

ANNOTATIONS

①	KEYED NOTE	E1054F7	EQUIPMENT TAG
A	CONTINUATION	16120	SPECIFICATION NUMBER
4B	FEEDER TYPE	220	EQUIPMENT BILL-OF-MAT'L REFERENCE
2	DETAIL REFERENCE	E0.2	DRAWING REFERENCE. SEE SHEET INDICATED FOR DETAILED INFORMATION
5.0			EQUIPMENT SCHEDULE REFERENCE INDICATOR

ABBREVIATIONS

A	AMP	AMMETER, AMPERE	M	MAG CONTACTOR, COIL/CONTACT
AC	ALTERNATING CURRENT		MAX	MAXIMUM
ACB	AIR CIRCUIT BREAKER		MCB	MAIN CIRCUIT BREAKER
AF	AMPERE FRAME		MCC	MOTOR CONTROL CENTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER		MCP	MOTOR CIRCUIT BREAKER
AFD	ADJUSTABLE FREQUENCY DRIVE		MH	MANHOLE
AFF	ABOVE FINISHED FLOOR		MIN	MINIMUM
AIC	AMPS INTERRUPTING CURRENT		MLO	MAIN LUGS ONLY
ANN	ANNUNCIATOR		MTD	MOUNTED
AS	AMMETER SWITCH		N	NEUTRAL
AT	AMP TRIP		NA	NON-AUTOMATIC
ATS	AUTOMATIC TRANSFER SWITCH		N.C.	NORMALLY CLOSED
AWG	AMERICAN WIRE GAUGE		NEC	NATIONAL ELECTRICAL CODE
BC	BARE COPPER		NEMA	NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
BFF	BELOW FINISHED FLOOR		NIC	N.O.
BKR	BREAKER		NTS	NOT TO SCALE
BLDG	BUILDING		OCB	OIL CIRCUIT BREAKER
BMS	BUILDING MANAGEMENT SYSTEM		OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
BDC	BOTTOM OF CONDUIT		OFI	OWNER INSTALLED
BOD	BOTTOM OF DUCT		OL	OVERLOAD RELAY
BOP	BOTTOM OF PIPE		P	POWER
BOT	BOTTOM OF TRAY		PF	POWER FACTOR
C	CONDUIT, COIL		PI	PILOT LIGHT
CAP	CAPACITOR		PB	PUSHBUTTON SWITCH
CAT.#	CATALOG NUMBER		PC	PHOTOCELL
CB	CIRCUIT BREAKER		PW	POST INDICATOR VALVE
CCTV	CLOSED CIRCUIT TELEVISION		PNL	PANEL
CLK	CLOCK		Ø, PH	PHASE
CO	CONDUIT ONLY		PVC	POLYVINYL CHLORIDE
CPT	CONTROL POWER TRANSFORMER		QTY	QUANTITY
CR	CONTROL RELAY		(R)	RELOCATED
CT	CURRENT TRANSFORMER		REC	RECEPTACLE
(D)	DEMOLISH, DEMO		RCY	RACEWAY
DC	DIRECT CURRENT		RFS	RADIO FREQUENCY
DIA	DIAMETER		RGS	RIGID GALVANIZED STEEL
DV	DIVISION		RMS	ROOT MEAN SQUARE
Δ	DELTA CONNECTED		RTM	RUNNING TIME, METER
(E), EX	EXISTING		RVNR	REDUCED VOLT, NON-REVERSING
EL	ELEVATION		S.C.	SHORT CIRCUIT
ELEC	ELECTRICAL		SES	SERVICE ENTRANCE
EM	EMERGENCY		SS	STAINLESS STEEL
EMH	ELECTRICAL MANHOLE		STD	STANDARD
EMO	EMERGENCY MANUAL OFF		SW	SWITCH
EMT	ELECTRICAL METALLIC CONDUIT		SWBD	SWITCHBOARD
EOL	END-OF-LINE DEVICE		SWGR	SWITCHGEAR
ETM	ELAPSED TIME METER		SYM	SYMMETRICAL
ETR	EXISTING TO REMAIN		SYNC	SYNCHRONIZER
(F)	FUTURE		2S1W	TWO SPEED, ONE WINDING
FA	FIRE ALARM		2S2W	TWO SPEED, TWO WINDING
FACP	FIRE ALARM CONTROL PANEL		TSTAT	THERMOSTAT
FBO	FURNISHED BY OTHERS		TB	TERMINAL BLOCK
FCS	FACILITY CONTROL SYSTEM		TBD	TO BE DETERMINED
FDR	FEEDER		TDR	TIME DELAY RELAY
FU	FUSE		TS	TAMPER SWITCH
FVNR	FULL VOLTAGE NON-REVERSING		TSP	TWISTED SHIELDED PAIR
FVR	FULL VOLTAGE REVERSING		TYP	TYPICAL
GND	GROUND		UPS	UNINTERRUPTIBLE POWER SUPPLY
GFCI	GROUND FAULT CIRCUIT INTERRUPTER		UNO	UNLESS NOTED OTHERWISE
HH	HAND-ON-OFF-AUTOMATIC		V	VOLTMETER, VOLT
HID	HIGH INTENSITY DISCHARGE		VA	VOLT-AMPERE
HOA	HAND-OFF-AUTOMATIC		VESDA	VERY EARLY SMOKE DETECTION APPARATUS
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING		VFD	VARIABLE FREQUENCY DRIVE
HP	HORSEPOWER		VF	VERIFY IN FIELD
I.D.	IDENTIFICATION		W	WATT, WIRE
IER	INTEGRATED EQUIPMENT RATING		WHD	WATTHOUR DEMAND METER
I&C	INSTRUMENTATION AND CONTROL		WP	WEATHERPROOF
IMC	INTERMEDIATE METALLIC CONDUIT		XP	EXPLOSION-PROOF
I/O	INPUT/OUTPUT		XPMR	WYE-CONNECTED
J, JB	JUNCTION BOX		Z	IMPEDANCE
KCMIL	1000 CIRCULAR MIL			
KV	KILOVOLT			
KVA	KILOVOLT-AMPERE			
KVAR	KILOVAR			
KWH	KILOWATT-HOUR			
LAN	LOCAL AREA NETWORK			
LIT	LIGHTING			
LV	LOW VOLTAGE			

SHEET INDEX

REV NO	DATE	DESC.	SHEET NO	SHEET TITLE	REV NO	DATE	HIST.
A	11/01/24	DESIGN DEVELOPMENT	E0.0	ELECTRICAL COVER SHEET	0	01/17/25	A,B,0
B	11/27/24	PROGRESS SET	E0.1	ELECTRICAL LEGEND	0	01/17/25	A,B,0
0	01/17/25	FOR PERMIT	E0.2	ELECTRICAL SPECIFICATIONS	0	01/17/25	A,B,0
			E1.0	ELECTRICAL SITE PLAN	0	01/17/25	A,B,0
			E1.1	PHOTOMETRIC SITE PLAN	0	01/17/25	0
			E6.0	ONE-LINE DIAGRAM -- SES#1	0	01/17/25	A,B,0
			E6.1	ONE-LINE DIAGRAM -- SES#2	0	01/17/25	A,B,0
			E6.2	ONE-LINE DIAGRAM -- SES#3	0	01/17/25	A,B,0
			E7.0	LOAD CALCULATIONS & PANEL SCHEDULES	0	01/17/25	A,B,0
			E8.0	ELECTRICAL DETAILS	0	01/17/25	A,B,0

CODES & STANDARDS

CODES & STANDARDS:

ALL OF THE PRECEDING ARE HEREBY MADE A PART OF THESE SPECIFICATIONS. THEY SHALL BE SATISFIED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

GENERAL	EDITION
NATIONAL ELECTRICAL CODE (NFPA 70)	2023*
LOCAL AND STATE CODES AND CODE AMENDMENTS	DURANGO, CO
AMERICANS WITH DISABILITIES ACT (ADA)	LATEST
INTERNATIONAL BUILDING CODE (IBC)	2018*
INTERNATIONAL EXISTING BUILDING CODE (IEBC)	2018*
INTERNATIONAL MECHANICAL CODE (IMC)	2018*

FIRE & LIFE SAFETY CODES	EDITION
INTERNATIONAL FIRE CODE (IFC)	2018*
NFPA 72 -- NATIONAL FIRE ALARM CODE	LATEST
NFPA 101 -- LIFE SAFETY CODE	LATEST
NFPA 13 -- FIRE SPRINKLER CODE	LATEST
NATIONAL ELECTRICAL SAFETY CODE (NESC)	LATEST

ENERGY CODES	EDITION
INTERNATIONAL ENERGY CONSERVATION CODE (IECC)	2018*

SPECIAL CONDITIONS:

IN ADDITION TO CODES & STANDARDS LISTED SPECIFIC REQUIREMENTS APPLICABLE TO WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

NEC ART. 550 MOBILE HOMES AND MOBILE HOME PARKS.
NEC ART. 551 RVs AND RV PARKS.

DESCRIPTION OF WORK

DESCRIPTION OF WORK:

THE WORK SHALL INCLUDE, BUT IS NOT LIMITED TO, FURNISHING AND INSTALLING THE FOLLOWING:

INSTALLATION OF SERVICE ENTRANCE SECTIONS, UTILITY SECONDARY CONDUITS & WIRE, AND ASSOCIATED CONCRETE PADS, GROUND ELECTRODES.

INSTALLATION OF SERVICE ENTRANCE SECTIONS TO SERVICE RV PADS AND SITE.

INSTALLATION OF PANELS, FEEDERS, AND POWER & COMMUNICATION PEDESTALS ASSOCIATED WITH RV PADS.

INSTALLATION OF UNDERGROUND CONDUITS, JUNCTION BOXES, AND PEDESTALS FOR FIBER AND LOW VOLTAGE TELEPHONE/CABLE SYSTEMS.

INSTALLATION OF LIGHT POLES, LIGHTING CONTROLS, BRANCH WIRING.

ELECTRICAL EQUIPMENT INSTALLATION:

SPECIFIC EQUIPMENT INSTALLATIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

SERVICE ENTRANCE SECTION(S).
TRANSFORMER(S) WITH INTEGRAL DISTRIBUTION BOARD.
PANELBOARDS.
PEDESTALS.

ESTIMATED POINT(S) OF CONNECTION & METERING:

ELECTRIC UTILITY SERVICE, LOCATION AS DIRECTED BY UTILITY.

PROJECT CONTACTS:

ELECTRIC UTILITY: LPEA
LA PLATA ELECTRIC ASSOCIATION, INC.

CONTRACTOR COORDINATION REQUIREMENTS

AREAS ABOVE CEILINGS HAVE RESTRICTED SPACE LIMITATIONS. CONTRACTOR SHALL REVIEW PLANS AND FIELD CONDITIONS, ATTEND COORDINATION MEETINGS WITH ALL TRADES PRESENT, AND SET ALL DUCT, FIRE SPRINKLER PIPE, PLUMBING, DAMPER, ELECTRICAL, CABLE TRAY, AND CONDUIT ROUTES TO ACCOMMODATE ALL TRADES, ALL BUILDING ELEMENTS, LIGHTING, FIRE, AND EQUIPMENT. FIELD VERIFY ALL REQUIRED CLEARANCES AND EQUIPMENT LOCATIONS PRIOR TO COMMENCING PROJECT, FABRICATING OR INSTALLING SYSTEMS. TRADES SHALL ESTABLISH A RIGHT-OF WAY PLAN, AND SET DUCT AND PIPE ELEVATIONS PRIOR TO CONSTRUCTION AND CLOSELY COORDINATE ROUTING TO AVOID CONFLICTS. CONTRACTOR SHALL NOT CHARGE OWNER, ARCHITECT, GENERAL CONTRACTOR, ENGINEER OR OTHERS FOR FIELD ADJUSTMENT DUE TO FIELD CONDITIONS. CONTRACTOR MUST INCLUDE IN FEE TO COMPLETE PROJECT MISCELLANEOUS CONDUIT, TRAY, TRANSITIONS, AND OFFSETS. PRIOR CLOSE COORDINATION SHALL BE CONSIDERED INCLUDED IN BASE SCOPE OF WORK WITHOUT ADDITIONAL COMPENSATION FEES. CONTRACTOR SHALL OBTAIN ARCHITECTURAL PLANS, MECHANICAL PLANS, PLUMBING PLANS, ELECTRICAL PLANS, AND FIRE SPRINKLER PLANS AND VERIFY INTENDED EQUIPMENT LOCATIONS, CEILING, HEIGHTS, AND OTHER ARCHITECTURAL FEATURE LOCATIONS AND SHALL INSTALL AND ROUTE SYSTEMS ACCORDINGLY TO ENSURE EQUIPMENT FITS AND THAT EQUIPMENT SERVICE ACCESS IS UNOBSTRUCTED. FIELD ROUTING OF SYSTEMS MAY NEED TO BE ADJUSTED FROM THESE SCHEMATIC PLANS, AND ANY REQUIRED FITTINGS SHALL BE PROVIDED TO SUIT.

SPECIAL SYSTEMS COORDINATION

THE INSTALLING CONTRACTOR SHALL INCLUDE IN THE SCOPE OF WORK TO ARRANGE AND ATTEND A MEETING WITH OWNER'S IT REPRESENTATIVE, ACCESS CONTROLS INSTALLER, AND DATA CABLING INSTALLER TO REVIEW PROPOSED SYSTEM DESIGNS/ MATERIALS, SOFTWARE, ROUGH-IN, AND HARDWARE REQUIREMENTS PRIOR TO PREPARATION OF FINAL SHOP DRAWINGS FOR OWNER'S REVIEW AND APPROVAL.

SUBMITTAL REQUIREMENTS

ALL PARTIES ON THE PROJECT BENEFIT FROM PROMPT AND ACCURATE REVIEWS OF COMPLETE AND WELL ORGANIZED SUBMITTAL PACKAGES.

PRIOR TO ORDERING, SUBMITTALS REVIEWED BY THE ENGINEER ARE REQUIRED FOR THE FOLLOWING (AS APPLICABLE TO THE PROJECT)

- PANELS, SWITCHBOARDS,
- TRANSFORMERS,
- WIRE & CABLE
- FLOOR BOXES & POKE-THRU ASSEMBLIES,
- RACEWAYS & BOXES,
- LIGHT FIXTURES & LIGHTING CONTROLS,
- FIRE ALARM SYSTEMS,
- TCC AND ARC FLASH CALCULATIONS.

ALL FIRST SUBMITTALS SHALL USE THE FOLLOWING FORMAT OR SHALL BE RETURNED FOR CORRECTIONS UNTIL FORMATTED AS FOLLOWS:

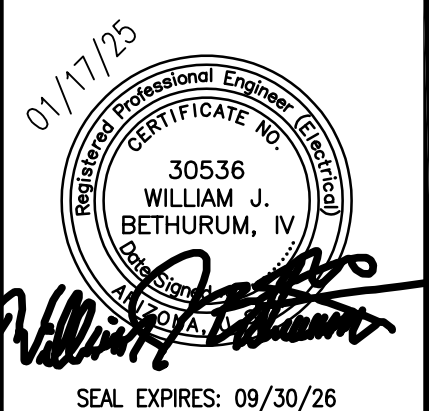
- SUBMITTED IN ELECTRONIC PDF FILE FORMAT IDENTIFIED AS A FIRST SUBMITTAL
- SUBMITTAL CUT SHEETS SHALL BE LABELED WITH RED, BOLDFACE TEXT IN THE TOP RIGHT HAND CORNER OF THE FIRST PAGE WITH THE EQUIPMENT TAG AS LABELED ON PLANS, SUCH AS PPH1, A1, ETC. (UNIDENTIFIED CUT SHEETS WILL BE RETURNED)
- OPTIONS NOTED BY THE ENGINEER ON THE CONSTRUCTION DOCUMENT SCHEDULE SHALL BE CLEARLY IDENTIFIED AS BEING PROVIDED BY THE SUPPLIER/CONTRACTOR WITH EACH OPTION ON THE SUBMITTAL MARKED WITH A RED BOX, CIRCLE, CHECK, OR OTHER SIMILAR CONSPICUOUS INDICATION THAT THE SUBMITTED DEVICE'S OPTIONS ACTUALLY MATCH THE PLAN SCHEDULE NOTES (GENERIC EQUIPMENT SHEETS WITH MULTIPLE UNIDENTIFIED OPTIONS WILL BE RETURNED).
- CONTRACTOR/SUPPLIER SUBMITTAL IS A PRESENTATION TO THE ENGINEER BY THE CONTRACTOR/SUPPLIER THAT THE EQUIPMENT SUBMITTED IS EQUIVALENT TO THAT SPECIFIED ON THE CONSTRUCTION DOCUMENTS. EQUIPMENT SUBSTITUTIONS WHICH INCLUDE OR REQUIRE DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS' REQUIREMENTS SHALL BE CLEARLY IDENTIFIED BY THE CONTRACTOR/SUPPLIER DIRECTLY ON THE FIRST PAGE OF THE CUT SHEET WITH A CLEAR EXPLANATION OF THE REASON(S) FOR NON-COMPLIANCE OR EQUIVALENCE WITH EQUIPMENT SCHEDULES. FAILURE OF SUBSTITUTED EQUIPMENT TO PERFORM TO THE LEVEL SPECIFIED IN THE EQUIPMENT SCHEDULE MAY REQUIRE REPLACEMENT OF SUBSTITUTED EQUIPMENT IF DEVIATIONS ARE NOT CLEARLY IDENTIFIED ON THE SUBSTITUTION.

ALL RESUBMITTALS OF EQUIPMENT OR MATERIALS PREVIOUSLY REJECTED BY THE ENGINEER SHALL BE RESUBMITTED WITH THE FOLLOWING FORMAT:

- SUBMITTED IN ELECTRONIC PDF FILE FORMAT IDENTIFIED AS "RESUBMITTAL #"; BEGINNING WITH "RESUBMITTAL 1" AND CONTINUING WITH SEQUENTIAL NUMBERING ON RESUBMITTALS THAT MAY FOLLOW.
- INCLUDE CUT SHEETS OF ONLY THE ITEMS THAT HAVE BEEN RETURNED/REJECTED BY THE ENGINEER ON THE FIRST SUBMITTAL (COMPLETE RESUBMITTALS OF ALL PROJECT EQUIPMENT WILL BE RETURNED TO BE REDUCED DOWN TO RESUBMITTAL ITEMS ONLY).
- ALL EQUIPMENT RETURNED OR REJECTED IN THE FIRST REVIEW SHALL BE RESUBMITTED IN ONE RESUBMITTAL (PER EQUIPMENT SPECIFICATIONS).(PARTIAL RESUBMITTALS MISSING PREVIOUSLY REJECTED OR RETURNED EQUIPMENT WILL BE RETURNED UNTIL COMPLETE).
- RESUBMITTAL CUT SHEETS SHALL BE LABELED WITH RED, BOLDFACE TEXT IN THE TOP RIGHT HAND CORNER OF THE FIRST PAGE WITH THE EQUIPMENT TAG AS LABELED ON PLANS SUCH AS PPH1, A1, ETC. (UNIDENTIFIED CUT SHEETS WILL BE RETURNED).
- OPTIONS NOTED BY THE ENGINEER ON THE CONSTRUCTION DOCUMENT SCHEDULE SHALL BE CLEARLY IDENTIFIED AS BEING PROVIDED BY THE SUPPLIER/CONTRACTOR WITH EACH OPTION ON THE SUBMITTAL MARKED WITH A RED BOX, CIRCLE, CHECK, OR OTHER SIMILAR CONSPICUOUS INDICATION THAT THE RESUBMITTED DEVICE'S OPTIONS ACTUALLY MATCH THE PLAN SCHEDULE NOTES (GENERIC EQUIPMENT SHEETS WITH MULTIPLE UNIDENTIFIED OPTIONS WILL BE RETURNED).
- INCLUDE CUT SHEET UPDATES TO CONFORM TO THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS AS PREVIOUSLY INDICATED AND REQUIRED BY THE ENGINEER IN THE FIRST SUBMITTAL
- IDENTIFY ANY CHANGES MADE OTHER THAN THOSE REQUESTED BY THE ENGINEER IN THE PREVIOUSLY RETURNED/REJECTED SUBMITTAL. PROVIDE A STATEMENT EXPLAINING ANY CHANGES WHICH WERE NOT PROMPTED BY THE ENGINEER'S PREVIOUS REVIEW.

-VOLT-4-
1730 E. Northern Avenue., Ste. 120, Phoenix, AZ 85020
Tel. (480) 659-0511, VoltaUS.com

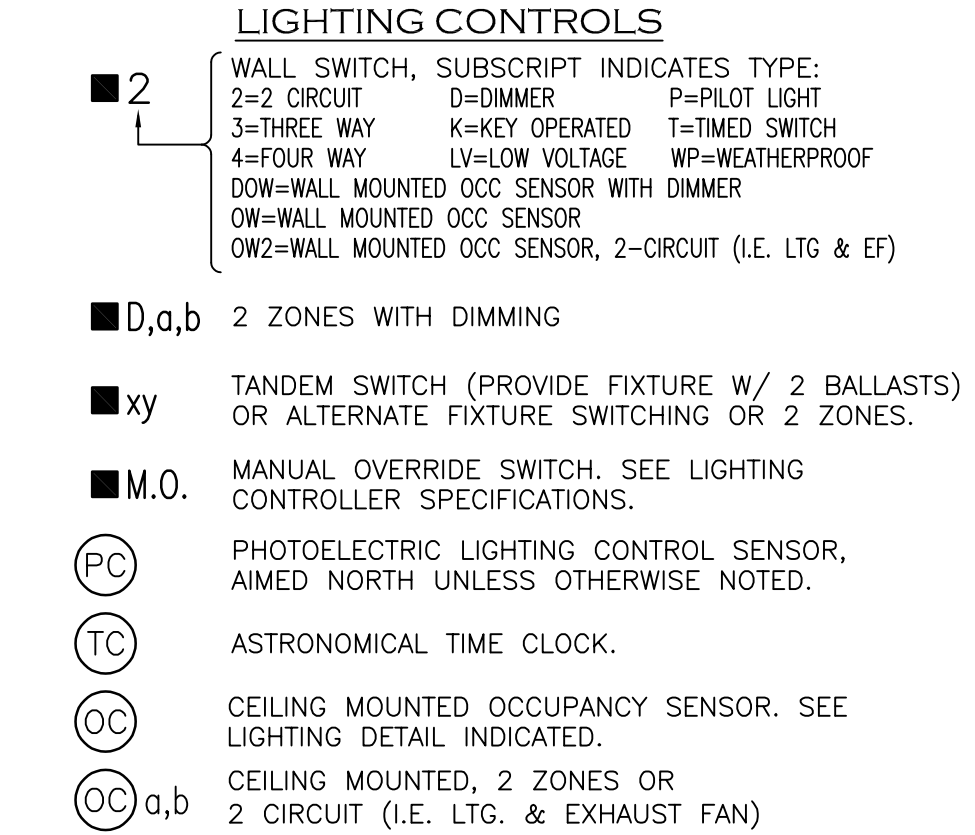
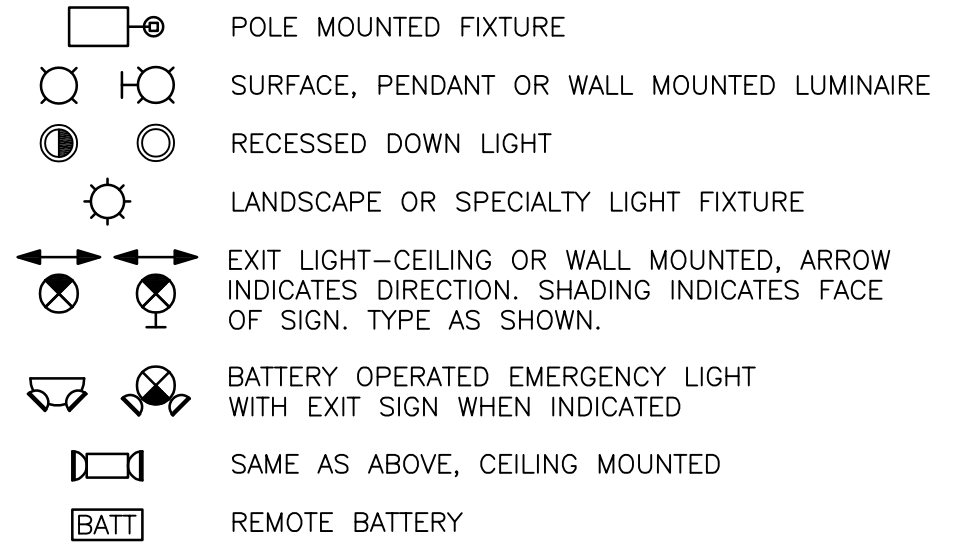
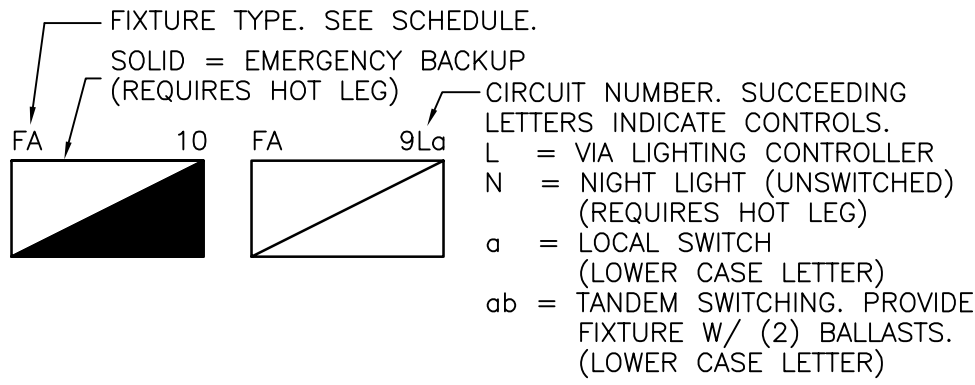
VUS#212501



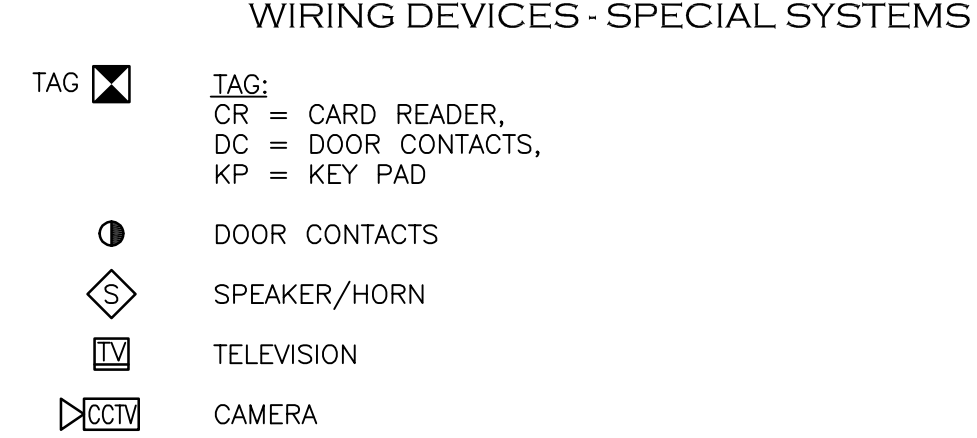
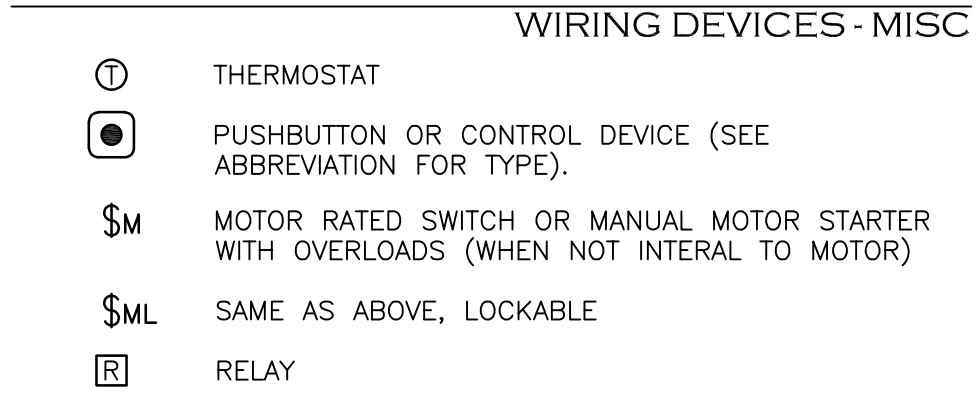
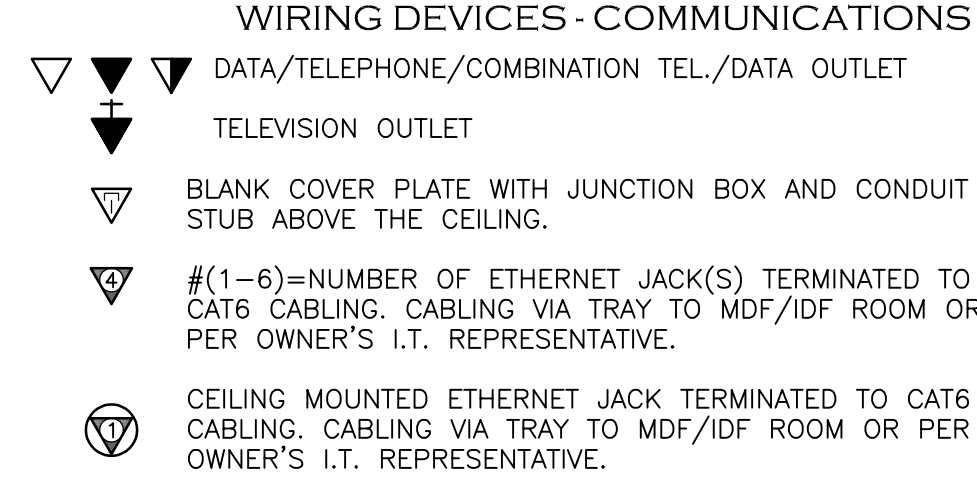
DURANGO RV PARK
TRIMBLE LANE
DURANGO, CO 81301

REVISIONS		PROJECT #	SCALE:
		212501	AS NOTED
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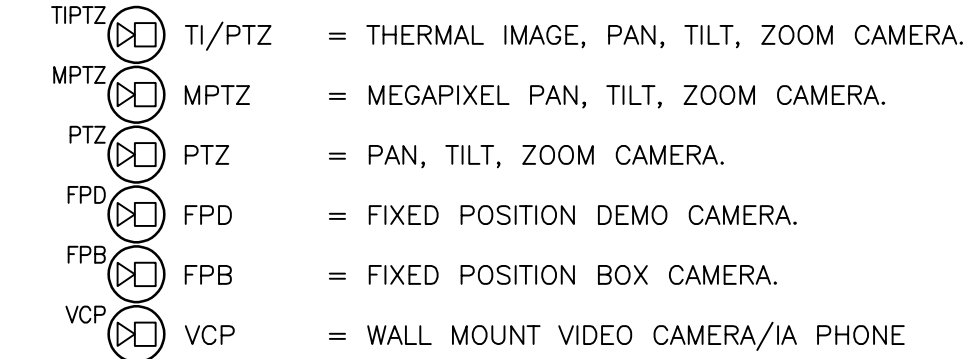
LIGHTING



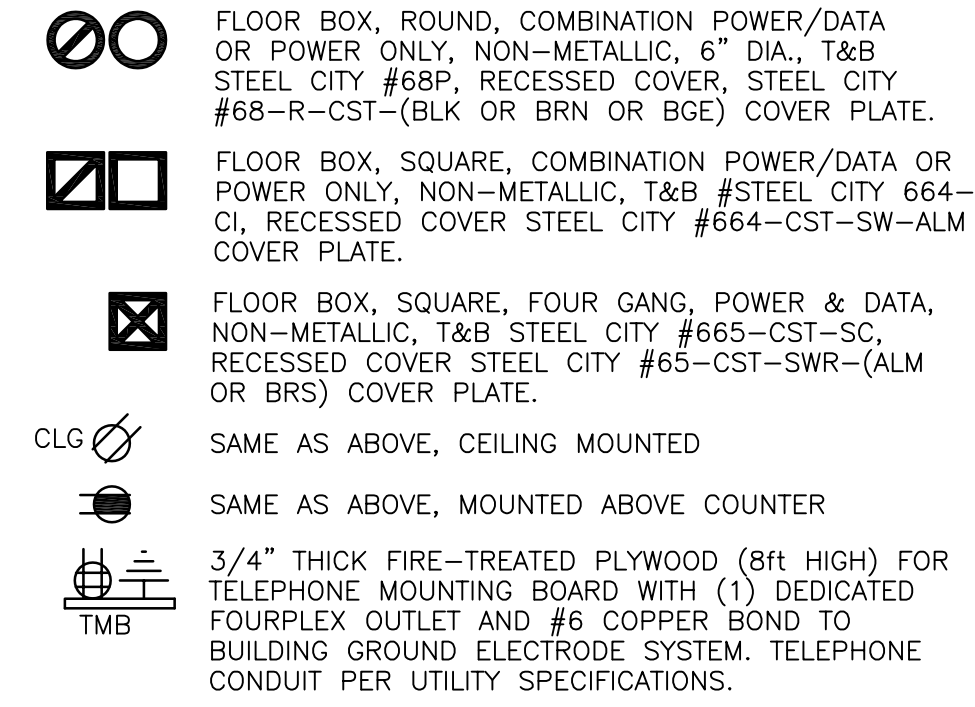
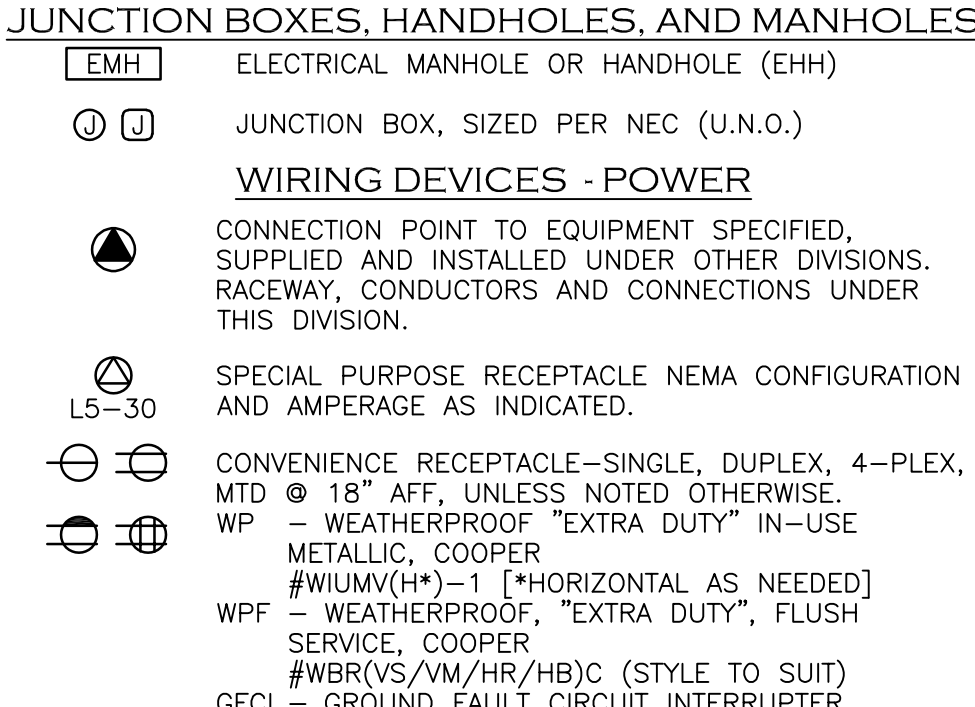
WIRING DEVICES AND BOXES



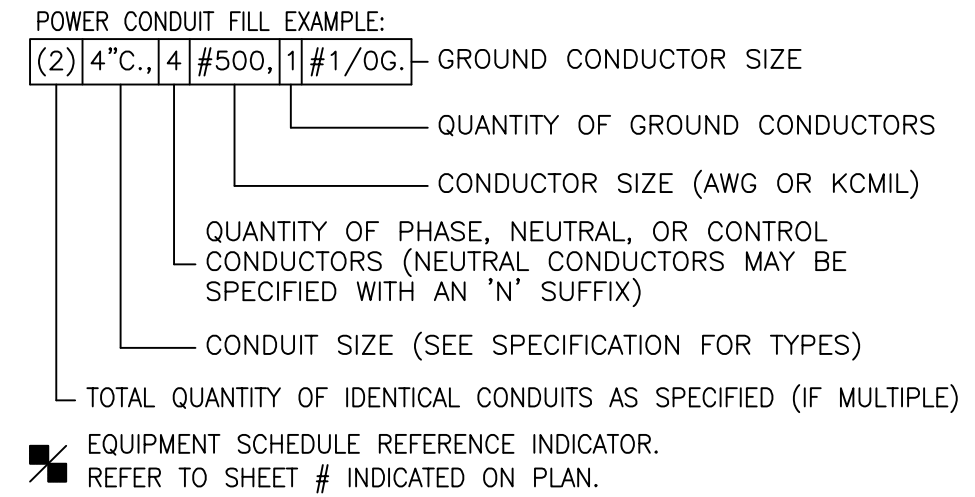
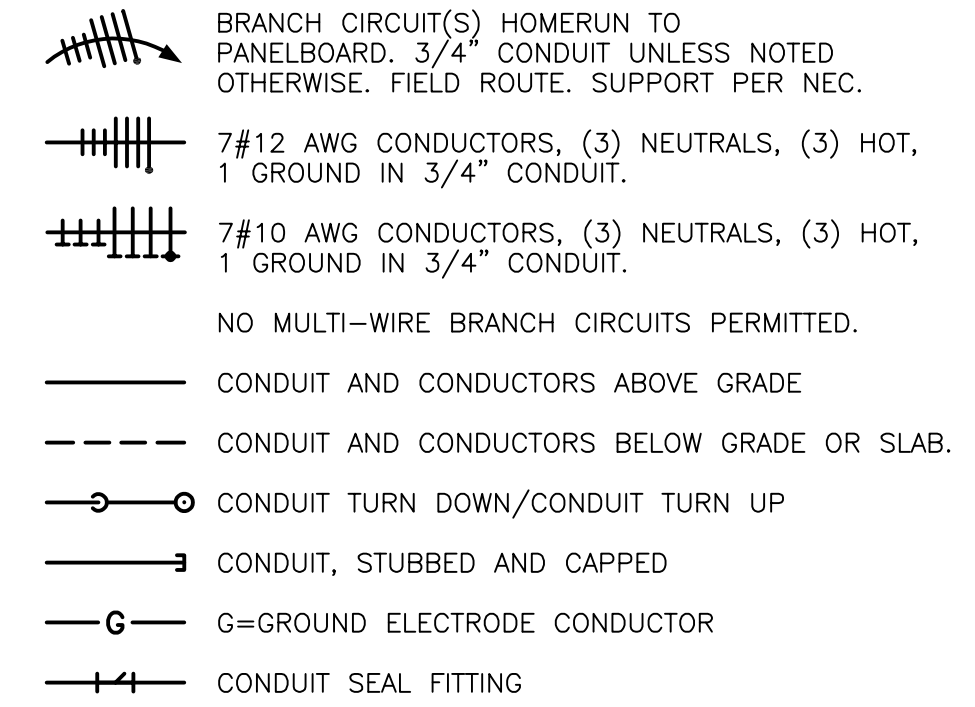
VIDEO SURVEILLANCE LEGEND



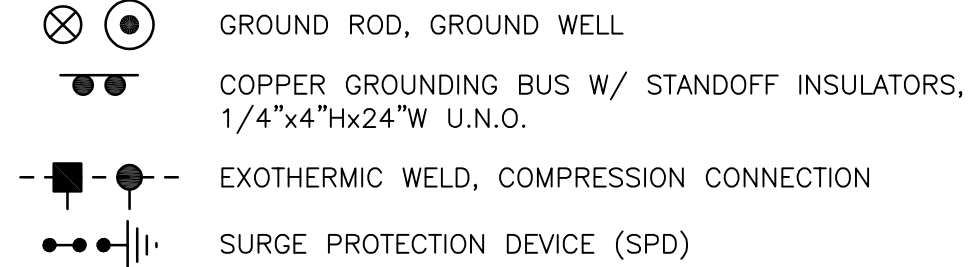
WIRING DEVICES AND BOXES



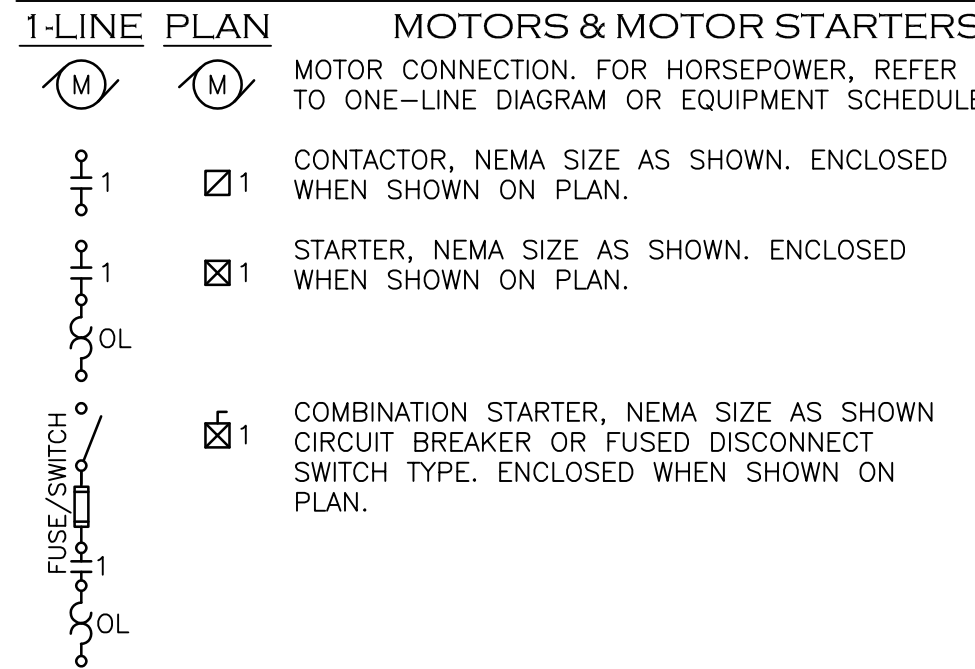
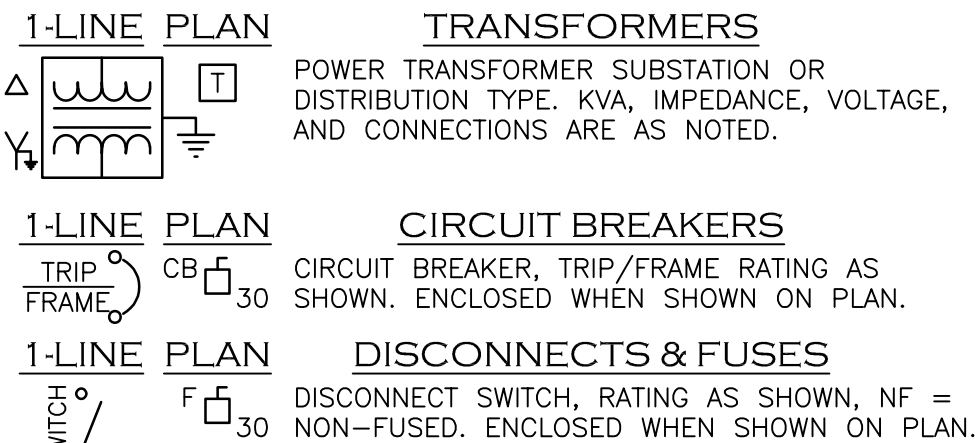
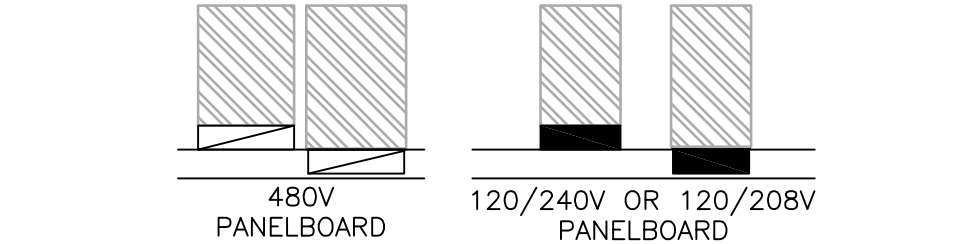
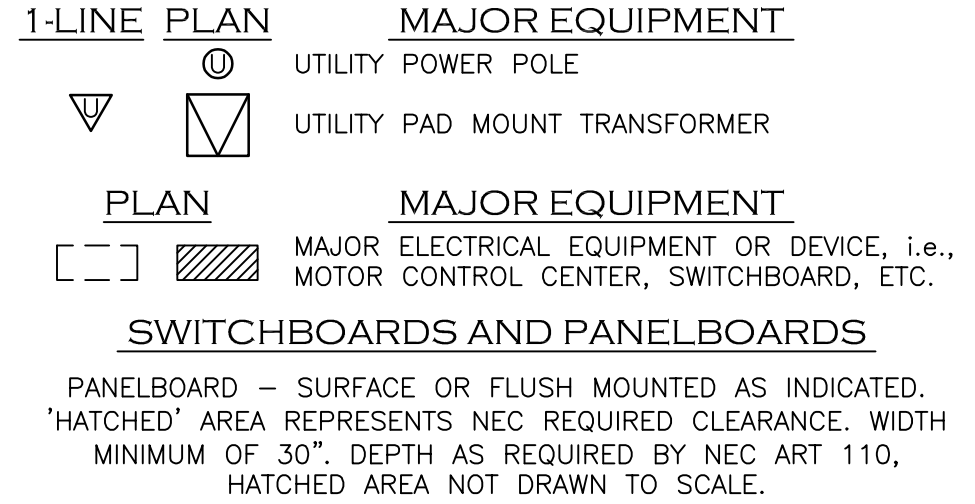
RACEWAYS, WIRE, & CABLE



GROUNDING



PRIMARY EQUIPMENT



-VOLT+

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01/17/25

30536
WILLIAM J.
BETHURUM, IV

SEAL EXPIRES: 09/30/26

DURANGO RV PARK

TRIMBLE LANE
DURANGO, CO 81301

REVISIONS	DATE	DESCRIPTION
1	01/17/25	FOR PERMIT
2		
3		
4		
5		
6		
7		
8		
9		
10		

PROJECT #	212501	SCALE:	AS NOTED
CHECKED BY:	WB, LA	DRAWN BY:	GC/AO
DATE	01/17/25		

ELECTRICAL
LEGEND

EO.1

265100 INTERIOR AND EXTERIOR LIGHTING

PRODUCTS DESCRIBED IN THE LUMINAIRES SCHEDULE AS SHOWN ON THE DRAWINGS SHALL REPRESENT MINIMUM ACCEPTABLE QUALITY STANDARDS.

2. UL/ETL LISTINGS
- A. ALL LUMINAIRES AND COMPONENTS SHALL BE UL OR ETL TESTED, LISTED, AND LABELED.
- B. LUMINAIRES INSTALLED UNDER CANOPIES, ROOFS, OR SIMILAR DAMP OR WET LOCATIONS SHALL BE UL OR ETL LISTED AND LABELED AS SUITABLE FOR DAMP OR WET LOCATIONS.

C. RECESSED LUMINAIRES INSTALLED IN FIRE RATED CEILINGS AND USING A FIRE RATED PROTECTIVE COVER SHALL BE THERMALLY PROTECTED FOR THIS APPLICATION AND SHALL BE APPROVED FOR THE INSTALLATION IN A FIRE-RATED CEILING.

3. INTERIOR AND EXTERIOR LUMINAIRES AND ACCESSORIES

- A. AS SCHEDULED ON DRAWINGS.
- B. VERIFY ALL FINISHES WITH ARCHITECT.

4. SITE LIGHTING POLES

- A. BY LUMINAIRE MANUFACTURER UNLESS OTHERWISE SPECIFIED.
- B. SITE LIGHTING POLES SHALL MEET EPA WIND LOAD RATING REQUIREMENTS.
- C. THE EXISTING SITE STANDARD FOR POLES SHALL BE USED. IN THE ABSENCE OF A SITE STANDARD, POLES SHALL BE SQUARE STRAIGHT STEEL POLES AS SCHEDULED ON THE DRAWINGS AND AS FOLLOWS:

- REFER TO POLE BASE DETAILS AS SHOWN ON THE DRAWINGS FOR SPECIFIC POLE BASE REQUIREMENTS. IN THE ABSENCE OF SPECIFIC STRUCTURAL DETAILS, SUPPLIER SHALL PROVIDE SEALED STRUCTURAL CALCULATIONS AND POLE BASE DIMENSIONS FOR SITE POLE BASES.

CONSTRUCT POLE BASES OF CONCRETE WITH DIMENSIONS AND DEPTHS AS NOTED ON THE DRAWINGS OR AS CALCULATED BY POLE SUPPLIER'S ENGINEERED CALCULATIONS. INSTALL ANCHOR BOLTS WITH MINIMUM PROJECTION ABOVE TOP OF BASES AS SPECIFIED BY POLE MANUFACTURER. GROUND AS INDICATED ON DRAWINGS. MOUNT STANDARDS ON BASES PLUMB AND TRUE UTILIZING SHIMS AS NECESSARY. GROUT THOROUGHLY BETWEEN BASE-PLATE AND FOUNDATION. PROVIDE AND INSTALL POLE BASE COVERS ON ALL POLES.

- STANDARD FINISH FOR POLE AND ACCESSORIES SHALL BE A FACTORY APPLIED POLYESTER THERMOSETTING POWDER COATING ELECTROSTATICALLY APPLIED TO THE SURFACE OF THE SUBSTRATE TO A MINIMUM THICKNESS OF 3 MIL. COLOR AS SPECIFIED.

- GROUND ALL POLES TO POLE BASE REBAR OR GROUND ELECTRODE SYSTEM WITH A #4 BARE COPPER CONDUCTOR IN ADDITION TO THE EQUIPMENT GROUND CONDUCTOR PROVIDED WITH THE BRANCH CIRCUIT.

INSTALLATION

- A. VERIFY ALL CEILING TYPES AND COORDINATE WITH LUMINAIRES AND ACCESSORIES.
- B. FURNISH AND INSTALL LAMPS IN LUMINAIRES AND LAMPHOLDERS.
- C. RECESSED LUMINAIRES TRIMS SHALL FIT SNUGLY TO THE MOUNTING SURFACE AND SHALL NOT EXHIBIT LIGHT LEAKS OR GAPS. PROVIDE HEAT RESISTANT RUBBER GASKETING WHERE NECESSARY. PROVIDE FEED-THROUGH JUNCTION BOXES OR PROVIDE SEPARATE JUNCTION BOXES. ALL COMPONENTS SHALL BE ACCESSIBLE THROUGH THE CEILING OPENING.
- D. MARK STANDARD LUMINAIRES EQUIPPED WITH EMERGENCY POWER WITH A RED ADHESIVE STICKER (NOT MORE THAN 3/8-INCH IN DIAMETER) MOUNTED ON METAL DOOR FRAME.
- E. PROVIDE IN-LINE FUSING AT HANDHOLE FOR ALL POLE MOUNTED LUMINAIRES.
- F. LEAVE LUMINAIRES CLEAN AND FREE OF ANY VISIBLE DUST, DEBRIS, OR FINGERPRINTS WITH ALL LAMPS OPERATIONAL AT TIME OF ACCEPTANCE OF WORK. RELAMP INOPERABLE LAMPS AT COMPLETION OF WORK.
- G. COORDINATE WITH OTHER CRAFTS TO AVOID CONFLICTS BETWEEN LUMINAIRES, SUPPORTS, FITTINGS AND MECHANICAL EQUIPMENT.
- H. RECESSED LIGHT FIXTURES:

- ALL RECESSED TROFFERS SHALL BE SUPPORTED FROM BUILDING STRUCTURE ABOVE CEILING WITH GALVANIZED STEEL WIRE AT NOT LESS THAN 4 POINTS NEAR CORNERS OF FIXTURE. SIZE OF WIRE SHALL BE CAPABLE OF SUPPORTING WEIGHT OF FIXTURES.
- RECESSED LUMINAIRES: PROVIDE TRIM TYPE AND ACCESSORIES REQUIRED FOR INSTALLATION IN CEILING SYSTEM (INCLUDING SLOPED CEILINGS, FIRE RATED CEILINGS, ETC.) AS INDICATED PER LUMINAIRE SCHEDULE.

262726 WIRING DEVICES

A. PROVIDE WIRING DEVICES, IN TYPES, CHARACTERISTICS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED WHICH ARE UL LISTED AND WHICH COMPLY WITH APPLICABLE UL AND NEMA STANDARDS. ALL DEVICES AND WALL BOXES SHALL BE PROVIDED WITH A WALL PLATE DESIGNED TO MATCH THE DEVICE. THE COLOR OF ALL DEVICES SHALL BE APPROVED BY THE ARCHITECT PRIOR TO ORDER OF DEVICES. WHERE THE ARCHITECT HAS NO COLOR PREFERENCE PROVIDE WHITE COLOR DEVICES WITH WALL PLATES EXCEPT AS OTHERWISE INDICATED. PROVIDE HEAVY DUTY DEVICES UNLESS OTHERWISE INDICATED. MANUFACTURER'S CATALOG NUMBERS LISTED BELOW INDICATE QUALITY OF BASIS OF DESIGN.

B. IDENTIFY EACH RECEPTACLE WITH PANELBOARD IDENTIFICATION AND CIRCUIT NUMBER. USE HOT, STAMPED, OR ENGRAVED.

C. MODULAR "PLUG-IN" WIRING SYSTEMS ARE NOT PERMITTED.

D. SIMPLEX, DUPLEX, OR GFCI RECEPTACLE: 125V, 20A, 5-20R CONFIGURATION. PROVIDE ONE OF THE FOLLOWING:

- COOPER; 5351 (SINGLE), CR5362 (DUPLEX), VGF20 (GFCI)
 - HUBBELL; HBL5351 (SINGLE), HBL5352 (DUPLEX), GFR5352L (GFCI)
 - LEVITON; 5891 (SINGLE), 5352 (DUPLEX), 7590 (GFCI)
 - PASS & SEYMOUR; 5361 (SINGLE), 5362 (DUPLEX), 2095 (GFCI)
- E. SINGLE POLE / DOUBLE POLE / 3-WAY / 4-WAY / LIGHTED OR KEY OPERATED SWITCH: 20A, 120-277V. PROVIDE ONE OF THE FOLLOWING:

- COOPER; AH1221 / AH1222 / AH1223 / AH1224 / AH1221PL FOR 120 AND 277 V / AH1221L
 - HUBBELL; HBL1221 / HBL1222 / HBL1223 / HBL1224 / HBL1221PL FOR 120 AND 277 V / HBL1221L
 - LEVITON; 1221-2 / 1222-2 / 1223-2 / 1224-2 / 1221-LH1 / 1221-ZL
 - PASS & SEYMOUR; CSB20AC1 / CSB20AC2 / CSB20AC3 / CSB20AC4 / PS20AC1RPL FOR 120 V, PS20AC1RPL7 FOR 277 V / PS20AC1-L
- F. WALL PLATES
1. SINGLE AND COMBINATION TYPES SHALL MATCH CORRESPONDING WIRING DEVICES.
- MATERIAL FOR FINISHED SPACES: SMOOTH, HIGH-IMPACT THERMOPLASTIC OR TYPE 302 STAINLESS STEEL.
 - MATERIAL FOR UNFINISHED SPACES: HIGH-IMPACT THERMOPLASTIC.
 - MATERIAL FOR DAMP LOCATIONS; CAST ALUMINUM WITH SPRING-LOADED LIFT COVER, AND LISTED AND LABELED FOR USE IN WET AND DAMP LOCATIONS.
2. WET-LOCATION, WEATHERPROOF COVER PLATES: NEMA 250, COMPLYING WITH TYPE 3R, WEATHER-RESISTANT, DIE-CAST ALUMINUM WITH LOCKABLE COVER.

G. FINISHES

- DEVICE COLOR: AS SELECTED BY ARCHITECT. WHITE, UNLESS OTHERWISE INDICATED. EMERGENCY POWER SYSTEM: RED. IVSS DEVICES: BLUE.
- WALL PLATE COLOR: FOR PLASTIC COVERS, MATCH DEVICE COLOR.

H. LOCATION OF OUTLETS AND EQUIPMENT AS INDICATED ON THE DRAWINGS ARE APPROXIMATELY CORRECT. HOWEVER, THE EXACT CENTER OF ALL OUTLETS SHALL BE PLACED IN COOPERATION WITH THE GENERAL CONTRACTOR TO CENTER OUTLETS WITH THE CEILING TILE, TRUSSES AND JOINTS, AND MASONRY UNITS.

I. COORDINATE LOCATIONS WITH ARCHITECTURAL PLANS AND ELEVATIONS IN ORDER TO AVOID INTERFERENCES WITH CASEWORK, FURNITURE, WINDOWS, EQUIPMENT, AND DOOR SWINGS.

J. INSTALLATION

- PROTECT INSTALLED DEVICES AND THEIR BOXES. KEEP OUTLET BOXES FREE OF PLASTER, DRYWALL JOINT COMPOUND, MORTAR, CEMENT, CONCRETE, DUST, PAINT, AND OTHER MATERIAL. INSTALL WIRING DEVICES AFTER ALL WALL PREPARATION, INCLUDING PAINTING, IS COMPLETE.
 - CONDUCTORS:
 - STRIP INSULATION EVENLY AROUND THE CONDUCTOR USING TOOLS DESIGNED FOR THE PURPOSE. AVOID SCORING OR NICKING WIRE. THE LENGTH OF FREE CONDUCTORS AT OUTLETS FOR DEVICES SHALL BE 6 INCHES MINIMUM.
 - EXISTING CONDUCTORS: CUT BACK AND PITGAIL, OR REPLACE ALL DAMAGED CONDUCTORS. PITGAILING EXISTING CONDUCTORS IS PERMITTED, PROVIDED THE OUTLET BOX IS LARGE ENOUGH.
 - DEVICE INSTALLATION:
 - WHEN THERE IS A CHOICE, USE SIDE WIRING WITH BINDING-HEAD SCREW TERMINALS. WRAP SOLID CONDUCTOR TIGHTLY CLOCKWISE, TWO-THIRDS TO THREE-FOURTHS OF THE WAY AROUND TERMINAL SCREW. USE A TORQUE SCREWDRIVER WHEN A TORQUE IS RECOMMENDED OR REQUIRED BY MANUFACTURER.
 - WHEN CONDUCTORS LARGER THAN NO. 12 AWG ARE INSTALLED ON 15- OR 20-A CIRCUITS, SPlice NO. 12 AWG PITGAILS FOR DEVICE CONNECTIONS.
 - MOUNTING HEIGHTS, FINISHED FLOOR TO DEVICE CENTERLINE (U.N.O.):
 - SWITCH 44", OVER OBSTRUCTION 44"
 - RECEPTACLE, TELEPHONE/DATA OUTLET, 16" AFF (18" TO COORDINATE WITH MASONRY UNITS).
 - FIRE ALARM PULL STATIONS 44"
 - FIRE ALARM A/V UNITS 80" (OR 6" BELOW CEILING, IF LOWER)
 - RECEPTACLE ORIENTATION:
 - INSTALL GROUND PIN OF VERTICALLY MOUNTED RECEPTACLES UP, AND ON HORIZONTALLY MOUNTED RECEPTACLES TO THE LEFT.
- K. GFCI RECEPTACLES: INSTALL NON-FEED-THROUGH-TYPE GFCI RECEPTACLES WHERE PROTECTION OF DOWNSTREAM RECEPTACLES IS NOT REQUIRED.

262300 INDOOR & OUTDOOR SERVICE ENTRANCE GEAR (480V & BELOW)

A. GENERAL: PROVIDE UTILITY METER SECTION PER UTILITY STANDARDS WHEN INDICATED ON THE PLANS.

- UTILITY METERING COMPARTMENT: THE UTILITY CURRENT TRANSFORMER COMPARTMENT SHALL COMPLY WITH THE LOCAL UTILITY CONSTRUCTION SPECIFICATIONS.
- SHORT CIRCUIT CURRENT RATING AS INDICATED ON ONE-LINE.
- FUTURE PROVISIONS: ALL UNUSED SPACES PROVIDED, UNLESS OTHERWISE SPECIFIED, SHALL BE FULLY EQUIPPED FOR FUTURE DEVICES, INCLUDING ALL APPROPRIATE CONNECTORS AND MOUNTING HARDWARE.
- ENCLOSURE: TYPE 1 OR TYPE 3R AS INDICATED ON THE PLANS.

B. THE SWITCHGEAR ENCLOSURE SHALL BE PAINTED MEDIUM GRAY, ANSI #49.

C. ALL FRONT COVERS SHALL BE SCREW REMOVABLE WITH A SINGLE TOOL AND ALL DOORS SHALL BE HINGED.

D. TOP AND BOTTOM CONDUIT AREAS SHALL BE CLEARLY INDICATED ON SHOP DRAWINGS.

- NAMEPLATES: PROVIDE 1 INCH HIGH X 3 INCHES ENGRAVED LAMINATED NAMEPLATES FOR EACH DEVICE. FURNISH BLACK LETTERS ON A WHITE BACKGROUND FOR ALL VOLTAGES.
- BUS COMPOSITION: SHALL BE PLATED COPPER OR ALUMINUM. FULL PROVISIONS FOR THE ADDITION OF FUTURE SECTIONS SHALL BE PROVIDED. BUSSING SHALL INCLUDE ALL NECESSARY HARDWARE TO ACCOMMODATE SPLICING FOR FUTURE ADDITIONS.
- GROUND BUS: SHALL EXTEND THE ENTIRE LENGTH OF THE SWITCHGEAR.
- ALL LUGS SHALL BE UL LISTED TO ACCEPT SOLID AND/OR STRANDED COPPER AND ALUMINUM CONDUCTORS.
- PROVIDE MECHANICAL TYPE LUGS TO ACCOMMODATE THE CONDUCTOR SHOWN ON THE ASSOCIATED DRAWINGS.

E. SWITCHGEAR SHALL BE COMPLETELY ASSEMBLED, WIRED, ADJUSTED, AND TESTED AT THE FACTORY.

F. CONTRACTOR SHALL INSTALL EQUIPMENT DESCRIBED IN THIS SPECIFICATION, PER MANUFACTURER'S RECOMMENDED PRACTICE, AS LOCATED ON DRAWINGS.

- CONTRACTOR SHALL COORDINATE INSTALLATION WITH MANUFACTURER FOR START-UP AND CERTIFICATION.
- CONTRACTOR SHALL PROVIDE CONCRETE PADS FOR EQUIPMENT.

G. MANUFACTURER SHALL PROVIDE THE SERVICES OF A COMPETENT FIELD SERVICE REPRESENTATIVE AS NEEDED TO RESOLVE ANY MALFUNCTIONS AND TO MAKE ANY INSPECTIONS, CHECKS, ETC. NEEDED TO PROVIDE MANUFACTURER'S CERTIFICATION. A MANUFACTURER'S CERTIFICATION SHALL BE PROVIDED PRIOR TO EQUIPMENT BEING ENERGIZED.

262413 SWITCHBOARDS AND PANELBOARDS

A. PROVIDE FACTORY-ASSEMBLED, DEAD-FRONT, METAL-ENCLOSED, SWITCHBOARDS AND PANELBOARDS, OF TYPES, SIZES, ELECTRICAL RATINGS AND CHARACTERISTICS INDICATED.

- INDOORS: NEMA TYPE 1
- OUTDOORS: NEMA TYPE 3R

B. BUSSING: COPPER OR ALUMINUM WITH AMPACITY RATING AND SHORT-CIRCUIT CURRENT RATING AS INDICATED ON ONE-LINE.

C. FUSIBLE SWITCHES: PROVIDE FUSIBLE SWITCH ASSEMBLIES, 3-POLE, QUICK-MAKE, QUICK-BREAK TYPES MOUNTED IN METAL ENCLOSURES WHICH ARE OPERATED BY EXTERNALLY LOCATED HANDLES WHICH CAN BE LOCKED IN ON OR OFF POSITIONS.

D. METERING: WHERE INDICATED PROVIDE METERING COMPARTMENTS FOR CT'S, PT'S AND INSTRUMENTS.

E. FASTEN ENCLOSURES FIRMLY TO WALLS AND STRUCTURAL SURFACES, ENSURING THEY ARE PERMANENTLY & MECHANICALLY ANCHORED.

F. FILL OUT PANELBOARD'S CIRCUIT DIRECTORY CARD UPON COMPLETION OF INSTALLATION WORK.

260533 RACEWAYS & BOXES FOR ELECTRICAL SYSTEMS

A. COORDINATE WITH OTHER WORK, AS NECESSARY TO INTERFACE INSTALLATION OF ELECTRICAL RACEWAYS WITH OTHER DISCIPLINES. PROVIDE SUPPORTS PER NEC.

B. OUTDOORS: APPLY AS SPECIFIED BELOW (UNLESS NOTED OTHERWISE)

- EXPOSED CONDUIT (DAMP, DRY, OR CONCEALED LOCATIONS): ELECTRICAL METALLIC TUBING (EMT), COMPRESSION FITTINGS.
 - EXPOSED CONDUIT (WET LOCATIONS): ELECTRICAL METALLIC TUBING (EMT), LISTED WEATHERPROOF COMPRESSION FITTINGS
 - EXPOSED CONDUIT (WHERE SUBJECT TO PHYSICAL DAMAGE): GALVANIZED RIGID CONDUIT (GRC), INTERMEDIATE METAL CONDUIT (IMC).
 - UNDERGROUND CONDUIT: RIGID NONMETALLIC CONDUIT, MINIMUM SCHEDULE 40.
 - CONNECTION TO VIBRATING EQUIPMENT: LIQUID-TIGHT FLEX METAL CONDUIT 18" MAX.
 - BOXES AND ENCLOSURES, ABOVE GROUND: NEMA 250, TYPE 3R.
- C. INDOORS APPLY AS SPECIFIED BELOW (UNLESS NOTED OTHERWISE):
- EXPOSED: ELECTRICAL METALLIC TUBING (EMT).
 - EXPOSED (WHERE SUBJECT TO PHYSICAL DAMAGE): GALVANIZED RIGID CONDUIT (GRC), INTERMEDIATE METAL CONDUIT (IMC).
 - CONCEALED: ELECTRICAL METALLIC TUBING (EMT).
 - CONCEALED, FROM JUNCTION BOX TO CONCEALED WIRING DEVICE BOX(ES): ELECTRICAL METALLIC TUBING (EMT), MC CABLE (AVOID MC CABLE HOMERUNS TO PANELBOARD).
 - EMBEDDED IN SLAB: RIGID NONMETALLIC CONDUIT, SCHEDULE 40 MIN.
 - WITHIN PLENUMS: NO LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
 - CONNECTION TO VIBRATING EQUIPMENT: LIQUID-TIGHT FLEXIBLE METAL CONDUIT 18" MAX.
 - TYPE NM CABLE (ROMEX) IS NOT PERMITTED IN COMMERCIAL APPLICATIONS.

- BOXES AND ENCLOSURES: NEMA 250, TYPE 1, EXCEPT USE NEMA 250, TYPE 4 STAINLESS STEEL OR NONMETALLIC IN INSTITUTIONAL AND COMMERCIAL KITCHENS AND DAMP OR WET LOCATIONS. 4" SQUARE X 2-1/8" DEEP BOXES.
 - EMT FITTINGS (INDOORS): COMPRESSION, SET SCREW.
- D. MINIMUM RACEWAY SIZE: 3/4-INCH (21-MM) TRADE SIZE. 1" MINIMUM, UNDERGROUND.
- E. DO NOT INSTALL ALUMINUM CONDUITS, BOXES, OR FITTINGS IN CONTACT WITH CONCRETE OR EARTH.
- F. CONCEAL CONDUIT AND EMT, UNLESS INDICATED OTHERWISE (EXCEPTION: ELECTRICAL AND MECHANICAL ROOMS) WITHIN FINISHED WALLS, CEILINGS, AND FLOORS. KEEP RACEWAYS AT LEAST 6 INCHES AWAY FROM FLUES, STEAM OR HOT WATER PIPES.

G. COMPLY WITH REQUIREMENTS IN SECTION 260529 "HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS" FOR HANGERS AND SUPPORTS.

H. INSTALL NO MORE THAN THE EQUIVALENT OF THREE 90-DEGREE BENDS IN ANY CONDUIT RUN EXCEPT FOR CONTROL WIRING CONDUITS, FOR WHICH FEWER BENDS ARE ALLOWED. SUPPORT WITHIN 12 INCHES (300 MM) OF CHANGES IN DIRECTION.

I. SUPPORT CONDUIT WITHIN 12 INCHES (300 MM) OF ENCLOSURES TO WHICH ATTACHED.

J. RACEWAYS EMBEDDED IN SLABS:

- RUN CONDUIT LARGER THAN 1-INCH (27-MM) TRADE SIZE, PARALLEL OR AT RIGHT ANGLES TO MAIN REINFORCEMENT, WHERE AT RIGHT ANGLES TO REINFORCEMENT, PLACE CONDUIT CLOSE TO SLAB SUPPORT, SECURE RACEWAYS TO REINFORCEMENT AT MAXIMUM 10-FOOT (3-M) INTERVALS.
 - ARRANGE RACEWAYS TO CROSS BUILDING EXPANSION JOINTS AT RIGHT ANGLES WITH EXPANSION FITTINGS.
- K. STUB-UPS TO ABOVE RECESSED CEILINGS:
- USE EMT, IMC, OR RMC FOR RACEWAYS.
 - USE A CONDUIT BUSHING OR INSULATED FITTING TO TERMINATE STUB-UPS NOT TERMINATED IN HUBS OR IN AN ENCLOSURE.
- L. PROVIDE APPROVED FIRE SEALS AND SEALING MATERIAL WHEREVER CONDUIT PASSES THROUGH FIRE-RATED WALLS OR FLOORS. (SEE ARCHITECTURAL PLANS)

- M. INSTALL PULL WIRES IN EMPTY RACEWAYS. USE NO. 14 AWG ZINC -COATED STEEL OR MONOFILAMENT PLASTIC LINE HAVING NOT LESS THAN 200 LBS TENSILE STRENGTH. LEAVE NOT LESS THAN 12 INCHES OF SLACK AT EACH END OF THE PULL WIRE.
- N. DURING TRENCH BACKFILLING, FOR EXTERIOR UNDERGROUND POWER, AND COMMUNICATIONS LINES, INSTALL CONTINUOUS UNDERGROUND PLASTIC LINE MARKER, LOCATED DIRECTLY ABOVE LINE AT 12" INCHES BELOW GRADE.
- O. INSTALL BRASS TAG ON EACH UNDERGROUND CONDUIT, IDENTIFYING SOURCE AND SERVICE AT EACH END.
- P. INSTALL WARNING OR CAUTION SIGNS WHERE REQUIRED BY NEC, WHERE INDICATED, OR WHERE REASONABLY REQUIRED TO ASSURE SAFE OPERATION AND MAINTENANCE OF ELECTRICAL SYSTEMS.

G. COLOR CODE SECONDARY SERVICE, FEEDER, & BRANCH CIRCUIT CONDUCTORS AS FOLLOWS:

208Y/120	PHASE	480Y/277V
RED	B	BROWN
BLACK	B	ORANGE
BLUE	C	YELLOW
WHITE	NEUTRAL	GRAY
GREEN	GROUND	GREEN
GRN/YL	ISO GND	GRN/YL

- USE CONDUCTORS WITH COLOR FACTORY-APPLIED THE ENTIRE LENGTH OF THE CONDUCTORS EXCEPT AS FOLLOWS. THE FOLLOWING FIELD-APPLIED COLOR-CODING METHODS MAY BE USED IN LIEU OF FACTORY-CODED WIRE NO. 10 AWG & LARGER.

APPLY COLORED, PRESSURE-SENSITIVE PLASTIC TAPE IN HALF-LAPPED TURNS FOR A DISTANCE OF 6 INCHES FROM TERMINAL POINTS. IN LIEU OF PRESSURE-SENSITIVE TAPE, COLORED CABLE TIES MAY BE USED. APPLY THREE TIES OF SPECIFIED COLOR TO EACH WIRE AT EACH TERMINAL STARTING 3 INCHES FROM THE TERMINAL & SPACED 3 INCHES APART.

262200 DRY-TYPE DISTRIBUTION TRANSFORMERS

- A. PROVIDE COPPER (OR ALUM.) WINDINGS, ELECTROSTATIC SHIELDED, CLASS 220 INSULATION, 150 DEG. C TEMP. RISE, K-4 OR K-13 (WHEN INDICATED)
- B. PROVIDE FACTORY-ASSEMBLED, AIR-COOLED, DRY-TYPE DISTRIBUTION XPMR OF SIZES, RATINGS AS INDICATED; 60-HZ, 4.0% MIN. AND 5.75% MAX. IMPEDANCE, WITH 4 TAPS; EACH 2-1/2% INCREMENTS ABOVE AND BELOW RATED VOLTAGE.
- C. PROVIDE MANUFACTURER'S STANDARD LIGHT GRAY INDOOR ENAMEL OVER PHOSPHATIZED STEEL ENCLOSURE.
- D. PROVIDE WEATHER SHIELDS FOR OUTDOOR INSTALLATIONS.
- E. PROVIDE VIBRATION MOUNTS (300 KVA AND BELOW).

260526 GROUNDING

1. WIRE AND CABLE CONDUCTORS

A. GENERAL: UNLESS OTHERWISE INDICATED, PROVIDE ELECTRICAL GROUNDING CONDUCTORS FOR EQUIPMENT, SYSTEM, AND SEPARATELY DERIVED SYSTEM GROUNDING CONNECTIONS THAT MATCH POWER SUPPLY WIRING MATERIALS AND ARE SIZED ACCORDING TO NEC.

B. EQUIPMENT GROUNDING CONDUCTOR: GREEN INSULATED.

C. GROUNDING ELECTRODE CONDUCTOR: STRANDED BARE CU.

2. CONNECTOR PRODUCTS

A. GENERAL: LISTED AND LABELED AS GROUNDING CONNECTORS FOR THE MATERIALS USED.

3. GROUNDING ELECTRODES

- A. GROUND RODS: COPPER-CLAD STEEL 5/8" X 8'-0" (U.N.O.)
- B. PLATE ELECTRODES: COPPER PLATES, MINIMUM 0.10 INCH THICK.
- C. GROUND WELLS: CONCRETE, 9" DIA. X 24" DEEP (U.N.O.), WITH COVER MARKED "GROUND".

4. APPLICATION

A. EQUIPMENT GROUNDING CONDUCTOR APPLICATION: COMPLY WITH NEC ARTICLE 250 FOR SIZES AND QUANTITIES OF EQUIPMENT GROUNDING CONDUCTORS, EXCEPT WHERE LARGER SIZES OR MORE CONDUCTORS ARE INDICATED.

- A SEPARATE GREEN GROUND WIRE SHALL BE PROVIDED BETWEEN THE LOAD AND DISTRIBUTION SOURCE FOR ALL BRANCH CIRCUITS AND FEEDERS (U.N.O.)

B. SIGNAL AND COMMUNICATIONS: FOR TELEPHONE, ALARM, AND COMMUNICATION SYSTEMS, PROVIDE A #4 AWG MINIMUM GREEN INSULATED COPPER CONDUCTOR IN RACEWAY FROM THE GROUNDING ELECTRODE SYSTEM TO EACH TERMINAL CABINET OR CENTRAL EQUIPMENT LOCATION.

C. METAL POLES SUPPORTING OUTDOOR LIGHTING FIXTURES: GROUND POLE TO A GROUNDING ELECTRODE AS INDICATED IN ADDITION TO SEPARATE EQUIPMENT GROUNDING CONDUCTOR RUN WITH SUPPLY BRANCH CIRCUIT.

D. CONNECTIONS TO LIGHTNING PROTECTION SYSTEM: (WHEN APPLICABLE) COORDINATE WITH LIGHTNING PROTECTION CONTRACTOR FOR ALL GROUND CONNECTIONS TO THE LIGHTNING PROTECTION SYSTEM PER NFPA 78 "LIGHTNING PROTECTION CODE." LIGHTNING PROTECTION CONTRACTOR SHALL INSTALL SYSTEM WITH "MASTER LABEL".

E. GENERAL: GROUND ELECTRICAL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH NEC REQUIREMENTS EXCEPT WHERE THE DRAWINGS OR SPEC. EXCEED NEC REQUIREMENTS.

- ALL EQUIPMENT, GROUND PADS, ENCLOSURES, DEVICES, ETC. SHALL BE BONDED TOGETHER.
- GROUND ELECTRICAL SERVICE SYSTEM NEUTRAL AT SERVICE ENTRANCE EQUIPMENT TO GROUND ELECTRODE SYSTEM.
- GROUND EACH SEPARATELY-DERIVED SYSTEM NEUTRAL TO GROUND ELECTRODE SYSTEM.

F. TIGHTEN GROUNDING AND BONDING CONNECTORS AND TERMINALS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES OR UL 486A.

5. FIELD QUALITY CONTROL

A. TESTS: SUBJECT THE COMPLETED GROUNDING SYSTEM TO A MEGGER TEST (THIRD-PARTY).

B. GROUND/RESISTANCE MAXIMUM VALUES SHALL BE AS FOLLOWS:

- EQUIPMENT RATED 500 KVA AND LESS, MANHOLE GROUNDS: 10 OHMS
- EQUIPMENT RATED 500 KVA TO 1000 KVA, SUBSTATIONS AND PAD MOUNTED EQUIPMENT 5 OHMS.
- EQUIPMENT RATED OVER 1000 KVA: 3 OHMS

C. WHERE GROUND RESISTANCES EXCEED SPECIFIED VALUES, AND IF DIRECTED, MODIFY THE GROUNDING SYSTEM TO REDUCE RESISTANCE VALUES. WHERE MEASURES ARE DIRECTED THAT EXCEED THE PROVISIONS OF THE CONTRACT, COVERING CHANGES WILL APPLY.

260529 HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

A. RACEWAY SUPPORTS: CLEVIS HANGERS, RISER CLAMPS, CONDUIT STRAPS, THREADED C-CLAMPS WITH RETAINERS, CEILING TRAPEZE HANGERS, WALL BRACKETS, & SPRING STEEL CLAMPS.

B. U-CHANNEL SYSTEMS: 16GAGE STEEL CHANNELS, WITH 9/16 INCH DIAMETER HOLES, AT A MINIMUM OF 8 INCHES ON CENTER. PROVIDE FITTINGS & ACCESSORIES THAT MATCH WITH U-CHANNEL.

C. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY & PERMANENTLY IN ACCORDANCE WITH NEC REQUIREMENTS.

D. COORDINATE INSTALLATION OF SUPPORTING DEVICES WITH STRUCTURAL SYSTEMS & OTHER ELECTRICAL INSTALLATIONS.

E. RACEWAY SUPPORTS: COMPLY WITH THE NEC & THE FOLLOWING:

- CONFORM TO MANUFACTURER'S RECOMMENDATIONS FOR SELECTION & INSTALLATION OF SUPPORTS.
- STRENGTH OF EACH SUPPORT SHALL BE ADEQUATE TO CARRY PRESENT & FUTURE LOAD MULTIPLIED BY A SAFETY FACTOR OF AT LEAST FOUR OR 200 LBS SAFETY ALLOWANCE MINIMUM.
- INSTALL INDIVIDUAL & MULTIPLE (TRAPEZE) RACEWAY HANGERS & RISER CLAMPS AS NECESSARY TO SUPPORT RACEWAYS. PROVIDE U-BOLTS, CLAMPS, ATTACHMENTS, & OTHER HARDWARE AS NECESSARY.
- SUPPORT PARALLEL RUNS OF HORIZONTAL RACEWAYS TOGETHER ON TRAPEZE-TYPE HANGERS.
- SUPPORT INDIVIDUAL HORIZONTAL RACEWAYS BY SEPARATE PIPE HANGERS. SPRING STEEL FASTENERS MAY BE USED IN LIEU OF HANGERS ONLY FOR 1-1/2 INCHES & SMALLER RACEWAYS SERVING LIGHTING & RECEPTACLE BRANCH CIRCUITS ABOVE SUSPENDED CEILINGS ONLY. FOR HANGER RODS WITH SPRING STEEL FASTENERS, USE 1/4-INCH DIAMETER OR LARGER THREADED STEEL. USE SPRING STEEL FASTENERS SPECIFICALLY DESIGNED FOR SUPPORTING SINGLE CONDUITS.

- SPACE SUPPORTS FOR RACEWAYS IN ACCORDANCE WITH NEC.

SUPPORT EXPOSED & CONCEALED RACEWAY WITHIN 1 FOOT OF AN UNSUPPORTED BOX & ACCESS FITTINGS. IN HORIZONTAL RUNS, SUPPORT AT THE BOX & ACCESS FITTINGS. MAY BE OMITTED WHERE BOX OR ACCESS FITTINGS ARE INDEPENDENTLY SUPPORTED & RACEWAY TERMINALS ARE NOT MADE WITH CHASE NIPPLES OR THREADLESS BOX CONNECTORS.

IN VERTICAL RUNS, ARRANGE SUPPORT SO THE LOAD PRODUCED BY THE WEIGHT OF THE RACEWAY & THE ENCLOSED CONDUCTORS IS CARRIED ENTIRELY BY THE CONDUIT SUPPORTS WITH NO WEIGHT LOAD ON RACEWAY TERMINALS.

G. INSTALL VERTICAL CONDUCTOR SUPPORTS SIMULTANEOUSLY WITH INSTALLATION OF CONDUCTORS.

H. SUPPORT MISCELLANEOUS ELECTRICAL COMPONENTS AS REQUIRED TO PRODUCE THE SAME STRUCTURAL SAFETY FACTORS AS SPECIFIED FOR RACEWAY SUPPORTS. INSTALL METAL CHANNEL RACKS FOR MOUNTING CABINETS, PANELBOARDS, DISCONNECTS, CONTROL ENCLOSURES, PULL BOXES, JUNCTION BOXES, TRANSFORMERS, & OTHER DEVICES.

I. IN OPEN OVERHEAD SPACES, CAST BOXES THREADED TO RACEWAYS NEED NOT BE SUPPORTED SEPARATELY EXCEPT WHERE USED FOR FIXTURE SUPPORT. SUPPORT SHEET METAL BOXES DIRECTLY FROM THE BUILDING STRUCTURE OR BY BAR HANGERS.

260510 GENERAL REQUIREMENTS

A. THIS SECTION INCLUDES ALL ELECTRICAL WORK AND RELATED ITEMS REQUIRED TO COMPLETE THE WORK INCLUDED ON DRAWINGS. FURNISH ALL LABOR, MATERIALS, EQUIPMENT, SERVICES & ALL ELSE REQUIRED TO MAKE COMPLETE AND OPERATIVE ELECTRICAL SYSTEMS & INSTALLATIONS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, CODES & REGULATIONS IN FORCE. ALSO INCLUDED IS ANY REPAIR REQUIRED TO MATCH EXISTING CONDITIONS AND FINISHES, OF ANY AREAS OR MATERIALS DUE TO ELECTRICAL DEMOLITION OR RELOCATIONS.

B. ALL EQUIPMENT, FIXTURES, DEVICES, MATERIALS SHALL BE NEW AND UL LISTED OR LISTED BY A THIRD-PARTY NRTL ACCEPTABLE TO THE ARI. INDUSTRIAL CONTROL PANELS SHALL COMPLY WITH NFPA 79 AND NEC ART. 409, IN PARTICULAR WITH RESPECT TO SCOR, LISTING, AND NAMEPLATE REQUIREMENTS.

C. ACCEPTABLE MANUFACTURERS FOR ELECTRICAL EQUIPMENT (GEAR, PANELS, TRANSFORMERS, BREAKERS, DISCONNECTS, CONTROLLERS) INCLUDE: SQUARE D, GE, EATON (CUTLER-HAMMER), SIEMENS.

D. COMPLY WITH NFPA 70 "NATIONAL ELECTRICAL CODE" LATEST EDITION OR AS INDICATED IN CODES AND STANDARDS.

E. UNLESS ITEMS OF MATERIAL, EQUIPMENT OR WORK ARE SPECIFICALLY REQUIRED HEREIN TO BE SUPPLIED OR FURNISHED BY OTHERS, THEY SHALL BE PROVIDED UNDER THIS SECTION WHETHER OR NOT SO SPECIFICALLY DENOTED.

F. SUBMITTAL OF SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES WILL BE ACCEPTED ONLY WHEN SUBMITTED BY THE CONTRACTOR TO THE DESIGNATED PERSON BY THE OWNER. DATA SUBMITTED FROM SUBCONTRACTORS AND MATERIAL SUPPLIERS DIRECTLY TO THE ARCHITECT/ENGINEER WILL NOT BE PROCESSED.

G. MARK DRAWINGS TO INDICATE REVISIONS TO EQUIPMENT, RACEWAY, AND DEVICE LOCATIONS AND REVISIONS TO PANEL SCHEDULES.

H. CONTRACTOR SHALL MAKE TESTS AT HIS OWN EXPENSE, IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE, AS REQUIRED BY OWNER AND/OR ANY INSPECTION DEPARTMENT. TESTS SHALL BE MADE TO ASCERTAIN WHETHER THE SYSTEM AND EQUIPMENT INSTALLED COMPLY WITH THE DRAWINGS AND SPECIFICATIONS.

I. COORDINATE ELECTRICAL EQUIPMENT AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS. ARRANGE, FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS TO ALLOW FOR ELECTRICAL INSTALLATIONS.

J. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POURED IN PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.

K. SEQUENCE, COORDINATE, & INTEGRATE INSTALLATIONS OF ELECTRICAL MATERIALS AND EQUIPMENT, GIVING PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING-IN BUILDING AREAS.

MAINTAIN WORKING CLEARANCE ABOVE ELECTRICAL EQUIPMENT PER NEC ART. 110.

L. COORDINATE THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT ABOVE CEILINGS, WITH SUSPENSION SYSTEM, MECHANICAL EQUIPMENT AND SYSTEMS, & STRUCTURAL COMPONENTS.

M. STORE EQUIPMENT AND MATERIALS AT THE SITE, UNLESS OFF-SITE STORAGE IS AUTHORIZED IN WRITING. PROTECT STORED EQUIPMENT AND MATERIALS FROM DAMAGE. THE EQUIPMENT SHALL BE KEPT UNDER CONTROLLED CONDITIONS TO PREVENT MOISTURE AND/OR CONDENSATION ON CRITICAL ELECTRICAL PARTS.

260519 LOW VOLTAGE (600V AND BELOW) ELECTRICAL POWER CONDUCTORS AND CABLES

ALUMINUM AND COPPER CONDUCTORS: COMPLY WITH NEMA WC 70/ICEA S-95-658.

CONDUCTOR MATERIAL APPLICATIONS:

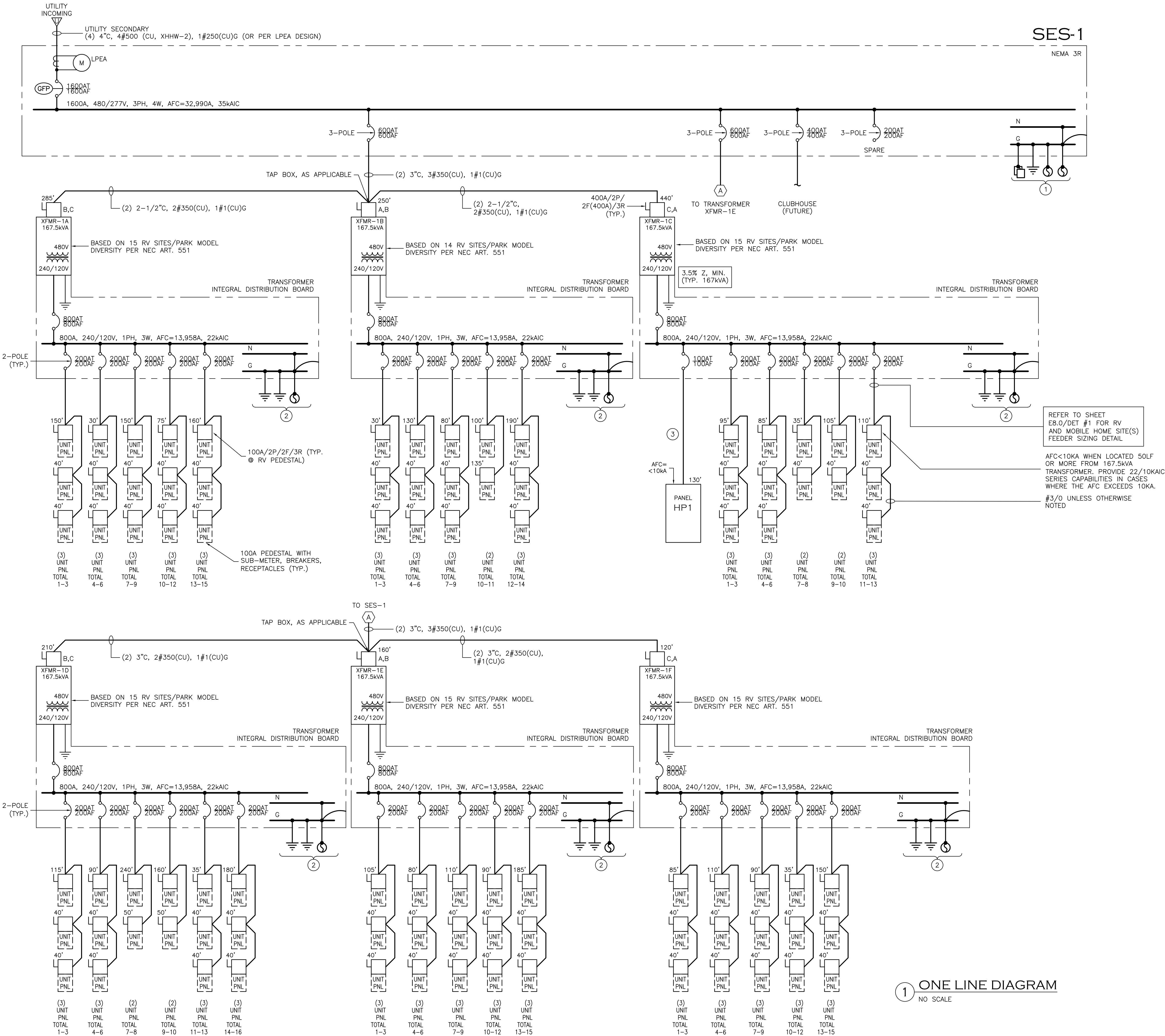
A. FEEDERS: COPPER FOR FEEDERS SMALLER THAN 100A RATING, COPPER OR ALUMINUM FOR FEEDERS 100A AND LARGER. SOLID FOR NO. 12 AWG AND SMALLER; STRANDED FOR NO. 10 AWG AND LARGER.

B. BRANCH CIRCUITS: COPPER, SOLID FOR NO. 12 AWG AND SMALLER; STRANDED FOR NO. 10 AWG AND LARGER.

CONDUCTOR INSULATION:

A. FEEDERS: TYPE XHHW-2, SINGLE CONDUCTORS IN RACEWAY.

B. BRANCH CIRCUITS, TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.



GENERAL NOTES

- ALL WORK SHALL COMPLY WITH NEC AND LOCAL CODES.
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- REFER TO PLANS FOR SES AND PANEL LOCATIONS.
- MAINTAIN WORKING CLEARANCE ABOUT ELECTRICAL EQUIPMENT PER NEC ART. 110, (30"W MIN), DEPTH PER NEC, (36" MIN).
- GROUNDING – PROVIDE AND INSTALL GROUND ELECTRODES AND CONNECTIONS AS INDICATED AND ADDITIONAL AS REQUIRED PER NEC AND AHJ. UFER SHALL BE REQUIRED ON ALL NEW CONSTRUCTION. GROUND ALL TRANSFORMERS TO THE GROUND ELECTRODE SYSTEM.
- UTILITY SERVICE – WHEN A UTILITY CONNECTION IS SHOWN ON THE ONE-LINE DIAGRAM (SEE SYMBOL LEGEND), COORDINATE ALL SERVICE REQUIREMENTS WITH UTILITY. PROVIDE AND INSTALL ALL NECESSARY PRIMARY / SECONDARY CONDUIT, TRANSFORMER PADS, ETC. AS REQUIRED BY THE UTILITY PER UTILITY SPECIFICATIONS. WITHIN (2) WEEKS OF PROJECT AWARD CONTRACTOR SHALL SUBMIT ELECTRICAL PLANS TO THE UTILITY FOR REVIEW.
- SES – WHEN INDICATED ON ONE-LINE, PROVIDE AND INSTALL SES, RATINGS AS INDICATED. VERIFY ALL DIMENSIONS. MAINTAIN WORKING CLEARANCE PER NEC AND UTILITY REQUIREMENTS. PROVIDE 4" HOUSE KEEPING PAD FOR GROUND MOUNTED SES. CONTRACTOR SHALL SUBMIT SES/METER SHOP DRAWINGS TO UTILITY METER SHOP FOR APPROVAL.
- CABLE LENGTHS WHEN INDICATED ON ONE-LINE ARE APPROXIMATE AND ARE FOR REFERENCE ONLY FOR CALCULATIONS AND ARE NOT TO BE USED FOR MATERIAL TAKEOFFS.

KEYED NOTES

- 1600A LPEA SERVICE GROUNDING ELECTRODES:
#3/0(CU) SBJ
#3/0(CU) SSBJ
#4 BARE CU x 20FT UFER
#3/0(CU) WATER BOND (AS APPL.)
- 167.5kVA GROUNDING ELECTRODES:
#3/0(CU) SBJ
#3/0(CU) SSBJ
#4 BARE CU x 20FT UFER
(2) 5/8" X 8FT GROUND RODS, COPPERCLAD STEEL, 6FT APART, #4CU
#3/0(CU) WATER BOND (AS APPL.)
- PROVIDE 1-1/2°C, 3#1(CU), 1#6(CU) FOR HOUSE PANEL FEEDER.

SPECIAL INSPECTIONS

PROVIDE THIRD PARTY TESTING INCLUDING, BUT NOT LIMITED TO:

- SES/Hi-POT, GROUND FAULT

FAULT CURRENT NOTES

- UTILITY FAULT CURRENT VALUES ARE OBTAINED FROM PUBLISHED UTILITY DATA BASED ON SERVICE SIZE.
- FAULT CURRENT CALCULATIONS ARE COMPLETED USING ETAP (ELECTRICAL TRANSIENT ANALYZER PROGRAM). STANDARD INPUT PARAMETERS ARE AS FOLLOWS:
 - PRE-FAULT VOLTAGE = 100%
 - CABLE IMPEDANCE PER NEC STANDARD LIBRARY.
 - TRANSFORMER IMPEDANCE AND X/R RATIOS ARE PER TYPICAL MANUFACTURERS DATA UNLESS NOTED OTHERWISE.
 - FAULT CURRENT VALUES SHOWN ARE 3 PHASE, 30 CYCLE, RMS SYMMETRICAL UNLESS NOTED OTHERWISE.
 - FOR SINGLE PHASE SYSTEMS, BUSSMANN CALCULATIONS ARE USED.
- COMPLETE FAULT CURRENT REPORTS ARE AVAILABLE UPON REQUEST.

VOLTA

1730 E. Northern Avenue., Ste. 120, Phoenix, AZ 85020
Tel. (480) 659-0511, VoltaUS.com

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01/17/25

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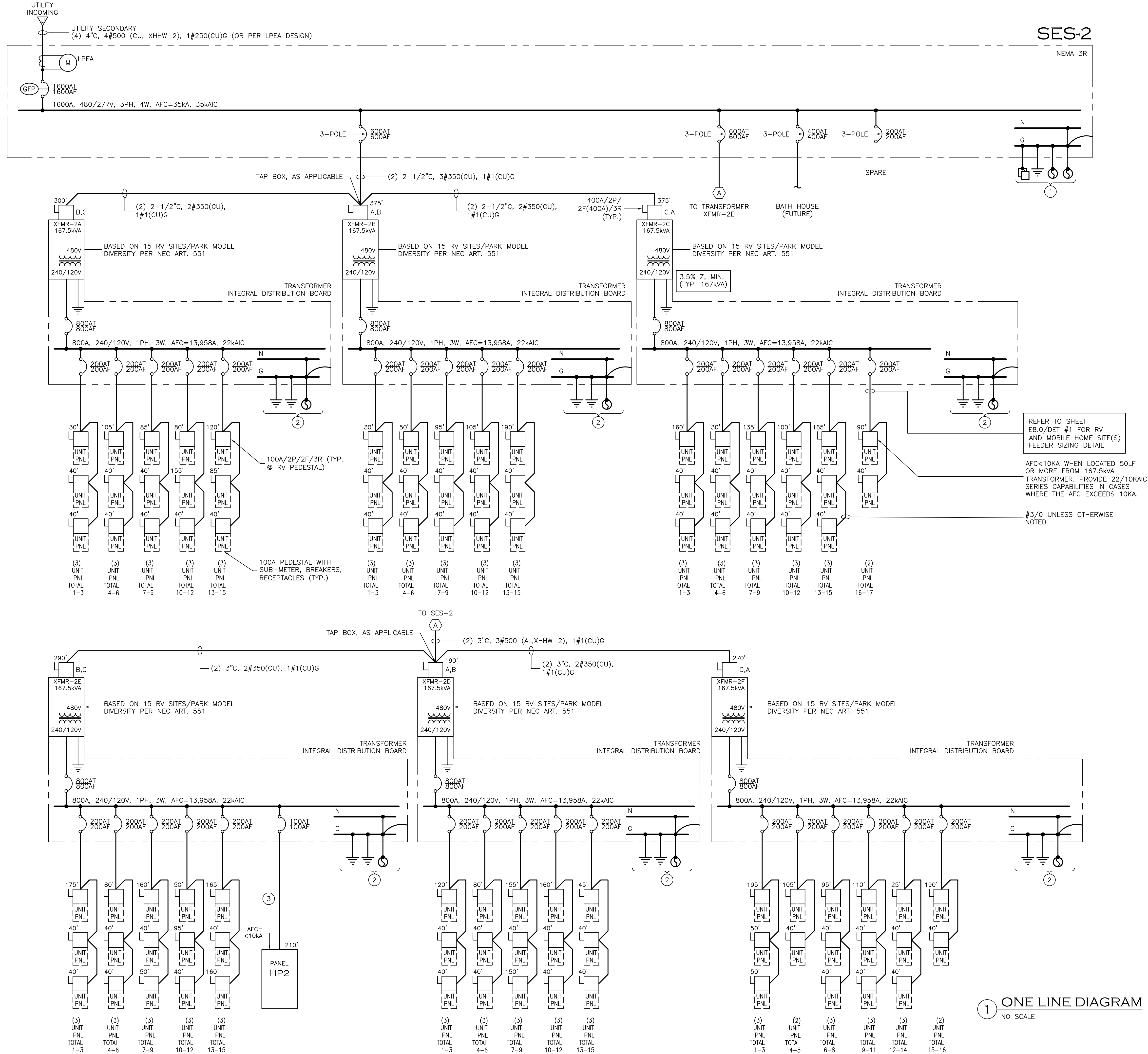
WILLIAM J. BETHURM, IV

SEAL EXPIRES: 09/30/26

DURANGO RV PARK

TRIMBLE LANE
DURANGO, CO 81301

PROJECT #	SCALE:	FOR PERMIT	01/17/25
12501	AS NOTED		
DESIGNED BY:	DRAWN BY		
VB, LA	GC/AO		
DATE			
01/17/25			



GENERAL NOTES

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- UTILITY SERVICE - WHEN A UTILITY CONNECTION IS SHOWN ON THE ONE-LINE DIAGRAM (SEE SYMBOL LEGEND), COORDINATE ALL SERVICE REQUIREMENTS WITH UTILITY. PROVIDE AND INSTALL ALL NECESSARY PRIMARY / SECONDARY CONDUIT, TRANSFORMER PADS, ETC. AS REQUIRED BY THE UTILITY PER UTILITY SPECIFICATIONS. WITHIN (2) WEEKS OF PROJECT AWARD CONTRACTOR SHALL SUBMIT ELECTRICAL PLANS TO THE UTILITY FOR REVIEW.
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- PROVIDE 1-1/2"C, 3#1(CU), 1#6(CU) FOR HOUSE PANEL FEEDER.

SPECIAL INSPECTIONS

PROVIDE THIRD PARTY TESTING INCLUDING, BUT NOT LIMITED TO:

- SES/Hi-POT, GROUND FAULT

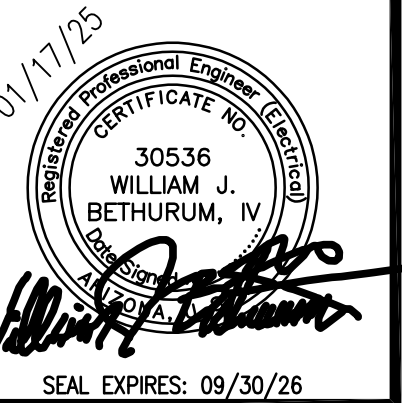
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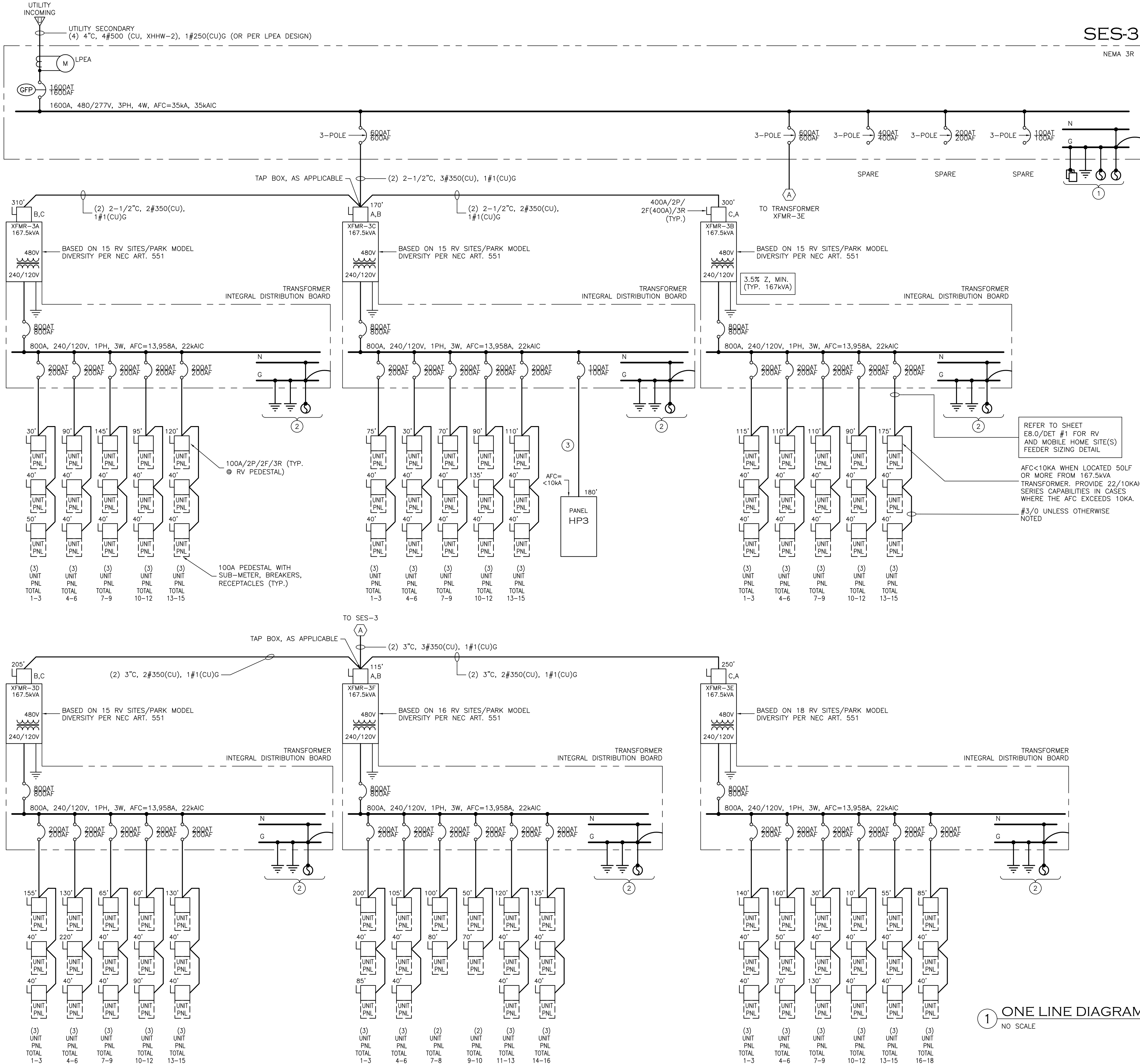
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DURANGO RV PARK

TRIMBLE LANE
DURANGO, CO 81301

REVISIONS	DATE	FOR PERMIT
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01/17/25
30536
WILLIAM J. BETHURM, IV
SEAL EXPIRES: 09/30/26

DURANGO RV PARK
TRIMBLE LANE
DURANGO, CO 81301

REVISIONS	FOR PERMIT
PROJECT # 212501	SCALE: AS NOTED
CHECKED BY: WB, LA	DRAWN BY: GC/AO
DATE: 01/17/25	

ONE-LINE DIAGRAM - SES#3

E6.2

①									
ID	No. OF UNITS	VA PER UNIT	TOTAL VA	DEMAND FACTOR	DEMAND VA	ADDITIONAL NON-RV LOAD	TOTAL KVA		AMPS @ 480V / 3PH
SES (TOTAL ALL SERVICES)	275	19385	5330875	0.41	2185659	150000	2336		2809
SES DESIGN LOAD	275	5701	1567720	1	1567720	150000	1718		1886

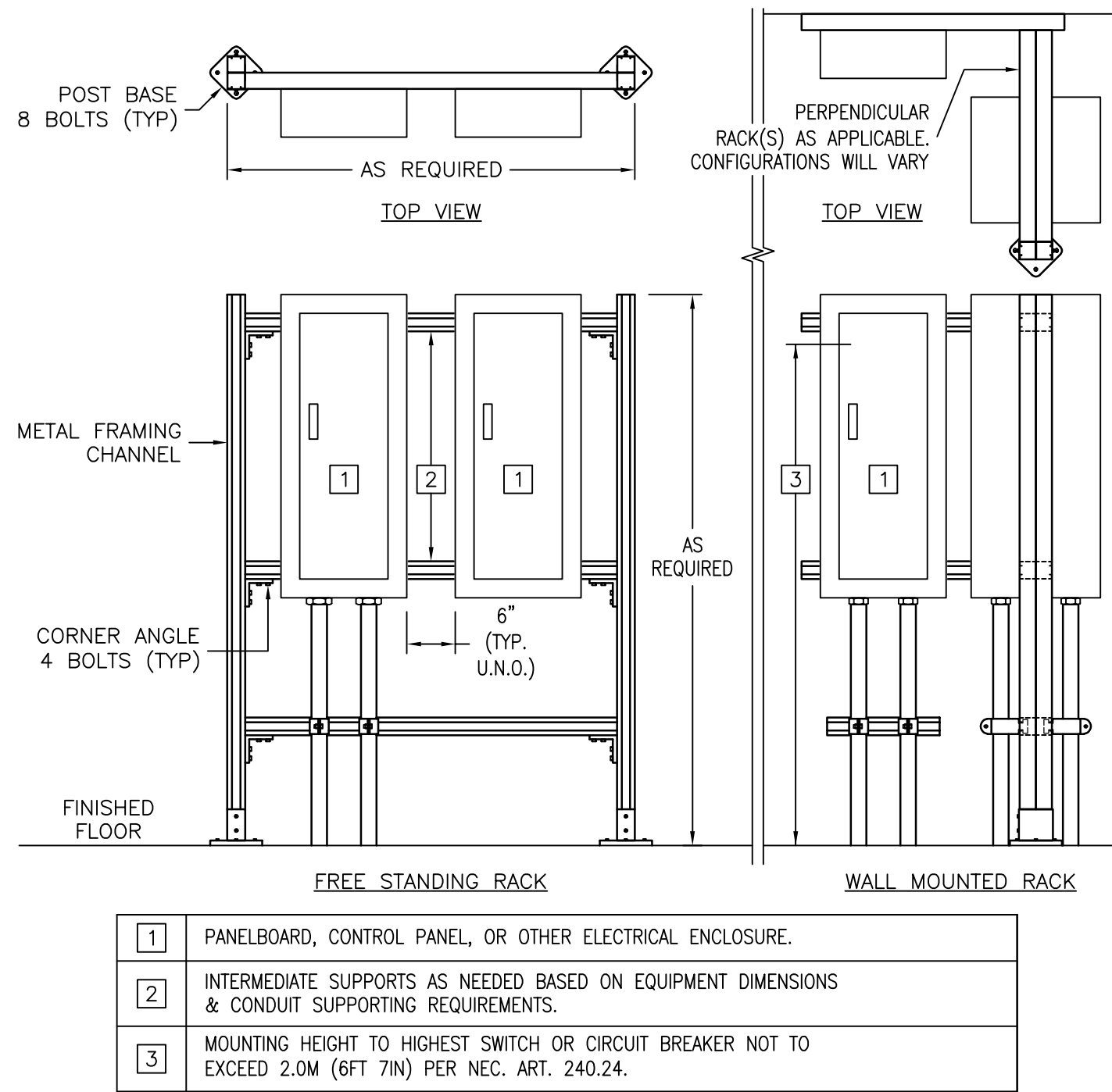
ID	No. OF UNITS	VA PER UNIT	TOTAL VA	DEMAND FACTOR	DEMAND VA	ADDITIONAL NON-RV LOAD	TOTAL KVA	AMPS @ 240V / 1PH	AMPS @ 480V / 1PH	AMPS @ 480V / 3PH
SES #1 (1600A)	88	19385	1705880	0.41	699411	80000	779	N/A	N/A	938
SES #1 SECTION 1 (600A)	42	19385	814170	0.41	333810	10000	344	N/A	N/A	414
XFMR-1A	15	19385	290775	0.48	139572		140	582	291	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-1B	14	19385	271390	0.48	130267		130	543	271	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-1C	13	19385	252005	0.48	120962	10000	131	546	273	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
SES #1 SECTION 2 (600A)	46	19385	891710	0.41	365601		366	N/A	N/A	440
XFMR-1D	16	19385	310160	0.47	145775.2		146	607	304	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-1E	15	19385	290775	0.48	139572		140	582	291	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-1F	15	19385	290775	0.48	139572		140	582	291	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A

ID	No. OF UNITS	VA PER UNIT	TOTAL VA	DEMAND FACTOR	DEMAND VA	ADDITIONAL NON-RV LOAD	TOTAL KVA	AMPS @ 240V / 1PH	AMPS @ 480V / 1PH	AMPS @ 480V / 3PH
SES #3 (1600A)	94	19385	1822190	0.41	747098	10000	757	N/A	N/A	911
SES #3 SECTION 1 (600A)	45	19385	872325	0.41	357653	10000	368	N/A	N/A	442
XFMR-3A	15	19385	290775	0.48	139572		140	582	291	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-3B	15	19385	290775	0.48	139572		140	582	291	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-3C	15	19385	290775	0.48	139572	10000	150	623	312	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
SES #3 SECTION 3 (600A)	49	19385	949865	0.41	389445		389	N/A	N/A	468
XFMR-3D	15	19385	290775	0.48	139572		140	582	291	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-3E	18	19385	348930	0.47	163997		164	683	342	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-3F	16	19385	310160	0.47	145775		146	607	304	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A

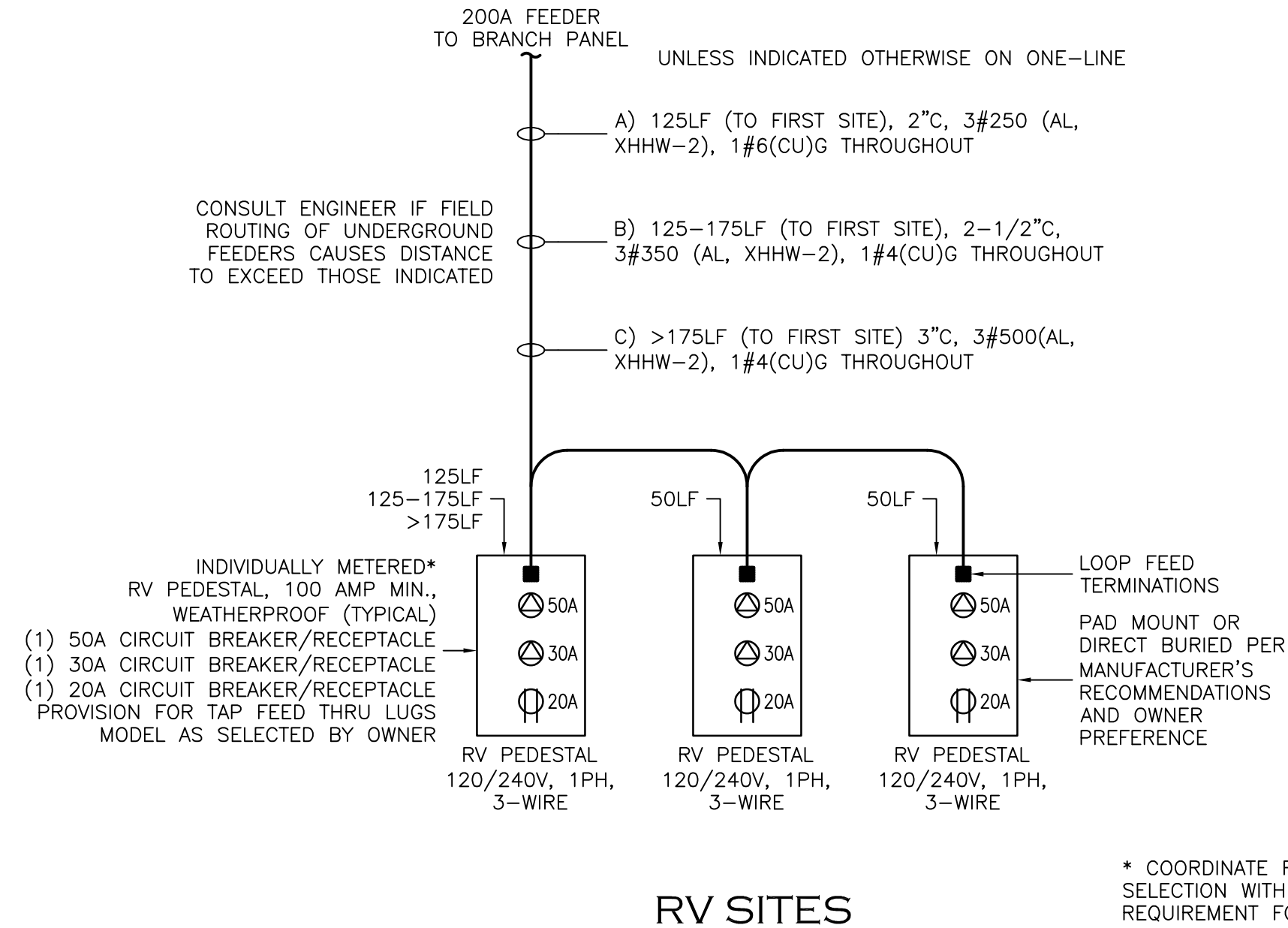
① SES LOAD CALCULATIONS

NO SCALE

ID	NO. OF UNITS	VA PER UNIT	TOTAL VA	DEMAND FACTOR	DEMAND VA	ADDITIONAL NON-RV LOAD	TOTAL KVA	AMPS @ 240V / 1PH	AMPS @ 480V / 1PH	AMPS @ 480V / 3PH
SES #2 (1600A)	93	19385	1802805	0.41	739150	60000	799	N/A	N/A	961
SES #2 SECTION 1 (600A)	47	19385	911095	0.41	373549		374	N/A	N/A	449
XFMR-2A	15	19385	290775	0.48	139572		140	582	291	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-2B	15	19385	290775	0.48	139572		140	582	291	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-2C	17	19385	329545	0.47	154886		155	645	323	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
SES #2 SECTION 2 (600A)	46	19385	891710	0.41	365601	10000	376	N/A	N/A	452
XFMR-2D	15	19385	290775	0.48	139572		140	582	291	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-2E	15	19385	290775	0.48	139572	10000	150	623	312	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
XFMR-2F	16	19385	310160	0.47	145775		146	607	304	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	3	19385	58155	0.8	46524		47	194	N/A	N/A
RV SITES	2	19385	38770	0.9	34893		35	145	N/A	N/A



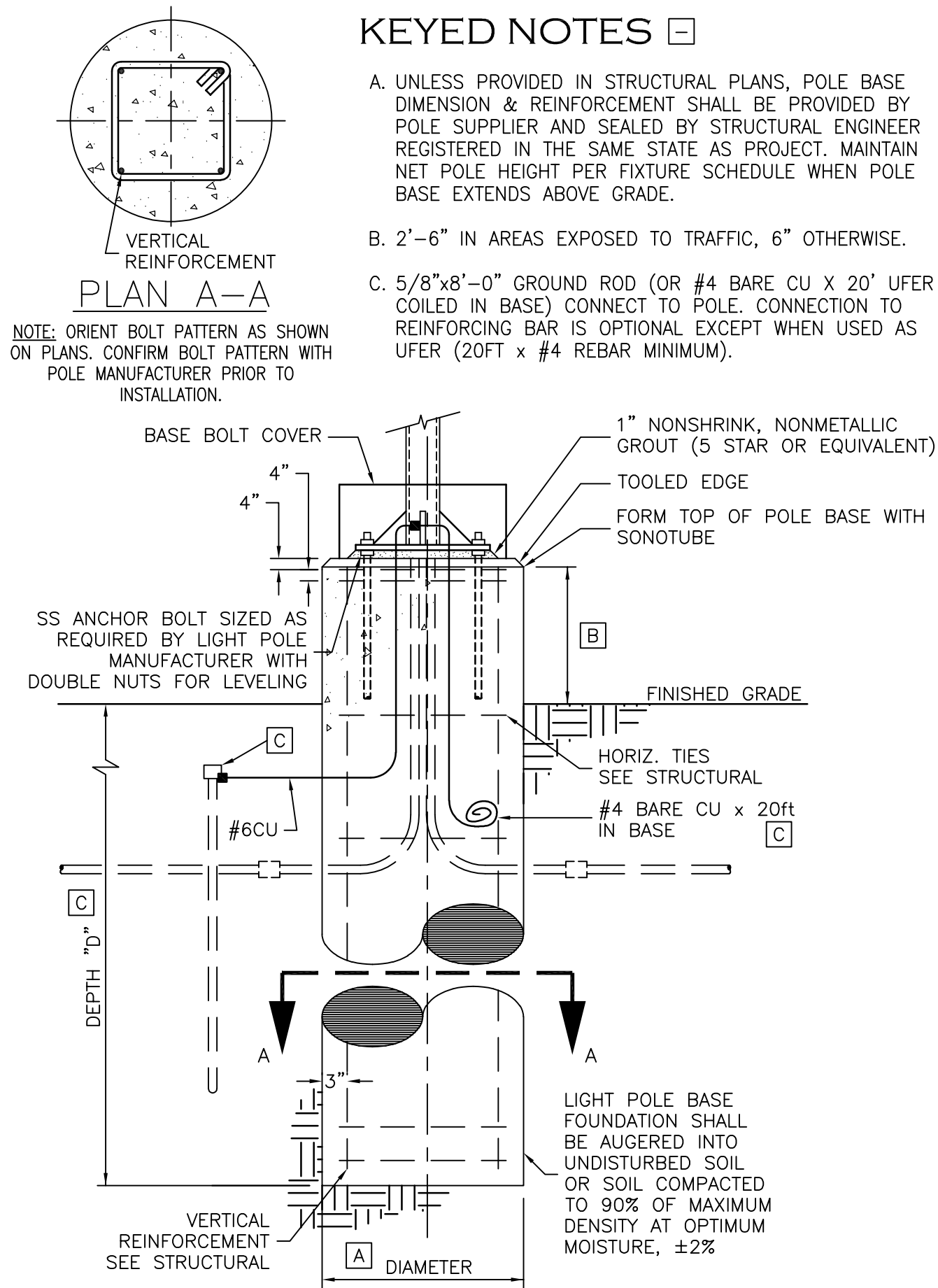
**ELECTRICAL EQUIPMENT
SUPPORTS - WALL OR RACK MOUNTED**
NO SCALE



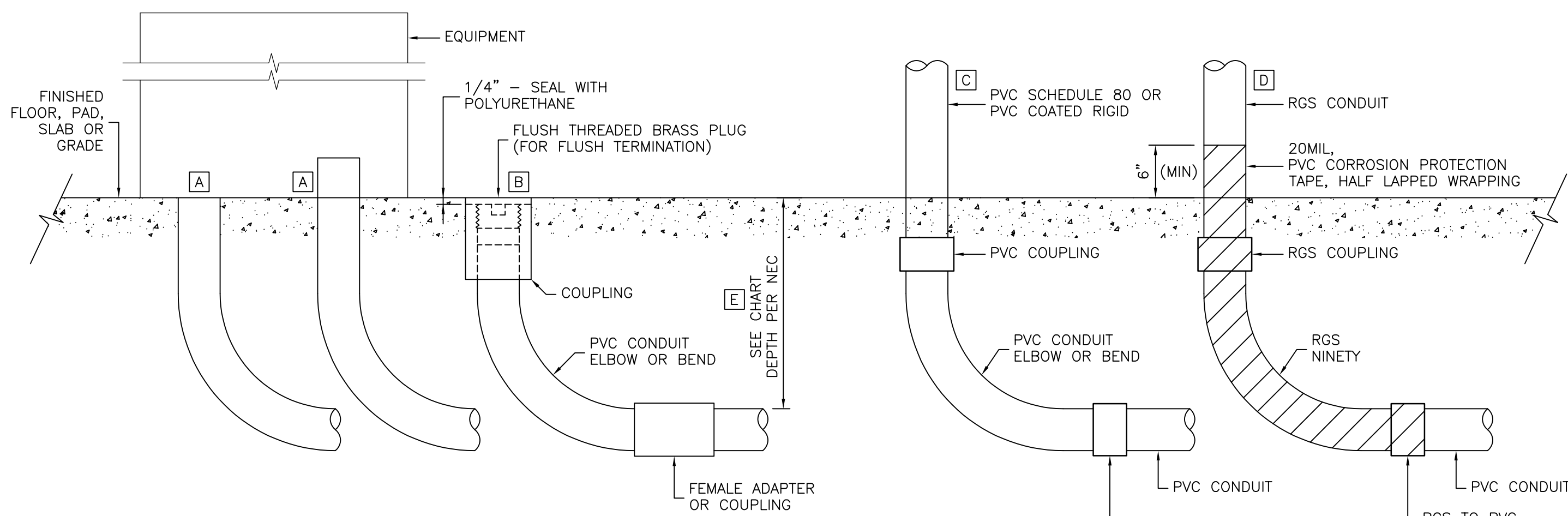
RV SITES

1 FEEDER SIZING DETAIL
NO SCALE

* COORDINATE FINAL METERING
SELECTION WITH ANY DATA WIRING
REQUIREMENT FOR REMOTE MONITORING

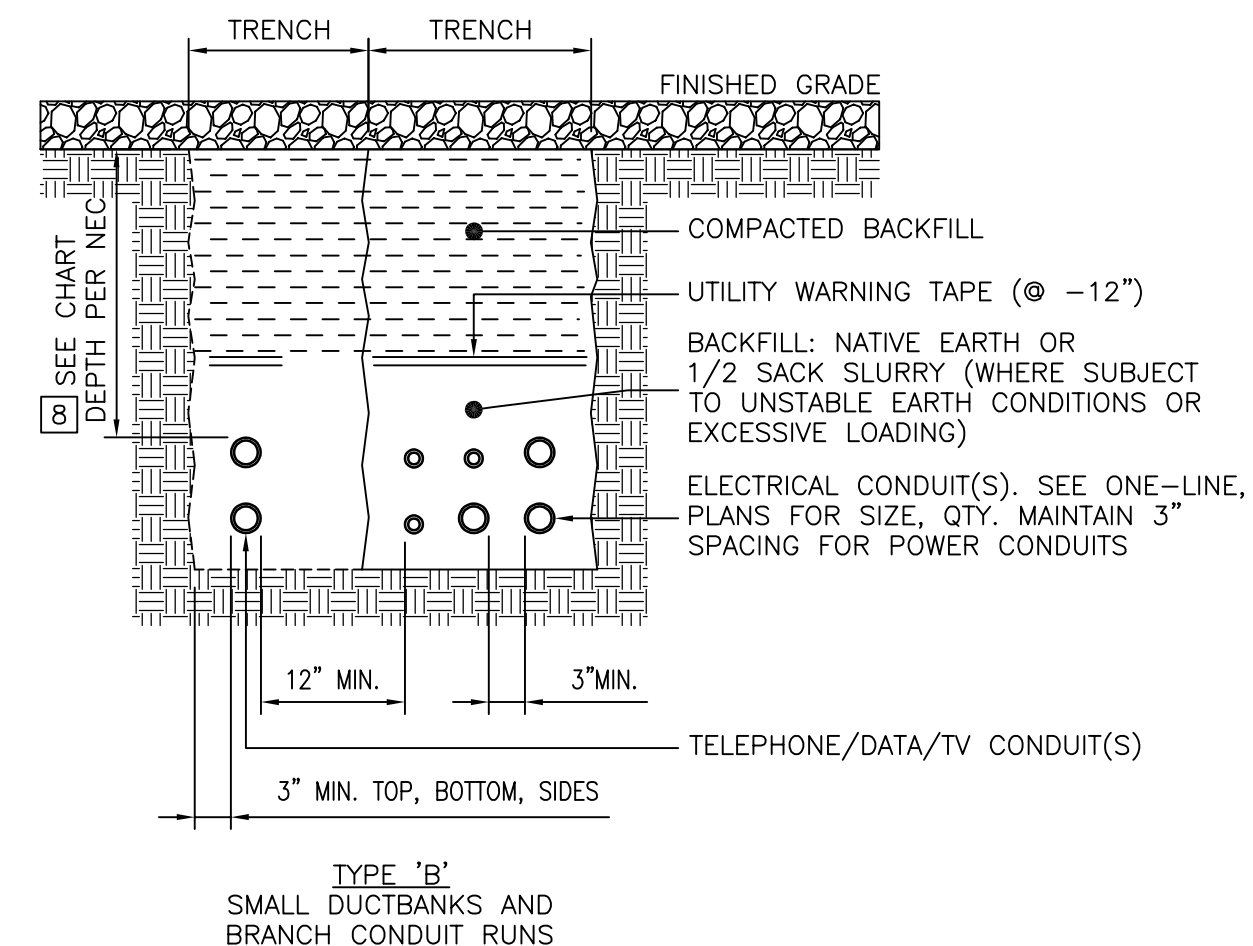


L2 POLE FOUNDATION
NO SCALE



- KEYED NOTES**
- STUB-UP WITHIN EQUIPMENT ENCLOSURE OR CONCEALED.
 - FLUSH CONDUIT STUB-UP, EXPOSED.
 - CONDUIT RISER, EXPOSED IN CORROSIVE LOCATIONS.
 - CONDUIT RISER, EXPOSED, AND OR ALL EXTERIOR LOCATIONS.
 - REFER TO UNDERGROUND DUCTBANK DETAIL AND SPECIFICATIONS.

U3 CONDUIT STUB-UP DETAIL
NO SCALE



[8] MINIMUM DEPTH (TABLE 300.5)	
LOCATIONS	DEPTH
ALL LOCATIONS NOT SPECIFIED.	18"
UNDER 4" THICK (MIN) CONCRETE WITH NO VEHICULAR TRAFFIC.	4"
UNDER STREETS, HIGHWAYS, ROADS, ALLEYS, DRIVEWAYS AND PARKING LOTS.	24"

U1 UNDERGROUND DUCTBANK
NO SCALE

REVISIONS	DATE	FOR PERMIT
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