

LOMPOC UNIFIED SCHOOL DISTRICT

# HAPGOOD ELEMENTARY SCHOOL

## SWITCHGEAR REPLACEMENT

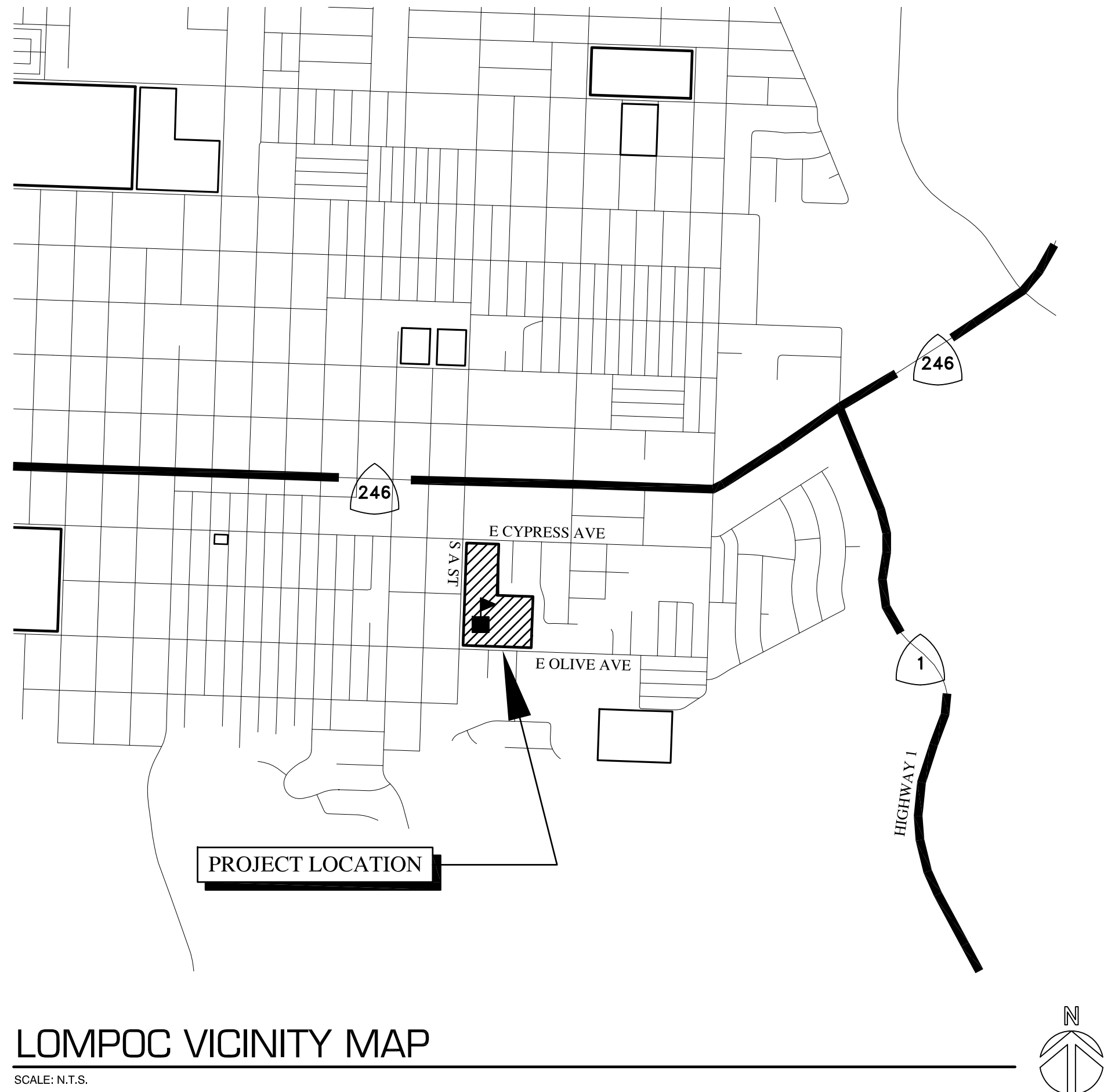
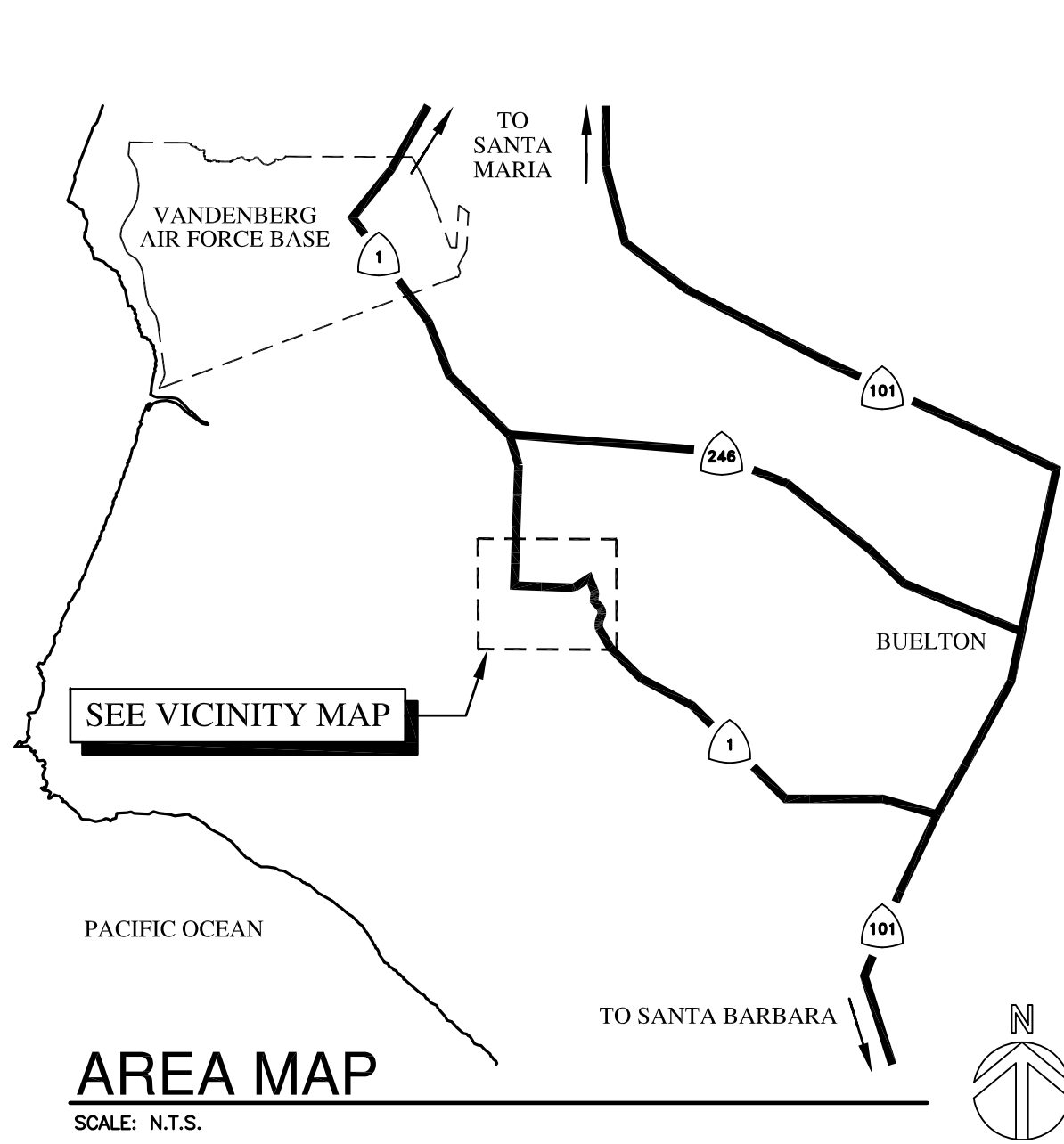
324 S A ST, LOMPOC, CA 93436

### GENERAL REQUIREMENTS:

1. ALL WORK SHALL CONFORM TO 2019 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
2. CHANGE TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHARGE DOCUMENT (CCD) APPROVED BY DSA, AS REQUIRED BY SECTION 4-336, PART 1, TITLE 24, CCR.
3. A 'DSA CERTIFIED' CLASS 3 PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24, CCR).
4. WHENEVER DSA FINDS ANY CONSTRUCTION WORK IS BEING PERFORMED IN A MANNER CONTRARY TO THE PROVISIONS OF CALIFORNIA BUILDING CODE AND THAT WOULD COMPROMISE THE STRUCTURAL INTEGRITY OF THE BUILDING, THE DEPARTMENT OF GENERAL SERVICES, STATE OF CALIFORNIA, IS AUTHORIZED TO ISSUE A STOP WORK ORDER PER SECTION 4-334.1 CALIFORNIA ADMINISTRATIVE CODE (PART 1, TITLE 24, CCR).
5. TITLE 24, PARTS 1-5 AND 9 MUST BE KEPT ON SITE DURING CONSTRUCTION.
6. SUBMIT RFIS TO DESIGN TEAM IN CASE OF INCONSISTENCIES BETWEEN APPROVED DRAWINGS AND APPROVED SPECIFICATIONS IN THE DESCRIPTIONS OF WORK TO BE DONE, EQUIPMENT TO BE PROVIDED OR MATERIAL TO BE USED. IT SHALL BE THAT THE MORE STRINGENT, THE MORE RESTRICTIVE, THE HIGHER QUALITY, AND THE GREATER QUANTITY OF WORK SHALL APPLY. SUBMIT REVISED DRAWINGS OR SPECIFICATIONS AS RESULT OF SUCH RFIS TO DSA VIA CCD'S IF REQUIRED BY IR A-6.
7. ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING MATERIALS INSTALLATION TO COMPLY WITH APPLICABLE CODES, STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS.
8. THE PROJECT INSPECTOR (PI) SHALL WITNESS AND VERIFY GROUNDING.
9. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

### GENERAL NOTES

1. ANY DIFFERENCE BETWEEN THE EXISTING CONSTRUCTION AS OBSERVED IN THE FIELD AND AS SHOWN ON THE DRAWINGS SHALL BE REPORTED TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK. THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND COORDINATING ALL DIMENSIONS. REVIEW BUILDING LAYOUT WITH ARCHITECT BEFORE STARTING ANY FOOTING EXCAVATION OR FOUNDATION WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL SITE CONDITIONS REGARDLESS OF INFORMATION SHOWN ON THE DRAWINGS. DISCREPANCIES BETWEEN CONDITIONS SHOWN OR NOT SHOWN ON DRAWINGS AND ACTUAL EXISTING VISIBLE, DISCERNABLE CONDITIONS AT THE JOB SITE, DO NOT RELIEVE THE CONTRACTOR FROM PERFORMING THE WORK OF THIS CONTRACT IN FULL CONFORMANCE WITH THE CONTRACT DOCUMENTS.
4. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO INSURE THAT ALL APPLICABLE SAFETY LAWS ARE STRICTLY ENFORCED AND TO MAINTAIN A SAFE CONSTRUCTION PROJECT.
5. BIDDERS MUST VISIT THE BUILDING SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS TO PROVIDE A PROJECT COMPLETE IN EVERY DETAIL AND READY FOR OCCUPANCY. DISCREPANCIES OR DELETIONS MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE THE BID DATE FOR CORRECTION.
6. ANY DAMAGE DONE TO THE EXISTING SITE OR FACILITIES DURING THE COURSE OF THE WORK SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE WITH NO ADDITIONAL COST TO THE OWNER.
7. BIDDERS SHALL ASSUME THAT ALL ITEMS INDICATED ON THE DRAWINGS ARE NEW CONSTRUCTION IF NOT INDICATED WITH AN (N) OR 'NEW', UNLESS INDICATED AS '(E)' OR 'EXISTING'.
8. ALL NEW WORK SHALL MATCH EXISTING IN KEEPING WITH GOOD CONSTRUCTION PRACTICE. IT IS THE INTENT OF THESE DOCUMENTS THAT THE PORTION OF THE SURFACE WHICH HAS BEEN INSTALLED, REPAIRED OR REPLACED, SHALL MATCH THE EXISTING ADJACENT SURFACES, AND THAT THE NEW WORK WILL NOT BE DISCERNABLE FROM THE EXISTING.
9. WHERE MINIMUM DIMENSIONS ARE INDICATED, EXISTING DIMENSIONS IN EXCESS OF THAT SHOWN MAY BE RETAINED UNLESS OTHERWISE NOTED.
10. CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ALL OMISSIONS AND CONFLICTS BETWEEN THE ELEMENTS OF THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THE WORK INVOLVED.
11. CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, LANDSCAPE SITE FEATURES TO REMAIN. ALL DAMAGED WORK SHALL BE REPLACED WITH THE SAME MATERIALS, INCLUDING MATCHING THE EXISTING COLORS AND TEXTURES BY THE CONTRACTOR AT HIS OWN EXPENSE WITH NO ADDITIONAL COST TO THE DISTRICT.
12. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
13. CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT AND STRUCTURAL ENGINEER WITH THE APPROVAL OF DSA REPRESENTATIVE.
14. CONTRACTOR SHALL COMPLY WITH CFC CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION.



### APPLICABLE CODES

CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING:

PART 1	2019 CALIFORNIA ADMINISTRATIVE CODE (CAC), TITLE 24 C.C.R.
PART 2	2019 CALIFORNIA BUILDING CODE (CBC), TITLE 24 C.C.R.
PART 3	2019 CALIFORNIA ELECTRICAL CODE (CEC), TITLE 24 C.C.R.
PART 6	2019 CALIFORNIA ENERGY CODE, TITLE 24 C.C.R.
PART 8	2019 CALIFORNIA HISTORICAL BUILDING CODE, TITLE 24 C.C.R.
PART 9	2019 CALIFORNIA FIRE CODE (CFC), TITLE 24 C.C.R.
PART 10	2019 CALIFORNIA EXISTING BUILDING CODE (CEBC), TITLE 24 C.C.R.
PART 11	2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), TITLE 24, C.C.R.
PART 12	2019 CALIFORNIA REFERENCED STANDARDS CODE, TITLE 24 C.C.R.
PART 13	PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS, TITLE 19, C.C.R.

NATIONAL REFERENCE STANDARDS:  
ACI-318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

STATE BUILDING CODE  
(Part 1, Title 24, C.C.R.)

\*The intent of these drawings and specification is that the work of the alteration, rehabilitation or reconstruction is to be in accordance with Title 24, California Code of Regulations. Should any existing conditions such as deterioration or noncomplying construction be discovered which is not covered by the contract documents wherein the finished work will not comply with Title 24, California Code of Regulations, a Construction Change Document (CCD), or a separate set of plans and specifications, detailing and specifying the required work shall be submitted to and approved by the Division of the State Architect before proceeding with the work. (Section 4-317(c), Part 1, Title 24, CCR)

### SYMBOLS LEGEND

KEY NOTE SYMBOLS	1 (NEW) 1 (DEMO)	DIMENSION LINES	6'-6" 8'-0"
ROOM NUMBER (SEE ROOM LEGEND)	101	ACCESSIBLE WHEELCHAIR SPACE, 30"W x 48"D CLEAR FLOOR SPACE, 27"H CLEAR KNEE SPACE MIN. 34"H MAX. TO TOP OF TABLE/COUNTER.	30" 48"
DOOR NUMBER— SEE DOOR AND FRAME SCHEDULE	1	60" DIAMETER CLEAR WHEELCHAIR TURNING CIRCLE	
WINDOW NUMBER— SEE WINDOW SCHEDULE	X	INDICATES REQUIRED CLR. FLR SPACE AT DOOR OPENINGS.	
WALL TYPE WALL TYPE NOTE (MODIFIES WALL TYPE)	X	WORK CONTROL/DATUM	
DETAIL SYMBOL	7- AB.1	BREAK LINE	
DETAIL CUT SYMBOL	7 AB.1	CENTER LINE	
ELEVATIONS	A—ELEVATION NO. 2—DRAWING NO. AS.0—SHEET NO.	GRID LINE SYMBOL	1
SECTION/ ELEVATION KEY	1—SECTION/ ELEVATION NO. A1.0—SHEET NO.	MATCHLINE SYMBOL	
		REVISION MARK	REVISION NO. 1 AREA OF REVISION
		PROJECT REFERENCE NORTH	

### SHEET INDEX

GENERAL	1. G-001	TITLE SHEET
ARCHITECTURAL	2. A-100	SITE PLAN
STRUCTURAL	3. S-100	SWITCHGEAR ANCHORAGE
ELECTRICAL	4. E1.0	GENERAL NOTES, ABBREVIATIONS, SYMBOLS, ETC.
	5. E2.0	SITE POWER PLAN
	6. E2.1	ELECTRICAL SINGLE LINE DIAGRAM
	7. E3.0	ELECTRICAL DETAILS
	8. E4.0	SERVICE ENTRANCE RATED HIGH VOLTAGE SWITCHGEAR
	9. E4.1	SERVICE ENTRANCE RATED HIGH VOLTAGE SWITCHGEAR
	10. E4.2	SERVICE ENTRANCE RATED HIGH VOLTAGE SWITCHGEAR
TOTAL SHEET COUNT:	10	

### PROJECT TEAM

**ARCHITECT**  
KRUGER BENSEN ZIEMER ARCHITECTS, INC. AIA  
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PRINCIPAL-IN-CHARGE: TODD A. JESPERSEN, AIA  
EMAIL ADDRESS: toddj@kbzarch.com  
PROJECT TEAM: JONATHAN D. LEE  
EMAIL ADDRESS: jonathan@kbzarch.com

**STRUCTURAL**  
HAUER ENGINEERING  
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OFFICE: (805) 653-1743  
STRUCTURAL ENGINEER: LAWRENCE R. HAUER  
EMAIL ADDRESS: lhauer@earthlink.net

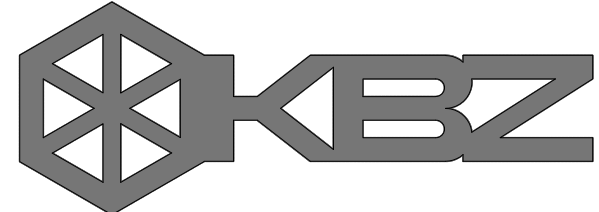
**ELECTRICAL**  
C HOOD & ASSOCIATES, INC.  
858 E FRONT ST, VENTURA, CA 93001  
OFFICE: (805) 641-4012  
ELECTRICAL ENGINEER: CRAIG HOOD  
EMAIL ADDRESS: craig@choodassociates.com

### PROJECT SCOPE

THIS PROJECT CONSISTS OF REPLACING FAILED MAIN SWITCHGEAR SECTIONS WITH NEW SWITCHGEAR ON NEW CONCRETE PAD.

### OWNER

LOMPOC UNIFIED SCHOOL DISTRICT  
1301 N A ST, LOMPOC, CA 93436  
OFFICE: (805) 742-3300



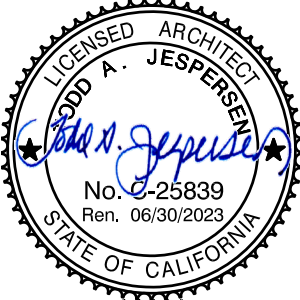
KRUGER BENSEN ZIEMER ARCHITECTS, INC. AIA  
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TODD A. JESPERSEN, A.I.A.  
PRINCIPAL-IN-CHARGE

JONATHAN D. LEE  
ARCHITECTURAL ASSISTANT

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STAMP & SIGNATURE  
ENGINEERS  
STAMP & SIGNATURE



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REVISION	DESCRIPTION	DATE	BY
DRAWN JL			
CHECKED TJ			
DATE 09/30/2022			
JOB NO. 21075			

SHEET  
TITLE

SHEET

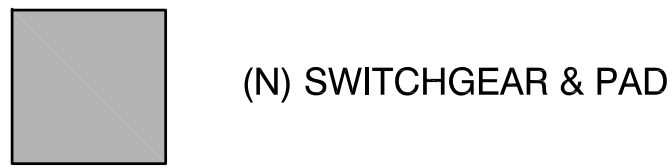
G-001



GENERAL NOTES

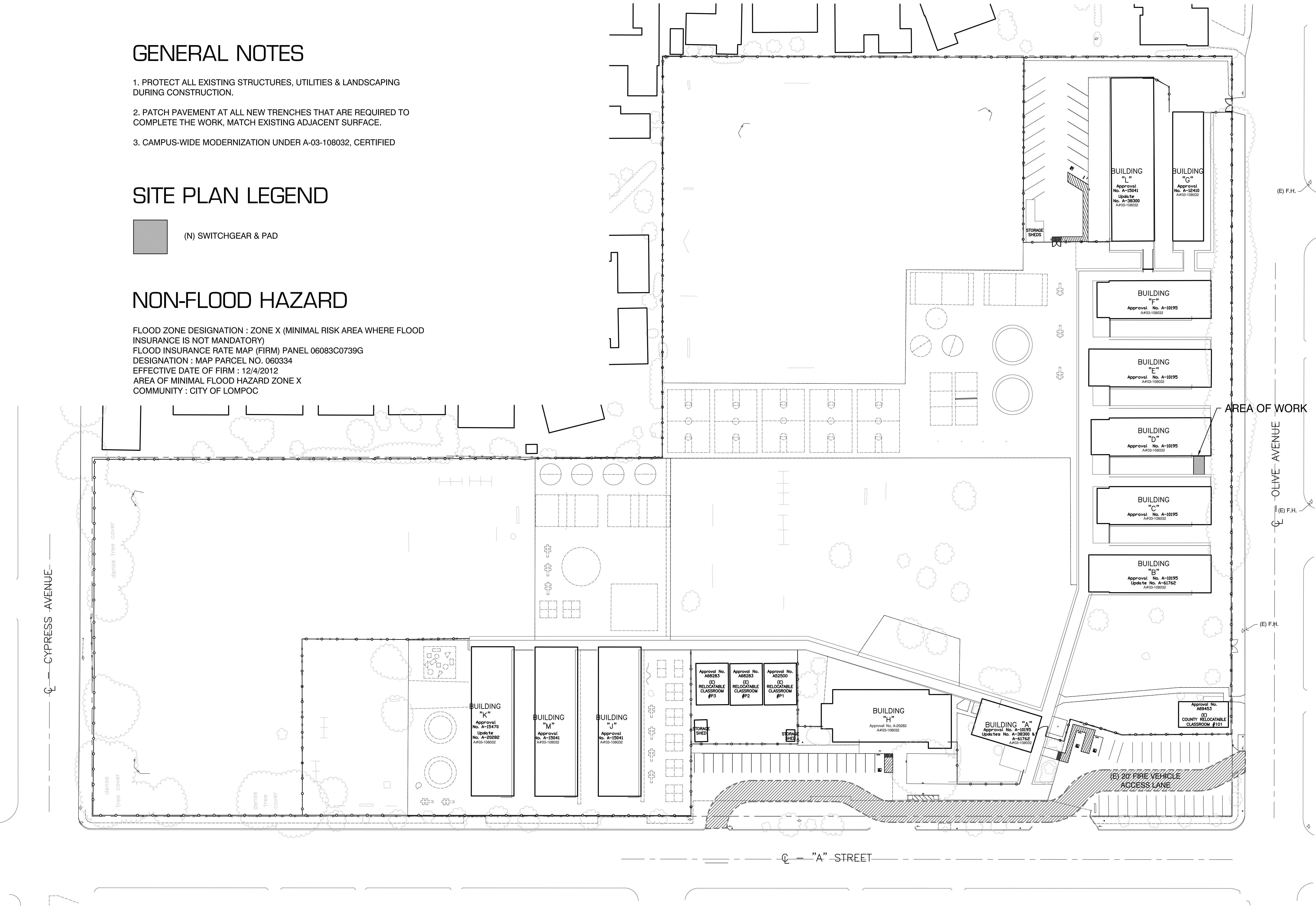
- 1. PROTECT ALL EXISTING STRUCTURES, UTILITIES & LANDSCAPING DURING CONSTRUCTION.
- 2. PATCH PAVEMENT AT ALL NEW TRENCHES THAT ARE REQUIRED TO COMPLETE THE WORK, MATCH EXISTING ADJACENT SURFACE.
- 3. CAMPUS-WIDE MODERNIZATION UNDER A-03-108032, CERTIFIED

SITE PLAN LEGEND

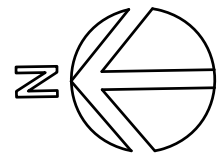


NON-FLOOD HAZARD

FLOOD ZONE DESIGNATION : ZONE X (MINIMAL RISK AREA WHERE FLOOD INSURANCE IS NOT MANDATORY)  
FLOOD INSURANCE RATE MAP (FIRM) PANEL 06083C0739G  
DESIGNATION : MAP PARCEL NO. 060334  
EFFECTIVE DATE OF FIRM : 12/4/2012  
AREA OF MINIMAL FLOOD HAZARD ZONE X  
COMMUNITY : CITY OF LOMPOC

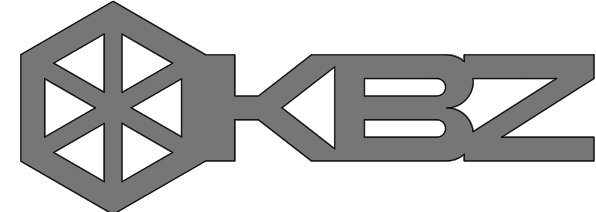


1 Site Plan  
SCALE: 1"= 40' - 0"



IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 03-122441 INC:  
REVIEWED FOR  
SS ☒ FLS ☒ ACS ☐  
DATE: 12/14/2022

LOMPOC UNIFIED SCHOOL DISTRICT  
HAPGOOD ELEMENTARY SCHOOL  
3801 S. A ST. LOMPOC, CA 93436  
SWITCHGEAR REPLACEMENT



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ARCHITECTS  
STAMP & SIGNATURE  
ENGINEERS  
STAMP & SIGNATURE



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REVISION	DESCRIPTION	DATE	BY
DRAWN	JL		
CHECKED	TJ		
DATE	09/30/2022		
JOB. NO.	21075		

SHEET SITE PLAN  
TITLE

SHEET

A-100



## GENERAL NOTES

### GENERAL

1. ALL WORK SHALL CONFORM WITH THE 2019 CALIFORNIA BUILDING CODE, (CBC), AND ALL LOCAL ORDINANCES.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO STARTING CONSTRUCTION AND BRING TO THE ATTENTION OF THE ENGINEER ANY DISCREPANCIES OR INCONSISTENCIES.
3. NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED, BORED OR OTHERWISE WEAKENED EXCEPT AS ALLOWED BY THE CALIFORNIA BUILDING CODE OR APPROVED BY THE ENGINEER.
4. THE ENGINEER SHALL BE NOTIFIED OF ANY UNUSUAL OR UNFORSEEN CONDITION WHICH AFFECTS THE STRUCTURAL STABILITY OF THE BUILDING PRIOR TO CONTINUING WITH CONSTRUCTION. SHOULD ANY CONDITION ARISE WHERE THERE APPEARS TO BE AN ERROR ON THE DRAWINGS OR A DISCREPANCY BETWEEN THE DRAWINGS AND CONDITIONS IN THE FIELD, THE ENGINEER SHALL BE NOTIFIED PRIOR TO CONTINUING WITH THE WORK.
5. IN THE CASE WHERE TWO OR MORE DETAILS APPLYING TO THE SAME PART OF THE WORK ARE IN CONFLICT, THE MOST RESTRICTIVE SHALL GOVERN UNLESS CLARIFIED OR OTHERWISE APPROVED BY THE ENGINEER.
6. REVIEW OF SHOP DRAWINGS MEANS REVIEW OF GENERAL METHOD OF FABRICATION ONLY. DIMENSIONS AND QUANTITIES MAY NOT BE CHECKED, AND REVIEW OF THE SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS UNLESS SPECIFICALLY SO INDICATED IN THE REVIEW.
7. THE ENGINEER HAS NOT BEEN RETAINED FOR SUPERVISION OR INSPECTION DURING CONSTRUCTION, BUT WILL RESOLVE STRUCTURAL ITEMS BROUGHT TO HIS ATTENTION DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED TO PROTECT PERSONNEL AND ADJACENT PROPERTY DURING CONSTRUCTION. THE CONTRACTOR SHALL ADEQUATELY BRACE ELEMENTS OF THE STRUCTURE DURING CONSTRUCTION TO INSURE THE SAFETY OF THE STRUCTURE.
9. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, ELEVATIONS, AND SLOPES NOT SHOWN ON THE STRUCTURAL DRAWINGS.
10. (E) INDICATES EXISTING MEMBER OR CONDITION, (N) NEW.

### CONCRETE

1. ALL CONCRETE UNLESS OTHERWISE SHOWN ON THE PLANS SHALL BE HANDPOUR CONFORMING TO ASTM C-38 WITH A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF  $F_c = 3,000$  PSI.
2. AGGREGATE FOR THE CONCRETE SHALL CONFORM TO ASTM C-33, INCLUDING APPENDIX "X".
3. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS FOR MIXING, PLACING, FINISHING, CURING, AND PROTECTING CONCRETE DURING UNFAVORABLE WEATHER CONDITIONS.
4. ALL REINFORCING STEEL SHALL BE NEW STOCK DEFORMED BARS CONFORMING TO ASTM A-615, GRADE 60 EXCEPT BARS MAY BE GRADE 40. ALL WELDED REINFORCING STEEL SHALL BE ASTM A-706. ALL BARS SHALL BE FREE OF RUST, OIL, GREASE, MILL SCALE OR ANY OTHER MATERIALS WHICH MIGHT AFFECT ITS BOND TO THE CONCRETE. ALL BAR BENDS SHALL BE MADE COLD.
5. PROVIDE  $3/4"$  CHAMFER ON ALL EXPOSED CORNERS.
6. BAR SPICES SHALL BE LAP SPICES  $\geq 48$  BAR DIAM. LAP  $\geq 18"$  MINIMUM, (WHICHEVER IS GREATER). STAGGER LAP SPICES OF MULTIPLE BARS, (A. IN CONT. FOOTING  $\geq 2$  HOLES BARS TOP AND BOTTOM BARS TOP BAR LAP SPICES AND STAGGER BOTTOM BAR LAP SPICES. SPICES DO NOT HAVE TO BE STAGGERED BETWEEN TOP AND BOTTOM BARS).
- (UNLESS NOTED OTHERWISE IN DETAILS):
  - CONCRETE POURED AGAINST EARTH..... 3 INCHES
  - CONCRETE BEAMS AND COLUMNS..... 3 INCHES
  - CONCRETE SLABS ABOVE GRADE..... 1 INCH
8. DRYPACK SHALL BE MIXED IN THE PROPORTIONS OF 1 PART PORTLAND CEMENT TO 2 1/2 PARTS SAND WITH ENOUGH WATER TO PRODUCE A STIFF MIX. DRYPACK SHALL BE THOROUGHLY TAMPED INTO PLACE TO ENSURE A DENSE FINISH, FREE OF VOIDS.
9. THE SLUMP OF THE CONCRETE SHALL BE THE MINIMUM THAT IS PRACTICABLE. WHEN VIBRATORS ARE USED TO CONSOLIDATE THE CONCRETE, THE SLUMP SHALL NOT EXCEED 4 INCHES. OTHERWISE THE SLUMP SHALL NOT EXCEED 6 INCHES.
10. ALL CONCRETE SHALL BE ADEQUATELY CONSOLIDATED DURING PLACEMENT AND ALL REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE SECURELY TIED IN PLACE TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT.
11. EXCEPT WHERE INDICATED OTHERWISE, ALL REINFORCING STEEL SHALL BE BENT AND PLACED IN ACCORDANCE WITH THE "CODE OF STANDARD PRACTICE AND THE SPECIFICATIONS FOR PLACING REINFORCING STEEL" OF THE CONCRETE REINFORCING STEEL INSTITUTE.

## EQUIPMENT DESIGN LOADS/CALCULATIONS:

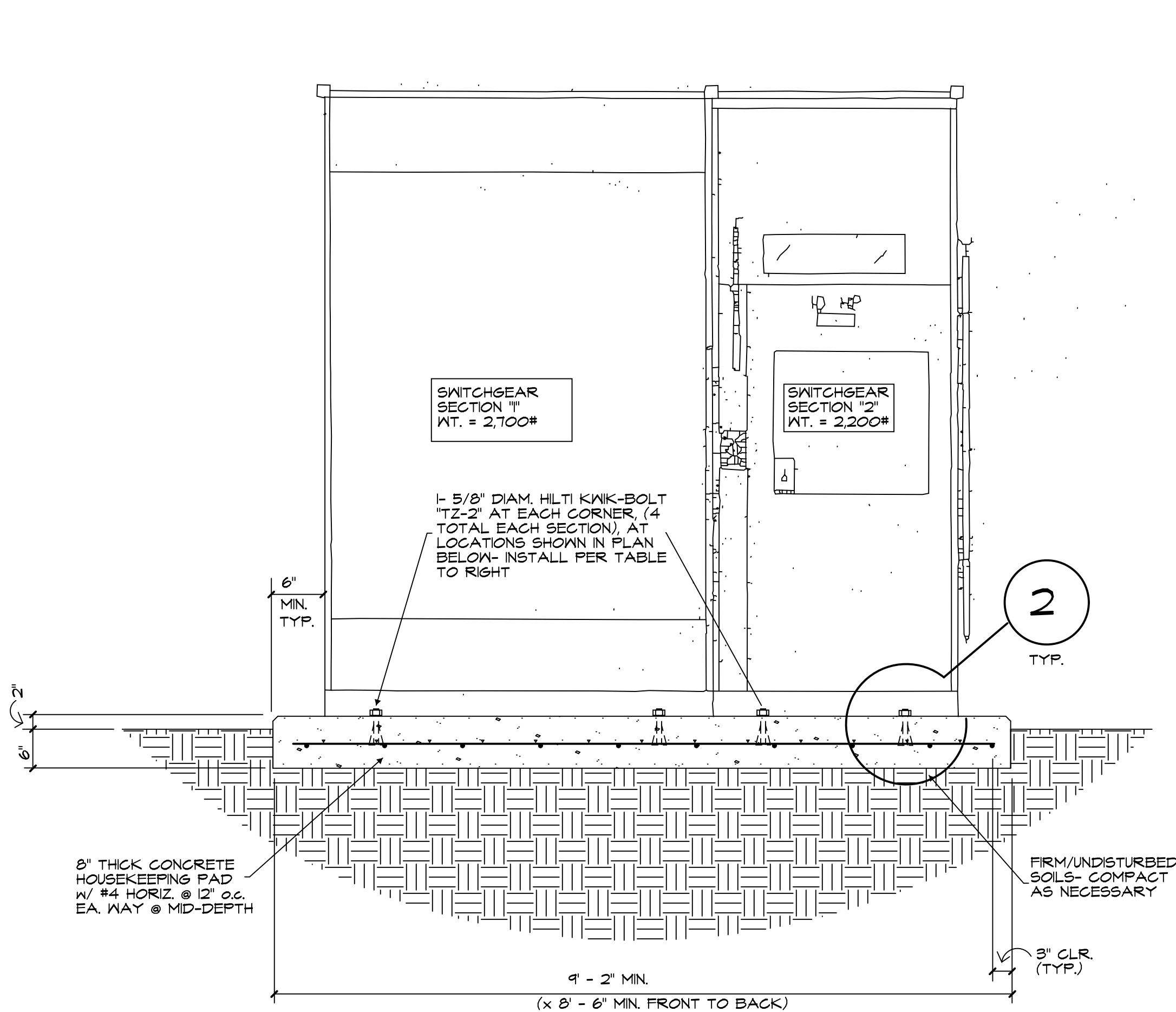
CBC 1603A WIND DESIGN DATA:  
BASIC WIND SPEED (3 MILE GUST)..... 93 mph  
WIND IMPORTANCE FACTOR..... 1.0  
WIND EXPOSURE..... C

CBC 1603A EARTHQUAKE DESIGN DATA  
SEISMIC IMPORTANCE FACTOR..... 1.0  
OCCUPANCY CATEGORY..... II  
SHORT PERIOD SPECTRAL RESPONSE,  $S_s$ ..... 1.26g  
SITE CLASS..... D  
1 SECOND SPECTRAL RESPONSE,  $S_1$ ..... 0.449g  
 $S_{a1}$ ..... 1.01g  
SEISMIC DESIGN CATEGORY..... D  
BASIC SEISMIC FORCE RESISTING SYSTEM..... BASE ANCHORAGE PER CHPT. ASCE 7-16  
DESIGN BASE SHEAR, (ASD): 0.22W BASED ON ASCE EQUATION 13.3-1  
VERTICAL ACCELERATION (ASD): 0.20W (0.28/1.4) BASED ON ASCE SEC. 13.3

HILTI STAINLESS STEEL "KWIK BOLT TZ-2" ANCHORS				
PRE-DRILLED HOLE SIZE IN BASE PLATE	ANCHOR SIZE	MIN. HOLE DEPTH	EFFECTIVE MIN. EMBEDMENT DEPTH	TORQUE (FT. LB.)
1 1/16" DIA.	5/8" DIA.	4-1/4"	5-1/4"	60

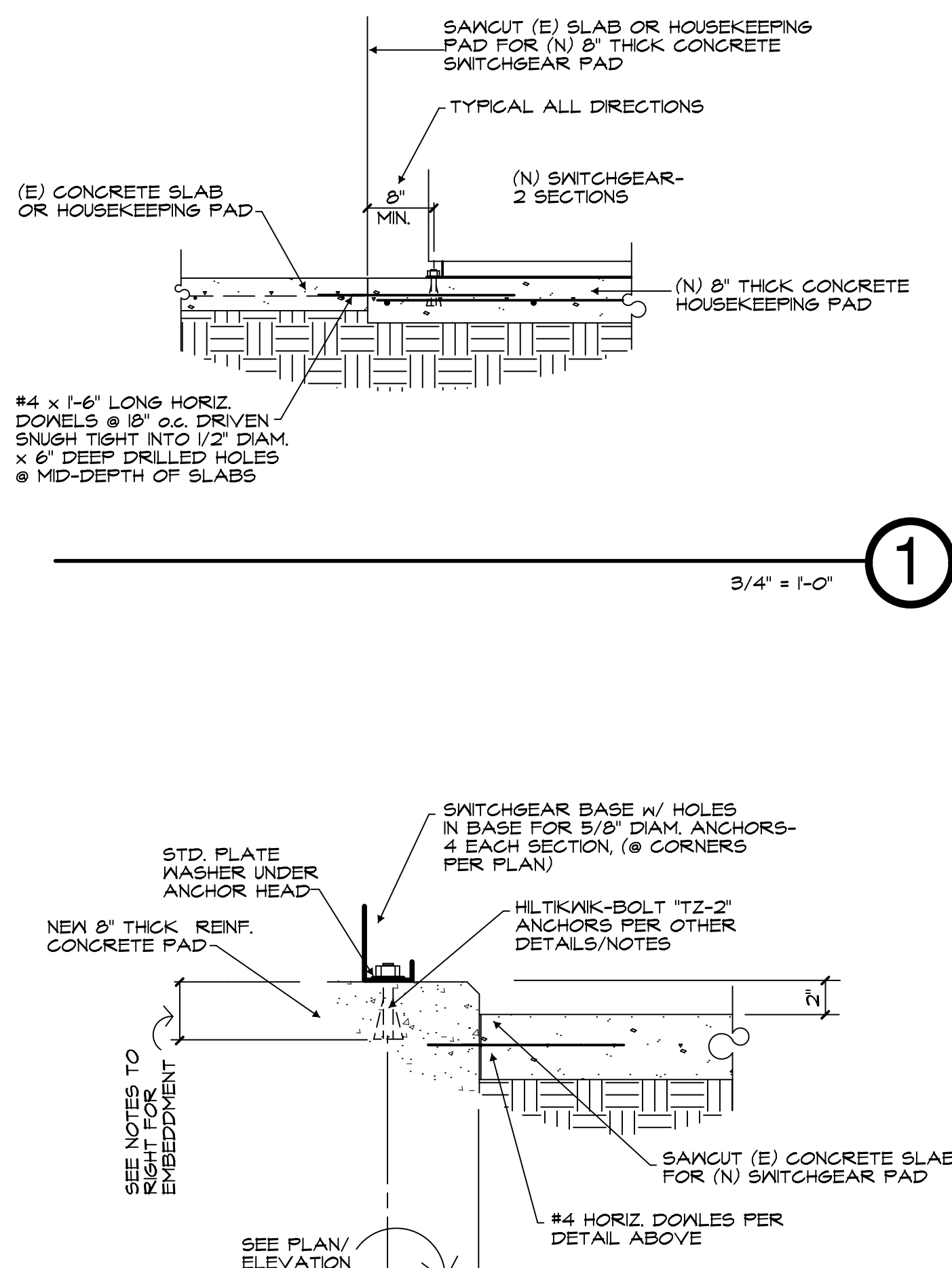
ANCHORS SHALL BE STAINLESS STEEL "HILTI KWIK BOLT TZ-2" EXPANSION ANCHORS INSTALLED PER ICC-ESR - 4266

THE CONTRACTOR SHALL LOCATE ALL CONCRETE SLAB HORIZONTAL REINFORCING STEEL PRIOR TO DRILLING FOR EXPANSION ANCHORS TO AVOID DAMAGING SLAB REINFORCING STEEL.



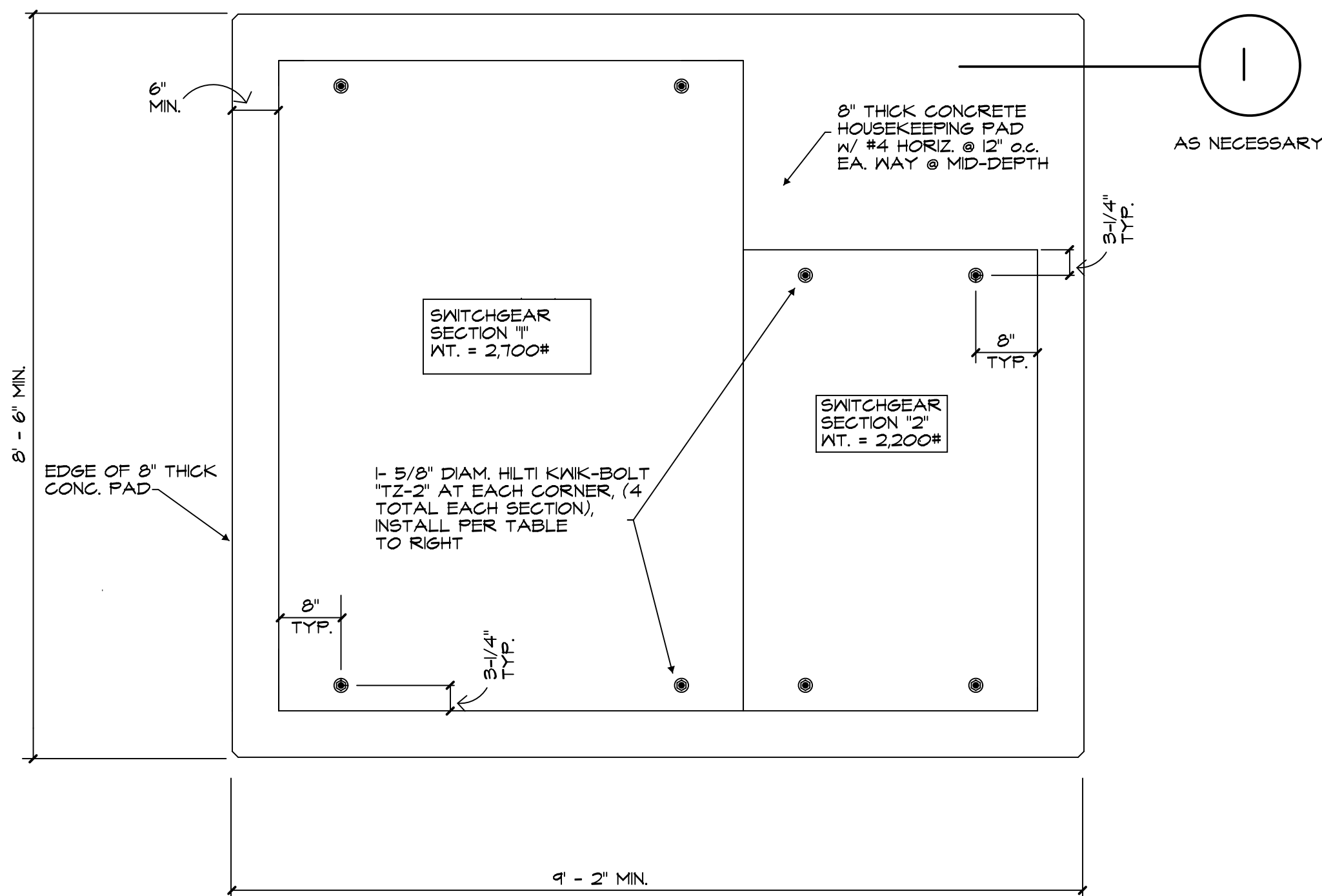
SWITCHGEAR AND COCNRTE PAD ELEVATION

SCALE: 3/4" = 1'-0"



SWITCHGEAR ANCHORAGE TO (N) 8" THICK CONCRETE PAD

SCALE: 3/4" = 1'-0"



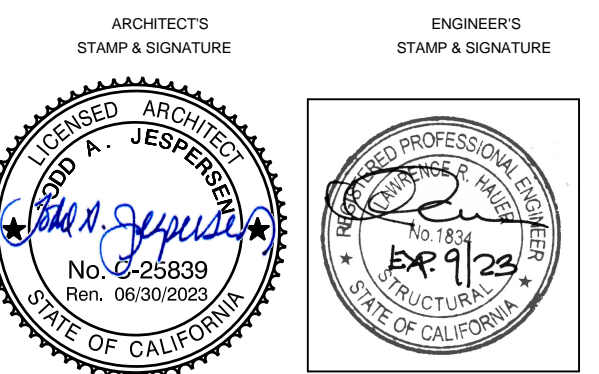
SWITCHGEAR AND COCNRTE PAD PLAN

SCALE: 3/4" = 1'-0"



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TODD A. JESPERSEN, AIA, PRINCIPAL/IN-CHARGE  
JONATHAN D. LEE, ARCHITECTURAL ASSISTANT

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REVISION DESCRIPTION DATE BY  
DRAWN L. HAUER  
CHECKED L. HAUER  
DATE 9-17-2022  
JOB NO. 21075

SHEET SWITCHGEAR ANCHORAGE  
TITLE

SHEET S-100



ABBREVIATIONS		INTERMEDIATE DISTRIBUTION FRAME
A	AMPERES	IDF
AC	ALTERNATING CURRENT	IG
AF	AMP FRAME/AMP FUSE	JB
AFC	AVAILABLE FAULT CURRENT	KV
AFG	ABOVE FINISHED FLOOR	KVA
AIC	ABOVE FINISHED GRADE	KILOWATT
AI	AMPERES INTERRUPTING CAPACITY	KMIL
ARCH	ARCHITECT	KTHOUSAND CIRCULAR MILS
AS	AMP SWITCH RATING	LC
AT	AMP TRIP	LV
ATS	AUTOMATIC TRANSFER SWITCH	LV
AV	AUDIO VISUAL	LV
AWG	AMERICAN WIRE GAGE	LV
BKBD	BACKBOARD	LV
BLDG	BUILDING	LV
BIL	BASIC IMPULSE LEVEL	LV
CB	CIRCUIT BREAKER	LV
CB	CALIFORNIA BUILDING CODE	LV
CEC	CALIFORNIA ELECTRICAL CODE	LV
CF	COMPACT FLUORESCENT	LV
CFC	CALIFORNIA FIRE CODE	LV
CONT	CONTINUATION	LV
CKT	CIRCUIT	LV
CLG	CEILING	LV
CO	CONDUIT ONLY	LV
CSFM	CA. STATE FIRE MARSHALL	LV
CTV	CABLE TELEVISION	LV
(C)	COPPER	LV
CU	COLD WATER PIPE	LV
DIS	DISCONNECT	LV
DIS	DISCONNECT SWITCH	LV
DWG	DRAWING	LV
EC	ELECTRICAL CONTRACTOR	LV
(F)	FRONT	LV
FAU	FORCED AIR UNIT	LV
FS	SHALL-FULLY	LV
GC	GENERAL CONTRACTOR	LV
GR	GROUND FAULT INTERRUPTER	LV
GND	GROUNDING	LV
HID	HIGH INTENSITY DISCHARGE	LV
HP	HORSEPOWER	LV
HV	HIGH VOLTAGE	LV
HZ	HERTZ	LV

U.L. STANDARD 486B TORQUING RECOMMENDATIONS						
TIGHTENING TORQUE FOR SCREWS (a)						
TORQUE, POUND - INCHES						
WIRE SIZE	SLOTTED HEAD NO. 10 AND LARGER (b)			HEXAGONAL HEAD/EXTERNAL DRIVE, SOCKET WRENCH		
	SLOT WIDTH (N.)	SLOT LENGTH (N.)	SPLIT-BOLT	OTHER CONNECTORS		
	TO 3/64	OVER 3/64	TO 1/4	OVER 1/4		
18-10 AWG	20	35	20	35	80	
8	25	40	25	40	75	
6	35	45	35	45	110	
4	45	-	45	165	110	
3	50	-	50	275	150	
2	50	-	50	275	150	
1	50	-	50	275	150	
1/0	50	-	50	385	180	
2/0	50	-	50	385	180	
3/0	50	-	50	500	250	
4/0	50	-	50	500	250	
250 kcmil	50	-	50	650	325	
300	50	-	50	650	325	
350	50	-	50	650	325	
400	50	-	50	825	375	
500	50	-	50	825	375	
600	50	-	50	1000	375	
700	50	-	50	1000	375	
750	50	-	50	1000	375	
800	50	-	50	1100	500	
900	50	-	50	1100	500	
1000	50	-	50	1100	500	
1250	-	-	-	1100	600	
1500	-	-	-	1100	600	
1750	-	-	-	1100	600	
2000	-	-	-	1100	600	

THIS TABLE GIVES RECOMMENDED CONNECTOR INSTALLING TORQUES FOR COPPER AND ALUMINUM CONDUCTORS. THEY ARE FOR GUIDANCE ONLY WHERE NO TIGHTENING INFORMATION IS AVAILABLE AND SHOULD NOT BE USED TO REPLACE MANUFACTURERS' INSTRUCTIONS WHICH SHOULD ALWAYS BE FOLLOWED.

(a) CLAMPING SCREWS WITH MULTIPLE TIGHTENING MEANS, FOR EXAMPLE, FOR A SLOTTED HEXAGONAL HEAD SCREW, THE SMALLEST TORQUE VALUE ASSOCIATED WITH THE DIFFERENT TIGHTENING MEANS.

(b) FOR VALUES OF SLOT WIDTH OR LENGTH OTHER THAN THOSE SPECIFIED, SELECT THE LARGEST TORQUE VALUE ASSOCIATED WITH CONDUCTOR SIZE.

CEC ART. 310 CONDUCTOR DERATING	
NEC §310.15 (B)(3)(a) ADJUSTMENT FACTORS	
(c) MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR CABLE	
WHERE THE NUMBER OF CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR CABLE EXCEEDS THREE, THE ALLOWABLE AMPLITUDES SHALL BE REDUCED AS SHOWN IN THE FOLLOWING TABLE:	
NUMBER OF CURRENT-CARRYING CONDUCTORS	
PERCENT OF VALUES IN TABLES AS ADJUSTED FOR AMBIENT TEMPERATURE	
F	
4 THROUGH 6	80
7 THROUGH 9	70
10 THROUGH 30	50
31 THROUGH 40	40
41 AND ABOVE	35

WHERE SINGLE CONDUCTORS OR MULTICONDUCTOR CABLES ARE STACKED OR BUNDLED LONGER THAN 24 INCHES (610 mm) WITHOUT MAINTAINING SPACING AND ARE NOT INSTALLED IN RACEWAYS, THE ADJUSTABLE AMPLITUDE OF EACH CONDUCTOR SHALL BE REDUCED AS SHOWN IN THE ABOVE TABLE.

EXCEPTION NO. 1: WHERE CONDUCTORS OF DIFFERENT SIZES, AS PROVIDED IN SECTION 300-3, ARE INSTALLED IN A COMMON RACEWAY OR CABLE, THE DERATING FACTORS SHOWN ABOVE SHALL APPLY TO THE NUMBER OF POWER AND LIGHTING (ARTICLES 210, 215, 220, AND 230) CONDUCTORS ONLY.

EXCEPTION NO. 2: FOR CONDUCTORS INSTALLED IN CABLE TRAYS, THE PROVISIONS OF SECTION 392.11 SHALL APPLY.

EXCEPTION NO. 3: DERATING FACTORS SHALL NOT APPLY TO CONDUCTORS IN NIPPLES HAVING A LENGTH EXCEEDING 24 INCHES (610mm).

EXCEPTION NO. 4: DERATING FACTORS SHALL NOT APPLY TO UNDERGROUND CONDUCTORS ENTERING OR LEAVING AN OUTDOOR TRENCH IF THOSE CONDUCTORS HAVE PHYSICAL PROTECTION IN THE FORM OF RIGID METAL CONDUIT, INTERMEDIATE METAL CONDUIT, OR RIGID NONMETALLIC CONDUIT EXCEEDING A LENGTH NOT EXCEEDING 10 FEET (3.05m) ABOVE GRADE AND THE NUMBER OF CONDUCTORS DOES NOT EXCEED FOUR.

WHERE SINGLE CONDUCTORS OR MULTICORED CABLES ARE STACKED OR BUNDLED UNDER THAN 24 INCHES (510 mm) WITHOUT MAINTAINING SPACING AND ARE NOT INSTALLED IN RACEWAYS, THE ALLOWABLE AMPACITY OF EACH CONDUCTOR SHALL BE DETERMINED AS SHOWN IN TABLE 314.16(a).

EXCEPTION NO. 1: WHERE CONDUCTORS OF DIFFERENT SYSTEMS, AS PROVIDED IN SECTION 300-3.3, ARE INSTALLED IN A COMMON RACEWAY OR CABLE, THE DERATING FACTOR SHALL BE SHOWN ABOVE TABLE 314.16(a). THE NUMBER OF POWER AND LIGHTING (ARTICLES 210, 215, 220, AND 230) CONDUCTORS SHALL BE LIMITED TO:

EXCEPTION NO. 2: FOR CONDUCTORS INSTALLED IN CABLE TRAYS, THE PROVISIONS OF SECTION 392.11 SHALL APPLY.

EXCEPTION NO. 3: DERATING FACTORS SHALL NOT APPLY TO CONDUCTORS IN NIPPLES HAVING A LENGTH NOT MORE THAN 24 INCHES (609 mm).

EXCEPTION NO. 4: DERATING FACTORS SHALL NOT APPLY TO UNDERGROUND CONDUCTORS ENTERING OR LEAVING AN OUTDOOR TRENCH IF THOSE CONDUCTORS HAVE PHYSICAL PROTECTION IN THE FORM OF RIGID METAL CONDUIT, INTERMEDIATE METAL CONDUIT, OR NONMETALLIC FLEXIBLE CONDUIT. THE LENGTH OF THE TRENCH SHALL BE LESS THAN 3.2m ABOVE GRADE AND THE NUMBER OF CONDUCTORS DOES NOT EXCEED FOUR.

**CEC WIRE FILL TABLE 314.16(a)**

CEC 110.34(C)	
CONTRACTOR SHALL PROVIDE PERMANENT SIGNAGE AT ALL HIGH VOLTAGE ENCLOSURES, FENCINGS, ROOMS, VAULTS, ETC. PER CEC 110.34(C). SIGNAGE SHALL READ "DANGER-HIGH VOLTAGE-KEEP OUT"	
CEC 110.16	
ALL SWITCHBOARDS & PANELBOARDS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS, PER CEC 110.16 THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.	

## GENERAL ELECTRICAL NOTES

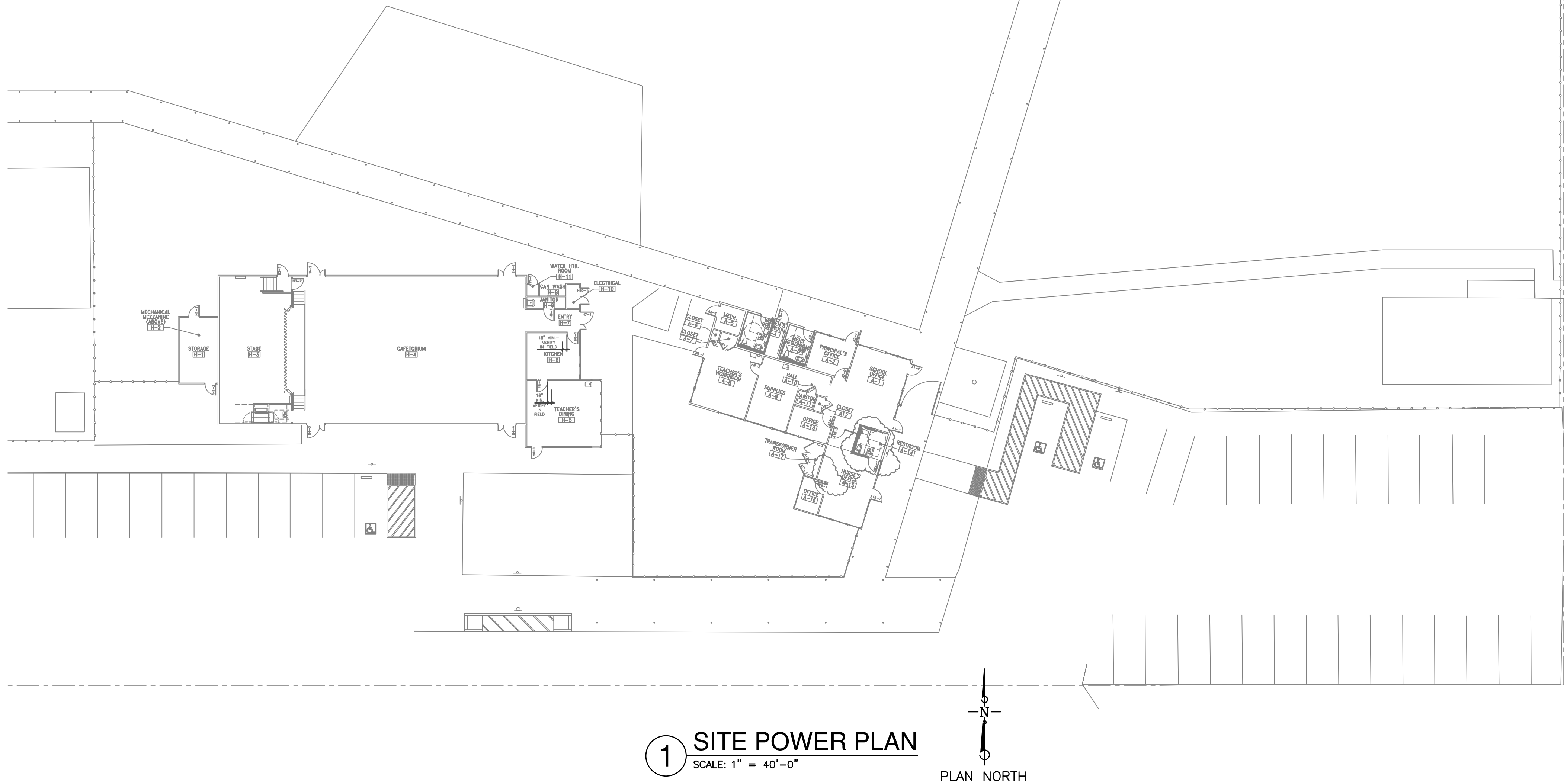
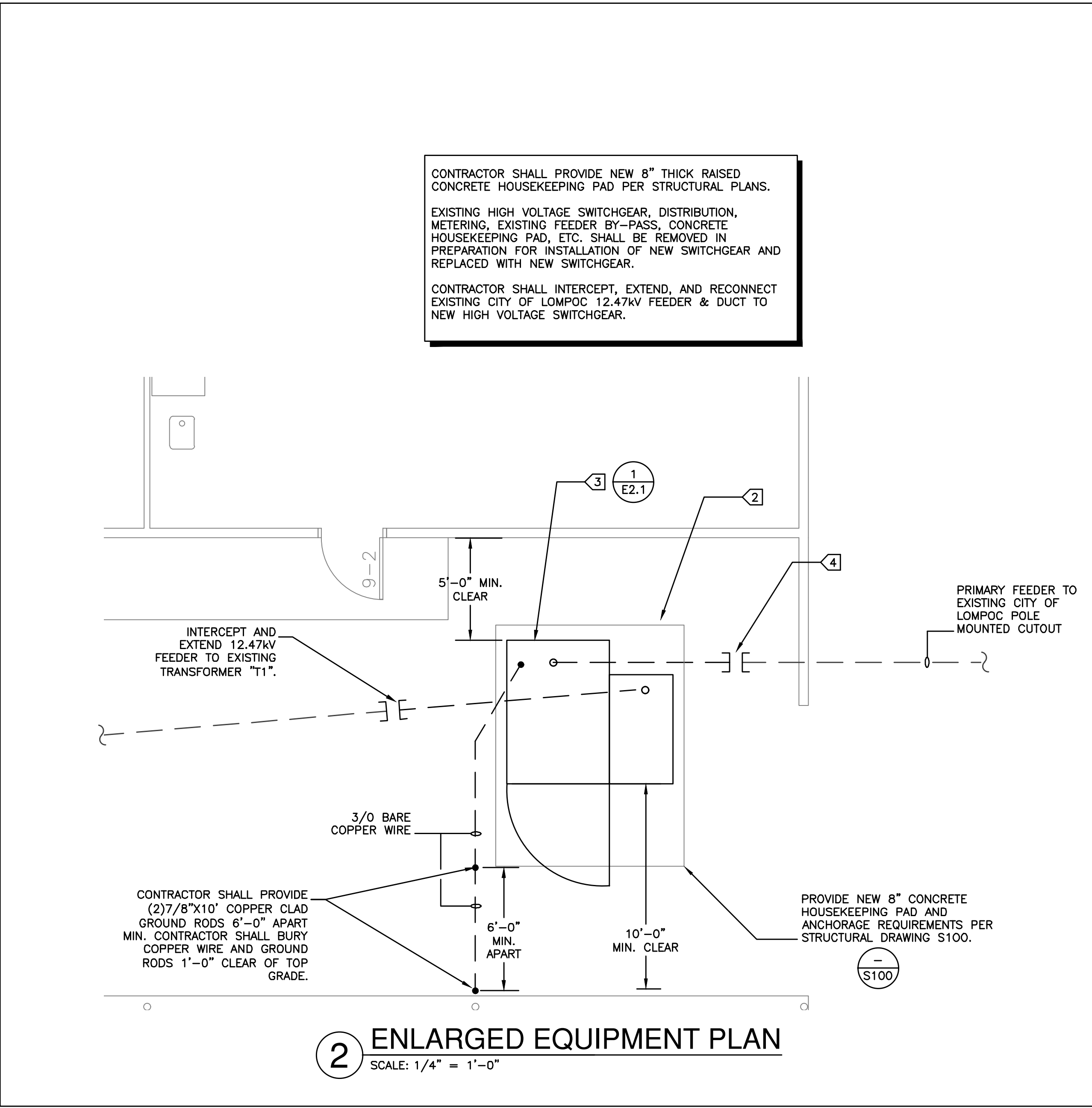
A. GENERAL	1. SCOPE
	THE DRAWINGS AND THESE GENERAL NOTES DESCRIBE THE SCOPE OF WORK AND SYSTEMS. THE MATERIAL REQUIRED FOR THE WORK SHALL BE CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED, UNLESS SPECIFICALLY NOTED OTHERWISE. THE WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING PRINCIPAL SYSTEMS AND EQUIPMENT.
2. PERMITS AND CHARGES	OBTAIN AND PAY FOR ALL NECESSARY CONSTRUCTION PERMITS, INSPECTION FEES, AND OTHER CHARGES BY AGENCIES HAVING JURISDICTION.
	3. REGULATIONS AND CODES
4. VERIFICATION OF EXISTING CONDITIONS	PROVIDE AND INSTALL ALL MATERIALS IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, CALIFORNIA ADMINISTRATIVE CODE TITLE 8, AND OTHER CODES AND REGULATIONS HAVING JURISDICTION. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE INSPECTING AUTHORITY AND THE MANUFACTURERS' RECOMMENDATIONS.
	CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING:
5. COORDINATION	APPLICABLE CODES
	2019 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.;
6. SERVICE CONTINUITY	2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.;
	2019 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.;
7. AS BUILT	2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.;
	2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.;
8. MARK PROJECT RECORD DOCUMENTS DAILY TO INDICATE ALL CHANGES MADE IN THE FIELD.	2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 C.C.R.;
	2019 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 C.C.R.;
9. SHOP DRAWINGS	2019 TITLE 19 C.C.R. PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
	CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING:
10. CONTRACTOR BID	NFPA 13-AUTOMATIC SPRINKLER SYSTEMS, 2016 EDITION
	NFPA 14-STANDPIPE SYSTEMS, 2016 EDITION
11. MATERIAL AND INSTALLATION	NFPA 17A-WET CHEMICAL SYSTEMS, 2017 EDITION
	NFPA 24-PRIVATE FIRE MAINS, 2016 EDITION - PART OF NFPA 13 CHAPTER 5
12. CONDUITS	NFPA 72 (CALIFORNIA AMENDED) - NATIONAL FIRE ALARM CODES, 2016 EDITION
	NFPA 101 LIFE SAFETY, 2018 EDITION
13. FEEDERS AND BRANCH CIRCUITS IDENTIFICATION	NFPA 253-CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS, 2015 EDITION
	NFPA 2001-CLEAN AGENT FIRE EXTINGUISHING SYSTEMS, 2015 EDITION
14. IDENTIFY BRANCH CIRCUITS WITH ID, MARKERS, THE CORRESPONDING CIRCUIT DESIGNATION AT THE OVER-CURRENT DEVICE, AT ALL SPLICES, IN JUNCTION BOXES, AND IN OUTLETS. LABEL EACH CABLE COATED SELF-STICKING MARKERS SUCH AS THOMAS & BETTS E-Z CODE FOR IDENTIFICATION OF CONDUCTORS.	CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING:
	NFPA 13-AUTOMATIC SPRINKLER SYSTEMS, 2016 EDITION
15. CONDUCTORS	NFPA 14-STANDPIPE SYSTEMS, 2016 EDITION
	NFPA 17A-WET CHEMICAL SYSTEMS, 2017 EDITION
16. SWITCHGEAR (CABINETS, SQUARE-D, OR IEM)	NFPA 24-PRIVATE FIRE MAINS, 2016 EDITION - PART OF NFPA 13 CHAPTER 5
	NFPA 72 (CALIFORNIA AMENDED) - NATIONAL FIRE ALARM CODES, 2016 EDITION
17. DEMOLITION	NFPA 101 LIFE SAFETY, 2018 EDITION
	NFPA 253-CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS, 2015 EDITION
18. REMOVAL OF MATERIALS AND EQUIPMENT WHICH IS SALVAGEABLE SHALL REMAIN THE PROPERTY OF THE OWNER. DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT ON THE PREMISES AS DIRECTED BY THE OWNER AND NEARLY FILE OR STORE THEM AND PROTECT FROM DAMAGE. REMOVE FROM PREMISES AND DISPOSE OF ALL MATERIALS CONSIDERED BY THE OWNER TO BE SCRAP.	CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING:
	NFPA 13-AUTOMATIC SPRINKLER SYSTEMS, 2016 EDITION
19. ALL DEVICES, CIRCUITS CONDUCTORS, FEEDERS ETC., WHEN NOTED TO BE REMOVED, SHALL BE REMOVED TO THE LAST ACTIVE DEVICE. ALL OVER-CURRENT PROTECTION AND DISCONNECT DEVICES NO LONGER UTILIZED BUT REMAINING AS LAST ACTIVE DEVICE SHALL BE LABELED AS "SPARE". COORDINATE ALL OUTAGES WITH OWNERS REPRESENTATIVE.	NFPA 14-STANDPIPE SYSTEMS, 2016 EDITION
	NFPA 17A-WET CHEMICAL SYSTEMS, 2017 EDITION
20. CONTRACTOR SHALL PROVIDE PERMANENT SIGNAGE AT ALL HIGH VOLTAGE ENCLOSURES, FENCINGS, ROOMS, VAULTS, ETC. PER CEC 110.34(C). SIGNAGE SHALL READ "DANGER-HIGH VOLTAGE-KEEP OUT"	NFPA 24-PRIVATE FIRE MAINS, 2016 EDITION - PART OF NFPA 13 CHAPTER 5
	NFPA 72 (CALIFORNIA AMENDED) - NATIONAL FIRE ALARM CODES, 2016 EDITION
21. ALL SWITCHBOARDS & PANELBOARDS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS, PER CEC 110.16 THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.	NFPA 101 LIFE SAFETY, 2018 EDITION
	NFPA 253-CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS, 2015 EDITION

## GENERAL ELECTRICAL NOTES

D.	EXECUTION
	CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE CONFINES AS MUCH AS POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION. ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.
	1. EQUIPMENT, MATERIALS AND SUPPLIES REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF THE SAME KIND AND QUALITY.
	2. DO ALL DRILLING, CUTTING, CHANNELING AND PATCHING REQUIRED TO INSTALL ELECTRICAL WORK AS INDICATED OR HEREIN SPECIFIED. ALL HOLES, CURBS, ETC., IN FLOORS, CEILINGS AND WALLS SHALL BE PATCHED, UNLESS INDICATED OTHERWISE. PAINT ALL NEW ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES AND FITTINGS PENETRATING INTO FIRE RATED ENVELOPES, SPACES, ETC.
	3. ALL CONDUIT RUNS SHALL BE CONCEALED, UNLESS SHOWN OTHERWISE. PROVIDE A PULL WIRE IN ALL EMPTY CONDUITS.
	4. EXISTING CONDITION SHOWN IS FROM AVAILABLE RECORD DRAWINGS AND VISUAL FIELD SURVEY AND SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITION AT SITE.
	5. ALL WORK SHOWN IS NEW UNLESS SPECIALLY INDICATED AS EXISTING (X). ALL ELECTRICAL EQUIPMENT MOUNTING AND ANCHORAGE MUST CONFORM WITH LOCAL AND STATE SEISMIC CODES.
E.	GROUNDING & BONDING
	FURNISH AND INSTALL COMPLETE BONDING AND GROUNDING SYSTEM AS REQUIRED BY CODES. CONTINUITY OF GROUNDING SHALL BE MAINTAINED MECHANICALLY AND ELECTRICALLY THROUGHOUT THE SYSTEM. A GREEN GROUNDING CODE SIZED CONDUCTOR SHALL BE CARRIED IN ALL CONDUITS.
F.	INSTALLATION
	IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. TOWARD THIS END FURNISH ALL LABOR AND TOOLS NECESSARY AND FURNISH AND INSTALL ALL APPARATUS, MATERIALS AND EQUIPMENT IN A FASHION COMPLYING WITH ALL APPLICABLE CODES, INCLUDING ITEMS REQUIRED BUT NOT NORMALLY SHOWN, SUCH AS LAMPS, COUPLINGS, HANGERS, BRACKETS, CLAMPS, BOXES, CONNECTORS AND HARDWARE. REFER ALSO TO WRITTEN SPECIFICATIONS FOR GENERAL, MECHANICAL AND ELECTRICAL SECTIONS.
	1. PROCURE ALL PERMITS FROM LEGALLY CONSTITUTED AUTHORITIES. ARRANGE FOR ALL INSPECTIONS AND PAY ALL COSTS FOR FEES AND TESTS IN CONNECTION THEREWITH. COMPLY WITH CODES: NOTHING IN THESE PLANS AUTHORIZES DEVIATION FROM APPLICABLE CODES.
	2. DETERMINE EXISTING ROUTING OF CONCEALED FEEDERS AND BRANCH HOMERUNS IN COOPERATION WITH OTHER TRADES TO SIMPLIFY INSTALLATION WHEREVER POSSIBLE BUT SUBJECT TO APPROVAL OF ARCHITECT FOR VISUAL AND STRUCTURAL REASONS.
	3. DO NOT RUN ANY CONDUIT IN SLAB IF ITS OUTSIDE DIAMETER EXCEEDS 1/3 THE THICKNESS OF THE SLAB. DO NOT RUN THEM WITHIN THE MIDDLE OF THE SLAB, WHERE CONDUITS ARE GROUPED IN PARALLEL, RUNS SPACE THEM 3" OR MORE APART. WHERE CONDUITS CROSS EACH OTHER, THICKEN SLAB PROPORTIONATELY OVER A HORIZONTAL AREA EQUAL TO TEN TIMES THE DIAMETER OF THE LARGEST CONDUIT. REFER ALSO TO DETAILS SHOWN.
	4. SIZE OUTLET BOXES IN CONFORMITY WITH CODE FOR NUMBER AND GAUGE OF CONDUCTORS THEREIN, EXCEPT WHERE NOTED TO BE LARGER. MINIMUM BOX SIZE SHALL BE 4" SQUARE BY 1-1/2" DEEP.
	5. ALL ELECTRICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIRING. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. EXPOSED CONDUIT SHALL BE IN STRAIGHT LINES PARALLEL WITH, OR AT RIGHT ANGLES TO, COLUMN LINES OR BEAMS AND SEPARATED BY AT LEAST THREE (3) INCHES FROM WATER LINES WHENEVER THEY RUN LONG SIDE OR ACROSS SUCH LINES. CONDUIT SHALL NOT BE RUN BELOW CABLE TRAYS OR LIGHT FIXTURES WITHOUT SPECIFIC APPROVAL OF THE OWNERS REPRESENTATIVE. HANGERS SHALL BE FASTENED TO STEEL STRUCTURE OR MASONRY, BUT NOT TO PIPING, HANGERS AND SUPPORT SYSTEMS ARE AN INTEGRAL PART OF THE VISUAL ENVIRONMENT. ALL HANGERS AND SUPPORTS EXPOSED TO PUBLIC VIEW MUST BE SHOWN IN DETAIL ON PLANS SUBMITTED TO AND FOR APPROVAL OF ARCHITECT. ALL HANGERS MUST BE UNIFORM SPACING AND NEATLY INSTALLED WITH NO EXCESS MATERIAL BEYOND WHAT IS REQUIRED FOR THE SUPPORT FUNCTION. CONTRACTOR SHALL SELECT ACCESSORIES AND HARDWARE WITH A SMOOTH, NEAT FINISHED SURFACE AND PAINT ALL EXPOSED CONDUIT HANGERS TO MATCH THE ADJACENT FINISHES.
	6. ALL DISTRIBUTION BOARDS, SWITCHBOARDS AND TRANSFORMERS THAT ARE FLOOR MOUNTED SHALL BE MOUNTED ON A HOUSEKEEPING PAD.
G.	GENERAL - CONTINUED
	IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A COMPLETE AND OPERABLE ELECTRICAL SYSTEM AS SHOWN ON THE DRAWING(S). THE COMPLETE INSTALLATION SHALL MEET REQUIREMENTS OF THE LATEST NATIONAL ELECTRICAL CODE AND ALL LOCALLY ADOPTED AMENDMENTS, INCLUDING BUT NOT NECESSARILY LIMITED TO THE FOLLOWING:
	CALIFORNIA ELECTRICAL CODE - LATEST EDITION
	1. CALIFORNIA ADMINISTRATIVE CODE, TITLE 24
	2. CALIFORNIA ADMINISTRATIVE CODE, TITLE 19, FIRE CODE
	3. UNDERWRITERS LABORATORY
	4. AMERICAN NATIONAL STANDARD INSTITUTE
	5. NEMA (NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION)
	6. ALL OTHER APPLICABLE STATE, LOCAL LAWS AND REGULATIONS 7.
	WHERE THESE SPECIFICATIONS CALL FOR A HIGHER STANDARD THAN THE ABOVE-MENTIONED RULES, THE SPECIFICATIONS SHALL GOVERN.
	IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL ALL WORK IN ACCORDANCE WITH STAMPED PLANS APPROVED BY THE ELECTRICAL DIVISION OF THE DEPARTMENT OF BUILDING AND SAFETY.
	PRIOR TO CONTRACTOR SUBMITTING HIS BID, HE SHALL VISIT THE JOB SITE TO BECOME COMPLETELY FAMILIAR WITH ALL ASPECTS OF THE NEW CONSTRUCTION AND ALL REQUIREMENTS THAT MAY BE IMPOSED BY THE OWNER. FAILURE TO DO THIS WILL RELIEVE OWNER FROM ANY FINANCIAL OBLIGATION FOR EXTRA WORK OR COST INCURRED BY THE CONTRACTOR. CONTRACTOR TO TAKE NOTE OF ALLOWABLE WORK HOURS, ON-SITE STORAGE FACILITIES, AND AVAILABLE PARKING AND INCLUDE THIS IN HIS BID.
	ALL PERMITS SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR.
	ACCURATE RECORD DRAWINGS SHALL BE MAINTAINED AND PRESENTED TO THE OWNER AND THE ELECTRICAL ENGINEER AT THE TIME OF OCCUPANCY PERMIT.
	THE CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL HIS WORK FOR ONE YEAR AFTER ACCEPTANCE AND FURNISH ALL MANUFACTURER WARRANTIES FOR THE EQUIPMENT HE FURNISHES.
	THE CONTRACTOR SHALL INSTALL ALL ELECTRIC EQUIPMENT IN A NEAT AND WORKMANLIKE MANNER. ELECTRICAL EQUIPMENT SHALL BE FIRMLY SECURED TO THE SURFACE ON WHICH IT IS MOUNTED.
	CERTIFICATION OF THE QUALIFICATION OF MEDIUM VOLTAGE CABLE SPLICERS/TERMINATORS SHALL BE SUBMITTED, FOR APPROVAL, 30 DAYS BEFORE SPLICES OR TERMINATION ARE TO BE MADE IN MEDIUM VOLTAGE CABLES. THE CERTIFICATIONS SHALL INDICATE THAT THE INDIVIDUAL HAS HAD THREE OR MORE YEARS RECENT EXPERIENCE SPLICING AND TERMINATING MEDIUM VOLTAGE CABLES. THE CERTIFICATION SHALL ALSO LIST A MINIMUM OF THREE SPLICES/TERMINATIONS THAT HAVE BEEN IN OPERATION FOR MORE THAN ONE YEAR. THE CONTRACTOR SHALL PROVIDE DETAILED MANUFACTURER'S INSTRUCTIONS FOR THE CABLE TO BE SPLICED. THE ENGINEER RESERVES THE RIGHT TO REQUIRE ADDITIONAL PROOF OF COMPETENCY OR TO REJECT THE INDIVIDUAL AND CALL FOR CERTIFICATION ON AN ALTERNATE CABLE SPLICER.
	THE ELECTRICAL CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF THE SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL WITHIN THIRTY (30) DAYS AFTER THE AWARD OF THE GENERAL CONTRACT. IF SUCH A SCHEDULE CANNOT BE MET, THE ELECTRICAL CONTRACTOR MAY REQUEST IN WRITING FOR AN EXTENSION OF TIME TO THE ARCHITECT. IF THE ELECTRICAL CONTRACTOR DOES NOT SUBMIT SHOP DRAWINGS IN THE PRESCRIBED TIME, THE ARCHITECT HAS THE RIGHT TO SELECT THE EQUIPMENT.
	SHOP DRAWINGS SHALL BE SUBMITTED ON ALL MAJOR PIECES OF ELECTRICAL EQUIPMENT, INCLUDING SERVICE-ENTRANCE EQUIPMENT, LIGHTING FIXTURES, PANELBOARDS, SWITCHES, WIRING DEVICES AND PLATES, AND EQUIPMENT FOR MISCELLANEOUS SYSTEMS. EACH ITEM OF EQUIPMENT PROPOSED SHALL BE A STANDARD CATALOG PRODUCT OF AN ESTABLISHED MANUFACTURER. THE SHOP DRAWING SHALL GIVE COMPLETE INFORMATION ON THE PROPOSED EQUIPMENT. EACH ITEM OF THE SHOP DRAWINGS SHALL BE PROPERLY LABELED, INDICATING THE INTENDED SERVICE OF THE MATERIAL, THE JOB NAME AND ELECTRICAL CONTRACTOR'S NAME.
	WHERE EQUIPMENT IS IDENTIFIED BY MANUFACTURER AND CATALOG NUMBER, IT SHALL BE CONSTRUED AS THE BASIS OF REQUIREMENTS FOR QUALITY AND PERFORMANCE. WHEN MANUFACTURERS FOR EQUIPMENT ARE IDENTIFIED BY NAME, THE ELECTRICAL SUBCONTRACTOR MAY SUBMIT FOR APPROVAL, EQUIPMENT IDENTICAL TO THAT OF THE OWNER. THE ENGINEER RESERVES THE RIGHT TO REQUIRE RESPONSIBILITY TO PROVIDE SUFFICIENT SUPPORTING DATA TO PERMIT EVALUATION OF THE PROPOSED SUBSTITUTE WITH RESPECT TO QUALITY, PERFORMANCE, SERVICEABILITY, AND WARRANTY. THE ENGINEER'S DECISION AS TO WHETHER THE SUBMITTED EQUIPMENT IS ACCEPTABLE SHALL BE FINAL AND BINDING.
	ALL CHANGES NECESSARY TO ACCOMMODATE THE SUBSTITUTED EQUIPMENT SHALL BE MADE AT THE CONTRACTOR'S EXPENSE, AND SHALL BE AS APPROVED BY THE ENGINEER. DETAILED DRAWINGS INDICATING THE REQUIRED CHANGES SHALL BE SUBMITTED FOR APPROVAL AT THE TIME THE SUBSTITUTION IS REQUESTED.
	AT COMPLETION OF WORK, THIS CONTRACTOR SHALL CLEAN UP AND REMOVE ALL DEBRIS AND MATERIALS NOT INSTALLED IN WORK, DISPOSE IN AN ENVIRONMENTALLY APPROVED MANNER, LEAVING PREMISES CLEAN.
	ELECTRICAL CONTRACTOR SHALL PROVIDE A TEMPORARY CONSTRUCTION SERVICE IF REQUIRED FOR THIS PROJECT TO MAINTAIN ESSENTIAL SERVICES DURING CIRCUIT CUT-OVER PERIODS.
	CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS AND ROUTING TO BE DETERMINED IN THE FIELD TO SUIT CONDITIONS.
	ALL MATERIAL AND EQUIPMENT SHALL BE NEW, UL LISTED, APPROVED BY THE LOCAL JURISDICTION AND, UNLESS OTHERWISE NOTED, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. EQUIPMENT EXPOSED TO WEATHER SHALL BE UL LISTED WEATHERPROOF.
	ALL REQUIRED POWER OUTAGES THAT ARE NECESSARY IN ORDER TO COMPLETE ANY PORTION OF THE WORK SHALL BE ENTIRELY AT THE OWNER'S CONVENIENCE AND AT A TIME DESIGNATED BY HIM AND BE FULLY COORDINATED WITH THE OWNER'S REPRESENTATIVE. A MINIMUM OF 48 HOURS OF NOTICE AND NOTICE TO DISCONNECT SHALL BE FURNISHED TO THE OWNER. THE DURATION OF TIME OF OUTAGE BEFORE THIS CONTRACTOR DISCONNECTS ANY CIRCUITS. CONTRACTOR SHALL FURNISH, MAINTAIN AND REPAIR ALL JUMPS, JUNCTIONS, AND LOADS THAT THE OWNER DESIGNATES AS NOT BEING ABLE TO SHUT DOWN DURING CONSTRUCTION.
	SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS THAT CAUSE DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL IN A TIMELY MANNER SO NOT TO IMPAIR THE CONSTRUCTION SCHEDULE OR SEQUENCE OF EVENTS, SUBMIT A WRITTEN REPORT OF THE CONDITIONS FOUND AND THE OWNER'S REPRESENTATIVE FOR APPROPRIATE DIRECTION ON HOW TO COMPLETE THE WORK IN QUESTION.



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## SHEET NOTES

- FIELD VERIFY LOCATION OF ALL BUILDINGS AND APPENDICES AND ON ARCHITECTURAL AND CIVIL RECORD DRAWINGS.
- CONTRACTOR SHALL VERIFY LOCATION & REQUIREMENTS OF ALL ELECTRICAL DEVICES PRIOR TO BID. ROUGH-IN & INSTALLATION.
- FIELD VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO TRENCHING. SCHEDULE AND COORDINATE ALL SITE WORK WITH OWNER PRIOR TO ANY TRENCHING.
- CONTRACTOR SHALL COORDINATE AND PROVIDE ALL SITE ELECTRICAL SERVICE REQUIREMENTS WITH SERVING UTILITY.
- ALL SERVICE ENTRANCE EQUIPMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE LOCAL UTILITY COMPANY FOR APPROVAL, WITH WRITTEN APPROVAL RECEIVED PRIOR TO SUBMISSION TO ELECTRICAL ENGINEER FOR APPROVAL.
- MINIMUM CONDUIT BURIAL DEPTH IS 36", 36" MINIMUM BELOW STREETS & PARKING LOTS FOR 600V-25KV SYSTEMS.
- COORDINATE WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTIONS, DEVICES, AND WIRING REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT.
- CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL CONDUCTORS PER CONDUCTOR MANUFACTURERS RECOMMENDATIONS, PER THE NATIONAL ELECTRICAL CODE AND PER LOCAL AUTHORITIES HAVING JURISDICTION.
- FIELD CONDITIONS GOVERN DEMOLITION AND NEW CONSTRUCTION. CONTRACTOR SHALL VERIFY ACTUAL CONDITIONS PRIOR TO START OF WORK. ARCHITECT / ENGINEER SHALL BE NOTIFIED OF POSSIBLE FIELD PROBLEMS PRIOR TO DEMOLITION. CONTRACTOR SHALL NOTIFY DISTRICT REPRESENTATIVE OF WORK BEING PERFORMED. COORDINATE WITH DISTRICT REPRESENTATIVE.
- CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION OF TRENCHING. CONTRACTOR SHALL PROTECT ALL EXISTING / REMAINING UTILITIES IN PLACE. CONTRACTOR AT HIS SOLE EXPENSE, SHALL REPAIR ANY UTILITIES SYSTEM DAMAGED DURING CONSTRUCTION.
- VERIFY & PROVIDE ALL UTILITY SYSTEMS PER SERVING UTILITY STANDARD REQUIREMENTS.

## KEY NOTES

- EXISTING HAPGOOD SCHOOL 12.47KV MAIN SERVICE SWITCHGEAR TO BE UNBOLTED, DISASSEMBLED, REMOVED, AND TRANSPORTED TO LUSD MAINTENANCE FACILITY. EXISTING SWITCHGEAR TO BE REASSEMBLED AT LUSD MAINTENANCE FACILITY AND COVERED WITH WEATHERPROOF PROTECTIVE COVERING AND STORED FOR LATER USE FOR SPARE PARTS. VERIFY REQUIREMENTS WITH DISTRICT REPRESENTATIVE PRIOR TO BID PROPOSAL.
- EXISTING CONCRETE HOUSEKEEPING PAD TO BE DEMOLISHED AND REMOVED. CONTRACTOR SHALL PROVIDE NEW SWITCHGEAR CONCRETE HOUSEKEEPING PAD, ANCHOR BOLTS, AND GROUNDING SYSTEMS.
- NEW HAPGOOD SCHOOL MAIN SERVICE SWITCHGEAR SHALL BE SET, BOLTED, TORQUED, AND ANCHORED, ETC. ON NEW CONCRETE HOUSEKEEPING PAD PER STRUCTURAL REQUIREMENTS. REITERMINATE EXISTING DISTRIBUTION CABLING PER MAIN SERVICE EQUIPMENT MANUFACTURER'S APPROVED SHOP DRAWINGS SUBMITTALS, AND UTILITY REQUIREMENTS.
- COORDINATE WITH CITY OF LOMPOC UTILITY TO INTERCEPT & EXTEND EXISTING PRIMARY DUCT TO NEW SWITCHBOARD AND REPLACE UTILITY FEEDER AS REQUIRED.

## SITE KEY MAP

SCALE: NONE

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 03-122441 INC.  
REVIEWED FOR  
SS ☒ FLS ☒ ACS ☐  
DATE: 12/14/2022

LOMPOC UNIFIED SCHOOL DISTRICT  
HAPGOOD ELEMENTARY SCHOOL  
3845 S ST. LOMPOC, CA 94646  
SWITCHGEAR REPLACEMENT



KRUGER BENSEN ZIEMER  
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JONATHAN LEE  
ARCHITECTURAL ASSISTANT

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C. HOOD & ASSOCIATES, INC.  
CONSULTING ELECTRICAL ENGINEERING

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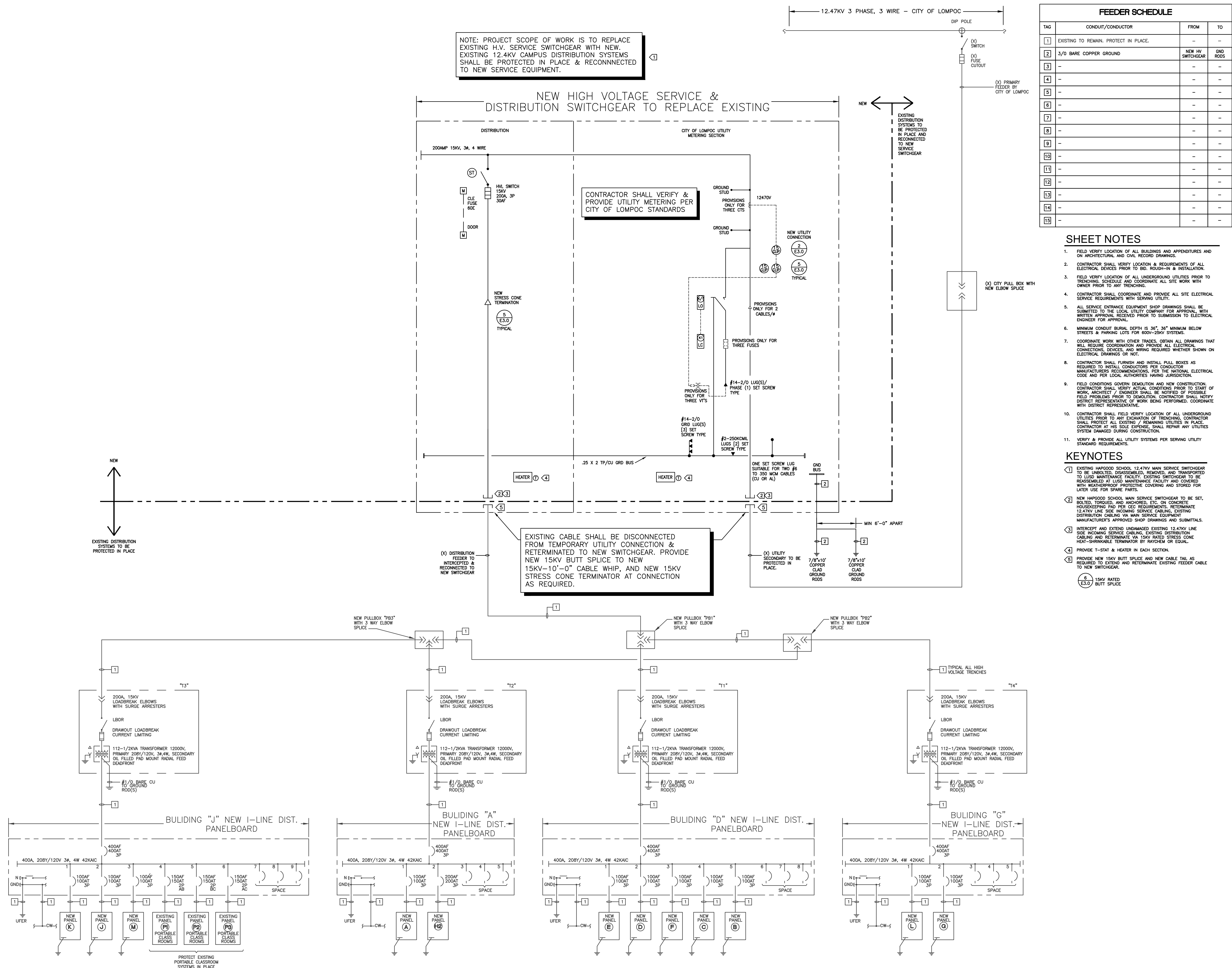
REVISION	DESCRIPTION	DATE	BY
DRAWN	AM		
CHECKED	CH		
DATE	8/4/2022		
JOB NO.	21075		
CHA. NO.	21-249		
SHEET			
TITLE	SITE POWER PLAN		

SHEET

E2.0



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ALL SERVICE ENTRANCE EQUIPMENT SHOP DRAWINGS SHALL BE SUBMITTED TO CITY OF LOMPOC FOR APPROVAL, WITH WRITTEN APPROVAL RECEIVED PRIOR TO SUBMISSION TO ELECTRICAL ENGINEER FOR HIS APPROVAL.

LOMPOC UNIFIED SCHOOL DISTRICT  
HAPGOOD ELEMENTARY SCHOOL  
3324 S. 1ST, LOMPOC, CA 93436  
SWITCHGEAR REPLACEMENT



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	-	-/-/-	X

REVISION	DESCRIPTION	DATE	BY
DRAWN	AM		
CHECKED	CH		
DATE	8/4/2022		
CB. NO.	21075		
HA. NO.	21-249		
SHEET	ELECTRICAL		
TITLE	SINGLE LINE DIAGRAM		

HEET

## E2.1







REV	DESCRIPTION	BY	DATE						
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Utility - Hot Sequence

Feeder

93.65  
[2379]

4.00  
[102]

SECT 1  
60.00  
[1524]

SECT 2  
38.00  
[965]

98.00  
[2489]

98.00  
[2489.20]

FUSE  
HANDLING  
TOOL &  
HOT STICK  
MOUNTED  
BEHIND  
OUTER DOOR  
(THIS END)

ID NP

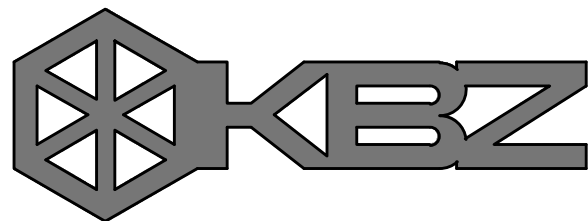
DWG# FQ-3366120-94983270-01

DUAL DIMENSIONS: INCHES  
MILLIMETERS

JOB NAME:	Hopgood Elementary School Switchgear Replacement	EQUIPMENT DESIGNATION:	MAIN SWITCHGEAR
JOB LOCATION:		EQUIPMENT TYPE:	METAL ENCLOSED SWITCHGEAR
DRAWN BY:	Q2C	DRAWING TYPE:	ELEVATION
ENCR:			
DATE:	July 20 2022		
DRAWING STATUS:	QUOTE	DWG#	FQ-3366120-94983270-01
		PG	1 OF 1
		REV	

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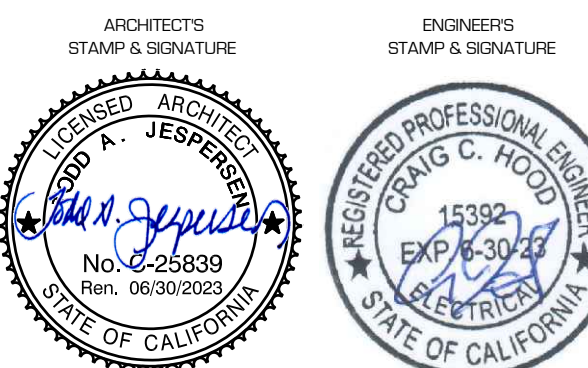
LOMPOC UNIFIED SCHOOL DISTRICT  
HAPGOOD ELEMENTARY SCHOOL  
324 S ASTI, LOMPOC, CA 93436  
SWITCHGEAR REPLACEMENT








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JONATHAN LEE

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	-	-/-/-	X

REVISION	DESCRIPTION	DATE	BY
DRAWN	AM		
CHECKED	CH		
DATE	8/4/2022		
JOB. NO.	21075		
CHA. NO.	21-249		
SHEET	SERVICE ENTRANCE RATED		
TITLE	HIGH VOLTAGE SWITCHGEAR		



REV	DESCRIPTION	BY	DATE
--	----	--	----

GENERAL NOTES:

PRODUCT DESCRIPTION AND RATINGS:

POWER SYSTEM DATA:  
12470 VOLTS, 3 PHASE, 3 WIRE WYE SOLIDLY GROUNDED  
15.0 KV MAXIMUM VOLTAGE RATING  
95 KV BIL, 60 HERTZ FREQUENCY

BUS SYSTEM DATA:  
600A COPPER, SILVER PLATED MAIN BUS  
GLASS POLYESTER BUS SUPPORTS  
SILVER PLATED COPPER GROUND BUS  
40 kA Asym (25 kA Sym) MAIN BUS BRACING

ENCLOSURE DATA:  
TYPE 3R OUTDOOR NON-WALKIN CONSTRUCTION  
ANSI #61 FINISH  
FRONT TYPE 3R REMOVED FOR CLARITY  
PADLOCK PROVISIONS

HANDLING:  
SWITCHGEAR SECTIONS ARE FURNISHED WITH LIFTING ANGLES AND ARE SHIPPED ON SKIDS.  
ROLLERS OR FORKLIFT SHALL ONLY BE USED WITH SKID IN PLACE.  
LINEUP WEIGHT 2650.00 LBS/1202.04 KG  
Shipping Split – 1, 2650.00 LBS/1202.04 KG

CODE STANDARDS:  
THIS EQUIPMENT BEARS THE UL LISTING MARK FOR THE UNITED STATES.  
SEISMIC QUALIFIED.

PRODUCT INFORMATION:

CONTROL AND CURRENT WIRING:  
#14 AWG SIS, CONTROL CIRCUIT WIRING  
#12 AWG SIS, CURRENT CIRCUIT WIRING  
#12 AWG SIS, HEATER CONTROL WIRING

WIRE LABELING:  
WIRES SHALL BE LABELED WITH DESTINATION MARKING (DESTINATION-ORIGIN).

TERMINATIONS:  
LOW VOLTAGE WIRE TERMINATIONS (WHERE REQUIRED) SHALL BE UNINSULATED RING TYPE LUGS (STYLE 25009-XXXXX). TERMINAL BLOCKS ARE COMPRESSION SOLDERLESS BOX LUG (TYPE 9080 GR6), FUSE BLOCK (9080GF6).

INSTRUCTION BULLETIN:  
SHUNT TRIP HVL INST. MANUAL  
MANUAL HVL INST. MANUAL

OPTIONS/ACCESSORIES:

LIST OF MISC. STRUCTURE OPTIONS  
4.0" BASE CHANNEL  
DUPLEX RECEPTACLE  
GASKET & FILTER  
HOT STICK W/FUSE HANDLING TOOL  
LIGHT & SWITCH  
STRIP HEATER – WIRED  
TOUCH UP PAINT

LIST OF MISC. COMMON DEVICE OPTIONS  
CERTIFIED TEST REPORT  
PILOT LIGHT TYPE, Resistor  
TERMINAL BLOCK LUG TYPE, 9080G Compression/Insulated

LIST OF MISC. COMMUNICATIONS OPTIONS

LIST OF MISC. DEVICE OPTIONS  
CONTROL SWITCH, 01 SWITCH WITH 1T, 1C, Section 2  
1 SET OF SPARE FUSES, Section 2

JOB NAME:	Hopgood Elementary School Switchgear Replacement	EQUIPMENT DESIGNATION:	MAIN SWITCHGEAR
JOB LOCATION:		EQUIPMENT TYPE:	METAL ENCLOSED SWITCHGEAR
DRAWN BY:	(Q2C)	DRAWING TYPE:	GENERAL NOTES
ENCR:			SQUARE D <sup>®</sup> <small>by International Electric</small>
DATE:	July 20 2022		
DRAWING STATUS:	QUOTE	DWG# FO-3366120-94983270-03	PG 1 OF 1   REV -

REV. \_\_\_\_\_ BY \_\_\_\_\_ DATE \_\_\_\_\_ DESCRIPTION \_\_\_\_\_

CONTROL CONDUIT AREA, 2.00 x 4.00  
[51] [102]

POWER CABLE CONDUIT AREA

2.00 [51]

64.00 [1626]

4.00 [102]

60.00 [1524]

2.00 [51]  
(ROOF OVERHANG FRONT & REAR)

\*\* 34.00x6.00 [864] [152]

\* 34.00x12.00 [864] [305]

\* DENOTES BOTH ENTRANCE AND EXIT IN SAME LOCATION.  
\*\* DENOTES SINGLE ENTRANCE OR EXIT.

CONTROL CONDUIT AREA, 2.00 x 4.00  
[51] [102]

POWER CABLE CONDUIT AREA

2.00 [51]

4.00 [102]

60.00 [1524]

53.50 [1359]

8.00 [203]

3.25 [83]

38.00 [965]

(4) .88/22 MTG HOLES

ANCHOR ASSEMBLY

ANCHORING ANGLE

HILTIKVIK-BOLT "1/2"-2" ANCHORING FASTENER (SUPPLIED BY CUSTOMER)

HILTIKVIK-BOLT "1/2"-2" HEX NUT (SUPPLIED BY CUSTOMER)

STEEL BELLEVILLE WASHER (WASHER MUST BE FACE UP FACTORY TESTED ASSEMBLY - TO MAINTAIN SEISMIC QUALIFICATION DO NOT SUBSTITUTE)

7/8" DIA HOLE

CROWN

TOP

ANCHOR ASSEMBLY

SEE ANCHOR ASSEMBLY

MOUNTING DETAILS

ANCHOR ASSEMBLY

### SITE PREPARATION – SWITCHGEAR INSTALLATION

GOOD SITE PREPARATION IS NECESSARY TO ELIMINATE COSTLY, TIME-CONSUMING INSTALLATION PROBLEMS AND ENSURE PROPER SWITCHGEAR OPERATION. COMPARE THE SITE PLANS AND SPECIFICATIONS WITH THE SWITCHGEAR DRAWINGS TO BE SURE THERE ARE NO DISCREPANCIES. CHECK THE SITE TO ENSURE THAT THE EQUIPMENT WILL FIT PROPERLY.

THE FLOOR SHOULD BE FLAT AND LEVEL WITHIN 1/16 INCH PER FOOT, OR A MAXIMUM OF 1/4 INCH WITHIN THE AREA OF THE SWITCHGEAR, TO PREVENT DISTORTION OF THE ENCLOSURES. ALLOW AISLE SPACE AT THE FRONT, BACK, AND ENDS OF THE SWITCHGEAR TO PERMIT ACCESS FOR EQUIPMENT MAINTENANCE; USUALLY A MINIMUM OF FIVE FEET IS NEEDED ON ALL SIDES.

PROVIDE AREA VENTILATION AT ALL TIMES TO MAINTAIN THE AMBIENT TEMPERATURE AROUND THE EQUIPMENT BETWEEN -30°C AND +40°C.

ADEQUATE LIGHTING AND CONVENIENCE OUTLETS SHOULD BE AVAILABLE NEAR THE SWITCHGEAR. ROUTE SEWER, WATER, AND STEAM LINES AWAY FROM THE EQUIPMENT. PROVIDE FLOOR DRAINS TO PREVENT WATER BUILDUP.

REVIEW THE ASSEMBLY DRAWINGS TO ENSURE THAT THE SWITCHGEAR SECTIONS WILL BE ASSEMBLED IN THE CORRECT ORDER. IF THE SWITCHGEAR WILL CONNECT TO AN EXISTING LINEUP, MOUNT THE CONNECTING SECTIONS FIRST.

MOUNT THE VARIOUS SHIPPING SECTIONS ON THE SAME PLANE AND LEVEL THEM TO ENSURE PROPER CONNECTION. AFTER LEVELING EACH SECTION, BOLT IT TO THE PREVIOUSLY INSTALLED SWITCHGEAR.

EACH SECTION INCLUDES THE NECESSARY MEANS FOR ANCHORING IT TO THE FLOOR. FASTEN INDOOR UNITS TO THE FLOOR USING THE HOLES LOCATED IN THE BOTTOM FLANGES OF THE ENCLOSURE. FASTEN OUTDOOR ENCLOSURES TO THE FOUNDATION USING THE HOLES LOCATED IN THE BOTTOM CROSS CHANNELS.

REMOVE THE LIFTING ANGLES FROM THE SIDE OF THE BASE AND STORE. TO BLOCK ENTRY OF WATER, EXTRANEOUS OBJECTS, OR WILDLIFE, REPLACE HARDWARE IN THE HOLES WHERE THE LIFTING ANGLES WERE REMOVED. THE BUS CONNECTORS FOR THE SHIPPING SPLITS ARE INCLUDED WITH THE SWITCHGEAR.

DUAL DIMENSIONS: INCHES  
MILLIMETERS

JOB NAME: Hapgood Elementary School Switchgear Replacement	EQUIPMENT DESIGNATION: MAIN SWITCHGEAR
JOB LOCATION:	EQUIPMENT TYPE: METAL ENCLOSED SWITCHGEAR
DRAWN BY: (Q2C)	DRAWING TYPE: DETAIL VIEW
ENGR:	<b>SQUARE D</b> <small>By Submittal Enclosure</small>
DATE: July 20 2022	
DRAWING STATUS: QUOTE	DWG# FQ-3366120-94983270-51

PG 1 OF 1 REV \_\_\_\_\_



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REVDESCRIPTIONBYDATE

REQUIREMENTS FOR SEISMIC RATING – 5–15 kV HVL NEMA TYPE 3R ENCLOSURE:  
**Equipment Anchorage:**  
To maintain seismic qualifications, equipment must be installed per applicable Instruction Bulletin and in accordance with anchorage details provided by Engineer of Record (EOR). Equipment attachment to building structure or foundation or mounting pad is the responsibility of the EOR. The EOR will size equipment attachments and supports to withstand the seismic demand at equipment installation location. Do not install equipment before approved seismic anchoring details have been obtained from the EOR and site preparations have been made.  
  
When developing mounting pad reinforcement locations, consideration must be made for conduit entry into last section. Refer to conduit entry details for dimensional information.  
  
The Anchor assembly view illustrates the equipment's as-tested attachment to seismic shake table test fixture. The equipment seismic capacity as stated on the Schneider Electric Seismic Certificate of Compliance was achieved with this size and grade hardware.  
  
**Section Weights and Center of Gravity Locations–Single Section, Worst Case:**  
The section weights and center of gravity locations specified below are worst case assessments for each listed section width. These values are provided in lieu of actual shipping weights and CG locations because of the field reconfigurable provisions of the equipment. Seismic anchorage detailing should be based on these more conservative values. For applications requiring precise CG location, such as precision lifting, consult with factory.

1/2 Dia Steel Belleville Washer

1/2–16 UNC SAE Grade 5 Anchor Fastener

7/8 DIA HOLE Clearance

ANCHORING ANGLE

TOP

Crown

Anchor Assembly (As Tested)

14.4 [365]

14.4 [365]

5.85 [149]

5.85 [149]

Typical Floor Plan – Multiple Sections (Plan View)

NOTE: \* DENOTES SEISMIC ANCHORAGE LOCATIONS

DUAL DIMENSIONS: INCHES MILLIMETERS

JOB NAME: Hopgood Elementary School Switchgear Replacement

JOB LOCATION:

DRAWN BY: (Q2C)

ENGR:

DATE: July 20 2022

DRAWING STATUS: QUOTE

EQUIPMENT DESIGNATION: MAIN SWITCHGEAR

EQUIPMENT TYPE: METAL ENCLOSED SWITCHGEAR

DRAWING TYPE: DETAIL VIEW

SQUARE D

DWG# FQ-3366120-94983270-52

PG. 1 OF 1 REV --

REVDESCRIPTIONBYDATE

Utility – Hot Sequence Feeder

ST

M

CONTACT

CS-3 65E Ferroz Mersen

DOOR M

HVL

15kV w/SEM

BFT

PROVISION FOR CONNECTING TO FUTURE TOP BUS EXTENSION

SET SCREW LUGS SUITABLE FOR ONE 1/0 AWG CABLE(S) /PH BOTTOM INCOMING

SET SCREW LUGS SUITABLE FOR ONE #4 AWG CABLE(S) /PH BOTTOM OUTGOING

ONE SET SCREW LUG SUITABLE FOR TWO #6 TO 350 MCM CABLES (CU OR AL)

ONE SET SCREW LUG SUITABLE FOR TWO #6 TO 350 MCM CABLES (CU OR AL)

CUSTOMER GROUND

Section 1

Section 2

PROVISION FOR FUTURE GROUND BUS EXTENSION

CUSTOMER GROUND

JOB NAME: Hopgood Elementary School Switchgear Replacement

JOB LOCATION:

DRAWN BY: (Q2C)

ENGR:

DATE: July 20 2022

DRAWING STATUS: QUOTE

EQUIPMENT DESIGNATION: MAIN SWITCHGEAR

EQUIPMENT TYPE: METAL ENCLOSED SWITCHGEAR

DRAWING TYPE: ONE LINE DIAGRAM

SQUARE D

DWG# OQ-3366120-94983270-01

PG. 1 OF 1 REV --

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 03-122441 INC:  
REVIEWED FOR  
SS ☒ FLS ☒ ACS ☐  
DATE: 12/14/2022

LOMPOC UNIFIED SCHOOL DISTRICT  
HAPGOOD ELEMENTARY SCHOOL  
3824 S A ST LOMPOC, CA 93438  
SWITCHGEAR REPLACEMENT

KBZ

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JOB NO.	21075		
CHA. NO.	21-249		
SHEET	SERVICE ENTRANCE RATED		
TITLE	HIGH VOLTAGE SWITCHGEAR		

E4.2