

MARK MORRIS H.S. SHOP CLASSROOM REMODEL

PROJECT TEAM

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INDEX OF DRAWINGS

ARCHITECTURAL
A3.0 FLOOR PLAN
A4.0 ELEVATIONS
A5.0 DETAILS

MECHANICAL
M1.0 MECHANICAL SCHEDULES
M2.0 SHOP - DEMO PLAN
M2.1 SHOP - HVAC PLAN
M5.1 MECHANICAL DETAIL SHEET

ELECTRICAL
E0.1 ELECTRICAL SYMBOLS
E1.0 DEMO PLAN
E2.0 LIGHTING PLAN
E3.0 POWER AND SIGNAL PLAN

CODE

BUILDING CODE: 2018 IBC, 2018 WASHINGTON STATE BUILDING CODE

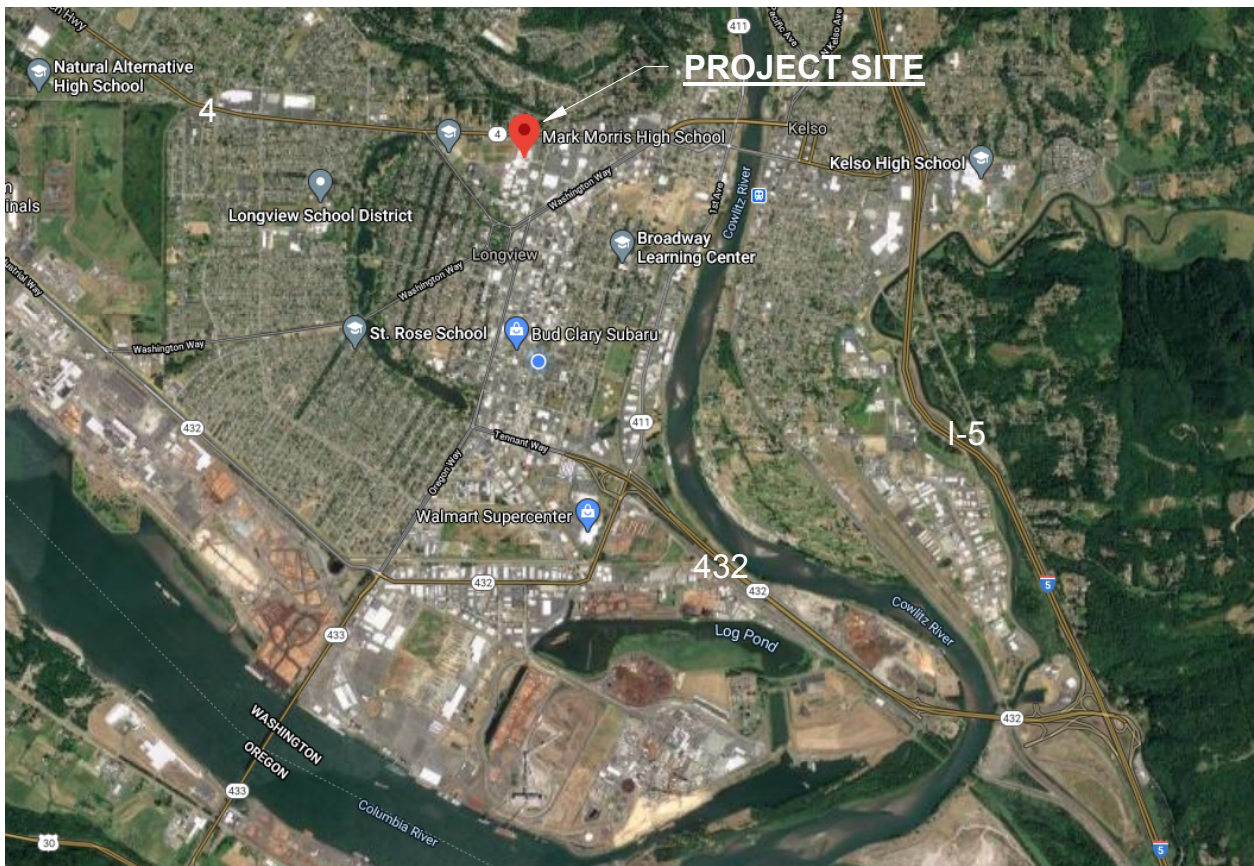
OCCUPANCY: E - EDUCATIONAL

CONSTRUCTION TYPE: TYPE II-B (NON-COMBUSTIBLE)

EMERGENCY LIGHTING: WHERE MORE THAN ONE EXIT IS REQUIRED, EXIT SIGNS ARE REQUIRED. IBC 1013.1.1

TOTAL OCCUPANT LOAD: 99 - TWO EXITS ARE REQUIRED IN AN AREA WITH MORE THAN 49 OCCUPANTS. (IBC TABLE 1006.2.1) EXIT LIGHTS SHALL BE INSTALLED

VICINITY MAP



PROJECT DESCRIPTION

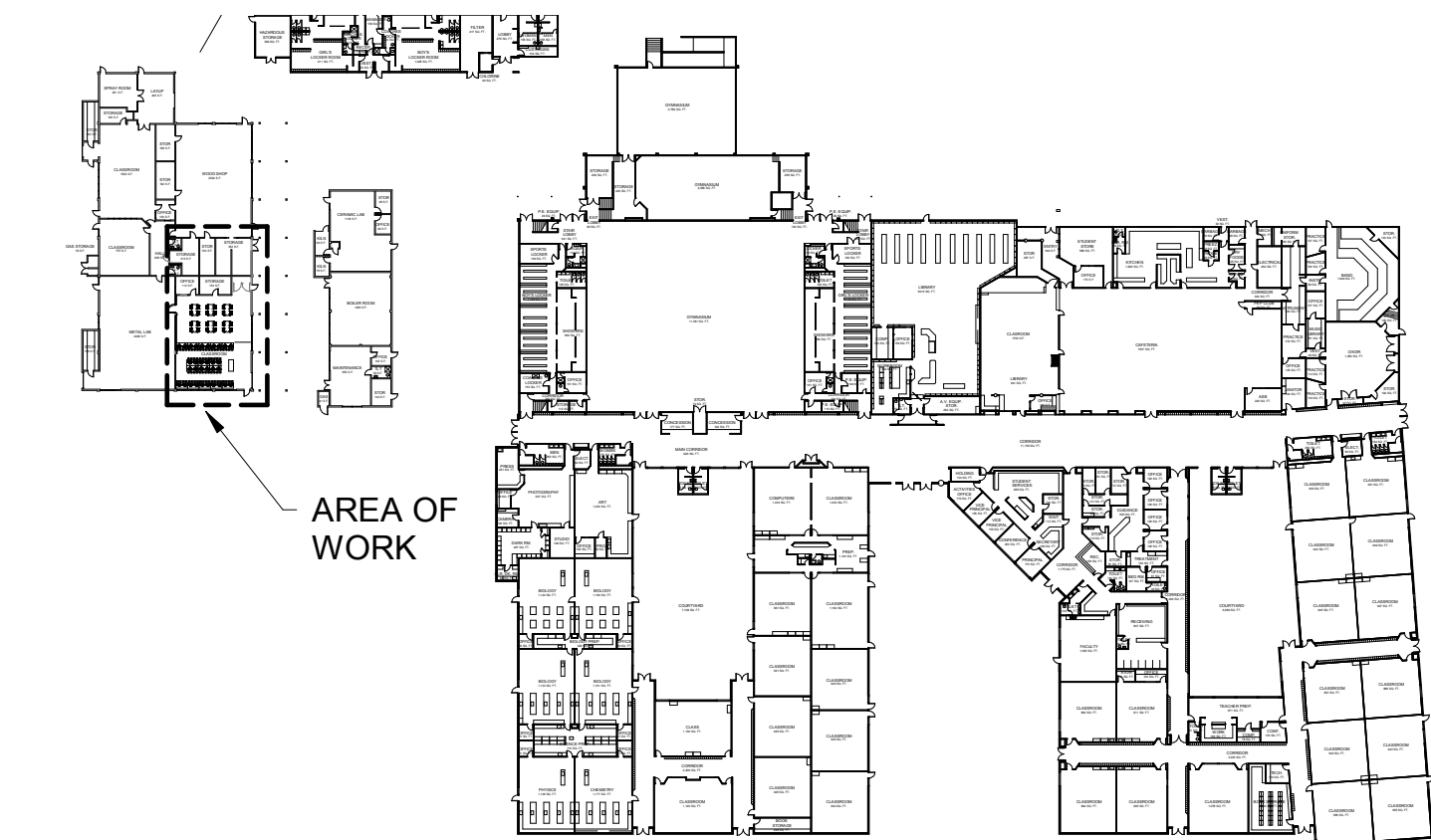
THIS PROJECT CONSISTS OF THE RENOVATION OF THE EXISTING COMPUTER AND STEM LAB UPDATING THE FINISHES, BUILDING ENVELOPE, ELECTRICAL, AND MECHANICAL SYSTEMS.

PLAN KEYNOTES:

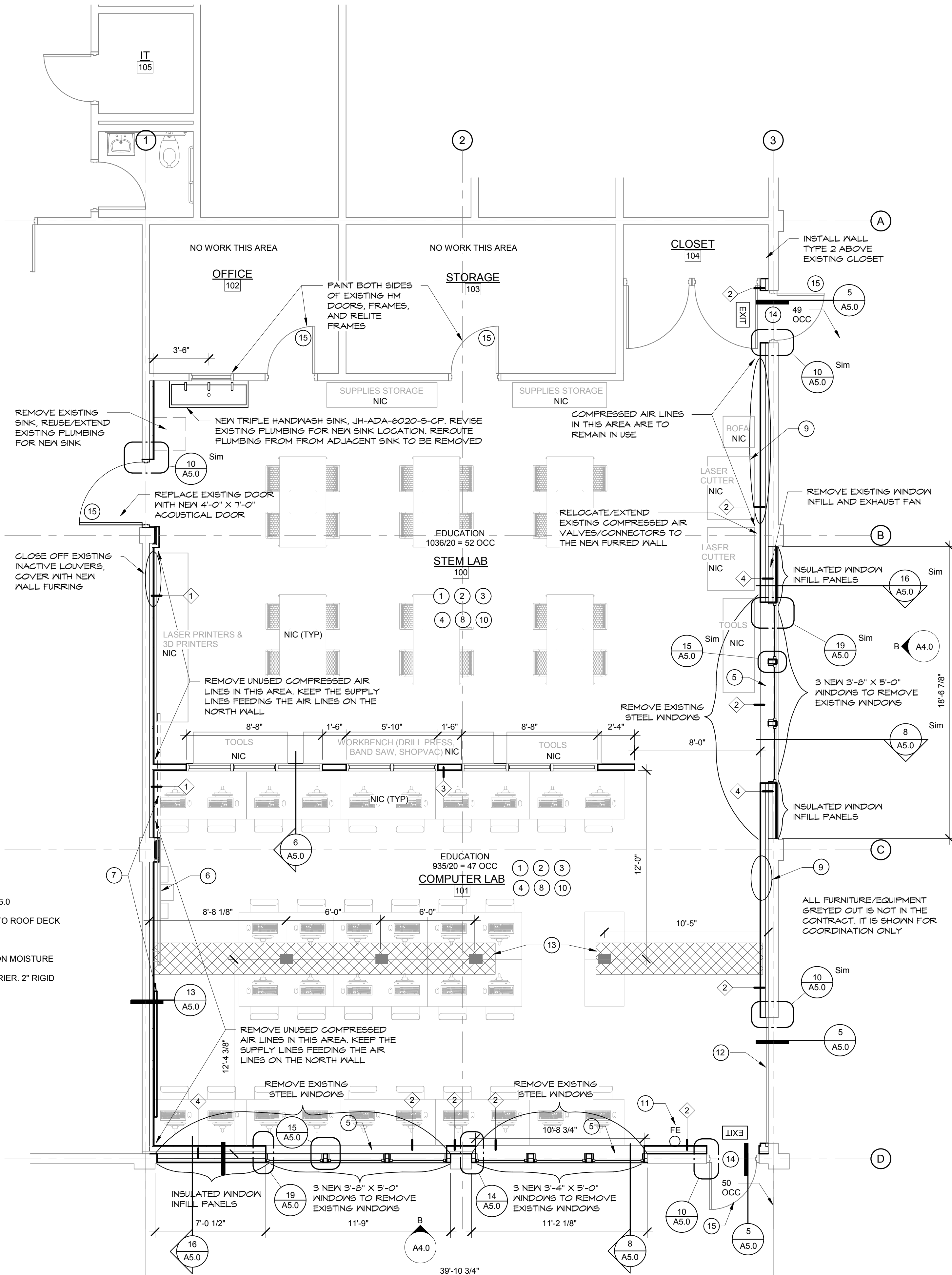
- 1 INSTALL NEW LVT FLOORING AND RUBBER BASE
- 2 REMOVE EXISTING LIGHTING AND INSTALL NEW LED LIGHTING THROUGHOUT
- 3 PAINT CEILING FLAT BLACK INCLUDING JOISTS, CONDUITS, DUCTWORK, AND EQUIPMENT. SEE SPEC SECTION 09 9123
- 4 PAINT ALL WALLS WITHIN ROOM
- 5 INSTALL NEW PLAM WINDOW SILL
- 6 REMOVE WHITE BOARD FROM WALL IN ORDER TO INSTALL NEW ACOUSTICAL FURRING, REINSTALL AT THE SAME LOCATION ONTO NEW WALL SURFACE
- 7 REMOVE WHITE BOARD FROM WALL IN ORDER TO INSTALL NEW ACOUSTICAL FURRING, REINSTALL AT NEW LOCATION. CUT HOLE IN WHITE BOARD WHERE OUTLET ACCESS PANEL IS LOCATED
- 8 ALL NEW WALL FURRING SHALL EXTEND TO THE STRUCTURE ABOVE. SEAL AROUND ALL PENETRATIONS INCLUDING BUT NOT LIMITED TO, CONDUITS, PIPES, ACCESS PANELS, JOISTS, OUTLET BOXES, ETC.
- 9 INSTALL ACCESS PANELS IN NEW WALL TO PROVIDE ACCESS TO EXISTING LB BOXES AND GAS VALVE. SEE SPEC SECTION 08 3100
- 10 REMOVE BUBBLING PAINT ON CMU BEFORE APPLYING NEW PAINT
- 11 REMOVE FIRE EXTINGUISHER FROM WALL AND REINSTALL ON NEW FURRED WALL AT SAME LOCATION
- 12 REMOVE EXISTING OVERHEAD DOOR AND REPLACE WITH NEW 8'-0" x 9'-7" INSULATED OVERHEAD DOOR. VERIFY SIZE ONSITE
- 13 SAWCUT AND REMOVE CONCRETE FLOOR FOR INSTALLATION OF FLOOR OUTLETS. POUR BACK 4" CONCRETE SLAB AFTER OUTLET INSTALLATION. LOCATIONS FOR THE NEW OUTLET FLOOR BOXES ARE SHOWN AS THE GREY BOXES
- 14 EXISTING DOOR, FRAME AND HARDWARE. REPAINT BOTH SIDES OF DOOR AND FRAME.
- 15 REPLACE EXISTING KNOB LOCKSET WITH NEW LEVER LOCKSET.

WALL TYPES:

- 1 TWO LAYERS OF 5/8" GWB ON 2" Z CHANNELS ON SOUND ISOLATION STRIPS ON EXISTING CMU WALL UP TO ROOF DECK. SEE 13/A5.0
- 2 5/8" GWB ON 362162-33 METAL STUDS @ 16" O.C. W/ R-15 BATT INSULATION SPACED 2 INCHES FROM THE EXISTING CMU WALL UP TO ROOF DECK
- 3 5/8" GWB EACH SIDE OF 362162-33 METAL STUDS @ 16" O.C. UP TO ROOF DECK
- 4 AT EXISTING CMU/CONCRETE WALL: (INTERIOR SIDE) 5/8" GWB ON 362162-33 METAL STUDS @ 16" O.C. W/ R-19 BATT INSULATION ON MOISTURE BARRIER SPACED 2 INCHES FROM EXISTING CMU/CONCRETE WALL.
AT WINDOW INFILL: 362162-33 METAL STUDS @ 16" O.C. W/ R-11 BATT INSULATION ON 5/8" GYPSUM SHEATHING ON WEATHER BARRIER. 2" RIGID INSULATION ON 7/8" HAT CHANNELS ON CEMENTITIOUS FLAT PANEL SIDING (EXTERIOR SIDE)



1 SHOP BUILDING KEY PLAN
A3.0 1" = 100'-0"



A FLOOR PLAN
A3.0 1/4" = 1'-0"

Revision Schedule		
#	Date	Description

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1602 MARK MORRIS CT, LONGVIEW, WA 98632

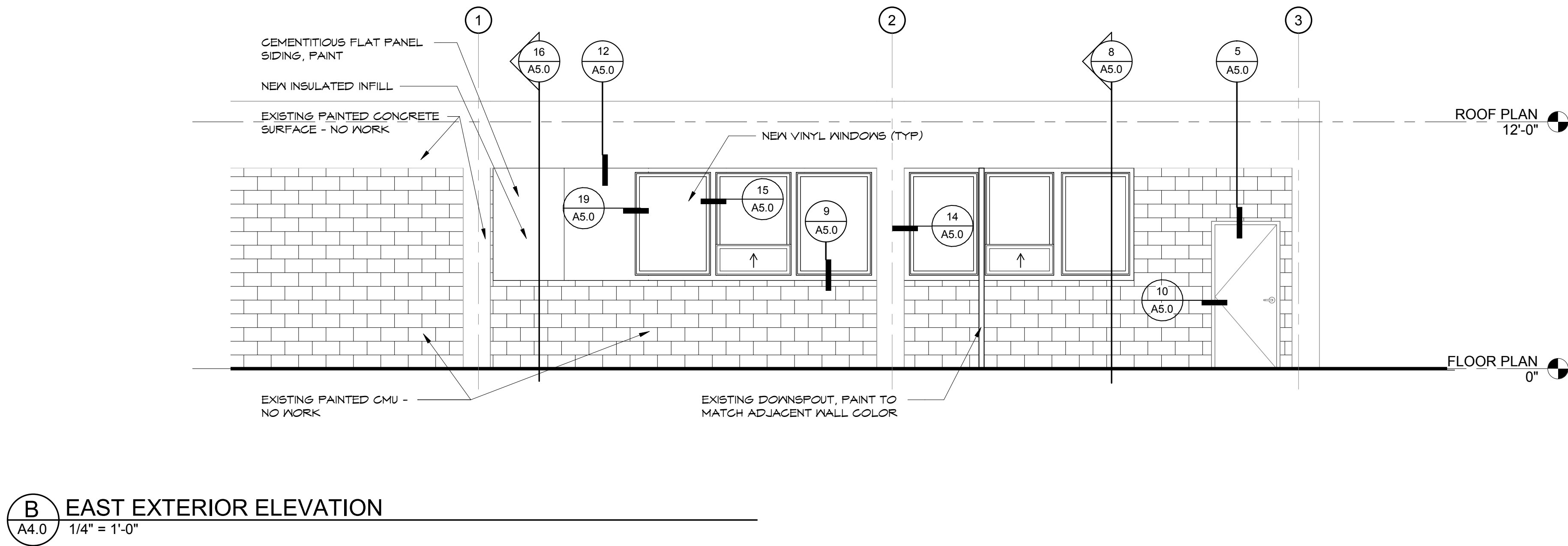
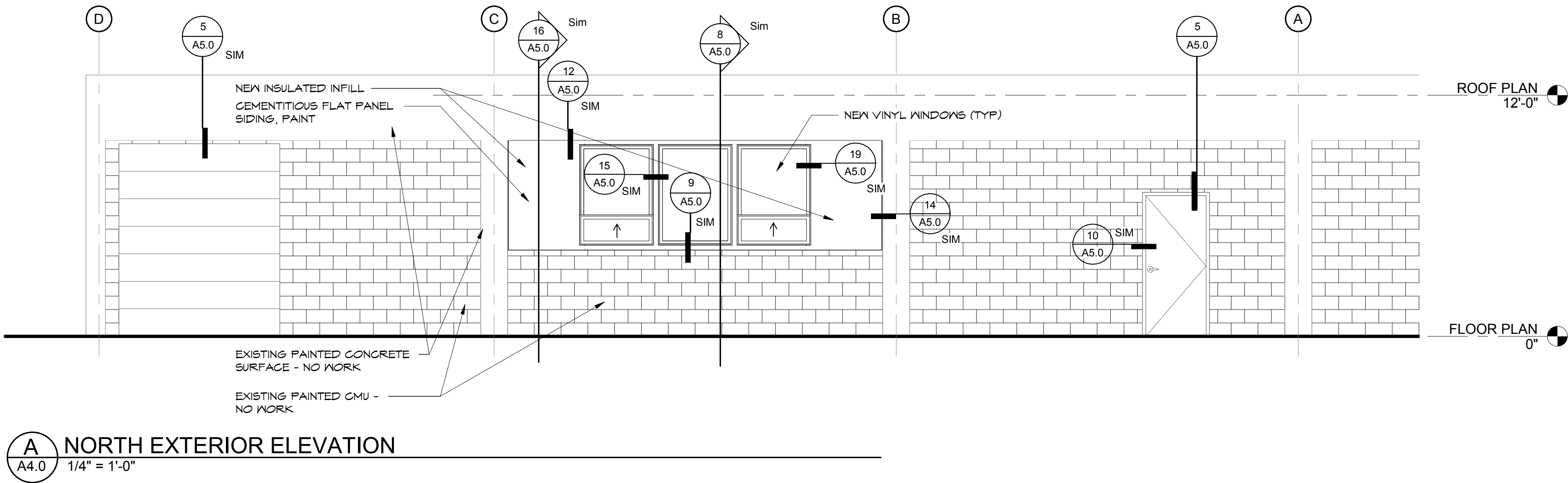
BID SET
2/3/2022

FLOOR PLAN

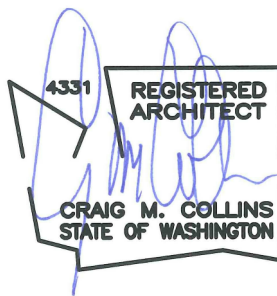
2021-12

SHEET NO.

A3.0



Revision Schedule		
#	Date	Description

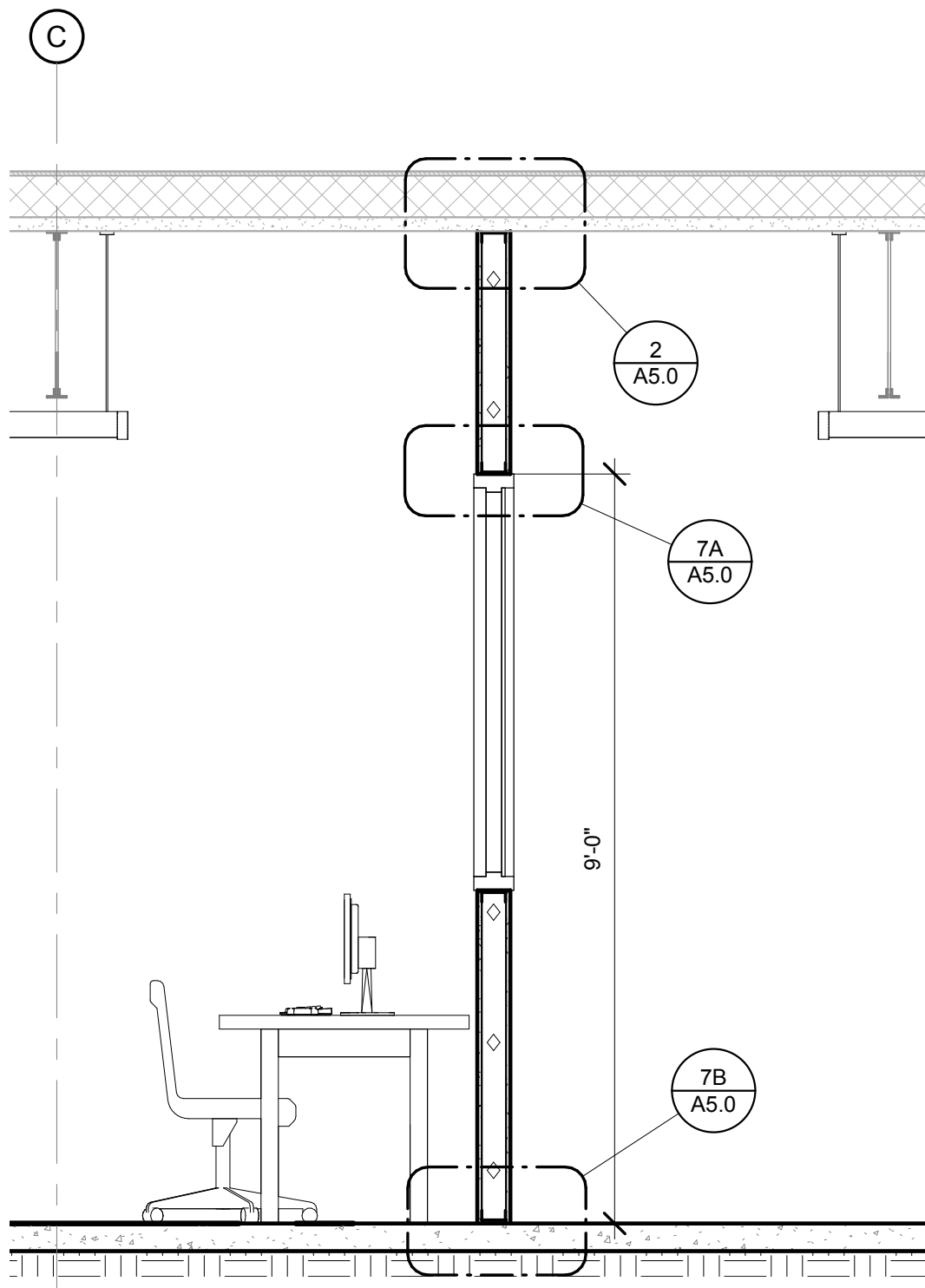


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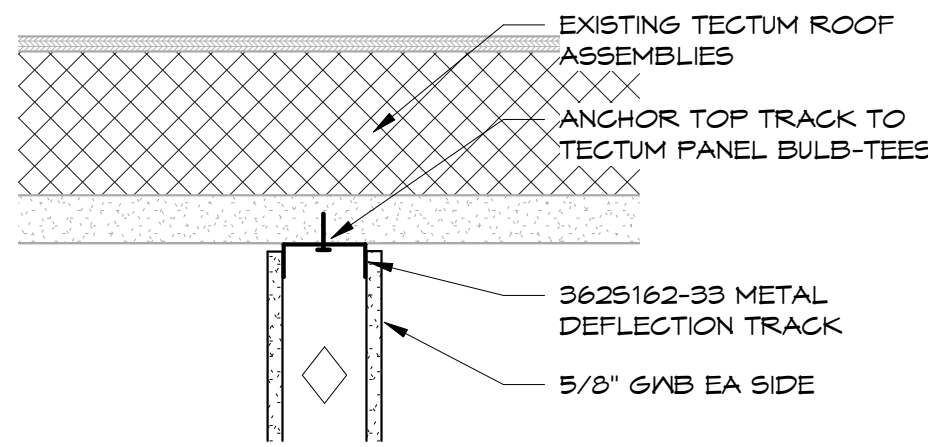
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ELEVATIONS

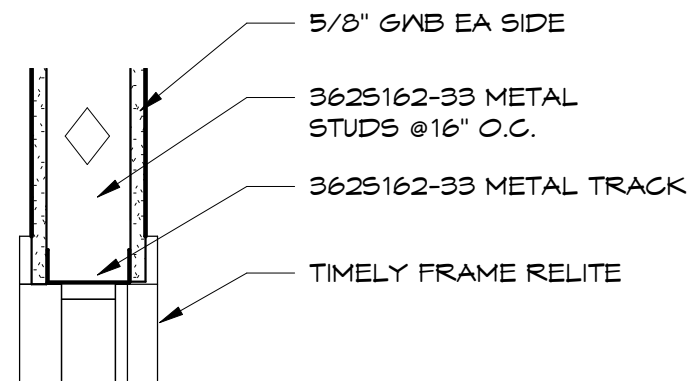
2021-12
SHEET NO.
A4.0



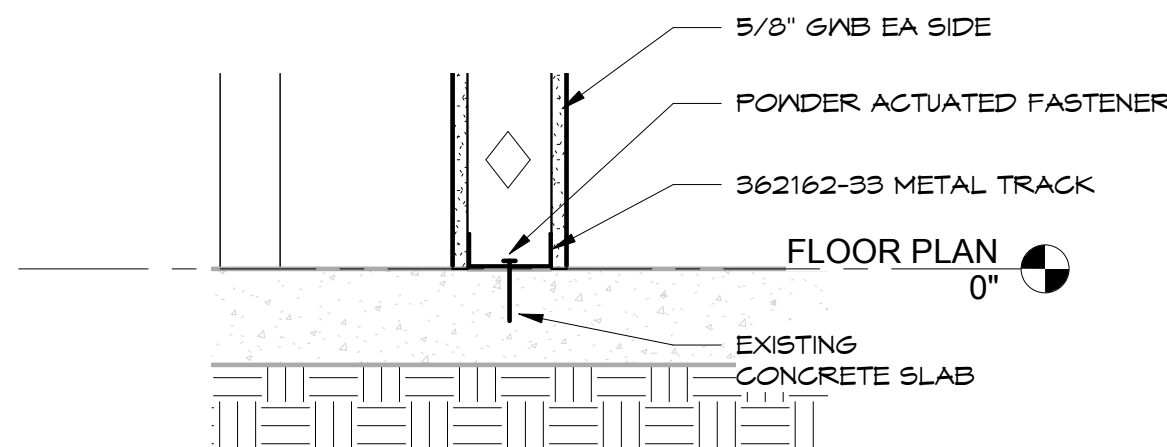
6 NEW INTERIOR WALL
A5.0 1/2" = 1'-0"



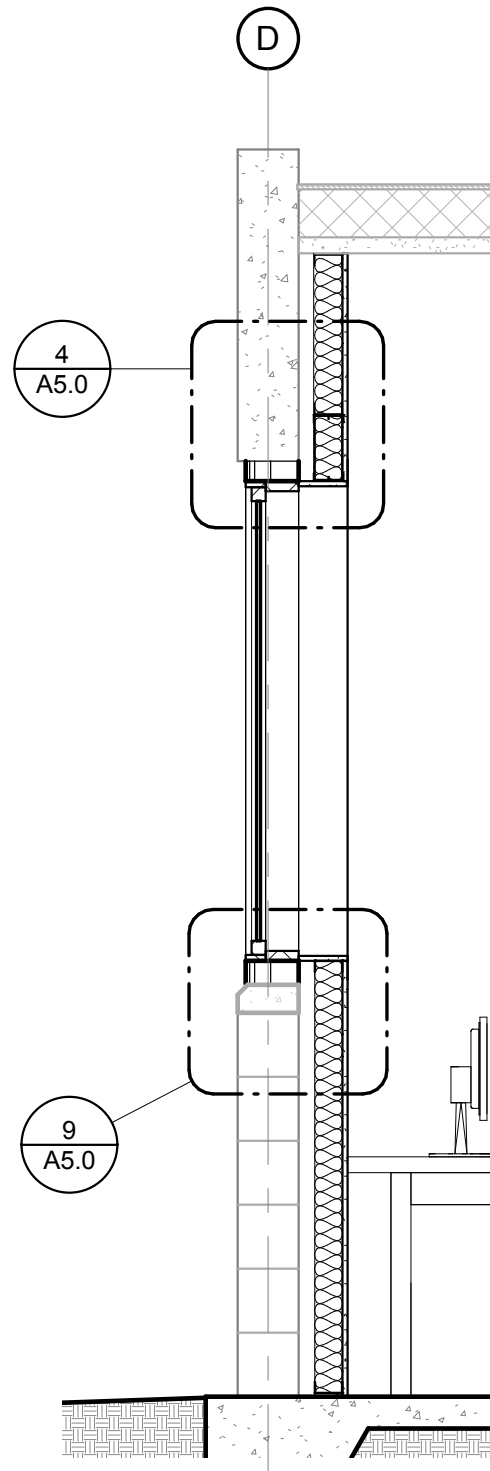
2 TOP CONNECTION OF INTERIOR WALL
A5.0 1 1/2" = 1'-0"



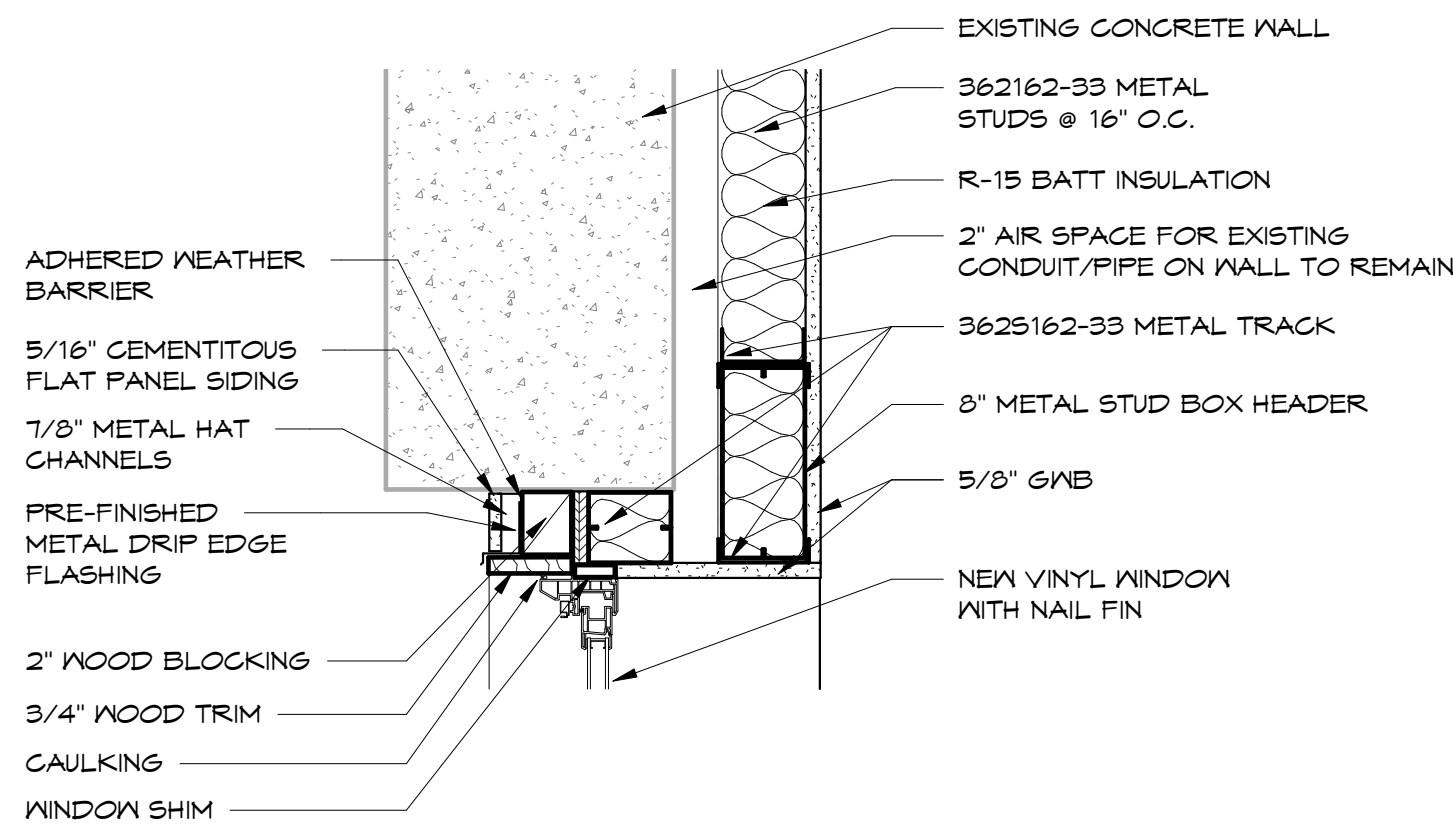
7A WINDOW HEADER/SILL DETIAL
A5.0 1 1/2" = 1'-0"



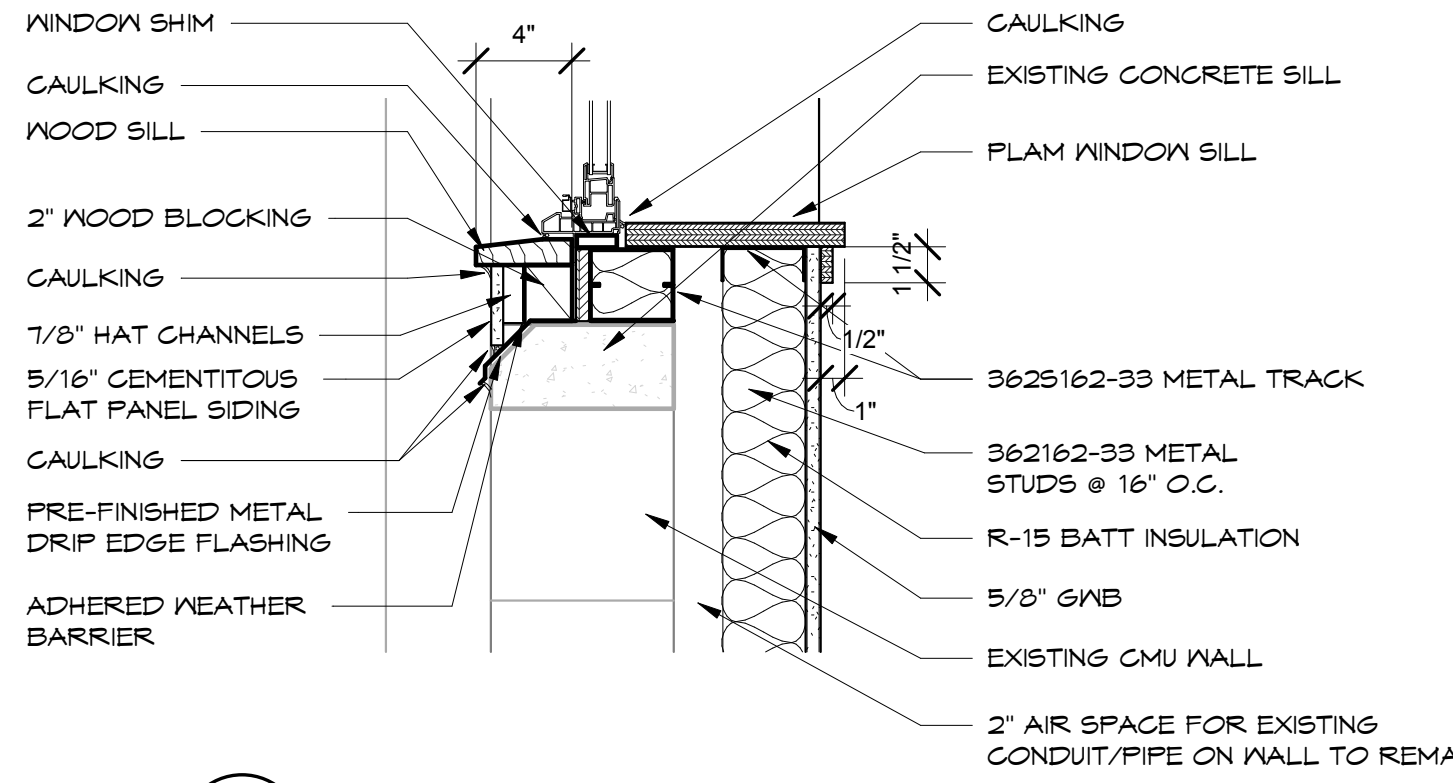
7B BASE CONNECTION OF INTERIOR WALL
A5.0 1 1/2" = 1'-0"



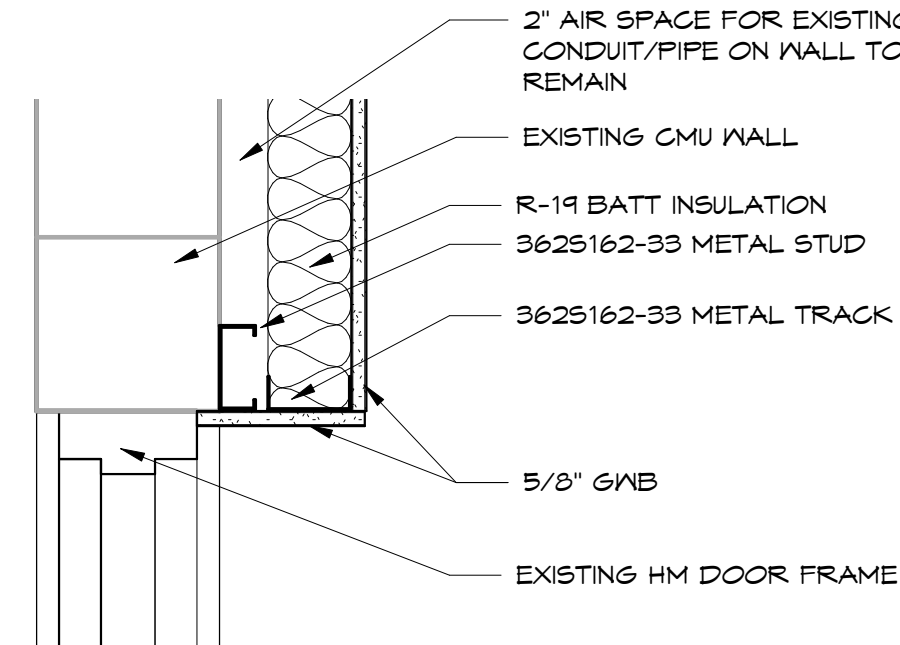
8 NEW WINDOW FURRING SECTION
A5.0 1/2" = 1'-0"



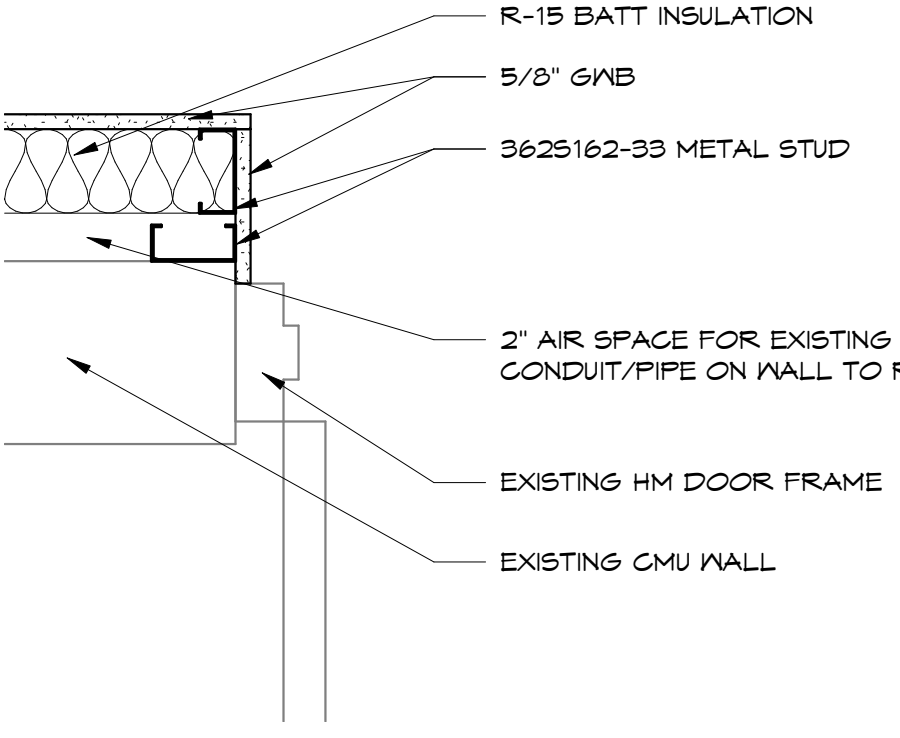
4 WINDOW FURRING HEADER
A5.0 1 1/2" = 1'-0"



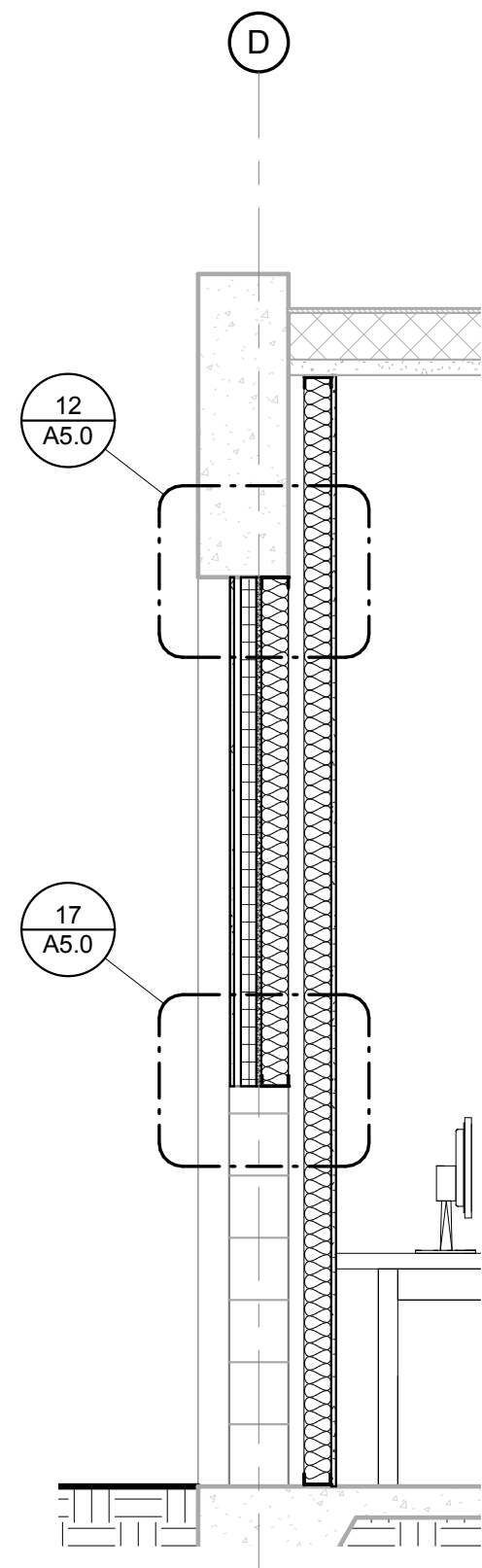
9 WINDOW SILL DETAIL
A5.0 1 1/2" = 1'-0"



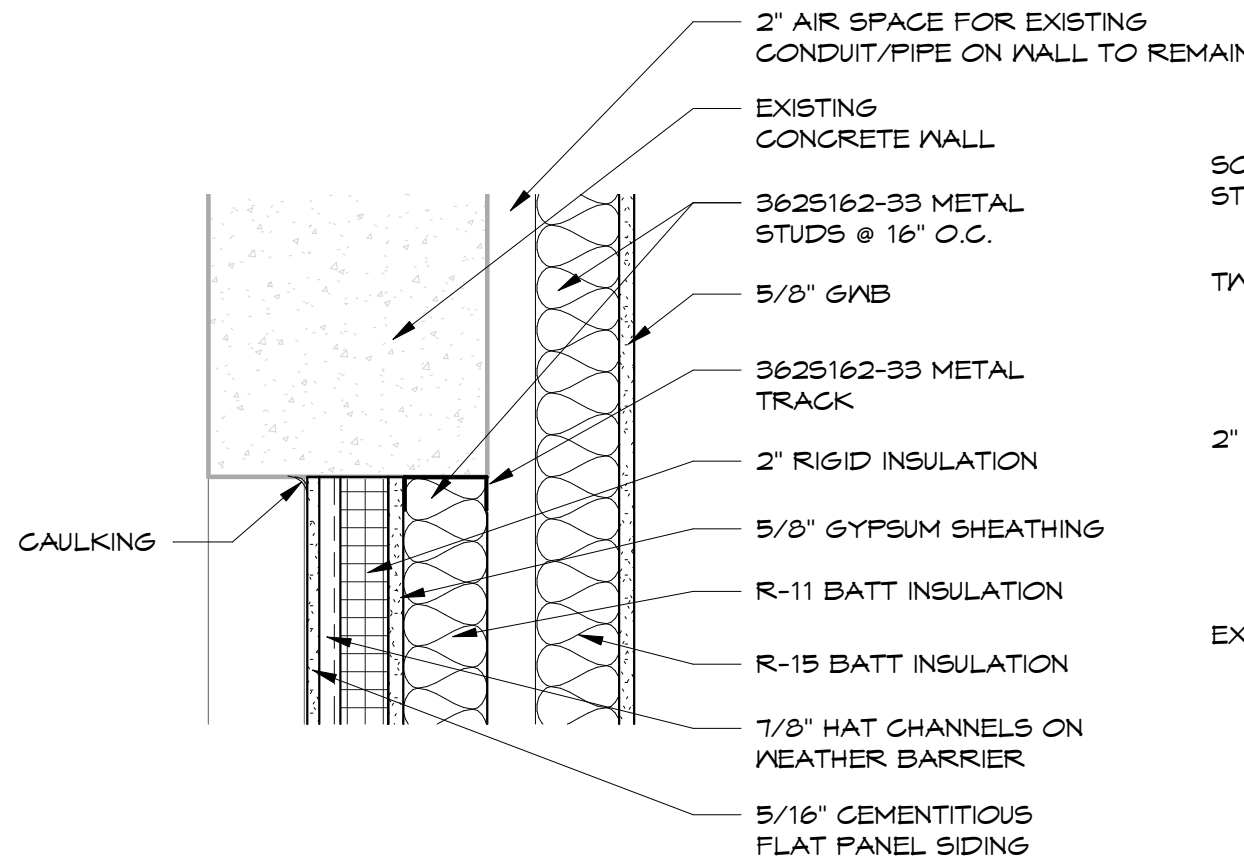
5 DOOR HEAD FURRING DETAIL
A5.0 1 1/2" = 1'-0"



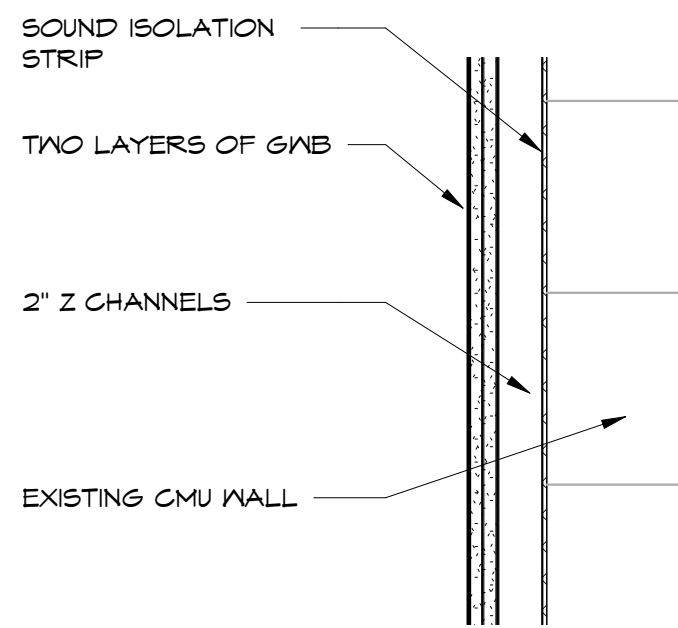
10 DOOR JAMB DETAIL (TYP)
A5.0 1 1/2" = 1'-0"



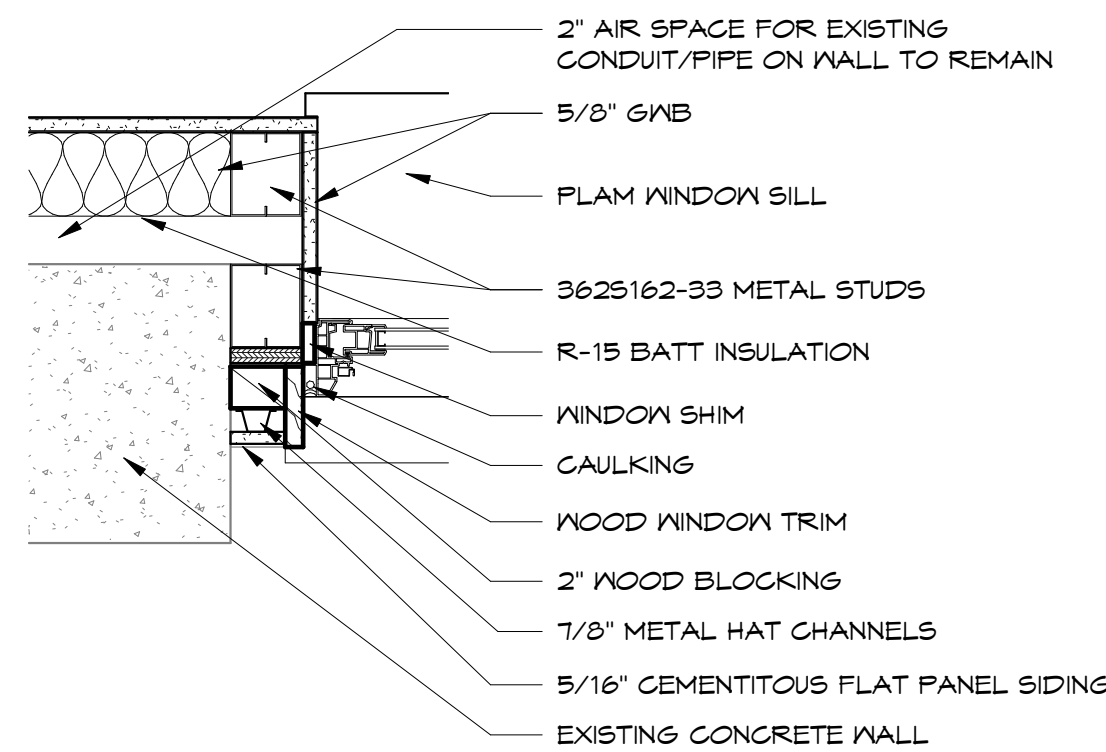
16 WINDOW INFILL SECTION
A5.0 1/2" = 1'-0"



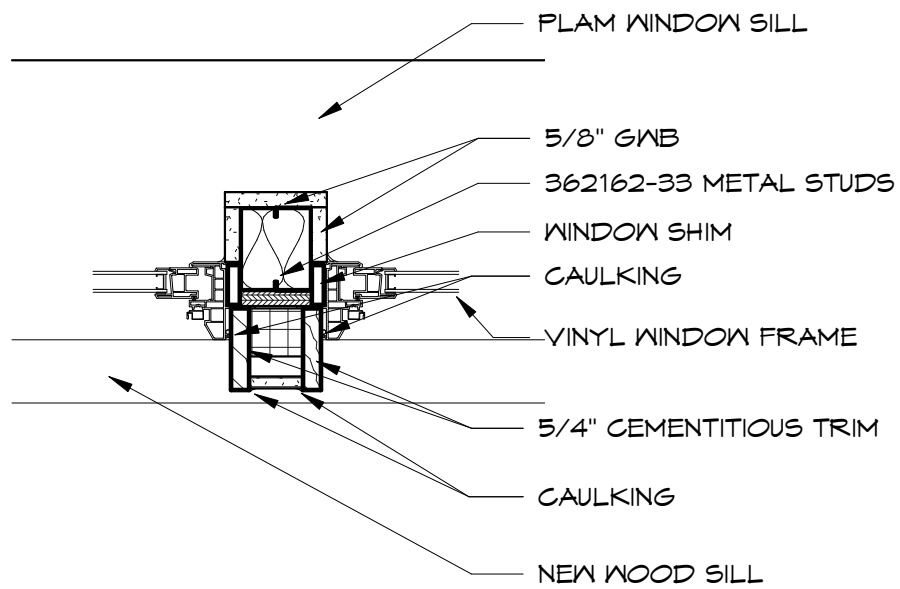
12 WINDOW INFILL HEAD
A5.0 1 1/2" = 1'-0"



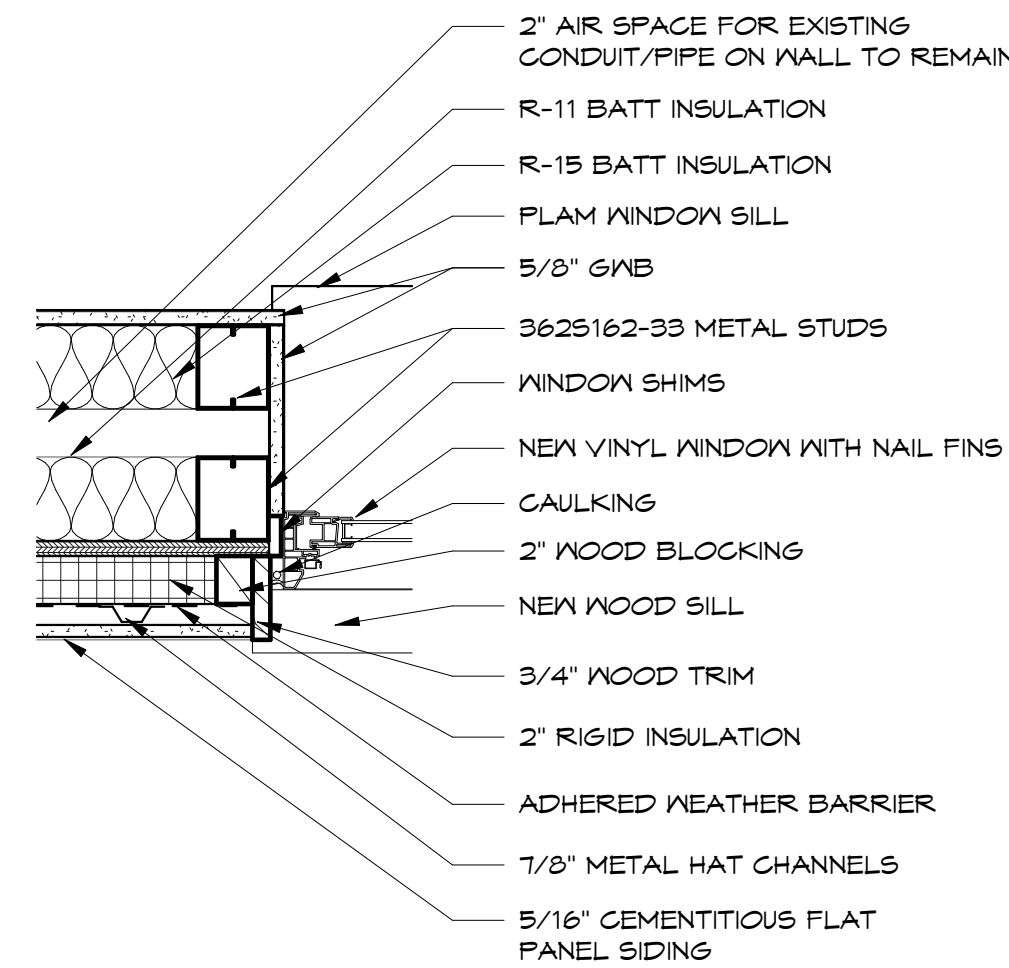
13 ACOUSTICAL FURRING
A5.0 1 1/2" = 1'-0"



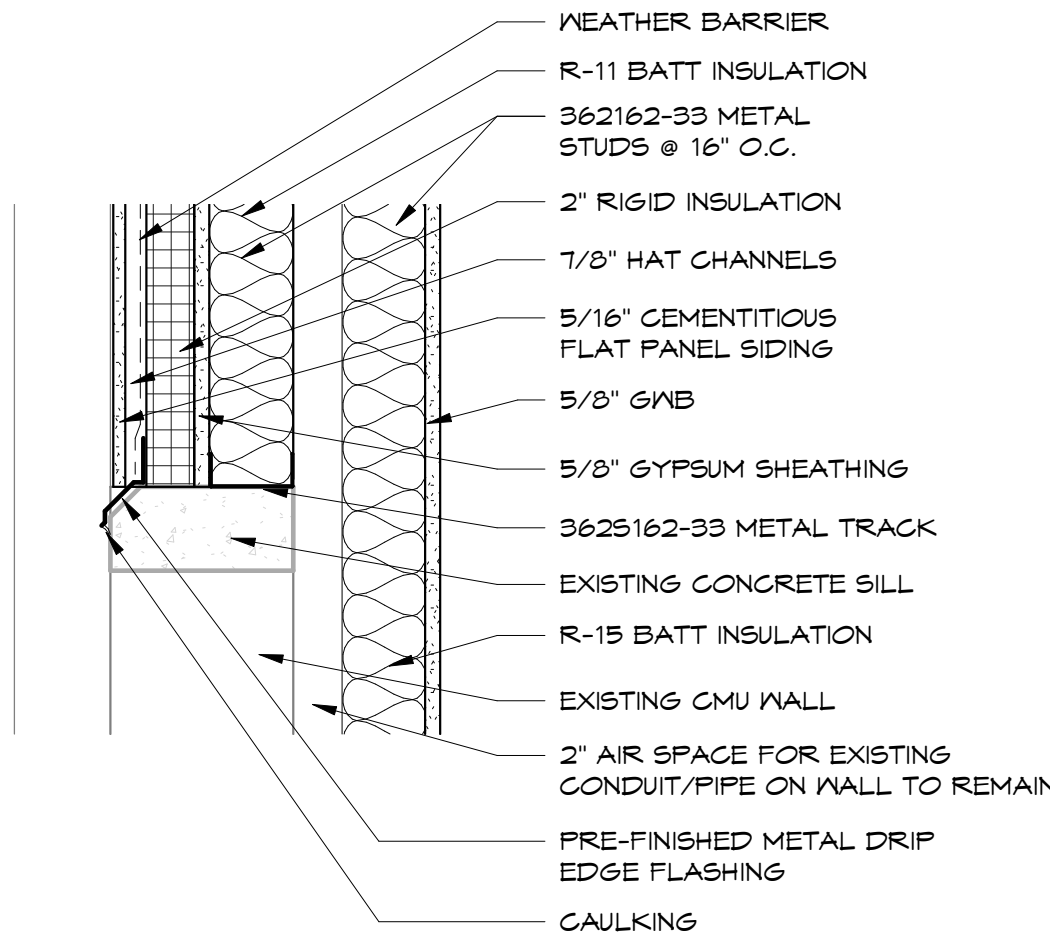
14 WINDOW JAMB AT EXISTING CONCRETE WALL
A5.0 1 1/2" = 1'-0"



15 WINDOW MULLION DETAIL
A5.0 1 1/2" = 1'-0"



19 WINDOW JAMB AT WINDOW INFILL
A5.0 1 1/2" = 1'-0"



17 WINDOW INFILL SILL
A5.0 1 1/2" = 1'-0"

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REGISTERED ARCHITECT
CRAIG M. COLLINS
STATE OF WASHINGTON

MARK MORRIS H.S.
SHOP CLASSROOM REMODEL
1602 MARK MORRIS CT, LONGVIEW, WA 98632

BID SET
2/3/2022

DETAILS

2021-12
SHEET NO.
A5.0

PLOTTED: ZACH SICHLEY 6/23/2021 9:37 AM
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ROOF HOOD							
SYMBOL MARK	DESCRIPTION	SERVICE	CFM	THROAT SIZE		THROAT VELOCITY (FPM)	WEIGHT (LBS)
				WIDTH (IN)	LENGTH (IN)		
OA-H-1	OUTSIDE AIR INTAKE HOOD	ERV	700	14.5	6.25	1,112	41
EH-1	EXHAUST HOOD	ERV	700	14.5	6.25	1,112	41
NOTES: 1 DESIGN BASIS: GREENHECK AS-12-420-A4 2 DESIGN BASIS: GREENHECK AE-12-433-B6 3 PROVIDE CLASS 1A MOTORIZED DAMPER							

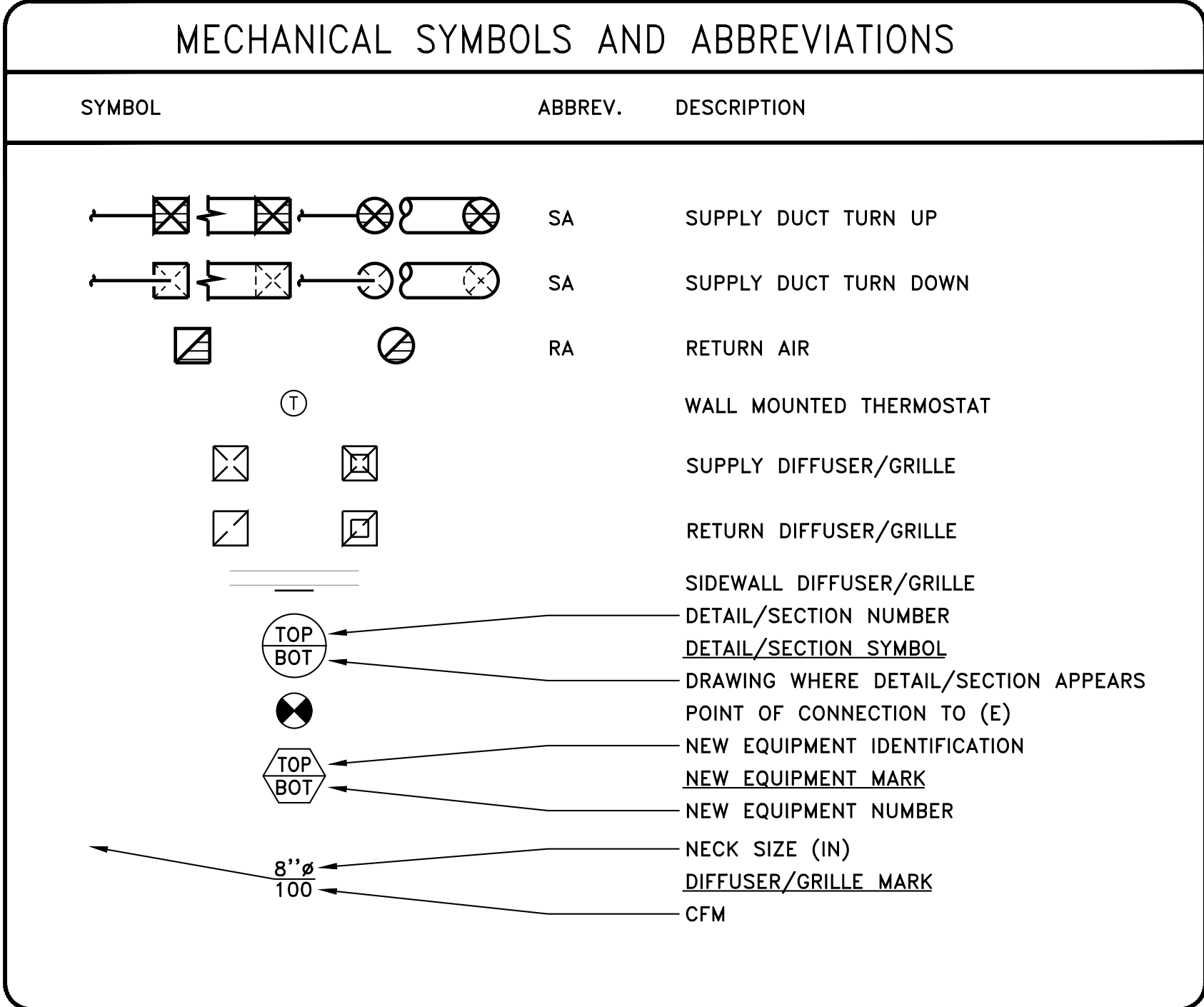
DIFFUSER, REGISTER, AND GRILLE SCHEDULE							
SYMBOL	TYPE	FACE	FRAME	DAMPER	FINISH	MODEL #	COMMENTS
SD-1	SUPPLY	ADJUSTABLE BLADES	S.S.	YES	-	PRICE 720D	12"X4"
RE-1	RETURN	FIXED LOUVER	S.S.	YES	-	PRICE 735D	24"X8"

ELECTRIC DUCT HEATER													
SYMBOL MARK	DESCRIPTION	SERVICE	CFM	VOLTAGE	PH.	KW	MCA	FLA	TSP (IN WC)	EAT (°F)	LAT (°F)	STEPS	WEIGHT (LBS)
DH-1	UNIVERSAL	ERV SUPPLY DUCT	700	208	3	3.5	9.7					SCR	
NOTES: 1 DESIGN BASIS: GREENHECK EDH-1 IDHE 2 PROVIDE SENSOR FOR CONTROL. SET DUCT TEMPERATURE TO 60°F SAT.													

ROOF TOP UNIT																		
SYMBOL MARK	DESCRIPTION	SERVICE	SUPPLY							COOLING					HEATING			
			CFM	VOLTAGE	PH.	HP	MCA	FLA	ESP (IN WC)	RPM	DRIVE	TOTAL CAPACITY (MBH)	EAT DBWB (°F)	LAT DBWB (°F)	MIN. EER	INPUT (MBH)	OUTPUT (MBH)	STAGES
RTU-1	GAS POWERED	CTE LAB	1,800	208	3	0.25	28.0	4.5	0.50	1,888	DIRECT	70	80/ 67	56/ 54	11.0	110	88	2
NOTES: 1 DESIGN BASIS: CARRIER 48FC -M07 2 PROVIDE 100% ECONOMIZER 3 PROVIDE ADAPTER CURB TO LENNOX RMF16-65 ROOF CURB																		

ENERGY RECOVERY VENTILATOR																								
SYMBOL MARK	DESCRIPTION	SERVICE	SUPPLY FAN								EXHAUST FAN								EFFECTIVENESS (NOTE 1)			FILTERS	WEIGHT (LBS)	COMMENTS
			CFM	VOLTAGE	PH.	HP	MCA	FLA	ESP (IN WC)	DRIVE	CFM	VOLTAGE	PH.	HP	MCA	FLA	ESP (IN WC)	DRIVE	WINTER TOTAL	SUMMER TOTAL	SENSIBLE			
ERV-1	ELECTRIC UNIT	CTE LAB	700	115	1	0.75	19.8	12.0	0.50	DIRECT	700	115	1	0.75	19.8	12.0	0.50	DIRECT	64%	66%	64%	2" MERV	484	
<u>NOTES:</u>																								
1 BASED ON AHRI 1060 STANDARD CONDITIONS.																								
2 PROVIDE UNIT WITH EC MOTORS. PROVIDE MOTORIZED DAMPERS AT OSA AND EXH. INTERLOCK WITH OA AND EA DAMPERS. DAMPERS TO OPEN WHEN UNIT IS ENERGIZED.																								
3 DESIGN BASIS: GREENHECK MINICORE-10-VG-FM																								

OUTSIDE AIR VENTILATION SINGLE ZONE SYSTEMS																	
ROOM DESCRIPTION	A _r ROOM AREA (SF)	OCCUPANCY CLASSIFICATION	OCCUPANT DENSITY (PEOPLE/1000 SF)	CODE MAX. OCCUPANCY (PEOPLE)	P ₂ ACTUAL OCCUPANCY (PEOPLE)	R ₀ VENTILATION FACTOR (CFM/PERSON)	R _A AREA OUTDOOR AIR RATE (CFM/SF)	V ₅₀ BREATHING ZONE VENTILATION (CFM)	E _z AIR DISTRIBUTION EFFECTIVENESS	V ₀₂ ZONE OUTDOOR AIRFLOW (CFM)	EXHAUST AIRFLOW RATE (CFM/SF)	EXHAUST AIRFLOW RATE (CFM/UNIT)	EXHAUST AIRFLOW (CFM)	NATURAL VENTILATION			COMMENTS
														YES OR NO	AREA REQUIRED (SF)	AREA AVAILABLE (SF)	
CAD ROOM	2,031	EDUCATION - COMPUTER LAB	25	51	30	10	0.12	544	0.8	680	0.00	0	0	NO	N/A	0	
OFFICE	114	OFFICE - OFFICE SPACE	5	1	1	5	0.06	12	0.8	15	0.00	0	0	NO	N/A	0	
STORAGE 1	154	MISCELLANEOUS	0	0	0	0	0.00	0	0.8	0	0.00	0	0	NO	N/A	0	
SYSTEMS SERVING ROOMS:	1																
OSA FLOW RATE (CFM) V ₀₁ :	695																
EXH FLOW RATE (CFM):	0																
NOTES:																	
1 VENTILATION CALCULATION PERFORMED PER THE 2019 OREGON MECHANICAL SPECIALTY CODE																	
2 ACTUAL OCCUPANCY PER STUDENT CLASS SIZE																	



DRAWING INDEX	
DWG.	DESCRIPTION
M1.0	MECHANICAL SCHEDULES
M2.0	CTE LAB – DEMO PLAN
M2.1	CTE LAB – HVAC PLAN
M5.1	MECHANICAL DETAIL SHEET

Revision Schedule		
#	Date	Description



06/23/2021

LPS - MARK MORRIS
 SHOP CLASSROOM REMODEL
 1602 MARK MORRIS CT, LONGVIEW, WA 98632

BID SET
 2/3/2022

MECHANICAL
 SCHEDULES

2021-12

SHEET NO.

M1.0

6915 S MACADAM AVE
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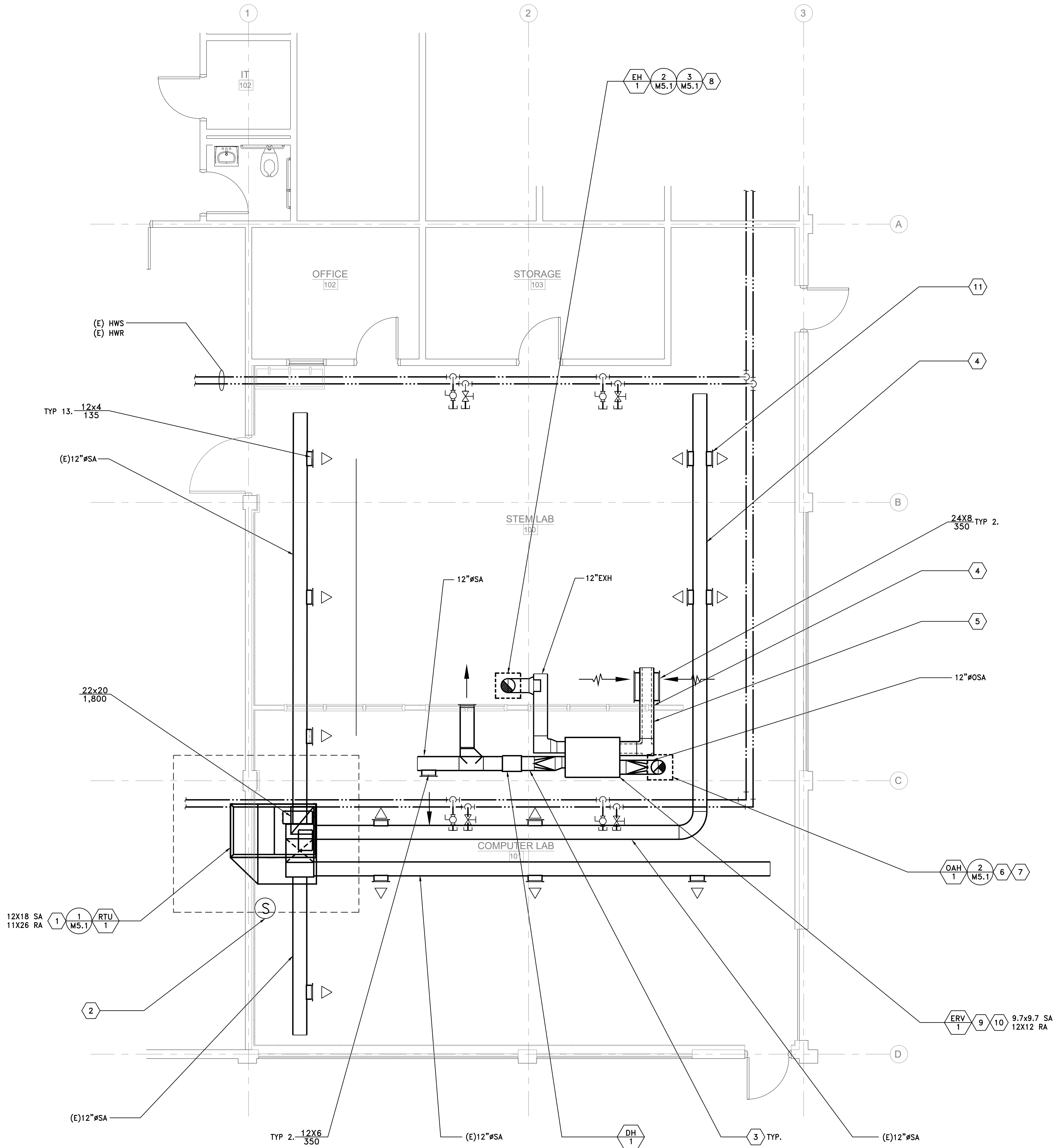
CONTACT: RICK DUSA/ZACH SICHLEY
 ENGINEERING@MKE-INC.COM



CONTROLS NOTES:

- THE BUILDING HAS A BMS PROVIDED BY DELTA CONNECTS. THE GC/MC ARE TO PROVIDE AND COORDINATE THE INSTALLATION OF NEW WORK WITH DELTA CONNECTS. CONTACT INFORMATION: MATT AXTELL, 206-730-5671, MAXTELL@DELTACONNECTS.COM
- CONTROLS CONTRACTOR IS TO PROVIDE ALL NECESSARY EQUIPMENT, SENSORS, WIRING, AND THE LIKE FOR A COMPLETE FUNCTIONING SYSTEM.
- EXISTING RTU CONTROL POINTS AND SEQUENCE OF OPERATIONS ARE TO REMAIN.
- ERV IS TO OPERATE DURING ALL OCCUPIED HOURS AS SET BY THE BMS OCCUPANCY SCHEDULE. ON PROOF OF DAMPERS OPENING THE ERV WILL BE ENABLED. DAMPER ACTUATORS ARE TO BE CONTROLLED BY THE BMS.
- PROVIDE A SAT SENSOR IN ERV SUPPLY DUCT, DOWNSTREAM OF THE ELECTRIC DUCT HEATER, TO MONITOR SAT THROUGH THE BMS. IF TEMPERATURE FALLS BELOW 45 DEG F SINGLE ALARM AND SHUTDOWN ERV AND CLOSE DAMPERS.

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1 CTE LAB - HVAC PLAN
SCALE: 1/4"=1'-0"

GENERAL NOTES:

- EXISTING ROOF HAS TECTUM DECK. SUPPORT DUCT FROM UNI-STRUT SPANNING JOISTS
- RECONNECT (E) GAS ON ROOF TO NEW RTU-1.

KEYED NOTES:

- MOUNT NEW RTU ON ADAPTER CURB.
- EXISTING WALL MOUNTED SENSOR. CONTROLS CONTRACTOR TO INSTALL NEW CONTROLS AND MAINTAIN EXISTING POINTS AND SEQUENCE OF OPERATION.
- ROUTE DUCTWORK FROM ERV THROUGH CROSS BRACING.
- DUCT TO BE INSTALLED ABOVE NEW WALL ADDITION.
- INTERNALLY LINE DUCT TO REDUCE NOISE IN CLASSROOM.
- OUTSIDE AIR INTAKE IS TO BE 10' FROM HOOD EXHAUSTS.
- ROOF HOOD TO PROVIDE OUTSIDE AIR INTAKE TO ERV UNIT.
- ROOF HOOD TO PROVIDE EXHAUST FROM THE ERV UNIT.
- ERV TO BE IN CEILING SPACE, SUPPORTED BY STRUT ACROSS JOIST.
- ERV-1 TO BE INSTALLED AT A HEIGHT OF 9' 11" ABOVE FINISHED FLOOR.
- CUT HOLE IN EXISTING DUCT. ADD EXTRUSION TO MATCH EXISTING FOR NEW SUPPLY GRILLE.
- NEW ROOF CURB ADAPTER TO BE PLACED ON EXISTING ROOF CURB.

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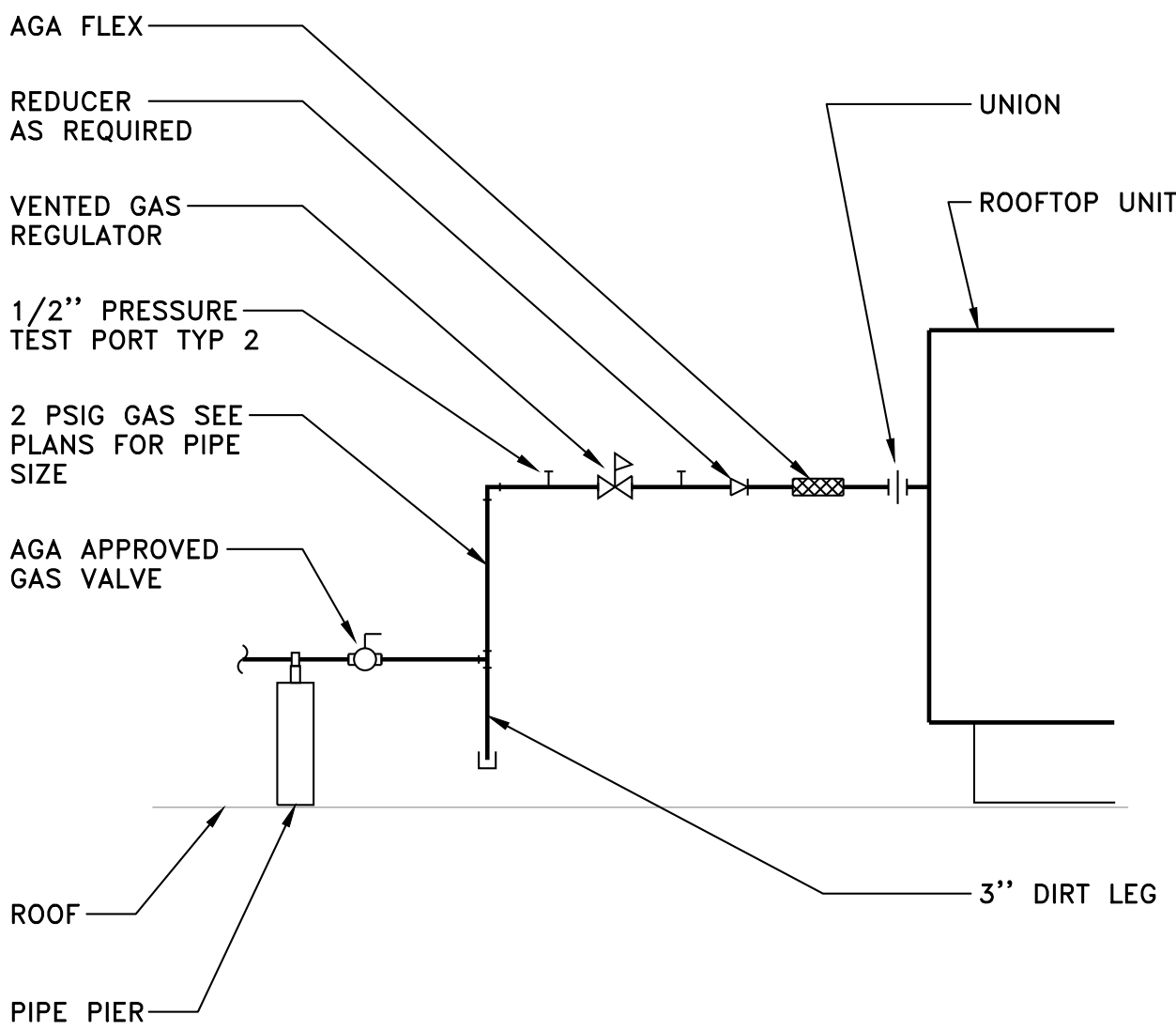
SHOP HVAC
PLAN

2021-12

SHEET NO.

M2.1

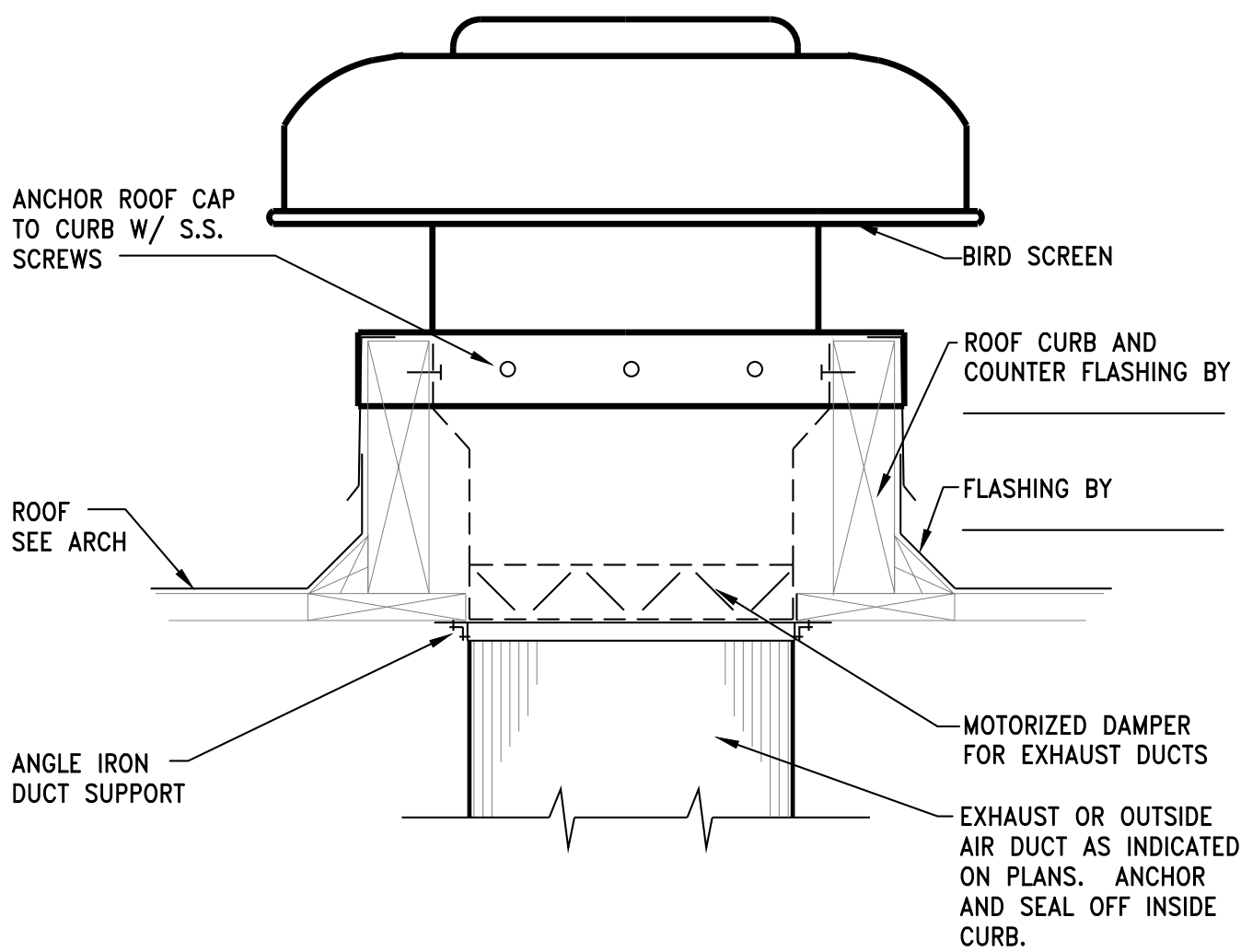
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1
M5.1

DETAIL –
ROOFTOP EQUIPMENT GAS PIPING
SCALE: N.T.S.

PDL01



2
M5.1

DETAIL – ROOF HOOD
SCALE: N.T.S.

MDA09

Revision Schedule		
#	Date	Description



06/23/2021

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MECH DETAILS

2021-12

SHEET NO.

M5.1

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CONTACT: RICK DUSA/ZACH SICHLEY
ENGINEERING@MKE-INC.COM



ELECTRICAL SYMBOLS

SOME SYMBOLS MAY NOT APPEAR ON DRAWINGS

—	BRANCH CIRCUIT IN WALL OR CEILING
---	BRANCH CIRCUIT EXPOSED
- - -	BRANCH CIRCUIT IN FLOOR OR EARTH
- - -	BRANCH CIRCUIT EXISTING
— HV	UNDERGROUND PRIMARY
— PWR	POWER LINE
— EMR	EMERGENCY CIRCUIT
— TEL	TELEPHONE LINE
— WM	WIRE MOUNTED
— DA	DATA LINE

DARKER LINES INDICATE NEW
(E) LIGHTER LINES W/ (E) INDICATE EXISTING

HASH MARK = HARD WIRED GROUND

HASH MARKS = # OF WIRES
(NO HASH MARKS = 2 WIRES + 1 GRND)

HASH MARKS = # OF WIRES W/ HARD WIRED GROUND

LIGHTING FIXTURE-2' X2' OR 2' X4' RECESSED MOUNT

LIGHTING FIXTURE-2' X2' OR 2' X4' SURFACE MOUNT

LIGHTING FIXTURE-2' X2' OR 2' X4' W/ EMERGENCY BATTERY INVERTER

LIGHTING FIXTURE-2' X2' OR 2' X4' ON EMERGENCY CIRCUIT

LIGHTING FIXTURE-2' X2' OR 2' X4' EXISTING SHOWN DOTTED (TYPICAL TO REMOVE)

LIGHTING FIXTURE-2' X2' OR 2' X4' EXISTING SHOWN LIGHT LINED (E) (TYPICAL TO REMAIN)

LIGHTING FIXTURE - STRIP / SURFACE MOUNT 2' 3' 4'

LIGHTING FIXTURE - STRIP / SURFACE MOUNT 2' 3' 4' SHOWN DOTTED (TYPICAL TO REMOVE)

LIGHTING FIXTURE-WALL MOUNT

LIGHTING FIXTURE-RECESSED

LIGHT/FAN FIXTURE-RECESSED

LIGHTING FIXTURE-CEILING MOUNT

LIGHTING FIXTURE-CEILING MOUNT

LIGHTING FIXTURE-WALL SCONCE

LIGHTING FIXTURE-BRACKET MOUNT

LIGHTING FIXTURE-EMERGENCY BATTERY PACK

LIGHTING FIXTURE-EMERGENCY BATTERY PACK

POLE MOUNTED LIGHTING FIXTURE AS TYPED REFER TO POLE BASE DETAIL

LIGHTING FIXTURE- SPECIAL REFER TO SPEC'S

LIGHTING FIXTURE-EXIT LIGHT

OCCUPANCY SENSOR

OCCUPANCY SENSOR - 360°

DUPLEX CONVENIENCE OUTLET (DCD)

120V DCD W/ SAFETY or TAMPER PROOF TYPE OUTLET

120V DCD OUTLET W/ GFCI PROTECTION

120V DCD OUTLET W/ AFCI PROTECTION

120V DCD OUTLET W/ AFCI & GROUND FAULT PROTECTION

DCD 120V W/ USB CHARGER

DCD 120V W/ HALF SWITCHED

QUADPLEX CONVENIENCE OUTLET

QUADPLEX CONVENIENCE OUTLET W/ GFCI OUTLETS

DEDICATED DCD (HARD WIRE GROUND)

DEDICATED DCD (SPECIFIC EQUIPMENT)

OUTLET 208V - AS NOTED

AUTO-CHARGING STATION 208V REFER TO SPEC.

TWO SECTION ALUMINUM POWER/COMM POLE W/ QUAD OUTLET, 1" N° TELE/DATA OUTLETS WHERE "N" = THE NUMBER OF OUTLETS/CABLES.

OCCUPANCY SENSOR RELAY

JUNCTION BOX

FLOOR MOUNTED OUTLET - AS NOTED

CONNECTION TO EQUIPMENT

MOTOR DRIVEN DEVICE

• = DEVICE OVER COUNTER

LIGHTING SWITCH - SECTION AS NOTED

LIGHTING SWITCH - THREE WAY

LIGHTING SWITCH - SINGLE POLE

LIGHTING SWITCH - FOUR WAY

LIGHTING SWITCH - DIMMER

LIGHTING SWITCH - KEYED

LIGHTING SWITCH - PILOT LIGHTED

LIGHTING SWITCH - MOMENTARY CONTACT

SWITCH - MOTOR RATED

SWITCH - WITH OCCUPANCY SENSOR

SWITCH - WITH DAY LIGHT SENSOR

SWITCH - WITH TIMER

SECURITY MOTION DETECTOR

SECURITY CAMERA

ELECTRICAL PANEL W/NAME (TYPICAL TO NEW)

ELECTRICAL PANEL EXISTING W/NAME (TYPICAL TO REMOVE)

ELECTRICAL PANEL EXISTING W/NAME (E) (TYPICAL TO REMAIN)

FIRE ALARM SIGNAL LIGHT AND HORN (MINI HORN STROBE LOWER db)

FIRE ALARM SIGNAL LIGHT AND HORN (pezzio" sound)

FIRE ALARM PULL STATION

FIRE ALARM HORN

FIRE ALARM SIGNAL LIGHT

FIRE ALARM SIGNAL LIGHT AND HORN

FIRE ALARM SMOKE DETECTOR

FIRE ALARM DUCT DETECTOR

FIRE ALARM HEAT DETECTOR

FIRE ALARM DETECTOR W/ A = AUX. CONTACTS

FIRE ALARM DETECTOR W/ HORN STROBE BASE

FIRE ALARM MAGNETIC DOOR HOLDER

FIRE ALARM EQUIPMENT CONNECTION

FIRE SMOKE DAMPER

FIRE ALARM DETECTOR CARBON MONOXIDE

FIRE ALARM DETECTOR W/ AB = ALARM BASE

CARBON MONOXIDE OUTLET

KEY PAD OUTLET

CARD READER LOCATION / VERIFY PRIOR

COMMUNICATIONS OUTLET

VOLUME CONTROL OUTLET

CLOCK

CLOCK-SPEAKER COMBINATION

CLASS BELL

CLASSROOM SOUND REINFORCEMENT SPEAKER

I/C SPEAKER

PUSH BUTTON / CALL BACK SWITCH/WITH SPEAKER

PUSH BUTTON / CALL BACK SWITCH

PUSH BUTTON / START-STOP

DOOR BELL w/ STROBE per ADA

DATA OUTLET

DATA OUTLET

PRINTER OUTLET

TELEVISION OUTLET

AUDIO JACK OUTLET

VIDEO OUTLET

TELEPHONE OUTLET

INTERCOM OUTLET

DISCONNECT W/FUSES

DISCONNECT

PHOTO ELECTRIC CELL

TIME CLOCK

NIGHT LIGHT

WEATHER PROOF

WIRE GUARD

ELECTRICAL CONTRACTOR

CIRCUIT BREAKER

PHOTO ELECTRIC CELL

NATIONAL ELECTRICAL CODE

WITH

DUPLEX CONVENIENCE OUTLET

CIRCUIT

ABOVE FINISH FLOOR

BELOW FINISHED GRADE

CIRCUIT BREAKER ENCLOSURE

st = SHUNT TRIP

INSTALLED IN THE KICK AREA

(E) EXISTING ELECTRICAL DEVICE (TYPICAL TO REMAIN)

FIXTURE TYPE - LETTER UNDERLINED

NUMBERED HEX SYMBOLS: REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE

LETTERED HEX SYMBOLS: REFER TO SHEET NOTES

OTHER SYMBOL SHAPES: REFER TO OTHER EQUIPMENT CONNECTION SCHEDULES AS NEEDED.

NOTE: DOTTED SYMBOLS REFER TO DEVICES TO BE REMOVED. DASHED OR DOTTED CONDUIT LINES ON DEMO SHEETS ARE TO BE VERIFIED BEFORE REMOVAL. THESE ARE USUALLY INDICATIONS OF SURFACE OR UNDERGROUND RAN CONDUIT.

1" CONDUIT FROM DEVICE BOX TO ACCESSIBLE CEILING SPACE OR AS NOTED.

CONDUIT HOME RUN FROM DEVICE BOX TO PANEL AS CIRCUITED.

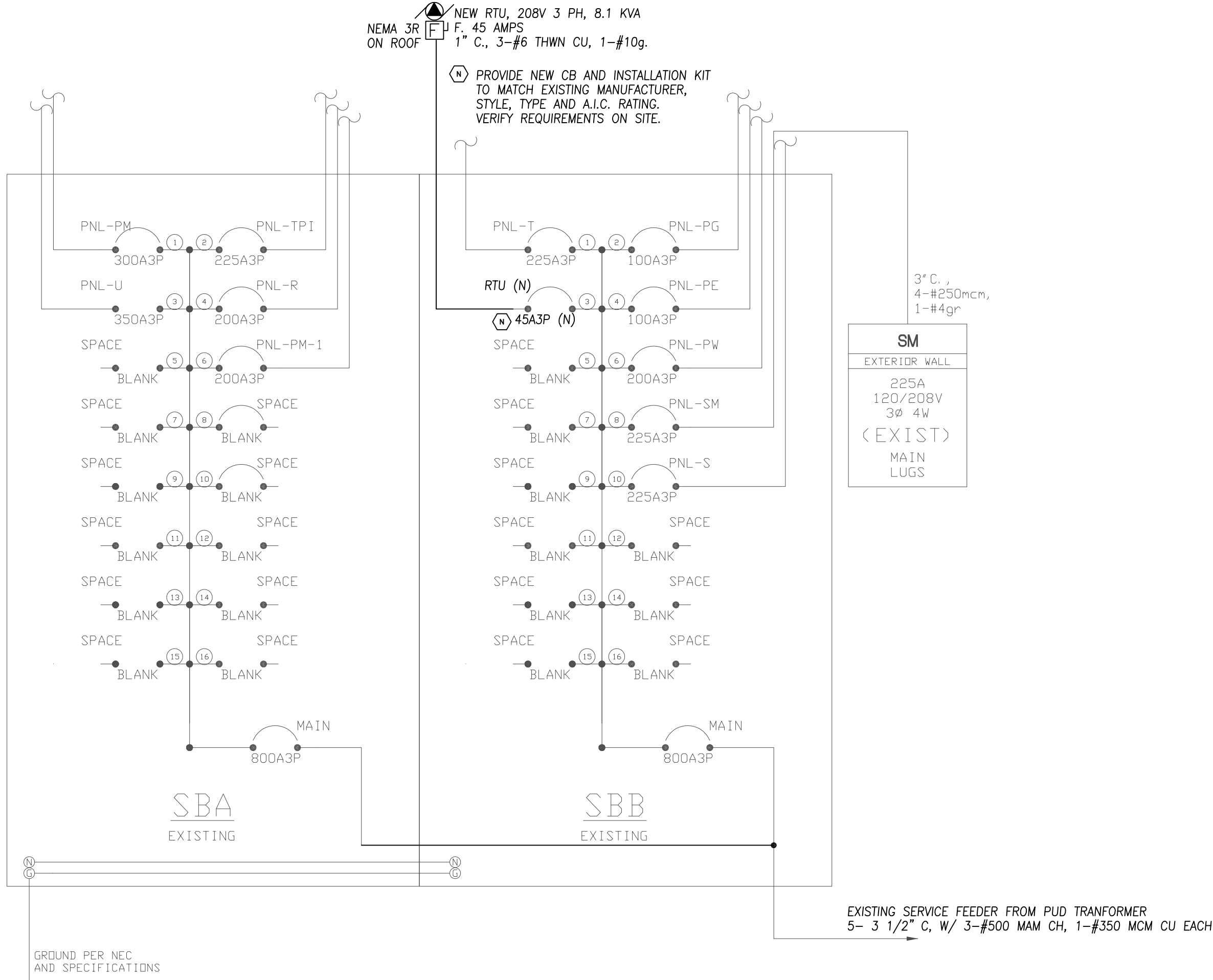
EMERGENCY CALL STATION

DOOR POSITION SENSOR

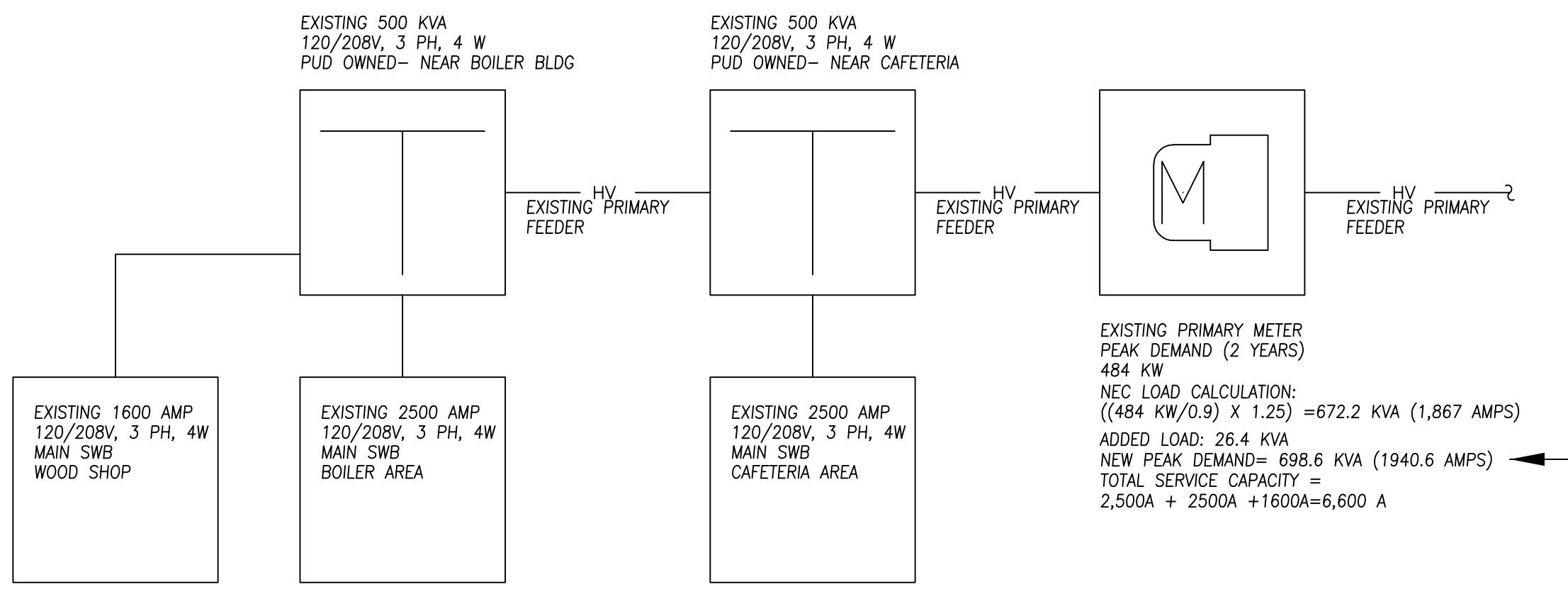
ELECTRIC WALL HEATER w/ stat (CADET #67506T)

PANEL SCHEDULE		SM		LOCATION:		EXTERIOR WALL	
NO	T	DESCRIPTION	KVA	BKR	A	BKR	A
1		SPARE CB	0.00	20A*	A	20A*	A
3	D	DCD - WALL WEST	1.08	20A*	B	20A*	B
5	D	DCD - WALL NORTH	0.72	20A*	C	20A*	C
7	D	DCD - CORD REELS OVER WORK TABLES	1.08	20A*	A	20A*	A
9	D	DCD - CORD REELS OVER WORK TABLES	1.08	20A*	B	20A*	B
11	X	BOFA AIR CLEANER	1.78	20A*	C	20A*	C
13	X	LASER CUTTER #1	2.60	20A	A	20A*	A
15				2P(N)	B	20A*	B
17	X	LASER CUTTER #2	2.60	20A	C	20A*	C
19				2P(N)	A	20A	A
21	D	DCD - WALL EAST	0.54	20A*	B	3P*	B
23	D	DCD - WALL EAST	0.54	20A*	C		
25	D	DCD - WALL SOUTH	0.72	20A*	A	20A	A
27	X	3D- PRINTER #1	0.54	20A*	B	3P(N)	B
29	X	3D- PRINTER #2	0.54	20A(N)	C		
31	X	3D- PRINTER #3	0.54	20A(N)	A	20A(N)	A
33	H	WATER HEATER - (EXISTING LOAD)	4.50	30A	B	30A(N)	B
35		RELOCATE SERVING CB		2P*	C	20A(N)	C
37	M	PLASTIC SAW DUST HOPPER (E)	9.00	50A	A	50A	A
39				3P*	B	3P*	B
41					C		
LOAD CALCULATION				CIRCUIT BREAKER CODES			
LIGHTING		1.36		S = SHUNT TRIP BREAKERS			
LTS @ 125%		1.70		* = EXISTING C.B. - ALL OTHERS NEW - (N) NEW LOAD			
MOTORS		23.00	23.00	SPARE = CIRCUIT BREAKER			
LARGST @ 25%		3.50		BLANK = C.B. POSITION			
OUTLETS		11.52	10.00	K = KITCHEN			
DEDICATED OUTLETS		0.00		L = LIGHTING			
DEMAND OUTLETS@50%		0.76		M = MOTORS			
KITCHEN		0.00	0.00	D = OUTLETS			
DEMAND KITCHEN		0.00	0.00	H = HEAT			
HEAT		8.00	8.00	X = MISCELLANEOUS			
MISCELLANEOUS		11.60	11.60	W = WELDERS			
WELDERS				TIG = 0 DEDICATED OUTLETS			
				K = 0 DEMAND KITCHEN			
				EXISTING PANEL, 225 AMP FEEDER			
				22 K A.I.C. CIRCUIT BREAKERS			
				ALL NEW EXCEPT ITEMS MARKED (E).			
CONNECTED KVA		55.48		= 154.11 AMP			
DEMAND KVA		58.56		= 162.67 AMP			

MECHANICAL EQUIPMENT CONNECTION SCHEDULE							
HEX	DESCRIPTION	HP	KVA	PH.	VOLTS	C.	REMARKS
1	RTU-1		8.1	3	208V	1"	SBB-3
2	ERV-1		2.4	1	120	3/4"	SM-34
3	DH-1		3.5	3	208V	3/4"	SM-26,28,30
4							
5							
6							



1 MARK MORRIS HIGH SCHOOL SHOPS ONE LINE DIAGRAM
E0.1 SCALE: N.T.S.



1 MARK MORRIS HIGH SCHOOL CAMPUS ONE LINE DIAGRAM
E0.1 SCALE: N.T.S.



Revision Schedule	



LPS - MARK MORRIS
SHOP CLASSROOM REMODEL
1602 MARK MORRIS CT, LONGVIEW, WA 98632

BID SET
2/3/2022

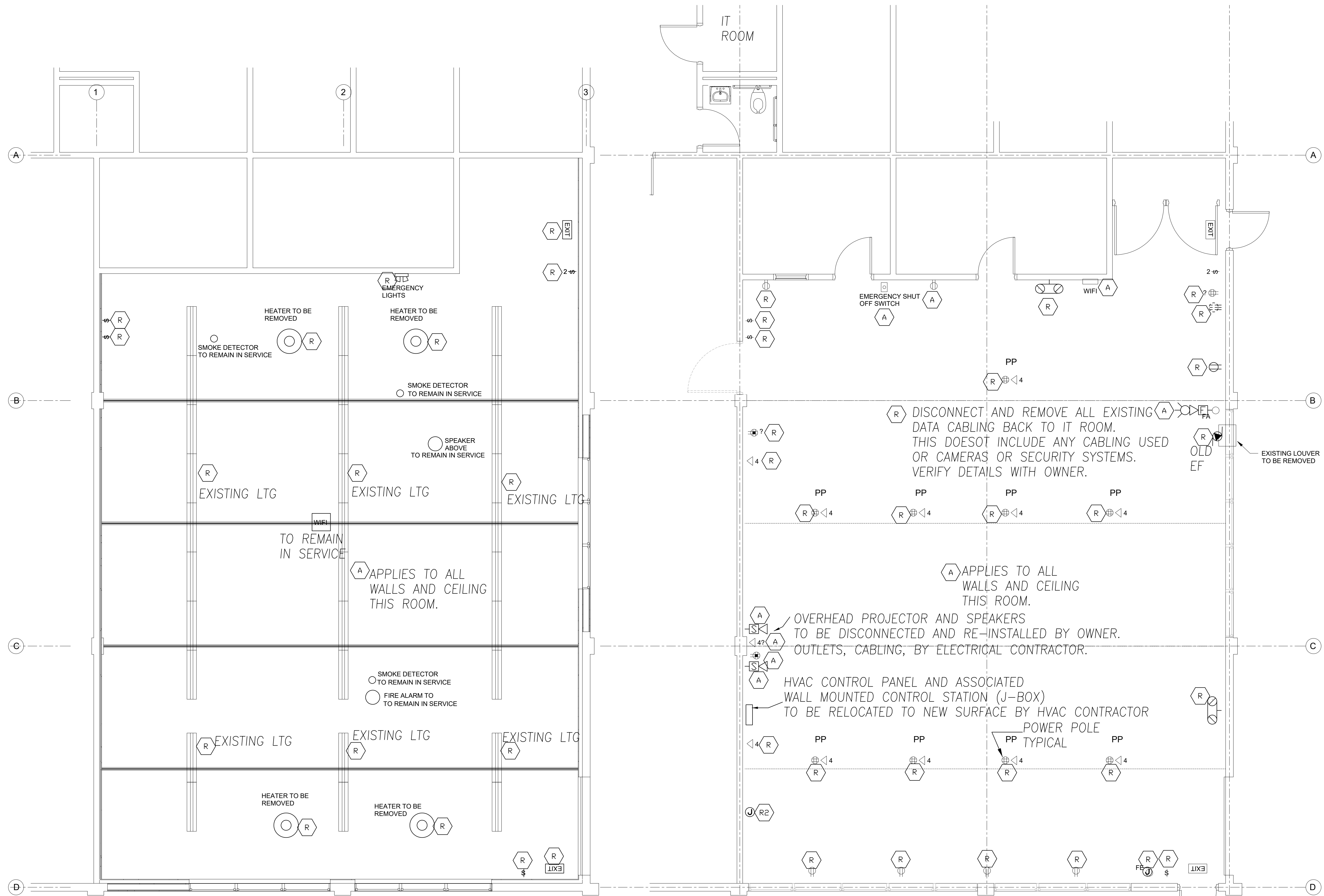
ELEC SYMBOLS
& ONELINE DIA.

2021-12

SHEET NO.

E0.1

Revision Schedule	



SHEET HEX NOTES:

LIGHTING AND CEILING

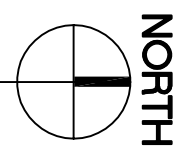
A EXISTING ELECTRICAL DEVICE. DISCONNECT AND REMOVE, STORE FOR RE-INSTALLATION. PROVIDE FOR BOX EXTENSION AS NECESSARY FOR NEW WALL. REINSTALL AND RECONNECT TO EXISTING CIRCUITRY (WIRING) COMPLETE. VERIFY REQUIREMENTS ON SITE. NOTE: NOT ALL DEVICES, BOXES, CONDUIT, REQUIRING DISCONNECTION, EXTENSION AND REINSTALLATION ARE SHOWN. VERIFY ON SITE ALL EQUIPMENT REQUIRING RELOCATION, ETC. ON SITE AND INCLUDE ALL SUCH WORK IN BASE BID.

R EXISTING ELECTRICAL EQUIPMENT TO BE DISCONNECTED AND REMOVED. REMOVE ALL ASSOCIATED BOXES, SURFACE CONDUIT, AND ABANDONED CONDUCTORS BACK TO SERVING PANEL. PROVIDE FOR THE CONTINUATION OF CIRCUITRY THAT IS TO REMAIN IN SERVICE. MARK ABANDONED CIRCUITS THAT ARE NOT RE-USED AS SPARE IN PANEL SCHEDULE. VERIFY REQUIREMENTS ON SITE.

R2 EXISTING ELECTRICAL J-BOX WITH WIRING. VERIFY ON SITE THE EXISTING LOAD SERVED. IF EXISTING LOAD IS IN SERVICE, PROVIDE FOR RE-FEEDING OF EXISTING LOAD WITHOUT GOING THRU THIS J-BOX. EXISTING J-BOX SHALL BE ABANDONED. REMOVE ALL ASSOCIATED BOXES, SURFACE CONDUIT, AND ABANDONED CONDUCTORS BACK TO SERVING PANEL. PROVIDE FOR THE CONTINUATION OF CIRCUITRY THAT IS TO REMAIN IN SERVICE. MARK ABANDONED CIRCUITS THAT ARE NOT RE-USED AS SPARE IN PANEL SCHEDULE. VERIFY REQUIREMENTS ON SITE.

1 ELECTRICAL DEMOLITION PLANS

E1.0 SCALE: 1/4" = 1'-0"



A&A

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Revision Schedule		

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LPS - MARK MORRIS
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BID SET
2/3/2022

LIGHTING

2021-12

SHEET NO.

E2.0

nLIGHT WIRELESS SYSTEM COMPONENTS

- \$nD

nLIGHT #RPODBA DX XX (DIMMING)
- \$nL

nLIGHT #RPODBA XX (NON-DIMMING)
- PP

nLIGHT #RPP20D (dimming relay)
- R

nLIGHT #RPP20 (non-dimming relay)
- (day)

nLIGHT #RCMS PS 150 PDT 10 AR G2
- (OC)

nLIGHT #RCMS PS 150 PDT 10 AR G2 OCCUPANCY SENSOR ONLY.

NOTE:
STARTUP AND ADJUSTMENTS SHALL BE BY FACTORY AUTHORIZED PERSONNEL ONLY
AND SHALL BE INCLUDED IN BASE BID.

NOTE:
1. REFER TO SHEET EO.1 FOR
PANEL SCHEDULE 'SM'

LIGHTING FIXTURE SCHEDULE

ALL LIGHTING FIXTURES ARE "OR AS APPROVED PRIOR TO BID".

- A4E

LITHONIA #BLWP4 40L ADPT 120V EZ1 LP935 NLTAIR2 RES7PDT EL14L
CHAIN HUNG BELOW CEILING STRUCTURE.
- A16

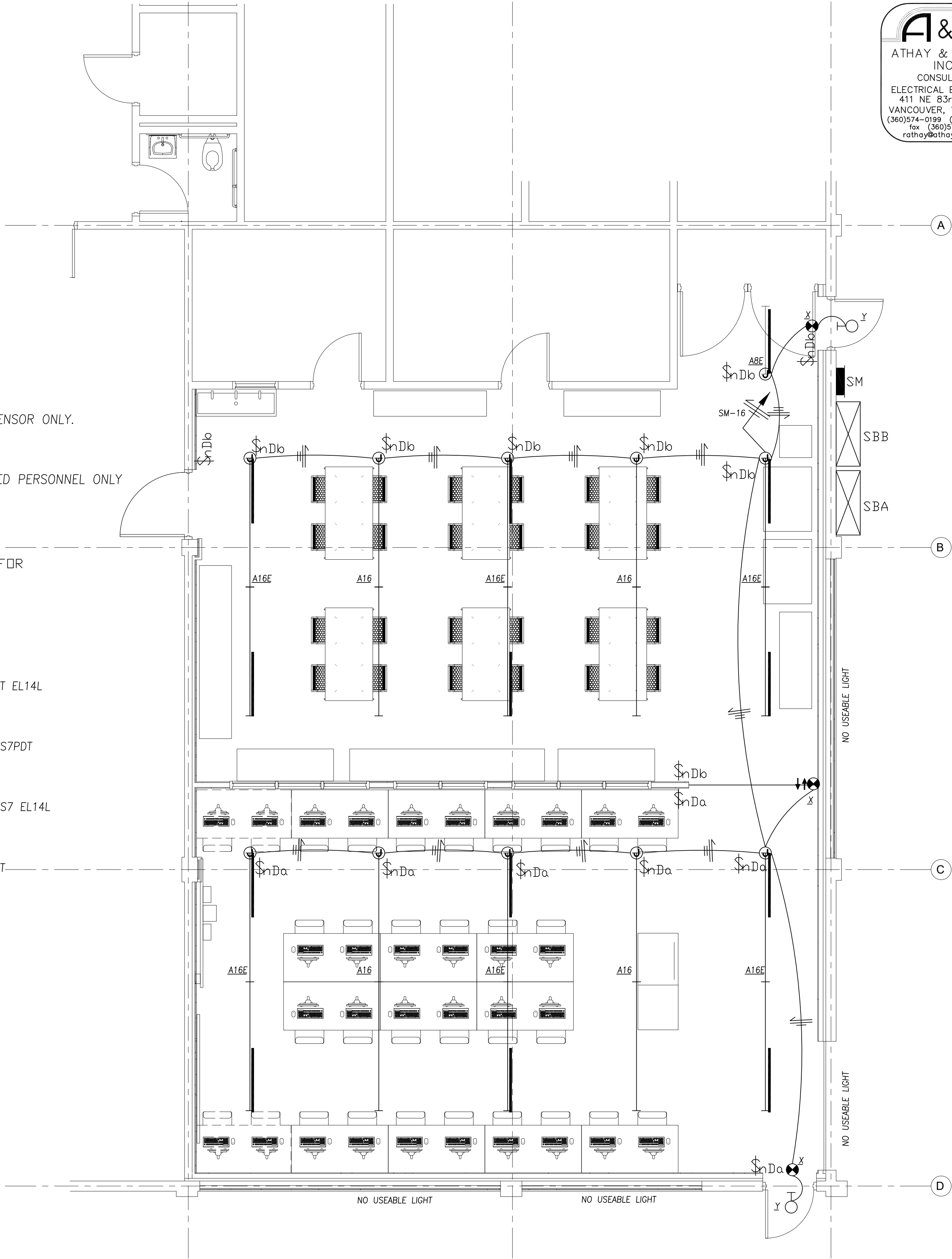
TWO LITHONIA #BLWP8 80L ADPT 120V EZ1 LP935 NLTAIR2 RES7PDT
CONNECT INTO ONE 16 FT RUN WITH BLWP8CR CONNECTOR.
CHAIN HUNG BELOW CEILING STRUCTURE.
- A16E

TWO LITHONIA #BLWP8 80L ADPT 120V EZ1 LP935 NLTAIR2 RES7 EL14L
CONNECT INTO ONE 16 FT RUN WITH BLWP8CR CONNECTOR.
CHAIN HUNG BELOW CEILING STRUCTURE.
- B

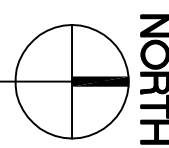
LITHONIA #BLWP4 40L ADPT 120V EZ1 LP935 NLTAIR2 RES7PDT
SURFACE MOUNT ON CEILING.
- X

LITHONIA #LQM S W 3 R 120/277 EL N SD
- Y

ISOLITE #ELED EM BZ CD



1 LIGHTING PLAN
E2.0 SCALE: 1/4" = 1'-0"

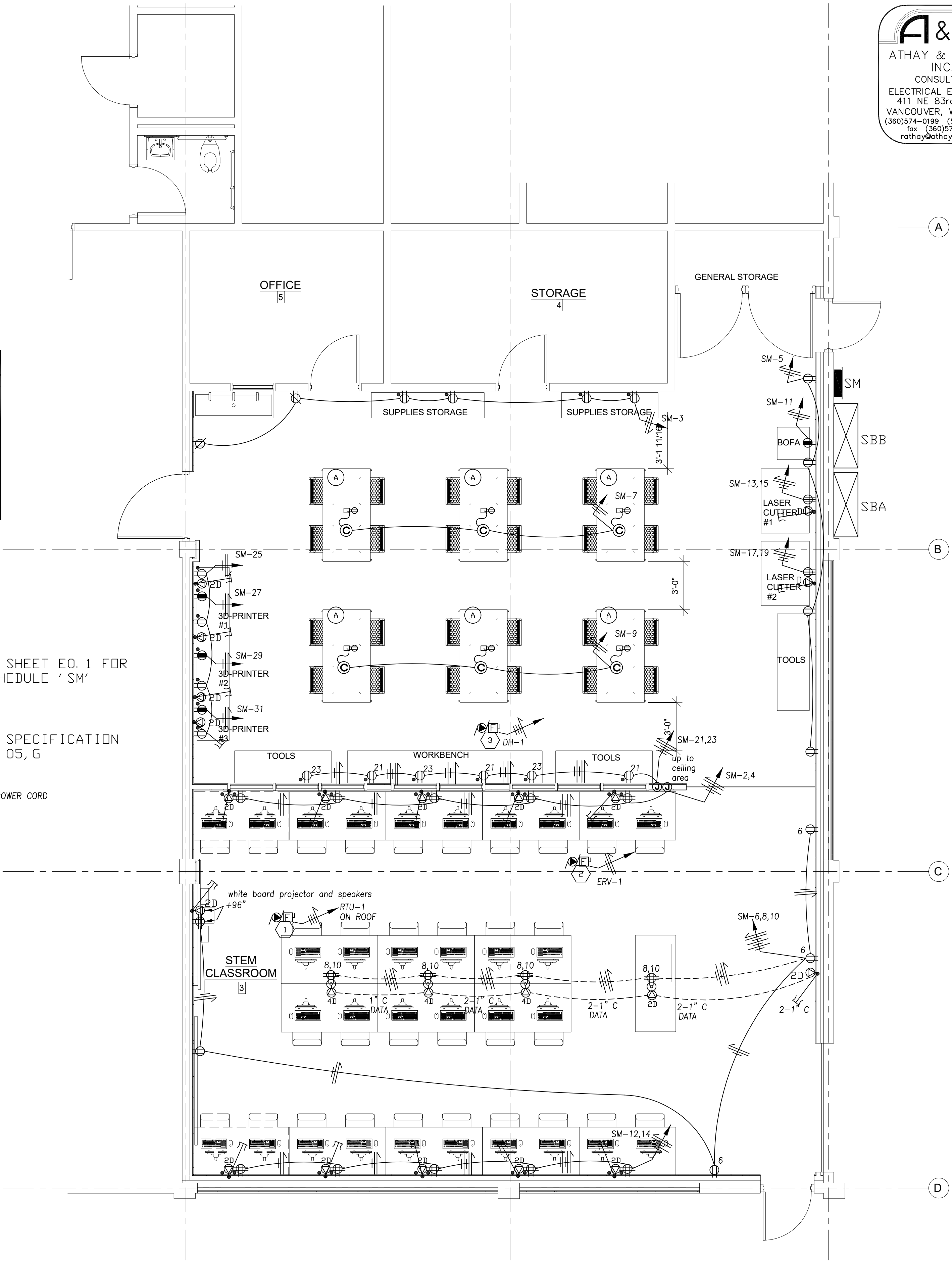


EQUIPMENT CONNECTION SCHEDULE									
	DESCRIPTION	MCA	HP	KVA	PH.	VOLTS	C.	WIRE	CIRCUIT
1	BOFA	14.80		1.78	1	120	1/2"	#12	SM-11
2	LASER - #1	12.50		2.60	1	208	1/2"	#12	SM-13,15
3	LASER - #2	12.50		2.60	1	208	1/2"	#12	SM-17,19
4	SKILL DRILL PRESS 3320	3.20		0.38	1	120	1/2"	#12	ON WORK BENCH
5	SKILL BAND SAW 3386	2.50		0.30	1	120	1/2"	#12	ON WORK BENCH
6	PRINTER #1	1.60		0.19	1	120	1/2"	#12	ON WORK BENCH
7	PRINTER #2	1.60		0.19	1	120	1/2"	#12	ON WORK BENCH
8	FLASHFORGE 3D LASER PRINTER - #1	4.50		0.54	1	120	1/2"	#12	SM-27
9	FLASHFORGE 3D LASER PRINTER - #2	4.50		0.54	1	120	1/2"	#12	SM-29
10	DREMEL 3D LASER PRINTER #3	1.80		0.22	1	120	1/2"	#12	SM-31
11	DEWALT 20" SCROLL SAW	1.30		0.16	1	120	1/2"	#12	ON WORK BENCH

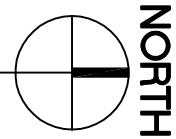
NOTE:
1. REFER TO SHEET E0.1 FOR
PANEL SCHEDULE 'SM'

NOTE:
REFER TO SPECIFICATION
260520, 2.05, G

(A) 1
208
3
DH-1
POWER REEL W/ POWER CORD



1 POWER PLAN
E3.0 SCALE: 1/4" = 1'-0"



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BID SET
2/3/2022

ELECTRICAL
POWER

2021-12
SHEET NO.

E3.0