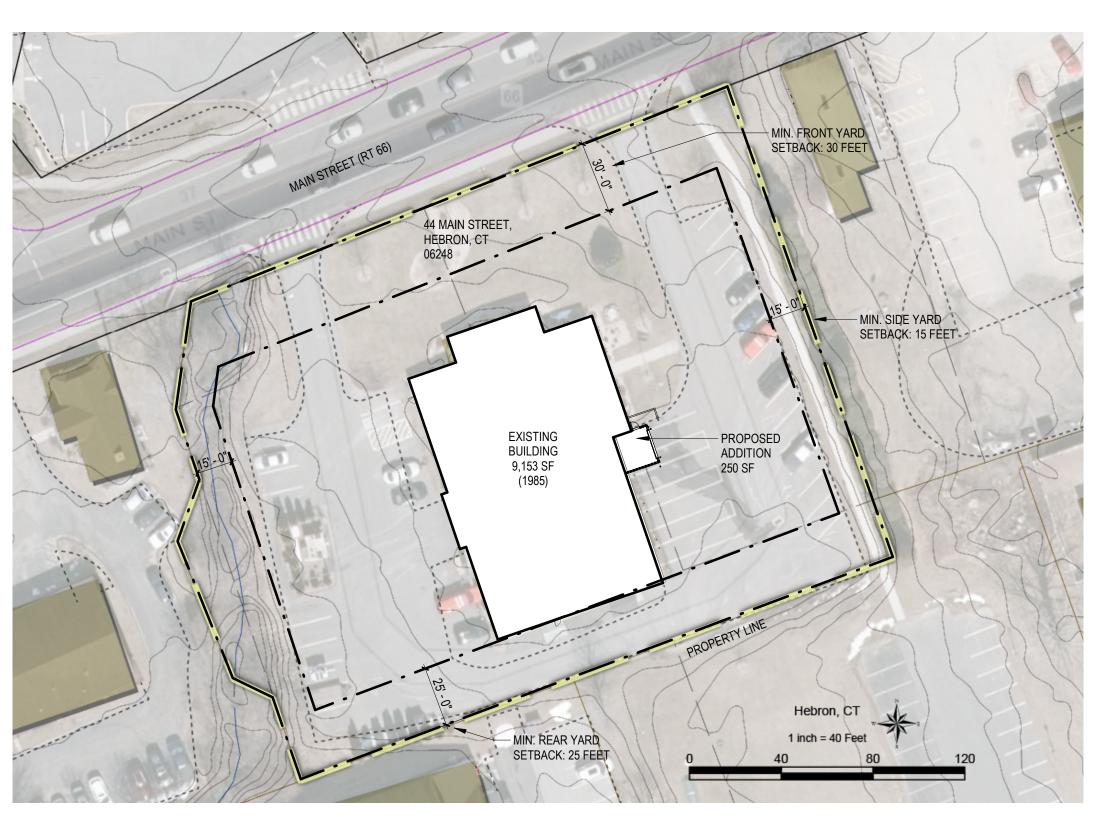
# GARAGE BAY EXTENSION HEBRON PUBLIC SAFETY BUILDING

44 MAIN ST HEBRON, CT 06248

BID # 2003-08



SITE DIAGRAM



TECTON ARCHITECTS

34 SEQUASSEN STREET, SUITE 200 HARTFORD, CT 06106



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Client/ Contractor

TOWN OF HEBRON

15 GILEAD STREET (ROUTE 85) HEBRON, CONNECTICUT

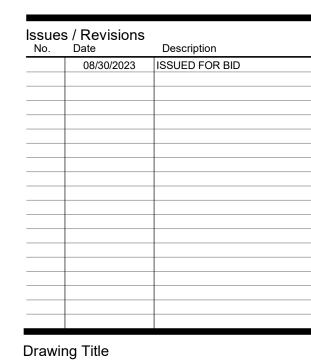
LIST OF DRAWINGS

E1.02 ELECTRICAL SPECIFICATIONS

PC.01 PROJECT COVER
A1.01 FLOOR & ROOF PLANS
A1.02 EXTERIOR ELEVATIONS
A1.03 SECTIONAL DETAILS
A1.04 PLAN DETAILS
E1.01 ELECTRICAL MAIN LEVEL

Capla

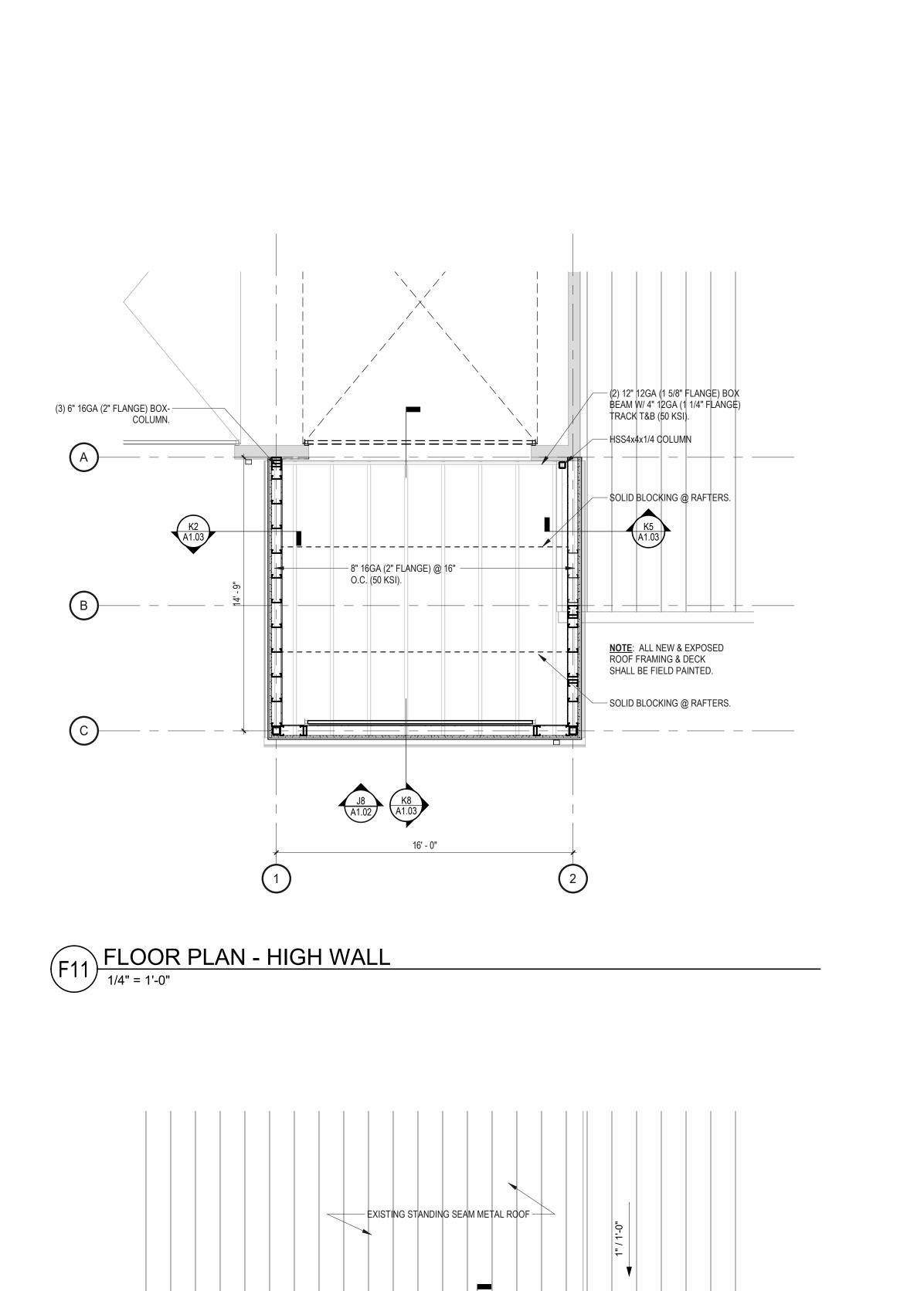
ISSUED FOR BID



PROJECT
COVER

Drawing Number

PC.01



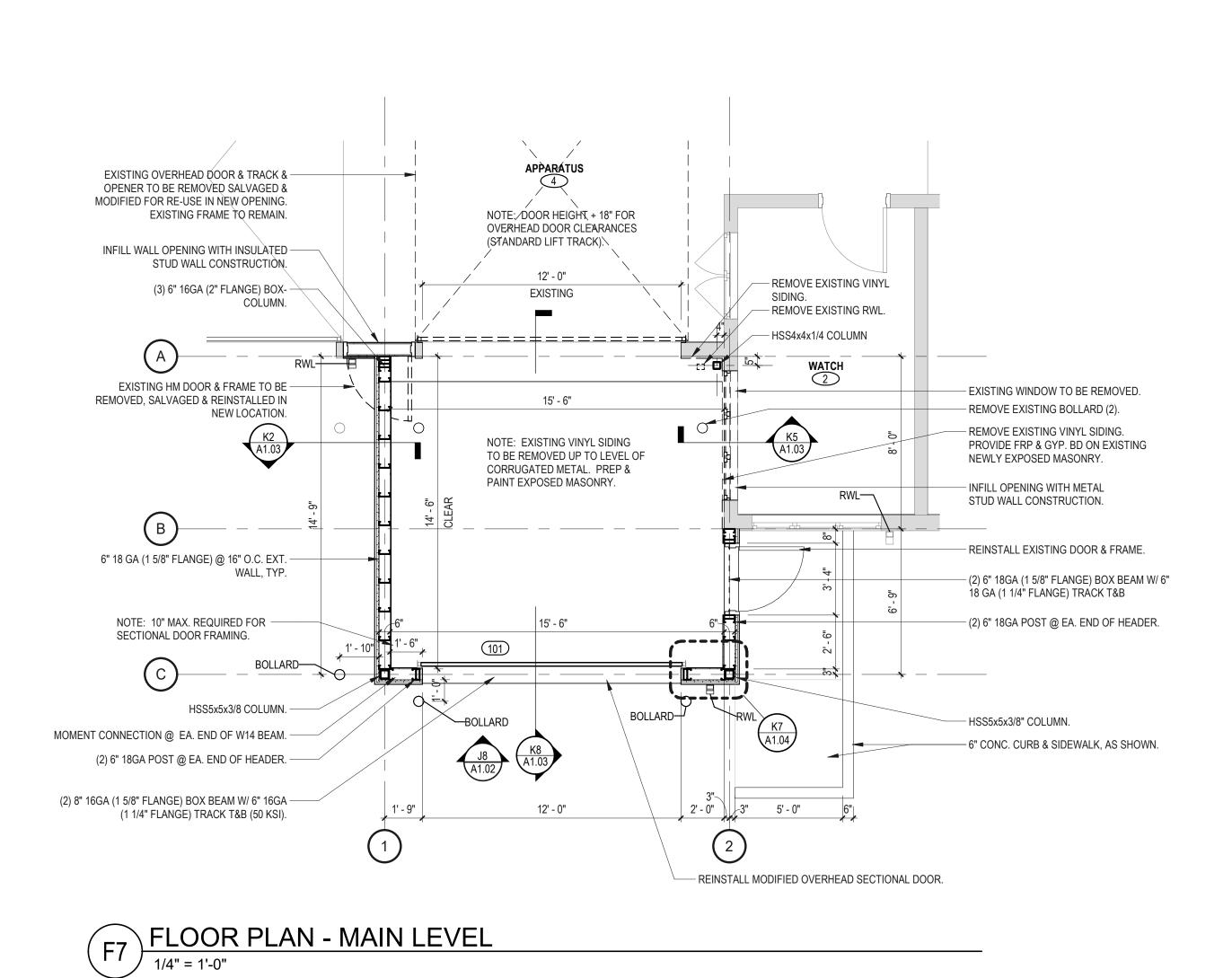
NEW MEMBRANE ROOF —

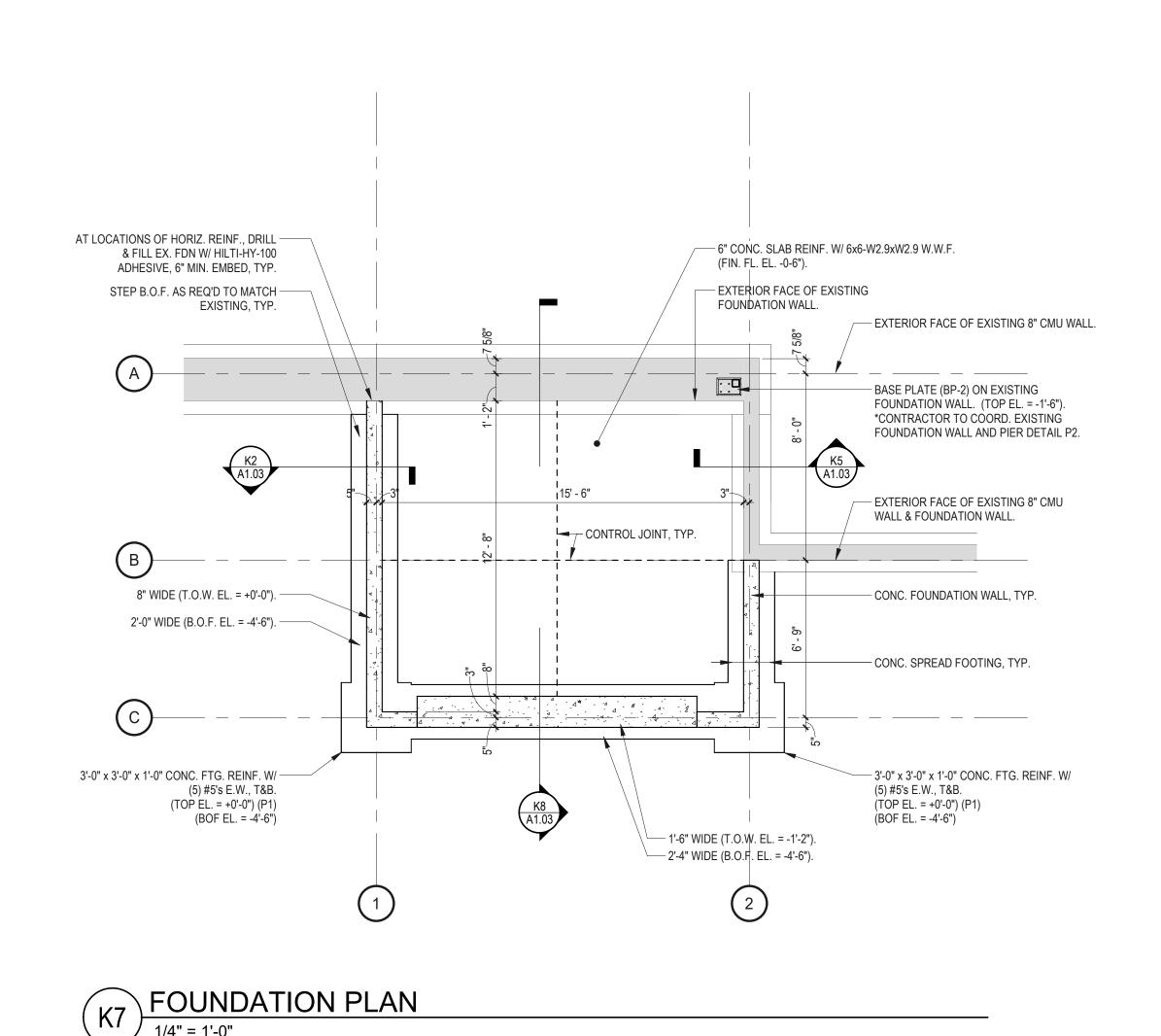
TYPICAL ROOF CONSTRUCTION:

• 90 MIL. EPDM MEMBRANE ROOFING SYSTEM (GRAY), ON

6" RIGID POLYISO INSULATION (R-34.2 MIN.) ON
1 1/2" 20GA TYPE-B GALV METAL ROOF DECK, ON

8" CFM FRAMING, BY DELEGATED DESIGN.





# GENERAL NOTES - CONSTRUCTION

- ALIGN FACE OF NEW FINISH WITH FACE OF EXISTING FINISH AT ALL GYPSUM
- BOARD INFILL CONSTRUCTION UNLESS OTHER WISE NOTED.
- 2. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND ANY DISCREPANCIES SHALL BE PROMPTLY REPORTED TO THE ARCHITECT.
- WHERE THE DRAWINGS AND SPECIFICATIONS CONFLICT THE MOST STRINGENT, GREATEST QUANTITY AND OR BEST QUALITY SHALL BE USED.
- 4. PATCH, REPAIR, AND REFINISH ALL SURFACES EXPOSED BY DEMOLITION WORK OR CUTTING TO ALIGN WITH EXISTING SURFACES SCHEDULED TO REMAIN OR NEW FINISHES SPECIFIED.
- 5. WHERE DOORS IN METAL STUD PARTITIONS ARE NOT SPECIFICALLY LOCATED ON THE PLANS WITH DIMENSION STRINGS, PROVIDE A MINIMUM HINGE SIDE JAMB DIMENSION OF 6". WHERE DOORS APPEAR TO BE CENTERED WITHIN PARTITIONS, LOCATE THE DOOR IN THE CENTER OF THE PARTITION.
- 6. CAULK ALL JOINT OR CRACKS WHICH OCCUR WHERE DISSIMILAR MATERIALS INTERSECT PERPENDICULAR TO EACH OTHER AND THE INTERSECTION IS EXPOSED TO VIEW UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

# **CONSTRUCTION LEGEND**

EXISTING ITEMS

NEW CONSTRUCTION

(A3-0) PARTITION TAG

(////// HATCH DENOTES MILLWORK

WINDOW TAG

# PROJECT NARRATIVE

(101) DOOR TAG

### HEBRON PUBLIC SAFETY, 44 MAIN STREET, HEBRON, CT 06248

THE TOWN OF HEBRON CT, OWNS, OPERATES AND OCCUPIES THE EXISTING PUBLIC SAFETY FACILITY AT 44 MAIN STREET. THE EXISTING FACILITY, ORIGINALLY CONSTRUCTED IN 1985, SERVES AS THE LOCAL POLICE AND FIRE HEADQUARTERS FOR THE TOWN. IN ADDITION TO OFFICE & OTHER BUSINESS (B) FUNCTIONS, THIS BUILDING ALSO HAS A STORAGE (S-2) FUNCTION WITH FOUR (4) FIRE APPARATUS BAYS AND TWO (2) POLICE VEHICLE BAYS.

THIS PROJECT IS FOR A SMALL 250 SF EXTENSION TO (ADDITION TO) ONE OF THE FIRE APPARATUS BAYS AND IS INTENDED TO PROVIDE EXTRA VEHICLE STORAGE SPACE.

THIS SMALL ADDITION HAS NO IMPACT TO THE USE, OCCUPANCY OR LIFE SAFETY.

THE ADDITION WILL HAVE A CONCRETE FLOOR ON CONCRETE FOUNDATIONS TIED INTO THE EXISTING FOUNDATIONS. THE WALL WILL BE METAL STUD BEARING WALL AND THE

ROOF WILL BE COLD FORMED METAL FRAMING. FINISHES WILL BE PAINT, FIBERGLASS

REINFORCED PLASTIC PANELS, EPDM MEMBRANE ROOFING AND VINYL SIDING.

AN EXISTING BUILDING EXIT FROM THE EXISTING APPARATUS BAY IS BEING RELOCATED INTO THE ADDITION. THIS ACCESSIBLE EXIT LEADS TO THE PUBLIC WAY AND NEW EXTERIOR LIGHTING IS BEING PROVIDED.

## PROJECT SPECIFICATIONS

REFER TO THE DRAWINGS & DETAILS FOR PROJECT SPECIFICATION INFORMATION IN REGARDS TO SPECIFIC ITEMS.

CONTRACTOR SHALL PROVIDE SUBMITTAL / SHOP DRAWINGS IN ACCORDANCE WITH DIVISION 1 OF THE PROJECT MANUAL FOR THE FOLLOWING ITEMS:

CONCRETE MIX
STRUCTURAL FILL
STEEL DECKING
COLD FORMED METAL FRAMING
SHEATHING
THERMAL INSULATION
MEMBRANE ROOFING
VINYL SIDING

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Client/ Contractor

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15 GILEAD STREET (ROUTE 85) HEBRON, CONNECTICUT

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GARAGE BAY EXTENSION
HEBRON PUBLIC SAFETY
BUILDING

44 MAIN ST HEBRON, CT 06248

PROJECT NORTH

Seals ISSUED FOR BID

Issues / Revisions
No. Date Description

08/30/2023 ISSUED FOR BID

Drawing Title

FLOOR & ROOF
PLANS

Project Manager: PM Project No: HEB07AR

Project Architect: PA Production Leader: PL

Project Designer: ID Peer Reviewer: PR

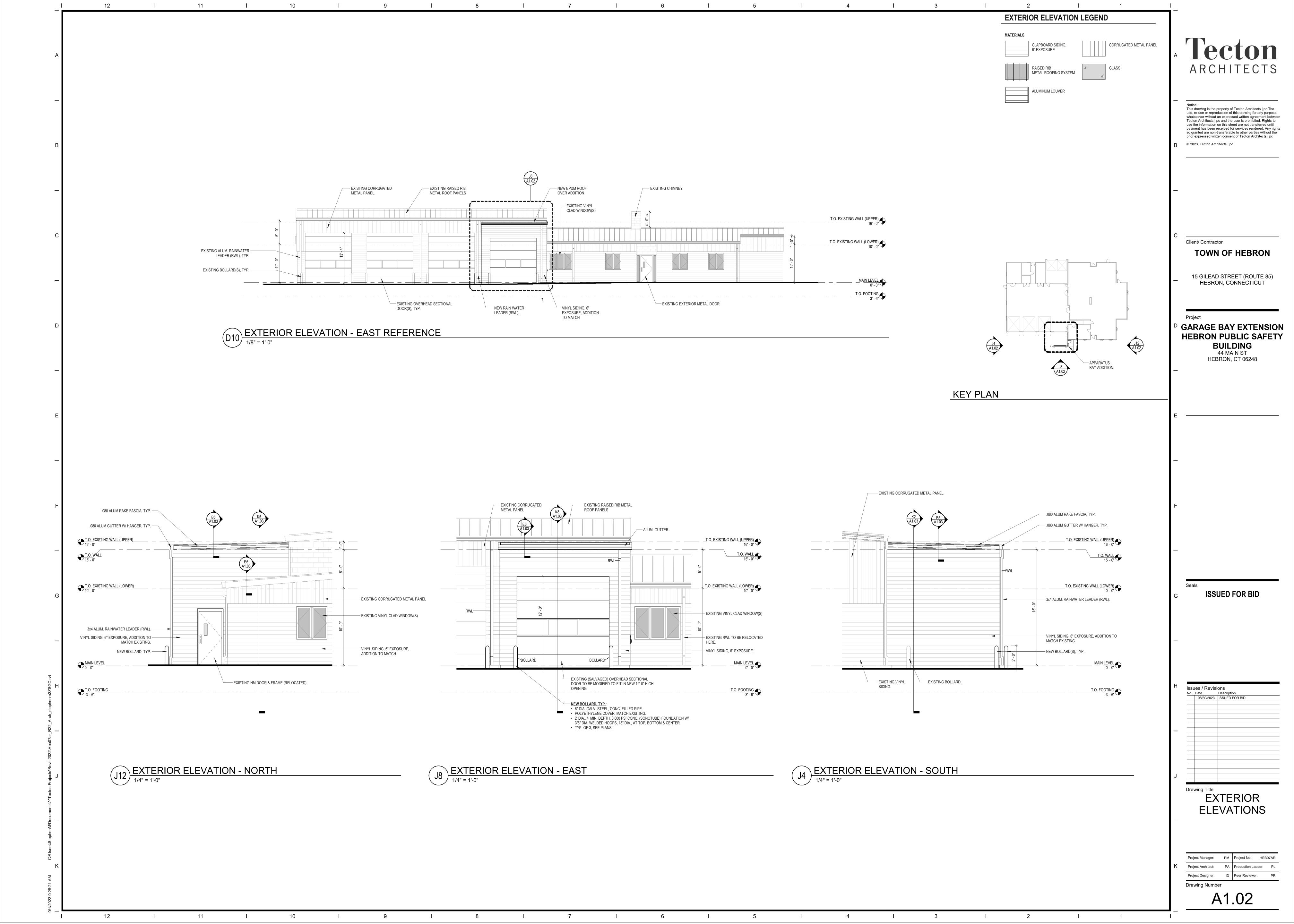
Drawing Number
A1.01

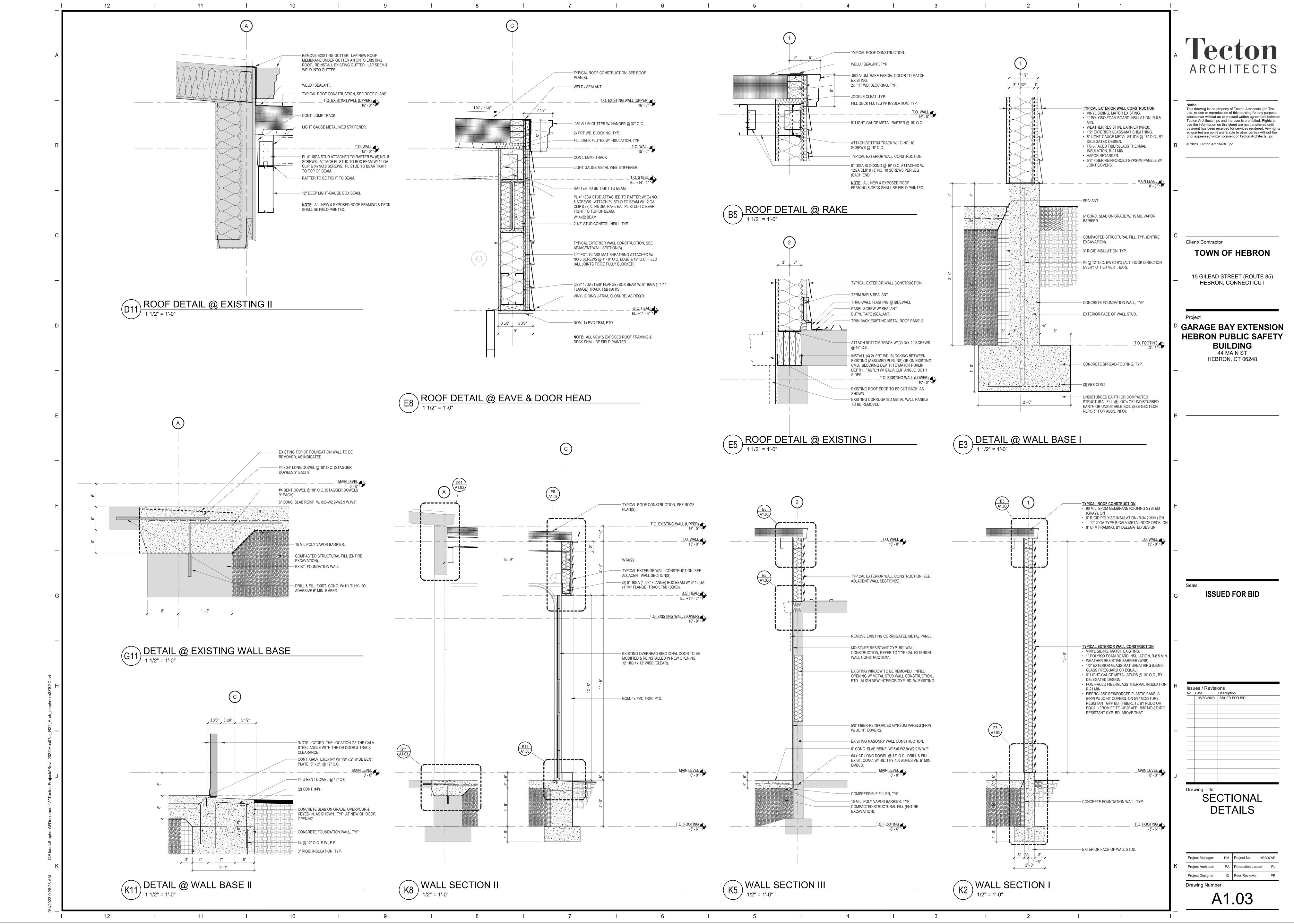
APPARATUS BAY ADDITION.

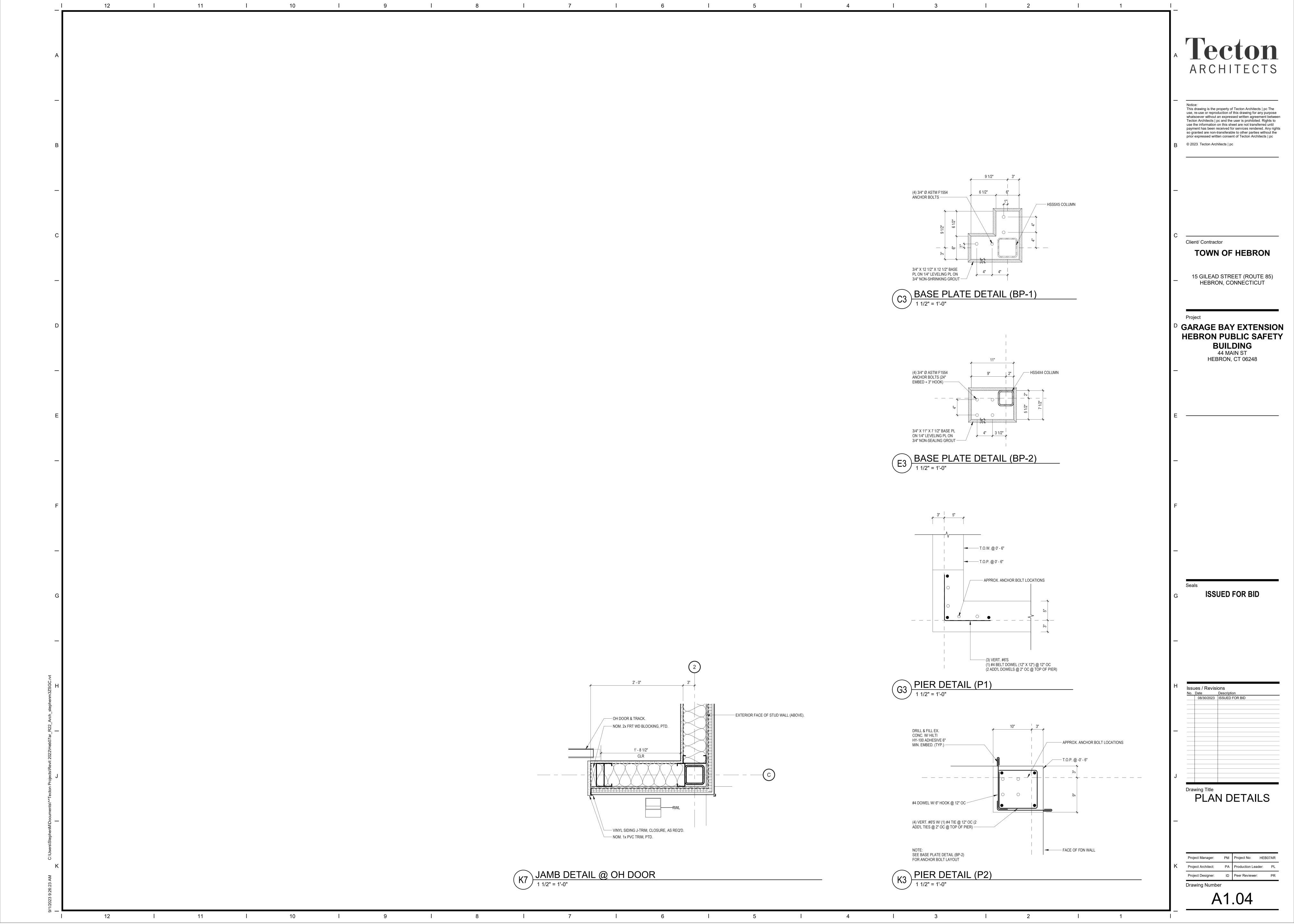
KEY PLAN

ROOF PLAN

1/4" = 1'-0"







### **ELECTRICAL GENERAL NOTES** BRANCH CIRCUITS AND FEEDER CIRCUITS SHALL BE CONCEALED IN WALLS AND ABOVE CEILINGS WHERE POSSIBLE, INCLUDING HOMERUNS TO PANELBOARDS. BRANCH CIRCUITS AND FEEDERS SHALL NOT BE ROUTED IN OR UNDER SLAB UNLESS SPECIFICALLY INDICATED ON ELECTRICAL FLOOR PLANS OR DETAILS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. BRANCH CIRCUITS SHALL BE 2#12,#12G.,3/4"C., TO NEW 20A/1P CIRCUIT BREAKER IN PANEL INDICATED UNLESS NOTED OTHERWISE. . 120V, 1-PHASE, 20A BRANCH CIRCUITS EXCEEDING 150' IN LENGTH SHALL BE 2#10,#10G., 3/4"C. UNLESS NOTED OTHERWISE. 277V, 1-PHASE, 20A BRANCH CIRCUITS EXCEEDING 250' IN LENGTH SHALL BE 2#10,#10G., 3/4"C. UNLESS NOTED OTHERWISE. DEVICES SHALL BE LABELED WITH SOURCE PANEL AND CIRCUIT NUMBER(S). REFER TO ARCHITECTS REFLECTED CEILING PLAN FOR EXACT LOCATION OF CEILING MOUNTED ELECTRICAL DEVICES. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION OF WALL MOUNTED ELECTRICAL DEVICES. PROVIDE FIRE STOPPING AND SMOKE BARRIER SEALING OF PENETRATIONS THROUGH FIRE WALLS OR SMOKE BARRIERS AS REQUIRED. REFER TO ARCHITECTURAL FLOOR PLANS AND CODE SHEETS FOR COORDINATE LOCATIONS OF ELECTRICAL DEVICES AND CONTROLS WITH RESPECT TO LOCATIONS OF CASEWORK AND EQUIPMENT PRIOR TO ROUGH-IN.

Э.	WHEN DEVICES AND SHOWN ON FEARING OF SET THOW ONE ANOTHER, DEVICES SHALL BE WOONTED IN
	LINE, CENTERED ON WALL.
10.	SHARED NEUTRAL WIRING IS NOT ACCEPTABLE, UNLESS NOTED OTHERWISE ON DRAWINGS. PROVIDE
	A DEDICATED NEUTRAL WIRE FOR EACH CIRCUIT, WHERE APPLICABLE.
11.	DRAWINGS ARE DIAGRAMMATIC ONLY. DO NOT SCALE ELECTRICAL DRAWINGS. FIELD CONDITIONS
	AND ARCHITECTURAL ELEVATIONS AND DIMENSIONS SHALL GOVERN EXACT LOCATION AND
	MOUNTING HEIGHTS OF ELECTRICAL DEVICES AND RACEWAYS.
12.	FINISHES AND COLOR OF ELECTRICAL WIRING DEVICES, EXPOSED RACEWAY, LIGHT FIXTURES, AND
	OTHER ELECTRICAL DEVICES SHALL BE DETERMINED BY THE ARCHITECT.
13.	ELECTRICAL WORK SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE (OTHER THAN ROOF
	DECK).
14.	THE ELECTRICAL CONTRACTOR SHALL PERFORM CORES REQUIRED FOR ELECTRICAL WORK.
15.	BUILDING WIRE AND CABLE NOT IN RACEWAY SHALL BE PLENUM RATED.
16.	PROVIDE SURFACE MOUNTED RACEWAY FOR NEW DEVICES LOCATED ON EXISTING TO REMAIN CMU
	OR MASONRY WALLS, UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS FOR ADDITIONAL
	REQUIREMENTS REGARDING SURFACE MOUNTED RACEWAY APPLICATIONS AND WIRING METHODS.

WHEN DEVICES ARE SHOWN ON PLANS OFFSET FROM ONE ANOTHER, DEVICES SHALL BE MOUNTED IN

	ELECTRICAL ABBREVIATIONS
A/AMP AC	AMPERE ALTERNATING CURRENT
AFCI	ARC FAULT CIRCUIT INTERRUPTER
ACU	AIR CONDITIONING UNIT
AFF AFG	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CURRENT
AL	ALUMINUM ALITOMATIC TRANSFER SWITCH
ATS AWG	AUTOMATIC TRANSFER SWITCH AMERICAL WIRE GAUGE
BSMT	BASEMENT
C	CONDUIT
CATV C/B	CABLE TELEVISION CIRCUIT BREAKER
C/B CKT	CIRCUIT
COMP	COMPRESSOR
CP	CONDENSATE PUMP
CT CU	CURRENT TRANSFORMER CONDENSING UNIT OR COPPER
CUH	CABINET UNIT HEATER
D	DRYER
DEG.	DEGREE
DIA DN	DIAMETER   DOWN
DWG	DRAWING
ETR	EXISTING TO REMAIN
EF ELEC	EXHAUST FAN ELECTRICAL
ELEV	ELEVATOR
EM	EMERGENCY
EMT	ELECTRIC METALLIC TUBING
EP EUH	EMERGENCY PANEL ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
F.	FAHRENHEIT
FA FACP	FIRE ALARM FIRE ALARM CONTROL PANEL
FC	FOOT CANDLE
FCU	FAN COIL UNIT
G	GROUND
GFCI HP	GROUND FAULT CIRCUIT INTERRUPTER HORSE POWER
HPS	HIGH PRESSURE SODIUM
HR	HOUR
HZ IG	HERTZ   ISOLATED GROUND
IN	INCHES
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KVA KW	KILOVOLT AMPERE   KILOWATT
MAX	MAXIMUM
MAU	MAKE-UP AIR UNIT
MCB MCC	MAIN CIRCUIT BREAKER
MCCB	MOTOR CONTROL CENTER MOLDED CASE CIRCUIT BREAKER
MH	METAL HALIDE OR MANHOLE
MIN	MINIMUM
MLO NA	MAIN LUGS ONLY NOT APPLICABLE
NE NE	NEW DEVICE INSTALLED IN SAME LOCATION AS EXISTING REMOVED DEVICE
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NL NR	NEW LOCATION OF RELOCATED DEVICE NEW TO REPLACE EXISTING
NTS	NOT TO SCALE
Р	POLE
PE	PRIMARY ELECTRIC SERVCE
PF PH	POWER FACTOR PHASE
PNL	PANEL
PVC	POLYVINYL CHLORIDE CONDUIT
RE	EXISTING TO BE REMOVED
REF RGS	REFRIGERATOR RIGID GALVANIZED STEEL CONDUIT
RL	EXISTING TO BE RELOCATED
RM	ROOM
RN	EXISTING TO BE REMOVED AND REPLACED WITH NEW (EXISTING
RR	BACKBOXES, CONDUIT AND WIRING TO REMAIN)  EXISTING TO BE RELOCATED IN SAME LOCATION ON NEW SURFACE
RTU	ROOFTOP UNIT
SE	SECONDARY ELECTRICAL SERVICE
SPEC	SPECIFICATION
SWBD SPD	SWITCHBOARD SURGE PROTECTION DEVICE
TELE	TELECOMMUNICATIONS/TELEPHONE
TV	TELEVISION
T/TX	TRANSFORMER
TYP UH	TYPICAL UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VAC	VOLT AMPERE VOLTS ALTERNATING CURRENT
VAC VIF	VOLTS ALTERNATING CURRENT   VERIFY IN FIELD
W	WATT OR WIRE
WA	WASHER
WG	WIRE GUARD

WIRE GUARD WEATHERPROOF

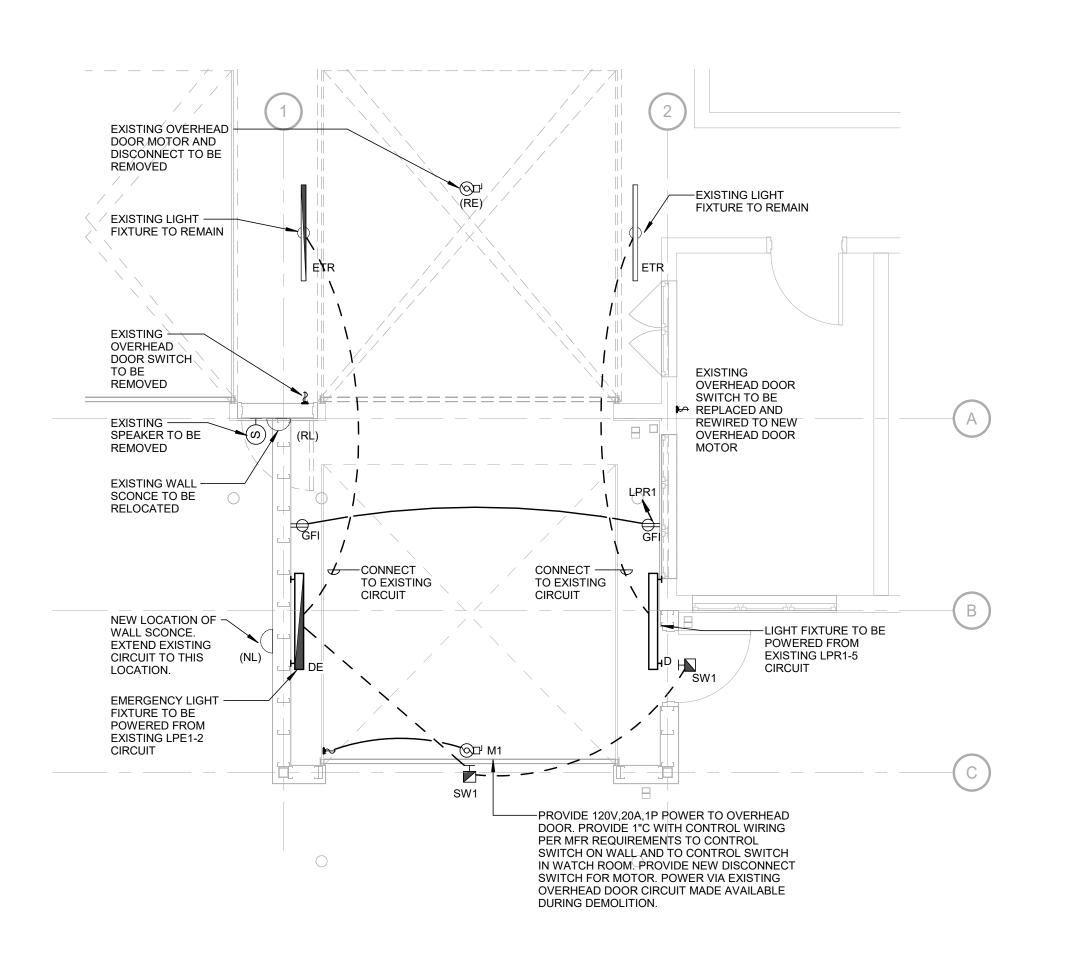
ELECTRICAL SYMBOLS			
SYMBOL	DESCRIPTION		
	SURFACE MOUNTED PANELBOARD		
$\bigcirc$	MOTOR (REFER TO MOTOR CIRCUIT SCHEDULE FOR POWER REQUIREMENTS)		
	BRANCH CIRCUIT WIRING, CONCEALED IN WALLS OR CEILINGS		
/	SWITCHED WIRING		
	HOMERUN TO PANELBOARD		
J	JUNCTION BOX		
	RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION		

	LIGHTING SYMBOLS
SYMBOL	DESCRIPTION
• •	WALL MOUNTED LIGHTING FIXTURE
	WALL MOUNTED EMERGENCY LIGHTING FIXTURE
$\Box \Box$	WALL SCONCE

			LIGHTIIN	G FIXTURE SCHEDULE
TYPE	<u>BASIS OF DESIGN</u> MANUFACTURER / MODEL	VOLTAGE	SOURCE	FIXTURE DESCRIPTION - BASIS OF DESIGN
D DE	COLUMBIA LIGHTING MPS49-35MW-CW-EDU	UNV	3451LM, 27W 3500K LED	WALL MOUNTED UTILITY STRIP FIXTURE, 4 FEET IN LENGTH. WITH STEEL HOUSING, CURVED ACRYLIC LENS, WIDE DISTRIBUTION, 0-10V DIMMING, 90+ CRI 60,000+HR LED LIFE, DLC LISTING. PROVIDE CHAIN MOUNTING ACCESSORY WHERE INDICATED ON FLOOR PLANS. "DE" = ON EMERGENCY CIRCUIT
SW1	HUBBELL GEOPAK TRP1-12L20-4K7-4W-120-XX-XX-EH	120VAC	2150LM, 20W 4000K LED	DIE-CAST ALUMINUM WALL MOUNTED LED TRAPEZOID FIXTURE, TYPE 4 DISTRIBUTION. 0-10V DIMMING DRIVER. PROVIDE WITH INTERNAL EMERGENCY BATTERY PACK RATED FOR -30C OPERATION.
	SCHEDULE, UNLESS INDICATED OTHERWISE. E THE LIGHTING FIXTURE SCHEDULE AND IN THE	QUAL FIXTUR SPECIFICATI SHAPE, INCLU ID FINISH.	RE APPROVAL SHA ONS, THE PROPO JDING BUT NOT LI	MITED TO LENS CONSTRUCTION AND SHADING.

		B. BE OF EQUAL QUALITY CONSTRUCTION AND FINISH.
		C. BE SUPPLIED WITH ALL REQUIRED ACCESSORIES TO MATCH THE SPECIFIED (BASIS OF DESIGN) FIXTURE.
		D. PROVIDE THE SAME DISTRIBUTION, EFFICACY AND SOURCE LUMEN OUTPUT.
		E. HAVE THE SAME LISTINGS AS THE BASIS OF DESIGN FIXTURE, INCLUDING DLC AND ENERGY STAR QUALIFICATIONS.
2	2.	ALL FIXTURES SHALL BE UL LISTED.
(	3.	ALL NECESSARY MOUNTING HARDWARE, HANGERS, BRACKETS, RAILS, YOKES, CANOPIES, STEMS, CHAINS, ROW JOINERS, ETC. SHALL BE FURNISHED AND INSTALLED.
4	4.	REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFIC DETAILS, ARRANGEMENT, MOUNTING HEIGHTS, SUSPENSION LENGTHS, CEILING CONSTRUCTION, ETC. ALL COLORS AND FINISHES
		SHALL BE SELECTED BY ARCHITECT.
	5.	FIXTURES SHALL BE SEISMICALLY SUPPORTED AS REQUIRED BY THE APPLICABLE BUILDING CODE. FIXTURES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE AND SHALL BE
		INDEPENDENT OF DUCTS, PIPES, CEILINGS AND THEIR SUPPORTING MEMBERS. FIXTURES SHALL BE SUPPORTED WITH A MINIMUM OF 2 SUPPORTS.
(	3.	WIRE EMERGENCY FIXTURES AND EXIT SIGNS AHEAD OF SWITCHED LEGS.
7	7.	MINIMUM MOUNTING HEIGHT OF FIXTURES IN MECHANICAL AND ELECTRICAL SPACES IS 8'-6" AFF. COORDINATE MOUNTING HEIGHT IN FIELD WITH EQUIPMENT IN ROOM SUCH THAT
		LIGHTING IS NOT OBSTRUCTED BY DUCTWORK, PIPING AND CONDUIT. PROVIDE NECESSARY CHAIN-MOUNTING HARDWARE TO SUSPEND FIXTURES WHERE REQUIRED.
8	3.	REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
ć	9.	WHERE EXIT SIGNS ARE SHOWN AS WALL MOUNTED ABOVE A DOOR, MOUNT SUCH THAT THE BOTTOM OF THE SIGN IS NO MORE THAN 3" ABOVE THE DOOR FRAME, UNLESS INDICATED
		OTHERWISE ON PLANS.
•	10.	UNLESS OTHERWISE NOTED, PENDANT FIXTURE MOUNTING HEIGHTS IN FINISHED SPACES SHALL BE AS FOLLOWS:
		A. CEILING HEIGHT 9'-0" OR LOWER: 7'-6" TO BOTTOM OF FIXTURE

B. CEILING HEIGHT 9-0 OR LOWER. 7-0 TO BOTTOM OF FIXTURE
C. CEILING HEIGHT 11'-0" TO 12'-0": 9'-6" TO BOTTOM OF FIXTURE
D. MINIMUM PENDANT LENGTH SHALL BE 1'-6"
E. CONSULT WITH ARCHITECT AND ENGINEER FOR OTHER CEILING HEIGHTS.



1 ELECTRICAL - MAIN LEVEL 1/4" = 1'-0"

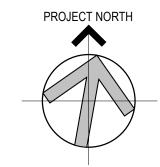
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15 GILEAD STREET (ROUTE 85) HEBRON, CONNECTICUT

GARAGE BAY EXTENSION **HEBRON PUBLIC SAFETY BUILDING** 44 MAIN ST HEBRON, CT 06248



**ISSUED FOR BID** 

Issues / Revisions 
 No.
 Date
 Description

 08/30/2023
 ISSUED FOR BID
 Drawing Title
ELECTRICAL
MAIN LEVEL

KEY PLAN

Project Manager: Project No:Project Number

Project Architect: Production Leader: Project Designer: Peer Reviewer: **Drawing Number** 

E1.01

### SECTION 26 04 00 - GENERAL CONDITIONS FOR ELECTRICAL TRADES A. DESCRIPTION 1. THIS PROJECT COMPRISES ALTERATIONS AND RENOVATIONS TO THE EXISTING BUILDING. THE EXISTING BUILDING IS CURRENTLY OCCUPIED AND THE PROJECT WILL PROCEED IN A MANNER WHICH WILL MINIMIZE ANY INCONVENIENCE TO THE BUILDING OCCUPANTS. SCOPE OF WORK CONSISTS OF INSTALLATION OF MATERIALS TO BE FURNISHED UNDER THE CONTRACT DOCUMENTS AND WITHOUT LIMITING GENERALITY THEREOF CONSISTS OF FURNISHING LABOR, MATERIALS, EQUIPMENT, HOISTING, PLANT, TRANSPORTATION, RIGGING, STAGING. APPURTENANCES. AND SERVICES NECESSARY AND/OR INCIDENTAL TO PROPERLY COMPLETE ALL WORK AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN. B. DEFINITIONS: FURNISH: THE TERM "FURNISH" MEANS TO "SUPPLY AND DELIVER TO THE PROJECT SITE. READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS.' INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING UNPACKING ASSEMBLY FRECTION PLACING ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY A. COORDINATION: FOR THE INTENDED USE. REMOVE: THE TERM REMOVE MEANS TO DISCONNECT FROM ITS PRESENT POSITION; REMOVE FROM THE PREMISES AND TO DISPOSE OF IN A LEGAL MANNER." SUBSTITUTIONS: "SUBSTITUTIONS" ARE REQUESTS FOR CHANGES IN PRODUCTS, MATERIALS AND METHODS OF CONSTRUCTION AS PROPOSED BY THE CONTRACTOR AFTER AWARD OF THE CONTRACT C. EQUIPMENT EQUIVALENTS AND SUBSTITUTIONS: CERTAIN MANUFACTURERS OF MATERIAL, APPARATUS OR APPLIANCES ARE INDICATED IN THE DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT. THESE ITEMS HAVE BEEN USED AS THE BASIS OF DESIGN, AND AS A CONVENIENCE IN FIXING THE MINIMUM STANDARD OF WORKMANSHIP FINISH AND DESIGN THAT IS REQUIRED. IF THE CONTRACTORS USES AN "APPROVED EQUAL" ALTERNATIVE TO THE BASIS OF DESIGN. AND IF THE FEATURES OF THAT ALTERNATIVE HAVE AN IMPACT ON OTHER COMPONENTS OF THE PROJECT, THE CONTRACTOR SHALL INCLUDE THE NECESSARY ADJUSTMENTS IN THOSE COMPONENTS, WHETHER FOR ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, FIRE PROTECTION, OR ANY OTHER ELEMENTS, PLUS ANY ADJUSTMENTS FOR DIFFERENCE IN PERFORMANCE. EQUIPMENT, MATERIAL OR DEVICES SUBMITTED FOR REVIEW AS AN "EQUIVALENT" SHALL MEET THE FOLLOWING REQUIREMENTS: A. THE EQUIVALENT SHALL HAVE THE SAME CONSTRUCTION FEATURES SUCH AS, BUT NOT a. MATERIAL THICKNESS, GAUGE, WEIGHT, DENSITY, ETC. WELDED, RIVETED, BOLTED, ETC., CONSTRUCTION FINISH, UNDERCOATING, CORROSION PROTECTION THE EQUIVALENT SHALL PERFORM WITH THE SAME OR BETTER OPERATING EFFICIENCY. THE EQUIVALENT SHALL BE LOCALLY REPRESENTED BY THE MANUFACTURER FOR SERVICE, PARTS AND TECHNICAL INFORMATION.

IS APPLICABLE TO THE SPECIFIED ITEM, SUCH AS UL OR NEMA LABELS OR DLC QUALIFICATIONS D. DRAWINGS: PROVIDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO COMPLETE THE WORK OUTLINED ON THESE CONTRACT DOCUMENTS. THE CONTRACTOR IS TO NOTE THAT THESE DOCUMENTS ARE DIAGRAMMATIC ONLY AND THAT FINAL PLACEMENT OF EQUIPMENT OR DEVICES IN THE FIELD MAY NOT DIRECTLY CORRESPOND TO THAT WHICH IS SHOWN ON THE

D. THE EQUIVALENT SHALL BEAR THE SAME LABELS OF PERFORMANCE CERTIFICATION AS

ENGINEER IMMEDIATELY TO ASCERTAIN WHAT THE INTENT WAS BY THE DESIGN WHERE VARIANCES OCCUR BETWEEN THE DRAWINGS AND SPECIFICATIONS OR WITHIN EITHER OF THE DOCUMENTS, THE ITEM OR ARRANGEMENT OF BETTER QUALITY, HIGHER RATING. OR HIGHER VALUE SHALL BE INCLUDED IN THE CONTRACT PRICE. THE OWNER AND ENGINEER SHALL DECIDE ON THE ITEM AND THE MANNER IN WHICH THE WORK SHALL BE

DRAWINGS. IF A CONFLICT IN POSITIONING OCCURS THE CONTRACTOR IS TO NOTIFY THE

PRIOR TO SUBMITTING BID, VISIT SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY IDENTIFIED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED. DO NOT SCALE DRAWINGS. SCALE INDICATED ON DRAWINGS IS FOR ESTABLISHING

REFERENCE POINTS ONLY. ACTUAL FIELD CONDITIONS SHALL GOVERN ALL DIMENSIONS. PRIOR TO ORDERING ANY MATERIALS AND EQUIPMENT, THOROUGHLY REVIEW THE SITE CONDITIONS TO DETERMINE IF ADEQUATE CLEARANCES AND ACCESS IS ALLOWED TO INSTALL THE COMPONENTS. ORDER EQUIPMENT BROKEN DOWN AS NECESSARY TO ALLOW FOR PROPER RIGGING THROUGH THE PROJECT AREA PROVIDE ALL NECESSARY ALTERATIONS TO THE STRUCTURE OF THE BUILDING AS NECESSARY TO RIG THE EQUIPMENT

ARRANGE INSTALLATION TO PROVIDE ACCESS TO EQUIPMENT FOR EASY MAINTENANCE AND

CODES AND STANDARDS: ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE MOST RECENTLY ADOPTED EDITIONS OF THE FOLLOWING CODES AND STANDARDS, INCLUDING ALL

JURISDICTIONAL REVISIONS: STATE BUILDING CODE INCLUDING ALL SUPPLEMENTS. STATE FIRE SAFETY CODE INCLUDING ALL SUPPLEMENTS.

THE INTERNATIONAL EXISTING BUILDING CODE THE INTERNATIONAL FIRE CODE THE INTERNATIONAL MECHANICAL CODE THE INTERNATIONAL PLUMBING CODE THE INTERNATIONAL ENERGY CONSERVATION CODE

THE INTERNATIONAL BUILDING CODE

10. NEPA 1: FIRE CODE 11. NFPA 70: NATIONAL ELECTRICAL CODE 12. NFPA 72: NATIONAL FIRE ALARM AND SIGNALING CODE 13. NECA 1: STANDARD FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION 14. NETA ATS.

STATE FIRE PREVENTION CODE INCLUDING ALL SUPPLEMENTS.

B. PERMITS AND FEES:

E. SURVEY AND MEASUREMENTS:

THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS; AND PAY ALL GOVERNMENT AND STATE SALES TAXES AND FEES WHERE APPLICABLE, AND OTHER COSTS, FILE ALL NECESSARY DRAWINGS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL AND STATE DEPARTMENTS HAVING JURISDICTION, OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK, AND DELIVER A COPY TO THE OWNER AND ENGINEER BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK.

H. SHOP DRAWINGS:

PROVIDE SHOP DRAWINGS FOR ALL DEVICES SPECIFIED UNDER EQUIPMENT SPECIFICATIONS FOR ALL SYSTEMS INCLUDING FIRE ALARM, SWITCHGEAR, CLOCK, LIGHTING, ETC., OR WHERE CALLED FOR ELSEWHERE IN THE SPECIFICATIONS, OR WHERE SCHEDULED ON THE DRAWINGS, OR WHERE CALLED OUT ON THE DRAWINGS. SHOP DRAWINGS SHALL INCLUDE MANUFACTURERS' NAMES CATALOG NUMBERS CUTS DIAGRAMS DIMENSIONS IDENTIFICATION OF PRODUCTS AND MATERIALS INCLUDED. COMPLIANCE WITH SPECIFIED STANDARDS, NOTATION OF COORDINATION REQUIREMENTS, NOTATION OF DIMENSIONS ESTABLISHED BY FIELD MEASUREMENT AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND ACCEPT THE EQUIPMENT. A COMPLETE LIST IN EACH CATEGORY (EXAMPLE: ALL FIXTURES) OF ALL SHOP DRAWINGS, CATALOG CUTS, MATERIAL

LISTS, ETC., SHALL BE SUBMITTED TO THE ENGINEER AT ONE TIME. NO CONSIDERATION WILL BE GIVEN TO A PARTIAL SHOP DRAWING SUBMITTAL. SHOP DRAWINGS SHALL INCLUDE EQUIPMENT SUBMITTALS, FABRICATION AND INSTALLATION DRAWINGS. SETTING DIAGRAMS, SCHEDULES, PATTERNS, TEMPLATES AND SIMILAR DRAWINGS. INCLUDE THE FOLLOWING INFORMATION:

.. DIMENSIONS WIRING DIAGRAMS AND RISER DIAGRAMS

IDENTIFICATION OF PRODUCTS AND MATERIALS INCLUDED. COMPLIANCE WITH SPECIFIED STANDARDS AND PERFORMANCE DATA AS INDICATED. NOTATION OF COORDINATION REQUIREMENTS.

NOTATION OF DIMENSIONS ESTABLISHED BY FIFLD MEASUREMENT H. DO NOT USE SHOP DRAWINGS WITHOUT AN APPROPRIATE FINAL STAMP INDICATING ACTION TAKEN IN CONNECTION WITH CONSTRUCTION. I. DO NOT ORDER ANY MATERIALS OR EQUIPMENT PRIOR TO RECEIVING FINAL APPROVED

AS-BUILT DRAWINGS:

PREPARE AS-BUILT DRAWINGS TO A SCALE TO MATCH THE CONTRACT DOCUMENT FLOOR PLANS; DETAILING THE ACTUAL INSTALLATION OF MAJOR ELEMENTS, COMPONENTS, AND SYSTEMS OF MECHANICAL EQUIPMENT AND MATERIALS. WHERE SHOP DRAWINGS ARE USED, RECORD A CROSS-REFERENCE AT THE CORRESPONDING LOCATION ON THE AS-BUILT DRAWINGS. GIVE PARTICULAR ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD AT A LATER DATE.

3. SHOP DRAWINGS SHALL BE IN PDF/OCR FORMAT. PHOTOCOPIES ARE NOT ACCEPTABLE.

MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER. BUT WAS NOT SHOWN ON CONTRACT DRAWINGS OR SHOP DRAWINGS. NOTE RELATED CHANGE ORDER NUMBERS WHERE APPLICABLE. FINAL RECORD DOCUMENTS SHALL BE PREPARED IN THE LATEST AUTOCAD VERSION AND

SHALL BE TURNED OVER TO THE OWNER AT THE COMPLETION OF THE WORK.

DIGITAL MEDIA FOR ALL DRAWINGS AND A CLEAN SET OF REPRODUCIBLE PAPER COPIES

L. WARRANTIES ALL EQUIPMENT PROVIDED IN THIS PROJECT SHALL CARRY A MANUFACTURER'S WARRANTY FOR NO LESS THAN ONE (1) YEAR FROM DATE OF BENEFICIAL USE - UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

. MISCELLANEOUS REQUIREMENTS:

(MAXIMUM LENGTH 6 FFFT)

THE CONTRACTOR SHALL COORDINATE ALL INTERRUPTIONS OF SERVICES AND LIMITATIONS OF ACCESS WITH THE OWNER NO LESS THAN (5) DAYS PRIOR TO THE INTERRUPTION. OBTAIN IN OWNER'S NAME WRITTEN EQUIPMENT AND MATERIAL WARRANTIES OFFERED IN MANUFACTURER'S PUBLISHED PRODUCT DATA WITHOUT EXCLUSION OR LIMITATION. GUARANTEE WORK OF THESE CONTRACT DOCUMENTS IN WRITING FOR NOT LESS THAN ONE (1) YEAR FROM DATE OF BENEFICIAL USE. REPAIR OR REPLACE DEFECTIVE MATERIALS. EQUIPMENT, WORKMANSHIP AND INSTALL ATION THAT DEVELOP WITHIN THIS PERIOD PROMPT AND TO OWNER'S SATISFACTION AND CORRECT DAMAGE CAUSED IN MAKING

NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE WITHIN CONTRACT PRICE. 4. SUBMIT TO THE OWNER AN OFFICIAL CERTIFICATE OF INSURANCE FOR THEIR RECORDS. SECTION 26 05 19 - ELECTRICAL POWER CONDUCTORS AND CABLES

A. COORDINATE SIZES OF RACEWAYS, BOXES, AND EQUIPMENT ENCLOSURES INSTALLED UNDER OTHER SECTIONS WITH THE ACTUAL CONDUCTORS TO BE INSTALLED, INCLUDING ADJUSTMENTS FOR CONDUCTOR SIZES INCREASED FOR VOLTAGE DROP. COORDINATE WITH ELECTRICAL EQUIPMENT INSTALLED UNDER OTHER SECTIONS TO PROVIDE TERMINATIONS SUITABLE FOR USE WITH THE CONDUCTORS TO BE INSTALLED. PROVIDE SINGLE CONDUCTOR BUILDING WIRE INSTALLED IN SUITABLE RACEWAY UNLESS OTHERWISE INDICATED, PERMITTED OR REQUIRED. CONDUCTOR SIZES AND AMPACITIES SHOWN ARE BASED ON COPPER. MINIMUM CONDUCTOR SIZES:

A. BRANCH CIRCUITS: 12 AWG a. 20A, 120V CIRCUITS LONGER THAN 150 FEET - #10 AWG MINIMUM AND SIZED FOR VOLTAGE DROP. b. 20A, 277V CIRCUITS LONGER THAN 250 FEET - #10 AWG MINIMUM AND SIZED FOR VOLTAGE DROP. B. CONTROL CIRCUITS: 14 AWG

CONDUCTORS NO. 10 AWG AND SMALLER DIAMETER SHALL BE SOLID ANNEALED COPPER EXCEPT THAT CONDUCTORS FOR REMOTE CONTROL, ALARM, AND SIGNAL CIRCUITS, CLASSES 1, 2, AND 3, SHALL BE STRANDED UNLESS SPECIFICALLY INDICATED OTHERWISE. CONDUCTORS NO. 8 AWG AND LARGER DIAMETER SHALL BE STRANDED ANNEALED COPPER. UNLESS SPECIFIED OR INDICATED OTHERWISE OR REQUIRED BY NFPA 70, POWER AND LIGHTING WIRES SHALL BE 600-VOLT, TYPE THWN/THHN OR THWN/THWN-2 ANNEALED COPPER, CONTROL AND SIGNAL CIRCUITS SHALL BE TYPE TW, THW, OR TF ANNEALED COPPER. UNDERGROUND CONDUCTORS SHALL BE TYPE XHHW-2. H. WHERE LIGHTING FIXTURES REQUIRE 90 DEGREES C CONDUCTORS, PROVIDE ONLY

CONDUCTORS WITH 90 DEGREE C INSULATION OR BETTER. MAKE ALL SPLICES IN ACCESSIBLE LOCATIONS. MAKE SPLICES IN CONDUCTORS NO. 10 AWG AND SMALLER DIAMETER WITH INSULATED, SPRING WIRE CONNECTORS WITH PLASTIC CAPS. MAKE SPLICES IN CONDUCTORS NO. 8 AWG AND LARGER DIAMETER WITH SOLDERLESS PRESSURE CONNECTORS WITH INSULATING COVERS. MAKE SPLICES IN CONDUCTORS NO. 6 AND LARGER WITH PRESSURE CONNECTORS OR SPLIT BOLT CONNECTORS. MAKE WIRE TERMINATIONS USING CRIMPED TERMINALS FOR CONDUCTORS NO. 10 AND SMALLER. MAKE WIRE TERMINATIONS FOR CONDUCTORS NO. 8 AND LARGER USING MECHANICAL OR PRESSURE CONNECTORS. PROVIDE SUITABLE REDUCERS WHERE OVERSIZED CONDUCTORS ARE LARGER THAN THE EQUIPMENT TERMINATION.

PHASE CONDUCTORS SHALL BE IDENTIFIED BY COLOR CODING. THE COLOR OF THE INSULATION ON PHASES A, B, AND C RESPECTIVELY (FOR THREE PHASE) OR PHASES A AND B RESPECTIVELY (FOR SINGLE PHASE) OF DIFFERENT VOLTAGE SYSTEMS SHALL BE AS FOLLOWS: 120/208 VOLT, THREE PHASE: BLACK, RED, AND BLUE, 277/480 VOLT, THREE PHASE: BROWN, ORANGE, AND YELLOW 120/240 VOLT, SINGLE PHASE: BLACK AND RED.

UNLESS OTHERWISE INDICATED, THE WIRING METHOD SHALL CONSIST OF THE INSTALLATION OF NSULATED CONDUCTORS INSTALLED IN ELECTRICAL METALLIC AND/OR WIREMOLD RACEWAY. METALLIC-ARMORED TYPE MC CABLES, WHERE ALLOWED, SHALL INCLUDE 600V INSULATION RATING, TYPE THHN/THWN-2 COPPER CONDUCTORS, DEDICATED NEUTRAL CONDUCTOR AND STEEL INTERLOCKING ARMOR. USES PERMITTED A. WHERE CONCEALED ABOVE ACCESSIBLE CEILINGS FOR FINAL CONNECTIONS TO LUMINAIRES

B. WHERE CONCEALED IN HOLLOW STUD WALLS, ABOVE ACCESSIBLE CEILINGS, AND UNDER RAISED FLOOR FOR BRANCH CIRCUITS UP TO 20A. C. EXCEPTION: PROVIDE SINGLE CONDUCTOR BUILDING WIRING IN RACEWAY FOR CIRCUIT HOMERUN FROM FIRST DEVICE IN SPACE TO PANELBOARD. PROVIDE INSULATED, GREEN EQUIPMENT GROUNDING CONDUCTOR IN FEEDER AND BRANCH CIRCUITS, INSTALLED IN CONDUIT OR RACEWAYS, INCLUDING LIGHTING CIRCUITS. GROUNDING

CONDUCTOR SHALL BE SEPARATE FROM ELECTRICAL SYSTEM NEUTRAL CONDUCTOR. SECTION 26 05 26 - GROUNDING AND BONDING GROUNDING SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 70. GROUND EXPOSED, NON-CURRENT-CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY

SYSTEMS, GROUNDING CONDUCTOR IN METALLIC AND NONMETALLIC RACEWAYS, AND NEUTRAL CONDUCTOR OF WIRING SYSTEMS. WHERE GROUND FAULT PROTECTION IS EMPLOYED, ENSURE THAT CONNECTION OF GROUND AND NEUTRAL DOES NOT INTERFERE WITH CORRECT OPERATION OF FAULT PROTECTION. EXISTING WORK: WHERE EXISTING GROUNDING AND BONDING SYSTEM COMPONENTS ARE INDICATED TO BE REUSED. THEY MAY BE REUSED ONLY WHERE THEY ARE FREE FROM CORROSION, INTEGRITY AND CONTINUITY ARE VERIFIED, AND WHERE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. WHERE CONDUCTOR SIZE IS NOT INDICATED, SIZE TO COMPLY WITH NFPA 70. USE INSULATED COPPER CONDUCTORS UNLESS OTHERWISE INDICATED. USE BARE COPPER

CONDUCTORS WHERE INSTALLED UNDERGROUND OR ENCASED IN CONCRETE. USE LISTED MECHANICAL CONNECTORS, COMPRESSION CONNECTORS OR EXOTHERMIC WELDED CONNECTIONS FOR ACCESSIBLE CONNECTIONS. USE EXOTHERMIC WELDED CONNECTIONS FOR UNDERGROUND, CONCEALED OR OTHERWISE INACCESSIBLE CONNECTIONS.

SECTION 26 05 29 - HANGERS AND SUPPORTS

A. PROVIDE ALL REQUIRED HANGERS, SUPPORTS, ANCHORS, FASTENERS, FITTINGS, ACCESSORIES AND HARDWARE NECESSARY FOR THE COMPLETE INSTALLATION OF THE ELECTRICAL WORK. B. HANGERS AND SUPPORTS SHALL MEET ASTM STANDARDS FOR COATINGS, NECA 1 STANDARDS FOR WORKMANSHIP. NFPA 70, AND UL 5B FOR STRUT-TYPE CHANNEL RACEWAY AND FITTINGS. WHERE SUPPORT AND ATTACHMENT COMPONENT TYPES AND SIZES ARE NOT INDICATED.

SELECT IN ACCORDANCE WITH MANUFACTURER'S APPLICATION CRITERIA AS REQUIRED FOR THE LOAD TO BE SUPPORTED. STEEL COMPONENTS: USE CORROSION RESISTANT MATERIALS SUITABLE FOR THE ENVIRONMENT WHERE INSTALLED. USE ZINC-PLATED STEEL FOR INDOOR DRY LOCATIONS. USE GALVANIZED STEEL, STAINLESS STEEL, FIBERGLASS OR APPROVED EQUIVALENT FOR OUTDOOR, DAMP AND WET LOCATION INSTALLATIONS

CONDUIT AND CABLE SUPPORTS: A. CONDUIT STRAPS: ONE-HOLE OR TWO-HOLE, ZINC PLATED. CONDUIT CLAMPS: BOLTED TYPE. OUTLET BOX SUPPORTS: HANGERS AND BRACKETS SUITABLE FOR BOXES TO BE SUPPORTED

CONDUIT: MAXIMUM LENGTH 6 FEET

METAL CONDUIT IS USED.

METAL CHANNEL (STRUT) FRAMING SYSTEMS: FACTORY FABRICATED CONTINUOUS SLOTTED METAL CHANNEL AND ASSOCIATED FITTINGS, ACCESSORIES, AND HARDWARE FOR FIELD-ASSEMBLY OF SUPPORTS. ALL LOCATIONS: USE 12 GA. GALVANIZED STEEL. H. HANGER RODS: CONTINUOUS THREADING, ZINC-PLATED STEEL I. USE OF POWER-ACTUATED FASTENERS REQUIRES APPROVAL OF ARCHITECT AND STRUCTURAL

FNGINFFR J. UNLESS SPECIFICALLY INDICATED, DO NOT SUPPORT ANY ELECTRICAL COMPONENT FROM THE K. PLASTIC AND LEAD ANCHORS ARE NOT PERMITTED.

SECTION 26 05 33 - RACEWAY AND BOXES A PROVIDE A COMPLETE WIRING SYSTEM OF RACEWAYS AND BOXES LOCATED AS INDICATED ON DRAWINGS AND AT LOCATIONS AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS AND COMPLIANCE WITH REGULATORY REQUIREMENTS. LOCATIONS INDICATED ON DRAWINGS ARE APPROXIMATE UNLESS DIMENSIONED. B. STANDARDS: MATERIALS SHALL COMPLY WITH ANSI C80. NEMA AND UL REQUIREMENTS AS APPLICABLE FOR TYPE AND MATERIAL. MINIMUM CONDUIT SIZE, UNLESS OTHERWISE NOTED: INTERIOR - 3/4", EXTERIOR EXPOSED 3/4",

EXTERIOR UNDERGROUND - 1". D CONDUIT APPLICATIONS: A. INTERIOR DAMP OR WET LOCATIONS: USE RIGID METAL CONDUIT, INTERMEDIATE METAL CONDUIT OR SCHEDULE 40 PVC CONDUIT. PROVIDE CAST METAL OR NONMETALLIC OUTLET, JUNCTION AND PULL BOXES. EXPOSED, INTERIOR DRY LOCATIONS: USE EMT CONDUIT. EXPOSED FINISHED LOCATIONS: PROVIDE SURFACE METAL RACEWAY AND FITTINGS.

UNLESS SPECIFIED ON DRAWINGS, REQUIRES DESIGN TEAM APPROVAL. COORDINATE ALL VERTICAL RUNS OF SURFACE RACEWAY WITH ARCHITECT PRIOR TO INSTALLATION. CONNECTIONS TO LUMINAIRES ABOVE ACCESSIBLE CEILINGS: USE FLEXIBLE METAL CONDUIT MAXIMUM LENGTH OF 6 FEET E. CONNECTIONS TO VIBRATING EQUIPMENT: DRY LOCATIONS - USE FLEXIBLE METAL CONDUIT OR MC CABLE; DAMP, WET OR CORROSIVE LOCATIONS - USE LIQUIDTIGHT FLEXIBLE METAL

A. EMT - COMPLY WITH NEMA FB 1 AND UL 514B. STEEL WITH COMPRESSION FITTINGS IN DAMP B. LUMINAIRES OR WET LOCATIONS, SET SCREW TYPE ELSEWHERE. RIGID METAL CONDUIT - COMPLY WITH ANSI C80.1 AND UL 6. THREADED STEEL OR MALLEABLE IRON. USE FITTING LISTED AND LABELED AS COMPLYING WITH UL 514B IN HAZARDOUS LOCATIONS FLEXIBLE METAL CONDUIT - COMPLY WITH NEMA FB 1 AND UL 514B. USE STEEL FITTINGS.

LIQUIDTIGHT FLEXIBLE METAL CONDUIT - COMPLY WITH NEMA FB 1 AND UL 514B. USE STEEL . SURFACE METAL RACEWAY - PROVIDE FITTINGS FROM SAME MANUFACTURER AS SURFACE RACEWAY. INCLUDE ALL REQUIRED ELBOWS, COUPLINGS MOUNTING CLIPS, COVERS, END FITTINGS AND DEVICE MOUNTING BRACKETS.

BOXES: WHERE A BOX SIZE IS NOT INDICATED, SIZE TO COMPLY WITH NFPA 70, BUT NOT LESS THAN APPLICABLE MINIMUM SIZE SPECIFIED. A. USE SHEET METAL STEEL BOXES IN DRY LOCATIONS. B. USE CAST IRON OR CAST ALUMINUM BOXES WITH THREADED HUBS WHERE EXPOSED RIGID

USE NONMETALLIC BOXES WHERE EXPOSED RIGID PVC CONDUIT IS USED. USE SUITABLE CONCRETE TYPE BOXES WHERE FLUSH-MOUNTED IN CONCRETE. USE SUITABLE MASONRY TYPE BOXES WHERE FLUSH-MOUNTED IN MASONRY WALLS. USE RAISED COVERS SUITABLE FOR TYPE OF WALL CONSTRUCTION AND DEVICE CONFIGURATION WHERE REQUIRED.

G. USE MULTI-GANG BOXES OF SINGLE-PIECE CONSTRUCTION, DO NOT USE FIELD CONNECTED H. MINIMUM BOX SIZE, UNLESS OTHERWISE INDICATED: WIRING DEVICE - 4 INCH SQUARE BY 1-1/2" DEEP; COMMUNICATIONS SYSTEM OUTLET 4 INCH SQUARE BY 2-1/8" DEEP. G. MECHANICAL SLEEVE SEALS: MODULAR MECHANICAL TYPE, WITH INTERLOCKING RUBBER LINKS SHAPED TO CONTINUOUSLY FILL ANULAR SPACE BETWEEN OBJECTS AND SLEEVE, CONNECTED

WITH BOLTS AND PRESSURE PLATES TO PROVIDE A WATERTIGHT SEAL AND ELECTRICAL H. REMOVE EXPOSED ABANDONED RACEWAY, INCLUDING ABANDONED RACEWAY ABOVE ACCESSIBLE CEILING FINISHES. CUT RACEWAY FLUSH WITH WALLS AND FLOORS, PATCH SURFACES TO MATCH ADJACENT SURFACES.

DISCONNECT AND REMOVE ABANDONED OUTLETS AND DEVICES. INSTALL BLANK PLATES ON ABANDONED, EMPTY BOXES. EXTEND EXISTING RACEWAY AND BOX INSTALLATION USING MATERIALS AND METHODS COMPATIBLE WITH EXISTING ELECTRICAL INSTALLATION OR AS SPECIFIED.

SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

A. EXISTING WORK: UNLESS SPECIFICALLY EXCLUDED, IDENTIFY EXISTING ELEMENTS TO REMAIN THAT ARE NOT ALREADY IDENTIFIED IN ACCORDANCE WITH THE SPECIFIED REQUIREMENTS. B. EMERGENCY SYSTEM EQUIPMENT: USE IDENTIFICATION NAMEPLATE OR VOLTAGE MARKER TO IDENTIFY EMERGENCY FOUIPMENT IN ACCORDANCE WITH NEPA 70. USE IDENTIFICATION NAMEPLATE AT EACH PIECE OF SERVICE EQUIPMENT TO IDENTIFY TYPE AND LOCATION OF ON-

SITE EMERGENCY POWER SOURCES PROVIDE LAMINATED ACRYLIC OR NON-CONDUCTIVE PHENOLIC WITH BEVELED EDGES. NAMEPLATES FOR EACH EQUIPMENT ENCLOSURE, RELAY, SWITCH, AND DEVICE, NAMEPLATES SHALL BE, 1/8" THICK, WHITE WITH BLACK CENTER CORE, MATTE FINISH SURFACE, BEVELED EDGES, SQUARE CORNERS. ACCURATELY ALIGN LETTERING AND ENGRAVE INTO THE CORE. MINIMUM SIZE OF NAMEPLATES SHALL BE 1" BY 2-1/2". LETTERING SHALL BE A MINIMUM OF 1/4" HIGH NORMAL BLOCK STYLE. D. PROVIDE WIRE AND CABLE MARKERS OR IDENTIFICATION LABELS TO IDENTIFY CIRCUIT NUMBER AT EACH SOURCE LOCATION: WITHIN BOXES WHERE MORE THAN ONE CIRCUIT IS PRESENT: WITHIN EQUIPMENT ENCLOSURES WHERE CONDUCTORS ENTER AND EXIT THE ENCLOSURE; AND IN CABLE TRAYS (MAXIMUM 20 FT. INTERVALS). PROVIDE WRAP-AROUND SELF-ADHESIVE VINYL CLOTH, WRAP-AROUND SELF-ADHESIVE VINYL SELF-LAMINATING, HEAT-SHRINK SLEEVE, PLASTIC

SLEEVE. PLASTIC CLIP-ON. OR VINYL SPLIT SLEEVE TYPE MARKERS SUITABLE FOR THE CONDUCTOR OR CABLE TO BE IDENTIFIED. PROVIDE VOLTAGE MARKERS TO IDENTIFY HIGHEST VOLTAGE PRESENT FOR ACCESSIBLE CONDUITS (MAXIMUM 20 FT INTERVALS)

F. PROVIDE PRE-LABELED, SNAP AROUND PIPE MARKERS ON ALL CONDUITS. MARKERS SHALL COMPLY WITH ANSI A 13.1-1988 STANDARDS AND INDICATED VOLTAGE. WARNING LABELS: USE FACTORY PRE-PRINTED OR MACHINE-PRINTED SELF-ADHESIVE POLYESTER OR SELF-ADHESIVE VINYL LABELS; UV, CHEMICAL, WATER, HEAT AND ABRASION

H. CLEAN SURFACES TO RECEIVE ADHESIVE PRODUCTS ACCORDING TO MANUFACTURERS INSTRUCTIONS. I. INSTALL IDENTIFICATION PRODUCTS TO BE PLAINLY VISIBLE FOR EXAMINATION, ADJUSTMENT, SERVICING AND MAINTENANCE. INSTALL IDENTIFICATION PRODUCTS CENTERED, LEVEL AND PARALLEL WITH LINES OF ITEM BEING IDENTIFIED.

SECTION 26 27 26 - WIRING DEVICES

A. SELF-GROUNDING COMPLYING WITH NEMA WD 1 AND NEMA WD 6 AND LISTED COMPLYING WITH UL 498. SINGLE AND DUPLEX RECEPTACLES SHALL BE RATED 20 AMPERES, 125 VOLTS, TWO-POLE, HRFF-WIRE. GROUNDING TYPE WITH POLARIZED PARALLEL SLOTS. COLOR OF BODIES SHALL BE SELECTED BY THE ARCHITECT. RECEPTACLE SHALL BE SIDE-WIRED OR BACK-WIRED WITH TWO SCREWS PER TERMINAL.

HE THIRD GROUNDING POLE SHALL BE CONNECTED TO THE METAL MOUNTING YOKE RECEPTACLES WITH GROUND FAULT CIRCUIT INTERRUPTERS SHALL HAVE THE CURRENT RATING AS INDICATED, AND SHALL BE UL 943, CLASS A TYPE UNLESS OTHERWISE SHOWN. GROUND FAULT CIRCUIT PROTECTION SHALL BE PROVIDED AS REQUIRED BY NFPA 70 OR AS

INDICATED ON THE DRAWINGS G. USB CHARGING DEVICES: PROVIDE DEVICES LISTED PER UL 1310 WITH TWO-PORT CHARGING CAPACITY OF 2.1 A, MINIMUM OR 4.2 A MINIMUM FOR FOUR-PORT DEVICES. H. LOCKING DEVICES: REFER TO DRAWINGS FOR NEMA LOCKING CONFIGURATIONS.

MOUNT RECEPTACLES AND DATA OUTLETS 18" ABOVE FINISHED FLOOR, AND OTHER DEVICES AS INDICATED. MEASURE MOUNTING HEIGHTS OF WIRING DEVICES AND OUTLETS TO TOP OF DEVICE OR OUTLET. PROVIDE TAMPER RESISTANT RECEPTACLES WHERE INDICATED ON DRAWINGS. LINE VOLTAGE WALL SWITCHES:

COMPLYING WITH NEMA WD 1 AND NEMA WD 6 AND UL 20, TYPE AS INDICATED ON B. INDUSTRIAL SPECIFICATION GRADE, 20A, 120/277 V WITH STANDARD TOGGLE TYPE SWITCH ACTUATOR AND MAINTAINED CONTACTS. SINGLE POLE SINGLE THROW, THREE-WAY, OR FOUR-WAY AS INDICATED ON DRAWINGS.

A. AC ONLY, QUIET OPERATING GENERAL USE SNAP SWITCHES WITH SILVER ALLOY CONTACTS

COLOR OF BODIES SHALL BE SELECTED BY THE ARCHITECT. SWITCH SHALL BE SIDE-WIRED OR BACK-WIRED WITH BINDING CLAMP, WITH SEPARATE GROUND SCREW TERMINAL. LOCKING (KEYED) TYPE SWITCHES SHALL INCLUDE LEVER TYPE THREE POSITION SWITCH ACTUATOR WITH OFF POSITION IN CENTER. . DEVICE PLATES

OUTLETS, SWITCHES AND FITTINGS PLATES ON UNFINISHED WALLS AND ON FITTINGS SHALL BE GALVANIZED SHEET STEEL. FINISH SELECTION BY ARCHITECT PLATES SHALL BE INSTALLED WITH ALL FOUR EDGES IN CONTINUOUS CONTACT WITH

DEVICE PLATES SHALL BE ONE-PIECE TYPE AND SHALL BE PROVIDED FOR RECEPTACLES,

FINISHED WALL SURFACES WITHOUT THE USE OF MATS OR SIMILAR DEVICES. PLASTER FILLINGS WILL NOT BE PERMITTED. E. PLATES INSTALLED IN WET LOCATIONS SHALL BE GASKETED AND PROVIDED WITH A HINGED, GASKETED COVER, UNLESS OTHERWISE SPECIFIED

SECTION 26 50 00 - LIGHTING FIXTURES

A. LUMINAIRE TYPES FURNISH PRODUCTS AS INDICATED IN LIGHTING FIXTURE SCHEDULE INCLUDED ON THE DRAWINGS. REFER TO NOTES ON LIGHTING FIXTURE SCHEDULE FOR SUBSTITUTION LIMITATIONS.

MANUFACTURERS: A. MANUFACTURERS REPRESENTED BY APEX LIGHTING

MANUFACTURERS REPRESENTED BY LIGHTING AFFILIATES. MANUFACTURERS REPRESENTED BY ILLUMINATE LIGHTING. PROVIDE PRODUCTS THAT COMPLY WITH REQUIREMENTS OF NFPA 70.

PROVIDE PRODUCTS THAT ARE LISTED AND LABELED AS COMPLYING WITH UL 1598, WHERE APPLICABLE. UNLESS OTHERWISE INDICATED. PROVIDE COMPLETE LUMINAIRES INCLUDING LAMP(S) AND ALL SOCKETS, BALLASTS, DRIVERS, REFLECTORS, LENSES, HOUSINGS AND OTHER COMPONENTS REQUIRED TO POSITION, ENERGIZE AND PROTECT THE LAMP AND DISTRIBUTE

5. UNLESS SPECIFICALLY INDICATED TO BE EXCLUDED, PROVIDE ALL REQUIRED CONDUIT. BOXES, WIRING, CONNECTORS, HARDWARE, SUPPORTS, TRIMS, ACCESSORIES, ETC. AS NECESSARY FOR A COMPLETE OPERATING SYSTEM.

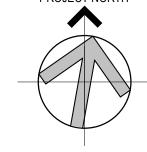
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Client/ Contractor TOWN OF HEBRON

15 GILEAD STREET (ROUTE 85) HEBRON, CONNECTICUT

GARAGE BAY EXTENSION **HEBRON PUBLIC SAFETY** 44 MAIN ST

HEBRON, CT 06248



Issues / Revisions

No.	Date	Description
	08/30/2023	ISSUED FOR BID
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**ELECTRICAL** 

**SPECIFICATIONS** 

oject No:Project Numbe **Project Architect** Production Leader Project Designer:

**Drawing Number** 

E1.02