBLY DETAIL
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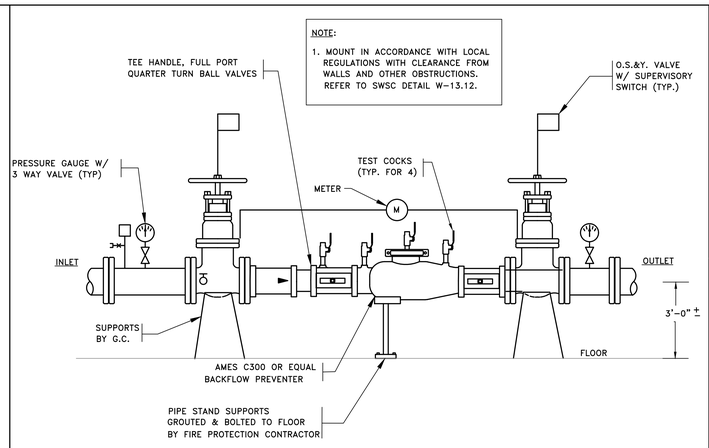

D DOUBLE CHECK VALVE ASSEMBLY (DCVA) DETAIL
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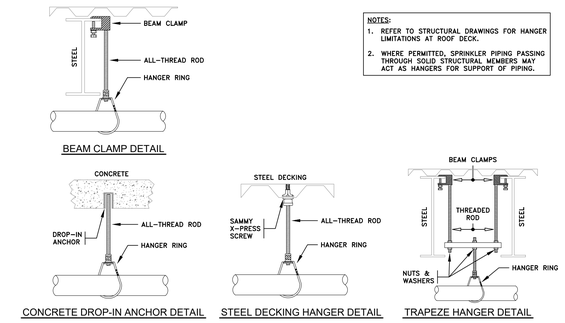

E TYPICAL HANGER DETAILS
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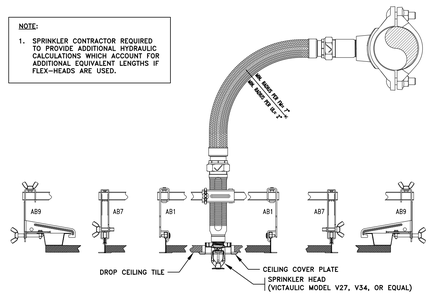

F FLEXIBLE DROP TO HEAD DETAIL
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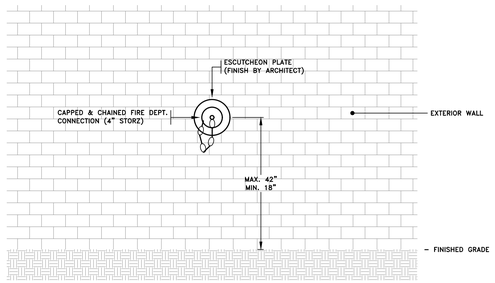

G FIRE DEPARTMENT CONNECTION DETAIL (EXTERIOR)
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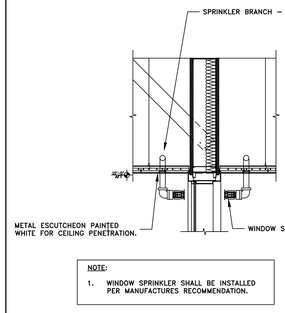
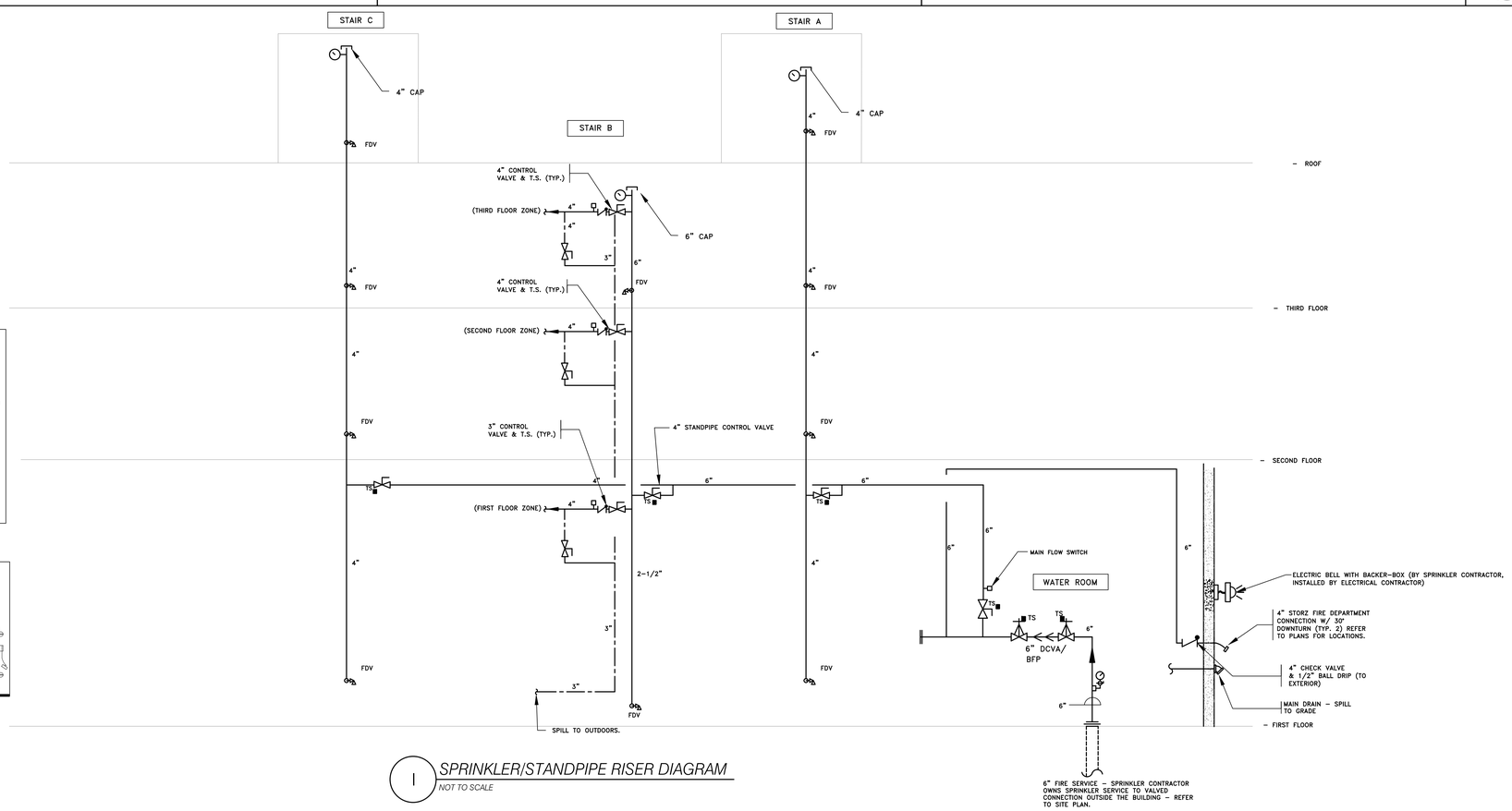


H WINDOW SPRINKLER
NOTE:



1 SPRINKLER/STANDPIPE RISER DIAGRAM
NOT TO SCALE

DESIGN BASIS:

Light Hazard (Classrooms, offices etc.)
Type of System: Wet
Sprinkler Discharge Density: 0.10 gpm / sq. ft.
Design Area: 1500 SF
Hose Stream Allowance: 100 gpm
Sprinkler Orifice: 1/2" thread, 5.6 K-Factor
Maximum Spacing: 225 SF (15' x 15' Spacing used in most cases) or as limited by hydraulic calculation results.

Ordinary Hazard Group I Spaces (Kitchen, mechanical and storage rooms)
Type of System: Wet
Sprinkler Discharge Density: 0.15 gpm / sq. ft.
Design Area: 1500 SF
Hose Stream Allowance: 250 gpm
Sprinkler Orifice: 1/2" thread, 5.6 K-Factor
Maximum Spacing: 130 SF (12' x 10' Spacing used in most cases) or as limited by hydraulic calculation results.

FLOW TEST W1

Source Information
Date of Flow Test / Info : 10/14/2022
Location of flow test data : DEDHAM STREET
Source of flow test data : CITY OF NEWTON

Source Data Points		Pump Data Points	
Pressure	Flow	Pressure	Flow
87	0.00		
72	1160		

FIRE PROTECTION LEGEND

⊙	1/2" PENDANT SPRINKLER (Q/R, K=5.6)	⊙	1/2" UPRIGHT & PENDENT 1/2", 5.6 K-FACTOR	▷	REDUCER/INCREASER
$▷_D$	1/2" DRY SIDEWALL SPRINKLER (Q/R, K=5.6)		CHECK VALVE		PRESSURE GAUGE & PETCOCK
▷	1/2" SIDEWALL SPRINKLER (Q/R, K=5.6)	FCS	FLOOR CONTROL STATION		FLOW SWITCH
$⊙_C$	1/2" CONCEALED PENDENT (Q/R, K=5.6)		SIAMESE		BUTTERFLY VALVE
$⊙_D$	1/2" DRY PENDANT SPRINKLER (Q/R, K=5.6)		CONTROL VALVE		BALL VALVE
○	1/2" UPRIGHT SPRINKLER (Q/R, K=5.6)		HOSE VALVE / FIRE DEPARTMENT'S VALVE (FDV)	■ TS	TAMPER SWITCH
⊗	1/2" UPRIGHT SPRINKLER (Q/R, K=5.6)	>>	DOUBLE CHECK VALVE ASSEMBLY (DCVA)		
$⊙^{UP/DN}_{C}$	1/2" UPRIGHT & PENDENT 1/2", 5.6 K-FACTOR		OS&Y GATE VALVE		

GENERAL NOTES:

OBTAIN AND PAY FOR ALL PERMITS.

ALL SPRINKLERS SHALL BE QUICK RESPONSE TYPE.

ALL MATERIALS SHALL BE UL LISTED FOR FIRE PROTECTION USE.

INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF NFPA-13, 2013 EDITION.

ALL WET-SYSTEM PIPING 2" & BELOW SHALL BE SCHEDULE 40 BLACK STEEL WITH CAST IRON FITTINGS. ALL WET-SYSTEM PIPING 2-1/2" & LARGER SHALL BE SCHEDULE 10 BLACK STEEL.

CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE INSULATION FOR FREEZE PROTECTION.

INTENT:

THE CONTRACT DOCUMENTS ARE DIAGRAMMATIC AND INTENDED TO SHOW WORK SCOPE ONLY, NOT INTENDED TO SHOW ALL OFFSETS, FITTINGS HANGERS AND APPURTANENCES WHICH MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.

SOME CHANGES IN PIPING ARRANGEMENTS MAY BE REQUIRED IN ORDER TO COORDINATE WITH OTHER TRADES OR BUILDING STRUCTURE TO AVOID CONFLICTS.

SHOP DRAWINGS AND SUBMITTALS:

THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR PROCURING CURRENT FIRE FLOW TEST DATA FOR USE AS A DESIGN BASE.

SHOP DRAWINGS AND HYDRAULIC CALCULATIONS PREPARED IN ACCORDANCE WITH THE GUIDELINES SET FORTH IN NFPA-13 SHALL BE

SUBMITTED FOR REVIEW AND APPROVAL TO THE ENGINEER OF RECORD. A PROPERLY EXECUTED CONTRACTORS MATERIAL AND TEST CERTIFICATE AND ONE SET OF AS BUILT DRAWING REPRODUCIBLES SHALL BE FURNISHED TO THE OWNERS REPRESENTATIVE AT THE COMPLETION OF WORK.

TESTING PROCEDURES:

ALL PIPING SHALL BE HYDROSTATICALLY TESTED PER THE REQUIREMENTS OF NFPA-13 (200 PSI FOR 2-HOURS WITHOUT PRESSURE LOSS).

SPRINKLER ALARM AND SUPERVISORY DEVICES SHALL BE TESTED PER THE REQUIREMENTS OF NFPA-13.

A MAIN DRAIN TEST SHALL BE PERFORMED PER THE REQUIREMENTS OF NFPA-13. MEET ALL TESTING REQUIREMENTS OF NFPA 25

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Scale: NONE

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

FIRE PROTECTION LEGEND, DIAGRAM, DETAILS & NOTES

7.0.01

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NOTE:

SPRINKLER HEAD LOCATIONS HAVE NOT BEEN COORDINATED WITH CEILING-MOUNTED FIXTURES. INSTALLING SPRINKLER CONTRACTOR SHALL COORDINATE WITH ELECTRICIAN AND LOCATE SPRINKLERS ADEQUATELY DISTANCED FROM ANY OBSTRUCTIONS, INCLUDING LIGHTING, IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA-13, WHILE MAINTAINING THE MAXIMUM DISTANCES FROM WALLS INDICATED ON THIS DESIGN. ADDITIONAL SPRINKLERS REQUIRED DUE TO INABILITY TO MEET OBSTRUCTION CRITERIA SHALL BE INSTALLED WITH NO ADDITIONAL COST TO THE OWNER.

NOTES:

AWARDED SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR:

1. COORDINATION OF ALL NEW SPRINKLER PIPING WITH OTHER TRADES AND STRUCTURAL MEMBERS.
2. SUBMISSION OF P.E.-STAMPED TIER II SHOP DRAWINGS AND HYDRAULIC CALCULATIONS PRIOR TO INSTALLATION.

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FIRST FLOOR FIRE PROTECTION PLAN

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DESIGN DEVELOPMENT

SECOND FLOOR FIRE PROTECTION PLAN

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DESIGN DEVELOPMENT

THIRD FLOOR FIRE PROTECTION PLAN

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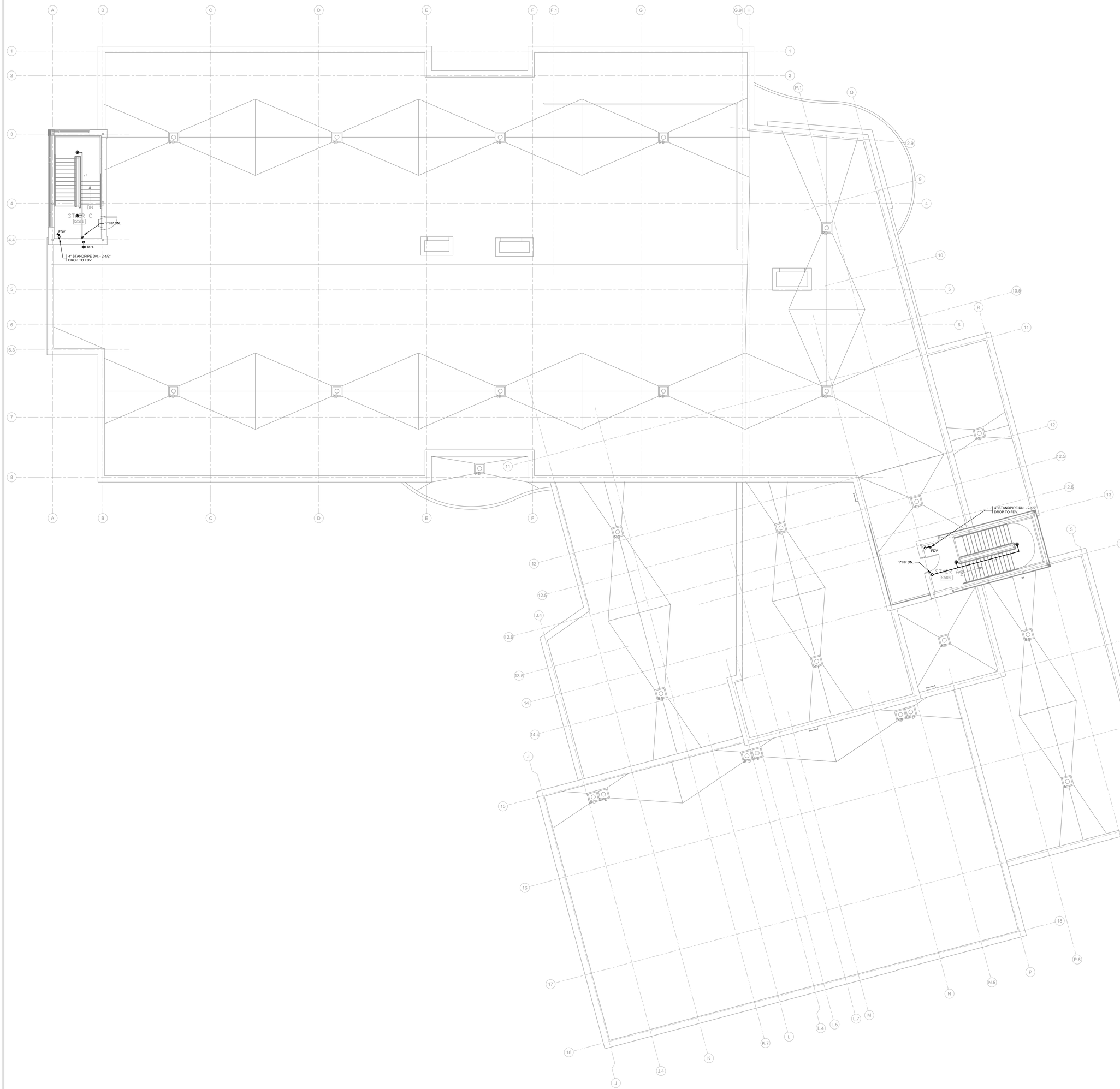

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DESIGN DEVELOPMENT

ROOF LEVEL FIRE PROTECTION PLAN

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PLUMBING FIXTURE SCHEDULE

MARK	FIXTURES	SERVICE CONNECTIONS					REMARKS	MAKE & MODEL	WATER USAGE
		S/W	V	CW	HW	G			
P-1	WATER CLOSET (ADULT) (18")	4"	2"	1"	--	--	WALL HUNG	TOTO CT708E W/ MANUAL FLUSH VALVE	1.28 GPF
P-1A	WATER CLOSET (ADULT) (18") (ADA)	4"	2"	1"	--	--	WALL HUNG, HANDICAPPED	TOTO CT708E W/ MANUAL FLUSHVALVE	1.28 GPF
P-1B	WATER CLOSET (GR. K-2) (15")	4"	2"	1"	--	--	WALL HUNG	TOTO CT708E W/ MANUAL FLUSH VALVE	1.28 GPF
P-2	ADULT LAVATORY (34")	1-1/2"	1-1/2"	1/2"	1/2"	--	WALL HUNG, REGULAR	AMERICAN STANDARD "DECORUM" W/ DELTA METERING FAUCET T86-86T1153. PROVIDE MIXING VALVE FOR MAXIMUM OF 110°F. OFFSET TRAP	0.35 GPM
P-2A	ADULT LAVATORY (34") (ADA)	1-1/2"	1-1/2"	1/2"	1/2"	--	WALL HUNG, HANDICAPPED	AMERICAN STANDARD "DECORUM" W/ DELTA METERING FAUCET T86-86T1153. PROVIDE MIXING VALVE FOR MAXIMUM OF 110°F. OFFSET TRAP	0.35 GPM
P-2B	CHILD LAVATORY (30")	1-1/2"	1-1/2"	1/2"	1/2"	--	WALL HUNG, REGULAR	AMERICAN STANDARD "DECORUM" W/ DELTA METERING FAUCET T86-86T1153. PROVIDE MIXING VALVE FOR MAXIMUM OF 110°F. OFFSET TRAP	0.35 GPM
P-3	CLASSROOM SINK (7-1/2" DEEP)	2"	2"	1/2"	1/2"	--	STAINLESS STEEL UNDERMOUNT	ELKAY MODEL LRAD191865 W/ CHICAGO FAUCET #895-317GN2AE72ABCP W/ .5 GPM AERATOR	0.5 GPM
P-3A	CLASSROOM SINK (4-1/2" DEEP)	2"	2"	1/2"	1/2"	--	STAINLESS STEEL UNDERMOUNT	ELKAY MODEL LRAD191845 W/ CHICAGO FAUCET #895-317GN2AE72ABCP W/ .5 GPM AERATOR, OFFSET TRAP, CENTER REAR DRAIN.	0.5 GPM
P-3B	STAFF ROOM SINK ADA	2"	2"	1/2"	1/2"	--	STAINLESS STEEL UNDERMOUNT	JUST MANUFACTURING SL-ADA-17519-A-GR W/ CHICAGO FAUCET 895-317 GN2AE72ABCP	0.5 GPM
P-4	SERVICE SINK	3"	2"	1/2"	1/2"	--	FLOOR MOUNTED	FIAT MODEL MSB2424 W/ 830-AA SERVICE FAUCET	
P-5	URINAL	2"	2"	3/4"	_ _	--	WALL HUNG REGULAR	TOTO UT445U W/ MANUAL FLUSH VALVE	.125 GPF
P-5A	URINAL	2"	2"	3/4"	_ _	--	WALL HUNG HANDICAPPED	TOTO UT445U W/ MANUAL FLUSH VALVE	.125 GPF
P-6	DRINKING FOUNTAIN	2"	2"	1/2"	--	--	TOUCH FREE, DUAL STATION W/ BOTTLE FILLER	HALSEY TAYLOR MODEL HTHBWF-OVLSEBP-1	
P-7	ART ROOM SINK/STE SINK 10" DEEP SINK	2"	2"	1/2"	1/2"	--	PROVIDE SOLIDS INTERCEPTOR	JUST MANUFACTURING USX-1824-A-J W/ CHICAGO FAUCET 895-317 GN2AE72ABCP. PROVIDE SOLIDS INTERCEPTOR	1.5 GPM
P-7A	ART ROOM SINK/STE SINK ADA 4-1/2" DEEP	2"	2"	1/2"	1/2"	--	PROVIDE SOLIDS INTERCEPTOR	JUST MANUFACTURING SL-ADA-17519-A-GR W/ CHICAGO FAUCET 895-317 GN2AE72ABCP. PROVIDE SOLIDS INTERCEPTOR	1.5 GPM
P-8	UNDER COUNTER ICE MAKER	--	--	--	--	--	BY OTHERS. PROVIDE VALVED WATER CONNECTION WITH WATTS LF7 CHECK VALVE, DRAIN TO SINK.		
P-9	EMERGENCY EYEWASH	--	--	--	3/4" TW	--	PROVIDE MIXING VALVE FOR 3/4" TW.	GUARDIAN G1814, EYEWASH W/ STAINLESS STEEL BOWL.PROVIDE MIXING VALVE - SPILL TO FLOOR	3.0 GPM
WH	NON-FREEZE WALL HYDRANT	--	--	3/4"	--	--	EXTERIOR WH TO BE MOUNTED BETWEEN 18-24".	ZURN Z-1310	
HB	HOSE BIBB	--	--	3/4"	--	--	BATHROOM HOSE BIBBS SHOULD BE MOUNTED 18" AFF.	ZURN Z-1341	

ELECTRIC HOT WATER HEATER SCHEDULE

TAG NO.	BASIS OF SELECTION	SERVES	DATA				CAPACITIES			ELECTRICAL DATA			WEIGHT (LBS)	REMARKS
			TYPE	INPUT (KW)	# OF ELEMENTS	THERMAL EFFICIENCY	RECOVERY (GPH)	TR (°F)	STORAGE (GALLONS)	VOLTS	PH	AMPS		
DWH-1	PVI 140L 150A-VE	MECHANICAL ROOM	ELECTRIC	27	3	98%	111	100	150	480	3	33	1050	PROVIDE WATTS LEAK DETECTOR. P & T RELIEF VALVE & EXPANSION TANK
DWH-2	PVI 140L 150A-VE	MECHANICAL ROOM	ELECTRIC	27	3	98%	111	100	150	480	3	33	1050	PROVIDE WATTS LEAK DETECTOR. P & T RELIEF VALVE & EXPANSION TANK

EXPANSION TANK SCHEDULE

TAG NO.	BASIS OF SELECTION	SERVICE	MAX. WATER TEMP. (°F)	TOTAL TANK VOLUME (GAL.)	MAX. WORKING PRESSURE (PSIG)	DIMENSIONS (INCHES)	WEIGHT (LBS)
XT-1	FLEXCON WH-32	DWH-1	140	6.0	150	12.5"Ø x 19.2" h	11
XT-2	FLEXCON WH-32	DWH-2	140	6.0	150	12.5"Ø x 19.2" h	11

PUMP SCHEDULE

TAG NO.	DESCRIPTION	SERVICE	LOCATION	PERFORMANCE DATA				ELECTRICAL DATA			MANUFACTURER & MODEL #	REMARKS
				GPM	HEAD (ft.)	RPM	HP (max.)	V	PH	HZ		
RCP-1	HOT WATER CIRC PUMP	DWH-1 & DWH-2	WATER ROOM	10	20	VARIABLE	1/6	115	1	60	GRUNDFOS MAGNA3 32-120	INTEGRAL AQUA-STAT, PROVIDE SIM CARD FOR BMS INTERFACE.

MIXING VALVE SCHEDULE

TAG	MAKE & MODEL	LOCATION	SERVICE	MIN FLOW (GPM)	MAX. FLOW (GPM)	COLD WATER IN	140°F HOT WATER IN	120°F HOT WATER OUT	RETURN	ELECTRICAL	REMARKS
DMV-1	POWERS INTELL STATION	MECH ROOM	DOMESTIC HOT WATER	.5	85	2"	2"	2-1/2"	1"	115V/1Ø	PROVIDE CONNECTION TO BMS

ELEV. SUMP PUMP SCHEDULE

TAG NO.	DESCRIPTION	SERVICE	LOCATION	PERFORMANCE DATA				DISCHARGE	ELECTRICAL DATA (EMERG)	MANUFACTURER & MODEL #	REMARKS
				GPM	HEAD (ft.)	RPM	HP	PIPE	V/PH/HZ		
SP-1	ELEVATOR SUMP PUMP	ELEVATOR	ALL ELEVATOR PIT	50	20	1750	1/2	2"	115/1/60	STANCORE SE-50	W/ SET OF DRY CONTATS FOR BMS & WATER MINDER DETECTION SYSTEM, RUN TO OIL INTERCEPTOR.

SOLIDS INTERCEPTOR SCHEDULE

TAG NO.	BASIS OF SELECTION	LOCATION	SERVICE	FLOW (GPM)	CAPACITIES		INLET/ OUTLET SIZE	DIMENSIONS	WEIGHT (LBS.)	REMARKS
					WATER (GAL.)	SOLIDS (GAL.)				
SI-1	STRIEM SIDEKICK	INLINE	ART ROOM SINKS	1.5	0.68 QUARTS	0.17	1-1/2"		3.2	

PLUMBING LEGEND & ABBREVIATIONS

NOTE:
ALL ITEMS SHOWN ARE NOT NECESSARILY USED ON THIS PROJECT

AC	AIR CHAMBER
AD	AREA DRAIN
AV	ACID VENT
AW	ACID WASTE
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
B.O.P.	BOTTOM OF PIPE
BV	BALL VALVE
CO	LINE CLEANOUT
CONT	CONTINUATION
CS	CUP SINK
CW	COLD WATER
DCOF	DANDY CLEANOUT @ FLOOR
DCVA	DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY
DF	DRINKING FOUNTAIN
DWH	DOMESTIC WATER HEATER
ELEV	ELEVATION
FBO	FURNISHED BY OTHERS
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
FFE	FINISH FLOOR ELEVATION
GC	GENERAL CONTRACTOR
HB	HOSE BIB WITH V.B.
HC	HANDICAPPED/BARRIER FREE
HW	HOT WATER
INV	INVERT
ISOM	ISOMETRIC
IW	INDIRECT WASTE
LV	LAB VENT
LVR	LAB VENT RISER
LW	LAB WASTE
LWR	LAB WASTE RISER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
PC	PLUMBING CONTRACTOR
RD	ROOF DRAIN
RPBFP	REDUCED PRESSURE BACKFLOW PREVENTER
S	SANITARY
SA	SHOCK ABSORBER
SR	SANITARY RISER
T.O.P.	TOP OF PIPE
TP	TRAP PRIMER
TRO	THROUGH ROOF OVER
TW	TEMPERED WATER
V	VENT
VB	VACUUM BREAKER
VR	VENT RISER
VTR	VENT THROUGH ROOF
W	WASTE
W&V	WASTE AND VENT
WCO	WALL CLEANOUT
WCOF	WALL CLEANOUT @ FLOOR
WH	WALL HYDRANT WITH INTEGRAL V.B.
WR	WASTE RISER

	BURIED SOIL AND WASTE PIPING
	SOIL AND WASTE PIPING
	BURIED SANITARY VENT PIPING
	SANITARY VENT PIPING
	COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
TP	TRAP PRIMER PIPING
TW	TEMPERED WATER PIPING
RWL	RAIN WATER LEADER PIPING
NP	NON-POTABLE WATER
G	LOW PRESSURE GAS

	GAS COCK
	UNION
	BALL VALVE
	WALL HYDRANT (WH)
	AIR CHAMBER
	SHOCK ABSORBER
	CLEAN OUT
	GATE VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE (REGULATOR)
	CONCENTRIC REDUCER
FD	FLOOR DRAIN
FS	FLOOR SINK

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PLUMBING SCHEDULES AND LEGEND

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KITCHEN FIXTURE SCHEDULE

MARK	FIXTURES	SERVICE CONNECTIONS					REMARKS
		CW	HW	V	S/W	I.W.	
KE-2B	COOLER EVAPORATOR COIL	--	--	--	--	1"	REMOTE REFRIGERATION FROM COOLER CONDENSING UNIT. RUN INDIRECT WASTE TO FLOOR DRAIN.
KE-2D	FREEZER EVAPORATOR COIL	--	--	--	--	1"	REMOTE REFRIGERATION FROM FREEZER CONDENSING UNIT. RUN INDIRECT WASTE TO FLOOR DRAIN.
KE-6	MOP SINK	1/2"	1/2"	2"	3"	--	MOP SINK BY PLUMBER, FIAT INDUSTRIES MODEL MSB2424, OR APPROVED EQUAL.
KE-12	3-BAY SINK	(2) 3/4"	(2) 3/4"	2"	(3) 2"	--	RUN TO GREASE TRAP (GI-1)
KE-13	DISPOSER	1/2"	--	2"	2"	--	DISPOSAL SHALL NOT RUN TO GREASE TRAP.
KE-14	HOSE REEL	1/2"	1/2"	--	--	--	
KE-15	DISHWASHER	3/4" (55°)	--	--	--	1-1/2"	RUN INDIRECT WASTE TO FLOOR SINK TO GI-1. PROVIDE 1/2" CW CONNECTION TO TEMPERING KIT.
KE-24	TEN-PAN STEAMER	3/8"	--	--	--	1"	RUN INDIRECT WASTE TO FLOOR SINK.
KE-26	FLOOR TROUGH	--	--	2"	3"	--	
KE-35	HAND SINK	1/2"	1/2"	1-1/2"	1-1/2"	--	
KE-41	WORK TABLE W/ SINKS	1/2"	1/2"	--	--	1-1/2"	RUN INDIRECT WASTE TO FLOOR SINK.
KE-52	REFRIGERATED WELLS	--	--	--	--	3/4"	RUN INDIRECT WASTE TO FLOOR SINK.
KE-53	HOT FOOD WELLS	--	--	--	--	1"	RUN INDIRECT WASTE TO FLOOR SINK.
KE-54	FILL FAUCET	1/2"	--	--	--	--	

NOTES:

KITCHEN EQUIPMENT BY OTHERS, PLUMBING CONNECTIONS BY PLUMBER.

INTERCEPTOR SCHEDULE

TAG NO.	BASIS OF SELECTION	LOCATION	SERVICE	FLOW (GPM)	CAPACITIES		INLET/ OUTLET SIZE	DIMENSIONS	WEIGHT	REMARKS
					WATER (GAL.)	GREASE/OIL (LBS)				
GI-1	SHIER GREAT BASIN GB-2	FLOOR RECESSED	KE-12	50	20	127	3	2'-11"L x 1'-11"W x 1'-1"H	49	RECEIVING CRADLE, ACID RESISTANT & ADEQUATE SERVICE ACCESS.
GI-2	SHIER GREAT BASIN GB-2	FLOOR RECESSED	KE-15	50	20	127	3	2'-11"L x 1'-11"W x 1'-1"H	49	RECEIVING CRADLE, ACID RESISTANT & ADEQUATE SERVICE ACCESS.
GI-3	SHIER GREAT BASIN GB-1	FLOOR RECESSED	KE-26	20	10	70	2	2'-3"L x 1'-11"W x 1'-0"H	39	RECEIVING CRADLE, ACID RESISTANT & ADEQUATE SERVICE ACCESS.
OI-1	STRIEM OS-50	FLOOR RECESSED	ELEV. SUMP PUMP	50	--	40	3	3'-1"L x 2'-4"W x 2'-4"H	92	FIELD ADJUSTABLE RISER SYSTEM,WATER/GAS TIGHT COVER & ADEQUATE SERVICE ACCESS.
SI-1	STRIEM 1176	INLINE	P-7/P-7A SINKS	-	.5	NA	2	5-1/2"Ø x 0'-8-3/4"H	4	REMOVABLE STAINLESS STEEL BASKET, BOTTOM ACCESS

DRAIN SCHEDULE

ITEM	DESCRIPTION	LOCATION	LOCAL CONNECTION		MANUFACTURER & MODEL #	REMARKS
			WASTE	VENT		
FD-1	FLOOR DRAIN	-	3	2	ZURN #Z-415	ALL EXPOSED PARTS TO BE NICKEL BRONZE.
FD-2	FLOOR SINK	-	4	2	ZURN #Z-1901	PROVIDE HALF GRATES FOR KITCHEN INDIRECT DRAINS.
FD-3	FLOOR SINK	-	4	2	ZURN #Z-1950	GRATE W/ 6" DIAMETER H FUNNEL DRAIN
RD-1	ROOF DRAIN	ROOF	4	-	ZURN #Z-100	ALL EXPOSED PARTS TO BE NICKEL BRONZE, PROVIDE DECK CLAMP & EXTENSION AS REQUIRED.
RD-2	ROOF DRAIN	ROOF	5	-	ZURN #Z-100	POLYETHYLENE DOME, PROVIDE DECK CLAMP & EXTENSION AS REQUIRED.
RD-3	ROOF DRAIN	ROOF	4	-	ZURN #Z-185-45	POLYETHYLENE DOME, PROVIDE DECK CLAMP & EXTENSION AS REQUIRED.
RD-4	ROOF DRAIN	ROOF	4	-	ZURN #Z-125	POLYETHYLENE DOME, PROVIDE DECK CLAMP & EXTENSION AS REQUIRED.
RD-5	ROOF DRAIN	ROOF	4	-	ZURN #Z-181	POLYETHYLENE DOME, PROVIDE DECK CLAMP & EXTENSION AS REQUIRED.
RD-6	ROOF DRAIN	ROOF	4	-	ZURN #Z-185	POLYETHYLENE DOME, PROVIDE DECK CLAMP & EXTENSION AS REQUIRED.

NOTE:

ROOF DRAINS WITHIN AREA OF DECORATIVE BALLAST SHALL BE PROVIDED WITH STAINLESS STEEL PERFORATED GRAVEL GUARD.

PIPE INSULATION SCHEDULE

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (in.)					REMARKS
	CONDUCTIVITY (BTU·in/(h·ft²·°F))	MEAN RATING TEMPERATURE (°F)	<1"	1" to <1.5"	1.5" to <4"	4" to <8"	≥8"	
141-200	0.25-0.29	125	1.5	1.5	2.0	2.0	2.0	
105-140	0.21-0.28	100	1.0	1.0	1.5	1.5	1.5	
61-104	---------- N/A ----------							
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0	
<40	0.20-0.26	50	0.5	1.0	1.0	1.0	1.5	

NOTES:

1. FOR PIPING SMALLER THAN 1-1/2" AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKNESSES BY 1" SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN NOTE (2) BUT NOT TO A THICKNESS LESS THAN 1".
2. FOR INSULATION OUTSIDE THE STATED CONDUCTIVITY RANGE, THE MINIMUM THICKNESS (T) SHALL BE DETERMINED AS FOLLOWS:
   $T = r\{(1 + t/r)^{(K/k)} - 1\}$
   WHERE:
   T = MINIMUM INSULATION THICKNESS,
   r = ACTUAL OUTSIDE RADIUS OF PIPE,
   t = INSULATION THICKNESS LISTED IN THE TABLE FOR APPLICABLE FLUID TEMPERATURE AND PIPE SIZE,
   K = CONDUCTIVITY OF ALTERNATE MATERIAL AT MEAN RATING TEMPERATURE INDICATED FOR THE APPLICABLE FLUID (BTU * IN/H * FT^2 * °F) AND
   k = THE UPPER VALUE OF THE CONDUCTIVITY RANGE LISTED IN THE TABLE FOR THE APPLICABLE FLUID TEMPERATURE
3. FOR DIRECT-BURIED HEATING AND HOT WATER SYSTEM PIPING, REDUCTION OF THESE THICKNESSES BY 1-1/2" SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN NOTE (2) BUT NOT TO THICKNESSES LESS THAN 1".
4. INSULATION SHALL BE CONTINUOUS EXCEPT WHERE PASSING THROUGH A STRUCTURAL FRAMING MEMBER.
5. MINIMUM INSULATION REQUIRED BY THIS SCHEDULE SHALL NOT SUPERCEDE ANY THICKER INSULATION REQUIREMENTS NECESSARY FOR PROTECTING ANY PIPING PRONE TO FREEZING.

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UNDERSLAB PLUMBING PLAN

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FIRST FLOOR PLUMBING PLAN

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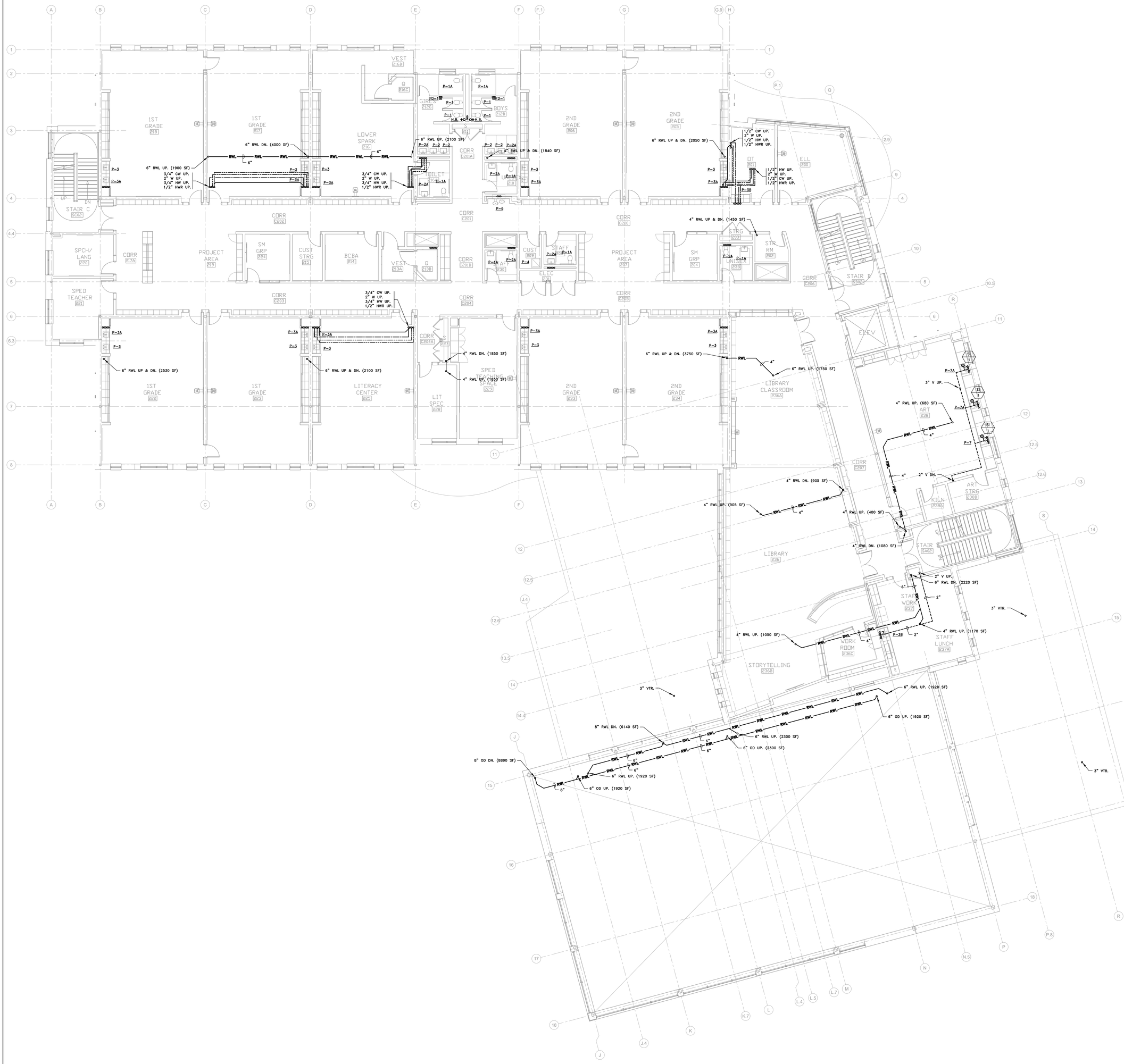

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SECOND FLOOR PLUMBING PLAN

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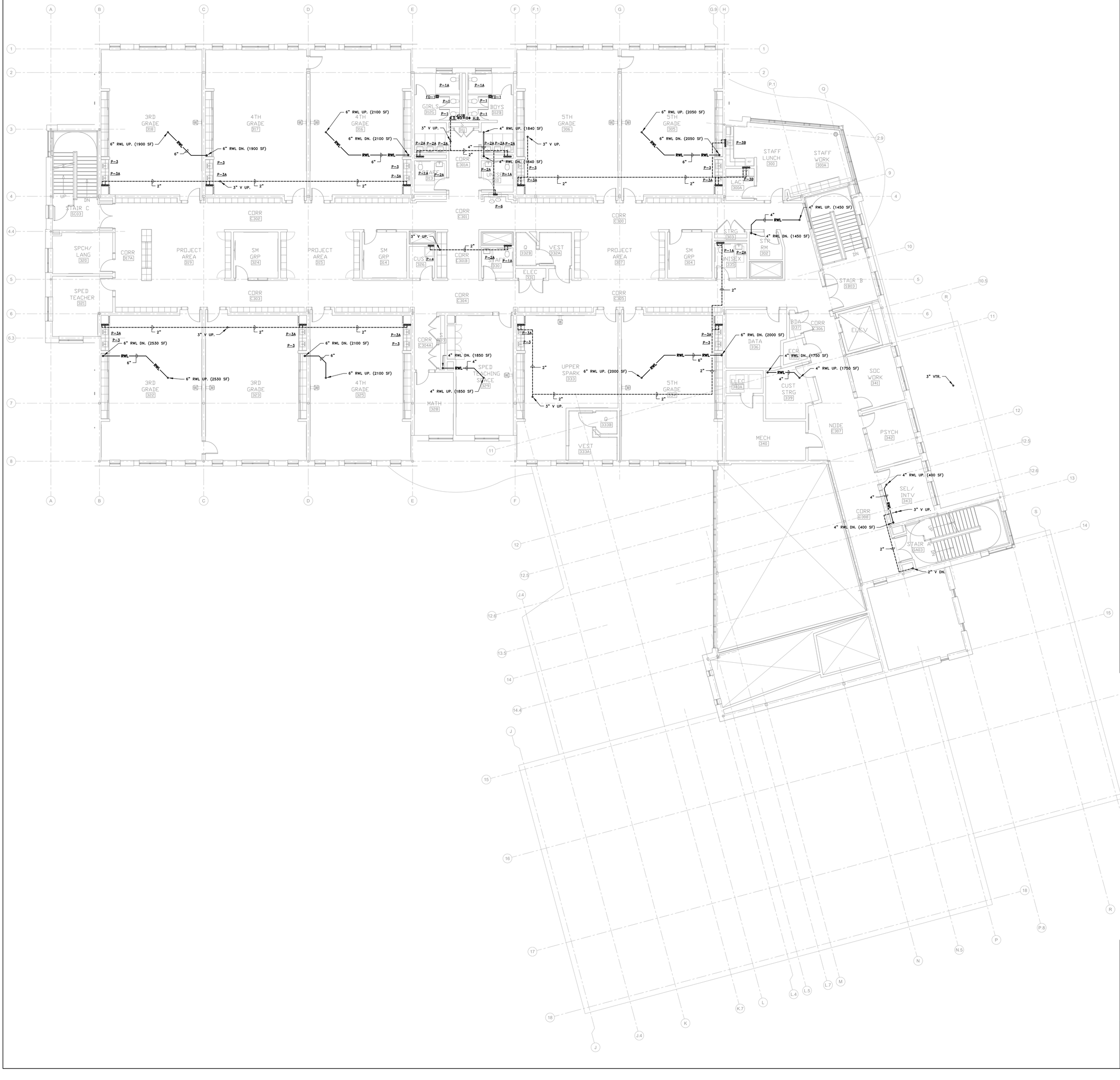

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THIRD FLOOR PLUMBING PLAN

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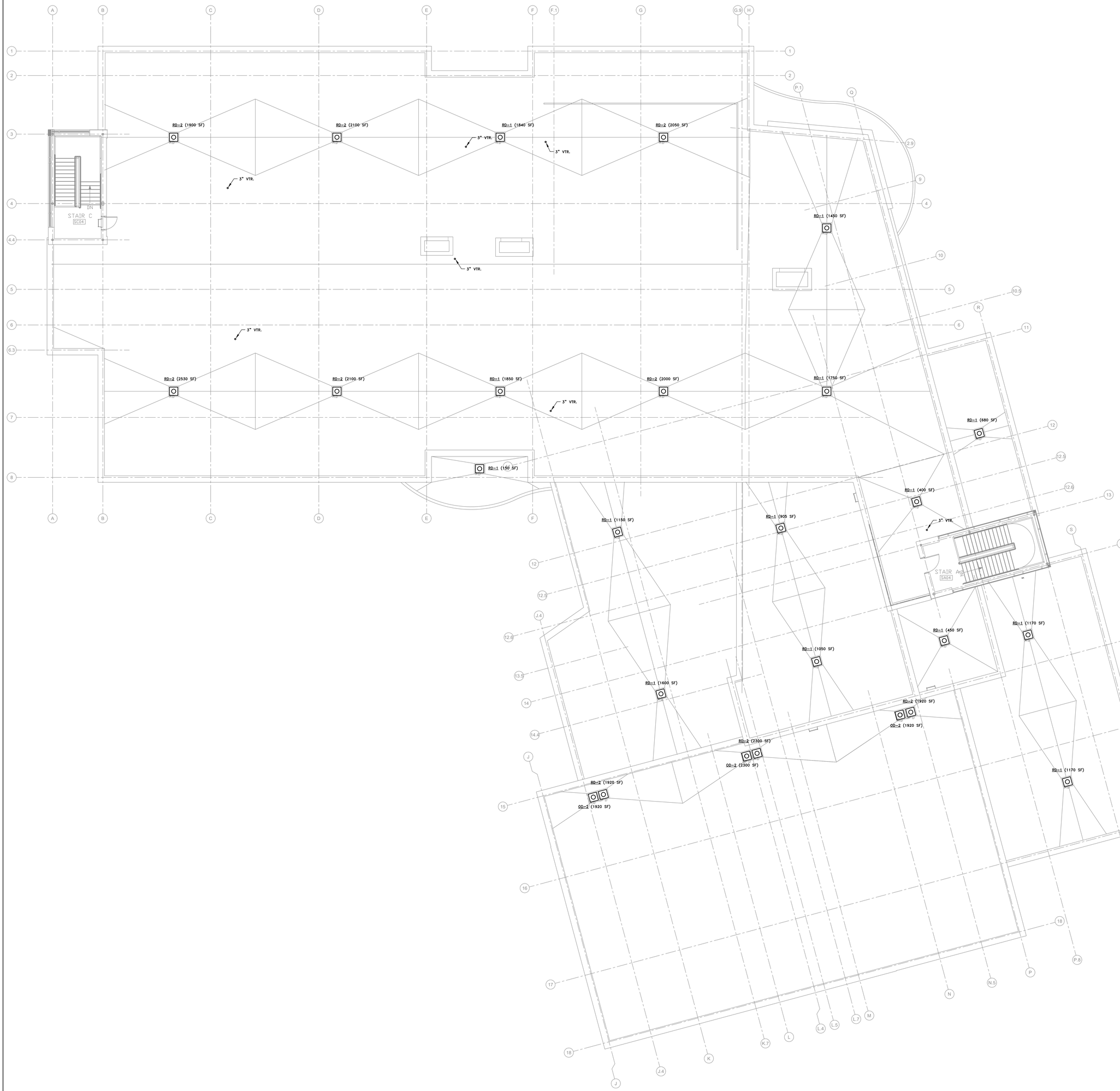

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DESIGN DEVELOPMENT

ROOF LEVEL PLUMBING PLAN

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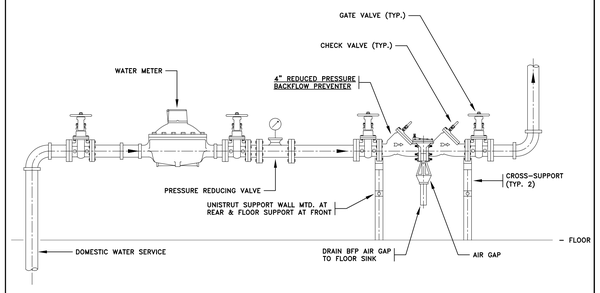
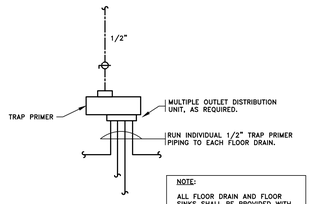
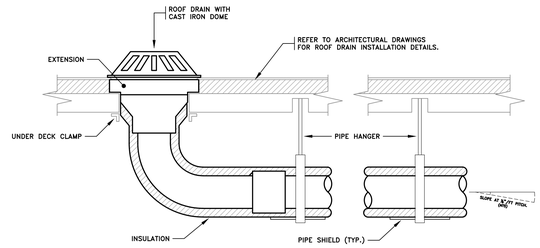


A DOMESTIC WATER SERVICE PIPING DETAIL
NOT TO SCALE

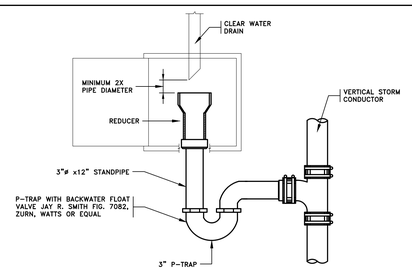


NOTE:
ALL FLOOR DRAIN AND FLOOR SINKS SHALL BE PROVIDED WITH TRAP PRIMERS REGARDLESS IF THEY ARE SHOWN ON THE PLANS OR NOT.

B TRAP PRIMER DETAIL
NOT TO SCALE

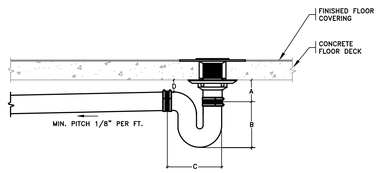


C ROOF DRAIN DETAIL
NOT TO SCALE



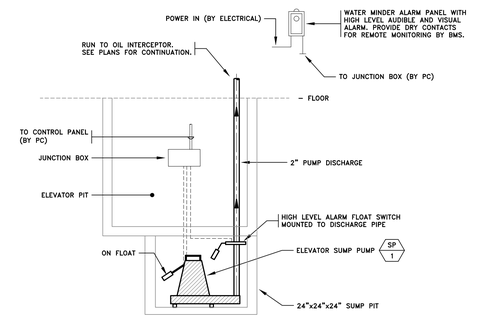
NOTE:
1. ALL PIPING SHALL BE LOCATED IN WALL/CHASE SPACE. COORDINATE FINAL LOCATION WITH ARCHITECT.
2. COORDINATE LOCATION AND HEIGHT WITH LOCKABLE ACCESS PANEL IN WALL FOR MAINTAINING DRAIN. COORDINATE LOCATION WITH HVAC CONTRACTOR.
4. PROVIDE FUNNEL EQUAL TO JAY R SMITH FIG.3812. ZURN, WATTS OR EQUAL

D INDIRECT WASTE DETAIL
NOT TO SCALE



A	"A" DIMENSION IS DEPENDANT ON SPECIFIC FLOOR DRAIN MODEL, AND FLOOR SYSTEM INSTALLED. A 1" INSERTION INTO THE COUPLING IS ASSUMED.
B	3" NH P-TRAP = 7 1/4" 4" NH P-TRAP = 8 3/4"
C	3" NH P-TRAP = 10 5/8" 4" NH P-TRAP = 12 3/4"
D	3" NH P-TRAP = D = A − 1 1/2" 4" NH P-TRAP = D = A − 2 1/2"
	NOTE: ALL "B", & "C" DIMENSIONS ARE BASED ON CHARLOTTE PIPE PART NUMBER NH-42.

E FLOOR DRAIN CLEARANCE DETAIL
NOT TO SCALE



F ELEVATOR SUMP PUMP DETAIL
NOT TO SCALE

NOTES:
1. PROVIDE SUFFICIENT SERVICE CLEARANCE PER MANUFACTURER'S RECOMMENDATIONS.
2. OIL INTERCEPTOR SHALL BE FLOOR-RECESSED.
3. VERIFY EXACT PIPING DETAILS PER MANUFACTURER'S RECOMMENDATIONS.

G OIL INTERCEPTOR PIPING DETAIL (FLOOR-RECESSED)
NOT TO SCALE

H INDIRECT WASTE DETAIL (KITCHEN)
NOT TO SCALE

NOTE:
TYPICAL FOR CAST IRON RAINWATER & WASTE PIPING 5" AND LARGER WITH NO-HUB CONNECTIONS.

I NO-HUB JOINT PIPE BRACING DETAIL
NOT TO SCALE

NOTE:
PROVIDE AND INSTALL CHECK VALVES ON HOT & COLD WATER SUPPLY PIPING TO SERVICE SINK FAUCET.

J SERVICE SINK DETAIL
NOT TO SCALE

NOTES:
1. REFER TO FLOOR PLANS & RISER DIAGRAMS FOR PIPE SIZES.
2. INSTALL AT EACH RECIRC. BRANCH OFF OF MAIN REGARDLESS IF SHOWN ON PLANS OR NOT.

K BRANCH PIPE TAKE-OFF DETAIL
SCALE: NONE

NOTES:
1. REFER TO PLUMBING SCHEDULES FOR EQUIPMENT SPECIFICATIONS.
2. REFER TO FLOOR PLANS FOR PIPE & FLUE SIZES.
3. CONTRACTOR RESPONSIBLE FOR PIPING CHANGES FOR HOT WATER HEATER SUBSTITUTIONS PER MANUFACTURERS RECOMMENDATIONS.

L DOMESTIC HOT WATER HEATER DETAIL
SCALE: NONE

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PLUMBING DETAILS

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AIR HANDLING UNIT SCHEDULE

TAG NO.	BASIS OF SELECTION	LOCATION	SERVICE	SUPPLY FAN DATA									O.A. (CFM)	ENERGY RECOVERY DATA (PRE-HEAT)																					
																COOLING DATA								HEATING DATA										
																			SUPPLY SIDE (SUMMER)			EXHAUST SIDE (SUMMER)							SUPPLY SIDE (WINTER)			EXHAUST SIDE (WINTER)		
				CFM	MIN. CFM	ESP * (in. w.c.)	BHP	HP	RPM	MOTOR TYPE	MODULATION	DRIVE		TYPE	APD (in. w.c.)	COOLING RECOVERY (MBH)	SENSIBLE EFF.	LATENT EFF.	TOTAL EFF.	CFM	EDB/EWB (°F)	LDB/LWB (°F)	CFM	EDB/EWB (°F)	LDB/LWB (°F)	HEATING RECOVERY (MBH)	SENSIBLE EFF.	LATENT EFF.	TOTAL EFF.	CFM	EDB/EWB (°F)	LDB/LWB (°F)	CFM	EDB/EWB (°F)	LDB/LWB (°F)
AHU-1	AAON RNA-040	ROOF	GYMNASIUM	11,000	-	3.0	12.49	20	1395	-	YES	DIRECT	5,820	ENERGY WHEEL	0.62	173.0	-	-	72.3%	5,820	88.0/74.0	77.8/65.6	5,820	75.0/63.0	85.1/71.0	401.4	-	-	76.0%	5,820	0/0	53.1/42.7	5,820	70/53	16.2/16.1
AHU-21	AAON RNA-031	ROOF	CAFETERIA	10,000	-	4.0	14.27	20	1457	-	YES	DIRECT	4,000	ENERGY WHEEL	0.45	127.3	-	-	76.8%	4,000	88.0/74.0	77.2/65.0	4,000	75.0/63.0	85.7/71.5	294.8	-	-	80.6%	4,000	0/0	567.1/44.9	4,000	70/53	13.2/13.2

AIR HANDLING UNIT SCHEDULE (CONTINUED)

TAG NO.	DX COIL DATA												HOT GAS REHEAT COIL						EXHAUST FAN DATA								FILTER DATA								WATER SOURCE HEAT PUMP DATA							ELECTRICAL DATA									APPROXIMATE DIMENSIONS	OPER. WEIGHT (LBS)	REMARKS
	COMMON DATA						COOLING DUTY				HEATING DUTY																PRE-FILTERS				FINAL-FILTER				GENERAL				COOLING DATA			HEATING DATA		CIRCUIT 1			CIRCUIT 4						
																																												UNIT				CONV. OUTLET						
	CFM	MIN. CFM	FACE VELOCITY (FPM)	APD (in. w.c.)	FLUID	ROWS	TC (MBH)	SC (MBH)	COIL EDB/EWB (°F)	COIL LDB/LWB (°F)	HC (MBH)	EAT (°F)	LAT (°F)	CFM	EDB/EWB (°F)	LDB/LWB (°F)	CAPACITY (MBH)	CAPACITY MODULATION	CFM	ESP (in. w.c.)	BHP	HP	RPM	MOTOR TYPE	MODULATION	DRIVE	MERV	FILTER DEPTH	INITIAL PRESSURE DROP (in. w.c.)	FINAL PRESSURE DROP (in. w.c.)	MERV	FILTER DEPTH	INITIAL PRESSURE DROP (in. w.c.)	FINAL PRESSURE DROP (in. w.c.)	GPM	MAX WPD (ft. wtr.)	FLUID	REFRIGERANT CHARGE (lbs, oz)	THR (MBH)	EWT/LWT (°F)	EER	EWT/LWT (°F)	COP	MCA	MOCP	V/PH	SCCR (kAIC)	MCA	MOCP	V/PH			
AHU-1	11,000	-	345	-	R-410A	4	417.4	284.2	76.5/63.9	49.6/49.0	419.7	61.2	95.8	11,000	49.6/49.0	70.0/57.5	241.2	FULLY MODULATING	5,820	1.0	7.31	10	1340	-	YES	DIRECT	8	-	-	-	-	-	-	-	120	28.8	25% PG	2@	-	85/94.6	13.0	35.0/29.3	5.28	108	125	460/3	10	20	20	120/1		17-5" L x 8'-4" W x 7'-10" H	7,516	SEE NOTES
AHU-2	10,000	-	313	-	R-410A	4	331.7	236.4	75.9/63.2	50.3/49.8	346.3	64.7	96.3	10,000	-	-	-	FULLY MODULATING	4,000	1.5	6.75	7.5	1289	-	YES	DIRECT	8	-	-	-	-	-	-	-	120	25.1	25% PG	4@ 288 oz.	-	85/92.9	11.3	35.0/30.2	4.66	96	110	460/3	10	20	20	120/1		17-5" L x 8'-4" W x 7'-10" H	7,157	SEE NOTES

NOTES:

1. MERV 8 PRE-FILTERS
2. MERV 16 FILTERS
3. HINGED ACCESS DOOR & MARINE LED LIGHTS IN EACH SECTION POWERED SEPARATELY
4. CONVENIENCE OUTLET POWERED SEPARATELY SO OUTLET CAN BE USED WHEN UNIT IS DOWN
5. DOUBLE WALL CONSTRUCTION WITH R-13 INSULATION
6. O.A. & E.A. HOODS
7. LOW LEAKAGE ACD'S
8. SHAFT GROUNDING RINGS ON MOTORS W/ VFD
9. VFD'S ON ALL FANS WITH AUTO-BYPASS AND BACNET INTERFACE
10. PIEZO RINGS ON ALL FANS
9. COMPARATIVE ENTHALPY ECONOMIZER
10. PIPE CABINET ON UNITS LOCATED OUTSIDE
11. OPERATING WEIGHTS DO NOT INCLUDE ROOF CURB
12. UNITS ABOVE 2,000 CFM SHALL HAVE A SMOKE DETECTOR IN THE RETURN AND SUPPLY AIR DUCTS
13. REFER TO CONTROLS DIAGRAMS FOR INTENDED ORDER OF COMPONENTS
16. INTERNALLY ISOLATED DIRECT DRIVE PLENUM AIRFOIL FANS
17. SEISMICALLY RATED VIBRATION ISOLATION CURB. CURB SHALL BE SIZED TO ACCOMMODATE HORIZONTAL DUCTWORK BELOW UNIT (AHU-2).
18. FANS SHALL BE SELECTED SUCH THAT THE OPERATING POINT TSP DOES NOT EXCEED 95% OF THE MAXIMUM STABLE TSP AT THE SAME FAN SPEED.
19. ESP ACCOUNTS FOR DIRTY FILTERS. INTERNAL STATIC PRESSURE SHALL ACCOUNT FOR CLEAN FILTERS ONLY.
20. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS ASSOCIATED WITH INTERNAL WIRING OF LIGHTS AND RECEPTACLES.

ENERGY RECOVERY UNIT SCHEDULE

TAG NO.	BASIS OF SELECTION	LOCATION	SERVICE	SUPPLY FAN DATA									O.A. (CFM)	ENERGY RECOVERY DATA (PRE-HEAT)																					
																COOLING DATA								HEATING DATA										
																			SUPPLY SIDE (SUMMER)			EXHAUST SIDE (SUMMER)							SUPPLY SIDE (WINTER)			EXHAUST SIDE (WINTER)		
				CFM	MIN. CFM	ESP * (in. w.c.)	BHP	HP	RPM	MOTOR TYPE	MODULATION	DRIVE		TYPE	APD (in. w.c.)	COOLING RECOVERY (MBH)	SENSIBLE EFF.	LATENT EFF.	TOTAL EFF.	CFM	EDB/EWB (°F)	LDB/LWB (°F)	CFM	EDB/EWB (°F)	LDB/LWB (°F)	HEATING RECOVERY (MBH)	SENSIBLE EFF.	LATENT EFF.	TOTAL EFF.	CFM	EDB/EWB (°F)	LDB/LWB (°F)	CFM	EDB/EWB (°F)	LDB/LWB (°F)
ERU-1	INNOVENT ERU-OU-PL-22000-HP-HG-460	ROOF	CLASSROOM VENTILATION	22,000	-	2.5	2@15.3	2@20	1982	TEFC	YES	DIRECT	22,000	DUAL CORE	0.95	-	-	-	-	22,000	88/74	76.7/65.7	22,000	75.0/63.0	86.5/78.8	-	-	-	-	22,000	0/-1.5	62.4/47.7	22,000	70.0/53.0	7.6/7.6

ENERGY RECOVERY UNIT SCHEDULE (CONTINUED)

TAG NO.	DX COIL DATA												HOT GAS REHEAT COIL						EXHAUST FAN DATA								FILTER DATA								WATER SOURCE HEAT PUMP DATA							
	COMMON DATA						COOLING DUTY				HEATING DUTY																PRE-FILTERS				FINAL-FILTER				GENERAL				COOLING DATA			HEATING DATA	
	CFM	MIN. CFM	FACE VELOCITY (FPM)	APD (in. w.c.)	FLUID	ROWS	TC (MBH)	SC (MBH)	COIL EDB/EWB (°F)	COIL LDB/LWB (°F)	HC (MBH)	EAT (°F)	LAT (°F)	CFM	EDB/EWB (°F)	LDB/LWB (°F)	CAPACITY (MBH)	CAPACITY MODULATION	CFM	ESP (in. w.c.)	BHP	HP	RPM	MOTOR TYPE	MODULATION	DRIVE	MERV	FILTER DEPTH	INITIAL PRESSURE DROP (in. w.c.)	FINAL PRESSURE DROP (in. w.c.)	MERV	FILTER DEPTH	INITIAL PRESSURE DROP (in. w.c.)	FINAL PRESSURE DROP (in. w.c.)	GPM	MAX WPD (ft. wtr.)	FLUID	REFRIGERANT CHARGE (lbs, oz)	THR	EWT/LWT (°F)	EER	EWT/LWT (°F)	COP
ERU-1	22,000	-	471	0.93	R-410A	6	962.6	613.8	76.7/65.7	51.3/50.9	750.2	62.4	93.8	22,000	51.3/50.9	68.2/57.8	403	FULLY MODULATING	20,000	2.0	2@9.7	2@15	1721	TEFC	YES	DIRECT	8	2"	-	-	13	2"	-	-	240	40	25% PG	-	79.7	85/95	17.9	35/29.9	4.3

ENERGY RECOVERY UNIT SCHEDULE (CONTINUED)

TAG NO.	ELECTRICAL DATA																		APPROXIMATE DIMENSIONS	OPER. WEIGHT (LBS)	REMARKS
	CIRCUIT 1			CIRCUIT 1			CIRCUIT 2			CIRCUIT 2			CIRCUIT 3			CIRCUIT 4					
	UNIT			SUPPLY FAN			EXHAUST FAN			REFRIGERATION			LIGHTS			CONV. OUTLET					
	MCA	MOCP	V/PH	MCA	MOCP	V/PH	MCA	MOCP	V/PH	MCA	MOCP	V/PH	MCA	MOCP	V/PH	MCA	MOCP	V/PH			
ERU-1	216	225	460/3	-	-	-	-	-	460/3	-	-	460/3	-	-	120/1	20	20	120/1	32'-0" L x 13'-1" W x 12'-4" H	30,700	SEE NOTES

NOTES:

1. MERV 8 PRE-FILTERS ON BOTH SIDES OF HEAT WHEEL
2. MERV 16 FILTERS
3. HINGED ACCESS DOOR & MARINE LED LIGHTS IN EACH SECTION POWERED SEPARATELY
4. CONVENIENCE OUTLET POWERED SEPARATELY SO OUTLET CAN BE USED WHEN UNIT IS DOWN
5. DOUBLE WALL CONSTRUCTION WITH R-13 INSULATION
6. HEAT RECOVERY TOTAL ENERGY WHEEL IN PREHEAT POSITION
7. O.A. & E.A. HOODS
8. LOW LEAKAGE ACD'S
9. SHAFT GROUNDING RINGS ON MOTORS W/ VFD
10. COMPARATIVE ENTHALPY ECONOMIZER OPERATION
11. 100% RECIRCULATION BYPASS DAMPERS
12. VFD'S ON ALL FANS AND BACNET INTERFACE
13. PIEZO RINGS ON ALL FANS
14. PIPE CABINET ON UNITS LOCATED OUTSIDE
15. OPERATING WEIGHTS DO NOT INCLUDE ROOF CURB
16. UNITS ABOVE 2,000 CFM SHALL HAVE A SMOKE DETECTOR IN THE RETURN AND SUPPLY AIR DUCTS
17. REFER TO CONTROLS DIAGRAMS FOR INTENDED ORDER OF COMPONENTS
18. INTERNALLY ISOLATED DIRECT DRIVE PLENUM AIRFOIL FANS
19. SEISMICALLY RATED VIBRATION ISOLATION CURB
20. FANS SHALL BE SELECTED SUCH THAT THE OPERATING POINT TSP DOES NOT EXCEED 95% OF THE MAXIMUM STABLE TSP AT THE SAME FAN SPEED
21. ESP ACCOUNTS FOR DIRTY FILTERS. INTERNAL STATIC PRESSURE SHALL ACCOUNT FOR CLEAN FILTERS ONLY.
22. COIL EAT TAKES INTO ACCOUNT HEAT RECOVERY. SEE SCHEDULE FOR HEAT WHEEL PERFORMANCES.
23. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS ASSOCIATED WITH INTERNAL WIRING OF LIGHTS AND RECEPTACLES.

MAKE-UP AIR UNIT SCHEDULE

TAG NO.	BASIS OF SELECTION	LOCATION	SERVICE	SUPPLY FAN DATA									O.A. (CFM)	ELECTRIC HEATING COIL						DX COIL DATA (HEAT PUMP)													HOT GAS REHEAT COIL						WATER SOURCE HEAT PUMP DATA							
																				COMMON DATA						COOLING DUTY				HEATING DUTY						GENERAL				COOLING DATA			HEATING DATA	
				CFM	MIN. CFM	ESP * (in. w.c.)	BHP	HP	RPM	MOTOR TYPE	MODULATION	DRIVE		TOTAL SYSTEM INPUT KW	EAT (°F)	LAT (°F)	FACE VELOCITY (FPM)	APD (in. WG)	NO. OF CONTROL STEPS	CFM	MIN. CFM	FACE VELOCITY (FPM)	APD (in. w.c.)	REFRIG. TYPE	ROWS	TC (MBH)	SC (MBH)	COIL EDB/EWB (°F)	COIL LDB/LWB (°F)	HC (MBH)	COIL EAT (°F)	COIL LAT (°F)	CFM	EDB/EWB (°F)	LDB/LWB (°F)	CAPACITY (MBH)	MAX APD (in. w.c.)	CAPACITY MODULATION	GPM	MAX WPD (ft. wtr.)	FLUID	REFRIG. CHARGE (lbs, oz)	THR	EWT/LWT (°F)	EER	EWT/LWT (°F)	COP
MAU-1	AAON RN-015	SHIPPING/RECEIVING	KITCHEN MAKE-UP AIR	2,300	-	2.5	1.87	2	1911	-	YES	DIRECT	2,300	20	0	27	-	-	-	2,300	-	157	-	R-410A	4	169.9	89.4	88/74	48.9/48.8	164.9	27	88	2,300	-	-	-	-	FULLY MODULATING	39	18.1	25% PG	-	-	85/96.7	11.8	35/27.9	4.22

MAKE-UP AIR UNIT SCHEDULE

TAG NO.	FILTER DATA								ELECTRICAL DATA						APPROXIMATE DIMENSIONS	OPER. WEIGHT (LBS)	REMARKS
	PRE-FILTER				FINAL-FILTER				CIRCUIT 1				CIRCUIT 2				
									UNIT				CONV. OUTLET				
	MERV	FILTER DEPTH	INITIAL PRESSURE DROP (in. w.c.)	FINAL PRESSURE DROP (in. w.c.)	MERV	FILTER DEPTH	INITIAL PRESSURE DROP (in. w.c.)	FINAL PRESSURE DROP (in. w.c.)	MCA	MOCP	V/PH	SCCR (kAIC)	MCA	MOCP	V/PH				
MAU-1	8	-	-	-	-	-	-	-	61	70	460/3	5	20	20	120/1	8'-8" L x 4'-11" W x 4'-3" H	1,862	SEE NOTES

NOTES:

1. MERV 8 PRE-FILTERS
2. MERV 16 FILTERS
3. HINGED ACCESS DOOR & MARINE LED LIGHTS IN EACH SECTION POWERED SEPARATELY
4. CONVENIENCE OUTLET POWERED SEPARATELY SO OUTLET CAN BE USED WHEN UNIT IS DOWN
5. DOUBLE WALL CONSTRUCTION WITH R-13 INSULATION
6. LOW LEAKAGE ACD'S
7. SHAFT GROUNDING RINGS ON MOTORS W/ VFD
8. VFD'S ON ALL FANS AND BACNET INTERFACE
9. PIEZO RINGS ON ALL FANS
10. UNITS ABOVE 2,000 CFM SHALL HAVE A SMOKE DETECTOR IN THE RETURN AND SUPPLY AIR DUCTS
11. REFER TO CONTROLS DIAGRAMS FOR INTENDED ORDER OF COMPONENTS
12. INTERNALLY ISOLATED DIRECT DRIVE PLENUM AIRFOIL FANS
17. FANS SHALL BE SELECTED SUCH THAT THE OPERATING POINT TSP DOES NOT EXCEED 95% OF THE MAXIMUM STABLE TSP AT THE SAME FAN SPEED.
18. ESP ACCOUNTS FOR DIRTY FILTERS. INTERNAL STATIC PRESSURE SHALL ACCOUNT FOR CLEAN FILTERS ONLY.
19. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS ASSOCIATED WITH INTERNAL WIRING OF LIGHTS AND RECEPTACLES.

GENERAL HVAC LEGEND & ABBREVIATIONS

NOTE: ALL ITEMS SHOWN ARE NOT NECESSARILY USED ON THIS PROJECT

AC	AIR CONDITIONING UNIT	ELEC	ELECTRICAL
ACCU	AIR COOLED CONDENSING UNIT	ER	EXHAUST REGISTER
ACD	AUTOMATIC CONTROL DAMPER	ESP	EXTERNAL STATIC PRESSURE
ACV	AUTOMATIC CONTROL VALVE	EUH	ELECTRIC UNIT HEATER
AD	ACCESS DOOR	EWH	ELECTRIC WALL HEATER
AFF	ABOVE FINISHED FLOOR	EWT	ENTERING WATER TEMPERATURE
AHU	AIR HANDLING UNIT	EXH	EXHAUST
ATC	AUTOMATIC TEMPERATURE CONTROL	EXP	EXPANSION
BB	BASEBOARD	FAI	FRESH AIR INTAKE
BDD	BACKDRAFT DAMPER	FCU	FAN COIL UNIT
BG	BLAST GATE	FD	FIRE DAMPER
BHP	BRAKE HORSEPOWER	FLA	FULL LOAD AMPS
BLDG	BUILDING	FLEX	FLEXIBLE
BOD	BOTTOM OF DUCT	°F	DEGREES FAHRENHEIT
BSMT	BASEMENT	F & T	FLOAT & THERMOSTATIC TRAP
BTU	BRITISH THERMAL UNITS	FPM	FEET PER MINUTE
CD	CEILING DIFFUSER	FSD	FIRE SMOKE DAMPER
CFM	CUBIC FEET PER MINUTE	FTR	FINNED TUBE RADIATION
CHWR	CHILLED WATER RETURN	GA	GAUGE
CHWS	CHILLED WATER SUPPLY	GC	GENERAL CONTRACTOR
CLG	CEILING	GPM	GALLONS PER MINUTE
CO	CLEAN OUT	HC	HEATING COIL
CONC	CONCRETE	HCR	DUAL TEMPERATURE WATER RETURN
CONN	CONNECTION	HCS	DUAL TEMPERATURE WATER SUPPLY
CONTR	CONTRACTOR	HP	HORSEPOWER
CWR	CONDENSER WATER RETURN	HVAC	HEATING, VENTILATION, & AIR CONDITIONING
CWS	CONDENSER WATER SUPPLY		
D	DRAIN	HW	HOT WATER
DDC	DIRECT DIGITAL CONTROL	HWR	HOT WATER RETURN
DB	DRY BULB	HWS	HOT WATER SUPPLY
DIFF	DIFFUSER	HZ	HERTZ
DN	DOWN	IN	INCHES
DX	DIRECT EXPANSION	KW	KILOWATT
EA	EACH	LAT	LEAVING AIR TEMPERATURE
EAT	ENTERING AIR TEMPERATURE	LF	LINEAR FEET
EBH	ELECTRIC BASEBOARD HEATER	LRA	LOCKED ROTOR AMPS
EFF	EFFICIENCY	LSD	LINEAR SLOT DIFFUSER
EF	EXHAUST FAN	LWT	LEAVING WATER TEMPERATURE
EG	EXHAUST GRILLE	MECH	MECHANICAL
EHC	ELECTRIC HEATING COIL	MEZZ	MEZZANINE
EL	ELEVATION	MIN	MINIMUM
MTD	MOUNTED
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
PC	PUMPED CONDENSATE
PD	PRESSURE DROP
PHC	PREHEAT COIL
PLBG	PLUMBING
PRV	PRESSURE REGULATING VALVE
PSIG	POUNDS PER SQUARE INCH GA.
RA	RETURN AIR
RET	RETURN
REQ'D	REQUIRED
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
SA	SUPPLY AIR
SD	SMOKE DAMPER
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SR	SUPPLY REGISTER
T	THERMOSTAT
TD	TRANSFER DUCT
TG	TRANSFER GRILLE
TYP.	TYPICAL
UD	UNDERCUT DOOR
UH	UNIT HEATER
V	VENT
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
W	WIDTH
W/	WITH
WB	WET BULB TEMPERATURE

CONNECT TO EXISTING

LIMIT OF DEMOLITION

REVISION NUMBER

TEMPERATURE SENSOR OR THERMOSTAT

HUMIDITY SENSOR OR HUMIDISTAT

WALL SWITCH

SMOKE DETECTOR

CO2 DETECTOR

CO DETECTOR

HYDROCARBON DETECTOR

NO2 DETECTOR

AIR HANDLING UNIT (AHU #)

AIR CONDITIONING UNIT (AC #)

AIR-COOLED CONDENSING UNIT (ACCU #)

AIR SEPARATOR (AS #)

BRANCH SELECTOR BOX (BS #)

ENERGY RECOVERY UNIT (ERU #)

EXHAUST FAN (EF #)

EXPANSION TANK (ET #)

ELECTRIC UNIT HEATER (EUH #)

ELECTRIC WALL HEATER (EWH #)

FAN COIL UNIT (FCU #)

GLYCOL FEED UNIT (GFU #)

HEAT PUMP (HP #)

KITCHEN EXHAUST FAN (KEF #)

MAKE-UP AIR UNIT (MAU #)

PUMP (P #)

SOUND ATTENUATOR (SA #)

DUCTWORK LEGEND

LINEAR SLOT DIFFUSER (ONE SLOT) 4'-0" L (UNLESS OTHERWISE NOTED)

DOUBLE SLOT DIFFUSER (TWO SLOT) 4'-0" L (UNLESS OTHERWISE NOTED)

NEW CEILING DIFFUSER (CD)

EXISTING CEILING DIFFUSER (CD)

NEW RETURN GRILLE (RG) (24"x24", UNLESS OTHERWISE NOTED)

EXISTING RETURN GRILLE (RG)

NEW EXHAUST REGISTER (ER)

EXISTING EXHAUST REGISTER (ER)

EXISTING DUCTWORK

EXISTING DUCTWORK TO BE REMOVED

NEW DUCTWORK

UNDERCUT DOOR

RETURN OR EXHAUST AIR FLOW

SUPPLY AIR FLOW

TRANSFER GRILLE

SINGLE LINE		DOUBLE LINE
	SUPPLY DUCT UP	
	SUPPLY DUCT DOWN	
	RETURN / EXHAUST DUCT UP	
	RETURN / EXHAUST DUCT DOWN	
	STANDARD RADIUS ELBOW (R = W)	
	SPLIT TAKE-OFF W/ BRANCH DAMPERS SUPPLY	
	BULLHEAD SPLIT SUPPLY	
	CEILING DUCT MTD. DIFF / GRILLE	
	ACOUSTICALLY LINED DUCT	

SINGLE LINE		DOUBLE LINE
	RISE OR DROP	
	BULLHEAD CONVERGE	
	FLEXIBLE DUCT (MAX. 48"L)	
	CEILING DUCT MTD. DIFF / GRILLE	
	VOLUME DAMPER	
	AUTOMATIC CONTROL DAMPER (ACD)	
	BACKDRAFT DAMPER	
	FIRE DAMPER	

PIPING LEGEND

DRAIN

PUMPED CONDENSATE DRAIN

CHILLED WATER SUPPLY

CHILLED WATER RETURN

CONDENSER WATER SUPPLY

CONDENSER WATER RETURN

DUAL TEMPERATURE WATER SUPPLY

DUAL TEMPERATURE WATER RETURN

HOT WATER SUPPLY

HOT WATER RETURN

LOW PRESSURE STEAM

LOW PRESSURE CONDENSATE RETURN

FUEL OIL SUPPLY

FUEL OIL RETURN

PIPE BREAK (SINGLE LINE)

RELIEF VALVE

AUTO. AIR VENT

DRIP LEG

FLEXIBLE CONNECTION

INCREASER OR DECREASER CONCENTRIC

ELBOW UP OR RISE

ELBOW DN OR DROP

CONTROL VALVE (2-WAY)

END CAP

CLEAN-OUT FOR CONDENSATE DRAIN

GATE VALVE

BUTTERFLY VALVE

GLOBE VALVE

BALL VALVE

CHECK VALVE

STRAINER W/DRAIN VALVE & HOSE CONN.

UNION

CONTROL VALVE (3-WAY)

LIQUID FILLED PRESSURE GAUGE w/ BALL VALVE PIGTAIL FOR STEAM, & SCRUBBERS FOR WATER.

SWIVEL BASE WELL TYPE 10" THERMOMETER

DIRECTION OF FLOW IN PIPE

BLIND FLANGE

CIRCUIT SETTER

CONTROLS LEGEND

2W	TWO WAY		TRANSMITTER (AI)
3W	THREE WAY	DPV	DIFFERENTIAL PRESSURE BYPASS VALVE (AO)
ACD	AUTOMATIC CONTROL DAMPER (AO, DO)	DSD	DUCT SMOKE DETECTOR (COORD WITH ELECT)
ACV	AUTOMATIC CONTROL VALVE (AO, DO)	DX	DIRECT EXPANSION
AI	ANALOG INPUT	EA	EXHAUST AIR
AO	ANALOG OUTPUT	EAD	EXHAUST AIR DAMPER (AO, DO)
ATC	AUTOMATIC TEMPERATURE CONTROLS	ENT	ENTERING AIR TEMPERATURE (AI)
BDD	BACK DRAFT DAMPER	EF	EXHAUST FAN
BPD	BYPASS DAMPER (AO)	ES	END SWITCH
BV	BYPASS VALVE	EW	ENERGY (HEAT) WHEEL
CC	COOLING COIL	EWS	ENERGY WHEEL SPEED CONTROL (AO)
CCLT	COOLING COIL LEAVING AIR TEMPERATURE SENSOR	FA	FAULT ALARM
CHW	CHILLED WATER	FI	FULL INTEGRATION
CHWR	CHW RETURN	FMS	FLOW MEASURING STATION (AI)
CHWS	CHW SUPPLY	FS	FLOW SWITCH
CO	CARBON MONOXIDE SENSOR	FSD	FIRE AND SMOKE DAMPER (COORD
CO2	CO2 SENSOR		WITH ELECT)
CT	CURRENT TRANSFORMER TYPE STATUS	FPP	FREEZE PROTECTION PUMP (S/S)
DAT	DISCHARGE AIR TEMPERATURE SENSOR	FZ	FREEZESTAT
DDC	DIRECT DIGITAL CONTROLS	GF	GAS FURNACE
DDCFP	DIRECT DIGITAL CONTROL FIELD PANEL	H	HUMIDITY SENSOR
DI	DIGITAL INPUT	HC	HEATING COIL
DO	DIGITAL OUTPUT	HCLT	HEATING COIL LEAVING AIR TEMPERATURE SENSOR
DP	DIFFERENTIAL PRESSURE (AI)	HGBP	HOT GAS BYPASS
DPS	DIFFERENTIAL PRESSURE SENSOR (AI)	HL	HIGH LIMIT SAFETY
DPT	DIFFERENTIAL PRESSURE	HOA	HAND OFF AUTO STARTER (DO)
		HW	HOT WATER
		HWC	HOT WATER COIL
		HWR	HOT WATER RETURN
		HWS	HOT WATER SUPPLY
		IFBD	INTEGRAL FACE & BYPASS DAMPER
		IGV	INLET GUIDE VANES
		LAT	LEAVING AIR TEMPERATURE SENSOR
		LL	LOW LIMIT SAFETY
		LSPS	LOW STATIC PRESSURE SWITCH
		MAT	MIXED AIR TEMPERATURE SENSOR
		NC	NORMALLY CLOSED (ON LOSS OF POWER)
		NO	NORMALLY OPEN (ON LOSS OF POWER)
		PHC	PREHEAT COIL
		RA	RETURN AIR
		RAD	RA DAMPER (AO, DO)
		RAH	RA RELATIVE HUMIDITY (AI)
		RAT	RA TEMPERATURE (AI)
		RF	RETURN FAN
		RH	RELATIVE HUMIDITY (AI)
		RHC	REHEAT COIL
		SA	SUPPLY AIR
		SAD	SA DAMPER (AO, DO)
		SAT	SUPPLY AIR TEMPERATURE (AI)
		SD	SMOKE DAMPER (COORD WITH ELECT)
		SF	SUPPLY FAN
		SP	STATIC PRESSURE (AI)
		SPD	SPEED
		S/S	START/STOP/STATUS (DO/DI)
		TP	TOTAL PRESSURE (AI)
		VFD	VARIABLE FREQUENCY DRIVE (S/S + AO)
		VP	VELOCITY PRESSURE (AI)

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KEY PLAN

NORTH ARROW

STAMP

Date: 21 FEBRUARY 2024

Drawn By: JH

Scale: NONE

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

HVAC SCHEDULES AND LEGEND

9.0.01

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AIR CONDITIONING UNIT SCHEDULE (INDOOR UNIT)

TAG NO.	BASIS OF SELECTION	SERVICE	TYPE	SUPPLY FAN DATA					MIN. OA (CFM)	COOLING DATA							ELECTRICAL DATA				APPROXIMATE DIMENSIONS	OPER. WT. (LBS.)	ACCESSORIES
				CFM (HI)	dBA (HI)	ESP (in. w.c.)	MOTOR	SPD		CFM	REF. TYPE	EDB/EWB (°F)	LDB/LWB (°F)	TC (MBH)	SC (MBH)	REF. SST (°F)	VOLT	PH	MCA	FLA			
AC-1	MITSUBISHI PCA-A42KA7 (3.5-TON NOMINAL)	MAIN ELEC. 123A	CEILING SUSPENDED	955	45	0"	ECM	4	0	955	R-410A	80/67	55/54	42	29,4	45	208	1	2	0,97	5'-3" L x 2'-3" W x 0'-10" H	86	REMOTE WIRED THERMOSTAT, FILTER, CONDENSATE PUMP AS REQUIRED, CONDENSATE OVERFLOW SWITCH BY MFG OR ATC SUB-CONTRACTOR, BACNET INTERFACE, INDOOR UNIT POWERED BY OUTDOOR UNIT.
AC-2	MITSUBISHI PCA-A42KA7 (3.5-TON NOMINAL)	MAIN ELEC. 123A	CEILING SUSPENDED	955	45	0"	ECM	4	0	955	R-410A	80/67	55/54	42	29,4	45	208	1	2	0,97	5'-3" L x 2'-3" W x 0'-10" H	86	REMOTE WIRED THERMOSTAT, FILTER, CONDENSATE PUMP AS REQUIRED, CONDENSATE OVERFLOW SWITCH BY MFG OR ATC SUB-CONTRACTOR, BACNET INTERFACE, INDOOR UNIT POWERED BY OUTDOOR UNIT.
AC-3	MITSUBISHI PKA-A30KA7 (2.5-TON NOMINAL)	DATA 336	HIGH WALL MOUNTED	700	45	0"	ECM	3	0	700	R-410A	80/67	55/54	30	21	45	208	1	1	0,36	3'-11" L x 0'-12" W x 1'-3" H	46	REMOTE WIRED THERMOSTAT, FILTER, CONDENSATE PUMP AS REQUIRED, CONDENSATE OVERFLOW SWITCH BY MFG OR ATC SUB-CONTRACTOR, BACNET INTERFACE, INDOOR UNIT POWERED BY OUTDOOR UNIT.
AC-4	MITSUBISHI PKA-A30KA7 (2.5-TON NOMINAL)	DATA 336	HIGH WALL MOUNTED	700	45	0"	ECM	3	0	700	R-410A	80/67	55/54	30	21	45	208	1	1	0,36	3'-11" L x 0'-12" W x 1'-3" H	46	REMOTE WIRED THERMOSTAT, FILTER, CONDENSATE PUMP AS REQUIRED, CONDENSATE OVERFLOW SWITCH BY MFG OR ATC SUB-CONTRACTOR, BACNET INTERFACE, INDOOR UNIT POWERED BY OUTDOOR UNIT.
AC-5	MITSUBISHI PKA-A12KA7 (1-TON NOMINAL)	ECR 338	HIGH WALL MOUNTED	375	48	0"	ECM	3	0	375	R-410A	80/67	55/54	12	8,4	45	208	1	1	0,19	3'-0" L x 0'-10" W x 0'-12" H	28	REMOTE WIRED THERMOSTAT, FILTER, CONDENSATE PUMP AS REQUIRED, CONDENSATE OVERFLOW SWITCH BY MFG OR ATC SUB-CONTRACTOR, BACNET INTERFACE, INDOOR UNIT POWERED BY OUTDOOR UNIT.

NOTES:

1. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AC UNIT LOCATIONS AND PIPE ROUTING WITH ELECTRICAL CONTRACTOR. UNITS AND PIPING SHALL NOT BE LOCATED ABOVE EQUIPMENT, PANELS OR CABLE TRAYS.

AIR-COOLED CONDENSING UNIT SCHEDULE (OUTDOOR UNIT)

TAG NO.	BASIS OF SELECTION	SERVICE	COOLING DATA		EER	SEER	REF. SST (°F)	COMPRESSOR & ELECTRICAL DATA								CONDENSER			APPROXIMATE DIMENSIONS	OPER. WT. (LBS.)	ACCESSORIES
			TC (MBH)	REQ. MIN. OPER. OUTDOOR TEMP. (°F)				QTY	TYPE	VOLT	PH	MCA	MOCP	SCCR (kA)	REF. TYPE	REF. CHARGE (LBS.)	FAN QTY.	FLA (FAN EACH)	AMB. (°F)			
ACCU-1	MITSUBISHI PUY-A42NHA7 (3.5-TON NOMINAL)	AC-1	42	-20	10,2	17,6	45	1	INV, SCROLL	208	1	25	31	5	R-410A	-	2	(2) @ 0.5	95	3'-6" L x 1'-2" W x 4'-5" H	211	LOW AMBIENT CONTROLS TO -20°F, WIND BAFFLE, CRANKCASE HEATER, 5 YEAR COMPR. WARR., MOUNTED ON MIN. 2"H STAND, VIBRATION ISOLATORS, PIPE AS PER MANUFACTURER'S RECOMMENDATIONS, BACNET INTERFACE.
ACCU-2	MITSUBISHI PUY-A42NHA7 (3.5-TON NOMINAL)	AC-2	42	-20	10,2	17,6	45	1	INV, SCROLL	208	1	25	31	5	R-410A	-	2	(2) @ 0.5	95	3'-6" L x 1'-2" W x 4'-5" H	211	LOW AMBIENT CONTROLS TO -20°F, WIND BAFFLE, CRANKCASE HEATER, 5 YEAR COMPR. WARR., MOUNTED ON MIN. 2"H STAND, VIBRATION ISOLATORS, PIPE AS PER MANUFACTURER'S RECOMMENDATIONS, BACNET INTERFACE.
ACCU-3	MITSUBISHI PUY-A30NHA7 (2.5-TON NOMINAL)	AC-3	30	-20	9.5	19.8	45	1	INV, SCROLL	208	1	19	26	5	R-410A	-	1	0.4	95	3'-10" L x 1'-2" W x 3'-10" H	151	LOW AMBIENT CONTROLS TO -20°F, WIND BAFFLE, CRANKCASE HEATER, 5 YEAR COMPR. WARR., MOUNTED ON MIN. 2"H STAND, VIBRATION ISOLATORS, PIPE AS PER MANUFACTURER'S RECOMMENDATIONS, BACNET INTERFACE.
ACCU-4	MITSUBISHI PUY-A30NHA7 (2.5-TON NOMINAL)	AC-4	30	-20	9.5	19.8	45	1	INV, SCROLL	208	1	19	26	5	R-410A	-	1	0.4	95	3'-10" L x 1'-2" W x 3'-10" H	151	LOW AMBIENT CONTROLS TO -20°F, WIND BAFFLE, CRANKCASE HEATER, 5 YEAR COMPR. WARR., MOUNTED ON MIN. 2"H STAND, VIBRATION ISOLATORS, PIPE AS PER MANUFACTURER'S RECOMMENDATIONS, BACNET INTERFACE.
ACCU-5	MITSUBISHI PUY-A12NHA7 (1-TON NOMINAL)	AC-5	12	-20	13.3	21	45	1	INV, SCROLL	208	1	11	28	5	R-410A	-	1	0,5	95	2'-8" L x 1'-0" W x 2'-1" H	92	LOW AMBIENT CONTROLS TO -20°F, WIND BAFFLE, CRANKCASE HEATER, 5 YEAR COMPR. WARR., MOUNTED ON MIN. 2"H STAND, VIBRATION ISOLATORS, PIPE AS PER MANUFACTURER'S RECOMMENDATIONS, BACNET INTERFACE.

FAN SCHEDULE

TAG NO.	BASIS OF SELECTION	SERVICE	LOCATION	TYPE	FAN DATA						MOTOR DATA					VFD				REMARKS
					CFM	ESP (in. w.c.)	RPM	BHP	AMCA CLASS	DRIVE	TYPE	HP	RPM	VOLTS	PH	W/ AUTO BYPASS	W/O AUTO BYPASS	BACNET CARD	INTEGRAL DISCONNECT	
EF-1	COOK 135SQN17D	TRASH EXHAUST	-	IN-LINE	500	0,5	1,027	0,097	I	DIRECT	ECM	1/8	1760	120	1	N/A				ECM MOTOR, SPEED CONTROLLER FOR BALANCING, MOTORIZED BDD, ISOLATORS, RUNS CONTINUOUSLY DURING OCCUPIED HOURS.
EF-2	COOK GNVF-180	EE	-	IN-LINE	200	0,25	1,270	47 W	I	DIRECT	ECM	47 W	1760	120	1	N/A				ECM MOTOR, SPEED CONTROLLER FOR BALANCING, BDD, ISOLATORS, RUNS TO MAINTAIN SPACE SETPOINT.
EF-3	COOK 120R17D	TOILET EXHAUST	-	CENTRIF. UPBLAST ROOF VENT	100	0,75	1,312	0,080	I	DIRECT	ECM	1/8	1760	120	1	N/A				ECM MOTOR, SPEED CONTROLLER FOR BALANCING, BDD, ROOF CURB, RUNS CONTINUOUSLY DURING OCCUPIED HOURS.
EF-4	COOK 150RH17D	TOILET EXHAUST	-	CENTRIF. UPBLAST ROOF VENT	520	0,75	1,173	0,137	I	DIRECT	ECM	1/6	1760	120	1	N/A				ECM MOTOR, SPEED CONTROLLER FOR BALANCING, BDD, ROOF CURB, RUNS CONTINUOUSLY DURING OCCUPIED HOURS.
EF-5	COOK 120SQN17D	KILN ROOM EXHAUST	-	IN-LINE	800	0,5	1,196	0,130	I	DIRECT	ECM	1/6	1725	120	1	N/A				ECM MOTOR, SPEED CONTROLLER FOR BALANCING, MOTORIZED BDD, ISOLATORS, RUNS TO MAINTAIN SPACE SETPOINT, INTERLOCKED W/ KILN.
KEF-1	COOK 225 VCR-HP	KITCHEN HOOD EXHAUST	ROOF	CENTRIF. UPBLAST ROOF VENT	2,800	2,00"	1258	2,10	I	BELT	PREM. EFF.	3	1750	208	3	•		•	•	WELDED DUCTWORK, HINGED BASE, ROOF CURB, VENTED EXTENSION (NFPA), GREASE TROUGH, WALL SWITCH, (SEE NOTE 1), UL-762 RATED, SHAFT GROUNDING RINGS, INTERLOCK W/ RTU-1.

NOTE:

1. KEF-1 WAS SELECTED BASED ON KITCHEN HOOD IN THE DRAWINGS. ANY CHANGES TO HOOD SHALL REQUIRE COORDINATION OF FAN CAPACITY AND APPROVAL BY ENGINEER.
2. ALL FANS SHALL BE STATICALLY & DYNAMICALLY RE-BALANCED AFTER INSTALLATION.
3. ALL MOTORS WITH VFD'S SHALL BE PROVIDED WITH SHAFT GROUNDING RINGS.

PUMP SCHEDULE

TAG NO.	BASIS OF SELECTION	SERVICE	LOCATION	TYPE	PERFORMANCE DATA						ELECTRICAL DATA		VFD				REMARKS
					GPM	HEAD (ft.)	RPM	HP	FLUID	FLUID TEMP. (°F)	V/PH/HZ	MOTOR TYPE	W/ AUTO BYPASS	W/O AUTO BYPASS	BACNET CARD	INTEGRAL DISCONNECT	
P-1, 2	TACO FI-5013D	GROUND WATER LOOP	MECH 306	FRAME MOUNTED	-	150	1760	-	25% PG	29 HTG. 95 CLG.	460/3/60	PREM. EFF. INV. DUTY		•	•	•	GAUGE TAPS, SHAFT GROUNDING RING, VFD

NOTE:

1. ALL MOTORS WITH VFD'S SHALL BE PROVIDED WITH SHAFT GROUNDING RINGS.

DIAPHRAGM EXPANSION TANK SCHEDULE

TAG NO.	BASIS OF SELECTION	SERVICE	LOCATION	ACCEPTANCE VOLUME (GALLONS)	DIMENSIONS (in.)		INITIAL TANK AIR CHARGE (PSIG)	WORKING PRESSURE (PSI)	DRY TANK WEIGHT (lbs.)	WATER WEIGHT (lbs.)	TOTAL WEIGHT (lbs.)	REMARKS
					DIAMETER	HEIGHT						
ET-1	TACO CA-1100	GROUND WATER SYSTEM	MECH. RM.	291	36"	85-1/4"	30	150	865			FIELD REPLACEABLE BLADDER, PRE-CHARGE BLADDER TO 10 PSI ABOVE BUILDING STATIC HEAD.
ET-2	TACO CA-1100	GROUND WATER SYSTEM	MECH. RM.	291	36"	85-1/4"	30	150	865			FIELD REPLACEABLE BLADDER, PRE-CHARGE BLADDER TO 10 PSI ABOVE BUILDING STATIC HEAD.

GLYCOL FEED UNIT SCHEDULE

TAG NO.	BASIS OF SELECTION	SERVICE	GALLONS	FLUID	PUMP HP	VOLT	PH	FLA	DIMENSIONS	OPER. WT. (LBS.) (EMPTY)	REMARKS
GFU-1	J.L WINGERT GL50-E1	GROUND WATER, SPACE HEATING HOT WATER, & CHILLED WATER SYSTEMS	50	25% PG	1/3	120	1	5,6	2'-9"L x 2'-4"W x 5'-0"H	150	POLYETHYLENE STORAGE TANK WITH HINGED COVER, ACTIVATION SHALL BE MANUAL

FILTER FEEDER SCHEDULE

TAG NO.	BASIS OF SELECTION	SERVICE	GALLONS	DIMENSIONS		MAX PRESSURE (PSI)	APROX. WT. (LBS.) (EMPTY)	ACCESSORIES
				DIAMETER (in.)	HEIGHT (in.)			
FF-1	NEPTUNE FTF-50B	GROUND WATER, SPACE HEATING HOT WATER, & CHILLED WATER SYSTEMS	5	10"	31-3/4"	300	40	BOTTOM DRAIN, BOLT-ON LEGS WITH ANCHOR BOLTS , PIPED AS PER MANUFACTURER'S RECOMMENDATIONS.

VARIABLE AIR VOLUME TERMINAL BOX SCHEDULE (HOT WATER)

TAG NO.	MAKE & MODEL	UNIT SIZE	INLET SIZE	CASING HEIGHT (IN)	CASING WIDTH (IN)	AIRFLOW DATA						REMARKS
						MAX. CFM *	MIN. CFM	INLET PRESS.	ASSEMBLY APD	DOWNSTREAM APD	CONTROL TYPE	
VAV-4	PRICE SDVQ5	4	4"	8	12	-	-	-	-	-	PRESSURE INDEPEND, DDC CONTROLS	DDC, ADJUSTABLE ROOM SENSOR, FLOW SENSOR (CFM), PRESSURE INDEP., BACNET OPEN PROTOCOL, 1" FIBER FREE FOAM INSULATION
VAV-6	PRICE SDVQ5	6	6"	8	12	-	-	-	-	-	PRESSURE INDEPEND, DDC CONTROLS	DDC, ADJUSTABLE ROOM SENSOR, FLOW SENSOR (CFM), PRESSURE INDEP., BACNET OPEN PROTOCOL, 1" FIBER FREE FOAM INSULATION
VAV-8	PRICE SDVQ5	8	8"	10	12	-	-	-	-	-	PRESSURE INDEPEND, DDC CONTROLS	DDC, ADJUSTABLE ROOM SENSOR, FLOW SENSOR (CFM), PRESSURE INDEP., BACNET OPEN PROTOCOL, 1" FIBER FREE FOAM INSULATION

NOTES:

* REFER TO PLANS FOR ACTUAL MAX. CFM.

PIPE INSULATION SCHEDULE

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (in.)					REMARKS
	CONDUCTIVITY (BTU-in/(h-ft²-°F))	MEAN RATING TEMPERATURE (°F)	<1"	1" to <1.5"	1.5" to <4"	4" to <8"	≥8"	
>350	0.32-0.34	250	4.5	5.0	5.0	5.0	5.0	
251-350	0.29-0.32	200	3.0	4.0	4.5	4.5	4.5	
201-250	0.27-0.30	150	2.5	2.5	2.5	3.0	3.0	
141-200	0.25-0.29	125	1.5	1.5	2.0	2.0	2.0	
105-140	0.21-0.28	100	1.0	1.0	1.5	1.5	1.5	
61-104	---------- N/A ----------							
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0	FOR CHILLED WATER PIPING LOCATED OUTDOORS, INCREASE INSULATION THICKNESS BY 1".
<40	0.20-0.26	50	0.5	1.0	1.0	1.0	1.5	FOR CHILLED WATER PIPING LOCATED OUTDOORS, INCREASE INSULATION THICKNESS BY 1".

NOTES:

1. BOTH REFRIGERANT GAS AND LIQUID LINES SHALL BE INSULATED.
2. FOR PIPING SMALLER THAN 1-1/2" AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKNESSES BY 1" SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN NOTE (2) BUT NOT TO A THICKNESS LESS THAN 1".
3. FOR INSULATION OUTSIDE THE STATED CONDUCTIVITY RANGE, THE MINIMUM THICKNESS (T) SHALL BE DETERMINED AS FOLLOWS:
   $T = r\{(1 + t/r)^{K/k} - 1\}$
   WHERE:
   T = MINIMUM INSULATION THICKNESS,
   r = ACTUAL OUTSIDE RADIUS OF PIPE,
   t = INSULATION THICKNESS LISTED IN THE TABLE FOR APPLICABLE FLUID TEMPERATURE AND PIPE SIZE,
   K = CONDUCTIVITY OF ALTERNATE MATERIAL AT MEAN RATING TEMPERATURE INDICATED FOR THE APPLICABLE FLUID (BTU * IN/H * FT^2 * °F) AND
   k = THE UPPER VALUE OF THE CONDUCTIVITY RANGE LISTED IN THE TABLE FOR THE APPLICABLE FLUID TEMPERATURE
4. FOR DIRECT-BURIED HEATING AND HOT WATER SYSTEM PIPING, REDUCTION OF THESE THICKNESSES BY 1-1/2" SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN NOTE (2) BUT NOT TO THICKNESSES LESS THAN 1".

AIR/DIRT SEPARATOR SCHEDULE

TAG NO.	BASIS OF SELECTION	SERVICE	LOCATION	FLOW (GPM)	PIPE SIZE (in.)	HEIGHT (in.)	PRESSURE DROP (ft. wtr.)	WORKING PRESSURE (PSI)	DRY WEIGHT (lbs.)	REMARKS
AS-1	SPIROTEHRM SPIROVENT VDN800	GROUND WATER SYSTEM	MECH 306	-	8	-	2,6	150	-	AIR AND DIRT SEPARATOR WITH REMOVABLE HEAD & ACCESSIBLE STRAINER, HIGH CAPACITY AUTOMATIC AIR VENT PIPED TO NEAREST FLOOR DRAIN.

ELECTRIC BASEBOARD HEATER SCHEDULE

TAG NO.	BASIS OF SELECTION	SERVICE	CAPACITY (watts)	MCA	MOCP	VOLTS	PH	OPER. WT. (LBS.)	DIMENSIONS	REMARKS
EBH-A	RUNTAL EB3	SEE PLANS	1,466	-	15	208	-	100	120"L x 2-1/4"D x 10-1/8"H	REMOTE T STAT CONTROLLED BY BMS, BAKED ENAMEL FINISH, NON-FUSED DISCONNECT SWITCH, MOUNTING BRACKET.

DUCT INSULATION SCHEDULE

LOCATION	SUPPLY	RETURN	RAW OUTDOOR AIR	EXHAUST		REMARKS
				WITH ENERGY RECOVERY	WITHOUT ENERGY RECOVERY	
VENTED ATTIC OR UN-INSULATED ATTIC	R-6	R-6	R-6	R-6	R-6 *	
UNVENTED ATTIC (WITHIN BUILDING'S INSULATED THERMAL ENVELOPE)	R-6	R-6 *	R-6	R-6	R-6 *	
OUTDOORS	R-12	R-12	NONE	R-12	R-12 *	
UNCONDITIONED SPACE (SHAFT, CRAWL SPACE)	R-6	R-6	R-6	R-6	R-6	
CEILING WITHIN DUCTED RETURN OR PLENUM	R-6	NONE	R-6	NONE	NONE	
EXPOSED IN MER	R-6	R-6	R-6	R-6	R-6	
BELOW GRADE	R-12	R-12	NONE	R-12	R-12 *	
EXPOSED IN SPACE SERVED	NONE	NONE	R-6	NONE	NONE	RAW OUTDOOR AIR EXPOSED IN SPACE SERVED SHALL BE DOUBLE WALL INSULATED DUCTWORK.
KITCHEN EXHAUST	N/A	N/A	N/A	N/A	2-LAYERS OF FIRE WRAP	KITCHEN EXHAUST DUCTWORK LOCATED OUTDOORS WITHIN 18" CLEARANCE TO COMBUSTIBLES SHALL BE DOUBLE WALL INSULATED (2-LAYERS OF FIRE WRAP). KITCHEN EXHAUST DUCTWORK LOCATED OUTDOORS GREATER THAN 18" TO COMBUSTIBLES DOES NOT REQUIRE FIRE WRAP INSULATION OR DOUBLE WALL CONSTRUCTION.

NOTES:

1. R-VALUE SHOWN MAY BE OBTAINED BY ADDING THE R-VALUES OF BOTH THE LINING (WHERE SHOWN OR USED) AND EXTERNAL DUCT INSULATION.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND EXCEPTIONS.

DUCT LINING: ACOUSTIC DUCT LINING OF THE TYPE AND THICKNESS SPECIFIED SHALL BE INSTALLED ON ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK WITHIN 20 FEET OF AIR HANDLING UNITS AND FANS (INCLUDING BRANCHES), AND WHERE DETAILED OR SHOWN ON DRAWINGS. LINING SHALL NOT BE USED ON KITCHEN DUCTWORK AND WET/HUMID EXHAUST SUCH AS DISHWASHER AND CLOTHES DRYERS.

* R-VALUE SHOWN IS ONLY IF AREA OF BUILDING BEING EXHAUSTED IS HUMIDIFIED, IF NOT HUMIDIFIED, NO INSULATION UNLESS FIRE WRAP OR LINING IS NEEDED.

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: JH

Scale: NONE

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

HVAC SCHEDULES

9.0.02

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HEAT PUMP SCHEDULE (WATER SOURCE) (OUTDOOR UNIT)

TAG NO.	BASIS OF SELECTION	SERVICE	COOLING DATA		HEATING DATA		GPM	WPD (ft.)	EER	IEER	REF. SST (°F)	MODULES	COMPRESSOR & ELECTRICAL DATA								APPROXIMATE DIMENSIONS	OPER. WT. (LBS.)	REMARKS
			TC (MBH)	EWT/LWT (°F)	CAPACITY (MBH)	EWT/LWT (°F)							QTY	TYPE	VOLT	PH	MCA	MAX. FUSE	SCCR (kA)	REF. TYPE	REF. CHARGE (LBS.)		
HP-1	MITSUBISHI PQRY-P288YSMU-A1 (NOMINAL 24-TON)	BC-3	288	85/95	323	35/	2@31.7	14,7	11,4	18,5	45	2	2	INV, SCROLL	460	3	2@16	2@25	5	R-410A	2@ 13 lbs, 4 oz	6'-0" L x 2'-10" W x 4'-10" H	2@508	SEE NOTES
HP-2	MITSUBISHI PQRY-P240YLMU-A1 (NOMINAL 20-TON)	BC-1	240	85/95	270	35/	2@25,4	8	12,5	22,4	45	2	2	INV, SCROLL	460	3	2@13	2@20	5	R-410A	2@ 11 lbs, 1 oz	6'-0" L x 2'-10" W x 3'-8" H	2@406	SEE NOTES
HP-3	MITSUBISHI PQRY-P288YSMU-A1 (NOMINAL 24-TON)	BC-2	288	85/95	323	35/	2@31.7	14,7	11,4	18,5	45	2	2	INV, SCROLL	460	3	2@16	2@25	5	R-410A	2@ 13 lbs, 4 oz	6'-0" L x 2'-10" W x 4'-10" H	2@508	SEE NOTES
HP-4	MITSUBISHI PQRY-P240YLMU-A1 (NOMINAL 20-TON)	BC-4	240	85/95	270	35/	2@25,4	8	12,5	22,4	45	2	2	INV, SCROLL	460	3	2@13	2@20	5	R-410A	2@ 11 lbs, 1 oz	6'-0" L x 2'-10" W x 3'-8" H	2@406	SEE NOTES
HP-5	MITSUBISHI PQRY-P240YLMU-A1 (NOMINAL 20-TON)	BC-5	240	85/95	270	35/	2@25,4	8	12,5	22,4	45	2	2	INV, SCROLL	460	3	2@13	2@20	5	R-410A	2@ 11 lbs, 1 oz	6'-0" L x 2'-10" W x 3'-8" H	2@406	SEE NOTES
HP-6	MITSUBISHI PQRY-P192YLMU-A1 (NOMINAL 16-TON)	BC-6	192	85/95	215	35/	2@25,4	8	14,4	24,4	45	2	2	INV, SCROLL	460	3	2@9	2@15	5	R-410A	2@ 11 lbs, 1 oz	6'-0" L x 2'-10" W x 3'-8" H	2@406	SEE NOTES
HP-7	MITSUBISHI PQRY-P240YLMU-A1 (NOMINAL 20-TON)	BC-7	240	85/95	270	35/	2@25,4	8	12,5	22,4	45	2	2	INV, SCROLL	460	3	2@13	2@20	5	R-410A	2@ 11 lbs, 1 oz	6'-0" L x 2'-10" W x 3'-8" H	2@406	SEE NOTES
HP-8	MITSUBISHI PQRY-P240YLMU-A1 (NOMINAL 20-TON)	BC-8	240	85/95	270	35/	2@25,4	8	12,5	22,4	45	2	2	INV, SCROLL	460	3	2@13	2@20	5	R-410A	2@ 11 lbs, 1 oz	6'-0" L x 2'-10" W x 3'-8" H	2@406	SEE NOTES
HP-9	MITSUBISHI PQRY-P288YSMU-A1 (NOMINAL 24-TON)	BC-9	288	85/95	323	35/	2@31.7	14,7	11,4	18,5	45	2	2	INV, SCROLL	460	3	2@16	2@25	5	R-410A	2@ 13 lbs, 4 oz	6'-0" L x 2'-10" W x 4'-10" H	2@508	SEE NOTES

NOTES:

1. HEAT RECOVERY
2. TWINNING KIT
3. CRANKCASE HEATER
4. 5 YEAR COMPR. WARR.
5. VIBRATION ISOLATORS
6. PIPE AS PER MANUFACTURER'S RECOMMENDATIONS
7. BACNET INTERFACE
8. FIELD INSTALLED PHASE MONITOR (ICM MODEL 455).
9. EACH MODULE REQUIRES SEPARATE ELECTRICAL FEED.
10. EER & IEER RATINGS ARE BASED ON DUCTED INDOOR UNITS.

FAN COIL UNIT SCHEDULE (INDOOR HEAT PUMP UNIT)

TAG NO.	BASIS OF SELECTION	SERVICE	TYPE	SUPPLY FAN DATA					MIN. OA	COOLING DATA							HEATING DATA			ELECTRICAL DATA				APPROXIMATE DIMENSIONS	OPER. WT. (LBS.)	ACCESSORIES
				CFM (HI)	dBA (HI)	ESP (in. w.c.)	MOTOR	SPD		CFM	REF. TYPE	EDB/EWB (°F)	LDB/LWB (°F)	TC (MBH)	SC (MBH)	REF. SST (°F)	CAPACITY (MBH)	EAT (°F)	LAT (°F)	VOLT	PH	MCA	MOCP			
FCU-D06	MITSUBISHI PEFY-P06NMAU-E4	SEE PLANS	CEILING CONCEALED			0,6	ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES
FCU-D08	MITSUBISHI PEFY-P08NMAU-E4	SEE PLANS	CEILING CONCEALED			0,6	ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES
FCU-D12	MITSUBISHI PEFY-P12NMAU-E4	SEE PLANS	CEILING CONCEALED	371	34	0,6	ECM	3	SEE PLANS	371	R-410A	80/67	55/54	12	8,4	45	13,5	65	-	208	1	2,13	15	_'-_" L x _'-_" W x _'-_" H	47	SEE NOTES
FCU-D15	MITSUBISHI PEFY-P15NMAU-E4	SEE PLANS	CEILING CONCEALED			0,6	ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES
FCU-D18	MITSUBISHI PEFY-P18NMAU-E4	SEE PLANS	CEILING CONCEALED	600	37	0,6	ECM	3	SEE PLANS	600	R-410A	80/67	55/54	18	12,6	45	20	65	-	209	1	2,94	15	_'-_" L x _'-_" W x _'-_" H	58	SEE NOTES
FCU-D24	MITSUBISHI PEFY-P24NMAU-E4	SEE PLANS	CEILING CONCEALED	885	39	0,6	ECM	3	SEE PLANS	885	R-410A	80/67	55/54	24	16,8	45	20,1	65	-	208	1	2,88	15	_'-_" L x _'-_" W x _'-_" H	67	SEE NOTES
FCU-D27	MITSUBISHI PEFY-P27NMAU-E4	SEE PLANS	CEILING CONCEALED			0,6	ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES
FCU-D30	MITSUBISHI PEFY-P30NMAU-E4	SEE PLANS	CEILING CONCEALED			0,6	ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES
FCU-D36	MITSUBISHI PEFY-P36NMAU-E4	SEE PLANS	CEILING CONCEALED	1,270	43	0,6"	ECM	3	SEE PLANS	1,270	R-410A	80/67	55/54	36	24,0	45	33,5	65	-	208	1	4,25	15	_'-_" L x _'-_" W x _'-_" H	84	SEE NOTES
FCU-D48	MITSUBISHI PEFY-P48NMAU-E4	SEE PLANS	CEILING CONCEALED	1,310	44	0,6"	ECM	3	SEE PLANS	1,310	R-410A	80/67	55/54	48	34	45	45,3	65	-	208	1	4,38	15	_'-_" L x _'-_" W x _'-_" H	86	SEE NOTES
FCU-D54	MITSUBISHI PEFY-P54NMAU-E4	SEE PLANS	CEILING CONCEALED	1,413	42	0,6"	ECM	3	SEE PLANS	1,413	R-410A	80/67	55/54	54	37,8	45	60	65	-	209	1	4,38	15	_'-_" L x _'-_" W x _'-_" H	91	SEE NOTES
FCU-D72	MITSUBISHI PEFY-P72NMHSU-E	SEE PLANS	CEILING CONCEALED	2,542	43	0,6"	ECM	3	SEE PLANS	2,542	R-410A	80/67	55/54	72	50	45	80	65	-	208	1	7,7	15	_'-_" L x _'-_" W x _'-_" H	214	SEE NOTES
FCU-D96	MITSUBISHI PEFY-P96NMHSU-E	SEE PLANS	CEILING CONCEALED				ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES
FCU-W12	MITSUBISHI PKFY-P12NLMU-E	SEE PLANS	WALL MOUNTED				ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES
FCU-S15	MITSUBISHI PCFY-P15NKMU-ER1	SEE PLANS	CEILING SUSPENDED				ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES
FCU-S24	MITSUBISHI PCFY-P24NKMU-ER1	SEE PLANS	CEILING SUSPENDED				ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES
FCU-S30	MITSUBISHI PCFY-P30NKMU-ER1	SEE PLANS	CEILING SUSPENDED				ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES
FCU-S36	MITSUBISHI PCFY-P36NKMU-ER1	SEE PLANS	CEILING SUSPENDED				ECM	3	SEE PLANS		R-410A	80/67	55/54			45		65	-							SEE NOTES

NOTES:

1. REMOTE WIRED T'STAT
2. FILTER SECTION W/ ACCESS
3. CONDENSATE PUMP AS REQUIRED. FIRST MEANS OF DRAIN SHALL BE BY GRAVITY.
4. DRAIN PAN OVERFLOW SENSOR BY MFG OR ATC SUB-CONTRACTOR
5. BACNET INTERFACE
6. INDOOR UNIT REQUIRES ITS OWN POWER.

REGISTERS, GRILLES & DIFFUSERS SCHEDULE

TAG NO.	TYPE	SERVICE	GENERAL CFM RANGE	FACE SIZE	NECK SIZE	MOUNTING (SEE NOTE #4)	THROW	BASIS OF SELECTION	NC	REMARKS
S-1	CEILING DIFFUSER	SUPPLY	0-100	24x24	6x6 CD	CEILING	1-4 WAY AS INDICATED	PRICE AMD	SEE NOTES	LOUVERED FACE, LINED PLENUM
	CEILING DIFFUSER	SUPPLY	100-225	24x24	9x9 CD	CEILING	1-4 WAY AS INDICATED	PRICE AMD	SEE NOTES	LOUVERED FACE, LINED PLENUM
	CEILING DIFFUSER	SUPPLY	225-400	24x24	12x12 CD	CEILING	1-4 WAY AS INDICATED	PRICE AMD	SEE NOTES	LOUVERED FACE, LINED PLENUM
	CEILING DIFFUSER	SUPPLY	400-625	24x24	15x15 CD	CEILING	1-4 WAY AS INDICATED	PRICE AMD	SEE NOTES	LOUVERED FACE, LINED PLENUM
	CEILING DIFFUSER	SUPPLY	625-900	24x24	18x18 CD	CEILING	1-4 WAY AS INDICATED	PRICE AMD	SEE NOTES	LOUVERED FACE, LINED PLENUM
	CEILING DIFFUSER	SUPPLY	900-1225	24x24	21x21 CD	CEILING	1-4 WAY AS INDICATED	PRICE AMD	SEE NOTES	LOUVERED FACE, LINED PLENUM
S-1A	PERFORATED FACE CEILING DIFFUSER	SUPPLY	0-1200	24x24	24x24	CEILING	N/A	PRICE PDDR	SEE NOTES	PERFORATED FACE, NO PATTERN CONTROLLER
S-2	SUPPLY REGISTER (SIDEWALL)	SUPPLY	AS INDICATED ON PLANS	AS INDICATED ON PLANS	-	SIDEWALL	DOUBLE DEFLECTION	PRICE 620D	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, DOUBLE DEFLECTION
S-3	LINEAR SLOT DIFFUSER	SUPPLY	0-125	2'-0"L (2) x 1.5" SLOT	-	LINEAR	1 OR 2 WAY, VERT. OR HORIZ.	PRICE SDS150	SEE NOTES	LINED PLENUM, ADJUSTABLE THROW TABS
	LINEAR SLOT DIFFUSER	SUPPLY	0-250	4'-0"L (2) x 1.5" SLOT	-	LINEAR	1 OR 2 WAY, VERT. OR HORIZ.	PRICE SDS150	SEE NOTES	LINED PLENUM, ADJUSTABLE THROW TABS
S-4	SUPPLY REGISTER (GYMNASIUM)	SUPPLY	AS INDICATED ON PLANS	AS INDICATED ON PLANS	-	DRUM LOUVER	ADJUSTABLE	PRICE HCD1	SEE NOTES	ADJUSTABLE VANES, ROTATING DRUM
S-5	FTR LINEAR BAR GRILLE (SIDEWALL/SILL)	FTR	N/A	4'-0"L x 0'-4"W	-	SIDEWALL/SILL	N/A	LBMH25C	SEE NOTES	HEAVY DUTY MANDREL TUBE, EXTRUDED ALUMINUM BLADES, REMOVABLE CORE, 7/32" BARS, 7/16" BLADE SPACING, 0° DEFLECTION
R-1	RETURN REGISTER (CEILING)	RETURN	0-400	12x12	12x12	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
	RETURN REGISTER (CEILING)	RETURN	400-1,600	24x24	24x24	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
R-2	RETURN REGISTER (SIDEWALL)	RETURN	AS INDICATED ON PLANS	AS INDICATED ON PLANS	-	SIDEWALL	N/A	PRICE 630	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
R-3	(2)x1.5" SLOT 4' LONG LINEAR SLOT RETURN	RETURN	0-250	4'-0"L (2 SLOT)		LINEAR	N/A	PRICE SDR150	SEE NOTES	LINED PLENUM
R-4	RETURN REGISTER (SIDEWALL - GYM & CAFETERIA)	RETURN	AS INDICATED ON PLANS	AS INDICATED ON PLANS	-	SIDEWALL	N/A	PRICE 93	SEE NOTES	LOUVERED FACE W/ 1/2" BLADE SPACING, HEAVY DUTY STEEL GRILLE
R-5	RETURN GRILLE (CEILING)	RETURN	0-400	12x12	12x12	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE, FOR R.A. PLENUM USE ONLY
	RETURN GRILLE (CEILING)	RETURN	400-1,600	24x24	24x24	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE, FOR R.A. PLENUM USE ONLY
E-1	EXHAUST REGISTER (CEILING)	EXHAUST	0-75	6x6	6x6 ER	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
	EXHAUST REGISTER (CEILING)	EXHAUST	75-160	9x9	9x9 ER	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
	EXHAUST REGISTER (CEILING)	EXHAUST	160-300	12x12	12x12 ER	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
	EXHAUST REGISTER (CEILING)	EXHAUST	300-675	18x18	18x18 ER	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
	EXHAUST REGISTER (CEILING)	EXHAUST	675-1,200	24x24	24x24 ER	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
E-2	EXHAUST REGISTER (SIDEWALL)	EXHAUST	AS INDICATED ON PLANS	AS INDICATED ON PLANS		SIDEWALL	N/A	PRICE 630	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
E-3	(2)x1.5" SLOT 4' LONG LINEAR SLOT EXHAUST	EXHAUST	0-250	4'-0"L (2 SLOT)		LINEAR	N/A	PRICE SDR150	SEE NOTES	LINED PLENUM
T-1	TRANSFER GRILLE (CEILING)	TRANSFER	0-300	24x24	12x12	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
	TRANSFER GRILLE (CEILING)	TRANSFER	300-675	24x24	18x18	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
	TRANSFER GRILLE (CEILING)	TRANSFER	675-1,200	24x24	24x24	CEILING	N/A	PRICE 530	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM
T-2	TRANSFER GRILLE (SIDEWALL)	TRANSFER	AS INDICATED ON PLANS	AS INDICATED ON PLANS	-	SIDEWALL	N/A	PRICE 630	SEE NOTES	LOUVERED FACE W/ 3/4" BLADE SPACING, LINED PLENUM

NOTES:

1. ALL ITEMS SHOWN ARE NOT NECESSARILY USED ON THIS PROJECT
2. COLOR SHALL BE CHOSEN BY ARCHITECT. PROVIDE CUSTOM COLOR AS REQUIRED BY ARCHITECT OR INDICATED ON DRAWINGS.
3. ALL AIR BALANCING SHALL BE PERFORMED BY THE BRANCH VOLUME DAMPER, NOT OPPOSED BLADE DAMPERS.
4. COORDINATE ALL MOUNTING TYPES AND RGD LOCATIONS WITH ARCHITECTURAL PLANS.
5. ALL VOLUME DAMPERS INSTALLED ABOVE HARD CEILINGS SHALL BE REMOTE ADJUSTABLE TYPE COMPLETE WITH CABLE, HANDLE, AND CEILING TRIM PLATE.
6. ANY DISCREPANCIES BETWEEN RGD SIZE AND CFM LISTED ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION FOR REVIEW PRIOR TO INSTALLATION.
7. ALL RGD'S SHALL BE SELECTED FOR THE FOLLOWING MAX NC VALUES (WITH INDUSTRY STANDARD 10 dB ROOM ABSORPTION):
   -OFFICES: NC-25
   -CLASSROOMS: NC-20
   -CONFERENCE ROOMS: NC-20
   -GYMNASIUM: NC-35
   -CAFETERIA: NC-25

SOUND ATTENUATOR SCHEDULE

TAG NO.	LOCATION	MAKE & MODEL	CFM	VELOCITY (FPM)	MAX Δ PRES. (in. w.c.)	TOTAL UNIT SIZE			DYNAMIC INSERTION LOSS (dB)								REMARKS
						W	H	L	63	125	250	500	1000	2000	4000	8000	
SA-_		PRICE															22 GAUGE GALVANIZED CASING, 22 GAUGE GALVANIZED PERFORATED LINER, GLASS FIBER ACOUSTIC MEDIA, 1" SLIP INLET CONNECTION, 1" SLIP OUTLET CONNECTION.

SYSTEMS ON EMERGENCY POWER

EQUIPMENT	1. AIR HANDLING UNIT SUPPLY FANS
	2. CONDENSER WATER PUMPS
	3. FAN COIL UNITS IN VESTIBULES
	4. AIR CONDITIONING UNITS
	5. AIR-COOLED CONDENSING UNITS
	6. FIRE/SMOKE DAMPERS
SYSTEMS	1. ENTIRE CONDENSER WATER SYSTEM
	2. ENTIRE ATC, INCLUDING PANELS, CONTROLLERS & FRONT END

NOTES:

1. INTENT IS FOR ALL EQUIPMENT TO BE SEEN ON THE BMS WHEN THE BUILDING IS ON EMERGENCY POWER. ATC SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING EXACT EQUIPMENT THAT IS ON EMERGENCY POWER WITH SCHEDULE OF MECHANICAL EQUIPMENT ON ELECTRICAL DRAWINGS. ALL EQUIPMENT NOT ON EMERGENCY POWER SHALL HAVE THEIR FIELD CONTROLLERS FED FROM EMERGENCY POWER. ATC SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING POWER SOURCE FOR ALL FIELD CONTROLLERS AND DEVICES.

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KEY PLAN

NORTH ARROW

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Date: 21 FEBRUARY 2024

Drawn By: JH

Scale: NONE

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

HVAC SCHEDULES

9.0.03

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NOTE:

1. PROVIDE VAV BOX ON O.A. CONNECTION TO EVERY FCU FOR SPACE DCV CONTROLS, SIMILAR TO EXAMPLE SHOWN IN KINDERGARTEN CLASSROOM-110.

- FIRST FLOOR QTY.: 22 VAV BOXES
- SECOND FLOOR QTY.: 28 VAV BOXES
- THIRD FLOOR QTY.: 28 VAV BOXES
- TOTAL BUILDING QTY.: 78 VAV BOXES

NOTE:

1. PROVIDE VAV BOX ON O.A. CONNECTION TO EVERY FCU FOR SPACE DCV CONTROLS.

NOTE:

1. PROVIDE ADD ALTERNATE PRICE FOR PROVIDING WATER-COOLED AC-1 AND ASSOCIATED 1-1/4" CONDENSER WATER SUPPLY & RETURN PIPING TO SERVE MAIN ELEC.-123A IN LIEU OF AIR-COOLED AC-1/ACCU-1(ON ROOF).
2. PROVIDE ADD ALTERNATE PRICE FOR PROVIDING WATER-COOLED AC-2 AND ASSOCIATED 1-1/4" CONDENSER WATER SUPPLY & RETURN PIPING TO SERVE MAIN ELEC.-123A IN LIEU OF AIR-COOLED AC-2/ACCU-2(ON ROOF).

PROVIDE RGDS IN THIS AREA WITH CUSTOM COLOR CHOSEN BY ARCHITECT.

MIN. 12" (TYP.)
MAX. 24" (TYP.)

20x14 R.A. DROP.

12x18 R.A. DROP.

40x24 R.A. DROP.

8x6 E.A. UP.

4012 S.A. UP.

40x20 R.A. UP.

10x12 E.A. UP.

60x20 S.A. UP (AHU-2)

60x20 R.A. UP (AHU-2)

20x20 E.A. UP (KEF-1)

14"ø E.A. DROP (1,400 CFM).

KITCHEN HOOD (BY OTHERS)

14"ø E.A. DROP (1,400 CFM).

OPEN TO ABOVE

REFER TO ENLARGED MECHANICAL ROOM PLAN

MINIMUM 12"D PLENUM

2'-0"W x 1'-0"H E.A. LOUVER W/ MINIMUM 1.0 SF FREE AREA.

MINIMUM 12"D PLENUM

6'-0"W x 2'-0"H O.A. INTAKE LOUVER W/ MINIMUM 6.0 SF FREE AREA.

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DESIGN DEVELOPMENT

FIRST FLOOR HVAC DUCTWORK PLAN

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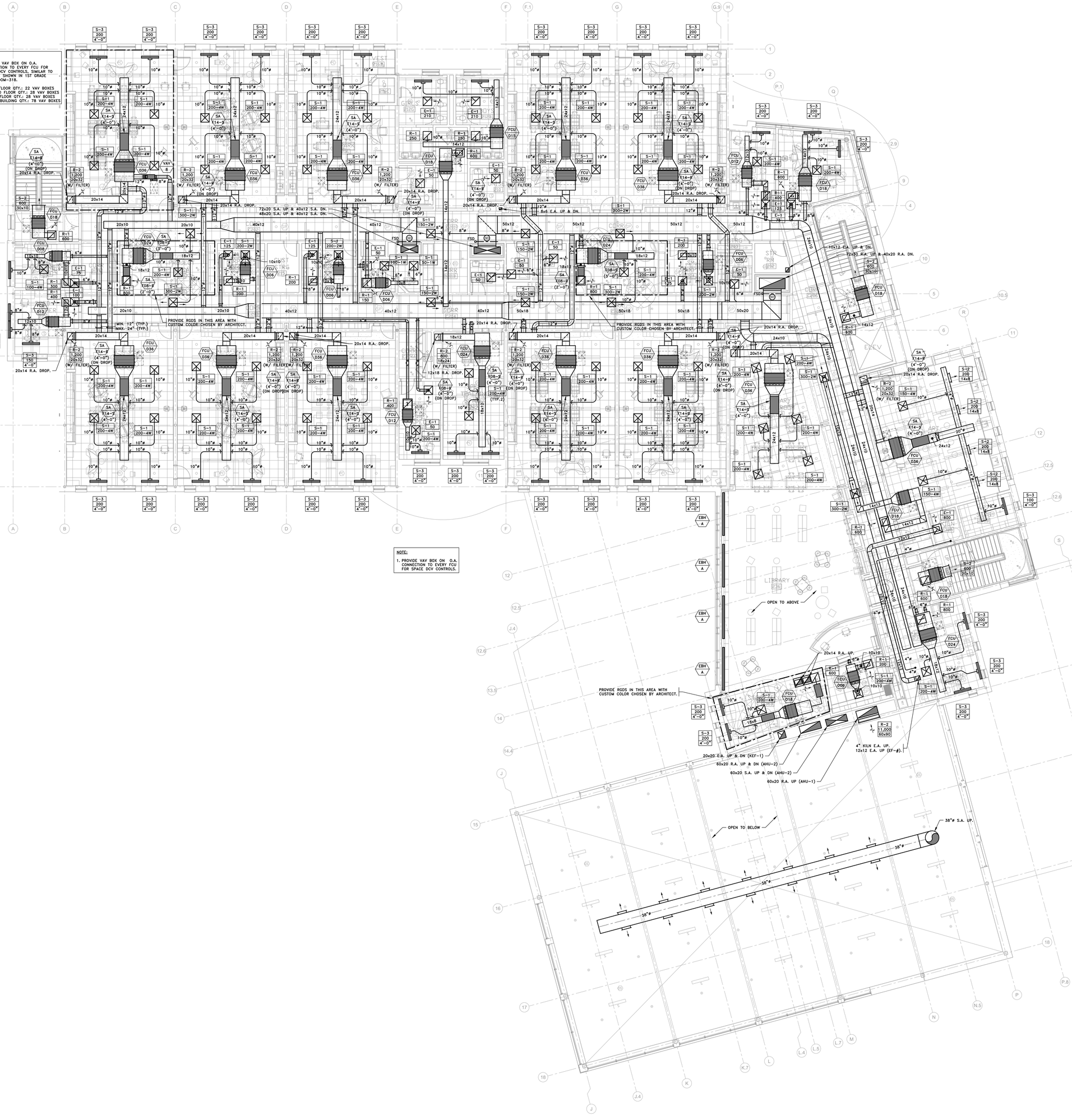

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DESIGN DEVELOPMENT

SECOND FLOOR HVAC DUCTWORK PLAN

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DESIGN DEVELOPMENT

THIRD FLOOR HVAC DUCTWORK PLAN

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DESIGN DEVELOPMENT

ROOF LEVEL HVAC DUCTWORK PLAN

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

ALTERNATE ROOF LEVEL HVAC DUCTWORK PLAN (TWO ERU's)

9.4.04A

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NOTE:
1. PROVIDE ADD ALTERNATE PRICE FOR PROVIDING WATER-COOLED AC-1 AND ASSOCIATED 1-1/4" CONDENSER WATER SUPPLY & RETURN PIPING TO SERVE MAIN ELEC.-123A IN LIEU OF AIR-COOLED AC-1/ACCU-1(ON ROOF).
2. PROVIDE ADD ALTERNATE PRICE FOR PROVIDING WATER-COOLED AC-2 AND ASSOCIATED 1-1/4" CONDENSER WATER SUPPLY & RETURN PIPING TO SERVE MAIN ELEC.-123A IN LIEU OF AIR-COOLED AC-2/ACCU-2(ON ROOF).

NOTES:
1. COORDINATE EXACT T'STAT LOCATIONS WITH ARCHITECT.
2. ALL REFRIGERANT PIPING IS TO TO BE SIZED BY MANUFACTURER.

N Called North

NORTH ARROW

LICENSE STAMP

Date: 21 FEBRUARY 2024

Drawn By: JH

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

FIRST FLOOR HVAC PIPING PLAN

9.5.01

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NOTES:

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Number	Date	Description

DESIGN DEVELOPMENT

SECOND FLOOR HVAC PIPING PLAN

9.5.02

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NOTE:

1. PROVIDE ADD ALTERNATE PRICE FOR PROVIDING WATER-COOLED AC-3 AND ASSOCIATED 1-1/4" CONDENSER WATER SUPPLY & RETURN PIPING TO SERVE DATA-336 IN LIEU OF AIR-COOLED AC-3/ACCU-3(ON ROOF).
2. PROVIDE ADD ALTERNATE PRICE FOR PROVIDING WATER-COOLED AC-4 AND ASSOCIATED 1-1/4" CONDENSER WATER SUPPLY & RETURN PIPING TO SERVE MAIN DATA-336 IN LIEU OF AIR-COOLED AC-4/ACCU-4(ON ROOF).
3. PROVIDE ADD ALTERNATE PRICE FOR PROVIDING WATER-COOLED AC-5 AND ASSOCIATED 1" CONDENSER WATER SUPPLY & RETURN PIPING TO SERVE MAIN ECR-338 IN LIEU OF AIR-COOLED AC-5/ACCU-5(ON ROOF).

NOTES:

1. COORDINATE EXACT T'STAT LOCATIONS WITH ARCHITECT.
2. ALL REFRIGERANT PIPING IS TO TO BE SIZED BY MANUFACTURER.

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

THIRD FLOOR HVAC PIPING PLAN

9.5.03

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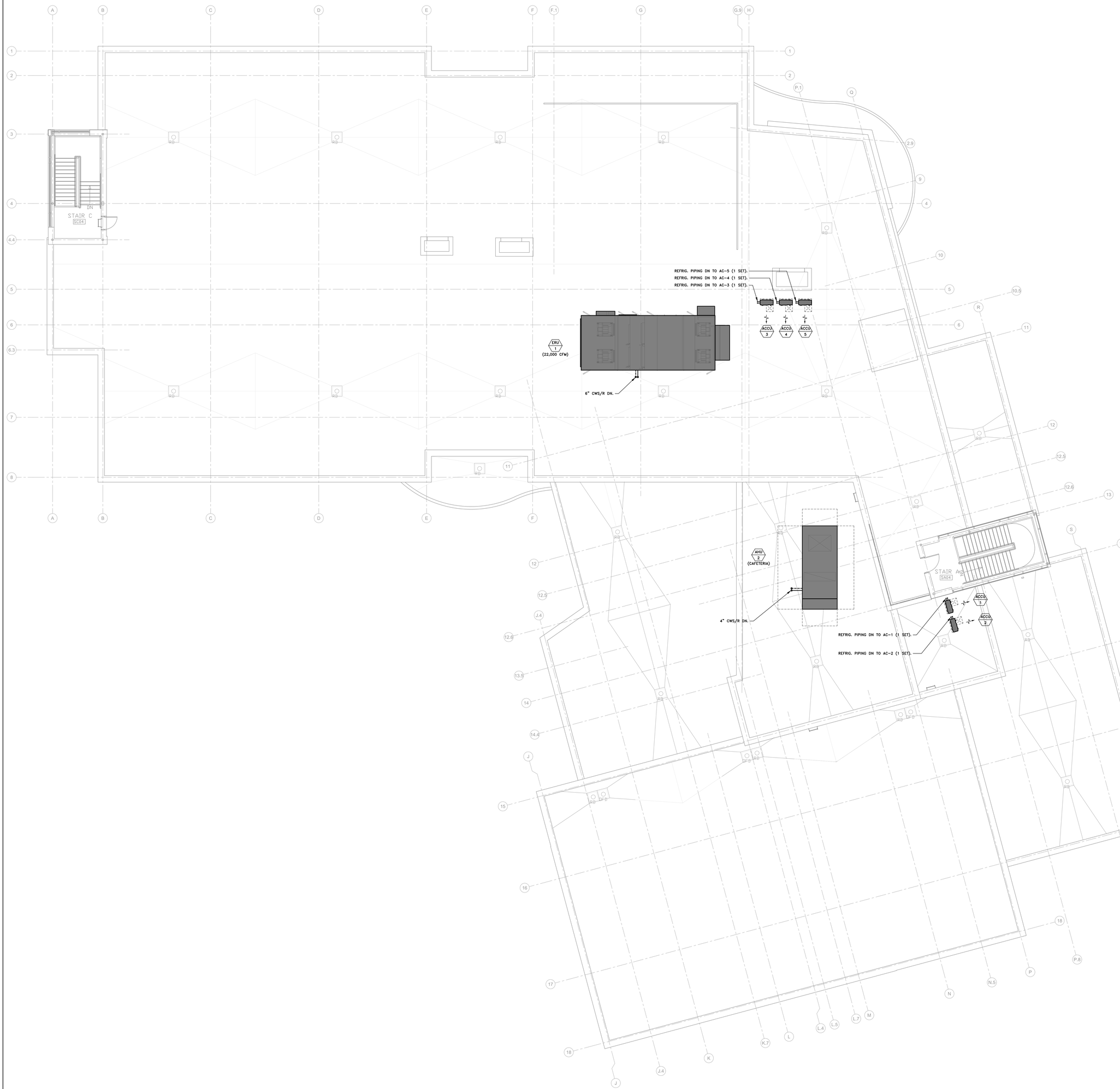

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Number	Date	Description

DESIGN DEVELOPMENT

ROOF LEVEL HVAC PIPING PLAN

9.5.04

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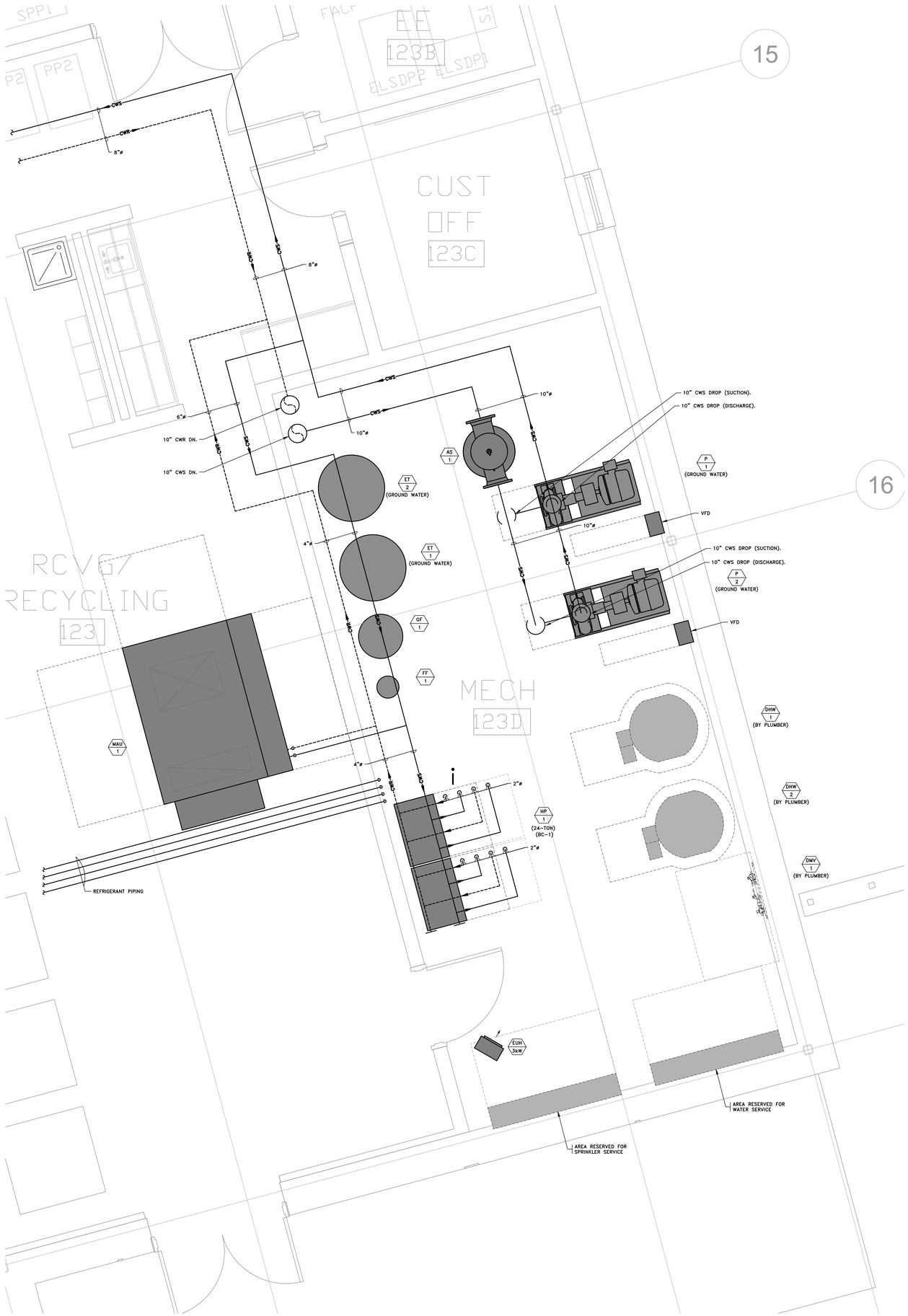

A ENLARGED MECHANIACL ROOM PLAN
SCALE: 1/2"=1'-0"

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KEY PLAN

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Scale: 1/2" = 1'-0"

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DESIGN DEVELOPMENT

ENLARGED MECHANICAL ROOM PLAN

9.6.01

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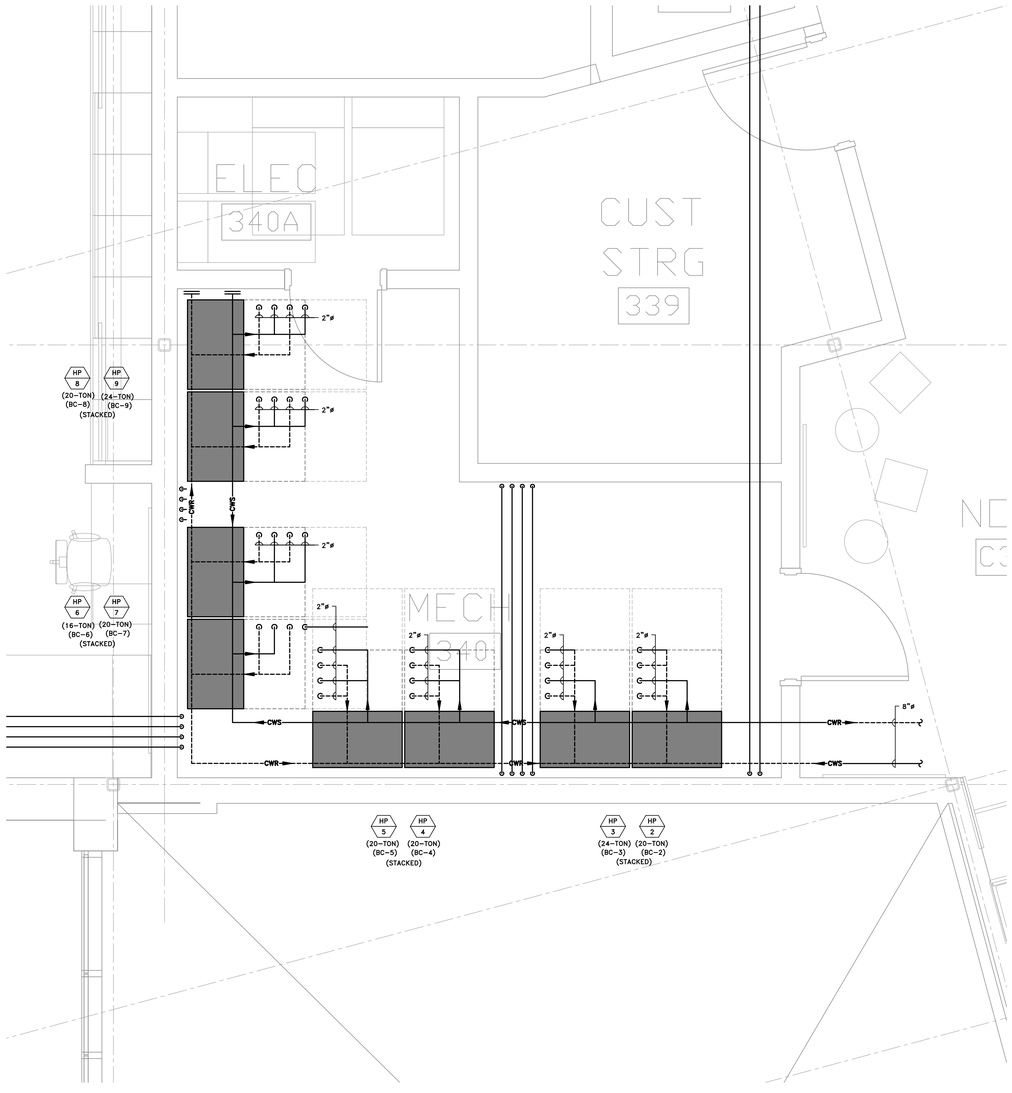

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KEY PLAN

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Revisions

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DESIGN DEVELOPMENT

THIRD FLOOR ENLARGED MECHANICAL ROOM PLAN

9.6.02

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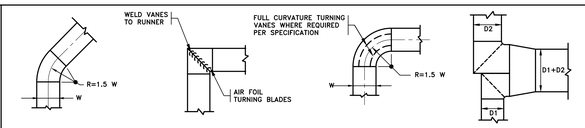
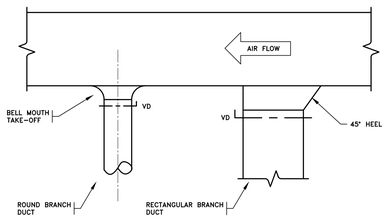
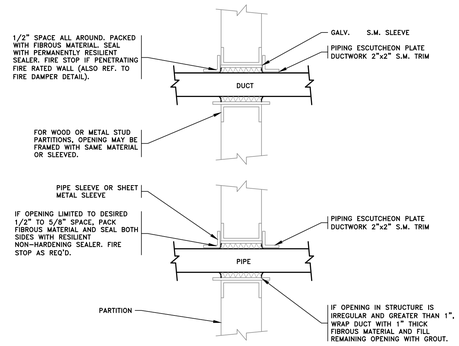


NOTE:
1. ALL DUCTWORK TO BE INSTALLED TIGHT TO UNDERSIDE OF OPEN WEB JOINT STRUCTURE UNLESS NOTED.
2. ALL VANES TO BE SECURE AND STABLE IN OPERATING CONDITIONS.

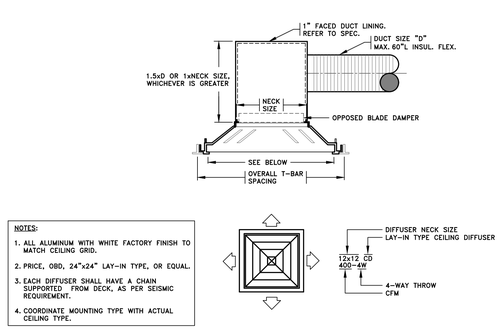
A SHEETMETAL DUCTWORK DETAILS
NOT TO SCALE



B BRANCH TAKE-OFF DETAILS
NOT TO SCALE

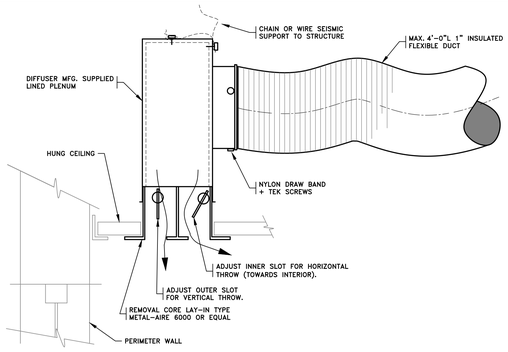


C WALL PENETRATION DETAILS
NOT TO SCALE

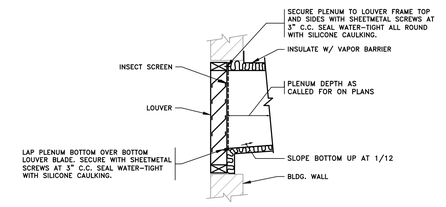


NOTES:
1. ALL ALUMINUM WITH WHITE FACTORY FINISH TO MATCH CEILING GRID.
2. PRICE, OBD, 24"x24" LAY-IN TYPE, OR EQUAL.
3. EACH DIFFUSER SHALL HAVE A CHAIN SUPPORTED FROM DECK, AS PER SEISMIC REQUIREMENT.
4. COORDINATE MOUNTING TYPE WITH ACTUAL CEILING TYPE.

D CEILING DIFFUSER DETAIL
NOT TO SCALE

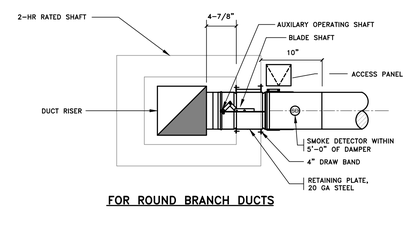


E PERIMETER LINEAR DIFFUSER DETAIL
NOT TO SCALE

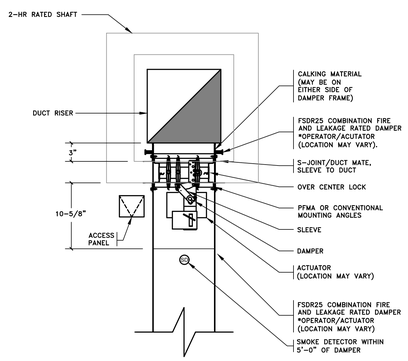


NOTE:
1. HVAC CONTRACTOR SHALL FURNISH & INSTALL ALL LOUVERS.

F TYPICAL LOUVER/PLENUM CONNECTION DETAIL
NOT TO SCALE



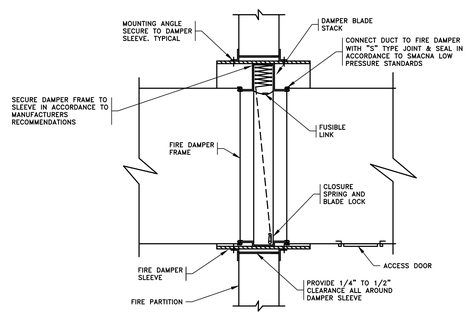
FOR ROUND BRANCH DUCTS



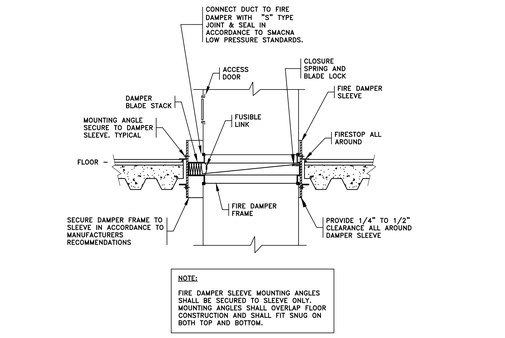
FOR RECTANGULAR BRANCH DUCTS

NOTE:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING VOLTAGE WITH ELECTRICAL.

G COMBINATION FIRE/SMOKE DAMPER DETAIL
NOT TO SCALE

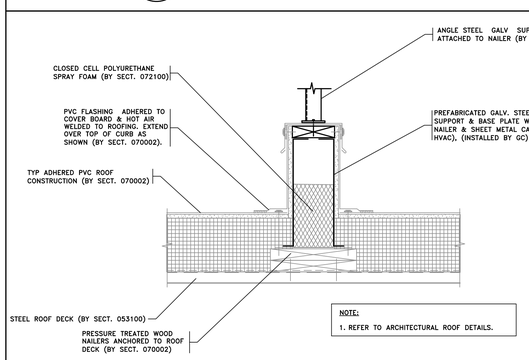


H VERTICAL FIRE DAMPER DETAIL
NOT TO SCALE



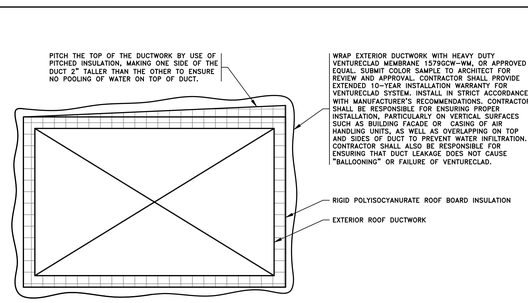
NOTE:
FIRE DAMPER SLEEVE MOUNTING ANGLES SHALL BE SECURED TO SLEEVE ONLY. MOUNTING ANGLES SHALL OVERLAP FLOOR CONSTRUCTION AND SHALL FIT SNUG ON BOTH TOP AND BOTTOM.

I HORIZONTAL FIRE DAMPER DETAIL
NOT TO SCALE



NOTE:
1. REFER TO ARCHITECTURAL ROOF DETAILS.

J ROOF DUCT SUPPORT DETAIL
NOT TO SCALE



K EXTERIOR DUCTWORK WRAP DETAIL
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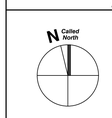
KEY PLAN



NORTH ARROW

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Date: 21 FEBRUARY 2024

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

HVAC DETAILS

9.8.01

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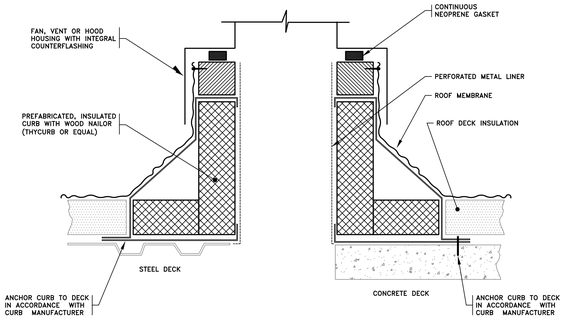
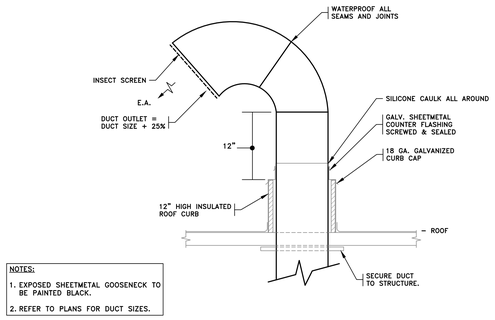
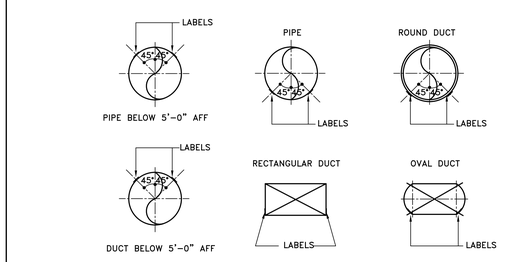


A ROOF CURB DETAIL
NOT TO SCALE

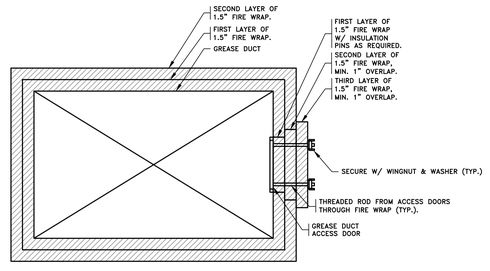


NOTES:
1. EXPOSED SHEETMETAL GOOSENECK TO BE PAINTED BLACK.
2. REFER TO PLANS FOR DUCT SIZES.

B SHEETMETAL GOOSENECK DETAIL
NOT TO SCALE

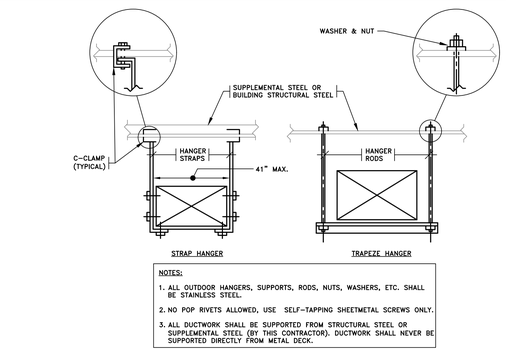


C DUCT AND PIPE IDENTIFICATION LABELING
NOT TO SCALE



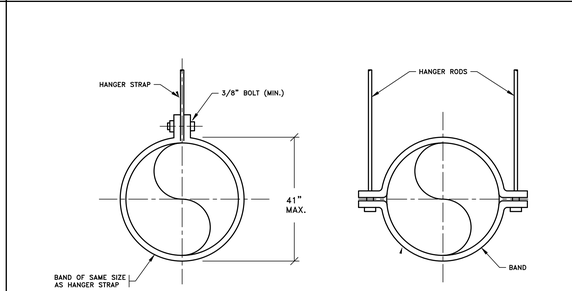
NOTE:
SEAL CUT EDGES OF FIRE WRAP AT ACCESS DOORS WITH ALUMINUM FOIL TAPE.

D FIRE-RATED ACCESS PANEL AT GREASE DUCT DETAIL
NOT TO SCALE

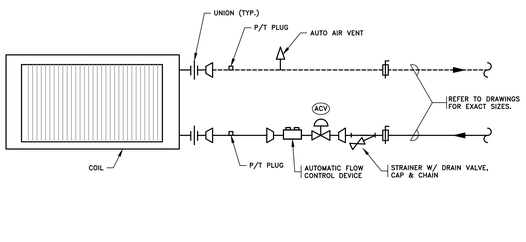


NOTES:
1. ALL OUTDOOR HANGERS, SUPPORTS, RODS, NUTS, WASHERS, ETC. SHALL BE STAINLESS STEEL.
2. NO POP RIVETS ALLOWED, USE SELF-TAPPING SHEETMETAL SCREWS ONLY.
3. ALL DUCTWORK SHALL BE SUPPORTED FROM STRUCTURAL STEEL OR SUPPLEMENTAL STEEL (BY THIS CONTRACTOR). DUCTWORK SHALL NEVER BE SUPPORTED DIRECTLY FROM METAL DECK.

E DUCT HANGER DETAIL
NOT TO SCALE

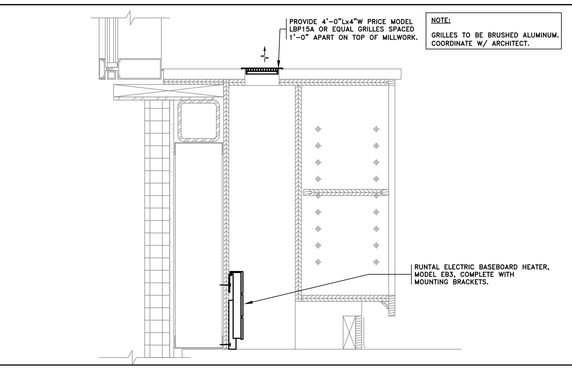


F ROUND DUCT HANGER DETAIL
NOT TO SCALE

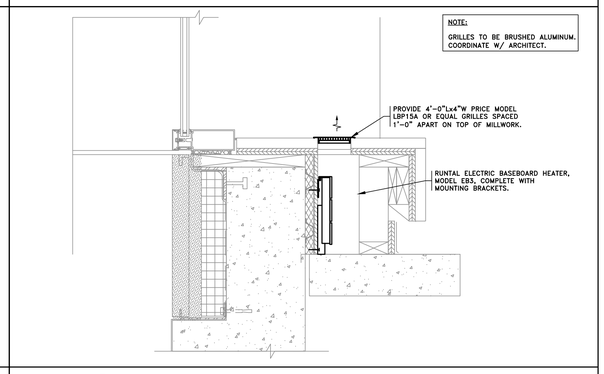


NOTES:
1. WATER BALANCE TO WITHIN 10%.
2. PROVIDE CONDENSATE DRAIN PAN & DRAIN WITH TRAP FOR COOLING COILS.

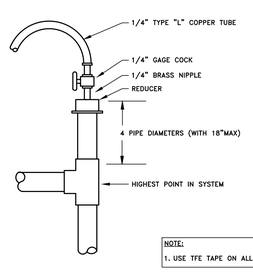
G HEATING & COOLING COIL PIPING DETAIL
NOT TO SCALE



K 9.8.03 SECTION @ MEDIA CENTER LOW BOOK CASE
NOT TO SCALE

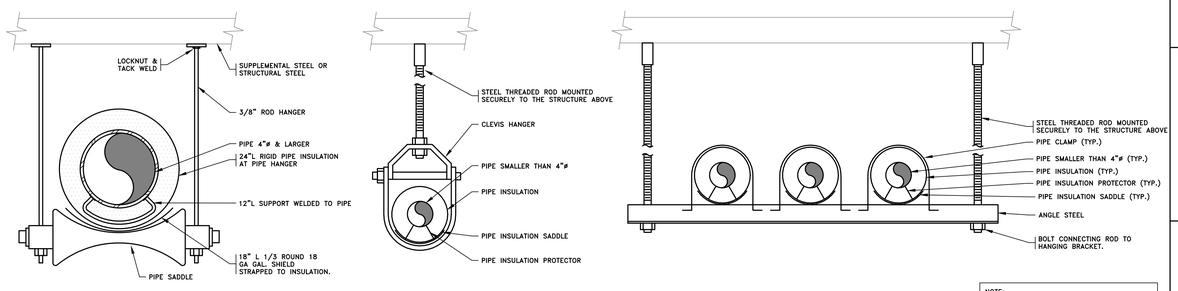


L 9.8.03 SECTION @ CAFETERIA PERIMETER BENCH
NOT TO SCALE



NOTE:
1. USE TFE TAPE ON ALL THREADED JOINTS.

J MANUAL AIR VENT ASSEMBLY
NOT TO SCALE



NOTE:
1. ALL PIPING SHALL BE SUPPORTED FROM STRUCTURAL STEEL OR SUPPLEMENTAL STEEL (BY THIS CONTRACTOR). PIPING SHALL NEVER BE SUPPORTED DIRECTLY FROM METAL DECK.

K PIPE HANGER DETAILS
NOT TO SCALE

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KEY PLAN

NORTH ARROW

STAMP

Date: 21 FEBRUARY 2024

Drawn By: JH

Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

HVAC DETAILS

9.8.02

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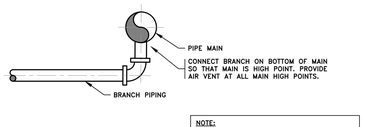
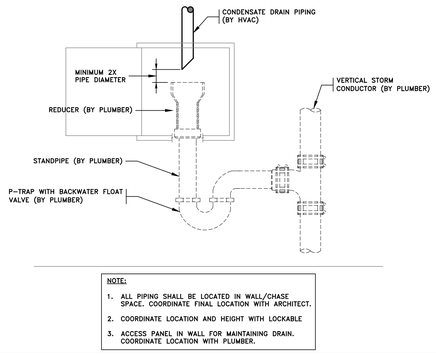
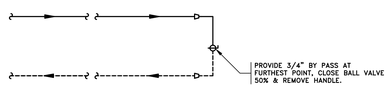


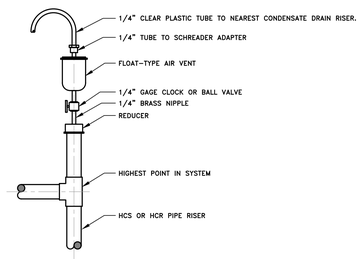
A WATER BRANCH PIPING CONNECTION TO MAIN DETAIL
NOT TO SCALE



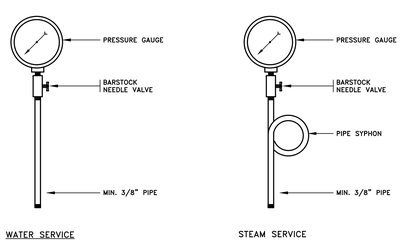
B INDIRECT WASTE DETAIL
NOT TO SCALE



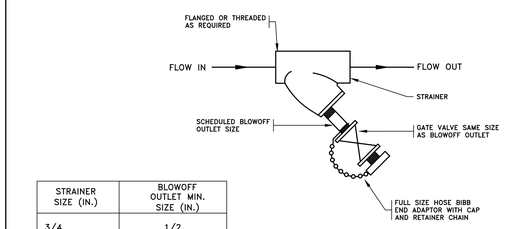
C END OF MAIN DETAIL
NOT TO SCALE



D AUTOMATIC AIR VENT ASSEMBLY
NOT TO SCALE

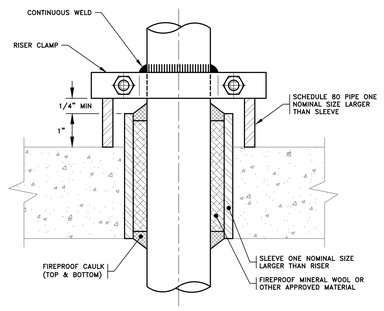


E PRESSURE GAUGE ASSEMBLY DETAIL
NOT TO SCALE

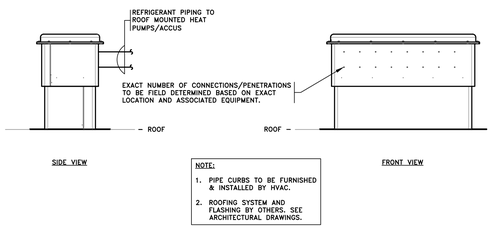


STRAINER SIZE (IN.)	BLOWOFF OUTLET MIN. SIZE (IN.)
3/4	1/2
1 TO 2 1/2	3/4
3 & 4	1
5 & ABOVE	2

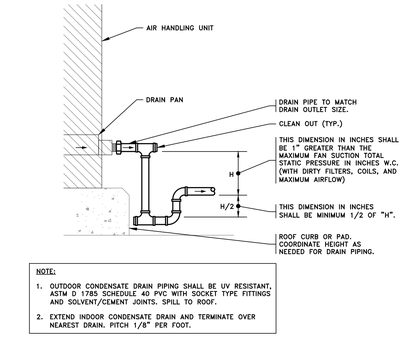
F STRAINER ASSEMBLY DETAIL
NOT TO SCALE



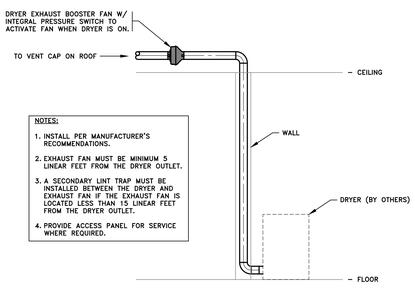
G PIPE RISER SUPPORT
NOT TO SCALE



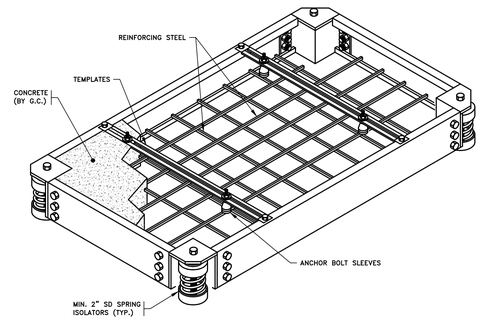
H PIPE CURB DETAIL
NOT TO SCALE



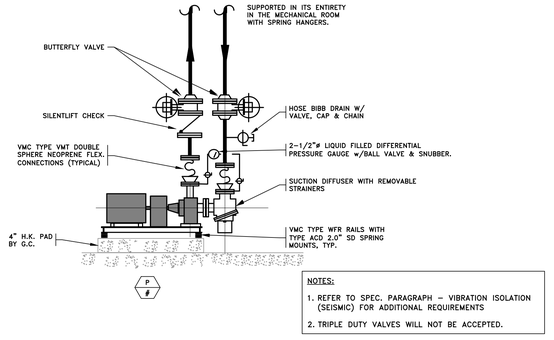
I DRAW-THRU AIR HANDLING UNIT CASING DRAIN
NOT TO SCALE



J DRYER BOOSTER FAN DETAIL
NOT TO SCALE



K CONCRETE INERTIA BASE DETAIL
NOT TO SCALE



L BASE-MOUNTED PUMP DETAIL
NOT TO SCALE

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024
Drawn By: JH
Scale: AS NOTED

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

HVAC DETAILS

9.8.03

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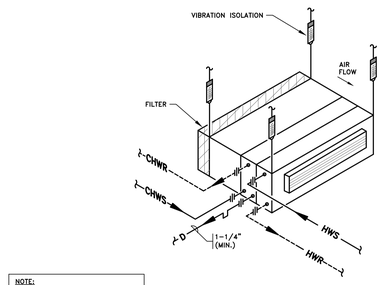
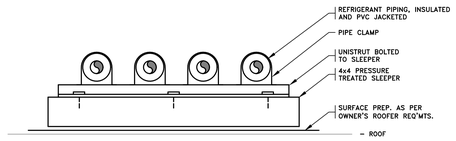


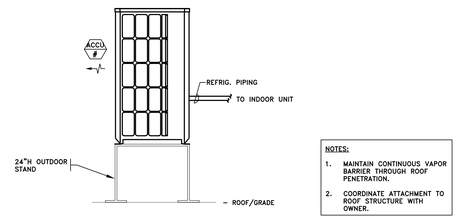
NOTE:
1. REFER TO COIL PIPING DETAIL.

A HORIZONTAL FAN COIL UNIT (NON-DUCTED) DETAIL
NOT TO SCALE



NOTES:
1. INSTALL PIPE SUPPORT EVERY 6'-0" AND EVERY CHANGE IN DIRECTION.

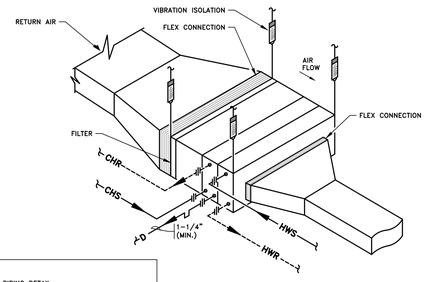
B ROOF PIPE SUPPORT DETAIL
NOT TO SCALE



SIDE VIEW

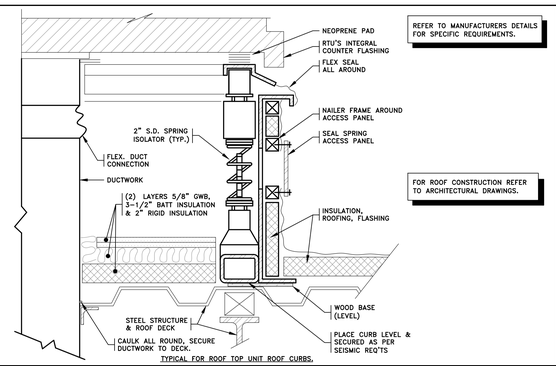
NOTES:
1. MAINTAIN CONTINUOUS VAPOR BARRIER THROUGH ROOF PENETRATION.
2. COORDINATE ATTACHMENT TO ROOF STRUCTURE WITH OWNER.

C OUTDOOR AIR-COOLED CONDENSING UNIT DETAIL
NOT TO SCALE



NOTES:
1. REFER TO COIL PIPING DETAIL.
2. SA & RA DUCTS LINED W/ 1/2" THICK HOSPITAL GRADE CLOSED FOAM LINER NOMACO K-FLEX OR EQUAL.

D HORIZONTAL FAN COIL UNIT (DUCTED) DETAIL
NOT TO SCALE

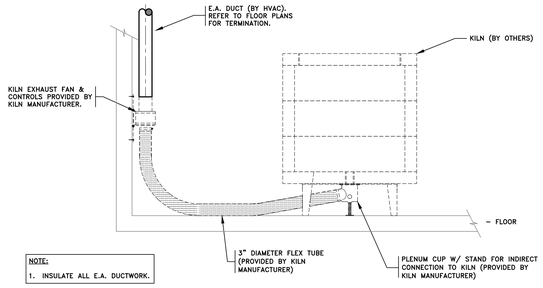


REFER TO MANUFACTURERS DETAILS FOR SPECIFIC REQUIREMENTS.

FOR ROOF CONSTRUCTION REFER TO ARCHITECTURAL DRAWINGS.

TYPICAL FOR ROOF TOP UNIT ROOF CURBS.

E SEISMICALLY RATED VIBRATION ISOLATION CURB DETAIL
NOT TO SCALE



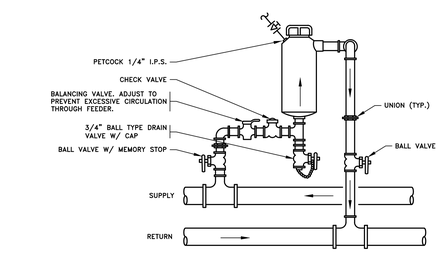
NOTE:
1. INSULATE ALL E.A. DUCTWORK.

F KILN EXHAUST DETAIL
NOT TO SCALE

G ROOF SUPPORT DETAIL
NOT TO SCALE

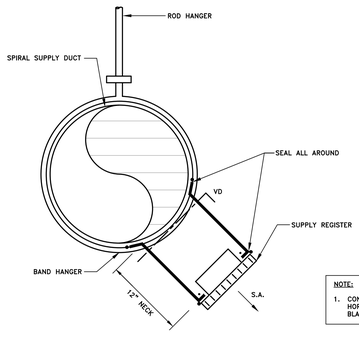
H FUTURE RADON EXHAUST FAN DETAIL
NOT TO SCALE

I RADON EXHAUST DETAIL
NOT TO SCALE



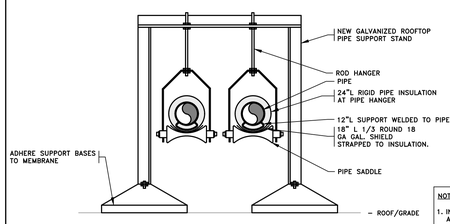
NOTES:
1. PIPING SHALL BE 3/4".
2. ENTIRE INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH CHEMICAL TREATMENT SUBCONTRACTORS INSTRUCTIONS.
3. PROVIDE STAND LEGS FOR SUPPORT.

J CHEMICAL SHOT FEEDER DETAIL
NOT TO SCALE



NOTE:
1. CONTRACTOR TO ADJUST ALL INDIVIDUAL HORIZONTAL AND VERTICAL SUPPLY REGISTER BLADES FOR OPTIMUM AIRFLOW DELIVERY.

K SUPPLY REGISTER DETAIL
NOT TO SCALE



NOTES:
1. INSTALL PIPE SUPPORT EVERY 6'-0" AND EVERY CHANGE IN DIRECTION.
2. COORDINATE EXACT HEIGHTS IN FIELD SO THAT SPACE IS LEFT FOR ROOFING WORK BELOW FINISHED DUCTWORK.
3. FRICTION CLAMPS BY SUBCONTRACTOR.

L ROOF PIPE SUPPORT DETAIL
NOT TO SCALE

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9.8.04

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SYMBOL LIST

GENERAL NOTES

1 – ALL PENETRATIONS IN FIRE RATED ASSEMBLIES SHALL BE FIRESTOPPED BY SECTION 078400 – FIRE STOPPING. ELECTRICAL CONTRACTOR TO SMOKE PROOF AND ACOUSTICALLY SEAL ALL PENETRATIONS IN ALL UNRATED WALL AND SLAB CONSTRUCTION. USE LOW VOC SEALING MATERIALS.

2 – NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH THE ELECTRIC ROOMS OR THE EMERGENCY GENERATOR ROOM.

3 – PRIOR TO THE INSTALLATION OF ANY CONDUIT RACEWAYS IN THE AREAS THAT DO NOT HAVE CEILINGS, THE ELECTRICAL SUBCONTRACTOR SHALL REVIEW WITH THE ARCHITECT THE EXACT LOCATION OF EACH FEEDER OR BRANCH CIRCUIT RACEWAY. THE INSTALLATION OF CONDUIT RACEWAYS WITHIN THESE AREAS, SHALL BE KEPT TO AN ABSOLUTE MINIMUM. DO NOT INSTALL ANY EXPOSED CONDUIT RACEWAYS IN FINISHED AREAS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE ARCHITECT.

4 – ALL POWER WIRING FOR ALL MECHANICAL, PLUMBING, FIRE PROTECTION AND KITCHEN EQUIPMENT SHALL BE INSTALLED IN CONDUIT RACEWAYS AS SPECIFIED IN THE ELECTRICAL SPECIFICATIONS AND THE ELECTRICAL DRAWINGS. ALL POWER WIRING TO CLASSROOM AND CORRIDOR FAN COIL UNITS SHALL BE TYPE MC METAL CLAD CABLE. ALL 120–V WIRING FOR VAV BOXES SHALL BE TYPE MC METAL CLAD CABLE.

5 – ALL FIRE ALARM SYSTEM WIRING SHALL BE INSTALLED IN EMT CONDUIT RACEWAYS (EXPOSED) OR FIRE ALARM MC CABLE (CONCEALED) AS SPECIFIED IN THE ELECTRICAL SPECIFICATIONS AND THE ELECTRICAL DRAWINGS.

6 – ALL TECHNOLOGY SYSTEM EMPTY CONDUIT SHALL BE INSTALLED AS SPECIFIED IN THE ELECTRICAL SPECIFICATIONS AND ELECTRICAL DRAWINGS.

7 – ALL SECURITY SYSTEM WIRING SHALL BE TYPE MC METAL CLAD CABLE AS SPECIFIED IN THE ELECTRICAL SPECIFICATIONS AND THE ELECTRICAL DRAWINGS.

8 – ALL LIGHTING CIRCUIT HOME RUNS AND BRANCH CIRCUIT WIRING INCLUDING WIRING TO THE FIXTURE AND THE ROOM SWITCH SHALL BE TYPE MC METAL CLAD CABLE (CONCEALED LOCATIONS).

9 – ALL RECEPTACLE CIRCUIT HOME RUNS AND BRANCH CIRCUIT WIRING INCLUDING WIRING TO EACH RECEPTACLE SHALL BE TYPE MC METAL CLAD CABLE (CONCEALED LOCATIONS).

10 – ALL POWER WIRING FOR MECHANICAL, PLUMBING AND FIRE PROTECTION EQUIPMENT LOCATED IN MECHANICAL ROOMS SHALL BE INSTALLED IN CONDUIT RACEWAYS, THIS INCLUDES ALL BOILERS, AHU'S, PUMPS, ETC. ALL FEEDERS TO ROOF MOUNTED HVAC UNITS SHALL BE INSTALLED IN CONDUIT RACEWAYS.

11 – TYPE MC METAL CLAD WILL ONLY BE ALLOWED FOR LIGHTING AND RECEPTACLE BRANCH CIRCUITS AS DESCRIBED ABOVE. TYPE MC CABLE WILL ONLY BE ALLOWED IN CONCEALED WALL OR CEILING LOCATIONS ONLY. NO TYPE MC CABLE WILL BE ALLOWED IN AREAS WITH NO CEILINGS OR RUN SURFACE MOUNTED. ALL OTHER SYSTEMS WIRING SHALL BE FURNISHED AND INSTALLED IN CONDUIT RACEWAYS AS SPECIFIED IN THE ELECTRICAL SPECIFICATIONS AND ELECTRICAL DRAWINGS.

12 – ALL ELECTRICAL SYSTEMS INSTALLED IN OR PASSING THROUGH AREAS WITH EXPOSED STRUCTURAL CEILINGS SHALL BE INSTALLED IN EMT CONDUIT RACEWAYS.

13 – AREAS OF THE BUILDING HAVE BEEN DESIGNED WITH EXPOSED STRUCTURAL WALLS OR SURFACE METAL RACEWAY. IN THESE AREAS, ALL ELECTRICAL AND COMMUNICATIONS SYSTEMS WIRING SHALL BE INSTALLED IN EMT CONDUIT OR SURFACE METAL RACEWAY. NO EXPOSED MC CABLE WILL BE ACCEPTED IN THESE AREAS. REFER TO ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR AREAS WITHOUT ACT CEILINGS. SUBMIT CONDUIT ROUTING SHOP DRAWINGS FOR THE GYM PRIOR TO INSTALLATION.

14 – IN AREAS WITHOUT FINISHED CEILINGS (GYM, STORAGE, MECHANICAL, ETC.), ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THE REQUIRED MECHANICAL SUSPENSION CHANNEL AND ASSOCIATED REQUIRED MATERIAL TO PROPERLY SUPPORT ALL LIGHTING FIXTURES, ELECTRICAL EQUIPMENT AND CONDUITS. MECHANICAL CHANNEL TO BE SUPPORTED FROM STEEL TRUSSES, OR STRUCTURAL CEILINGS AS REQUIRED TO PROPERLY SUPPORT AND LOCATE LIGHTING FIXTURES OR EQUIPMENT IN LOCATIONS SHOWN ON THE ARCHITECTURAL DRAWINGS. REFER TO THE ARCHITECTURAL AND HVAC DRAWINGS FOR EXACT LOCATIONS OF DUCTWORK AND LIGHTING FIXTURES.

15 – HVAC DUCTWORK IS RUN ABOVE THE ACT CEILINGS IN THE LARGE MAJORITY OF ROOMS IN THE SAME LOCATION AS LIGHTING FIXTURES. IN THESE ROOMS, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THE REQUIRED MECHANICAL SUSPENSION CHANNEL AND ASSOCIATED REQUIRED MATERIAL TO PROPERLY SUPPORT FROM THE BUILDING STRUCTURE ALL LIGHTING FIXTURES, ELECTRICAL EQUIPMENT AND CONDUITS. MECHANICAL CHANNEL SHALL BE SUPPORTED FROM STEEL TRUSSES, OR STRUCTURAL CEILINGS AS REQUIRED TO PROPERLY SUPPORT AND LOCATE LIGHTING FIXTURES OR EQUIPMENT IN LOCATIONS SHOWN ON THE ARCHITECTURAL DRAWINGS. REFER TO THE ARCHITECTURAL AND HVAC DRAWINGS FOR EXACT LOCATIONS OF DUCTWORK AND LIGHTING FIXTURES.

16 – IT IS THE INTENT OF THIS PROJECT FOR ALL WALL MOUNTED ELECTRICAL DEVICES AND ASSOCIATED WIRING TO BE INSTALLED RECESSED EXCEPT IN MECHANICAL AND ELECTRICAL ROOMS. THIS INCLUDES ALL WALL TYPES INCLUDING CMU AND CONCRETE. ELECTRICAL CONTRACTOR TO REQUEST FOR PERMISSION FOR SURFACE MOUNTED EQUIPMENT AND CONDUIT PRIOR TO INSTALLATION FOR ROOMS WHERE IT MAY NOT BE POSSIBLE TO RECESS EQUIPMENT AND CONDUIT.

ELECTRICAL GENERAL NOTES

1 – BY SUBMITTING A BID, ARE DEEMED TO BE COMPLETELY FAMILIAR WITH THE EXISTING CONDITION OF THE SITE AS IT INFLUENCES THE WORK DESCRIBED. ABSOLUTELY NO CLAIMS FOR EXTRA COMPENSATION WILL BE CONSIDERED FOR EXISTING CONDITIONS VISIBLE OR REASONABLY INFERABLE FROM A CAREFUL EXAMINATION OF THE EXISTING SITE.

2 – THIS CONTRACTOR SHALL INSPECT THE EXISTING FIELD CONDITIONS AT THE SITE AND CONTRACT DOCUMENTS PRIOR TO THE START OF ANY WORK TO DETERMINE THE EFFECT THE EXISTING CONDITIONS WILL HAVE ON HIS WORK. POTENTIAL PROBLEM AREAS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER IMMEDIATELY.

3 – THE NEW WORK SHALL BE COMPATIBLE WITH THE BUILDING. LOCATION OF EQUIPMENT OR THE ROUTING OF VARIOUS SYSTEMS AS WELL AS FLOOR SLABS OR WALLS SHALL BE COORDINATED WITH OTHER TRADES AND AS THEY APPEAR IN THE FIELD OR ON THE DRAWINGS.

4 – CARE SHALL BE TAKEN DURING THE INSTALLATION OF THE NEW WORK, AS NOT TO DAMAGE OR INTERRUPT THE OTHER BUILDING SYSTEMS AND STRUCTURE INSTALLED. DAMAGE TO THE STRUCTURE AND/OR OTHER EQUIPMENT CAUSED BY THIS CONTRACTOR DURING INSTALLATION SHALL BE REPAIRED AND/OR REPLACED AT THIS CONTRACTOR'S EXPENSE TO THE COMPLETE SATISFACTION OF THE OWNER.

5 – SHUTDOWN OF BUILDING ELECTRICAL SYSTEMS FOR CONNECTION TO SERVICES SHALL BE COORDINATED WITH THE ARCHITECT AND OWNER. THIS CONTRACTOR SHALL SUBMIT REQUESTS, WHERE THEY AFFECT THE OPERATION OF THE BUILDING. SHUTDOWNS TO BE PERFORMED DURING PREMIUM TIME, AT LEAST ONE WEEK IN ADVANCE OF ANY REQUIRED SHUTDOWN. THE ACTUAL SHUTDOWN PERIOD WILL BE AS SHORT AS POSSIBLE AND AT A TIME MUTUALLY AGREEABLE TO THE OWNER AND THE ARCHITECT.

6 – DRAWINGS ARE DIAGRAMMATIC, THEREFORE DETERMINE EXACT LOCATIONS OF SYSTEMS AND COMPONENTS IN THE FIELD.

7 – ALL WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED.

8 – VERIFY ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED SHOP DRAWINGS. FIELD VERIFY AND COORDINATE ALL ELECTRICAL EQUIPMENT AND CHARACTERISTICS.

9 – REFER TO ARCHITECTURAL PLANS FOR DETAILS AND COORDINATION.

10 – ALL MATERIALS AND EQUIPMENT INDICATED AS NEW SHALL BE NEW.

11 – ANY DEMOLITION SHALL BE COORDINATED WITH OWNER, ARCHITECT, CM, AND ENGINEER.

12 – ALL ACCESS PANELS REQUIRED FOR ALL ELECTRICAL/COMMUNICATION/SECURITY INSTALLATION SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO ARCHITECTURAL DWGS AND SPECIFICATIONS FOR DETAILS.

13 – CONTRACTOR SHALL REPORT ANY EQUIPMENT DEFICIENCIES FOUND TO THE ARCHITECT AND/OR ENGINEER.

14 – THE FIRE–PROOFING OF THE BUILDING STRUCTURE IS NOT TO BE REMOVED FOR THE INSTALLATION OF HANGERS OR SUPPORTERS OF ELECTRICAL EQUIPMENT. IF FIRE–PROOFING IS DAMAGED DURING INSTALLATION, IT SHALL BE REPAIRED AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.

SOUND SYSTEM SYMBOLS

- 2M — MICROPHONE OUTLET. "2" INDICATES A TWO–PORT OUTLET. REFER TO SPECIFICATIONS.
- M — CEILING HUNG MICROPHONE OUTLET. REFER TO SPECIFICATIONS.
- S S — WALL MOUNTED SPEAKERS FOR LOCAL SOUND SYSTEMS. REFER TO SPECIFICATIONS.
- S S — CEILING SURFACE OR PENDANT MOUNTED SPEAKERS FOR LOCAL SOUND SYSTEMS. REFER TO SPECIFICATIONS.
- WA — WIRELESS MIC ANTENNA.
- HA — ASSISTIVE LISTENING ANTENNA.

MISCELLANEOUS SYMBOLS

- 5 — MOTOR. NUMERAL INDICATES HORSEPOWER.
- MOTOR DISCONNECT SWITCH. FURNISHED AND INSTALLED BY THE ELECTRICAL SUBCONTRACTOR.
- C — REMOTE MOUNTED MAGNETIC MOTOR STARTER. FURNISHED AND INSTALLED BY THE ELECTRICAL SUBCONTRACTOR.
- S — COMBINATION MAGNETIC MOTOR STARTER AND MOTOR DISCONNECT SWITCH. FURNISHED AND INSTALLED BY THE ELECTRICAL SUBCONTRACTOR.
- F — FUSED DISCONNECT SWITCH. "F" INDICATES FUSED SWITCH. FUSE SIZE SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. FURNISH AND INSTALLED BY THE ELECTRICAL SUBCONTRACTOR.
- CONDUIT PENETRATION FROM BELOW EQUIPMENT.
- T — THERMAL SWITCH FOR MOTORS LESS THAN ½ HP. FURNISHED AND INSTALLED BY THE ELECTRICAL SUBCONTRACTOR.
- CONDUIT (ELECTRICAL METALLIC TUBING OR MC CABLE) – ARROW INDICATES HOME RUN. DIAGONAL LINES INDICATE NUMBER OF #12 AWG WIRES. DOT INDICATES 1#12 AWG GREEN EQUIPMENT GROUND WIRE. (UNLESS OTHERWISE NOTED).
- POWER PANEL.
- LIGHTING PANEL.
- VFD — VARIABLE FREQUENCY DRIVES. FURNISHED BY HVAC SUBCONTRACTOR. INSTALLED AND WIRED BY THE ELECTRICAL SUBCONTRACTOR.
- A — AQUASTAT. FURNISHED AND INSTALLED BY PLUMBING SUBCONTRACTOR. WIRED BY THE ELECTRICAL SUBCONTRACTOR.
- R — 120–VOLT RELAY WITH 24–VOLT COIL.
- 3S — THREE–SPEED SWITCH. FURNISHED BY HVAC SUBCONTRACTOR. INSTALLED AND WIRED BY THE ELECTRICAL SUBCONTRACTOR.
- 4" CONDUIT SLEEVE. FURNISHED AND INSTALLED BY THE ELECTRICAL SUBCONTRACTOR.
- TF — AUTOMATIC FLUSH VALVE/FAUCET TRANSFORMER IN 4"X4" WORKBOX. REFER TO PLANS AND DETAILS. COORDINATE WITH PLUMBING.
- HD — ELECTRIC HAND DRYER. FURNISHED AND INSTALLED BY GENERAL CONTRACTOR. WIRED BY ELECTRICAL CONTRACTOR.
- DO — ADA DOOR OPERATOR PUSHBUTTON.
- MECHANICAL OR MOTORIZED EQUIPMENT TAG. REFER TO MECHANICAL/MOTORIZED EQUIPMENT SCHEDULE.
- AT — LIGHTNING PROTECTION AIR TERMINAL.
- RC1 — RECEPTACLE RELAY CABINET.
- MCS — ALL MOMENTARY CONTACT SWITCHES WITH PILOT LIGHTS.
- 2WCB — TWO–WAY COMMUNICATIONS SYSTEM CALL BOX STATION.
- 2WBS — TWO–WAY COMMUNICATIONS SYSTEM BASE STATION.
- 2WPS — POWER SUPPLY.

BRANCH CIRCUIT WIRING NOTES

1 – ALTHOUGH ALL BRANCH CIRCUIT WIRING IS NOT SHOWN ON THE DRAWINGS, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM IN CONDUIT RACEWAYS (EMT OR RIGID) OR TYPE MC METAL CLAD CABLE BE INSTALLED.

2 – RACEWAYS SHALL BE LIMITED TO SIX CURRENT CARRYING CONDUCTORS (THREE PHASE AND THREE NEUTRALS) AND GROUNDING CONDUCTOR, UNLESS OTHERWISE INDICATED. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH SINGLE PHASE CIRCUIT UNLESS AN OVERSIZED NEUTRAL IS SPECIFICALLY INDICATED.

3 – WIRING INDICATED BY CIRCUIT NUMBER SYMBOL SHALL INCLUDE A NEUTRAL WHEN THE LOAD SERVED HAS PROVISIONS FOR, OR REQUIRES A NEUTRAL.

4 – WIRING IS INDICATED ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS.

5 – ALL MOTOR BRANCH CIRCUIT WIRING SHALL BE INSTALLED IN CONDUIT RACEWAYS (EMT OR RIGID) FROM THE PANELS TO THE DISCONNECT SWITCHES, STARTERS AND MOTORS IN THE MAIN MECHANICAL ROOM OR FIRE PUMP ROOM.

6 – FURNISH AND INSTALL A SEPARATE NEUTRAL CONDUCTOR FOR EACH RECEPTACLE AND LIGHTING BRANCH CIRCUIT. COMMON NEUTRAL CONDUCTORS FOR CIRCUITS WILL NOTE BE ALLOWED.

7 – CONDUIT AND WIRE SHALL BE REQUIRED BETWEEN ALL OUTLETS, SWITCHES, JUNCTION BOXES AND EQUIPMENT INDICATED ON THE DRAWINGS WITH CIRCUIT NUMBERS, SWITCH CONTROLS AND PANEL DESIGNATIONS.

8 – ALL LIGHTING, RECEPTACLE AND EQUIPMENT BRANCH CIRCUITS SHALL BE WIRED IN ACCORDANCE WITH THE OUTLET NUMBER INDICATED.

9 – ALL SWITCH CONTROLS SHALL BE PROVIDED WITH WIRING AND CONDUIT AS REQUIRED.

10 – ALL RECEPTACLE, MOTOR AND LIGHTING BRANCH CIRCUITS SHALL BE PROVIDED WITH AN INSULATED COPPER GROUND WIRE.

11 – ALL BRANCH CIRCUIT WIRING WITHIN JUNCTION BOXES SHALL BE TAGGED AND IDENTIFIED. ALL JUNCTION BOXES SHALL BE IDENTIFIED AS TO PANEL ORIGINATION.

12 – ALL NETWORK BRANCH CIRCUITS SHALL BE PROPERLY PHASED OUT IN EACH PANELBOARD.

13 – ALL ELECTRICAL EQUIPMENT INCLUDING RIGID STEEL CONDUIT AND ELECTRICAL METALLIC TUBING SHALL BE INSTALLED AND PROPERLY SUPPORTED IN ACCORDANCE WITH THE MASSACHUSETTS ELECTRICAL CODE AND THE MASSACHUSETTS STATE BUILDING CODE.

RECEPTACLES

REFER TO ARCHITECTURAL DETAIL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHT OF RECEPTACLES.

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A SELF–ADHESIVE (P–TOUCH) LABEL ON ALL RECEPTACLE AND SWITCH DEVICE PLATES INDICATING PANEL AND CIRCUIT SERVING DEVICE.

- CR — DUPLEX RECEPTACLE – TAMPER RESISTANT 20A–125V–3W WITH GROUND CONNECTION. "CR" INDICATES CONTROLLED RECEPTACLE WITH I/O POWER SYMBOL VISIBLE.
- QUAD RECEPTACLE – DOUBLE DUPLEX TAMPER RESISTANT RECEPTACLE. AC INDICATES ABOVE COUNTER MOUNTING HEIGHT.
- DUPLEX TAMPER RESISTANT RECEPTACLE MOUNTED ABOVE COUNTER UNLESS OTHERWISE NOTED.
- DUPLEX TAMPER RESISTANT RECEPTACLE ON EMERGENCY CIRCUIT. RED RECEPTACLE REQUIRED. AC INDICATES ABOVE COUNTER MOUNTING HEIGHT.
- GROUND FAULT CIRCUIT INTERRUPTER (GFCI) DUPLEX TAMPER RESISTANT RECEPTACLE 20A–125V–3W. "WP" INDICATES RECEPTACLE INSTALL IN A NEMA 3R ENCLOSURE.
- WP — GFCI TAMPER RESISTANT RECEPTACLEMOUNTED ABOVE COUNTER UNLESS OTHERWISE NOTED.
- GFCI TAMPER RESISTANT RECEPTACLE ON EMERGENCY CIRCUIT. RED RECEPTACLE REQUIRED. AC INDICATES ABOVE COUNTER MOUNTING HEIGHT.
- SURGE SUPPRESSION – DUPLEX RECEPTACLE 20A–125V–3W WITH GROUND CONNECTION. IG INDICATES ISOLATED GROUND.
- IG
- SINGLE RECEPTACLE 20A–125V–3W WITH GROUND CONNECTION.
- SINGLE RECEPTACLE 30A–125/250V–4W WITH GROUND CONNECTION.
- SINGLE RECEPTACLE 20A–250V–4W WITH GROUND CONNECTION.
- FOUR PORT USB POWER RECEPTACLE. HUBBELL USB4W OR APPROVED EQUAL.
- COMBINATION FLOOR BOX FOR DUPLEX RECEPTACLE AND TELEPHONE/DATA JACKS WIREMOLD WALKERBOX RFB2 SERIES WITH BRASS TILE FLANGE OR APPROVED EQUAL. REFER TO SPECIFICATIONS.
- COMBINATION FLOOR BOX FOR TWO DUPLEX RECEPTACLES AND TWO TELEPHONE/DATA JACKS WIREMOLD WALKERBOX RFB11 SERIES WITH BRASS CARPET FLANGE OR APPROVED EQUAL. REFER TO SPECIFICATIONS.
- DIVIDED SURFACE METAL RACEWAY WITH VOICE/DATA OUTLETS AND DUPLEX RECEPTACLES. RACEWAY SHALL BE FURNISHED WITH DIVIDER, WALL BOX CONNECTOR, DEVICE PLATES, AND DEVICE BRACKETS FOR MOUNTING DEVICES IN A HORIZONTAL POSITION. RACEWAY SHALL BE WIREMOLD COMPANY V–4000 OR APPROVED EQUAL. REFER TO SPECIFICATIONS.

FIRE ALARM AND MASS NOTIFICATION SYSTEM

(REFER TO SPECIFICATIONS.)

REFER TO ARCHITECTURAL DETAIL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF FIRE ALARM SYSTEM ALARM EQUIPMENT.

- F — FIRE ALARM SYSTEM MANUAL PULL STATION. MUST BE INSTALLED WITHIN 5'–0" OF DOOR JAMB.
- F F 75 — FIRE ALARM SYSTEM PULL STATION WITH COMBINATION SPEAKER/STROBE UNIT ABOVE (ADA CODE) ON RISER, LETTER INDICATES STROBE LIGHT CIRCUIT AND NUMERAL INDICATES SPEAKER CIRCUIT. ON FLOOR PLANS, NUMERAL INDICATES FOOTCANDLES.
- C
- F — FIRE ALARM SYSTEM SPEAKER UNIT. ON RISER, NUMERAL INDICATES SPEAKER CIRCUIT. "WP" INDICATES WEATHER PROOF. S INDICATES SPEAKER UNIT. C INDICATES CEILING MOUNTED.
- S
- AC
- F — FIRE ALARM SYSTEM CLEAR STROBE LIGHT AND MASS NOTIFICATION AMBER STROBE COMBINATION UNIT (ADA CODE). ON RISER, LETTER INDICATES STROBE LIGHT CIRCUIT. ON FLOOR PLANS NUMERAL INDICATES FOOTCANDLES. "WP" INDICATES WEATHER PROOF. AC INDICATES FIRE ALARM AND MASS NOTIFICATION STROBE UNIT. C INDICATES CEILING MOUNTED.
- C
- ER SD — FIRE ALARM SYSTEM SMOKE DETECTOR. ER INDICATES ELEVATOR RECALL.
- D — FIRE ALARM SYSTEM FIXED TEMPERATURE THERMAL DETECTOR.
- SD — WALL MOUNTED FIRE ALARM SYSTEM SMOKE DETECTOR.
- 200 D — 200 DEGREE NON–ADDRESSABLE HEAT DETECTOR
- T BD — BEAM DETECTOR. T INDICATES TRANSMITTER. R INDICATES RECEIVER.
- H — FIRE ALARM SYSTEM KITCHEN HOOD FIRE SUPPRESSION SYSTEM.
- RA — FIRE ALARM SYSTEM REMOTE ALARM INDICATOR LIGHT. PROVIDE ENGRAVED NAMEPLATES COORDINATE EXACT LOCATION WITH FIRE DEPARTMENT.
- RAL — FIRE ALARM SYSTEM REMOTE ALARM INDICATOR AND TEST SWITCH. (DUCT SMOKE DETECTORS). PROVIDE ENGRAVED NAMEPLATES. COORDINATE EXACT LOCATION WITH FIRE DEPARTMENT.
- DD — FIRE ALARM SYSTEM DUCT SMOKE DETECTOR. FURNISHED AND WIRED BY ELECTRICAL SUBCONTRACTOR AND INSTALLED BY THE HVAC SUBCONTRACTOR.
- CO — CARBON MONOXIDE DETECTOR.
- FS — FIRE ALARM SYSTEM FLOW SWITCH. FURNISHED AND INSTALLED BY FIRE PROTECTION SUBCONTRACTOR. MONITOR MODULE AND WIRED BY ELECTRICAL SUBCONTRACTOR.
- TS — FIRE ALARM SYSTEM TAMPER SWITCH. FURNISHED AND INSTALLED BY FIRE PROTECTION SUBCONTRACTOR. MONITOR MODULE AND WIRE BY ELECTRICAL SUBCONTRACTOR.
- PS — FIRE ALARM SYSTEM PRESSURE SWITCH. FURNISHED AND INSTALLED BY FIRE PROTECTION SUBCONTRACTOR. MONITOR MODULE AND WIRED BY ELECTRICAL SUBCONTRACTOR.
- LP — FIRE ALARM SYSTEM LOW PRESSURE SWITCH. FURNISHED AND INSTALLED BY FIRE PROTECTION SUBCONTRACTOR. MONITOR MODULE AND WIRED BY ELECTRICAL SUBCONTRACTOR.
- CM — FIRE ALARM CONTROL MODULE.
- MM — FIRE ALARM MONITOR MODULE.
- Z — FIRE ALARM SYSTEM ZONE ADDRESSABLE MODULE (ZAM).
- IM — ISOLATION MODULE.
- D F — FIRE ALARM SYSTEM MAGNETIC RECESSED, LOW–PROFILE TYPE DOOR HOLDER. "F" INDICATES FLOOR MOUNTED. COORDINATE LOCATION, ALIGNMENT, AND INSTALLATION WITH THE GENERAL CONTRACTOR, DOOR HARDWARE SUBCONTRACTOR AND ARCHITECT. COORDINATE DIMENSIONS WITH ARCHITECTURAL DETAILS.
- KB — KNOX BOX. FURNISH AND INSTALL A RECESS KNOX BOX SERIES 3200 OR APPROVED EQUAL IN ACCORDANCE WITH THE REQUIREMENTS OF THE FIRE DEPARTMENT.
- M — MASTER BOX. COORDINATE MASTER BOX WITH FIRE DEPARTMENT.
- B — FIRE ALARM SYSTEM RED STROBE BEACON LIGHT. THE EXACT LOCATION SHALL BE DETERMINED ON THE JOB BY THE ARCHITECT.
- FATC — FIRE ALARM TERMINAL CABINET.
- FACP — FIRE ALARM ANNUNCIATOR WITH MIC HANDSET, AUDIO CONTROLS, 16 ZONE CALL SWITCHES, AND DRILL SWITCH.
- FAA — FIRE ALARM CONTROL PANEL WITH MIC HANDSET, AUDIO CONTROLS, 16 ZONE CALL SWITCHES, DRILL SWITCH, AND VOICE EVACUATION PANEL WITH BATTERIES.
- LOC — MASS NOTIFICATION SYSTEM LOCAL OPERATOR CONSOLE AND ACTIVATION CONTROL BUTTON.
- MNS — MASS NOTIFICATION SYSTEM ELECTRONIC TEXTUAL/ORAL MESSAGE BOARD.

LIGHTING FIXTURES

REFER TO ARCHITECTURAL DETAIL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF LIGHTING FIXTURES.

- F1 A 1 — CEILING MOUNTED LIGHT OUTLET. LETTER INDICATES SWITCH CONTROL A. NUMERAL INDICATES CIRCUIT NUMBER 1. F FOLLOWED BY A NUMERAL INDICATES FIXTURE TYPE.
- RECESSED, WALL MOUNTED OR PENDANT MOUNTED LIGHTING FIXTURE.
- 2' X 2' RECESSED LIGHTING FIXTURE.
- 2' X 4' RECESSED LIGHTING FIXTURE.
- SURFACE OR PENDANT MOUNTED LIGHTING FIXTURE.
- ASYMMETRIC RECESSED LINEAR LIGHTING FIXTURE. ARROW INDICATES DIRECTION OF FIXTURE.
- LIGHTING TRACK.
- RECESSED WALL WASHER LIGHTING FIXTURE.
- WALL MOUNTED LIGHTING FIXTURE.
- LIGHTING FIXTURE ON EMERGENCY CIRCUIT.
- EXTERIOR POLE MOUNTED LIGHTING FIXTURE.
- V E DF — WALL MOUNTED EXIT LIGHTING FIXTURE ON EMERGENCY CIRCUIT. ARROW INDICATES DIRECTION OF CHEVRON. "2F" INDICATES DOUBLED FACED. "V" INDICATES VANDAL RESISTANT. "ISA" INDICATES EXIT SIGN WITH INTERNATIONAL SYMBOL OF ACCESSIBILITY.
- E DF — CEILING MOUNTED EXIT LIGHTING FIXTURE ON EMERGENCY CIRCUIT.
- SELF CONTAINED EMERGENCY BATTERY LIGHT. CONNECT TO UNSWITCHED SIDE OF ROOM LIGHTING CIRCUIT.

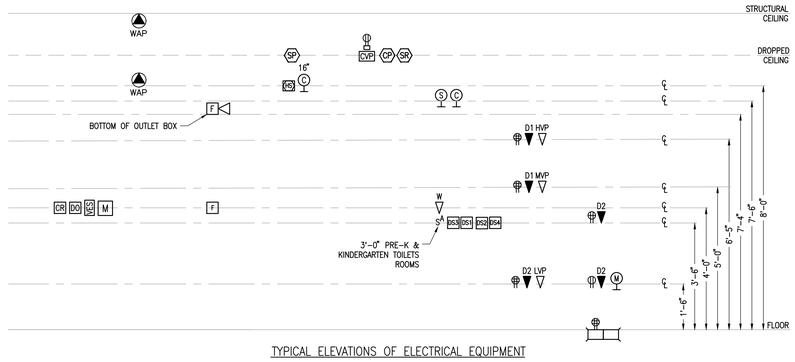
SWITCHES

- SA — SINGLE POLE SWITCH – UPPER LETTER INDICATES SWITCH CONTROL.
- S3 — THREE–WAY SWITCH.
- S4 — FOUR–WAY SWITCH.
- MCS — MOMENTARY CONTACT SWITCHES SHALL BE ARROW HART #1995L WITH AH14 KEYS OR APPROVED EQUAL. PROVIDE TWO KEYS FOR EVERY SWITCH.
- PS — PILOT LIGHT AND SINGLE POLE SWITCH.
- KS — ALL KEY OPERATED SWITCHES SHALL BE ARROW HART #1191 WITH 1187 PLATE AND AH14 KEY OR APPROVED EQUAL. PROVIDE TWO KEYS FOR EVERY SWITCH.
- SA OC — COMBINATION WALL SWITCH AND OCCUPANCY SENSOR. SENSOR SWITCH NWSXPDT–WH OR APPROVED EQUAL.
- SA,B OC — COMBINATION DUAL–LEVEL WALL SWITCH AND OCCUPANCY SENSOR. SENSOR SWITCH NWSXPDT–WH OR APPROVED EQUAL.
- 1B — 2–BUTTON ON/OFF LIGHTING CONTROL STATION. NLIGHT NPODMA OR APPROVED EQUAL. FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING. ¾" CONDUIT TO ACCESSIBLE CEILING.
- 2B — 4–BUTTON, TWO ZONE ON/OFF LIGHTING CONTROL STATION. NLIGHT NPODMA 2P OR APPROVED EQUAL. FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING. ¾" CONDUIT TO ACCESSIBLE CEILING.
- 4B — 8–BUTTON 4 ON/OFF LIGHTING CONTROL STATION. NLIGHT NPODMA–4P OR APPROVED EQUAL. FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING. ¾" CONDUIT TO ACCESSIBLE CEILING.
- DS1 — ONE ZONE ON/OFF DIMMER SWITCH NLIGHT NPODMA–DX OR APPROVED EQUAL. FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING. ¾" CONDUIT TO ACCESSIBLE CEILING.
- DS2 — TWO ZONE ON/OFF DIMMER SWITCH NLIGHT NPODMA–2P DX OR APPROVED EQUAL. FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING. ¾" CONDUIT TO ACCESSIBLE CEILING.
- DS3 — ONE ZONE ON/OFF DIMMER SWITCH NLIGHT NPODMA DX OR APPROVED EQUAL AND TWO ZONE ONE/OFF DIMMER SWITCH NLIGHT NPODMA 2P DX OR APPROVED EQUAL INSTALLED IN ONE TWO–GANG BOX. FURNISH AND INSTALL 4" SQUARE BOX WITH TWO GANG PLASTER RING. ¾" CONDUIT TO ACCESSIBLE CEILING.
- DS4 — TWO TWO–ZONE ON/OFF DIMMER SWITCH. TWO NLIGHT NPODMA 2P DX OR APPROVED EQUAL INSTALLED IN ONE TWO–GANG BOX. FURNISH AND INSTALL 4" SQUARE BOX WITH TWO GANG PLASTER RING. ¾" CONDUIT TO ACCESSIBLE CEILING.
- DS5 — ONE ZONE ON/OFF WITH COLOR CHANGING CENTRAL DIMMER SWITCH. NLIGHT NPODMA 2P DX COLOR OR APPROVED EQUAL. FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING 3/4" CONDUIT TO ACCESSIBLE CEILING.
- DS6 — ONE ZONE ON/OFF WITH TUNABLE WHITE CONTROL DIMMER SWITCH. NLIGHT NPODMA 2P DX CCT OR APPROVED EQUAL. FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING 3/4" CONDUIT TO ACCESSIBLE CEILING.
- DS7 — DIGITAL TOUCH SCREEN CONTROL SWITCH. NLIGHT NPOD TOUCH–WH OR APPROVED EQUAL. FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING 3/4" CONDUIT TO ACCESSIBLE CEILING.
- KS — LIGHTING CONTROL SYSTEM KEYSWITCH.

LIGHTING SENSORS

- OS — RECESSED CEILING MOUNTED DUAL TECHNOLOGY LIGHTING SENSOR – SENSOR SWITCH NCM–PDT–9 OR APPROVED EQUAL.
- S — CEILING MOUNTED DUAL TECHNOLOGY LIGHTING SENSOR WITH WALL BRACKET – SENSOR SWITCH NWV–16–BR KIT OR APPROVED EQUAL. MOUNTED HIGH ON WALL NEAR CEILING FOR UNOBSTRUCTED VIEW. REFER TO SPECIFICATIONS.
- PC H — CEILING MOUNTED TWO ZONE DAY LIGHT LIGHTING SENSOR – SENSOR SWITCH NCM–ADCX–DR OR APPROVED EQUAL. "H" INDICATES HIGH MOUNT GYMNASIUM PHOTOCELL.
- OS H — HIGH MOUNT GYMNASIUM OCCUPANCY SENSOR MOUNTED ON BOTTOM OF TRUSS WITH WIRE GUARD. OCCUPANCY SENSOR TO OPERATE HI/LOW SYSTEM FOR FIXTURES SHALL BE SENSOR SWITCH N–CM6 OR APPROVED EQUAL. EXACT LOCATION TO BE DETERMINED BY ARCHITECT.

(REFER TO DWG. 10.0.02 FOR TECHNOLOGY SYMBOL LIST)



TYP

VIDEO SURVEILLANCE CAMERA SYMBOLS

IP CAMERA SYSTEM EQUIPMENT INCLUDING BUT NOT LIMITED TO CAMERAS, HOUSING, BRACKETS, NVR, SERVER, SOFTWARE, PROGRAMMING AND TESTING SHALL BE FURNISHED AND INSTALLED BY OWNER'S VENDOR UNDER SEPARATE CONTRACT.

CAMERA IP CABLING BY FURNISHED AND INSTALLED UNDER STRUCTURED CABLING DIVISION 270100. ELECTRICAL CONTRACTOR TO PROVIDE METAL FLEX CONDUIT OR LIQUID/TIGHT CONDUIT FOR EXTERIOR CAMERA LOCATIONS.

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 120V SERVICE AND PATHWAYS INCLUDING CONDUIT, SLEEVES, BUSHINGS, BACK BOXES, PULL LINES, AND BLANK FACEPLATES FOR IP CAT 6 DATA CABLING. FOR ALL EXTERIOR CAMERA LOCATION, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 120V SERVICE, BACK BOXES, AND METAL FLEX CONDUIT FROM THE EXTERIOR CAMERA LOCATION TO THE INTERIOR CAT 6 IP CABLE DROP.

REFER TO REFLECTED CEILING, LIGHTING, AND SECURITY PLANS AND COORDINATE ALL CAMERA LOCATIONS WITH ARCHITECT AND OWNER'S VENDOR BEFORE INSTALLATION.

NOTES – REFER TO DIV 28 SPECIFICATIONS.
180 = TWO-SENSOR 180 DEGREE CAMERA.
270 = THREE-SENSOR 270 DEGREE CAMERA.
360 = FOUR-SENSOR 360 DEGREE CAMERA.

"FE" FISH EYE
"WP" INDICATES CAMERA WITH WEATHERPROOF DOME ENCLOSURE.
"C" INDICATES CORNER MOUNT.
"PTZ" INDICATES PAN/TILT/ZOOM

POWER REQUIRED	SYMBOL	DESCRIPTION	TYPICAL LOCATION	BACK BOX
120V PoE		CCTV – IP CAMERA, INTERIOR, WALL MOUNTED	INTERIOR 12' TO 14' AFF TYPICAL.	N/A
NONE PoE		CCTV – IP CAMERA, INTERIOR, CEILING DOME	ON CEILING.	N/A
NONE PoE	WP	CCTV – IP CAMERA, EXTERIOR, CEILING DOME. ELECTRICAL CONTRACTOR TO PROVIDE BACK BOX AND METAL FLEX CABLE FROM CAMERA LOCATION TO INTERIOR CAMERA CAT 6 DATA DROP.	ON CEILING.	YES
120V PoE	WP	CCTV – IP CAMERA, EXTERIOR, WALL MOUNTED. ELECTRICAL CONTRACTOR TO PROVIDE BACK BOX AND METAL FLEX CABLE FROM CAMERA LOCATION TO INTERIOR CAMERA CAT 6 DATA DROP.	EXTERIOR 12' TO 14' AFG TYPICAL.	YES

IP VIDEO SURVEILLANCE CABLING SYSTEM SYMBOLS

REFER TO ELECTRICAL FLOOR PLANS AND SITE DRAWINGS. COORDINATE EXACT LOCATIONS AND CONNECTOR TYPE AT EACH END WITH CCTV SYSTEM VENDOR BEFORE INSTALLATION. COORDINATE EXACT LOCATIONS AND ELEVATIONS WITH ARCHITECT BEFORE INSTALLATION.

CAT 6 UTP CABLING FOR CAMERAS SHALL BE PROVIDED BY DIVISION 270100. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 120V SERVICE AND PATHWAYS INCLUDING CONDUIT, SLEEVES, BUSHINGS, BACK BOXES, PULL LINES, AND BLANK FACEPLATES FOR IP CAMERA CAT 6 DATA CABLING. REFER TO SPECIFICATIONS AND RISER DIAGRAMS.

ELECTRICAL CONTRACTOR FURNISH AND INSTALL REQUIRED OUTLET BOXES AND CONDUITS FOR CAT 6 CABLING INSTALLED IN EXPOSED STRUCTURAL CEILINGS. FURNISH AND INSTALL BUSHINGS AT EACH END OF THE CONDUIT. CEILING LOCATIONS: ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL SINGLE GANG BACK BOX. WALL MOUNTED LOCATIONS: ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING. FURNISH AND INSTALL A 1" CONDUIT FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. FOR ALL EXTERIOR CAMERA LOCATION, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 120V SERVICE, BACK BOXES, AND METAL FLEX CONDUIT FROM THE EXTERIOR CAMERA LOCATION TO THE INTERIOR CAT 6 IP CABLE DROP.

IP CAMERA SYSTEM EQUIPMENT INCLUDING BUT NOT LIMITED TO CAMERAS, HOUSING, BRACKETS, NVR, SERVER, SOFTWARE FURNISHED AND INSTALLED BY OWNER'S VENDOR UNDER SEPARATE CONTRACT.

POWER REQUIRED	SYMBOL	DESCRIPTION	TYPICAL LOCATION	BACK BOX / FACEPLATE
NONE FOR ABOVE CEILING OUTLETS	CCTV	CCTV – UTP DATA OUTLET BY DIVISION 270100 STRUCTURED CABLING SYSTEM INSTALLER: CEILING MOUNTED CAMERAS BY DIVISION 281000 SECURITY CONTRACTOR.	ABOVE CEILING.	
NONE	CCTV	CCTV – FLUSH WALL MOUNTED CCTV DATA OUTLET BY DIVISION 270100 STRUCTURED CABLING SYSTEM INSTALLER: COORDINATE EXACT LOCATION ABOVE FINISHED CEILING FOR LOCATION OF WALL MOUNT CAMERA WITH ARCHITECT.	COORDINATE LOCATION AND ELEVATION WITH ARCHITECT PRIOR TO INSTALLATION.	

ACCESS CONTROL SYSTEM SYMBOLS

THE OWNER'S SECURITY VENDOR UNDER SEPARATE CONTRACT SHALL PROVIDE ALL REQUIRED EQUIPMENT INCLUDING POWER SUPPLIES, CONTROL PANELS, DOOR READERS, HEAD-END SYSTEM, LOW VOLTAGE CABLING, DEVICE BRACKETS, CONNECTORS, TERMINATIONS, PROGRAMMING AND TESTING FOR THE ACCESS CONTROL SYSTEM AND SHALL PROVIDE REQUIRED CABLING AND LABOR TO INTERFACE THE ACCESS CONTROL SYSTEM TO THE INTRUSION ALARM SYSTEM AND VIDEO SURVEILLANCE CCTV SYSTEMS.

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 120V CIRCUITS AND PATHWAYS INCLUDING CONDUIT, SLEEVES, BUSHINGS, BACK BOXES, PULL LINES, AND BLANK FACEPLATES AS INDICATED ON THE DRAWINGS.

POWER REQUIRED	SYMBOL	DESCRIPTION	LOCATION	BACK BOX / FACEPLATE
NONE	CR	DOOR PROXIMITY/CARD READER EQUIPMENT AND LOW VOLTAGE CABLING PROVIDED BY OWNER'S SECURITY VENDOR. ELECTRONIC LATCH AND LATCH POWER SUPPLY BY DOOR HARDWARE VENDOR. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" SQUARE BOX WITH TWO GANG PLASTER RING AND BLANK FACEPLATE. FURNISH AND INSTALL A 1" CONDUITS FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. FURNISH AND INSTALL BUSHINGS AT EACH END OF THE CONDUITS. REFER TO SPECIFICATIONS AND RISER DIAGRAMS. ELECTRICAL CONTRACTOR TO PROVIDE 120V CIRCUIT TO EACH DOOR. POWER SUPPLY FROM STANDBY POWER PANEL.	48" A.F.F.	ONE GANG
NONE	DB	SECURITY SYSTEM DURESS BUTTON LOCKDOWN SWITCH SHALL BE PROVIDED BY OWNER'S SECURITY VENDOR. EXACT LOCATIONS BY THE ARCHITECT IN FIELD. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" SQUARE BOX WITH TWO GANG PLASTER RING AND BLANK FACEPLATE. FURNISH AND INSTALL A 1" CONDUITS FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. FURNISH AND INSTALL BUSHINGS AT EACH END OF THE CONDUITS.	4'-6" A.F.F.	TWO GANG SINGLE PLASTER RING

LOCAL AUDIOVISUAL PRESENTATION SYSTEM SYMBOLS

ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" SQUARE BOX WITH TWO GANG PLASTER RING UNLESS OTHERWISE NOTED. FURNISH AND INSTALL BUSHINGS AT EACH END OF THE CONDUIT. REFER TO SPECIFICATIONS AND RISER DIAGRAMS.

THE DIVISION 270100 COMMUNICATIONS SYSTEMS CONTRACTOR SHALL PROVIDE ALL LOW VOLTAGE WIRING, DEVICE BRACKETS, CONNECTORS, FACEPLATES, TERMINATION AND MATERIALS FOR THE DATA/IP NETWORK INCLUDING UTP AND FIBER CABLING, DATA OUTLETS, VOICE OVER IP OUTLETS, AND VIDEO OVER IP OUTLETS.

SOUND SYSTEMS AND PROJECTORS IN CAFETERIA, GYMNASIUM, AND MUSIC ROOM BY SECTION 274000.

OTHER INTERACTIVE PANELS OR PROJECTION EQUIPMENT SHALL BE PROVIDED BY THE OWNER UNDER SEPARATE CONTRACT (N.I.C.) UNLESS OTHERWISE NOTED.

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 120V ELECTRICAL RECEPTACLES AND PATHWAYS INCLUDING CONDUIT, SLEEVES, BUSHINGS, BACK BOXES, PULL LINES, BLANK FACEPLATES WHERE REQUIRED, CABLE TRAY, AND PLYWOOD BACKBOARDS FOR TERMINATION FIELDS AS INDICATED ON THE DRAWINGS.

POWER REQUIRED	SYMBOL	DESCRIPTION	LOCATION	BACK BOX / FACEPLATE
120V QUAD RECEPTACLE	FVS	FVS – FUTURE VIDEO PRESENTATION SOURCE OUTLET: EMPTY BACK BOX AND TWO (2) 1" CONDUITS TO NEAREST SOUND SYSTEM RACK WITH CUSTOM STAINLESS STEEL FACEPLATE. CABLING AND FACE PLATE CONNECTIONS BY OWNER.	18" A.F.F OR AS NOTED ON DWGS.	TWO GANG CABLE & CONNECTIONS PER SECTION 274000
120V ONE QUAD RECEPTACLE	HV MV	HV – HIGH VIDEO PRESENTATION OUTLET FOR DISPLAY: MV – MONITOR VIDEO PORT OUTLET: FUTURE AUDIOVISUAL AND USB CABLING PROVIDED BY OWNER UNDER SEPARATE CONTRACT. FURNISH AND INSTALL TWO 1¼" CONDUITS FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY.	MONITOR OR PROJECTOR. REFER TO DETAIL DWGS.	BLANK FACEPLATE
120V QUAD RECEPTACLE	LV	LV – LOW VIDEO PRESENTATION OUTLET: FUTURE AUDIOVISUAL AND USB CABLING PROVIDED BY OWNER UNDER SEPARATE CONTRACT. FURNISH AND INSTALL TWO 1¼" CONDUITS FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. FURNISH AND INSTALL BLANK FACEPLATE.	18" A.F.F.	TWO GANG BLANK FACEPLATE
NONE	CVP	CVP – CEILING VIDEO PROJECTOR OUTLET: PROJECTOR SUSPENDED IN ACT CEILING WITH PROJECTOR LENS TO BE PROVIDED BY OWNER. CEILING VIDEO PROJECTION OUTLET SHALL BE COMPRISED OF DATA OUTLET WITH TWO DATA JACKS, CABLE BY DIVISION 270100, AND TWO-GANG JUNCTION BOX WITH ONE 1¼" CONDUIT TO THE SOUND SYSTEM CABINET BY ELECTRICAL. COORDINATE EXACT LOCATION OF JUNCTION BOX ABOVE CEILING WITH ARCHITECT.	MOUNTED ABOVE CEILING. REFER TO DWGS.	
NONE	C	C – CAMERA INPUT PLATE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING AND TWO 1" CONDUITS FROM OUTLET BOX TO CAFETERIA SOUND EQUIPMENT RACK, WITH BUSHINGS AT EACH END OF THE CONDUIT. CABLE AND FACEPLATE CONNECTIONS BY DIVISION 274000	WALL MOUNTED.	SINGLE GANG WITH CUSTOM FACEPLATE BY 274000
NONE	AV1	AV1 – AUDIO/VISUAL CONTROL BUTTON PANEL: FUTURE AUDIOVISUAL CABLING PROVIDED BY OWNER UNDER SEPARATE CONTRACT. FURNISH AND INSTALL ONE 1" CONDUIT FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY.	48" A.F.F.	SINGLE GANG BLANK FACEPLATE

SPEECH REINFORCEMENT SYSTEM SYMBOLS

THE OWNER WILL PROVIDE THE SPEECH REINFORCEMENT SYSTEM UNDER A SEPARATE CONTRACT.

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL REQUIRED 120V HARD WIRED CIRCUIT TO CEILING MOUNTED SPEECH REINFORCEMENT SYSTEM.

POWER REQUIRED	SYMBOL	DESCRIPTION	LOCATION	BACK BOX / FACEPLATE
120V	SR	RECESSED CEILING MOUNTED SPEECH REINFORCEMENT SYSTEM SPEAKER MODULE FURNISHED AND INSTALLED BY OWNER' AV CONTRACTOR. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL 120V HARDWIRED CIRCUIT TO SPEECH REINFORCEMENT SYSTEM MODULE. CONNECT TO 120V CIRCUIT SERVING THE RECEPTACLE SERVING FLAT PANEL DISPLAY AT FRONT OF ROOM. PROVIDE ONE PAIR CABLE FROM ROOM PA BALL SWITCH, AND ONE PAIR CABLE FROM FIRE ALARM CONTROL MODULE TO OWNER'S SPEECH REINFORCEMENT SPEAKER FOR OWNER'S AV CONTRACTOR TO CONNECT AT SPEAKER.	ON CEILING.	N/A

EXTERIOR DOOR AUDIO / VIDEO CONTROL SYSTEM SYMBOLS

THE SECURITY SYSTEM CONTRACTOR DIVISION 281000 SHALL PROVIDE ALL EQUIPMENT, POWER SUPPLIES, AND WIRING INCLUDING DEVICE BRACKETS, CONNECTORS, FACEPLATES, AND TERMINATION EQUIPMENT FOR THE EXTERIOR DOOR VOICE ENTRY CONTROL SYSTEM.

ELECTRONIC DOOR LOCKING HARDWARE AND POWER SUPPLIES FOR LOCKING HARDWARE SHALL BE PROVIDED BY THE DOOR HARDWARE VENDOR. REFER TO THE DOOR HARDWARE SCHEDULE.

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 120V ELECTRICAL SERVICE AND PATHWAYS INCLUDING CONDUIT, SLEEVES, BUSHINGS, BACK BOXES, PULL LINES, BLANK FACEPLATES WHERE REQUIRED, CABLE TRAY, AND PLYWOOD BACKBOARDS FOR TERMINATION FIELDS AS INDICATED ON THE DRAWINGS.

POWER REQUIRED	SYMBOL	DESCRIPTION	TYPICAL LOCATION	BACK BOX / FACEPLATE
NONE	VES	VES – VIDEO/AUDIO ENTRANCE STATION: LOCATED AT EXTERIOR DOOR. (SEE SPECIFICATIONS FOR DETAILS.) ELECTRICAL CONTRACTOR SHALL INSTALL CUSTOM BACK BOX PROVIDED BY DISTRIBUTED COMMUNICATIONS SYSTEMS CONTRACTOR DIVISION 275000 WITH 1" CONDUIT FROM BACK BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. FURNISH AND INSTALL BUSHINGS AT EACH END OF THE CONDUIT. REFER TO SPECIFICATIONS AND RISER DIAGRAMS. DEVICE AND CABLING BY DISTRIBUTED COMMUNICATIONS CONTRACTOR DIVISION 275000.	48" A.F.F.	TWO GANG
120V DUPLEX RECEPTACLE	VMS	VMS – VIDEO/AUDIO MASTER STATION: SEE FLOOR PLAN FOR LOCATION (SEE SPECIFICATIONS FOR DETAILS.) ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" SQUARE BOX WITH TWO GANG PLASTER RING. FURNISH AND INSTALL A 1" CONDUIT FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. FURNISH AND INSTALL BUSHINGS AT EACH END OF THE CONDUIT. REFER TO SPECIFICATIONS AND RISER DIAGRAMS. DEVICE AND CABLING BY DISTRIBUTED COMMUNICATIONS CONTRACTOR DIVISION 275000.	WALL 48" A.F.F. OR DESK 18" A.F.F.	TWO GANG

INTRUSION ALARM SYMBOLS

THE OWNER'S SECURITY VENDOR SHALL PROVIDE THE INTRUSION ALARM SYSTEM INCLUDING BUT NOT LIMITED TO EQUIPMENT, DEVICES, CABLING TERMINATIONS, TESTING, PROGRAMMING.

REFER TO ARCHITECTURAL DETAIL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF INTRUSION ALARM SYSTEM EQUIPMENT.

ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ALL REQUIRED BORES, CONDUITS, AND 120V CIRCUITRY.

- LR — CEILING MOUNTED ADDRESSABLE PASSIVE INFRARED (PIF) MOTION DETECTOR WITH DRIVER. FURNISH WITH SWIVEL MOUNTING BRACKET. "LR" INDICATES LONG RANGE.
- M — ADDRESSABLE CONCEALED STEEL OR WOOD DOOR TYPE MAGNETIC CONTACTS.
- F — FLOOR RECESSED STEEL OVERHEAD DOOR MAGNETIC CONTACTS.
- C — CEILING MOUNTED PASSIVE INFRARED (PIF) MOTION DETECTOR WITH DRIVER.
- S — RECESSED SIREN – SIREN DRIVER LOCATED IN CONTROL PANEL.
- KP — ADDRESSABLE RECESSED KEY PAD (LCD). PROVIDE A CLEAR PLASTIC LOCKABLE COVER FOR EACH KEY PAD.
- PS — ACCESS CONTROL SYSTEM DOOR HARDWARE POWER SUPPLY
- ET — ELECTRIC DOOR TRIM HARDWARE OUTLET BOX.
- ES — ELECTRIC DOOR STRIKE OUTLET BOX.

TECHNOLOGY GENERAL NOTES

1 – IT IS NOT THE INTENTION TO SHOW EVERY TELECOMMUNICATION DETAIL, FITTING, HANGER, PATHWAY OR DEVICE. ALL SUCH ITEMS SHALL BE FURNISHED AND INSTALLED AS NECESSARY FOR A COMPLETE SYSTEM.

2 – DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT.

3 – FIELD VERIFY EXACT LOCATIONS AND ELEVATIONS FOR ALL COMMUNICATION DEVICE OUTLETS BEFORE INSTALLATION.

4 – ALL FIBER BACKBONE CABLING TO BE INSTALLED IN INNERDUCT PROVIDED BY CONTRACTOR AWARDED THE COMMUNICATIONS SCOPE OF WORK.

5 – ALL SERVICE ENTRANCE CONDUITS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

6 – ALL PATHWAYS FOR COMMUNICATIONS DEVICES INCLUDING CONDUITS, SLEEVES, BUSHINGS, PULL LINES, BACK BOXES, AND CABLE TRAY LADDER SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

7 – BLANK FACEPLATES WHERE REQUIRED SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

8 – ALL POWER CIRCUITS/RECEPTACLES SUPPORTING AUDIO-VIDEO EQUIPMENT AND LOW VOLTAGE AUDIO-VIDEO OUTLETS SHOULD BE ON THE SAME PHASE OR SHOULD ORIGINATE FROM THE SAME CIRCUIT PANEL.

9 – REFER TO SPECIFICATIONS FOR THE SCOPE OF WORK.

TELECOMMUNICATIONS WORK AREA OUTLET SYMBOLS

ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING. FURNISH AND INSTALL A 1" CONDUIT FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY UNLESS OTHERWISE NOTED. FURNISH AND INSTALL BUSHINGS AT EACH END OF THE CONDUIT. REFER TO SPECIFICATIONS AND RISER DIAGRAMS. FOR DATA D1 THROUGH D3 OUTLETS, FURNISH AND INSTALL A 1" CONDUIT FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. FOR D4 THROUGH D6 OUTLETS, FURNISH AND INSTALL A 1¼" CONDUIT FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY.
(X)= PHONE LINE TYPE: E = DEDICATED EMERGENCY ELEVATOR LINE.
F = DEDICATED FAX LINE.
M = DEDICATED MODEM LINE.

THE DIVISION 270100 COMMUNICATIONS SYSTEMS CONTRACTOR SHALL PROVIDE ALL LOW VOLTAGE WIRING, DEVICE BRACKETS, CONNECTORS, FACEPLATES, TERMINATION AND MATERIALS FOR THE DATA/IP NETWORK INCLUDING UTP AND FIBER CABLING, DATA OUTLETS, VOICE OVER IP OUTLETS, AND VIDEO OVER IP OUTLETS. THE COMMUNICATIONS SYSTEMS CONTRACTOR DIVISION 270100 SHALL PROVIDE EQUIPMENT RACKS FOR THE DATA/IP CABLING.

THE DIVISION 270100 COMMUNICATIONS SYSTEMS CONTRACTOR SHALL PROVIDE ALL LOW VOLTAGE WIRING, CROSS CONNECTIONS, DEVICE BRACKETS, CONNECTORS, FACEPLATES, AND TERMINATIONS FOR DEDICATED VOICE CABLES. THE COMMUNICATIONS SYSTEMS CONTRACTOR DIVISION 270100 SHALL PROVIDE ALL REQUIRED CABLING TO INTERFACE THE VOICE OVER IP SYSTEM TO THE PA/INTERCOM SYSTEM.

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 120V ELECTRICAL RECEPTACLES AND PATHWAYS INCLUDING CONDUIT, SLEEVES, BUSHINGS, BACK BOXES, PULL LINES, BLANK FACEPLATES WHERE REQUIRED, CABLE TRAY, AND PLYWOOD BACKBOARDS FOR TERMINATION FIELDS AS INDICATED ON THE DRAWINGS.

THE COMMUNICATIONS SYSTEMS CONTRACTOR DIVISION 270100 SHALL PROVIDE NONMETALLIC WALL MOUNTED WIRELESS ACCESS POINT ENCLOSURES, WIREMOLD #NMAPME OR EQUAL, FOR WIRELESS ACCESS POINT (WAP) OUTLETS INSTALLED IN WALL BACK BOXES.

POWER REQUIRED	SYMBOL	DESCRIPTION	TYPICAL LOCATION	TYPICAL FACEPLATE
120V ONE DUPLEX RECEPTACLE FOR EACH DATA DROP	DX	DX – DATA OUTLET: RJ-45, CAT. 6, 8-POSITION CONNECTORS FOR DATA CABLED TO DATA PATCH PANEL IN NEAREST WIRE CENTER. X = NUMBER OF DATA JACKS – (1, 2, 3, 4, 5, 6).	18" A.F.F. OR AS NOTED. REFER TO DWGS.	
120V DUPLEX RECEPTACLE	TD (F)	TD – TEL/DATA WORK AREA OUTLET: ONE (1) RJ-45, CAT. 6, 8-POSITION CONNECTOR FOR VOICE CABLED TO VOICE PATCH PANEL IN NEAREST WIRE CENTER AND PATCHED TO VOICE RISER PATCH PANEL. ONE (1) RJ-45, CAT. 6, 8-POSITION CONNECTOR FOR DATA CABLED TO DATA PATCH PANEL IN NEAREST WIRE CENTER. (F) = ONE (1) VOICE CABLE AND JACK FOR DEDICATED FAX LINE. EQUIPMENT BY OWNER UNDER SEPARATE CONTRACT (N.I.C.).	18" A.F.F. OR AS NOTED. REFER TO DWGS.	
NONE	W	DPI – "VoIP" DOOR SPEAKER PHONE INTERCOM OUTLET: ONE (1) CAT. 6, RJ-45 8A-POSITION CONNECTOR FOR DATA CABLED TO DATA PATCH PANEL IN NEAREST WIRE CENTER. PROVIDE WALL TELEPHONE DEVICE PLATE/JACK EQUIPMENT BY OWNER UNDER SEPARATE CONTRACT (N.I.C.). TELEPHONE EQUIPMENT BY OWNER UNDER SEPARATE CONTRACT (N.I.C.).	48" A.F.F.	
NONE	WAP	WAP – WIRELESS ACCESS POINT DATA OUTLET: INSTALLED ABOVE CEILING IN CONJUNCTION WITH WIRELESS ACCESS POINT (N.I.C.). ONE (1) RJ-45, CAT. 6A, 8-POSITION CONNECTOR FOR DATA CABLED TO DATA PATCH PANEL IN THE NEAREST WIRE CENTER.	ABOVE CEILING IN ACT AREAS. REFER TO DWGS. FOR LOCATIONS.	
NONE	WAP WP	WAP – WIRELESS ACCESS POINT DATA OUTLET: INSTALLED IN CONJUNCTION WITH WIRELESS ACCESS POINT WALL ENCLOSURE ("WE") . ONE (1) RJ-45, CAT. 6A, 8-POSITION CONNECTOR FOR DATA CABLED TO DATA PATCH PANEL IN THE NEAREST WIRE CENTER.	FLUSH WALL OUTLET 12"O.C. BELOW CEILING OR STRUCTURE	
NONE	WE WP	WE – WALL ENCLOSURE FOR WIRELESS ACCESS POINT. THE COMMUNICATIONS SYSTEMS CONTRACTOR DIVISION 270100 SHALL PROVIDE NONMETALLIC WALL MOUNTED WIRELESS ACCESS POINT ENCLOSURES, WIREMOLD #NMAPME OR EQUAL, FOR WIRELESS ACCESS POINT (WAP) OUTLETS INSTALLED IN WALL BACK BOXES. TO HOUSE PRESENT/FUTURE WIRELESS ACCESS POINT DEVICE. ENCLOSURE INSTALLED ON WALL DIRECTLY OVER WIRELESS ACCESS POINT (WAP) OUTLET. WIRELESS ACCESS POINT DEVICE PROVIDED BY OWNER UNDER SEPARATE CONTRACT (N.I.C.). WP = WEATHER PROOF ENCLOSURE	WALL MOUNTED OVER "WAP" OUTLET.	N/A
120V ONE DUPLEX RECEPTACLE	VH	VH – HIGH VIDEO OUTLET: ONE (1) RJ-45, CAT. 6A, 8-POSITION CONNECTOR FOR DATA CABLED TO PATCH PANEL IN THE NEAREST WIRE CENTER.	96" A.F.F. OR AS NOTED. REFER TO DWGS.	
120V 2-DUPLEX MINIMUM	DX	INDICATES TELECOMMUNICATIONS OUTLETS MOUNTED IN COMBINATION ELECTRICAL / LOW VOLTAGE WIREMOLD RFB4, RFB9, OR RFB11 FLOOR BOX AS REQUIRED. TELECOMMUNICATIONS CONNECTOR TYPES AS INDICATED BY TELECOMMUNICATION SYMBOLS. FLOOR BOX BY ELECTRICAL CONTRACTOR REFER TO FLOOR BOX SYMBOL ON DWG 10.0.01. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL MIN. TWO 1" CONDUITS, UNLESS OTHERWISE NOTED, TO ACCESSIBLE CEILING ABOVE ROOM.	IN FLOOR.	N/A

CLOCK SYSTEM SYMBOLS

ELECTRICAL CONTRACTOR SHALL INSTALL ALL SPEAKER BACKBOX FURNISHED BY DIVISION 275000 COMMUNICATION SUBCONTRACTOR. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A ¾" CONDUIT FROM BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. FURNISH AND INSTALL BUSHINGS AT EACH END OF THE CONDUIT. REFER TO SPECIFICATIONS AND RISER DIAGRAMS.

ELECTRICAL CONTRACTOR SHALL INSTALL ALL SPEAKER BACKBOX. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A ¾" CONDUIT FROM BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. FURNISH AND INSTALL BUSHINGS AT EACH END OF THE CONDUIT. REFER TO SPECIFICATIONS AND RISER DIAGRAMS. SPEAKER BACK BOX FURNISHED BY DIVISION 275000 COMMUNICATION SUBCONTRACTOR.

THE DIVISION 275000 COMMUNICATIONS SYSTEMS CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND WIRING INCLUDING DEVICE BRACKETS, CONNECTORS, FACEPLATES, AND TERMINATION EQUIPMENT FOR THE MASTER CLOCK/SECONDARY CLOCK SYSTEM.

THE DIVISION 275000 COMMUNICATIONS SYSTEMS CONTRACTOR SHALL FURNISH ALL SPECIALTY BACK BOXES TO BE INSTALLED BY THE ELECTRICAL CONTRACTOR.

POWER REQUIRED	SYMBOL	DESCRIPTION	TYPICAL LOCATION	BACK BOX / FACEPLATE
NONE	X C	WALL MOUNTED CLOCK PER SECTION 275000. X=SIZE (16" FOR 16" DIAMETER ANALOG CLOCK. ALL CLOCKS ARE 12" DIAMETER CLOCKS) UNLESS OTHERWISE NOTED. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING.	96" A.F.F.	TWO GANG
NONE	CS	WALL MOUNTED CLOCK/SPEAKER IN SHARED RECESSED ENCLOSURE PER SECTION 275000. X=SIZE (16" FOR 16" DIAMETER ANALOG CLOCK. ALL CLOCKS ARE 12" DIAMETER CLOCKS) UNLESS OTHERWISE NOTED. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING.	96" A.F.F.	TWO GANG

PA / INTERCOM SYSTEM SYMBOLS

ELECTRICAL CONTRACTOR SHALL INSTALL ALL SPEAKER BACKBOX FURNISHED BY DIVISION 275000 COMMUNICATION SUBCONTRACTOR. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A ¾" CONDUIT FROM BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. FURNISH AND INSTALL BUSHINGS AT EACH END OF THE CONDUIT. REFER TO SPECIFICATIONS AND RISER DIAGRAMS.

THE DIVISION 275000 COMMUNICATIONS SYSTEMS CONTRACTOR SHALL FURNISH ALL PUBLIC ADDRESS/INTERCOM SPECIALTY SPEAKER BACKBOXES TO BE INSTALLED BY THE ELECTRICAL CONTRACTOR.

THE DIVISION 275000 COMMUNICATIONS SYSTEMS CONTRACTOR SHALL PROVIDE HEAD-END EQUIPMENT FOR THE PUBLIC ADDRESS/INTERCOM SYSTEM.

THE DIVISION 275000 COMMUNICATIONS SYSTEMS CONTRACTOR SHALL PROVIDE ALL CABLING DEVICE BRACKETS, CONNECTORS, FACEPLATES, TERMINATION MATERIALS, AND EQUIPMENT RACKS/CABINETS FOR THE PUBLIC ADDRESS/INTERCOM SYSTEM.

THE DIVISION 275000 COMMUNICATIONS SYSTEMS CONTRACTOR SHALL PROVIDE ALL REQUIRED CABLING AND PROGRAMMING TO INTERFACE THE PA/INTERCOM SYSTEM TO THE VOICE OVER IP SYSTEM, TO THE MASTER CLOCK SYSTEM, AND TO ALL LOCAL SOUND SYSTEMS.

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 120V ELECTRICAL SERVICE AND PATHWAYS INCLUDING CONDUIT, SLEEVES, BUSHINGS, BACK BOXES, PULL LINES, BLANK FACEPLATES WHERE REQUIRED, CABLE TRAY, AND PLYWOOD BACKBOARDS FOR TERMINATION FIELDS AS INDICATED ON THE DRAWINGS.

POWER REQUIRED	SYMBOL	DESCRIPTION	TYPICAL LOCATION	BACK BOX ENCLOSURE
NONE	SP	PA / INTERCOM SPEAKER, FLUSH CEILING MOUNTED	ON CEILING	SPECIAL
NONE	SP S	PA / INTERCOM SPEAKER, SURFACE CEILING MOUNTED	ON CEILING	SPECIAL
NONE	SP V	PA / PAGING SPEAKER WITH BUILT IN VOLUME CONTROL,	ON CEILING	SPECIAL
NONE	SP	PA/INTERCOM RECESSED SPEAKER, FLUSH WALL MOUNTED	96" A.F.F. MIN. COORDINATE W/ ARCHITECT	SPECIAL
NONE	HS	PA/INTERCOM AND PAGING RECESSED HORN SPEAKER, FLUSH WALL MOUNTED	96" A.F.F. MIN. COORDINATE W/ ARCHITECT	SPECIAL
NONE	CS	LOCAL PA/INTERCOM SPEAKER CALL SWITCH. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG PLASTER RING. FURNISH AND INSTALL ONE ¾" CONDUITS FROM OUTLET BOX TO THE NEAREST ACCESSIBLE CEILING CAVITY. REFER TO SPECIFICATIONS AND RISER DIAGRAMS.	48" A.F.F.	TWO GANG
NONE	IMS	PA/INTERCOM MASTER STATION CONSOLE IMS – INDICATES PA/INTERCOM MASTER STATION CONSOLE LOCATION. VOICE CONNECTOR IN DESIGNATED WORK AREA OUTLET CABLED TO PA/INTERCOM SYSTEM IN HEAD END ROOM.

LIGHTING FIXTURE GENERAL NOTES FOR ALL LIGHTING FIXTURES

1 – FURNISH FIXTURES WITH ALL REQUIRED MOUNTING HARDWARE. WHERE RECESSED LIGHTING FIXTURES ARE TO BE INSTALLED IN PLASTER, ACOUSTIC TILE, OR GYPSUM BOARD, ALL PLASTER FRAMES, FINISH TRIM, FITTINGS AND SUPPORTS SHALL BE FURNISHED AND INSTALLED TO MEET THE ARCHITECTURAL AND STRUCTURAL CONDITIONS AT EACH LOCATION.

2 – REFER TO ARCHITECTURAL DETAIL DRAWINGS AND REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.

3 – THE EXACT MOUNTING HEIGHT OF ALL CEILING OR WALL MOUNTED LIGHTING FIXTURES SHALL BE DETERMINED BY THE ARCHITECT, INCLUDING THE LENGTHS OF STEMS FOR PENDANT MOUNTED FIXTURES.

4 – ALL LIGHTING FIXTURES AND LED DRIVERS SHALL BE 120/277 DUAL VOLTAGE RATED.

5 – ALL FIXTURES SHALL BE RATED AT 3500K AND HAVE A MINIMUM CRI RATING OF 82, UNLESS OTHERWISE NOTED.

6 – COORDINATE LED DRIVERS WITH ASSOCIATED LIGHTING CONTROLS.

7 – FIXTURE INPUT POWER IS THE ACTUAL FIXTURE INPUT WATTAGE, NOT THE LIGHT SOURCE WATTAGE. ANY "ALTERNATES", "EQUALS" OR "EQUIVALENTS" MAY HAVE DIFFERENT LOADS. ELECTRICAL CONTRACTOR SHALL VERIFY THAT THE PROPOSED FIXTURE INPUT POWER MATCHES SPECIFIED. PROJECT PURSUING LEED CERTIFICATION AND LIGHTING POWER DENSITY IS A FACTOR IN OVERALL BUILDING EFFICIENCY.

8 – THE PRIMARY MANUFACTURER AND MODEL NUMBER LISTED FOR EACH FIXTURE TYPE SHALL SERVE AS THE BASIS OF DESIGN. ANY "ALTERNATES", "EQUALS" OR "EQUIVALENTS" SUBSEQUENTLY LISTED UNDER EACH PRIMARY LISTING MAY BE ABLE TO PROVIDE A SUITABLE PRODUCT THAT CLOSELY MATCHES THE PRIMARY LISTING. UNLESS PROVIDED WITH A SPECIFIC CATALOG NUMBER, THOSE "ALTERNATES", "EQUALS" OR "EQUIVALENTS" MAY BE REQUIRED TO MODIFY THEIR STANDARD PRODUCTS TO MATCH THE PRIMARY LISTING AS BEST POSSIBLE. SUITABILITY OF "ALTERNATES", "EQUALS" OR "EQUIVALENTS" SHALL BE DETERMINED SOLELY BY THE LIGHTING DESIGNER FOR ANY FIXTURE TYPES LISTED ON THIS LIGHTING FIXTURE SCHEDULE, UNLESS OTHERWISE NOTE.

9 – THE EXACT COLOR AND FINISH OF EACH LIGHTING FIXTURE USING THE RAL COLOR SYSTEM SHALL BE SELECTED BY THE ARCHITECT. INCLUDE FIXTURE STEMS AND POWER CORDS WHERE APPLICABLE.

10 – THE EXACT TYPE AND COLOR OF REFLECTOR SHALL BE SELECTED BY THE ARCHITECT WHERE APPLICABLE

11 – EXACT TYPE AND COLOR OF DECORATIVE GLASS SHIELD AND TRIM SHALL BE SELECTED BY THE ARCHITECT WHERE APPLICABLE.

12 – AIRCRAFT SUPPORT CABLES AND STRAIGHT POWER CORDS OR STEMS SHALL BE FURNISHED WITH THE CORRECT LENGTHS. ARCHITECT TO SELECT LENGTH.

13 – COORDINATE INSTALLATION AND EXACT LOCATION OF REMOTE LED DRIVER WITH ARCHITECTURAL DETAILS AND MANUFACTURER'S REQUIREMENTS.

14 – COORDINATE MOUNTING AND INSTALLATION IN SOFFIT OR COVE WITH ARCHITECTURAL DETAILS. VERIFY DIMENSIONS IN FIELD BEFORE SHIPMENT OF LIGHTING FIXTURES.

Type	Fixture Description	Manufacturer	Model / Catalog #	Light Source CCT CRI	Lumens (lm) (Delivered) (Unit)	Lumens (lm / LF) (Delivered) (Linear)	Control Intent	Driver Location	Fixture Load (W) (Unit)	Fixture Load (W/LF) (Linear)	Location / Use	Notes
EXTERIOR												
G1	Exterior area parking / roadway-scale led fixture with type II distribution and house-side shield, on 16' pole.	Lithonia Eaton Galleon Beacon Viper	DSXO-LED-P3-30K-T2M-MVOLT-RPA-NLTAIR2-PIRHN-FAO-PIRH-HS-FINISH POLE: RSS-16-6-4B-DM19AS-FBC-FINISH	LED 3000K 80CRI	8343 lm		Dim	Integral	69 W		Roadway	Finish per architect. Motion sensor controlled, high/low dimming, bluetooth controlled. LEED COMPLIANT B.U.G. RATING: B2-U0-G3
G2	Exterior area parking / roadway-scale led fixture with type IV distribution and house-side shield, on 16' pole.	Lithonia Eaton Galleon Beacon Viper	DSXO-LED-P3-30K-T4M-MVOLT-RPA-NLTAIR2-PIRHN-FAO-PIRH-HS-FINISH POLE: RSS-16-6-4B-DM19AS-FBC-FINISH	LED 3000K 80CRI	8565 lm		Dim	Integral	69 W		Parking Areas	Finish per architect. Motion sensor controlled, high/low dimming, bluetooth controlled. LEED COMPLIANT B.U.G. RATING: B2-U0-G3
G3	Exterior area parking / roadway-scale led fixture with type V distribution, on 16' pole.	Lithonia Eaton Galleon Beacon Viper	DSXO-LED-P3-30K-T5M-MVOLT-RPA-NLTAIR2-PIRHN-FAO-PIRH-FINISH POLE: RSS-16-6-4B-DM19AS-FBC-FINISH	LED 3000K 80CRI	8812 lm		Dim	Integral	69 W		Parking Areas	Finish per architect. Motion sensor controlled, high/low dimming, bluetooth controlled. LEED COMPLIANT B.U.G. RATING: B3-U0-G2
G4	Pedestrian scale pole top led fixture with type III distribution with bi-level switching and occupancy controls, on 12' pole.	Lithonia Eaton Galleon Beacon Viper	RADPT-P2-30K-P4TH-MVOLT-PT4-NLTAIR2-PIRHN-FAO-PIRH-FINISH POLE: RSS-12-4B-PT-FBC-FINISH	LED 3000K 80CRI	3909 lm		Dim	Integral	38 W		Walkways	Finish per architect. Motion sensor controlled, high/low dimming, bluetooth controlled. LEED COMPLIANT B.U.G. RATING: B2-U2-G2
G4A	Pedestrian scale pole top led fixture with type IV distribution with bi-level switching and occupancy controls and house-side shield, on 12' pole.	Lithonia Eaton Galleon Beacon Viper	RADPT-P2-30K-ASY-MVOLT-PT4-NLTAIR2-PIRHN-FAO-PIRH-HS-FINISH POLE: RSS-12-4B-PT-FBC-FINISH	LED 3000K 80CRI	4521 lm		Dim	Integral	38 W		Walkways	Finish per architect. Motion sensor controlled, high/low dimming, bluetooth controlled. LEED COMPLIANT B.U.G. RATING: B0-U2-G3
G5	Paver recessed round LED flag pole uplight lighting fixture.	Hydrel BK Lighting Winona	M9410C-[MATERIAL]-LED-P1-30K-MVOLT-MFL- FLC-348-IHL-[TRIM RING]-[FINISH]	LED 3000K 80CRI	1075 lm		Dim	Integral	10 W		Flag Pole	Finish per architect.
G6	REFER TO SCHEDULE OF LIGHTING FIXTURES BELOW											
INTERIOR												
Pendant												
P1	REFER TO SCHEDULE OF LIGHTING FIXTURES BELOW											
P2	REFER TO SCHEDULE OF LIGHTING FIXTURES BELOW											
P3	Direct indirect linear pendant	Lightnet	Matric R3 Direct Indirect	Integral LED 3500K 80+ CRI		980 lm/LF	DIM	Remote		7 W/LF	Principal office General admin	Suspension height TBD
P4A	Organic shaped pendant	Lumetta Alt: Barbican Lightart CodeEdge	Nexus 23" pendant	Integral LED 3500K 98 CRI	1755 lm		DIM	Integral	60 W		Project areas	Suspension height TBD
P4B	Organic shaped pendant	Lumetta	Nexus 42" pendant	Integral	8565 lm		DIM	Integral	192 W		Project areas	Suspension height TBD
P4C	Organic shaped pendant	Lumetta	Nexus 72" MOD pendant	Integral			DIM	Integral			Project areas	Suspension height TBD
P5	4" wide x 4" tall direct indirect pendant	Axis	Beam 4 Pendant Direct Indirect	Integral		1000 lm/LF(Up)	DIM	Integral		6.7W/LF (Up)	Classrooms	Suspension height TBD
P6A	12" diameter globe pendant	Sistemalux	Bolla Small 12"	Integral	978 lm		DIM	Integral	12.4 W		Media center	Suspension height TBD
P6B	16" diameter globe pendant	Sistemalux	Bolla Medium 16"	Integral	1151 lm		DIM	Integral	22.5 W		Media center	Suspension height TBD
P6C	20" diameter globe pendant	Sistemalux	Bolla Large 20"	Integral	2050 lm		DIM	Integral	29.2 W		Media center	Suspension height TBD
P7A	2' outer diameter ring pendant, 3" profile, direct/indirect	Beta Calco	Ring 3-RGTP2P02	Integral LED 3500K 80+ CRI	4600 lm (Direct) 2200 lm (Indirect)		DIM	Integral	68 W		Cafeteria	Suspension height TBD
P7B	3' outer diameter ring pendant, 3" profile, direct/indirect	Beta Calco	Ring 3-RGTP2P03	Integral LED 3500K 80+ CRI	6700 lm (Direct) 4400 lm (Indirect)		DIM	Integral	109 W		Cafeteria	Suspension height TBD
P7C	4' outer diameter ring pendant, 3" profile, direct/indirect	Beta Calco	Ring 3-RGTP2P04	Integral LED 3500K 80+ CRI	8800 lm (Direct) 4400 lm (Indirect)		DIM	Integral	132 W		Cafeteria	Suspension height TBD
P7D	6' outer diameter ring pendant, 3" profile, direct/indirect	Beta Calco	Ring 3-RGTP2P06	Integral LED 3500K 80+ CRI	13000 lm (Direct) 8800 lm (Indirect)		DIM	Integral	213 W		Cafeteria	Suspension height TBD
P8	6" diameter globe pendant	Tegan	Mini-Kore Pendants IP20 Vidro Orb Shade 6"	Integral LED 3500K 80+ CRI	1250 lm		DIM	Remote	16.75 W		Lobby Cafeteria	Suspension height TBD
P9	31.5" diameter acoustic dome pendant	Buzzi Space	Buzzidome	Integral LED 3000K 90 CRI	2545 lm		DIM	Integral	29 W		Cafeteria	Suspension height TBD
P10	48" diameter pendant with 21" diameter circular cutout	Prudential	Olive 48" diameter	Integral LED 3500K 80+ CRI	5000 lm		DIM	Integral	70 W		Lobby Media center entry	Suspension height TBD
P11	4'-0" Pendant mounted linear led direct/indirect high-bay lighting fixture.	Lithonia Acculite Philips Daybrite	IBL-24L-WD-SD125-LP835-WGX-CS93W-NPP16D-DWH-ZACVH	LED 3500K 80CRI	24000 lm		Dim	Integral	192 W		Gymnasium	Mounting details to be coordinated per architectural drawings. Finish per architect.
Recessed												
R1	4" round opening recessed downlight with	Gotham	EVO 4inch	Integral	1527 lm		DIM	Integral	13.7 W		Typical recessed	
R2	5" aperture recessed linear perimeter fixture	Axis	Beam 6 Perimeter	Integral		400 lm/LF	DIM	Integral		3.2 W/LF	Lobby art wall	
R3	REFER TO SCHEDULE OF LIGHTING FIXTURES BELOW											
R4	4" round opening recessed downlight with	Gotham	EVO 4inch	Integral	1994 lm		DIM	Integral	19.5 W		Media center	
R5	4" aperture recessed linear fixture	Axis	Beam 4 Recessed	Integral		400 lm/LF	DIM	Integral		3.2 W/LF	Classrooms	
Surface												
S1	5/8" shallow profile surface mounted fixture	Lightolier	Slim surface	Integral	1000 lm		DIM	Remote	14.7 W		Typical restrooms,	
S2	4" aperture surface mounted direct linear	Axis	Beam 4 Surface	Integral		400 lm/LF	DIM	Integral		3.2 W/LF	Stair A	
S3	Surface mounted linear LED tape channel with Qtran		Tony Flat (01)	Integral		204 lm/LF	DIM	Remote		4 W/LF	Classroom under	
S4	1FT LED cove light with static blue colored	Insight	Pilot Exterior (PEX)	Blue		600 lm/LF	DIM	Remote		10 W/LF	Media Center	
S5	Horizontal bending LED strip	Q-Tran	Q-CAP Kuru Static White	Integral		486 lm/LF	DIM	Remote		6 W/LF	Lobby	
S6A	36" diameter surface mounted fixture with 16"	Prudential	Olive 36" diameter	Integral	2900 lm		DIM	Integral	42 W		Media Center	
S6B	48" diameter surface mounted fixture with 21"	Prudential	Olive 48" diameter	Integral	5000 lm		DIM	Integral	70 W		Media Center	
S7	Surface/pendant 4'-0" linear strip	Lithonia	ZL1N-4ft-3000LM-FST-MVOLT-35K-80CRI-	LED	3000 lm		Dim	Integral	24 W		B.O.H.	
T1	Track object light fixture- 3" diameter, 7.5"	LF Illumination	Lanix Trackhead	Integral	1768 lm		DIM	Integral	19 W		Cafeteria stage	
TA	Suspended 2 circuit track, 120V	LF Illumination	TEK40	NA	NA	NA	NA	NA	NA	NA	Cafeteria stage	
Wall												
W1	Indirect linear mounted sconce with 2 sides	Axis	Edge 2	Integral		600 lm/LF	DIM	Integral		4.2 W/LF	Typical corridors	
W2	Not used											
W3	Wall mounted, small profile 9" wide x 5..5" deep, LED full cutoff wall sconce light.	Lithonia Eaton HE Williams	WDG2-LED-P2-30K-80-VF-MVOLT-DS-DMG-PIR-NLTAIR2-FINISH	LED 3000K 80CRI	1200 lm		Dim	Integral	10 W		Exerior Walls	Wall mounted details and height to be coordinated per architectural drawings and elevations. Finish per architect. LEED COMPLIANT B.U.G. RATING: B1-U0-G0
W4	Wall mounted, small profile 9" wide x 5..5" deep, LED full cutoff wall sconce egress light.	Lithonia Eaton HE Williams	WDG2-LED-P2-30K-80-VF-MVOLT-DS-DMG-PIR-NLTAIR2-FINISH	LED 3000K 80CRI	1201 lm		Dim	Integral	11 W		Exerior Walls	Wall mounted details and height to be coordinated per architectural drawings and elevations. Finish per architect. LEED COMPLIANT B.U.G. RATING: B1-U0-G0
Misc												
	LED edge-lit exit sign, Red lettering on mirror background.	EELP DualLite EvenLite	EDGP-3RS(2RS)-W-SCW	LED	N/A		N/A	Integral			Egress	Refer to floor plans for single or double faced. Coordinate ceiling or wall mounted exit signs with arhitetural detail drawings. Refer to the floor plans for number of chevrons/arrows required.
	LED edge-lit exit sign, Red lettering on mirror background, with original international symbol of accessibility.	EELP DualLite EvenLite	SWXECT-EDGP-3RS(2RS)-W-SCW-[ORIGINAL SYMBOL/NOT CT APPROVED SYMBOL]	LED	N/A		N/A	Integral			Accessible Egress	Refer to floor plans for single or double faced. Coordinate ceiling or wall mounted exit signs with arhitetural detail drawings. Refer to the floor plans for number of chevrons/arrows required.
	High-abuse durable cast aluminum exit sign.	Lithonia DualLite EvenLite	LV-S-AW-1-R-120/277-UM	LED	N/A		N/A	Integral			Gymnasium Egress	Refer to floor plans for single or double faced. Coordinate ceiling or wall mounted exit signs with arhitetural detail drawings. Refer to the floor plans for number of chevrons/arrows required.
	Dual-head LED emergency lighting battery unit.	Lithonia DualLite EvenLite	ELM2L-UVOLT-L1P-SORT	LED	N/A		N/A	Integral			Main Electric Room	

SCHEDULE OF LIGHTING FIXTURES

FIXTURE TYPE	MANUFACTURER OR APPROVED EQUAL	CATALOG NUMBER	VOLTS	LUMENS	WATTS	SOURCE/CCT	DRIVER	CONTROL	MOUNTING	LOCATION	DESCRIPTION	NOTES	ACCEPTED MANUFACTURER EQUALS
G6	HYDREL	HSL13-9INCH-LED-30K-MVOLT-L-MIN5-BB-BRSS	277	--	--	LED/3000K 80 CRI	INTEGRAL	0-10V TO 10% DIM	STAIR	EXTERIOR STEPS	9" STEP LIGHTING WITH BACK BOX AND STAINLESS STEEL TRIM	--	--
P1-16	MARK LIGHTING	PLN8-LLP-16FT-MSL8-90CRI-35K-ID1000LMF-70/30-SCT-MIN1-MVOLT-WHSG-NLIGHT-SCEP-F1/-36A-WHTCY-WCRD-DC-MCS	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING PENDANT	CLASSROOM	16'-0 LENGTH PENDANT MOUNTED LINEAR DIRECT/INDIRECT PLANK STYLE PENDANT.	--	--
P1-8	MARK LIGHTING	PLN8-LLP-8FT-MSL8-90CRI-35K-ID1000LMF-70/30-SCT-MIN1-MVOLT-WHSG-NLIGHT-SCEP-F1/-36A-WHTCY-WCRD-DC-MCS	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING PENDANT	CLASSROOM	8'-0 LENGTH PENDANT MOUNTED LINEAR DIRECT/INDIRECT PLANK STYLE PENDANT.	--	--
P2-4	MARK LIGHTING	PLLR10ID-LLP-4FT-MSL4-90CRI-35K-500LMF-1700LMF-SCT-MIN1-MVOLT-WHSG-NLIGHT-SCEP-F1/-36A-WHTCY-WCRD-DC-MCS	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING PENDANT	CAFETERIA	4'-0 LENGTH PENDANT MOUNTED LINEAR DIRECT/INDIRECT PLANK STYLE PENDANT.	--	--
P2-8	MARK LIGHTING	PLLR10ID-LLP-8FT-MSL8-90CRI-35K-500LMF-1700LMF-SCT-MIN1-MVOLT-WHSG-NLIGHT-SCEP-F1/-36A-WHTCY-WCRD-DC-MCS	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING PENDANT	OFFICES	8'-0 LENGTH PENDANT MOUNTED LINEAR DIRECT/INDIRECT PLANK STYLE PENDANT.	--	--
P2-12	MARK LIGHTING	PLLR10ID-LLP-12FT-MSL8-90CRI-35K-500LMF-1700LMF-SCT-MIN1-MVOLT-WHSG-NLIGHT-SCEP-F1/-36A-WHTCY-WCRD-DC-MCS	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING PENDANT	OFFICES	12'-0 LENGTH PENDANT MOUNTED LINEAR DIRECT/INDIRECT PLANK STYLE PENDANT.	--	--
R3-6	MARK LIGHTING	SL4L-LOP-6FT-FLP-TG-90CRI-35K-400LMF-MIN1-277-NLIGHT	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING RECESSED	TOILETS	6" X 6'-0" FLAT LENS TROFFER	--	--
R3-8	MARK LIGHTING	SL4L-LOP-8FT-FLP-TG-90CRI-35K-400LMF-MIN1-277-NLIGHT	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING RECESSED	LIBRARY	6" X 8'-0" FLAT LENS TROFFER	--	--
R3-12	MARK LIGHTING	SL4L-LOP-12FT-FLP-TG-90CRI-35K-400LMF-MIN1-277-NLIGHT	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING RECESSED	LIBRARY	6" X 12'-0" FLAT LENS TROFFER	--	--
R6	MARK LIGHTING	WHSPR-2X2-90CRI-35K-2000LM-MIN1-MVOLT-SWC-NLIGHT	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING RECESSED	OFFICES	2' X 2' LED FLAT PANEL TROFFER WITH FROSTED DROPPED LENS.	--	--
R7	LITHONIA	2TL2-20L-FW-A19-EZ1-3500K-NLIGHT	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING RECESSED	KITCHEN	2' x 2' LENSED GASKETED RECESSED.	--	--
R8	MARK LIGHTING	WHSPR-2X4-90CRI-35K-2000LM-MIN1-MVOLT-SWC-NLIGHT	277	--	--	LED/3500K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING RECESSED	OFFICES	2' X 4' LED FLAT PANEL TROFFER WITH FROSTED DROPPED LENS.	--	--
R9	MARK LIGHTING	WHSPR-1X4-90CRI-35K-2000LM-MIN1-MVOLT-SWC-NLIGHT	277	--	--	LED/3000K 80 CRI	INTEGRAL	0-10V TO 10% DIM	CEILING RECESSED	OFFICES	1' X 4' LED FLAT PANEL TROFFER WITH FROSTED DROPPED LENS.	--	--
S8	LLI ARCHITECTURAL LIGHTING	GRAZER TASK LIGHTING 6" X 2' SERIES	277	--	--	LED/3000K 80 CRI	INTEGRAL	0-10V TO 10% DIM	TASK LIGHT	CLASSROOMS	6" X 2' UNDER CABINET TASK LIGHT	--	--

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: N.T.S.

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Lighting Fixture Schedule

10.0.03

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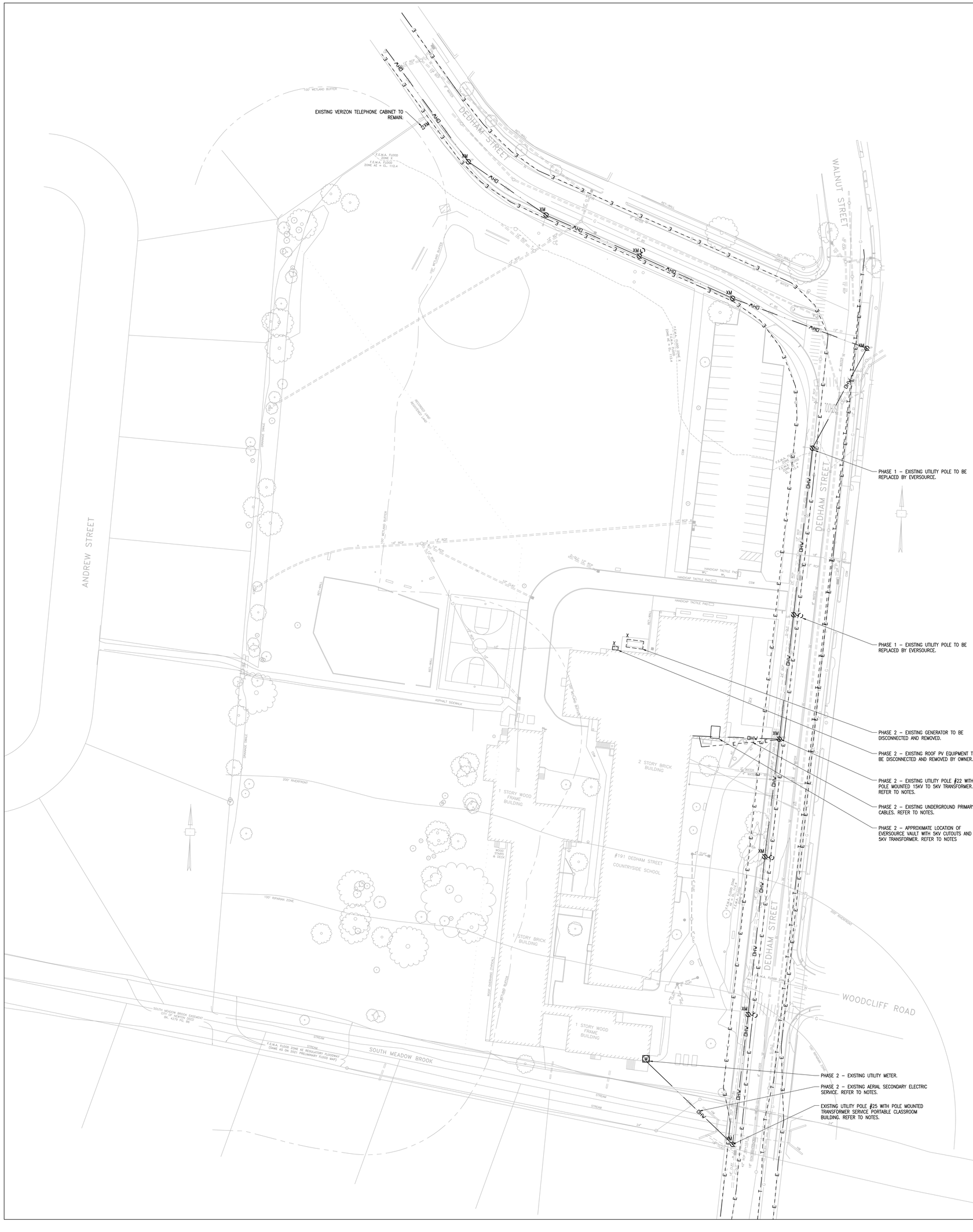

LEGEND	
EXISTING OVERHEAD AERIAL UTILITIES	—— · —— OHW ——
EXISTING UNDERGROUND PRIMARY ELECTRIC SERVICE	– – – – P – – – – P –
EXISTING UNDERGROUND SECONDARY ELECTRIC SERVICE	– – – – E – – – – E –
EXISTING UNDERGROUND TELEPHONE CABLES	– – – – T – – – – T –
EXISTING UNDERGROUND CABLE TELEVISION	—— – – – CA ——
EXISTING UNDERGROUND FIRE ALARM	—— – – – FA ——
EXISTING UNDERGROUND FIBER OPTICS	– – – – F – – – – F –
EXISTING ELECTRICAL METER	XM
EXISTING ELECTRICAL MANHOLE	E MH
EXISTING TELEPHONE MANHOLE	T MH
EXISTING CABLE TELEVISION HANDHOLE	C HH
EXISTING ELECTRICAL HANDHOLE	E HH
EXISTING TELEPHONE HANDHOLE	T HH
EXISTING UTILITY POLE	
EXISTING UTILITY POLE WITH LIGHT	
EXISTING LIGHT POLE	
EXISTING MANHOLE	MH
X – EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED	
XR – EXISTING EQUIPMENT TO BE RELOCATED	
XL – EXISTING EQUIPMENT TO BE RELOCATED	
XM – EXISTING EQUIPMENT TO REMAIN	

SITE ELECTRICAL DEMOLITION NOTES

1. THE PROJECT SHALL BE CONSTRUCTED IN TWO PHASES. PHASE 1 – MEW BUILDING CONSTRUCTION. PHASE 2 – EXISTING BUILDING DEMOLITION AND SITE WORK. REFER TO THE ARCHITECTURAL PHASING DRAWINGS AND SPECIFICATIONS.
2. THE ELECTRICAL CONTRACTOR AND GENERAL CONTRACTOR SHALL COORDINATE THE DISCONNECTION OF ALL ELECTRICAL, VOICE/DATA, AND FIRE ALARM UTILITIES WITH THE RESPECTIVE UTILITY COMPANIES.
3. THE EXISTING BUILDING SHALL REMAIN DURING PHASE 1. MAINTAIN UTILITY SERVICES TO THE BUILDING.
4. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL METERING EQUIPMENT TO MONITOR ENERGY CONSUMED DURING CONSTRUCTION. GENERAL CONTRACTOR TO PAY FOR COST OF ENERGY CONSUMED DURING CONSTRUCTION.
5. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL REQUIRED TO INSTALL, MAINTAIN, RELOCATE AS REQUIRED, REMOVE, AND DISPOSE OF THE ENTIRE CONSTRUCTION TEMPORARY ELECTRICAL SERVICE INCLUDING OWNER AND GENERAL CONTRACTOR TRAILERS FOR THE CONSTRUCTION PERIOD.
6. PHASE 2 – THE ELECTRICAL CONTRACTOR SHALL DISCONNECT AND MAKE SAFE THE ELECTRIC SERVICE, SITE LIGHTING, TELEPHONE SERVICE, CATV SERVICE, AND FIRE ALARM MUNICIPAL SERVICE TO THE EXISTING BUILDING.
7. PHASE 2 – ALL EXISTING SITE LIGHTING FIXTURES, POLES, AND WIRING (AERIAL AND UNDERGROUND) SHALL BE REMOVED AND PROPERLY DISPOSED OF BY DEMOLITION CONTRACTOR. ELECTRICAL CONTRACTOR TO DISCONNECT SITE LIGHTING AND MAKE SAFE.
8. PHASE 2 – THE ELECTRICAL CONTRACTOR SHALL DISCONNECT AND MAKE SAFE THE EXISTING BUILDING TWO ELECTRIC SERVICES. COORDINATE WITH EVERSOURCE.
9. PHASE 2 – ELECTRIC CONTRACTOR TO DISCONNECT AND MAKE SAFE TELEPHONE, CATV, CITY FIBER SERVICES TO EXISTING BUILDING. COORDINATE WITH RESPECTIVE UTILITIES.
10. PHASE 2 – EVERSOURCE TO DISCONNECT, REMOVE, AND DISPOSE OF THE 5 KV PRIMARY CUTOUTS AND VAULT TRANSFORMER. EVERSOURCE TO DISCONNECT AND REMOVE POLE MOUNTED TRANSFORMERS.
11. PHASE 2 – ELECTRICAL CONTRACTOR TO DISCONNECT, REMOVE, AND DISPOSE OF AERIAL SERVICES CABLES FROM POLE TO THE BUILDING AND METER. ELECTRICAL CONTRACTOR TO REMOVE AND DISPOSE OF PRIMARY CABLES FROM UTILITY POLE TO VAULT.
12. PHASE 2 – THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE REMOVAL OF THE CITY FIBER OPTIC SERVICE TO THE EXISTING BUILDING. THE OWNER SHALL DISCONNECT THE FIBER OPTIC SERVICE CABLES FROM THE OWNER FIBER OPTIC NETWORK.
13. PHASE 2 – THE ELECTRICAL CONTRACTOR SHALL DISCONNECT AND MAKE SAFE THE PV ELECTRIC SERVICE MAIN SERVICE DISCONNECT. THE OWNER SHALL DISCONNECT AND REMOVE THE ROOF PV SYSTEM.
14. THE ELECTRICAL CONTRACTOR TO DISCONNECT AND MAKE SAFE ALL SITE LIGHTING IN THE PHASE 2 CONSTRUCTION AREA.
15. ALL EXISTING SITE LIGHTING FIXTURES, POLES, AND WIRING (AERIAL AND UNDERGROUND) SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE SITE DEMOLITION CONTRACTOR.
16. SITE DEMOLITION CONTRACTOR TO DISCONNECT, REMOVE, AND PROPERLY DISPOSE OF EXISTING IMSA MUNICIPAL CABLE TO STREET. SITE DEMOLITION CONTRACTOR TO REMOVE TELEPHONE, FIBER OPTIC, AND CATV CABLES BETWEEN UTILITY POLES ON STREET AND EXISTING BUILDING.

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KEY PLAN

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 30 60

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Site Electrical Demolition Plan

10.1.01

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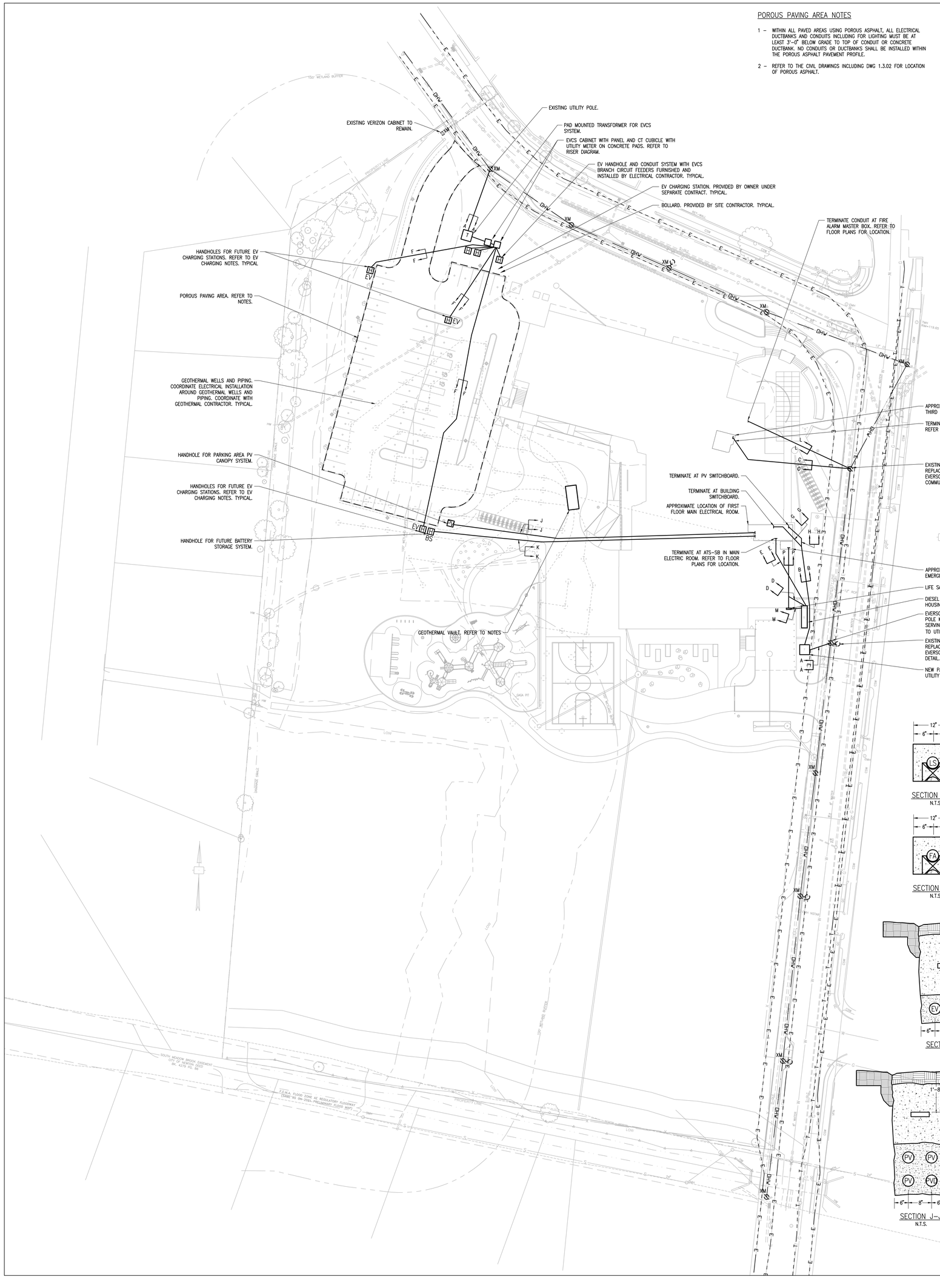
EXISTING UTILITY POLE.
EXISTING VERIZON CABINET TO REMAIN.
PAD MOUNTED TRANSFORMER FOR EVCS SYSTEM.
EVCS CABINET WITH PANEL AND CT CUBICLE WITH UTILITY METER ON CONCRETE PADS. REFER TO RISER DIAGRAM.
EV HANDHOLE AND CONDUIT SYSTEM WITH EVCS BRANCH CIRCUIT FEEDERS FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. TYPICAL.
EV CHARGING STATION. PROVIDED BY OWNER UNDER SEPARATE CONTRACT. TYPICAL.
BOLLARD. PROVIDED BY SITE CONTRACTOR. TYPICAL.
TERMINATE CONDUIT AT FIRE ALARM MASTER BOX. REFER TO FLOOR PLANS FOR LOCATION.
HANDHOLES FOR FUTURE EV CHARGING STATIONS. REFER TO EV CHARGING NOTES. TYPICAL
POROUS PAVING AREA. REFER TO NOTES.
GEOTHERMAL WELLS AND PIPING. COORDINATE ELECTRICAL INSTALLATION AROUND GEOTHERMAL WELLS AND PIPING. COORDINATE WITH GEOTHERMAL CONTRACTOR. TYPICAL.
HANDHOLE FOR PARKING AREA PV CANOPY SYSTEM.
HANDHOLES FOR FUTURE EV CHARGING STATIONS. REFER TO EV CHARGING NOTES. TYPICAL.
HANDHOLE FOR FUTURE BATTERY STORAGE SYSTEM.
GEOTHERMAL VAULT. REFER TO NOTES
APPROXIMATE LOCATION OF THIRD FLOOR MDF.
TERMINATE AT THIRD FLOOR MDF ROOM. REFER TO FLOOR PLANS LOCATION.
EXISTING UTILITY POLE #22 TO BE REPLACED WITH NEW POLE BY EVERSOURCE. REFER TO COMMUNICATION RISER DETAIL.
TERMINATE AT PV SWITCHBOARD.
TERMINATE AT BUILDING SWITCHBOARD.
APPROXIMATE LOCATION OF FIRST FLOOR MAIN ELECTRICAL ROOM.
TERMINATE AT ATS-SB IN MAIN ELECTRIC ROOM. REFER TO FLOOR PLANS FOR LOCATION.
APPROXIMATE LOCATION OF EMERGENCY ELECTRIC ROOM.
LIFE SAFETY TRIPLE SWITCH.
DIESEL GENERATOR WITH SOUND ATTENUATING HOUSING AND SUB BASE TANK.
EVERSOURCE TO RELOCATE EXISTING POLE MOUNTED TRANSFORMER SERVING THE RESIDENTIAL NETWORK TO UTILITY POLE #22.
EXISTING UTILITY POLE #21 TO BE REPLACED WITH NEW POLE BY EVERSOURCE. REFER TO POLE RISER DETAIL.
NEW PAD MOUNTED UTILITY TRANSFORMER.
100' WETLAND BUFFER
SHRUBBERY LANE
SHRUBBERY WALK
SHRUBBERY WALK
SHRUBBERY WALK

G1
G2
G3
G4
G5
G6
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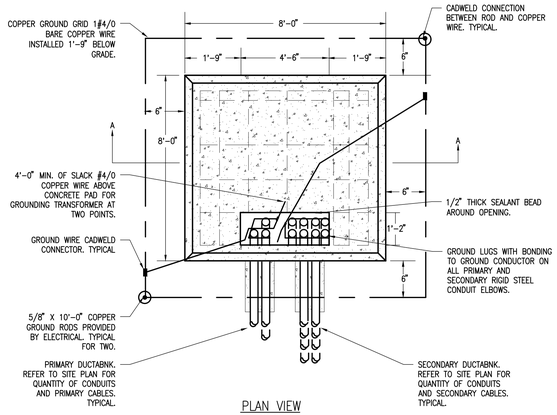

PLAN VIEW
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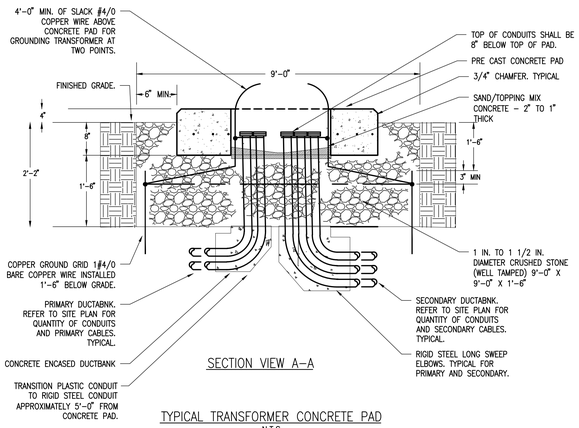

SECTION VIEW A-A

TYPICAL TRANSFORMER CONCRETE PAD
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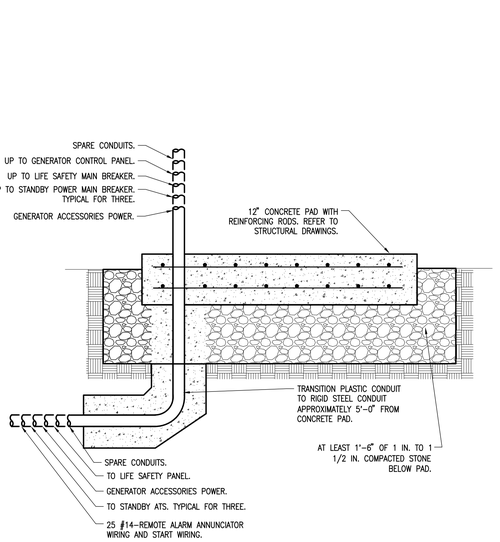
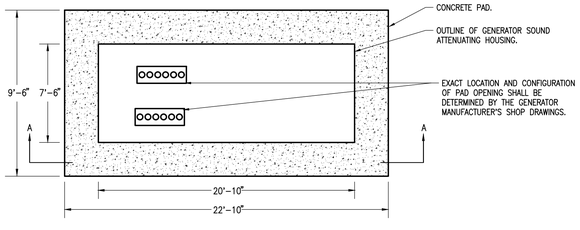


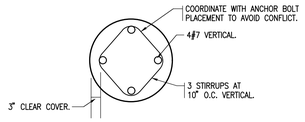
GENERATOR SECTION A-A
N.T.S.



EMERGENCY GENERATOR PAD DETAIL
N.T.S.

NOTES:

THE ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT GENERATOR PAD SIZE AND CONSTRUCTION METHOD WITH THE GENERATOR MANUFACTURER.



BASE DETAIL SHOWING REINFORCING
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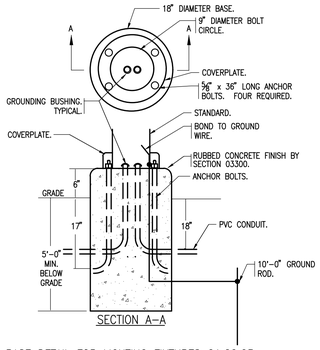
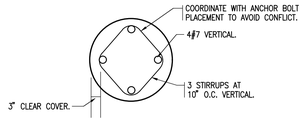


SECTION A-A

BASE DETAIL FOR LIGHTING FIXTURES G1,G2,G3
POLE BASE
N.T.S.



BASE DETAIL SHOWING REINFORCING
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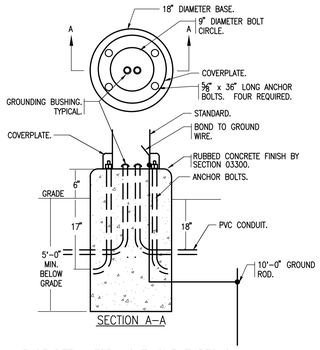
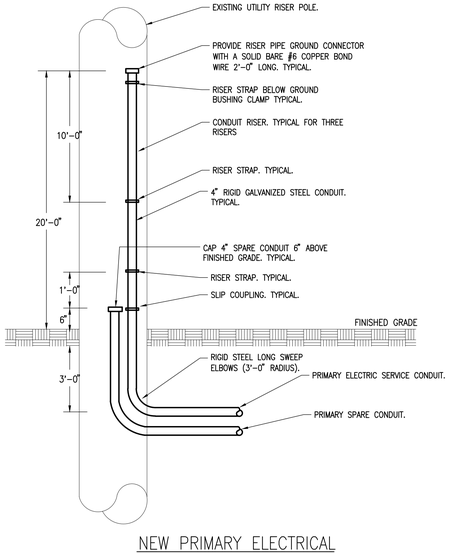


SECTION A-A

BASE DETAIL FOR LIGHTING FIXTURES G4
POLE BASE
N.T.S.

POLE BASE NOTES

1. COORDINATE POLE BASE REQUIREMENTS WITH EACH MANUFACTURER PRIOR TO POLE BASE INSTALLATION.
2. POLES TO BE MOUNTED ON 18" ROUND PRECAST BASE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL BOLT CIRCLE, ANCHOR BOLTS, AND CONDUIT.
3. PRECAST CONCRETE POLE BASE FURNISH AND INSTALLED BY SITE CONTRACTOR.



NEW PRIMARY ELECTRICAL
RISER POLE DETAIL
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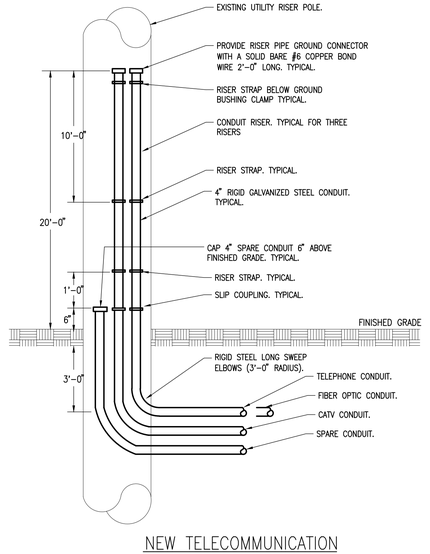


NEW TELECOMMUNICATION
RISER POLE DETAIL
N.T.S.

NEW ELECTRICAL SCOPE OF WORK NOTES

1. EVERSOURCE TO FURNISH AND INSTALL NEW UTILITY POLES. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUIT RISERS INCLUDING ALL ACCESSORIES FOR ALL UTILITY CONDUITS
2. THE SITE CONTRACTOR SHALL FURNISH AND INSTALL ALL TRENCHING, FORM WORK, REBAR, CONCRETE, AND BACKFILL REQUIRED FOR ALL ELECTRICAL, COMMUNICATION, AND EMERGENCY GENERATOR DUCTBANKS AS SHOWN ON THE ELECTRICAL PLANS. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED PVC SCHEDULE 40 CONDUITS, ELBOWS, RIGID STEEL ELBOWS, PULL LINES, AND SPACERS IN THE DUCTBANK.
3. EVERSOURCE TO INSPECT PRIMARY ELECTRIC DUCTBANKS PRIOR TO POURING OF CONCRETE.
4. ALL DUCTBANKS SHALL BE INSTALLED A MINIMUM OF 3'-0" BELOW FINISHED GRADE TO TOP OF CONCRETE ENCASEMENT.
5. THE SITE CONTRACTOR SHALL FURNISH AND INSTALL ALL TRENCHING, FORM WORK, AND BACKFILL REQUIRED FOR ALL SITE LIGHTING, SECURITY, PV SOLAR, EVCS CONDUITS AS SHOWN ON THE ELECTRICAL DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL PVC SCHEDULE 40 CONDUITS, ELBOWS, RIGID STEEL ELBOWS, PULL LINES, AND SPACERS REQUIRED.
6. THE SITE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONCRETE PADS FOR ALL PAD MOUNTED TRANSFORMERS, EMERGENCY GENERATOR, MANUAL TRANSFER SWITCH, PV EQUIPMENT.
7. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED SLEEVES, CORINGS AND PENETRATIONS FOR THE ELECTRICAL INSTALLATION
8. ALL MANHOLES FURNISHED BY ELECTRICAL CONTRACTOR AND SET IN PLACE BY SITE CONTRACTOR. ALL HANDHOLES FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. THE SITE CONTRACTOR TO TRENCH, SET MANHOLE IN PLACE AND BACKFILL.
9. EVERSOURCE TO FURNISH AND INSTALL ALL 15KV PRIMARY CABLES FROM UTILITY POLES TO EACH PAD MOUNTED TRANSFORMERS. EVERSOURCE TO FURNISH AND INSTALL PRIMARY LOAD BREAK ELBOWS. FINAL PRIMARY CONNECTIONS AT TRANSFORMER BY EVERSOURCE. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ALL SECONDARY LUGS FOR TRANSFORMERS. ALL FINAL SECONDARY CONNECTIONS AT PAD MOUNTED TRANSFORMERS BY ELECTRICAL CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL SECONDARY ELECTRIC SERVICE CABLES BETWEEN PAD MOUNTED TRANSFORMER AND MAIN SWITCHBOARD.
11. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ELECTRIC FEEDERS BETWEEN EMERGENCY GENERATOR, AND MANUAL TRANSFER SWITCH AND BOTH AUTOMATIC TRANSFER SWITCHES
10. EVERSOURCE TO FURNISH AND INSTALL UTILITY COMPANY METER. ELECTRICAL CONTRACTOR TO FURNISH AND THE REQUIRED METER SOCKET INCLUDING CONDUIT ON THE EXTERIOR OF EACH BUILDING.
11. THE ELECTRICAL CONTRACTOR SHALL ENGAGE THE SERVICES OF A THIRD PARTY TESTING COMPANY TO PERFORM NETA STANDARD AND OPERATIONAL TESTING ON THE NEW BUILDING SWITCHBOARD.
12. ELECTRICAL CONTRACTOR TO PROVIDE PULL LINES IN ALL CONDUITS INCLUDING CONDUITS FOR FUTURE USE.
13. ALL CONDUITS TO BE INSTALLED BELOW VAPOR BARRIER. ALL CONDUITS TO BE INSTALLED DEEP ENOUGH TO ALLOW FOR PROPER CONDUIT SWEEPS THROUGH CONCRETE FLOOR SLAB.
14. REFER TO THE ARCHITECTURAL PHASING DRAWINGS AND SPECIFICATIONS.
15. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL METERING EQUIPMENT TO MONITOR ENERGY CONSUMED DURING CONSTRUCTION. GENERAL CONTRACTOR TO PAY FOR COST OF ENERGY CONSUMED DURING CONSTRUCTION.
16. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL REQUIRED TO INSTALL, MAINTAIN, RELOCATE AS REQUIRED, REMOVE, AND DISPOSE OF THE ENTIRE CONSTRUCTION TEMPORARY ELECTRICAL SERVICE INCLUDING OWNER AND GENERAL CONTRACTOR TRAILERS FOR THE CONSTRUCTION PERIOD.

SHUTDOWN NOTES

1 - ELECTRICAL CONTRACTOR TO FOLLOW ALL NFPA 70 AND 70E SAFETY GUIDELINES FOR DE-ENERGIZING ELECTRICAL SERVICES WHILE TRACING EXISTING CIRCUITS AND DURING DISCONNECTING CIRCUITS. ELECTRICAL CONTRACTOR WILL NEED TO DETERMINE THE SAFETY HAZARD AND ARC FAULT POTENTIAL FOR ANY EXISTING PANEL THAT NEEDS TO BE DE-ENERGIZED FOR TRACING OR DISCONNECTING EXISTING CIRCUITS. BY USING THE CHARTS/GRAPHS IN NFPA 70E PROVIDE THE REQUIRED PROPER PPE AND LOCKOUT/TAGOUT PROCEDURES FOR THIS WORK. ALSO PROVIDE ARC FLASH SAFETY WARNING LABELS ON ALL PANELS AFFECTED BY CONSTRUCTION.

2 - THE BUILDING WILL BE OPERATIVE DURING CONSTRUCTION. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN ALL ELECTRIC, FIRE ALARM, AND COMMUNICATION SERVICES AT ALL TIMES. ANY ELECTRIC SERVICE, COMMUNICATION OR FIRE ALARM SHUTDOWN THAT AFFECTS NORMAL OPERATION SHALL BE PERFORMED AFTER NORMAL HOURS ON PREMIUM TIME, INCLUDING SATURDAY AND SUNDAY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER WITH TEN (10) DAYS WRITTEN NOTICE OF ANY REQUIRED SHUTDOWN OF ANY ELECTRICAL OR COMMUNICATION SERVICE. PRIOR TO ANY FIRE ALARM SHUTDOWN THE OWNER AND THE FIRE DEPARTMENT MUST BE GIVEN A TEN (10) DAY WRITTEN NOTICE OF SHUTDOWN.

3 - COORDINATE BUILDING WIDE ELECTRICAL SHUT DOWNS AND ELECTRICAL WORK PRIOR TO INSTALLATION WITH BUILDING OWNER. PROVIDE OWNER WITH A WORK PLAN AND SCHEDULE FOR ELECTRICAL INSTALLATION.

4 - ALL SHUTDOWNS SHALL BE KEPT TO THE MINIMUM TIME REQUIRED. AFTER NOTIFICATION FROM THE CONTRACTOR, THE OWNER SHALL APPROVE THE TIME AND DATE OF ALL SHUTDOWNS. THERE IS NO GUARANTEE THAT THE OWNER WILL ACCEPT A SHUTDOWN DATE, IF THE DATE CONFLICTS WITH OPERATION.

5 - COORDINATE ALL LOCAL PANEL SHUTDOWNS WITH ARCHITECT AND OWNER.

6 - ALL COST ASSOCIATED WITH ALL PREMIUM TIME SHUTDOWNS SHALL BE INCLUDED IN THE ELECTRICAL CONTRACTORS BID.

7 - ALL SERVICE SHUTDOWNS TO OCCUR DURING PREMIUM TIME. ELECTRICAL CONTRACTOR TO COORDINATE SERVICE SHUTDOWNS WITH OWNER, ARCHITECT, AND CM. SUBMIT A WORK PLAN AND SCHEDULE FOR ALL ELECTRIC, COMMUNICATION, AND FIRE ALARM SHUTDOWNS INCLUDING ESTIMATED LENGTH OF SHUTDOWN.

8 - ELECTRICAL CONTRACTOR TO FOLLOW ALL NFPA 70 AND 70E SAFETY GUIDELINES FOR DE-ENERGIZING ELECTRICAL SERVICES WHILE CONNECTING FEEDER TO EXISTING SWITCHBOARD. USE THE REQUIRED PROPER PPE AND LOCKOUT/TAGOUT PROCEDURES FOR THIS WORK.

GENERAL NOTES FOR TRANSFORMER PAD AND PRIMARY CABLE RISER POLE

1. THE PRIMARY RISER POLE INSTALLATION SHALL BE IN ACCORDANCE WITH EVERSOURCE STANDARDS..
2. THE ELECTRIC MANHOLE AND SWITCHING MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH EVERSOURCE STANDARDS.
3. THE FOUNDATION AND THE GROUND GRID FOR THE PAD MOUNTED TRANSFORMER SHALL BE CONSTRUCTED IN ACCORDANCE WITH EVERSOURCE UNDERGROUND COMMERCIAL DISTRIBUTION (UCD) STANDARD. THE TRANSFORMER CONCRETE PAD SPECIFICATIONS SHALL BE IN ACCORDANCE WITH EVERSOURCE STANDARDS.
4. ALL SECONDARY CABLE CONNECTIONS TO THE PAD MOUNTED TRANSFORMER SHALL BE IN ACCORDANCE WITH EVERSOURCE STANDARDS.
5. THE PRIMARY DUCTBANK SHALL BE CONSTRUCTED IN ACCORDANCE WITH EVERSOURCE STANDARDS.

GEOTHERMAL VAULT NOTES

1. GEOTHERMAL VAULT FURNISHED AND INSTALLED BY HVAC, WIRED BY ELECTRICAL CONTRACTOR. COORDINATE ALL LOCATIONS AND REQUIREMENTS WITH GEOTHERMAL/HVAC.
2. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ONE 2" CONDUIT FOR 20A/1P BRANCH CIRCUIT TO FACTORY WIRED LIGHTING AND RECEPTACLE IN GEOTHERMAL VAULT. CONNECT TO DEDICATED CIRCUIT IN PP2 VIA 2#6 AND 1#8-2"C FEEDER.
3. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ONE 2" CONDUIT AND ALL REQUIRED IBMS WIRING FROM CONTROLLER BOX IN GEOTHERMAL VAULT TO BMS PANEL IN MECHANICAL ROOM.
4. FINAL CONNECTIONS AT CONTROLLER BOX BY GEOTHERMAL/HVAC CONTRACTOR. FINAL CONNECTIONS AT IBMS BY IBMS CONTRACTOR.
5. ALL WIRING TO BE SIZED FOR VOLTAGE DROP.

IRRIGATION NOTES

1 - AT IRRIGATION CONTROLLER LOCATION IN WATER ROOM, ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A 20A-1P CIRCUIT (2#12 & 1#12 GRD - ¾"C) FROM PANEL RP1C. PROVIDE DISCONNECT SWITCH.

2 - REFER TO LANDSCAPE AND IRRIGATION DRAWINGS FOR LOCATIONS OF CONTROLLERS.

FUTURE SOLAR CANOPY NOTES

1. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL TWO 4" CONDUIT WITH PULL LINES FROM THE FUTURE SOLAR CANOPY EQUIPMENT LOCATION TO THE PRIMARY ELECTRIC MANHOLE AS SHOWN ON PLANS. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL 2" CONDUITS TO THE MDF ROOM FOR THE PV SYSTEM DATA (PVD).

FUTURE BATTERY STORAGE SYSTEM NOTES

1. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL TWO 4" CONDUITS WITH PULL LINES FROM THE MAIN ELECTRIC ROOM TO THE HANDHOLE LOCATION AS SHOWN ON PLANS.

EV CHARGING STATION NOTES

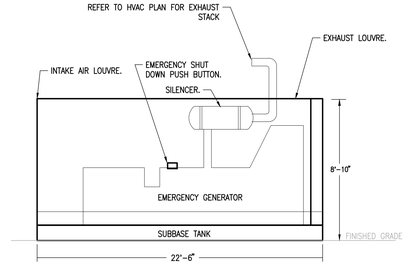
1. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEMA 3R ENCLOSURE WITH SERVICE ENTRANCE RATED PANEL, AND NEMA 3R CT CUBICLE WITH UTILITY METER SOCKET. PROVIDE ALL FEEDERS AS SHOWN ON THE RISER DIAGRAM.
2. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ALL HANDHOLES, ALL 4" CONDUITS BETWEEN HANDHOLES, AND FEEDERS AS SHOWN ON RISER DIAGRAM AND SITE PLAN.
3. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THE TEN HANDHOLES AND ALL BRANCH CIRCUITS FOR TEN DUAL CHARGERS. TWO BRANCH CIRCUITS REQUIRED PER HANDHOLE AND EACH BRANCH CIRCUITS SHALL BE 3#6 & 1#6 GRD. LEAVE 20'-0" SLACK CABLES IN EACH HANDHOLE.
4. EV CHARGING EQUIPMENT FURNISH AND INSTALL BY OWNER UNDER SEPARATE CONTRACT.
5. FINAL CONNECTIONS BY OWNER VENDOR UNDER SEPARATE CONTRACT.

HANDHOLE NOTES

1. ALL FIBERGLASS HANDHOLES SHALL BE BE QUAZITE FRP SERIES OR APPROVED EQUAL UNLESS OTHERWISE NOTED. HANDHOLES TO BE SIZED PER CODE FOR CONDUITS ENTERING AND LEAVING EACH HANDHOLE. SIZES BELOW ARE THE MINIMUM ACCEPTED HANDHOLE
2. FIBER OPTIC HANDHOLE SHALL BE TIER 22 RATED, FIBERGLASS, CLOSED BOTTOM, AND SHALL BE QUAZITE PG SERIES OR APPROVED EQUAL. SIZE SHALL BE 24" X 24" X 24" X 24". COVERS TO BE FURNISHED WITH "FIBER OPTIC" ON THE COVER.
3. SITE LIGHTING HANDHOLES SHALL BE TIER 22 RATED, FIBERGLASS, OPEN BOTTOM AND SIZE SHALL BE 11" X 18" X 18". COVERS TO BE FURNISHED WITH "LIGHTING" ON THE COVER.
4. SECURITY HANDHOLES SHALL BE TIER 22 RATED, FIBERGLASS, OPEN BOTTOM, AND SIZE SHALL BE 11" X 18" X 18". COVERS TO BE FURNISHED WITH "SECURITY" ON THE COVER.
5. EV CHARGING HANDHOLES SHALL BE TIER 22 RATED, FIBERGLASS, OPEN BOTTOM, AND SIZE SHALL BE 11" X 18" X 18". COVERS TO BE FURNISHED WITH "ELECTRIC" ON THE COVER.
6. EV CHARGING DISTRIBUTION HANDHOLES SHALL BE TIER 22 RATED, FIBERGLASS, OPEN BOTTOM, AND SIZE SHALL BE 18" X 18" X 24". COVERS TO BE FURNISHED WITH "ELECTRIC" ON THE COVER.
7. SOLAR PV HANDHOLES SHALL BE TIER 22 RATED, FIBERGLASS, OPEN BOTTOM, AND SHALL BE SIZE SHALL BE 18" X 18" X 24". COVERS TO BE FURNISHED WITH "ELECTRIC" ON THE COVER.
8. FURNISH AND INSTALL 12" OF CRUSHED STONE BELOW ALL HANDHOLES. FURNISH AND INSTALL MAGNETIC WARNING TAPE ABOVE ALL CONDUITS. COORDINATE EXACT LOCATION WITH ARCHITECT.

GENERAL NOTES AND DUCTBANKS

1. BECAUSE OF LIMITED SPACE FOR UNDERGROUND UTILITIES, IT IS CRITICAL FOR THE ELECTRICAL SUBCONTRACTOR TO COORDINATE THE ELECTRIC SERVICE INSTALLATION WITH THE GENERAL CONTRACTOR, SITE SUBCONTRACTORS AND THE UTILITY COMPANIES.
2. ALL RACEWAYS SHALL BE PVC SCHEDULE 40 AND ENCASED IN CONCRETE UNLESS OTHERWISE NOTED. ALL PVC RACEWAYS ENTERING AND LEAVING MANHOLES SHALL BE FURNISHED WITH PVC END BELLS AND SUPPORTED WITH REBARS EBWTEEN THE MANHOLES AND DUCTBANKS.
3. ALL DUCTBANKS SHALL BE INSTALLED A MINIMUM OF 3'-0" BELOW FINISHED GRADE TO TOP OF CONCRETE ENCASEMENT. ALL DUCTBANKS SHALL PITCH TOWARD MANHOLES MAINTAINING A PITCH OF 4" PER 100 FEET. ALL DUCTBANKS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MASSACHUSETTS ELECTRIC CODE.
4. ALL DUCTBANKS CONCRETE, FORMS, TRENCHING, BACKFILL, ETC SHALL BE FURNISHED AND INSTALLED BY THE SITE CONTRACTOR.
5. ROUTE DUCTLINES IN SUCH A MANNER AS TO AVOID ALL TREES, SHRUBS, MANHOLES, CATCH BASINS, HYDRANTS, WATER PIPES, GAS PIPES, SEWER PIPES, ETC.
6. AT ALL LOCATIONS WHERE DUCTLINES PASS OVER OR UNDER STEAM PIPES, A 4" PAD OF CORK INSULATION SHALL BE INSTALLED UNDER OR OVER THE ELECTRIC DUCTLINE.
7. IT IS THE RESPONSIBILITY OF THE ELECTRICAL SUBCONTRACTOR TO COORDINATE WITH THE UTILITY COMPANIES AND THE LOCAL AUTHORITY HAVING JURISDICTION DURING THE UNDERGROUND UTILITY WORK.
8. AT ALL TRANSFORMER CONCRETE PADS, CHANGE PVC RACEWAYS TO RIGID STEEL CONDUITS. FURNISH AND INSTALL RIGID STEEL LONG SWEEP (36" RADIUS) ELBOWS FOR ALL CONDUITS TURNING UP INTO TRANSFORMER PADS.
9. ALL RADIUS BENDS IN THE CONCRETE ENCASED DUCTLINE SHALL BE GRADUAL. AT THESE LOCATIONS INSTALL 22-1/2" DEGREE RIGID STEEL ELBOWS.
10. APPROXIMATELY 5'-0" OUTSIDE OF THE BUILDING FOUNDATION WALL CHANGE PVC CONDUITS TO RIGID STEEL CONDUITS. ALL CONDUITS ENTERING THE BUILDING AND MOUNTED VERTICALLY ON THE BUILDING EXTERIOR SHALL BE RIGID STEEL.
11. ALL CONDUITS BELOW THE NEW BUILDING CONCRETE SLAB SHALL BE SCHEDULE 40 PVC CONDUIT. CONCRETE DUCTBANK NOT REQUIRED UNDER THE NEW BUILDING CONCRETE SLAB.
12. THE NORMAL AND EMERGENCY ELECTRIC SERVICE CONDUITS/RACEWAY(S) PENETRATING THE FOUNDATION WALL OR FLOOR SLAB BELOW GRADE OR EXTERIOR EXISTING WALL ABOVE GRADE SHALL BE PROPERLY SEALED TO PREVENT THE INFILTRATION OF WATER INTO THE BUILDING.
    A. THE INTERIOR OF THE CONDUIT(S) SHALL BE SEALED UTILIZING OZ-GEDNEY TYPE "CSBG" CONDUIT SEALS OR APPROVED EQUAL.
    B. THE EXTERIOR OF THE CONDUIT(S) SHALL BE SEALED AT THE EXTERIOR WALL OR SLAB PENETRATION UTILIZING OZ-GEDNEY TYPE "WSK", "FSK" OR APPROVED EQUAL FOR A POURED CONCRETE WALL OR FLOOR SLAB.
    C. CONDUIT PENETRATIONS THROUGH EXISTING WALLS OR FLOOR SLABS SHALL BE SEALED UTILIZING OZ-GEDNEY TYPE "CSM" (INTERIOR OF STRUCTURE) AND "CSMC" (EXTERIOR OF STRUCTURE) OR APPROVED EQUAL. EXACT SIZE OF FITTINGS SHALL BE IN ACCORDANCE WITH CONDUIT SIZES.
13. THE CONCRETE PAD FOR THE PAD MOUNTED TRANSFORMERS, PRIMARY SWITCH, AND 15 KV SUBSTATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH EVERSOURCE STANDARDS.
14. THE SITE DEMOLITION SUBCONTRACTOR SHALL REMOVE THE EXISTING CONCRETE PADS AND UNDERGROUND DUCTBANKS AS NOTED ON THE SITE PLAN.
15. ALL DUCTBANK RUNNING UNDER THE BUILDING SHALL NOT BE INSTALLED WITHIN THE 6" FLOOR SLAB. AT LOCATIONS WHERE CONDUITS ARE TO TURN UP THROUGH THE SLAB. THE CONDUITS SHALL BE INSTALLED LOWER IN THE GROUND SO THAT ALL RIGID 90 DEGREE ELBOWS ARE PROPERLY INSTALLED. GENERAL CONTRACTOR TO PROVIDE ALL EXCAVATING AND BACKFILLING REQUIRED.



BUILDING E GENERATOR HOUSING DETAIL
N.T.S.

NOTES

1. GENERATOR SOUND ATTENUATING HOUSING AND GENERATOR TO BE INSTALLED ON THE CONCRETE PAD.
2. EXHAUST STACK INSTALLED BY ELECTRICAL CONTRACTOR.
3. DIMENSIONAL DATA SHOWN IS APPROXIMATE.

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KEY PLAN

NORTH ARROW (Grid North) | STAMP

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Site Electrical Details

10.1.04

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LIGHTING PLAN GENERAL NOTES

1. REFER TO THE ALL ARCHITECTURAL DRAWINGS, ELEVATIONS, AND RCPS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ALL OTHER ELECTRICAL DEVICES.
2. PROVIDE ALL REQUIRED CONDUIT AND WIRING OR MC CABLE REQUIRED BETWEEN ALL LIGHTING FIXTURES, SWITCHES, DIMMERS, SENSORS, POWER PACKS, RELAYS, AND OTHER AUXILIARY DEVICES.
3. ALL WIRING SHALL BE #12 AWG COPPER. ALL HOMERUN WIRING CONDUCTORS OPERATING AT 120 VOLTS EXTENDING IN EXCESS OF 100 FEET, OR AT 277 VOLTS EXTENDING IN EXCESS OF 200 FEET, FROM PANEL TO THE LAST OUTLET OR FIXTURE TAP SHALL BE #10 AWG COPPER THROUGHOUT, UNLESS OTHERWISE NOTED.
4. ALL EXIT SIGNS SHALL BE CONNECTED TO A DEDICATED 20A–1P CIRCUIT IN NEAREST 277/480V LIFE SAFETY EMERGENCY PANEL WITH 2#12 & 1#12 MC CABLE.
5. ALL LIGHTING FIXTURES; ELECTRICAL EQUIPMENT; CONDUIT AND WIRE; AND MC CABLE SHALL BE SUPPORTED FROM STRUCTURAL STEEL. NO ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE METAL ROOF DECKS. PROVIDE UNISTRUT OR OTHER SUPPLEMENTAL SUPPORT AS REQUIRED TO SUPPORT LIGHTING FIXTURES AND OTHER ELECTRICAL EQUIPMENT TO BUILDING STRUCTURAL STEEL.
6. ALL OCCUPANCY AND DAYLIGHT PHOTOCELL SENSORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
7. REFER TO NETWORK LIGHTING CONTROL SYSTEM ONE LINE DIAGRAMS, DETAILS, SCHEDULES, AND SPECIFICATIONS FOR DETAILED LIGHTING CONTROL REQUIREMENTS.
8. ALL CORRIDOR AND STAIR LIGHTING SHALL BE CONTROLLED BY BUILDING LIGHTING CONTROL SYSTEM. LIGHTING IN GYM, LIBRARY, AND CAFETERIA WILL ALSO BE CONTROLLED BY BUILDING LIGHTING CONTROL SYSTEM. REFER TO LIGHTING CONTROL DETAILS 10.3.07.
9. ALL 120V LIGHTING SHALL BE CONNECTED TO A SPARE 20A–1P CIRCUIT BREAKER IN NEAREST 120V RECEPTACLE PANEL UNLESS OTHERWISE NOTED.

GYMNASIUM LIGHTING PLAN NOTES

1 – IN GYMNASIUM, ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL WIRE GUARDS ON ALL OF THE FOLLOWING DEVICES: FIRE ALARM SYSTEM DEVICES, OCCUPANCY SENSORS, CLOCKS, SECURITY SYSTEM DEVICES, PHOTOCELLS, LIGHTING CONTROL STATIONS, WIRELESS ACCESS POINTS, AND SECURITY CAMERAS.

2 – ALL FIRE ALARM SYSTEM DEVICES, LIGHTING CONTROL STATIONS, RECEPTACLES, TEL/DATA OUTLETS, ETC SHALL BE LOCATED OUTSIDE OF THE AREAS TO BE PROVIDED WITH WALL PADS TO THE EXTENT POSSIBLE. REFER TO ARCHITECTURAL GYMNASIUM INTERIOR ELEVATIONS DRAWINGS FOR THE EXTENT OF THE WALL PADS. COORDINATE WITH ARCHITECT.

3 – IN GYMNASIUM, SUPPLEMENTAL FRAMING SUPPORTED BY STEEL JOISTS FOR ELECTRICAL EQUIPMENT, LIGHTING, CONDUITS, ETC. SHALL BE AT A SPACING OF NO GREATER THAN 10'–0" ON CENTER. SEE STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

NOTES

1 – WALL WITH TRANSOM GLASS ABOVE. ROUTE CONDUIT IN WALL TO STRUCTURAL COLUMN. COORDINATE WITH ARCHITECTURAL PLANS.

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KEY PLAN

N Called North

NORTH ARROW | STAMP

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

First Floor Lighting Plan

10.2.01

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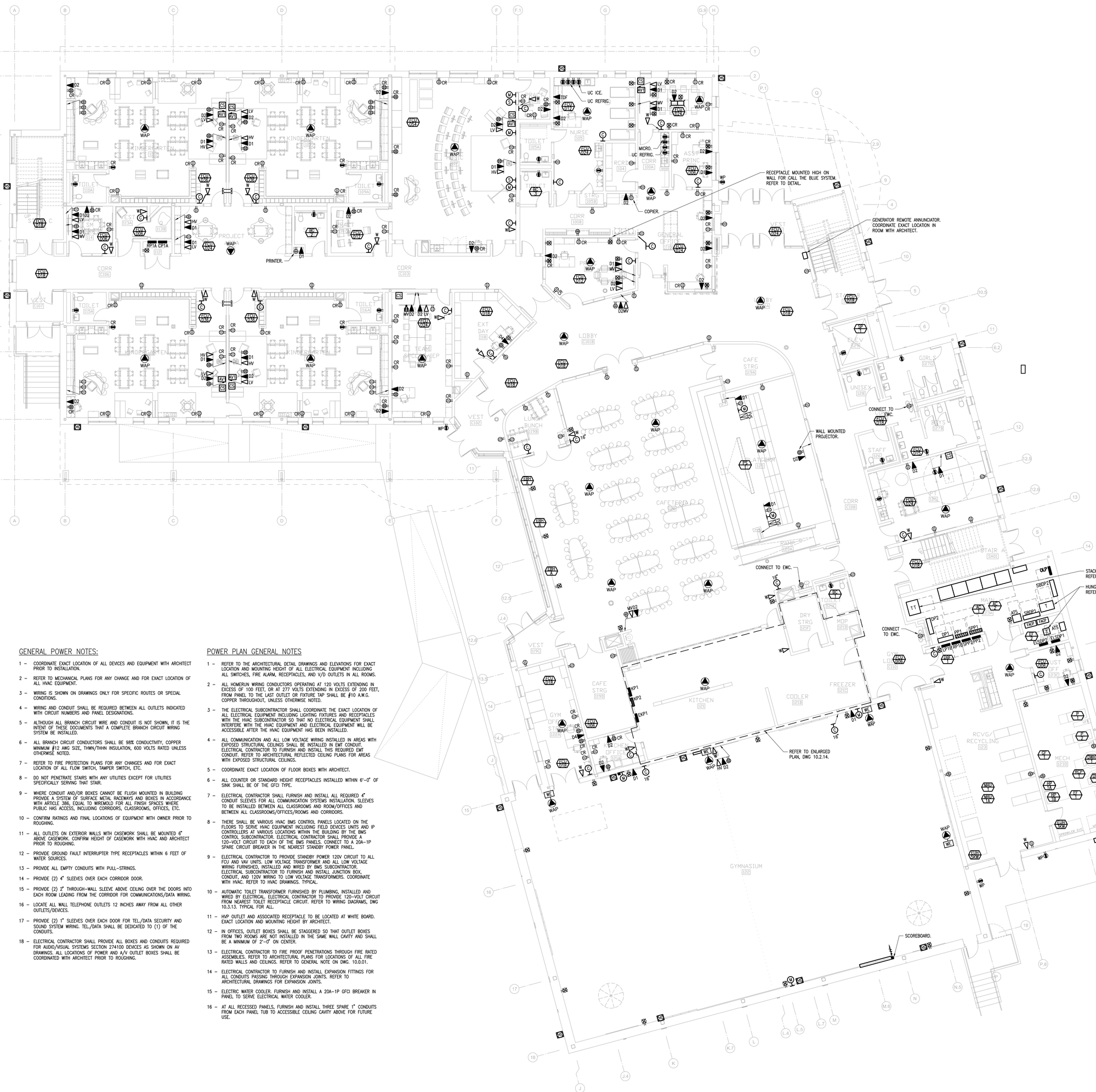

GENERAL POWER NOTES:

1 – COORDINATE EXACT LOCATION OF ALL DEVICES AND EQUIPMENT WITH ARCHITECT PRIOR TO INSTALLATION.

2 – REFER TO MECHANICAL PLANS FOR ANY CHANGE AND FOR EXACT LOCATION OF ALL HVAC EQUIPMENT.

3 – WIRING IS SHOWN ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS.

4 – WIRING AND CONDUIT SHALL BE REQUIRED BETWEEN ALL OUTLETS INDICATED WITH CIRCUIT NUMBERS AND PANEL DESIGNATIONS.

5 – ALTHOUGH ALL BRANCH CIRCUIT WIRE AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.

6 – ALL BRANCH CIRCUIT CONDUCTORS SHALL BE 98% CONDUCTIVITY, COPPER MINIMUM #12 AWG SIZE, THWN/THHN INSULATION, 600 VOLTS RATED UNLESS OTHERWISE NOTED.

7 – REFER TO FIRE PROTECTION PLANS FOR ANY CHANGES AND FOR EXACT LOCATION OF ALL FLOW SWITCH, TAMPER SWITCH, ETC.

8 – DO NOT PENETRATE STAIRS WITH ANY UTILITIES EXCEPT FOR UTILITIES SPECIFICALLY SERVING THAT STAIR.

9 – WHERE CONDUIT AND/OR BOXES CANNOT BE FLUSH MOUNTED IN BUILDING PROVIDE A SYSTEM OF SURFACE METAL RACEWAYS AND BOXES IN ACCORDANCE WITH ARTICLE 386, EQUAL TO WIREMOLD FOR ALL FINISH SPACES WHERE PUBLIC HAS ACCESS, INCLUDING CORRIDORS, CLASSROOMS, OFFICES, ETC.

10 – CONFIRM RATINGS AND FINAL LOCATIONS OF EQUIPMENT WITH OWNER PRIOR TO ROUGHING.

11 – ALL OUTLETS ON EXTERIOR WALLS WITH CASEWORK SHALL BE MOUNTED 6" ABOVE CASEWORK. CONFIRM HEIGHT OF CASEWORK WITH HVAC AND ARCHITECT PRIOR TO ROUGHING.

12 – PROVIDE GROUND FAULT INTERRUPTER TYPE RECEPTACLES WITHIN 6 FEET OF WATER SOURCES.

13 – PROVIDE ALL EMPTY CONDUITS WITH PULL–STRINGS.

14 – PROVIDE (2) 4" SLEEVES OVER EACH CORRIDOR DOOR.

15 – PROVIDE (2) 2" THROUGH–WALL SLEEVE ABOVE CEILING OVER THE DOORS INTO EACH ROOM LEADING FROM THE CORRIDOR FOR COMMUNICATIONS/DATA WIRING.

16 – LOCATE ALL WALL TELEPHONE OUTLETS 12 INCHES AWAY FROM ALL OTHER OUTLETS/DEVICES.

17 – PROVIDE (2) 1" SLEEVES OVER EACH DOOR FOR TEL./DATA SECURITY AND SOUND SYSTEM WIRING. TEL./DATA SHALL BE DEDICATED TO (1) OF THE CONDUITS.

18 – ELECTRICAL CONTRACTOR SHALL PROVIDE ALL BOXES AND CONDUITS REQUIRED FOR AUDIO/VISUAL SYSTEMS SECTION 274100 DEVICES AS SHOWN ON AV DRAWINGS. ALL LOCATIONS OF POWER AND A/V OUTLET BOXES SHALL BE COORDINATED WITH ARCHITECT PRIOR TO ROUGHING.

POWER PLAN GENERAL NOTES

1 – REFER TO THE ARCHITECTURAL DETAIL DRAWINGS AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHT OF ALL ELECTRICAL EQUIPMENT INCLUDING ALL SWITCHES, FIRE ALARM, RECEPTACLES, AND V/D OUTLETS IN ALL ROOMS.

2 – ALL HOMERUN WIRING CONDUCTORS OPERATING AT 120 VOLTS EXTENDING IN EXCESS OF 100 FEET, OR AT 277 VOLTS EXTENDING IN EXCESS OF 200 FEET, FROM PANEL TO THE LAST OUTLET OR FIXTURE TAP SHALL BE #10 A.W.G. COPPER THROUGHOUT, UNLESS OTHERWISE NOTED.

3 – THE ELECTRICAL SUBCONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL ELECTRICAL EQUIPMENT INCLUDING LIGHTING FIXTURES AND RECEPTACLES WITH THE HVAC SUBCONTRACTOR SO THAT NO ELECTRICAL EQUIPMENT SHALL INTERFERE WITH THE HVAC EQUIPMENT AND ELECTRICAL EQUIPMENT WILL BE ACCESSIBLE AFTER THE HVAC EQUIPMENT HAS BEEN INSTALLED.

4 – ALL COMMUNICATION AND ALL LOW VOLTAGE WIRING INSTALLED IN AREAS WITH EXPOSED STRUCTURAL CEILINGS SHALL BE INSTALLED IN EMT CONDUIT. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THIS REQUIRED EMT CONDUIT. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR AREAS WITH EXPOSED STRUCTURAL CEILINGS.

5 – COORDINATE EXACT LOCATION OF FLOOR BOXES WITH ARCHITECT.

6 – ALL COUNTER OR STANDARD HEIGHT RECEPTACLES INSTALLED WITHIN 6'–0" OF SINK SHALL BE OF THE GFCI TYPE.

7 – ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 4" CONDUIT SLEEVES FOR ALL COMMUNICATION SYSTEMS INSTALLATION. SLEEVES TO BE INSTALLED BETWEEN ALL CLASSROOMS AND ROOM/OFFICES AND BETWEEN ALL CLASSROOMS/OFFICES/ROOMS AND CORRIDORS.

8 – THERE SHALL BE VARIOUS HVAC BMS CONTROL PANELS LOCATED ON THE FLOORS TO SERVE HVAC EQUIPMENT INCLUDING FIELD DEVICES UNITS AND IP CONTROLLERS AT VARIOUS LOCATIONS WITHIN THE BUILDING BY THE BMS CONTROL SUBCONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE A 120–VOLT CIRCUIT TO EACH OF THE BMS PANELS. CONNECT TO A 20A–1P SPARE CIRCUIT BREAKER IN THE NEAREST STANDBY POWER PANEL.

9 – ELECTRICAL CONTRACTOR TO PROVIDE STANDBY POWER 120V CIRCUIT TO ALL FCU AND VAV UNITS. LOW VOLTAGE TRANSFORMER AND ALL LOW VOLTAGE WIRING FURNISHED, INSTALLED AND WIRED BY BMS SUBCONTRACTOR. ELECTRICAL SUBCONTRACTOR TO FURNISH AND INSTALL JUNCTION BOX, CONDUIT, AND 120V WIRING TO LOW VOLTAGE TRANSFORMERS. COORDINATE WITH HVAC. REFER TO HVAC DRAWINGS. TYPICAL.

10 – AUTOMATIC TOILET TRANSFORMER FURNISHED BY PLUMBING, INSTALLED AND WIRED BY ELECTRICAL. ELECTRICAL CONTRACTOR TO PROVIDE 120–VOLT CIRCUIT FROM NEAREST TOILET RECEPTACLE CIRCUIT. REFER TO WIRING DIAGRAMS, DWG 10.3.13. TYPICAL FOR ALL.

11 – HVP OUTLET AND ASSOCIATED RECEPTACLE TO BE LOCATED AT WHITE BOARD. EXACT LOCATION AND MOUNTING HEIGHT BY ARCHITECT.

12 – IN OFFICES, OUTLET BOXES SHALL BE STAGGERED SO THAT OUTLET BOXES FROM TWO ROOMS ARE NOT INSTALLED IN THE SAME WALL CAVITY AND SHALL BE A MINIMUM OF 2'–0" ON CENTER.

13 – ELECTRICAL CONTRACTOR TO FIRE PROOF PENETRATIONS THROUGH FIRE RATED ASSEMBLIES. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF ALL FIRE RATED WALLS AND CEILINGS. REFER TO GENERAL NOTE ON DWG. 10.0.01.

14 – ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL EXPANSION FITTINGS FOR ALL CONDUITS PASSING THROUGH EXPANSION JOINTS. REFER TO ARCHITECTURAL DRAWINGS FOR EXPANSION JOINTS.

15 – ELECTRIC WATER COOLER. FURNISH AND INSTALL A 20A–1P GFCI BREAKER IN PANEL TO SERVE ELECTRICAL WATER COOLER.

16 – AT ALL RECESSED PANELS, FURNISH AND INSTALL THREE SPARE 1" CONDUITS FROM EACH PANEL TUB TO ACCESSIBLE CEILING CAVITY ABOVE FOR FUTURE USE.

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KEY PLAN

N Called North

NORTH ARROW | STAMP

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

First Floor Power Plan

10.2.02

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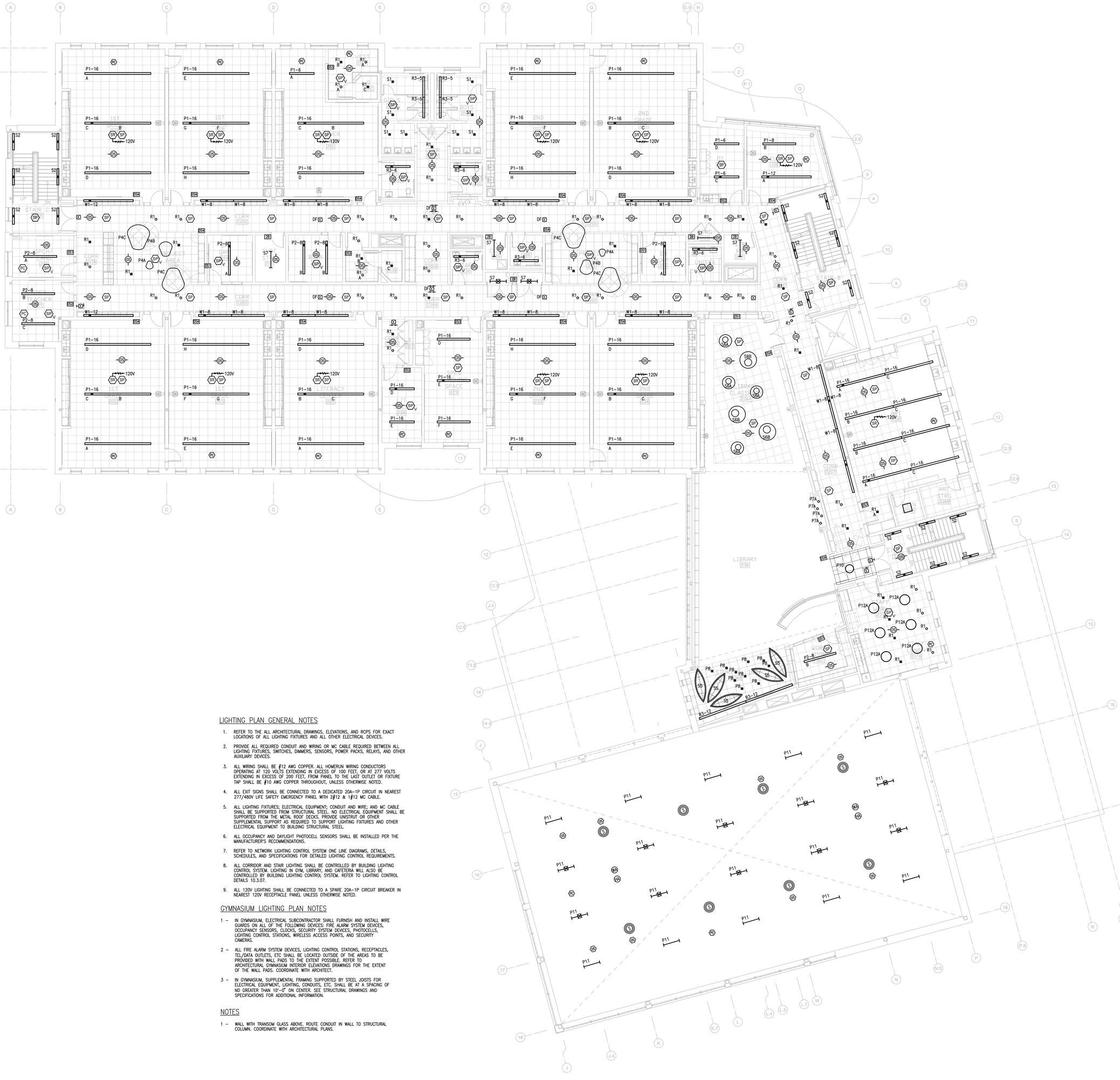

LIGHTING PLAN GENERAL NOTES

1. REFER TO THE ALL ARCHITECTURAL DRAWINGS, ELEVATIONS, AND RCPS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ALL OTHER ELECTRICAL DEVICES.
2. PROVIDE ALL REQUIRED CONDUIT AND WIRING OR MC CABLE REQUIRED BETWEEN ALL LIGHTING FIXTURES, SWITCHES, DIMMERS, SENSORS, POWER PACKS, RELAYS, AND OTHER AUXILIARY DEVICES.
3. ALL WIRING SHALL BE #12 AWG COPPER. ALL HOMERUN WIRING CONDUCTORS OPERATING AT 120 VOLTS EXTENDING IN EXCESS OF 100 FEET, OR AT 277 VOLTS EXTENDING IN EXCESS OF 200 FEET, FROM PANEL TO THE LAST OUTLET OR FIXTURE TAP SHALL BE #10 AWG COPPER THROUGHOUT, UNLESS OTHERWISE NOTED.
4. ALL EXIT SIGNS SHALL BE CONNECTED TO A DEDICATED 20A–1P CIRCUIT IN NEAREST 277/480V LIFE SAFETY EMERGENCY PANEL WITH 2#12 & 1#12 MC CABLE.
5. ALL LIGHTING FIXTURES; ELECTRICAL EQUIPMENT; CONDUIT AND WIRE; AND MC CABLE SHALL BE SUPPORTED FROM STRUCTURAL STEEL. NO ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE METAL ROOF DECKS. PROVIDE UNISTRUT OR OTHER SUPPLEMENTAL SUPPORT AS REQUIRED TO SUPPORT LIGHTING FIXTURES AND OTHER ELECTRICAL EQUIPMENT TO BUILDING STRUCTURAL STEEL.
6. ALL OCCUPANCY AND DAYLIGHT PHOTOCELL SENSORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
7. REFER TO NETWORK LIGHTING CONTROL SYSTEM ONE LINE DIAGRAMS, DETAILS, SCHEDULES, AND SPECIFICATIONS FOR DETAILED LIGHTING CONTROL REQUIREMENTS.
8. ALL CORRIDOR AND STAIR LIGHTING SHALL BE CONTROLLED BY BUILDING LIGHTING CONTROL SYSTEM. LIGHTING IN GYM, LIBRARY, AND CAFETERIA WILL ALSO BE CONTROLLED BY BUILDING LIGHTING CONTROL SYSTEM. REFER TO LIGHTING CONTROL DETAILS 10.3.07.
9. ALL 120V LIGHTING SHALL BE CONNECTED TO A SPARE 20A–1P CIRCUIT BREAKER IN NEAREST 120V RECEPTACLE PANEL UNLESS OTHERWISE NOTED.

GYMNASIUM LIGHTING PLAN NOTES

1 – IN GYMNASIUM, ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL WIRE GUARDS ON ALL OF THE FOLLOWING DEVICES: FIRE ALARM SYSTEM DEVICES, OCCUPANCY SENSORS, CLOCKS, SECURITY SYSTEM DEVICES, PHOTOCELLS, LIGHTING CONTROL STATIONS, WIRELESS ACCESS POINTS, AND SECURITY CAMERAS.

2 – ALL FIRE ALARM SYSTEM DEVICES, LIGHTING CONTROL STATIONS, RECEPTACLES, TEL/DATA OUTLETS, ETC SHALL BE LOCATED OUTSIDE OF THE AREAS TO BE PROVIDED WITH WALL PADS TO THE EXTENT POSSIBLE. REFER TO ARCHITECTURAL GYMNASIUM INTERIOR ELEVATIONS DRAWINGS FOR THE EXTENT OF THE WALL PADS. COORDINATE WITH ARCHITECT.

3 – IN GYMNASIUM, SUPPLEMENTAL FRAMING SUPPORTED BY STEEL JOISTS FOR ELECTRICAL EQUIPMENT, LIGHTING, CONDUITS, ETC., SHALL BE AT A SPACING OF NO GREATER THAN 10'–0" ON CENTER. SEE STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

NOTES

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Second Floor Lighting Plan

10.2.03

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GENERAL POWER NOTES:

1 – COORDINATE EXACT LOCATION OF ALL DEVICES AND EQUIPMENT WITH ARCHITECT PRIOR TO INSTALLATION.

2 – REFER TO MECHANICAL PLANS FOR ANY CHANGE AND FOR EXACT LOCATION OF ALL HVAC EQUIPMENT.

3 – WIRING IS SHOWN ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS.

4 – WIRING AND CONDUIT SHALL BE REQUIRED BETWEEN ALL OUTLETS INDICATED WITH CIRCUIT NUMBERS AND PANEL DESIGNATIONS.

5 – ALTHOUGH ALL BRANCH CIRCUIT WIRE AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.

6 – ALL BRANCH CIRCUIT CONDUCTORS SHALL BE 98% CONDUCTIVITY, COPPER MINIMUM #12 AWG SIZE, THWN/THHN INSULATION, 600 VOLTS RATED UNLESS OTHERWISE NOTED.

7 – REFER TO FIRE PROTECTION PLANS FOR ANY CHANGES AND FOR EXACT LOCATION OF ALL FLOW SWITCH, TAMPER SWITCH, ETC.

8 – DO NOT PENETRATE STAIRS WITH ANY UTILITIES EXCEPT FOR UTILITIES SPECIFICALLY SERVING THAT STAIR.

9 – WHERE CONDUIT AND/OR BOXES CANNOT BE FLUSH MOUNTED IN BUILDING PROVIDE A SYSTEM OF SURFACE METAL RACEWAYS AND BOXES IN ACCORDANCE WITH ARTICLE 386, EQUAL TO WIREMOLD FOR ALL FINISH SPACES WHERE PUBLIC HAS ACCESS, INCLUDING CORRIDORS, CLASSROOMS, OFFICES, ETC.

10 – CONFIRM RATINGS AND FINAL LOCATIONS OF EQUIPMENT WITH OWNER PRIOR TO ROUGHING.

11 – ALL OUTLETS ON EXTERIOR WALLS WITH CASEWORK SHALL BE MOUNTED 6" ABOVE CASEWORK. CONFIRM HEIGHT OF CASEWORK WITH HVAC AND ARCHITECT PRIOR TO ROUGHING.

12 – TYPICALLY PROVIDE GROUND FAULT INTERRUPTER TYPE RECEPTACLES WITHIN 6 FEET OF WATER SOURCES.

13 – PROVIDE ALL EMPTY CONDUITS WITH PULL–STRINGS.

14 – TYPICALLY PROVIDE (2) 4" SLEEVES OVER EACH CORRIDOR DOOR.

15 – PROVIDE (2) 2" THROUGH–WALL SLEEVE ABOVE CEILING OVER THE DOORS INTO EACH ROOM LEADING FROM THE CORRIDOR FOR COMMUNICATIONS/DATA WIRING.

16 – LOCATE ALL WALL TELEPHONE OUTLETS 12 INCHES AWAY FROM ALL OTHER OUTLETS/DEVICES.

17 – PROVIDE (2) 1" SLEEVES OVER EACH DOOR FOR TEL./DATA SECURITY AND SOUND SYSTEM WIRING. TEL./DATA SHALL BE DEDICATED TO (1) OF THE CONDUITS.

18 – ELECTRICAL CONTRACTOR SHALL PROVIDE ALL BOXES AND CONDUITS REQUIRED FOR AUDIO/VISUAL SYSTEMS SECTION 274100 DEVICES AS SHOWN ON AV DRAWINGS. ALL LOCATIONS OF POWER AND A/V OUTLET BOXES SHALL BE COORDINATED WITH ARCHITECT PRIOR TO ROUGHING.

19 – ELECTRICAL CONTRACTOR SHALL PROVIDE EMERGENCY BOILER AND WATER HEATER SHUT–OFF MOUNTED IN STOPPER II COVER, INTERLOCK W/ BOILER AND WATER HEATER CONTROL PANELS. MOUNT AT 72" A.F.F. TYPICAL.

POWER PLAN GENERAL NOTES

1 – REFER TO THE ARCHITECTURAL DETAIL DRAWINGS AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHT OF ALL ELECTRICAL EQUIPMENT INCLUDING ALL SWITCHES, FIRE ALARM, RECEPTACLES, AND V/D OUTLETS IN ALL ROOMS.

2 – ALL HOMERUN WIRING CONDUCTORS OPERATING AT 120 VOLTS EXTENDING IN EXCESS OF 100 FEET, OR AT 277 VOLTS EXTENDING IN EXCESS OF 200 FEET, FROM PANEL TO THE LAST OUTLET OR FIXTURE TAP SHALL BE #10 A.W.G. COPPER THROUGHOUT, UNLESS OTHERWISE NOTED.

3 – THE ELECTRICAL SUBCONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL ELECTRICAL EQUIPMENT INCLUDING LIGHTING FIXTURES AND RECEPTACLES WITH THE HVAC SUBCONTRACTOR SO THAT NO ELECTRICAL EQUIPMENT SHALL INTERFERE WITH THE HVAC EQUIPMENT AND ELECTRICAL EQUIPMENT WILL BE ACCESSIBLE AFTER THE HVAC EQUIPMENT HAS BEEN INSTALLED.

4 – ALL COMMUNICATION AND ALL LOW VOLTAGE WIRING INSTALLED IN AREAS WITH EXPOSED STRUCTURAL CEILINGS SHALL BE INSTALLED IN EMT CONDUIT. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THIS REQUIRED EMT CONDUIT. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR AREAS WITH EXPOSED STRUCTURAL CEILINGS.

5 – COORDINATE EXACT LOCATION OF FLOOR BOXES WITH ARCHITECT.

6 – ALL COUNTER OR STANDARD HEIGHT RECEPTACLES INSTALLED WITHIN 6'–0" OF SINK SHALL BE OF THE GFCI TYPE.

7 – ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 4" CONDUIT SLEEVES FOR ALL COMMUNICATION SYSTEMS INSTALLATION. SLEEVES TO BE INSTALLED BETWEEN ALL CLASSROOMS AND ROOM/OFFICES AND BETWEEN ALL CLASSROOMS/OFFICES/ROOMS AND CORRIDORS.

8 – THERE SHALL BE VARIOUS HVAC BMS CONTROL PANELS LOCATED ON THE FLOORS TO SERVE HVAC EQUIPMENT INCLUDING FIELD DEVICES UNITS AND IP CONTROLLERS AT VARIOUS LOCATIONS WITHIN THE BUILDING BY THE BMS CONTROL SUBCONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE A 120–VOLT CIRCUIT TO EACH OF THE BMS PANELS. CONNECT TO A 20A–1P SPARE CIRCUIT BREAKER IN THE NEAREST STANDBY POWER PANEL.

9 – ELECTRICAL CONTRACTOR TO PROVIDE STANDBY POWER 120V CIRCUIT TO ALL FCU AND VAV UNITS. LOW VOLTAGE TRANSFORMER AND ALL LOW VOLTAGE WIRING FURNISHED, INSTALLED AND WIRED BY BMS SUBCONTRACTOR. ELECTRICAL SUBCONTRACTOR TO FURNISH AND INSTALL JUNCTION BOX, CONDUIT, AND 120V WIRING TO LOW VOLTAGE TRANSFORMERS. COORDINATE WITH HVAC. REFER TO HVAC DRAWINGS. TYPICAL.

10 – AUTOMATIC TOILET TRANSFORMER FURNISHED BY PLUMBING, INSTALLED AND WIRED BY ELECTRICAL. ELECTRICAL CONTRACTOR TO PROVIDE 120–VOLT CIRCUIT FROM NEAREST TOILET RECEPTACLE CIRCUIT. REFER TO WIRING DIAGRAMS, DWG 10.3.13. TYPICAL FOR ALL.

11 – HVP OUTLET AND ASSOCIATED RECEPTACLE TO BE LOCATED AT WHITE BOARD. EXACT LOCATION AND MOUNTING HEIGHT BY ARCHITECT.

12 – IN OFFICES, OUTLET BOXES SHALL BE STAGGERED SO THAT OUTLET BOXES FROM TWO ROOMS ARE NOT INSTALLED IN THE SAME WALL CAVITY AND SHALL BE A MINIMUM OF 2'–0" ON CENTER.

13 – ELECTRICAL CONTRACTOR TO FIRE PROOF PENETRATIONS THROUGH FIRE RATED ASSEMBLIES. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF ALL FIRE RATED WALLS AND CEILINGS. REFER TO GENERAL NOTE ON DWG. 10.0.01.

14 – ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL EXPANSION FITTINGS FOR ALL CONDUITS PASSING THROUGH EXPANSION JOINTS. REFER TO ARCHITECTURAL DRAWINGS FOR EXPANSION JOINTS.

15 – ELECTRIC WATER COOLER. FURNISH AND INSTALL A 20A–1P GFCI BREAKER IN PANEL TO SERVE ELECTRICAL WATER COOLER.

16 – AT ALL RECESSED PANELS, FURNISH AND INSTALL THREE SPARE 1" CONDUITS FROM EACH PANEL TUB TO ACCESSIBLE CEILING CAVITY ABOVE FOR FUTURE USE.

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Second Floor Power Plan

10.2.04

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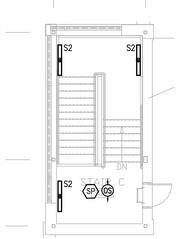
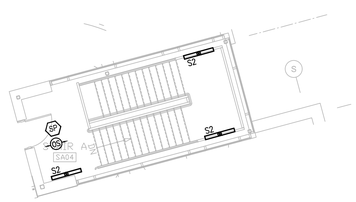


1 ROOF LEVEL STAIR C LIGHTING PLAN
SCALE: 1/8" = 1'-0"



2 ROOF LEVEL STAIR A LIGHTING PLAN
SCALE: 1/8" = 1'-0"

LIGHTING PLAN GENERAL NOTES

1. REFER TO THE ALL ARCHITECTURAL DRAWINGS, ELEVATIONS, AND RCPS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ALL OTHER ELECTRICAL DEVICES.
2. PROVIDE ALL REQUIRED CONDUIT AND WIRING OR MC CABLE REQUIRED BETWEEN ALL LIGHTING FIXTURES, SWITCHES, DIMMERS, SENSORS, POWER PACKS, RELAYS, AND OTHER AUXILIARY DEVICES.
3. ALL WIRING SHALL BE #12 AWG COPPER. ALL HOMERUN WIRING CONDUCTORS OPERATING AT 120 VOLTS EXTENDING IN EXCESS OF 100 FEET, OR AT 277 VOLTS EXTENDING IN EXCESS OF 200 FEET, FROM PANEL TO THE LAST OUTLET OR FIXTURE TAP SHALL BE #10 AWG COPPER THROUGHOUT, UNLESS OTHERWISE NOTED.
4. ALL EXIT SIGNS SHALL BE CONNECTED TO A DEDICATED 20A-1P CIRCUIT IN NEAREST 277/480V LIFE SAFETY EMERGENCY PANEL WITH 2#12 & 1#12 MC CABLE.
5. ALL LIGHTING FIXTURES; ELECTRICAL EQUIPMENT; CONDUIT AND WIRE; AND MC CABLE SHALL BE SUPPORTED FROM STRUCTURAL STEEL. NO ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE METAL ROOF DECKS. PROVIDE UNISTRUT OR OTHER SUPPLEMENTAL SUPPORT AS REQUIRED TO SUPPORT LIGHTING FIXTURES AND OTHER ELECTRICAL EQUIPMENT TO BUILDING STRUCTURAL STEEL.
6. ALL OCCUPANCY AND DAYLIGHT PHOTOCELL SENSORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
7. REFER TO NETWORK LIGHTING CONTROL SYSTEM ONE LINE DIAGRAMS, DETAILS, SCHEDULES, AND SPECIFICATIONS FOR DETAILED LIGHTING CONTROL REQUIREMENTS.
8. ALL CORRIDOR AND STAIR LIGHTING SHALL BE CONTROLLED BY BUILDING LIGHTING CONTROL SYSTEM. LIGHTING IN GYM, LIBRARY, AND CAFETERIA WILL ALSO BE CONTROLLED BY BUILDING LIGHTING CONTROL SYSTEM. REFER TO LIGHTING CONTROL DETAILS 10.3.07.
9. ALL 120V LIGHTING SHALL BE CONNECTED TO A SPARE 20A-1P CIRCUIT BREAKER IN NEAREST 120V RECEPTACLE PANEL UNLESS OTHERWISE NOTED.

NOTES

1 – WALL WITH TRANSOM GLASS ABOVE. ROUTE CONDUIT IN WALL TO STRUCTURAL COLUMN. COORDINATE WITH ARCHITECTURAL PLANS.

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Third Floor Lighting Plan

10.2.05

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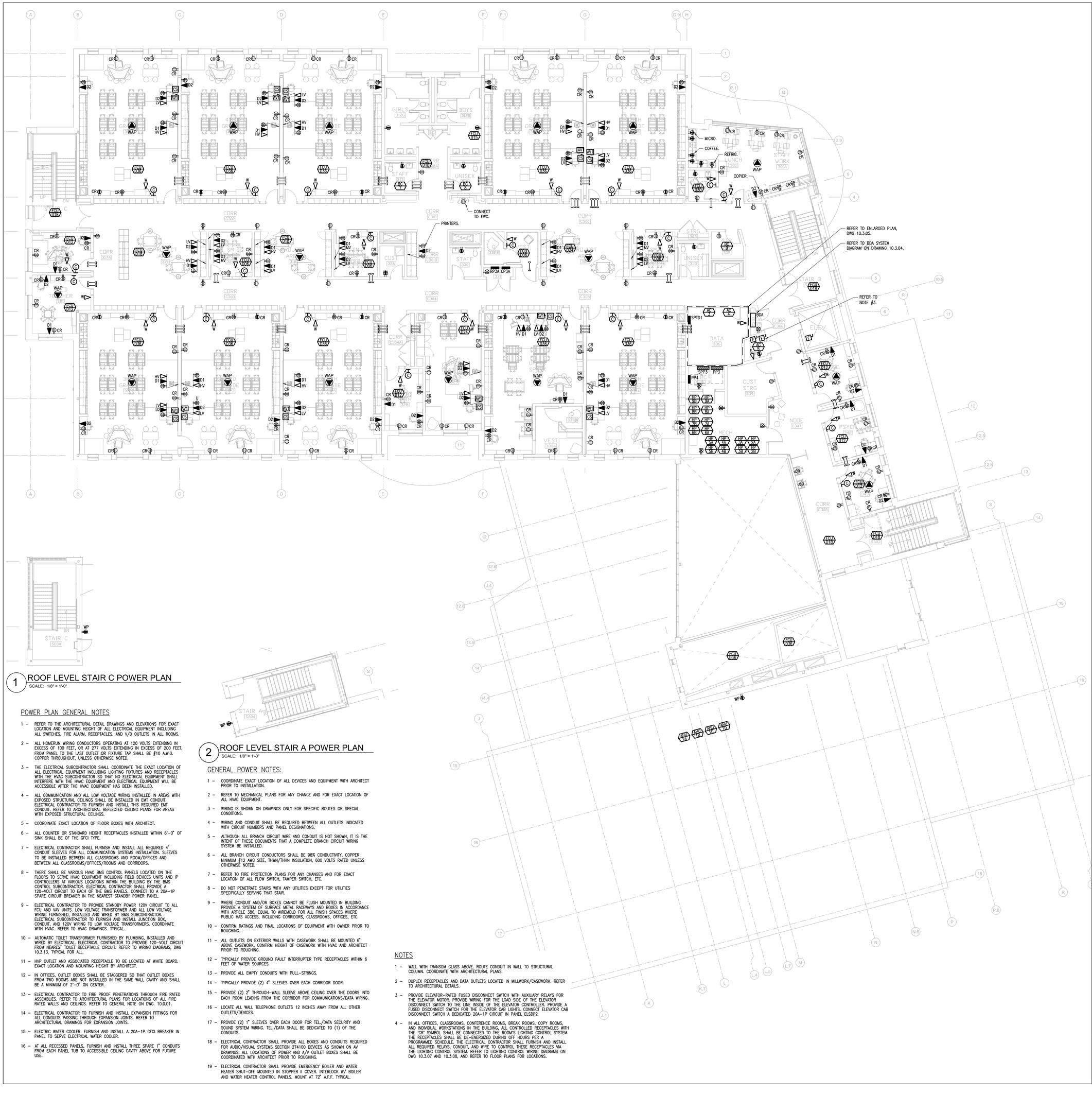

1 ROOF LEVEL STAIR C POWER PLAN

SCALE: 1/8" = 1'-0"

2 ROOF LEVEL STAIR A POWER PLAN

SCALE: 1/8" = 1'-0"

POWER PLAN GENERAL NOTES

1 – REFER TO THE ARCHITECTURAL DETAIL DRAWINGS AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHT OF ALL ELECTRICAL EQUIPMENT INCLUDING ALL SWITCHES, FIRE ALARM, RECEPTACLES, AND V/D OUTLETS IN ALL ROOMS.

2 – ALL HOMERUN WIRING CONDUCTORS OPERATING AT 120 VOLTS EXTENDING IN EXCESS OF 100 FEET, OR AT 277 VOLTS EXTENDING IN EXCESS OF 200 FEET, FROM PANEL TO THE LAST OUTLET OR FIXTURE TAP SHALL BE #10 A.W.G. COPPER THROUGHOUT, UNLESS OTHERWISE NOTED.

3 – THE ELECTRICAL SUBCONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL ELECTRICAL EQUIPMENT INCLUDING LIGHTING FIXTURES AND RECEPTACLES WITH THE HVAC SUBCONTRACTOR SO THAT NO ELECTRICAL EQUIPMENT SHALL INTERFERE WITH THE HVAC EQUIPMENT AND ELECTRICAL EQUIPMENT WILL BE ACCESSIBLE AFTER THE HVAC EQUIPMENT HAS BEEN INSTALLED.

4 – ALL COMMUNICATION AND ALL LOW VOLTAGE WIRING INSTALLED IN AREAS WITH EXPOSED STRUCTURAL CEILINGS SHALL BE INSTALLED IN EMT CONDUIT. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THIS REQUIRED EMT CONDUIT. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR AREAS WITH EXPOSED STRUCTURAL CEILINGS.

5 – COORDINATE EXACT LOCATION OF FLOOR BOXES WITH ARCHITECT.

6 – ALL COUNTER OR STANDARD HEIGHT RECEPTACLES INSTALLED WITHIN 6'-0" OF SINK SHALL BE OF THE GFCI TYPE.

7 – ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 4" CONDUIT SLEEVES FOR ALL COMMUNICATION SYSTEMS INSTALLATION. SLEEVES TO BE INSTALLED BETWEEN ALL CLASSROOMS AND ROOM/OFFICES AND BETWEEN ALL CLASSROOMS/OFFICES/ROOMS AND CORRIDORS.

8 – THERE SHALL BE VARIOUS HVAC BMS CONTROL PANELS LOCATED ON THE FLOORS TO SERVE HVAC EQUIPMENT INCLUDING FIELD DEVICES UNITS AND IP CONTROLLERS AT VARIOUS LOCATIONS WITHIN THE BUILDING BY THE BMS CONTROL SUBCONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE A 120-VOLT CIRCUIT TO EACH OF THE BMS PANELS. CONNECT TO A 20A-1P SPARE CIRCUIT BREAKER IN THE NEAREST STANDBY POWER PANEL.

9 – ELECTRICAL CONTRACTOR TO PROVIDE STANDBY POWER 120V CIRCUIT TO ALL FCU AND VAV UNITS. LOW VOLTAGE TRANSFORMER AND ALL LOW VOLTAGE WIRING FURNISHED, INSTALLED AND WIRED BY BMS SUBCONTRACTOR. ELECTRICAL SUBCONTRACTOR TO FURNISH AND INSTALL JUNCTION BOX, CONDUIT, AND 120V WIRING TO LOW VOLTAGE TRANSFORMERS. COORDINATE WITH HVAC. REFER TO HVAC DRAWINGS. TYPICAL.

10 – AUTOMATIC TOILET TRANSFORMER FURNISHED BY PLUMBING, INSTALLED AND WIRED BY ELECTRICAL. ELECTRICAL CONTRACTOR TO PROVIDE 120-VOLT CIRCUIT FROM NEAREST TOILET RECEPTACLE CIRCUIT. REFER TO WIRING DIAGRAMS, DWG 10.3.13. TYPICAL FOR ALL.

11 – HVP OUTLET AND ASSOCIATED RECEPTACLE TO BE LOCATED AT WHITE BOARD. EXACT LOCATION AND MOUNTING HEIGHT BY ARCHITECT.

12 – IN OFFICES, OUTLET BOXES SHALL BE STAGGERED SO THAT OUTLET BOXES FROM TWO ROOMS ARE NOT INSTALLED IN THE SAME WALL CAVITY AND SHALL BE A MINIMUM OF 2'-0" ON CENTER.

13 – ELECTRICAL CONTRACTOR TO FIRE PROOF PENETRATIONS THROUGH FIRE RATED ASSEMBLIES. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF ALL FIRE RATED WALLS AND CEILINGS. REFER TO GENERAL NOTE ON DWG. 10.0.01.

14 – ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL EXPANSION FITTINGS FOR ALL CONDUITS PASSING THROUGH EXPANSION JOINTS. REFER TO ARCHITECTURAL DRAWINGS FOR EXPANSION JOINTS.

15 – ELECTRIC WATER COOLER. FURNISH AND INSTALL A 20A-1P GFCI BREAKER IN PANEL TO SERVE ELECTRICAL WATER COOLER.

16 – AT ALL RECESSED PANELS, FURNISH AND INSTALL THREE SPARE 1" CONDUITS FROM EACH PANEL TUB TO ACCESSIBLE CEILING CAVITY ABOVE FOR FUTURE USE.

GENERAL POWER NOTES:

1 – COORDINATE EXACT LOCATION OF ALL DEVICES AND EQUIPMENT WITH ARCHITECT PRIOR TO INSTALLATION.

2 – REFER TO MECHANICAL PLANS FOR ANY CHANGE AND FOR EXACT LOCATION OF ALL HVAC EQUIPMENT.

3 – WIRING IS SHOWN ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS.

4 – WIRING AND CONDUIT SHALL BE REQUIRED BETWEEN ALL OUTLETS INDICATED WITH CIRCUIT NUMBERS AND PANEL DESIGNATIONS.

5 – ALTHOUGH ALL BRANCH CIRCUIT WIRE AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.

6 – ALL BRANCH CIRCUIT CONDUCTORS SHALL BE 98% CONDUCTIVITY, COPPER MINIMUM #12 AWG SIZE, THWN/THHN INSULATION, 600 VOLTS RATED UNLESS OTHERWISE NOTED.

7 – REFER TO FIRE PROTECTION PLANS FOR ANY CHANGES AND FOR EXACT LOCATION OF ALL FLOW SWITCH, TAMPER SWITCH, ETC.

8 – DO NOT PENETRATE STAIRS WITH ANY UTILITIES EXCEPT FOR UTILITIES SPECIFICALLY SERVING THAT STAIR.

9 – WHERE CONDUIT AND/OR BOXES CANNOT BE FLUSH MOUNTED IN BUILDING PROVIDE A SYSTEM OF SURFACE METAL RACEWAYS AND BOXES IN ACCORDANCE WITH ARTICLE 386, EQUAL TO WIREMOLD FOR ALL FINISH SPACES WHERE PUBLIC HAS ACCESS, INCLUDING CORRIDORS, CLASSROOMS, OFFICES, ETC.

10 – CONFIRM RATINGS AND FINAL LOCATIONS OF EQUIPMENT WITH OWNER PRIOR TO ROUGHING.

11 – ALL OUTLETS ON EXTERIOR WALLS WITH CASEWORK SHALL BE MOUNTED 6" ABOVE CASEWORK. CONFIRM HEIGHT OF CASEWORK WITH HVAC AND ARCHITECT PRIOR TO ROUGHING.

12 – TYPICALLY PROVIDE GROUND FAULT INTERRUPTER TYPE RECEPTACLES WITHIN 6 FEET OF WATER SOURCES.

13 – PROVIDE ALL EMPTY CONDUITS WITH PULL-STRINGS.

14 – TYPICALLY PROVIDE (2) 4" SLEEVES OVER EACH CORRIDOR DOOR.

15 – PROVIDE (2) 2" THROUGH-WALL SLEEVE ABOVE CEILING OVER THE DOORS INTO EACH ROOM LEADING FROM THE CORRIDOR FOR COMMUNICATIONS/DATA WIRING.

16 – LOCATE ALL WALL TELEPHONE OUTLETS 12 INCHES AWAY FROM ALL OTHER OUTLETS/DEVICES.

17 – PROVIDE (2) 1" SLEEVES OVER EACH DOOR FOR TEL./DATA SECURITY AND SOUND SYSTEM WIRING. TEL./DATA SHALL BE DEDICATED TO (1) OF THE CONDUITS.

18 – ELECTRICAL CONTRACTOR SHALL PROVIDE ALL BOXES AND CONDUITS REQUIRED FOR AUDIO/VISUAL SYSTEMS SECTION 274100 DEVICES AS SHOWN ON AV DRAWINGS. ALL LOCATIONS OF POWER AND A/V OUTLET BOXES SHALL BE COORDINATED WITH ARCHITECT PRIOR TO ROUGHING.

19 – ELECTRICAL CONTRACTOR SHALL PROVIDE EMERGENCY BOILER AND WATER HEATER SHUT-OFF MOUNTED IN STOPPER II COVER. INTERLOCK W/ BOILER AND WATER HEATER CONTROL PANELS. MOUNT AT 72" A.F.F. TYPICAL.

NOTES

1 – WALL WITH TRANSOM GLASS ABOVE. ROUTE CONDUIT IN WALL TO STRUCTURAL COLUMN. COORDINATE WITH ARCHITECTURAL PLANS.

2 – DUPLEX RECEPTACLES AND DATA OUTLETS LOCATED IN MILLWORK/CASEWORK. REFER TO ARCHITECTURAL DETAILS.

3 – PROVIDE ELEVATOR-RATED FUSED DISCONNECT SWITCH WITH AUXILIARY RELAYS FOR THE ELEVATOR MOTOR. PROVIDE WIRING FOR THE LOAD SIDE OF THE ELEVATOR DISCONNECT SWITCH TO THE LINE INSIDE OF THE ELEVATOR CONTROLLER. PROVIDE A FUSED DISCONNECT SWITCH FOR THE ELEVATOR CAB LIGHTS. CONNECT ELEVATOR CAB DISCONNECT SWITCH A DEDICATED 20A-1P CIRCUIT IN PANEL ELSDP2

4 – IN ALL OFFICES, CLASSROOMS, CONFERENCE ROOMS, BREAK ROOMS, COPY ROOMS, AND INDIVIDUAL WORKSTATIONS IN THE BUILDING, ALL CONTROLLED RECEPTACLES WITH THE "CR" SYMBOL SHALL BE CONNECTED TO THE ROOM'S LIGHTING CONTROL SYSTEM. THE RECEPTACLES SHALL BE DE-ENERGIZED DURING OFF HOURS PER A PROGRAMMED SCHEDULE. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED RELAYS, CONDUIT, AND WIRE TO CONTROL THESE RECEPTACLES VIA THE LIGHTING CONTROL SYSTEM. REFER TO LIGHTING CONTROL WIRING DIAGRAMS ON DWG 10.3.07 AND 10.3.08, AND REFER TO FLOOR PLANS FOR LOCATIONS.

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KEY PLAN

NORTH ARROW (Called North) | STAMP

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Third Floor Power Plan

10.2.06

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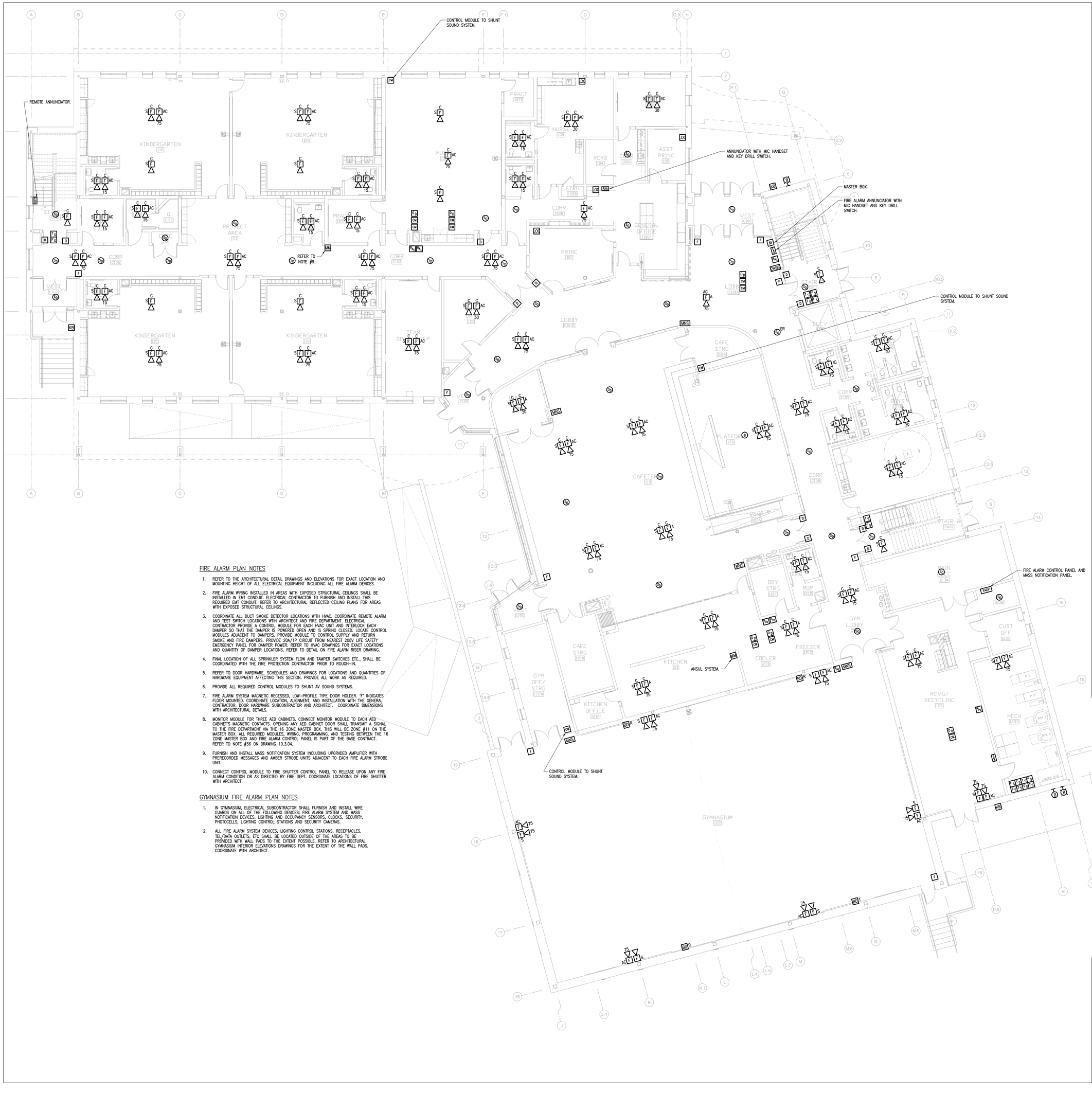

FIRE ALARM PLAN NOTES

1. REFER TO THE ARCHITECTURAL DETAIL DRAWINGS AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHT OF ALL ELECTRICAL EQUIPMENT INCLUDING ALL FIRE ALARM DEVICES.
2. FIRE ALARM WIRING INSTALLED IN AREAS WITH EXPOSED STRUCTURAL CEILINGS SHALL BE INSTALLED IN EMT CONDUIT. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THIS REQUIRED EMT CONDUIT. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR AREAS WITH EXPOSED STRUCTURAL CEILINGS.
3. COORDINATE ALL DUCT SMOKE DETECTOR LOCATIONS WITH HVAC. COORDINATE REMOTE ALARM AND TEST SWITCH LOCATIONS WITH ARCHITECT AND FIRE DEPARTMENT. ELECTRICAL CONTRACTOR PROVIDE A CONTROL MODULE FOR EACH HVAC UNIT AND INTERLOCK EACH DAMPER SO THAT THE DAMPER IS POWERED OPEN AND IS SPRING CLOSED. LOCATE CONTROL MODULES ADJACENT TO DAMPERS. PROVIDE MODULE TO CONTROL SUPPLY AND RETURN SMOKE AND FIRE DAMPERS. PROVIDE 20A/1P CIRCUIT FROM NEAREST 208Y LIFE SAFETY EMERGENCY PANEL FOR DAMPER POWER. REFER TO HVAC DRAWINGS FOR EXACT LOCATIONS AND QUANTITY OF DAMPER LOCATIONS. REFER TO DETAIL ON FIRE ALARM RISER DRAWING.
4. FINAL LOCATION OF ALL SPRINKLER SYSTEM FLOW AND TAMPER SWITCHES ETC., SHALL BE COORDINATED WITH THE FIRE PROTECTION CONTRACTOR PRIOR TO ROUGH-IN.
5. REFER TO DOOR HARDWARE, SCHEDULES AND DRAWINGS FOR LOCATIONS AND QUANTITIES OF HARDWARE EQUIPMENT AFFECTING THIS SECTION. PROVIDE ALL WORK AS REQUIRED.
6. PROVIDE ALL REQUIRED CONTROL MODULES TO SHUNT AV SOUND SYSTEMS.
7. FIRE ALARM SYSTEM MAGNETIC RECESSED, LOW-PROFILE TYPE DOOR HOLDER. "F" INDICATES FLOOR MOUNTED. COORDINATE LOCATION, ALIGNMENT, AND INSTALLATION WITH THE GENERAL CONTRACTOR, DOOR HARDWARE SUBCONTRACTOR AND ARCHITECT. COORDINATE DIMENSIONS WITH ARCHITECTURAL DETAILS.
8. MONITOR MODULE FOR THREE AED CABINETS. CONNECT MONITOR MODULE TO EACH AED CABINET'S MAGNETIC CONTACTS. OPENING ANY AED CABINET DOOR SHALL TRANSMIT A SIGNAL TO THE FIRE DEPARTMENT VIA THE 16 ZONE MASTER BOX. THIS WILL BE ZONE #11 ON THE MASTER BOX. ALL REQUIRED MODULES, WIRING, PROGRAMMING, AND TESTING BETWEEN THE 16 ZONE MASTER BOX AND FIRE ALARM CONTROL PANEL IS PART OF THE BASE CONTRACT. REFER TO NOTE #36 ON DRAWING 10.3.04.
9. FURNISH AND INSTALL MASS NOTIFICATION SYSTEM INCLUDING UPGRADED AMPLIFIER WITH PRERECORDED MESSAGES AND AMBER STROBE UNITS ADJACENT TO EACH FIRE ALARM STROBE UNIT.
10. CONNECT CONTROL MODULE TO FIRE SHUTTER CONTROL PANEL TO RELEASE UPON ANY FIRE ALARM CONDITION OR AS DIRECTED BY FIRE DEPT. COORDINATE LOCATIONS OF FIRE SHUTTER WITH ARCHITECT.

GYMNASIUM FIRE ALARM PLAN NOTES

1. IN GYMNASIUM, ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL WIRE GUARDS ON ALL OF THE FOLLOWING DEVICES: FIRE ALARM SYSTEM AND MASS NOTIFICATION DEVICES, LIGHTING AND OCCUPANCY SENSORS, CLOCKS, SECURITY, PHOTOCELLS, LIGHTING CONTROL STATIONS AND SECURITY CAMERAS.
2. ALL FIRE ALARM SYSTEM DEVICES, LIGHTING CONTROL STATIONS, RECEPTACLES, TEL/DATA OUTLETS, ETC SHALL BE LOCATED OUTSIDE OF THE AREAS TO BE PROVIDED WITH WALL PADS TO THE EXTENT POSSIBLE. REFER TO ARCHITECTURAL GYMNASIUM INTERIOR ELEVATIONS DRAWINGS FOR THE EXTENT OF THE WALL PADS. COORDINATE WITH ARCHITECT.

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

First Floor Fire Alarm Plan

10.2.07

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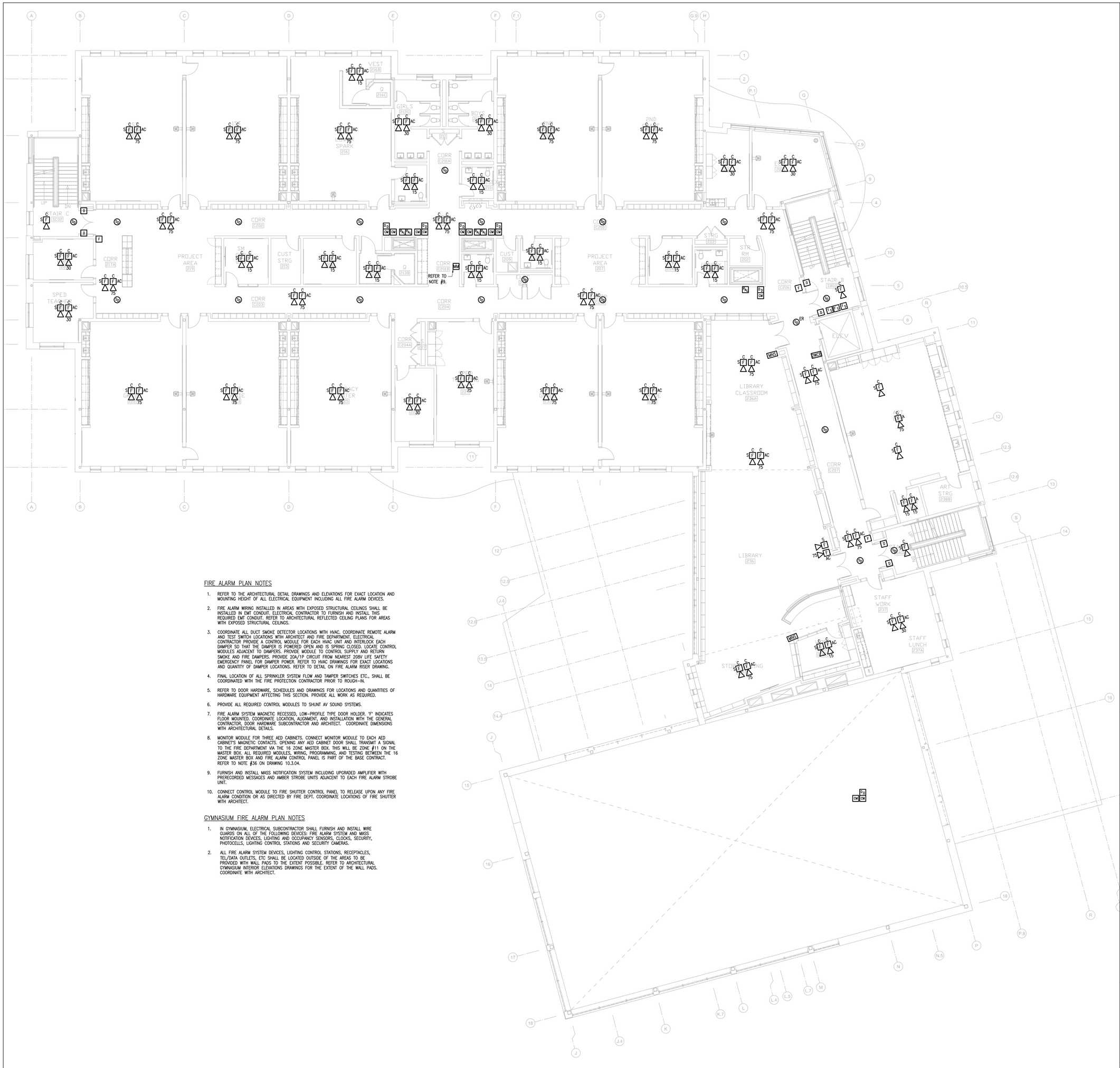

FIRE ALARM PLAN NOTES

1. REFER TO THE ARCHITECTURAL DETAIL DRAWINGS AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHT OF ALL ELECTRICAL EQUIPMENT INCLUDING ALL FIRE ALARM DEVICES.
2. FIRE ALARM WIRING INSTALLED IN AREAS WITH EXPOSED STRUCTURAL CEILINGS SHALL BE INSTALLED IN EMT CONDUIT. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THIS REQUIRED EMT CONDUIT. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR AREAS WITH EXPOSED STRUCTURAL CEILINGS.
3. COORDINATE ALL DUCT SMOKE DETECTOR LOCATIONS WITH HVAC. COORDINATE REMOTE ALARM AND TEST SWITCH LOCATIONS WITH ARCHITECT AND FIRE DEPARTMENT. ELECTRICAL CONTRACTOR PROVIDE A CONTROL MODULE FOR EACH HVAC UNIT AND INTERLOCK EACH DAMPER SO THAT THE DAMPER IS POWERED OPEN AND IS SPRING CLOSED. LOCATE CONTROL MODULES ADJACENT TO DAMPERS. PROVIDE MODULE TO CONTROL SUPPLY AND RETURN SMOKE AND FIRE DAMPERS. PROVIDE 20A/1P CIRCUIT FROM NEAREST 208V LIFE SAFETY EMERGENCY PANEL FOR DAMPER POWER. REFER TO HVAC DRAWINGS FOR EXACT LOCATIONS AND QUANTITY OF DAMPER LOCATIONS. REFER TO DETAIL ON FIRE ALARM RISER DRAWING.
4. FINAL LOCATION OF ALL SPRINKLER SYSTEM FLOW AND TAMPER SWITCHES ETC., SHALL BE COORDINATED WITH THE FIRE PROTECTION CONTRACTOR PRIOR TO ROUGH-IN.
5. REFER TO DOOR HARDWARE, SCHEDULES AND DRAWINGS FOR LOCATIONS AND QUANTITIES OF HARDWARE EQUIPMENT AFFECTING THIS SECTION. PROVIDE ALL WORK AS REQUIRED.
6. PROVIDE ALL REQUIRED CONTROL MODULES TO SHUNT AV SOUND SYSTEMS.
7. FIRE ALARM SYSTEM MAGNETIC RECESSED, LOW-PROFILE TYPE DOOR HOLDER. "F" INDICATES FLOOR MOUNTED. COORDINATE LOCATION, ALIGNMENT, AND INSTALLATION WITH THE GENERAL CONTRACTOR, DOOR HARDWARE SUBCONTRACTOR AND ARCHITECT. COORDINATE DIMENSIONS WITH ARCHITECTURAL DETAILS.
8. MONITOR MODULE FOR THREE AED CABINETS. CONNECT MONITOR MODULE TO EACH AED CABINET'S MAGNETIC CONTACTS. OPENING ANY AED CABINET DOOR SHALL TRANSMIT A SIGNAL TO THE FIRE DEPARTMENT VIA THE 16 ZONE MASTER BOX. THIS WILL BE ZONE #11 ON THE MASTER BOX. ALL REQUIRED MODULES, WIRING, PROGRAMMING, AND TESTING BETWEEN THE 16 ZONE MASTER BOX AND FIRE ALARM CONTROL PANEL IS PART OF THE BASE CONTRACT. REFER TO NOTE #36 ON DRAWING 10.3.04.
9. FURNISH AND INSTALL MASS NOTIFICATION SYSTEM INCLUDING UPGRADED AMPLIFIER WITH PRERECORDED MESSAGES AND AMBER STROBE UNITS ADJACENT TO EACH FIRE ALARM STROBE UNIT.
10. CONNECT CONTROL MODULE TO FIRE SHUTTER CONTROL PANEL TO RELEASE UPON ANY FIRE ALARM CONDITION OR AS DIRECTED BY FIRE DEPT. COORDINATE LOCATIONS OF FIRE SHUTTER WITH ARCHITECT.

GYMNASIUM FIRE ALARM PLAN NOTES

1. IN GYMNASIUM, ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL WIRE GUARDS ON ALL OF THE FOLLOWING DEVICES: FIRE ALARM SYSTEM AND MASS NOTIFICATION DEVICES, LIGHTING AND OCCUPANCY SENSORS, CLOCKS, SECURITY, PHOTOCELLS, LIGHTING CONTROL STATIONS AND SECURITY CAMERAS.
2. ALL FIRE ALARM SYSTEM DEVICES, LIGHTING CONTROL STATIONS, RECEPTACLES, TEL/DATA OUTLETS, ETC SHALL BE LOCATED OUTSIDE OF THE AREAS TO BE PROVIDED WITH WALL PADS TO THE EXTENT POSSIBLE. REFER TO ARCHITECTURAL GYMNASIUM INTERIOR ELEVATIONS DRAWINGS FOR THE EXTENT OF THE WALL PADS. COORDINATE WITH ARCHITECT.

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KEY PLAN

Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Second Floor Fire Alarm Plan

10.2.08

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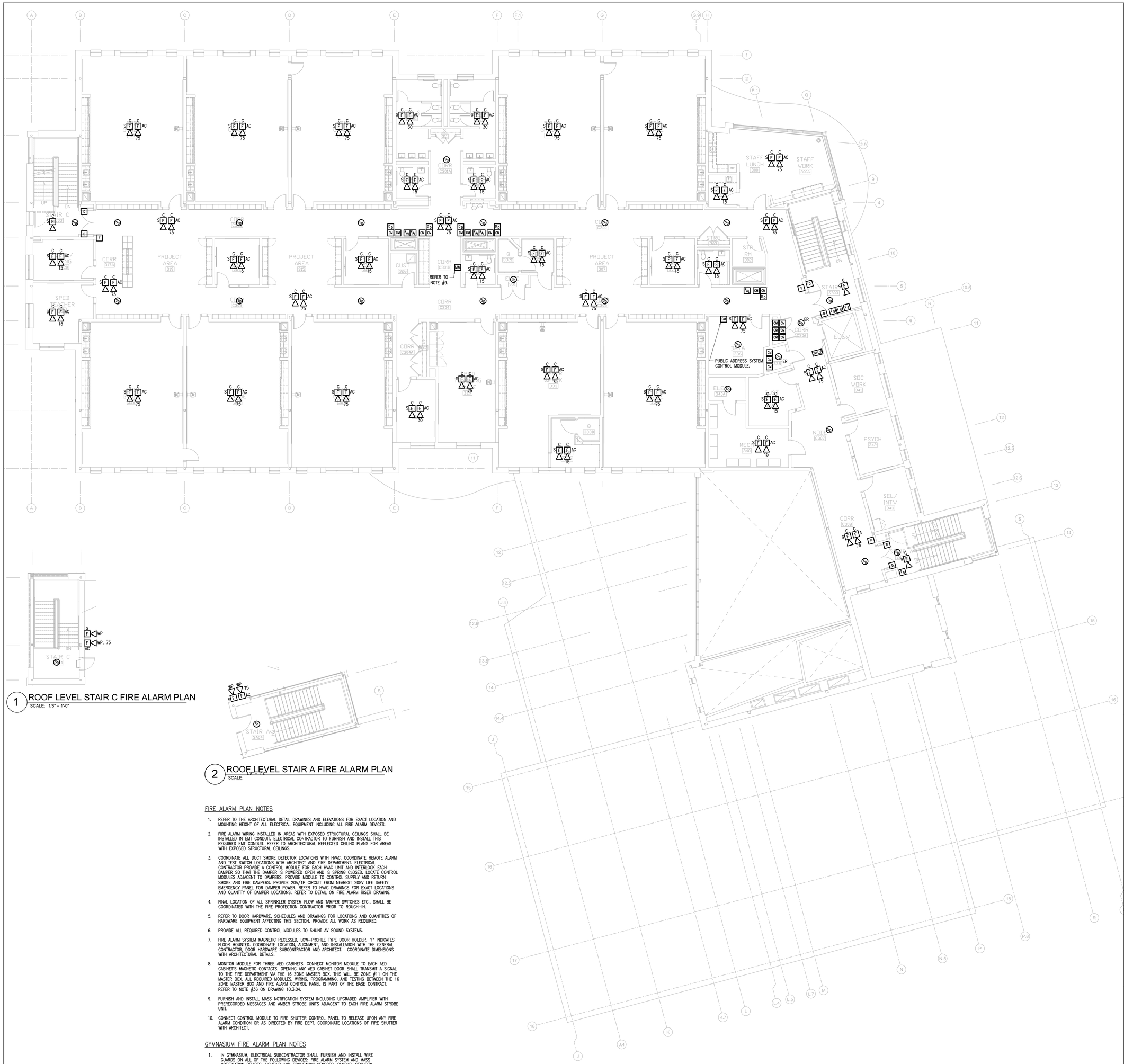

1 ROOF LEVEL STAIR C FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

2 ROOF LEVEL STAIR A FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

FIRE ALARM PLAN NOTES

1. REFER TO THE ARCHITECTURAL DETAIL DRAWINGS AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHT OF ALL ELECTRICAL EQUIPMENT INCLUDING ALL FIRE ALARM DEVICES.
2. FIRE ALARM WIRING INSTALLED IN AREAS WITH EXPOSED STRUCTURAL CEILINGS SHALL BE INSTALLED IN EMT CONDUIT. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THIS REQUIRED EMT CONDUIT. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR AREAS WITH EXPOSED STRUCTURAL CEILINGS.
3. COORDINATE ALL DUCT SMOKE DETECTOR LOCATIONS WITH HVAC. COORDINATE REMOTE ALARM AND TEST SWITCH LOCATIONS WITH ARCHITECT AND FIRE DEPARTMENT. ELECTRICAL CONTRACTOR PROVIDE A CONTROL MODULE FOR EACH HVAC UNIT AND INTERLOCK EACH DAMPER SO THAT THE DAMPER IS POWERED OPEN AND IS SPRING CLOSED. LOCATE CONTROL MODULES ADJACENT TO DAMPERS. PROVIDE MODULE TO CONTROL SUPPLY AND RETURN SMOKE AND FIRE DAMPERS. PROVIDE 20A/1P CIRCUIT FROM NEAREST 208V LIFE SAFETY EMERGENCY PANEL FOR DAMPER POWER. REFER TO HVAC DRAWINGS FOR EXACT LOCATIONS AND QUANTITY OF DAMPER LOCATIONS. REFER TO DETAIL ON FIRE ALARM RISER DRAWING.
4. FINAL LOCATION OF ALL SPRINKLER SYSTEM FLOW AND TAMPER SWITCHES ETC., SHALL BE COORDINATED WITH THE FIRE PROTECTION CONTRACTOR PRIOR TO ROUGH-IN.
5. REFER TO DOOR HARDWARE, SCHEDULES AND DRAWINGS FOR LOCATIONS AND QUANTITIES OF HARDWARE EQUIPMENT AFFECTING THIS SECTION. PROVIDE ALL WORK AS REQUIRED.
6. PROVIDE ALL REQUIRED CONTROL MODULES TO SHUNT AV SOUND SYSTEMS.
7. FIRE ALARM SYSTEM MAGNETIC RECESSED, LOW-PROFILE TYPE DOOR HOLDER. 'F' INDICATES FLOOR MOUNTED. COORDINATE LOCATION, ALIGNMENT, AND INSTALLATION WITH THE GENERAL CONTRACTOR, DOOR HARDWARE SUBCONTRACTOR AND ARCHITECT. COORDINATE DIMENSIONS WITH ARCHITECTURAL DETAILS.
8. MONITOR MODULE FOR THREE AED CABINETS. CONNECT MONITOR MODULE TO EACH AED CABINET'S MAGNETIC CONTACTS. OPENING ANY AED CABINET DOOR SHALL TRANSMIT A SIGNAL TO THE FIRE DEPARTMENT VIA THE 16 ZONE MASTER BOX. THIS WILL BE ZONE #11 ON THE MASTER BOX. ALL REQUIRED MODULES, WIRING, PROGRAMMING, AND TESTING BETWEEN THE 16 ZONE MASTER BOX AND FIRE ALARM CONTROL PANEL IS PART OF THE BASE CONTRACT. REFER TO NOTE #36 ON DRAWING 10.3.04.
9. FURNISH AND INSTALL MASS NOTIFICATION SYSTEM INCLUDING UPGRADED AMPLIFIER WITH PRERECORDED MESSAGES AND AMBER STROBE UNITS ADJACENT TO EACH FIRE ALARM STROBE UNIT.
10. CONNECT CONTROL MODULE TO FIRE SHUTTER CONTROL PANEL TO RELEASE UPON ANY FIRE ALARM CONDITION OR AS DIRECTED BY FIRE DEPT. COORDINATE LOCATIONS OF FIRE SHUTTER WITH ARCHITECT.

GYMNASIUM FIRE ALARM PLAN NOTES

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Third Floor Fire Alarm Plan

10.2.09

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SECURITY SYSTEM PLAN NOTES

1. THE SECURITY SYSTEM (INTRUSION ALARM, CARD ACCESS, SECURITY CAMERA) EQUIPMENT AND CABLING SHALL BE FURNISHED AND INSTALLED BY THE SECURITY SYSTEM CONTRACTOR UNDER A SEPARATE CONTRACT.
2. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED CONDUIT AND BACKBOXES INCLUDING PULL LINES AND BUSHINGS AS REQUIRED FOR THE SECURITY EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED 120-VOLT BRANCH CIRCUITS FOR SECURITY SYSTEM CONTROL PANELS, STANDBY POWER, AND POWER SUPPLIES.
3. COORDINATE WORK IN VOICE/DATA MDF AND IDF CLOSETS WITH TECHNOLOGY CONTRACTOR.
4. REFER TO THE ARCHITECTURAL DETAIL DRAWINGS AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHT OF ALL SECURITY EQUIPMENT.
5. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THE REQUIRED EQUIPMENT, MATERIAL, AND LABOR TO FURNISH AND INSTALL RELAYS/CONTACTORS TO BYPASS THE POWER TO ALL MAGNETIC DOOR HOLD OPENS IN THE ENTIRE BUILDING VIA ONE SWITCH IN THE PRINCIPALS OFFICE. DURING A LOCK DOWN SITUATION ALL MAGNETIC DOOR HOLD OPENS SHALL BE DE-ENERGIZED VIA ONE SWITCH AND ALL DOORS SHALL LOCK. THIS FEATURE SHALL BE OPERATIONAL REGARDLESS OF THE FIRE ALARM SYSTEM CONDITION – NORMAL, ALARM, SUPERVISORY, OR TROUBLE.
6. LOCK DOWN RELEASE MAGNETIC DOOR HOLD OPEN. TO BE INSTALLED LOW ON WALL. COORDINATE EXACT LOCATION WITH ARCHITECT.

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KEY PLAN

NORTH ARROW | STAMP

Date: 21 FEBRUARY 2024
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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

First Floor Security Plan

10.2.10

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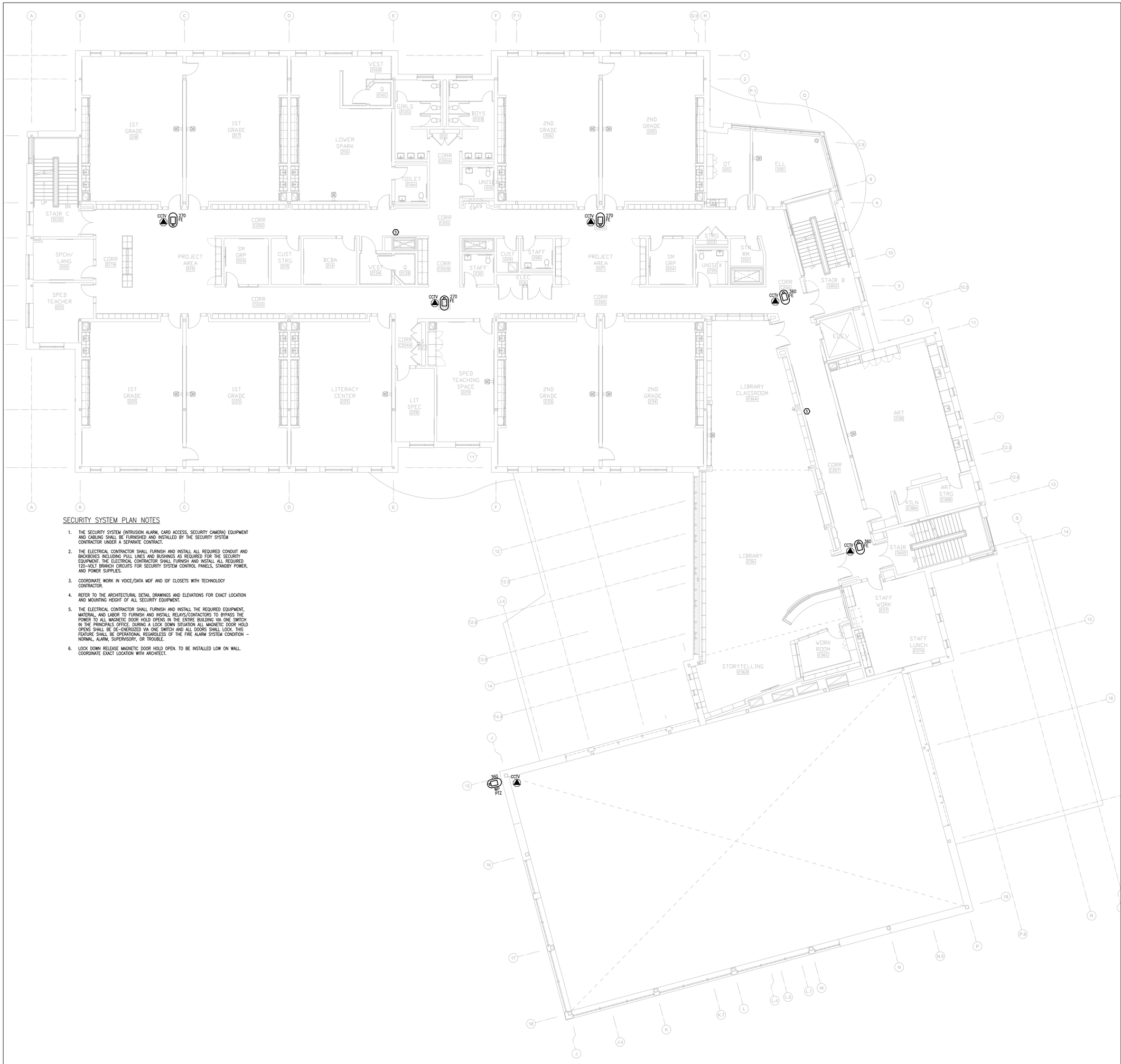

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KEY PLAN

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NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Second Floor Security Plan

10.2.11

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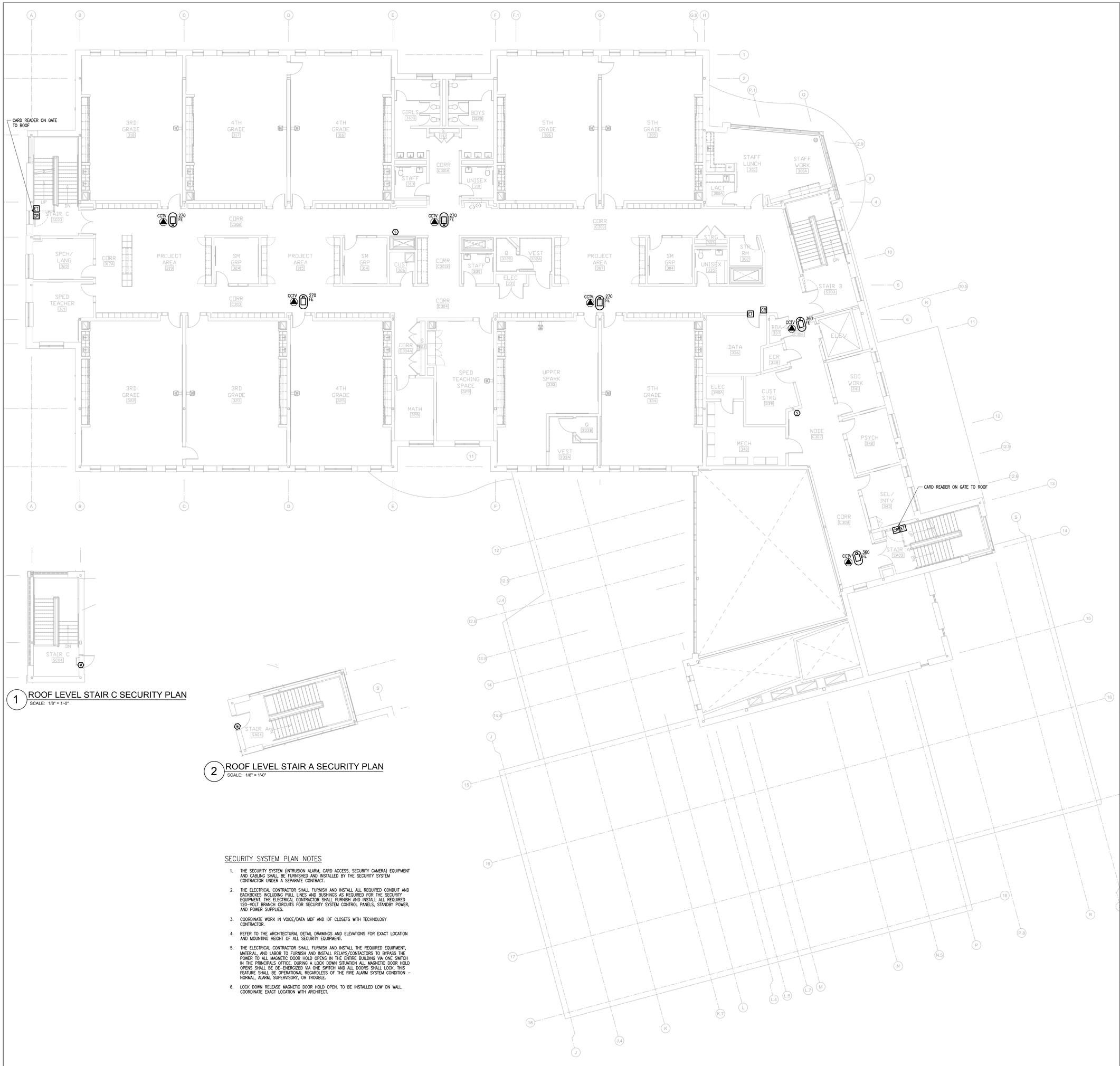

1 ROOF LEVEL STAIR C SECURITY PLAN
SCALE: 1/8" = 1'-0"

2 ROOF LEVEL STAIR A SECURITY PLAN
SCALE: 1/8" = 1'-0"

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KEY PLAN

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Scale: 0 8 16

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Third Floor Security Plan

10.2.12

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LIGHTNING PROTECTION STANDARD NOTES

1 – FURNISH AND INSTALL A COMPLETE UL MASTER LABEL CERTIFICATE LIGHTNING PROTECTION SYSTEM. ALL MATERIALS SHOWN ARE MANUFACTURED BY EAST COAST LIGHTNING CO OR APPROVED EQUAL.

2 – A GROUND RESISTANCE TEST SHALL BE PERFORMED IMMEDIATELY AFTER DRIVING GROUND RODS. THE TEST RESULTS AND TEST DATE SHALL BE INCLUDED ON THE FINAL AS–BUILT DRAWING, AND THEN FORWARDED TO THE LIGHTNING PROTECTION EQUIPMENT MANUFACTURER.

3 – CONDUCTORS SHALL MAINTAIN A HORIZONTAL OR DOWNWARD COURSE, FREE FROM "U" OR "V" (DOWN AND UP) POCKETS.

4 – NO BEND OF CONDUCTOR SHALL FORM AN ANGLE OF LESS THAN 90° NOR SHALL HAVE A RADIUS OF BEND LESS THAN 8 INCHES.

5 – AIR TERMINALS SHALL BE PLACED 20'–0" MAXIMUM SPACING AROUND THE ROOF PERIMETER OR ALONG ROOF RIDGES AND WITHIN 2'–0" OF OUTSIDE CORNER EDGE. MID ROOF AIR TERMINALS SHALL BE PLACED 50'–0" MAXIMUM SPACING.

6 – ACTUAL JOBSITE CONDITIONS MAY REQUIRE ALTERATIONS IN AIR TERMINAL, DOWN CONDUCTOR AND GROUND ROD LOCATIONS.

7 – BARE COPPER MATERIALS SHALL NOT BE INSTALLED ON ALUMINUM SURFACES AND ALUMINUM MATERIALS SHALL NOT BE INSTALLED ON COPPER SURFACES.

8 – ALL LIGHTNING PROTECTION CONDUCTORS SHALL BE FASTENED HORIZONTALLY AND VERTICALLY NOT MORE THAN 3'–0" O.C. MAXIMUM SPACING.

9 – METALLIC BODIES OF INDUCTANCE SITUATED WITHIN 6'–0" OF A LIGHTNING CONDUCTOR OR ANOTHER BONDED METAL BODY SHALL BE INTERCONNECTED TO THE LIGHTNING CONDUCTOR SYSTEM, UNLESS INHERENTLY GROUNDED.

10 – BOND TO ALL METAL BODIES OF CONDUCTANCE WITHIN 6'–0" OF THE MAIN LIGHTNING CONDUCTOR SUCH AS EXHAUST FANS, ROOF VENTS, METAL COOLING TOWERS, H.V.A.C. UNITS, LADDERS, RAILINGS, ANTENNAS, SKYLIGHTS, METAL STACKS AND ANY OTHERS LARGE METAL BODY WHOSE HEIGHT EXCEEDS THAT OF THE AIR TERMINALS IN USE, UNLESS PROTECTED BY HIGHER ROOF ELEVATIONS. ALL METAL BODIES ON THE ROOF SHALL BE PROPERLY PROTECTED REGARDLESS IF BONDING IS SHOWN ON THIS DRAWING.

11 – CONNECTIONS TO GROUND ROD SHALL BE MADE AT A POINT NOT LESS THAN 1'–0" BELOW FINISHED GRADE AND 2'–0" AWAY FROM FOUNDATION WALL.

12 – BOND SYSTEM TO WATERLINES (DOMESTIC & FIRE).

13 – ALL ADHESIVE CABLE FASTENERS SHALL BE SECURED TO THE ROOF WITH AN ADHESIVE COMPOUND OR PITCH THAT COMPLIES WITH THE ROOFING BOND REQUIREMENTS PER THE ROOF MANUFACTURER'S GUARANTEE. ADHESIVE COMPOUND SHALL BE FURNISHED BY THE ROOFING CONTRACTOR.

14 – ALL PROPER ROOF FLASHINGS SHALL BE FURNISHED, INSTALLED AND WEATHERPROOFED BY THE ROOFING CONTRACTOR PER THE ROOF MANUFACTURER'S GUARANTEE.

15 – ALL PVC CONDUIT SHALL BE FURNISHED, INSTALLED, WEATHERPROOFED AND MAINTAINED FREE FROM OBSTRUCTIONS BY THE ELECTRICAL CONTRACTOR.

16 – CONTRACTOR SHALL PERFORM OHMS RESISTANT TESTING FOR ALL GROUND ROD LOCATIONS PRIOR TO INSTALLATION. GROUND GRID LOCATIONS SHALL MEET ALL NFPA 780 REQUIRED OHMS RATINGS.

17 – LIGHTNING PROTECTION COMPONENT MATERIALS SHALL BE GALVANICALLY COMPATIBLE WITH METAL COPING. COPPER COMPONENTS SHALL NOT BE INSTALLED ON ALUMINUM SURFACES.

18 – ALL VERTICAL DOWN COMPONENTS SHALL BE INSTALLED RECESSED IN WALL.

ROOF PLAN NOTES

1 – ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ONE 4" AND ONE 1" EMPTY CONDUITS WITH PULL LINE TO MAIN ELECTRICAL ROOM FOR FUTURE ROOFTOP SOLAR EQUIPMENT. CAP AND MAKE WATER–TIGHT.

2 – ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ONE 3/4" EMPTY CONDUIT TO NEAREST 120V HVAC POWER PANEL LOCATION FOR FUTURE RADON SYSTEM FAN. CAP AND MAKE WATER–TIGHT. COORDINATE ALL LOCATIONS WITH HVAC.

3 – ALL DISCONNECT SWITCHES (FUSED AND UNFUSED), THERMAL SWITCHES AND GROUND FAULT RECEPTACLES INSTALLED ON THE ROOF SHALL BE WEATHERPROOF.

4 – ALL WEATHERPROOF THERMAL SWITCHES SHALL BE MOUNTED INSIDE OF THE FAN HOUSING.

5 – STARTERS FOR ALL HVAC UNITS ON THE ROOF SHALL BE REMOTELY MOUNTED IN THE ELECTRIC CLOSET OR ABOVE CEILING DIRECTLY BELOW THE EQUIPMENT SERVED. EXACT LOCATION SHALL BE DETERMINED ON THE JOB. COORDINATE THE LOCATION OF THE STARTERS WITH THE HVAC AND KITCHEN EQUIPMENT SUBCONTRACTOR. EACH STARTER SHALL BE FURNISHED WITH A SCREW FASTENED NAMEPLATE. REMOTE STARTER FOR HVAC EQUIPMENT MOUNTED ON THE ROOF SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL SUBCONTRACTOR.

6 – THE ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL, AND WIRE GFCI RECEPTACLE AT EVERY ROOF HVAC UNITS. THE ELECTRICAL CONTRACTOR SHALL INSTALL, AND WIRE INCLUDING ALL CONDUIT ALL LIGHTING FIXTURES LOCATED INSIDE ALL ROOF HVAC UNITS. LIGHTING FIXTURES PRODUCED BY HVAC. ASSUME ONE SWITCH AND SIX FIXTURES PER UNIT.

7 – THE ELECTRICAL SUBCONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF HVAC EQUIPMENT AND REFRIGERATION EQUIPMENT LOCATED ON THE ROOF WITH THE HVAC AND REFRIGERATION SUBCONTRACTORS.

8 – COORDINATE EXACT LOCATION OF DUCT SMOKE DETECTORS WITH HVAC SUBCONTRACTOR. DUCT SMOKE DETECTORS TO BE INSTALLED BELOW ROOF. IF DUCT SMOKE DETECTORS NEED TO BE INSTALLED ON THE ROOF, THE ELECTRICAL CONTRACTOR SHALL INSTALL THE DUCT DETECTORS IN A NEMA 3R ENCLOSURE WITH A HEATING ELEMENT WITH THERMOSTAT. CONNECT THE HEATING ELEMENT TO THE NEAREST LIFE SAFETY EMERGENCY PANEL WITH THE REQUIRED CONDUIT AND WIRE.

9 – ALL EXTERIOR EXPOSED RACEWAYS SHALL BE RIGID STEEL CONDUIT. FINAL CONNECTIONS TO MOTOR–DRIVEN EQUIPMENT SHALL BE LIQUID–TIGHT FLEXIBLE METAL CONDUIT.

10 – ALL SPARE CONDUIT FOR FUTURE USE SHALL BE PROPERLY CAPPED AND MADE WATERTIGHT. PROVIDE PULL LINE IN CONDUITS FOR FUTURE USE.

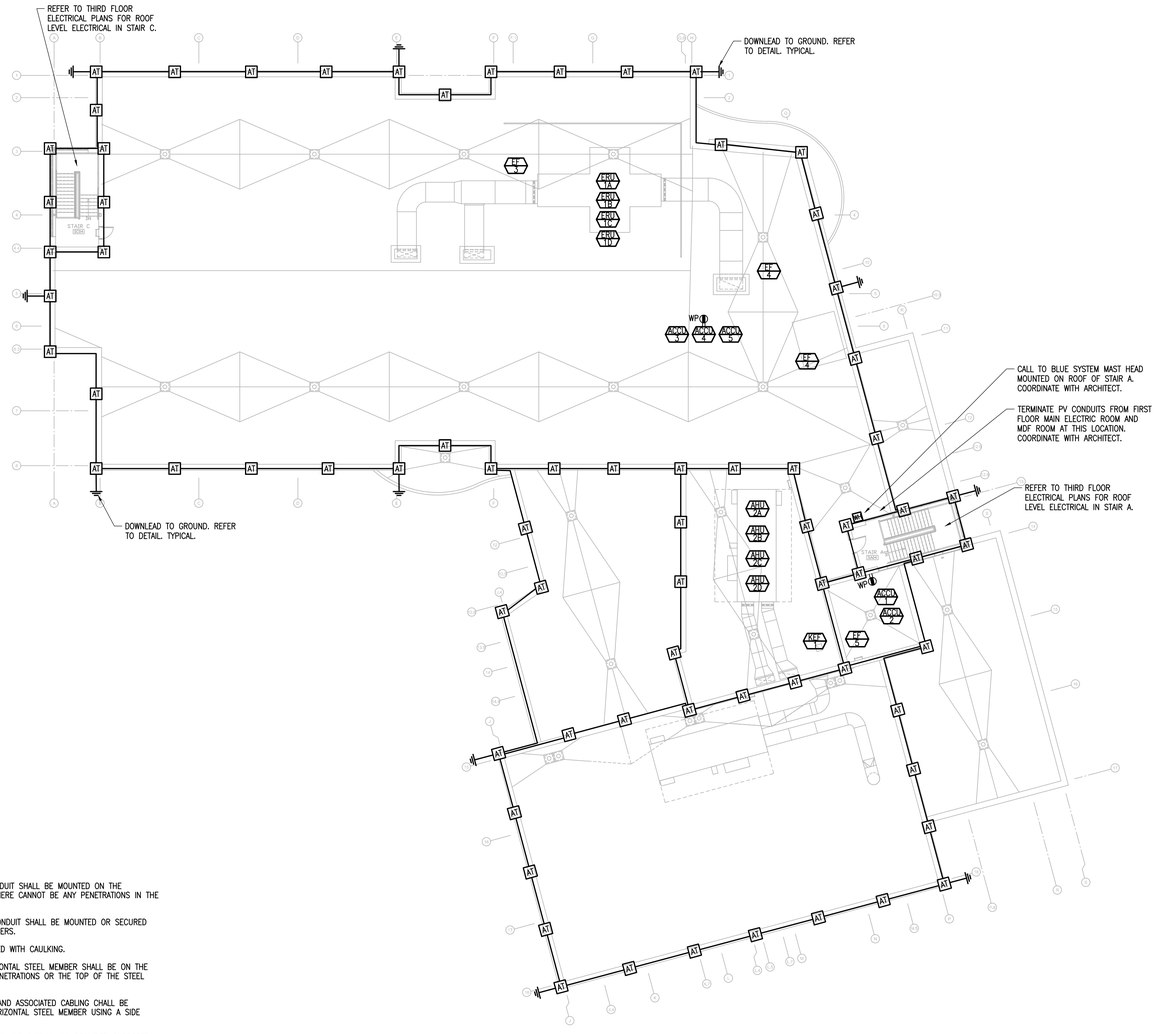
11 – FURNISH AND INSTALL GFCI RECEPTACLES EVERY 50'–0" ALONG MECHANICAL SCREEN OR WITHIN 25'–0" OF ANY HVAC UNIT. PROVIDE 20A–1P CIRCUIT FROM NEAREST 120/208V PANEL WITH THE REQUIRED CONDUIT AND WIRE.

12 – FURNISH AND INSTALL A WALL MOUNTED UTILITY LIGHTING FIXTURE EVERY 50'–0" ALONG MECHANICAL SCREEN. PROVIDE 20A–1P CIRCUIT VIA SINGLE POLE SWITCH LOCATED IN STAIR FROM NEAREST EMERGENCY LIFE SAFETY PANEL PANEL WITH THE REQUIRED CONDUIT AND WIRE.

13 – FURNISH AND INSTALL A WALL MOUNTED WEATHERPROOF FIRE ALARM SPEAKER/ STROBE UNIT EVERY 50'–0" ALONG MECHANICAL SCREEN. CONNECT TO THE NEAREST SPEAKER CIRCUIT AND STROBE CIRCUIT REQUIRED CONDUIT AND WIRE.

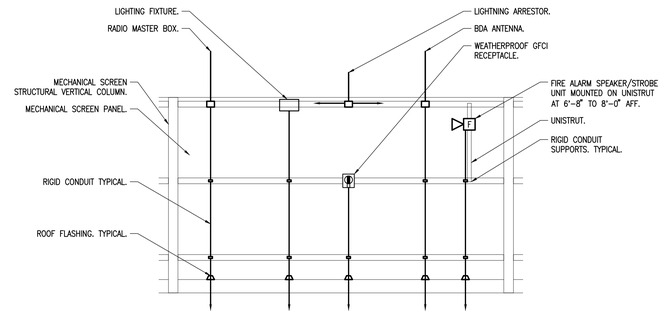
14 – AT THE TOP OF EACH STAIRWELL ON ROOF. FURNISH AND INSTALL ONE SMOKE DETECTOR. FURNISH AND INSTALL ONE FIRE ALARM PULL STATION. FURNISH AND INSTALL ONE INTRUSION ALARM MOTION DETECTOR. FURNISH AND INSTALL ONE INTRUSION ALARM DOOR CONTACT AT EACH DOOR. FURNISH AND INSTALL ONE SECURITY CAMERA. FURNISH AND INSTALL STAIR LIGHTING FIXTURES. PROVIDE THE REQUIRED CONDUIT AND WIRE FOR EACH RESPECTIVE SYSTEM.

15 – FURNISH AND INSTALL THE BDA SYSTEM ANTENNA ON TOP OF THE MECHANICAL SCREEN. FURNISH AND INSTALL TWO 3" CONDUIT FROM BDA ROOM TO THE BDA ANTENNA LOCATION. FURNISH AND INSTALL THE ANTENNA CABLE FROM BDA TO ANTENNA LOCATION.



ROOF ELECTRICAL AND LIGHTNING PROTECTION PLAN

1/16" = 1'–0"



ROOF MECHANICAL SCREEN DETAIL

N.T.S.

NOTES

1 – NO ELECTRICAL EQUIPMENT OR CONDUIT SHALL BE MOUNTED ON THE STRUCTURAL VERTICAL COLUMNS. THERE CANNOT BE ANY PENETRATIONS IN THE VERTICAL COLUMNS.

2 – ALL ELECTRICAL EQUIPMENT AND CONDUIT SHALL BE MOUNTED OR SECURED TO PANEL HORIZONTAL STEEL MEMBERS.

3 – ALL PENETRATIONS SHALL BE SEALED WITH CAULKING.

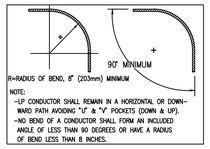
4 – ALL PENETRATIONS IN PANEL HORIZONTAL STEEL MEMBER SHALL BE ON THE SIDE OR BOTTOM OF STEEL. NO PENETRATIONS OR THE TOP OF THE STEEL MEMBER.

5 – ANTENNAS, LIGHTNING ARRESTORS, AND ASSOCIATED CABLING CHALL BE MOUNTED TO THE SIDE OF THE HORIZONTAL STEEL MEMBER USING A SIDE WALL BRACKET.

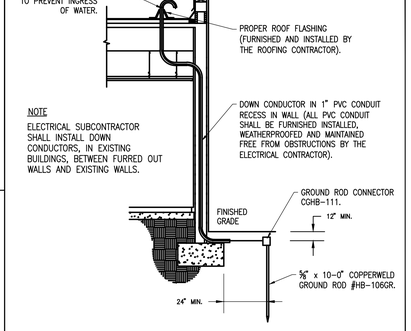
6 – ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ALL REQUIRED SUPPORTS, BOXES, AND ADDITIONAL UNI STRUT REQUIRED.

7 – REFER TO ARCHITECTURAL DETAILS.

8 – COORDINATE INSTALLATION WITH ARCHITECT.

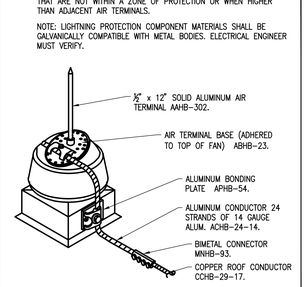


LIGHTNING PROTECTION MATERIALS LIST		
———	COPPER LIGHTNING PROTECTION MAIN CONDUCTOR	C32
	ALUMINUM LIGHTNING PROTECTION CONDUCTOR (AT ALUM. MECH. EQUIP. ONLY)	A28
	COPPER LIGHTNING PROTECTION SECONDARY CABLE»	C29
	BIMETAL CONNECTOR	BF100B
	CABLE FASTENERS (FASTEN CABLE EVERY 3FT. MAX.)	BF15B, BF16B
AT	3/8" x 12" COPPER AIR TERMINAL AND ADHESIVE BASE	ATC12C, BB3B
AT	3/8" x 12" COPPER AIR TERMINAL AND SADDLE STRAP	AT12C, BB20B
AT	3/8" x 12" COPPER AIR TERMINAL AND BASE	ATC12C, TSI
•	ROOF PENETRATION AND COPPER DOWN CONDUCTOR IN 1" PVC CONDUIT WITHIN BUILDING CONSTRUCTION TO LOWER ROOF.	
•	ROOF PENETRATION AND COPPER DOWN CONDUCTOR IN 1" PVC CONDUIT WITHIN BUILDING CONSTRUCTION TO GROUND ROD.	
	SECONDARY BONDING: •FLASHING CONNECTOR •METAL ROOF DRAIN / GUTTER CONNECTOR •METAL VENT PIPE CONNECTOR	BF SERIES BF SERIES BF SERIES
	ALUMINUM BONDING PLATE (AT ALUM. RTU & FANS)	AP
	COPPER BONDING PLATE (TO BASE OF STEEL AT EACH DOWNLEAD)	GP
	PIPE CLAMP (ANTENNAS, RAILINGS, ETC.)	BB13B, BB12B
	"C" CLAMP (LADDERS)	BB
	CABLE CONNECTOR	PF3C
	STRAIGHT SPLICER	CF1B, PF3C
	CROSSOVER CABLE CONNECTOR	PF
	WATERLINE CONNECTOR (FIRE WATER & DOMESTIC WATER)	CMHB–97
——‖»	5/8" x 10'–0" COPPERWELD GROUND ROD AND CONNECTOR	GR4S



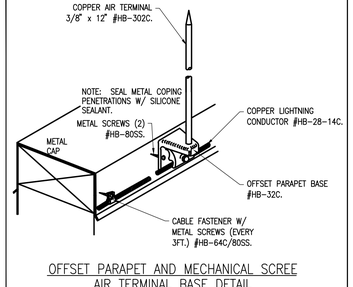
DOWNLEAD TO GROUND

N.T.S.



AIR TERMINAL AT EXHAUST FAN

N.T.S.

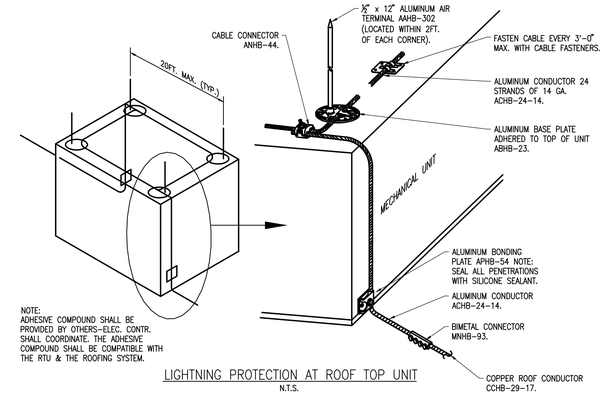


OFFSET PARAPET AND MECHANICAL SCREE AIR TERMINAL BASE DETAIL

N.T.S.

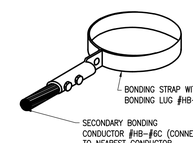
NOTE

1 – LIGHTNING PROTECTION COMPONENT MATERIALS SHALL BE GALVANICALLY COMPATIBLE WITH METAL COPING. COPPER COMPONENTS SHALL NOT BE INSTALLED ON ALUMINUM SURFACES.



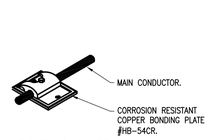
LIGHTNING PROTECTION AT ROOF TOP UNIT

N.T.S.



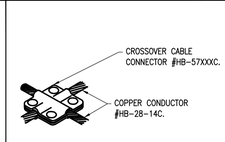
BONDING STRAPS AT (VENT PIPES)

N.T.S.



BONDING PLATE

N.T.S.



CROSSOVER CABLE CONNECTOR

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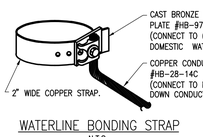
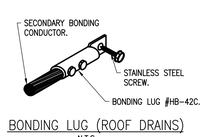


WATERLINE BONDING STRAP

N.T.S.



BONDING LUG (ROOF DRAINS)

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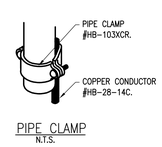
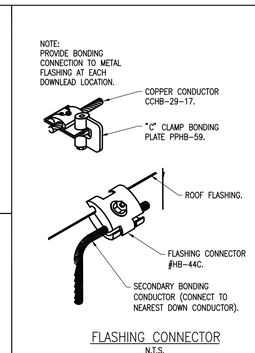


PIPE CLAMP

N.T.S.



FLASHING CONNECTOR

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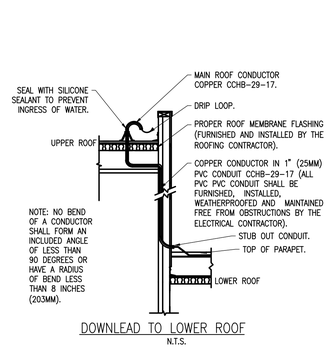

DOWNLEAD TO LOWER ROOF

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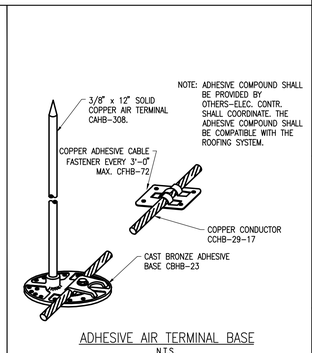

ADHESIVE AIR TERMINAL BASE

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KEY PLAN

NORTH ARROW — STAMP

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 16 32

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Roof Electrical Plan

10.2.13

© 2023 DiNisco Design - [36" x 42"] - 6/14/23

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SCHEDULE OF STANDBY KITCHEN PANEL – EKP1

120/208–VOLTS 3–PHASE 4–WIRE WITH EQUIPMENT GROUND TERMINAL BUS – DOOR–IN–DOOR TRIM – RECESSED MOUNTED – 10KA A.I.C.

POS. NO.	ITEM TAG	BREAKER FRAME–TRIP–POLE	PROTECTS FEEDER TO	CIRCUIT BREAKER GENERAL ELECTRIC OR APPROVED EQUAL	FEEDER	REMARKS
		100/100/3P	MAIN CIRCUIT BREAKER	THQB	--	--
1	1	100/20/1P	WALK IN COOLER	THQB	2	--
2	1	100/20/1P	WALK IN FREEZER	THQB	2	--
3	1A	100/20/1P	FREEZER HEAT TRACE	THQB	2	--
4	2A	100/20/3P	COOLER CONDENSING UNIT	THQB	2	LOCATED ON ROOF.
5	2B	100/20/1P	COOLER EVAPORATED COIL	THQB	2	--
6	2C	100/20/3P	FREEZER CONDENSING UNIT	THQB	2	LOCATED ON ROOF.
7	2D	100/20/2P	FREEZER EVAPORATOR COIL	THQB	2	--
8	21	100/20/1P	FIRE SUPPRESSION SYSTEM	THQB	2	--
9	39	100/20/1P	PASS–THRU REFRIGERATOR	THQB	2	CONNECT TO FIRE ALARM SYSTEM
10	55	100/20/1P	MILK COOLER	THQB	2	--

SCHEDULE OF NORMAL KITCHEN PANEL – KP1

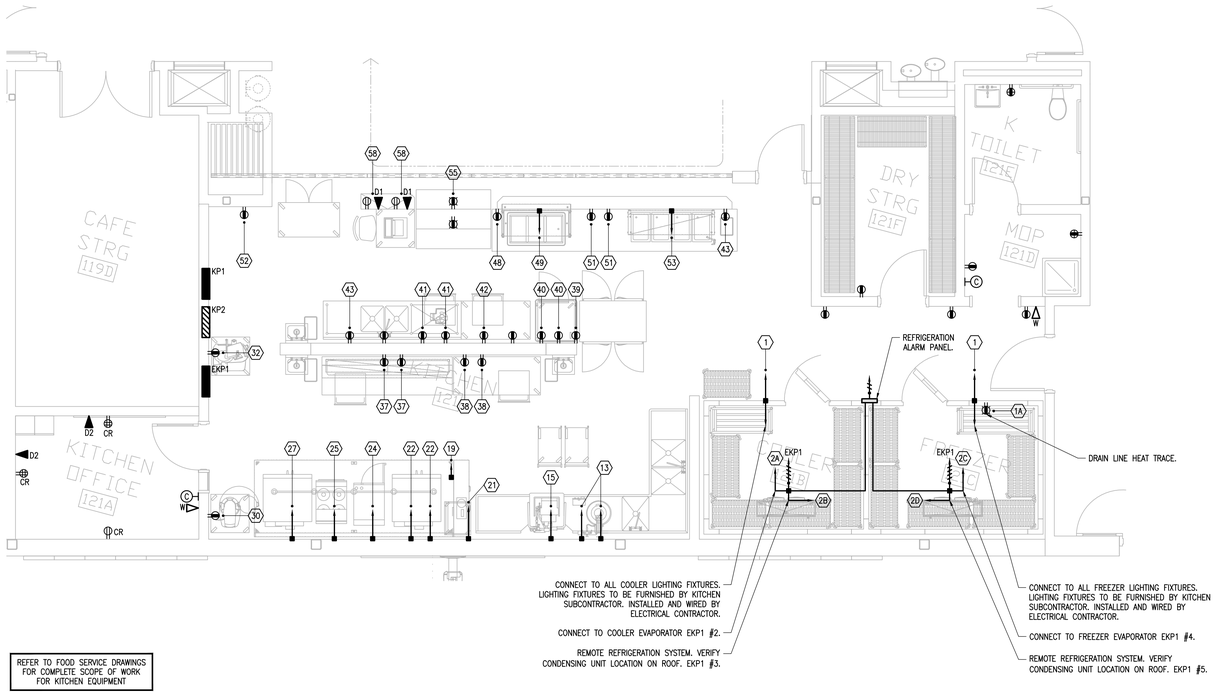
120/208–VOLTS 3–PHASE 4–WIRE WITH EQUIPMENT GROUND TERMINAL BUS – DOOR–IN–DOOR TRIM – RECESSED MOUNTED – 22KA A.I.C.

POS. NO.	ITEM TAG	BREAKER FRAME–TRIP–POLE	PROTECTS FEEDER TO	CIRCUIT BREAKER GENERAL ELECTRIC OR APPROVED EQUAL	FEEDER	REMARKS
		225/225/3P	MAIN CIRCUIT BREAKER	THFK	--	--
1	13	100/20/3P	DISPOSER WITH A CONTROL PANEL	THHQB	2	--
2	15	100/70/3P	DISH MACHINE	THHQB	8	--
3	19	100/20/1P	EXHAUST VENTILATOR	THHQB	2	--
4	30	100/20/1P	TWENTY–QUARTER MIXER	THHQB	2	--
5	32	100/20/1P	SLICER	THHQB	2	--
9	37	100/20/1P	COOK'S TABLE WITH OVERHEAD RACK	THHQB	2	--
10	37	100/20/1P	COOK'S TABLE WITH OVERHEAD RACK	THHQB	2	--
11	38	100/20/1P	MOBILE WORK TABLE	THHQB	2	--
12	38	100/20/1P	MOBILE WORK TABLE	THHQB	2	--
13	40	100/20/1P	MOBILE WORK TABLE	THHQB	2	--
14	40	100/20/1P	MOBILE WORK TABLE	THHQB	2	--
15	41	100/20/1P	WORK TABLE WITH SINKS	THHQB	2	--
16	41	100/20/1P	WORK TABLE WITH SINKS	THHQB	2	--
17	42	100/20/1P	FOOD PROCESSOR	THHQB	2	--
18	43	100/20/1P	MOBILE HEATED CABINETS	THHQB	2	--
19	43	100/20/1P	MOBILE HEATED CABINETS	THHQB	2	--
20	47	100/20/1P	SERVING COUNTER WITH BREATH GUARDS	THHQB	2	--
21	47	100/20/1P	SERVING COUNTER WITH BREATH GUARDS	THHQB	2	--
22	48	100/20/1P	REFRIGERATED WELLS	THHQB	2	--
23	49	100/20/2P	HOT WELLS	THHQB	3N	--
24	51	100/20/1P	SERVING COUNTER WITH BREATH GUARDS	THHQB	2	--
25	51	100/20/1P	SERVING COUNTER WITH BREATH GUARDS	THHQB	2	--
26	52	100/20/1P	ROOM RECEPTACLES	THHQB	2	--
27	53	100/20/2P	HOT WELLS	THHQB	3N	--
28	58	100/20/1P	POINT OF SALES REGISTERS	THHQB	2	--
29	58	100/20/1P	POINT OF SALES REGISTERS	THHQB	2	--
30		100/20/1P	RECEPTACLES	THHQB	2	--
31		100/20/1P	RECEPTACLES	THHQB	2	--

SCHEDULE OF NORMAL KITCHEN PANEL – KP2

120/208–VOLTS 3–PHASE 4–WIRE WITH EQUIPMENT GROUND TERMINAL BUS – DOOR–IN–DOOR TRIM – RECESSED MOUNTED – 22KA A.I.C.

POS. NO.	ITEM TAG	BREAKER FRAME–TRIP–POLE	PROTECTS FEEDER TO	CIRCUIT BREAKER GENERAL ELECTRIC OR APPROVED EQUAL	FEEDER	REMARKS
		400/400/3P	MAIN CIRCUIT BREAKER	TQD	--	--
1	22	100/40/3P	CONVECTION OVEN	THHQB	5N	SHUNT TRIP CIRCUIT BREAKER.
2	22	100/40/3P	CONVECTION OVEN	THHQB	5N	SHUNT TRIP CIRCUIT BREAKER.
3	24	100/60/3P	STEAMER	THHQB	7N	SHUNT TRIP CIRCUIT BREAKER.
4	25	100/50/3P	RANGE WITH STANDARD OVEN	THHQB	6N	SHUNT TRIP CIRCUIT BREAKER.
5	27	100/40/3P	THIRTY–GALLON BRAISING PAN	THHQB	5N	SHUNT TRIP CIRCUIT BREAKER.



REFER TO FOOD SERVICE DRAWINGS FOR COMPLETE SCOPE OF WORK FOR KITCHEN EQUIPMENT

KITCHEN NOTES

1 – PROVIDE SHUNT TRIP CIRCUIT BREAKERS FOR ALL EQUIPMENT UNDER EXHAUST VENTILATOR HOOD.

2 – HOOD FIRE SUPPRESSION SYSTEM. CONNECT TO SHUNT TRIP CIRCUIT BREAKERS IN KITCHEN PANELS, AND CONNECT TO FIRE ALARM CONTROL PANEL. REFER TO FIRE ALARM RISER DIAGRAM.

3 – FURNISH AND INSTALL START–STOP CONTROL STATIONS WITH PILOT LIGHT TO CONTROL HOOD EXHAUST FAN. CONNECT TO STARTERS WITH 5#12 IN ¾" CONDUIT. EXACT SEQUENTIAL OPERATION OF FANS SHALL BE DETERMINED BY THE BUILDING AUTOMATION SUBCONTRACTOR.

4 – CONNECT HOOD EXHAUST LIGHTS AND EXHAUST VENTILATOR TO CONTROL SWITCH. COMBINATION PILOT LIGHT AND SWITCH FURNISHED AND INSTALLED BY ELECTRICAL SUBCONTRACTOR. HOOD LIGHTS FURNISHED BY KITCHEN EQUIPMENT SUBCONTRACTOR. INSTALLED AND WIRED BY ELECTRICAL SUBCONTRACTOR.

5 – COORDINATE THE EXACT LOCATION OF ELECTRICAL OUTLETS FOR KITCHEN EQUIPMENT WITH THE KITCHEN EQUIPMENT SUBCONTRACTOR.

6 – ALL DISCONNECT SWITCHES (FUSED AND NON–FUSED) IN THE KITCHEN AREA SHALL BE OF THE WEATHERPROOF TYPE.

7 – ON EACH OF WALK–IN FREEZER AND WALK–IN COOLER, FURNISH 6#12 IN ¾" CONDUIT. BETWEEN EVAPORATOR COIL AND CONDENSER UNIT, FOR 24V CONTROL.

8 – ALL HOOD LIGHTING FIXTURES ARE FURNISHED BY THE KITCHEN EQUIPMENT SUBCONTRACTOR. INSTALLED AND WIRED BY THE ELECTRICAL SUBCONTRACTOR.

9 – ALL RECEPTACLES IN THE KITCHEN SHALL BE OF THE GFCI TYPE RECEPTACLE. IF RECEPTACLE CAN NOT BE OF THE GFCI TYPE, THEN CIRCUIT BREAKER THAT SERVES THAT RECEPTACLE SHALL BE OF THE GFCI TYPE.

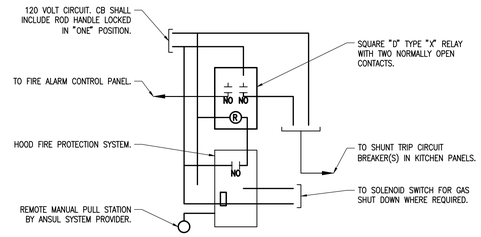
10 – PROVIDE EMERGENCY WIRING CONNECTION TO FREEZER CONDENSER ON ROOF WITH 6#12 IN 1½" CONDUIT FOR CONTROL WIRING. PROVIDE EMERGENCY POWER WIRING CONNECTION TO FREEZER EVAPORATOR, FREEZER HEAT TRACE, AND REFRIGERATION ALARM SYSTEM CONTROL PANEL.

11 – PROVIDE EMERGENCY WIRING CONNECTION TO COOLER CONDENSER ON ROOF WITH 6#12 IN 1½" CONDUIT FOR CONTROL WIRING. PROVIDE EMERGENCY POWER WIRING CONNECTION TO COOLER EVAPORATOR AND REFRIGERATION ALARM SYSTEM CONTROL PANEL.

12 – COORDINATE EXACT LOCATIONS OF FREEZER AND COOLER CONDENSER UNITS WITH FOOD SERVICE.

13 – FURNISH AND INSTALL THREE 1" CONDUITS FROM EACH PANEL TUB TO ACCESSIBLE CEILING CAVITY ABOVE FOR FUTURE.

14 – RECEPTACLES ON EMERGENCY POWER SHALL BE RED.



KITCHEN EQUIPMENT EMERGENCY POWER OFF WIRING DIAGRAM

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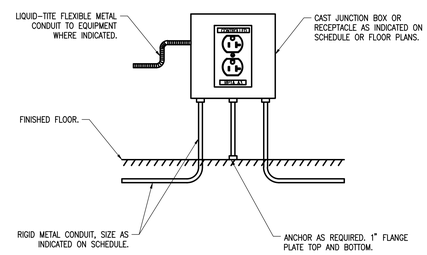

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Technology Consultants
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KEY PLAN

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: 0 4 8

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Enlarged Kitchen Electrical Plan

10.2.14

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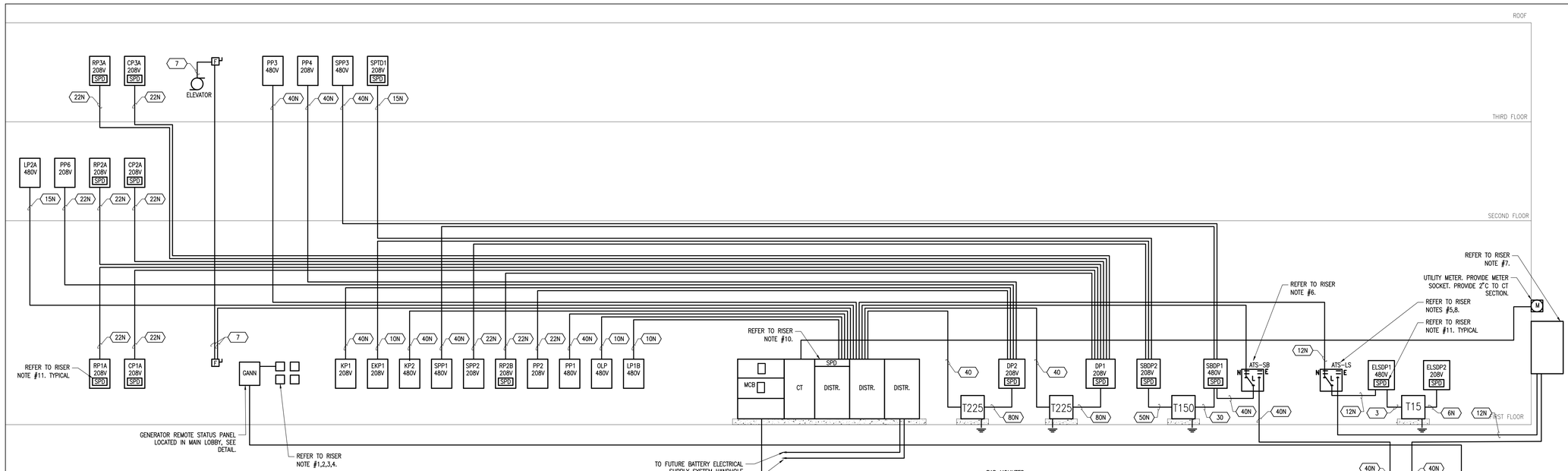
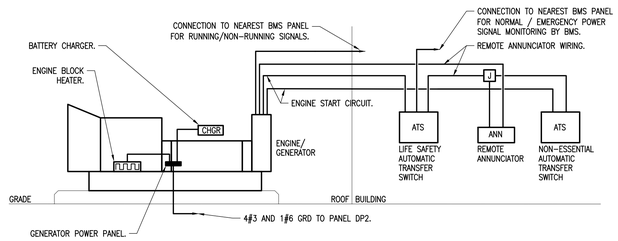


208 & 480–VOLT NORMAL AND EMERGENCY LIGHT AND POWER RISER DIAGRAM

N.T.S.



GENERATOR AUXILIARIES WIRING DETAIL

N.T.S.

GENERATOR WIRING DIAGRAM NOTES

1 – ALL GENERATOR CONTROL WIRING BETWEEN THE GENERATOR AND AUTOMATIC TRANSFER SWITCHES SHALL BE INSTALLED COMPLETELY INDEPENDENT OF ALL WIRING PER MEC 700.10.D.4.

FEEDER NOTES

1. UNLESS OTHERWISE INDICATED, CONDUCTOR SIZING SHALL MATCH THE SIZE INDICATED ABOVE FOR THE APPLICABLE OVERCURRENT DEVICE. PROVIDE LARGER CIRCUIT WHERE INDICATED.
2. PROVIDE MINIMUM SIZE CONDUIT INDICATED IN THE SPECIFICATIONS OR ON THE DRAWINGS.
3. MINIMUM SIZE CONDUIT UNDERGROUND IS ONE STANDARD ELECTRICAL SIZE LARGER THAN INDICATED IN THE SCHEDULE. PROVIDE LARGER CONDUIT WHERE SPECIFICALLY INDICATED OTHERWISE.
4. PROVIDE TYPE OF RACEWAY OR CABLE AS INDICATED IN SPECIFICATION OR ON DRAWINGS.

GENERAL NOTES FOR GROUNDING AND BONDING

1 – IT IS INTENDED THAT ALL CODE REQUIRED GROUNDING AND BONDING OF EQUIPMENT SHALL BE EXECUTED IN ACCORDANCE WITH THE MASSACHUSETTS ELECTRIC CODE.

2 – THE GROUNDING/BONDING REQUIRED FOR THIS PROJECT SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING EQUIPMENT:

A – ELECTRIC SERVICE GROUND MINIMUM OF TWO(2) LOCATIONS FOR CONNECTION TO THE GROUNDING ELECTRODE.

B – BOND SWITCHBOARD NEUTRAL/GROUND TO LINE SIDE OF WATER MAIN.

C – ALL ELECTRIC SERVICE EQUIPMENT; ALL DISTRIBUTION EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANELBOARDS AND ALL OTHER ELECTRICAL APPURTENANCES SUCH AS DISCONNECT SWITCHES, STARTERS ETC.

D – ALL ELECTRICAL POWERED EQUIPMENT SPECIFIED UNDER OTHER SECTIONS OF THE CONTRACT INCLUDING HVAC AND PLUMBING EQUIPMENT.

E – AUDIO/VIDEO RACKS, VOICE RACKS, CABLE TV RACKS, DATA RACKS, CABLE TRAY AND ALL ASSOCIATED CABLES.

F – ROOF ANTENNAS.

G – EMERGENCY GENERATOR AND NATURAL GAS PIPING. INCLUDING THE BONDING OF THE NORMAL EMERGENCY SYSTEM POWER DISTRIBUTION EQUIPMENT.

H – EXTERIOR LIGHTS

I – GROUND BUILDING STEEL AND CONCRETE SLAB REBAR TO MAIN ELECTRIC SERVICE GROUND BUS.

J – PROPERLY GROUND ALL INCOMING TELEPHONE, DATA, AND CATV SERVICES.

K – FURNISH AND INSTALL A 1'–0" LONG ¼" THICK COPPER GROUND BUS IN ALL VOICE/DATA MDF ROOMS AND IDF CLOSETS. CONNECT EACH GROUND BUS TO THE ELECTRIC SERVICE GROUND BUS IN THE MAIN ELECTRIC ROOM WITH 1#6 AWG GROUND IN ¾" CONDUIT.

L – AT EXPANSION JOINTS, PROVIDE BONDING JUMPER BETWEEN BUILDING STEEL TO ENSURE THAT THE ENTIRE STRUCTURE IS BONDED.

M – BONDING INCOMING GAS SERVICE TO BUILDING GROUND.

N – BOND ALL CABLE TRAYS.

O – BOND EACH END OF THE 4" CONDUITS BETWEEN THE MDF ROOM AND THE IDF ROOM.

3 – THE PRECEDING IS INTENDED AS A GUIDE ONLY AND DOES NOT ABSOLVE THE CONTRACTOR FROM PROVIDING ALL THE CODE REQUIRED GROUNDING AND BONDING FOR THIS PROJECT.

THREE PHASE BRANCH CIRCUIT & FEEDER SCHEDULE – EMT CONDUIT

CIRCUIT RATING	TAG	FOUR (4) COPPER WIRE – 75' RATING	TAG	THREE (3) COPPER WIRE – 75' RATING
20A	2N	4#12 & 1#12 GRD – ¾"C	2	3#12 & 1#12 GRD – ¾"C
30A	3N	4#10 & 1#10 GRD – ¾"C	3	3#10 & 1#10 GRD – ¾"C
40A	4N	4#8 & 1#10 GRD – ¾"C	4	3#8 & 1#10 GRD – ¾"C
50A	5N	4#8 & 1#10 GRD – ¾"C	5	3#8 & 1#10 GRD – ¾"C
60A	6N	4#6 & 1#10 GRD – 1"C	6	3#6 & 1#10 GRD – ¾"C
70A	7N	4#4 & 1#8 GRD – 1¼"C	7	3#4 & 1#8 GRD – 1"C
80A	8N	4#4 & 1#8 GRD – 1¼"C	8	3#4 & 1#8 GRD – 1"C
90A	9N	4#3 & 1#8 GRD – 1¼"C	9	3#3 & 1#8 GRD – 1¼"C
100A	10N	4#1 & 1#6 GRD – 1½"C	10	3#1 & 1#6 GRD – 1½"C
125A	12N	4#1 & 1#6 GRD – 1½"C	12	3#1 & 1#6 GRD – 1½"C
150A	15N	4#1/0 & 1#6 GRD – 2"C	15	3#1/0 & 1#6 GRD – 1½"C
175A	17N	4#2/0 & 1#6 GRD – 2"C	17	3#2/0 & 1#6 GRD – 2"C
200A	20N	4#3/0 & 1#6 GRD – 2"C	20	3#3/0 & 1#6 GRD – 2"C
225A	22N	4#4/0 & 1#4 GRD – 2½"C	22	3#4/0 & 1#4 GRD – 2"C
250A	25N	4#250MCM & 1#4 GRD – 2½"C	25	3#250MCM & 1#4 GRD – 2½"C
275A	27N	4#300MCM & 1#4 GRD – 2½"C	27	3#300MCM & 1#4 GRD – 2½"C
300A	30N	4#350MCM & 1#4 GRD – 3"C	30	3#350MCM & 1#4 GRD – 3"C
350A	35N	4#500MCM & 1#3 GRD – 3½"C	35	3#500MCM & 1#3 GRD – 3½"C
400A	40N	4#600MCM & 1#3 GRD – 4"C	40	3#600MCM & 1#3 GRD – 4"C
500A	50N	TWO SETS 4#250MCM & 1#2 GRD – 3"C	50	TWO SETS 3#250MCM & 1#2 GRD – 2½"C
600A	60N	TWO SETS 4#350MCM & 1#1 GRD – 3"C	60	TWO SETS 3#350MCM & 1#1 GRD – 2½"C
700A	70N	TWO SETS 4#500MCM & 1#1/0 GRD–3½"C	70	TWO SETS 3#500MCM & 1#1/0 GRD–3½"C
800A	80N	TWO SETS 4#600MCM & 1#1/0 GRD–4"C	80	TWO SETS 3#600MCM & 1#1/0 GRD–4"C
1200A	120N	THREE SETS 4#600MCM & 1#3/0 GRD–4"C	120	THREE SETS 3#600MCM & 1#3/0 GRD–4"C
1600A	160N	FOUR SETS 4#600MCM & 1#4/0 GRD–4"C	160	FOUR SETS 3#600MCM & 1#4/0 GRD–4"C
2000A	200N	FIVE SETS 4#600MCM&1#250MCM GRD–4"C	200	FIVE SETS 3#600MCM&1#250MCM GRD–4"C

TYPE MI – MINERAL INSULATED FEEDER SCHEDULE (75 DEGREE C TERMINATIONS)

SYMBOL	CONDUCTORS (3 PHASE, 4 WIRE)	NORMAL AMPERE RATING
7MI	4–8 AWG TYPE MI CABLE	70
9MI	4–6 AWG TYPE MI CABLE	95
12MI	4–4 AWG TYPE MI CABLE	125
14MI	4–3 AWG TYPE MI CABLE	145
17MI	4–2 AWG TYPE MI CABLE	170
19MI	4–1 AWG TYPE MI CABLE	190
22MI	4#1/0 AWG TYPE MI CABLE	225
25MI	4#2/0 AWG TYPE MI CABLE	250
30MI	4#3/0 AWG TYPE MI CABLE	300
35MI	4#4/0 AWG TYPE MI CABLE	350
40MI	4–250 MCM TYPE MI CABLE	400
50MI	4–350 MCM TYPE MI CABLE	500
60MI	4–500 MCM TYPE MI CABLE	600

NOTE:
1. TAGS WITH AN ADJACENT NUMBER DENOTES NUMBER OF SETS.

SINGLE PHASE BRANCH CIRCUIT & FEEDER SCHEDULE – EMT CONDUIT

CIRCUIT RATING	TAG	THREE (3) COPPER WIRE – 75' RATING	TAG	TWO (2) COPPER WIRE – 75' RATING
20A	2N	3#12 & 1#12 GRD – ¾"C	2	2#12 & 1#12 GRD – ¾"C
30A	3N	3#10 & 1#10 GRD – ¾"C	3	2#10 & 1#10 GRD – ¾"C
40A	4N	3#8 & 1#10 GRD – ¾"C	4	2#8 & 1#10 GRD – ¾"C
50A	5N	3#8 & 1#10 GRD – ¾"C	5	2#8 & 1#10 GRD – ¾"C
60A	6N	3#6 & 1#10 GRD – ¾"C	6	2#6 & 1#10 GRD – ¾"C
70A	7N	3#4 & 1#8 GRD – 1"C	7	2#4 & 1#8 GRD – 1"C
80A	8N	2#3 & 1#8 GRD – 1¼"C	8	2#3 & 1#8 GRD – 1¼"C
90A	9N	3#3 & 1#8 GRD – 1¼"C	9	2#3 & 1#8 GRD – 1¼"C
100A	10N	3#1 & 1#6 GRD – 1½"C	10N	2#1 & 1#6 GRD – 1¼"C

GENERAL NOTES

1. ALL EMERGENCY ELECTRICAL SYSTEM ARTICLE 700 FEEDERS LOCATED OUTSIDE OF THE EMERGENCY ELECTRICAL ROOM SHALL HAVE A TWO (2) HOUR FIRE RATING. THE WIRING METHOD FOR EMERGENCY SYSTEM FEEDERS SHALL BE FIRE RATED, MINERAL INSULATED TYPE MI CABLE.
2. ALL CONDUIT ROUTES IN AREAS THAT DO NOT HAVE CEILINGS SHALL BE REVIEWED WITH THE ARCHITECT BEFORE INSTALLATION. REFER TO GENERAL NOTE #3 ON DRAWING 10.0.01.
3. GENERAL CONTRACTOR TO FURNISH AND INSTALL ALL REQUIRED CONCRETE PADS FOR PAD MOUNTED TRANSFORMERS, GENERATORS, SWITCHBOARD, PANELBOARDS, AND STEP DOWN TRANSFORMERS.
4. IN MAIN ELECTRIC ROOM WITH SWITCHBOARD, ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ONE EXIT SIGN OVER EVERY EGRESS DOOR AND ANOTHER EXIT SIGN AT 1'–6" AFF NEXT TO EACH EGRESS DOOR. CONNECT EXIT SGNS TO EXIT SIGN EMERGENCY CIRCUIT WITH THE REQUIRED CONDUIT AND WIRE.
5. ELEVATOR: PROVIDE ELEVATOR–RATED FUSED DISCONNECT SWITCHES WITH AUXILIARY RELAYS FOR THE ELEVATOR MOTOR AS SHOWN ON THE RISER DIAGRAM. PROVIDE WIRING FROM THE LOAD SIDE OF THE ELEVATOR DISCONNECT SWITCH TO THE LINE INSIDE OF THE ELEVATOR CONTROLLER. PROVIDE A FUSED DISCONNECT SWITCH FOR THE ELEVATOR CAB LIGHTS. CONNECT ELEVATOR CAB DISCONNECT SWITCH A DEDICATED 20A–1P CIRCUIT IN PANEL ELSDP2. PROVIDE A PHONE OUTLET IN MACHINE ROOM FOR ELEVATOR CAB PHONE. PROVIDE GFCI RECEPTACLES IN ELEVATOR PIT AND MACHINE ROOM WITH CIRCUIT TO NEAREST RECEPTACLE PANEL.

DRY TYPE STEP DOWN TRANSFORMER SCHEDULE

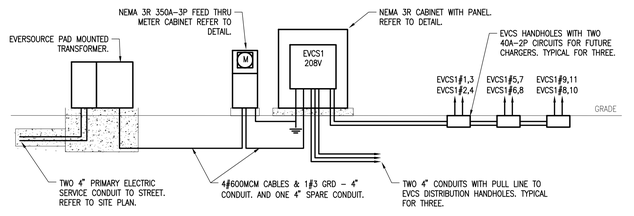
		480V PRIMARY			120/208V WYE SECONDARY					
							NON K–RATED		K–RATED	
XFMR TAG	KVA SIZE	PRI AMPS	PRIMARY OCPD	WIRE AND CONDUIT	SEC. AMPS	SECONDARY OCPD	WIRE AND CONDUIT	GEC SIZE	WIRE AND CONDUIT	GEC SIZE
T9	9	11	20A/3P	2	25	40A/3P	4N	#8	3#6, 1#3N & 1#8GRD – 1 1/4"C	#8
T15	15	18	30A/3P	3	42	60A/3P	6N	#8	3#4, 1#1N & 1#8 G – 1–1/4"C	#8
T30	30	36	70A/3P	7	83	100A/3P	10N	#6	3#1, 2#1/0N & 1#6 G – 2"C	#6
T45	45	54	90A/3P	10	125	150A/3P	15N	#6	5#2/0 & 1#4G – 2–1/2"C	#4
T75	75	90	150A/3P	15	208	250A/3P	25N	#2	5#300MCM & 1#2 G–4"C	#2
T112	112.5	135	225A/3P	22	313	400A/3P	40N	#1/0	TWO SETS OF 5#4/0 & 1#1/0 G – 3"C	#1/0
T150	150	181	300A/3P	30	417	500A/3P	50N	#2/0	TWO SETS OF 5#350MCM & 1#2/0G – 4"C	#2/0
T225	225	271	400A/3P	40	625	800A/3P	80N	#3/0	THREE SETS OF 5#600MCM & 1#3/0 G – 4"C	#3/0
T300	300	362	500A/3P	50	833	1200A/3P	120N	#3/0	FOUR SETS OF 5#600MCM & 1#4/0 G – 4"C	#4/0
T500	500	602	1000A/3P	100	1390	1600A/3P	160N	#4/0	FIVE SETS OF 5#600MCM & 1#300MCM G – 4"C	#300 MCM

NOTES

1. TAG DESIGNATIONS ARE AS FOLLOWS: T# IS NEMA TP1 TRANSFORMER, T#K IS A MINIMUM K13 RATED TRANSFORMER AND T#G IS MINIMUM K13 RATED TRANSFORMER WITH ISOLATED GROUND ON SECONDARY. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. THE NEUTRAL TO GROUND BOND SHALL OCCUR AT THE FIRST OVERCURRENT DISCONNECT. THIS GROUND SHALL BE TO NEAREST AVAILABLE EFFECTIVELY–GROUNDED STRUCTURAL STEEL ELEMENT, WATER PIPE AND/OR ONE OF THE METHODS LISTED IN NATIONAL ELECTRIC CODE WITH A GROUNDING ELECTRODE CONDUCTOR "GEC" SIZED PER SCHEDULE ABOVE. PROVIDE GROUND BUS IS TRANSFORMER CASE TO BOND TRANSFORMER CASE AND FEEDER GROUND CONDUCTORS WITH BONDING JUMPER PER NATIONAL ELECTRIC CODE.
3. PRIMARY OCPD DEVICE SHALL ACCOMMODATE ASSOCIATED TRANSFORMER IN–RUSH CURRENT. TRANSFORMERS WITH HIGHER THAN TYPICAL IN–RUSH CURRENTS MAY REQUIRE A LARGER PRIMARY OCPD; INCREASE PRIMARY OCPD AND ASSOCIATED WIRE AND CONDUIT SIZES IF NECESSARY.
4. PROVIDE SECONDARY OVERCURRENT PROTECTION DEVICE WITHIN TEN FEET OF TRANSFORMER SECONDARY TERMINALS EITHER IN A PANELBOARD MAIN DEVICE OR AN INDIVIDUALLY–MOUNTED OVERCURRENT DEVICE.
5. ADJUST PRIMARY AND SECONDARY TAP SETTINGS TO COMPENSATE FOR VOLTAGE VARIATIONS. ADJUST SETTINGS TO SATISFY OWNER–PROVIDED EQUIPMENT REQUIREMENTS.
6. ALL CONDUCTOR SIZES ARE FOR COPPER CONDUCTORS. ALUMINUM CONDUCTORS SHALL NOT BE USED ON THE PRIMARY OR SECONDARY CONNECTIONS.
7. PROVIDE MINIMUM 4–INCH HIGH CONCRETE HOUSEKEEPING PADS FOR FLOOR–MOUNTED TRANSFORMERS.
8. MAKE CONDUIT CONNECTIONS TO TRANSFORMERS SO THAT TRANSFER OF NOISE AND VIBRATION IS MINIMIZED. UTILIZE A MINIMUM OF 18–INCHES OF FLEXIBLE CONDUIT WHEN CONNECTING CONDUIT TO TRANSFORMERS.
9. MOUNT TRANSFORMERS UTILIZING DOUBLE–DEFLECTION NEOPRENE ISOLATION MOUNTS WITH 0.50 INCH DEFLECTION.
10. ASTERISK *** DENOTES TRAPEZE MOUNTED.

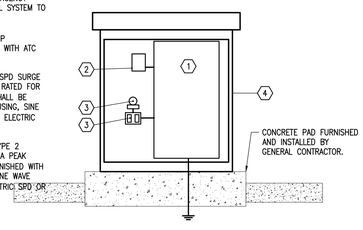
POWER RISER DIAGRAM NOTES

1. SWITCHBOARD EPO – EMERGENCY POWER SHUTOFF STATION LOCATED IN LOCKED CABINET IN MAIN ENTRANCE VESTIBULE. ACTIVATING THE EPO SHALL AUTOMATICALLY OPEN SWITCHBOARD MAIN BREAKER. CONNECT TO MAIN BREAKER SHUNT TRIP COIL. PROVIDE THE REQUIRED CONDUIT AND WIRE. REFER TO DETAIL.
2. GENERATOR EPO – EMERGENCY POWER SHUTOFF STATION LOCATED IN LOCKED CABINET IN MAIN ENTRANCE VESTIBULE. ACTIVATING THE EPO SHALL AUTOMATICALLY SHUTDOWN THE GENERATOR. CONNECT TO GENERATOR EMERGENCY STOP TERMINAL IN GENERATOR CONTROL PANEL. PROVIDE THE REQUIRED CONDUIT AND WIRE. REFER TO DETAIL.
3. FUTURE PV SYSTEM EPO – PROVIDE 2" CONDUIT WITH PULL LINE TO MAIN ELECTRIC ROOM WITH PULL LINE. REFER TO DETAIL.
4. FUTURE BATTERY SYSTEM EPO – PROVIDE 2" CONDUIT WITH PULL LINE TO MAIN ELECTRIC ROOM WITH PULL LINE. REFER TO DETAIL.
5. LIFE SAFETY 260 AMPERE 480 VOLT, 3–PHASE, 4–WIRE AUTOMATIC TRANSFER SWITCH #1 WITH OVERLAPPING NEUTRAL. PROVIDE SCREW FASTENED NAMEPLATE "LIFE SAFETY A.T.S.". PROVIDE GENERATOR START CIRCUIT 2#14 IN 1"C BELOW SLAB OR MI CABLE TO GENERATOR.
6. STAND–BY POWER 600 AMPERE, 480 VOLT, 3–PHASE, 4–WIRE AUTOMATIC TRANSFER SWITCH #2 WITH OVERLAPPING NEUTRAL. PROVIDE SCREW FASTENED NAMEPLATE "STAND–BY EMERGENCY A.T.S." PROVIDE GENERATOR START CIRCUIT 2#14 IN 1"C BELOW SLAB OR MI CABLE TO GENERATOR.
7. 400A NEMA 3R RATED GENERATOR 3–WAY MANUAL SWITCH AND LOAD BANK DOCKING STATION WITH INTERLOCKED SWITCHES AND MAL CAM–LOCK CONNECTORS. ESL POWER SYSTEM T3D–X–2600–H–400–H–150–H–480–3–1–1–5–C OR APPROVED EQUAL.
8. AT LIFE SAFETY ATS, PROVIDE CONTACT CLOSURE INTERFACE TO NETWORKED LIGHTING CONTROL SYSTEM (LCS) VIA A SINGLE PAIR OF 2#18 CONDUCTORS. UPON TRANSFER FROM NORMAL SOURCE TO EMERGENCY SOURCE A SIGNAL SHALL BE ISSUED TO THE LIGHTING CONTROL SYSTEM TO TURN ALL INTERIOR AND EXTERIOR LIGHTING "ON".
9. PROVIDE A 1"C WITH MODBUS CABLE TO BMS PANEL. BACNET IP CONVERTER BY ATC CONTRACTOR. COORDINATE EXACT LOCATION WITH ATC CONTRACTOR. ATC WIRING BY ATC CONTRACTOR
10. FURNISH AND INSTALL AN INTEGRAL SERVICE ENTRANCE RATED SPD SURGE PROTECTION TYPE 1 SECTION IN SWITCHBOARD. SPD SHALL BE RATED FOR 320KA PEAK AMPACITY, 277/480–VOLT, WYE 3–PHASE. SPD SHALL BE FURNISHED WITH THERMAL 320KA CAPACITY, FAULT CURRENT FUSING, SINE WAVE TRACKING, LED/AUDIBLE ALARMS AND SHALL BE GENERAL ELECTRIC SPD OR APPROVED EQUAL.
11. FURNISH AND INSTALL AN INTEGRAL SPD SURGE PROTECTION TYPE 2 DEVICE IN EACH PANEL. SPD DEVICE SHALL BE RATED AT 100KA PEAK AMPACITY, 120/208–VOLT, WYE, 3–PHASE. SPD SHALL BE FURNISHED WITH THERMAL FUSING, 100KA CAPACITY, FAULT CURRENT FUSING, SINE WAVE TRACKING, LED/AUDIBLE ALARMS AND SHALL BE GENERAL ELECTRIC SPD OR APPROVED EQUAL.



EVCS POWER RISER DIAGRAM

N.T.S



EVCS1 ELECTRICAL ENCLOSURE DETAIL

N.T.S.

EQUIPMENT SCHEDULE

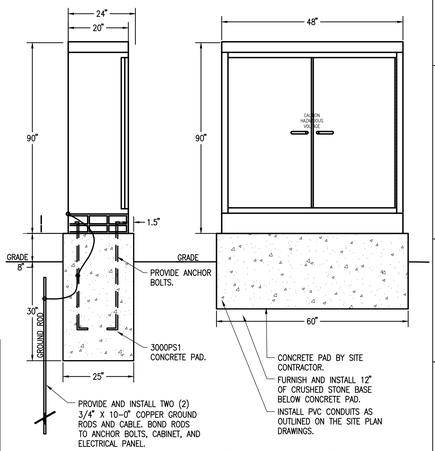
1	400A, 3PH, 5W PANELBOARD. EVCS1
2	SURGE PROTECTION DEVICE
3	GFI RECEPTACLE/LIGHT SWITCH/LIGHTING FIXTURE
4	ENCLOSURE NEMA 3R: 48"W X 90"H X 20"D

SCHEDULE OF NORMAL DISTRIBUTION PANEL EVCS1

SERVICE ENTRANCE RATED 120/208–VOLTS 3–PHASE 4–WIRE 65,000 A.I.C. 60–POLE PANEL

EQUIPMENT GROUND TERMINAL BUS – DOOR–IN–DOOR TRIM

NO.	BREAKER FRAME–TRIP–POLE	PROTECTS FEEDER	CB TYPE GE OR APPROVED EQUAL
	400/400/3P	MAIN CIRCUIT BREAKER	TJK4
1	100/50/2P	FUTURE EV CHARGING STATION – 3#4 & 1#6 GRD.	TEY
2	100/50/2P	FUTURE EV CHARGING STATION – 3#4 & 1#6 GRD.	TEY
3	100/50/2P	FUTURE EV CHARGING STATION – 3#4 & 1#6 GRD.	TEY
4	100/50/2P	SPARE	TEY
5	100/50/2P	SPARE	TEY
6	100/50/2P	SPARE	TEY
7	100/50/2P	SPARE	TEY
8	100/50/2P	SPARE	TEY
9	100/50/2P	SPARE	TEY
10	100/50/2P	SPARE	TEY
11	100/60/3P	SPD UNIT	TEY
12	100/––/3P	SPACE & BUS	––
13	100/––/3P	SPACE & BUS	––
14	100/––/3P	SPACE & BUS	––
15	100/20/1P	RECEPTACLE, LIGHTING FIXTURE	TEY



PANEL EVCS1 EXTERIOR ENCLOSURE DETAIL

N.T.S.

PANEL EVCS1 EXTERIOR ENCLOSURE NOTES

1. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THE ELECTRICAL ENCLOSURE AND ALL ACCESSORIES. ENCLOSURE SHALL BE CAST ALUMINUM OR SHEET ALUMINUM NEMA 3R ELECTRICAL ENCLOSURE – 48" X 90" X 20" WITH PAD LOCK LOCKABLE DOOR, HINGED DOORS, ALUMINUM CLEAR COAT COLOR. PROVIDE DRIP SHIELD OPTION.
2. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THE 800A, 120/208V, 3–PHASE SERVICE ENTRANCE RATED PANEL EVCS1 AND 400A–3P FEEDER TO PAD MOUNTED TRANSFORMER.
3. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THE NEMA 3R CT METER CUBICLE INCLUDING METER SOCKET.
4. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL GFCI RECEPTACLE IN CABINET INCLUDING BRANCH CIRCUIT TO PANEL. FURNISH AND INSTALL A PORCLEAN BASE FIXTURE SOCKET WITH LED LAMP INCLUDING SWITCH AND WIRING.
5. SITE CONTRACTOR TO PROVIDE CONCRETE PAD. TOP OF PAD MINIMUM OF 6 INCHES ABOVE GRADE.
6. PROVIDE TWO GROUND ROD, GROUND CONDUCTOR AND BOND TO CABINET, PANEL AND CT METERING CUBICLE.
7. FURNISH AND INSTALL ALL EQUIPMENT SHOWN IN DETAIL.
8. ELECTRICAL CONTRACTOR TO VERIFY CABINETS TO BE PROPERLY SIZED TO HOUSE ALL EQUIPMENT SHOWN.
9. NEMA 3R MINIMUM ENCLOSURE SHALL BE OMEGA SCE–904820FSD WITH DRIP SHIELD SCE–DS48N4 OR APPROVED EQUAL.

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KEY PLAN

NORTH ARROW | STAMP

Date: 21 FEBRUARY 2024
Drawn By: AA, JM, EG
Scale: N.T.S.

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Power Riser Diagram

10.3.01

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1/2/2035 - Newton Countryside Elementary School10.3.01.dwg - 2/20/2024 9:44:39 AM

SCHEDULE OF MOTORIZED EQUIPMENT

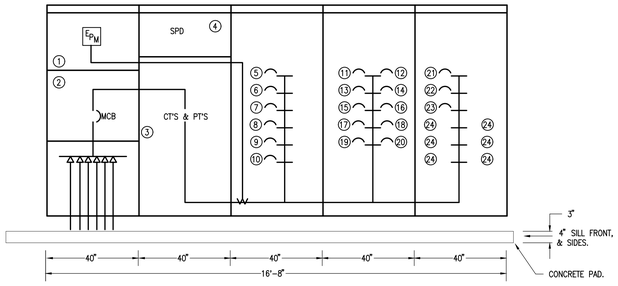
TAG NAME	DESCRIPTION	ROOM NUMBER	HP/FLA	VOLT	PH	EMER PWR	PANEL	CIRCUIT #	CIRCUIT BREAKER	FEEDER	CONNECTIONS $	CONNECTIONS □	CONNECTIONS F	CONNECTIONS S	CONNECTIONS S	CONNECTIONS VFD	REMARKS
BB 1	BASKETBALL BACKBOARD	--	1	120	1		--	--	20A/1P	(2)							PROVIDE TWIST LOCK RECEPTACLE.
BB 2	BASKETBALL BACKBOARD	--	1	120	1		--	--	20A/1P	(2)							PROVIDE TWIST LOCK RECEPTACLE.
BB 3	BASKETBALL BACKBOARD	--	1	120	1		--	--	20A/1P	(2)							PROVIDE TWIST LOCK RECEPTACLE.
BB 4	BASKETBALL BACKBOARD	--	1	120	1		--	--	20A/1P	(2)							PROVIDE TWIST LOCK RECEPTACLE.
BB 5	BASKETBALL BACKBOARD	--	1	120	1		--	--	20A/1P	(2)							PROVIDE TWIST LOCK RECEPTACLE.
BB 6	BASKETBALL BACKBOARD	--	1	120	1		--	--	20A/1P	(2)							PROVIDE TWIST LOCK RECEPTACLE.
DC 1	GYM DIVIDER CURTAIN	--	1	120	1		--	--	20A/1P	(2)		✓					PROVIDE TWIST LOCK RECEPTACLE.
K 1	KILN (FURNITURE)	--	11kW	208	3		--	--	50A/3P	(4)		✓					PROVIDE RECEPT. REFER TO DETAIL.
PS 1	MOTORIZED PROJECTION SCREEN	--	1A	120	1		--	--	20A/1P	(2)	✓						INSTALL AND WIRE CONTROL STATION.
PS 2	MOTORIZED PROJECTION SCREEN – WALL MOUNTED	--	1A	120	1		--	--	20A/1P	(2)	✓						INSTALL AND WIRE CONTROL STATION.
MC 1	MOTORIZED CURTAIN	--	½	120	1		--	--	20A/1P	(2)	✓						INSTALL AND WIRE CONTROL STATION.
MC 2	MOTORIZED CURTAIN	--	½	120	1		--	--	20A/1P	(2)	✓						INSTALL AND WIRE CONTROL STATION.

SCHEDULE OF ELECTRICAL RECORDING METERS

METERS	LOAD	FEEDERS MONITORED	METER LOCATION	CT LOCATION	SIZE	DATA CONNECTION
1	MAIN	SWBD	MAIN ELEC RM	SWBD CT ON MAIN BUS	2500A	BMS-CAT6 TO MDF
2	LIGHTING	LP1A, LPGB ELSDP1	MAIN ELEC RM	SWBD CT ON LP1A, LPGB & ELSDP1 FEEDERS	200A	BMS-CAT6 TO MDF
3	MISC/RECEPTACLES	DP1	MAIN ELEC RM	SWBD CT ON DP1, ELEVATOR FEEDERS	800A	BMS-CAT6 TO MDF
4	GEOTHERMAL GHP-1	GHP-1	MAIN ELEC RM	SWBD CT ON CHILLER FEEDER	800A	BMS-CAT6 TO MDF
5	HVAC VENTILATION	PP1, PP3	MAIN ELEC RM	SWBD CT ON PP1, PP3 FEEDERS	400A	BMS-CAT6 TO MDF
6	HVAC	PP2, PP4	MAIN ELEC RM	DP2 CT ON PP2, PP4 FEEDERS	400A	BMS-CAT6 TO MDF
7	HVAC	SPP1, SPP3	MAIN ELEC RM	SBDP1 CT ON SPP1, SPP3 FEEDERS	400A	BMS-CAT6 TO MDF
8	HVAC	SPP2, SPP4	MAIN ELEC RM	SBDP1 CT ON SPP1, SPP3 FEEDERS	400A	BMS-CAT6 TO MDF
9	KITCHEN	KP2	MAIN ELEC RM	SWBD CT ON KP2 FEEDERS	800A	BMS-CAT6 TO MDF
10	KITCHEN	KP1	MAIN ELEC RM	DP2 CT ON KP1 FEEDERS	400A	BMS-CAT6 TO MDF
11	KITCHEN	EKP1	MAIN ELEC RM	SBDP2 CT ON EKP1 FEEDERS	400A	BMS-CAT6 TO MDF
12	TECHNOLOGY	SPTD1	MAIN ELEC RM	SBDP2 CT ON SPTD1 FEEDER	200A	BMS-CAT6 TO MDF
13	RECEPTACLES	DP1	MAIN ELEC RM	DP1 CT ON DP1	1200A	BMS-CAT6 TO MDF
14	OUTSIDE LIGHTING	OLP	MAIN ELEC RM	OLP PANEL FEEDER	100A	BMS-CAT6 TO MDF
15	EMERGENCY OUTSIDE LIGHTING	ELSDP1	EMERGENCY ELEC RM	ELSDP1 20A SITE LIGHTING CIRCUITS	100A	BMS-CAT6 TO MDF
16	RECEPTACLES FIRST FLOOR	CP1A	DP1	DP1 CT ON CP1A FEEDER	200A	BMS-CAT6 TO MDF
17	RECEPTACLES SECOND FLOOR	CP2A	DP1	DP1 CT ON CP2A FEEDER	200A	BMS-CAT6 TO MDF
18	RECEPTACLES THIRD FLOOR	CP3A	DP1	DP1 CT ON CP3A FEEDER	200A	BMS-CAT6 TO MDF
19	RECEPTACLES FIRST FLOOR	RP1A, RP1B	DP1	DP1 CT ON RP1A, RP1B FEEDER	200A	BMS-CAT6 TO MDF
20	RECEPTACLES SECOND FLOOR	RP2A	DP1	DP1 CT ON RP2A FEEDER	200A	BMS-CAT6 TO MDF
21	RECEPTACLES THIRD FLOOR	RP3A	DP1	DP1 CT ON RP3A FEEDER	200A	BMS-CAT6 TO MDF

METERING NOTES

1 – RECORDING METER FOR KWH, KW DEMAND. FURNISH AND INSTALL METER WITH CURRENT TRANSFORMER ON FEEDER. PROVIDE BACNET SOFTWARE OPTION, AND A CAT6 DATA CABLE TO BMS SYSTEM. EMON DMON SERIES 5000 OR APPROVED EQUAL. FURNISH AND INSTALL ALL METERS LISTED ABOVE. TYPICAL.



FRONT ELEVATION OF NEW SECONDARY SWITCHBOARD

N.T.S.

SWITCHBOARD NOTES

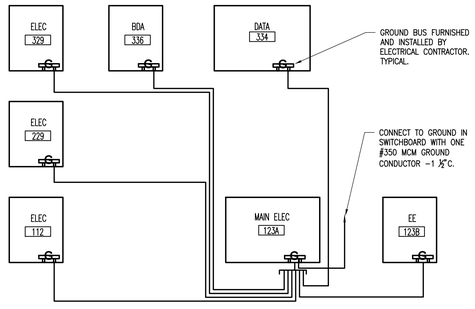
1 – NEUTRAL AND GROUND BUS SHALL RUN THE ENTIRE LENGTH OF SWITCHBOARD.

2 – ALL CONCRETE FLOORS INCLUDING CONCRETE PADS IN ALL ELECTRIC ROOMS SHALL BE SEALED PRIOR TO THE INSTALLATION OF THE SWITCHBOARD. THE SEALING OF THE CONCRETE FLOORS SHALL BE DONE BY THE CONCRETE SUBCONTRACTOR.

SWITCHBOARD LEGEND

— MAIN CIRCUIT BREAKER. REFER TO SPECIFICATIONS MANUALLY OPERATED.

15 — MOLDED CASE CIRCUIT BREAKER NUMERAL INDICATES POSITION NUMBER. REFER TO SCHEDULE.



ELECTRIC & VOICE/DATA ROOM GROUNDING BUSBAR WIRING DIAGRAM

N.T.S.

NOTES

1 – FURNISH AND INSTALL AN INSULATED 12"X 2"X ¼" COPPER GROUND BUS ON THE PLYWOOD BACKBOARD IN ALL IDF, MDF, AND ELECTRIC ROOMS. ALL ELECTRICAL EQUIPMENT SHALL BE BONDED TO THE GROUND BUS AS REQUIRED. REFER TO DETAIL. TYPICAL.

2 – FURNISH AND INSTALL A #3 GROUND CONDUCTOR – 1" CONDUIT FROM EACH ELECTRIC ROOM GROUND BUS TO THE MAIN ELECTRIC GROUND BUS.

3 – FURNISH AND INSTALL A #6 GROUND CONDUCTOR – ¾" CONDUIT FROM EACH IDF ROOM GROUND BUS TO THE NETWORK MDF ROOM GROUND BUS.

4 – ALL EQUIPMENT RACKS FOR THE DATA NETWORK, TELECOMMUNICATIONS AND CABLE TV SYSTEM SHALL BE BONDED TO THE GROUND BUS WITH A #8 GROUND CONDUCTORS – ¾" CONDUIT. REFER TO DETAIL. TYPICAL.

SCHEDULE OF STANDBY DISTRIBUTION PANEL SBDP1

277/480-VOLTS 3-PHASE 4-WIRE 65,000 A.I.C.

EQUIPMENT GROUND TERMINAL BUS – INTEGRAL SPD – DOOR-IN-DOOR TRIM

POS. NO.	BREAKER FRAME-TRIP-POLE	PROTECTS FEEDER	CB TYPE GE OR APPROVED EQUAL
	800/600/3P	MAIN CIRCUIT BREAKER	XTB
1	400/300/3P	PANEL SBDP2 VIA 150KVA TRANSFORMER	XT6
2	225/225/3P	PANEL SPP1	XT4
3	400/400/3P	PANEL SPP3	XT6
3	100/20/3P	SPARE	XT4
5	100/20/3P	SPARE	XT1
6	100/20/3P	SPARE	XT1
7	100/20/3P	SITE SEWAGE EJECTOR PUMPS	XT1
8	100/20/3P	SITE SEWAGE EJECTOR PUMPS	XT1

SCHEDULE OF STANDBY DISTRIBUTION PANEL SBDP2

120/208-VOLTS 3-PHASE 4-WIRE 22,000 A.I.C.

EQUIPMENT GROUND TERMINAL BUS – INTEGRAL SPD – DOOR-IN-DOOR TRIM

POS. NO.	BREAKER FRAME-TRIP-POLE	PROTECTS FEEDER	CB TYPE GE OR APPROVED EQUAL
	600/500/3P	MAIN CIRCUIT BREAKER	XT6
1–19	100/20/1P	RECEPTACLES	TEY
20	150/150/3P	PANEL EKP1	XT4
21	150/150/3P	PANEL SPTD1	XT4
22	150/150/3P	PANEL SPP2	XT4
23	225/225/3P	PANEL SPP4	XT4
24	100/100/3P	SPARE	XT4
25	100/20/1P	SPARE	TEY
26–32	100/20/1P	SPARES	TEY

SCHEDULE OF NORMAL DISTRIBUTION PANEL DP1

120/208-VOLTS 3-PHASE 4-WIRE 22,000 A.I.C.

EQUIPMENT GROUND TERMINAL BUS – INTEGRAL SPD – DOOR-IN-DOOR TRIM

POS. NO.	BREAKER FRAME-TRIP-POLE	PROTECTS FEEDER	CB TYPE GE OR APPROVED EQUAL
	800/800/3P	MAIN CIRCUIT BREAKER	XTB
1	150/150/3P	PANEL CP1A	XT4
2	150/150/3P	PANEL CP2A	XT4
3	150/150/3P	PANEL CP3A	XT4
4	150/150/3P	SPARE	XT4
5	150/150/3P	SPARE	XT4
6	150/150/3P	PANEL RP1A	XT4
7	150/150/3P	PANEL RP2A	XT4
8	225/225/3P	PANEL RP3A	XT4
9	225/225/3P	PANEL RP1B	XT4
10	150/150/3P	SPARE	XT4
11	100/100/3P	SPARE	XT4
12	100/100/3P	SPARE	XT4

SCHEDULE OF EMERG. LIFE SAFETY DISTRIBUTION PANEL ELSDP1

277/480-VOLTS 3-PHASE 4-WIRE 65,000 A.I.C.

EQUIPMENT GROUND TERMINAL BUS – INTEGRAL SPD – DOOR-IN-DOOR TRIM

POS. NO.	BREAKER FRAME-TRIP-POLE	PROTECTS FEEDER	CB TYPE GE OR APPROVED EQUAL
	100/100/3P	MAIN CIRCUIT BREAKER	SEL
1–28	100/20/1P	EMERGENCY LIGHTING	TEYL
29	100/30/3P	PANEL ELSDP2 VIA 15KVA TRANSFORMER	TEYL
30–40	100/20/1P	SPARES	TEYL

SCHEDULE OF MAIN SWITCHBOARD

2000-AMP BUSSING 277/480-VOLTS 3-PHASE 4-WIRE 65,000 A.I.C.

EQUIPMENT GROUND TERMINAL BUS – INTEGRAL SPD

POS. NO.	BREAKER FRAME-TRIP-POLE	PROTECTS FEEDER	CB TYPE GE OR APPROVED EQUAL
1		METERING OWNER ELECTRONIC MULTI-METER	
2	2000/2000/3P	MAIN INSULATED CASE FIXED WITH LT, ST, I, GF CIRCUIT BREAKER WITH 120V SHUNT TRIP – 100% RATED	SS
3		EVERSOURCE CT AND PT CABINET	
4		SURGE PROTECTION DEVICE – SERVICE ENTRANCE RATED	
5	400/400/3P	GEOTHERMAL GHP-1	XT6
6	600/600/3P	PANEL SBDP1 VIA ATS	XTB
7	400/400/3P	PANEL DP1 VIA 225 KVA TRANSFORMER	XT6
8	400/400/3P	PANEL DP2 VIA 225 KVA TRANSFORMER	XT6
9	400/400/3P	PANEL PP1	XT6
10	400/400/3P	PANEL PP3	XT6
9	150/70/3P	ELEVATOR	XT4
10	150/150/3P	OUTSIDE LIGHTING PANEL	XT4
11	150/150/3P	ELSDP1 VIA ATS	XT4
12	150/150/3P	LIGHTING PANEL LP1B	XT4
13	150/150/3P	LIGHTING PANEL LP2A	XT4
14	150/60/3P	SPD UNIT	XT4
15	225/225/3P	SPARE	XT4
16	225/225/3P	SPARE	XT4
17	225/225/3P	SPARE	XT4
18	225/225/3P	SPARE	XT4
19	225/225/3P	SPARE	XT4
20	225/225/3P	SPARE	XT4
21	400/400/3P	FUTURE BATTERY	XT6
22	600/600/3P	FUTURE PV SYSTEM	XT6
23	600/600/3P	FUTURE PV SYSTEM	XT6
24	100/--/3P	SPACE & BUS	XT4

SCHEDULE OF NORMAL CLASSROOM PANELS

PANEL DESIG.	LOCATION	MOUNT	VOLTAGE	A.I.C RATING	MAINS BUS SIZE	MAINS MCB	NUMBER & CAPACITY OF CIRCUIT BREAKERS 1-POLE 15A	1-POLE 20A	1-POLE 30A	2-POLE 15A	2-POLE 20A	2-POLE 30A	2-POLE 40A	3-POLE 15A	3-POLE 20A	3-POLE 30A	3-POLE 40A	3-POLE 50A	3-POLE 60A	3-POLE 80A	3-POLE 90A	3-POLE 100A	SPACE & BUS	TOTAL POLES	CB TYPE GE OR APPROVED EQUAL	NOTES
CP1A	FIRST FLOOR ELEC	SURF.	120/208V 3PH/4W	22K	225A	225A XT4	--	60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	60	THHQB	INTEGRAL SPD.
CP2A	SECOND FLOOR ELEC	SURF.	120/208V 3PH/4W	22K	225A	225A XT4	--	60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	60	THHQB	INTEGRAL SPD.
CP3A	THIRD FLOOR ELEC	SURF.	120/208V 3PH/4W	22K	225A	225A XT4	--	60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	60	THHQB	INTEGRAL SPD.

SCHEDULE OF NORMAL RECEPTACLE PANELS

PANEL DESIG.	LOCATION	MOUNT	VOLTAGE	A.I.C RATING	MAINS BUS SIZE	MAINS MCB	NUMBER & CAPACITY OF CIRCUIT BREAKERS 1-POLE 15A	1-POLE 20A	1-POLE 30A	GFCI 15A	GFCI 20A	2-POLE 15A	2-POLE 20A	2-POLE 30A	3-POLE 15A	3-POLE 20A	3-POLE 30A	3-POLE 40A	3-POLE 50A	3-POLE 60A	3-POLE 80A	SPACE & BUS	TOTAL POLES	CB TYPE GE OR APPROVED EQUAL	NOTES
RP1A	FIRST FLOOR ELEC	SURF.	120/208V 3PH/4W	22K	225A	225A XT4	--	55	1	1	--	1	1	--	--	--	--	--	--	--	--	--	60	THHQB	INTEGRAL SPD.
RP2A	SECOND FLOOR ELEC	SURF.	120/208V 3PH/4W	22K	225A	225A XT4	--	55	1	1	--	1	1	--	--	--	--	--	--	--	--	--	60	THHQB	INTEGRAL SPD.
RP3A	THIRD FLOOR ELEC	SURF	120/208V 3PH/4W	22K	225A	225A XT4	--	52	1	1	--	1	1	--	--	--	--	--	1	--	--	--	60	THHQB	INTEGRAL SPD.
RP1B	FIRST FLOOR ELEC	SURF.	120/208V 3PH/4W	22K	225A	225A XT4	--	51	1	1	--	2	2	--	--	--	--	--	--	--	--	--	60	THHQB	INTEGRAL SPD.

SCHEDULE OF NORMAL LIGHTING PANELS

PANEL DESIG.	LOCATION	MOUNT	VOLTAGE	A.I.C RATING	MAINS BUS SIZE	MAINS MCB	NUMBER & CAPACITY OF CIRCUIT BREAKERS 1-POLE 15A	1-POLE 20A	1-POLE 30A	2-POLE 15A	2-POLE 20A	2-POLE 30A	2-POLE 40A	3-POLE 15A	3-POLE 20A	3-POLE 30A	3-POLE 40A	3-POLE 50A	3-POLE 60A	3-POLE 80A	3-POLE 90A	3-POLE 100A	SPACE & BUS	TOTAL POLES	CB TYPE GE OR APPROVED EQUAL	NOTES
LP2A	ELECTRIC ROOM	SURF.	277/480V 3PH/4W	65K	100A	100A XT4	--	42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	42	TEYL	-- --
LP1B	ELECTRIC ROOM	SURF.	277/480V 3PH/4W	65K	100A	100A XT4	--	42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	42	TEYL	-- --
OLP	ELECTRIC ROOM	SURF.	277/480V 3PH/4W	65K	100A	100A XT4	--	42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	42	TEYL	-- --

SCHEDULE OF NORMAL POWER PANELS

PANEL DESIG.	LOCATION	MOUNT	VOLTAGE	A.I.C RATING	MAINS BUS SIZE	MAINS MCB	NUMBER & CAPACITY OF CIRCUIT BREAKERS 1-POLE 15A	1-POLE 20A	1-POLE 25A	2-POLE 20A	2-POLE 25A	2-POLE 30A	2-POLE 40A	3-POLE 20A	3-POLE 25A	3-POLE 30A	3-POLE 50A	3-POLE 60A	3-POLE 80A	3-POLE 90A	3-POLE 100A	SPACE & BUS	TOTAL POLES	CB TYPE GE OR APPROVED EQUAL	NOTES
PP1	ELEC ROOM	SURF.	277/480 3PH/4W	65K	400A	400A XT6	--	3	--	--	--	--	--	6	2	1	--	2	2	--	--	--	42	TEY	--
PP2	ELEC ROOM	SURF.	120/208V 3PH/4W	22K	225A	150A XT4	--	28	--	2	--	2	--	1	1	--	--	--	--	--	--	--	42	THHQB	-- --
PP3	ELEC ROOM	SURF.	277/480 3PH/4W	65K	400A	400A XT6	--	3	--	--	--	--	--	6	3	2	1	1	--	--	--	--	42	TEY	-- --
PP4	ELEC ROOM	SURF.	120/208V 3PH/4W	22K	225A	150 AXT4	--	19	6	2	2	--	--	1	1	1	--	--	--	--	--	--	42	THHQB	-- --
PP6	ELEC ROOM	SURF.	120/208V 3PH/4W	22K	225A	150 AXT4	--	19	6	2	2	--	--	1	1	1	--	--	--	--	--	--	42	THHQB	-- --
KP1	CAFETERIA STORAGE	REC.	120/208V 3PH/4W	REFER TO PANEL SCHEDULE ON ENLARGED KITCHEN ELECTRICAL PLAN, DWG 10.2.14.																						
KP2	CAFETERIA STORAGE	REC.	277/480V 3PH/4W	REFER TO PANEL SCHEDULE ON ENLARGED KITCHEN ELECTRICAL PLAN, DWG 10.2.14.																						

SCHEDULE OF STANDBY POWER PANELS

PANEL DESIG.	LOCATION	MOUNT	VOLTAGE	A.I.C RATING	MAINS BUS SIZE	MAINS MCB	NUMBER & CAPACITY OF CIRCUIT BREAKERS 1-POLE 30A	1-POLE 20A	1-POLE 25A	2-POLE 25A	2-POLE 20A	2-POLE 30A	2-POLE 15A	2-POLE 20A	2-POLE 25A	3-POLE 30A	3-POLE 35A	3-POLE 40A	3-POLE 45A	3-POLE 50A	3-POLE 60A	SPACE & BUS	TOTAL POLES	CB TYPE GE OR APPROVED EQUAL	NOTES
SPP1	ELEC ROOM	SURF.	277/480 3PH/4W	65K	400A	400A XT6	--	3	--	--	--	--	--	2	3	2	--	--	--	2	--	--	30	TEY	-- --
SPP2	ELEC ROOM	SURF.	120/208V 3PH/4W	10K	150A	150A XT4	2	40	2	--	8	--	--	--	--	--	--	--	--	--	--	--	60	THQB	-- --
SPP3	ELEC ROOM	SURF.	277/480 3PH/4W	65K	400A	400A XT6	--	--	--	--	--	--	3	3	1	1	3	1	--	1	1	--	42	TEY	-- --
SPP4	ELEC ROOM	SURF.	120/208V 3PH/4W	10K	225A	150A XT4	--	22	--	8	2	--	--	--	--	--	--	--	--	--	--	--	42	THQB	-- --
SPTD1	MDF ROOM	REC.	120/208V 3PH/4W	10K	150A	150A XT4	16	36	--	--	--	4	--	--	--	--	--	--	--	--	--	--	60	THQB	INTEGRAL SPD.
EKP1	CAFETERIA STORAGE	REC.	120/208V 3PH/4W	REFER TO PANEL SCHEDULE ON ENLARGED KITCHEN ELECTRICAL PLAN, DWG 10.2.26.																						

SCHEDULE OF EMERG. LIFE SAFETY DISTRIBUTION PANEL ELSDP2

120/208-VOLTS 3-PHASE 4-WIRE 10,000 A.I.C.

EQUIPMENT GROUND TERMINAL BUS – INTEGRAL SPD – DOOR-IN-DOOR TRIM

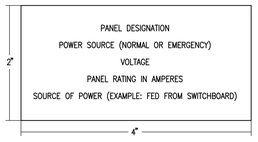
POS. NO.	BREAKER FRAME-TRIP-POLE	PROTECTS FEEDER	CB TYPE GE OR APPROVED EQUAL
	100/60/3P	MAIN CIRCUIT BREAKER	TEYL
1	100/20/1P	FIRE ALARM CONTROL PANEL	TEYL
2–8	100/20/1P	FIRE ALARM EQUIPMENT	TEYL
9	100/20/1P	SPRINKLER BELL	TEYL
10	100/20/2P	SPARE	TEYL
11	100/20/1P	SPARE	TEYL
12	100/20/1P	BDA	TEYL
13	100/20/1P	BDA DMP	TEYL
15	100/20/1P	DRY SPRINKLER SERVICE COMPRESSOR PUMP	TEYL
14–19	100/20/1P	SPARES	TEYL
20–29	100/--/1P	SPACE & BUS	--

SCHEDULE OF NORMAL DISTRIBUTION PANEL DP2

120/208-VOLTS 3-PHASE 4-WIRE 22,000 A.I.C.

EQUIPMENT GROUND TERMINAL BUS – INTEGRAL SPD – DOOR-IN-DOOR TRIM

POS. NO.	BREAKER FRAME-TRIP-POLE	PROTECTS FEEDER	CB TYPE GE OR APPROVED EQUAL
	600/500/3P	MAIN CIRCUIT BREAKER	XTB
1	225/225/3P	PANEL PP2	XT4
2	225/225/3P	PANEL PP4	XT4
3	225/225/3P	PANEL PP6	XT4
4	150/150/3P	SPARE	XT4
5–10	100/100/3P	SPARES	XT4
11	100/30/2P	GENERATOR BLOCK HEATER	TEY
12	100/20/1P	GENERATOR BATTERY CHARGER	TEY



TYPICAL ELECTRICAL EQUIPMENT NAMEPLATE

N.T.S.

1 – FURNISH AND INSTALL ENGRAVED PHENOLIC NAMEPLATES ON ALL PANELBOARDS.

2 – NAMEPLATES SHALL BE PHENOLIC WITH WHITE LETTERING.

SPECIAL PURPOSE RECEPTACLE SCHEDULE

SYMBOL	NEMA NO.	DEVICE RATINGS	CIRCUIT BREAKER	BRANCH CIRCUIT
1	5-15R	15A, 125V, 2P, 3W	15A-1P	2#12 & 1#12GND-3/4" C.
2	5-20R	20A, 125V, 2P, 3W	20A-1P	2#12 & 1#12GND-3/4" C.
3	5-30R	30A, 125V, 2P, 3W	30A-1P	2#10 & 1#10GND-3/4" C.
4	5-50R	50A, 125V, 2P, 3W	50A-1P	2#6 & 1#10GND-3/4" C.
5	6-15R	15A, 250V, 2P, 3W	15A-2P	2#12 & 1#12GND-3/4" C.
6	6-15R	15A, 250V, 2P, 3W	15A-2P	2#12 & 1#12GND-3/4" C.
7	6-20R	20A, 250V, 2P, 3W	20A-2P	2#12 & 1#12GND-3/4" C.
8	6-30R	30A, 250V, 2P, 3W	30A-2P	2#10 & 1#10GND-3/4" C.
9	6-50R	50A, 250V, 2P, 3W	50A-2P	2#6 & 1#10GND-3/4" C.
10	14-15R	15A, 125/250V, 3P, 4W	15A-2P	3#12 & 1#12GND-3/4" C.
11	14-20R	20A, 125/250V, 3P, 4W	20A-2P	3#12 & 1#12GND-3/4" C.
12	14-30R	30A, 125/250V, 3P, 4W	30A-2P	3#10 & 1#10GND-3/4" C.
13	14-50R	50A, 125/250V, 3P, 4W	50A-2P	3#6 & 1#10GND-3/4" C.
14	14-60R	60A, 125/250V, 3P, 4W	60A-2P	3#6 & 1#12GND-3/4" C.
15	15-15R	15A, 250V, 3PH, 3P, 4W	15A-3P	3#12 & 1#12GND-3/4" C.
16	15-20R	20A, 250V, 3PH, 3P, 4W	20A-3P	3#12 & 1#12GND-3/4" C.
17	15-30R	30A, 250V, 3PH, 3P, 4W	30A-3P	3#10 & 1#10GND-3/4" C.
18	15-50R	50A, 250V, 3PH, 3P, 4W	50A-3P	3#6 & 1#10GND-3/4" C.
19	15-60R	60A, 250V, 3PH, 3P, 4W	60A-3P	3#6 & 1#10GND-3/4" C.
20	L5-15R	15A, 125V, 2P, 3W TWIST-LOCK	15A-1P	2#12 & 1#12GND-3/4" C.
21	L5-20R	20A, 125V, 2P, 3W TWIST-LOCK	20A-1P	2#12 & 1#12GND-3/4" C.
22	L5-30R	30A, 125V, 2P, 3W TWIST-LOCK	30A-1P	2#10 & 1#10GND-3/4" C.
23	L6-15R	15A, 250V, 2P, 3W TWIST-LOCK	15A-2P	2#12 & 1#12GND-3/4" C.
24	L6-20R	20A, 250V, 2P, 3W TWIST-LOCK	20A-2P	2#12 & 1#12GND-3/4" C.
25	L6-30R	30A, 250V, 2P, 3W TWIST-LOCK	30A-2P	2#10 & 1#10GND-3/4" C.
26	L14-20R	20A, 125/250V, 3P, 4W TWIST-LOCK	20A-2P	3#12 & 1#12GND-3/4" C.
27	L14-30R	30A, 125/250V, 3P, 4W TWIST-LOCK	30A-2P	3#10 & 1#10GND-3/4" C.
28	L15-20R	20A, 250V, 3PH, 3P, 4W TWIST-LOCK	20A-3P	3#12 & 1#12GND-3/4" C.
29	L15-30R	30A, 250V, 3PH, 3P, 4W TWIST-LOCK	30A-3P	3#10 & 1#10GND-3/4" C.
30	L16-20R	20A, 480V, 2P, 3W TWIST-LOCK	20A-3P	3#12 & 1#12GND-3/4" C.
31	L16-30R	30A, 480V, 3PH, 3P, 4W TWIST-LOCK	30A-3P	3#10 & 1#10GND-3/4" C.
32	L21-20R	20A, 125/208V, 3PH, 4P, 5W TWIST-LOCK	20A-3P	4#12 & 1#12GND-3/4" C.
33	L21-30R	30A, 125/208V, 3PH, 4P, 5W TWIST-LOCK	30A-3P	4#10 & 1#10GND-3/4" C.

NOTE:
1. COORDINATE EXACT NEMA CONFIGURATION WITH EQUIPMENT MANUFACTURER/PROVIDER.
* DUPLEX NEMA 6-15R RECEPTACLE.

COUNTRYSIDE ELEMENTARY SCHOOL

Newton, MA

DINISCO DESIGN architects + planners
99 Chauncy Street Suite 901
Boston, MA 02111
(617) 426-2858

Horsley Witten Group
Civil & Emvironmental Engineers
90 Route 6A, Unit 1
Sandwich, MA 02563
(508) 833-6600

Brown Sardina, Inc.
Landscape Architects
24 Roland Street
Boston, MA 02129
(617) 482-4703

Foley Buhl Roberts & Assoc., Inc.
Structural Engineers
2150 Washington Street
Newton, MA 02462
(617) 527-9600

Crabtree McGrath Assoc., Inc.
Food Service Consultants
161 West Main Street
Georgetown, MA 01833
(978) 352-8500

VAV International, Inc.
FP, Plumbing, & Mechanical Engineers
400 West Cummings Park S. 4700
Woburn, MA 01801
(781) 935-7228

Thompson Engineering Company, Inc.
Electrical Engineers
89 Newbury Street, Suite 103
Danvers, MA 01923
(617) 886-9066

EdVance Technology Design, Inc.
Technology Consultants
300 Brickstone Square, Suite 201
Andover, MA 01880
(978) 256-9900

KEY PLAN

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: N.T.S.

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Panel Schedules

10.3.02

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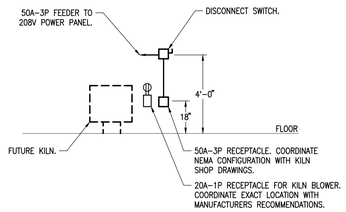
1120035 - Newton Countryside Elementary School\

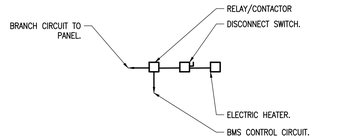


KILN ELEVATION DETAIL

N.T.S.

NOTES

1 - COORDINATE ROOM CONFIGURATION AND EXACT LOCATIONS WITH ARCHITECT.

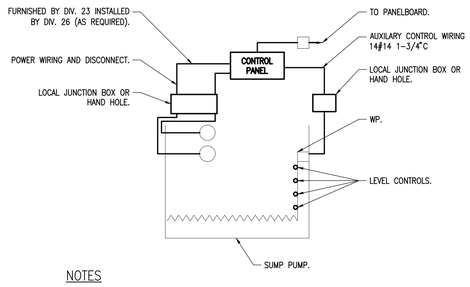


TYPICAL ELECTRIC HEATING UNIT WIRING DIAGRAM

N.T.S.

NOTES

1. TYPICAL FOR ALL ELECTRIC HEAT UNITS.
2. 120V, 208V, 277V, 480V BRANCH CIRCUIT FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO MECHANICAL SCHEDULE.
3. NON-FUSED OR FUSED DISCONNECT SWITCH AND ASSOCIATED CONDUIT WIRING FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
4. ELECTRIC HEATING UNIT FURNISHED AND INSTALLED BY HVAC. WIRED BY ELECTRICAL.
5. BMS CONTROL WIRING FURNISHED AND INSTALLED BY BMS.



NOTES

1. PROVIDE ALL HAND HOLES OR JUNCTION BOXES, CONDUITS AND CONTROL POWER AND WIRING AS REQUIRED BY SHOP DRAWINGS AND EQUIPMENT MANUFACTURER.
2. ALL DEVICES SHALL BE WEATHERPROOF NEMA 3R UNLESS NOTED OTHERWISE.

TYPICAL DUPLEX SUMP PUMP WIRING DIAGRAM

N.T.S.

MECHANICAL EQUIPMENT GENERAL NOTES

1. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THERMAL SWITCHES, DISCONNECT SWITCHES (FUSED OR NOT FUSED), STARTERS, AND COMBINATION STARTERS AS SHOWN ON THIS SCHEDULE. VFD'S FURNISHED BY HVAC, INSTALLED AND WIRED BY ELECTRICAL.
2. ELECTRICAL CONTRACTOR TO COORDINATE HOA OR START-STOP CONTROLS WITH ATC CONTRACTOR FOR ALL STARTERS PROVIDED BY THE ELECTRICAL CONTRACTOR.
3. ALL FEEDER AND BRANCH CIRCUITS 50A OR LESS FOR HVAC EQUIPMENT SHALL BE EITHER TYPE MC CABLE OR EMT CONDUIT AND WIRING. THE PORTION OF THESE FEEDERS REQUIRED TO BE INSTALLED EXPOSED OUTSIDE THE BUILDING ENVELOPE SHALL BE INSTALLED IN EITHER RIGID STEEL CONDUIT OR LIQUID TIGHT CONDUIT.
4. COORDINATE WITH MECHANICAL AND PLUMBING DRAWINGS FOR COMPLETE SCOPE OF HVAC AND PLUMBING WORK.
5. REFER TO BRANCH CIRCUIT AND FEEDER SCHEDULES DWG 10.3.01.

MECHANICAL EQUIPMENT SCHEDULE NOTES

1. ALL EXTERIOR MOUNTED ELECTRICAL CONNECTIONS SHALL BE FURNISHED WITH NEMA 3R WEATHERPROOF HOUSING.
2. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEW WEATHER RESISTANT GFCI RECEPTACLE IN NEMA 3R IN-USE HOUSING AT UNIT. CONNECT TO NEAREST RECEPTACLE CIRCUIT.
3. PROVIDE RECEPTACLE FOR CONDENSATE PUMP. CONNECT RECEPTACLE TO ASSOCIATED HVAC UNIT CIRCUIT.
4. CONNECT TO ALL HVAC UNIT LIGHTS AND RECEPTACLES IN EACH HVAC UNIT COMPARTMENT.
6. INDOOR UNIT POWER SUPPLIED FROM OUTDOOR UNIT. CONNECT TO OUTDOOR UNIT WITH THE REQUIRED CONDUIT AND WIRING.
7. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL SHUTOFF SWITCHES FOR ALL BOILERS AND WATER HEATERS OUTSIDE ALL EGRESS DOORS TO MECHANICAL ROOM. SWITCH TO BE INSTALLED AT 76" AFF. SWITCH TO BE FURNISHED WITH RED DEVICE PLATE AND LABEL TO INDICATE EQUIPMENT BEING SHUT OFF. FURNISH AND INSTALL SHUNT TRIP CIRCUIT BREAKERS.
8. VAV POWER. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL TWO OUTLET BOXES WITH A DEDICATED 120V CIRCUIT ABOVE AN ACCESSIBLE ACT CEILING AT EACH VAV POWER LOCATION. ONE OUTLET BOX WITH A THERMAL DISCONNECT SWITCH AND 120V CIRCUIT, AND THE SECOND ADJACENT TO THE FIRST BOX WITH THE 120V CIRCUIT FOR USE BY THE BMS CONTRACTOR. BMS CONTRACTOR TO PROVIDE CLASS 2 TRANSFORMER. ELECTRICAL CONTRACTOR TO INSTALL AND MAKE FINAL CONNECTIONS (120V AND 24V) AT TRANSFORMER. BMS CONTRACTOR TO FURNISH AND INSTALL LOW VOLTAGE WIRING FROM VAV POWER OUTLET BOX TO VAV.
9. FOR EACH HEAT PUMP FEEDER, THE ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL, AND PROGRAM AN ICM MODEL #455 OR APPROVED EQUAL FULLY PROGRAMMABLE, 3-PHASE LINE VOLTAGE MONITOR.

SCHEDULE OF MECHANICAL EQUIPMENT

TAG NAME	DESCRIPTION	ROOM NUMBER	HP/FLA	VOLT	PH	EMER PWR	PANEL	CIRCUIT #	CIRCUIT BREAKER	FEEDER	CONNECTIONS $	□	F	S	S	VFD	REMARKS
AC 1	AIR CONDITIONING UNIT	MAIN ELEC 123A	1 MCA	208	1		PP2	--	15A/2P	2		✓					--
AC 2	AIR CONDITIONING UNIT	MAIN ELEC 123A	1 MCA	208	1		PP2	--	15A/2P	2		✓					--
AC 3	AIR CONDITIONING UNIT	DATA 334	1 MCA	208	1	✓	SPP4	--	15A/2P	2		✓					--
AC 4	AIR CONDITIONING UNIT	DATA 334	1 MCA	208	1	✓	SPP4	--	15A/2P	2		✓					--
AC 5	AIR CONDITIONING UNIT	ECR 336	1 MCA	208	1		PP4	--	15A/2P	2		✓					--
ACCU 1	AIR-COOLED CONDENSING UNIT	ROOF	19A	208	1		PP4	--	30A/2P	3			✓				#1,2
ACCU 2	AIR-COOLED CONDENSING UNIT	ROOF	19A	208	1		PP4	--	30A/2P	3			✓				#1,2
ACCU 3	AIR-COOLED CONDENSING UNIT	ROOF	19A	208	1	✓	SPP4	--	30A/2P	3			✓				#1,2
ACCU 4	AIR-COOLED CONDENSING UNIT	ROOF	19A	208	1	✓	SPP4	--	30A/2P	3			✓				#1,2
ACCU 5	AIR-COOLED CONDENSING UNIT	ROOF	11A	208	1		PP4	--	30A/2P	3			✓				#1,2
AHU 1A	AIR HANDLING UNIT	3RD FLOOR GYMNASIUM ROOF	108A	480	3		--	--	125/3P	15		✓					#1
AHU 1D	LIGHTING & RECEPTACLES	3RD FLOOR GYMNASIUM ROOF	--	120	1		--	--	20A/1P	2	✓						#1,4
AHU 2A	AIR HANDLING UNIT	ROOF	96A	480	3		--	--	110A/3P	12		✓					#1
AHU 2D	LIGHTING & RECEPTACLES	ROOF	--	120	1		--	--	20A/1P	2	✓						#1,4
BC 1	BRANCH CONTROLLER	T 108	--	120	1		--	--	20A/1P	2	✓						#3
BC 2	BRANCH CONTROLLER	T 106	--	120	1		--	--	20A/1P	2	✓						#3
BC 3	BRANCH CONTROLLER	T 121E	--	120	1		--	--	20A/1P	2	✓						#3
BC 4	BRANCH CONTROLLER	T 216A	--	120	1		--	--	20A/1P	2	✓						#3
BC 5	BRANCH CONTROLLER	T 210	--	120	1		--	--	20A/1P	2	✓						#3
BC 6	BRANCH CONTROLLER	ART 238	--	120	1		--	--	20A/1P	2	✓						#3
BC 7	BRANCH CONTROLLER	T 313	--	120	1		--	--	20A/1P	2	✓						#3
BC 8	BRANCH CONTROLLER	T 310	--	120	1		--	--	20A/1P	2	✓						#3
BC 9	BRANCH CONTROLLER	ECR 338	--	120	1		--	--	20A/1P	2	✓						#3
DBF 1	DRYER BOOSTER FAN	RECEIVING 123	--	--	--		--	--	20A/1P	2	✓						--
ERU 1A	ERU HEAT RECOVERY	ROOF	216A	480	3		--	--	225/3P	25		✓					#1
ERU 1D	LIGHTING & RECEPTACLES	ROOF	--	120	1		--	--	20A/1P	2	✓						#1,4
EUH 2KW	ELECTRIC UNIT HEATER	MECH 123D	--	--	--		--	--	20A/3P	3		✓					--
EUH 3KW	ELECTRIC UNIT HEATER	RCVG/RECYCLING 123	--	--	--		--	--	20A/3P	3		✓					--
EBH A	ELECTRIC UNIT HEATER	CAFETERIA	1.5 KW	208	1	✓	--	--	15A/2P	2		✓					--
EBH A	ELECTRIC UNIT HEATER	CAFETERIA	1.5 KW	208	1	✓	--	--	15A/2P	2		✓					--
EBH A	ELECTRIC UNIT HEATER	CAFETERIA	1.5 KW	208	1	✓	--	--	15A/2P	2		✓					--
EBH A	ELECTRIC UNIT HEATER	LIBRARY	1.5 KW	208	1	✓	--	--	15A/2P	2		✓					--
EBH A	ELECTRIC UNIT HEATER	LIBRARY	1.5 KW	208	1	✓	--	--	15A/2P	2		✓					--
EBH A	ELECTRIC UNIT HEATER	LIBRARY	1.5 KW	208	1	✓	--	--	15A/2P	2		✓					--
EF 1	EXHAUST FAN EF-1	TRASH EXHAUST	1/8 HP	120	1		--	--	20A/1P	2		✓					#1,2
EF 2	EXHAUST FAN EF-2	EMERGENCY ELECTRIC ROOM	47 W	120	1		--	--	20A/1P	2		✓					#1,2
EF 3	EXHAUST FAN EF-3	TOILET EXHAUST	1/8 HP	120	1		--	--	20A/1P	2		✓					#1,2
EF 4	EXHAUST FAN EF-4	TOILET EXHAUST	1/6 HP	120	1		--	--	20A/1P	2		✓					#1,2
EF 5	EXHAUST FAN EF-5	ROOF - SERVES KILN	1/6 HP	120	1		--	--	20A/1P	2		✓					#1,2
FCU W24	FAN COOLING UNIT	VEST C100	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	LOBBY C101A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	LOBBY C101B	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	LOBBY C101B	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	CORRIDOR C106	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	GYM LOBBY C110	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	GENERAL OFFICE 100	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	CORRIDOR 100A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	CORRIDOR 100A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	PRINC 101	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	ASST PRINC 102	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	NURSE 105	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	CONFERENCE 103	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	MUSIC 107	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	PRACT 107A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	KINDERGARTEN 109	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	KINDERGARTEN 110	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	PROJECT AREA 111	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	VEST 113A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	SMALL GROUP 114	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	KINDERGARTEN 115	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	KINDERGARTEN 116	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	TEAM SPCLST/IEP 117	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	EXT DAY 118	--	208	1		--	--	20A/2P	2	✓						#3
FCU W29	FAN COOLING UNIT	CAFE STRG 119D	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	GYM OFF/STRG 122A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	GYM OFF/STRG 122A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	PT ROOM 125	--	208	1		--	--	20A/2P	2	✓						#3
FCU W15	FAN COOLING UNIT	BOYS TOILET 127B	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	STAIR A SA01	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	STAIR B SB01	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	STAIR C SC01	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	CORRIDOR C201A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	ELL 200	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	OT ROOM 201	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	SMALL GROUP 202	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	2ND GRADE 203	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	2ND GRADE 204	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	PROJECT AREA 205	--	208	1		--	--	20A/2P	2	✓						#3
FCU W15	FAN COOLING UNIT	BOYS TOILET 209B	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	VEST 210A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	BCBA 211	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	LOWER SPARK 213	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	1ST GRADE 214	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	1ST GRADE 216	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	PROJECT AREA 217	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	SPCH/LANG 218	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	SPED TEACHER 219	--	208	1		--	--	20A/2P	2	✓						#3

SCHEDULE OF MECHANICAL EQUIPMENT

TAG NAME	DESCRIPTION	ROOM NUMBER	HP/FLA	VOLT	PH	EMER PWR	PANEL	CIRCUIT #	CIRCUIT BREAKER	FEEDER	CONNECTIONS $	□	F	S	S	VFD	REMARKS
FCU W36	FAN COOLING UNIT	1ST GRADE 220	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	1ST GRADE 221	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	SMALL GROUP 222	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	LITERACY CENTER 223	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	LIT SPEC 226	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	SPED TEACHING SPACE 227	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	2ND GRADE 230	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	2ND GRADE 231	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	STORYTELLING 234B	--	208	1		--	--	20A/2P	2	✓						#3
FCU W26	FAN COOLING UNIT	WORK ROOM 234C	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	STAFF WORK 235	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	ART ROOM 236	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	ART 236	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	STAIR A SA02	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	STAIR B SB02	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	STAIR C SC02	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	CORRIDOR C301A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	CORRIDOR C308	--	208	1		--	--	20A/2P	2	✓						#3
FCU W30	FAN COOLING UNIT	LACT 300A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	SMALL GROUP 302	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	5TH GRADE 303	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	5TH GRADE 304	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	PROJECT AREA 305	--	208	1		--	--	20A/2P	2	✓						#3
FCU W15	FAN COOLING UNIT	BOYS TOILET 309B	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	SMALL GROUP 311	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	4TH GRADE 313	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	4TH GRADE 314	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	PROJECT AREA 315	--	208	1		--	--	20A/2P	2	✓						#3
FCU W35	FAN COOLING UNIT	3RD GRADE 316	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	PROJECT AREA 317	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	SPCH/LANG 318	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	SPED TEACHER 319	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	3RD GRADE 320	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	3RD GRADE 321	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	SMALL GROUP 322	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	4TH GRADE 323	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	MATH ROOM 326	--	208	1		--	--	20A/2P	2	✓						#3
FCU W24	FAN COOLING UNIT	SPED TEACHING SPACE 327	--	208	1		--	--	20A/2P	2	✓						#3
FCU W05	FAN COOLING UNIT	VEST 328A	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	UPPER SPARK 330	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	5TH GRADE 331	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	SOC WORK 339	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	PSYCH 340	--	208	1		--	--	20A/2P	2	✓						#3
FCU W12	FAN COOLING UNIT	SEL/INTV 341	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	STAIR A SA03	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	STAIR B SB03	--	208	1		--	--	20A/2P	2	✓						#3
FCU W18	FAN COOLING UNIT	STAIR C SC03	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	ROOF	--	208	1		--	--	20A/2P	2	✓						#3
FCU W36	FAN COOLING UNIT	ROOF	--	208	1		--	--	20A/2P	2	✓						#3
GF 1	GLYCOL FEED UNIT	MECH 123D	1/3 HP	120	1		--	--	20A/1P	2	✓						--
HP 1A	HEAT PUMP	MECH 123D	16 MCA	480	3		--	--	25A/3P	3		✓					#9
HP 1B	HEAT PUMP	MECH 123D	16 MCA	480	3		--	--	25A/3P	3		✓					#9
HP 2A	HEAT PUMP	MECH 123D	13 MCA	480	3		--	--	20A/3P	3		✓					#9
HP 2B	HEAT PUMP	MECH 340	13 MCA	480	3		--	--	20A/3P	3		✓					#9
HP 3A	HEAT PUMP	MECH 340	16 MCA	480	3		--	--	25A/3P	3		✓					#9
HP 3B	HEAT PUMP	MECH 340	16 MCA	480	3		--	--	25A/3P	3		✓					#9
HP 4A	HEAT PUMP	MECH 340	13 MCA	480	3		--	--	20A/3P	3		✓					#9
HP 4B	HEAT PUMP	MECH 340	13 MCA	480	3		--	--	20A/3P	3		✓					#9
HP 5A	HEAT PUMP	MECH 340	13 MCA	480	3		--	--	20A/3P	3		✓					#9
HP 5B	HEAT PUMP	MECH 340	13 MCA	480	3		--	--	20A/3P	3		✓					#9
HP 6A	HEAT PUMP	MECH 340	9 MCA	480	3		--	--	15A/3P	3		✓					#9
HP 6B	HEAT PUMP	MECH 340	9 MCA	480	3		--	--	15A/3P	3		✓					#9
HP 7A	HEAT PUMP	MECH 340	13 MCA	480	3		--	--	20A/3P	3		✓					#9
HP 7B	HEAT PUMP	MECH 340	13 MCA	480	3		--	--	20A/3P	3		✓					#9
HP 8A	HEAT PUMP	MECH 340	13 MCA	480	3		--	--	20A/3P	3		✓					#9
HP 8B	HEAT PUMP	MECH 340	13 MCA	480	3		--	--	20A/3P	3		✓					#9
HP 9A	HEAT PUMP	MECH 340	16 MCA	480	3		--	--	25A/3P	3		✓					#9
HP 9B	HEAT PUMP	MECH 340	16 MCA	480	3		--	--	25A/3P	3		✓					#9
KEF 1	KITCHEN EXHAUST FAN	ROOF - SERVES KITCHEN	3 HP	208	3		--	--	20A/3P	2		✓					#1,2
MAU 1	MAKE-UP AIR UNIT	RCVG/RECYCLING 123	61A	480	3		--	--	70A/3P	8		✓					--
MAU 1A	MAKE-UP AIR UNIT RECEPTACLE	RCVG/RECYCLING 123	5A	120	1		--	--	20/1P	2	✓						--
P 1	GEOTHERMAL PUMP	MECH 123D	40 HP	480	3	✓	--	--	100A/3P	10		✓				✓	#9
P 2	GEOTHERMAL PUMP	MECH 123D	40 HP	480	3	✓	--	--	100A/3P	10		✓				✓	#9
VAV 4	VAV BOX	X	1A	120	1		--	--	20/1P	2	✓						--
VAV 5	VAV BOX	X	1A	120	1		--	--	20/1P	2	✓						--
VAV 8	VAV BOX	X	1A	120	1		--	--	20/1P	2	✓						--

SCHEDULE OF PLUMBING EQUIPMENT

TAG NAME	DESCRIPTION	ROOM NUMBER	HP/FLA	VOLT	PH	EMER PWR	PANEL	CIRCUIT #	CIRCUIT BREAKER	FEEDER	CONNECTIONS $	□	F	S	S	VFD	REMARKS
MV 1	MIXING VALVE	MECH 123D	--	120	1		--	--	20A/1P	2	✓						--
WH 1	DOMESTIC WATER HEATER	MECH 123D	27 KW	480	3		--	--	50A/3P	5		✓					#7
WH 2	DOMESTIC WATER HEATER	MECH 123D	27 KW	480	3		--	--	50A/3P	5		✓					#7
HCP 1	HOT WATER CIRC PUMP	WATER ROOM	1/

FIRE ALARM SYSTEM OUTPUT MATRIX

#	DESCRIPTION	FACP & REMOTE ANNUNCIATOR						NOTIFICATION						REQUIRED FIRE SAFETY CONTROL													
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
1	SMOKE DETECTORS	●	●					●	●	●	●			●					●					●	●	●		
2	HEAT DETECTORS	●	●					●	●	●	●			●					●					●	●	●		
3	MANUAL PULL STATIONS	●	●					●	●	●	●			●					●					●	●	●		
4	DUCT SMOKE DETECTORS			●	●			●		●								●				●	●					
5	BEAM TYPE SMOKE DETECTORS	●	●					●	●	●	●			●					●					●	●	●		
6	SPRINKLER TAMPER SWITCH			●	●			●		●	●	●														●		
7	SPRINKLER FLOW SWITCH	●	●					●	●	●	●			●					●					●	●	●	●	
8	SPRINKLER PRESSURE SWITCH			●	●			●		●	●	●														●		
9	BI-DIRECTIONAL AMPLIFIER			●	●			●			●	●																
10	ANSUL SYSTEM	●	●					●	●	●	●			●					●		●			●	●	●		
11	CO DETECTOR	●	●					●	●	●	●										●			●	●	●		
12	MAIN ELEVATOR LOBBY SMOKE DETECTORS	●	●					●	●	●	●			●		●			●					●	●	●		
13	MAIN ELEVATOR LOBBY SMOKE DETECTORS EXCLUDING MAIN	●	●					●	●	●	●			●	●		●		●					●	●	●		
14	ELEVATOR MACHINE ROOM SMOKE DETECTORS	●	●					●	●	●	●			●		●	●		●					●	●	●		
15	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●			●			●															
16	FIRE ALARM AC POWER FAILURE					●	●			●			●	●	●													
17	FIRE ALARM SYSTEM LOW BATTERY					●	●			●			●															
18	OPEN CIRCUIT					●	●			●			●															
19	GROUND FAULT					●	●			●			●															
20	GENERATOR RUNNING			●	●					●		●																
21	GENERATOR ALARM					●	●			●		●																
22	PANIC BUTTON													●										●		●		●
24	DRILL SWITCH	●	●		●			●	●	●	●			●					●					●	●	●		
25	MASS NOTIFICATION LOCK DOWN													●										●		●		●

FIRE ALARM RISER GENERAL NOTES

1. EXACT NUMBER OF DEVICES ARE NOT INDICATED ON RISER DIAGRAM. REFER TO FLOOR PLANS FOR EXACT QUANTITY OF ALL DEVICES.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL FIRE ALARM SYSTEM REQUIREMENTS.
3. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL REDUCED SIZE CAD DRAWINGS WITH INITIATING DEVICE/ ADDRESSES IN CABINET WITH LEXAN SHIELD AT THE MAIN ENTRANCE. SHOP DRAWINGS AND AS-BUILT DRAWINGS SHALL BE INSTALLED IN A PLAN CABINET ADJACENT TO FACP. PLANS CABINET FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE WITH ARCHITECT AND FIRE DEPARTMENT.
4. THE FIRE ALARM SYSTEM IS DESIGNED FOR GENERAL EVACUATION, THEREFORE AN ALARM CONDITION IN ANY SECTOR OF THE BUILDING WILL ACTIVATE ALL A/V NOTIFICATION DEVICES IN THE ENTIRE COMPLEX. TROUBLE ALARM IS SUPERVISORY ONLY, NO EVACUATION OF BUILDING.
5. REFER TO ARCHITECTURAL DETAILS SHEET FOR MOUNTING HEIGHTS OF ALL FIRE ALARM DEVICES. COORDINATE THE EXACT LOCATION AND MOUNTING HEIGHT OF ALL FIRE ALARM DEVICES WITH THE ARCHITECT. COORDINATE FIRE ALARM DEVICE COLOR WITH ARCHITECT DURING SHOP DRAWING REVIEW.
6. SPACE DETECTORS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDED COVERAGE. DO NOT INSTALL DETECTORS MORE THAN 30 FEET APART OR 15 FEET FROM ADJACENT WALLS. PROVIDE ADDITIONAL DETECTORS AS REQUIRED.
7. FIRE ALARM SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WIRING DIAGRAMS, SHOP DRAWINGS AND RECOMMENDATIONS. THE FIRE ALARM SYSTEM SHALL MEET THE REQUIREMENTS OF THE FIRE DEPARTMENT. PROVIDE TERMINAL CABINETS, POWER BOOSTERS AND AMPLIFIERS REQUIRED BY MANUFACTURERS SHOP DRAWINGS FOR A COMPLETE WORKING SYSTEM.THE MANUFACTURER OR ELECTRICAL CONTRACTOR SHALL SUBMIT POINT-TO-POINT RISER DIAGRAM SHOWING ALL WIRING AND BATTERY CALCULATIONS WITH SHOP DRAWINGS. FINAL APPROVAL OF THE SHOP DRAWINGS WILL NOT BE GIVEN WITHOUT THE CALCULATIONS.
8. FURNISH AND INSTALL ISOLATION MODULES EVERY TWENTY (20) DEVICES. PROVIDE 20% SPARE CAPACITY PER LOOP. ALL ADDRESSABLE CIRCUITS SHALL BE CLASS "A", STYLE "Z" AND THE SYSTEM SHALL BE FURNISHED WITH THE REQUIRED ADDRESSABLE LOOPS. MINIMUM ONE ADDRESSABLE LOOP PER FLOOR. PROVIDE 20% SPARE CAPACITY PER LOOP.
9. ALL WIRING FOR STROBE LIGHT UNITS SHALL BE #12 AWG AND ALL WIRING FOR SPEAKER CIRCUITS SHALL BE #12 AWG SPEAKER CABLE AND ALL WIRING SHALL BE CLASS "A" STYLE "Z". ALL WIRING FOR MAGNETIC DOOR HOLDERS SHALL BE #14 AWG. ALL WIRING FOR REMOTE ALARM INDICATING LIGHTS SHALL BE #14 AWG.
10. FURNISH, INSTALL AND WIRE A REMOTE ALARM FOR EACH DUCT DETECTOR. REFER TO ELECTRICAL AND HVAC FLOOR PLANS FOR EXACT LOCATION OF DUCT SMOKE DETECTORS AND REMOTE ALARM TEST SWITCHES. PROVIDE NAMEPLATES FOR REMOTE ALARM AND TEST SWITCHES. PRIOR TO INSTALLATION, COORDINATE LOCATION WITH ARCHITECT, AND FIRE DEPARTMENT.
11. ALL SPEAKERS IN THE BUILDING SHALL USE A TEMPORAL CODE 3 SIGNAL. ALL STROBES SHALL BE OF THE SYNCHRONIZED TYPE. ALL STROBE UNITS SHALL BE FURNISHED TO MEET THE REQUIRED CANDELA RATINGS FOR EACH SPACE PER NFPA 72.
12. ALL WIRING SHALL BE CLASS A, ALL ADDRESSABLE LOOP CLASS A RISER WIRING SHALL BE INSTALLED IN SEPARATE EMT CONDUIT. SUPPLY AND RETURN WIRING SHALL BE INSTALLED IN SEPARATE CONDUITS. ALL CLASS A A/V NOTIFICATION CIRCUIT RISER SHALL BE INSTALLED IN SEPARATE EMT CONDUIT, SUPPLY AND RETURN WIRING SHALL BE INSTALLED IN SEPARATE EMT CONDUITS.
13. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ALL REQUIRED SNAC PANELS LOCATED IN ELECTRIC ROOMS TO POWER THE A/V LIGHT UNITS IN THE BUILDING. THE DRAWINGS ARE DIAGRAMMATIC TO SHOW INTENT. ALL A/V CIRCUITS SHALL BE FURNISHED WITH 20% SPARE CAPACITY. MAXIMUM OF FIFTEEN STROBE UNITS OR SPEAKER UNITS PER CIRCUIT. NUMBER OF DEVICES ON EACH CIRCUIT SHALL DEPEND ON DEVICE AMPACITY. TWO OR THREE SNAC PANELS MAY BE REQUIRED AT ANY LOCATION. TYPICAL. MINIMUM OF TWO SPEAKER CIRCUITS AND TWO STROBE CIRCUITS PER FLOOR.
14. PROPERLY GROUND ALL FIRE ALARM PANELS INCLUDING FACP AND MASTER BOX TO BUILDING GROUND IN MAIN ELECTRIC ROOM.
15. PROVIDE A DISC/USB DRIVE WITH SYSTEM PROGRAM WITH PASSWORD IN FACP AND IN THE O & M MANUAL.
16. EVERY INITIATING DEVICE SHALL BE INSTALLED WITH ITS OWN ADDRESS.
17. FURNISH AND INSTALL A VOICE EVACUATION SYSTEM INCLUDING HANDSET, AMPLIFIERS, SPEAKERS, AND WIRING. ALL A/V NOTIFICATION CIRCUITS SHALL BE CLASS A STYLE Z. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ALL REQUIRED SNAC PANELS FOR STROBE CIRCUITS. ALL SPEAKERS SHALL TYPICALLY BE TAPPED AT 1W, EXCEPT SPEAKERS IN TOILETS, SMALL OFFICES, AND CONFERENCE ROOMS SHALL BE TAPPED AT 1/2W. GYM AND CAFE TAPPED AT 2W.
18. FURNISH AND INSTALL A DEDICATED 20A-1P BRANCH FEEDER TO EACH NODE, FACP, AND SNAC PANELS. CONNECT TO 120/208-VOLT EMERGENCY LIFE SAFETY PANEL WITH THE CONDUIT, WIRE, OR MC CABLE. TYPICAL FOR ALL FIRE ALARM PANELS. FURNISH AND INSTALL LOCKS ON ALL CIRCUIT BREAKERS SERVING FIRE ALARM CIRCUITS.
19. THE FIRE ALARM SYSTEM SHALL BE CONNECTED TO THE ELEVATOR EMERGENCY RECALL SYSTEM. FURNISH AND INSTALL THREE RELAYS FOR ELEVATOR RECALL (PRIMARY, SECONDARY, ELEVATOR MACHINE ROOM). FURNISH AND INSTALL ALL SMOKE DETECTORS AT EACH LOBBY AND MACHINE ROOM. FURNISH AND INSTALL ALL REQUIRED EQUIPMENT AND WIRE. PROVIDE SIGNALS TO THE ELEVATOR CONTROLLER FOR ELEVATOR RECALL TO THE DESIGNATED FLOOR AND ELEVATOR RECALL TO THE ALTERNATE FLOOR.

TWO WAY COMMUNICATION SYSTEM NOTES

1 – PROVIDE A TWO-WAY COMMUNICATIONS SYSTEM ON ALL UPPER LEVEL ELEVATOR LANDINGS, TO MEET THE REQUIREMENTS OF STATE BUILDING CODE SECTION 780 CMR 1009.8.

2 – TWO-WAY COMMUNICATIONS SYSTEM (ELEVATOR LANDINGS) SHALL CONSIST OF POWER SUPPLY WITH BATTERY BACKUP, CALL BOX STATIONS AT EACH ELEVATOR LANDING EXCEPT AT FIRST FLOOR, AND BASE STATION LOCATED ADJACENT TO THE MAIN FIRE ALARM ANNUNCIATOR. THE INTENT IS FOR THE BASE STATION TO BE ABLE TO PICK UP AND HAVE TWO-WAY COMMUNICATIONS WITH ANY OF THE CALL BOX STATIONS. THE TWO-WAY COMMUNICATIONS SYSTEM DESCRIPTION IS BASED ON RATH OR APPROVED EQUAL. RETAIN THE SERVICES OF THE MANUFACTURER'S AUTHORIZED SERVICE COMPANY TO COMPLETE THE COMMISSIONING AND PROGRAMMING SETUP.

3 – POWER SUPPLY WITH BATTERY BACKUP SHALL BE RATH #2500-PWR24 SERIES.

4 – WALL RECESSED MOUNT BRUSHED STAINLESS STEEL CALL BOX STATIONS SHALL BE RATH #2100-9588SRC2 CALL BOX WITH COVER/#7049 SIGNATURE/#7044 BRAILLE/LABELED "EMERGENCY PHONE". ALL LABELING SHALL BE MODIFIED TO READ AS "EMERGENCY PHONE" WITH HANDICAP WHEELCHAIR SYMBOL, (NOT AREA OF REFUGE).

5 – WALL RECESSED MOUNT BRUSHED STAINLESS STEEL CALL BOX BASE STATION CABINET WITH HANDSET SHALL BE RATH #2500-205FM WITH #2100-VOIP INTERFACE DEVICE, OR APPROVED EQUAL.

6 – PROVIDE DEDICATED COMMUNICATIONS SHIELDED TWISTED CABLING AND 24V LOW VOLTAGE POWER AS REQUIRED TO COMPLETE WIRING BETWEEN THE BASE STATION AND RESPECTIVE CALL BOX STATIONS. ALL CABLING SHALL BE IN METAL CONDUIT. REFER TO MANUFACTURER'S WIRING DIAGRAMS FOR TERMINATIONS AND CABLING QUANTITIES/SIZES AND ELECTRICAL REQUIREMENTS.

7 – PROVIDE TELECOMMUNICATIONS FOR DIAL-OUT TO OWNER'S VOIP PHONE SYSTEM. FIELD COORDINATE WITH DIVISION 270001 CONTRACTOR.

COORDINATE WITH THE ELEVATOR CONTRACTOR.

20. FURNISH AND INSTALL FLOOR OR WALL RECESSED, LOW PROFILE MAGNETIC DOOR CONTACTS AS REQUIRED AT EACH DOOR LOCATION. DOOR CONTACTS TO DERIVE POWER FROM FIRE ALARM SYSTEM.
21. SELF-ADHESIVE LABELS ADDRESS NUMBERS SHALL BE INSTALLED ON ALL INITIATING DEVICES AND MODULES WITH ADDRESSES. MC CABLE FOR FIRE ALARM SERVICE SHALL HAVE A RED IDENTIFIER ALONG ITS ENTIRE LENGTH. JUNCTION BOX COVERS AND CONDUIT COUPLINGS FOR ALL FIRE ALARM WIRING RACEWAYS SHALL BE PAINTED RED PRIOR TO INSTALLATION.
22. CONDUIT, CABLE, WIREMOLD INSTALLATION NOTES:

-WHERE FIRE ALARM WIRING IS INSTALLED EXPOSED IN NON-PUBLIC AREAS, WIRING SHALL BE INSTALLED IN METAL CONDUIT (EMT).

-ALL CONDUIT SHALL BE ¾" MINIMUM UNLESS OTHERWISE NOTED. CONDUIT SHALL BE SIZED IN ACCORDANCE WITH THE MASSACHUSETTS ELECTRICAL CODE.

-IN PUBLIC AREAS, WHERE FIRE ALARM WIRING IS INSTALLED CONCEALED IN CMU WALLS, WIRING SHALL BE INSTALLED RIGID GALVANIZED CONDUIT.

-WHERE FIRE ALARM WIRING IS INSTALLED CONCEALED IN WALLS AND ABOVE CEILINGS DUAL RATED METAL-CLAD FIRE ALARM TYPE MC/FPLP SHALL BE USED.

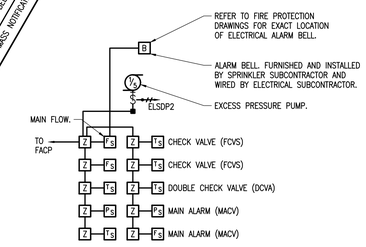
-WHERE IT IS IMPOSSIBLE TO INSTALL FIRE ALARM WIRING CONCEALED IN WALLS AND ABOVE CEILINGS IN PUBLIC SPACES WIREMOLD SURFACE METAL RACEWAY AND WIREMOLD OUTLET BOXES SHALL BE USED. (COORDINATE WITH ARCHITECT FIRST.)

23. PER THE REQUIREMENTS OF NFPA 72 CHAPTER 14, A DIFFERENTIAL PRESSURE TEST SHALL BE PREFORMED FOR ALL DUCT SMOKE DETECTORS BY THE ELECTRICAL CONTRACTOR AND HVAC CONTRACTOR DURING THE PRETEST AND THE FINAL FIRE DEPARTMENT TEST. ELECTRICAL CONTRACTOR AND HVAC CONTRACTOR TO SUBMIT A TEST REPORT FOR ALL DUCT SMOKE DETECTORS AFTER BOTH TESTS TO THE ARCHITECT FOR APPROVAL. THE ELECTRICAL CONTRACTOR AND HVAC CONTRACTOR SHALL RELOCATE ALL DUCT SMOKE DETECTORS AS REQUIRED BY THE TEST RESULTS AT NO ADDITIONAL COST TO THE OWNER.
24. ALL DUCT SMOKE DETECTORS LOCATED IN DUCT WORK ON THE ROOF SHALL BE FURNISHED AND INSTALLED WITH A NEMA 3R HOUSING. FURNISH AND INSTALL A HEAT ELEMENT WITH THERMOSTAT CONNECTED TO NEAREST LIFE SAFETY EMERGENCY PANEL.
25. FIRE ALARM CONTROL PANEL AND ALL ANNUNCIATORS SHALL BE FURNISHED WITH A MIC HAND SET, DRILL SWITCH, AND CALL SWITCHES IN A COMMON ENCLOSURE. ALSO INCLUDES SWITCHES FOR BYPASS FEATURES LISTED IN THESE NOTES. PROVIDE THE REQUIRED EQUIPMENT, WIRING, AND PROGRAMMING FOR THE FOLLOWING AUDIO CALL SWITCH ZONES.
    A – ALL CALL – ENTIRE BUILDING.
    B – GROUND FLOOR.
    C – 1ST FLOOR.
    D – 2ND FLOOR.
    E – STAIRS
26. FURNISH AND INSTALL A NEW DET 16 MASTER BOX RATED ADJACENT TO FIRE ALARM CONTROL PANEL. PROVIDE THE REQUIRED CIRCUIT INTEGRITY 1 HOUR WIRING, MODULES, PROGRAMMING, AND TESTING BETWEEN FACP AND MASTER BOX FOR 16 ZONES. FURNISH AND INSTALL THE IMSA MUNICIPAL CIRCUIT IMSA 20-6 CABLE FROM THE UTILITY POLE TO THE MASTER BOX VIA THE DUCTBACK SYSTEM, LEAVE 10'-0" OF SLACK CABLE ON THE POLE. COORDINATE INSTALLATION WITH FIRE DEPARTMENT. REMOVE AND TURN OVER EXISTING MASTER BOX INCLUDING CODE WHEEL TO FIRE DEPARTMENT. PROVIDE LIGHTING ARRESTORS ON IMSA CABLE. REPORTING ZONES AS FOLLOWING:

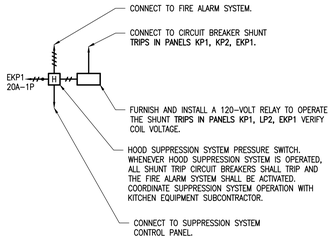
    1- ALARM - FIRST FLOOR.
    2- ALARM - SECOND FLOOR.
    3- ALARM - THIRD FLOOR.
    4- WATER FLOW - FIRST FLOOR.
    5- WATER FLOW - SECOND FLOOR.
    6- WATER FLOW - THIRD FLOOR.
    7- SUPERVISORY.
    8- BASEMENT.
    9- CARBON MONOXIDE DETECTORS.
    10- ANSUL SYSTEM INCLUDING CARBON MONOXIDE DETECTORS GAS MONITORING SYSTEM.
    11- AED CABINETS.
    12-14- ZONES TO BE DETERMINED BY FIRE DEPARTMENT DURING PROGRAMMING.
    15- DURESS BUTTON ALARM.
    16- BDA SUPERVISORY.
27. PROVIDE THE FOLLOWING BYPASS BUTTONS FOR QUARTERLY TESTING. THESE BUTTONS SHALL ANNUNCIATE A TROUBLE SIGNAL LIGHT AND SOUND ALARM ON THE FACP AND ANNUNCIATORS. THESE BUTTON SHALL BE PASSWORD PROTECTED AND BE PROTECTED BY LOCK AND KEY.
    A. ALL SPEAKER CIRCUITS BYPASS BUTTON.
    B. ALL STROBE CIRCUITS BYPASS BUTTON.
    C. ALL DOOR HOLDER CIRCUITS BYPASS BUTTON
31. FOR THE EMERGENCY GENERATOR PROVIDE TROUBLE SIGNAL TO INDICATE GENERATOR ENGINE RUNNING. COORDINATE WITH GENERATOR MANUFACTURER.
    A. GENERATOR NOT IN AUTOMATIC
    B. EMERGENCY SYSTEM FAULT
    C. EMERGENCY SYSTEM RUNNING
    D. BATTERY CHARGER NOT FUNCTIONING
    E. COMMON ALARM
36. PROVIDE THE MONITOR MODULES, CONDUIT AND WIRING TO THE FOLLOWING SYSTEMS:.
    A. GENERATOR FOR ALARMS
    B. HVAC CONTROL PANEL
    C. ALL AUTOMATIC TRANSFER SWITCHES

BDA SYSTEM NOTES

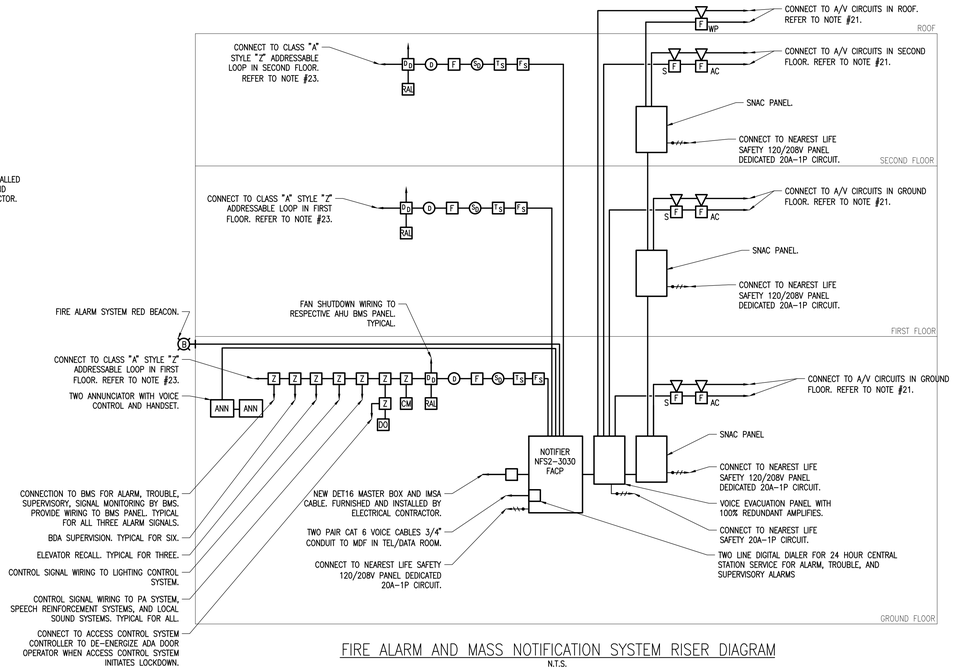
1. THE ELECTRICAL CONTRACTOR AND HIS SUBCONTRACTOR SHALL FURNISH AND INSTALL AN EMERGENCY RADIO COMMUNICATION SYSTEM FOR FIRE DEPARTMENT, POLICE DEPARTMENT, AND SCHOOL DEPARTMENT RADIOS (BI-DIRECTIONAL AMPLIFIER SYSTEM). THE SYSTEM SHALL CONSIST OF AMPLIFIER/RECEIVER, ANTENNAS ON THE ROOF AND CABLING WITH ANTENNAS THROUGHOUT THE BUILDING. AMPLIFIER/RECEIVER SHALL BE LOCATED IN THIRD FLOOR ELECTRIC ROOM. SYSTEM SHALL PROVIDE 100% COVERAGE THROUGH THE BUILDING. REFER TO SPECIFICATIONS. BI-DIRECTIONAL AMPLIFIER SYSTEM SYSTEM TO BE FURNISHED WITH AN OVERRIDE SWITCH AT THE FIRE ALARM CONTROL PANEL TO ACTIVATE/DE-ACTIVATE THE BI-DIRECTIONAL AMPLIFIER SYSTEM. PROVIDE GROUND CONDUCTOR FROM MAIN ELECTRIC SERVICE TO BI-DIRECTIONAL AMPLIFIER SYSTEM LOCATION. REFER TO BI-DIRECTIONAL AMPLIFIER SYSTEM SPECIFICATION SECTION 265561.
2. COORDINATE WITH THE FIRE DEPARTMENT AND POLICE DEPARTMENT. TYPICAL FOR FIRE DEPARTMENT AND POLICE DEPARTMENT RADIOS.
3. CONTRACTOR TO COORDINATE RADIO FREQUENCIES WITH FIRE AND POLICE DEPARTMENT.
4. FIRE ALARM MONITOR MODULES SHALL BE PROVIDED FOR THE FOLLOWING FIRE ALARM SYSTEM TROUBLE SIGNALS:
    A – AC POWER NORMAL.
    B – AC POWER LOSS.
    C – BDA TROUBLE.
    D – ANTENNA TROUBLE.
    E – BATTERY CHARGER TROUBLE.
    F – BATTERY LOW.
5. CONTRACTOR TO VERIFY ALL QUANTITIES. SYSTEM TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS. COORDINATE EXACT LOCATION OF ANTENNA ON ROOF WITH ARCHITECT.
6. BDA CABINET AND BATTERY BOX SHALL BE MOUNTED ON TWO SECTIONS OF UNISTRUT. UNISTRUT TO BE RUN FROM STRUCTURAL FLOOR TO STRUCTURAL CEILING. GROUND CABINET AND BATTERY BOX TO BUILDING GROUND WITH #4 GROUND CONDUCTOR.
7. FURNISH AND INSTALL A 2"X6" GROUND BUS AT 7'-0" AFF FOR BI-DIRECTIONAL RADIOS. CONNECT TO GROUND BUS IN ELECTRIC ROOM WITH 1 #6 GROUND CONNECTOR.
8. FURNISH AND INSTALL TO CAT 6A TELEPHONE LINES FOR BI-DIRECTIONAL RECEIVERS. MOUNT AT 6'-0" AFF.



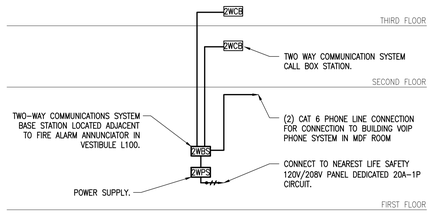
SPRINKLER SERVICE
N.T.S.



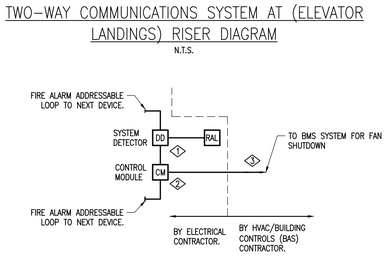
KITCHEN HOOD SUPPRESSION SYSTEM WIRING DIAGRAM
N.T.S.



FIRE ALARM AND MASS NOTIFICATION SYSTEM RISER DIAGRAM
N.T.S.



TWO-WAY COMMUNICATIONS SYSTEM AT (ELEVATOR LANDINGS) RISER DIAGRAM
N.T.S.



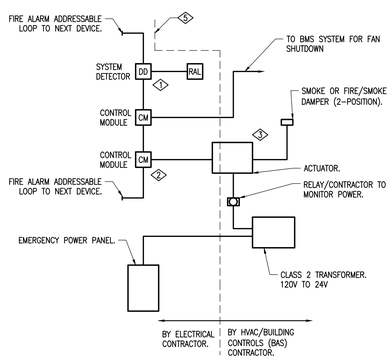
TYPICAL WIRING DIAGRAM FOR DUCT SMOKE DETECTORS AT RTU/AHU/ERU/ERV
N.T.S.

KEYED NOTES

1 – FIRE ALARM SYSTEM DUCT SMOKE DETECTOR. SEE SEQUENCE OF OPERATION MATRIX FOR MORE INFORMATION. FIRE ALARM SYSTEM SHALL SUPERVISE DETECTOR.

2 – FIRE ALARM SYSTEM TO RELEASE FIRE/SMOKE DAMPERS AND SHUTDOWN OF UNITS ON DUCT ACTIVATION OF DUCT SMOKE DETECTOR.

3 – BUILDING AUTOMATION SYSTEM SHALL PROVIDE "FAN OFF" (SHUTTING DOWN UNITS ON ROOF) SIGNAL TO FIRE ALARM SYSTEM. FIRE ALARM SYSTEM SHALL CLOSE ALL DAMPERS WHEN FAN IS OFF.



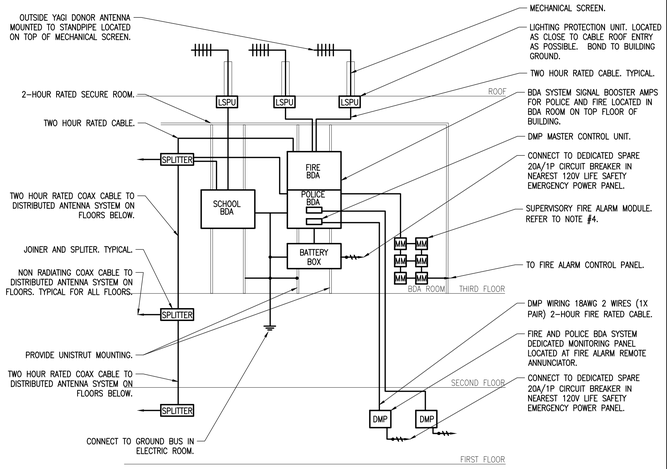
TYPICAL WIRING DIAGRAM FOR DUCT SMOKE AND FIRE SMOKE DAMPERS
N.T.S.

KEYED NOTES

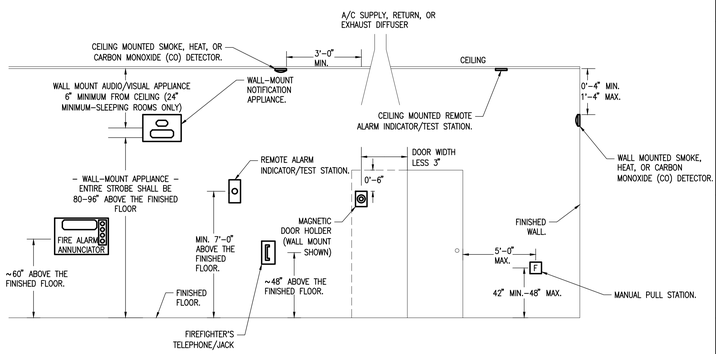
1 – FIRE ALARM SYSTEM DUCT SMOKE DETECTOR SEE SEQUENCE OF OPERATION MATRIX FOR MORE INFORMATION. FIRE ALARM SYSTEM SHALL SUPERVISE DETECTOR.

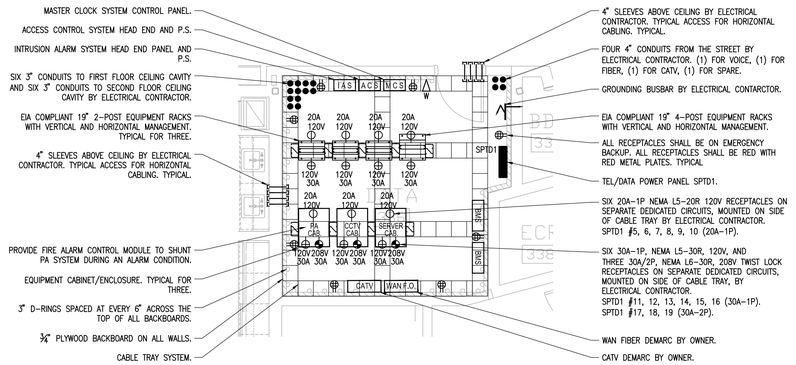
2 – FIRE ALARM CONTROL MODULE TO RELEASE FIRE/SMOKE DAMPER ON ACTIVATION OF DUCT SMOKE DETECTOR DESCRIBED IN KEY NOTE 1.

3 – FIRE/SMOKE DAMPER ACTUATOR FAIL SAFE CLOSED.



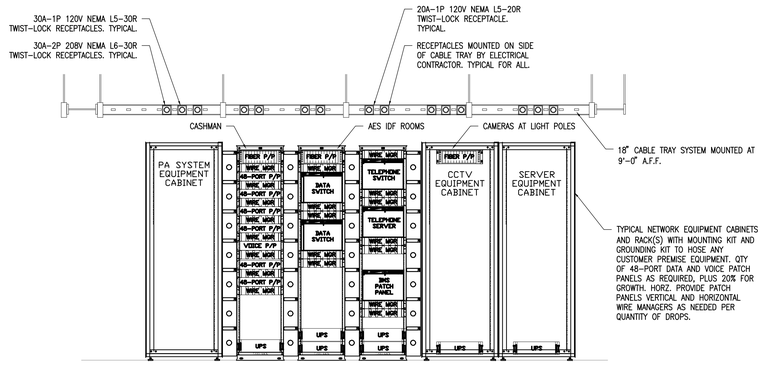
BI-DIRECTIONAL AMPLIFIER SYSTEM WIRING DIAGRAM
N.T.S.


A/C SUPPLY, RETURN, OR EXHAUST DIFFUSER
CEILING MOUNTED SMOKE, HEAT, OR CARBON MONOXIDE (CO) DETECTOR.
3'-0" MIN.
CEILING
WALL MOUNT AUDIO/VISU

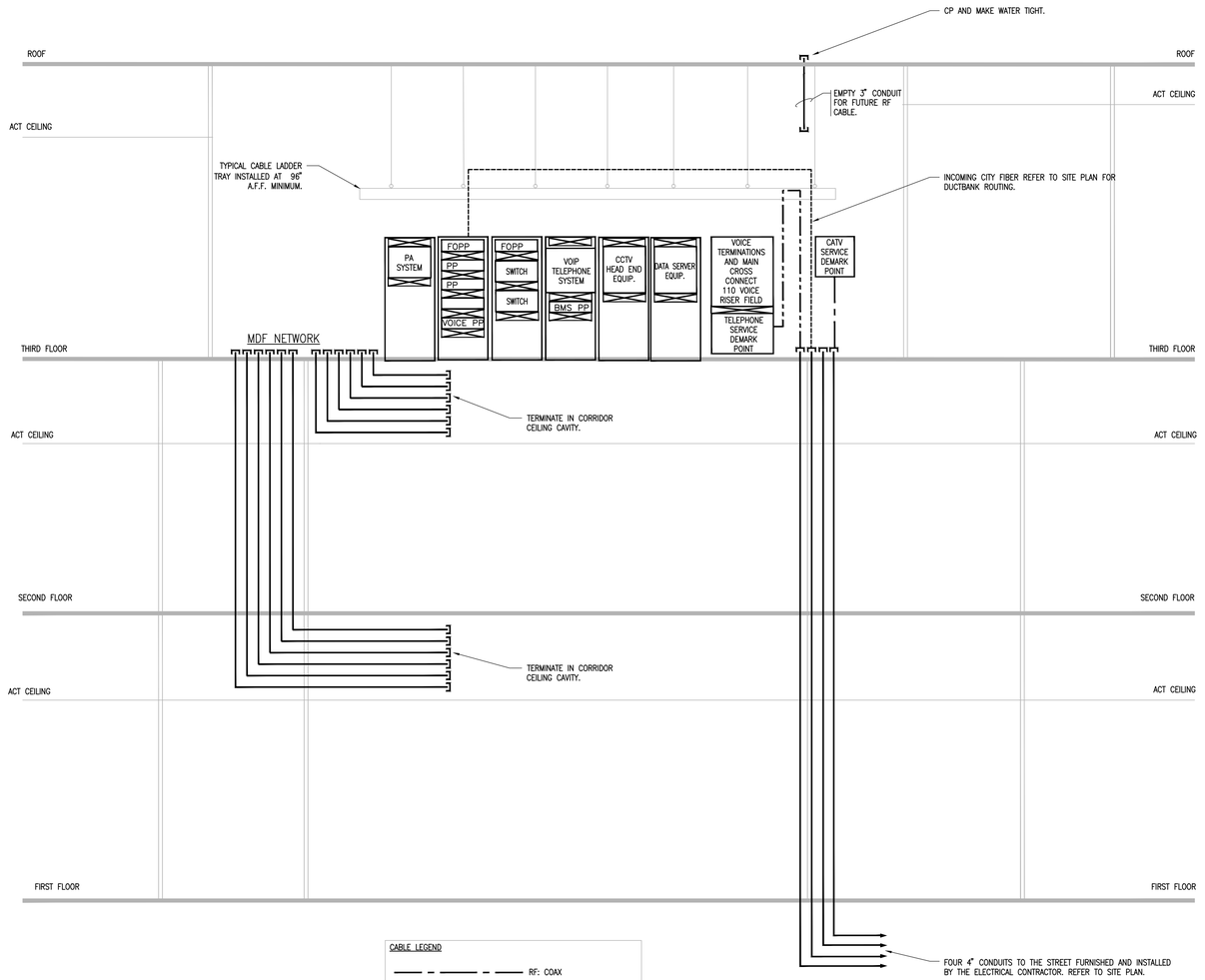


TYPICAL MAIN DISTRIBUTION FRAME MDF ROOM LAYOUT

SCALE: 1/4" = 1'-0"



TYPICAL MAIN DISTRIBUTION FRAME MDF RACK CONFIGURATION

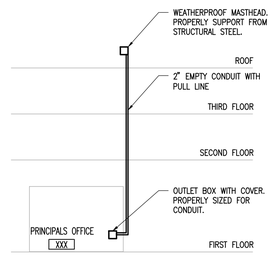


CABLE LEGEND

- RF: COAX
- TEL: MULTI-PAIR 6A
- FIBER OPTIC CABLE
- UTP: CAT. 6A FOR VOICE/DATA
- CONDUIT

VOICE/DATA CLOSET NOTE

1 – GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ¾" FIRE RATED PLYWOOD BACKBOARD FROM 2'-0" AFF TO 8'-0" AFF ON ALL WALLS IN VOICE/DATA CLOSETS. PLYWOOD SHALL BE INSTALLED WALL TO WALL. PAINTING SUBCONTRACTOR SHALL PAINT THE PLYWOOD BACKBOARDS.



CALL TO BLUE EMPTY CONDUIT SYSTEM RISER DIAGRAM

N.T.S.

NOTES

1. COORDINATE INSTALLATION INCLUDE OUTLET BOX AND MASTHEAD LOCATION WITH ARCHITECT.

NOTES

1 – THE ELECTRICAL SUBCONTRACTOR WITH THEIR TECHNOLOGY SUBCONTRACTOR SHALL FURNISH AND INSTALL STRUCTURED CABLING SYSTEM, AUDIO VIDEO COMMUNICATION SYSTEM, DISTRIBUTED COMMUNICATION SYSTEM, AND INTEGRATED SECURITY SYSTEM, INCLUDING EQUIPMENT, CONDUIT AND CABLE. REFER TO THE ELECTRICAL AND TECHNOLOGY SPECIFICATIONS.

2 – FURNISH AND INSTALL A 18" COPPER GROUND BUS ON THE PLYWOOD BACKBOARD IN ALL MDF / IDF CLOSETS. FURNISH AND INSTALL A #8 GROUND CONDUCTOR – ¾" CONDUIT FROM GROUND BUS TO THE EQUIPMENT GROUND BUS IN ELECTRIC ROOM. ALL EQUIPMENT RACKS FOR THE DATA NETWORK, TELECOMMUNICATIONS AND IPTV SYSTEM SHALL BE BONDED TO THE GROUND BUS WITH A #8 GROUND CONDUCTORS – ½" CONDUIT. ALSO CONNECT THE CABLE TRAY TO THE GROUND WITH AN #8 GROUND CONDUCTOR – ½" CONDUIT. TYPICAL FOR FIVE LOCATIONS.

3 – THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL AN ENTIRE EMPTY CONDUIT SYSTEM. INCLUDING CONDUIT, PULL LINE, OUTLET BOX, PLASTER RING AND INSULATING BUSHINGS.

4 – FOR ANY CONDUIT INSTALLED BELOW GRADE BETWEEN THE IDF CLOSET AND MDF ROOM, FURNISH AND INSTALL A #6 GROUND CONDUCTOR IN CONDUIT. PROVIDE GROUND BUSHINGS TO EACH END OF CONDUIT AND BOND TO GROUND BUS.

5 – THE GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED PLYWOOD BACKBOARDS. ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED UNISTRUT, CONDUIT SLEEVES, RECEPTACLES, GROUND BARS, CONDUIT AND WIRING REQUIRED FOR THE VOICE/DATA SYSTEM.

6 – THE ELECTRICAL SUBCONTRACTOR'S TECHNOLOGY SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED VOICE/DATA, CABLES, DEVICE PLATES, DEVICE JACKS, PATCH PANEL, FIBER OPTIC CABLE, AND FIBER PATCH PANELS. REFER TO THE ELECTRICAL AND TECHNOLOGY SPECIFICATIONS. THE ELECTRICAL SUBCONTRACTOR SHALL SUPERVISE AND COORDINATE THE TECHNOLOGY SUBCONTRACTOR'S SCOPE OF WORK. THE ELECTRICAL SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE VOICE/DATA SYSTEM.

7 – THE TECHNOLOGY SUBCONTRACTOR SHALL FURNISH AND INSTALL A FIBER OPTIC CABLE FROM EACH IDF CLOSET FIBER PATCH PANEL TO THE FIBER PATCH PANEL IN THE HEAD END ROOM (MDF). THE TECHNOLOGY SUBCONTRACTOR SHALL FURNISH AND INSTALL 25-PAIR COPPER CABLES BACK BONE BETWEEN EACH IDF CLOSET AND MDF ROOM.

8 – THE TECHNOLOGY SUBCONTRACTOR SHALL TERMINATE THE VOICE/DATA CABLES ON THE AND PATCH PANELS IN RACKS.

9 – REFER TO TECHNOLOGY SYSTEM SPECIFICATIONS, 270100, 274000, 275000, AND 281000.

10 – ELECTRICAL CONTRACTOR TO PROPERLY GROUND ALL DATA NETWORK RACKS.

11 – THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL AT THE PROPER LOCATIONS ALL CABLE PATHWAYS INCLUDING CONDUIT, SLEEVES, PULL LINE, OUTLET BOX, PLASTER RING, GROUNDING SYSTEM INCLUDING BUSBAR AND GROUND CONDUCTORS, INSULATING BUSHINGS, FLOOR BOXES, CABLE TRAY AND 120 VAC POWER REQUIREMENTS. ELECTRICAL CONTRACTOR TO PROVIDE PULL LINE IN ALL CONDUITS.

12A – ALUMINUM CABLE TRAY SHALL BE 18" WIDE IN MDF AND 12" WIDE IN IDF ROOMS WITH 3" SIDES AND 35/16" WIDE LOUVERED BOTTOM OPENINGS SPACED ON 45/16" CENTERS. CABLE TRAY SHALL BE FURNISHED WITH A BARRIER STRIP FOR EACH STRAIGHT SECTION AND EACH HORIZONTAL BEND. ELECTRICAL CONTRACTOR TO SUPPORT HORIZONTAL, VERTICAL AND OVERHEAD CABLE. SUPPORT CABLE TRAY FROM BUILDING STRUCTURE WITH THREADED ROD HANGERS ON EACH SIDE OF THE TRAY. CABLE TRAY SHALL BE CHALFANT CABLE TRAYS SERIES 16A OR APPROVED EQUAL. ALL CABLE TRAYS WITH REQUIRED SUPPORTS AND ALL REQUIRED ACCESSORIES FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

12B – AT MDF, CABLE TRAY SYSTEM TO SUPPORT HORIZONTAL/VERTICAL AND OVERHEAD CABLE 18" CABLE TRAY WITH 4" SIDE STRINGERS MIN., 6" RUNG SPACING MOUNTED AT 8'-0" A.F.F., WITH CABLE RUNWAY RADIUS DROPOUT ABOVE EACH EQUIPMENT RACK BY ELECTRICAL CONTRACTOR.

13 – REFER TO SYMBOL LIST FOR TECHNOLOGY OUTLET DETAILS.

NOTES

1 – FURNISH AND INSTALL AN INSULATED 12"x 2"x ¼" COPPER GROUND BUS ON THE PLYWOOD BACKBOARD IN ALL IDF, MDF, AND ELECTRIC ROOMS. ALL ELECTRICAL EQUIPMENT SHALL BE BONDED TO THE GROUND BUS AS REQUIRED. REFER TO DETAIL. TYPICAL.

2 – FURNISH AND INSTALL A #3 GROUND CONDUCTOR – 1" CONDUIT FROM EACH ELECTRIC ROOM GROUND BUS TO THE MAIN ELECTRIC GROUND BUS.

3 – FURNISH AND INSTALL A #6 GROUND CONDUCTOR – ¾" CONDUIT FROM EACH IDF ROOM GROUND BUS TO THE NETWORK MDF ROOM GROUND BUS.

4 – ALL EQUIPMENT RACKS FOR THE DATA NETWORK, TELECOMMUNICATIONS AND CABLE TV SYSTEM SHALL BE BONDED TO THE GROUND BUS WITH A #8 GROUND CONDUCTORS – ¾" CONDUIT. REFER TO DETAIL. TYPICAL.

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KEY PLAN

NORTH ARROW — STAMP

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: N.T.S.

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Voice/Data Riser Diagram

10.3.05

© 2023 DiNisco Design - [36" x 42"] - 6/14/23

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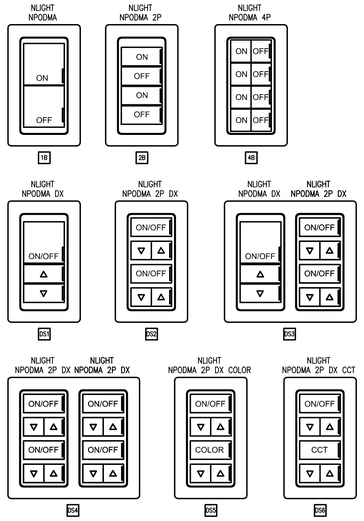
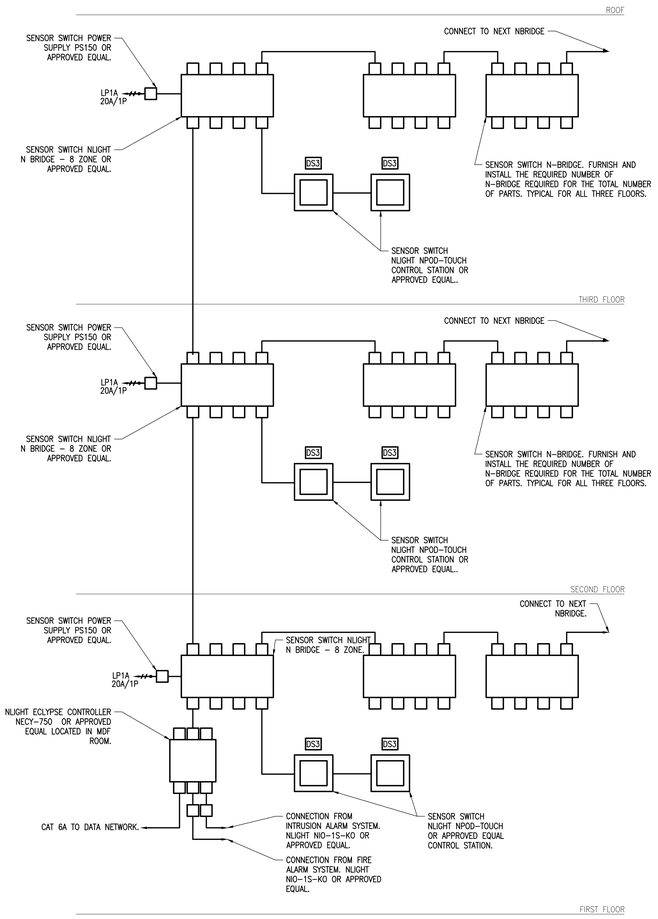
LIGHTING PROGRAMMING NOTES

1. PHOTOCELLS SHALL BE INSTALLED IN ALL CLASSROOMS, OFFICES, AND SPACES WITH EXTERIOR WINDOWS.
2. ALL LIGHTING FIXTURES WITHIN 20'-0" OF AN EXTERIOR WINDOW SHALL BE CONTROLLED BY A PHOTOCELL. IN GYMNASIUM, CAFETERIA, AND LIBRARY, MORE FIXTURES WILL BE CONTROLLED BY PHOTOCELL. EXACT LIGHTING CIRCUITS TO BE DETERMINED DURING PROGRAMMING.
3. ALL SENSORS INCLUDING CLASSROOM AND OFFICE SENSORS SHALL BE VACANCY SENSORS. LIGHTING SHALL TURN ON MANUALLY BY OCCUPANT AT WALL SWITCH AND SHUT OFF AUTOMATICALLY UPON DETECTION OF ABSENCE OF MOVEMENTS FOR 15 MINUTES (ADJ.). ALL SENSORS SHALL BE PROGRAMMED TO OPERATE AS VACANCY SENSORS (MANUAL ON/AUTO OFF).
4. CORRIDOR, STAIRS AND RESTROOM SENSORS SHALL BE OCCUPANCY SENSORS. LIGHTS SHALL TURN ON AUTOMATICALLY UPON DETECTION OF MOTION AND TURN OFF AUTOMATICALLY UPON DETECTION OF ABSENCE OF MOVEMENTS FOR 20 MINUTES (ADJ.).
5. IN OFFICES, AT LEAST 50% OF THE ROOM'S RECEPTACLES SHALL BE CONTROLLED BY ROOM OCCUPANCY SENSORS OR LIGHTING CONTROL SYSTEM SCHEDULE. RECEPTACLES IN OFFICES TO BE DE-ENERGIZED WHEN BUILDING IS UNOCCUPIED. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THE REQUIRED LIGHTING CONTROL SYSTEM RELAYS, EQUIPMENT WIRING, PROGRAMMING AND TESTING.
6. ALL LIGHTING IN CLASSROOMS, OFFICES, GYM, CAFETERIA, AND OTHER SPACES SHALL BE DIMMABLE AND CONTROLLED BY ROOM CONTROL STATIONS.
7. TYPICAL CLASSROOM LIGHTING – EACH ROOM HAS FOUR SEPARATE LIGHTING ZONES. EACH ZONE SHALL BE CONTROLLED ON/OFF AND DIMMED SEPARATELY.
8. ALL STAIRWELLS AND CORRIDORS SHALL BE FURNISHED WITH AN OCCUPANCY SENSOR. ALL STAIRWELLS AND CORRIDORS SENSORS SHALL BE PROGRAMMED TO DIM LIGHTING TO 50% WHEN EACH INDIVIDUAL STAIRWELL AND CORRIDOR IS UNOCCUPIED.
9. WHEN OVERRIDDEN OFF FROM BMS, LIGHTS SHALL BE OFF AND REMAIN OFF REGARDLESS OF WALL SWITCH, MOTION DETECTION, OR SCHEDULE. EXCEPTION: CORRIDOR AND STAIR LIGHTS SHALL ALWAYS TURN ON UPON DETECTION OF MOTION.
10. WHEN OVERRIDDEN ON FROM BMS, LIGHTS SHALL TURN ON AND REMAIN ON REGARDLESS OF WALL SWITCH, MOTION DETECTION, OR SCHEDULE.
11. DEMAND LOAD SHEDDING SCHEDULE SHALL HAVE A HIGHER PRIORITY THAN OPERATION SCHEDULE SUCH THAT WHEN DEMAND LOAD SHEDDING SCHEDULE IS ACTIVE, ALL DIMMABLE LIGHTS SHALL BE COMMANDED TO A BMS ADJUSTABLE DIMMER LEVEL (%) REGARDLESS OF WALL SWITCH ADJUSTMENT. IN THE ABSENCE OF MOTION DETECTION OR WHEN NORMAL SCHEDULE COMMANDS LIGHTS TO BE OFF, LIGHTS SHALL GO OFF WHILE IN DEMAND LOAD SHED MODE.
12. OVERRIDE SHALL HAVE HIGHER PRIORITY THAN DEMAND LOAD SHED.
13. WHEN BUILDING FIRE ALARM IS ACTIVATED, ALL LIGHTS SHALL TURN ON. ONCE THE FACP IS RESET, ALL LIGHTS SHALL TURN OFF FOLLOWING 10 MINUTES TIME DELAY. IN THE EVENT THAT BUILDING FIRE ALARM IS ACTIVATED DURING LIGHTING OCCUPIED HOURS, LIGHTS SHALL REMAIN ON AFTER FACP IS RESET.
14. WHEN BUILDING INTRUSION ALARM IS ACTIVATED, ALL LIGHTS SHALL TURN ON. ONCE THE SYSTEM IS RESET, ALL LIGHTS SHALL TURN OFF FOLLOWING 10 MINUTES TIME DELAY.



	OCCUPANCY SENSORS						DAYLIGHT SENSORS			WALL SWITCH OPERATION			TIME CLOCK OPERATION					OTHER
	VACANCY MODE	OCCUPANCY MODE	DUAL TECHNOLOGY SENSOR	SENSOR TIMEOUT PERIOD	GENERAL NOTES	TARGET LIGHTING LEVEL	GENERAL NOTES	SCHEDULE OVERRIDE SWITCH	MANUAL ON/OFF	MANUAL DIMMING	SCENE CONTROL	GRAPHICAL TOUCHSCREEN KEY SWITCH	GENERAL NOTES	TIME CLOCK SCHEDULE ON	TIME CLOCK SCHEDULE OFF	GENERAL LOCATION	EXTERIOR LOCATION PLUG LOAD CONTROLLER	GENERAL NOTES
GENERAL CLASSROOMS	X		X	10 MIN -> 25% 15 MIN-> OFF	REFER TO NOTE #1,2,4	30 FC	REFER TO NOTE #2,4	X	X	X	X		REFER TO NOTE #5	6:30 PM	6:30 PM	REFER TO NOTE #1,4			REFER TO NOTE #4
SCIENCE CLASSROOMS	X		X	10 MIN -> 25% 15 MIN-> OFF	REFER TO NOTE #1,2,4	30 FC	REFER TO NOTE #2,4	X	X	X	X		REFER TO NOTE #10		6:30 PM	REFER TO NOTE #1,4			REFER TO NOTE #4
GYMNASIUM		X	X	10 MIN -> 25% 15 MIN-> OFF	REFER TO NOTE #1,2,3,4	50 FC	REFER TO NOTE #2,4	X	X	X	X		REFER TO NOTE #6		8:00 PM	REFER TO NOTE #1,4			REFER TO NOTE #4
AUDITORIUM															REFER TO NOTE #1,4			REFER TO NOTE #4
PRIVATE OFFICES	X		X	10 MIN -> 25% 15 MIN-> OFF	REFER TO NOTE #1,2,4	30 FC	REFER TO NOTE #2,4	X	X	X	X		REFER TO NOTE #7	6:30 AM	8:00 PM	REFER TO NOTE #1,4		X	REFER TO NOTE #4
LOBBY		X	X	30 MIN -> 25%	REFER TO NOTE #1,2,3,4	20 FC	REFER TO NOTE #2,4	X			X		REFER TO NOTE #8	6:30 AM	6:30 PM	REFER TO NOTE #1,4			REFER TO NOTE #4
CORRIDORS		X	X	30 MIN -> 25%	REFER TO NOTE #1,2,4	20 FC	REFER TO NOTE #2,4	X			X		REFER TO NOTE #8			REFER TO NOTE #1,4			REFER TO NOTE #4
JANITORS CLOSET	X		X	10 MIN -> OFF	REFER TO NOTE #1,2,4			X	X	X			REFER TO NOTE #9			REFER TO NOTE #1,4			REFER TO NOTE #4
STORAGE	X	X	X	10 MIN -> OFF	REFER TO NOTE #1,2,4			X	X	X			REFER TO NOTE #9			REFER TO NOTE #1,4			REFER TO NOTE #4
STAIRWELL		X	X	10 MIN -> 50%	REFER TO NOTE #1,2,4	20 FC	REFER TO NOTE #2,4						REFER TO NOTE #8			REFER TO NOTE #1,4			REFER TO NOTE #4
BATHROOM		X	X	10 MIN -> OFF	REFER TO NOTE #1,2,4			X	X	X			REFER TO NOTE #9			REFER TO NOTE #1,4			REFER TO NOTE #4
GANG BATHROOM		X	X	15 MIN -> 10%	REFER TO NOTE #1,2,4								REFER TO NOTE #8	6:30 AM	8:00 PM	REFER TO NOTE #1,4			REFER TO NOTE #4
PARKING LOT						2 FC	REFER TO NOTE #2,4						REFER TO NOTE #8	DUSK	DAWN	REFER TO NOTE #1,4			REFER TO NOTE #4
BUILDING FACADE						2 FC	REFER TO NOTE #2,4						REFER TO NOTE #8	DUSK	DAWN	REFER TO NOTE #1,4			REFER TO NOTE #4



LIGHTING CONTROL GATEWAY AND BRIDGE WIRING DIAGRAM

N.T.S.

GYMNASIUM LIGHTING CONTROL CIRCUIT SCHEDULE

RELAY #	AREA SERVED	CIRCUIT CONNECTIONS PANEL	CIRCUIT	SWITCH LEG	NORMAL POWER	EMERG POWER	TIME CLOCK	SENSOR CONTROL	AUTO OFF	PHOTO CONTROL	CONTROL STATION	NOTES
1	GYMNASIUM --	LP1A	5	GA	✓		NO	VACANCY	15 MIN	DIMMED 40 FC	DS4, DS4 IN GYM	PHOTOCELL 1
2	GYMNASIUM --	ELSDP1	2	GB		✓	NO	VACANCY	15 MIN	DIMMED 40 FC	DS4, DS4 IN GYM	PHOTOCELL 1
3	GYMNASIUM --	LP1A	5	GC	✓		NO	VACANCY	15 MIN	DIMMED 40 FC	DS4, DS4 IN GYM	PHOTOCELL 1
4	GYMNASIUM --	LP1A	5	GD	✓		NO	VACANCY	15 MIN	DIMMED 40 FC	DS4, DS4 IN GYM	PHOTOCELL 2
5	GYMNASIUM --	ELSDP1	2	GE		✓	NO	VACANCY	15 MIN	DIMMED 40 FC	DS4, DS4 IN GYM	PHOTOCELL 2
6	GYMNASIUM --	LP1A	5	GF	✓		NO	VACANCY	15 MIN	DIMMED 40 FC	DS4, DS4 IN GYM	PHOTOCELL 2

CAFETERIA LIGHTING CONTROL CIRCUIT SCHEDULE

RELAY #	AREA SERVED	CIRCUIT CONNECTIONS PANEL	CIRCUIT	SWITCH LEG	NORMAL POWER	EMERG POWER	TIME CLOCK	SENSOR CONTROL	AUTO OFF	PHOTO CONTROL	CONTROL STATION	NOTES
1	CAFETERIA --	LP1B	6	CA	✓		NO	VACANCY	15 MIN	DIMMED 35 FC	DS3, DS3, 2B, 2B, 2B	--
2	CAFETERIA --	LP1B	7	CB	✓		NO	VACANCY	15 MIN	DIMMED 35 FC	DS3, DS3, 2B, 2B, 2B	--
3	CAFETERIA --	LP1B	8	CC	✓		NO	VACANCY	15 MIN	DIMMED 35 FC	DS3, DS3, 2B, 2B, 2B	--
4	CAFETERIA --	ELSDP1	15	CD		✓	NO	VACANCY	15 MIN	DIMMED 35 FC	DS3, DS3, 2B, 2B, 2B	--
5	CAFETERIA --	ELSDP1	15	CE		✓	NO	VACANCY	15 MIN	NO --	DS3, DS3, 2B, 2B, 2B	--
6	CAFETERIA --	LP1B	6	CF	✓		NO	VACANCY	15 MIN	NO --	DS3, DS3, 2B, 2B, 2B	--
7	CAFETERIA --	LP1B	6	CG	✓		NO	VACANCY	15 MIN	NO --	DS3, DS3, 2B, 2B, 2B	--
8	CAFETERIA --	LP1B	6	CH	✓		NO	VACANCY	15 MIN	NO --	DS3, DS3, 2B, 2B, 2B	--
9	CAFETERIA STAGE	ELSDP1	15	CJ		✓	NO	VACANCY	15 MIN	NO --	DS3 ON STAGE	--
10	CAFETERIA STAGE	LP1B	6	CK	✓		NO	VACANCY	15 MIN	NO --	DS3 ON STAGE	--
11	CAFETERIA TRACK	LP1B	8	CL	✓		NO	VACANCY	15 MIN	NO --	DS3, DS3 --	--
12	CAFETERIA TRACK	LP1B	10	CM	✓		NO	VACANCY	15 MIN	NO --	DS3, DS3 --	--
13	CAFETERIA TRACK	LP1B	8	CP	✓		NO	VACANCY	15 MIN	NO --	DS3, DS3 --	--

LIBRARY LIGHTING CONTROL CIRCUIT SCHEDULE

RELAY #	AREA SERVED	CIRCUIT CONNECTIONS PANEL	CIRCUIT	SWITCH LEG	NORMAL POWER	EMERG POWER	TIME CLOCK	SENSOR CONTROL	AUTO OFF	PHOTO CONTROL	CONTROL STATION	NOTES
1	LIBRARY --	LP1A	2	LA	✓		NO	VACANCY	15 MIN	NO --	2B DS3-DESK	--
2	LIBRARY --	ELSDP1	7	LB		✓	NO	VACANCY	15 MIN	NO --	2B DS3-DESK	--
3	LIBRARY --	ELSDP1	7	LC		✓	NO	VACANCY	15 MIN	NO --	2B DS3-DESK	--
4	LIBRARY --	LP1A	2	LD	✓		NO	VACANCY	15 MIN	NO --	2B DS3-DESK	--
5	LIBRARY --	ELSDP1	7	LE		✓	NO	VACANCY	15 MIN	NO --	2B, DS3, DS4, DS4	--
6	LIBRARY --	ELSDP1	7	LF		✓	NO	VACANCY	15 MIN	NO --	2B, DS3, DS4, DS4	--
7	LIBRARY --	LP1A	2	LG	✓		NO	VACANCY	15 MIN	NO --	2B, DS3, DS4, DS4	--
8	LIBRARY --	LP1A	2	LH	✓		NO	VACANCY	15 MIN	NO --	2B, DS3, DS4, DS4	--

SITE LIGHTING CONTROL PANEL CIRCUIT SCHEDULE

RELAY #	AREA SERVED	CIRCUIT CONNECTIONS PANEL	CIRCUIT	SWITCH LEG	NORMAL POWER	EMERG POWER	TIME CLOCK ON	TIME CLOCK OFF	SENSOR DIMMING	DIMMING LEVEL	DIMMING DELAY	BLUETOOTH CONTROL	NOTES
1	WALKWAY LIGHTING BUS LOOP	LP1A	42	A	✓		DUSK	11 PM	DUSK TO 11 PM	30%	15 MIN	YES	--
2	ROADWAY LIGHTING NORTH	LP1A	40	B	✓		DUSK	11 PM	DUSK TO 11 PM	30%	15 MIN	YES	--
3	PARKING LOT LIGHTING AES AND BUS STOP	LP1A	40	C	✓		DUSK	11 PM	DUSK TO 11 PM	30%	15 MIN	YES	--
4	ROADWAY LIGHTING WEST	LP1A	42	D	✓		DUSK	11 PM	DUSK TO 11 PM	30%	15 MIN	YES	--
5	ENTRANCE LIGHTING --	ELSDP1	37	E		✓	DUSK	DAWN	DUSK TO DAWN	50%	15 MIN	YES	--
6	WALL MOUNTED LIGHTING SOUTH AND WEST	ELSDP1	37	F		✓	DUSK	DAWN	DUSK TO DAWN	50%	15 MIN	YES	--
7	WALL MOUNTED LIGHTING NORTH AND WEST	ELSDP1	39	G		✓	DUSK	DAWN	DUSK TO DAWN	50%	15 MIN	YES	--

BUILDING LIGHTING CONTROL CIRCUIT SCHEDULE

RELAY #	AREA SERVED	CIRCUIT CONNECTIONS PANEL	CIRCUIT	SWITCH LEG	NORMAL POWER	EMERG RELAY	TIME CLOCK ON	TIME CLOCK OFF	SENSOR DIMMING	DIMMING LEVEL	PHOTO CONTROL	CONTROL STATION	NOTES
1	1ST FLOOR VESTIBULE --	ELSDP1	--	AA		✓	6 AM	11 PM	6 AM TO 11 PM	50%	NO	--	--
2	1ST FLOOR VESTIBULE --	SBDP1	--	BB	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	--	--
3	STAIRS A 1ST FLOOR	ELSDP1	--	CC		✓	6 AM	11 PM	6 AM TO 11 PM	50%	NO	--	--
4	STAIRS B 1ST FLOOR	SBDP1	--	DD	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	--	--
5	STAIRS C 1ST FLOOR	LP1A	--	VV	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	--	--
6	STAIRS A 2ND FLOOR	ELSDP1	--	EE		✓	6 AM	11 PM	6 AM TO 11 PM	50%	NO	--	--
7	STAIRS B 2ND FLOOR	SBDP1	--	FF	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	--	--
8	STAIRS C 2ND FLOOR	LP1B	--	GG	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	4B FRONT OFFICES	--
9	STAIRS A 3RD FLOOR	LP1A	--	HH	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	4B FRONT OFFICES	--
10	STAIRS B 3RD FLOOR	LP1B	--	JJ		✓	6 AM	11 PM	6 AM TO 11 PM	50%	NO	4B FRONT OFFICES	--
11	STAIRS C 3RD FLOOR	ELSDP1	--	LL	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	4B FRONT OFFICES	--
12	1ST FLOOR CORRIDORS	ELSDP1	--	MM		✓	6 AM	11 PM	6 AM TO 11 PM	50%	NO	4B FRONT OFFICES	--
13	1ST FLOOR CORRIDORS	LP1A	--	NN	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	4B FRONT OFFICES	--
14	1ST FLOOR CORRIDORS	LP1A	--	PP	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	4B FRONT OFFICES	--
15	1ST FLOOR CORRIDORS	ELSDP1	--	QQ		✓	6 AM	11 PM	6 AM TO 11 PM	50%	NO	4B FRONT OFFICES	--
16	1ST FLOOR GIRLS TOILET	LP1A	--	RR	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	4B FRONT OFFICES	--
17	1ST FLOOR BOYS TOILET	ELSDP1	--	TT		✓	6 AM	11 PM	6 AM TO 11 PM	50%	NO	4B FRONT OFFICES	--
18	2ND FLOOR CORRIDORS	LP1A	--	WW	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	4B FRONT OFFICES	--
19	2ND FLOOR CORRIDORS	ELSDP1	--	XX		✓	6 AM	11 PM	6 AM TO 11 PM	50%	NO	4B FRONT OFFICES	--
20	2ND FLOOR CORRIDORS	LP1A	--	YY	✓		8 AM	5 PM	-- --	NO	NO	4B FRONT OFFICES	--
21	2ND FLOOR CORRIDORS	ELSDP1	--	ZZ		✓	8 AM	5 PM	-- --	NO	NO	4B FRONT OFFICES	--
22	2ND FLOOR GIRLS TOILET	ELSDP1	--	AAA		✓	--	--	-- --	NO	NO	--	AUTO ON/AUTO OFF 20 MIN DELAY
23	2ND FLOOR BOYS TOILET	ELSDP1	--	BBB		✓	--	--	-- --	NO	NO	--	AUTO ON/AUTO OFF 20 MIN DELAY
24	3RD FLOOR CORRIDORS	ELSDP1	--	AAA		✓	--	--	-- --	NO	NO	--	AUTO ON/AUTO OFF 20 MIN DELAY
25	3RD FLOOR CORRIDORS	ELSDP1	--	BBB		✓	--	--	-- --	NO	NO	--	AUTO ON/AUTO OFF 20 MIN DELAY
26	3RD FLOOR CORRIDORS	ELSDP1	--	EEE		✓	6 AM	11 PM	6 AM TO 11 PM	50%	NO	4B FRONT OFFICES	--
27	3RD FLOOR CORRIDORS	LP1B	--	FFF	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	4B FRONT OFFICES	--
28	3RD FLOOR GIRLS TOILET	ELSDP1	--	GGG		✓	6 AM	11 PM	6 AM TO 11 PM	50%	NO	4B FRONT OFFICES	--
29	3RD FLOOR BOYS TOILET	LP1A	--	HHH	✓		8 AM	5 PM	8 AM TO 5 PM	OFF	NO	4B FRONT OFFICES	--

TYPICAL CLASSROOM LIGHTING CONTROL CIRCUIT SCHEDULE

BUTTON #	AREA SERVED	SWITCH LEG	NORMAL POWER	EMERG RELAY	TIME CLOCK	SENSOR CONTROL	AUTO OFF	PHOTO CONTROL	CONTROL STATION	NOTES
1	EXTERIOR ROW --	A / E	✓		NO	VACANCY	15 MIN	ZONE 1 35 FC	DS4	--
2	MIDDLE ROW --	B / F		✓	NO	VACANCY	15 MIN	ZONE 2 35 FC	DS4	--
3	MIDDLE ROW --	C / G		✓	NO	VACANCY	15 MIN	ZONE 2 35 FC	DS4	--
4	INTERIOR ROW CUBBY AREA	D / H	✓		NO	VACANCY	15 MIN	-- --	DS4	--
5	QUIET AREA --	J / K	✓		NO	VACANCY	15 MIN	-- --	DS1	--

LIGHTING CONTROL SYSTEM GENERAL NOTES

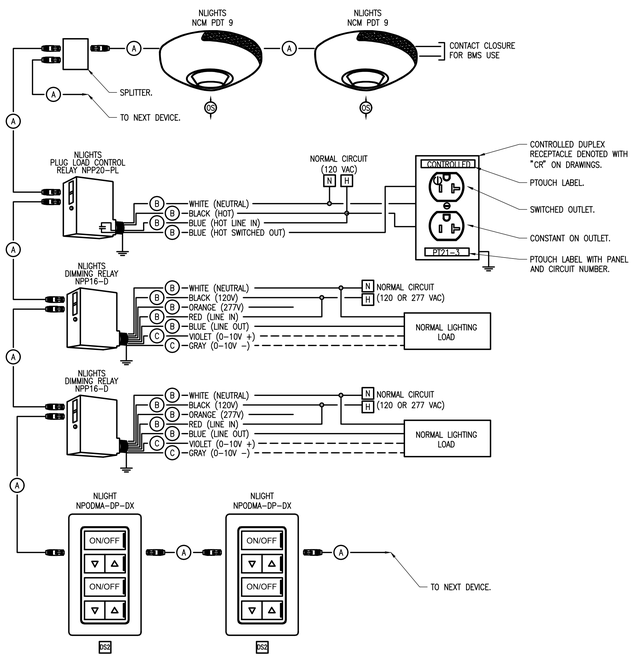
1. PROVIDE A COMPLETE LIGHTING CONTROL SYSTEM THAT PERFORMS THE LIGHTING CONTROL OPERATIONS INDICATED IN THE LIGHTING CONTROL INTENT SCHEDULE. CONTROL SYSTEM COMPONENT SHALL BE COMPATIBLE WITH THE FIXTURES PROVIDED. PROVIDE ALL NECESSARY EQUIPMENT, WIRING AND RACEWAYS FOR PROPER OPERATION OF LIGHTING CONTROLS.
2. PROVIDE DIGITAL ROOM CONTROLLER (DRC) – BASED LIGHTING CONTROL SYSTEM BY
   A. ACUITY nLIGHT
   B. LEVITON
   C. LUTRON
   D. WATTSTOPPER DLM
3. INTERCONNECT LIGHTING CONTROL SYSTEM COMPONENTS, INCLUDING ROOM CONTROLLERS, SWITCHES, OCCUPANCY SENSORS, ETC. VIA HARD-WIRE CONNECTIONS; WIRELESS DEVICES ARE NOT ACCEPTABLE.
4. PROVIDE ALL NECESSARY ROOM CONTROLLERS, DEVICES, POWER PACKS, CABLING, RACEWAYS, SYSTEM INTERCONNECTIONS AND PROGRAMMING REQUIRED OR RECOMMENDED BY THE MANUFACTURER FOR A COMPLETE LIGHTING CONTROL SYSTEM.
5. PROVIDE UL924 LISTED EMERGENCY BYPASS RELAYS/MODULES FOR CONTROLLED EMERGENCY LIGHTING CIRCUITS TO RAISE CONTROLLED EMERGENCY LIGHTS TO FULL BRIGHTNESS DURING A POWER FAILURE.
6. PROVIDE A CONTACT CLOSURE INTERFACE WITH THE FIRE ALARM SYSTEM TO RAISE CONTROLLED EMERGENCY LIGHTS TO FULL BRIGHTNESS DURING A FIRE ALARM CONDITION. COORDINATE WITH FIRE ALARM VENDOR/SUB-CONTRACTOR.
7. PROVIDE ALL NECESSARY POWER AND SLAVE PACKS REQUIRED TO CONTROL, LIGHTING FIXTURES PER INDICATED CONTROL ZONES.
8. INSTALL DEVICES IN ACCORDANCE WITH MANUFACTURERS INSTALLATION AND WIRING INSTRUCTIONS.
9. COORDINATE FINAL ZONING, PRESET SCENES, PARTIAL LIGHT LEVELS AND OPERATING HOURS WITH OWNER.
10. PROVIDE INDEPENDENT-PARTY FUNCTIONAL TESTING ON ENTIRE LIGHTING CONTROL SYSTEM IN ACCORDANCE WITH 2013 ASHRAE-90.1 SECTION 9.4.3.
11. LOCATE ROOM CONTROLLERS/POWER PACKS TYPICALLY ABOVE CEILING AT ENTRY DOORS TO EACH ROOM FOR EASY FUTURE MAINTENANCE. EXACT LOCATIONS SHALL BE IDENTIFIED ON THE AS-BUILTS.

SENSOR DEVICE REQUIREMENTS

1. THE CONTROL DIAGRAMS ARE DIAGRAMMATIC AND DO NOT REPRESENT EVERY DEVICE REQUIRED. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION AND PROVIDE DEVICES AS REQUIRED TO MEET LIGHTING CONTROL INTENT ON DRAWING E540 AS WELL AS SPECIFICATION 26 09 43. FOR EXAMPLE, EACH SWITCH LEG REQUIRES A POWER PACK FOR EACH NORMAL POWERED FIXTURE AND AN EMERGENCY POWER PACK FOR EACH EMERGENCY FIXTURE CONTROLLED.
2. THE LIGHTING CONTROL SYSTEM VENDOR SHALL DESIGN THE OCCUPANCY SENSOR DEVICE LAYOUTS TO PROVIDE A COMPLETE VOLUMETRIC COVERAGE OF THE SPACES IN WHICH THEY ARE LOCATED. PROVIDE PROPER NUMBER OF SENSORS AND ASSOCIATED POWER PACKS AS REQUIRED TO PROVIDE FULL COVERAGE.
3. SUBMIT VENDOR DESIGNED AND APPROVED LAYOUT DRAWINGS OF OCCUPANCY AND DAYLIGHT PHOTO SENSORS AS PART OF THE LIGHTING CONTROL SYSTEM SUBMITTAL PACKAGE. LOCATIONS OF SENSORS SHOWN ON THE CONTRACT DRAWINGS IS GENERIC AND MAY REQUIRE MODIFICATION TO MEET VENDOR-SPECIFIC REQUIREMENTS OR LIMITATIONS. SENSOR QUANTITIES SHOWN ON DRAWINGS ARE MINIMUM QUANTITIES; PROVIDE ADDITIONAL SENSORS AS REQUIRED TO ENSURE ADEQUATE COVERAGE. DEVIATIONS FROM SENSOR LOCATIONS INDICATED ON DRAWINGS MUST BE APPROVED BY THE ARCHITECT.
4. LIGHTING CONTROL SYSTEM VENDOR IS RESPONSIBLE FOR SELECTING THE APPROPRIATE OCCUPANCY SENSING TECHNOLOGY (OR TECHNOLOGIES), BASED ON THEIR AVAILABLE PRODUCT OFFERING. FOR EACH ASSOCIATED SPACE TYPE AND APPLICATION. SENSING TECHNOLOGY (OR TECHNOLOGIES IF USING DUAL-TECH TYPE SENSORS) MUST PROVIDE OPTIMUM COVERAGE WITHIN ASSOCIATED COVERAGE ZONES, WHILE MINIMIZING SENSING OF OCCUPANTS OUTSIDE OF INTENDED COVERAGE ZONES. SELECT APPROPRIATE OCCUPANCY SENSOR TYPES AND ENSURE THEY ARE LOCATED TO ELIMINATE POSSIBILITY OF INTERFERENCE WITH EQUIPMENT (SUCH AS SMART WHITE BOARDS), OR ANIMALS (IN THE CASE OF VIVARIUMS FOR EXAMPLE). ULTRASONIC SENSORS ARE NOT PERMITTED WITHIN THE VIVARIUM AREA.
5. IN GENERAL, SPACES WITH WINDOWS TO THE EXTERIOR SHALL BE EQUIPPED WITH DAYLIGHT PHOTO SENSORS THAT ARE TIED INTO THE ASSOCIATED ROOM/SPACE CONTROLLER(S) AND CONFIGURED TO ACHIEVE DIMMING CONTROL OF LIGHTS WITHIN EACH DAYLIGHTING ZONE. CALIBRATE SYSTEM SO THAT THE PROGRAMMABLE SET-POINT VALUE IS 50 FOOT-CANDLES AT THE WORK SURFACE UNLESS OTHERWISE NOTED. THE MANUFACTURER SHALL PROVIDE FINAL LOCATION OF ALL SENSORS BASED ON HE PERFORMANCE OF THEIR DEVICE.
6. FIELD ADJUST OCCUPANCY SENSOR SENSITIVITIES PER MANUFACTURER'S CALIBRATION PROCEDURES TO PREVENT SENSING OCCUPANTS OUTSIDE OF INTENDED COVERAGE ZONES.

LIGHTING CONTROL SYSTEM NOTES

1. ALL SENSOR WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WIRING DIAGRAMS AND RECOMMENDATIONS.
2. REFER TO THE LIGHTING FLOOR PLANS FOR THE EXACT TYPE OF LIGHTING SENSOR TO BE INSTALLED IN EACH ROOM.
3. LIGHTING SENSOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS FOR INSTALLATION AND MOUNTING HEIGHTS. ALL WIRING PER MANUFACTURERS REQUIREMENTS.
4. REFER TO MANUFACTURER'S SPECIFICATION SHEETS AND WIRING DIAGRAMS FOR THE MAXIMUM NUMBER OF SENSORS PER POWER PACK.
5. POWER/RELAY PACKS SHALL BE INSTALLED ON THE OUTSIDE OF JUNCTION BOXES. JUNCTION BOXES SHALL BE MOUNTED ABOVE ACT CEILING AREA DIRECTLY ABOVE THE ROOM LIGHTING SWITCH OR CONTROL STATION LOCATION. N-BRIDGES TO BE INSTALLED IN MDF ROOM OR ELECTRIC ROOMS. GYMNASIUM POWER/RELAY PACKS TO BE LOCATED IN ELECTRICAL ROOMS.
6. ALL LIGHTING SENSOR TIME DELAYS SHALL BE SET TO FIFTEEN (15) MINUTES UNLESS OTHERWISE NOTED.
7. ALL LIGHTING CIRCUIT WIRING INCLUDING SENSOR CONTROL WIRING SHALL BE INSTALLED IN CONDUIT FOR EXPOSED CEILINGS AND MC CABLE IN CONCEALED CEILING.
8. REFER TO ELECTRICAL SPECIFICATIONS.
9. ALL LIGHTING SENSOR SHALL BE MOUNTED A MINIMUM OF



STAFF WORKROOM ROOM CONTROLS

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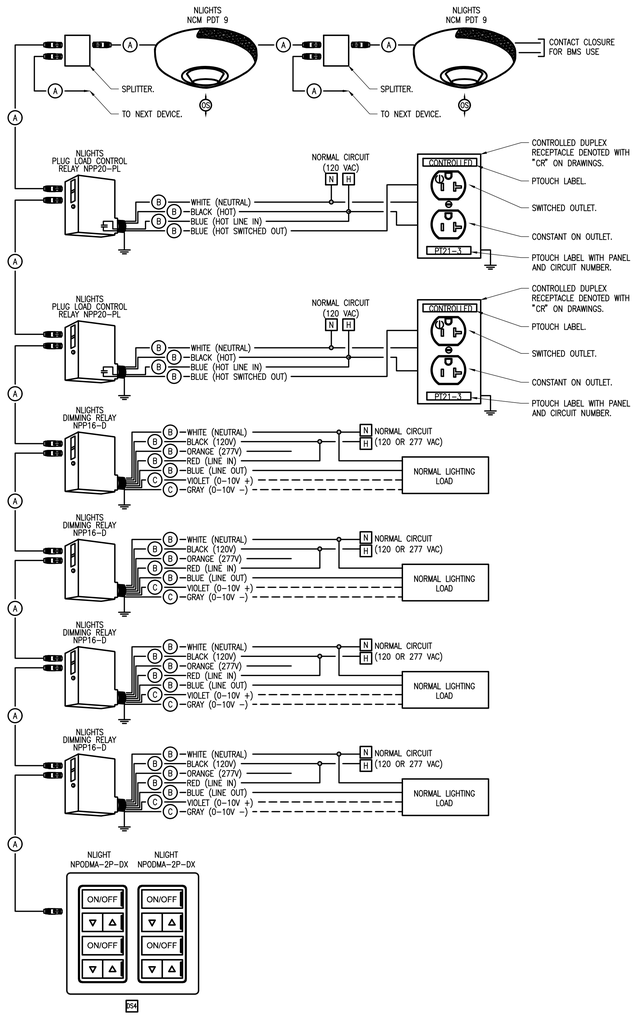

TYPICAL CLASSROOM LIGHTING CONTROLS

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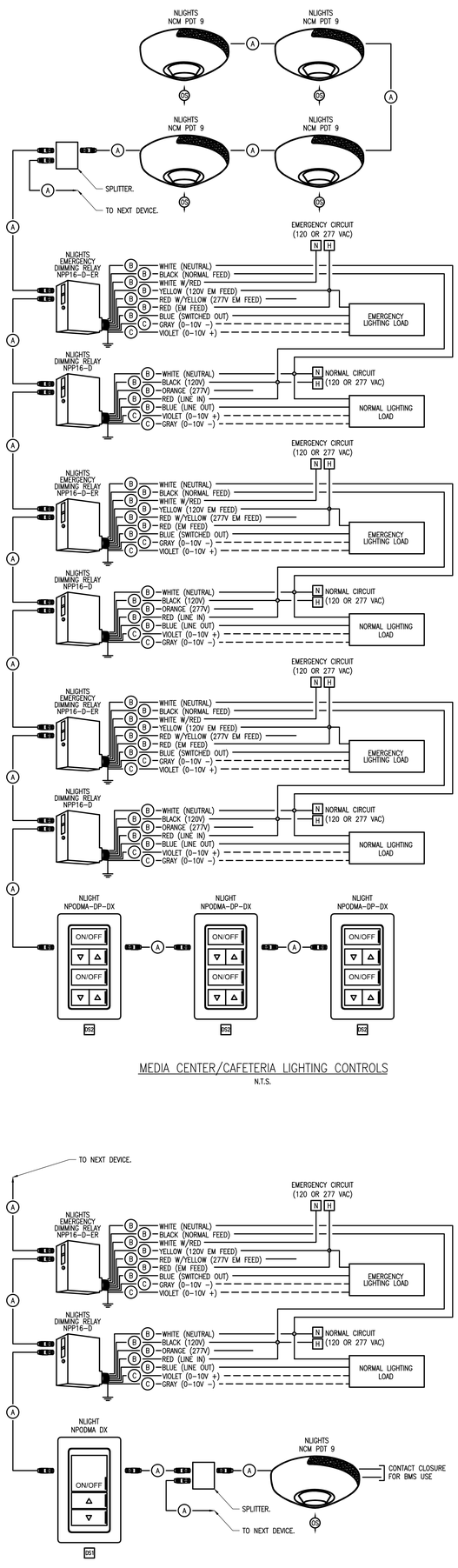

MEDIA CENTER/CAFETERIA LIGHTING CONTROLS

N.T.S.

LOADING DOCK LIGHTING CONTROLS

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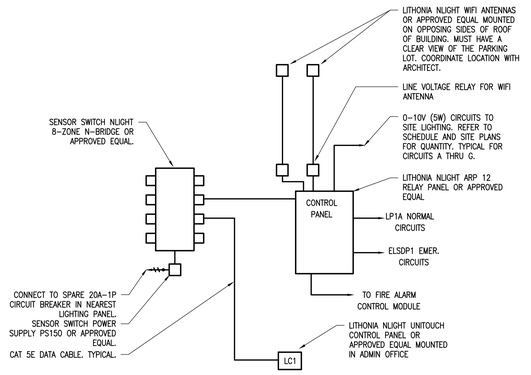
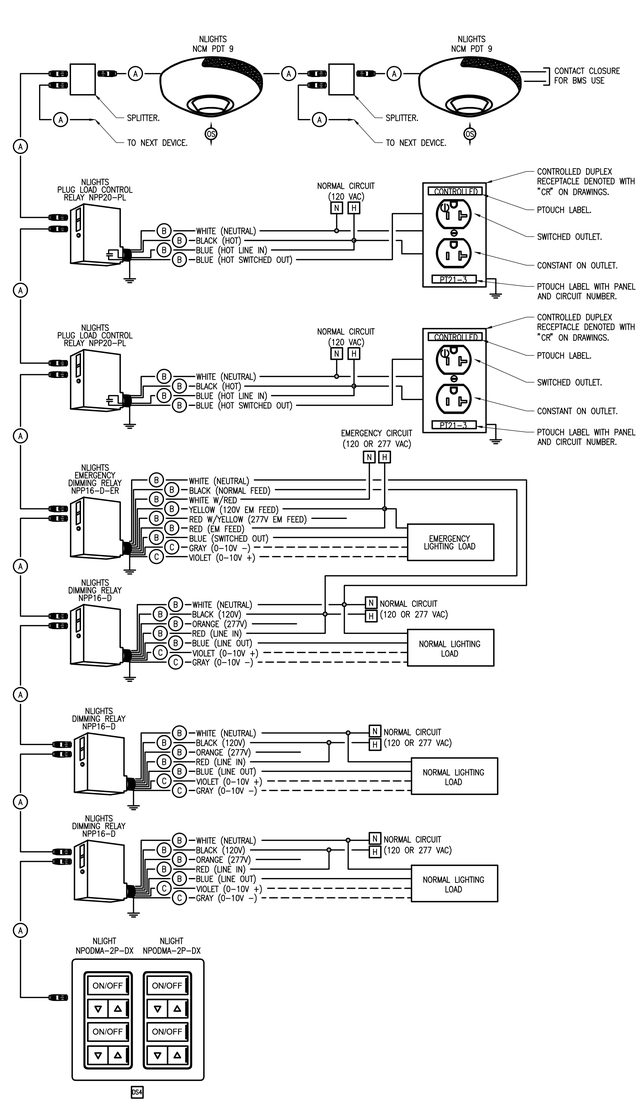


SITE LIGHTING CONTROL WIRING DIAGRAM

N.T.S.

WIRE LEGEND	
A	CAT 6 (LOW VOLTAGE)
B	CLASS 1 (LINE VOLTAGE)
C	CLASS 2 (LOW VOLTAGE)
D	FRESCO SYA NETWORK CABLES

NOTE: GROUND WIRE NOT SHOWN FOR CLARITY



TYPICAL ART/KINDERGARTEN CLASSROOM LIGHTING CONTROLS

N.T.S.

COUNTRYSIDE ELEMENTARY SCHOOL

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(617) 527-9600

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VAV International, Inc.
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400 West Cummings Park S. 4700
Woburn, MA 01801
(781) 935-7228

Thompson Engineering Company, Inc.
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(617) 886-9066

EdVance Technology Design, Inc.
Technology Consultants
300 Brickstone Square, Suite 201
Andover, MA 01880
(978) 256-9900

KEY PLAN

NORTH ARROW — *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: N.T.S.

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Lighting Control Details Sheet #2

10.3.07

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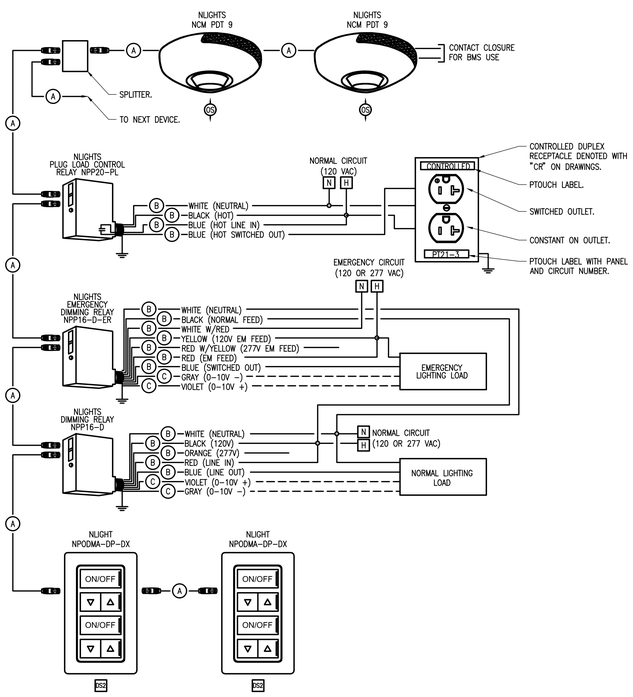
1:\2035 - Newton Countryside Elementary School\10-3-07.dwg 2/20/2024 9:45:00 AM



TYPICAL CONFERENCE ROOM LIGHTING CONTROLS

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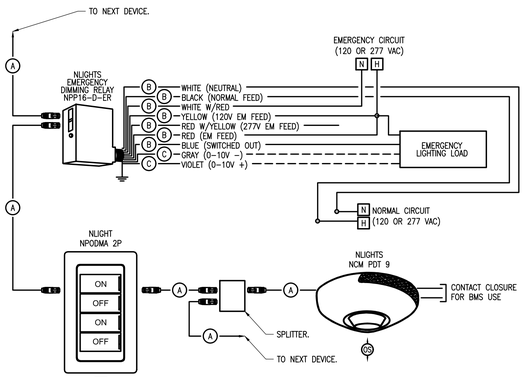

TYPICAL SINGLE USER RESTROOM LIGHTING CONTROL

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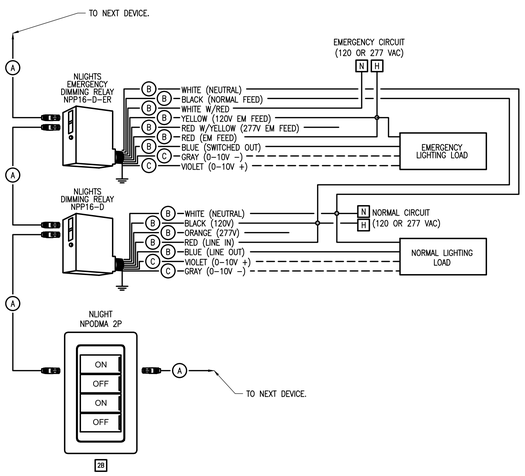

TYPICAL MECHANICAL ROOM OR RECEIVING AREA LIGHTING CONTROLS

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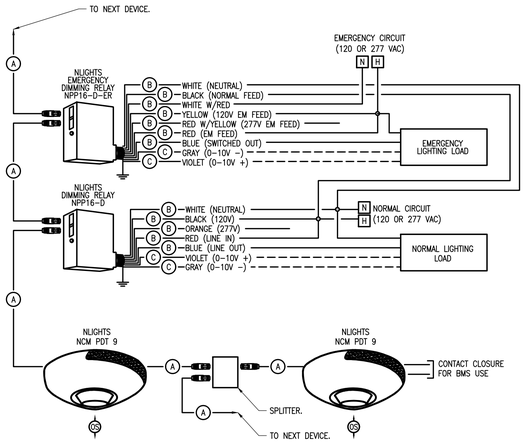

TYPICAL MULTI USER RESTROOM LIGHTING CONTROLS

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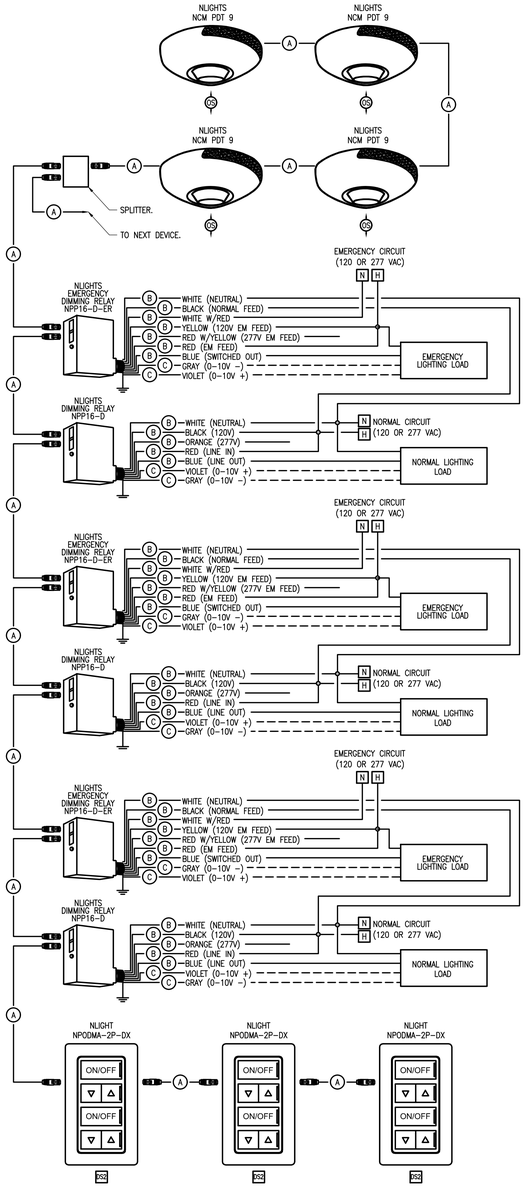
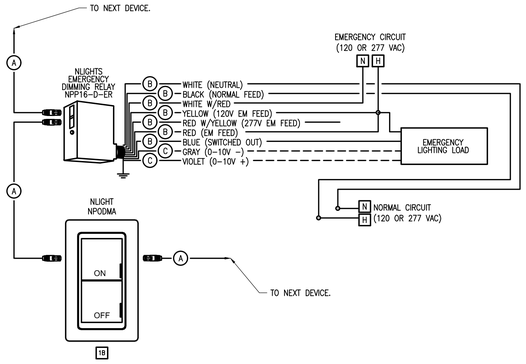


GYMNASIUM LIGHTING CONTROLS

N.T.S.



TYPICAL ELECTRICAL OR MDF/IDF ROOM LIGHTING CONTROLS

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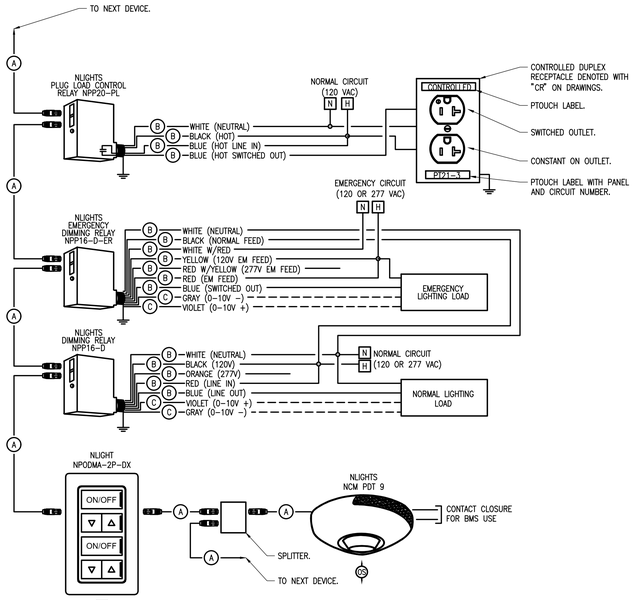
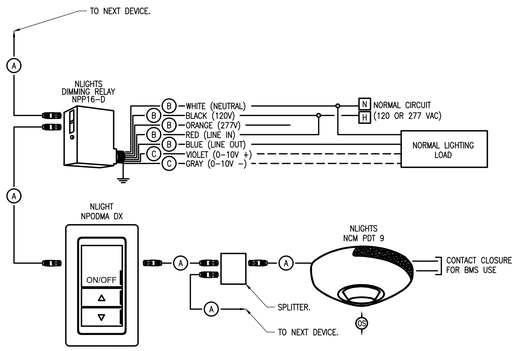


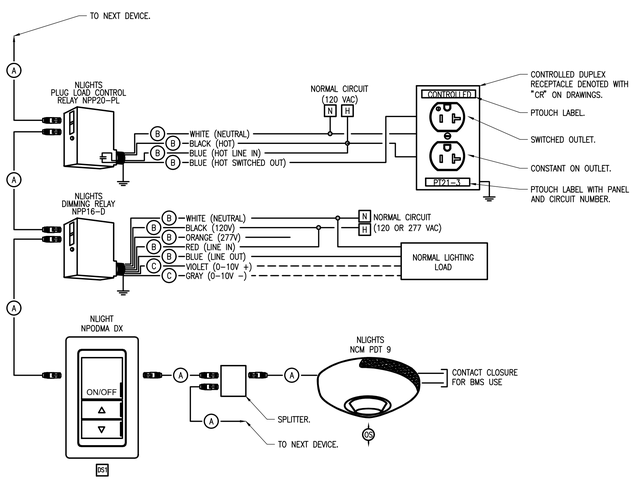
TYPICAL OFFICE LIGHTING CONTROLS WITH TWO CIRCUITS

N.T.S.



TYPICAL JANITOR OR STORAGE ROOM CONTROLS

N.T.S.



TYPICAL OFFICE LIGHTING CONTROLS WITH PHOTOCELL

N.T.S.

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KEY PLAN

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: N.T.S.

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Lighting Control Details Sheet #3

10.3.08

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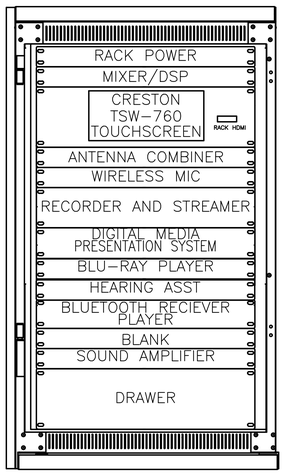
1/2035 - Newton Countryside Elementary School\10.3.08.dwg - 2/20/2024 9:43:04 AM

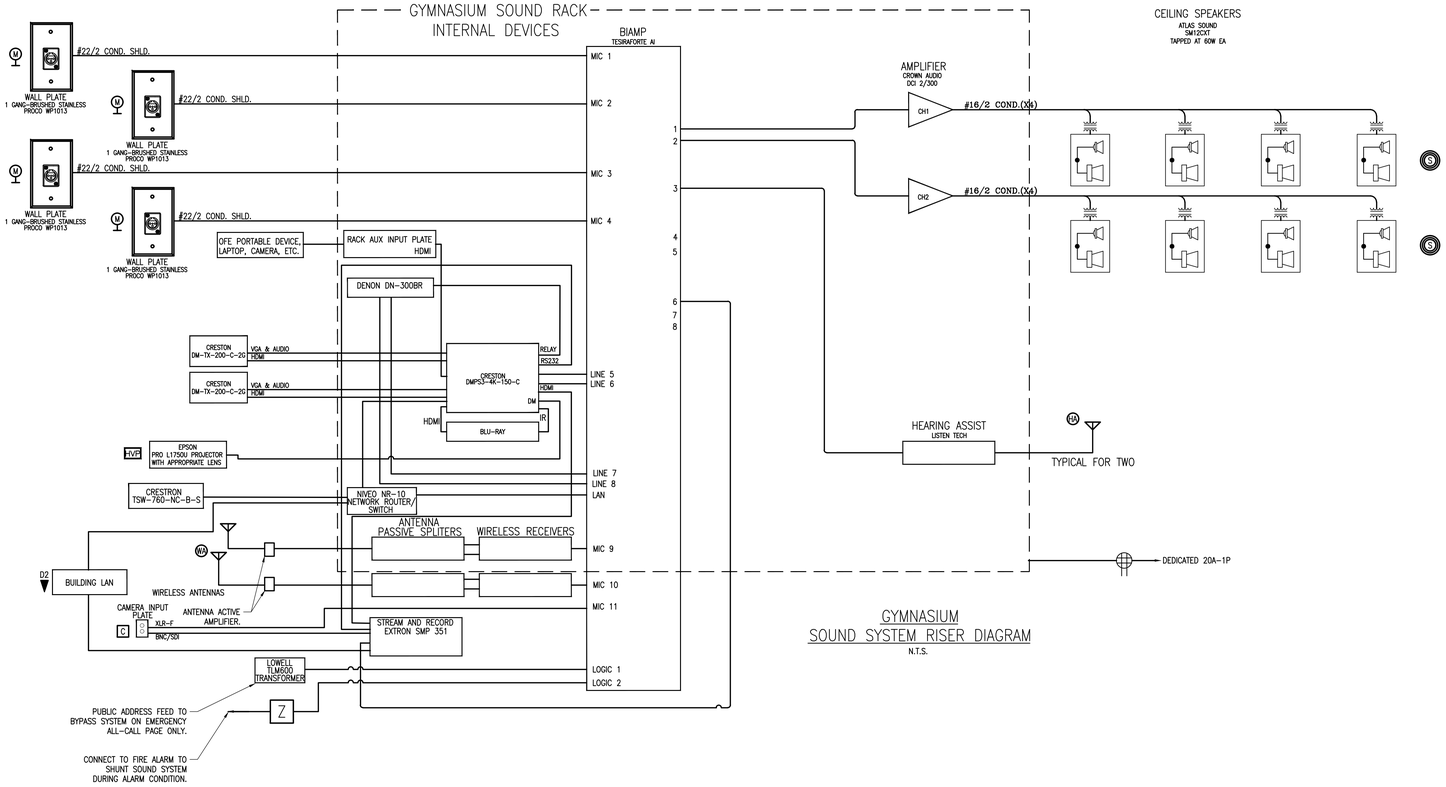


GYMNASIUM SOUND SYSTEM RACK

NOTES

1 – THIS REPRESENTS A TYPICAL PRESENTATION OF EQUIPMENT IN A RACK AND IS NOT SCALE.

2 – REFER TO SECTION 274000 AUDIO-VIDEO COMMUNICATION SYSTEMS FOR SPECIFIC REQUIREMENTS OF SOUND SYSTEM RACK INCLUDING EQUIPMENT.



GYMNASIUM SOUND SYSTEM RISER DIAGRAM

N.T.S.

GYMNASIUM SOUND SYSTEMS NOTES

1 – THE AMPLIFIERS, CD RECORDER, MIXER, EQUALIZER, COMPRESSOR/LIMITER. WIRELESS MICROPHONE RECEIVER, ASSISTIVE LISTENING SYSTEM TRANSMITTER, AND POWER STRIP SHALL BE INSTALLED IN AN EQUIPMENT RACK WITH LOCKING FRONT HINGED DOOR. REFER TO SPECIFICATIONS.

2 – FURNISH AND INSTALL A COMPACT DISC (CD) PLAYER/RECORDER WITH UNIVERSAL RACK MOUNTING KIT. REFER TO SPECIFICATIONS.

3 – FURNISH AND INSTALL WIRELESS MICROPHONE RECEIVERS WITH REMOTE ANTENNA AT TWO LOCATIONS FOR OPTIMAL PERFORMANCE.

4 – FURNISH AND INSTALL AN ASSISTIVE LISTENING SYSTEM TRANSMITTER. REFER TO SPECIFICATIONS.

5 – THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH PORTABLE FM RECEIVERS WITH DUAL EARPHONES. PROVIDE THE REQUIRED ANTENNA CABLE. REFER TO SPECIFICATIONS.

6 – THE WIRELESS MICROPHONE RECEIVER AND THE ASSISTIVE LISTENING SYSTEM TRANSMITTER FOR THE GYMNASIUM SOUND SYSTEMS SHALL BE FURNISHED WITH DIFFERENT OPERATING FREQUENCIES SO THAT EACH SYSTEM CAN OPERATE SIMULTANEOUSLY WITHOUT INTERFERENCE FROM THE CAFETERIA SYSTEM.

7 – FURNISH TWO (2) WIRELESS MICROPHONE COMBO KITS FOR THE GYM SOUND SYSTEM. REFER TO SPECIFICATIONS.

8 – FURNISH TWO (2) HAND HELD OR STAND MOUNTED MICROPHONES FOR THE GYM SOUND SYSTEM EACH MICROPHONE SHALL BE FURNISHED WITH ONE (1) TWENTY FIVE (25) FOOT EXTENSION CORDS. REFER TO SPECIFICATIONS.

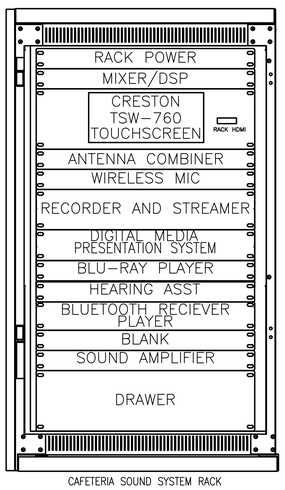
9 – FURNISH TWO (2) ADJUSTABLE HEIGHT FLOOR STANDS.

10 – THE EQUIPMENT RACK SHALL BE SIZED TO ACCOMMODATE ALL REQUIRED EQUIPMENT/COMPONENTS, AND DRAWER. PROVIDE BLANK PLATES AS REQUIRED.

11 – THE EQUIPMENT RACK SHALL BE SIZED TO ACCOMMODATE ALL REQUIRED EQUIPMENT/COMPONENTS, AND DRAWER. PROVIDE BLANK PLATES AS REQUIRED.

12 – ALL SOUND SYSTEM CABLING SHALL BE SIZED PER THE MANUFACTURER'S REQUIREMENTS FOR AMP AND SPEAKERS INCLUDING VOLTAGE DROP.

13 – ALL WIRING TO BE FURNISHED IN EMT CONDUIT.

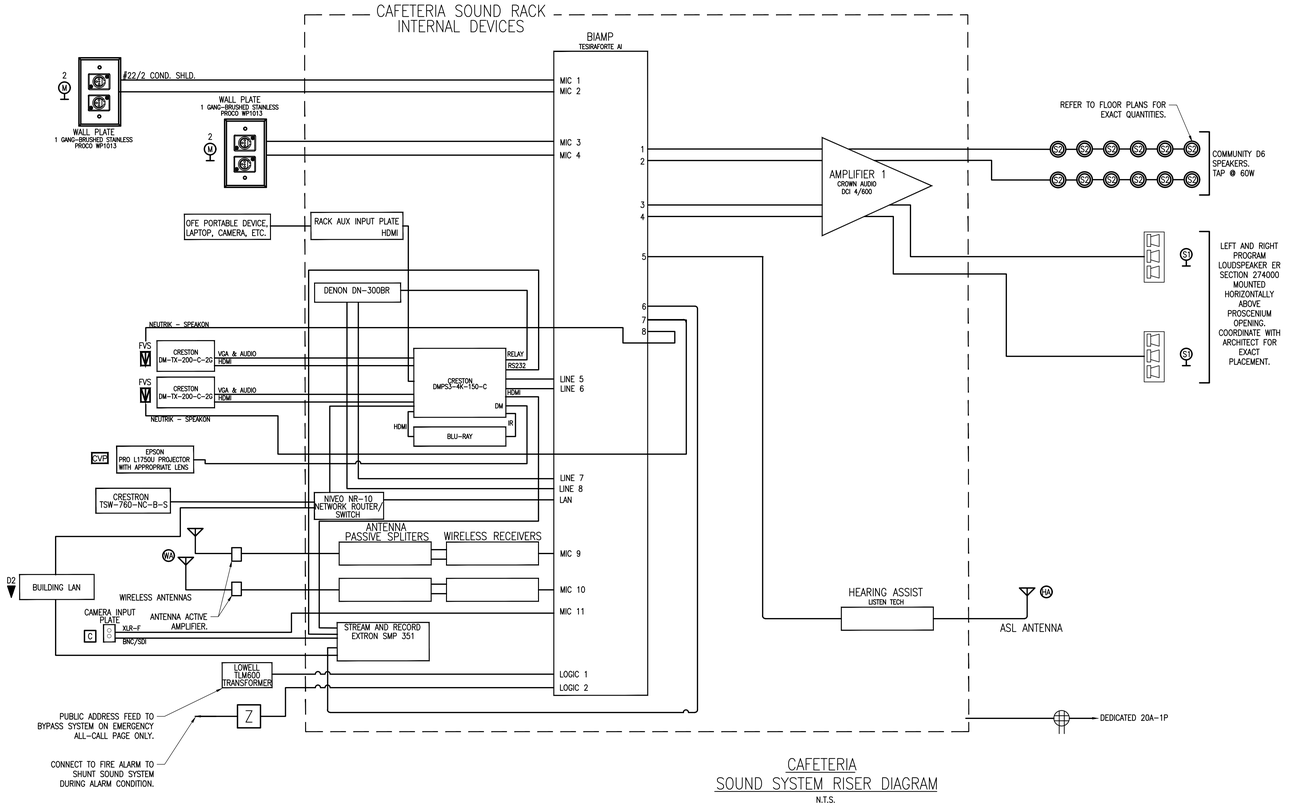


CAFETERIA SOUND SYSTEM RACK

NOTES

1 – THIS REPRESENTS A TYPICAL PRESENTATION OF EQUIPMENT IN A RACK AND IS NOT SCALE.

2 – REFER TO SECTION 274000 AUDIO-VIDEO COMMUNICATION SYSTEMS FOR SPECIFIC REQUIREMENTS OF SOUND SYSTEM RACK INCLUDING EQUIPMENT.



CAFETERIA
SOUND SYSTEM RISER DIAGRAM

N.T.S.

CAFETERIA SOUND SYSTEMS NOTES

1 – THE CD RECORDER, MIXER, EQUALIZER, COMPRESSOR/LIMITER. WIRELESS MICROPHONE RECEIVER, ASSISTIVE LISTENING SYSTEM TRANSMITTER, AND POWER STRIP SHALL BE INSTALLED IN AN EQUIPMENT RACK WITH LOCKING FRONT HINGED DOOR. REFER TO SPECIFICATIONS.

2 – (NOT USED).

3 – FURNISH AND INSTALL WIRELESS MICROPHONE RECEIVERS WITH REMOTE ANTENNA FOR OPTIMAL PERFORMANCE.

4 – FURNISH AND INSTALL AN ASSISTIVE LISTENING SYSTEM TRANSMITTER. REFER TO SPECIFICATIONS.

5 – THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH PORTABLE FM RECEIVERS WITH DUAL EARPHONES. PROVIDE THE REQUIRED ANTENNA CABLE. REFER TO SPECIFICATIONS.

6 – THE WIRELESS MICROPHONE RECEIVER AND THE ASSISTIVE LISTENING SYSTEM TRANSMITTER FOR THE GYMNASIUM SOUND SYSTEMS SHALL BE FURNISHED WITH DIFFERENT OPERATING FREQUENCIES SO THAT EACH SYSTEM CAN OPERATE SIMULTANEOUSLY WITHOUT INTERFERENCE FROM THE CAFETERIA SYSTEM.

7 – FURNISH TWO (2) WIRELESS MICROPHONE COMBO KITS FOR THE CAFETERIA SOUND SYSTEM. REFER TO SPECIFICATIONS.

8 – FURNISH FOUR (4) HAND HELD OR STAND MOUNTED MICROPHONES FOR THE CAFETERIA SOUND SYSTEM. EACH MICROPHONE SHALL BE FURNISHED WITH ONE (1) TWENTY FIVE (25) FOOT EXTENSION CORDS. REFER TO SPECIFICATIONS.

9 – FURNISH FOUR (2) ADJUSTABLE HEIGHT FLOOR STANDS.

10 – FURNISH TWO (2) DESK STAND. ATLAS DS2 OR APPROVED EQUAL.

11 – COORDINATE SPEAKER LOCATIONS FOR OPTIMUM ACOUSTICAL PERFORMANCE IN THE SPACE INDICATED.

12 – THE EQUIPMENT RACK SHALL BE SIZED TO ACCOMMODATE ALL REQUIRED EQUIPMENT/COMPONENTS, AND DRAWER. PROVIDE BLANK PLATES AS REQUIRED.

13 – ALL SOUND SYSTEM CABLING SHALL BE SIZED PER THE MANUFACTURER'S REQUIREMENTS FOR AMP AND SPEAKERS INCLUDING VOLTAGE DROP.

14 – ALL EXPOSED WIRING AND WIRING CONCEALED IN WALLS TO BE FURNISHED IN EMT CONDUIT.

15 – PROVIDE PRESET SELECTIONS TO CONFIGURE ON-OFF FOR EACH OF THE TWO SPEAKER CLUSTERS.

LOCAL SOUND SYSTEM NOTES:

1 – THE ELECTRICAL SUBCONTRACTOR AND HIS SUB BID AUDIO-VIDEO COMMUNICATIONS SUBCONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE AND FULLY FUNCTIONAL LOCAL SOUND SYSTEM, SHOWN ON THESE DRAWINGS. ALL WIRING TO BE INSTALLED IN CONDUIT. THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL MATERIAL INCLUDING CONDUIT, PULL LINES, OUTLET BOXES, JUNCTION BOXES, INSULATING BUSHINGS, 120-VOLT FEEDERS, ETC.. THE SOUND SYSTEM EQUIPMENT IS SPECIFIED IN DIVISION 274000 SPECIFICATION. THE DIVISION 274000 SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL SOUND SYSTEM EQUIPMENT INCLUDING SOUND SYSTEM WIRING. THE ELECTRICAL SUBCONTRACTOR AND HIS SUB BID SOUND SYSTEM SUBCONTRACTOR SHALL FURNISH ALL LABOR AND MATERIAL REQUIRED FOR A FULLY FUNCTIONAL LOCAL SOUND SYSTEM SHOWN ON THESE ELECTRICAL DRAWINGS.

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KEY PLAN

N Called North

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale: N.T.S.

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Sound System Details Sheet #1

10.3.09

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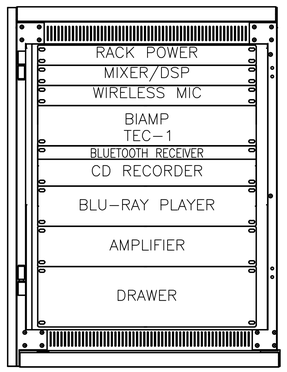
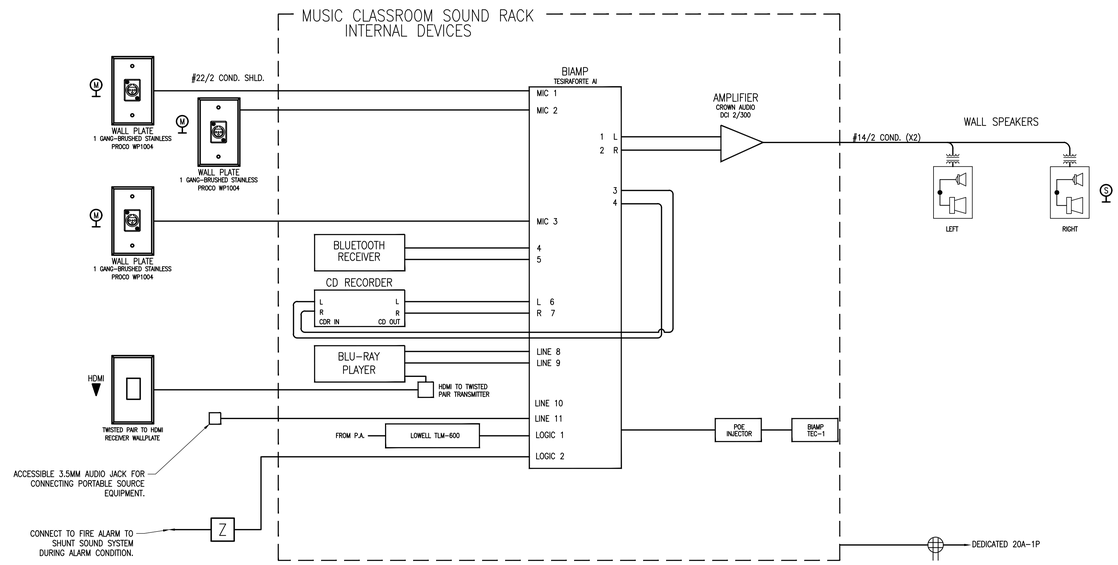


MUSIC CLASSROOM SOUND SYSTEM RACK

NOTES

1 – THIS REPRESENTS A TYPICAL PRESENTATION OF EQUIPMENT IN A RACK AND IS NOT SCALE.

2 – REFER TO SECTION 274000 AUDIO-VIDEO COMMUNICATION SYSTEMS FOR SPECIFIC REQUIREMENTS OF SOUND SYSTEM RACK INCLUDING EQUIPMENT.



MUSIC CLASSROOM
SOUND SYSTEM RISER DIAGRAM

N.T.S.

MUSIC CLASSROOM SOUND SYSTEM NOTES

1 – ALL EQUIPMENT SHALL BE INSTALLED IN A WALL MOUNTED EQUIPMENT RACK WITH LOCKING FRONT HINGED DOOR, PER DIVISION 274000.

2 – FURNISH AND INSTALL A CD RECORDER PLAYER WITH UNIVERSAL WALL MOUNTING KIT, PER DIVISION 274000.

3 – FURNISH TWO (2) HAND HELD OR STAND MOUNTED MICROPHONES FOR THE MUSIC CLASSROOM SOUND SYSTEM. EACH MICROPHONE SHALL BE FURNISHED WITH ONE (1) TWENTY FIVE (25) FOOT EXTENSION CORDS.

4 – FURNISH TWO (2) ADJUSTABLE HEIGHT FLOOR STANDS.

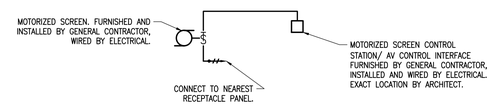
5 – THE EQUIPMENT RACK SHALL BE SIZED TO ACCOMMODATE ALL REQUIRED EQUIPMENT/COMPONENTS, AND DRAWER. PROVIDE BLANK PLATES AS REQUIRED.

6 – ALL SOUND SYSTEM CABLING SHALL BE SIZED PER THE MANUFACTURER'S REQUIREMENTS FOR AMP AND SPEAKERS INCLUDING VOLTAGE DROP.

7 – ALL WIRING TO BE FURNISHED IN EMT CONDUIT.

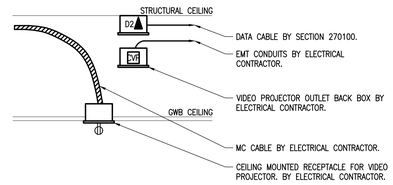
LOCAL SOUND SYSTEM NOTES:

1 – THE ELECTRICAL SUBCONTRACTOR AND HIS SUB BID AUDIO-VIDEO COMMUNICATIONS SUBCONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE AND FULLY FUNCTIONAL LOCAL SOUND SYSTEM, SHOWN ON THESE DRAWINGS. ALL WIRING TO BE INSTALLED IN CONDUIT. THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL MATERIAL INCLUDING CONDUIT, PULL LINES, OUTLET BOXES, JUNCTION BOXES, INSULATING BUSHINGS, 120-VOLT FEEDERS, ETC.. THE SOUND SYSTEM EQUIPMENT IS SPECIFIED IN DIVISION 274000 SPECIFICATION. THE DIVISION 274000 SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL SOUND SYSTEM EQUIPMENT INCLUDING SOUND SYSTEM WIRING. THE ELECTRICAL SUBCONTRACTOR AND HIS SUB BID SOUND SYSTEM SUBCONTRACTOR SHALL FURNISH ALL LABOR AND MATERIAL REQUIRED FOR A FULLY FUNCTIONAL LOCAL SOUND SYSTEM SHOWN ON THESE ELECTRICAL DRAWINGS.



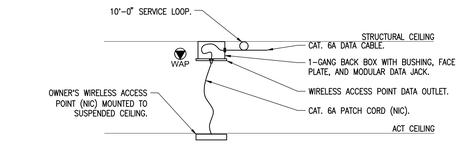
TYPICAL MOTORIZED PROJECTION SCREEN WIRING DIAGRAM

N.T.S.



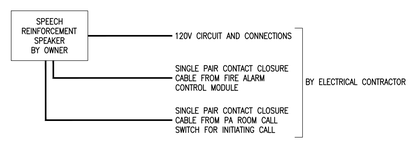
CEILING MOUNTED VIDEO PROJECTOR LOCATION
IN CAFETERIA SUSPENDED CEILING

N.T.S.



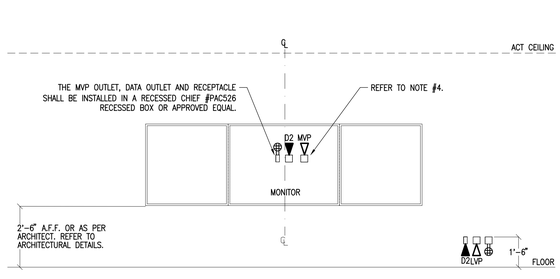
WAP DATA OUTLET AND WIRELESS ACCESS POINT

N.T.S.
TYPICAL FOR ALL LOCATIONS



TYPICAL SPEECH REINFORCEMENT SYSTEM WIRING DIAGRAM

N.T.S.



TYPICAL SMALL CLASSROOM/CONFERENCE ROOMS
OUTLET DETAIL

N.T.S.

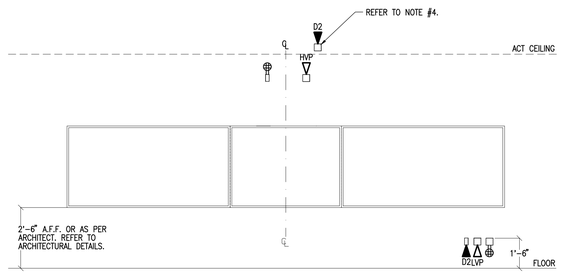
NOTES

1 – REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS. COORDINATE INSTALLATION WITH ARCHITECT AND GENERAL CONTRACTOR.

2 – THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED ELECTRICAL EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION.

3 – REFER TO ARCHITECTURAL FLOOR PLANS, ELECTRICAL DRAWINGS FOR ELECTRICAL SYSTEM DETAILS.

4 – LOCATION OF BOXES (POWER, AV, AND DATA) BEHIND TV MONITORS MAY CHANGE DEPENDING ON THE OWNER'S MONITOR. CONFIRM EXACT LOCATIONS WITH ARCHITECT, ENGINEER, AND OWNERS PRIOR INSTALLATION BEHIND MONITOR. REFER TO ARCHITECTURAL PROJECTOR MOUNTING DETAIL B, DRAWING 5.4.01 FOR EXACT LOCATIONS.



TYPICAL CLASSROOM/PROJECTOR OUTLET DETAIL

N.T.S.

NOTES

1 – REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS. COORDINATE INSTALLATION WITH ARCHITECT AND GENERAL CONTRACTOR.

2 – THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED ELECTRICAL EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION.

3 – REFER TO ARCHITECTURAL FLOOR PLANS, ELECTRICAL DRAWINGS FOR ELECTRICAL SYSTEM DETAILS.

4 – LOCATION OF BOXES (POWER, AV, AND DATA) ABOVE WHITEBOARD TO SUPPORT PROJECTOR MAY CHANGE DEPENDING ON THE OWNER'S PROJECTOR. CONFIRM EXACT LOCATIONS WITH ARCHITECT, ENGINEER, AND OWNERS PRIOR INSTALLATION ABOVE WHITEBOARDS. REFER TO ARCHITECTURAL PROJECTOR MOUNTING DETAIL B, DRAWING 5.4.01 FOR EXACT LOCATIONS.

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KEY PLAN

NORTH ARROW *STAMP*

Date: 21 FEBRUARY 2024

Drawn By: AA, JM, EG

Scale:

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Sound System Details Sheet #2

10.3.10

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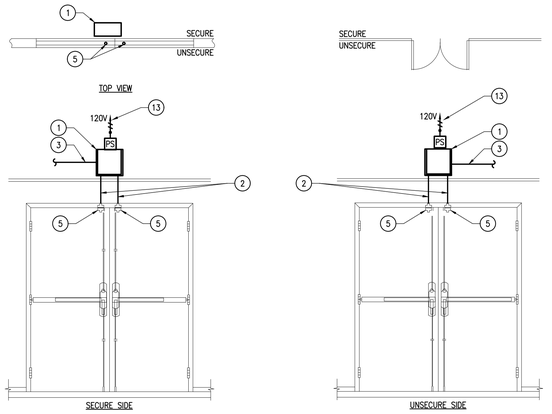
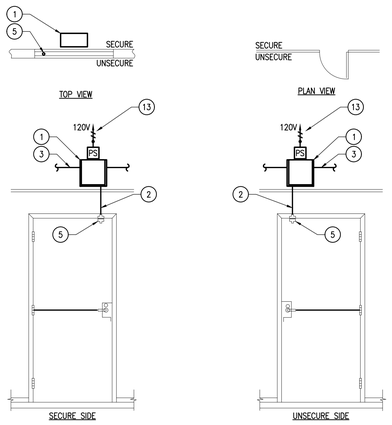


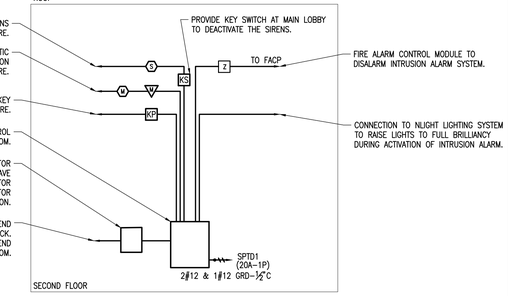
TYPICAL DOUBLE DOOR ELEVATION
N.T.S.



TYPICAL SINGLE DOOR ELEVATION
N.T.S.

EQUIPMENT LIST

1. ENCLOSURE W/ BACK PLANE – SIZE ACCORDINGLY
2. 3/4" EMT CONDUIT WITH REQUIRED SECURITY CABINET
3. 3/4" EMT CONDUIT TO NEAREST ACCESSIBLE CEILING. REQUIRED SECURITY AND WIRING TO SECURITY PANEL.
4. RECESSED TWO GANG BOX WITH SINGLE GANG RING
5. MAGNETIC DOOR CONTACT
6. CARD READER
7. ELECTRONIC TRANSFER HINGE BY DOOR HARDWARE ELECTRIC TRIM, ELECTRIC STRIKE
8. ELECTRIFIED DOOR LOCKING HARDWARE WITH INTEGRAL EXITING DEVICE WITH INTEGRAL REQUEST TO EXIT OPTION.
9. DOOR OPENER CONTROLLER BY DOOR HARDWARE
10. DOOR CONTROLLER PROVIDED BY DOOR HARDWARE CONTRACTOR. INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
11. SECONDARY SYSTEM BYPASS FURNISHED AND INSTALLED WIRING TO DOOR BY ELECTRICAL CONTRACTOR.
12. CONDUIT AND WIRING TO DOOR ACTUATOR FURNISH AND INSTALLED BY ELECTRICAL CONTRACTOR.
13. 120V OPTIONAL STANDBY POWER TO DOOR OPERATOR AND SECURITY SYSTEM POWER SUPPLY BY ELECTRICAL CONTRACTOR



INTRUSION ALARM SYSTEM RISER DIAGRAM
N.T.S.

NOTES

1 – COORDINATE INSTALLATION AND EQUIPMENT LOCATION WITH ARCHITECT AND DOOR HARDWARE SUBCONTRACTOR.

2 – CARD ACCESS SYSTEM EQUIPMENT, CABLING, LABOR SHALL BE FURNISHED AND INSTALLED BY DIVISION 281000 SECURITY CONTRACTOR.

3 – ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ALL CONDUITS, BOXES, 120V CIRCUITRY PULL LINES AND INSULATING BUSHINGS AS REQUIRED. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A 20A-1P CIRCUIT TO EACH DOOR STRIKE LOCATION POWER SUPPLY.

4 – REFER TO FLOOR PLANS.

5 – REQUIRED DATA CABLING FOR CARD ACCESS SYSTEM BY DIVISION 281000 SECURITY CONTRACTOR.

6 – PROVIDE QUANTITY AND TYPE OF CABLES REQUIRED TO CONNECT ALL COMPONENTS TO ACCESS CONTROL AND INTRUSION DETECTION SYSTEMS.

7 – CONDUITS AND BOXES AS REQUIRED SHALL BE PROVIDED BY DIVISION 260001 ELECTRICAL.

8 – COORDINATE WITH DOOR HARDWARE AND DIVISION 260001 ELECTRICAL.

9 – ALL CONDUIT TO BE RECESSED IN WALL OR WINDOW SYSTEM MULLION.

10 – THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A DEDICATED 20/1P, 120V CIRCUIT FROM NEAREST OPTIONAL STANDBY POWER PANEL TO EACH SECURITY DOOR POWER SUPPLY. POWER SUPPLY FURNISHED AND INSTALLED BY DIVISION 28 SUBCONTRACTOR.

INTRUSION ALARM SYSTEM NOTES

1 – THE DIVISION 281000 SECURITY CONTRACTOR SHALL FURNISH AND INSTALL, WIRE, PROGRAM AND TEST AN INTRUSION ALARM SYSTEM. SYSTEM SHALL CONSIST OF CONTROL PANEL, KEY PADS, ADDRESSABLE DOOR CONTACTS, ADDRESSABLE PIR MOTOR DETECTORS, SIRENS AND WIRING. THE ADDRESSABLE INTRUSION ALARM SYSTEM SHALL BE PER DIVISION 281000 SECURITY SYSTEMS SPECIFICATION. ALL WIRING PER MANUFACTURERS REQUIREMENTS.

2 – THE ADDRESSABLE INTRUSION ALARM SYSTEM SHALL BE PROGRAMMED BY THE SYSTEM MANUFACTURER'S SERVICE DEPARTMENT. THE SYSTEM SHALL BE PROGRAMMED SO THAT CERTAIN SECTIONS OF THE BUILDING MAY BE UTILIZED FOR NIGHT TIME ACTIVITIES AND OTHER SECTIONS MAY BE IN ALARM CONDITION. THE EXACT NUMBER AND LOCATION OF THE VARIOUS DETECTION ZONES SHALL BE DETERMINED BY THE OWNER.

3 – FURNISH AND INSTALL A DIGITAL DIALER COMMUNICATOR IN THE HEAD END ROOM ADJACENT TO THE CONTROL PANEL. DIGITAL DIALER COMMUNICATOR SHALL HAVE THE CAPACITY FOR DIALING TWO (2) PHONE NUMBERS: ONE LINE FOR THE ALARM SERVICE COMPANY AND THE OTHER FOR NOTIFICATION OF SCHOOL DEPARTMENT PERSONNEL.

4 – PARTITION #1 SHALL BE ALL DEVICES IN THE BUILDING SO THAT ANY KEY PAD CAN ALARM/DISALARM THE ENTIRE SYSTEM.

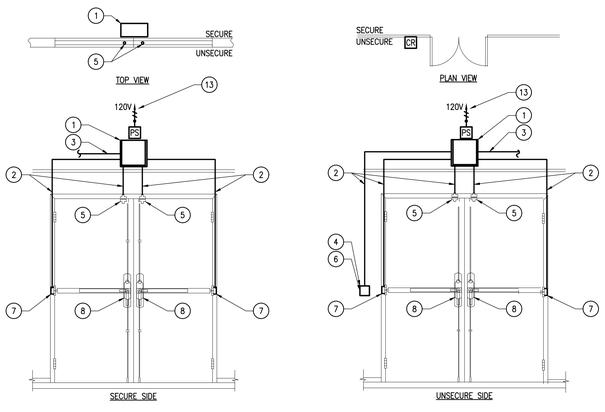
5 – PARTITION #2 SHALL BE ALL MAGNETIC DOOR CONTACTS IN THE ENTIRE BUILDING.

6 – PARTITION #3 SYSTEM TO BE PROGRAMMED TO AUTOMATICALLY DISALARM IN THE EVENT OF A FIRE ALARM SIGNAL. SYSTEM TO AUTOMATICALLY DISALARM TO ALLOW ENTRY OF FIRE DEPARTMENT DURING ALARM CONDITION.

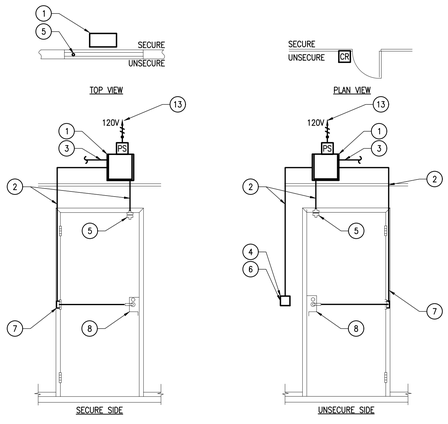
7 – COORDINATE RECESS DOOR CONTACTS WITH ARCHITECT.

8 – ALL WIRING CONCEALED IN WALLS, OR INSTALLED EXPOSED ON STRUCTURAL CEILING, OR EXPOSED ON CMU WALLS SHALL BE INSTALLED IN EMT CONDUIT. PROVIDE OUTLET BOXES AS REQUIRED.

9 – THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL MATERIAL INCLUDING CONDUIT, PULL LINES, OUTLET BOXES, JUNCTION BOXES, INSULATING BUSHINGS, 120-VOLT FEEDERS, ETC. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT INCLUDING INTRUSION SYSTEM WIRING. THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH ALL LABOR AND MATERIAL REQUIRED FOR A FULLY FUNCTIONAL INTRUSION SYSTEM.



TYPICAL CARD READER DOUBLE DOOR ELEVATION
N.T.S.



TYPICAL CARD READER SINGLE DOOR ELEVATION
N.T.S.

PARTITION SCHEDULE	
ZONE	DESCRIPTION
1	ENTIRE BUILDING. ALL MAGNETIC DOOR CONTACTS AND MOTION DETECTORS.
2	ALL MAGNETIC DOOR CONTACTS IN BUILDING.
3	FIRE ALARM CONNECTION.
4	ALL DEVICES ON SECOND AND THIRD FLOORS.

NOTE:

COORDINATE EXACT LOCATION FOR PA CONSOLE FROM OWNER PRIOR TO INSTALLATION.

GENERAL NOTES

1 – PROVIDE ALL CROSS-CONNECT CABLING REQUIRED FOR FULLY FUNCTIONAL SYSTEM(S).

2 – PROVIDE ALL NECESSARY PROGRAMMING AND CONNECTION BETWEEN PUBLIC ADDRESS SYSTEM AND OWNER'S TELEPHONE SYSTEM.

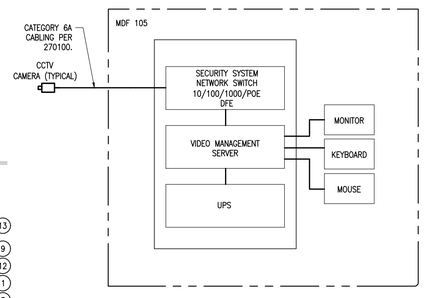
3 – CATEGORY 6 PAIRS MAY BE SPLIT TO CONNECT CLASSROOM PA SYSTEM COMPONENTS.

4 – SUPPLY NETWORK SWITCHES REQUIRED TO SUPPORT IP INTERFACE DEVICES AS REQUIRED.

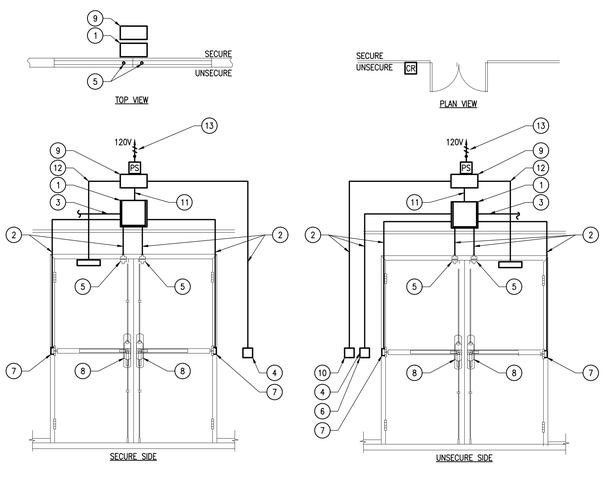
5 – PROVIDE RACK MOUNT UPS REQUIRED TO SUPPORT THE IP INTERFACE AND NETWORK SWITCH FOR 10 MINUTES DURING POWER FAILURE.

6 – PROVIDE ALL CABLING REQUIRED FOR FULLY FUNCTIONAL PUBLIC ADDRESS AND CLOCK SYSTEMS. PROVIDE SUFFICIENT BACKBONE CABLING TO ACCOMMODATE ALL COMPONENTS AND ZONING REQUIREMENTS.

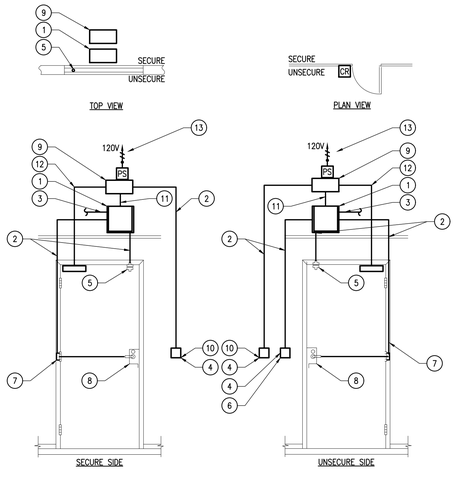
7 – THE ELECTRICAL SUBCONTRACTOR AND HIS FILED SUB BID DIVISION 275000 SUB CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE AND FULLY FUNCTIONAL CLOCK AND PROGRAM SYSTEM. ALL WIRING SHALL BE TYPE MC METAL CLAD CABLE. THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL MATERIAL INCLUDING CONDUIT, PULL LINES, OUTLET BOXES, JUNCTION BOXES, INSULATING BUSHINGS, 120-VOLT FEEDERS, ETC. THE MASTER CLOCK AND PROGRAM SYSTEM EQUIPMENT IS SPECIFIED IN 275000 SPECIFICATION. THE 275000 SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL MASTER CLOCK AND PROGRAM SYSTEM EQUIPMENT INCLUDING WIRING. THE ELECTRICAL SUBCONTRACTOR AND HIS FILED SUB BID MASTER CLOCK SYSTEM AND PROGRAM SUBCONTRACTOR SHALL FURNISH ALL LABOR AND MATERIAL REQUIRED FOR A FULLY FUNCTIONAL DIGITAL MASTER CLOCK AND PROGRAM SYSTEM.



SECURITY CAMERA CCTV ONE LINE DIAGRAM
N.T.S.



TYPICAL CARD READER WITH DOOR OPERATOR EXTERIOR DOUBLE DOOR ELEVATION
N.T.S.



TYPICAL CARD READER WITH DOOR OPERATOR EXTERIOR SINGLE DOOR ELEVATION
N.T.S.

IP SURVEILLANCE CAMERA SYSTEM

1 – COORDINATE EXACT LOCATION OF ALL CAMERAS WITH ARCHITECT PRIOR TO INSTALLATION.

2 – THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT AND 120V WIRE REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. CONTRACTOR SHALL SIZE ALL WIRING IN ACCORDANCE WITH VOLTAGE DROP REQUIREMENTS.

3 – IN AREAS WITH NO CEILING, ALL WIRING SHALL BE INSTALLED IN EMS CONDUIT.

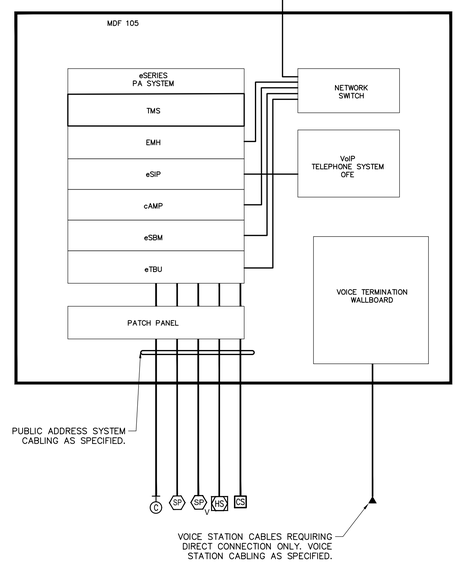
4 – COORDINATE INSTALLATION WITH ARCHITECT.

5 – THE INTEGRATED SECURITY SYSTEM SUBCONTRACTOR DIV 281000 SHALL PROVIDE THE NECESSARY SUPERVISION DURING THE INSTALLATION OF THE IP CAMERA SYSTEM AND SHALL MAKE FINAL TEST ADJUSTMENTS OF THE COMPLETED SYSTEM AND SHALL ALSO PROVIDE THE SCHOOL PERSONNEL WITH A DEMONSTRATION AND OPERATING INSTRUCTIONS FOR THE ENTIRE SYSTEM.

6 – COORDINATE EXACT LOCATION OF HEAD END EQUIPMENT WITH ARCHITECT PRIOR TO INSTALLATION.

7 – MONITORS AND VIDEO PROCESSORS SHALL BE CAPABLE OF SHOWING IMAGES FROM ALL CAMERAS SIMULTANEOUSLY.

8 – THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL MATERIAL INCLUDING CONDUIT, PULL LINES, OUTLET BOXES, JUNCTION BOXES, INSULATING BUSHINGS, 120-VOLT FEEDERS, ETC. THE VIDEO SECURITY EQUIPMENT IS SPECIFIED IN 281000 SPECIFICATION. THE 281000 SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL VIDEO SECURITY EQUIPMENT, VIDEO MANAGEMENT SYSTEM, AND LICENSES FOR THE SECURITY CAMERA SYSTEM. THE 281000 SUBCONTRACTOR SHALL FURNISH AND INSTALL CAT 6A CABLING FOR THE IP CAMERAS.



PUBLIC ADDRESS/INTERCOM AND CLOCK SYSTEM WIRING DIAGRAM
N.T.S

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KEY PLAN

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Date: 21 FEBRUARY 2024

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Scale: N.T.S.

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Security System Details

10.3.11

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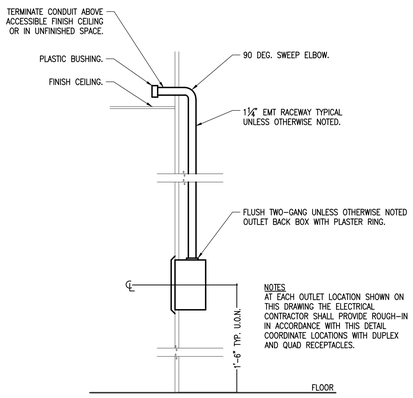
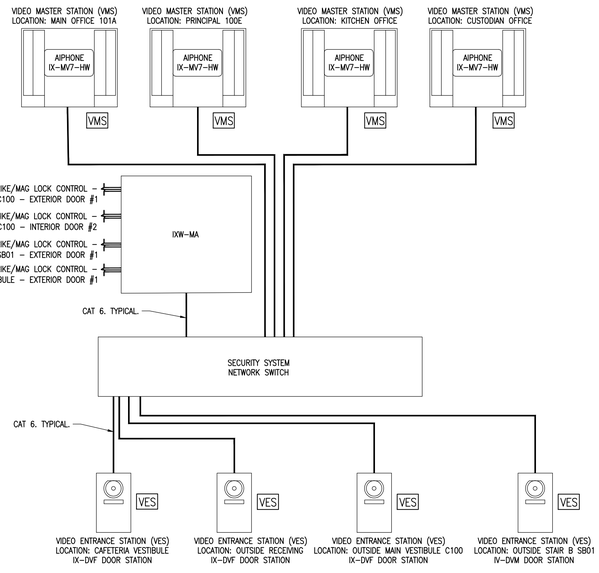


TYPICAL CONDUIT DETAIL

N.T.S.



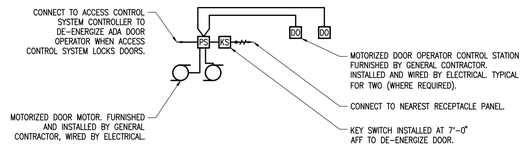
DOOR AUDIO/VIDEO INTERCOM SYSTEM – RISER DIAGRAM

N.T.S.

NOTES

1 – COORDINATE EXACT LOCATION OF ALL VMS AND VES STATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

2 – COORDINATE DOOR STRIKE/MAG LOCK LOCATIONS WITH ARCHITECT AND DOOR HARDWARE CONTRACTOR.



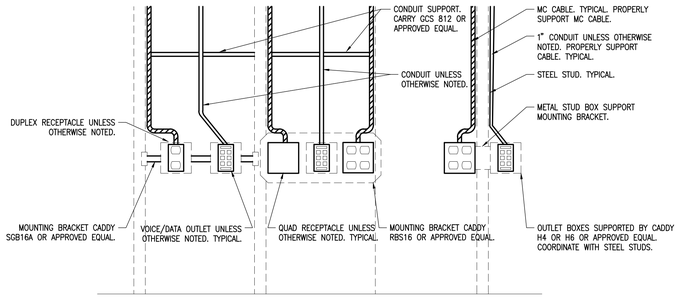
POWER ASSISTED ADA DOOR OPERATOR SYSTEM DIAGRAM

N.T.S.

NOTES

1 – ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED ELECTRICAL EQUIPMENT, CONDUIT AND WIRE INCLUDING WIRING TO LIMIT SWITCHES.

2 – COORDINATE WITH ACCESS CONTROL SYSTEM AND DOOR HARDWARE.



TYPICAL MOUNTING DETAIL FOR VOICE/DATA & RECEPTACLES

N.T.S.

TYPICAL EXIT SIGN

N.T.S.

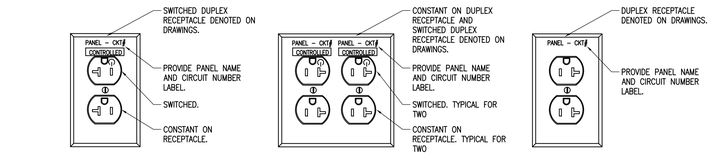
TYPICAL EXIT SIGN AT ADA ACCESSIBLE ROUTE

N.T.S.

NOTES

1 – EXIT SIGNS BASED ON EELP SWXECT SERIES WITH CUSTOM WORDING TO ESTABLISH STANDARD OF QUALITY.

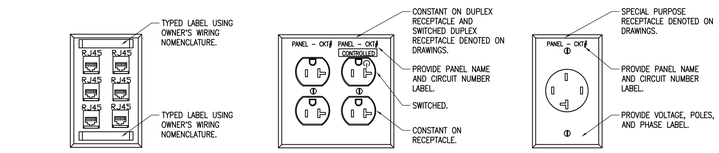
2 – ISA EXIT SIGNS AT ADA ACCESSIBLE EXIT ROUTES SHALL BE PROVIDED WITH ORIGINAL INTERNATIONAL SYMBOL OF ACCESSIBILITY (NOT CT APPROVED SYMBOL) WHEELCHAIR PICTOGRAM. REFER TO ARCHITECTURAL DRAWING FOR ADA ACCESSIBLE ROUTES.



TYPICAL DUPLEX AUTOMATICALLY CONTROLLED RECEPTACLE

TYPICAL DOUBLE DUPLEX AUTOMATICALLY CONTROLLED RECEPTACLES

TYPICAL RECEPTACLE



TYPICAL VOICE/DATA LABEL DETAIL

TYPICAL DOUBLE DUPLEX WITH ONE AUTOMATICALLY CONTROLLED RECEPTACLE

TYPICAL SPECIAL PURPOSE RECEPTACLE

TYPICAL DETAIL FOR LABELING SYSTEM ON DEVICE PLATES

N.T.S.

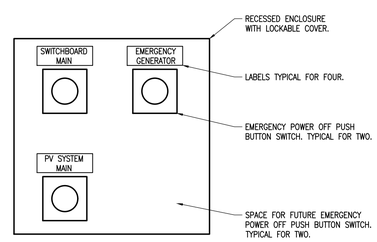
NOTES

1 – ALL RECEPTACLES SHALL BE CLEARLY LABELED WITH PANEL DESIGNATION AND CIRCUIT NUMBER.

2 – LABELING USING PERMANENT MARKER TO INSCRIBE PANEL AND CIRCUIT NUMBER ON BACK OF EACH DEVICE PLATE.

3 – LABELS ON FACE OF DEVICE PLATES SHALL BE P-TOUCH TYPE OR EQUAL USING ONLY CLEAR LABELS WITH BLACK LETTERING ON DEVICE PLATES. PEN, PENCIL, OR MARKER WILL NOT BE ACCEPTABLE ON FACE OF THE DEVICE PLATES.

4 – COORDINATE RECEPTACLE COLOR AND PLATE TYPE WITH ARCHITECT.



EPO CABINET DETAIL

N.T.S.

EPO CABINET NOTES

1 – ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A 12"X12"X6"D RECESSED NEMA 1 14-GAUGE STEEL ENCLOSURE WITH HINGED LOCKABLE DOOR. HAMMOND #CHKO-12126 SERIES WITH HINGED LOCKABLE DOOR AND N1JLK LOCK OR APPROVED EQUAL.

2 – ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL TWO EMERGENCY POWER OFF (EPO) STATIONS INSIDE OF ENCLOSURE. EPO STATION TO BE SCHNEIDER ELECTRIC INC 24V EPO XALK SERIES OR APPROVED EQUAL. COORDINATE MOMENTARY OR MAINTAINED CONTACT WITH GENERATOR AND SWITCHBOARD MANUFACTURERS. 1 " WIDE LABELS. PROVIDE LABEL ON ENCLOSURE PROVIDE TWO SELF ADHESIVE LABELS AS SHOWN ON DETAIL.

3 – 2 COVER: "EPO FOR NORMAL AND EMERGENCY POWER."

4 – ENCLOSURE TO BE SIZED TO INCLUDE FOR FUTURE PV SYSTEM AND BATTERY SYSTEM EPO STATIONS.

5 – COORDINATE WITH ARCHITECT.

6 – ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL TWO 1" CONDUITS WITH PULL LINES FROM EPO CABINETS TO THE PV EQUIPMENT LOCATION IN THE MAIN ELECTRIC ROOM.

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KEY PLAN

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NORTH ARROW *STAMP*

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Scale: N.T.S.

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Details Sheet #1

10.3.12

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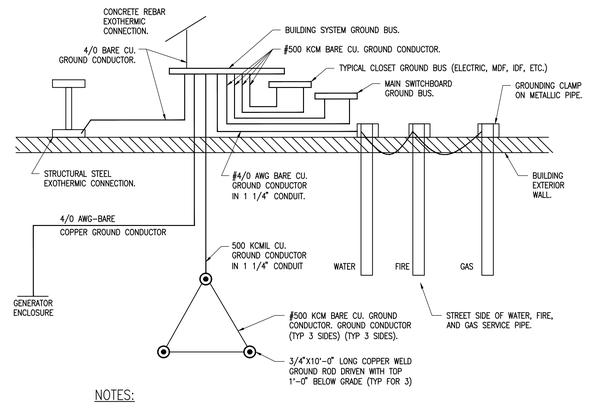


NOTES:

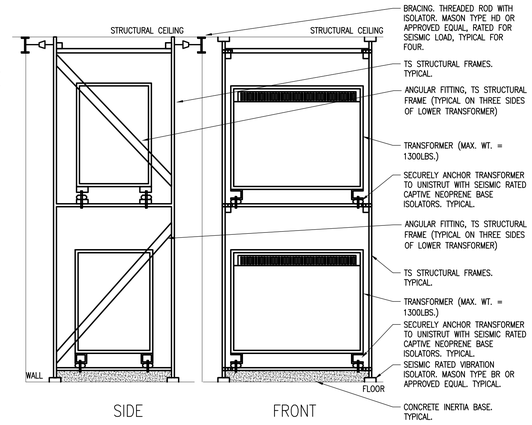
1 – PROVIDE GROUNDING SYSTEM THAT SHALL MEET LOCAL CODES AND NRTL LISTED FOR PURPOSE.

2 – GROUND SYSTEM SHALL BE MEASURED TO ACHIEVE 5 OHMS WHEN TESTED AGAINST A SINGLE GROUND ROD. PROVIDE ADDITIONAL GROUND RODS, BURRIED COPPER MESH OR COPPER PLATES TO ACHIEVE 5 OHMS.

3 – PROVIDE 4/0 AWG BONDING JUMPERS AROUND PIPING WHERE REQUIRED.

ELECTRIC SERVICE GROUNDING ELECTRODE DETAIL

N.T.S.



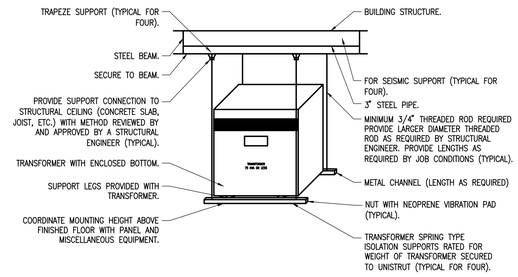
STACKED TRANSFORMERS DETAIL

N.T.S.

NOTES

1 – PROVIDE LABELING AND LOCKOUT PROVISIONS FOR ALL TRANSFORMERS WITHOUT PRIMARY DISCONNECT PER NEC. 450.14 (TYPICAL).

2 – STACKED TRANSFORMERS SHALL BE MOUNTED ON A UNITSRUT RACK. THE SHELF FOR THE TOP TRANSFORMER SHALL HAVE A METAL PLATE/SOLID BOTTOM FOR HEAT DISSIPATION. SEISMIC REQUIREMENTS FOR PROPER MOUNTING AND AUXILIARY RESTRAINTS SHALL BE INCLUDED IN ALL SHOP DRAWINGS.



TRAPEZE MOUNTED TRANSFORMER DETAIL

N.T.S.

NOTES

1 – CONFIRM WITH STRUCTURAL ENGINEER.

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KEY PLAN

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Revisions

Number	Date	Description

DESIGN DEVELOPMENT

Details Sheet #2

10.3.13

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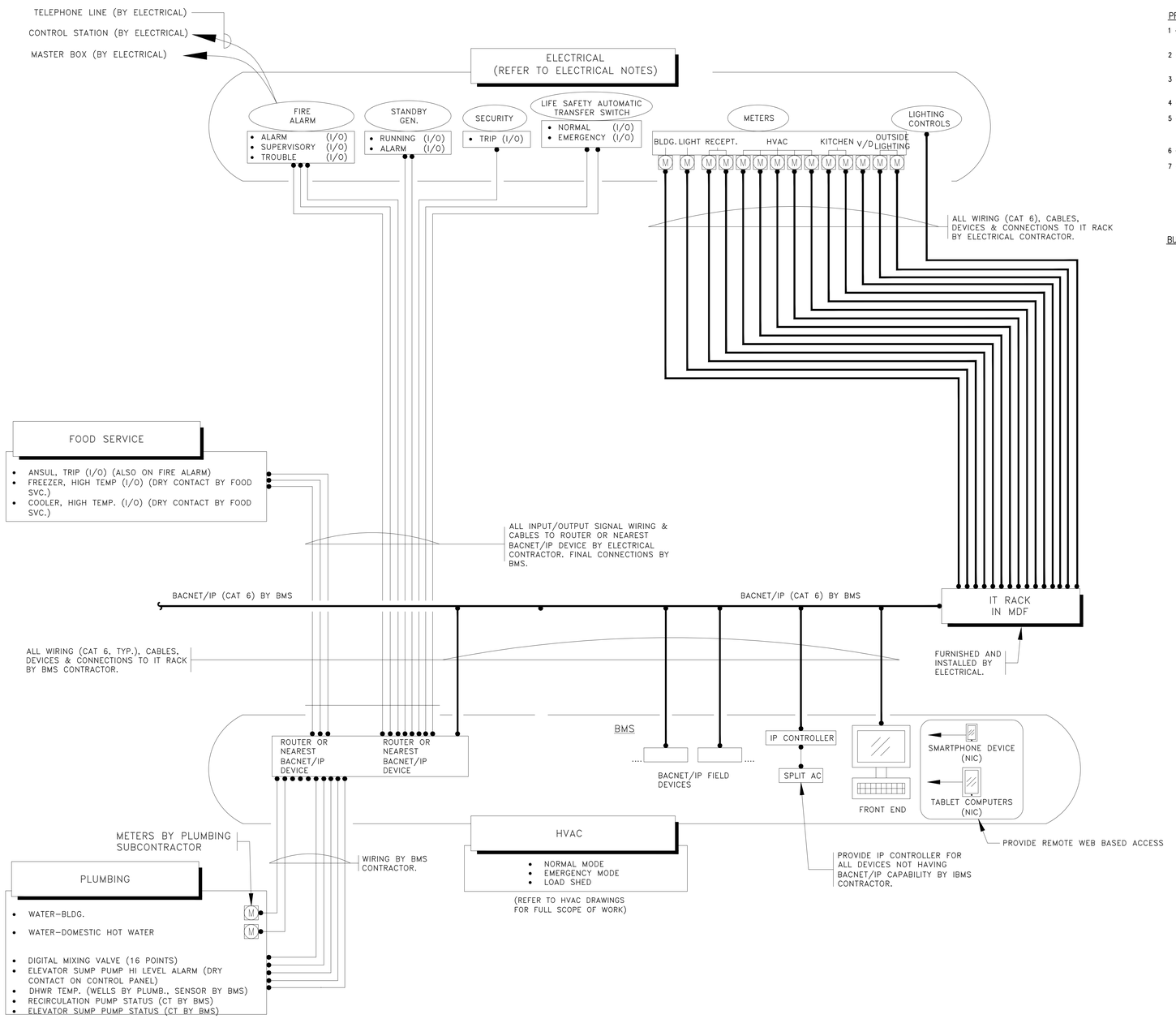


INTEGRATED BUILDING MANAGEMENT SYSTEM (IBMS) ARCHITECTURE

PROGRAMMING NOTES

1 – CLASSROOM AND OFFICE SENSORS SHALL BE VACANCY SENSORS. LIGHTS SHALL TURN ON MANUALLY BY WALL SWITCH AND SHUT OFF AUTOMATICALLY UPON DETECTION OF ABSENCE OF MOVEMENTS FOR 15 MINUTES (ADJ.).

2 – HALLWAY, STAIRS AND RESTROOM SENSORS SHALL BE OCCUPANCY SENSORS. LIGHTS SHALL TURN ON AUTOMATICALLY UPON DETECTION OF MOTION AND TURN OFF AUTOMATICALLY UP DETECTION OF ABSENCE OF MOVEMENTS FOR 30 MINUTES (ADJ.).

3 – WHEN OVERRIDDEN OFF FROM BMS, LIGHTS SHALL BE OFF AND REMAIN OFF REGARDLESS OF WALL SWITCH, MOTION DETECTION, OR SCHEDULE. EXCEPTION: HALLWAY AND STAIR LIGHTS SHALL ALWAYS TURN ON UPON DETECTION OF MOTION.

4 – WHEN OVERRIDDEN ON FROM BMS, LIGHTS SHALL TURN ON AND REMAIN ON REGARDLESS OF WALL SWITCH, MOTION DETECTION, OR SCHEDULE.

5 – DEMAND LOAD SHEDDING SCHEDULE SHALL HAVE A HIGHER PRIORITY THAN OPERATION SCHEDULE SUCH THAT WHEN DEMAND LOAD SHEDDING SCHEDULE IS ACTIVE, ALL DIMMABLE LIGHTS SHALL BE COMMANDED TO A BMS ADJUSTABLE DIMMER LEVEL (%) REGARDLESS OF WALL SWITCH ADJUSTMENT. IN THE ABSENCE OF MOTION DETECTION OR WHEN NORMAL SCHEDULE COMMANDS LIGHTS TO BE OFF, LIGHTS SHALL GO OFF WHILE IN DEMAND LOAD SHED MODE.

6 – OVERRIDE SHALL HAVE HIGHER PRIORITY THAN DEMAND LOAD SHED.

7 – WHEN BUILDING FIRE ALARM IS ACTIVATED, ALL LIGHTS SHALL TURN ON. ONCE FACP IS RESET, ALL LIGHTS SHALL BE OFF FOLLOWING 10 MINUTES TIME DELAY. IN THE EVENT THAT BUILDING FIRE ALARM IS ACTIVATED DURING LIGHTING OCCUPIED HOURS, LIGHTS SHALL REMAIN ON AFTER FACP IS RESET.

BUILDING MANAGEMENT SYSTEM (BMS) NOTES

1 – THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS AND LABOR FOR INSTALLATION, PROGRAMMING, TESTING AND OWNER TRAINING FOR ALL ELECTRICAL SYSTEMS SPECIFIED ON THESE DRAWINGS AND SPECIFICATIONS FOR EACH SYSTEM TO BE COMPLETE AND FULLY FUNCTIONAL. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIALS AND LABOR FOR INSTALLATION, PROGRAMMING, TESTING AND TRAINING FOR THE ELECTRICAL SYSTEMS THAT SHALL BE CONNECTED TO THE BUILDING MANAGEMENT SYSTEM (BMS). THE ELECTRICAL CONTRACTOR SHALL ALSO INCLUDE IN HIS BID ALL REQUIRED LABOR TO INSTALL, COORDINATE, PROGRAM AND TEST THE ELECTRICAL SYSTEM OUTPUTS TO THE BMS WITH THE BMS SUBCONTRACTOR. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A 24 PORT CAT 6A PATCH PANEL IN MDF ROOM FOR BMS EQUIPMENT.

2 – THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED CONDUIT AND WIRING BETWEEN ALL ELECTRICAL SYSTEMS AND THE BUILDING MANAGEMENT SYSTEM. FINAL CONNECTIONS AT THE BMS EQUIPMENT SHALL BE PERFORMED BY THE BMS CONTRACTOR. REFER TO BMS SPECIFICATION SECTION.

3 – THE INTENT OF THE BMS IS TO PROVIDE THE OWNER WITH ONE CENTRAL MONITORING LOCATION FOR ELECTRICAL, HVAC AND PLUMBING CONTROLS, AND DATA TREND COLLECTION.

4 – FIRE ALARM SYSTEM

THE FIRE ALARM SYSTEM SHALL TRANSMIT THE FOLLOWING SIGNALS – ALARM, SUPERVISORY AND TROUBLE TO THE BMS VIA THREE SETS OF DRY CONTACTS.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED MONITOR MODULES, CONDUIT AND WIRE REQUIRED.

5 – EMERGENCY GENERATOR

THE GENERATOR SHALL TRANSMIT THE FOLLOWING ALARMS GENERATOR RUNNING AND SYSTEM TROUBLE TO THE BMS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE REQUIRED CONDUIT AND WIRING AND GENERATOR RELAY PANEL FROM THE GENERATOR CONTROL PANEL FOR THE BMS TO MONITOR GENERATOR RUNNING AND THE GENERAL MAIN SYSTEM TROUBLE ALARM FOR ALL TROUBLE SIGNALS.

6 – ELECTRIC METERS

ALL ELECTRIC METERS SHALL TRANSMIT KWH, KW DEMANDS, VOLTAGE AND AMPS TO THE BMS. DATA SHALL BE SENT AND RECORDED EVERY 15 MINUTES. METERS SHALL TRANSMIT THIS DATA USING BACNET IP PROTOCOL.THE ELECTRICAL CONTRACTOR AND SHALL PROVIDE THE REQUIRED CONDUIT AND WIRING FROM THE METERS FOR THE BMS TO MONITOR AND DEMAND DATA TRENDS.

7 – SECURITY SYSTEM

THE INTRUSION ALARM SYSTEM SHALL TRANSMIT THE FOLLOWING SIGNALS – ALARM, ARMED AND DISARMED TO THE IBMS VIA THREE SETS OF DRY CONTACTS. CARD ACCESS– 3SETS OF DRY CONTACTS ARE PROVIDED. SINGLE OR GROUP POINT ASSIGNING TO EACH CONTACT WILL BE DETERMINED BY OWNER. SECURITY ALARM CONDITION WILL TURN ON SELECTED OUTDOOR AND INDOOR LIGHTS, TO BE FINALIZED BY THE CITY.

THE ELECTRICAL CONTRACTOR AND HIS SECURITY SUBCONTRACTOR SHALL PROVIDE THE REQUIRED CONDUIT AND WIRING FROM THE INTRUSION ALARM CONTROL PANEL FOR THE IBMS TO MONITOR THREE ALARM POINT. CONDUIT AND WIRING TO BE TERMINATED AT THE IBMS PANEL LOCATED IN THE MECHANICAL ROOM.

8 – LIGHTING CONTROL SYSTEM

THE LIGHTING CONTROL SYSTEM SHALL BE INTEGRATED INTO THE BMS.THE LIGHTING CONTROL SYSTEM SHALL TRANSMIT THS DATA USING BACNET IP PROTOCOL.THE ELECTRICAL CONTRACTOR AND SHALL PROVIDE THE REQUIRED CONDUIT AND WIRING FROM THE LIGHTING CONTROL SYSTEM TO THE BMS.

ENTIRE CAPABILITY OF THE LIGHTING CONTROL SYSTEM, INCLUDING BUT NOT LIMITED TO LIGHTING ZONE CONTROLS, SPACE LIGHTING CONTROLS, SCHEDULING, READ/WRITE, ALARM, TREND LOGGING, ENERGY DEMAND RESPONSE AUTOMATIC

LIGHTING REDUCTION, INTERACTIVE GRAPHIC FLOOR PLAN INTERFACE, ENERGY USAGE MONITORING SHALL BE INTEGRATED INTO THE HVAC BUILDING MANAGEMENT SYSTEM.

THE SYSTEM SHALL PROVIDE THE OWNER WITH A SIMPLIFIED INTERACTIVE GRAPHIC FLOOR PLAN CONTROL INTERFACE FOR THEIR DAY TO DAY USAGE.

WHEN THE SECURITY INTRUSION ALARM SYSTEM IS ACTIVATED SYSTEM, SELECTED INDOOR AND OUTDOOR LIGHTING FIXTURES WILL BE ENERGIZED FOR AUTHORIZED PERSONNEL RESPONSE.

DEMAND RESPONSE ENERGY REDUCTION TO BE PROGRAMMED BY BMS CONTRACTOR PER CITY REQUIREMENTS. CITY WILL DEFINE PRIORITY LOAD SHEDDING GROUPS, AND AS THE DEMAND REACHES THE SET POINT KW, LOAD SHEDDING WILL OCCUR BASED ON THE PRIORITY.IT IS ENVISIONED THAT THE LOAD SHEDDING WILL INVOLVE LIGHTING BY ZONES AND HVAC SYSTEMS.

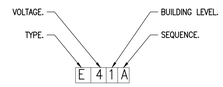
THE LIGHTING CONTROL SYSTEM SHALL COMMUNICATE VIA OPEN PROTOCOL BACNET IP OVER CAT #6 CABLE, TO THE BMS SERVER.

9 – FOOD SERVICE

THE ANSUL STATION SHALL TRANSMIT THE FOLLOWING SIGNALS – ALARM TRIP.

THE FREEZER/COOLER SHALL TRANSMIT THE FOLLOWING SIGNALS – FREEZER HIGH TEMP, COOLER HIGH TEMP. VIA TWO SETS OF DRY CONTACTS.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUIT AND WIRE REQUIRED FROM THE KITCHEN. CONDUIT AND WIRING TO BE TERMINATED AT THE BMS PANEL LOCATED IN THE MECHANICAL ROOM.



TYPE:
E = EMERGENCY POWER
_ = NORMAL POWER
S = STANDBY POWER
DP = DISTRIBUTION
L = LIGHTING
P = MECHANICAL
R = RECEPTACLE

VOLTAGE:
4 = 480Y/277V
2 = 208Y/120V

BUILDING LEVEL:
1 = FIRST FLOOR
2 = SECOND FLOOR
3 = THIRD FLOOR
4 = FOURTH FLOOR
5 = FIFTH FLOOR
6 = SIXTH FLOOR

SEQUENCE:
A = FIRST PANEL
B = SECOND PANEL
C = THIRD PANEL
ETC.

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KEY PLAN

NORTH ARROW — *STAMP*

Date: 21 FEBRUARY 2024
Drawn By: AA, JM, EG
Scale: N.T.S.

Revisions

Number	Date	Description

DESIGN DEVELOPMENT

IBMS System Details

10.3.14

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