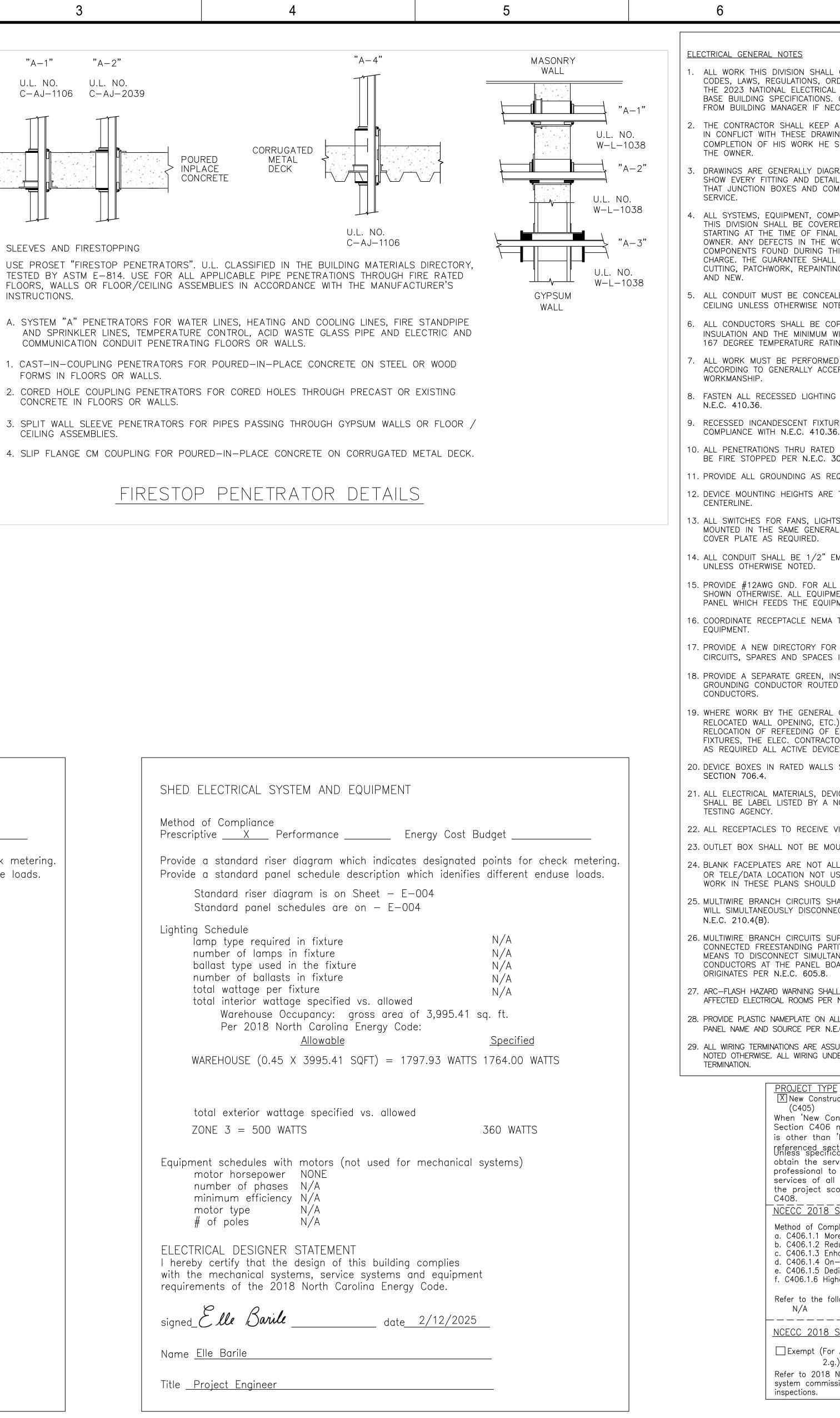
"A-1" "A-2" U.L. NO. U.L. NO. C-AJ-1106 C-AJ-2039 SLEEVES AND FIRESTOPPING INSTRUCTIONS. COMMUNICATION CONDUIT PENETRATING FLOORS OR WALLS. FORMS IN FLOORS OR WALLS. CONCRETE IN FLOORS OR WALLS. CEILING ASSEMBLIES.

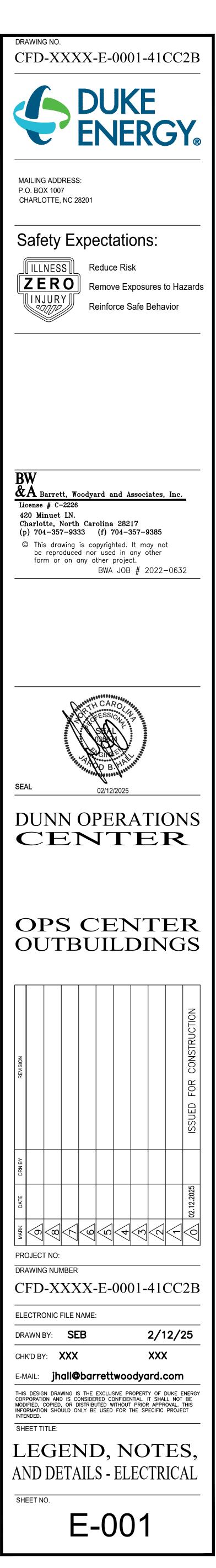
	WELDSHOP ELECTRICAL SYSTEM AND EQUIPMENT	SH
	Method of Compliance Prescriptive <u>X</u> Performance Energy Cost Budget	Met Pre
D	Provide a standard riser diagram which indicates designated points for check metering. Provide a standard panel schedule description which idenifies different enduse loads.	Pro Pro
	Standard riser diagram is on Sheet — E—004 Standard panel schedules are on — E—004	
	Lighting Schedule N/A lamp type required in fixture N/A number of lamps in fixture N/A ballast type used in the fixture N/A number of ballasts in fixture N/A total wattage per fixture N/A total interior wattage specified vs. allowed N/A Workshop Occupancy: gross area of 841.00 sq. ft. Per 2018 North Carolina Energy Code: Specified Allowable Specified	Lig
С	WORKSHOP (0.91 X 841.00 SQFT) = 765.31 WATTS 410 WATTS	
	total exterior wattage specified vs. allowed N/A	
	Equipment schedules with motors (not used for mechanical systems) motor horsepower NONE number of phases N/A minimum efficiency N/A motor type N/A # of poles N/A	Equ
В	ELECTRICAL DESIGNER STATEMENT I hereby certify that the design of this building complies with the mechanical systems, service systems and equipment requirements of the 2018 North Carolina Energy Code.	EL I h wit rec
	signed_Elle Barile date2/12/2025	sig
	Name <u>Elle Barile</u>	Na
	Title <u>Project Engineer</u>	Titl



	7	
RDI L (C	COMPLY WITH ALL LOCAL BUILDING NANCES, AND THE REQUIREMENTS OF CODE. ALL WORK SHALL COMPLY WITH BTAIN A COPY OF SPECIFICATIONS	SYMBOL
A INC	RECORD OF THE CHANGES WHICH ARE S AND SPECIFICATIONS. AT THE HALL SUBMIT "AS BUILT" PRINTS TO	
IL.	MMATIC AND DO NOT NECESSARILY ALL WORK SHALL BE INSTALLED SO PONENTS WILL BE ACCESSIBLE FOR	
ED L WO HIS L I	NENTS, WORK, ETC. PROVIDED UNDER BY A ONE YEAR GUARANTEE ACCEPTANCE OF THE WORK BY THE RK, SYSTEMS, EQUIPMENT, OR YEAR SHALL BE CORRECTED AT NO NCLUDE PROVIDING ALL NECESSARY , ETC. TO MAKE THE WORK COMPLETE	
DTE	D IN THE WALLS OR ABOVE THE D. MINIMUM CONDUIT SIZE IS 1/2". PER WITH TYPE "THW" OR "THHN" RE SIZE SHALL BE #12 A.W.G. WITH A G.	₽₽₽₽ ₽
	IN A NEAT AND WORKMANLIKE MANNER TED PRINCIPALS OF FIRST CLASS	
G	FIXTURES TO STRUCTURE OR GRID PER	
6.	S SHALL BE SUPPORTED IN	►
30(VALLS, FLOORS AND CEILINGS SHALL D.21. JIRED BY N.E.C.	ዋ ዎ
Т	O BE MEASURED TO THE DEVICE	I CR
	ETC. WHICH ARE SHOWN TO BE AREA SHALL SHARE A MULTI-GANG	GAM
EM	WITH 2#12,1#12G AWG CONDUCTORS	
١E١	MECHANICAL EQUIPMENT UNLESS NT SHALL BE GROUNDED AT THE ENT.	(SPK)
	YPE AND VOLTAGE WITH COPIERS AND	$\mathbf{\Phi}\mathbf{V}$
	ALL PANELS. CORRECTLY LABEL ALL N ACCORDANCE WITH N.E.C. 408.4(A).	
NSI D	JLATED, #12AWG EQUIPMENT WITH THE BRANCH CIRCUIT HOMERUN	
EL OF ES	ONTRACTOR (WALL REMOVAL, NEW OR RESULTS IN THE REMOVAL, ECTRICAL DEVICES OR LIGHTING SHALL DISCONNECT OR RECONNECT REMAINING ON THAT CIRCUIT SYSTEM.	
√IC	ES, APPLIANCES, AND EQUIPMENT	T∕D () ⊣
VIS	SUAL DESIGNATION.	$\mathbb{O}_{\#}^{PP}$
LLC	NTED BACK TO BACK. DWED, U.N.O ANY EXISTING OUTLET ED OR SHOWN WITHIN THE SCOPE OF	
HAI	BE REMOVED, PATCHED, AND REPAIRED. LL BE PROVIDED WITH A MEANS THAT T ALL UNGROUNDED CONDUCTORS PER	
tit ANE	PLYING POWER TO PERMANENTLY IONS SHALL BE PROVIDED WITH A EOUSLY ALL UNGROUNDED RD WHERE THE BRANCH CIRCUIT	
Ν	BE PROVIDED ON ALL EQUIPMENT IN .E.C. 110.16.	• •
E.C SUN	PANELS (NEW AND EXISTING) INDICATING C 408.4(B). MED TO BE 75DEG C RATED, UNLESS R 100A IS BASED ON A 60DEG C	- () 3 - () 4 - () D - () T - () OV
ons m	ion Addition Alterations (C502) (C503) struction' is selected, indicate NCECC ethod of compliance below. If project lew Construction', compliance with	$\ominus \bigcirc$
cti cal rvi c l l	is 'N/A' ly exempt below, the contractor shall ces of a NC licensed engineering perform all required commissioning ighting and lighting control systems in be in compliance with NCECC Section	↔ M S (30/3) 2
npli ore du ha	CTION C406 - COMPLIANCE STATEMENT ance Efficient HVAC Performace ced Lighting Power Density X nced Lighting Controls Site Supply of Renewable Energy sated Outdoor Air System	¥ ♥ € E E 0
jhe	wing sheet for demonstration of compliance:	(D) (M) (T) (E)
	CTION C408 - SYSTEM COMMISSIONING	F.B.O.
ј.) NC	ECC Appendix C1 for required statement of be presented to the AHJ at final	AFF/AFG BC AC WP
		WP E,EX/RE/N GFI
		E.C. FPMR IG
		NOTES: 1. COORDINATE LC 2. MOUNTING HEIGH

	LECTRICAL SYMBOL LEGEND		
SYMBOL	DESCRIPTION	ON CENTER MTG. HT.	
	CONCEALED CONDUIT IN CEILING OR WALL CONCEALED CONDUIT IN FLOOR OR UNDERGROUND		
	CIRCUIT HOMERUN TO PANEL; EACH ARROWHEAD = 1 CIRCUIT		
	NO. OF CONDUCTORS IN CONDUIT; EACH CROSSHATCH = 1 WIRE		
	FLEXIBLE CONDUIT OR S.O. CORD		
0	CONDUIT STUBBED UP OR TURNED DOWN		
/////	PLYWOOD BACKBOARD SURFACE MOUNTED RACEWAY		
	MULTI OUTLET SURFACE MOUNTED RACEWAY		
φφ	WALL MOUNTED SINGLE RECEPTACLE OUTLET WALL MOUNTED DUPLEX RECEPTACLE OUTLET	18" 18"	
₽₽₽₽ ₽	WALL MOUNTED DUPLEX RECEPTACLE OUTLET – ABOVE COUNTER	AS REQUIRED	
	WALL MOUNTED G.F.C.I. DUPLEX RECEPTACLE OUTLET WALL MOUNTED G.F.C.I. DUPLEX RECEPTACLE OUTLET – ABOVE COUNTER	18" AS REQUIRED	
ы ∯ П	WALL MOUNTED ISOLATED GROUND DUPLEX RECEPTACLE OUTLET WALL MOUNTED DOUBLE DUPLEX RECEPTACLE OUTLET	18" 18"	
€ E E	WALL MOUNTED SPECIAL RECEPTACLE OUTLET	18"	
	JUNCTION BOX WALL MOUNTED COMBINATION DATA/VOICE OUTLET. PROVIDE	18"	
\triangleright	JUNCTION BOX WITH 3/4" CONDUIT TO ABOVE CEILING. WALL MOUNTED VOICE OUTLET. PROVIDE JUNCTION BOX WITH	18"	
►	3/4" CONDUIT TO ABOVE CEILING. WALL MOUNTED DATA OUTLET. PROVIDE JUNCTION BOX WITH	18"	
Ē.	3/4" CONDUIT TO ABOVE CEILING.		
Ŷ	JUNCTION BOX FOR TV. PROVIDE JUNCTION BOX WITH 3/4" CONDUIT TO ABOVE CEILING.		
Ŷ	2-GANG JUNCTION BOX FOR AV, LOW-VOLTAGE WIRING BY OTHERS. PROVIDE JUNCTION BOX WITH $1-1/4$ " CONDUIT TO ABOVE CEILING. U.N.O.		
-CR	JUNCTION BOX FOR CARD READER. PROVIDE JUNCTION BOX WITH 3/4" CONDUIT TO ABOVE CEILING.	42"	
CAM	DOME CAMERA (PROVIDED BY SECURITY CONTRACTOR)		
WAP	WIRELESS ACCESS POINT, CEILING MOUNTED (BY OTHERS)		
(SPK)	SPEAKER LOCATION (BY OTHERS)		
•4	FLOOR BOX DEVICES WITH POWER, TELE/DATA, AV PER PLANS (SEE DRAWINGS FOR MODEL#)		┢
$\mathbf{\nabla}$	FLOOR BOX DEVICES WITH POWER AND TELE/DATA PER PLANS (SEE DRAWINGS FOR MODEL#)		
	FLOOR BOX DEVICES WITH QUAD RECEPT & TELE/DATA OUTLETS (SEE DRAWINGS FOR MODEL#)		
	FLOOR BOX DEVICES WITH DUPLEX RECEPT & TELE/DATA/AV OUTLETS		
	(SEE DRAWINGS FOR MODEL#)		
AV V	FLOOR BOX DEVICES WITH ONLY TELE/DATA/AV OUTLETS (SEE DRAWINGS FOR MODEL#)		
PO	FLOOR BOX DEVICE TO MODULAR FURNITURE		
P∭⊣ #	JUNCTION BOX FOR POWER CONNECTION TO MODULAR FURNITURE. COORD. EXACT LOCATION WITH ARCH. PROVIDE ALL	18"	
"	REQ. CONNECTIONS (THE # OF WORKSTATIONS TO BE POWERED ARE DENOTED BY A NUMBER NEXT TO THE POWER JUNCTION)		
T∕D ∭ ⊣	JUNCTION BOX FOR TELE/DATA CONNECTION TO MODULAR FURN. COORD. EXACT LOCATION WITH ARCH. PROVIDE 1-1/4" EMPTY	18"	
	CONDUIT WITH PULLSTRING TO ABOVE ACCESSIBLE CEILING. PROVIDE AND INSTALL JUNCTION BOX ABOVE CEILING TO		
$\mathbb{O}_{\#}^{PP}$	SUPPLY POWER WHICH SHALL SUPPLY EACH WORKSTATION WITH TWO (2) DUPLEX AND ONE (1) VOICE DATA. POWER POLE TO		
	BE SUPPLIED BY TENANT AND INSTALLED BY E.C. (THE # OF WORKSTATIONS TO BE POWERED ARE DENOTED BY A NUMBER		
	NEXT TO THE POWER POLE) 277/480 VOLT PANELBOARD		
	120/208 VOLT PANELBOARD RECESSED MOUNTED 120/208 VOLT PANELBOARD		
T	TRANSFORMER		
	LIGHT FIXTURE EXIT SIGN – CEILING,WALL MT.		
	LIGHT FIXTURE ON EMERGENCY CIRCUIT		
•	LIGHT FIXTURE ON BATTERY BACKUP (90MIN, 1100 LUMEN)		
-67-	WALL MOUNTED S.P.S.T. TOGGLE SWITCH	42"	
- 69- 3 - 69- 4	WALL MOUNTED 3-WAY TOGGLE SWITCH WALL MOUNTED 4-WAY TOGGLE SWITCH	42" 42"	
- 69- D - 69- T	WALL MOUNTED DIMMER SWITCH (WATTAGE AS REQUIRED) WALL MOUNTED TIMER SWITCH	42"	
- ()- 0V	WALL MOUNTED MANUAL OVERRIDE SWITCH	42"	
\diamond	(TO OVERRIDE CIRCUIT DESIGNATED AT LIGHTING CONTACTOR PANEL) MOTION DETECTOR SWITCH W/ MANUAL OVERIDE – WALL MOUNTED.	42"	
\oplus	MOTION DETECTOR - CEILING MOUNTED		
© 	DAYLIGHT SENSOR MOTOR RATED TOGGLE SWITCH	AS REQ'D.	
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH		
S (30/3) -2	DISCONNECT SWITCH (FRAME/POLES/FUSE-IF REQUIRED) MOTOR - NUMBER INDICATES HORSEPOWER (F=FRACTIONAL)		
Y	FIRE ALARM ADA APPROVED VISUAL ALARM – WALL MOUNTED	80" A.F.F.	
® E⊲	FIRE ALARM ADA APPROVED VISUAL ALARM – CEILING MOUNTED FIRE ALARM ADA APPROVED AUDIO/VISUAL ALARM – WALL MOUNTED	80" A.F.F.	
Ē E	FIRE ALARM ADA APPROVED AUDIO/VISUAL ALARM – CEILING MOUNTED	48" A.F.F.	
Ø	SMOKE DETECTOR - CEILING MOUNTED	TU ALLI.	
D M	DUCT MOUNTED SMOKE DETECTOR MAGNETIC DOOR HOLD DEVICE TO INTERLOCK WITH FIRE ALARM SYSTEM		
$\langle \mathbb{D} \rangle$	TAMPER SWITCH – FIRE ALARM		
Г) Ш	FLOW SWITCH – FIRE ALARM HEAT DETECTOR – FIRE ALARM		
F.B.O.	FURNISHED BY OTHERS		
AFF/AFG BC	ABOVE FINISHED FLOOR/ABOVE FINISHED GRADE BELOW CEILING		
AC WP	ABOVE COUNTER WEATHER PROOF		
	EXISTING/RELOCATED/NEW		
E,EX/RE/N GFI E.C.	GROUND FAULT INTERRUPTING CIRCUIT EMPTY CONDUIT (PROVIDE PULLSTRING IN ALL EMPTY CONDUIT)		
FPMR	FUSE PER MANUFACTURER'S RECOMMENDATION		
IG	ISOLATED GROUND		

2.g



	I	Z	3
H	 SECTION 260010 ELECTRICAL GENERAL <u>1.0 GENERAL</u> 1.01 SCOPE A. Division 26 includes all Specifications in the accompanying Electrical Drawings. Primaterials and equipment, and all necessar provide the complete scope of the electric under this Division. Division 26 is not a document, but a part of the complete Primes. B. Attention is called to the fact that there between the work required in this Division required in other Divisions. Provide the reand coordination with other Divisions to project. 	rovide all labor, ry operations to cal systems intended stand—alone roject Documents. are many interfaces and the work necessary interface	 Conduit and wire Devices Coverplates Panelboards Fuses Overcurrent devices Disconnect switches Lighting fixtures Lighting control system Dimming system Life safety system Life safety system Motor starters C. All shop drawings and submittals shall be submitted in compliance with the requirements of the general and supplementary conditions. All submittals are to be received electronically in .pdf format only.
G	 1.02 EXISTING CONDITIONS A. Attention is called to the fact that the wey performed within an existing, operational for submission of bids, each bidder shall visite thoroughly investigate and be familiar with conditions, which will affect their work; each be performed above the existing ceilings. B. When this project is finished, the work under the complete in every respect, completely existing systems, and left in perfect operational electrical service to the building shall not time without written coordination of the be existing electrical equipment removed during be removed from the site after inspection. Owner. All existing electrical systems required to the project shall be reconnected, replaced 	facility. Prior to the t the project site, n all existing specially the work to nder this Division shall integrated with all the ating condition. The be interrupted at any puilding's Owner. All ng the project shall n of the building's puired to be operating o remain in use during	 D. All submittals shall bear the name of the manufacturer to be used, along with all associated options and specific input/output requirements clearly marked. E. All shop drawings and submittals shall include a stamped indication signifying that the submittal has been reviewed for compliance with the Contract Documents by the Contractor. This stamped indication also represents the fact that the Contractor has checked this submittal for its interaction with all other Divisions and certifies by his signature or initials that all coordination has taken place. The stamp shall include the date, name of the Contracting Firm, the signature of the Contractor, certification of compliance and approval. This stamp shall be on the submittal before the Engineer will review it. F. The engineer will review an individual submittal not more than twice. If the submittal is rejected again on the second review, the contractor will bare all responsibility for paying for the
F	 otherwise made to fit with proper workmaleft in safe working order. C. Connect new work to existing work in a reanner. Where an existing structure must utilities interfere, such obstructions shall the replaced or relocated, patched and repaired damaged shall be replaced or repaired to 1.03 CODES AND REGULATIONS A. All work under this Division shall comply we codes, laws, regulations, ordinances and the 2023 National Electrical Code. B. Where conflicts of installation requirements aforementioned codes, regulations or the the most restrictive shall govern. C. Obtain all permits and licenses and pay or local authorities. Arrange for all necessaries by the authorities having jurisdiction and 	anship techniques and neat and workmanlike st be cut or existing 2. be bypassed, removed, ed. Work disturbed or o its prior condition. with all local building the requirements of s occur between the Contract Documents, <u>3.</u> all fees required by ry inspections required	 engineer's time for additional reviews. Such payments to the engineer shall be withheld from the next monthly pay application. 03 RECORD (AS-BUILT) DRAWINGS AND MAINTENANCE MANUALS A. At job completion, submit to the Architect, an electronic set of the latest plans, in .pdf format, showing all deviations from the Contract Documents. The Drawings shall also have dimensions locating all underground conduits. B. At job completion, submit to the Architect, three (3) hardcopy sets of maintenance and instruction manuals for all equipment furnished on the project. Also provide an electronic copy in .pdf format. Coordinate file delivery method with the architect. 0 EXECUTION 01 COORDINATION A. Coordinate all space requirements with all other Divisions before installing any work. Install work such that adequate space will
E	 by the dutionities noving jurisdiction and certificates of approval to the project Own representative. 1.04 DEFINITIONS A. Contract Documents: The complete set of and Specifications. B. Provide: Furnish, install and connect. C. Work: All materials installed, including all complete system. D. Wiring or Wired: All wire or cable installed panelboard to equipment and connected of required boxes, connectors, couplings, etc. E. Conduit: Rigid steel conduit intermediate electrical metallic tubing (EMT) plastic cor steel conduit. 1.05 DRAWINGS AND SPECIFICATIONS 	ner or his designated of project Drawings I labor to provide ed in conduit from at both ends with all metal conduit (I.M.C.), ^{3.}	 be allotted for all other work from other Divisions to be installed and also will allow room for future access for repair and maintenance. B. Any work installed without proper coordination shall be relocated at the Architect's direction without increasing the Contract price. C. During the bidding process or the pricing for a guaranteed maximum price, coordinate with all other Divisions for the total amount of work required in Division 26. Any work shown or implied in another Division requiring work in Division 26 shall be included in the Contract price regardless of whether or not it is addressed in Division 26. O2 PROTECTION OF MATERIALS A. All equipment shall have the original finish when the building is turned over to the Owner. B. Protect equipment during construction from dirt, water,
D	 A. The Drawings and Specifications together as the Contract Documents. Any work sho shown in the other, or implied by either, give a complete project. B. Should any conflicts exist between the Dra Specifications or there is an item shown/ not clearly defined, immediately submit a clarification. No additional monies will be conflict is resolved or an item is more clearly conflict is resolved or an item is more clearly conflict is resolved or an item is more clearly conflict and are not exact location outlets, etc. or the routing D. The exact location of equipment requiring (mechanical equipment, elevators, lights, elevated by other Divisions of the Contract the Architectural, Structural and Mechanicad dimensions and details of building construct 	own in one and not shall be provided to 3. awings and 'called for which is request for e granted later when a learly defined. intended to show the of conduit. electrical connections etc.) shall be as tocuments. Refer to al Documents for uction and provide	 chemical, mechanical damage, etc. Protect all conduit openings so that no foreign material will enter the conduit. 03 TESTS, DEMONSTRATION AND INSTRUCTIONS A. Functional Testing: Test all systems described in this Division in the presence of the Owner or a designated representative upon completion of the work. Demonstrate that the installation is in accordance with Contract Documents. For all new lighting and lighting control systems within the Contract Documents, the contractor shall obtain the services of a licensed professional engineer (registered to the state this project is within) to perform system commissioning in compliance with local energy conservation codes. The contractor shall demonstrate in the presence of the commissioning agent that the installation of such systems are in accordance with the Contract Documents. B. Any work found not to be in compliance with the Contract
С	 work described in this Division so that it details of the project. The right is reservence receptacle, switch or other outlet a maximit is permanently installed without incurring Contract amount. 1.06 SITE VISIT A. Visit the site and become familiar with all and existing conditions before submitting B. No allowance will be made for lack of kn conditions. 1.07 DEVIATIONS A. No deviations from the Contract Documen without the full knowledge and written cor B. If the existing conditions make it desirable Contract Documents in regard to any iten request to the Architect. 	ved to relocate any num of 10'-0" before g additions to the Il aspects of the site Contract price. howledge of existing hts shall be made nsent of the Architect. e to modify the	 Documents shall be repaired or replaced without incurring any additions to the Contract price. C. Provide to the Owner and System Commissioning Agent, all instruction on maintenance and operation of all systems and equipment provided under this Division. Provide all necessary tools and personnel to thoroughly present these instructions. The documentation shall include the following, at minimum: 1. Submittal data indicating all selected options. 2. Operation and maintenance manual for all equipment and systems. Include routine maintenance actions and cleaning procedures. 3. A schedule for inspecting and recalibrating, where applicable. 4. A narrative of how each system is intended to operate, including any recommended set points where adjustment is available. D. At project completion, prior to obtaining Certificate of Occupancy, present at final inspection to the jurisdiction's AHJ
B	 2.0 PRODUCTS 2.01 STANDARDS FOR MATERIALS AND WORKM. A. All materials used shall be new and shall label of Underwriters Laboratories, Inc. (UI B. All materials shall meet the standards of associations and institutes where applicable 1. National Fire Protection Association (NFI 2. American Society of Testing Materials (A 3. American National Standards Institute (A 4. National Electrical Manufacturer's Association 5. Institute of Electrical and Electronic Englishmended to describe the material and set quality. All bids shall be based on materia for approval of material not specified shalt the request is in written form and submit no later than fourteen (14) days before the standard standar	be stamped with the L). the following 3. PA) ASTM) ANSI) iation (NEMA) gineers (IEEE) s specified herein are the standard of al specified. Requests all be considered if tted to the Architect bid date. All requests	 a signed and dated statement of system commissioning for all lighting and lighting control systems. The format of the statement of system commissioning shall be in the form required by the state's energy conservation codes and/or AHJ requirements. The document shall be signed by the contractor's licensed professional engineer representative. O4 GUARANTEE A. All systems, equipment, components, work, etc. provided under this Division shall be covered by a one year guarantee starting at the time of final acceptance of the work by the Owner. Any defects in the work, systems, equipment or components found during this year shall be corrected at no charge. The guarantee shall include providing all necessary cutting, patchwork, repainting, etc. to make the work complete and new. B. Present this guarantee and any additional warranties or guarantees on furnished equipment or systems to the Architect. All equipment or system guarantees are in addition to the general guarantee.
A	 shall conform with the provisions of the osupplementary conditions. D. Samples of materials requested to be subfurnished upon the request of the Archite 2.02 SHOP DRAWINGS AND SUBMITTAL A. The Engineer's review of shop drawings of cursory review to check for general compwith the design intent of the Contract Do Engineer's review does not relieve the Corresponsibility of complying with the Contract Do coordination of the work in strict complia Documents is the sole responsibility of the Submitted for the following items shall be submitted for	ostituted shall be Si oct. El r submittals is a 1. pliances of submittals 1. ocuments. The ntractor of his act Documents. All nce with the Contract e Contractor.	ECTION 261000 ECTRICAL BASIC MATERIALS & METHODS <u>O GENERAL</u> 01 DESCRIPTION A. All work specified in this Section shall comply with the provisions of Section 260010. B. This Section describes the basic electrical materials and installation methods that are acceptable and applicable to Division 26. <u>O PRODUCTS</u>

1

4	5		6
CONDUIT A. Galvanized rigid steel conduit sha		E. Se	ensor shall operate at 120 VAC or ensor shall have no minimum load
galvanized both inside and out wi B. Intermediate metal conduit (IMC) inside and out with threaded joint	shall be steel, galvanized both	80	pable of switching from 0 to 500 00 watts fluorescent or 1/6 hp @ 200 watts fluorescent or 1/3 hp
C. Electrical metallic tubing (EMT) sh inside and out.	all be steel, galvanized both	cc	r accuracy and consistency, sens ontrolled, digital time delay adjusto inutes.
D. Plastic conduit (PVC) shall be sch type. A grounding conductor sha	-		ensor shall have standard 5 year nd CUL listed.
E. Flexible metal conduit shall be fle shall meet Underwriters Laboratori Conduit.	5		ensor shall be Wattstopper WI Seri oproved equal by engineer.
F. Liquid—tight flexible metal conduit		2.09 RECE	
conduits shall be liquid—tight and G. Steel conduit approved manufactu Republic.	-	se m	uplex receptacles shall be plastic, If-grounding, side wired, 125 volt atch existing if possible and be e uplex receptacles shall be Hubbell
H. PVC conduit approved manufactur CONDUIT FITTINGS	ers are Carlon and Triangle.	ec Hu	jual by Leviton, P&S or Cooper. Is ubbell No. CR5252IG Series, or eq poper.
A. Rigid conduit and IMC conduit fitt ferrous metal and taper threaded	5	B. Si	ngle receptacles shall be two-pole de wired, 125 volts and 20A ratin
B. EMT fittings shall be zinc-coated or set-screw type. EMT connecto throats.		fo Se ty	llowing: Single receptacles shall be eries, or equal by Leviton, P&S or pe to be Hubbell No. IG-5361 Se
C. PVC fittings, elbows and cement s same manufacturer. All joints sh accordance with the manufacturer	all be solvent welded in	C. Gr	kS or Cooper. ound fault circuit interrupt (GFI) (R5352, or equal by P&S, Leviton
D. Conduit connections to switchboar transformers, panel cabinets, and			olor shall be as selected by the A
grounding wedge lugs between the locknuts designed to bite into the	bushing and the box or	2.10 COVE A. Co	RPLATES overplates for flush mounted devic
E. Each conduit end shall be provide throat connector or separate lock	nut and insulated bushing.	•	olor or finish to be selected by t eries or equal by Leviton, P&S or
Bushing shall be installed before F. Conduit fittings approved manufac			elephone outlet coverplates shall h Ind have a bushed hole in the cer
O.Z. Gedney, Thomas & Betts and G. Expansion fittings shall be provide			overplates for exterior devices sha uminum Hubbell WP8M or equal b
and expansion joint.		2.11 PLYW	OOD BACKBOARDS

- 2.03 CONDUCTORS A. Conductors shall be copper of 98% conductivity, 600 volt insulation. Sizes specified are AWG gauge for No. 4/0 and smaller and circular mils (MCM) for all sizes larger than no. 4/0. Conductors No. 10 and smaller shall be solid and type "THHN" or "THWN" insulation. No. 8 and larger shall be stranded and type "THW" or "XHHW" insulation.
- 2.04 OUTLETS A. Outlet boxes and covers shall be of such form and dimensions as to be adapted to their specified usage, locations, size and quantity of conduit, and size and quantity of conductors entering the boxes. In special "Fire Rated" partitions, outlets shall comply with ASTM No. E119.
- B. Flush ceiling outlets for surface or pendant mounted lighting fixtures shall be one-piece 4" square or octagonal pressed steel boxes. Boxes for devices in unfinished masonry walls or stud walls shall be pressed steel, square corner, sectional switch boxes, or shall be 4" square box with a square cornered tile wall cover, set flush with masonry construction. Boxes in concrete ceiling slab shall be octagonal, shallow concrete boxes. Welded boxes are not acceptable.
- C. All outlet boxes in plaster or masonry walls or ceiling shall be provided with plaster rings. D. Junction boxes and all outlets not indicated as containing
- wiring devices or lighting fixtures shall have covers. Covers for outlets in walls shall be as specified for wall switches and receptacles.
- E. Outlet boxes exposed to the weather and outlet boxes for vaportight lighting fixtures and devices shall be of cast iron corrosion resistant type.
- F. Outlet box approved manufacturers are Appleton, Raco, Steel City or Crouse-Hinds. 2.05 DISCONNECT SWITCHES
- A. Disconnect switches shall be "heavy-duty" type, enclosed switches of quick-make, quick-break construction. Switches shall be horsepower rated for 600 volts AC as required. Lugs shall be UL listed for copper and aluminum.
- B. Padlocking provisions shall be provided for padlocking in the OFF position.
- C. Switches shall be furnished in NEMA 1 General purpose enclosure unless noted otherwise. Switches located on the exterior of the building or in "wet" locations shall have NEMA 3R enclosures.
- D. Fused disconnect switches shall have rejection type fuse clips with dual element, current limiting fuses of rating shown. E. Disconnect switches shall be mounted to structure. Disconnect switches shall not be mounted to mechanical equipment or
- ductwork. 2.06 NAMEPLATES

2.01

2.02 CONDUIT

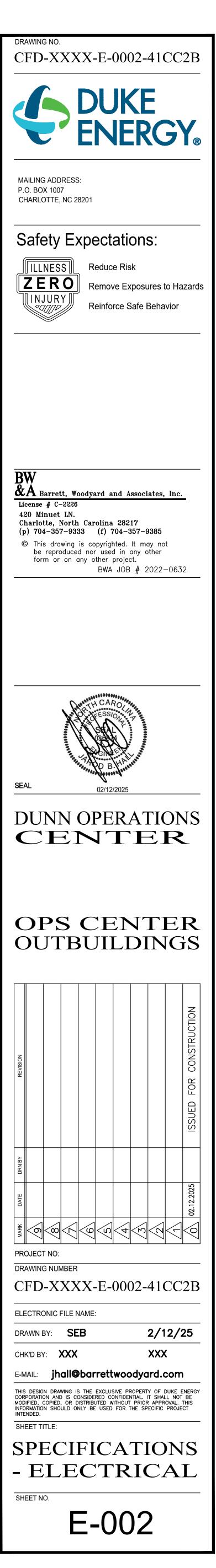
- A. Nameplates shall have 3/8" high engraved letters.
- B. 120 or 208 volts: white core laminated bakelite with black finish.
- C. 277 or 480 or higher volts: white core laminated bakelite with red finish.
- D. Nameplate shall indicate the panel name and the name of the device or equipment where the power supply/feeder originates. 2.07 WALL SWITCHES
- A. Wall switches shall be plastic, totally enclosed, quiet type, self-grounding, 277 volts and 20A rating and shall match existing if possible and equal the following: Single Pole: Hubbell No. CS1221, or equal by Leviton, P&S or Cooper. Double Pole: Hubbell No. CS1222, or equal by Leviton, P&S or Cooper. Three-Way: Hubbell No. CS1223, or equal by Leviton, P&S or Cooper.
- Four-Way: Hubbell No. CS1224, or equal by Leviton, P&S or Cooper. B. Color shall be as selected by architect.
- C. Flush motor switches with red pilot light and with overload protection for fractional horsepower motors shall be Hubbell No. HBL1221PL.
- D. Key switches shall be Hubbell No. HBL1221L 20A Series or approved equal by P&S or Leviton. 2.08 WALL MOUNTED OCCUPANCY SWITCHES
 - A. The passive infrared sensor shall be a completely self-contained control system that replaces a standard toggle switch. Sensor shall have ground wire for safety. Switching mechanism shall be a latching air gap relay, compatible with electronic ballasts, compact fluorescent and inductive loads. Triac and other harmonic generating devices shall not be allowed.
 - B. Sensor shall cover up to 1000 sq. ft. for walking motion, with a field of view of 180 degrees.
 - C. Sensor shall have system which provides superior 180 degree coverage.

277 VAC.

- requirement and shal 0 watt incandescent; (120 VAC, 60 Hz; and @ 277 VAC, 60 Hz.
- sor shall have a DIP s able from 15 seconds
- warranty and shall be
- ries, Leviton Decora Ser
- two-pole, three wire, Its and 15A rating and equal to the following: No. CR5262 Series, Isolated ground type sl qual by Leviton, P&S c
- le, three wire, self-grou ng and shall be equal be Hubbell No. HBL536 ⁻ Cooper. Isolated grou eries, or equal by Levi[.]
- receptacles shall be Hu or Cooper.
- Architect.
- ces shall be standard the architect), Hubbell Cooper.
- have same finish as ab nter.
- all be self-closing, die by Leviton, P&S or Coo
- A. Provide plywood backboards where shown. Backboards sl minimum 3/4" thick and sized as shown or to accommo equipment indicated to be mounted thereon.
- B. Secure plywood to the building structure and paint with coats of gray paint.
- 2.12 SMOKE AND FIRE STOP FITTINGS
- A. Smoke and Fire Stop Fittings shall be UL listed for that purpose. The fittings used to seal conduit either on the outside of the conduit, busway or cable or internally sha heat activated intumescent material, which expands to fill voids. Smoke and fire stop fittings shall be O.Z./Gedney "FIRE-SEAL" or Dow Corning silicone RTV foam with an he fire-rating equal to or higher than the rating of the floo ceiling or wall through which the cable or conduit passe seals for conduit shall be of the flanged type. 2.13 FUSES
- A. Provide all fuses. All fuses shall be of the same manufacturer. All fuses shall be of the high interrupting (200,000 Amps), current limiting type and manufactured Bussmann. Fuses shall be provided for each fuse cutou the specified quantity of fuses shall be furnished for spa
- B. Circuits 0 to 600 ampere shall be protected by rejection current limiting BUSSMANN LOWPEAK Dual Element Fuses LPN-RK (250 volts) or LPS-RK (600 volts). All dual-ele fuses shall have separate overload and short-circuit clear chamber. The fuse must hold 500% of rated current for minimum of 10 seconds and be listed by Underwriter's Laboratories, Inc., with an interrupting rating of 200,000 amperes RMS symmetrical. The fuses shall be UL Class
- C. Circuits 601 to 6000 ampere shall be protected by current limiting BUSSMANN HI-CAP Time-Delay Fuses KRP-C. F shall employ "O" rings as positive seals between the end and the glass melamine fuse barrel. The terminals shall opened. Fuses shall be time-delay and must hold 500% rated current for a minimum of 4 seconds, clear 20 time rated current in 0.1 seconds or less and be listed by Underwriter's Laboratories, Inc., with an interrupting rating 200,000 amperes RMS symmetrical. The fuses shall be Class L.
- D. Furnish and turn over to the Owner a minimum of one of spare fuses (set consisting of three fuses) for each and rating of fuse used. When the number of fuse sets the same type and rating actually installed exceeds five sets, furnish an additional spare set of fuses for each fiv or fraction thereof.
- E. Provide a cabinet in which to store all spare fuses, Buss Catalog No. SFC
- F. Acceptable manufacturers are Bussman or equal by Littlef 3.0 EXECUTION 3.01 CONDUIT
- A. Rigid steel (or IMC) shall be used for service entrance a feeders and branch circuits where exposed to damage. B. EMT shall be used for branch circuits, fire alarm and tele
- when not underground or in concrete in contact with the C. Schedule 40 PVC may be used for all underground feeder service entrance conductors when encased in 4" of concr all sides, or under the lowest floor slab.
- D. Conduit shall be continuous from outlet to outlet, from to cabinet, junction box and pull box. Conduit shall ente be secured to all boxes, etc., in such a manner that eac system will be electrically continuous from service to all such that a good ground is provided. All conduit from cabinets and junction boxes shall terminate in approved boxes or conduit fittings. Conduit connections to any bo which has no threaded hub shall be double locknutted.
- E. Provide junction boxes or pull boxes where shown and wh necessary to avoid excessive runs or too many bends be outlets. The conduit sizes shown may increase if desired facilitate the pulling of cables.
- F. All conduit shall be concealed unless indicated otherwise. Install exposed conduit parallel with or at right angles to building walls and support from walls or ceilings at inter required by Code with approved galvanized iron clamps of hangers. Concealed conduit above the ceiling shall be supported independent of ceiling construction. Where ceil of lay-in type are used, conduit must be installed high to permit removal of ceiling panels and lighting fixtures. threaded rods and hangers for supporting single conduit. trapeze hangers consisting of double-nutted threaded rod "Unistrut" channels or angles of 12 gauge minimum steel supporting multiple conduit.
- G. Minimum size conduit for branch circuits shall not be sma than 1/2". Home runs shall extend from outlets shown panel designated. Home runs shown shall not be combin Home run conduit shall not be smaller than 3/4".
- H. At couplings, conduit ends shall be threaded so that they in the coupling. Right and left hand couplings shall not used; conduit couplings of the Erikson Type shall be used locations requiring such joints.
- I. All conduit for future use, for telephone wire, or for data

		7	8	9	-
			be left with No. 16 gauge wire		
all be D to		the ends securely corked or			
nd 0 to	J.	Expansion fittings shall be in through the cross-sectional	nstalled in all conduit which pass area of expansion joints.		
switch to 30	K.	No. DC., 3M Co. "Scotchfil",	c type duct seal compound, Neer or Gardner Bender duct seal, for		
e UL		-	uilding from outside and for each bace into another which is normally		H
eries or	L.		ubs on conduit terminating in a box		
	М	. Space in sleeves or around	conduit that pass through fire		
l shall			partitions, floors or ceilings shall n unlabeled fire resistive material of the barrier penetrated.		
or	3.02	FLEXIBLE CONDUIT			
hall be pr	A.	short flexible connections to	conduit shall be used in making rotating or vibrating machinery or duit at these locations shall be as		
ounding,		short as possible, but shall	have a minimum length of 12".		
to the 1 und	B.	all flexible conduit that exter	Imper shall be installed outside of nds directly from a non-flex rating machine. Where a junction		
iton,		box is used, the green strar	nded bonding jumper shall be onduit and attached to the junction		G
lubbell		outside of the flexible condu	/hen the bonding jumper is installed it, plastic wire straps shall be used		
	С	6" o.c. to secure the jumper Flexible metal (MC) conduit s			
size		from point of exit from wall	nillwork only. MC Cable shall run or millwork to nearest structurally		
"P"		installed in the above ceiling	able will not be permitted to be space and shall not pass through uctor colors of the MC cable shall		
bove		comply with 261000 3.03 D.			
e cast oper.			icted to have an insulated, copper ning with a bare aluminum ed as the ground.		
hall be	3.03 A	WIRING . All conductors shall be insta	lled in conduit. No conductors		_
odate		complete and plaster had dr	duit until the conduit system is ied. Wire pulling lubricants shall		F
two	B	be Gardner-Bender "Wireaide . Conductors shall be continuo	" or Ideal "Yellow 77". Dus from outlet to outlet and from		
		be carefully and securely mo	•		
e Ill have		"Winggard" or Ideal "Wingnut"	e type connectors, Gardner Bender ". Tape shall be "Scotch" No. 33 outdoor or Gardner Bender No.		
ll all v		95-661. Where connection	is made to any terminals of more nd where conductors larger than		
nourly or,		No. 10 are connected to an	y terminal, copper terminal lugs actors. Where multiple connections		
s. The		conductor shall be used. Al	inal, individual lugs for each luminum conductors, if used for made with high compression lugs		
		as manufactured by Square			
y rating by	С	pulled in unless that particul	ninimum of two (2) conductors lar conduit is noted as being for		E
it and ares.		unless noted otherwise.	I circuitry and/or future use or		
n type,	D.	coded jackets. The wiring s	receptacle circuits shall have color hall be color coded with the same e phase through the entire job as		
lement aring		follows:			
or a		<u>208/120 Volt System</u> Phase A — Black P Phase B — Red	<u>480/277 Volt System</u> Phase A — Brown Phase B — Orange		
RK-1.			Phase C — Yellow Neutral — Gray		
ent uses 1 bells	F		Ground – Green		
be % of	Ε.		ance conductors shall be color I plastic tape applied within 6" of		
nes	F.	Branch circuit conductors sh	all not be smaller than No. 12 and		D
g of UL			enter of load exceeds 100'-0", the outlet to panel shall be No. 10		
(1) set	G	. For branch circuits terminatir	ng in outlet without device, leave		
type s of			re colled for connection of shall be identified with proper circuit on boxes at panelboards within 6"		
(5) ive (5)	3.04	of conductor ends. OUTLETS			
sman	3.04 A		cast type boxes for all outlets.		
efuse.	B	outlet box shall be anchored	to support lighting fixtures, the I to the structural members of the		
	С		mounted unless they are specifically		
ınd all		above a ceiling.	xposed conduit or are located		C
lephone e earth.	D.		rom conduit run in or below floor stubbed up at the location shown I the conduit		
ers, crete on	E.	. Cuts for outlet boxes in ma	sonry walls shall be made so that		
outlet		height of switch, receptacle	y cover the cut. The mounting and other outlets may be varied approvals, so that the outlet box,		
er and ach	F	top or bottom, will occur at			
outlets		which they are recessed. The	he devices that fit into the outlet before the coverplate is installed		
outlet ox			be used as a means of tightening		
vhere etween	G		ed for each, they shall be mounted		_
d to	3.05	one directly over the other, NAMEPLATES	on the centerline of the group.		B
b the	A.	. Provide specified nameplates distribution panels, feeder sw	vitches, feeder breakers,		
vals or			enters, disconnect switches, mers, start-stop push buttons and		
ilings enough	B		device in the main switchboard,		
enougn Use Use	С	•	nted equipment shall be installed		
ds and el for			essed mounted equipment shall be		
naller	7 ^ -	cement.	e panel door or cover with epoxy		
to ned.	3.06 A		e is indicated at a location, the		-
ey meet		and covered jointly by a cor	ted in combined multi-gang boxes mmon coverplate. Provide barriers and voltages being used		A
be d at	3.07	as required by the devices of COVERPLATES	and voltages being used.		

A. All junction boxes, outlet boxes, multi-gang switch boxes, utility boxes, etc., shall be covered with a coverplate. The coverplate



	shall be a finished plate as specified unless designated	changed without machining, drilling or tapping.
	otherwise. B. Coverplates shall be mounted vertically unless designated	H. Bus bars for the mains shall be of copper sized in accordance with U.L. standards. Full size bars shall be included. Bus bar
	otherwise.	taps for panels with single pole branches shall be arranged for sequence phasing of the branch circuit devices.
	3.08 GROUNDING A. Ground connections shall be in accordance with the National	I. Phase bussing shall be full height without reduction. Cross and center connectors shall be of the same material as the
Н	Electrical Code. B. Provide an insulated green bonding jumper from the grounding	bus.
	lug of all receptacles to a Steel City "GEE" clip or a machine screw per NEC 250.8 in the outlet box. The ground wire installed behind the device mounting screws will not be	J. The neutral bus shall utilize setscrews to bond the neutral wire to the neutral bus through holes drilled in the neutral bar. A sheet copper neutral bus utilizing flathead screws to hold the neutral wires will not be acceptable.
	acceptable. C. Provide 1 #6-3/4" conduit from the system ground to the telephone company main distribution frame or service cabinet and to each telephone backboard.	K. Spaces for future devices shall be included as indicated and shall be bussed for the maximum rated device that can be fitted into them.
	3.09 TELEPHONE CONDUIT SYSTEM	L. All circuit breakers shall be manually operated, thermal—magnetic, automatic, of the ampacity and poles as
	A. Telephone service shall include wood backboards and equipment cabinets with service entrance conduit as shown.	indicated. They shall be quick—make, quick—break, both on manual and automatic operation. Breakers shall be
	B. Telephone service entrance cable, all branch cabling and	over—the—center toggle operating type, with the handle going to a position between ON and OFF to indicate
	telephone instruments shall be provided by the telephone equipment vendor.	automatic tripping. All multi pole breakers shall have interna
G	C. Provide an outlet and conduit system for the telephones as shown and leave the same in readiness for wiring by others.	automatic tripping. All multi—pole breakers shall have interna common trip. Breakers shall have a minimum of 10,000 RMS symmetrical amperes interrupting capacity unless designated
0	Provide pull line in all telephone conduit. Terminate all conduit at a uniform height with smooth insulated bushings at the	otherwise. The breakers furnished shall be determined by the specifications and by the minimum U.L. labeled RMS symmetrica
	telephone wood backboards.	amperes interrupting capacity at circuit voltage. All circuit breakers shall be bolted on and rigidly braced.
	D. Telephone wall outlets shall be pressed steel sectional switch boxes, wall mounted at the locations indicated. Coverplate shall have a bushed hole.	M. Panels having sub-feed lugs for feeding through shall have 8" minimum extra gutter space at the lug end and on one side.
	E. Telephone floor outlets shall be floor boxes as specified at the	N. Each panel as a complete unit shall have a short-circuit current rating equal to or greater than the equipment rating
	locations indicated. 3.10 CONNECTION TO EQUIPMENT	indicated.
	A. Equipment furnished by the Owner or under other Sections,	O. Panels shall be as manufactured by General Electric, Square D, or Cutler—Hammer.
	such as mechanical equipment, elevators, escalators, signs, kitchen equipment, etc., will be installed by others. Provide	2.03 TRANSFORMERS A. Branch circuit and distribution transformers shall be the dry
	electrical service and make the electrical circuit connection to this equipment.	type and shall have the ratings indicated. B. Single phase transformers shall be 480 volt primary and
_	B. Provide PVC insulated flexible cord sets for all cord and plug connected building appliances and equipment. Cords shall be	120/208 volt secondary. Three phase transformers shall be
F	sized in accordance with electrical circuits indicated. Multiple conductor cords shall be "SO" cable with PVC jacket and green	480 volt delta primary and 120/208 volt grounded type secondary. Transformers 25 KVA and larger shall have a
	insulated ground conductor.	minimum of 4 1/2% full capacity primary taps. C. Transformers shall have a U.L. recognized 220 degree insulatior
	3.11 CORING, CUTTING AND PATCHINGA. Set sleeves for conduit accurately before the concrete floors	system and shall be designed so that under full load, the average conductor temperature rise does not exceed 115
	are poured, or set boxes on the forms so as to leave openings in the floors in which the required sleeves can be	degree C. rise above a 40 degree C. ambient and the enclosure does not exceed a 50 degree C. rise at any point.
	subsequently located. Fill in the voids around the sleeves with concrete.	D. Transformer coils shall be of the continuous wound construction
	B. Should the performance of this preliminary work be neglected and should cutting be required in order to install conduit, then	and shall be impregnated with non-hygroscopic, thermosetting varnish. All cores to be constructed of high grade, non-aging cilican stack with high magnetic permachility, and low
	the expense of the cutting and restoring of surfaces to their original conditions shall be accomplished without incurring	silicon steel with high magnetic permeability, and low hystersesis and eddy current losses. Magnetic flux densities
	additions to the Contract.	shall be kept well below the saturation point. The core laminations shall be clamped together with structural steel
	3.12 EQUIPMENT ANCHORING A. All items of electrical equipment, such as switchboards, motor	angles. The completed core and coil shall then be bolted to the base of the enclosure but isolated therefrom by means of rubber, vibration—absorbing mounts. There shall be no
E	control centers, transformers, standby generator, etc., shall be securely anchored to the building structure. The anchoring	metal-to-metal contact between the core and coil and the enclosure. On transformers 500 KVA and smaller, the vibration
	shall be accomplished by utilizing a minimum size of 3/8" steel anchor bolts in the structure and to the item of	isolating system shall be designed to provide a permanent fastening of the core and coil to the enclosure. Sound
	equipment. A minimum of two (2) anchor bolts shall be provided on each side of each item of equipment with the	isolating systems requiring the complete removal of all fastening devices will not be acceptable. Sound levels shall be
	following exceptions:	guaranteed by the manufacturer not to exceed the following: 25 to 50 KVA - 45 DB; 51 to 150 KVA - 50 DB; 151 to
	Exception No. 1: If the equipment manufacturer includes more than two (2) anchor Holes per side in the base or base frame	300 KVA – 55 DB; 301 to 500 KVA – 60 DB.
	of the equipment item, then there shall be one anchor for each anchor hole.	E. Transformers 24 KVA and larger shall be in a heavy gauge, sheet steel, ventilated enclosure. The ventilating openings shall
	Exception No. 2: If the equipment manufacturer recommends a particular quantity greater than two (2) per side, then that	be designed to prevent accidental access to live parts in accordance with UL, NEMA, and National Electrical Code
	quantity of anchors shall be provided.	standard for ventilated enclosures. Transformers 25 KVA through 112.5 KVA shall be designed so that they can be either floor or wall mounted. Above 112.5 KVA, they shall be
	END OF SECTION	floor-mounted design. The entire transformer enclosure shall be degreased, cleaned, phosphatized, primed and finished with
D	SECTION 262000	a gray, baked enamel.
	SERVICE AND DISTRIBUTION <u>1.0 GENERAL</u>	F. Transformers shall be Energy Efficient TP-1 compliant. G. Transformers that are of the floor-mounted type shall be
	1.01 DESCRIPTION A. All work specified in this Section shall comply with the	mounted on Korfund Vibration Eliminators of the pad type. H. Transformers shall be as manufactured by General Electric,
	provisions of Section 16010.	Square D, or Cutler-Hammer.
	B. Provide a complete electrical distribution system. The system shall include the service entrance, main switchboard, feeders,	3.0 EXECUTION 3.01 INSTALLATION
	transformers, distribution panels, panelboards, busway, remote control switches, contactors, etc., to provide a complete	A. Provide a typewritten directory under plastic for all panelboards with spares marked in pencil.
	system. C. All distribution switchgear (branch circuit panelboards,	B. Provide all necessary hardware to level and secure the switchgear as required by the manufacturer's instructions.
	switchboard, distribution panelboards, transformers, busway, etc.) shall be the unit responsibility of one manufacturer. All	Make all electrical connections for supply and load circuits and leave in operating condition.
	component parts of the above listed items shall be of the same manufacturer except where a written request for deviation	C. Clean enclosure of all switchgear of all foreign matter, including dust.
С	from this requirement has been approved prior to bid date.	D. Remove all rust marks and repaint to leave switchgear in new
	D. Shop drawings for equipment specified in this Section shall show that all specified requirements have been incorporated.	condition. END OF SECTION
	E. All floor mounted distribution equipment shall be mounted on a 4" high concrete pad.	
	<u>2.0 </u>	SECTION 263000 LIGHTING
	A. Panelboards (panels) shall be general purpose enclosures and shall be surface or flush mounted as indicated. Panels shall	<u>1.0 GENERAL</u>
	be of the automatic circuit breaker type, factory assembled by the manufacturer of the circuit breakers. Panels shall be for	1.01 DESCRIPTION
	the voltage indicated with the quantity of poles and ampacity of circuit breakers shown.	A. All work in this Section shall comply with the provisions of Section 260010.
	B. Boxes and trim shall be made from code gauge steel. Boxes	B. Provide all lighting fixtures and lamps as specified herein and as shown.
	shall be sufficient size to provide a minimum gutter space of 4" on all sides. Boxes shall be minimum 20" width and 5	C. All lamps shall be operating at the time of the final inspection and for a period of six (6) months after the final acceptance
В	3/4" depth. C. Hinged door covering all device handles shall be included in all	of the project by the Owner.
	panel trim. Doors shall have flush-type cylinder lock and catch, except that doors over 48" in height shall have auxiliary	D. Confirm exact locations of all lighting fixtures by coordination with the Architects Reflected Ceiling Plans and mechanical
	fasteners at top and bottom of door in addition to flush-type	equipment above or on the ceiling. E. Confirm all ceiling types before ordering lighting fixtures.
	cylinder lock and catch. Door hinges shall be concealed. All locks shall be keyed alike. Directory frame and card having a transparent cover shall be furnished each panel door.	F. Each lighting fixture shall have been tested and certified for
	D. Trims for flush panels shall overlap the box by at least $3/4"$	proper operation by the fixture manufacturer for the type mounting and ceiling on/in, which it is installed.
	all around. Surface trims shall have the same width and height as the box. Trims shall be mountable by a screwdriver	2.0 PRODUCTS 2.01 LICHTING FIXTURES
	without the need for special tools. After installation, trim mounting mechanism or hardware shall not be accessible when	2.01 LIGHTING FIXTURES A. Each lighting fixture shall be as specified in the Lighting
	panel door is closed and locked. E. All exterior and interior steel surfaces of the trim shall be	Fixture Schedule corresponding with its fixture type indication (letter).
	cleaned and finished with gray paint over a rust-inhibiting phosphatized coating.	B. Most lighting outlets are lettered or groups of outlets are
А	F. All interiors shall be completely factory assembled with	indicated by a letter. C. Each lighting fixture shall have a manufacturer's label affixed
	protective devices, wire connectors, etc. All wire connectors, except screw terminals, shall be of the anti-turn solderless type and all shall be quitable for copper or gluminum wire	and shall comply with the requirements of all authorities having jurisdiction.
	type and all shall be suitable for copper or aluminum wire.	D. The lighting fixtures that are indicated by the letters shall be

G. Interiors shall be so designed that devices can be replaced without disturbing adjacent units and without removing the main bus connectors, and shall be so designed that devices may be 2.02 LAMPS

3

bing.	A. The type lamps shall be as specified for each lighting fixture in the lighting fixture schedule.	B. Fluorescent fixtures installed recessed in a suspended ceilir system shall be supported from the building structure with
r sized in accordance be included. Bus bar	B. The lamp catalog number is the catalog number is generally	 (4) 12 gauge wires on each corner of the fixture. In additional the fixture shall be clipped to members of the ceiling
shall be arranged for vices.	for Sylvania Lighting and is given as a standard of the quality and performance required. Equal lamps by General Electric or	suspension system.
reduction. Cross ne material as the	Philips will be acceptable. When a lamp manufacturer's name is used along with the catalog number in the lighting fixture	C. Fluorescent fixtures installed in or on any ceiling other tha suspended ceiling system specifically mentioned above shall
	schedule, it is considered unequaled by any other lamp and shall not be substituted for. The lamp performance with	supported with concealed steel rods. Rods shall be 1/4" diameter minimum and shall be located where recommende
bond the neutral wire the neutral bar. A	energy conserving ballasts furnished under this Section shall be certified by a nationally recognized independent testing MG	the fixture manufacturer. Provide a minimum of two (2)
screws to hold the	laboratory.	supports for ^M each 4' or 8' fixture chassis. Supports shall maximum of 48" centers. For incandescent fixtures, steel
d as indicated and	C. Fluorescent lamps shall be as specified in the Lighting Fixture Schedule.	hanging wire may be used by attaching the wire to the fix mounting frame.
evice that can be	D. Incandescent lamps shall be as specified in Lighting Fixture	D. Pendant mounted incandescent fixtures shall be stem supp
ated,	Schedule. E. All incandescent lamps, except quartz tubes, shall be rated for	by a fixture stud mounted in the outlet box. Suspended fluorescent fixtures shall have mounting stems located as
city and poles as k-break, both on	130 volt operation.	the manufacturer's recommendations, but in no case shall less than two (2) stems per chassis.
s shall be n the handle going	F. High Intensity Discharge (HID) lamps shall be as specified in the Lighting Fixture Schedule.	3.02 AIMING OF ADJUSTABLE LIGHT FIXTURES
cate	2.03 BALLASTS	A. All fixtures with lamp position, tilt, shutters, rotation, or ot
shall have internal num of 10,000 RMS	A. Fluorescent ballast shall be electronic type manufactured by Motorola, Magnetek or Advance.	types of adjustments during the final inspection. Fixtures serving areas where day lighting is predominant will be adj
unless designated e determined by the	B. Ballast shall operate lamps at a frequency or 25 KHz or	after sunset. 3.03 LIGHTING FIXTURES IN MILLWORK
eled RMS symmetrical voltage. All circuit	higher with less than 2% lamp flicker.	A. Special attention shall be given to lighting fixtures indicated
nrough shall have 8"	C. Ballast shall operate at an input voltage of 108 - 132 Vac (120V line) or 249 - 305 Vac (277V line) at an input	be mounted within, under, on or otherwise incorporated int millwork or cabinetry.
d and on one side.	frequency of 60 Hz. Light output shall remain constant for line voltage fluctuation of + 5%.	B. Refer to the Architectural drawings and details for specific
a short—circuit e equipment rating	D. Ballast shall comply with EMI and RFI limits set by the FCC	dimensions. This coordination shall occur prior to ordering fixtures to assure fixtures will fit the space limitations of
	(CFR 47 part 18) for non-residential applications and not interfere with normal electrical equipment.	millwork. C. This requirement is intended to preclude incurring additions
al Electric, Square D,	E. Ballast shall withstand transients as specified by ANSI C.62.41 for location category A3 in the normal mode and location	the Contract due to fixtures being too small or too large the space.
s shall be the dry	category A1 in the common mode.	3.04 FINAL PREPARATION
s shall be the dry	F. Ballast shall meet applicable ANSI standards.	A. All plastic covers shall be removed from fluorescent fixture
It primary and nsformers shall be	G. Ballast shall have a minimum power factor of 0.99. H. Ballast shall not be potted or weigh more than 1.3 pounds.	B. Clean all lens and reflectors from debris, fingerprints, dust
grounded type	I. Ballast shall have less than 10% Total Harmonic Distortion.	END OF SECTION
er shall have a taps.	J. Ballast shall have less than 6% Third Harmonic Distortion.	SECTION 269200
220 degree insulation	K. Ballast height shall be less than or equal to 1.5 inches. L. Ballast shall have a poke—in wiretrap connector.	MOTOR CONTROLS AND WIRING
er full load, the not exceed 115	M. Ballast shall meet sound rating "A".	1.0 GENERAL
ient and the . rise at any point.	N. Ballast must be Underwriters Laboratories (UL) listed Class P,	1.01 SCOPE A. All work specified in this Section shall comply with the
us wound construction	Type 1 Outdoor.	provisions of Section 260010.
copic, thermosetting igh grade, non—aging	O. Ballast shall provide normal rated lamp life as stated by lamp manufacturers.	B. All motors shall be provided under Division 22 and 23. C. A motor starter shall be provided under this Section for e
y, and low netic flux densities	P. Rapid start ballasts are series wired and shall maintain full cathode heat during operation.	motor except for those specified in Division 22 or 23 to b
nt. The core structural steel	Q. Rapid start ballast shall have less than a 1.5 Lamp Current	furnished with integral starters. Motor starters shall be installed either in a Motor Control Center or separately mo
l then be bolted to refrom by means of	Crest Factor (LCCF) and instant start ballasts have less than a 1.7 LCCF.	adjacent to the motor served. D. Motor power wiring is defined as those conductors between
shall be no and coil and the	R. Instant start ballast shall have parallel lamp operation.	energy source and the motor. This power wiring shall be
smaller, the vibration	S. Ballast factor standard is .875+0.025 on all normal light	terminated at the motor terminals. E. All control wiring required for automatic starting and stopp
de a permanent osure. Sound	output products. T. Ballasts for "PL" fluorescent lamps shall be coordinated with	of motors shall be provided under Division 22 or 23 unles specifically shown on the electrical drawings.
emoval of all Sound levels shall be	lamps and 2-pin or 4-pin configuration ballasts shall be provided to match lamps. Manufacturer for "PL" fluorescent	F. Power wiring shall be connected through all line voltage co
ceed the following: - 50 DB; 151 to	fixtures shall be Advance, Roberson, Lightolier or Lutron.	devices such as firestats and thermostats.
DB.	U. Ballasts for High Intensity Discharge (HID) lamps shall be Constant Wattage Autotransformer (CWA) type or equal type	2.0 PRODUCTS 2.01 MOTOR STARTERS
n a heavy gauge, :ilating openings shall	with minimum power factor of 0.9.	A. Starters for motors $1/3$ horsepower or smaller shall be m
to live parts in lectrical Code	2.04 DIFFUSERS	unless remote or automatic starting is required, in which c the starters shall be magnetic, full voltage, non—reversing,
ormers 25 KVA nat they can be	A. Unless specified otherwise, all prismatic diffusers for fluorescent lighting fixtures shall be prismatic acrylic KSH K12 with a	single—speed, unless otherwise indicated. All other starters shall be magnetic.
5 KVA, they shall be mer enclosure shall	thickness of 0.125", measured from the back side to the peak of the prism.	B. Each starter for a three-phase motor shall be furnished w
ed and finished with	B. All wraparound lenses shall be virgin acrylic, one-piece and	three (3) overload relays sized for the full load running cu of the motor actually provided. Provide an external
1 compliant.	injection molded. 2.05 LIGHT FIXTURE TRIM	"HAND-OFF-AUTO" selector switch with green "RUNNING" lig Provide a red pilot light to indicate motor "STOPPED". Ea
ed type shall be	A. Each recessed lighting fixture shall have a trim to match the	pilot light shall have a legend plate indicating reason for
of the pad type. General Electric,	type of ceiling (plaster, exposed grid, concealed spline, exposed panel, etc.) in which it is being installed, regardless of catalog	signal. C. Each overload relay shall have a normally open alarm cont
	number given. Coordinate with the Architect's reflected ceiling	which will close only when actuated by an overload (not to
	plan to provide the right trim for the type of ceiling the fixture is to be installed in.	confused with N.O. or N.C. auxiliary contacts). These cont shall be properly wired to their respective blue pilot light
c for all panelboards	B. Each lighting fixture recessed in a plastered ceiling of any type shall have a plaster frame.	provided on the starter front cover and having a "TRIPPED" legend plate.
d secure the	2.06 RECESSED INCANDESCENT FIXTURES	D. Individually mounted motor starters shall be in a NEMA Typ
r's instructions. and load circuits and	A. All recessed incandescent fixtures shall comply with Article	general purpose enclosure in unfinished areas and shall be flush mounted in all finished areas. All starters mounted
	410-110, C of the N.E.C. 2.07 FLUORESCENT FIXTURES	exterior areas shall have a NEMA 3R enclosure. Each star shall have a laminated nameplate to indicate Division 22 o
reign matter,	A. All indoor fluorescent fixtures utilizing double ended lamps or	unit number, function and circuit number.
e switchgear in new	that are supplied from multi—wire branch circuits, shall have a disconnecting means that complies with Article 410.130, G of	E. A control power transformer shall be provided at each mo starter for connection to the controls provided under Divisi
	the N.E.C. 2.08 LED LIGHTING FIXTURES	22 or 23. The control power transformer shall be mounte inside the motor starter enclosure. All control transformer
	A. LED lamps for interior use shall be 3500K, CRI 80 (min.),	50 VA or greater shall have primary fusing. Coordinate al control equipments with Division 22 or 23 and equipment
	unless noted otherwise. Color temperature chromaticity over the lifetime of the product shall be within 0.007 on the CIE 1976	manufacturers.
	(u',v') diagram.	F. All motor starters, push buttons and pilot lights shall be c same manufacturer as the switchboard and shall be Gener
	B. System shall be rated at a minimum for 50,000 hours (min.)	Electric, Square D, Siemens I.T.E, Joslyn Clark Controls or Westinghouse.
the provisions of	at 70% lumen maintenance (L80). C. System shall comply with the following:	2.02 COMBINATION STARTERS
specified herein and	1. ENERGY STAR [®] SSL Requirements for Luminaires	A. Combination starters shall consist of a circuit breaker and motor starter mounted in a common NEMA Type 1 general
of the final inspection	2. IESNA LM-16 3. IESNA LM-58-94	purpose enclosure.
the final acceptance	4. IESNA LM-79 5. IESNA LM-80	B. The motor starter components shall be as specified in paragraph 2.01 for motor starters.
res by coordination	6. ANSI C82.2–2002 7. ANSI C82.77–2002	C. The circuit breaker component shall be a minimum 22,000 interrupting capacity and shall be as required in Section
and mechanical	8. ANSI C78.377-2008 9. CIE 13.3-1995	interrupting capacity and shall be as required in Section 262000.
ghting fixtures.	10. CIE 15-2002	3.0 EXECUTION
d and certified for	11. ANSI/UL 153 12. UL 1598	3.01 INSTALLATION A. Provide power wiring to and install all motor starters, unles
er for the type stalled.	13. NEMA 410-2011	integrally factory mounted on a piece of equipment.
	D. LED drivers shall be electronic, thermally protected and have an	B. Provide power wiring to all motors except packaged units t are prewired between the starter and motor.
	input voltage at 120/277VAC, 60Hz with a power factor of >0.90.	C. Where line voltage control devices are mounted at, on or i
in the Lighting ure type indication	E. LED boards and drivers shall be provided with plug-in connections for tool-less replacement of components.	a unit, such as aquastats, firestat for single phase devices etc., the power wiring to the unit shall be connected throu
o of outlate are	F. Compatibility of dimming switches for control of dimmable LED	such a control device. D. On final inspection, it shall be demonstrated to the Archite
s of outlets are	drivers shall be confirmed with LED fixture manufacturer.	or his representative, that each overload relay control circu
turer's label affixed all authorities having	<u>3.0 EXECUTION</u> 3.01 SUPPORT OF LIGHTING FIXTURES	properly wired and functioning correctly by manually tripping each overload relay individually, one at a time. This inspe
an autionales naving	A. All lighting shall be supported from the building structure. The	procedure shall not involve removing any wiring or disconnecting any current carrying parts.

A. All lighting shall be supported from the building structure. The fixtures shall be supported in a manner that will insure the fixture weight being equally distributed from each support and the fixture remaining in a level position.

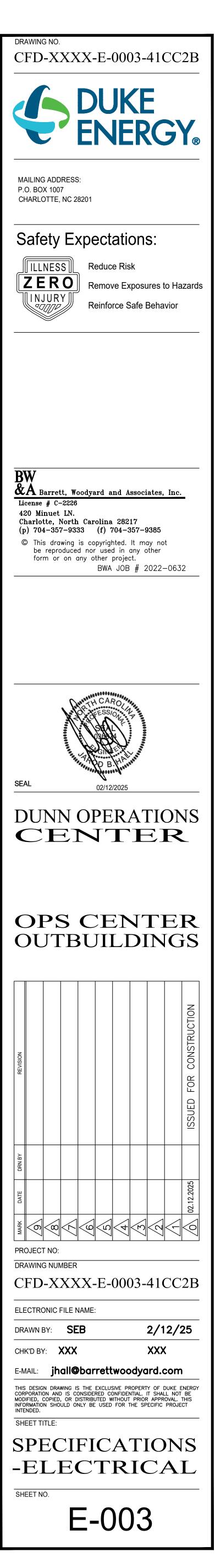
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END OF SECTION

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FIXTURE	MANUFACTURER AND		LAMPS		DRIN	/ER	TOTAL		MOUNTING
TYPE	CATALOG INFORMATION	QTY.	TYPE	WATTS	QTY.	TYPE	WATTS	DESCRIPTION	
	HIGH BAY FIXTURE. METALUX UHB LED SERIES OR APPROVED EQUAL.	_	LED 13627LUM 4000K	100W	1	DRIVER 0-10V	100W	HIGH BAY FIXTURE. METALUX UNIVERSAL VOLTAGE.	SUSPENDED
• AE	SAME AS TYPE 'A' EXCEPT PROVIDE WITH EMERGENCY 90 MINUTE BATTERY PACK.								
ି _ଅ	HIGH BAY FIXTURE. METALUX UHB LED SERIES ORR APPROVED EQUAL.	-	LED 19607LUM 5000K	147W	1	DRIVER 0-10V	147W	HIGH BAY FIXTURE. METALUX UHB LED SERIES. UNIVERSAL VOLTAGE.	SUSPENDED
• BE	SAME AS TYPE 'B' EXCEPT PROVIDE WITH EMERGENCY 90 MINUTE BATTERY PACK.								
с	EXTERIOR WALL PACK. COOPER LUMARK WP LED SERIES. OR APPROVED EQUAL.	_	LED 3500LUM 4000K	60W	1	DRIVER 0-10V	60W	LED WALL PACK LIGHT. COOPER LUMARK SERIES. UNIVERSAL VOLTAGE.	WALL
P REM	RECESSED EMERGENCY FIXTURE. COOPER AEL2 SERIES OR APPROVED EQUAL. PROVIDED WITH 90 MINUTE BATTERY PACK.	_	LED 3500LUM 4000K	5W	1	_	5W	EMERGENCY FIXTURE. UNIVERSAL VOLTAGE.	WALL
⊗ ×	EMERGENCY EXIT FIXTURE. SURE LITE SERIES.	_	LED 3500LUM 4000K	5W	1	_	5W	EMERGENCY EXIT FIXTURE. UNIVERSAL VOLTAGE.	SUSPENDEI

ALL FINISH TYPES SHOULD BE COORDINATED WITH THE ARCHITECT/INTERIOR DESIGNER(S).

REFLECTED CEILING PLANS FOR EXACT CEILING TYPE FOR WHICH THE FIXTURE IS TO BE INSTALLED.

2. ALL TRIMS AND INSTALLATION REQUIREMENTS SHALL BE COORDINATED WITH THE CEILING TYPE IN WHICH IT IS TO BE INSTALLED. REFER TO ARCHITECTURAL 3. FIXTURE TYPES NOTED ON PLAN WITH SUFFIX 'E' INDICATES FIXTURE TO BE PROVIDED WITH 90 MINUTE MINIMUM BATTERY BACK-UP. (E.G. L1E, L2E, ETC...)

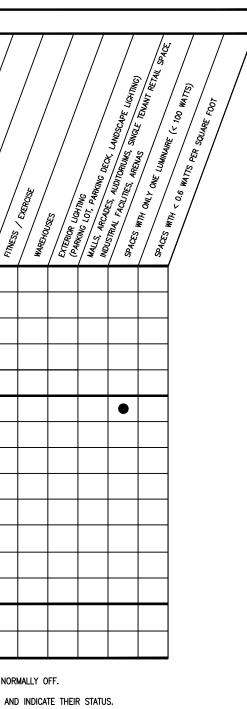
		NEW	V PANEI	L	<u>UB</u>				10K AI SE RATE
				SECTIO					NEMA 3
	VOLTAGE:	120/208	<u>B</u>			AMP:		200	
	PHASE:	<u>3</u>				MAIN:		<u>MCB</u>	
DESCRIPTIC	N KW	BKR	СК	PH	СК	BKR	KW	DESCRIPT	ION
PANEL REC	0.1		1	A	2	20/1	0.3	EF-1	
REC	0.7	2 20/1	3	В	4	20/1	0.41	LTS INTERIOR	
NEMA 6-30R	1.2	30/2	5	С	6	20/1	0.4	OVERHEAD DOOF	2
	1.2		7	A	8		0	SPACE	
NEMA 6-30R	1.2	30/2	9	В	10		0	SPACE	
	1.2		11	С	12		0	SPACE	
NEMA 6-30R	1.2	30/2	13	A	14		0	SPACE	
	1.2		15	В	16		0	SPACE	
NEMA 6-30R	1.2	30/2	17	С	18		0	SPACE	
	1.2		19	A	20		0	SPACE	
SPACE	0		21	В	22		0	SPACE	
SPACE	0		23	С	24		0	SPACE	
SPACE	0		25	A	26		0	SPACE	
SPACE	0		27	В	28		0	SPACE	
SPACE	0		29	С	30		0	SPACE	
SPACE	0		31	A	32		0	SPACE	
SPACE	0		33	В	34		0	SPACE	
SPACE	0		35	С	36		0	SPACE	
SPACE	0		37	A	38		0	SPACE	
SPACE	0		39	В	40		0	SPACE	
SPACE	0		41	С	42		0	SPACE	
A TOTAL		4.08	য	VLL	PH	1	0.90	RECEPTACLES	
B TOTAL		3.53		208		-		HEATING	
C TOTAL		4.00			<u> </u>	1		AC/MOTORS	
			-					LIGHTING	
								MISC.	
CONN. kW		11.6	1					WATER HEATERS	
CONN. Amps		32.23						ELEVATORS	
			2					KITCHEN EQUIP	
							0.00	KITCHEN EQUI	
TOTAL DEMAND LC	AD]	
RECEPTS: 100% 1	ST 10 KW + 5	50% RFMAIN	JING:		=	0.9) KVA		
HEAT: 100% :					_) KVA	1	

		0.0	1 Y Y Y
HEAT: 100% :	=	0	KVA
AC/MOTORS: 125% LARGEST + 100% REMAINING:	=	0.7	KVA
LIGHTING: 125%:	=	0.5125	KVA
MISC: 100%:	=	9.6	KVA
WATER HEATER: 125%:	=	0	KVA
ELEVATORS: PER NEC:	=	0	KVA
KITCHEN EQUIP: PER NEC :		0	KVA
TOTAL DEMAND LOAD KW:	=	11.7125	KVA 🛛
TOTAL DEMAND LOAD AMPS:	=	32.51	AMP

			C.A.SSE.	LARGE CO.	SWALL CONFERENCE ROOM MEETING	COPY/PDC: ROOM	LOUNGES	STAIRWELL ROOM PANTRY	PRIVATE .	OPEN OFFICES	RESTROOMS	STORAGE _	- rooms	EQUIPARA	MECHANIC COMPUTER CT	ELEVATE ELECTRICAL ROALS	CORRING.	Finger	WAREHOOSE	EXTERIOR 100	WALLS ARCHORS WHING DECK IN.
LIGHTING CONTROLS	AUTOMATIC CONTROL	OCCUPANCY SENSOR (AUTOMATIC ON/OFF)			•	•			•			•									
		VACANCY SENSOR (MANUAL ON/AUTOMATIC OFF)																			
		TIME OF DAY																			
		TIMER SWITCH																			
		PHOTOCELL CONTROL																			
	MANUAL CONTROL	ON/OFF																			
		LIGHTING REDUCTION (ON/OFF)																			
		STEP-DIMMING																			
GHTI		DIMMING																			
		Multi-zone dimming																			
		SCENE-CONTROL																			
		TIME OF DAY OVERRIDE SWITCH																			
		KEY SWITCH																			
	DAYLIGHT CONTROL																				

SPACE TYPES

			PANE	SECTIO	<u>A</u> DN 1			
	TAGE: HASE:	<u>120/208</u> <u>3</u>				AMP: MAIN:		<u>100</u> <u>MCB</u>
DESCRIPTION	KW	BKR	СК	PH	СК	BKR	KW	DESCRIPT
DED REC	0.18	20/1	1	A	2	20/1	0.88	LTS INTERIOR
DED REC	0.18	20/1	3	В	4	20/1	0.88	LTS INTERIOR
DED REC	0.36	20/1	5	С	6	20/1	0.36	LTS EXTERIOR
DED REC	0.36	20/1	7	А	8		0	SPACE
DED REC	0.36	20/1	9	В	10		0	SPACE
DED REC	0.36	20/1	11	С	12		0	SPACE
DED REC	0.18	20/1	13	А	14		0	SPACE
DED REC	0.18	20/1	15	В	16		0	SPACE
SPACE	0		17	С	18		0	SPACE
SPACE	0		19	А	20		0	SPACE
SPACE	0		21	В	22		0	SPACE
SPACE	0		23	С	24		0	SPACE
SPACE	0		25	А	26		0	SPACE
SPACE	0		27	В	28		0	SPACE
SPACE	0		29	С	30		0	SPACE
SPACE	0		31	А	32		0	SPACE
SPACE	0		33	В	34		0	SPACE
SPACE	0		35	С	36		0	SPACE
SPACE	0		37	А	38		0	SPACE
SPACE	0		39	В	40		0	SPACE
SPACE	0		41	С	42		0	SPACE
A TOTAL		1.60	1	VLL	PH]	2.16	RECEPTACLES
B TOTAL		1.60		208	3	5	0.00	HEATING
C TOTAL		1.08					0.00	AC/MOTORS
			_					LIGHTING
			_					MISC.
CONN. kW		4.28						WATER HEATERS
CONN. Amps		11.88						ELEVATORS
								KITCHEN EQUIP

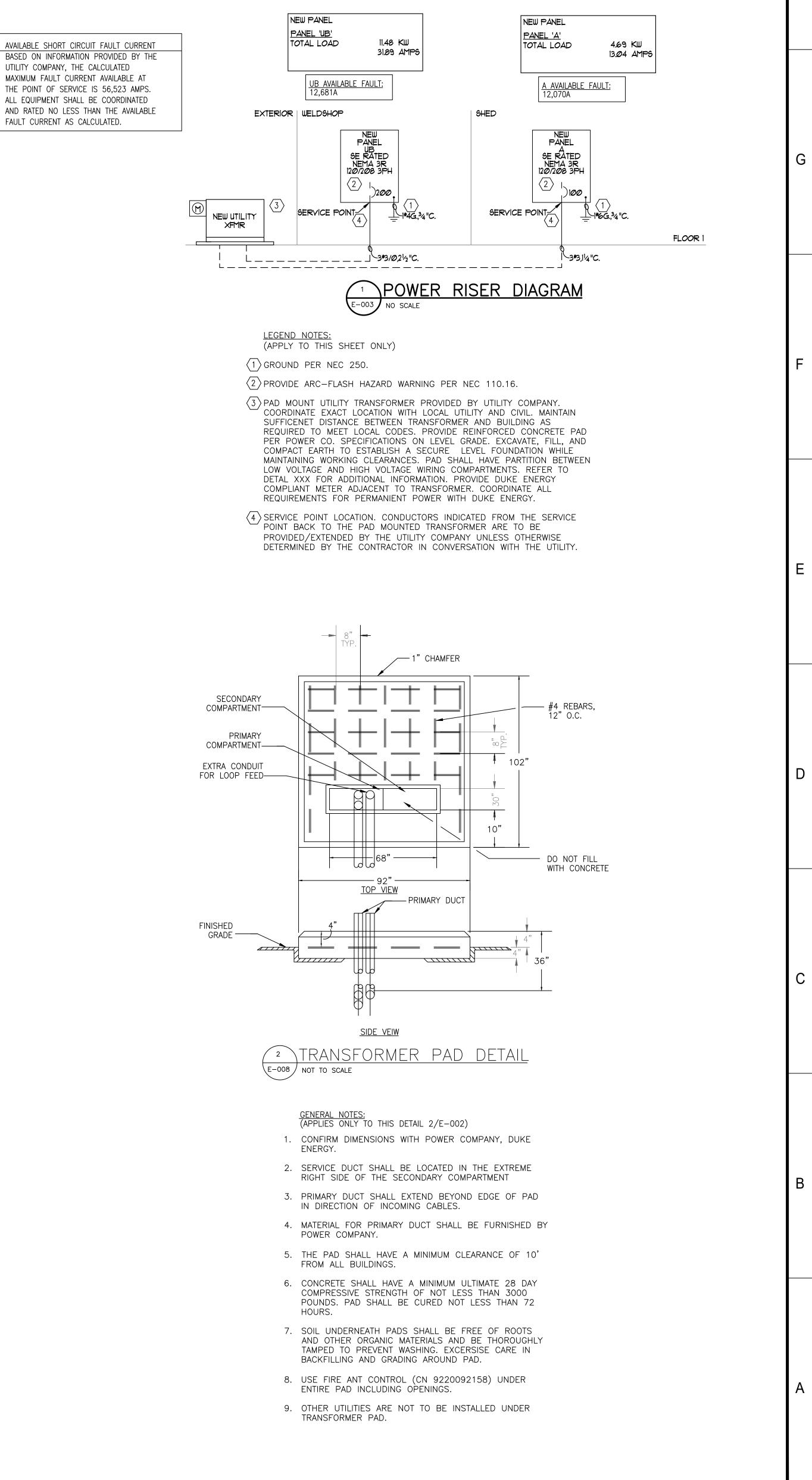


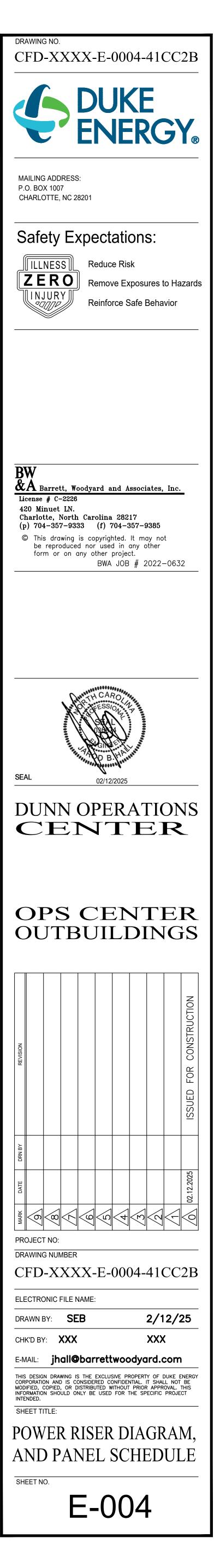
TOTAL DEMAND LOAD KW: TOTAL DEMAND LOAD AMPS:

= 4.81 KVA

= 13.35 AMP

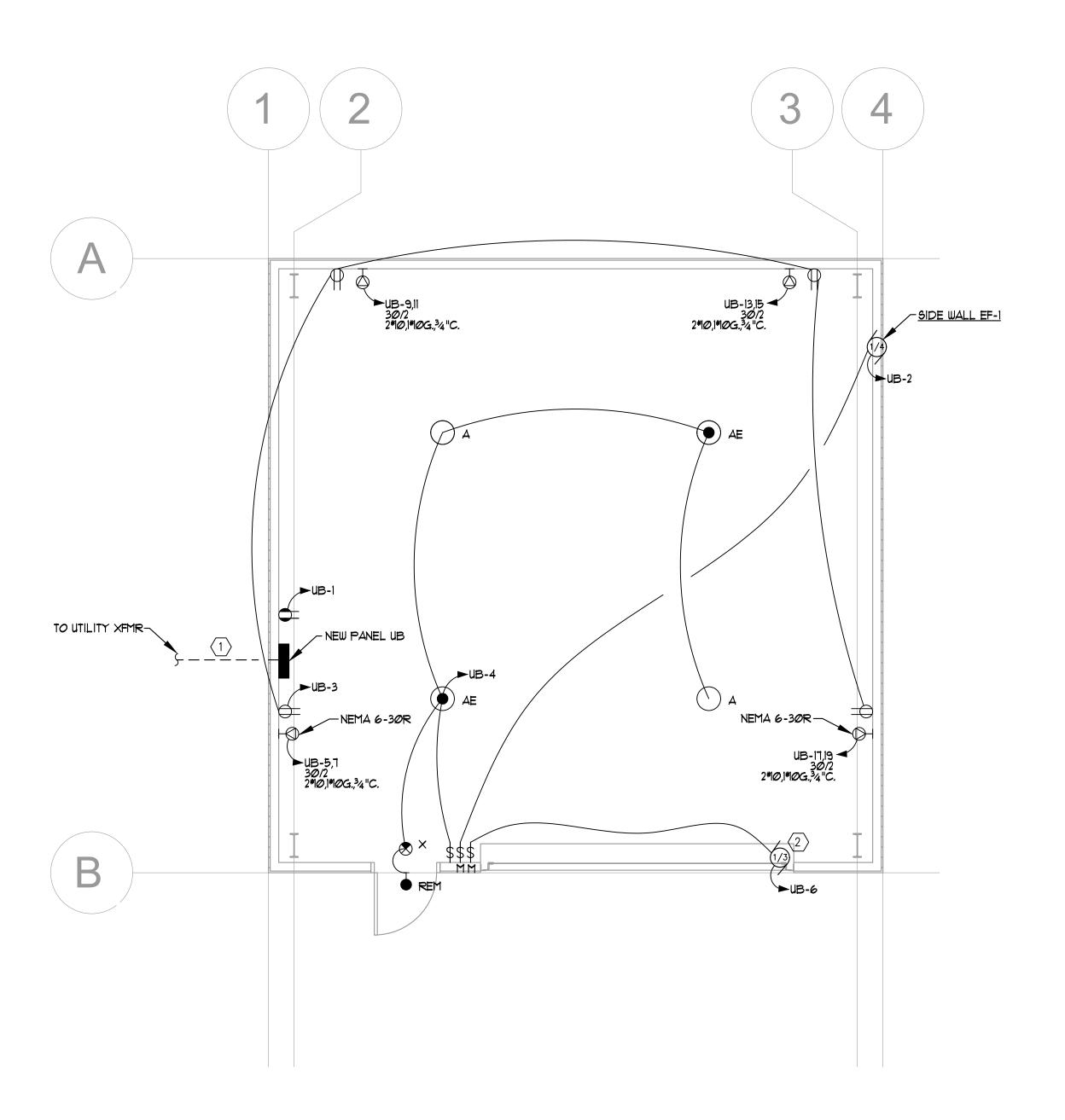






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<u>LEGEND NOTES:</u> (APPLY THIS SHEET ONLY)

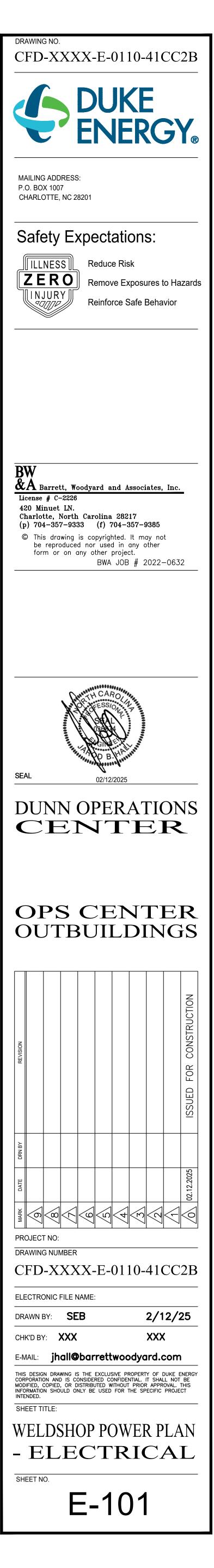
- 1 UNDERGROUND SERVICE ENTRANCE CONDUCTORS FROM UTILITY TRANSFORMER TO SERVICE ENTRANCE RATED PANEL A. REFER TO RISER DIAGRAM 1/E-003 FOR FEEDER SIZE AND ADDITIONAL INFORMATION. COORDINATE EXACT ROUTING FROM UTILITY TRANSFORMER TO METER WITH CIVIL AND UTILITY COMPANY.
- $\langle 2 \rangle$ motorized door location. Coordinate exact location and connection point with door installer.

<u>GENERAL_NOTES:</u> (APPLY THIS SHEET ONLY)

- COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS WITH ARCHITECTURAL PLANS. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS, DETAILS, AND LIGHTING NOTES FOR FURTHER INFORMATION OF DEVICE PLACEMENT AND OTHER RELEVANT INFORMATION.
- 2. SEE ELECTRICAL SYSTEM AND EQUIPMENT SCHEDULE FOR LIGHTING POWER DENSITY INFORMATION.
- 3. ALL LIGHT FIXTURES CONTAINING BATTERY PACK FOR EMERGENCY LIGHTING SHALL BE CONTROLLED WITH THE GENERAL LIGHTING IN THE ROOM/AREA. PROVIDE AN ADDITIONAL UNSWITCHED "HOT" CONDUCTOR TO THESE LIGHTING FIXTURES.
- ALL SWITCHES FOR LIGHTS, SHADES, ETC. WHICH ARE SHOWN TO BE MOUNTED IN THE SAME GENERAL AREA SHALL BE GANGED TOGETHER AND SHARE A MULTI-GANG COVER PLATE WHERE POSSIBLE.
- COORDINATE ALL DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH THE ARCHITECT & FURNITURE VENDOR PRIOR TO INSTALLATION.
 DEDICATED OUTLETS SHALL BE 20A RATED.
- 7. RECEPTACLES SHALL BE INSTALLED PER ANSI A117.1.
- 8. LABEL ALL OUTLETS AND JUNCTION BOXES WITH THE CORRESPONDING CIRCUIT DESIGNATION. LABEL TO BE TYPEWRITTEN; BLACK LETTERS ON WHITE BACKGROUND.
- 9. ALL RECEPTACLES WITHIN 6'-0" OF ANY WATER SOURCE SHALL BE 'GFCI' TYPE.

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