ABBREVIATIONS

LABORATORY

& @ A.B. ABV. A.C. ACT	AND AT ANCHOR BOLT ABOVE ASPHALTIC CONCRETE ACOUSTIC TILE	LAB. LAM. LAV. LKR. LT.
ADJ. A.F.F. ALUM. A.P. APPROX.	ADJUSTABLE ABOVE FINISHED FLOOR ALUMINUM ACCESS PANEL APPROXIMATELY	MAX. M.B. MECH. MFR. M.H.
ARCH. BLDG. BLKG. BM B.M. BOT.	ARCHITECT BOARD BUILDING BLOCKING BEAM BENCH MARK BOTTOM	MIN. MIR. MISC. M.O. M.S. MTD. MTL. MUL.
BTWN B.W. CAB. C.B. C.C or O.C.	BETWEEN BOTH WAYS CABINET CATCH BASIN CENTER TO CENTER	(N) N. N.I.C. NO. or # NOM.
CEM. CER. TILE C.G. C.J. CLG. CLKG. CLR. CMU CNTR. C.O. COL.	CEMENT CERAMIC TILE CORNER GUARD CAST IRON CONTROL JOINT CEILING CAULKING CLEAR CONCRETE MASONRY UNIT COUNTER CLEANOUT COLUMN	N.T.S. OBS. O.C. O.D. O.F.O.S. O.F.C.I. O.H. OPNG. OPP.
CONC. CONST. CONT. CONTR. C.P. CTR. CTSK. C.W. D.A.	CONCRETE CONSTRUCTION CONTINUOUS CONTRACTOR CONCRETE PIPE CENTER COUNTER SUNK COLD WATER DISABLED ACCESS	P.A.F. PL P.L. P.LAM PLAS. PLYWD. PR. PTD. PTN.
DBL D.F. D.FIR DTL. DIA. or Ø DIM. DISP. DN DO DR. DS. DWG.	DOUBLE DRINKING FOUNTAIN DOUGLAS FIR DETAIL DIAMETER DIMENSION DISPOSAL DOWN DITTO DOOR DOWNSPOUT DRAWING	Q.T. R. or RAD. R.C.P. R.D. REF. REINF. REQ'D R.H.M.S. R.H.W.S. RM.
ELEC. EL. ELEV.	EXISTING EAST EACH EXPANSION JOINT ELECTRIC or ELECTRICAL ELEVATION ELEVATOR ENCLOSE and/or ENCLOSURE EQUAL EQUIPMENT EACH WAY ELECTRIC WATER COOLER EXPANSION EXPOSED EXTERIOR	R.O. RWD. R.W.L. S.A.D. S.C.D. S.C.D. S.C.E.D. S.F. SHEATH. SHT. SIM. S.L.D.
F.H. F.H.C. F.H.S.M.S. F.H.W.S. FIN. FL. or FLR. F.O.C. F.O.F. F.O.M. F.O.S. F.S. FT.	FIRE ALARM FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FIRE HYDRANT FIRE HOSE CABINET FLAT HEAD SHEET METAL SCREW FLAT HEAD WOOD SCREW FINISH FLOOR FACE OF CONCRETE FACE OF CONCRETE FACE OF FINISH FACE OF FINISH FACE OF STUD FINISH SLAB FOOT OR FEET	S.M. S.M.D. S.M.S. S.O.V. S.P.D. SPEC. SQ. or Ø S.S. S.S.D. STAG. STD. STL. STD. STL. STDR. STRUCT. S.T.S.M.S. SUSP. T.& G.
FTG. FURR. GA. GALV. G.B. G.I. GL. GLU-LAM GND.	FOOTING FURRING GAUGE GALVANIZED GRAB BAR GALVANIZED IRON GLASS GLUE-LAMINATED GROUND	TEL. TERR. THRES. T.J. T.O.B. T.O.C. T.O.S. T.O.W. TYP.
GR. GYP. H.B. H.C. HDWD. HDWR. H.M. HORIZ. HR. HT.	GRADE GYPSUM HOSE BIBB HOLLOW CORE HARDWOOD HARDWARE HOLLOW METAL HORIZONTAL HOUR HEIGHT	U.O.N. VERT. V.C.P. V.C.T. V.G. V.I.F. V.T.R. V.W.C. W
HT. INSUL. INT. INV.	HEIGHT INSIDE DIAMETER INSULATION INTERIOR INVERT	W W/ W.C. WD. W.H. W/O W.O.
JAN. JT K.D.	JANITOR JOINT KILN DRIED	WP. W. PT. W.R. WT.

APPLICABLE CODES

1	2022 BUILDING STANDARDS ADMINISTRATION CODE (PART 1, TITLE 24, CCR)
2	2019 CALIFORNIA BUILDING CODE (PART 2, VOLUMES 1 AND 2, TITLE 24, CCR)
3	2019 CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24, CCR)
4	2019 CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24, CCR)
5	2019 CALIFORNIA PLUMBING CODE (PART 5, TITLE 24, CCR)
6	2019 CALIFORNIA ENERGY CODE (PART 6, TITLE 24, CCR)
7	2019 CALIFORNIA FIRE CODE (PART 9, TITLE 24, CCR)
8	2019 CALGREEN BUILDING STANDARDS CODE (PART 11, TITLE 24, CCR)
9	2019 CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24, CCR)
10	TITLE 19, CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

LAMINATE LAVATORY LOCKER LIGHT MAXIMUM MACHINE BOLT MECHANICAI MANUFACTUREF MANHOLE MINIMUM MIRROR MISCELLANEOUS MASONRY OPENING MACHINE SCREW MOUNTED METAL MULLION NEW NORTH NOT IN CONTRACT NUMBER NOMINAI NOT TO SCALE OBSCURE ON CENTER OCCUPANT(CY) OVERFLOW DRAIN and/or OUTSIDE DIAMETER OUTSIDE FACE OF STUD OWNER FURNISHED and CONTRACTOR INSTALLED OPPOSITE HAND OPENING OPPOSITE POWDER ACTUATED FASTENER PLATE PROPERTY LINE PLASTIC LAMINATE PLASTER PLYWOOD PAIR PAINTED PARTITION QUARRY TILE RADIUS REINFORCED CONCRETE PIPE ROOF DRAIN **RIM ELEVATION** REFERENCE REINFORCING REQUIRED ROUND HEAD METAL SCREW ROUND HEAD WOOD SCREW ROOM ROUGH OPENING REDWOOD RAIN WATER LEADER SOUTH SEE ARCHITECTURAL DRAWINGS SOLID CORE SEE CIVIL DRAWINGS SCHEDULE SEE ELECTRICAL DRAWINGS SQUARE FEET SHEATHING SHFFT SIMII AR SEE LANDSCAPE DRAWINGS SHEET METAL SEE MECHANICAL DRAWINGS SHEET METAL SCREW SHUT OFF VALVE SEE PLUMBING DRAWINGS SPECIFICATIONS SQUARE STAINLESS STEEL SEE STRUCTURAL DRAWINGS STAGGERED STANDARD STEEL STORAGE STRUCTURAL SELF TAPPING SHEET METAL SCREW SUSPENDED **TONGUE & GROOVE** TELEPHONE TERRAZZO THRESHOLD TOOLED JOINT TOP OF BEAM TOP OF CURB or CONCRETE TOP OF STEEL or SLAB TOP OF WALL TYPICAL UNLESS OTHERWISE NOTED VERTICAL VITRIFIED CLAY PIPE VINYL COMPOSITION TILE VERTICAL GRAIN VERIFY IN FIELD VENT THROUGH ROOF

VINYL WALL COVERING WEST WITH WATER CLOSET WOOD WATER HEATER WITHOUT

WHERE OCCURS WATERPROOF / WEATHERPROOF WORKING POINT WATER RESISTANT WEIGHT

BOARD OF TRUSTEES

DENIS HONEYCHURCH, J.D. SARAH E. CHAPMAN PH.D. CECIA ESPOSITO-NOY ED. D. QUINTEN R. VOYCE KARIMAH KARAH, J.C MICHAEL A. MARTIN ROSEMARY THURSTON A. MARIE YOUNG

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(PRESIDENT)

JACK FLYNN (STUDENT TRUSTEE) SUPERINTENDANT/ PRESIDENT

CONSULTANTS

DR. CELIA ESPOSITO-NOY

(916) 680-9922

(707) 447-4025

STRUCTURAL **RESPONSE STUCTURAL ENGINEERS** 5441 FAIR OAKS BLVD, SUITE G2 CARMICHAEL, CA 95608

ELECTRICAL EDGE ELECTRICAL CONSULTING 1801 7TH STREET, SUITE 150 SACRAMENTO, CA 95811 (916) 256-2460

GEOTECHNICAL KC ENGINEERING COMPANY 865 COTTING LANE, SUITE A VACAVILLE, CA 95688

REFERENCE STANDARDS

PARTIAL LIST OF APPLICABLE STANDARDS (AS REFERE

ADA STANDAR	DS FOR ACCESSIBLE DESIGN (APPENDIX
ASME 17.1	2016 SAFETY CODE FOR ELEVATORS AN (ASME A17.1-2016/CSA B44-16)
NFPA 13	STANDARD FOR INSTALLATION OF SPRI
NFPA 14	STANDARD FOR THE INSTALLATION OF
NFPA 17	STANDARD FOR DRY CHEMICAL EXTING
NFPA 17-A	STANDARD FOR WET CHEMICAL EXTING
NFPA 20	STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTEC
NFPA 22	STANDARD FOR WATER TANKS FOR PRI
NFPA 24	STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THE
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING
NFPA 80	STANDARD FOR FIRE DOOR AND OTHER
NFPA 110	STANDARD FOR EMERGENCY AND STAN
NFPA 253	STANDARD METHOD OF TEST FOR CRIT FLOOR COVERING SYSTEMS USING A RA
NFPA 2001	STANDARD ON CLEAN AGENT FIRE EXTI

ADMINISTRATIVE REQUIREM

	A COPY OF PART 1 AND 2 CCR SHALL BE KEPT ALL CONSTRUCTION CHANGE DOCUMENTS AN THE OWNER, AND APPROVED BY DSA. CONST UNTIL APPROVED BY DSA PER SECTION 4-338.
	ALL TESTS TO CONFORM TO THE REQUIREMENTESTS OF MATERIALS AND TESTING LABORATO 4-335.
•	DSA SHALL BE NOTIFIED AT THE START OF COL CONCRETE PER SECTION 4-331.
	INSPECTOR SHALL BE APPROVED BY DSA, MIN INSPECTOR SHALL BE IN ACCORDANCE WITH S SHALL BE IN ACCORDANCE WITH SECTION 4-34
	SUPERVISION OF CONSTRUCTION BY DSA SHA CONTRACTOR, INSPECTOR, ARCHITECT, AND E (FORM 6) IN ACCORDANCE WITH SECTION 4-33
	THE ARCHITECT AND THE STRUCTURAL ENGIN ACCORDANCE WITH SECTIONS 4-333(a) AND 4-
0. 1.	THE CONTRACTOR SHALL PERFORM HIS DUTIE THE INTENT OF THE DRAWINGS AND SPECIFIC, BUILDING(S) IN ACCORDANCE WITH TITLE 24, C COVERED BY THE CONTRACT DOCUMENTS WH WITH SAID C.C.R. A CONSTRUCTION CHANGE I REQUIRED WORK SHALL BE SUBMITTED AND A THE WORK.
2.	DSA IS NOT SUBJECT TO ARBITRATION.

SOLANO AUTO TECH SECURITY ENHANCEMENT **1687 NORTH ASCOT PARKWAY** VALLEJO, CA 94591

SOLANO COMMUNITY COLLEGE CONSTRUCTION DOCUMENTS

	1		
	SYMBOL LEGEND		LOCATIO
IT) SIDENT) RY)	REFER TO ARCHITECTURAL FLOR PLAN SHEETS AND	D CONSULTANT DRAWINGS FOR ADDITIONAL	
	SYMBOLS AND REFERENCE DESIGNATIONS		
	DIMENSION REFERENCE	MATERIALS REFERENCE	AND THE REAL
EE)	10" FACE OF OBJECT		
	10" CENTER LINE OF	GRAVEL / ROCK	1
	OBJECT	CONCRETE	
		CONCRETE BLOCK (CMU)	Manager
	TAGS AND MARKERS	SAND, GROUT, OR PLASTER	
		STEEL	Turner Pkwy
		PLYWOOD	
	STRUCTURAL GRID LINE	WOOD, CONTINUOUS MEMBER	
		WOOD, BLOCKING	
		WOOD, FINISH GRADE	
		CABINET TYPES	
	PLAN KEY NOTES	PC - PREFINISHED CABINETS	
	Room name ROOM LABEL	PM - PREFINISHED MOBILE CABINETS	
	101 ROOM NAME ROOM NUMBER	PR - PREFINISHED MOVEABLE CABINETS	
		PU - PREFINISHED UTILITY CABINETS	SCOPE C
	1 WALL TYPE MARKER		SITE SECURITY L SITE WORK: SELI
	DOOR ID	NOTE: REFER TO SPECIFICATIONS FOR SPECIFIC CABINET TYPE REQUIREMENTS.	REPLACEMENT A
2	DOOR DESIGNATION ROOM NUMBER	SECTION REFERENCE	
EFERENCED IN 2016 CBC - CHAPTER 35 & CFC):		SIM REFERENCE	
	XX-1 FINISH TAG	A12.08 A1	
PENDIX A OF 28 CFR PART 36) 2010 EDITION	FLOOR FINISH TAG	SHEET NUMBER	
2019 EDITION		DETAIL REFERENCE	
F SPRINKLER SYSTEMS2019 EDITIONON OF STANDPIPE AND HOSE SYSTEMS2019 EDITION			
EXTINGUISHING SYSTEMS 2017 EDITION		A12.08 A12.08	
EXTINGUISHING SYSTEMS 2017 EDITION		SHEET NUMBER	
ON OF ROTECTION 2019 EDITION			
OR PRIVATE FIRE PROTECTION 2019 EDITION			
ON OF ID THEIR APPURTENANCES 2019 EDITION			
ALING CODE 2019 EDITION			
OTHER OPENING PROTECTIVES 2019 EDITION			
D STANDBY POWER SYSTEMS 2019 EDITION			BUILDIN
R CRITICAL RADIANT FLUX OF 2019 EDITION NG A RADIANT HEAT ENERGY SOURCE	GENERAL NOTES		
E EXTINGUISHER SYSTEMS 2018 EDITION		URAL, MECHANICAL, OR ELECTRICAL NATURE MAY	
	THESE ITEMS.	DRAWINGS. SEE APPROPRIATE DRAWINGS FOR	
	INCLUDE FUTURE OR N.I.C. ITEMS.	SA) APPROVAL OF THIS APPLICATION DOES NOT	
	DSA FOR CHECKING & APPROVAL.	FOR REVIEW & APPROVAL PRIOR TO SUBMITTING TO	
		UTOMATIC SPRINKLERS, HOOD-DUCT SYSTEM, WET DT BE INSTALLED UNTIL SHOP DRAWINGS HAVE BEEN SECTION AT DSA.	
REMENTS	5. THE FIRE PROTECTION SIGNALING SYST DRAWINGS, INCLUDING FIRE MARSHAL	TEM SHALL NOT BE INSTALLED UNTIL SHOP LISTING NUMBER FOR EACH COMPONENT OF THE	
E KEPT ON SITE AT ALL TIMES.	· · · · · · · · · · · · · · · · · · ·	PPROVED BY THE STATE FIRE MARSHAL AT DSA. /IPLY WITH ALL LOCAL HEALTH DEPARTMENT M RETAIL FOOD FACILITIES LAW.	
NTS AND ADDENDA TO BE SIGNED BY THE ARCHITECT, CONSTRUCTION CHANGE DOCUMENTS ARE NOT VALID	7. PRIOR TO BIDDING, THE GENERAL CON FAMILIARIZE THEMSELVES WITH THE EX	TRACTOR SHALL VISIT & INSPECT THE SITE TO (ISTING CONDITIONS AFFECTING THE NEW WORK. THE	
I 4-338. IREMENTS OF SECTION 4-335. BORATORY SHALL BE IN ACCORDANCE WITH SECTION	MISUNDERSTANDING IN REGARDS TO L	SPUTE, COMPLAIN, OR ASSERT THAT THERE IS ANY OCATION, EXTENT, NATURE, OR AMOUNT OF WORK TO IT DUE TO THE CONTRACTOR'S FAILURE TO INSPECT	1.43
OF CONSTRUCTION AND PRIOR TO PLACEMENT OF	THE SITE AND/OR FAILURE TO INSPECT 8. THE GENERAL CONTRACTOR & SUBCOM	THE CONTRACT DOCUMENTS. NTRACTORS ARE RESPONSIBLE FOR LOCATING &	N
SA, MIN CLASS 3 DSA PROJECT INSPECTOR IS REQUIRED. WITH SECTION 4-333(b). THE DUTY OF THE INSPECTOR	TO COMMENCEMENT OF EXCAVATION.	ND UTILITIES IN ALL AREAS OF THE NEW WORK PRIOR EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE BEST DETERMINED FROM EXISTING DRAWINGS & BY	

DN 4-342. SA SHALL BE IN ACCORDANCE WITH 4-334. AND ENGINEERS SHALL SUBMIT VERIFIED REPORTS N 4-336 AND 4-343. ENGINEERS SHALL PERFORM THEIR DUTIES IN

AND 4-341. DUTIES IN ACCORDANCE WITH SECTION 4-343. ECIFICATIONS IS THE (RE)CONSTRUCTION OF A SCHOOL E 24, C.C.R. SHOULD ANY CONDITIONS DEVELOP NOT ITS WHEREIN THE FINISHED WORK WILL NOT COMPLY ANGE DOCUMENT DETAILING AND SPECIFYING THE AND APPROVED BY DSA BEFORE PROCEEDING WITH

12

- IT OF EXCAVATION. EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ROUTING LOCATIONS AS BEST DETERMINED FROM EXISTING DRAWINGS & BY THE SCHOOL DISTRICT, BUT SHOULD NOT BE CONSTRUED TO REPRESENT ALL EXISTING UTILITIES. ANY ALTERATIONS OF EXISTING FACILITIES TO ACCOMMODATE THE INSTALLATION OF NEW
- WORK SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO COMMENCEMENT OF WORK. ALL EXISTING FINISHES OR MATERIALS DAMAGED OR DEMOLISHED DUE TO NEW 10. CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL STATE OR REPLACED WITH NEW MATERIALS FINISHED TO MATCH EXISTING. CONTRACTOR SHALL COORDINATE ALL WORK TO AVOID DISRUPTION OF STUDENTS OR 11. TEACHERS DURING SCHOOL HOURS. ANY DISRUPTION OF POWER, TELEPHONE, OR HVAC
- SYSTEMS MUST BE COORDINATED AND APPROVED BY THE DISTRICT REPRESENTATIVE PRIOR TO ANY WORK COMMENCING. COMPLIANCE WITH CFC CHAPTER 33 (FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION) AND CBC CHAPTER 33 (SAFEGUARDS DURING CONSTRUCTION) WILL BE ENFORCED.

DSA FILE NUMBER 48-C1 **DSA APPLICATION NUMBER 02-119982**

ON MAP



OF WORK

JPGRADES ECTIVE DEMOLITIONS, CONSTRUCTION OF CMU WALLS, ELECTRICAL ROLLING GATES AND ADDITION OF REMOVABLE BOLLARDS

DRAWING INDEX

T1 TITLE SHEET ARCHITECTURAL

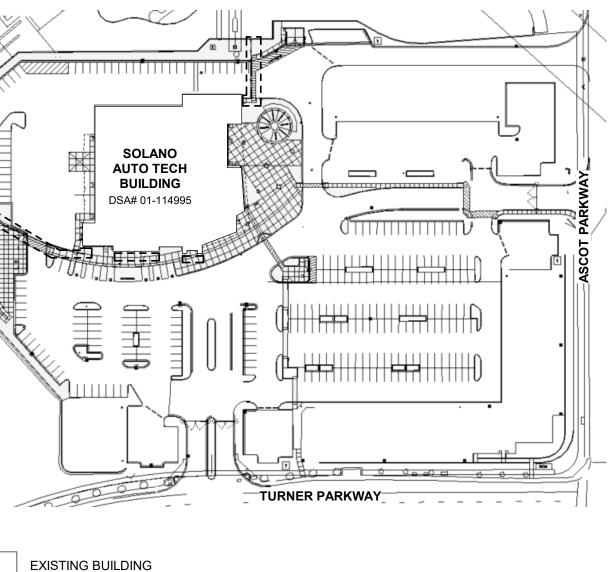
- SITE PLAN, FIRE DEPARTMENT ACCESS PLAN AND BUILDING ANALYSIS A0.01
- A1.01 DEMOLITION SITE PLAN
- A1.03 ENLARGED SITE PLAN A1.05 SITE DETAILS
- A1.06 SITE DETAILS A3.10 ENLARGED (E) RESTROOM PLANS & ELEVATION, NO WORK

STRUCTURAL

- S1.0 STRUCTURAL NOTES & DETAILS S1.1 DETAILS
- S2.0 KEY PLAN & ENLARGED FOUNDATION PLANS
- ELECTRICAL ABBREVIATIONS, SYMBOLS, NOTES, ONE-LINE, PANELS, & SHEET INDEX. E0.01
- E0.02 TITLE 24 COMPLIANCE E0.03 ELECTRICAL SPECIFICATIONS
- E0.04 ELECTRICAL SPECIFICATIONS
- E1.01 OVERALL SITE PLAN ELECTRICAL

SHEET COUNT: 15 TOTAL

NG KEY



_ _ _ _ _ _ _ _

- * These drawings, and/or specifications, and/or calculations for the items listed above have been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings in this state. It has been examined by me for:
 - 1. design intent and appears to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications prepared by me. 2. coordination with my plans and specifications and is acceptable for
 - incorporation into the construction of this project.

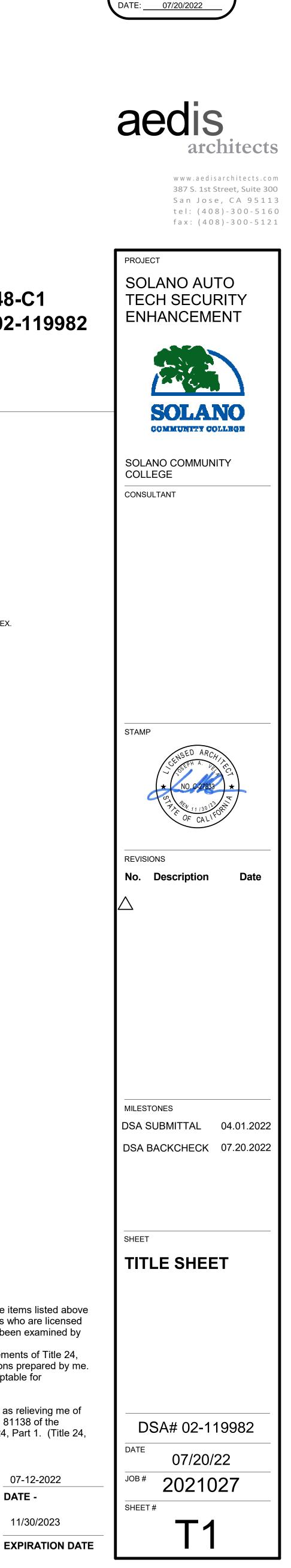
The Statement of General Conformance "shall not be construed as relieving me of my rights, duties, and responsibilities under Sections 17302 and 81138 of the Education Code and Sections 4-336, 4-341 and 4-344" of Title 24, Part 1. (Title 24, Part 1, Section 4-317(b))

PRINCIPAL IN CHARGE

C-27833

DATE -

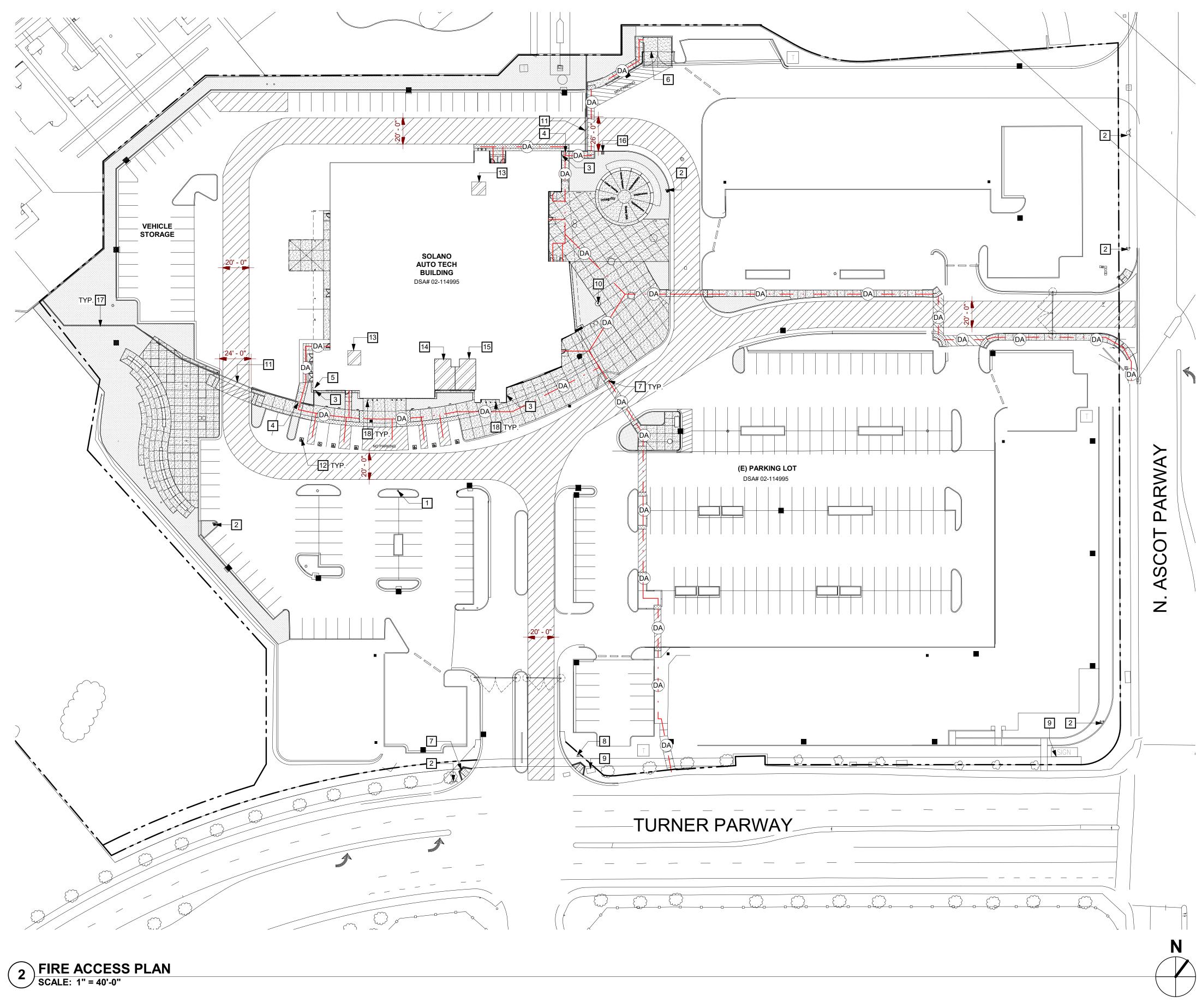
CALIFORNIA LICENSE NUMBER



IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITE

APP: 02-119982 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹



										BUIL	DING AREA / HEIGHT AI	VALYSIS										
						HEIGHT IN	ICREASE					AREA INCREASE										
												FROM	ITAGE (5)	SPRINKLER (6)	NKLER (6)	TOTAL	MULTI-ST	TORY (7)				
ONSTRUCTION TYPE	OCCUPANCY	SPRINKLERS		ACTUAL HEIGHT		%	INCREASE	%	INCREASE	ALLOWABLE AREA PER STORY (9)	STORIES	INCREASE	TOTAL ALLOWABLE	ACTUAL AREA (8)	RATIO TOTAL (10)	Comments						
VB	A3	Yes	1	0	1	1	40'	0'	40'	25'	6000 SF	75%	4500 SF	300%	18000 SF	28500 SF	1	0 SF	28500 SF	2085 SF	0.07	
VB	В	Yes	2	0	2	1	40'	0'	40'	25'	9000 SF	75%	6750 SF	300%	27000 SF	42750 SF	1	0 SF	42750 SF	27494 SF	0.65	
VB	ROOF OVERHANG	YES	2	0	Ľ	٢	40'	0`	40 *	\$4 f *	9,00847	75%	6750 JF	30006	27000 7=	42758 >F	1	035	4275025	2760 SF	0.06	
VB	S1	Yes	1	0	1	1	40'	0'	40'	25'	9000 SF	75%	6750 SF	300%	27000 SF	42750 SF	1	0 SF	42750 SF	3505 SF	0.08	S1 AREA INCLUDES 1422 SQ FT OF MEZZANINE AREA. THERFORE S-1 rat 2083/42750 = .05

A DSA

810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL Division of the State Architect (DSA) documents referenced within this publication are available on the

DSA Forms or DSA Publications webpages. To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply. Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4 through 7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

The Project Information and Fire & Life Safety Information sections are to be completed for all projects and imaged onto the fire access site plan. When an alternate design/means is proposed, all sections on pages 1 and 2 are to be completed and imaged on the fire access site plan. For additional information refer to the instructions at the end of this form and DSA Policy PL 09-01: Fire Flow for Buildings. PROJECT INFORMATION

Sch	ool District/Owner: Solano Community College District						
Pro	ject Name/School: Solano Auto Tech Security Enhancement						
Pro	ject Address: 4000 Suisun Valley Rd, Fairfield, CA 94534						
FIR	E & LIFE SAFETY INFORMATION						
1.	Has a fire hydrant flow test been performed within the past 12 months? Yes (If yes, provide a copy of the test data.)						
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes 🗆		No 🖄			
3.	Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? (<i>If yes, indicate FHSZ classification below.</i>)	Yes 🗆		No 🛛			
	Refer to the following website for FHSZ locations: <u>http://egis.fire.ca.gov/FHSZ/</u>	Moderate 🗆	High 🗆	Very High 🗆			
	Wildland Interface Area (WIFA) (If any designations are checked, project requirements of CBC Chapter 7A.)	eet the	WIFA 🗆				

DGS DSA 810 (revised 12/29/20) DIVISION OF THE STATE ARCHITECT Page 1 of 4 STATE OF CALIFORNIA DEPARTMENT OF GENERAL SERVICES

GENERAL SHEET NOTES

- A CONTRACTOR SHALL MAINTAIN FIRE LANE ACCESS THROUGHOUT PROJECT.
- DO NOT INTERRUPT EXISTING UTILITY SERVICES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AND COORDINATED WITH THE OWNER.
- PROTECT EXISTING & NEW STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, TREES AND SHRUBS FROM DAMAGE DURING CONSTRUCTION.
- REFER TO STRUCTURAL DRAWINGS FOR EXTENT OF STRUCTURAL WORK. D
- DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE. THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THE PROJECTS WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLDS OR LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS. DURING CONSTRUCTION IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO

NEW SITE PLAN KEYNOTES

(E) FDC (E) FIRE HYDRANT

- (E) KNOXBOX.
- MAN GATE WITH PANIC HARDWARE, SEE ENLARGED SITE PLAN ON A1.03 (E) FIRE RISER
- (E) TRASH ENCLOSURE. (E) TRUNCATED DOMES, TYP.

CHANGE DOCUMENT.

- (E) TOW AWAY SIGN 8
- (E) SITE ADDRESS SIGN 9 (E) FLAGPOLE 10
- ELECTRIC ROLLING GATE, 10'-0" H, SEE ENLARGED SITE PLAN ON A1.03 11 (E) ADA PARKING AND VAN ACCESSIBLE PARKING TYP. , SEE ENLARGED SITE PLAN AND 12
- DETAILS 11 AND 12/A1.05. 13 (E) UNISEX RESTROOM DSA# 02-114995
- 14 (E) MEN RESTROOM DSA# 02-114995
- (E) WOMEN RESTROOM DSA# 02-114995 15 ELECTRIC ROLLING GATE ACCESS KEYPAD, SEE ENLARGED SITE PLAN ON A1.03 16 CMU WALL AND ASSOCIATED FOOTING, SEE DETAIL 3 AND 4 ON A1.06 AND 17 STRUCTURAL DRAWINGS. CMU WALL FINISH TO MATCH ADJACENT EXISTING CMU WALL
- FINISH REMOVABLE BOLLARDS. SEE ENLARGED SITE PLAN ON A1.03 AND DETAIL 7/A1.05. 18

PARKING COUNT

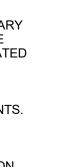
PARKING COUNT:	REQUIRED	PROVIDED
PARKING LOT: GENERAL PARKING		
-PARKING STALLS:		219
-D.A. PARKING STALLS:	7	7
-VAN D.A. PARKING STALLS:	1	3

GRAPHIC KEY

	EXISTING TOILET ROOMS TO REMAIN
	EXISTING CONSTRUCTION TO REMAIN
	(E) FIRE DEPARTMENT ACCESS FIRE DEPARTMENT ACCESS IS 20'-0" WIDE AND RATED FOR 96,000 LBS.
	PROPERTY LINE
	(E) CMU WALL TO REMAIN
	NEW CMU WALL
	NEW ROLLING GATE
\frown	D.A. PATH OF TRAVEL
	D.A. PATH OF TRAVEL AS INDICATED ON PLAN IS A BAF ACCESS WITHOUT ANY ABRUPT LEVEL CHANGES EXC BEVELED AT 1:2 MAXIMUM SLOPE OR VERTICAL LEVEL EXCEEDING 1/4" MAXIMUM AND AT LEAST 48" WIDE. SU RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS SLO EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL UNLESS OTHERWISE INDICATED. D.A. PATH OF TRAVEL MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS HEIGHT AND PROTRUDING OBJECTS GREATER THAN 4 FROM WALL ABOVE 27" AND BELOW 80". ARCHITECT SI THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.
(E) F.H.	EXISTING FIRE HYDRANT



COMPLIANCE WITH CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION



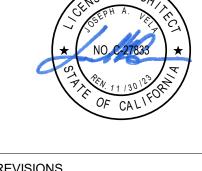
IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 02-119982 INC: **REVIEWED FOR** SS 🗹 FLS 🗹 ACS 🗹 DATE: 07/20/2022



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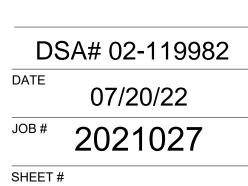


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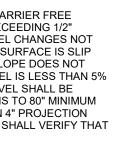
MILESTONES DSA SUBMITTAL 04.01.2022

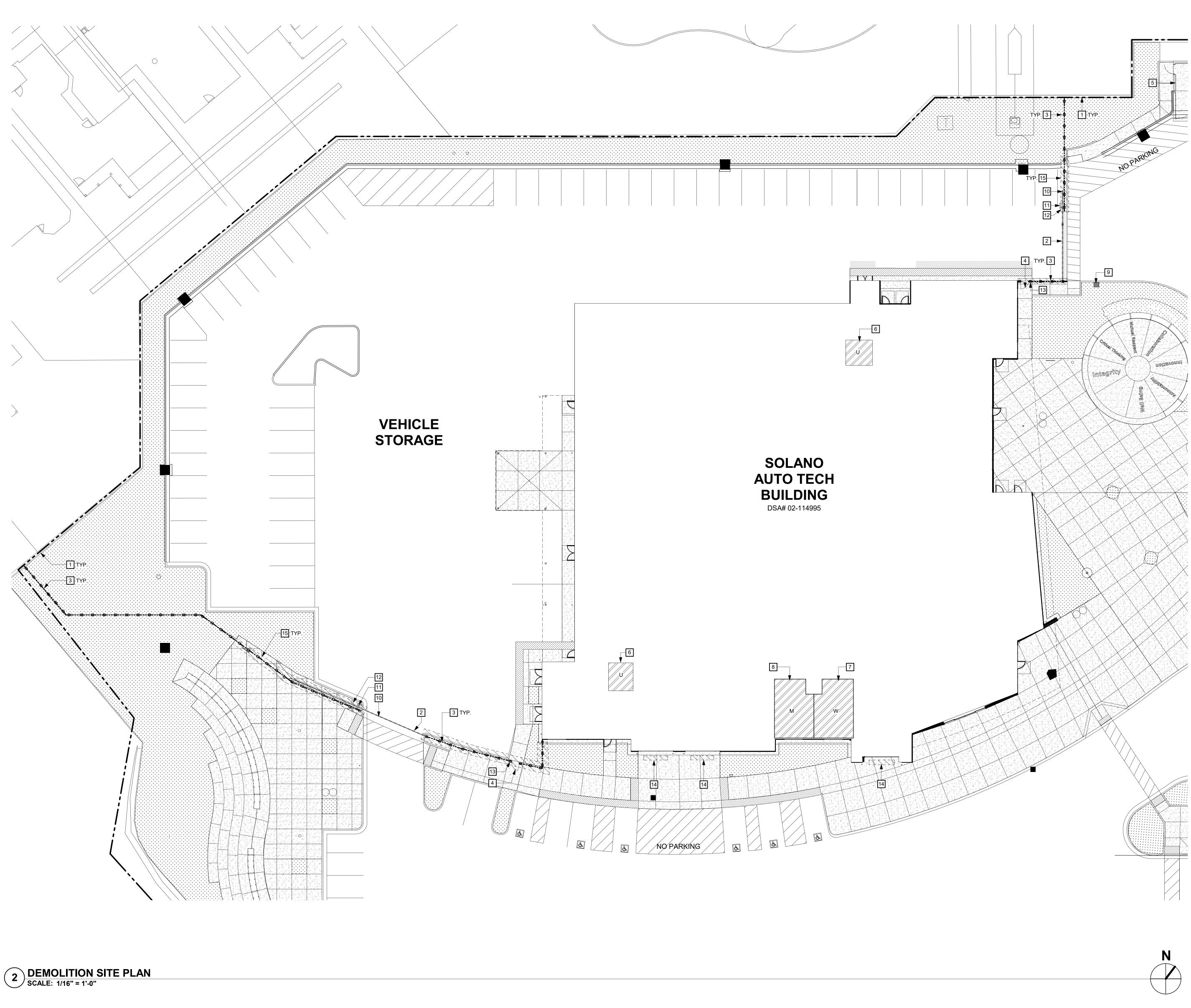
DSA BACK CHECK 07.20.2022

SHEET SITE PLAN, FIRE DEPARTMENT ACCESS PLAN AND BUILDING ANALYSIS



A0.01





GENERAL SHEET NOTES

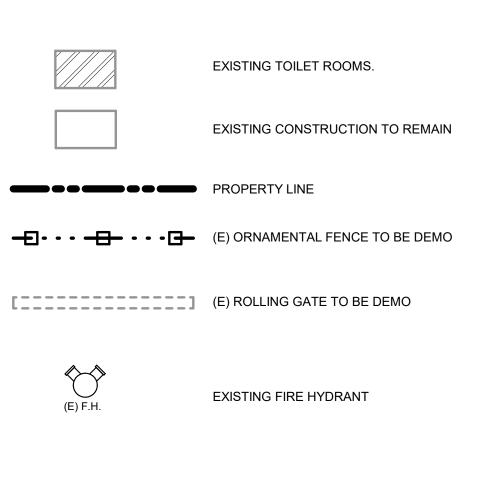
OWNER.

- A CONTRACTOR SHALL MAINTAIN FIRE LANE ACCESS THROUGHOUT PROJECT.
- DO NOT INTERRUPT EXISTING UTILITY SERVICES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AND COORDINATED WITH THE В
- PROTECT EXISTING & NEW STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, TREES AND SHRUBS FROM DAMAGE DURING CONSTRUCTION.
- REFER TO STRUCTURAL DRAWINGS FOR EXTENT OF STRUCTURAL WORK. D
- DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE. THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS. COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THE PROJECTS WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLDS OR LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS. DURING CONSTRUCTION IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

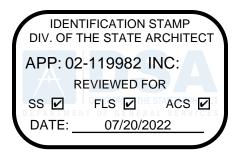
DEMOLITION SITE PLAN KEYNOTES

- 1 (E) CMU WALL TO REMAIN, MACTH NEW CMU WALL TO THIS (E) CMU FINISH
- REMOVE (E) ELECTRIC ROLLING GATE. DEMO (E) ORNAMENTAL FENCE AND ASSOCIATED FOOTINGS. 3
- REMOVE (E) MAN GATE AND ASSOCIATED FOOTINGS, SALVAGE GATE HARDWARE TO BE REUSE ON 4 NEW MAN GATE. (E) TRASH ENCLOSURE TO REMAIN
- (E) UNISEX RESTROOM DSA# 02-114995 6
- (E) WOMEN RESTROOM DSA# 02-114995 (E) MEN RESTROOM DSA# 02-114995
- (E) ELECTRIC ROLLING GATE ACCESS KEYPAD TO BE REUSE, DISCONNECT AND PROTECT DURING CONSTRUCTION. RECONNECT TO NEW ROLLING GATE SYSTEM. (E) ROLLING GATE TRACK TO REMAIN. PROTECT DURING CONSTRUCTION, REUSE FOR NEW ROLLING
- GÁTE SYSTEM.
- (E) ROLLING GATE ELECTRIC OPERATOR, DISCONNECT FROM POWER AND REMOVE UNIT. KEEP ELECTRICAL CONNECTION TO BE REUSE FOR NEW OPERATOR.
- (E) SENSING EDGE AND INFRARED PHOTO EYE SOLUTION ENTRAPMENT PROTECTION TO BE REUSE. SÁLVAGE AND REINSTALL WITH NEW ROLLING GATE SYSTEM.
- SALVAGE (E) CARD ACCESS READER. DISCONNECT FROM POWER AND KEEP TO BE REUSE. KEEP ELECTRICAL CONNECTION TO BE RUN INTO NEW CMU WALL CONDUIT.
- (E) CONCRETE TO BE DEMOLISHED TO INSTALL NEW REMOVABLE BOLLARDS.SAWCUT CONCRETE
- LINES ON SCORE JOINTS WHERE POSSIBLE AND/OR PARALLEL/ PERPENDICULAR TO SCORE JOINTS. TRENCH (E) CONCRETE PAVING AND CONCRETE CURB AS NEEDED FOR NEW CMU WALL FOOTING. S.S.D. TYP.

GRAPHIC KEY









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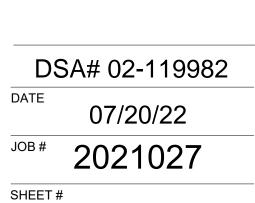
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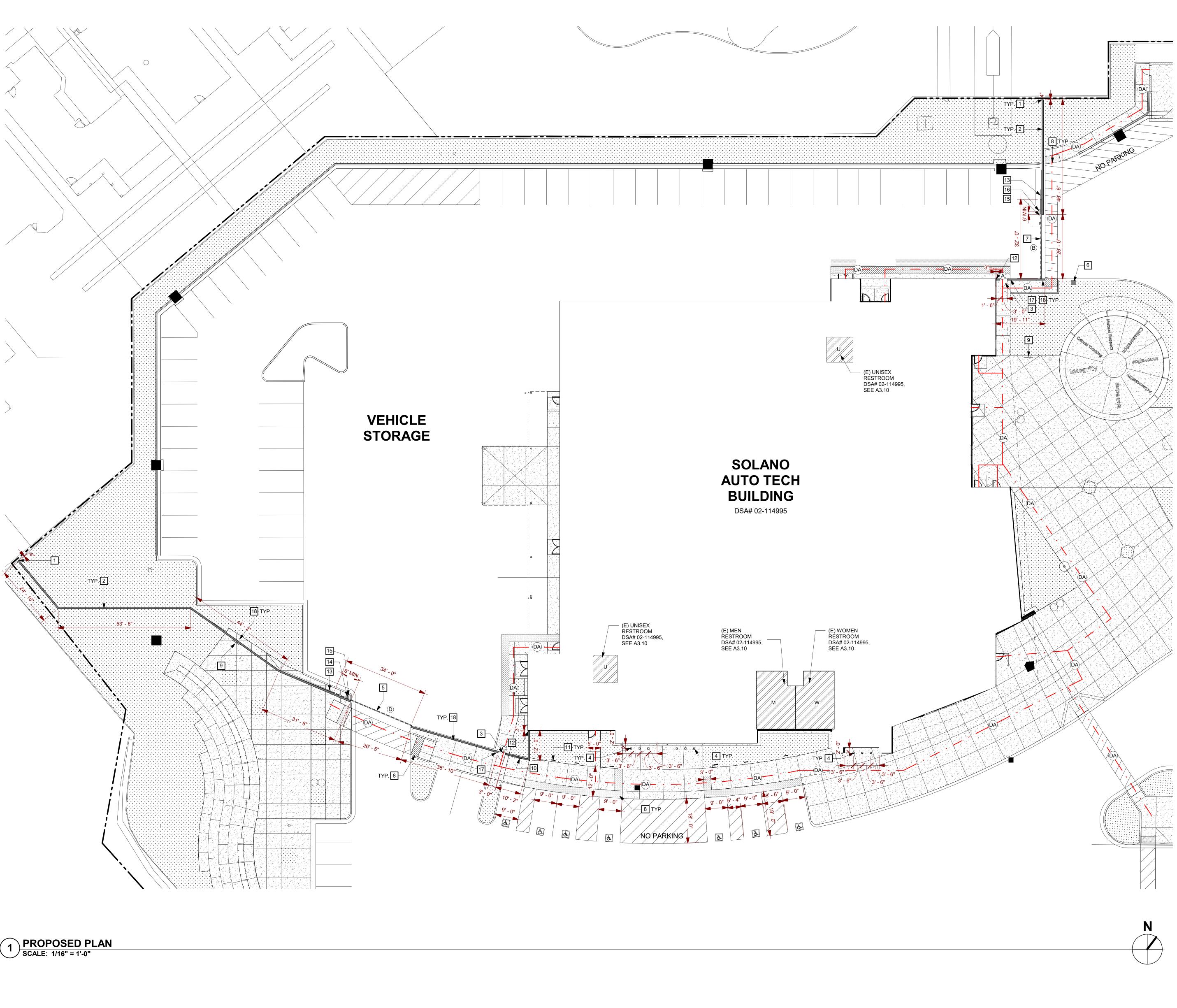
DSA BACK CHECK 07.20.2022

SHEET





A1.01



GENERAL SHEET NOTES

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- DO NOT INTERRUPT EXISTING UTILITY SERVICES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AND COORDINATED WITH THE В OWNER.
- PROTECT EXISTING & NEW STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, TREES AND SHRUBS FROM DAMAGE DURING CONSTRUCTION. С
- REFER TO STRUCTURAL DRAWINGS FOR EXTENT OF STRUCTURAL WORK. D
- DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE. THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY
- TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THE PROJECTS WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLDS OR LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS. DURING CONSTRUCTION IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO

COMPLIANCE WITH CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

ENLARGED SITE PLAN KEYNOTES

1	KEEP 4" GAP BETWEEN THE (E) CMU WALL AND NEW CMU WALL.
2	CMU WALL AND ASSOCIATED FOOTING, SEE DETAIL 3 AND 4 ON A1.06 AND STRUCTURAL DRAWINGS. CMU WALL FINISH TO MATCH ADJACENT EXISTING CMU WALI FINISH.
3	MAN GATE, SEE DETAIL 1-2-3-4-5 & 6/A1.05
4	REMOVABLE BOLLARDS SEE DETAIL 7/A1.05.
5	ELECTRIC ROLLING GATE, SEE DETAIL 1,3 AND 4 A/1.06
6	RECONNECT(E) ELECTRIC ROLLING GATE ACCESS KEYPAD TO (E) POWER.
7	ELECTRIC ROLLING GATE, SEE DETAIL 2,3 AND 4 A/1.06
8	(E) TRUNCATED DOMES, TYP.
9	(E) BICYCLE RACKS
10	REINSTALL (E) ADA PARKING SIGN ON NEW CMU WALL
11	(E) ADA PARKING SIGN.
12	KEEP 3" GAP BETWEEN THE (E) WALL AND NEW CMU WALL.
13	REUSE (E) ROLLING GATE TRACK WITH NEW ROLLING GATE SYSTEM.
14	ROLLING GATE ELECTRIC OPERATOR FOR 3000LBS GATE, DKS DOORKING MODEL 9235 OR APPROVED EQUIVALENT, CONNECT TO (E) POWER.
15	REINSTALL SENSING EDGE AND INFRARED PHOTO EYE SOLUTION ENTRAPMENT PROTECTION.
16	ROLLING GATE ELECTRIC OPERATOR FOR 2500LBS GATE, DKS DOORKING MODEL 9235 OR APPROVED EQUIVALENT CONNECT TO (E) POWER.
17	REINSTALL (E)CARD ACCESS READER.CONNECT TO (E) POWER, SEE DETAILS 1 AND 5

ON A1.05. REPAIR (E) CONCRETE WALKWAYS AND CURBS PER DETAIL 9 A/1.05. 18

									_
				GA	TE SCHEDU	LE			
GATE TAG	GATE TYPE	WIDTH	HEIGHT	PANIC	MATERIAL	FINISH	HARDWARE	D.A.	
A	MAN GATE	3'-0"	10'-0"	YES	STEEL	BLACK POWDER COATED	REUSE (E)*	YES	E
В	ELECTRICAL ROLLING GATE	32'-0"	10'-0"	NO	STEEL	BLACK POWDER COATED	N/A	NO	
С	MAN GATE	3'-0"	10'-0"	YES	STEEL	BLACK POWDER COATED	REUSE (E)*	YES	E
D	ELECTRICAL ROLLING GATE	34'-0"	10'-0"	NO	STEEL	BLACK POWDER COATED	N/A	NO	

*(E) KING KONG HINGES, PANIC HARDWARE AND LATCHSET. RESET DOOR PRESSURE FOR ADA COMPLIANCE

GRAPHIC KEY



EXISTING TOILET ROOMS TO REMAIN

(E) CMU WALL TO REMAIN

NEW CMU WALL

NEW ROLLING GATE

EXISTING CONSTRUCTION TO REMAIN

(E) FIRE DEPARTMENT ACCESS FIRE DEPARTMENT ACCESS IS 20'-0" WIDE AND RATED FOR 96,000 LBS.



D.A. PATH OF TRAVEL D.A. PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER FREE ACCESS WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAXIMUM AND AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH, CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. D.A. PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM HEIGHT AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL ABOVE 27" AND BELOW 80". ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.

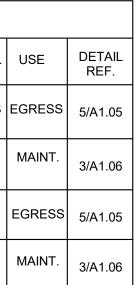


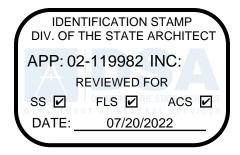
EXISTING FIRE HYDRANT



AND ISTING CMU WALL

KING MODEL 9235 RAPMENT KING MODEL 9235







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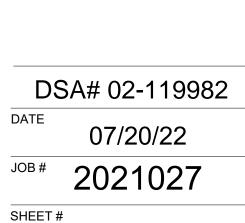


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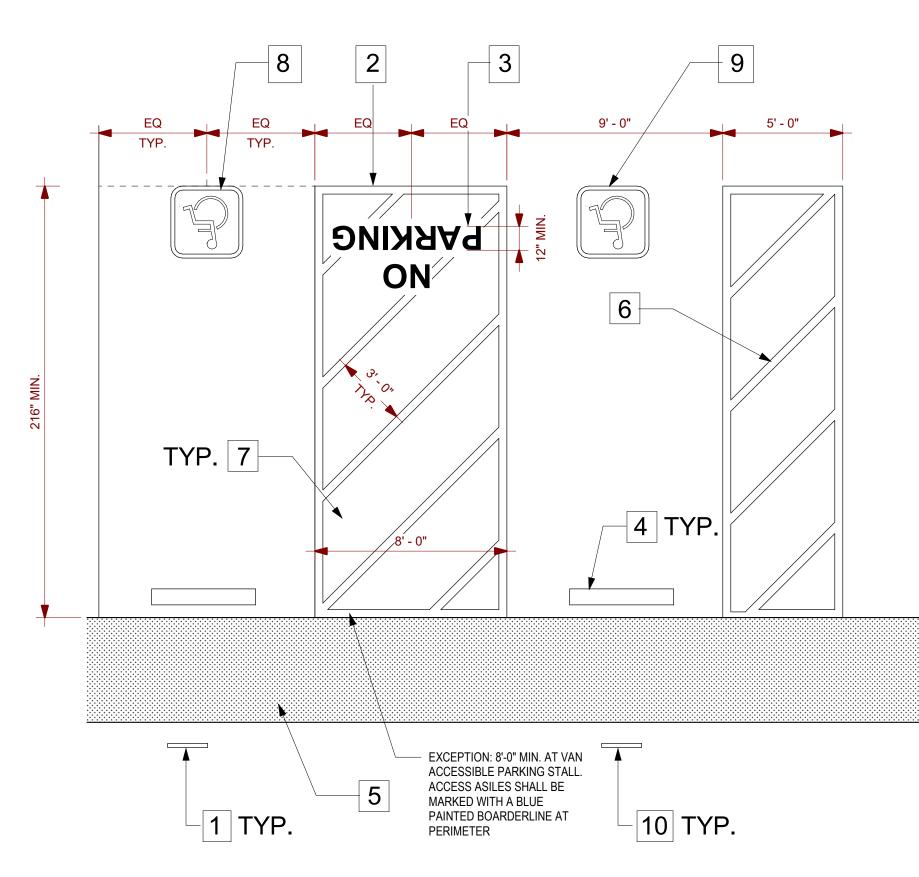
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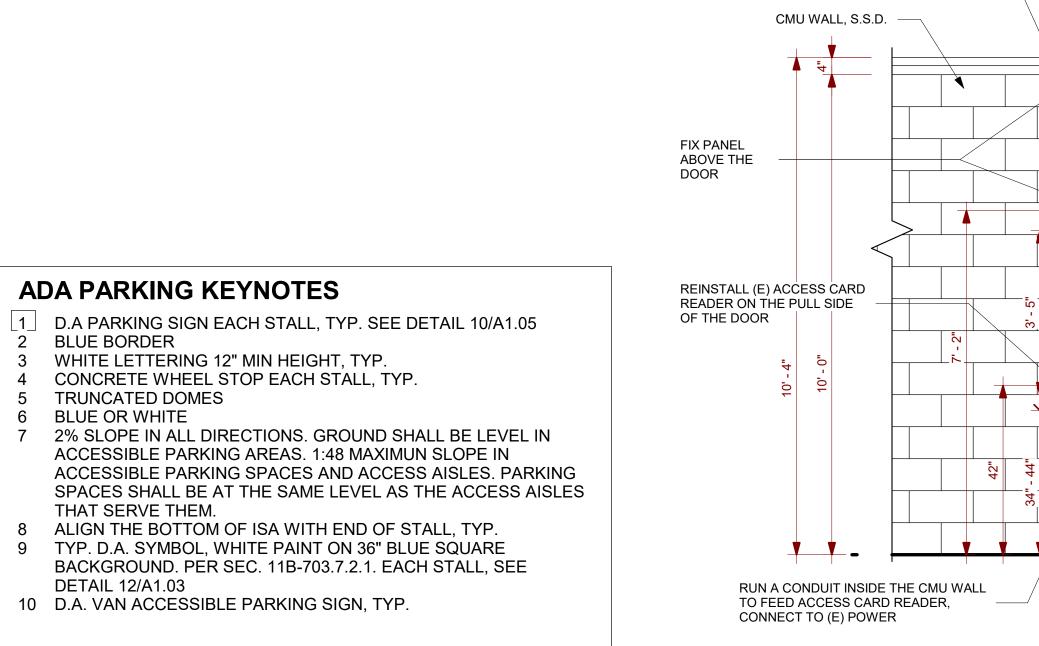




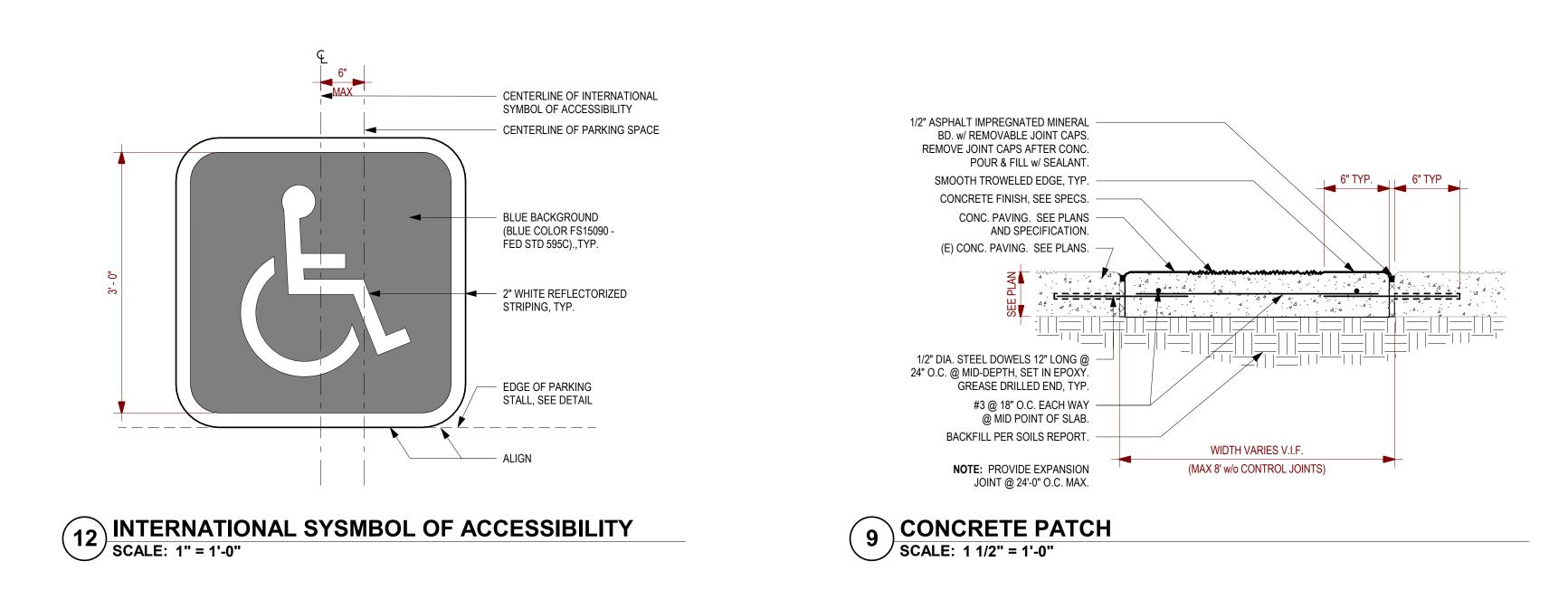
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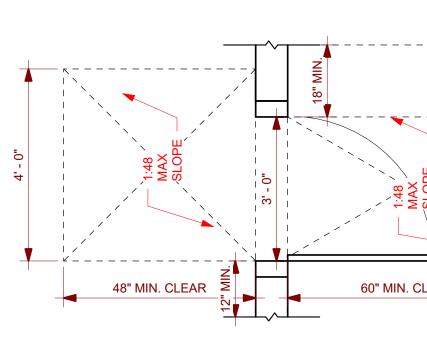


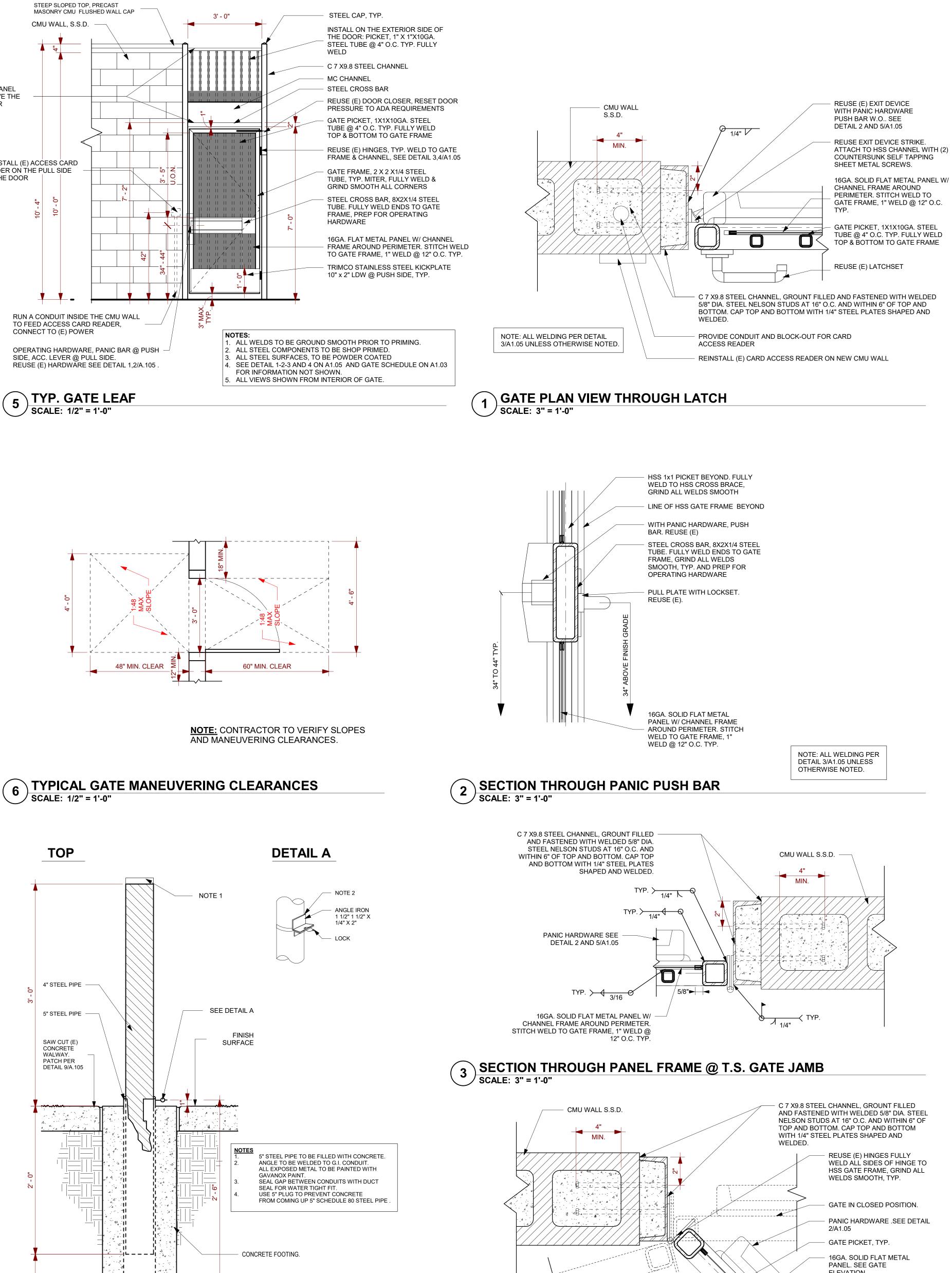


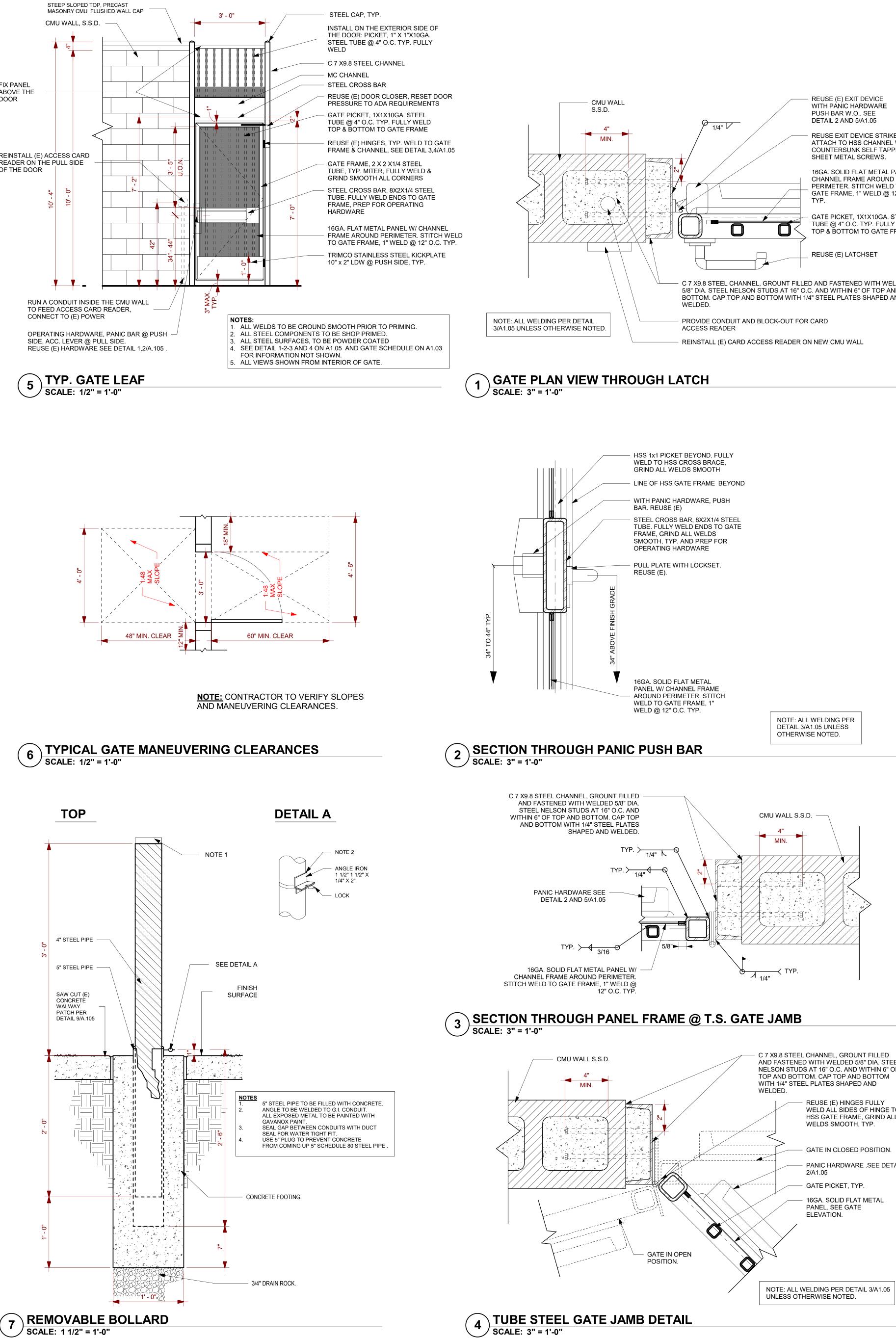


11 ADA PARKING CALLOUT SCALE: 1/4" = 1'-0"

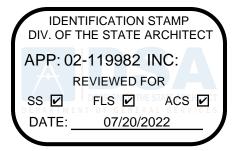








4 TUBE STEEL GATE JAMB DETAIL SCALE: 3" = 1'-0"





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SHEET

SHEET #

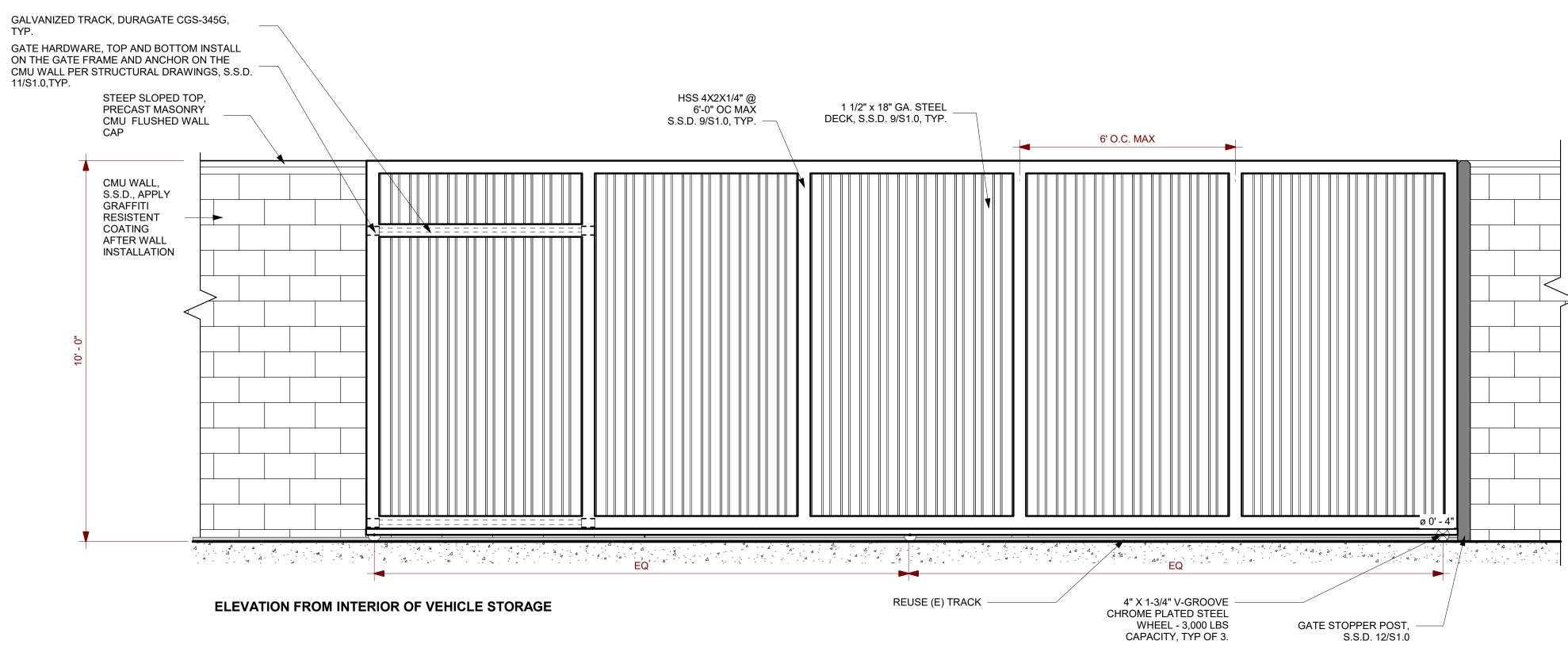


DSA# 02-119982 DATE 07/20/22 JOB # 2021027

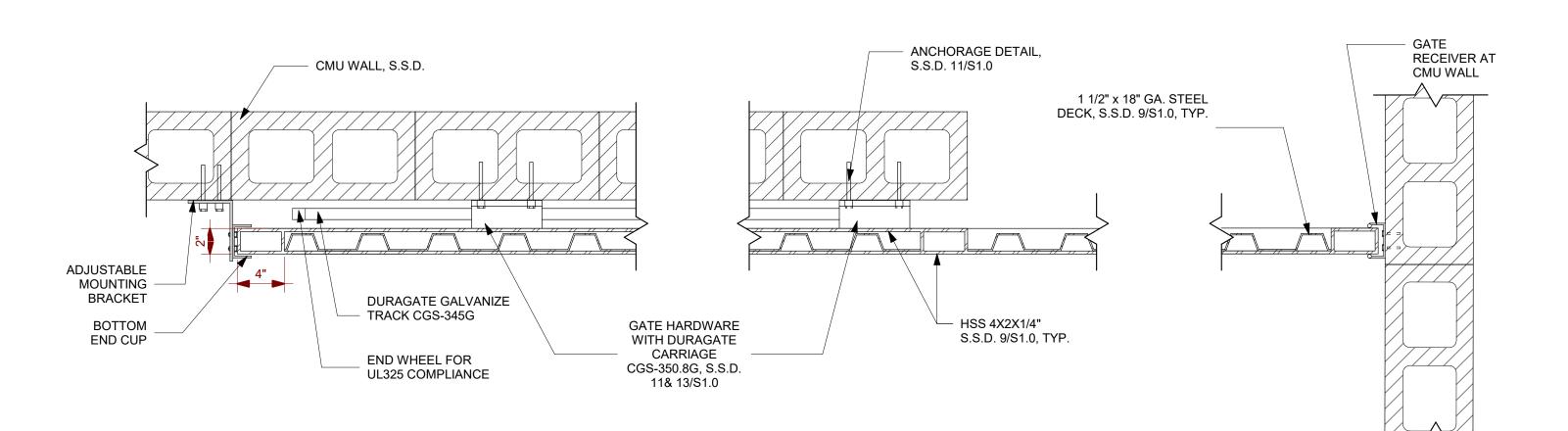
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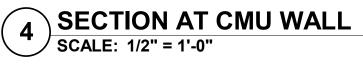


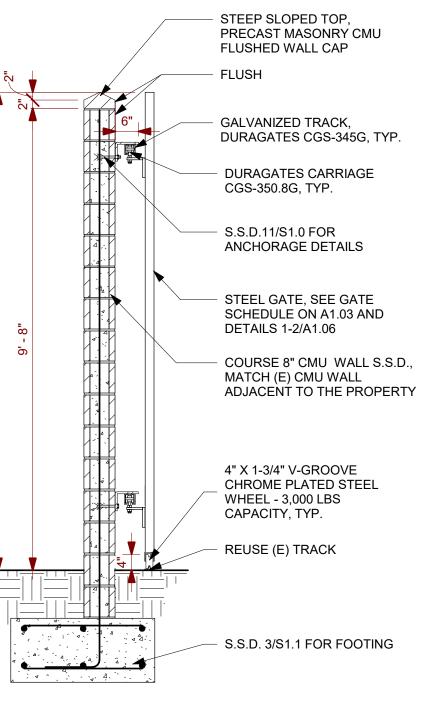
SCALE: 1 1/2" = 1'-0"

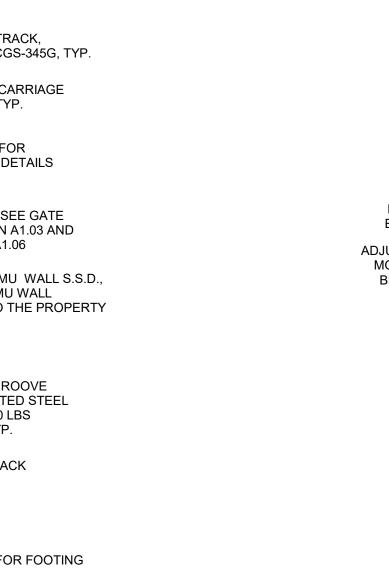


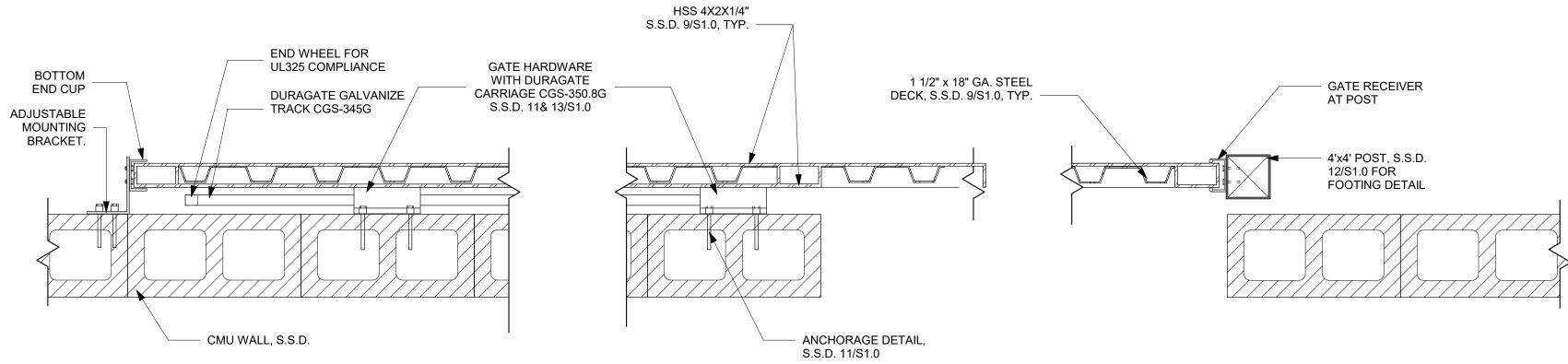
2 ENLARGED ROLLING GATE DETAIL WITH TERMINATION AT CMU WALL SCALE: 1 1/2" = 1'-0"



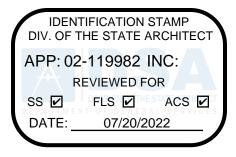




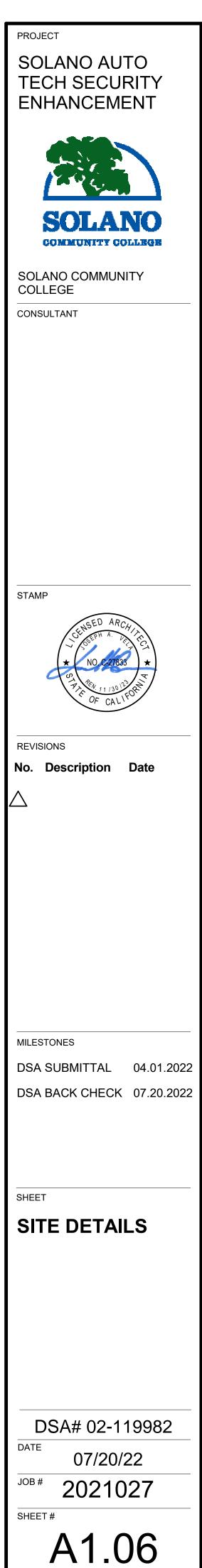


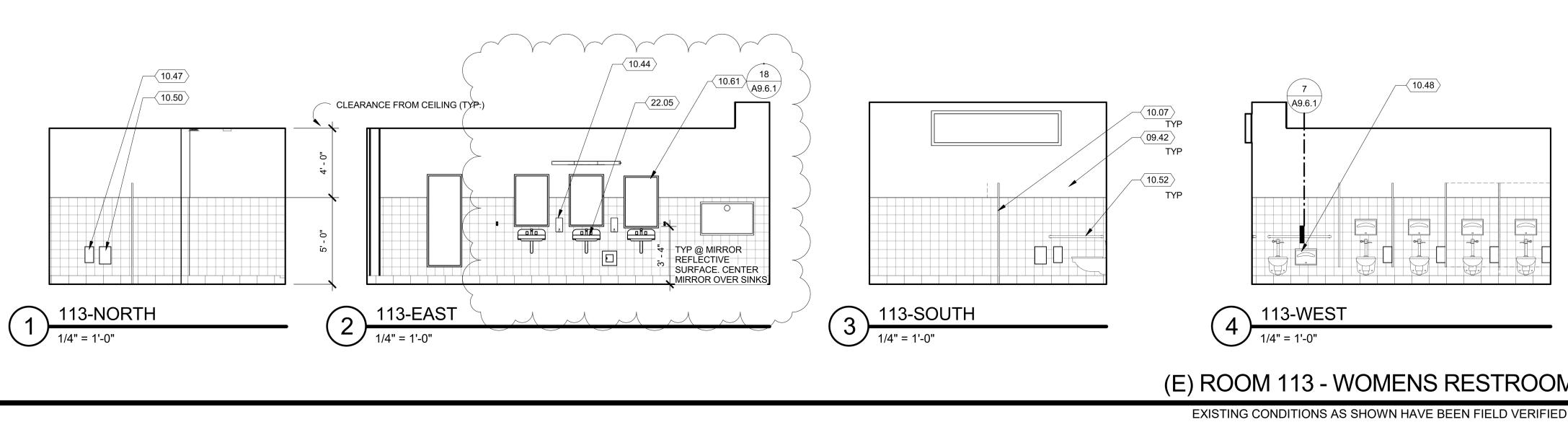


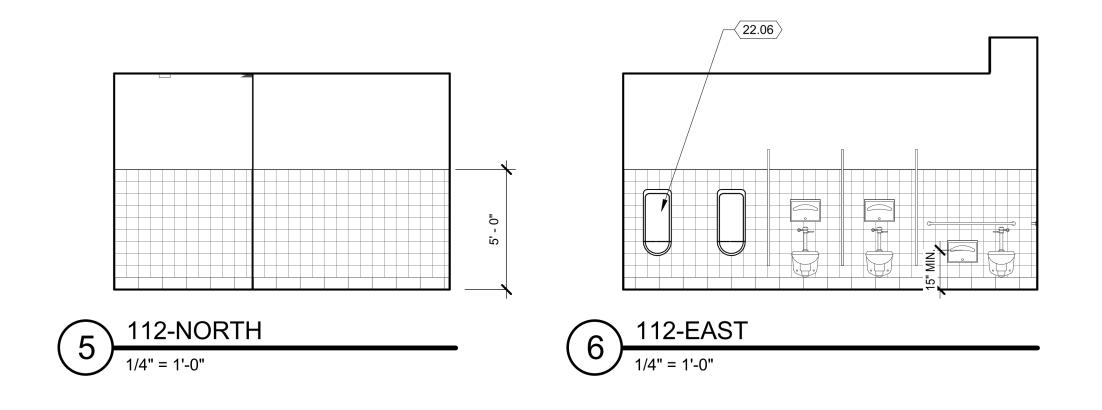
\mathcal{T} ENLARGED ROLLING GATE DETAIL WITH TERMINATION AT POST

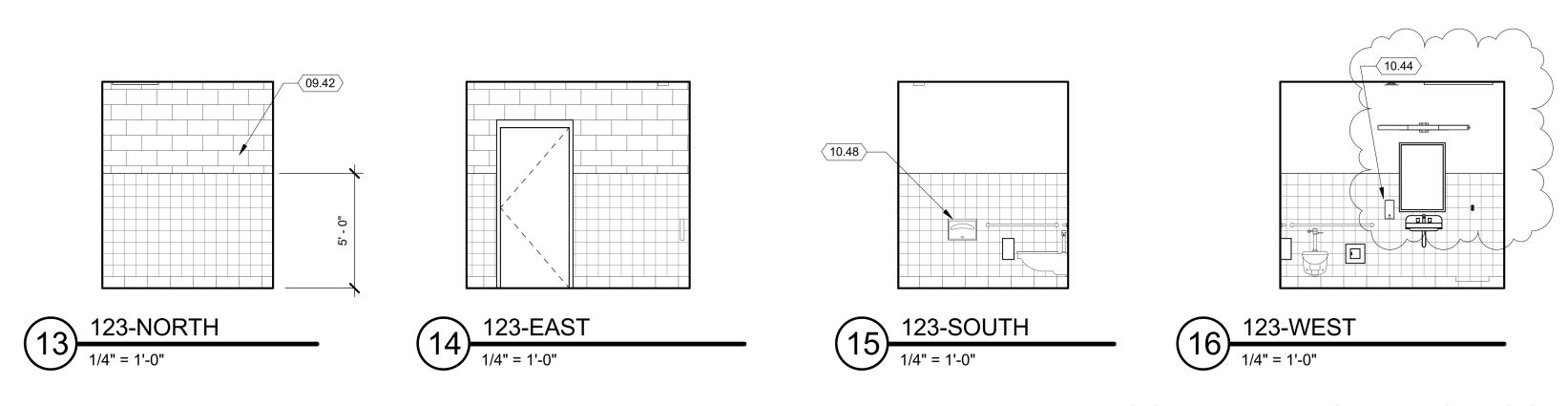


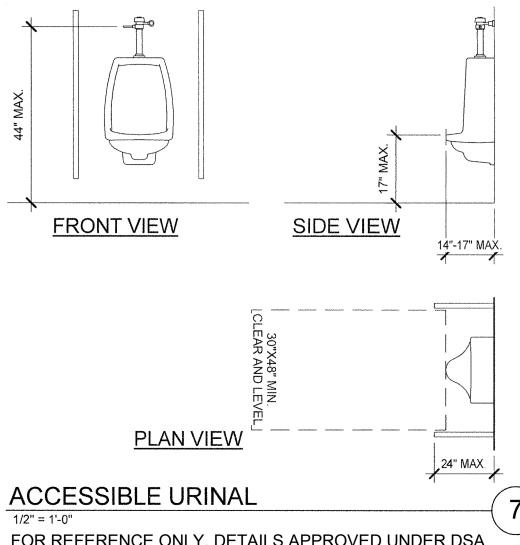




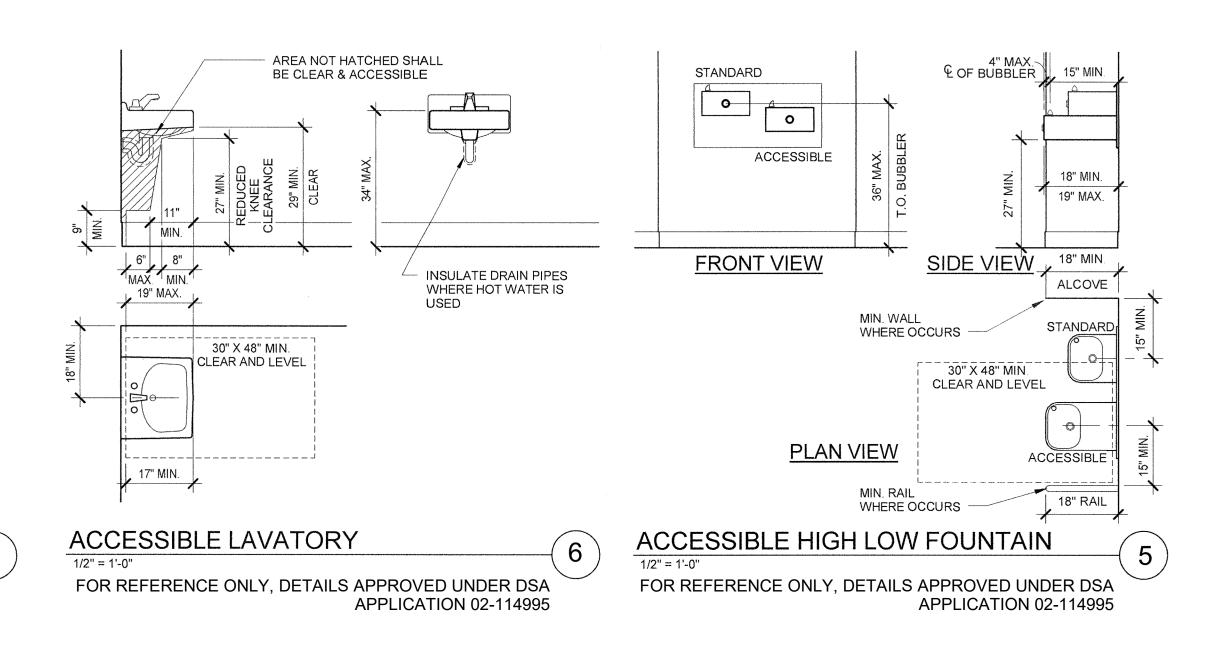






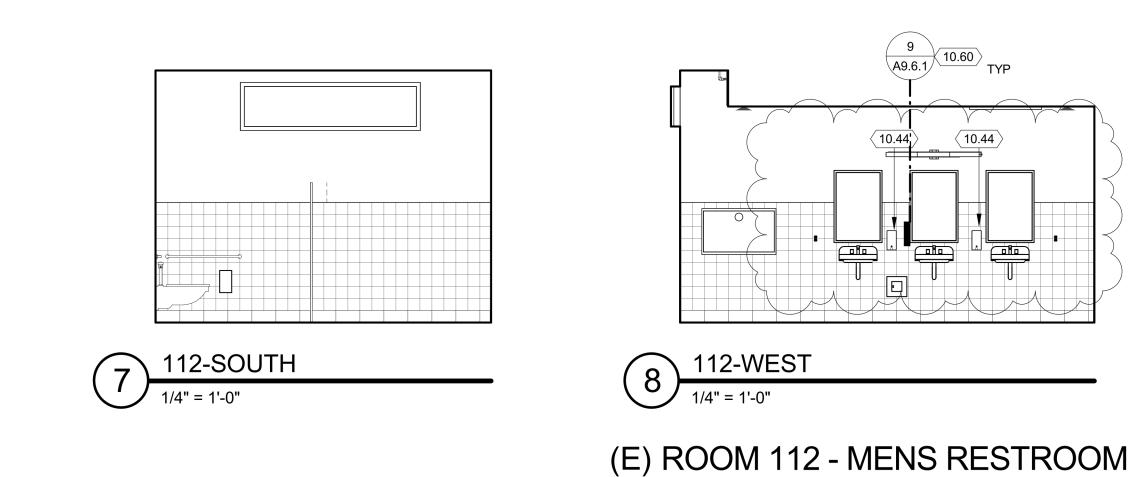






(E) ROOM 113 - WOMENS RESTROOM

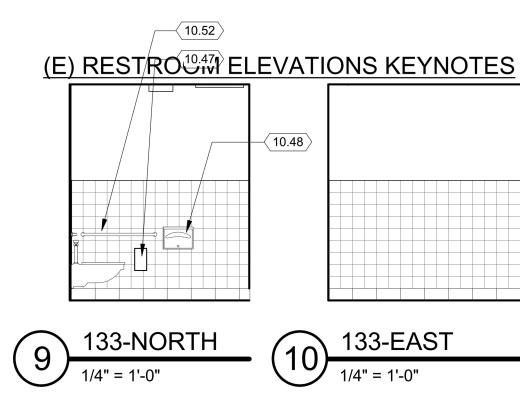
FOR REFERENCE ONLY, APPROVED UNDER DSA APPLICATION 02-114995

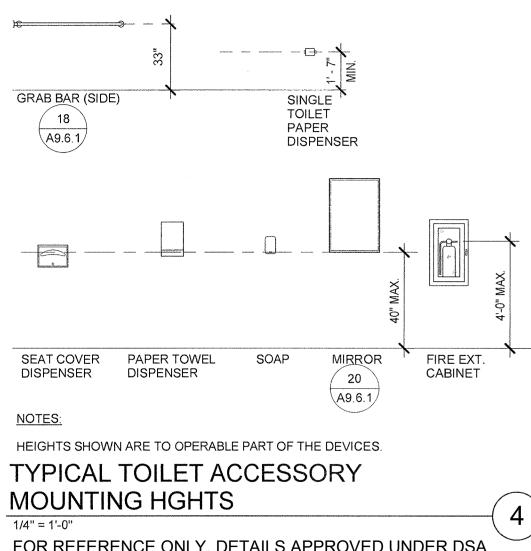


EXISTING CONDITIONS AS SHOWN HAVE BEEN FIELD VERIFIED FOR REFERENCE ONLY, APPROVED UNDER DSA APPLICATION 02-114995

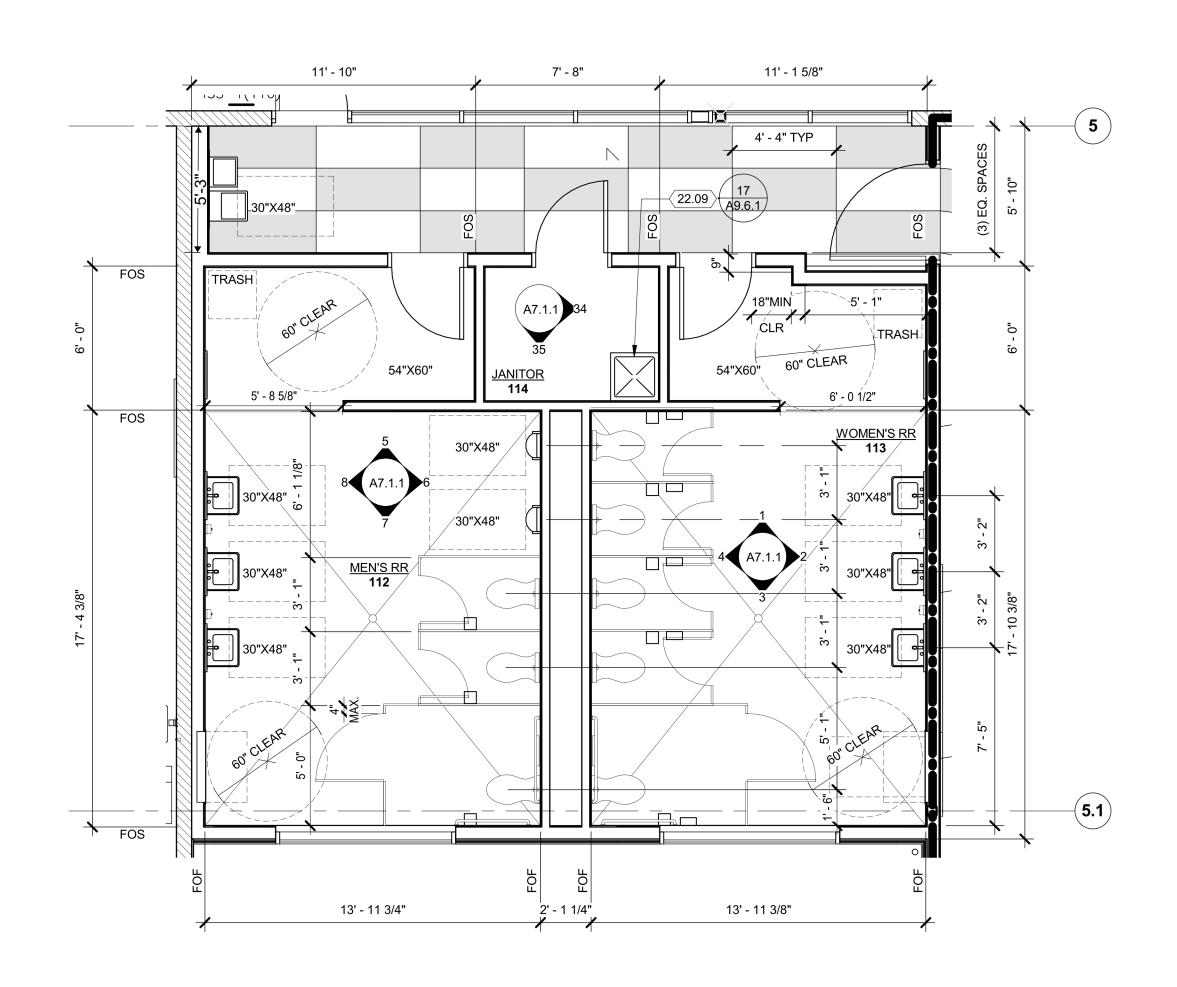
(E)ROOM 123 - UNISEX RESTROOM

EXISTING CONDITIONS AS SHOWN HAVE BEEN FIELD VERIFIED FOR REFERENCE ONLY, APPROVED UNDER DSA APPLICATION 02-114995





FOR REFERENCE ONLY, DETAILS APPROVED UNDER DSA APPLICATION 02-114995



(E) FLOOR PLAN - ENLARGED MEN'S WOMEN'S EXISTING CONDITIONS AS SHOWN HAVE BEEN FIELD VERIFIED

-{22.07} 133-SOUTH 1/4" = 1'-0" 133-WEST 1/4" = 1'-0"

(E) ROOM 133 - UNISEX

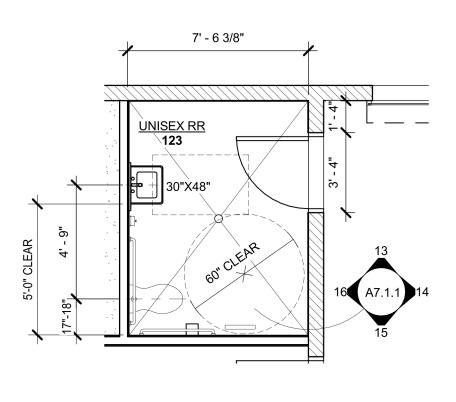
EXISTING CONDITIONS AS SHOWN HAVE BEEN FIELD VERIFIED FOR REFERENCE ONLY, APPROVED UNDER DSA APPLICATION 02-114995

(E) RESTROOM ELEVATIONS KEYNOTES

- 06.17 PLASTIC LAMINATE CUSTOM CASEWORK
- 09.42 CERAMIC TILE
- 09.94 RIGID PROTECTIVE WALL COVERING 10.07 PHENOLIC TOILET COMPARTMENT

FOR REFERENCE ONLY, APPROVED UNDER DSA APPLICATION 02-114995

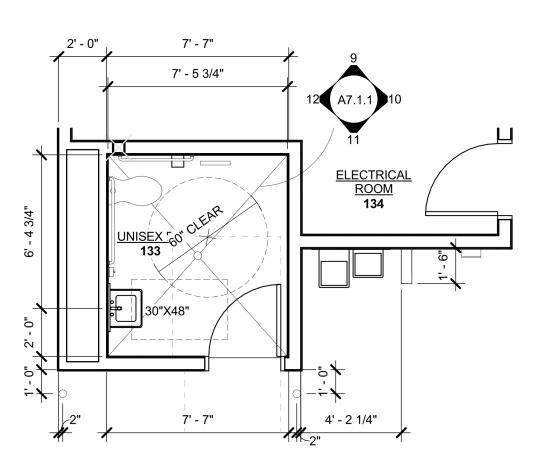
- 10.44 SOAP DISPENSER
- 10.47 TOILET PAPER HOLDER
- 10.48 SEAT COVER DISPENSER
- 10.50 SANITARY PRODUCTS WASTE RECEPTACLE 10.52 GRAB BAR
- 10.60 MIRROR
- 10.61 MIRROR AND SHELF UNIT
- 22.05 SINK
- 22.06 URINAL
- 22.07 TOILET 22.09 MOP SINK
- 26.03 ELECTRICAL OUTLET
- 26.07 LIGHT FIXTURE



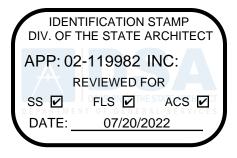
(E) FLOOR PLAN - ENLARGED UNISEX 133 (E) FLOOR PLAN - ENLARGED UNISEX 123 2

1/4" = 1'-0"

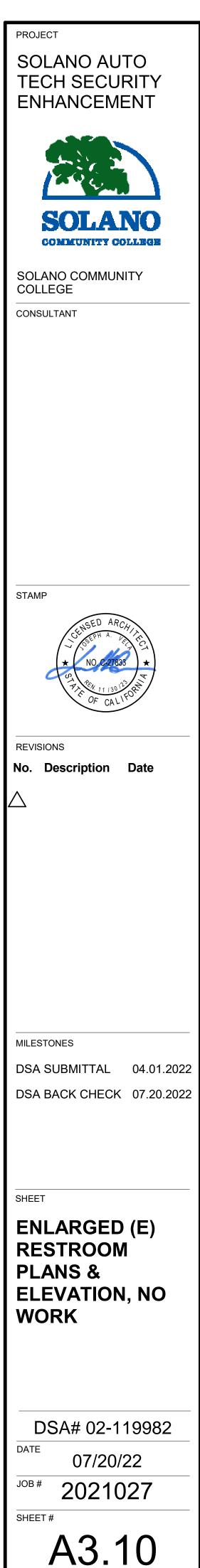
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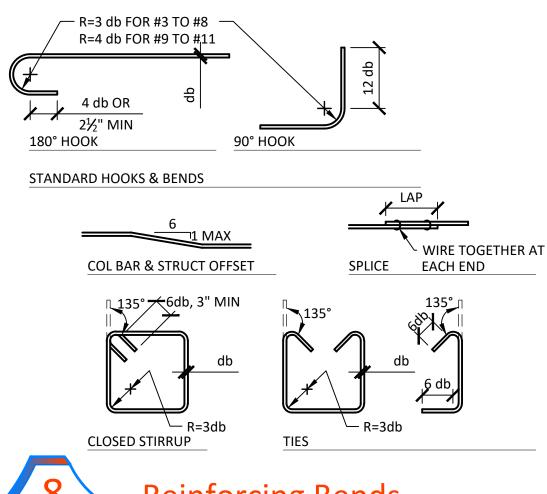


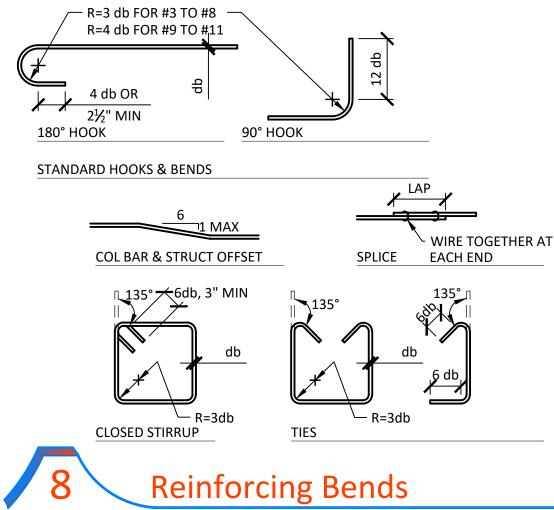
1/4" = 1'-0" EXISTING CONDITIONS AS SHOWN HAVE BEEN FIELD VERIFIED. FOR REFERENCE ONLY, APPROVED UNDER DSA APPLICATION 02-114995



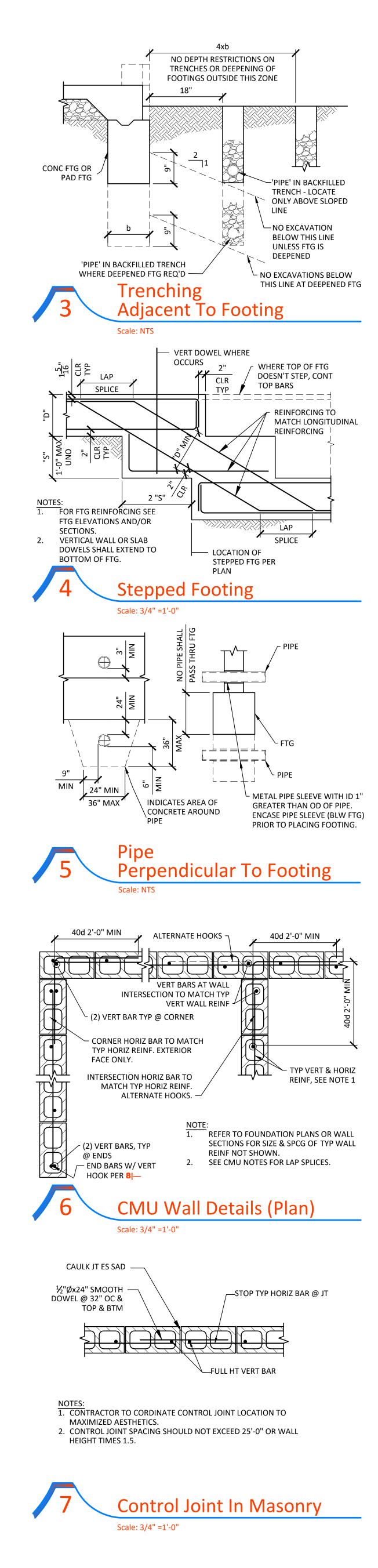










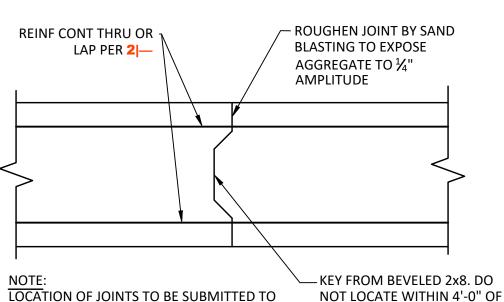


V. Concrete Notes:

- Concrete construction shall conform to ACI-318.
- Reinforcing shall conform to ASTM A615. Use Grade 60 for #4 bars and larger and Grade 40 for #3 bars.
- 3. Lap all reinforcing 40 bar diameters (24" minimum) unless noted otherwise on drawings.
- 4. Minimum concrete coverage of reinforcing steel shall be as follows
- unless otherwise noted on plans: 3″ - Concrete cast against earth ... - Formed concrete exposed to earth or weather: #5 bar and smaller, post tension strands $1 \frac{1}{2}$ 2″ #6 - #18 bars ... - Formed concrete not exposed to earth or weather: Bars in slabs and walls and joists
- #6 bars and smaller . #7 - #18 bars .. 1 ½" 1 1⁄2″ Bars in beams and columns .
- 6. Exterior curing: All exterior concrete slabs shall be cured using a liquid membrane-forming curing compound. The liquid membrane-forming curing compound shall meet the requirements of ASTM C1315 with a maximum V.O.C. content of 700 g/l. Acceptable products:
 - a. "Super Rez Seal" or "Super Aqua Cure" by
 - Euclid Chemical Phil Brandt 877-438-3826
- 7. Floor Flatness Criteria
 - a. Trowel finish with gas operated troweling machine with adjustable blades on all finishing equipment. Interior machine trowel finish shall be achieved within a 3" tolerance of all walls, columns and partitions.
 - b. Flatness: Floor Flatness Rating of at least 35 +/- 5
 - Levelness: Floor Levelness Rating of at least 30 +/- 5 d. Tolerance Band for Entire Floor: +/- 0.375"
 - Failure to achieve the above criteria shall be cause for
- replacement Concrete Protection and Curing
- General: Normalize concrete set time and protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 305 for hot-weather protection and ACI 306 for cold-weather protection during curing. During concrete placement operations, ventilate and exhaust all fumes from construction equipment and heaters to avoid potential early concrete carbonation. Apply the specified curing compound as quickly as possible for maximum protection. For concrete placement during hot, dry and windy conditions, concrete contractor shall use evaporation retarder as per manufacturer's instructions to maintain a moist condition and to minimize plastic drying shrinkage cracking at the surface of the freshly placed concrete.

VI. Concrete Masonry Units:

- 1. Concrete masonry system compressive strength f'm =2,000 psi.
- 2. Concrete block, grade N-1 units conforming to ASTM C90 with a minimum compressive strength of 1900 psi.
- . Mortar, Type S, conforming to ASTM C270 with a minimum compressive strength of 1800 psi at 28 days.
- 4. Grout, conforming to ASTM C476 minimum compressive strength of 2000 psi at 28 days with a fluid consistency. Add 1 lb. of Sika Grout Aid per 100 lbs. of cementitious material. Grout all cells solid. The thickness of grout between block units and reinforcing steel shall not be less than $\frac{1}{2}$ " and not less than 1" between parallel reinforcing bars.
- 5. See reinforcing steel notes and standard details for rebar requirements. 6. Lap all bars 48 bar diameters.
- 7. Clean out openings shall be provided at the bottoms of all cells to be filled at each lift or pour of grout where such lift or pour of grout is in excess of 5'-4" in height.



ARCHITECT/ENGINEER FOR REVIEW PRIOR TO HOLDOWN POST, OR COL PLACEMENT OF CONC.

Footing Construction Joint Scale: NTS

MINIMUM BAR LAPS FOR REINFORCING STEEL										
CONCRETE STRENGTH: 3000 PSI OR GREATER										
SIZE	LAP LENGTH	SIZE	LAP LENGTH	SIZE	LAP LENGTH					
#3	18"	#6	46"	#9	86"					
#4	24"	#7	56"	#10	102"					
#5	34"	#8	70"	#11	120"					

NOTES: 1. LAP LENGTH BASED ON CLASS B TOP BAR. I. LAP LENGTH BASED ON CLASS B TOP BAR. MINIMUM BAR SPACING SHALL BE THE GREATER OF

- 4x BAR DIAMETER OR 4".
- STAGGER SPLICES WHERE POSSIBLE. ALL REINFORCING BARS SHALL EXTEND AS FAR AS POSSIBLE
- AND END IN A STANDARD 90° OR 180° HOOK UNLESS DETAILED OTHERWISE.

5. INCREASE LAP LENGTH 30% FOR LIGHT-WEIGHT CONCRETE.

I. Intent of Drawing Notes:

- 1. These structural plans address the design of CMU walls & trash enclosure.
- 2. Typical Details and General Notes on these drawings apply to new construction only except where specifically detailed or noted otherwise.
- Resolve any conflicts on the drawings with the Architects and Structural Engineer before proceeding with construction. Dimensions take precedence over scale of drawings. However, any significant conflicts should be resolved as noted above.
- 4. These drawings represent the finished structure but do not indicate the means or methods or sequences of construction. The contractor is responsible for all temporary bracing, shoring and contractor is responsible for determining and enforcing all construction load limits on the structure.

II. General Structural Notes:

1. The foundation design based on provisions per KC Engineering Company Project no: VV3966A dated 14th June, 2022.

D + L Bearing Pressure = 2500 psf

- D + L + Lateral = 3325 psf
- 2. Unless otherwise indicated. Foundation work shall be performed in accordance with the 2018 IBC and all applicable local codes. 3. Foundation excavations shall be examined and certified by the soils engineer or his representative prior to the placement of any reinforcing steel or concrete. Special inspection is required by the Geotechnical Engineer for compliance with the Geotechnical Report. The Inspection Report shall be submitted to and approved by the County of Fresno Building Department prior to the foundation inspection.
- Typical details and notes shall apply unless otherwise shown or noted on plans.
- 5. Details of construction not fully shown shall be of the same nature as shown for similar conditions.
- 6. Safety Note:
- It is the Contractor's responsibility to comply with the pertinent sections of the "Construction Safety Orders" issued by the State and all OSHA requirements as they apply to this project. The Architect, Engineer, and Owner do not accept any responsibility for the Contractor's failure to comply with these requirements. The Contractor shall be responsible for adequate design and construction of all forms and shoring required.
- Contractor shall verify all dimensions, elevations, property lines, etc. on the job.
- Contractor shall notify the Architect and/or Engineer where a conflict occurs on any of the contract drawings or documents. Contractor is not to order material or construct any portion of the structure that is in conflict until conflict is resolved with the affected parties.

III. Design Criteria Notes:

Authority Having Jurisdict		ategory		A
DSA Risk Category	Ш	Commercial		
		commercial		
Project Location	20 125	dogrado	W	
Longitude	38.135 122.207	degrees degrees	N	
_	122.207	degrees		
Codes & Standards				00.000
2019 California Building Code				CBC 20
Minimum Design Loads for B	-			ASCE 7-1
ACI Building Code Requireme	ents for Structu			ACI 318-
Wind Design				ASCE 7 Ch. 2
ltem	Value	Source Data		
Basic Wind Speed	92	hazards.atcoun	cil.org	
Exposure	C	Google Earth		
Wind Importance Factor, Iw	1.0	CBC Table 16-A		
Topographic Factor, Kzt	1.0	Google Earth		
Seismic Design				ASCE 7 Ch.
ltem	Value	Source Data		
Soil Site Class	C	Geo Report		
Short a, Ss	1.710	www.seismicm		
Long a, S1	0.600	www.seismicm	aps.org	
Site Coeff., Fa	1.2	CBC Default		
Site Coeff., Fv	-			
Short a, damped, Sds	1.368			
Long a, damped, Sd1	-			
le Solomia Docign Cotogony	1.00	ASCE 7 Ch. 12		
Seismic Design Category	D			
V. Structural Mater	ials:			
Concrete			ACI	318-14
Item	f'c (psi)	w/c Ratio	F	inish
Foundations	3,000	0.55		N/A
All Mixes Use Type II Cement				
Reinforcing Steel			ACI	318-14
ltem	Fy (ksi)	Reference	F	inish
Standard Rebar	60	A 615		Black
Hot Rolled Steel Framing			AISC	360-10
ltem	Fy (ksi)	Reference		-inish
Shapes & Plates	36	A 36		ler Coated
Rectangular HSS	46	A 500 Gr. B		ler Coated
	-0	A 300 OL D		

VII. Structural Sheets:									
Mortar (Type S)	f'c = 1,800								
Grout	f'c = 2,000								
Normal Weight CMU	f'm = 2,000								

Machine Bolts

Anchor Bolts

Welding Electrodes

Concrete Masonry

Item

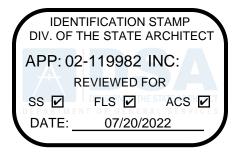
S1.0	STRUCTURAL NOTES & DETAILS
S1.1	DETAILS
S2.0	KEY PLAN & ENLARGED FOUNDATION PLANS

36

E70xx

einforcing Laps

Scale: NTS



AHJ

BC 2019 SCE 7-16 318-14 7 Ch. 26

7 Ch. 11

14

ated Same as Base

HDG

HDG

Finish

Precision

-

A 307

F 1554 Gr. 36

AWS D1.1

Reference

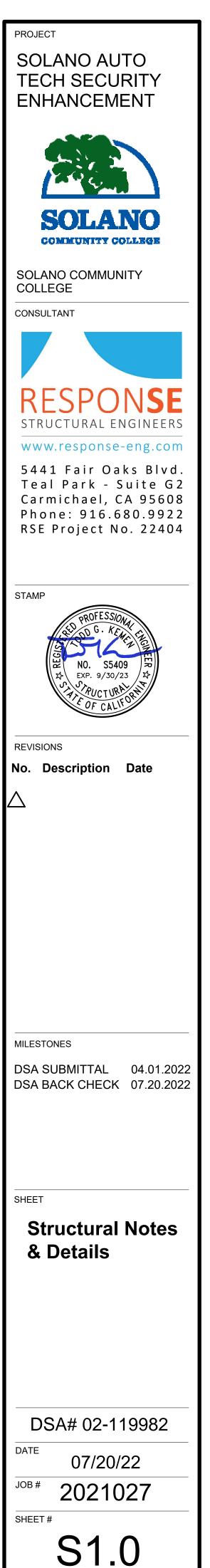
C90

C476

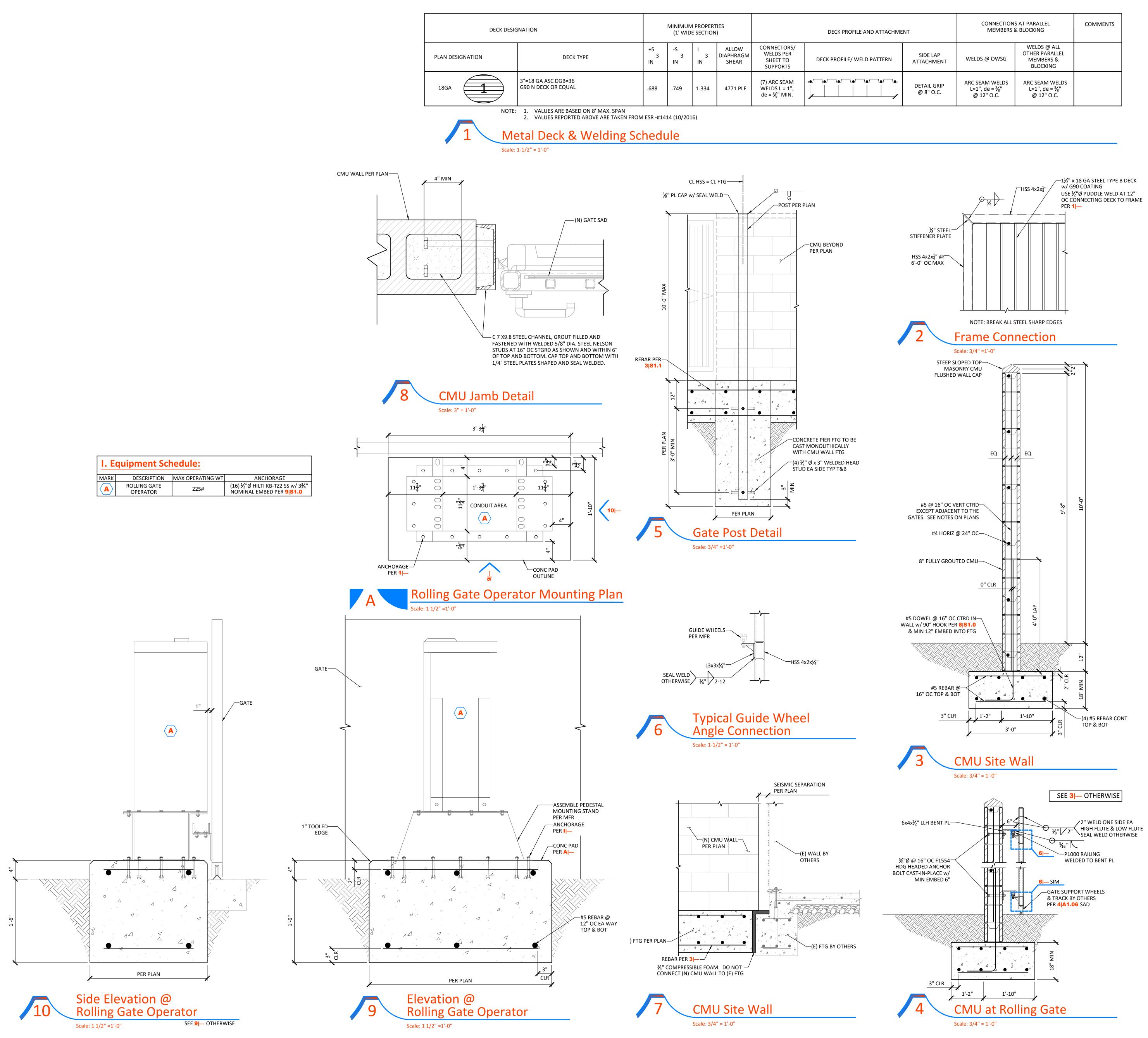
C270

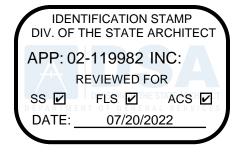
TMS 402-16





<u>I. E</u>	quipment Sch	nedule:
MARK	DESCRIPTION	MAX OPERAT
$\langle \mathbf{A} \rangle$	ROLLING GATE OPERATOR	225#

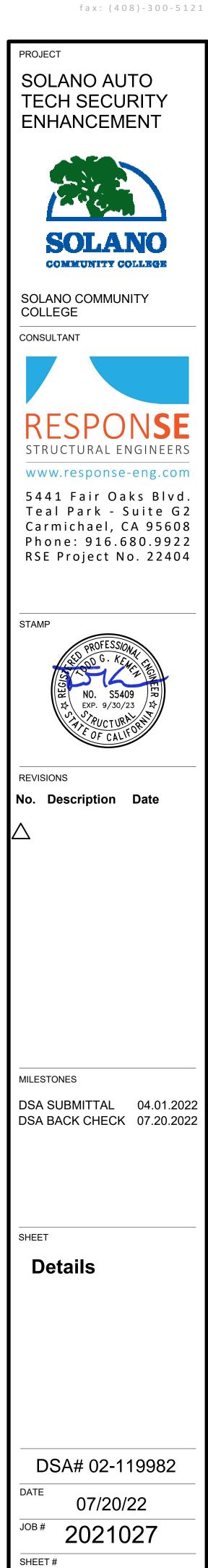






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S1.1



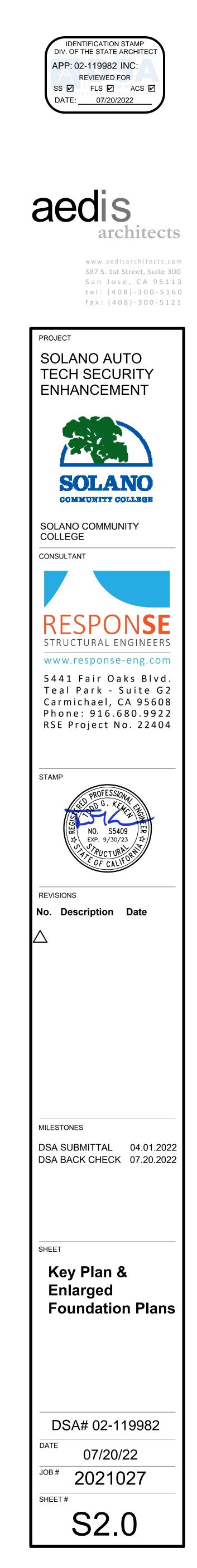
	(N) 8" SOLID GROUTED CMU WALL
]	(N) FOOTING
	(N) HSS COLUMN
	CONTROL JOINT PER 7 S1.0
l	C7x9.8 JAMB TYP @ MAN GATE PER DETAIL 8 S1.1

DETAIL

5|S1.1

SIZE

24"Ø x 4'-6" DEEP



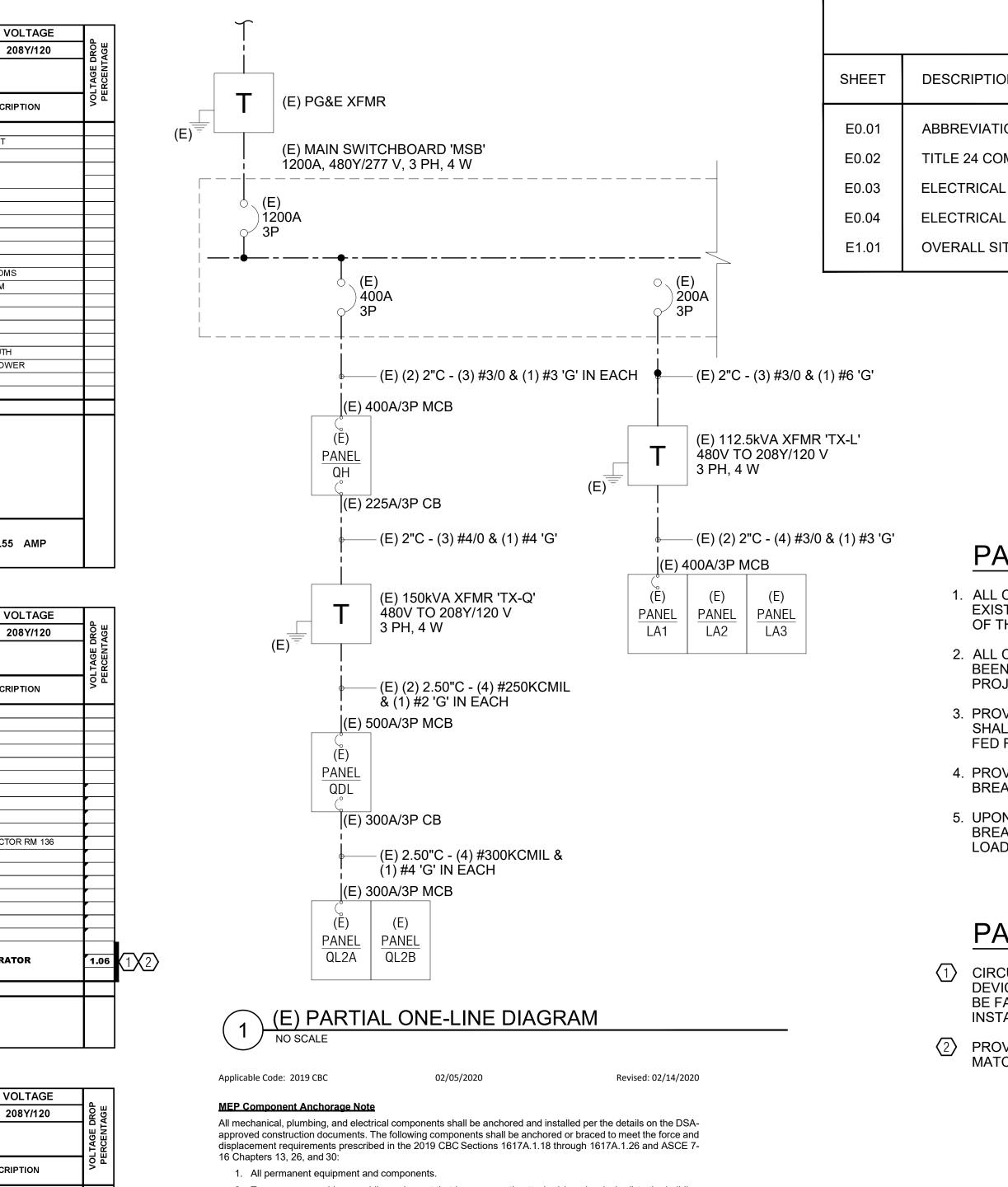
0			Λ 4		SECT	ION	1	OF	3			BUSF	RATIN	G:	400 A	MP	THR	EE PHASE	VOLTA
VOLTAGE DROP PERCENTAGE	(E) PANE		.A I		SERV	ING	Ν	IORMA	۸L		Х	MAIN	BREA	KER:	400 A	MP		4-WIRE	208Y/1
	LOCATION:	ELE	C RM	37				FLUS	Н			MAIN	LUGS	ONLY					
	PANEL A.I.C.	1	10,000			ITING:	X	SURF	ACE			FED-1	THRU	LUGS			1		
ΡE			ĺ	KVA	LOAD		С	. B.	СКТ	PH	скт	C.	В.		KVA	LOAD			
	LOAD DESCRIPTION		CONT.	RECP.	MOTOR	NON	AMP	POLE	#		#	POLE	AMP	CONT.	RECP.	MOTOR	NON		DESCRIPTION
	NORTH EXTERIOR RECEPT			0.72			20	1	1	А	2	1	20				0.50	TICKET MACHI	NE
	SOUTH EXTERIOR RECEPT			0.54			20	1	3	В	4	1	20				0.50	BLUE PHONE	- EAST
	EXIT QUAD DED RECEPT			0.18			20	1	5	С	6	1	20		1.62			ROOF RECEP	Г
	EXIT QUAD DED RECEPT			0.18			20	1	7	Α	8	2	30				1.56	COPIER	
	EXIT QUAD DED RECEPT			0.18			20	1	9	В	10						1.56	1	
	EXIT QUAD DED RECEPT			0.18			20	1	11	С	12	1	20		1.08			RECEPTS	
	RECEPTS 119, 118, 115			0.90			20	1	13	A	14	1	20		1.08			RECEPTS	
	SPARE						20	1	15	В	16	1	20		1.08			RECEPTS	
	RECEPTS 118			1.80			20	1	17	С	18	1	20		0.72			RECEPTS	
	RECEPTS			1.62			20	1	19	A	20	1	20		1.26			RECEPTS	
	RECEPTS			1.08			20	1	21	В	22	1	20		1.62			RECEPTS	
	RECEPTS			0.72			20	1	23	С	24	1	20		1.44			RECEPTS RES	TROOMS
	RECEPTS			1.44			20	1	25	Α	26	1	20		1.08			RECEPTS ELE	CT RM
	RECEPTS			1.26			20	1	27	В	28	1	20		2.18			RECEPTS	
	RECEPTS			1.08			20	1	29	С	30	1	20		0.60			RECEPTS	
	RECEPTS			1.08			20	1	31	Α	32	1	20		0.72			RECEPTS	
	RECEPTS			0.90			20	1	33	В	34	1	20		1.32			RECEPTS	
	FSD					0.25	20	1	35	С	36	1	20				0.50	BLUE PHONE	- SOUTH
	SECURITY MEZZANINE					0.12	20	1	37	Α	38	1	20				0.12	DOOR SECUR	TY POWER
	EF-7				0.55		20	1	39	В	40	1	20				0.28	FACP	
	POWER - ECLIPSE LIGHTING			0.18			20	1	41	С	42	1	20					SPARE	
	TOTAL	s>	0.00	14.04	0.55	0.37								0.00	15.80	0.00	5.02	< TOTALS	
	TOTAL CONTINUOUS LO TOTAL RECEPTACLE LO TOTAL NONCONTINUOU TOTAL MOTOR LOAD: LARGEST MOTOR @ 259	0AD @ 1: 0AD, 100 IS LOAD	25%:)% FOI):				I)% FO	RREN	IAINDE	R:		I	50.29 6.47 5.34	KVA	13.60	0.00	5.02		
					60				Α	В	с								
	TOTAL DEMAND LOAD:		63.25	KVA		NNEC OTAL/			35.84	33.22	33.33		IUM FI	EEDER	САРА	CITY	63.25	KVA	175.55 AN

		= 1 1	Λ Ω		SECTI	ON	2	OF	3			BUS I	RATIN	G:	400 A	MP	THR	EE PHASE	VOLTAC
ROP (GE	E) PANE	2 L. L	-A2	•	SERV	ING	Ν	IORMA	L			MAIN	BREA	KER:				4-WIRE	208Y/12
iE D NT∕P	LOCATION:	ELE	C RM 1	37				FLUS	Н		Х	MAIN	LUGS	ONLY					
VOLTAGE DROP PERCENTAGE	PANEL A.I.C.		10,000		MOUN	TING:	х	SURF	ACE			FED-1	THRU	LUGS			1		
/ol				KVA	LOAD		С	. B.	скт	PH	скт	C.	В.		KVA	LOAD			
-	LOAD DESCRIPTION		CONT.	RECP.	MOTOR	NON	AMP	POLE	#		#	POLE	AMP	CONT.	RECP.	MOTOR	NON		DESCRIPTION
	RECEPTS			0.90			20	1	1	Α	2	1	20		0.72			RECEPTS	
	RECEPTS			0.72			20	1	3	В	4	1	20		0.72			RECEPTS	
	RECEPTS			0.72			20	1	5	С	6	1	20		0.72			RECEPTS	
	RECEPTS			1.08			20	1	7	Α	8	1	20		0.72			RECEPTS	
	RECEPTS			0.72			20	1	9	В	10	1	20		0.72			RECEPTS	
	RECEPTS			0.72			20	1	11	С	12	1	20		0.72			RECEPTS	
	RECEPTS			0.72			20	1	13	A	14	1	20		1.08			RECEPTS	
	RECEPTS			1.26			20	1	15	В	16	1	20		0.18			FLOOR BOX	
	RECEPTS			1.26			20	1	17	С	18	1	20		0.90			RECEPTS	
	GARBAGE DISPOSER				0.18		20	1	19	Α	20	1	20		0.72			RECEPTS	
	RECEPTS			0.18			20	1	21	В	22	1	20		0.48			OVERHEAD P	ROJECTOR RM 1
	RECEPTS			0.18			20	1	23	С	24	1	20					SPARE	
	VENDING			0.18			20	1	25	С	26	1	20					SPARE	
	VENDING			0.18			20	1	27	С	28	1	20		0.72			RECEPTS	
	RECEPTS			1.08			20	1	29	С	30	1	20		0.72			RECEPTS	
	RECEPTS			0.36			20	1	31	С	32	1	20		0.48			RECEPTS	
	A/V CABINET			0.72			20	1	33	С	34	1	20		0.72			A/V CABINET	
	RECEPTS			0.90			20	1	35	С	36	1	20		0.72			RECEPTS	
	RECEPTS			0.54			20	1	37	С	38					1.54			
	SPACE							1	39	С	40	3	20			1.54		SLIDE GATE	OPERATOR
	SPACE							1	41	С	42					1.54			
	TOTAL	s>	0.00	12.42	0.18	0.00								0.00	11.04	4.61	0.00	< TOTALS	

SEE 'SECTION 1' FOR PANEL LOAD SUMMARY

			Λ 🤈		SECT	ION	3	OF	3			BUS I	RATIN	G:	400 AI	MP	THR	EE PHASE	VOLTAGE
VOLTAGE DROP PERCENTAGE	(E) PANE		AJ		SERV	ING	١	NORMA	۹L]		MAIN	BREA	KER:				4-WIRE	208Y/120
ЭЕ D	LOCATION:	ELEC	C RM 1:	37				FLUS	H	1	Х	MAIN	LUGS	ONLY					
TAG	PANEL A.I.C.	10	0,000		MOUN	HING:	х	SURF	ACE	1		FED-1	THRU	LUGS					
PE /oL				KVA	LOAD		С	. B.	СКТ	РН	скт	C.	В.		KVA	LOAD			
-	LOAD DESCRIPTION	F	CONT.	RECP.	MOTOR	NON	AMP	POLE	#		#	POLE	AMP	CONT.	RECP.	MOTOR	NON	LOA	D DESCRIPTION
	RECEPTS			0.72			20	1	1	A	2	1	20		0.72			RECEPTS	
	RECEPTS			0.90			20	1	3	В	4	1	20		1.08			RECEPTS	
	RECEPTS			1.08			20	1	5	С	6	1	20		0.72			RECEPTS	
	RECEPTS			1.08			20	1	7	A	8	1	20		1.44			RECEPTS	
	RECEPTS			0.72			20	1	9	В	10	1	20		0.40			RECEPTS	
	RECEPTS			0.72			20	1	11	С	12	1	20		1.44			RECEPTS	
	RECEPTS			1.08			20	1	13	Α	14	1	20		0.72			RECEPTS	
	RECEPTS			0.90			20	1	15	В	16	1	20		1.44			RECEPTS	
	RECEPTS			0.72			20	1	17	С	18	1	20		0.72			RECEPTS	
	RECEPTS			0.36			20	1	19	A	20	1	20					SPARE	
	SPARE						20	1	21	В	22	1	20		1.08			RECEPTS	
	BMS					0.72	20	1	23	С	24	1	20		1.44			RECEPTS	
	MECHO SHADES					0.12	20	1	25	Α	26	1	20		1.44			RECEPTS	
	CONFERENCE FURNITURE			1.00			20	1	27	В	28	1	20		0.18			DED RECEPT	
	CONFERENCE FURNITURE			1.00			20	1	29	С	30	1	20				0.24	INTRUSION D	ETECTION PANEL
	CONFERENCE FURNITURE			1.00			20	1	31	Α	32	1	20					SPARE	
	CONFERENCE FURNITURE			1.00			20	1	33	В	34	1	20					SPARE	
	CONFERENCE FURNITURE			1.00			20	1	35	С	36	1	20					SPARE	
				4.56					37	A	38	1	20		1.00			CONFERENC	E FURNITURE
	PANEL TC			2.61			100	3	39	В	40	1						SPACE	
				3.00					41	С	42	1						SPACE	
	TOTALS	;>	0.00	23.45	0.00	0.84								0.00	13.82	0.00	0.24	< TOTAL	6

VOLTAGE DROP PERCENTAGE		12	٨	SECT	ION	1	OF	2			BUS F	RATIN	G:	300 A	MP	THR	EE PHASE	VOL	
╔╞╹	(E) PANE			-	SERV	ING	1	NORMA	Ĺ		Х	MAIN	BREA	KER:	300 A	MP	4	I-WIRE	208
	LOCATION:	TRANS	S DYN	D 126				FLUS	Н			MAIN	LUGS	ONLY					
	PANEL A.I.C.	1	0,000			ITING:	х	SURF	ACE			FED-1	THRU	LUGS					
힌 出 		· [KVA	LOAD		С	. В.	СКТ	PH	скт	C.	В.		KVA	LOAD			
	LOAD DESCRIPTION		CONT.	RECP.	MOTOR	NON	AMP	POLE	#		#	POLE	AMP	CONT.	RECP.	MOTOR	NON	LOAD	DESCRIPT
	2 POST LIFT						30	2	1	Α	2	1	20					DRILL PRESS	
									3	В	4	1	20					GRINDER	
	2 POST LIFT						30	2	5	С	6	1	20					PARTS CLEAN	ER
									7	Α	8	1	20					SPARE	
	2 POST LIFT						30	2	9	В	10	2	30					FLOOR WASHE	R CHARGI
									11	С	12								
	2 POST LIFT						30	2	13	Α	14	1	20					RECEPT	
									15	В	16	1	20					RECEPT	
	2 POST LIFT						30	2	17	С	18	1	20					JIB CRANE PO	VER
									19	Α	20	1	20					SPARE	
	SPARE						20	1	21	В	22	1	20					SPARE	
	AUTO ROLLUP DOOR						20	1	23	С	24	1	20					DOOR SECURI	TY POWER
	AUTO ROLLUP DOOR						20	1	25	Α	26	1	20					SPARE	
	AUTO ROLLUP DOOR						20	1	27	В	28	2	20					PARTS WASHE	R RM 126
	AUTO ROLLUP DOOR						20	1	29	С	30								
	SPACE						20	1	31	Α	32	1						SPACE	
	SPARE						20	2	33	В	34	1						SPACE	
									35	С	36	1	20					ACCESS CONT	ROL PANE
	SPACE							1	37	Α	38					1.54			
	SPACE							1	39	В	40	3	20			1.54		SLIDING GAT	E OPERA
	SPACE							1	41	С	42					1.54			
	TOTAL	.s>	0.00	0.00	0.00	0.00								0.00	0.00	4.62	0.00	< TOTALS	



Temporary, movable or mobile equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110/220 volt receptacles having a flexible cable.
 Temporary, movable or mobile equipment which is heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component is required

to be restrained in a manner approved by DSA. The following mechanical and electrical components shall be positively attached to the structure but need not demonstrate design compliance with the references noted above. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit. Flexible connections must allow movement in both transverse and longitudinal directions:

- A. Components weighing less than 400 pounds and having a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
- B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

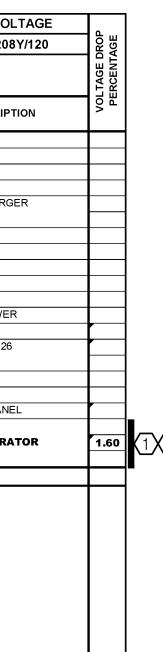
The anchorage of all mechanical, electrical and plumbing components shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and acceptance by DSA. The project inspector will verify that all components and equipment have been anchored in accordance with the above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-16 Section 13.3 as defined in ASCE 7-16 Sections 13.6.5, 13.6.6, 13.6.7, 13.6.8; and 2019 CBC, Sections 1617A.1.24, 1617A.1.25 and 1617A.1.26. The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., OSHPD OPM for 2013 CBC or later), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E): MP MD PP E Option 1: Detailed on the approved drawings with project specific notes and details.

NOTE: ALL LOADS SHOWN ARE EXPRESSED	IN KVA, UNLESS (OTHERWISE NOTED.	
LOAD TYPE	CONNECTED LOAD	CEC ADJUSTMENT FACTOR	CALCULATED CEC LOAD
(E) LIGHTING (CONTINUOUS)	0.00	X 125%	0.00
(E) RECEPTACLES (FIRST 10KVA)	10.00	X 100%	10.00
(E) RECEPTACLES (OVER 10KVA)	9.80	X 50%	4.90
(E) MOTOR LOADS	7.50	X 100%	7.50
LARGEST MOTOR LOAD	1.50	X 25%	0.38
MISCELLANEOUS NON-CONTINUOUS LOADS	79.50	X 100%	79.50
REMOVE GATE CONTROLLER LOAD	-2.20	X 100%	-2.20
NEW GATE CONTROLLER LOAD	4.62	X 100%	4.62
TOTAL CONNECTED KVA:	<u>110.72</u>	TOTAL CALCULATED KVA:	<u>104.70</u>
PANEL DESCRIPTION: 300A,208/120V,	3-PHASE	TOTAL CALCULATED AMP:	290.83



SHEET INDEX		STANDARD ELECTRICAL SYMBOLS
ION	SYMBOL	DESCRIPTION
TIONS, SYMBOLS, NOTES, ONE-LINE, PANELS, & SHEET INDEX	$\langle \mathbf{x} \mathbf{x} \rangle$	NUMBERED NOTE.
OMPLIANCE	Ţ÷	(E) TRANSFORMER.
AL SPECIFICATIONS	్సి	(E) CIRCUIT BREAKER.
AL SPECIFICAITONS		(E) BRANCH CIRCUIT PANELBOARD, SURFACE MOUNTED.
SITE PLAN - ELECTRICAL	x	EXISTING CONDUIT RUN TO BE ABANDONED. CONDUIT ABOVE TH AND BELOW THE STRUCTURE ABOVE SHALL BE REMOVED. COND SHALL BE REMOVED.
		EXISTING CONDUIT RUN, VERIFY ROUTING ON THE JOB.
		REMOVE (E) WIRE, PULL IN NEW WIRES, #12 AWG UNLESS NOTED
		ARROW AT END OF RACEWAY INDICATES HOME RUN TO RESPEC PANELBOARD OR SWITCHBOARD.
		BRANCH CIRCUIT WITHOUT FURTHER DESIGNATION INDICATES A CIRCUIT WITH 1 #12 AWG GROUND.
	/ #	STRAIGHT CROSS-LINES IN BRANCH CIRCUIT RACEWAY INDICATI OF #12 AWG WIRES IN A CIRCUIT. SHORT LINES INDICATE UNGRO CONDUCTORS. LONG LINES INDICATE NEUTRAL CONDUCTORS. V SHOWN ARE IN ADDITION TO 1 #12 AWG GROUNDING CONDUCTO
ANEL SCHEDULE NOTES	#10	BRANCH CIRCUIT WITH GROUNDING WIRE LARGER THAN #12 AW ADJACENT TO CURVED CROSS-LINE INDICATES WIRE SIZE.
L CIRCUITS INDICATED "LIGHT" ON PANEL SCHEDULES ARE ISTING TO REMAIN AND HAVE NOT BEEN MODIFIED AS PART THIS PROJECT.	/## #10	BRANCH CIRCUIT RACEWAY WITH WIRE OTHER THAN #12 AWG. N ADJACENT TO STRAIGHT OR CURVED CROSS-LINES INDICATES V UNGROUNDED AND NEUTRAL CONDUCTORS SHALL BE THE SAMI

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2. ALL CIRCUITS INDICATED "BOLD" ON PANEL SCHEDULES HAVE BEEN MODIFIED, ALTERED, OR ADDED AS PART OF THIS PROJECT.

3. PROVIDE UPDATED 'TYPEWRITTEN' PANEL INDEX. PANEL INDEX SHALL INCLUDE DATE APPLIED AND ALSO WHERE THE PANEL IS FED FROM.

4. PROVIDE BLANK COVER PLATES OVER ANY EXPOSED CIRCUIT BREAKER SPACE THAT IS EXPOSED.

5. UPON OPENING EXISTING PANELS, TURN ANY CIRCUIT BREAKERS WITH NO CONDUCTORS OR NOT CONNECTED TO A LOAD INTO THE "OFF" POSITION AND UPDATE PANEL SCHEDULE.

PANEL NUMBERED NOTES

(1) CIRCUIT BREAKER SHALL BE EQUIPPED WITH PADLOCKING DEVICE FOR LOCKING HANDLE IN OFF POSITION. DEVICES SHALL BE FACTORY INSTALLED OR FURNISHED BY FACTORY AND INSTALLED BY CONTRACTOR.

2 PROVIDE (N) 20A/3P CIRCUIT BREAKER IN SPACE INDICATED, MATCH (E) BREAKER TYPE AND AIC RATING.

UNGROUNDED AND NEUTRAL CONDUCTORS SHALL BE THE SAME SIZE UNLESS OTHERWISE NOTED. CONTROL AND/OR EQUIPMENT, PROVIDED UNDER ANOTHER DIVISION, PROVIDE POWER CONNECTION AS INDICATED.

ABBREVIATIONS

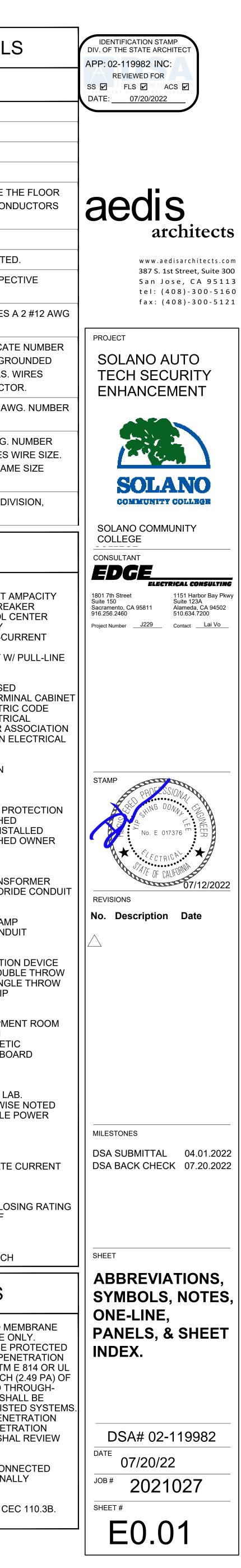
PH, 3PH P, 2P, 3P W, 4W D) E) ER) N) R)		MCA MCB MCC MLO MOCP MT	-M- MINIMUM CIRCUIT A MAIN CIRCUIT BREA MOTOR CONTROL O MAIN LUGS ONLY MAXIMUM OVER-CU PROTECTION EMPTY CONDUIT W
A, AMPS AC AF AF AIC AL, ALUM ATS AT AWG	-A- AMPERES ALTERNATING CURRENT FRAME RATING IN AMPERES ABOVE FINISHED FLOOR AMPERES INTERRUPTING CAPACITY ALUMINUM AUTO TRANSFER SWITCH TRIP RATING IN AMPERES AMERICAN WIRE GAUGE	NC NCTC NEC NEMA NIES NL NO NTS	-N- NORMALLY CLOSEI NURSE CALL TERM NATIONAL ELECTRI NATIONAL ELECTRI MANUFACTURER A NOT INCLUDED IN E SCOPE NIGHT LIGHT NORMALLY OPEN NOT TO SCALE
TR ; ;B,C/B ;EC	-B- BUILDING TELECOM ROOM -C- CONDUIT CIRCUIT BREAKER CALIFORNIA ELECTRICAL CODE	OCP OFCI OFOI	-O- OVER-CURRENT PF OWNER FURNISHE CONTRACTOR INST OWNER FURNISHE INSTALLED
ST SU	CURRENT TRANSFORMER COPPER -D-	PT PVC	-P- POTENTIAL TRANSI POLYVINYL CHLOR
A	DIRECT CURRENT -E- EACH	RLA RSC	-R- RUNNING LOAD AM RIGID STEEL COND
LEC MT A ACP	ELECTRICAL ELECTRICAL METALLIC TUBING -F- FIRE ALARM FIRE ALARM CONTROL PANEL	SPD SPDT SPST SST	-S- SURGE PROTECTIO SINGLE POLE DOUE SINGLE POLE SING SOLID STATE TRIP
ATC LA T	FIRE ALARM TERMINAL CABINET FULL LOAD AMPS FOOT OR FEET -G-	TER TR TM TTB	-T- TELECOM EQUIPME TELECOM ROOM THERMAL MAGNET TERMINAL BACKBC
6, GND 6A 6FCI 6FI	GROUND GAUGE GROUND FAULT CIRCUIT INTERRUPTER GROUND FAULT INTERRUPTER -H-	UG UL UON UPS	-U- UNDERGROUND UNDERWRITERS LA UNLESS OTHERWIS UNINTERRUPTIBLE SUPPLY
IOA IP	HAND-OFF-AUTO HORSE POWER -J-	V VA VAC	-V- VOLTS VOLT-AMPS VOLTS ALTERNATE
-BOX VA W	JUNCTION BOX -K- ONE THOUSAND VOLT-AMPS ONE THOUSAND WATTS	W WCR WP	-W- WATTS WITHSTAND & CLO WEATHERPROOF
CP TG	-L- LIGHTING CONTROL PANEL LIGHTING	XFMR XFER	-X- TRANSFORMER TRANSFER SWITCH

GENERAL ELECTRICAL NOTES

. WHERE PROVIDED, THROUGH-PENETRATION FIRESTOP SYSTEM AND MEMBRANE PENETRATION DETAILS SHOWN IN THE DETAILS ARE FOR REFERENCE ONLY. THROUGH- PENETRATIONS AND MEMBRANE PENETRATIONS SHALL BE PROTECTED BY AN APPROVED PENETRATION FIRESTOP SYSTEM OR MEMBRANE PENETRATION FIRESTOP SYSTEM INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH (2.49 PA) OF WATER OR AS OTHERWISE PERMITTED BY CBC, SECTION 714. LISTED THROUGH-PENETRATION FIRESTOP SYSTEMS AND MEMBRANE PENETRATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION DETAILS FOR LISTED SYSTEMS. LISTED THROUGH-PENETRATION FIRESTOP SYSTEMS, MEMBRANE PENETRATION PROTECTION AND OTHER PERMITTED MEANS AND METHODS OF PENETRATION PROTECTION SHALL BE SUBMITTED FOR DSA FLSO/LOCAL FIRE MARSHAL REVIEW AND APPROVAL PRIOR TO INSTALLATION.

2. ALL ELECTRICAL EQUIPMENT TO BE INSTALLED OR PERMANENTLY CONNECTED (HARDWIRED) SHALL BE LISTED, LABELED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) PER CEC 110.2.

3. ALL EQUIPMENT SHALL BE USED IN ACCORDANCE WITH LISTING PER CEC 110.3B.



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Office Parking Grappe Head Warehouse Head/Model [2] School] Support Areas Parking Grappe High-Rise Residential Relocatable Headback Facilities [2] School] Support Areas Reform CSCOPE Auto Shop Reform CSCOPE Auto Shop Auto Shop Date Instructions: include any electrical service systems that are within the scope of the permit application. 03 04 05 06 Designation/ Designation/ Scope of Work ¹ Rating Within the scope of the permit application. System For and Response Controls Designation/ Scope of Work ¹ Rating Rating System For and Response Controls Within the scope of the permit application to the scope of the permit application to the scope of the permit application to the scope of the scope of the permit application to the scope of the scope of the permit application to the scope of the permit application to the scope of the scope of the permit application to the scope of the scope of the permit application to the scope of the permit application to the scope of	Office Interview I	A. GENERAL INFOR									
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STATE OF CALIFORNIA **Electrical Power Distribution** NRCC-ELC-E (Created 01/20) CERTIFICATE OF COMPLIANCE NRCC-ELC-E ntial, high-rise residential and Project Name: Solano Auto Tech Security Enhancement Report Page: e compliance per <u>§141.0(a)</u> or Date Prepared: Project Address: 1683 N. Ascot Parkway, Vallejo, CA Page 1 of 4 01 04 05 02 03 7/1/2022 Service Electrical Separation for Controlled Voltage Drop Metering Monitoring Receptacles AND §130.5(c) **Compliance Results** <u>§130.5(a)</u> §130.5(b) §130.5(d) (See Table F) (See Table I) (See Table G) (See Table H) Support Areas COMPLIES AND Yes AND AND Auto Shop D. EXCEPTIONAL CONDITIONS This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form. 06 No exceptional conditions apply to this project. nd Response Controls demand response controls must E. ADDITIONAL REMARKS ch are capable of receiving and This table includes remarks made by the permit applicant to the Authority Having Jurisdiction. sponding to at least one messaging protocol which response after receiving a e signal. Sections <u>§120.2</u>, <u>§130.1</u> compliance documents NRCC-F. SERVICE ELECTRICAL METERING and NRCC-LTS will indicate when This Section Does Not Apply e controls are required. G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING This Section Does Not Apply H. VOLTAGE DROP Table Instructions: Please complete this table for entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with <u>§130.5(c)</u>. For alterations, only the altered circuits must demonstrate compliance per <u>§141.0(b)2Piii</u>. 01 04 Sheet Number for Voltage Drop **Electrical Service** Combined Voltage Drop on Installed Feeder/Branch Location of Voltage Drop Calculations in Construction Designation/ Description Circuit Conductors Compliance Method Calculations¹ Documents Permitted by CA Elec Existing Panel QL2A / QL2B Voltage drop < 5% Code (Exception to In construction documents E0.01 §130.5(c))* Table Continued CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020 STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION **Electrical Power Distribution** NRCC-ELC-E (Created 01/20) CERTIFICATE OF COMPLIANCE NRCC-ELC-E Project Name: Solano Auto Tech Security Enhancement Page 3 of 4 Report Page: 7/1/2022 Project Address: 1683 N. Ascot Parkway, Vallejo, CA Date Prepared: 05 DOCUMENTATION AUTHOR'S DECLARATION STATEMENT Voltage Drop I certify that this Certificate of Compliance documentation is accurate and complete. Field Inspector Construction Documentation Author Name: Lai Vo Documentation Author Signature:

EDGE Electrical Consulting

1801 7th Street, Suite 150

I certify the following under penalty of perjury, under the laws of the State of California: 1. The information provided on this Certificate of Compliance is true and correct.

documentation the builder provides to the building owner at occupancy.

Sacramento, CA 95811

Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.

Yip Shing Donny Lee

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards

EDGE Electrical Consulting

1801 7th Street, Suite 150

Sacramento, CA 95811

January 2020

Company:

Address:

City/State/Zip:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

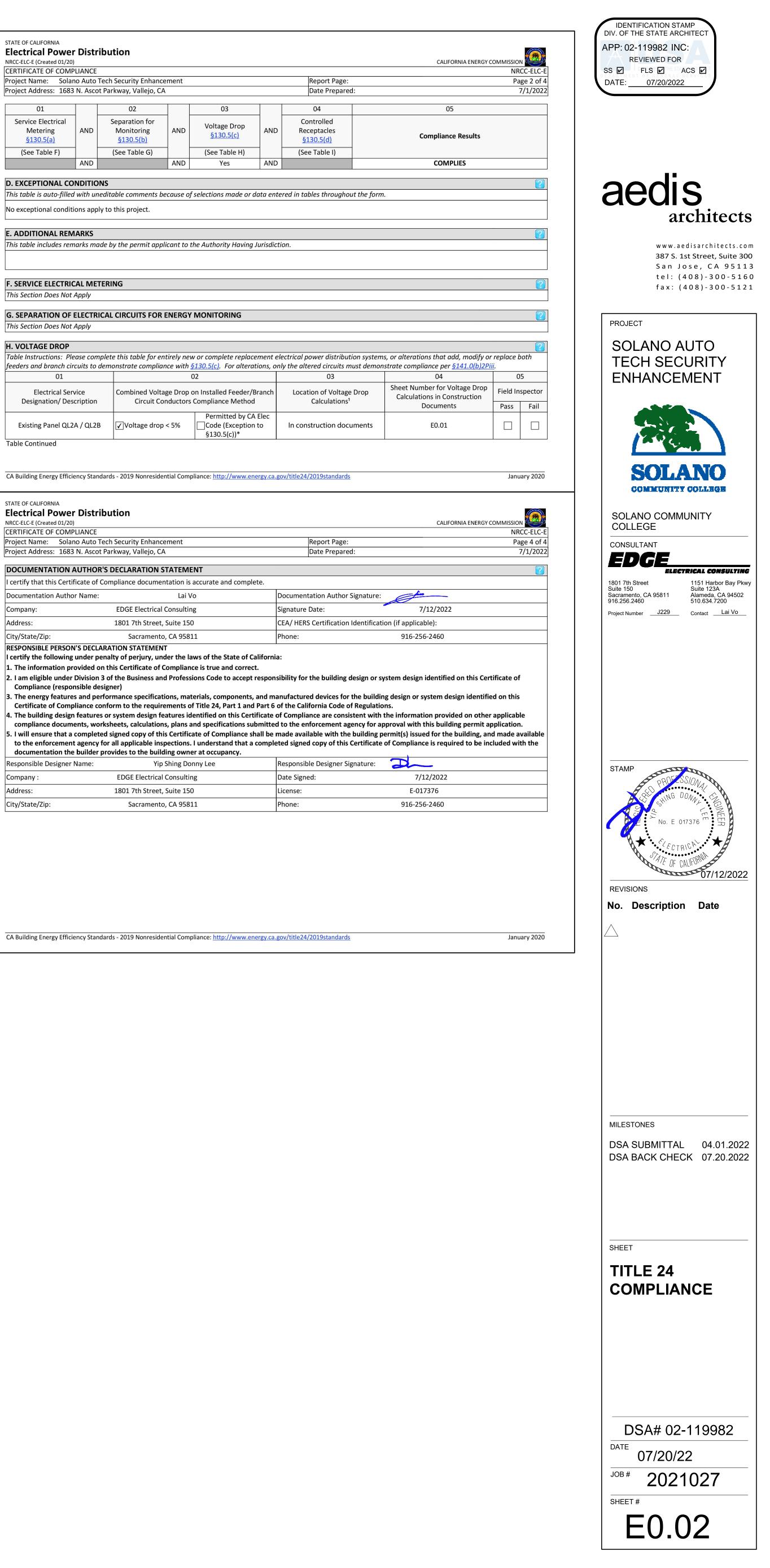
Compliance (responsible designer)

Responsible Designer Name:

Company :

City/State/Zip:

Address:



7/12/2022

7/12/2022

E-017376

916-256-2460

916-256-2460

Signature Date:

Phone:

Date Signed:

License:

Phone:

CEA/ HERS Certification Identification (if applicable):

Responsible Designer Signature:

- PART 1 GENERAL
- 1.01 CONDITIONS:
- A. The Requirements of General Conditions and Special Conditions apply to Work of this Section as if fully repeated herein. 1.02 WORK INCLUDED:
- A. Provide a complete working installation of all electrical as shown of drawings or as specified.
- B. Provide all labor, materials, tools, and equipment necessary for the complete in-place installation of all electrical and low voltage items complete as shown on drawings and as specified.
- C. Provide submittals and shop drawings.
- D. Electrical connections to equipment furnished and installed under other sections.
- E. Include sealing and fireproofing of conduits, cable trays, cables etc.
- F. Electrical components are identified as follows:
- 1. Label for identification of receptacles, light switches, and control device stations.
- 2. Wire marker for each conductor at panel boards' gutters, pull boxes, outlet and junction boxes, and each load connection. 3. Permanent ink felt tip marker on cover indicating panel and circuit for junction boxes located above suspended ceilings and below ceilings in non-public areas.
- 1.03 CODES AND STANDARDS

A. Work and materials shall be in full accordance with California Occupational Safety Health Act (CAL-OSHA), California Electrical Code (CEC), State Fire Marshal, Title 8, Safety Orders of Division of Industrial Safety (ESO), the National Fire Protection Association, California Building Code (CBC); California Code of Regulations - Title 24 and other applicable laws or regulations. Nothing in the Drawings or Specifications shall be construed to permit work not conforming to these codes.

- B. When Contract Documents differ from governing codes, furnish, and install larger size or higher standards called for without extra charge.
- 1.04 QUALITY ASSURANCE:
- A. Requirements of Regulatory Agencies:
- 1. Nothing in the Contract Documents shall be construed to permit Work not conforming to applicable codes, laws, ordinances, rules, or regulations.
- 2. All materials and equipment shall be installed in accordance with manufacturer's recommendations and in accordance with the National Electrical Contractors Association (NECA) Standard of Installation.
- 3. Equipment to be installed or permanently connected (hardwired) shall be listed, labeled, or certified by a Nationally Recognized Testing Laboratory (NRTL).
- 1.05 PERMITS, FEES, AND INSPECTIONS
- A. Contractor shall obtain all permits and arrange for Owner to pay required fees to any governmental agency or utility company having jurisdiction over the work of this Section. Inspections required by any local ordinances or utility companies during construction shall be arranged by the Contractor.
- B. All work and materials covered by these specifications and accompanying drawings shall always be subject to inspection by the Architect or his representative. Any material not in accordance with the plans and specifications, or not installed in a neat and workmanlike manner, shall, upon order from the Architect, be removed from the premises or corrective action taken within three (3) days; and if material in question has been installed, the entire expense for removing and reinstalling shall be borne by the Contractor.
- C. On completion of the work, satisfactory evidence shall be furnished to the Architect to show that all work has been installed in accordance with the Codes.
- D. The Contractor shall cooperate with the Architect and shall provide assistance at all times for the inspection of the electrical work performed under this contract. Contractor shall remove covers, operate machinery, or perform any reasonable work which, in the opinion of the Engineer, will be necessary to determine the quality and adequacy of the work.
- 1.06 SPECIFICATIONS AND CONTRACT DRAWINGS
- A. Accuracy of data given herein and on the drawings is as exact as could be secured, but their extreme accuracy is not guaranteed. The drawings and specifications are for the assistance and guidance of the Contractor and exact locations, distances, levels, etc., will be governed by the construction and the Contractor shall accept same with this understanding.
- B. Layouts of equipment, accessories and wiring systems are diagrammatic (not pictorial and not exact) but shall be followed as closely as possible. Architectural, structural, mechanical, and other drawings shall be examined noting all conditions that may affect this work. Where connections to equipment provided by other divisions are shown on electrical drawings, refer to drawings of respective division for exact locations and electrical requirements of equipment.
- C. Report conflicting conditions to the Architect for adjustment before proceeding with work. Should Contractor proceed with work without reporting conflict(s), he does so on his own responsibility, and shall alter work if directed by the Architect, at his own expense
- D. Right is reserved to make minor changes in locations of equipment and wiring systems shown, providing change is ordered before conduit runs and/or work directly connected to same Is Installed and no extra materials are required.
- E. Drawings and specifications may be superseded by later detail specification and detail drawings prepared by the Architect, and the Contractor shall conform to them and to such reasonable changes in the contract drawings as may be called for by these revised drawings without extra cost to the Owner.
- F. Contractor may request additional detail(s), and such shall be conformed to, without additional cost. Contractor may offer alternate detail(s), but such detail(s) shall be approved by Architect and authority having jurisdiction
- 1.07 SUBMITTALS:
- A. Submission Requirements
 - 1. Contractor is responsible for the scheduling of submittals to avoid detrimental impact to the construction schedule and to support the timely sequence of the Work. Allow a minimum of 15-working days for submittal review by the Engineer. Complex submittals or submittals which are not provided as complete packages may take longer than 15-working days for review. Contractor should allow time for potential rejection and re-submittal of submittals which are being offered as substitution to the specified products.
 - 2. Contractor shall review submittals for completeness, coordination and conflicts between subcontractors and other work in the Contract Documents. Submittals made by Contractor which are not thoroughly reviewed by the Contractor will be returned. Submittals which vary significantly from the Contract Documents and are not so identified prior to submission, will be returned to the Contractor without review.
 - 3. Make submissions within following number of days from issuance of Notice to Proceed or Start Letter a. Items needed in initial stages of Work or requiring long lead-time for ordering: 15 calendar days.
 - b. All other items: 21 calendar days.
 - 4. Before submitting a shop drawing or any related material, Contractor shall: review each such submission for conformance with the means, methods, techniques, sequences, and operations of construction, and safety precautions and programs incidental thereto, all of which are the sole responsibility of the Contractor; approve each such submission before submitting it; and stamp each such submission before submitting it. Engineer shall assume that no shop drawing or related submittal comprises a variation unless the Contractor advises the Engineer otherwise via a written instrument which is acknowledged by the Engineer in writing.
 - 5. Engineer will check submittals for conformance with design concepts of project. Approval covers only such conformance Effort will be made by Engineer to discover any errors, but responsibility for accuracy and correctness of all submittals shall be with the Contractor.
 - 6. Approval of submittals will be on a general basis only and shall not relieve the Contractor from their responsibility for proper fitting and construction of the Work, nor from furnishing materials and labor required by the Contract which may not be indicated on the submittals when approved.
 - 7. No portion of the work requiring submittals shall be commenced until the submittal for that portion of the work has been approved by Engineer. All such portions of work shall be in accordance with the approved submittal. Any work performed without approved submittals will be done so at the Contractor's own risk. Work found not to be in compliance with the approved submittals shall be removed and corrected at the Contractor's own expense.
 - 8. Number of Copies Required Contractor shall submit following number of copies:
 - a. Product Data/Material Lists: 1-electronic copy in PDF format.
 - b. Samples: As specifically indicated in pertinent specification section.
 - c. Substitution Request: 1-copy in PDF format 9. Submittals shall include (where applicable)
 - a. Date and revision dates.
 - b. Project title and number.
 - c. The names of Architect, Engineer, Contractor, Subcontractor and supplier or manufacturer.
 - d. Identification of product or material.
 - e. Relation to adjacent structure or material.
 - f. Field dimensions clearly identified as such.
 - g. Specification section number.
 - h. A blank space for Engineer's stamp.
 - i. Contractor's stamp on each, initialed or signed, certifying that submittal was reviewed, field measurements have been verified and submittal is in compliance with the applicable specification section and the overall Contract Documents.

10. Incomplete, inaccurate, or non-complying submittals requiring revisions, re-submittal, and additional review time, shall not be considered as a basis for Contract time extension.

- Required Submittals 1. Various specification sections may state additional information to be submitted.
- 2. Submittals are required for all materials even though the submitted material may be exactly as specified in the Project
- 3. Electrical Materials Submittal:
- a. Submit product data only for materials that are being substituted. Product data is not required for materials that are being provided as specified. b. Electrical materials include raceway, boxes, supports, finish material, etc.
- 4. Electrical Equipment Submittal:
- Submit product data for all equipment.
- b. Electrical equipment includes panelboards, switchboards, transformers, underground pull boxes, floor boxes, light fixtures. etc.
- 5. Low Voltage and Control Systems Submittals:
- a. Provide product data for each item in the system.
- b. Provide shop drawings for each system. c. Low voltage and control systems include lighting controls, sound communications, fire alarm, etc.

1. Manufacturer's Standard Schematic Drawings:	B. Firestop interruptions to fire rated assemblies, materials, and components.
a. Modify drawings to delete information which is not applicable to the Project.	C. Firestopping: Conform to applicable code, FM, and UL for fire resistance ratings and surface burning characteristics.
b. Supplement standard information to provide additional information which is applicable to the Project.	D. Firestopping: Provide certificate of compliance from authority having jurisdiction indicating approval of materials used.
2. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard	1.13 SITE EXAMINATION AND CONDITIONS:
descriptive data. a. Clearly mark each copy to identify pertinent materials, products, or models. Mark out or remove all extraneous information.	A. Examine site; verify dimensions and locations against drawings and become informed of all conditions under which work is to be done before submitting proposal. No allowance will be made for extra expenses because of omission on Contractor's part to include cost of work under prevailing conditions.
b. Show dimensions and clearances required.	B. Information shown relative to services is based upon available records and data shall be regarded as approximate only. Minor
c. Show performance characteristics and capacities.	deviations found necessary to conform with actual locations and conditions shall be made without extra cost.
d. Show wiring diagrams and controls.	C. Extreme care shall be exercised in excavating near existing utilities to avoid any damage thereto; contractor is responsible for any damage caused by such operations.
1.08 SYSTEM DESCRIPTION:	D. Where signal systems exist, and services of other firms are required, Contractor shall instruct those firms to investigate
A. Raceway and boxes located as indicated on Drawings, and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate	existing systems and determine labor and materials needed to add devices or modify systems.
locations unless dimensioned. Provide raceway to complete wiring system. B. Conductor sizes are based on copper unless indicated as aluminum or "AL".	E. Where new conduits are to be run underground at existing sites, contractor shall visit site prior to bidding and walk routes of new underground conduits, note areas of concrete and asphalt being crossed, and include in bid all costs for cutting and patching.
C. When aluminum conductor is substituted for copper conductor, size to match circuit requirements, terminations, conductor	F. Where existing conduits are shown, their location is diagrammatic, and their exact location may not be known.
ampacity and voltage drop. Contractor shall be responsible for verifying maximum number of aluminum conductors for substituted copper conductors in specified conduit.	1.14 WORKMANSHIP
D. All wiring shall be installed in raceway.	A. Good workmanship shall be evidenced in the installation of all electrical materials and equipment. Equipment shall be level, plumb and true with the structure and other equipment. All materials shall be firmly secured in place and adequately supported
E. Underground More than 5 feet outside Foundation Wall: Provide thick wall nonmetallic conduit. Provide cast metal boxes or nonmetallic handhole.	and permanent. The recommendations of the National Electrical Contractors Association Standard of installation shall be
F. Underground Within 5 feet from Foundation Wall: Provide thick wall nonmetallic conduit. Provide cast metal or nonmetallic	followed except where otherwise specifically directed. 1.15 COOPERATION AND COORDINATION
boxes.	A. Cooperate and coordinate with other crafts in putting the installation in place at a time when the space required by this
G. In Slab Above Grade: Not permitted.	installation is accessible. Work done without regard to other crafts shall be moved at the Contractor's expense.
H. Below Slab on Grade: Use thick wall nonmetallic conduit. Terminate with coated rigid steel elbows and short length of coated rigid steel conduit out of concrete.	1.16 CARE AND CLEANING
I. Outdoor Locations, Above Grade: Provide galvanized rigid steel conduit. Provide cast metal outlet, pull, and junction boxes.	A. After all work has been accomplished such as sanding, painting, etc., lighting fixtures, panelboards, and switchboards shall be cleaned to remove all dust, dirt, grease, paint, or other marks. All electrical equipment shall be left in a clean condition inside
J. Wet and Damp Locations: galvanized rigid steel conduit. Provide cast metal outlet, junction, and pull boxes. Provide flush mounting outlet box in finished areas.	and out, satisfactory to the Architect. Keep buildings and premises free from accumulated waste materials, rubbish, and debris resulting from work herein, and, upon completion of said work, remove tools, appliances, surplus materials, waste
K. Concealed Dry Locations: Provide electrical metallic tubing. Provide sheet-metal boxes. Provide flush mounting outlet box in	materials, rubbish, debris, and accessory items used in or resulting from said work and legally dispose of off the site.
finished areas. Provide hinged enclosure for large pull boxes where shown on drawings. Provide J-hooks when shown on plans.	B. All broken, damaged, or otherwise defective parts shall be repaired or replaced without additional cost to Owner. Work shall be left in a condition satisfactory to Engineer. At completion, carefully clean and adjust all equipment, fixtures and trim
L. Exposed Interior Dry Locations: Use rigid steel conduit or intermediate metal conduit below eight feet or where subject to	installed as part of this work. Systems and equipment shall be left in a satisfactory operating condition.
damage. Use rigid steel conduit, intermediate metal conduit, or electrical metallic tubing above eight feet or in electrical, mechanical or telecommunication rooms. Use sheet-metal or cast metal boxes. Use flush mounting outlet box in finished	C. All surplus materials and debris resulting from this work shall be cleaned out and removed from site; this includes surplus excavated material.
areas. Provide hinged enclosure for large pull boxes.	1.17 PROTECTION
M. Product requirements: Provide products as follows:	A. The Contractor shall protect from damage during construction the work and materials of other trades as well as the electrical
1. Stranded conductor for feeders and branch circuits.	work and material. Electrical equipment stored and installed on the job site shall be protected from dust, water, or any other damage.
2. Stranded conductors for control circuits.	1.18 GUARANTEE:
 Conductor not smaller than 12 AWG for power and lighting circuits. Conductor not smaller than 12 AWG for line voltage control circuits (120-volt). 	
5. Conductor not smaller than 16 AWG for control circuits.	A. Standard Guarantee: Provide individual as well as overall guarantees for all work executed under this Contract or any extra
6. Increase wire size in branch circuits to limit voltage drop to a maximum of 3 percent.	work to be absolutely free of all defects of workmanship and materials for a period of two years from the date of filing of notice of completion and acceptance by Owner. Repair and make good all such defects and repair any damage to other work caused
7. 10 AWG conductors for 20 ampere or larger as designated on plans for 120-volt branch circuit home runs longer than 75	thereby which may occur during same period at no cost to the owner.
feet. N. Conductor and Cable Applications:	 B. Indicate on Guarantee Form specific provisions required by individual specification sections. List all special requirements, extended periods, bonding, etc.
 Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing. 	C. Additional Guarantees: Provide additional guarantees (in excess of year(s) required by Standard Guarantee) where
2. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.	specifically required by pertinent Specification Sections.
3. Armored cable is not permitted.	D. Binder: Provide a binder with all guarantees placed in the order in which they occur in the project manual. Include an Index of Guarantees listing each specification section, specific items covered and length of guarantee for each item.
4. Concealed Dry Interior Locations: Use only building wire, Type THHN/THWN-2 insulation, in raceway.	1.19 OPERATING TEST
5. Exposed Dry Interior Locations: Use only building wire, Type THHN/THWN-2 insulation, in raceway.	A. After the installation is complete, and at such time as the Engineer and other authorities having jurisdiction may request, the
 Above Accessible Ceilings: Use only building wire, Type THHN/THWN-2 insulation, in raceway. Exterior Locations: Use only building wire, Type XHHW-2 insulation, in raceway. 	Contractor shall conduct an operating test for approval.
8. Underground Locations: Use only building wire, Type XHHW-2 insulation, in raceway.	PART 2 PRODUCTS
O. Wiring Device Applications:	
1. Provide wiring devices suitable for intended use and with ratings adequate for load served.	2.01 DESIGN REQUIREMENTS:
 For single receptacles installed on an individual branch circuit, provide receptacle with ampere rating not less than that of the branch circuit. 	A. Minimum Raceway Size:
3. Unless noted otherwise, do not use combination switch/receptacle devices.	 0.75 inch unless otherwise specified. 1 inch for homeruns unless otherwise specified.
1.09 DEMOLITION:	2.02 BUILDING WIRE:
A. Removal of existing electrical equipment, wiring, and conduit in areas to be remodeled; removal of designated construction;	A. Product Description: Single conductor insulated wire.
dismantling, cutting and alterations for completion of the Work. 1. Protect items to remain.	B. Conductor: Copper Stranded.
 Relocate existing equipment to accommodate construction. 	C. Insulation Voltage Rating: 600 volts.
3. Conduct demolition to minimize interference with adjacent and occupied building areas.	D. Insulation Temperature Rating: 90 degrees C.
4. Coordinate demolition work with Owner's representative and all other disciplines.	 E. Copper Building Wire in Conduit: Type THHN/THWN-2. F. Copper Underground in Conduit: Type XHHW-2.
5. Coordinate and sequence demolition so as not to cause shutdown of operation of surrounding areas.	2.03 WIRING CONNECTORS:
 Shut-down Periods: a. Arrange timing of shut-down periods of in-service panels with Owner's representative. Do not shut down any utility 	A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed
a. Arrange timing of shut-down periods of in-service panels with Owner's representative. Do not shut down any utility without prior written approval and submitting a "Method of Procedure" for review	as complying with UL 486A-486B or UL 486C as applicable.
b. Keep shut-down period to minimum or use intermittent period as directed by Owner's representative.	B. Connectors for Grounding and Bonding.
Maintain life-safety systems in full operation in occupied facilities or provide notice minimum 72 hours in advance and fire watch.	 C. Wiring Connectors for Splices and Taps: 1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors.
7. Identify salvage items in cooperation with Owner.	 Copper Conductors Size 6 AWG and Larger: Use pre-insulated mechanical connectors or compression connectors.
1.10 DRAWINGS AND COORDINATION WITH OTHER WORK:	D. Wiring Connectors for Terminations:
A. Drawings:	1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
 For purposes of clarity and legibility, Drawings are essentially diagrammatic to the extent that many offsets, bends, special fittings, and the exact locations of items are not shown, unless specifically dimensioned. 	 Provide compression adapters for connecting conductors to equipment furnished with mechanical lugs when only compression connectors are specified.
 Exact routing of wiring and locations of outlets, panels, and other items, shall be governed by structural conditions, and 	3. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable
materials and equipment already in place. Use data in the Contract Documents. In addition, the Architect reserves the	for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
right, at no increase in Contract Sum, to make any reasonable change in locations of exposed electrical items, to group them into orderly relationship and/or increase their utility. Verify the Architect's requirements in this regard prior to	 Copper Conductors Size 8 AWG and Larger: Use mechanical connectors or compression connectors where connectors are required.
roughing-in.	 Conductors Size 10 AWG and Smaller: Use crimped terminals for connections to terminal screws.
 Dimensions, locations of doors, partitions and similar physical features shall be taken from Architectural Drawings and verified at the site as part of the Work of this Division. Consult the Architectural Drawings for exact location of outlets to 	E. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping
center with architectural features, panels, and similar items, at the approximate locations shown on the Electrical	insulation.
Drawings.	 F. Do not use push-in wire connectors as a substitute for twist-on insulated spring connectors. G. Twist on Insulated Spring Connectors: Pated 600 yelt, 221 degrees E for standard applications and 302 degrees E for high
 Drawings indicate, generally, routes of all branch circuits. All runs to panels are indicated as starting from nearest outlet, pointing to direction of panel. Continue all such circuits, conduits to panel as though routes were indicated in their 	G. Twist-on Insulated Spring Connectors: Rated 600-volt, 221 degrees F for standard applications and 302 degrees F for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.
entirety.	H. Mechanical Connectors: Provide bolted type.
 B. Coordination: 1 Work out all "tight" conditions involving Work of this Division and Work of other Divisions in advance of installation 	I. Compression Connectors: Provide circumferential type or hex type crimp configuration.
 Work out all "tight" conditions involving Work of this Division and Work of other Divisions in advance of installation. Provide additional Work necessary to overcome "tight" conditions, at no increase in Contract Sum. 	J. Crimped Terminals: Nylon-insulated, with insulation grip and terminal configuration suitable for connection to be made.
2. Differences of disputes concerning coordination, interference or extent of Work between Divisions shall be decided by	2.04 METAL CONDUIT:

- 2. Differences of disputes concerning coordination, interference or extent of Work between Divisions shall be decided by Contractor. If the decision is consistent with Contract Document requirements, then it shall be final.
- 3. Coordinate electrical interface of mechanical equipment with Mechanical and Plumbing.
- 4. Provide templates, information, and instructions for Work of other Divisions to properly locate holes and openings to be cut or provided for Electrical Work.
- 5. Make every effort to keep existing electrical circuits, including telephone, public address, fire alarm, power, and other electrical services, in operation. Where power outages are unavoidable, schedule such outages with the Owner to occur at such times as to cause the least disruption of normal facility functions.
- C. Equipment Rough-In:
- 1. Rough-in locations shown on Electrical Drawings for equipment furnished by the Owner and for equipment furnished under other Divisions are approximate only. Obtain exact rough-in locations from the following sources: a. From Shop Drawings for Contractor-furnished and installed equipment.
- b. From the Architect for Owner-furnished, Contractor-installed equipment.
- c. From the Architect for existing equipment where such equipment is relocated as part of the Work of this Contract. Verify electrical characteristics of equipment before starting rough-in.
- 3. Unless otherwise shown or specified, equipment which requires electrical connection shall be installed as part of the Work of the Division in which specified. Internal components shall be wired to a single point with wiring in raceway direct connection (hardwired) to building electrical system or internal wiring and connections with cord and plug for receptacle connection to building wiring.
- 4. Unless otherwise shown or specified, provide direct raceway and conductor connections from building wiring system to equipment terminals for direct-connected equipment terminals for direct-connected equipment which is Contractor-furnished and Contractor-installed, Owner-furnished and Contractor-installed, and for existing equipment relocated by the Contractor.
- 5. Insert plug in receptacle for cord-connected equipment which is Contractor-furnished and Contractor-installed, Owner-furnished, and Contractor-installed and for existing equipment relocated by the Contractor. Provide new cord and plug if required on Owner-furnished and Contractor-installed equipment.
- 1.11 WORKING SPACE
- A. Adequate working space shall be provided around electrical equipment in strict compliance with the Codes. In general, provide 78" of headroom and 36" minimum clear workspace in front of switchboards, panelboards, transformers, disconnect switches and controls for 120/208-volts and 42" for 277/480-volts. Carefully coordinate locations and orientation of electrical equipment with other divisions to ensure that working space will be clear of piping, conduits, and equipment provided by others.
- 1.12 FIRE STOPPING SYSTEM DESCRIPTION AND PERFORMANCE REQUIREMENTS
- A. Firestopping Materials: ASTM E119, ASTM E814, UL 263, UL 1479, to achieve fire ratings of adjacent construction in accordance with FM and UL Design Numbers noted on Drawings.

- nectors: Provide bolted type. onnectors: Provide circumferential type or hex type crimp configuration.
- 2.05 PVC COATED METAL CONDUIT
- A. Product Description: NEMA RN 1; rigid steel conduit with external PVC coating, 40 mil thick.
- 2.06 LABELS:
- A. Labels: Thermal transfer laminated adhesive tape with 0.125-inch black letters on clear tape cartridge.
- PART 3 EXECUTION
- 3.01 GENERAL:
- A. Manufacturer's Directions: Follow manufacturer's directions where manufacturers of articles used furnish directions covering points not specified or shown. B. All Work shall be done in orderly, workmanlike manner and present neat appearing installation when completed.
- C. Provide metal backing plates, and plates, and similar items that are required for anchorage for the Work of this Section;
- of California Building Code. No allowance will be made for negligence to foresee means of placing, installing, or supporting equipment in position.
- E. Electrical products shall be anchored and fastened to building elements and finishes as follows:
- 1. Concrete Structural Elements: Provide expansion anchors and powder actuated anchors.
- 2. Steel Structural Elements: Provide beam clamps and spring steel clips.
- 3. Concrete Surfaces: Provide expansion anchors.
- 4. Solid Masonry Walls: Provide expansion anchors.
- 5. Sheet Metal: Provide sheet metal screws.
- 6. Wood Elements: Provide wood screws.
- F. All wiring shall be installed in conduit, unless specifically shown otherwise on plans.
- 3.02 DRAWINGS AND COORDINATION:
- A. Examine Drawings and Site; be familiar with types of construction where electrical installation is involved.

- nay occur during same period at no cost to the owner.
- s, bonding, etc.
- ired by pertinent Specification Sections.

- conduct an operating test for approval.
- IENTS:
- ay Size:
- nless otherwise specified.
- omeruns unless otherwise specified
- tion: Single conductor insulated wire.
- per Stranded.
- ge Rating: 600 volts.
- erature Rating: 90 degrees C.
- Wire in Conduit: Type THHN/THWN-2.
- ound in Conduit: Type XHHW-2.
- th UL 486A-486B or UL 486C as applicable. Grounding and Bonding.
- ors for Splices and Taps:

nductors Size 6 AWG and Larger: Use pre-insulated mechanical connectors or compression connectors.

- ors for Terminations:
- on connectors are specified.

- 2.04 METAL CONDUIT
- A. Rigid Steel Conduit: ANSI C80.1
- bushings with lug where ground connections are required. Use plastic bushing for non-bonding applications.
- B. Fittings and Conduit Bodies: NEMA FB 1; steel fittings with external PVC coating to match conduit.

tions to fire rated assemblies, materials, and components.

pnform to applicable code, FM, and UL for fire resistance ratings and surface burning characteristics. ovide certificate of compliance from authority having jurisdiction indicating approval of materials used.

B. Fittings and Conduit Bodies: NEMA FB 1. Fittings shall be steel/malleable iron with threaded fittings. Use insulated metallic

securely weld or bolt to metal framing. Wood blocking or backing will not be permitted in combination with metal framing. D. Equipment: Accurately set and level, neatly place support and anchor properly. Anchorage shall conform to the requirements

1. Work shall be neatly installed in a workmanlike manner in accordance with NECA Standard of Installation. Work shall be coordinated with other trades to avoid conflicts. Clarifications will be made by Engineer and minor adjustments shall be made without additional cost to Owner.

B. Layouts of equipment, accessories and wiring systems are diagrammatic (not pictorial) but shall be followed as closely as possible. Drawings and Specifications are for assistance and guidance, and exact locations, distances, levels, etc., will be governed by Site.

3.03 EQUIPMENT INSTALLATION: A. Provide metal backing plates, anchor plates, and similar items that are required for anchorage for the Work of this Section;

securely weld or bolt to metal framing. Wood blocking or backing will not be permitted in combination with metal framing. B. Equipment: Accurately set and level, neatly place support and anchor properly. Anchorage shall conform to the requirements

of California Building Code. No allowance will be made for negligence to foresee means of placing, installing, or supporting equipment in position. 3.04 EXCAVATING AND BACKFILLING:

A. Excavate and backfill as required for installation of electrical work. Restore all surfaces, roadways, sod, walks, curbs, walls, existing underground installation, etc., cut by installations to original condition in an acceptable manner. Maintain all warning signs, barricades, flares, and lanterns as required by the Safety Orders and local ordinances. 3.05 FIRESTOPPING

- A. Install material at fire rated construction perimeters and openings containing penetrating sleeves, piping, ductwork, conduit, and other items, requiring firestopping.
- B. Apply primer where recommended by manufacturer for type of firestopping material and substrate involved, and as required for compliance with required fire ratings.
- C. Apply firestopping material in sufficient thickness to achieve required fire and smoke rating. D. Place intumescent coating in sufficient coats to achieve rating required.
- E. Remove dam material after firestopping material has cured.
- F. Fire Rated Surface:
- 1. Seal opening at floor, wall, partition, ceiling, and roof as follows:
- a. Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element. b. Size sleeve allowing minimum of 1-inch void between sleeve and building element.
- c. Pack void with backing material.
- d. Seal ends of sleeve with UL listed fire resistive silicone compound to meet fire rating of structure penetrated. 2. Where cable tray, bus, cable bus, conduit, wireway, and trough penetrates fire rated surface, install firestopping product in accordance with manufacturer's instructions.
- G. Non-Rated Surfaces:
- 1. Seal opening through non-fire rated wall, partition, floor, ceiling, and roof opening as follows:
- a. Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element. b. Size sleeve allowing minimum of 1-inch void between sleeve and building element.
- c. Install type of firestopping material recommended by manufacturer.
- 2. Install floor plates or ceiling plates where conduit, penetrates non-fire rated surfaces in occupied spaces. Occupied spaces include rooms with finished ceilings and where penetration occurs below finished ceiling.
- 3. Exterior wall openings below grade: Assemble rubber links of mechanical seal to size of conduit and tighten in place, in accordance with manufacturer's instructions.
- 4. Interior partitions: Seal pipe penetrations at clean rooms, laboratories, hospital spaces, computer rooms, telecommunication rooms, and data rooms. Apply sealant to both sides of penetration to completely fill annular space between sleeve and conduit.
- 3.06 PROTECTION:
 - A. In performance of work, protect work from damage. Protect electrical equipment, stored, and installed, from dust, water, or other damage.
- 3.07 INSTALLATION OF BRANCH CIRCUITS: A. Single pole circuit breakers serving a multi-wire branch circuit shall be provided with an identified handle tie.
- B. Dedicated branch circuits shall have dedicated neutrals. C. Accomplish grounding of electrical system by using insulated grounding conductor installed with feeders and branch circuit conductors in conduits. Install from grounding bus of serving panel to ground bus of served panel, grounding screw of receptacles, lighting fixture housing, light switch outlet boxes or metal enclosures of service equipment. Ground conduits by means of grounding bushings on terminations at panelboards with installed number 12 AWG copper conductor to grounding
- 3.08 EQUIPMENT IDENTIFICATION:

A. Provide identifying numbers for each breaker in all panelboards in a permanently attached (not pasted on) directory with plexiglass cover with typewritten identification of each circuit.

- B. Provide screwed-on engraved nameplates of black lamicoid with white 0.5-inch high lettering, identifying function, for all disconnect switches and starters.
- C. Provide labels at each end of each pull cord for all empty conduits/raceways. D. Indicate type of equipment, equipment designation and origination, ex. "PANEL-XXX fed from SWITCHBOARD-XXX",
- PANEL-XXX fed from TRANSFORMER-XXX", etc.

3.09 DEMOLITION:

- A. Demolition Drawings are based on casual field observation and/or existing record documents. Report discrepancies to Owner and Architect/Engineer before disturbing existing installation
- B. Remove, relocate, and extend existing installations as necessary, to accommodate new construction and to meet all requirements of these specifications. Extend existing installations using materials and methods compatible with existing electrical installations, or as specified.
- C. Remove abandoned wiring to source of supply.
- D. Remove exposed abandoned conduit and abandoned conduit above accessible ceiling finishes, unless noted otherwise on drawings. Cut conduit flush with walls and floors, and patch surfaces. If certain conduits and boxes are abandoned but not scheduled for removal, they shall be shown on the "As Built Drawings". E. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit and wiring servicing them is
- abandoned and removed. Provide blank cover for abandoned outlets which are not removed. F. Disconnect and remove abandoned panelboards and distribution equipment.
- G. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.
- H. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.
- I. Provide revised typed circuit directory in panelboards that have circuits removed.
- J. Repair adjacent construction and finishes damaged during demolition and extension work.
- K. Maintain access to existing electrical installations which remain active. Modify installation or provide access panel as appropriate
- L. Provide supplemental support for conduits that are routed through demolition area and are to remain. Supplemental support shall be added so that the conduit meets the support requirements.
- M. Remove conduit, wire, boxes, and fastening devices to avoid any interference with new installation.
- N. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.
- O. Remaining Circuits and Equipment: Reinstall existing electrical installations disturbed. Certain existing electrical installations may be located in walls, ceilings or floors that are to be removed and are essential for the operation of other remaining installations. Where this condition occurs provide a new extension of original circuits, raceways, equipment, and outlets to retain service continuity. Installations shall be concealed in finished areas.
- P. Reconnect equipment being disturbed by renovation work and required for continue service to panel as indicated on drawings or to nearest available panel
- Q. Disconnect or shut off service to areas where electrical work is to be removed. Remove electrical fixtures, equipment, and related switches, outlets, conduit and wiring which are not part of final project. R. Install temporary wiring and connections to maintain existing systems in service during construction.
- Remove, relocate, and extend existing installations to accommodate new construction.
- T. Repair adjacent construction and finishes damaged during demolition and extension work.
- U. Remove exposed abandoned grounding and bonding components, fasteners and supports, and electrical identification components, including abandoned components above accessible ceiling finishes. Cut embedded support elements flush with walls and floors.
- V. Clean and repair existing equipment to remain and/or to be reinstalled

B. Neatly train and lace wiring inside boxes, equipment, and panelboards.

1. Clean conductor surfaces before installing lugs and connectors.

H. Size lugs in accordance with manufacturer's recommendations terminating wire sizes.

- W. Protect and retain power to existing active equipment remaining.
- X. Cap abandoned empty conduit at both ends.

indicated.

under device screws

3.11 WIRE COLOR:

Y. Jackhammering

D. Special Techniques--Building Wire in Raceway:

E. Special Techniques - Wiring Connections:

1. Pull conductors into raceway at same time.

1. Jackhammering will be permitted only to a limited degree, and only with the prior written approval of the Owner. 2. Do not jack-hammer within 2-inches of reinforcing or structural steel to remain; remove final 2-inches of material with

G. Install terminal lugs on ends of 600-volt wires unless lugs are furnished on connected device, such as circuit breakers.

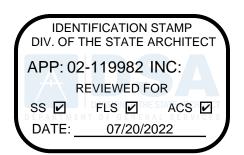
- chipping gun. 3.10 INSTALLATION - CONDUCTORS:
- Route wire to meet Project conditions.



C. Identify and color code wire under wire color section. Identify each conductor with its circuit number or other designation

2. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise. 3. Tape uninsulated conductors and connectors with electrical tape to 150 percent of insulation rating of conductor. 4. Install solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller. 5. Install insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller. F. For stranded conductors, use crimp on fork terminals for device terminations. Do not place bare stranded conductors directly

I. For terminal lugs fastened together such as on motors, transformers, and other apparatus, or when space between studs is small enough that lugs can turn and touch each other, insulate for dielectric strength of 2-1/2 times normal potential of circuit.



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Project Number J229

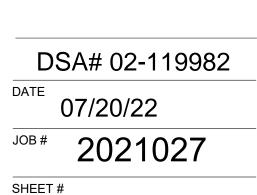
TRICAL CONSULTING 1151 Harbor Bay Pkwy Alameda, CA 94502 510.634.7200 Contact <u>Lai Vo</u>



MILESTONES DSA SUBMITTAL 04.01.2022 DSA BACK CHECK 07.20.2022

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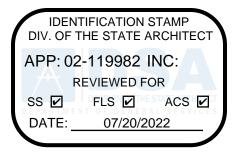


- A. General:
- For wire sizes 10 AWG and smaller, install wire colors in accordance with the following:
 a. Black, red, and blue for circuits at 120/208 volts single or three phase.
- B. Neutral Conductors: White. When two or more neutrals are located in one conduit, individually identify each with proper circuit
- number. C. Branch Circuit Conductors: Install three or four wire home runs with each phase uniquely color coded.
- D. Feeder Circuit Conductors: Uniquely color code each phase.
- E. Ground Conductors:
- For 6 AWG and smaller: Green.
 3.12 INSTALLATION RACEWAY:
- A. Raceway routing is shown in approximate locations unless dimensioned. Route to complete wiring system.
- B. Do not install PVC conduit above ground.
- C. All Conduits Shall Be Rigid Steel, except EMT may be used at the following locations:
- D. Unless otherwise specified, all raceway shall be installed concealed. Raceway may be run exposed on unfinished walls, in
- attic spaces, in electrical rooms and when routed to surface panels, cabinets or gutters.
- E. Arrange raceway supports to prevent misalignment during wiring installation.
- F. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
 G. Group related raceway; support using conduit rack. Construct rack using steel channel; provide space on each for 25 percent additional raceways.
- H. Do not support raceway with wire or perforated pipe straps. Remove wire used for temporary supports
- I. Do not attach raceway to ceiling support wires or other piping systems.
- J. Construct wireway supports from steel channel.K. Route exposed raceway parallel and perpendicular to walls.
- L. Route raceway installed above accessible ceilings parallel and perpendicular to walls.
- M. Maintain clearance between raceway and piping for maintenance purposes.
- N. Maintain 12-inch clearance between raceway and surfaces with temperatures exceeding 104 degrees F.
- O. Cut conduit square using saw or pipe cutter; de-burr cut ends.
- P. Bring conduit to shoulder of fittings; fasten securely.
- Q. Install no more than equivalent of three 90-degree bends between boxes. Install conduit bodies to make sharp changes in direction, as around beams. Install factory elbows for bends in metal conduit larger than 2-inch size.
- R. Avoid moisture traps; install junction box with drain fitting at low points in conduit system.S. Install fittings to accommodate expansion and deflection where raceway crosses seismic and expansion joints.
- T. Install suitable pull string or cord in each empty raceway except sleeves and nipples.
- U. Install suitable caps to protect installed conduit against entrance of dirt and moisture.
- V. Close ends and unused openings in wireway.
- 3.13 INSTALLATION BOXES:
- A. Contractor shall refer to Drawings, specifications, and submittals covering work of the other trades to coordinate outlet location. In the event of conflict between planned locations of outlet and other equipment or furnishing, Contractor shall not proceed until direction has been given by Architect.
- B. Unless otherwise specified or shown on Drawings, boxes shall be flush mounted with front edge of box or ring flush with wall or ceiling finish. Use steel plaster ring of appropriate depth in plastered or gypsum board applications. Contractor shall review architectural drawings and note wall and ceiling construction and finishes for each wall.
- C. Boxes shall not be installed back_to_back in walls. To prevent sound transfer, outlets, switches, etc. shown on opposing sides of the same wall shall be installed in separate stud spaces, except that outlets installed at different elevations may occupy the same stud space when box separation exceeds 18". Where these requirements cannot be met, Contractor shall provide insulation material between boxes.
- D. Orient boxes to accommodate wiring devices.
- E. Install wall mounted boxes at elevations to accommodate mounting heights as indicated on Drawings.
- F. Adjust box location up to 10 feet prior to rough-in to accommodate intended purpose.
- G. Orient boxes to accommodate wiring devices.
- H. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.
- In Accessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaire.
- J. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- K. Do not install flush mounting box back-to-back in walls; install with minimum 6 inches separation. Install with minimum 24 inches separation in acoustic rated walls.
- L. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.
- M. Install stamped steel bridges to fasten flush mounting outlet box between studs.
- N. Install flush mounting box without damaging wall insulation or reducing its effectiveness.
- O. Install adjustable steel channel fasteners for hung ceiling outlet box.
- P. Do not fasten boxes to ceiling support wires or other piping systems.Q. Support boxes independently of conduit.
- R. Install gang box where more than one device is mounted together. Do not use sectional box.
- S. Install gang box with plaster ring for single device outlets.

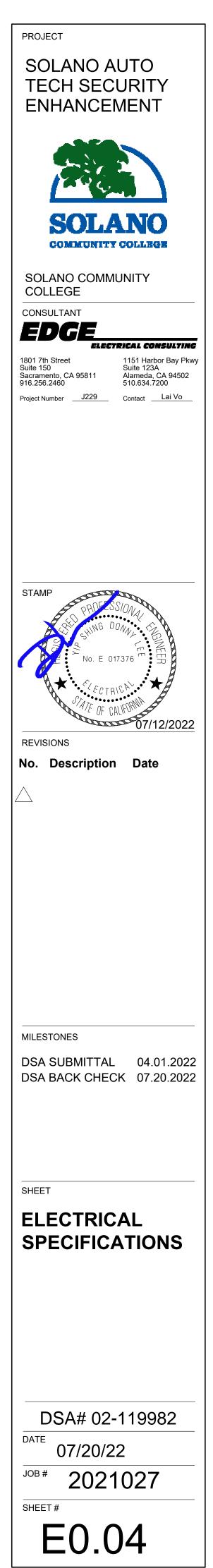
B. Test each individual circuit at panel with equipment connected for proper operation.

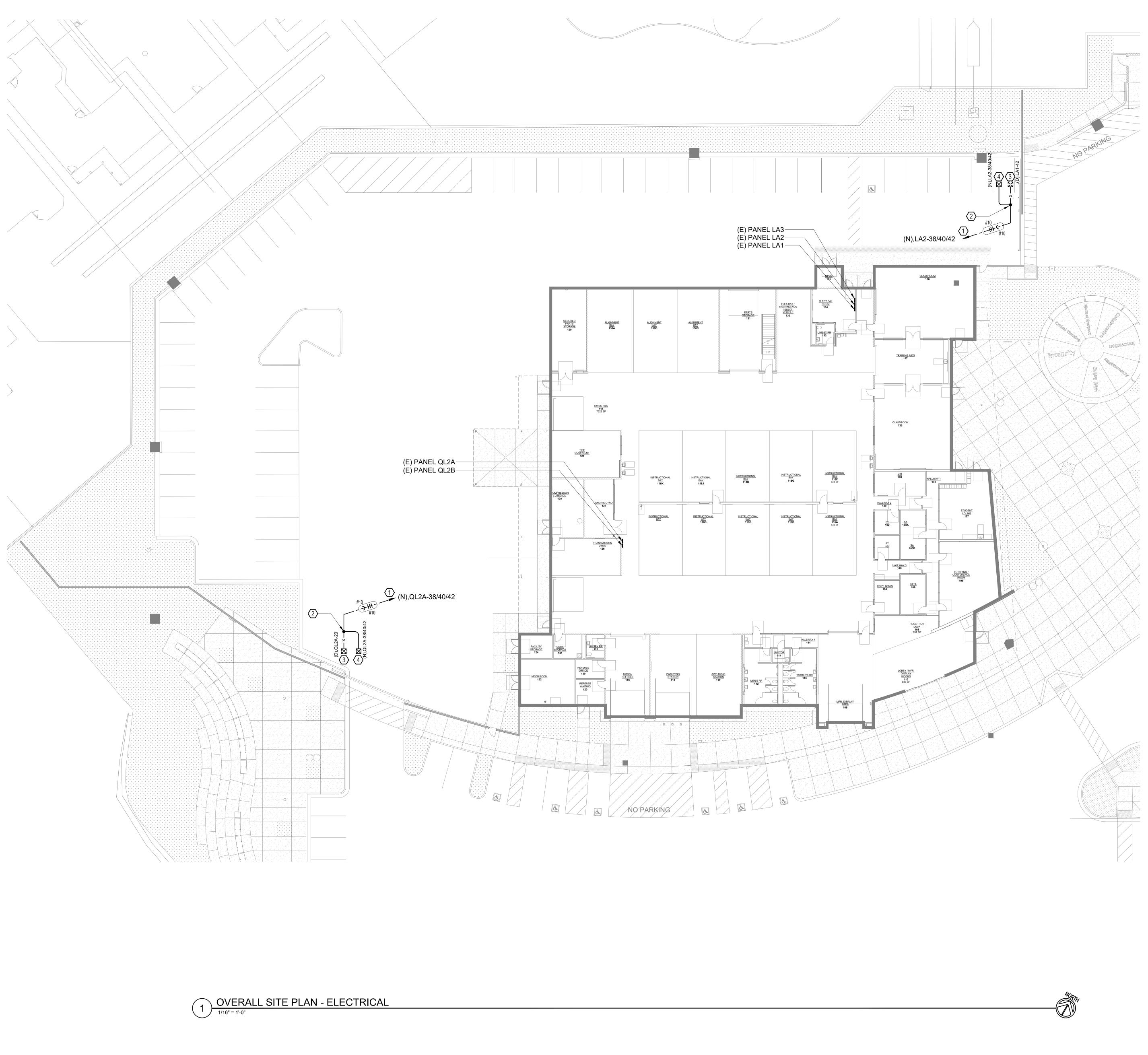
- T. Junction box identification: All junction boxes located above suspended ceilings and below ceilings in non-public areas, shall be identified with permanent felt tip marker on cover indicating panel and circuit numbers. Black marker for normal branch power, Red marker for emergency branch power.
- 3.14 INSTALLATION CIRCUIT BREAKERS IN EXISTING PANELBOARDS:
- A. Modifications to existing panelboards shall be as indicated on the Drawings. New equipment shall match existing where possible and in all cases be compatible with existing. Where new breakers are installed in existing equipment, provide all hardware and trim pieces as required for a complete closed installation. Provide new nameplates at equipment where existing breakers are identified by nameplates and provide new breaker identification in directory where existing breakers are identified in a directory.
- B. Where new breakers are indicated to be installed in existing panel, but insufficient space exists, provide enclosed circuit breakers externally and tap existing bussing. Tap conduit and wire sizes shall be same as breaker line side conduit and wire.
- 3.15 TESTING AND ADJUSTING:
 A. Furnish all labor and test equipment required for the Work of this Division. Testing work is defined as that work necessary to establish that equipment has been properly assembled, connected, and checked to verify that intent and purpose of Drawings, manufacturer's instruction manuals, and directions of Architect have been accomplished in satisfactory manner.

END OF SECTION









SHEET NOTES

- CIRCUITING OF DEVICES HAS THE PANEL PREPARED TO DISAGGREGATE LOADS AS REQUIRED BY 2013 TITLE 24 PART 6, SECTION 130.5(B). CONTRACTOR SHALL NOT DEVIATE FROM INSTALLING DEVICES ON CIRCUITS SHOWN WITHOUT NOTIFICATION TO ENGINEER HOW COMPLIANCE WILL BE ACHIEVED.
- CIRCUITING OF (N) DEVICES TAKES INTO ACCOUNT VOLTAGE 2. DROP. ALL (N) CIRCUITING SHOWN HAS A MAXIMUM 3% VOLTAGE DROP PER 2013 TITLE 24 PART 6, SECTION 130.5(C).
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID EXISTING DUCTS, PIPING OR CONDUITS, ETC, AND TO PREVENT HAZARDS TO PERSONNEL AND/OR DAMAGE TO EXISTING UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN AND INSTALLED BY AN OTHER CONTRACTS. THE ENGINEER IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY OTHER CONTRACTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED. THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE THE NECESSARY ELEMENTS FOR CONSTRUCTION SAFETY.
- EXISTING UNDERGROUND UTILITIES ARE PRESENT, BUT THEIR EXACT LOCATION ARE NOT KNOWN. CONTRACTOR SHALL LOCATE AND PROTECT BEFORE TRENCHING OR EXCAVATING IN ANY AREA. CONSULT UTILITY COMPANIES, "AS-BUILT" DRAWINGS, AND SCHOOL MAINTENANCE PERSONNEL FOR LOCATION OF EXISTING UNDERGROUND WORK. IF EXISTING PIPING OR UTILITIES ARE DAMAGED DURING CONSTRUCTION, CONTRACTOR SHALL REPAIR IMMEDIATELY AT OWN EXPENSE. NEW UNDERGROUND SHALL BE MODIFIED AS NECESSARY TO CONFORM TO EXISTING CONDITIONS.
- INFORMATION GIVEN, CONCERNING EXISTING ELECTRICAL INSTALLATION IS AS EXACT AS COULD BE SECURED, BUT EXTREME ACCURACY IS NOT GUARANTEED. CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BIDS TO CONFIRM CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED.

NUMBERED NOTES

$\langle 1 \rangle$	(E) UNDERGROUND CONDUIT HOME-RUN TO RE
2	INTERCEPT AND EXTEND (E) CONDUIT AS REQU (N) CONDUCTORS AS INDICATED.
3	DEMO (E) SLIDING GATE OPERATOR.
$\langle 4 \rangle$	(N) SLIDING GATE OPERATOR, 208V, 3PH, 12.8A.

