CAPITAL ASSET MANAGERS

JONATHAN GOLDFIELD, CAPITAL ASSET MANAGER LAURA WATTS, CAPITAL ASSET MANAGER

Lowell Housing Authority Elevator Replacement IFB 2022-15 227 Gorham St., Lowell, MA

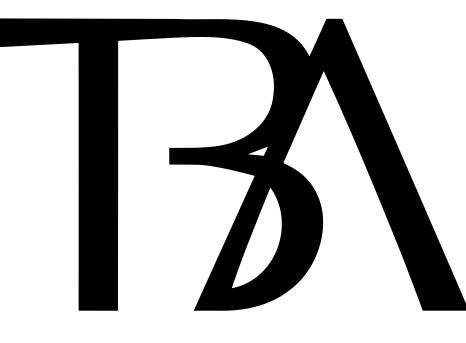


Elevator and Escalator Consulting 100 Summer Street, Suite 1600 Boston, MA 02110 Phone: 617-574-5099

ARCHIT	ECTURAL ABBREVIAT	IONS				MATERIAL INDICATIONS	GRAPHIC SYMBOLS	GENERAL INFO	LOCI MAP	DRAWING LIST	
ADD ALT ALUM APPROX & @ BLDG BLKG BRK CB CL CLKG CLR CO CONC CONST CONT CONT CONTR D DBL DEMO DET DIA DIM DIV DS DWG E E EA EL	ADDITION, ADDENDUM ALTERNATE ALUMINUM APPROXIMATE AND AT BUILDING BLOCKING BRICK CATCH BASIN CENTER LINE CAULKING CLEAR CENTRAL OFFICE CONCRETE CONSTRUCTION CONTINUOUS CONTRACTOR DEEP, DEPTH DOUBLE DEMOLITION DETAIL DIAMETER DIMENSION DIVISION DOWN SPOUT DRAWING EAST EACH ELEVATION	EQ EX/EXIST FIN FL FLASH GA GALV GC GL GWB H HORIZ IN INSUL LF MAX MECH MIN MISC MO MO MO MTL MUL N NO NOM NTS OC OPER OPNG	EQUAL EXISTING FINISH FLOOR FLASHING GAUGE GALVANIZED GENERAL CONTRACTOR GLASS, GLAZING GYPSUM WALL BOARD HIGH, HEIGHT HORIZONTAL INCHES INSULATION LINEAR FOOT MAXIMUM MECHANICAL MINIMAL MISCELLANEOUS MASONRY OPENING MAIN OFFICE METAL MULLION NORTH NUMBER NOMINAL NOT TO SCALE ON CENTER OPERABLE OPENING	O.S.C.I. P PTD PLYWD QR QUAN REF REINF REQD REV RO S SECT SF SHT SIM SPEC SQ SQIN SS STD STL THK TYP VERT W W/ WD WT	OWNER SUPPLIED CONTRACTOR INSTALLED PAINT PAINTED PLYWOOD QUARTER ROUND QUARTER ROUND QUANTITY REFERENCE REINFORCED REQUIRED REVISED ROUGH OPENING SOUTH SECTION SQUARE FOOT SHEET SIMILAR SPECIFICATION SQUARE SQUARE INCH STAINLESS STEEL STANDARD STEEL THICK TYPICAL VERTICAL WIDE, WEST WITH WOOD WEIGHT	Image: Descent in the second	BREAK LINE ELEVATION MARKER ELEVATION MARKER TI/A-3.0 TI/A-3.0 ELEVATION MARKER DETAIL MARKER DETAIL MARKER TA-1.0 TA-1.0 DETAIL MARKER NAME X REVISION NUMBER INTERIOR ELEVATIO X NOTE DOOR NUMBER LIGHT FIXTURE NAME NEW - NEW HEAD REL - RELOCATE	GENERAL NOTES The General Contractor shall be responsible for all construction means, methods, co-ordination of other trades and techniques to produce a sound quality building. All dimensions, elevations and conditions must be verified by the General Contractor or responsible trade. * Apply for, obtain and pay for all required permits. Submit copies of permits to Authority within 3 days of receipt and prior to commencing work. * Deguest schedule and attend all inspections required by the authorities having	<image/>	COVER SHEET ARCHITECTURAL DRAWINGS D-1.0 DEMO INTERIOR ELEVATIONS A-1.0 INTERIOR ELEVATIONS A-2.0 ELEVATIONS VERTICAL TRANSPORTATION DRAWINGS VT-0.1 ELEVATOR DETAILS HVAC DRAWINGS HVAC DRAWINGS HVAC SCHEDULES AND DETAILS H-0.1 HVAC SCHEDULES AND DETAILS H-1.0 HVAC PLANS ELECTRICAL DRAWINGS E-0.1 ELECTRICAL DRAWINGS E-1.0 ELECTRICAL DRAWINGS E-2.0 ELECTRICAL DRAWINGS FA-0.1 FIRE ALARM LEGEND, RISER DIAGRAM, AND SPECIFICATIONS FA-1.0 FIRE ALARM PLANS	

Lowell Housing Authority

DR. GARY K. WALLACE, EXECUTIVE DIRECTOR PHILIP L. SHEA, CHAIRPERSON MONY VAR, VICE CHAIRPERSON JOANIE BERNES, COMMISSIONER RODNEY ELLIOTT, COMMISSIONER MATT MARR, COMMISSIONER



ARCHITECTURE PLANNING PROJECT MANAGEMENT

9 DAMONMILL SQUARE, SUITE 5C CONCORD, MA. 01742 TEL (781)893-5828 www.tbaarchitects.com

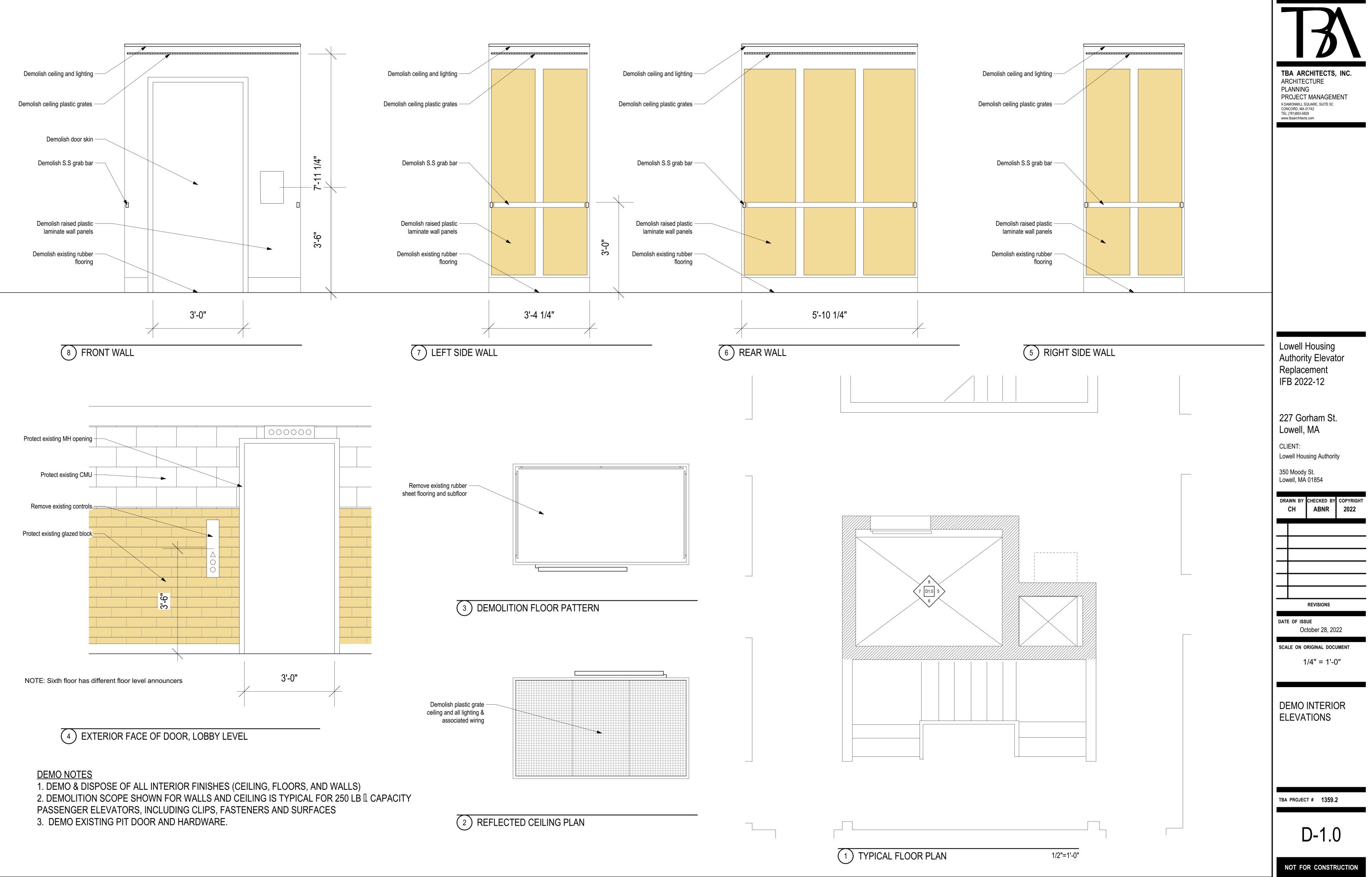
ISSUE DATE: October 28, 2022

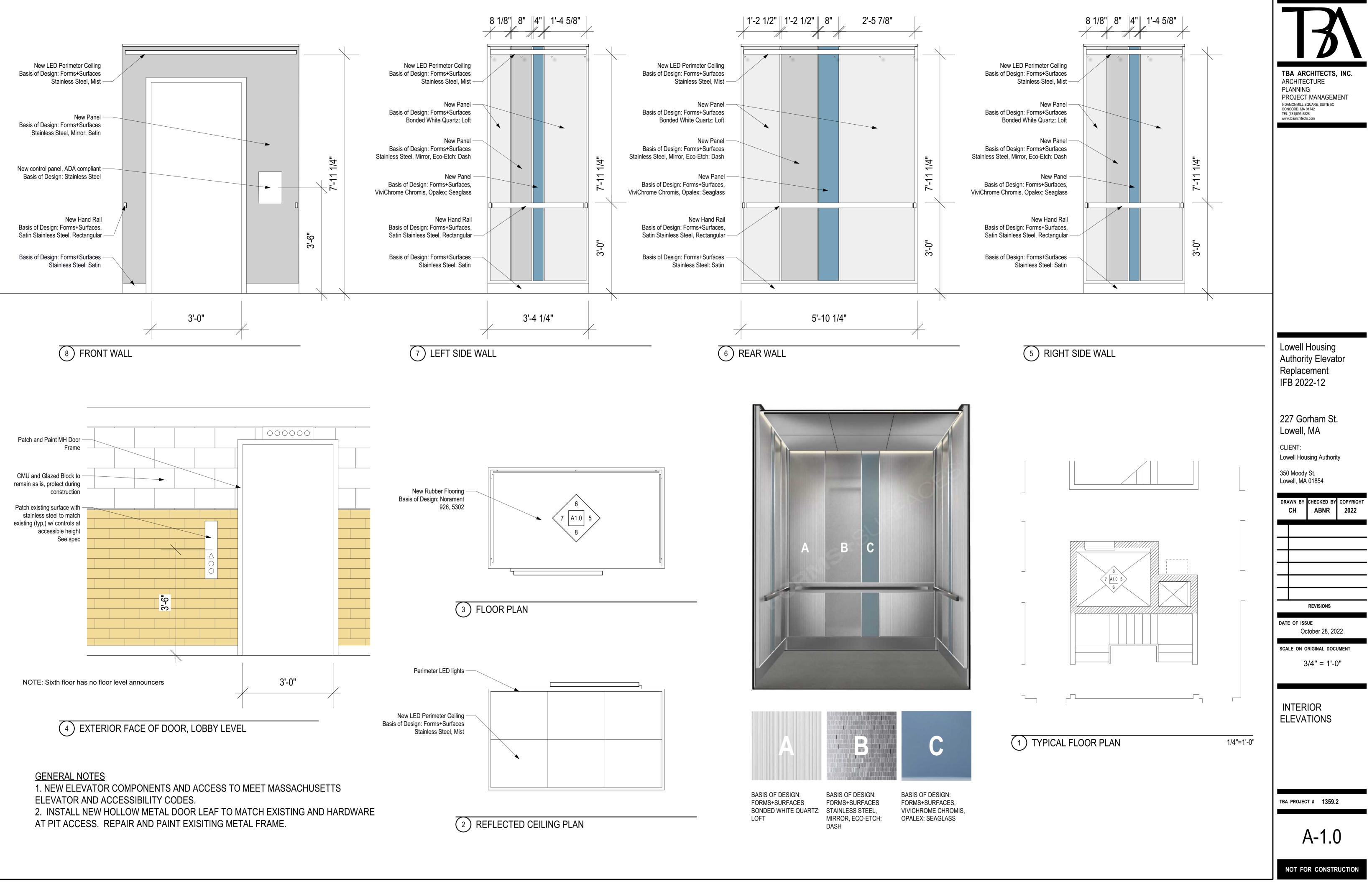
COMMITTEE

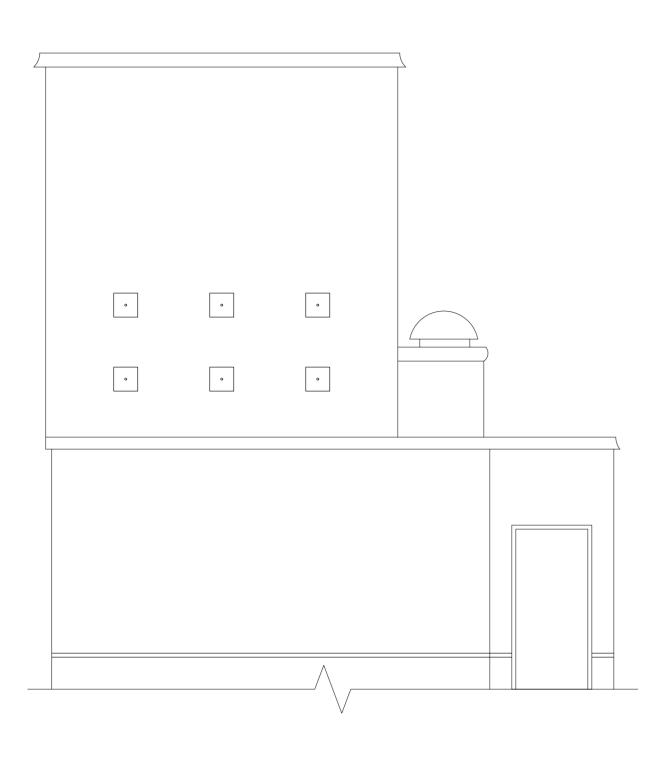


BLW Engineers, Inc. 311 Great Road, Post Office Box 1551 Littleton, Massachusetts 01460 T: 978.486.4301 F: 978.428.0067 www.blwengineers.com

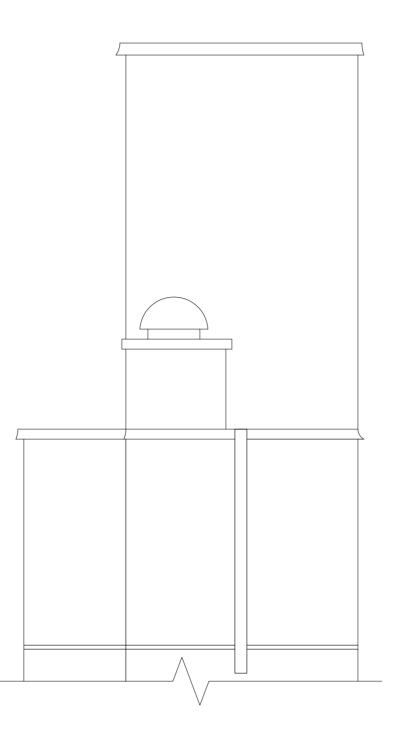
HVAC * ELECTRICAL * PLUMBING * FIRE PROTECTION

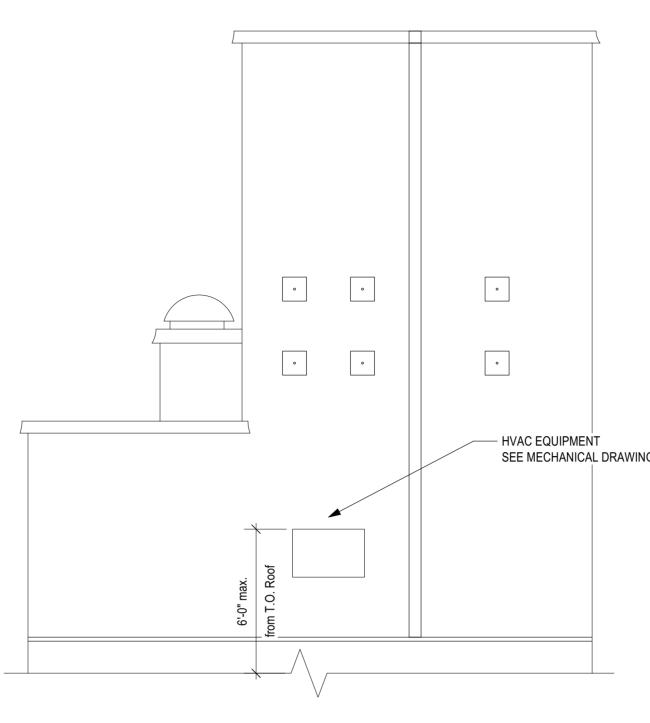




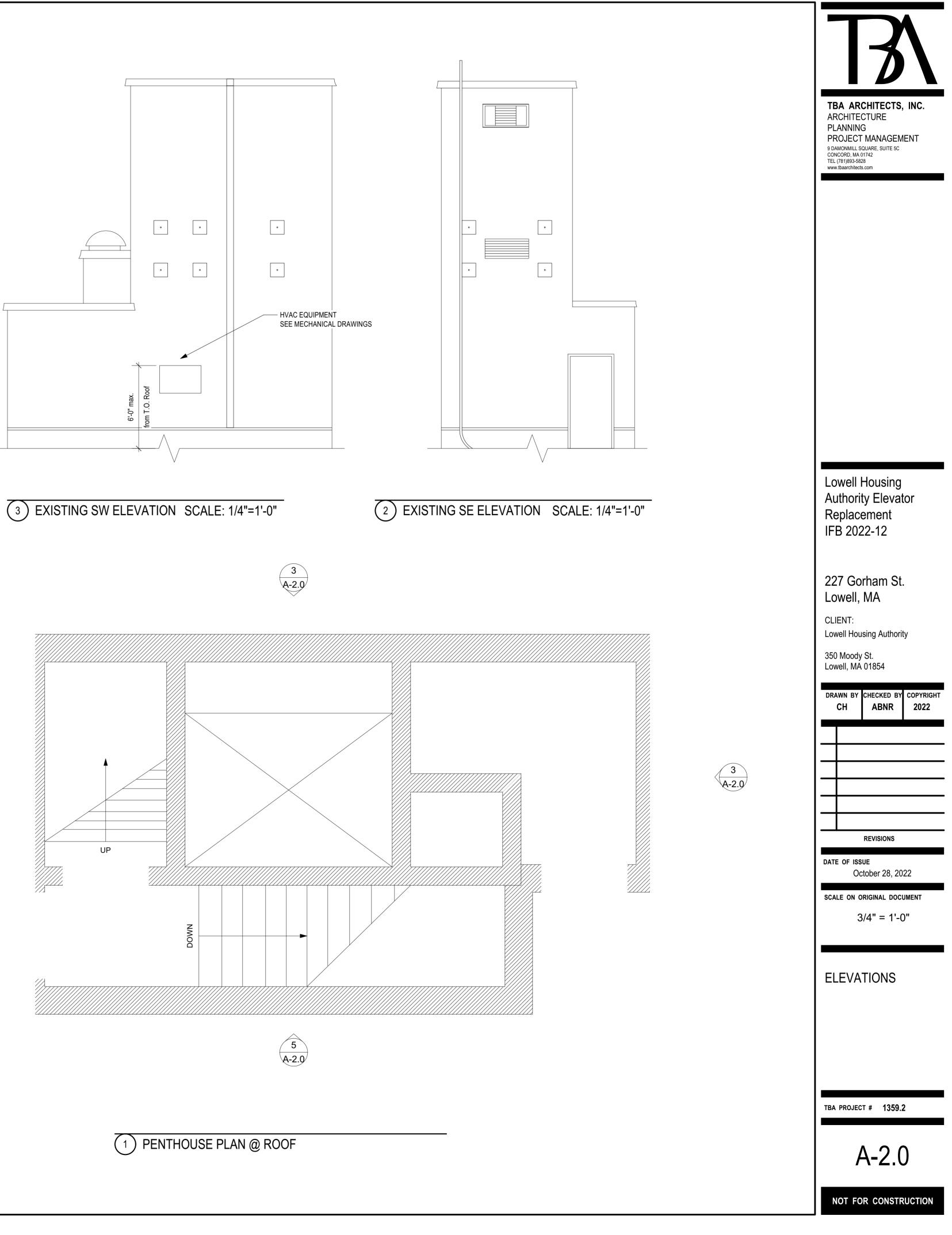


5 EXISTING NE ELEVATION SCALE: 1/4"=1'-0"

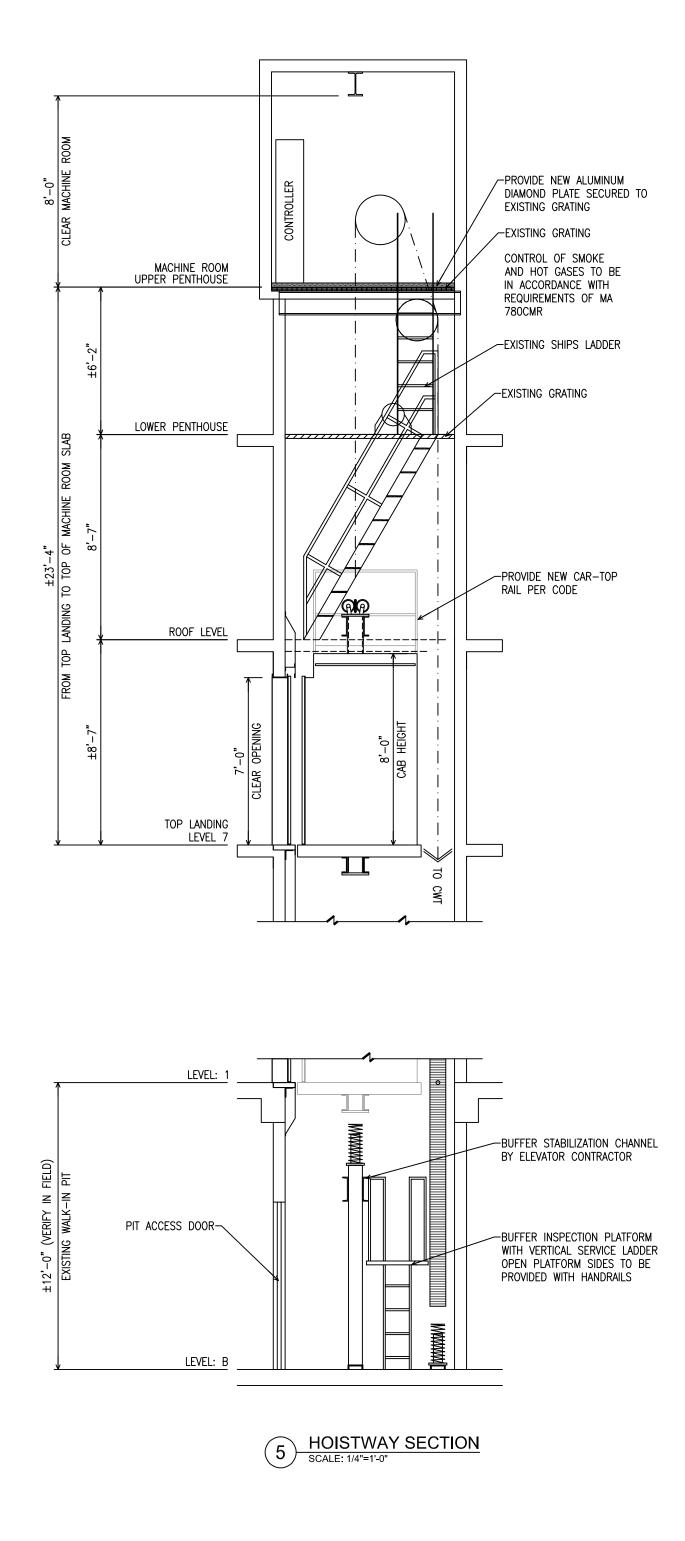


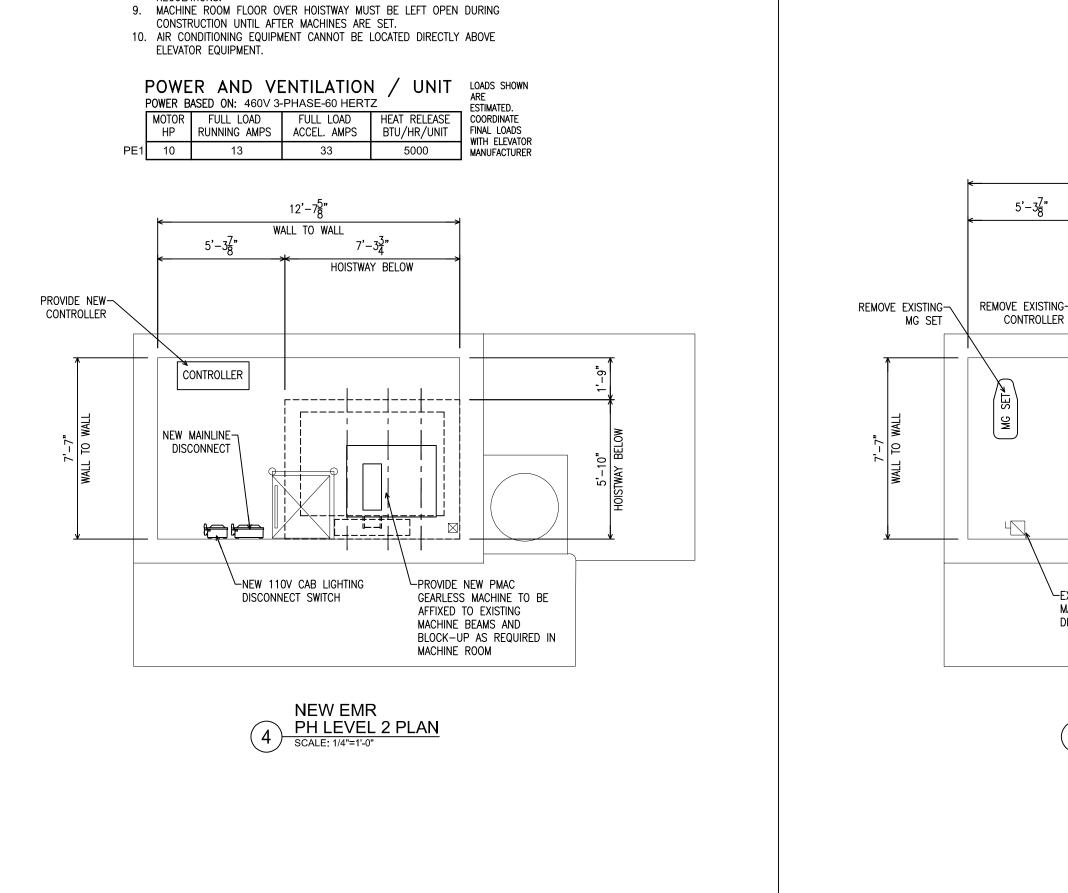


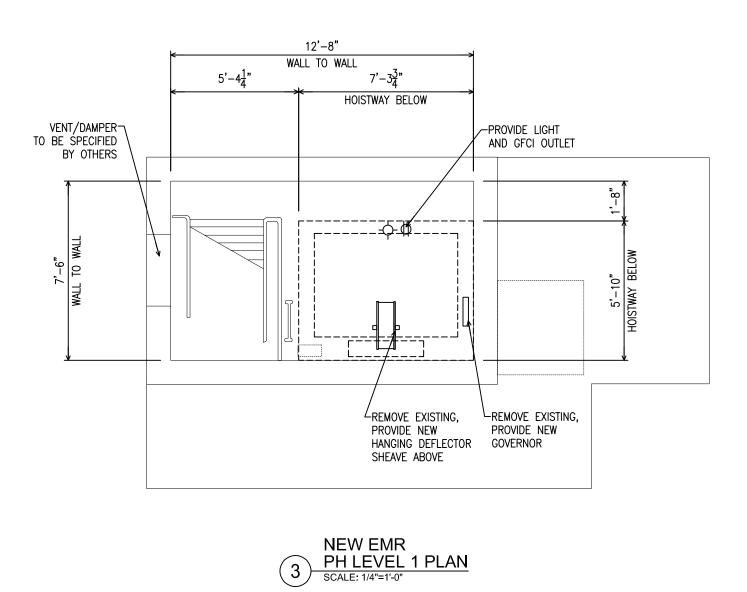
4 EXISTING NW ELEVATION SCALE: 1/4"=1'-0"

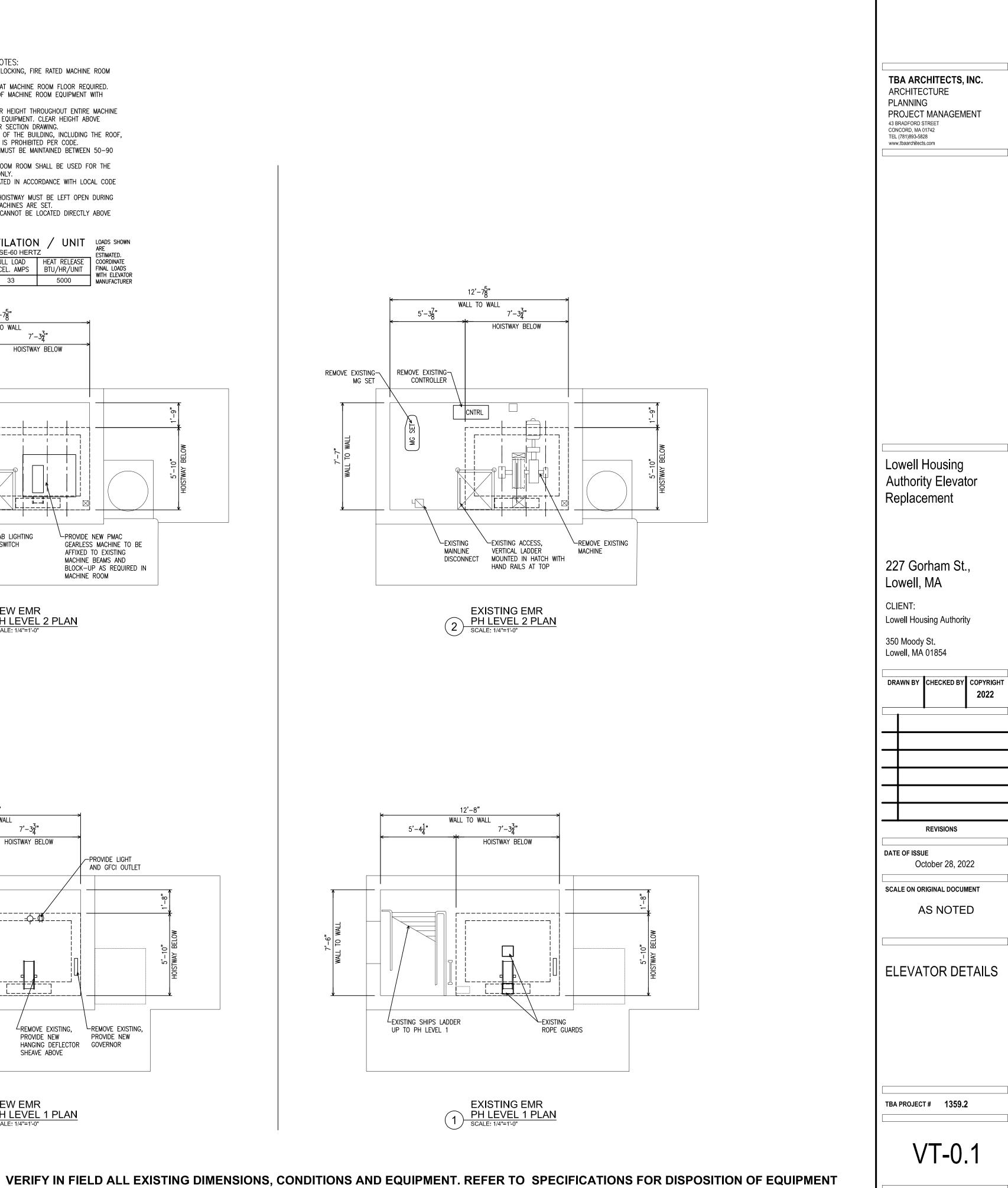












TRACTION MACHINE ROOM NOTES: 1. PROVIDE SELF CLOSING, SELF LOCKING, FIRE RATED MACHINE ROOM DOOR PER CODE.

MACHINE MUST BE SHOWN PER SECTION DRAWING.

ELEVATOR SHOP DRAWINGS.

FUNCTION OF THE ELEVATOR ONLY.

DEG. F.

REGULATIONS.

MINIMUM 200 LUX MEASURED AT MACHINE ROOM FLOOR REQUIRED. COORDINATE FINAL LOCATION OF MACHINE ROOM EQUIPMENT WITH

4. MAINTAIN MINIMUM 7'-0" CLEAR HEIGHT THROUGHOUT ENTIRE MACHINE

ROOM AFTER INSTALLATION OF EQUIPMENT. CLEAR HEIGHT ABOVE

5. ACCESS TO ANOTHER PORTION OF THE BUILDING, INCLUDING THE ROOF, THROUGH THE MACHINE ROOM IS PROHIBITED PER CODE.

6. MACHINE ROOM TEMPERATURE MUST BE MAINTAINED BETWEEN 50-90

7. EQUIPMENT IN THE MACHINE ROOM ROOM SHALL BE USED FOR THE

8. MACHINE ROOM TO BE VENTILATED IN ACCORDANCE WITH LOCAL CODE

DRA	AWING NOTES
	EQUIPMENT DESIGNATION DRAWING REVISION NOTE DRAWING WORK NOTE REVISION CLOUD
8 11 <u>1111111111111111111111111111111111</u>	CONNECT TO EXISTING EXISTING TO BE REMOVED
AIR DEV	ICE LEGEND
	SIDEWALL SUPPLY REGISTER
\boxtimes	SUPPLY DIFFUSER
▲ #	RETURN/EXHAUST GRILLE
-//-	SIDEWALL EXHAUST/RETURN F
	SUPPLY AIR DIFFUSER 4-WAY UNLESS SHOWN OTHERWISE
► ← //_	SUPPLY AIR RETURN OR EXHAUST AIR
ABI	BREVIATIONS
AD AFF AP ARCH. ATC BTUH CFM CONTR DIA. DWG EAT EC EF ESP EXH FPM FT GC GPM HP HVAC LAT MBH N.T.S. OA OBD PC PD RTU SF SP	ACCESS DOOR ABOVE FINISHED FLOOR ACCESS PANEL ARCHITECT AUTOMATIC TEMPERATURE CONTROL BRITISH THERMAL UNIT PER HOUR CUBIC FEET PER MINUTE CONTRACTOR DIAMETER DRAWING ENTERING AIR TEMPERATURE ELECTRICAL CONTRACTOR EXHAUST FAN EXTERNAL STATIC PRESSURE EXHAUST FEET PER MINUTE FEET GENERAL CONTRACTOR GALLONS PER MINUTE HORSE POWER HEATING, VENTILATION AND AIR CONDITION LEAVING AIR TEMPERATURE THOUSANDS OF BRITISH THERMAL UNITS T NOT TO SCALE OUTSIDE AIR OPPOSED BLADE DAMPER PLUMBING CONTRACTOR PRESSURE DROP ROOF TOP UNIT SQUARE FEET STATIC PRESSURE
TYP	TYPICAL

	PIPING	LEGEND	DU	JCTWORK LEGEND		DA	MPERS
VED TER JRN REGISTER -WAY BLOW SE		PIPE OFF BOTTOM PIPE OFF TOP RUN-OUT OFF TOP RUN-OUT OFF BOTTOM PIPE UP PIPE DOWN DIRECTION OF FLOW PIPE BREAK	$\begin{array}{c} 12x6 \\ 12$	NEW SUPPLY DUCTWORK - SINGLE LINE NEW RETURN/EXHAUST DUCTWORK - SINGLE LINE EXISTING DUCTWORK - SINGLE LINE EXISTING DUCTWORK TO BE REMOVED - SINGLE LINE RECTANGULAR SUPPLY DUCTWORK UP - SINGLE LINE RECTANGULAR SUPPLY DUCTWORK DOWN - SINGLE LINE RECTANGULAR RETURN/EXHAUST DUCTWORK UP - SINGLE LINE RECTANGULAR RETURN/EXHAUST DUCTWORK DOWN - SINGLE LINE RECTANGULAR RETURN/EXHAUST DUCTWORK DOWN - SINGLE LINE ROUND DUCTWORK UP - SINGLE LINE ROUND DUCTWORK DOWN - SINGLE LINE FLEXIBLE DUCTWORK - SINGLE LINE ILINE (MAX. LENGTH 5'-0") ACOUSTICALLY LINED DUCTWORK - SINGLE LINE 1/2" WIRE MESH SCREEN (ON OPEN END DUCT)	© BD FD FS		MOTORIZED OR AUTOMATIC CONTROL DAMPER SMOKE DAMPER BACK DRAFT DAMPER FIRE DAMPER FIRE & SMOKE DAMPER VOLUME DAMPER OLLEGEND HEAT/COOL THERMOSTAT VARIABLE FREQUENCY DRIVE DUCT SMOKE DETECTOR CONTROL LINE

GENERAL NOTES

- 1. MECHANICAL WORK INDICATED IS DIAGRAMMATIC. EXACT LOCATIONS OF ALL COMPONENTS ARE TO BE DETERMINED IN THE FIELD TO AVOID CONFLICT WITH OTHER TRADES AND EXISTING SITE CONDITIONS.
- 2. ALL MECHANICAL EQUIPMENT AND DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF GOVERNING LOCAL, STATE, AND FEDERAL SEISMIC CODES.
- 3. ALL DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH CODES AND STANDARDS SET FORTH IN NFPA, SMACNA, AND ASHRAE FOR LOW PRESSURE DUCTWORK SYSTEMS.
- 4. ALL DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR FREE AREA REQUIRED.
- 5. COORDINATE ENTIRE INSTALLATION WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATIONS.
- 6. OBTAIN ALL REQUIRED PERMITS AND PAY ALL FEES RELATED TO SAME.
- 7. ALL WORK SHOWN IS DIAGRAMMATIC ONLY. DETERMINE THE EXACT LOCATION IN THE FIELD.
- 8. PROVIDE ACCESS TO ALL EQUIPMENT REQUIRING PERIODIC SERVICE AND MAINTENANCE.

NDITIONING

units per hour

TBA ARCHITECTS, INC. ARCHITECTURE PLANNING PROJECT MANAGEMENT 43 BRADFORD STREET CONCORD, MA 01742 TEL (781)893-5828 www.tbaarchitects.com



BLW Engineers, Inc. 311 Great Road, Post Office Box 1551 Littleton, Massachusetts 01460 T: 978.486.4301 F: 978.428.0067 www.blwengineers.com HVAC * ELECTRICAL * PLUMBING * FIRE PROTECTION

Lowell Housing Authority Elevator Replacement

227 Gorham St., Lowell, MA

CLIENT: Lowell Housing Authority

350 Moody St. Lowell, MA 01854

_								
	DR/	AWN BY	CHECKED BY	COPYRIGHT				
Ľ								
-								
_								
-								
_								
_								
-		1						
			REVISIONS					
Ľ								
[DATE	E OF ISSU	E					
			tober 28, 20	22				
_				<u> </u>				
L								
	~~ ~							

SCALE ON ORIGINAL DOCUMENT

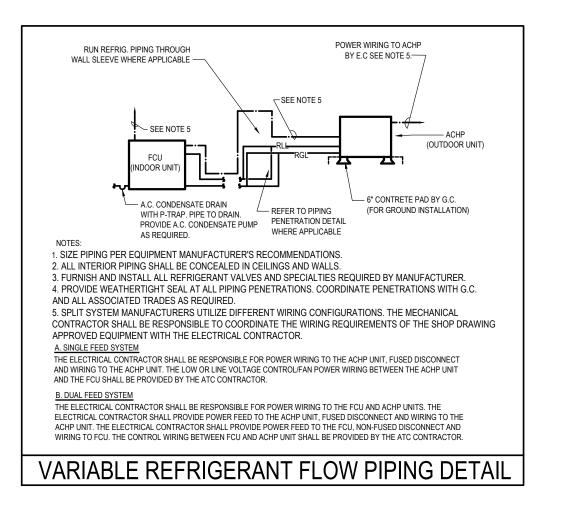
SCALE NONE

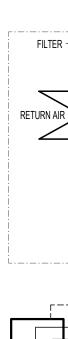
HVAC LEGEND AND SPECIFICATIONS

TBA PROJECT # 1359.2

H-0.1

NOT FOR CONSTRUCTION



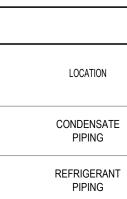


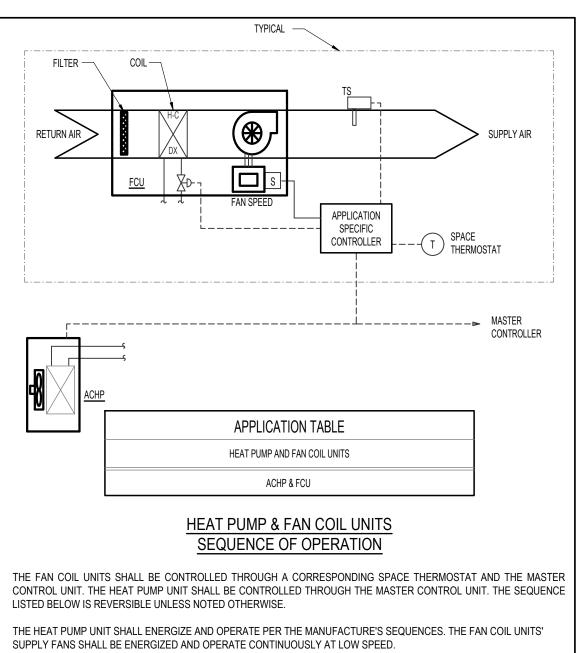
	DX FAN COIL UNIT SCHEDULE													
HEAT							FAN	DATA		ELECTRICAL DATA				
TAG No.	MANUFACTURER	MODEL No.	TYPE	COOLING MBH	MBH @ 5°F	MIN CFM	MED CFM	MAX CFM	ESP (IN WG)	VOLT	PH	ΗZ	SYSTEM MCA/MFA	REMARKS
FCU-1	DAIKIN	FTX24AXVJU	DUCTLESS WALL MOUNT	21.2	12	395	605	715	-	208	1	60	16.4/20	1,2

1. PROVIDE WITH DISCONNECT SWITCH, WALL BRACKETS, THERMOSTAT. 2. PROVIDE CONDENSATE PUMP MODEL DACA-CP3-1.

	AIR COOLED HEAT PUMP UNIT SCHEDULE													
TAG No.	FAN COIL(S) SERVED	MANUFACTURER	MODEL No.	TYPE	TYPE REFRIG. MBH COOL HEAT		MODULE	VOLTS	ELECTRIC PHASE	AL DATA MCA	MOCP	OPERATING WEIGHT (LBS.)	REMARKS	
ACHP-1	FCU-1	DAIKIN	RX24AXVJU	AIR COOLED	R-410A	21.2	12	1	208	1	16.4	20	110	1,2,3

1) PROVIDE DISCONNECT SWITCH, WALL BRACKET. 2) HEATING CAPACITY RATING SHALL BE BASED ON 0°F OUTDOOR AIR TEMPERATURE. 3) INDOOR UNIT SHALL RECEIVE POWER FROM OUTDOOR UNIT THROUGH FIELD SUPPLIED INTERCONNECTED WIRING. COORDINATE WITH ELECTRICAL CONTRACTOR.





UPON A CALL FOR HEATING FROM THE SPACE THERMOSTAT THE FAN COIL SHALL OPERATE PER THE MANUFACTURER'S SEQUENCES TO MAINTAIN THE SPACE TEMPERATURE SETPOINT (ADJ.). UPON FURTHER CALL FOR HEAT, THE UNITS FAN SPEED SHALL BE INCREASED FROM LOW TO MEDIUM AND MEDIUM TO HIGH, AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.

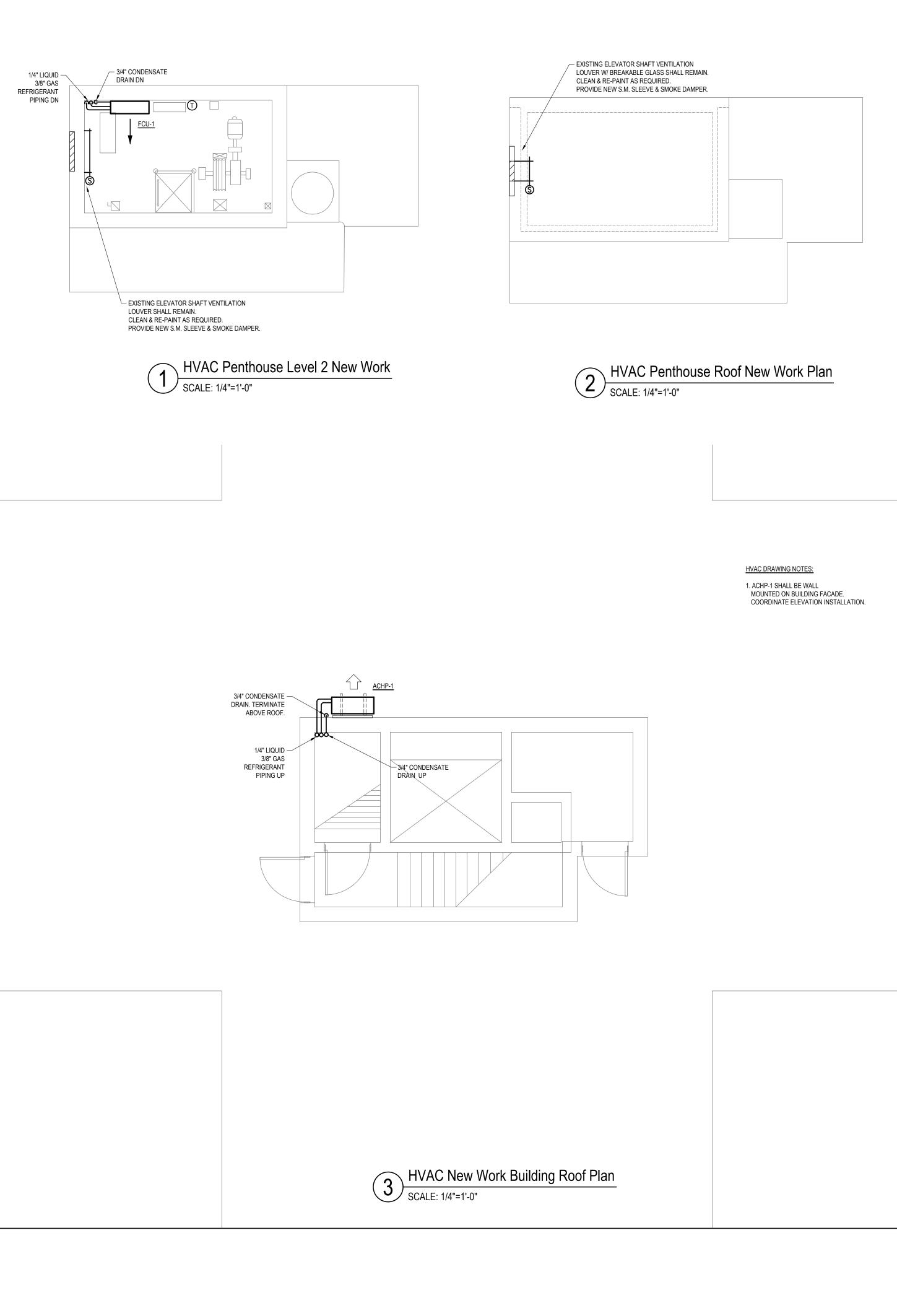
UPON A CALL FOR COOLING FROM THE SPACE THERMOSTAT THE FAN COIL UNIT SHALL OPERATE PER THE MANUFACTURER'S SEQUENCES TO MAINTAIN SPACE TEMPERATURE SETPOINT (ADJ.). UPON A FURTHER CALL FOR COOLING THE UNIT SUPPLY FAN SPEED SHALL BE INCREASED FROM LOW TO MEDIUM AND MEDIUM TO HIGH, AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.

		INSULATION SCHEDU	JLE							
		FOR PIPE DIA. (INCHES)								
	INSULATION TYPE	FITTING INSULATION TYPE	RUNOUTS	_<1 1/2"	2"-2 1/2"	3"-6"				
			INSULATION WALL THICKNESS (INCHES)							
E	ELASTOMERIC	ELASTOMERIC	3/4"	3/4"	3/4"	3/4"				
Γ	ELASTOMERIC	ELASTOMERIC	1-1/2"	1-1/2"	1-1/2"	1-1/2"				

PIPE SCHEDULE												
SERVICE	LOCATION	PIPING	FITTINGS	JOINTS								
REFRIGERANT PIPING	ABOVE GROUND	COPPER - ARC	COPPER, NO LEAD	BRAZED								

TBA ARCHITECTS, INC.
ARCHITECTURE PLANNING
PROJECT MANAGEMENT 43 BRADFORD STREET CONCORD, MA 01742
TEL (781)893-5828 www.tbaarchitects.com
BLW
BLW Engineers, Inc.
311 Great Road, Post Office Box 1551 Littleton, Massachusetts 01460 T: 978,486,4301 F: 978,428,0067
HVAC * ELECTRICAL * PLUMBING * FIRE PROTECTION
Lowell Housing
Authority Elevator
Replacement
227 Gorham St., Lowell, MA
CLIENT:
Lowell Housing Authority
350 Moody St. Lowell, MA 01854
DRAWN BY CHECKED BY COPYRIGHT 2022
REVISIONS
DATE OF ISSUE
October 28, 2022
SCALE ON ORIGINAL DOCUMENT
SCALE
HVAC SCHEDULES
AND DETAILS
TBA PROJECT # 1359.2
H-0.2
NOT FOR CONSTRUCTION

late: 10/5/21 iil*a nama:* I 0well Flevator Renjacement II



AF PL PR 43 B CON TEL	A ARCHITECTS, I CHITECTURE ANNING OJECT MANAGEM RADFORD STREET CORD, MA 01742 (781)893-5828 tbaarchitects.com	
HV	BLW Enginee 311 Great Road, Post Offi Littleton, Massachuse T: 978.486.4301 F: 978 www.blwengineers Acc * ELECTRICAL * PLUMBING * F	ers, Inc. ice Box 1551 tts 01460 3.428.0067 s.com
Αι	well Housing thority Elevat	or
Lo CLI Low 350	7 Gorham St. well, MA ENT: /ell Housing Authorit Moody St. /ell, MA 01854	
DR/	AWN BY CHECKED BY	COPYRIGHT 2022
	REVISIONS	
DATE	OF ISSUE October 28, 20	22
SCA	LE ON ORIGINAL DOCUM	ENT
	SCALE AS NOTED	
1		
	AC PLANS	
 H\	AC PLANS	
— H\ 	AC PLANS	
— H\ 	AC PLANS	
	/AC PLANS PROJECT # 1359.2	2

	GENERA	L NO	TES		BRANCH CIRCUIT AND FEEDER
1. RE	FER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR MOUNTI				HOMERUN TO PANELBOARD "PP1", CIRCUIT NUMBER "2 REFER TO PANEL SCHEDULE FOR BREAKER SIZE AND NUMBER OF PC
·)	RFORM WORK AND PROVIDE MATERIALS AND EQUIPMENT TO M	AKE INSTA	LLATION COMPLETE IN EVERY DETAIL UNDER THIS CONTRACT		CONCEALED UNLESS OTHERWISE NOTED NUMBER OF ARROWS INDICATES NUMBER OF INDIVIDUAL HOMERUNS
VVI			ID GROUNDED IN ACCORDANCE WITH THE LATEST STANDARDS	PP1-2 PP1-2,4,6	UNLESS NOTED OTHERWISE, WIRING FOR EACH CIRCUIT SHALL BE: 20A/1P - 2#12,#12G-¾"C
	THE NATIONAL & STATE ELECTRICAL CODES AND ANY APPLICA			FF 1-2,4,0	20A/2P - 3#12,#12G-⅔"C 20A/3P - 4#12,#12G-⅔"C WIRING FOR MULTIPLE HOMERUNS MAY BE COMBINED IN CONDUIT IN
4. AL	L FLOOR, MASONRY WALLS AND STRUCTURAL CEILING PENETR	ATIONS SH	ALL BE SLEEVED.	4.14.1100.41410	HOMERUN FEEDER / BRANCH CIRCUIT CALLOUT:
5. PR	OVIDE FIRE/MOISTURE SEAL FOR WALL, FLOOR OR CEILING PEN	IETRATION	S.	4#1,#6G-1 <mark>½</mark> "C	INDICATES (3) #1 AWG (PHASE), (1) #1 AWG (NEUTRAL), (1) #6 GR
6. DC	NOT LAY CABLES OR RACEWAY ON, OR SUPPORT FROM SUSPE	NDED CEI	ING OR PIPING AND DUCTWORK.		FLEXIBLE CONNECTION TO MOTOR OR EQUIPMENT
	ITLET BOXES SHALL BE MOUNTED FLUSH. CONDUIT SHALL BE F ALL BE SURFACE MOUNTED. PROVIDE WIREMOLD OR EQUAL TO				LIGHTING AND CONTRO
8. NC	CONDUIT SMALLER THAN 3/4 INCH ELECTRICAL TRADE SIZE SH	ALL BE US	ED, UNLESS SPECIFICALLY CALLED FOR ON THE DRAWINGS.		HOWN BELOW ARE REPRESENTATIVE. NOT ALL SYMBOLS FROM THE PLAN IMBER LOCATIONS ARE ALSO REPRESENTATIVE. ACTUAL TAG AND CIRCU
9. AL	L WIRING WITHIN UTILITY CLOSETS MAY BE IN SURFACE MOUNT	ED CONDL	IT. EMT MAY BE UTILIZED.	A	LIGHTING FIXTURE (SEE LIGHTING FIXTURE SCHEDULE) "A" INDICATES LIGHTING FIXTURE TYPE
10. FL	EXIBLE CONDUIT CONNECTIONS SHALL BE A MAXIMUM OF 6'-0".				"#" INDICATES LIGHTING FIXTORE TYPE "#" INDICATES CIRCUIT NUMBER "a" INDICATES SWITCH CONTROL
	CTYPE CONDUCTOR WITH INTEGRAL GROUND WIRE MAY BE UTI			^A O _#	"NL" INDICATES NIGHT LIGHT (UNSWITCHED) CIRCUIT
10 RA	EEL OR FIRE-RATED ELECTRICAL BOXES (SWITCHES, OUTLETS, TED ASSEMBLIES AS IN ACCORDANCE WITH BUILDING AND ELEC REBLOCK/SPRAY FOAM INSULATE SHALL BE USED TO SEAL ALL /	CTRICAL C			SHADING INDICATES EMERGENCY FIXTURE; EMERGENCY DRIVER OR EMERGENCY BATTERY UNIT WITH (2) TWO HEADS RELAY INSTALLED ABOVE CEILING, ADJACENT TO FIXTURE; ALLOWING
RE	SEMBLIES INCLUDE EXTERIOR WALLS, FIRE-RATED WALLS, FLO CESSED ELECTRICAL ENCLOSURES SUCH AS BUT NOT LIMITED OVIDED WITH FIRE-RATED BOXES WHERE INSTALLED IN FIRE-RI	TO; PANEL	BOARDS, LOW VOLTAGE MEDIA CENTERS, ETC. SHALL BE	R	ILLUMINATE IF NORMAL POWER IS LOST. FIXTURE TO BE CONNECTED NINE 24, INC. CATALOG NO. BLTC R CI 120 (OR277); OR BODINE CATAL EXIT SIGN, SHADING INDICATES FACE, ARROW INDICATES DIRECTION
LO	CATIONS OF FIRE-RATED ASSEMBLIES.			♥ Sa	SINGLE POLE SWITCH, RATED 20A, 120/277V, MOUNTING HEIGHT 48" T
14. DE	L EQUIPMENT AND WIRING SHOWN ON DWGS IS DIAGRAMMATIC TERMINED IN THE FIELD, EXCEPT WHERE SPECIFIC DIMENSIONS			S _a ³	POSITION "a" INDICATES FIXTURE SWITCH CONTROL
	PPORTED. OORDINATE WITH ARCHITECTURAL FURNITURE LAYOUTS FOR E>		TION OF WALL MOUNTED POWER AND COMMUNICATIONS	S ⁴ S ^D _a	"3" INDICATES 3-WAY SWITCH CONTROL "4" INDICATES 4-WAY SWITCH CONTROL "D" INDICATES DIMMING CONTROL
15. DE	VICES. COORDINATE ALL LIGHTING FIXTURES, UNDER CABINET FLECTED CEILING PLANS AND ELEVATIONS.				
		<u> </u>	TEO	-	RECEPTACLES AND DEVI
	LIGHTIN				E ANNOTATION: CIRCUIT NUMBER S WEATHERPROOF IN-USE COVER
1	L CONDUIT, FIXTURES AND OUTLETS ARE SHOWN DIAGRAMMAT TERMINED IN THE FIELD, EXCEPT WHERE SPECIFIC DIMENSION			"FB#" INDICATES	S FLOOR BOX CONFIGURATION, REFER TO FLOOR BOX SCHEDULE / DETA TIONS FOR ADDITIONAL RECEPTACLE AND DEVICE DETAILS
	L LIGHTING FIXTURE SPACING DIMENSIONS AND MOUNTING HEI CESSARY TO AVOID INTERFERENCE SHALL BE DETERMINED IN			₅€	DUPLEX CONVENIENCE RECEPTACLE OUTLET
	HERE REQUIRED, ADDITIONAL SUPPORT STEEL FOR THE LIGHTI			€	DUPLEX CONVENIENCE RECEPTACLE OUTLET, COUNTERTOP MOUNT
CC	INTRACTOR. SEISMIC RESTRAINTS SHALL BE INCLUDED AS PER OVIDE SEPARATE UN-SWITCHED NEUTRAL TO ALL EXIT SIGNS, E				DUPLEX GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE OUTLE
Л	INTAINING EMERGENCY BALLASTS.			₽	DUPLEX GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE OUTLE
5. AS	RE-RATED BOXES/ENCLOSURES FOR RECESSED LIGHTING FIXTU IN ACCORDANCE WITH BUILDING AND ELECTRICAL CODES. FIR	E-RATED A	SSEMBLIES INCLUDE; FIRE-RATED WALLS, FLOOR/CEILING	+	DOUBLE DUPLEX CONVENIENCE RECEPTACLE OUTLET
AS	SEMBLIES AND ROOF/CEILING ASSEMBLIES. REFER TO ARCHIT	CTURAL I	LANS FOR LOCATIONS OF FIRE-RATED ASSEMBLIES.	∰	DOUBLE DUPLEX GROUND FAULT CIRCUIT INTERRUPTING RECEPTAC
	POWEF	NOT	ES	# = □	DOUBLE DUPLEX GROUND FAULT CIRCUIT INTERRUPTING RECEPTAC JUNCTION BOX, COORDINATE MOUNTING HEIGHT WITH ARCHITECT, "I
	L CONDUITS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATIC CEPT WHERE SPECIFIC DIMENSIONS AND DETAILS ARE SHOWN			 	SPECIAL PURPOSE RECEPTACLE, REFER TO SPECIAL PURPOSE RECE
, <u>NE</u>	C - 406.12 TAMPER-RESISTANT RECEPTACLES - IN ALL AREAS S	PECIFIED	N 406.12 PARAGRAPHS (1-7) AND ASSEMBLY SUBSETS LISTED		TEL / DATA / COMM OUTL
	NEC 518.2, ALL NONLOCKING-TYPE, 125 VOLT, 15 AND 20 AMPER NDUCTORS AND CABLE SHALL BE MINIMUM #12 AWG, 600 VOLT.			REFER TO SPECIFICA	TIONS FOR ADDITIONAL TEL / DATA DEVICE DETAILS
3. GF	EEN GROUND IN ALL FEEDERS. WIRE SIZE #8 AWG AND LARGE DE CONDUCTORS BLACK, RED, BLUE, WITH WHITE NEUTRAL AN	R SHALL BI	STRANDED, #10 AWG AND SMALLER SHALL BE SOLID. COLOR	V	TELEPHONE / COMPUTER OR DATA OUTLET (RJ45), WITH SINGLE GAN TO SERVER ROOM
/	ECTRICAL CONTRACTOR SHALL CONFIRM ALL NEMA CONFIGUR. ECIFICATIONS PRIOR TO ROUGH-IN.	ATIONS AN	D REQUIRED ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT		
				(Å)	MOTORS AND CONTROI
	X EXISTING EQUIPMI			S _M	MANUAL MOTOR STARTED, RATED 20A, 250V, COORDINATE MOUNTING EXCEED 6'-7" AFF
	XM EXISTING TO REMAIN				DISCONNECT SWITCH RATED 30A, 3-POLE, IN NEMA TYPE 1 ENCLOSU
	XN EXISTING EQUIPMENT TO BE REPLACED WITH N	IEW, CONN	ECT TO NEW EQUIPMENT CIRCUIT	UIT	"3R" INDICATES NEMA TYPE 3R ENCLOSURE "2P" INDICATES 2-POLE, SINGLE PHASE DISCONNECT "60A" INDICATES 60A SWITCH
			EXTEND EXISTING CONDUIT AND CONDUCTORS	60AF 40AT ZH3R	FUSED DISCONNECT SWITCH RATED 30A, 3-POLE, IN NEMA TYPE 1 EN "3R" INDICATES NEMA TYPE 3R ENCLOSURE
	XC NEAREST EXISTING DEVICE (TO REMAIN) TO NE	W DEVICE	ABLE BRANCH CIRCUIT, PROVIDE NEW BRANCH CIRCUITRY FROM AS REQUIRED EXTEND CONDUIT AND CONDUCTORS AS REQUIRED		"3R" INDICATES NEMA TYPE 3R ENCLOSURE "2P" INDICATES 2-POLE, SINGLE PHASE DISCONNECT "60AF" INDICATES 60A FUSE SIZE "40AT" INDICATES 40A TRIP RATING
	ABBRE	-		^{4X} ₀ ⊠	MAGNETIC MOTOR STARTER, IN NEMA TYPE 1 ENCLOSURE, UNLESS ("0" INDICATES NEMA STARTER SIZE "4X" INDICATES NEMA TYPE ENCLOSURE
A/AMP	AMPERE	IMC	INTERMEDIATE METALLIC CONDUIT	30A 🝙 ST	ENCLOSED CIRCUIT BREAKER IN NEMA 1 TYPE ENCLOSURE, UNLESS "30A" INDICATES BREAKER RATING
AC AF	ALTERNATING CURRENT AMPERE FRAME	JB KVA	JUNCTION BOX KILOVOLT-AMPERE		"3R" INDICATES NEMA TYPE 3R ENCLOSURE "ST" INDICATES SHUNT-TRIP
AFF AFG	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE	KW LTG	KILOWATT LIGHTING MANN CIRCUIT RREAKER	СР	CONTROLS "CP" INDICATES CONTROL PANEL
AIC AL AT	AMPERE INTERRUPTING CAPACITY ALUMINUM AMPERE TRIP	MCB MCC MEC	MAIN CIRCUIT BREAKER MOTOR CONTROL CENTER MASSACHUSETTS ELECTRICAL CODE		"VFD" INDICATES VARIABLE FREQUENCY DRIVE "RGAP" INDICATES REMOTE GENERATOR ANNUNCIATOR PANEL
ATS AWG	AUTOMATIC TRANSFER SWITCH AMERICAN WIRE GAUGE	MLO MTD	MAIN LUGS ONLY MOUNTED		PANELBOARD AND TERMINAL
C CB	CONDUIT CIRCUIT BREAKER	MTG NEC	MOUNTING NATIONAL ELECTRICAL CODE		120/208V PANEL, SURFACE MOUNTED, REFER TO PANEL SCHEDULES
CKT CL CU	CIRCUIT CENTERLINE COPPER	No., # NS NTS	NUMBER NON-SYSTEM NOT TO SCALE		
DC DE	DIRECT CURRENT DUAL ELEMENT	PC PWR	NOT TO SCALE PLUMBING CONTRACTOR POWER		MISCELLANEOUS
DWG EC	DRAWING ELECTRICAL CONTRACTOR	RGS RMS	RIGID STEEL CONDUIT ROOT MEAN SQUARE VALUE		UTILITY METER
EMH EMT	ELECTRICAL MANHOLE ELECTRIC METALLIC CONDUIT	RPM SF	REVOLUTIONS PER MINUTE SQUARE FOOT		ANNOTATIONS
EWC G/GND GC	ELECTRIC WATER COOLER GROUND GENERAL CONTRACTOR	SN ST SWBD	SOLID NEUTRAL SHUT TRIP CIRCUIT BREAKER SWITCHBOARD	ECH	MECHANICAL EQUIPMENT TAG, REFER TO MECHANICAL EQUIPMENT (
GC GE GP	GENERAL CONTRACTOR GROUND-FAULT PROTECTION FOR EQUIPMENT (GFPE CB) GROUND-FAULT PROTECTION FOR PERSONNEL (GFCI CB)	SWBD TYP V	SWITCHBOARD TYPICAL VOLTS		REQUIREMENTS FEEDER TAG, NUMBER INDICATES AMPERE RATING OF FEEDER AND N
GFCI HP	GROUND-FAULT CIRCUIT-INTERRUPTER HORSEPOWER	VA VFD	VOLT-AMPERE VARIABLE FREQUENCY DRIVE		FOR ADDITIONAL INFORMATION
HVAC	HEATING, VENTILATION AND AIR CONDITIONING	WP	WEATHERPROOF		EQUIPMENT TAG, REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL SHEET NOTE TAG
					"#" INDICATES CALL OUT TO CORRESPONDING SHEET NOTE
				$ \frac{1}{2} $	REVISION TAG DETAIL CALLOUT
				# E101	"#" INDICATES THE DETAIL REFERENCE NUMBER "E101" INDICATES THE DRAWING ON WHICH THE DETAIL CAN BE
				1	

AND FEEDER SYMBOLS

NUMBER "2 R SIZE AND NUMBER OF POLES

F INDIVIDUAL HOMERUNS "2", "4", AND "6"

COMBINED IN CONDUIT IN ACCORDANCE WITH NEC REQUIREMENTS

AWG (NEUTRAL), (1) #6 GROUND IN A 1-1/2" CONDUIT

ND CONTROLS

YMBOLS FROM THE PLANS HAVE BEEN SHOWN ON THIS LEGEND. FIXTURE . ACTUAL TAG AND CIRCUIT NUMBER LOCATIONS MAY VARY ON PLANS. SCHEDULE)

; EMERGENCY DRIVER OR CONNECTED TO GENERATOR

T TO FIXTURE; ALLOWING FIXTURE TO BE TURNED OFF, BUT SHALL TURE TO BE CONNECTED TO EMERGENCY LIGHTING CIRCUITRY, EQUAL TO DR277); OR BODINE CATALOG NO. GTD20A

W INDICATES DIRECTION OF CHEVRON

, MOUNTING HEIGHT 48" TO CENTERLINE OF TOGGLE SWITCH IN "ON"

ES AND DEVICES

R BOX SCHEDULE / DETAILS FOR ADDITIONAL INFORMATION ICE DETAILS

F, COUNTERTOP MOUNTING

T, COORDINATE MOUNTING HEIGHT WITH ARCHITECT

TING RECEPTACLE OUTLET

TING RECEPTACLE OUTLET, COUNTERTOP MOUNTING

ITERRUPTING RECEPTACLE OUTLET NTERRUPTING RECEPTACLE OUTLET, COUNTERTOP MOUNTING

EIGHT WITH ARCHITECT, "HT" INDICATES HEAT TRACE

SPECIAL PURPOSE RECEPTACLE SCHEDULE, "#" INDICATES TYPE

COMM OUTLETS

(RJ45), WITH SINGLE GANG BACK BOX AND COVER PLATE, $rac{3}{4}$ " CONDUIT BACK

AND CONTROLS

, COORDINATE MOUNTING HEIGHT IN FIELD, MOUNTING HEIGHT SHALL NO

NEMA TYPE 1 ENCLOSURE, UNLESS OTHERWISE NOTED

DISCONNECT

POLE, IN NEMA TYPE 1 ENCLOSURE, UNLESS OTHERWISE NOTED SURE DISCONNECT

I ENCLOSURE, UNLESS OTHERWISE NOTED

PE ENCLOSURE, UNLESS OTHERWISE NOTED SURE

ID TERMINAL CABINET

ECHANICAL EQUIPMENT COORDINATION SCHEDULE FOR ELECTRICAL

RATING OF FEEDER AND NUMBER OF WIRES, REFER TO FEEDER SCHEDULE

HEDULE FOR ADDITIONAL INFORMATION

HICH THE DETAIL CAN BE FOUND

PANEL 'PELV', 150 AMP, 120/208 VOLT, 3-PHASE, 4-WIRE & GND

INTERRUPTING CAPACITY: 22,000 AMPS RMS SYM MAIN: 150A V.C.B. MOUNTING: SURFACE CB TYPE: G - INDICATES GFCI, L - INDICATES BREAKER LOCK, GE - INDICATES GFPE, S - INDICATES SHUNT TRIP, A - INDICATES ARC FAULT

LOAD DESCRIPTION	CB/1	TYPE	CIRC							CIRC	CB/I	TYPE	LOAD DESCRIPTION
EGAB BEGGHI HON			NO.	A	B	C	A	В	С	NO.	0.07		
LIGHTING - ELEVATOR MACHINE ROOM	20		1	0.20			1.10			2		20	ELEVATOR DOOR CURTAINS / BARRIERS
RECEPTACLE - ELEVATOR MACHINE ROOM	20	G	3		0.18]		0.50]	4		20	HOIST DAMPER
RECEPTACLE - SUMP PUMP	20	G	5		,	0.75	1		0.30	6	L	20	ELEVATOR #1 CAB LIGHT / FAN
LIGHTING - PIT MAINTENANCE	20		7	0.20	1		0.00			8			SPACE AND HARDWARE
RECEPTACLE - PIT MAINTENANCE	20	G	9		0.18	1		1.20	1	10		20	AIR COOLED HEAT PUMP ACHP-1/FAN COIL
SPARE	20		11	1		0.00	1		1.20	12		20	FCU-1
SPARE	20	19 -	13	0.00	1	<u> </u>	0.30		•	14	20		FIRE SMOKE DAMPER
SPARE	20		15		0.00]		0.00	1	16			SPACE AND HARDWARE
SPARE	20		17	1		0.00	1		0.00	18			SPACE AND HARDWARE
			19	5.50]		0.00			20			SPACE AND HARDWARE
ELEVATOR MOTOR (12.5HP) VIA CONTROLLER	80		21		5.50]		0.00]	22			SPACE AND HARDWARE
			23			5.50	1		0.00	24			SPACE AND HARDWARE
PHASE A 7.30 kVA		•			TOTA		D 22.6			•			NOTES:
PHASE B 7.56 kVA					1017	LOA	0 22.0						NOTES.
PHASE C 7.75 kVA													

PANEL NOTES:

1. ELEVATOR FEEDER SHALL MATCH THE SIZE OF THE ELEVATOR FEEDER BREAKER SHOWN ON THE SCHEDULE. REFER TO THE FEEDER SCHEDULE AND COORDINATE EXACT ELEVATOR FEEDER AND DISCONNECT REQUIREMENTS WITH SELECTED ELEVATOR VENDOR PRIOR TO ROUGHIN/INSTALLATION.

2. PROVIDE PANEL PELV WITH LOCABLE COVER.

EXISTING DISTRIBUTION 'DB', 1200 AMP, 120/208 VOLT, 3-PHASE, 4-WIRE & GND INTERRUPTING CAPACITY: 65,000 AMPS RMS S MAIN: 400A M.C.B. NEUTRAL: 400A MOUNTING SURFACE

INTERROFTING CAPACITI. 03,000 AMPS RMS 3 MAIN. 400A M.C.D. NEUTRAL. 400A MOUNTING SURFACE							
CIRCUIT	DESCRIPTION	LOAD PVERCURRENT DEVICE				REMARKS	
No.		k VA	FRAME	TRIP	POLE	NEWANKO	
1	EXISTING LOAD	0.00	100	10	3		
2	EXISTING LOAD	0.00	100	10	3		
3	EXISTING LOAD	0.00	100	40	3		
4	EXISTING LOAD	0.00	100	30	3		
5	SPARE	0.00	100	100	2		
6	SPARE	0.00	100	100	2		
7	EXISTING LOAD	0.00	250	200	3		
8	SPARE	0.00	250		3		
9	PANEL 'PELV'	0.00	250	150	3	PROVIDE 150A/3P CIRCUIT BREAKER	
10	SPACE AND HARDWARE	0.00	250		3		

LEGEND OF EMERGENCY FEEDER CONDUCTORS							
FEEDER	2HR RATED TYPE CONDUCTORS MINERAL	CURRENT RATING (AMPS) 75°C	CABLE REFERENCE				
SYMBOL	INSULATED "MI" METAL SHEATHED CABLE	CONNENT RATING (AMPS) 75 C					
E75/4	4#8 (FOUR SINGLE CONDUCTORS)	75	1/8-298				
E95/4	4#6 (FOUR SINGLE CONDUCTORS)	95	1/6-340				
E125/4	4#4 (FOUR SINGLE CONDUCTORS)	125	1/4-402				
E145/4	4#3 (FOUR SINGLE CONDUCTORS)	145	1/4-449				
E170/4	4#2 (FOUR SINGLE CONDUCTORS)	170	1/2-449				
E195/4	4#1 (FOUR SINGLE CONDUCTORS)	195	1/1-496				
E230/4	4#1/0 (FOUR SINGLE CONDUCTORS)	230	1/1/0-51				
E265/4	4#2/0 (FOUR SINGLE CONDUCTORS)	265	1/2/0-580				
E310/4	4#3/0 (FOUR SINGLE CONDUCTORS)	310	1/3/0-62				
E360/4	4#4/0 (FOUR SINGLE CONDUCTORS)	360	1/4/0-684				
E405/4	4-250kCMIL (FOUR SINGLE CONDUCTORS)	405	1/250-74				
E505/4	4-350kCMIL (FOUR SINGLE CONDUCTORS)	505	1/350-83				
E620/4	4-500kCMIL (FOUR SINGLE CONDUCTORS)	620	1/500-100				

	MECHANICAL EQUIPMENT COORDINATION SCHEDULE												
EQUIP.	EQUIPMENT	HP	МСА	kVA	VOLT	PHASE	PANEL	CIRCUIT	FEEDER	0	X		Ń
TAG	DESCRIPTION		WICA	KV/	VOLI		CIRCUIT No.	BREAKER	TEEDER	SM			921
ACHP-1	HEAT PUMP		16.4	2.73	208	1	PELV-10,12	20A/2P	3#12,1#12G-34"C				30AF/20AT
FCU-1	FAN COIL UNIT	FEED FROM OUTDOOR UNIT						3#12,1#12G-¾"C	~				

MECHANICAL SCHEDULE NOTES:

1. DISCONNECT SWITCH PROVIDED WITH EQUIPMENT, REFER TO MECHANICAL SCHEDULES FOR DETAILS

2. CONTROLLER PROVIDED WITH EQUIPMENT. ELECTRICAL CONTRACTOR SHALL WIRE BRANCH CIRCUIT THROUGH CONTROLLER MOUNTED BY MECHANICAL CONTRACTOR 3. VFD PROVIDED WITH EQUIPMENT, ELECTRICAL CONTRACTOR SHALL WIRE BRANCH CIRCUIT THROUGH VFD MOUNTED BY MECHANICAL CONTRACTOR

- 4. STARTER PROVIDED WITH EQUIPMENT, ELECTRICAL CONTRACTOR SHALL WIRE BRANCH CIRCUIT THROUGH STARTER MOUNTED BY MECHANICAL CONTRACTOR
- 5. CONDENSATE PUMP PROVIDED WITH EQUIPMENT, REFER TO FLOOR PLANS FOR DETAILS. ADDITIONAL NUETRAL WRE HAS BEEN PROVIDED FOR 120V PUMP CONNECTIONS
- 6. DUCT MOUNTED SMOKE DETECTOR PROVIDED BY ELECTRICAL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR

7. DUCT MOUNTED CARBON DIOXIDE DETECTOR PROVIDED BY ELECTRICAL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR

SCHEDULE NOTES:

1. EQUIPMENT LOCATIONS SHOWN ON ELECTRICAL PLANS ARE APPROXIMATE LOCATIONS ONLY. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATIONS.

2. REFER TO MECHANICAL SCHEDULES FOR ADDITIONAL INFORMATION AND DETAILS

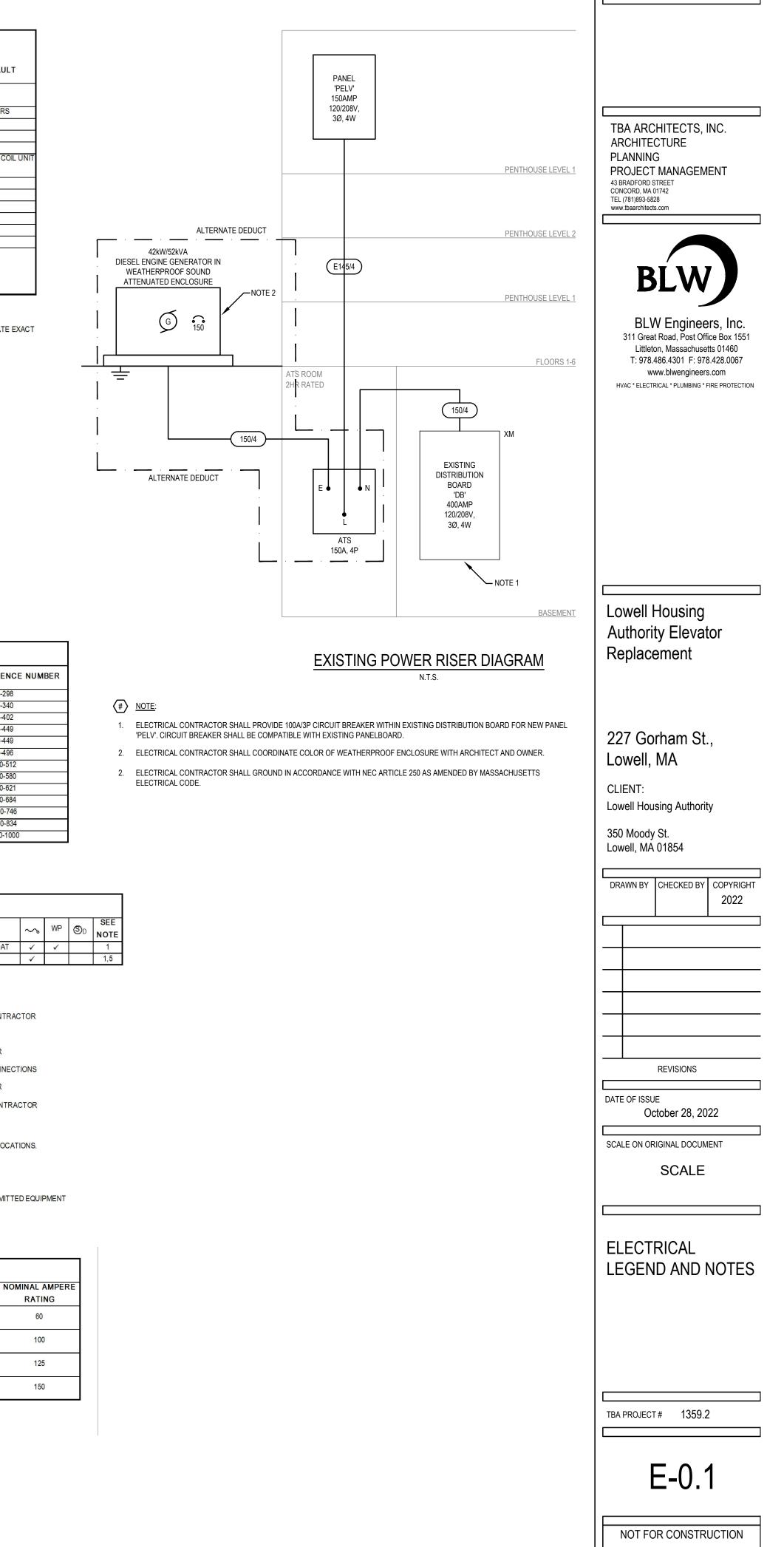
3. ALL CONDUCTOR SIZES ARE FOR COPPER CONDUCTORS.

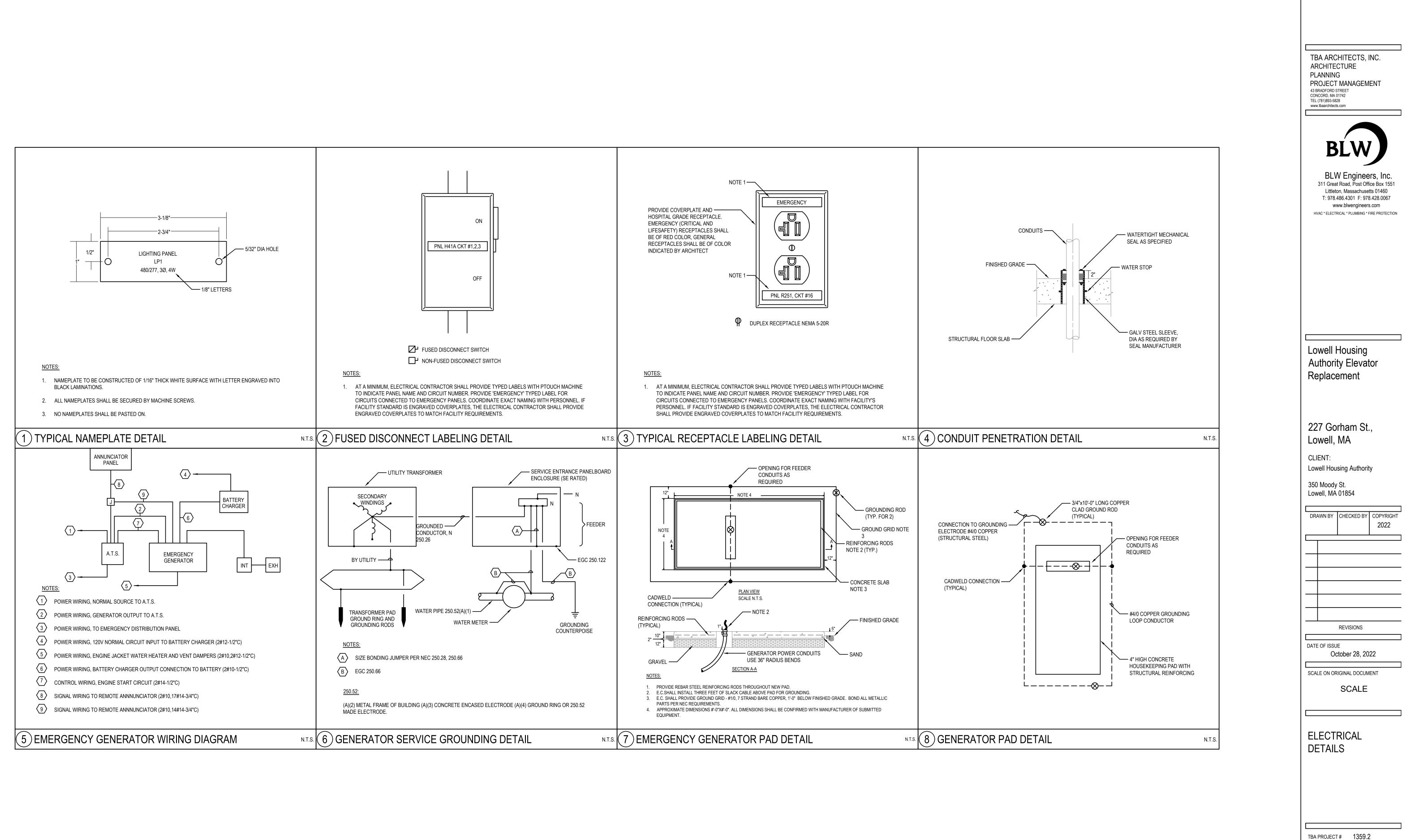
4. ADDITIONAL NUETRAL WRES HAVE BEEN SHOWN FOR ALL FEEDERS FOR POTENTIAL CONTROLS REQUIREMENTS. CONFIRM THE NEED FOR NEUTRAL WITH SUBMITTED EQUIPMENT

LEGEND OF FEEDER SIZES-COPPER CONDUCTORS (75°C)										
FEEDER SYMBOL	CONDUCTORS (3¢, 3W) WITH GROUND	RACEWAY SIZE	CONDUCTORS (3¢, 4W) WITH GROUND	RACEWAY SIZE	NO					
60/3	3#6 & 1#10 GND	3/4"C								
60/4			4#6 & 1#10 GND	1"C	1					
100/3	3#3 & 1#8 GND	1¼"C								
100/4			4#3 & 1#8 GND	1¼"C	1					
125/3	3#1 & 1#6 GND	1¼"C								
125/4			4#1 & 1#6 GND	1½"C	1					
150/3	3#1/0 & 1#6 GND	1½"C								
150/4			4#1/0 & 1#6 GND	2"C	1					

NOTES:

1. ALL FEEDERS GREATER THAN 150 FEET IN LENGTH SHALL INCREASE TO THE NEXT AVAILABLE FEEDER TO ACCOMMODATE FOR VOLTAGE DROP.

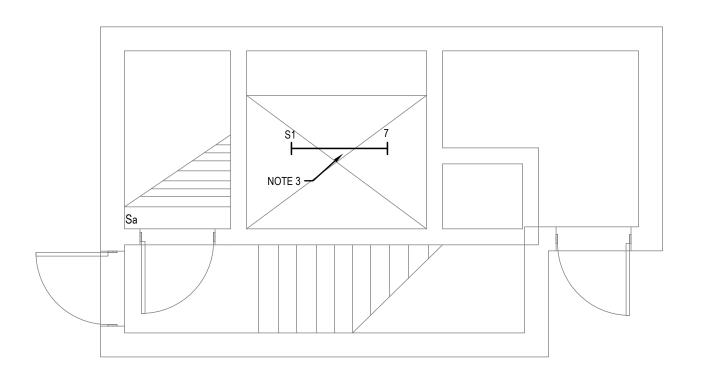


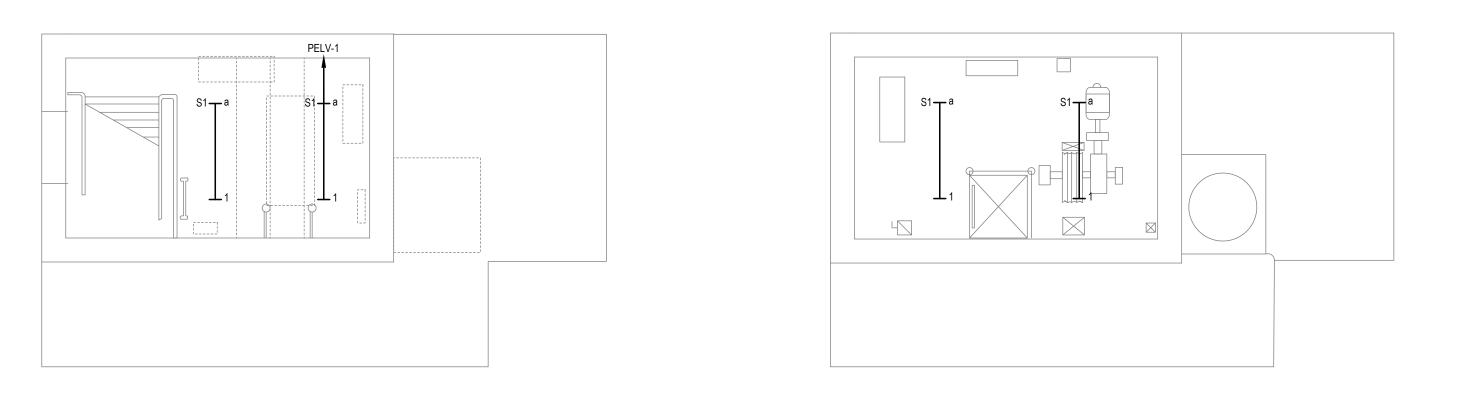


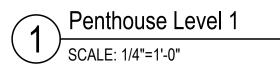
ate: 10/5/21 *ile_name:* Lowell Elevator Replacement Interio

E-0.2

NOT FOR CONSTRUCTION







$\widehat{\mathbf{i}}$	Per
	SCAI

LIGHTING FIXTURE SCHEDULE									
FIXTURE TYPE	DESCRIPTION	MANUFACTURER AND CATALOG NUMBER	No.	WATTAGE	TYPE	VOLTAGE			
S1	4' STRIP FIXTURE	DAY-BRITE # FSW-4-30L-835-UNV-DIM	1	31	LED	120			

LIGHTING FIXTURE NOTES:

1. ALL RECESSED FIXTURE TRIMS TO BE PAINTED TO MATCH CEILING.

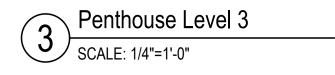
2. PROVIDE A COMPLETE AND OPERABLE SYSTEM INCLUDING ALL NECESSARY MOUNTING HARDWARE, POWER FEEDS, WIRING CONNECTIONS, DRIVERS, AND CONTROL INTERFACES.

3. PAINT ALL FLANGES INSTALLED IN DRYWALL TO MATCH ADJACENT CEILING FINISH. FLANGES SHALL BE REMOVED FROM CEILING PRIOR TO PAINTING, OR RAZOR CUT AFTER PAINTING TO ALLOW FOR REMOVAL OF THE TRIM FROM THE CEILING.

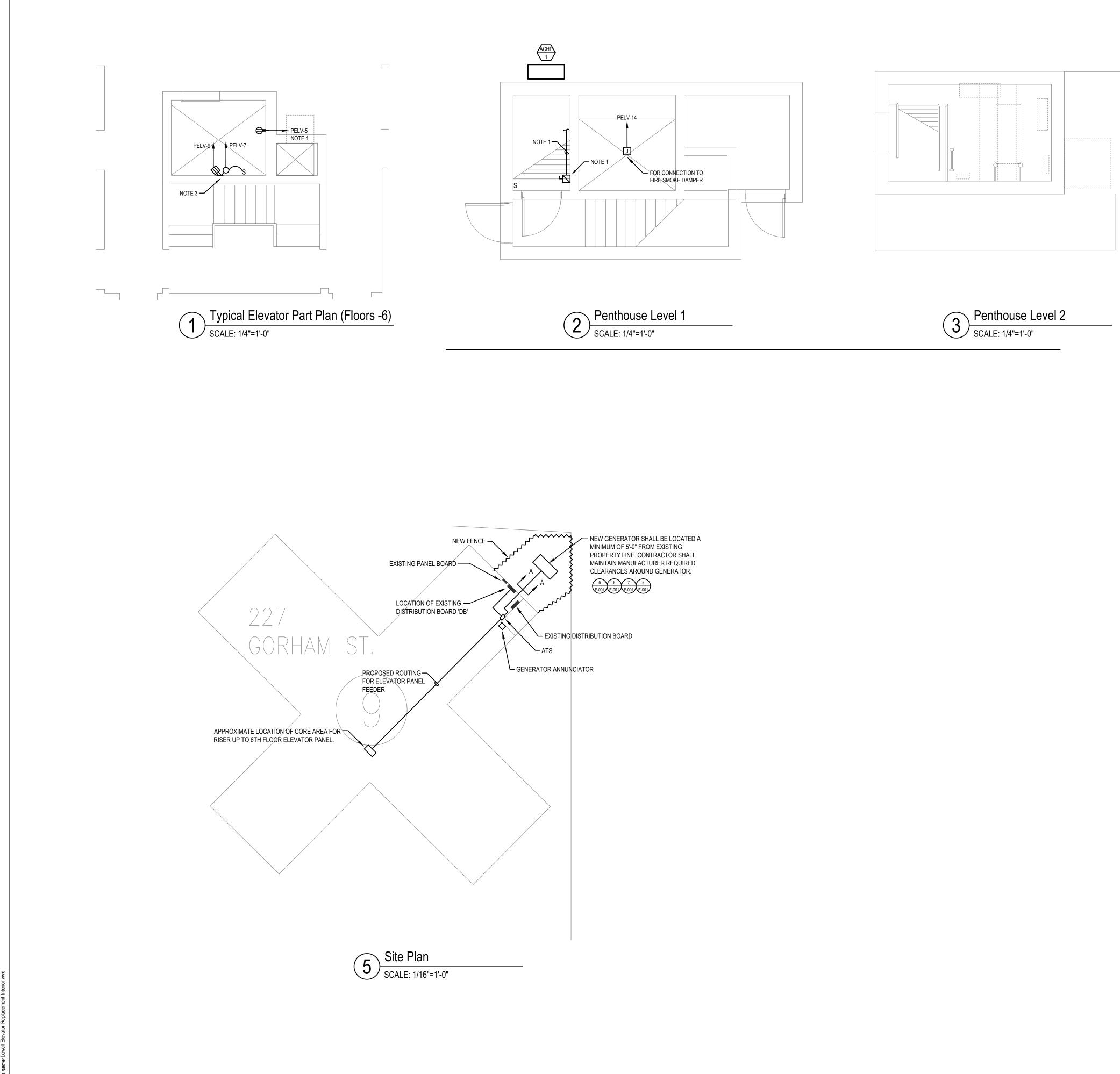
* ELECTRICAL CONTRACTOR SHALL PROVIDE DIMMABLE LED REPLACEMENT LAMPS, LAMP COLOR TEMPERATURE 2700K, AS INDICATED ON THE LIGHTING FIXTURE SCHEDULE.

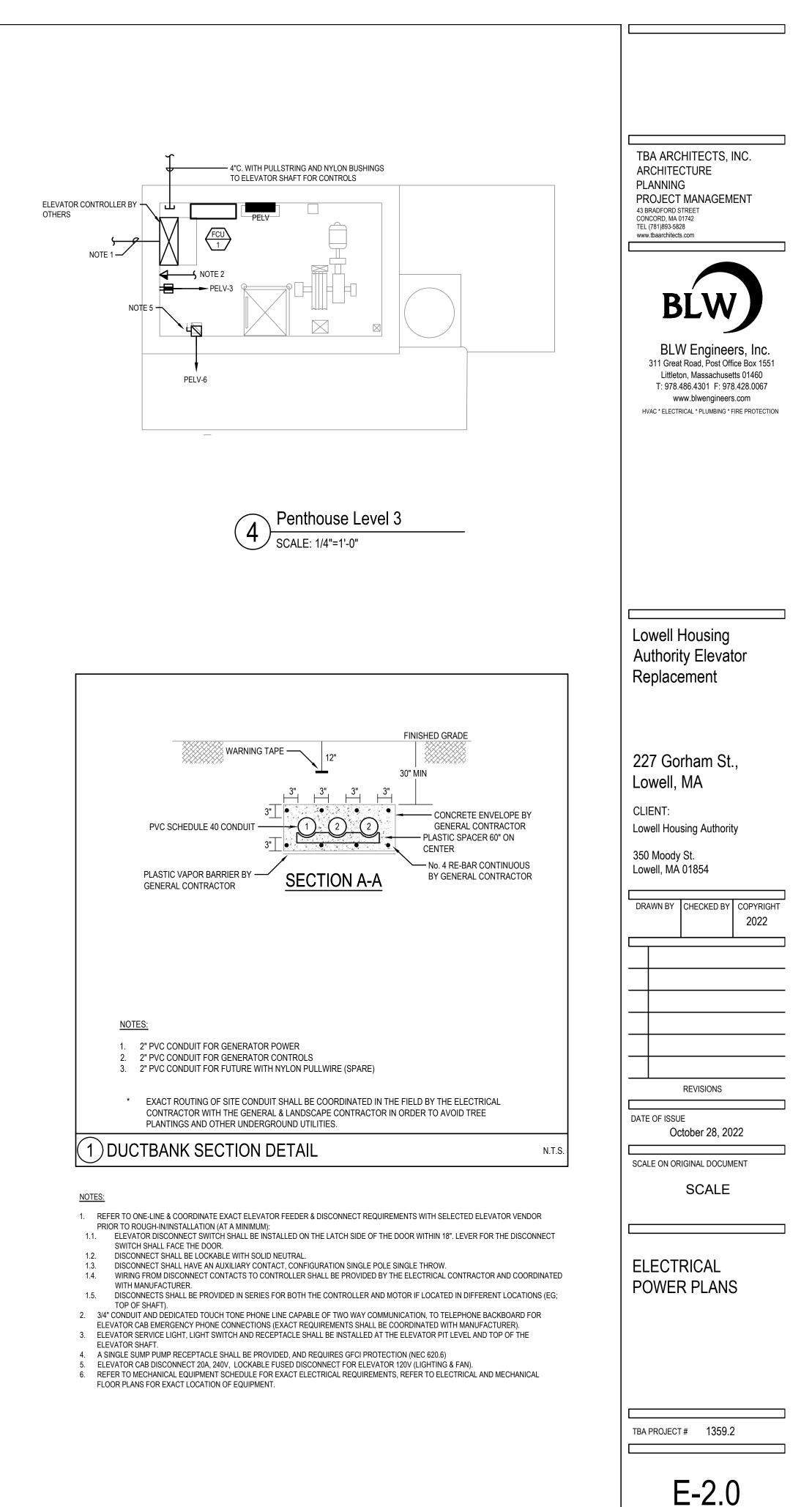
** ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE AND OPERATIONAL SYSTEM.

enthouse Level 2 ALE: 1/4"=1'-0"



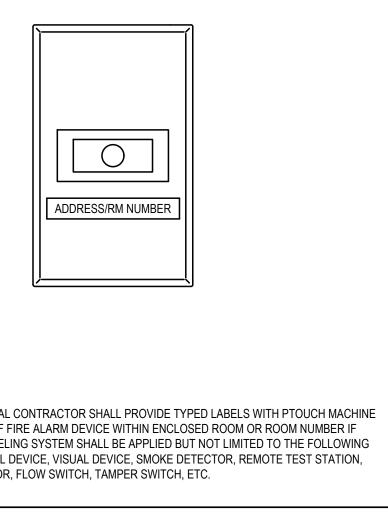
TBA ARCHITECTS, INC. ARCHITECTURE PLANNING PROJECT MANAGEMENT 43 BRADFORD STREET CONCORD, MA 01742 TEL (781)893-5828 www.tbaarchitects.com
BLW
BLW Engineers, Inc. 311 Great Road, Post Office Box 1551 Littleton, Massachusetts 01460 T: 978.486.4301 F: 978.428.0067 www.blwengineers.com HVAC * ELECTRICAL * PLUMBING * FIRE PROTECTION
Lowell Housing Authority Elevator Replacement
227 Gorham St., Lowell, MA CLIENT: Lowell Housing Authority 350 Moody St. Lowell, MA 01854
DRAWN BY CHECKED BY COPYRIGHT 2022
REVISIONS
DATE OF ISSUE October 28, 2022
SCALE ON ORIGINAL DOCUMENT
SCALE
ELECTRICAL LIGHTING PLANS
 тва project # 1359.2
E-1.0
NOT FOR CONSTRUCTION



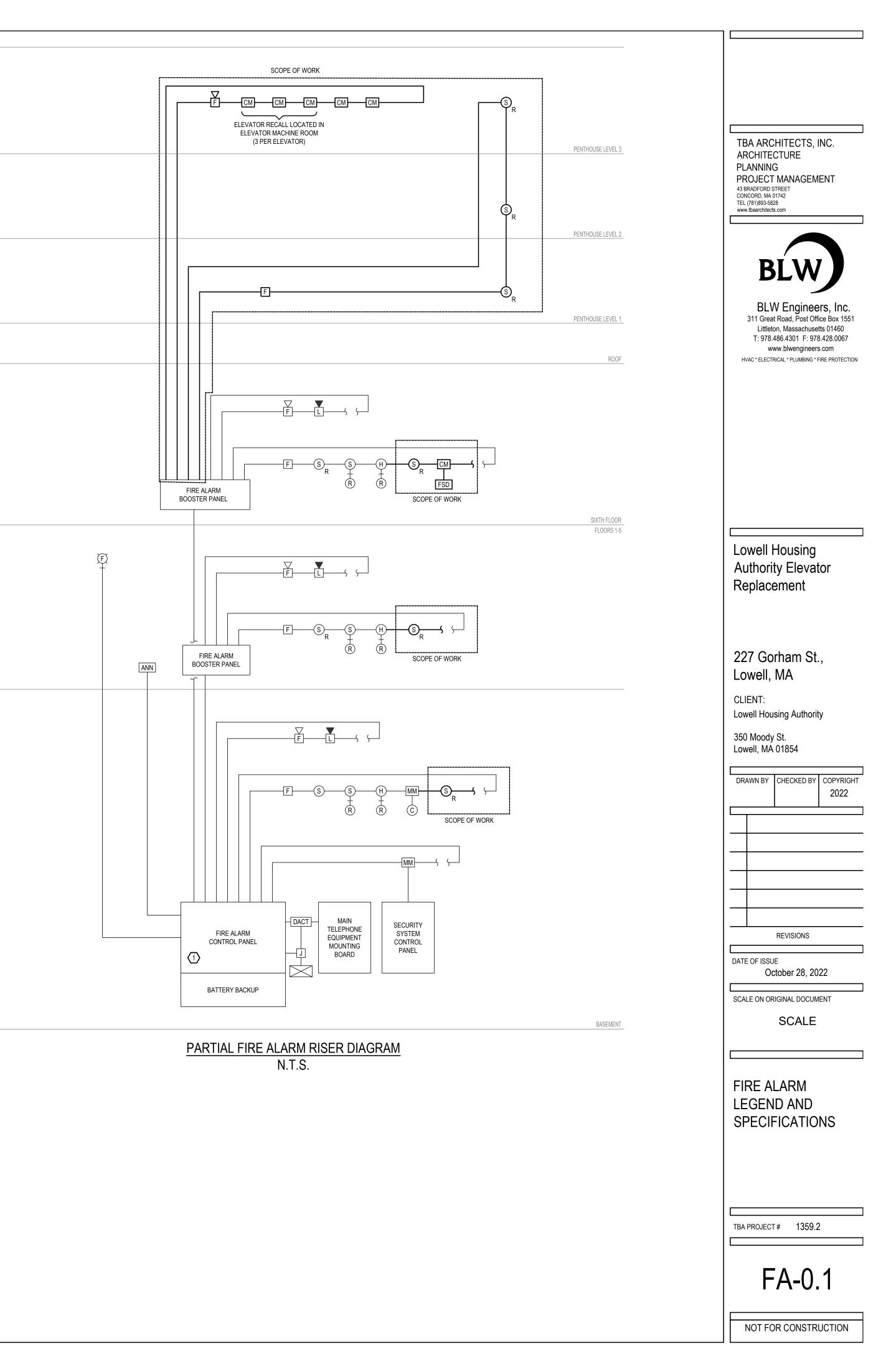


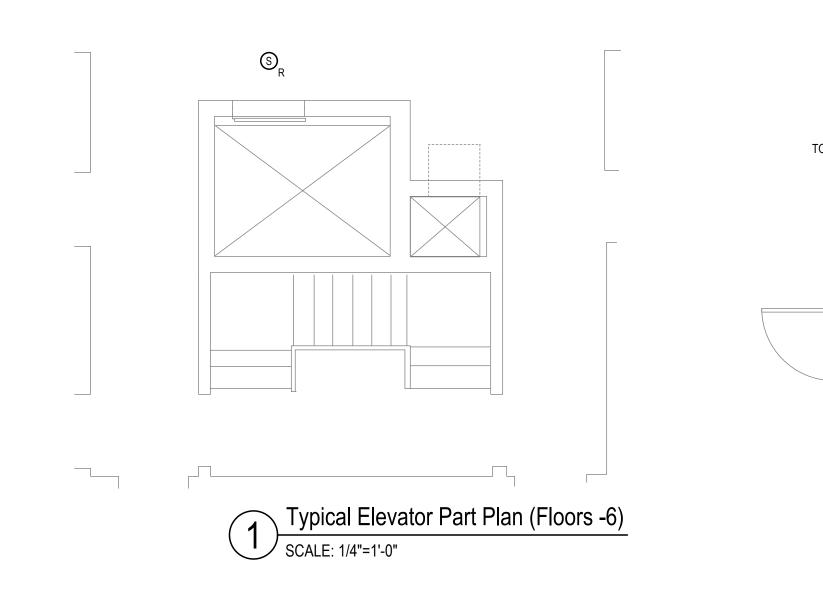
NOT FOR CONSTRUCTION

RE ALARM SPECIFICA		SEQUENCE OF OPER		RE	EQUI		
	ATION	SYSTEM OUTPUTS	CONTROL UNIT ANNUNCIATION NOTIFICATION	(SA CON		
	AND ALARM SYSTEM		OR FLOOR	ION ION	FLOOK		
	R TO ELECTRICAL SPECIFICATIONS FOR PROJECT REQUIREMENTS.		ION ALARM SIGNAL INDICATOR LE ALARM SIGNAL ION SUPERVISORY SIGNAL INDICATOR LE SUPERVISORY SIGNAL INDICATOR LE COMMON TROUBLE SIGNAL MON TROUBLE SIGNAL INDICATOR LE COMMON TROUBLE SIGNAL MINDICATOR ON CORRESPONDING FLOOR MINDICATOR ON CORRESPONDING FLOOR STATION CHANGE OF STATUS	SUPERVISING STATION ERVISORY STATION ARY RECALL FLOOR	ALL FL(
INSTALI	ONTRACTOR MUST OBTAIN A PERMIT FROM THE FIRE DEPARTMENT PRIOR TO COMMENCEMENT OF EQUIPMENT LLATION. ALL WORK SHALL BE DONE IN CONFORMANCE WITH THE LOCAL FIRE DEPARTMENT INSTALLATION REQUIREMENTS XYSTEM INSTALLATION GUIDELINES		ACTUATE COMMON ALARM SIGNAL INDICATOR ACTUATE AUDIBLE ALARM SIGNAL ACTUATE AUDIBLE ALARM SIGNAL ACTUATE COMMON SUPERVISORY SIGNAL ACTUATE AUDIBLE SUPERVISORY SIGNAL ACTUATE AUDIBLE SUPERVISORY SIGNAL ACTUATE AUDIBLE COMMON TROUBLE SIGNAL ACTUATE AUDIBLE COMMON TROUBLE SIGNAL ACTUATE EVACUATION SIGNALS ON ALL FLOORS DISPLAY/PRINT CHANGE OF STATUS TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING S ^T	TO SUPERVIS UPERVISORY	KECALL PEDESTRIAN ELEV. TO PRIMARY RECALL		
1.1.3. ALL FIR	YSTEM INSTALLATION GUIDELINES. RE ALARM DEVICES AND EQUIPMENT USED SHALL BE APPROVED FOR USE BY THE LOCAL FIRE DEPARTMENT.		COMMON ALARM SIGNAL INDIC. AUDIBLE ALARM SIGNAL COMMON SUPERVISORY SIGNAL AUDIBLE SUPERVISORY SIGNAL AUDIBLE SUPERVISORY SIGNAL AUDIBLE COMMON TROUBLE SI ALARM INDICATOR ON CORRES ALARM INDICATOR ON CORRES EVACUATION SIGNALS ON ALL F FIRE ALARM SIGNAL TO SUPEF	NL TO SU SUPER	KIMA		
COMPL	ALARM SYSTEM MODIFICATIONS: MODIFICATIONS MADE TO THE BASE BUILDING FIRE ALARM SYSTEM SHALL BE MADE IN LIANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS. ALL NEW COMPONENTS SHALL BE UL LISTED FOR THEIR DEED RURDOSE AND COMPATIBLE FOR USE ON THE EXISTING SYSTEM.	FIRE ALARM SYSTEM OPERATION SCHEDULE	COMMON ALARM SIGNAL AUDIBLE ALARM SIGNAL COMMON SUPERVISORY AUDIBLE SUPERVISORY COMMON TROUBLE SIGN AUDIBLE COMMON TROU ALARM INDICATOR ON CO EVACUATION SIGNALS OI EVACUATION SIGNALS OI PRINT CHANGE OF STATU FIRE ALARM SIGNAL TO	' SIGNAL VAL TO S	.101		
1.1.5. THE AD	DED PURPOSE AND COMPATIBLE FOR USE ON THE EXISTING SYSTEM. DDITION OF NEW INITIATING DEVICES OR NOTIFICATION APPLIANCES TO THE EXISTING SLC AND NAC SHALL NOT		ACTUATE COMMON ALARM SIC ACTUATE AUDIBLE ALARM SIC ACTUATE AUDIBLE ALARM SIC ACTUATE AUDIBLE SUPERVIS ACTUATE AUDIBLE SUPERVIS ACTUATE AUDIBLE COMMON 1 ACTUATE ALARM INDICATOR (ACTUATE EVACUATION SIGNA ACTUATE EVACUATION SIGNA TRANSMIT FIRE ALARM SIGNA	SUPERVISORY TROUBLE SIGN DESTRIAN ELE			
ADVER: EXISTIN	RSELY EFFECT SUPERVISION. THE WIRING CLASS AND STYLE FOR THE ADDITION OF DEVICES SHALL BE CONSISTENT WITH ING.				-SIRIA		
	ING BASE BUILDING DEVICES SHALL EITHER BE INCORPORATED INTO NEW FIRE ALARM DESIGN OR REMOVED. ALL RAMMING ASSOCIATED WITH REMOVAL OF DEVICES SHALL BE PROVIDED BY THE CONTRACTOR.		ACTUATE COMIN ACTUATE AUDIB ACTUATE AUDIB ACTUATE AUDIB ACTUATE AUDIB ACTUATE AUDIB ACTUATE EVACI DISPLAY/PRINT	MIT SU	KECALL PEDES I KIAN ELEV. I C		
	DEVICES SHALL BE PROGRAMMED TO INITIATE ACTION IN ACCORDANCE WITH THE EXISTING SEQUENCE OF OPERATION AS OVED BY THE AHJ. SYSTEM SUBMITTAL SHALL INCLUDE AN INPUT/OUTPUT MATRIX CLEARLY DEFINING THE SEQUENCE FOR		ACTUATE (ACTUATE / ACTUATE / ACTUATE / ACTUATE / ACTUATE / ACTUATE / DISPLAY/P DISPLAY/P TTRANSMIT	TRANSMIT TRANSMIT RECALL PE	KECAL		
	ADDED DEVICE. IRE ALARM DESIGN IS BASED ON AN EXISTING ADDRESSABLE, SYSTEM. E.C SHALL COORDINATE WITH OWNER AND	SYSTEM INPUTS	A B C D E F G H I J		M		
DETER	RMINE THE REQUIREMENTS OF THE EXISTING SYSTEM. E.C. SHALL PROVIDE ALL COMPONENTS NEEDED TO PROVIDE AN ATIONAL FIRE ALARM SYSTEM THAT IS COMPATIBLE WITH THE EXISTING SYSTEMS REQUIREMENTS.	1 MANUAL FIRE ALARM BOXES 2 SMOKE DETECTORS					
	EXISTING FACP MANUFACTURE/MODEL: NOTIFER OMPLETED FIRE ALARM SYSTEM SHALL MEET ALL LOCAL AND STATE CODES.	3 ELEVATOR LOBBY SMOKE DETECTORS			•		
1.1.10. EQUIPM	MENT AND COMPLETED INSTALLATION SHALL BE U.L. LISTED OR APPROVED AND SHALL MEET APPROVAL OF THE LOCAL	4 DUCT SMOKE DETECTORS 5 HEAT DETECTORS		•			
APPLIC	DEPARTMENT, STATE FIRE MARSHALL, AUTHORITIES HAVING JURISDICTION AND SHALL BE IN ACCORDANCE WITH THE CABLE SECTIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, ADA CODE, NFPA 71, 72, 72E AND LIFE	9 GENERATOR RUNNING		•			
1.1.11. THE CC	TY CODE #101. OMPLETE SYSTEM SHALL CONTAIN SMOKE DETECTION, AUDIO/VISUAL ALARMS, PULL STATIONS, DUCT SMOKE DETECTORS,	10 FIRE ALARM AC POWER FAILURE 11 FIRE ALARM SYSTEM LOW BATTERY		•			
WATER SYSTEM	R AND TAMPER FLOW SWITCHES AND OTHER DEVICES INCLUDING POWER SUPPLIES AS REQUIRED FOR A COMPLETE EM.	12 OPEN CIRCUIT		•			
	WNER SHALL BE RESPONSIBLE FOR TELEPHONE CONNECTION COMPANY CHARGES AND/OR SECOND PARTY MONITORING ANY FEES.	13 GROUND FAULT 14 NOTIFICATION APPLIANCE SHORT CIRCUIT		•			
1.1.13. DEVICE	E ADDRESSES SHALL BE LEGIBLE WITHOUT REMOVAL OF THE DETECTOR. THE DETECTOR ADDRESS SHALL BE CONCEALED I PLACED INTO THE BASE.	15 SUPERVISORY		•			
	ONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF DEDICATED TELEPHONE HOMERUN WIRING.	16 TROUBLE NOTES:					
1.2. SEQUENCE (OF OPERATIONS: REFER TO SEQUENCE OF OPERATIONS INPUT/OUTPUT MATRIX		E ALARM CONTROL PANEL AND SHALL INDICATE TIME AND I	DATE OF OC	CCU		
1.3. REMOTE DEV	EVICES	AND LIST DEVICE INITIATED.		0, 00			
VOLTS	E DETECTORS SHALL BE ADDRESSABLE PHOTOELECTRIC TYPE (UNLESS NOTED OTHERWISE) AND SHALL OPERATE AT 24 S DC. PROVIDE DOUBLE CONTACT BASE FOR SMOKE DETECTORS USED FOR ELEVATOR RECALL AND TO OPERATE REMOTE		BE MONITORED IN ACCORDANCE WITH 780CMR 903.4.1.				
	DETECTORS SHALL BE ADDRESSABLE (UNLESS NOTED OTHERWISE), LOW PROFILE, MATTE WHITE, 200 DEGREE FIXED						
TEMPEI	ERATURE OR 135 DEGREES RATE OF RISE TYPE. TER PANEL - BOOSTER PANEL SHALL PROVIDE REMOTE POWER WITH BUILT IN BATTERY CHARGER CONNECTED TO ANY 12	-					
OR 24 V	VOLT FIRE ALARM CONTROL PANEL. PRIMARY APPLICATIONS INCLUDE NAC SYNCHRONIZATION OR AUXILIARY POWER TO DRT 24 VOLT ACCESSORIES.	# FIRE ALARM RISER DIAGRAM NOTES:					
1.3.4. MONITO	TOR MODULES SHALL BE PROVIDED TO MONITOR AND CONNECT CONVENTIONAL INITIATING DEVICES ONTO THE ESSABLE LOOP.	PANEL AND SHALL BE BY ONE MANUFACTURE. TH	TO REMAIN. ALL NEW DEVICES SHALL BE COMPATIBLE WIT HE ENTIRE SYSTEM SHALL BE GUARANTEED BY (1) SYSTEM	MANUFACT			
1.3.5. REMOT	TE ALARM INDICATORS SHALL BE LED INDICATORS ON SINGLE PLASTIC PLATES.		TO SUBMITTING BID, VISIT SITE TO INSPECT EXISTING CONE		TIC:		
HOLDE	ROL & RELAY MODULES SHALL BE USED TO CONTROL CONVENTIONAL DEVICES (NOTIFICATION CIRCUITS, AHU'S, DOOR ERS, ETC). OVER THE ADDRESSABLE LOOP. MODULES SHALL BE PROVIDE A SUPERVISED OUTPUT RATED FOR 2 AMP AT 24	 ALL EQUIPMENT AND DEVICES SHALL BE UL LISTE DEVICES REFER TO FLOOR PLANS. 	ED AND MEET THE REQUIREMENTS OF ADA. FOR QUANTITY	AND LOCAT	AT ION		
	S DC AND 0.5 AMP AT 120 VOLT.		LEVELS 2 OR 3 PATHWAY SURVIVABILITY SHALL BE PROVID				
1.4.1. ALL FIR	RE ALARM WIRE AND CABLE SHALL BE UL LISTED FOR FIRE ALARM USE.		NCES FROM FACP TO THE FIRST DEVICE ON THE CIRCUIT (I				
LEFT IN	IRE ALARM SYSTEM SHALL BE A COMPLETE AUTOMATIC AND MANUAL, CLOSED CIRCUIT, CLASS A, 4 WIRE, CONNECTED AND N FIRST-CLASS OPERATING CONDITION.	SEE NOTE 1.6 OF DRAWING FIRE ALARM SF	PECIFICATIONS.				
	IRE ALARM WIRING IN ENCLOSED SPACES, PROVIDE PLENUM RATED, TYPE FPLP, WITH RED OUTER JACKET. INSTALLATION . MEET REQUIREMENTS OF NEC ARTICLE 770 AND 725. CONDUCTORS SHALL BE SOLID COPPER #14 MINIMUM, WITH LOW						
SMOKE	E, LOW FLAME TYPE JACKET. IRE ALARM WIRING IN EXPOSED AREAS. PROVIDE TYPE THHN INSULATION. WIRE SIZE SHALL BE #14 AWG MINIMUM. ALL	4. ALL JUNCTION BOXES SHALL BE PAINTED RED. A	ALL CONCEALED CONDUIT SHALL BE STRIPPED RED ON 2'-0	' CENTERS.			
SURFAC	ACE MOUNTED WIRING RELATED TO THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN TYPE EMT/RGS CONDUIT.		M. REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND	LOCATIONS	SOF		
BE SOL	DINTS AND CONNECTIONS SHALL BE IN JUNCTION BOXES. ALL CONNECTIONS NOT ON APPROVED TERMINAL STRIPS SHALL ILDERED AND TAPED. ALL JUNCTION BOXES SHALL BE PAINTED RED.	SYSTEM DEVICES.					
	RESISTIVE CABLES ES SHALL MEET IBC 2015, NFPA 70, NFPA 72, UL CATEGORY FHIT SYSTEM 40A.		AND BATTERY CALCULATIONS ARE REQUIRED. SUBMIT A	DUPLICATE	E COF		
	ES SHALL BE EQUAL TO COMTRAN CABLE'S VITALINK FHIT SYSTEM 40A TWO-HOUR FIRE RATED CIRCUIT INTEGRITY (CI/CIC)	THE FIRE DEPARTMENT. 7. THE FIRE ALARM SYSTEM, ALL COMPONENTS AND WIRING METHODS SHALL CONFORM TO NFPA, ADA AND FIRE DEPARTMENT					
1.6. MANUFACTU	URERS	REQUIREMENTS.	2 WE THE SO OF MELLOUND UNITED INFER, ADA AND F		VIC		
1.6.1. FOR EX	XISTING SYSTEMS BEING REUSED, DEVICES SHALL BE COMPATIBLE WITH EXISTING MANUFACTURER.	 SMOKE DETECTORS SHALL MATCH EXISTING. VIS INDICATED ON PLANS. 	SUAL DEVICES SHALL BE XENON TYPE SYNCHRONIZED CAN	JDELA LEVE	EL AS		
	ONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIRE ALARM TESTING AND CERTIFICATION CHARGES. FY THE INSTALLATION WITH ACCEPTANCE TESTING. THE ELECTRICAL CONTRACTOR SHALL CONDUCT THE ACCEPTANCE		EQUIPMENT PURCHASED UNTIL A PERMIT HAS BEEN ISSUE	D BY THE FIF	IRE		
TEST W	WITH THE INSTALLATION WITH ACCEPTANCE TESTING. THE ELECTRICAL CONTRACTOR SHALL CONDUCT THE ACCEPTANCE WITH THE LOCAL FIRE DEPARTMENT IN ACCORDANCE WITH NFPA 72. TEST INCLUDE BUT MAY NOT BE LIMITED TO THE WING: MEGGER (INSULATION) TESTING, LOOP CONTINUITY, GROUND, SHORT, OPEN CIRCUIT, A WRITTEN REPORT SHALL BE			IINC			
	ITTED DETAILING THE RESULTS OF THE PRELIMINARY TESTS SHALL ACCOMPANY THE REQUEST FOR FINAL ACCEPTANCE	W. THE ELECTRICAL CONTRACTOR SHALL PROVIDE I	MANUFACTURERS TESTING, TRAINING AND REPROGRAMM	ш ч О.			
1.7.3. THE FIF	IRM WHO HOLDS THE EXISTING SYSTEM MAINTENANCE CONTRACT SHALL PERFORM FINAL CONNECTIONS, PROGRAMMING, ESTING. THE CONTRACTOR SHALL CARRY ALL COSTS ASSOCIATED WITH FINAL CONNECTIONS. PROGRAMMING AND	11. ELECTRICAL CONTRACTOR SHALL CARRY ALL CO	DSTS TO REPROGRAM EXISTING FIRE ALARM CONTROL PAN	NEL.			
TESTIN					1.4		
		12. ELECTRICAL CONTRACTOR SHALL COORDINATE S CARRY ASSOCIATED COST.	SHUTDOWNS OF LANDLORD FIRE ALARM SYSTEM WITH BU	LUING MAN/	NAGE		
	FIRE ALARM				-		
TYPICAL DEVICE AN							
F 15" INDICATES	ES CANDELA RATING 5 AUDIO / VISUAL DEVICE						
	"F" INDICATES HORN / VISUAL "S" INDICATES SPEAKER / VISUAL						
L 15							
E∎∎ ™	MANUAL PULL STATION						
S _R	SMOKE DETECTOR						
Ϋ́́R	"D" INDICATES DUCT SMOKE DETECTOR "R" INDICATES ELEVATOR RECALL						
	"SB" INDICATES LOW FREQUENCY SOUNDER BASE PROGRAMMED FOR LOCAL AND BUILDING ALARM "NS" INDICATES NON-SYSTEM DEVICE, 120V HARDWIRED WITH BATTERY BACKUP						
H _F	HEAT DETECTOR						
	"F" INDICATES 190° FIXED TEMPERATURE "C" INDICATES MOUNTED ABOVE HUNG CEILING						
	"R" INDICATES RATE OF RISE		ADDRESS/RM NUMBER				
FACP	FIRE ALARM DEVICE		'				
	"FACP" INDICATES FIRE ALARM CONTROL PANEL "FABP" INDICATES FIRE ALARM BOOSTER PANEL						
	"FATC" INDICATES FIRE ALARM TERMINAL CABINET "ANN" INDICATES FIRE ALARM ANNUNCIATOR PANEL						
	"DACT" INDICATES DIGITAL ALARM COMMUNICATOR TRANSMITTER "CM" INDICATES CONTROL MODULE						
	"MM" INDICATES MONITOR MODULE "DH" INDICATES MAGNETIC DOOR HOLDER						
	"KB" INDICATES KEY BOX "RTS" INDICATES REMOTE TEST STATION						
		NOTES:					
	"FSD" INDICATES SMOKE DAMPER				F		
~	"FSD" INDICATES SMOKE DAMPER		ACTOR SHALL PROVIDE TYPED LABELS WITH PTOUCH		_		
Ĕ	"FSD" INDICATES SMOKE DAMPER FIRE ALARM ANNUNCIATION DEVICE "F" INDICATES RED INDICATING BEACON, EXTERIOR MOUNTED, WEATHERPROOF	TO INDICATE ADDRESS OF FIRE ALAF SYSTEMS IS ZONED. LABELING SYST	RM DEVICE WITHIN ENCLOSED ROOM OR ROOM NUM TEM SHALL BE APPLIED BUT NOT LIMITED TO THE FO	IBER IF ILLOWING			
Œ٢	FIRE ALARM ANNUNCIATION DEVICE	TO INDICATE ADDRESS OF FIRE ALAF SYSTEMS IS ZONED. LABELING SYST	RM DEVICE WITHIN ENCLOSED ROOM OR ROOM NUM TEM SHALL BE APPLIED BUT NOT LIMITED TO THE FO VISUAL DEVICE, SMOKE DETECTOR, REMOTE TEST S	IBER IF ILLOWING			
ب کل ا	FIRE ALARM ANNUNCIATION DEVICE "F" INDICATES RED INDICATING BEACON, EXTERIOR MOUNTED, WEATHERPROOF	TO INDICATE ADDRESS OF FIRE ALAF SYSTEMS IS ZONED. LABELING SYST DEVICES: AUDIBLE/VISUAL DEVICE, V	RM DEVICE WITHIN ENCLOSED ROOM OR ROOM NUM TEM SHALL BE APPLIED BUT NOT LIMITED TO THE FO VISUAL DEVICE, SMOKE DETECTOR, REMOTE TEST S	IBER IF ILLOWING			

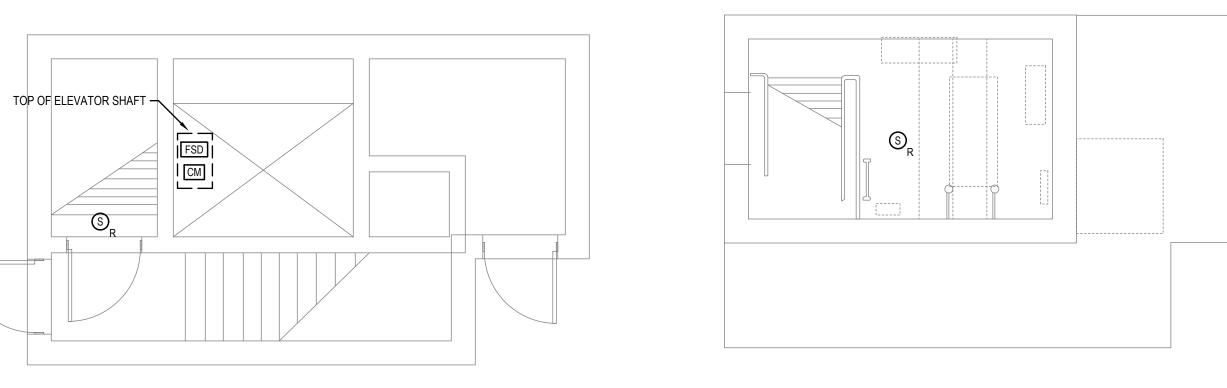




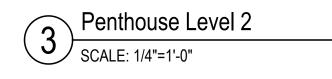








2 Penthouse Level 1 SCALE: 1/4"=1'-0"



	<section-header><text><text><text><text><text></text></text></text></text></text></section-header>
Penthouse Level 3 SCALE: 1/4"=1'-0"	Lowell Housing Authority Elevator Replacement
	227 Gorham St., Lowell, MA CLIENT: Lowell Housing Authority 350 Moody St. Lowell, MA 01854
	REVISIONS DATE OF ISSUE October 28, 2022 SCALE ON ORIGINAL DOCUMENT
	SCALE
	TBA PROJECT # 1359.2 FA-1.0 NOT FOR CONSTRUCTION