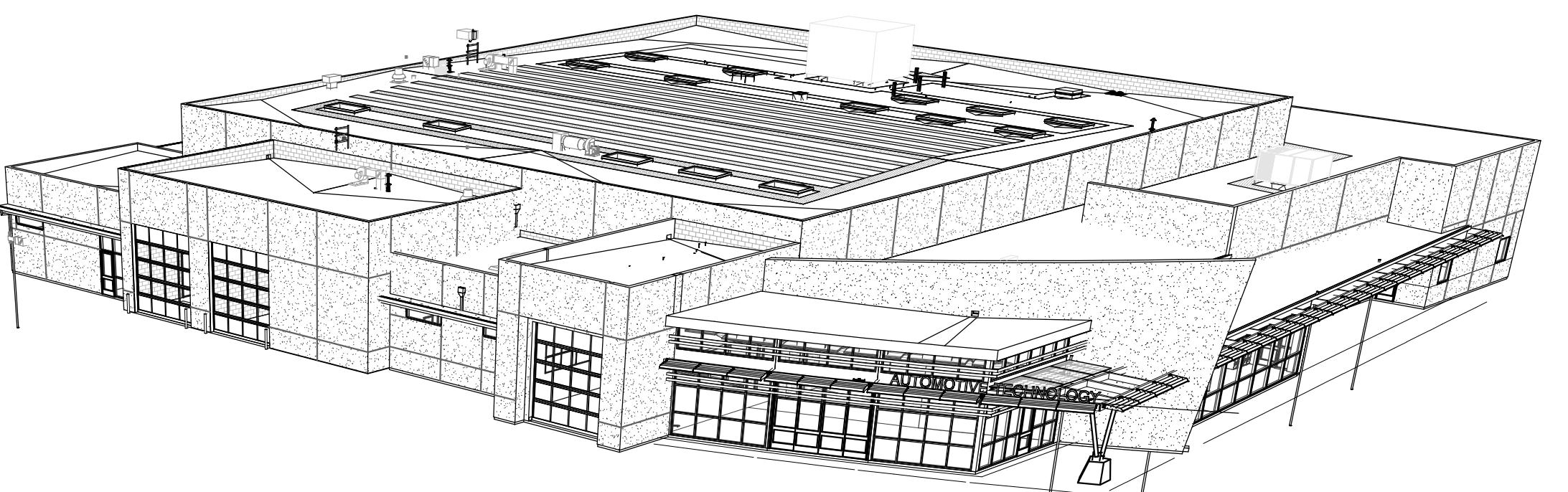


# SOLANO COMMUNITY COLLEGE

# AUTO TECH EXHAUST REPLACEMENT

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP. 02-122544 INC:  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 09/09/2024

**JKAE**  
architecture + interiors + engineering



## PROJECT DIRECTORY

|                   |                                                                                                           |                                                                                                                                                                                                                                                                                                                                              |
|-------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PROJECT</b>    | AUTO TECHNOLOGY FACILITY<br>1687 Ascot Pkwy<br>Vallejo, CA 94591                                          | <b>GENERAL</b><br>G0.1.1 TITLE SHEET / SHEET INDEX<br>G0.2.1 EXISTING BUILDING AREA ANALYSIS<br>G0.3.0 SITE CODE PLAN                                                                                                                                                                                                                        |
| <b>OWNER</b>      | SOLANO COMMUNITY COLLEGE<br>4000 Suisun Valley Road<br>Fairfield, CA 94534                                | <b>ARCHITECTURAL</b><br>A2.1.1 FLOOR PLAN<br>A4.1.1 REFLECTED CEILING PLAN<br>A5.0.1 ROOF PLAN<br>A9.1.1 ROOF DETAILS                                                                                                                                                                                                                        |
| <b>ARCHITECT</b>  | JKAE<br>11661 BLOCKER DR, SUITE 220<br>AUBURN, CA 95603<br>Chris Vicencio<br>530.888.0998                 | <b>STRUCTURAL</b><br>S0.0.1 STRUCTURAL GENERAL NOTES & TYPICAL DETAIL.<br>S2.0.1 STRUCTURAL ROOF FRAMING PLAN                                                                                                                                                                                                                                |
| <b>STRUCTURAL</b> | JKAE<br>777 South Center Street, Suite 105<br>Reno, NV 89501<br>Colin Schaefer<br>775.512.8669            | <b>MECHANICAL</b><br>M0.0.1 MECHANICAL LEGEND AND NOTES<br>M0.0.2 MECHANICAL SCHEDULES<br>M1.0.1 MECHANICAL FLOOR PLAN<br>M2.0.1 MECHANICAL ROOF PLAN<br>M5.0.0 MECHANICAL DEMO ROOF PLAN<br>M5.0.1 MECHANICAL ROOF PLAN<br>M9.0.1 MECHANICAL DETAILS                                                                                        |
| <b>MECHANICAL</b> | LP Consulting Engineers<br>1209 Pleasant Grove Blvd.<br>Roseville, CA 95678<br>Ryan Ennis<br>916.721.2907 | <b>ELECTRICAL</b><br>E0.0.1 ELECTRICAL ABBREVIATION, SHEET LIST & NOTES<br>E0.0.2 ELECTRICAL LEGEND<br>E2.0.1 ELECTRICAL DEMO FLOOR PLAN<br>E3.0.1 ELECTRICAL ROOF PLAN<br>E5.0.1 ELECTRICAL FIXTURE & PANEL SCHEDULE<br>E7.0.1 ELECTRICAL DETAILS<br>E8.0.1 ELECTRICAL SPECIFICATION<br>E9.0.1 ELECTRICAL SPECIFICATIONS<br>Grand total: 25 |
| <b>ELECTRICAL</b> | LP Consulting Engineers<br>1209 Pleasant Grove Blvd.<br>Roseville, CA 95678<br>Ryan Ennis<br>916.721.2907 |                                                                                                                                                                                                                                                                                                                                              |

## SHEET INDEX

### LIST OF APPLICABLE CODES

2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR  
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR  
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

### APPLICABLE STANDARDS

FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS  
TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

### PARTIAL LIST OF APPLICABLE CODES

CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH:  
2022 CALIFORNIA ADMINISTRATIVE CODE, C.C.R., TITLE 24, PART 1.  
2022 CALIFORNIA BUILDING CODE (CBC) - C.C.R., TITLE 24, PART 2. (2021  
INTERNATIONAL BUILDING CODE, VOLUMES 1&2, & 2022 CALIFORNIA AMENDMENTS)  
2022 CALIFORNIA ELECTRICAL CODE (CEC) - C.C.R., TITLE 24, PART 3. (2020 NFPA 70,  
NATIONAL ELECTRICAL CODE, WITH CALIFORNIA AMENDMENTS)  
2022 CALIFORNIA MECHANICAL CODE (CMC) - C.C.R., TITLE 24, PART 4. (2021  
MECHANICAL CODE, WITH CALIFORNIA AMENDMENTS)  
2022 CALIFORNIA PLUMBING CODE (CPC) - C.C.R., TITLE 24, PART 5. (2021  
INTERNATIONAL PLUMBING CODE, WITH CALIFORNIA AMENDMENTS)  
2022 CALIFORNIA FIRE CODE (CEC) - C.C.R., TITLE 24, PART 6.  
2022 CALIFORNIA FIRE CODE, C.C.R., TITLE 24, PART 9. (2021 INTERNATIONAL FIRE CODE,  
WITH CALIFORNIA AMENDMENTS)  
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), C.C.R., TITLE 24,  
PART 11.  
2022 NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS  
2022 NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE C.C.R., PUBLIC SAFETY CODE,  
TITLE 19, DIVISION 1, STATE FIRE MARSHAL REGULATIONS NOTES:  
1. WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE REQUIREMENTS OF  
THESE CODES, INCLUDING REFERENCED STANDARDS WITHIN, AND APPLICABLE LOCAL  
ORDINANCES. WHERE CONTRACT DOCUMENTS EXCEED SUCH REQUIREMENTS, WITHOUT  
VIOLATING SUCH CODES, SECTION 10.1.1 AND COORDINATE WITH CONTRACT DOCUMENTS THAT  
PRECEDED THESE CODES CONCERNING MORE STRINGENT REQUIREMENTS SHALL APPLY.  
2. CONTRACTOR SHALL COMPLY WITH CFC CH-33 FIRE SAFETY DURING DEMOLITION AND  
CONSTRUCTION

### STATEMENT OF GENERAL CONFORMANCE

The drawings and/or specifications and/or calculations for the items listed in the sheet  
index, other than Architectural items have been prepared by other design professionals  
or contractors and are not prepared by JKAE 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; and  
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 releasing me of my  
rights, duties and responsibilities under sections 17302 and 8113 of the Education Code  
and sections 4-336, 4-341 and 4-344 of the 24, Part 1 (Title 24, Part 1, section 4-317(b)).

SIGNATURE OF THE ARCHITECT  
CHRIS VICENCI AIA, PARTNER, JK ARCHITECTURE  
C26985  
LICENSING NUMBER

### SCOPE OF WORK

REPLACEMENT OF EXISTING EXHAUST FANS AT 3 LOCATIONS, ADDITION OF FUEL  
CELL VENT (VENT ONLY) AT EXISTING AUTOMOTIVE TECHNOLOGY FACILITY.  
- EXISTING FACILITY DSA APPLICATION NUMBER 02-114995. EXISTING PROJECT IS  
CERTIFIED  
- ACCESS UPDATES FOR THIS BUILDING ARE NON APPLICABLE PER CBC  
11B-202.4 EXCEPTION 7.

### PROJECT INSPECTOR

A "DSA CERTIFIED" INSPECTOR OF RECORD (IOR) SHALL BE EMPLOYED BY THE  
OWNER AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT (DSA). DUTIES  
AND REQUIRED FOR CLASSIFICATION PER SECTION 4-342, TITLE 24, PART 1 CCR AND  
IR A-7: CLASS 2 CERTIFIED BY DSA.

### DEFERRED APPROVAL ITEMS

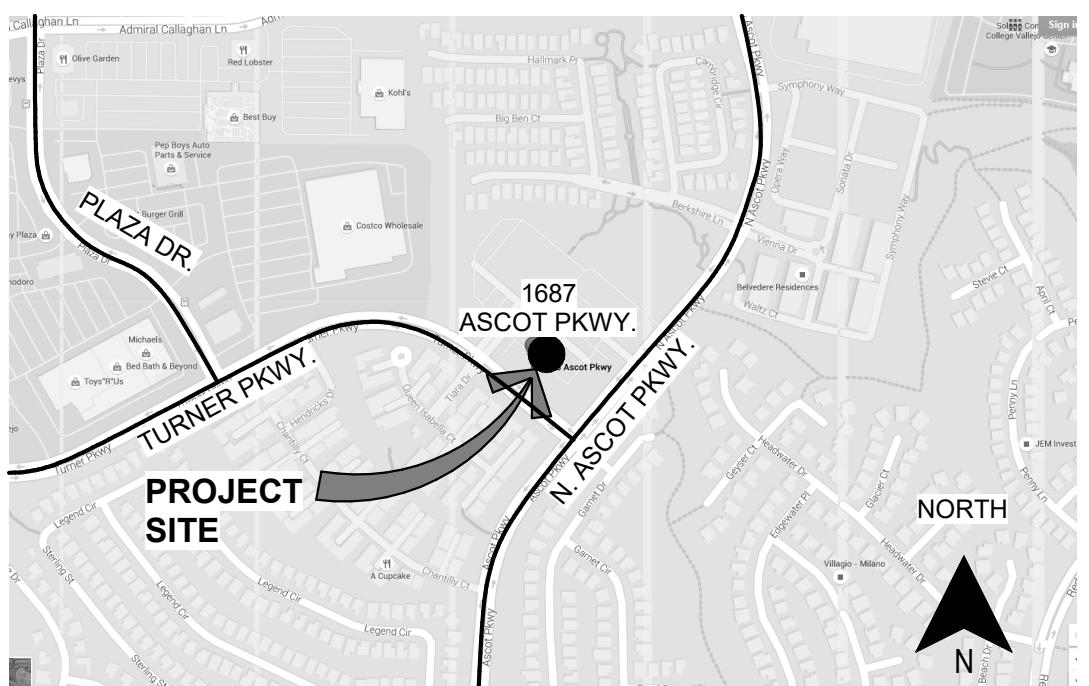
INSTALLATION OF DEFERRED APPROVAL ITEMS SHALL NOT BE STARTED UNTIL  
DOCUMENTING APPROVALS, SPECIFICATIONS AND CONTRACT DOCUMENTS FOR THE  
ACTUAL SYSTEMS TO BE INSTALLED HAVE BEEN ACCEPTED AND SIGNED BY THE  
ARCHITECT OR STRUCTURAL ENGINEER WHO HAS BEEN DELEGATED THE RESPONSIBILITY  
OF COVERING THE WORK SHOWN ON A PARTICULAR PLAN OR SPECIFICATION, AND  
APPROVED BY THE DIVISION OF THE STATE ARCHITECT. DEFERRED ITEMS SHALL BE  
COMPLETED PRIOR TO OCCUPANCY OF BUILDINGS AFFECTED BY THE DEFERRED WORK.

CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN  
ADDENDA OR A CHANGE ORDER APPROVED BY THE DIVISION OF THE STATE ARCHITECT,  
AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, C.C.R.

WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

There will be no Deferred Submittals for this project.

### VICINITY MAP



DSA #: 02-122544

Drawing Title

Drawn By

FH

Checked By

SP

Project No

23-265

Date

02/19/2024

Drawing No

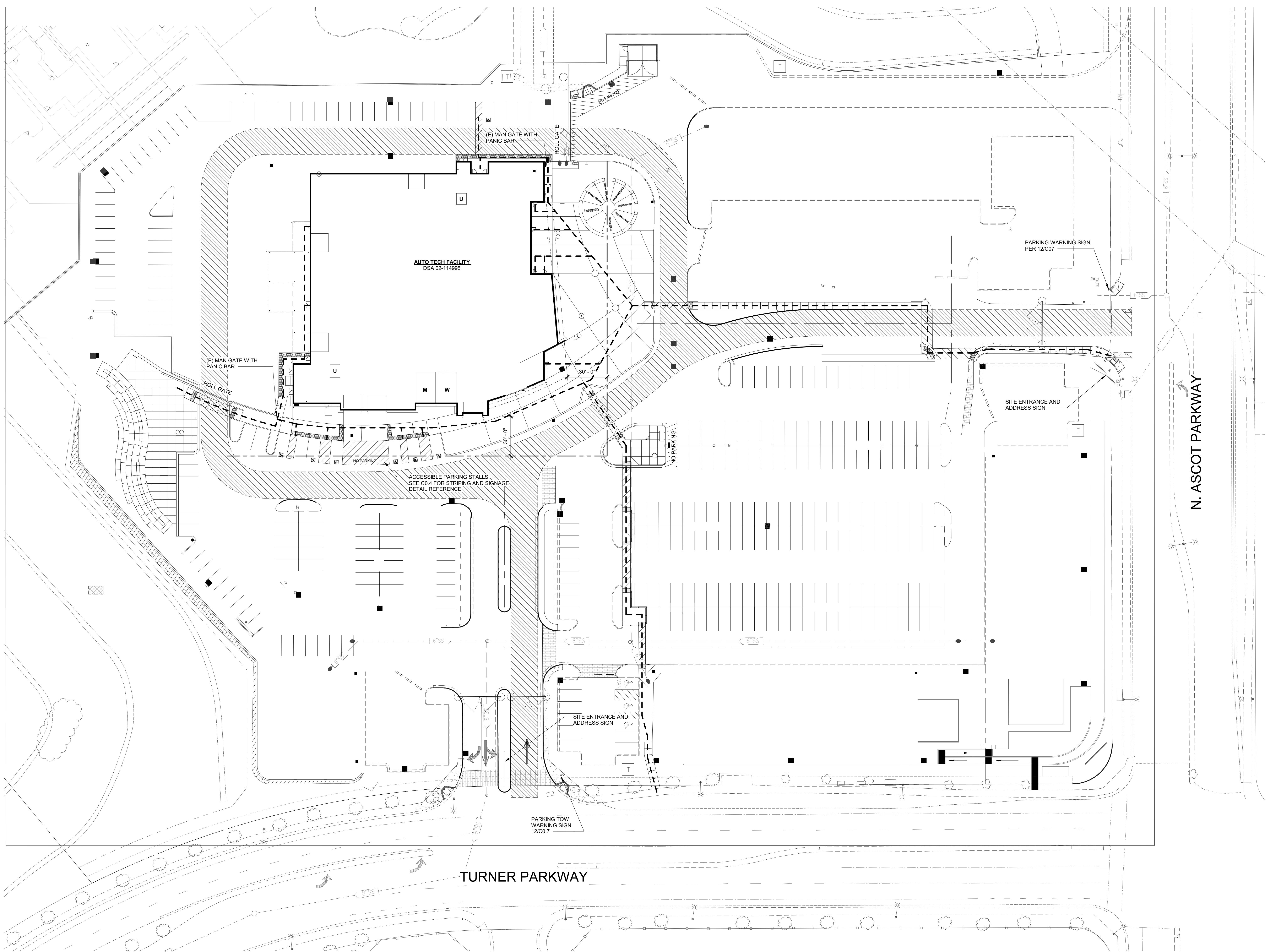
G0.1.1

SEAL  
LICENSING ARCHITECT  
NO. C26985  
REN 6-30-25  
STATE OF CALIFORNIA  
Project  
SOLANO COMMUNITY COLLEGE  
AUTOMOTIVE TECHNOLOGY

DEFERRED APPROVAL ITEMS  
NOT TO SCALE  
VICINITY MAP  
PROJECT SITE  
NORTH  
PLAZA DR.  
TURNER PKWY  
ASCOT PKWY  
1687  
N  
G0.1.1



NOTE: CODE  
ANALYSIS FROM  
PREVIOUS CODE  
ANALYSIS DSA  
APPLICATION  
NUMBER 02-114995



LEGEND  
U - UNISEX  
M - MENS RESTROOM  
W - WOMENS RESTROOM

PARKING CALCULATION  
NUMBER OF PARKING STALLS = 290  
ACCESSIBLE REQUIRED = 7  
ACCESSIBLE PROVIDED = 5 REGULAR AND 2 VAN

ACCESSIBILITY NOTES

1. PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELLED AT 1:2 MAXIMUM SLOPES, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICALLY AND IS AT LEAST 48" WIDE. THE P.O.T. SHALL BE MAINTAINED FREE OF OBSTACLES. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. (P.O.T.) SHALL MAINTAIN FREE OF OVERHANGING OBSTACLES A MINIMUM CLEARANCE OF 48" FROM SWINGING OBJECTS GREATER THAN 4" PROJECTION FROM THE WALL AND ABOVE 27" AND LESS THAN 80" (11B-307.2). CONTRACTOR TO VERIFY THAT ALL BARRIERS IN THE PATH OF TRAVEL HAVE BEEN REMOVED OR WILL BE REMOVED UNDER THIS PROJECT, AND PATH OF TRAVEL COMPLIES WITH CBC 11B-208.

2. PROVIDE SITE DIRECTIONAL ACCESSIBLE ROUTE SIGNAGE (SDS-1) AT ALL MAJOR JUNCTIONS PER CBC SEC. 11B-703.

3. SEE DETAIL A1.1.1 FOR FENCE GATE INFORMATION

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT: THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIED WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY REQUIREMENTS 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 IDENTIFIED AS BEING NON-COMPATIBLE TO THE ACCESSIBILITY REQUIREMENTS FOR THE POT, IDENTIFIED AS 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DESIGN. THE DESIGN PROFESSIONAL HAS TAKEN THESE ELEMENTS INTO THESE CONSTRUCTION DOCUMENTS. ANY NON-COMPATIBLE ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THE PROJECT BASED ON VALUATION THAT THE CORRECTION OF THE ELEMENTS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS. DURING CONSTRUCTION, IF ANY ITEMS WITHIN THE SCOPE OF THE PROJECT ARE FOUND TO BE NON-COMPATIBLE AND ARE NOT BEING CORRECTED BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

LEGEND  
- - - ASSUMED OR REAL PROPERTY LINE

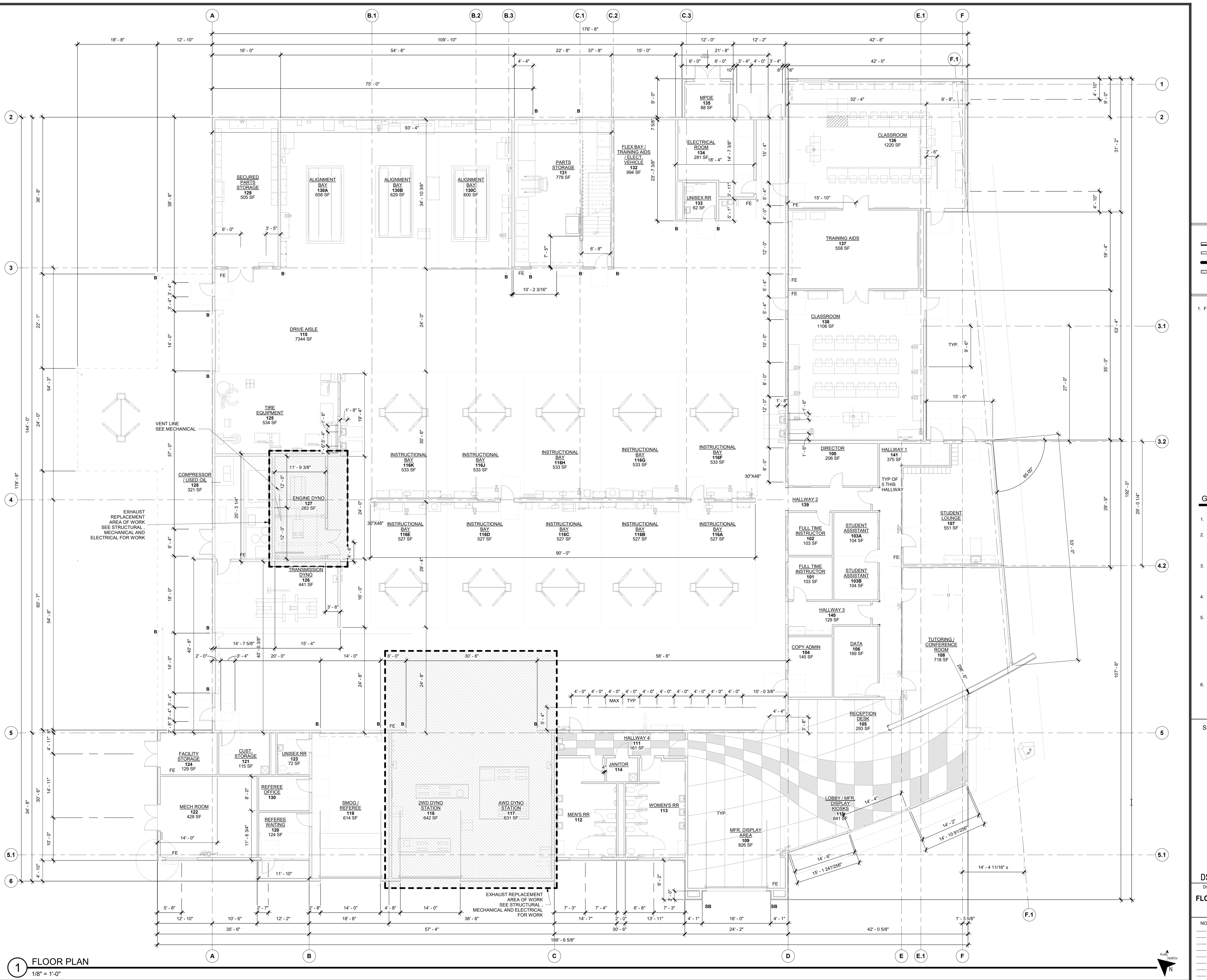
- - - ACCESSIBLE PATH OF TRAVEL 4'-0" WIDE MIN CONCRETE OR A.C. PAVED. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION ON MATERIAL, SLOPES AND ELEVATIONS.

■■■ EXISTING FIRE LANE - 20'-0" WIDE

SEAL  
CONSEJO DE ARQUITECTOS  
DE CALIFORNIA  
NO. C2698  
REN. 6-30-25

Project  
SOLANO COMMUNITY COLLEGE

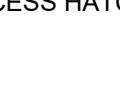
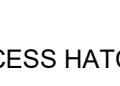
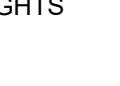
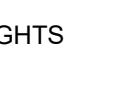
DSA #: 02-122544  
Drawing Title  
SITE CODE PLAN  
Drawn By  
BR  
Checked By  
SP  
Project No  
23-265  
© Date  
02/19/2024  
Drawing No.  
G0.3.0



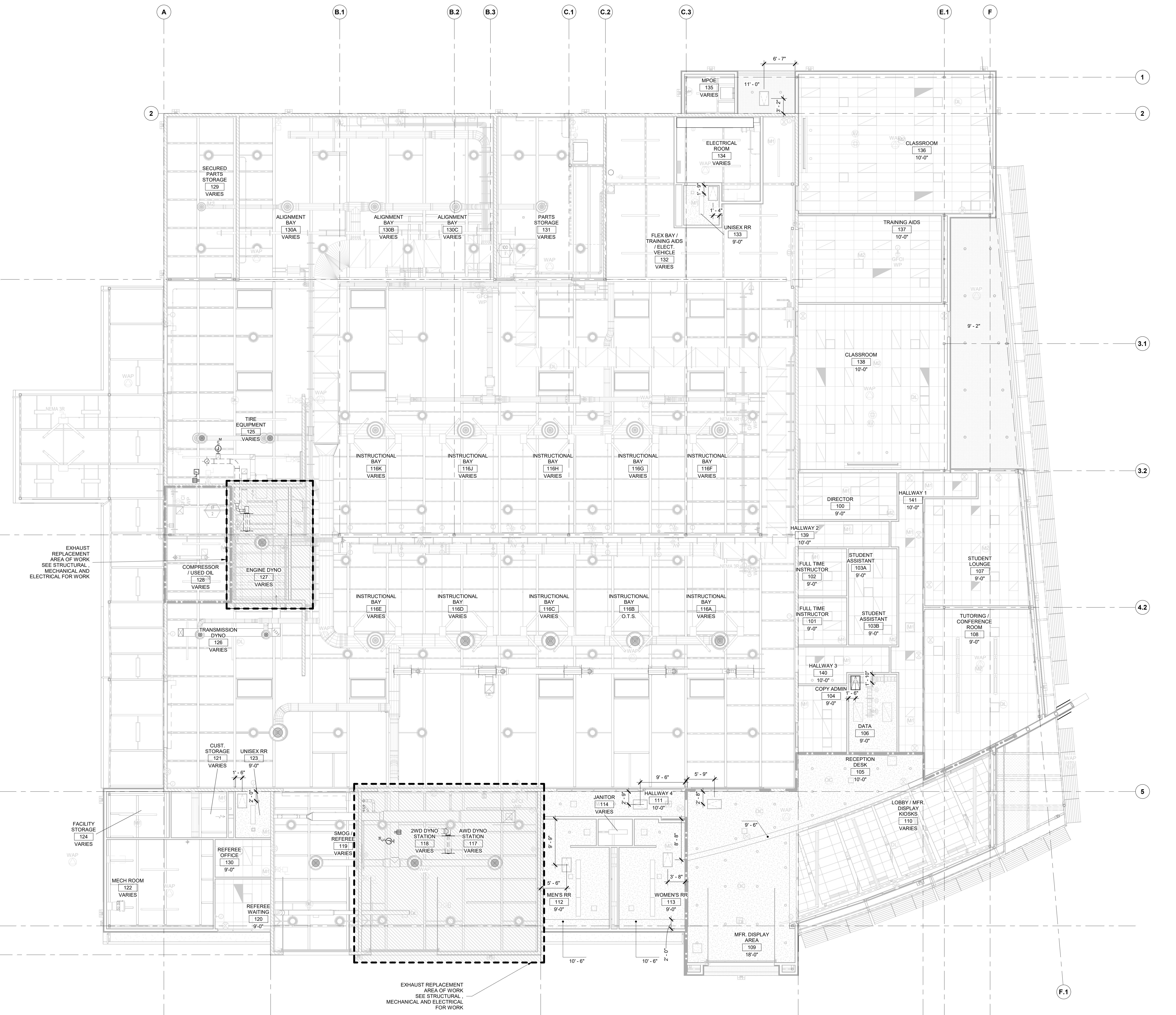
GENERAL NOTES

- ALL WORK SHALL CONFORM TO 2022 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
- CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
- A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS SUPERVISION OF THE WORK. THE INSPECTOR IS DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. A MINIMUM CLASS 2 INSPECTOR IS REQUIRED.
- A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
- THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION, OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERMINED BY THE PROJECT INSPECTOR NOT BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD) SHALL BE MADE BY THE OWNER OR CONTRACTOR, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR).
- SUBSTITUTIONS AFFECTING DSA-REGULATED ITEMS SHALL BE CONSIDERED AS A CONSTRUCTION CHANGE DOCUMENTS (CCD) OR ADDENDA, AND SHALL BE SUBMITTED TO AND APPROVED BY PRIOR TO FABRICATION AND INSTALLATION PER DSA IR-A-6 AND SECTION 338(c) PART 1, TITLE 24 CCR.

LEGEND

|                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (E)GLASS.                                                                                                                                                                                           |
| (E)EXPOSED STEEL, SEE STRUCT.                                                                                                                                                                       |
| (E)12'-0" x 4'-0" SUSPENDED ACOUSTICAL GRID PANELS PER ROOM FINISH SCHEDULE                                                                                                                         |
| (E)GYPSUM BOARD OVER CEILING JOIST PER FINISH SCHEDULE                                                                                                                                              |
| (E)CEMENT PLASTER OVER EXT GYP SHEATHING.                                                                                                                                                           |
| + X-X" HEIGHT OF CEILING / SOFFIT                                                                                                                                                                   |
| (E)CEILING ACCESS HATCH   |
| (E)PENDANT LIGHTS         |
| (E)PLASTIC UNIT SKYLIGHT - EXPOSED CEILING                                                                                                                                                          |
| (E)SUPPLY AIR DIFFUSER                                                                                                                                                                              |
| (E)RETURN AIR DIFFUSER                                                                                                                                                                              |
| (E)EXHAUST AIR DIFFUSER                                                                                                                                                                             |

|                                                                                       |  |  |
|---------------------------------------------------------------------------------------|--|--|
| SEAL                                                                                  |  |  |
|  |  |  |
| DSA #: 02-122544                                                                      |  |  |
| Drawing Title                                                                         |  |  |
| REFLECTED CEILING PLAN                                                                |  |  |
| Drawn By FH                                                                           |  |  |
| Checked By SP                                                                         |  |  |
| Project No 23-265                                                                     |  |  |
| Date 02/19/2024                                                                       |  |  |
| DRAWING NO. A4.1.1                                                                    |  |  |
| Project SOLANO COMMUNITY COLLEGE                                                      |  |  |
| AUTO TECH EXHAUST REPLACEMENT                                                         |  |  |





Peak Advantage Guarantee

**Building Owner:**

Solano Community College District  
1687 North Ascot Parkway  
Vallejo, CA 94591

**Guarantee Number:** ANT157330682

**Expiration Date:** July 14, 2037

**Job Name:** Solano Community College  
Auto Tech. Bldg

**Building Name:**

Solano Community College Auto Tech Bldg  
1687 North Ascot Parkway  
Vallejo, CA 94591

**Date of Completion:** July 14, 2017

**Approved Roofing Contractor:**

SOLANO COUNTY ROOFING INC  
4349 CORDELIA ROAD  
FAIRFIELD, CA 94534-4201

**Terms & Maximum Monetary Obligation to Maintain a Watertight Roofing System.**

**Years:** 20 Year

**\$ No Dollar Limit**

**Coverage:**

The components of the Roofing System covered by this Guarantee are:

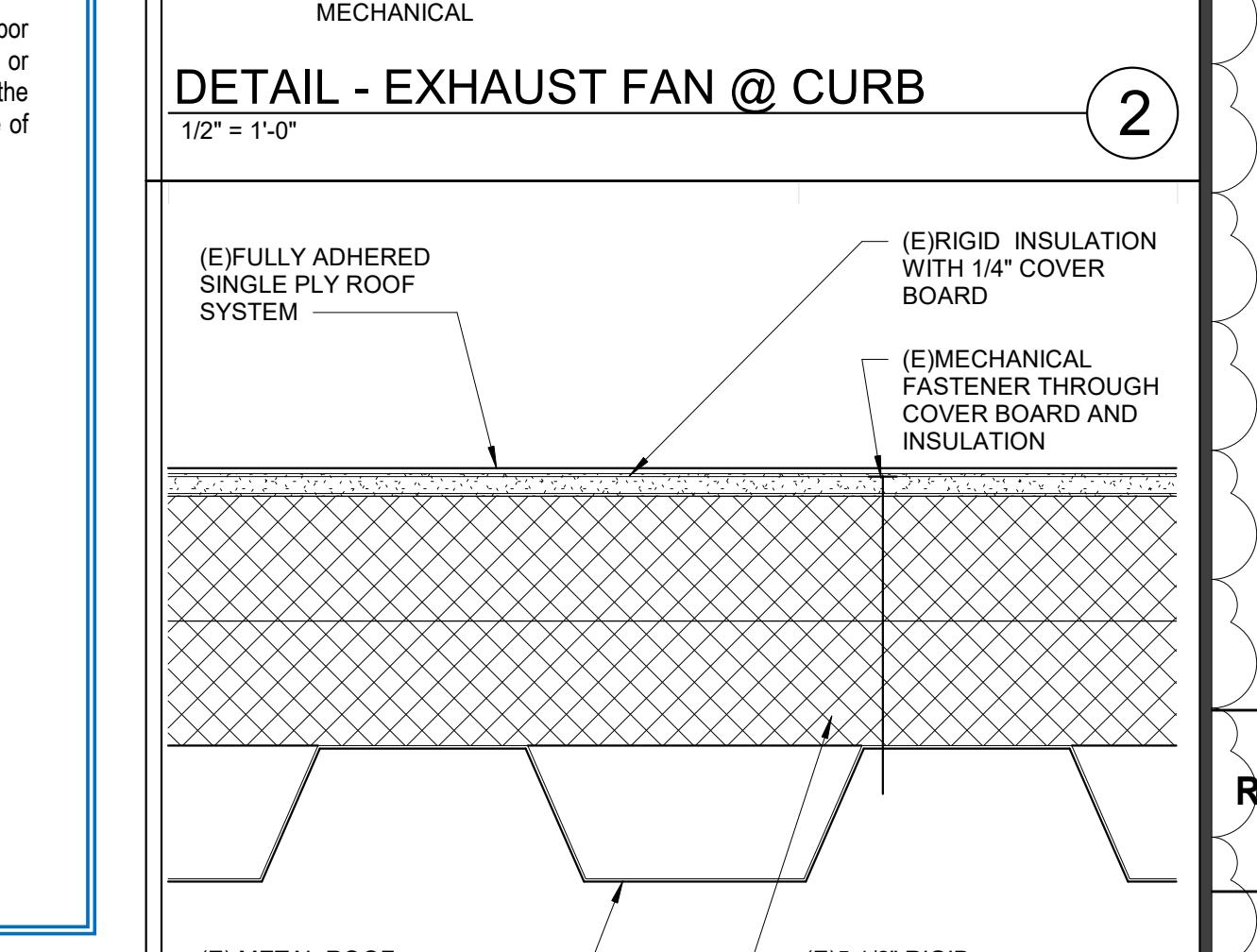
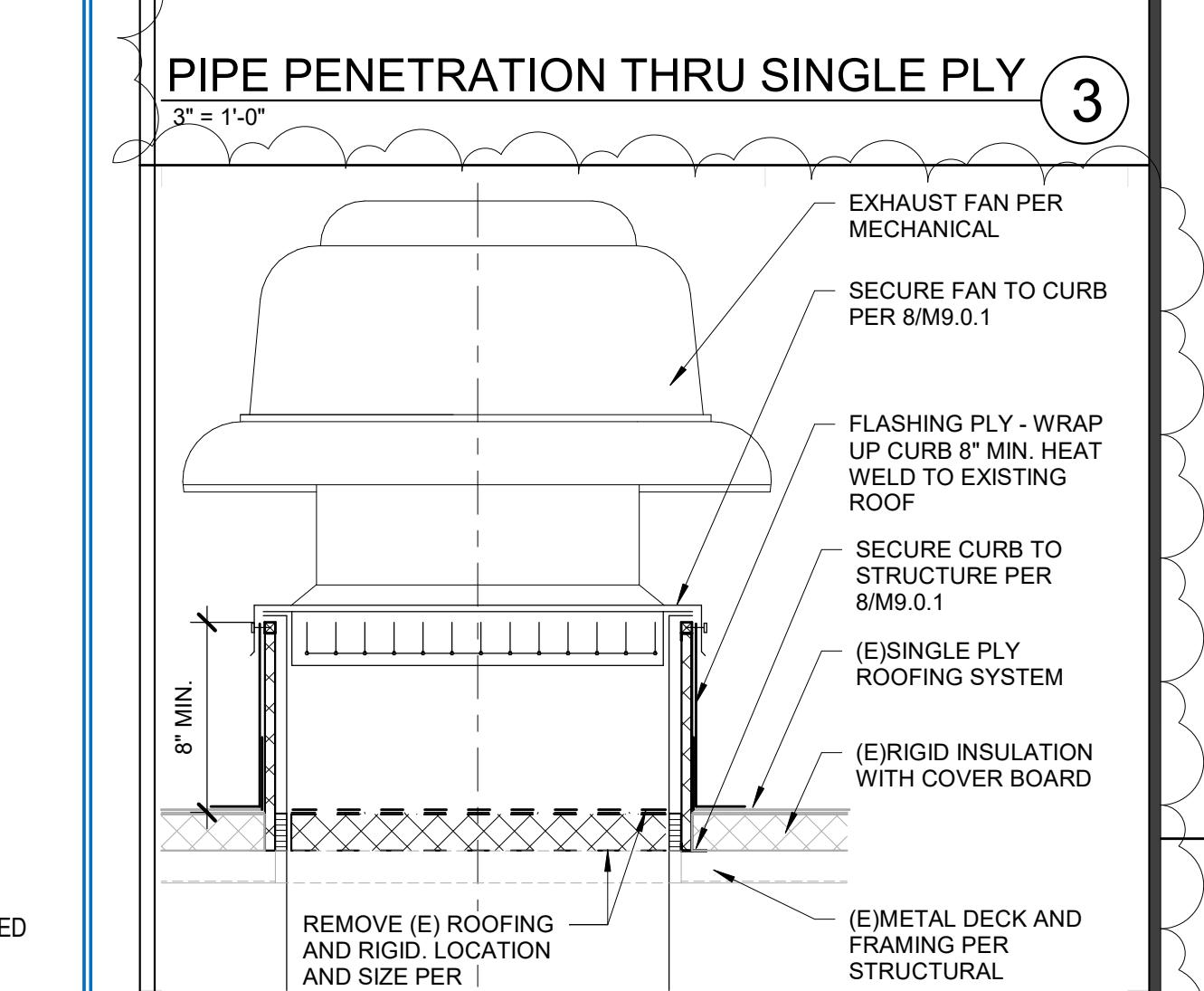
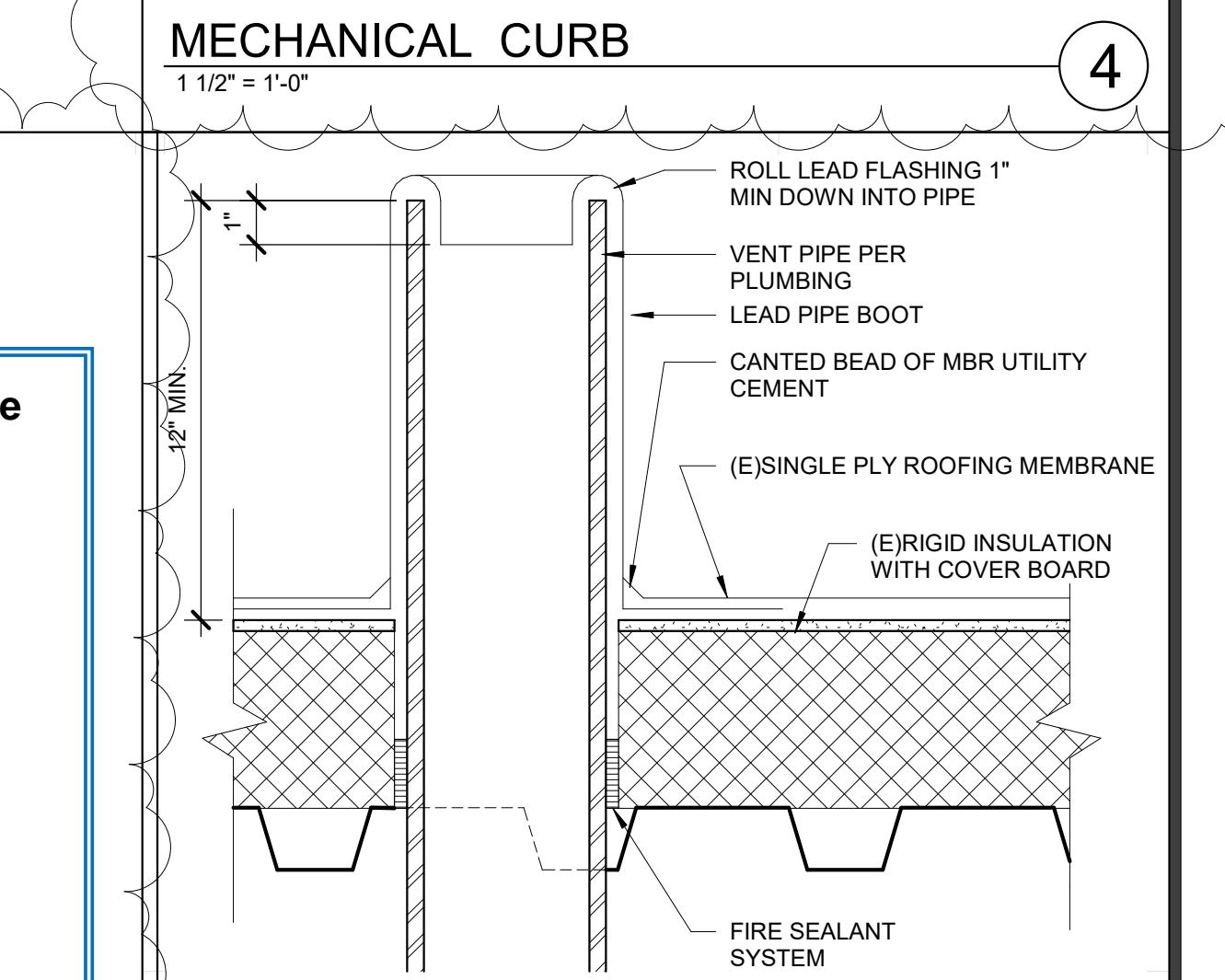
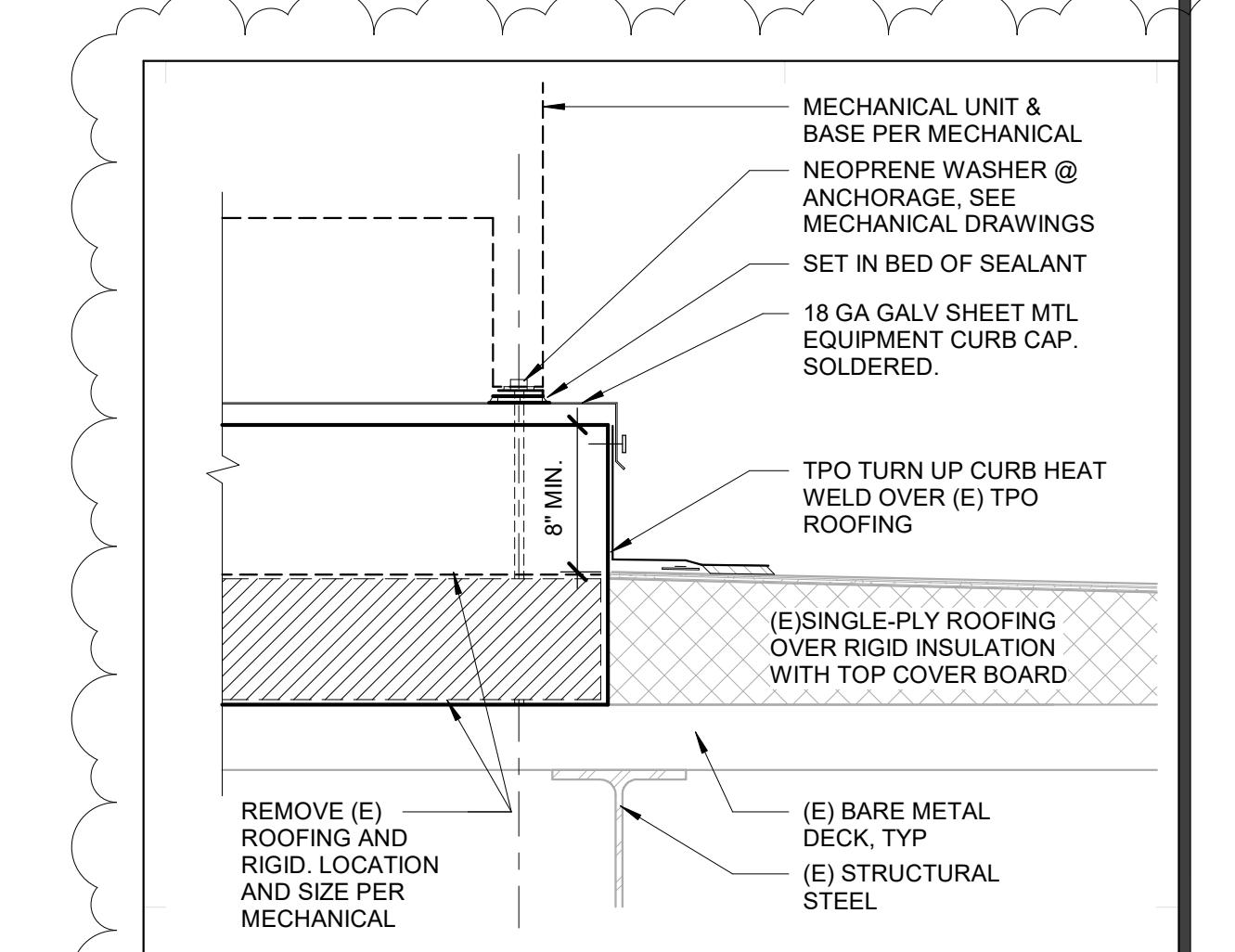
**Total Squares:** 340

| Sec. | Sqs. | Roof Type | Membrane Spec. | Insulation Type |         |         | Cover Board   |
|------|------|-----------|----------------|-----------------|---------|---------|---------------|
|      |      |           |                | Layer 1         | Layer 2 | Layer 3 |               |
| 1    | 340  | TPO       | ST6RA          | ENRGY 3         | ENRGY 3 | ENRGY 3 | 1/4" Densdeck |

| Accessories: | Type                      | Product Name | Quantity   |
|--------------|---------------------------|--------------|------------|
|              | Expand-O-Flash (1) Style: |              | 0 lin. ft. |
|              | Expand-O-Flash (2) Style: |              | 0 lin. ft. |
|              | Expand-O-Flash (3) Style: |              | 0 lin. ft. |
|              | Fascia Style:             |              | 0 lin. ft. |
|              | Copings Style:            |              | 0 lin. ft. |
|              | Gravel Stop Style:        |              | 0 lin. ft. |
|              | Drains (1) Style:         |              | 0 ea.      |
|              | Drains (2) Style:         |              | 0 ea.      |
|              | Vents Style:              |              | 0 ea.      |

These Johns Manville Guaranteed components are referred to above as the "Roofing System" and ALL OTHER COMPONENTS OF THE OWNER'S BUILDING ARE EXCLUDED FROM THE TERMS OF THIS GUARANTEE, including any amendments thereto.

Johns Manville\* guarantees to the original Building Owner that during the Term commencing with the Date of Completion (as defined above), JM will pay for the materials and labor reasonably required in Johns Manville's sole and absolute discretion to repair the Roofing System to return it to a watertight condition if leaks occur due to: ordinary wear and tear, or deficiencies in any or all of the Johns Manville component materials of the Roofing System, or workmanship deficiencies only to the extent they arise solely out of the application of the Roofing System. Non-leaking blisters are specifically excluded from coverage. Should any investigation or inspection reveal the cause of a reported leak to be outside the scope of coverage under this Guarantee, then all such investigation and inspection costs shall be borne solely by the Building Owner.



**GENERAL REQUIREMENTS**

- THE GENERAL CONTRACTOR AND INVOLVED PARTIES ARE RESPONSIBLE FOR READING AND COMPLYING WITH THE INFORMATION IN THESE STRUCTURAL DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO STARTING CONSTRUCTION. THE ARCHITECT & ENGINEER (A/E) SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONCERNES.
- DO NOT SCALE THE DRAWINGS FOR WORKING DIMENSIONS. DRAWINGS ARE DIAGRAMMATIC AND MAY NOT SCALE ACCURATELY. STRUCTURAL DRAWINGS AND GRAPHICS ARE INTENDED TO BE VIEWED AND PRINTED IN COLOR; PRINTING OR VIEWING IN BLACK-AND-WHITE IS NOT RECOMMENDED.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRIORITY OVER GENERAL NOTES AND TYPICAL DETAILS. TYPICAL DETAILS SHALL APPLY TO THE PROJECT DRAWINGS EXCEPT WHEN SPECIFIC DETAILS ARE SHOWN WHICH SHALL TAKE PRIORITY.
- ALL WORK SHALL COMPLY WITH THE MINIMUM STANDARDS OF THE CURRENT ADOPTED BUILDING CODE, THE LATEST EDITION OF ASTM OR OTHER INDUSTRY STANDARDS REFERENCED, AND ALL APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS AND REGULATIONS. FOR ITEMS, METHODS, AND/OR MATERIALS NOT SHOWN, ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE REGULATING AGENCIES THAT HAVE AUTHORITY OVER SUCH PORTIONS OF WORK.
- THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COORDINATING THE FOLLOWING TYPES OF ITEMS WHICH ARE TYPICALLY SHOWN ON ARCHITECTURAL DRAWINGS: SIZES AND LOCATIONS OF WINDOW AND DOOR OPENINGS, CONCRETE CURB, FLOOR DRAINS AND DEPRESSED SLAB AREAS, FLOOR AND INTERIOR OR EXTERIOR NON-STRUCTURAL WALLS PARTITIONS, ETC.
- THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COORDINATING THE FOLLOWING TYPES OF ITEMS WHICH ARE TYPICALLY SHOWN ON MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS: SIZES AND LOCATIONS OF MECHANICAL EQUIPMENT, DUCTWORK RUNS, CONDUIT OR CABLE TRAY RUNS, PIPE RUNS, AND ALL ASSOCIATED SLEEVES, PENETRATIONS, OPENINGS, HANGERS, INSERTS, ETC.
- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY SHALL INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOFS. ROOF SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
- NO CHANGES OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS WILL BE ALLOWED WITHOUT WRITTEN AUTHORIZATION FROM THE A/E. ANY DESIRED CHANGES OR DEVIATIONS SHALL BE REFERRED TO THE A/E FOR REVIEW WITH NO GUARANTEE THAT THE SUBMISSION WILL BE ALLOWED.
- THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COORDINATING THE STRUCTURE, I.E. LOWERING, SOOTINGS, ETC. TO WORK WITH GRADES WHICH ARE TYPICALLY SHOWN ON ARCHITECTURAL OR CIVIL DRAWINGS. THE STRUCTURAL ENGINEER TAKES NO RESPONSIBILITY FOR DAMAGE TO THE STRUCTURE, OR ADDITIONAL CONSTRUCTION COSTS CAUSED BY LACK OF SUCH COORDINATION OR MISREPRESENTATIONS OF THE RELATIVE POSITION OF THE STRUCTURE WITH RESPECT TO GRADES ON THE WORK SITE.
- THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER WHERE A CONFLICT IS DISCOVERED BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER PORTION OF THE CONTRACT DOCUMENTS OR CONSTRUCTION FIELD CONDITIONS. SUCH NOTIFICATION SHALL BE GIVEN IN DUE TIME SO AS NOT TO AFFECT THE CONSTRUCTION SCHEDULE. IN CASE OF A CONFLICT BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS THE MORE RESTRICTIVE CONDITION SHALL TAKE PRIORITY UNLESS WRITTEN APPROVAL HAS BEEN GIVEN FOR THE LEAST RESTRICTIVE.
- WHERE NO SPECIFIC DETAIL IS SHOWN, THE CONSTRUCTION SHALL BE IDENTICAL OR SIMILAR TO THAT INDICATED FOR LIKE CASES OF CONSTRUCTION ON THIS PROJECT. SHOULD THERE BE A CONFLICT, CONTACT THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO PROCEEDING.
- WHEN CONSTRUCTION ATTACHES TO OR IS WITHIN AN EXISTING BUILDING, A COMPLETE SET OF DRAWINGS OF THE EXISTING BUILDING SHALL BE KEPT ON THE JOB SITE. CONTRACTOR TO OBTAIN THESE DRAWINGS FROM THE OWNER (IF THEY ARE AVAILABLE).
- THESE DRAWINGS ARE NOT COMPLETE UNTIL REVIEWED AND ACCEPTED BY THE ENFORCEMENT AGENCY AND SIGNED BY THE STRUCTURAL ENGINEER.

**STRUCTURAL DESIGN CRITERIA**

CODE: 2022 TITLE 24 CALIFORNIA CODE OF REGULATIONS (CCR)  
STRUCTURAL RISK CATEGORY III (EDUCATION FACILITY)

DEAD LOADS: ROOF DEAD LOAD: 20 PSF

LIVE LOADS: ROOF LIVE LOAD, L: 20 PSF

WIND DESIGN DATA: ULTIMATE WIND SPEED, V: 99 MPH  
EXPOSURE CATEGORY: I  
ENCLOSURE CLASS: ENCLOSED (GC<sub>r</sub> = 0.18)  
RISK CATEGORY: III

EARTHQUAKE DESIGN DATA:  
S<sub>0</sub>: 1.620  
S<sub>1</sub>: 0.600  
SITE CLASS: C  
S<sub>2</sub>: 1.216  
S<sub>3</sub>: 0.560  
L<sub>0</sub>: 1.25  
SEISMIC DESIGN CATEGORY: D  
ANALYSIS PROCEDURE: SEISMIC LOADS ON NON-STRUCTURAL COMPONENTS (ASCE 7-16 SEC. 13.3)  
COMPONENT RESISTANCE FACTOR, R<sub>c</sub>: 2.5 (AIR-SIDE HVAC)  
COMPONENT RESISTANCE FACTOR, R<sub>r</sub>: 6 (AIR-SIDE HVAC)  
COMPONENT IMPORTANCE FACTOR, I<sub>c</sub>: 1.0 (ASCE 7-16 SEC. 13.1)

**ABBREVIATIONS**

|        |                            |              |                         |
|--------|----------------------------|--------------|-------------------------|
| 2L     | DOUBLE ANGLE               | ID           | INSIDE DIAMETER         |
| AB     | ANCHOR BOLT                | IN           | INCHES                  |
| ADDL   | ADDITIONAL                 | INCL         | INCLUDE OR INCLUDED     |
| AGGR   | AGGREGATE                  | INT          | INTERIOR                |
| ALT    | ALTERNATE                  | JNT          | JUNCTION                |
| ANC    | ANCHOR                     | K            | KIP (1,000 LB)          |
| APPROX | APPROXIMATE                | LAM          | LAMINATED               |
| ARCH   | ARCHITECTURAL              | LBS          | POUNDS                  |
| ASTM   | ASTM                       | LLG          | LONG LEG HORIZONTAL     |
| AVG    | AVERAGE                    | LLV          | LONG LEG VERTICAL       |
| BLDG   | BUILDING                   | MFR          | MANUFACTURER            |
| BLKING | BLOCKING                   | MECH         | MECHANICAL              |
| BMT    | BMT                        | MEZZ         | MEZZANINE               |
| BN     | BOUNDARY NAILING           | MIN          | MINIMUM                 |
| B.O.   | BOTTOM OF                  | MISC         | MISCELLANEOUS           |
| BOD    | BOTTOM OF DECK             | MULT         | MULTIPLE                |
| BRG    | BEARING                    | NEAR         | NEAR FACE               |
| BTTM   | BOTTOM                     | NIC          | NOT IN CONTACT          |
| C      | CENTER TO CENTER           | NOM          | NOMINAL                 |
| CEN    | CENTER                     | NEV          | NEVER                   |
| CG     | CENTER OF GRAVITY          | MTL          | METAL                   |
| CON    | CONSTRUCTION               | MULT         | MULTIPLE                |
| CIP    | COMPLETE JOINT PENETRATION | NF           | NEAR FACE               |
| CLG    | CEILING                    | NIC          | NOT IN CONTACT          |
| CLR    | CLEAR                      | NOT TO SCALE | NOT TO SCALE            |
| CMU    | CONCRETE MASONRY UNITS     | NTS          | NEAR SIDE               |
| COL    | COLUMN                     | NTS          | NEAR SIDE               |
| CONC   | CONCRETE                   | O/           | OVER                    |
| CONN   | CONNECTION                 | O.C.         | OUT CENTER              |
| CONSTR | CONSTRUCTION               | OD           | OUTSIDE DIAMETER        |
| CONT   | CONTINUOUS                 | OPEN         | OPENING                 |
| CONTR  | CONTRACTOR                 | OPNG         | OPPOSITE                |
| CTJ    | CONTROL JOINT              | OPPS         | ORIGINAL                |
| DBA    | DEFORMED BAR ANCHOR        | ORG          | ORIGINAL                |
| DOU    | DOU                        | PSF          | POUNDS PER CUBIC FOOT   |
| DF     | DOUGLAS FIR                | PSI          | POUNDS PER SQUARE FOOT  |
| DIA    | DIA                        | PSI          | POUNDS PER SQUARE INCH  |
| DIAG   | DIAGONAL                   | PT           | POST-TENSIONED          |
| DIMS   | DIMENSIONS                 | PARTITION    | PARTITION               |
| DO     | DO                         | RAD          | RADIUS                  |
| DTL    | DETAIL                     | RC           | REINFORCED CONCRETE     |
| DWG    | DRAWING                    | REF          | REFERENCE               |
| EA     | EA                         | REV          | REVISION                |
| EF     | EACH FACE                  | REQD         | REQUIRED                |
| EJ     | EXPANSION JOINT            | SCHED        | SCHEDULE                |
| EL     | ELEVATION                  | SECT.        | SECTION                 |
| ELECT  | ELECTRICAL                 | S.F.         | SQUARE FEET             |
| ENCL   | ENCL                       | SHEET        | SHEET                   |
| ENGR   | ENGINEER                   | SIM          | SIMILAR                 |
| EQ     | EQUAL                      | S.O.G.       | SLAB ON GRADE           |
| EQUIP  | EQUIPMENT                  | SPECS        | SPECIFICATIONS          |
| EACH   | EACH                       | STD          | STANDARD                |
| EXCAV  | EXCAVATE                   | STD          | STANDARD                |
| (E)    | EXISTING                   | STIFNR       | STIFFNER                |
| EXP    | EXPANSION                  | STGRD        | STAGGERED               |
| EXT    | EXTERIOR                   | STL          | STRUCTURE               |
| FAB    | FABRICATION                | STRUCT.      | STRUCTURAL              |
| FD     | FLOOR DRAIN                | SYM          | SYMMETRICAL             |
| FDN    | FOUNDATION                 | T&B          | TOP AND BOTTOM          |
| F.F.   | FINISHED FLOOR             | T&G          | TONGUE AND GROOVE       |
| FIG    | FIGURE                     | THIN         | THIN                    |
| FIN    | FINISH                     | THRD         | THREADED                |
| FLR    | FLOOR                      | THRU         | THROUGH                 |
| FN     | FIELD NAILING              | TO           | TOP OF                  |
| FOC    | FACE OF CONCRETE           | TOC          | TOP OF CONCRETE         |
| FOS    | FACE OF STUD               | TOF          | TOP OF FOOTING (U.N.O.) |
| FOW    | FACE OF WALL               | TOL          | TOLERANCE               |
| FRMG   | FRAMING                    | TOM          | TOP OF MASONRY          |
| FS     | Far Side                   | TOS          | TOP OF STEEL            |
| FT     | FEET                       | TOW          | TOP OF WALL             |
| FTG    | FOOTING                    | TS           | STRUCTURAL TUBING       |
| GA     | GAGE OR GAUGE              | TYP          | TYPICAL                 |
| GALV   | GALVANIZE                  | U.N.O.       | UNLISTED NOT OTHERWISE  |
| GB     | GRADE BEAM                 | V.           | VERTICAL                |
| GLB    | GLULAM BEAM                | VOL          | VOLUME                  |
| GR     | GRADE                      | W            | WITHOUT                 |
| GRND   | GROUND                     | W/O          | WOOD                    |
| HGT    | HORIZONTAL REINF.          | W/O          | WOOD                    |
| HORZ   | HORIZONTAL                 | WP           | WORK POINT              |
| HSA    | HEADED STUD ANCHOR         | WT           | WEIGHT                  |
|        |                            | WWF          | WELDED WIRE FABRIC      |

**STRUCTURAL STEEL**

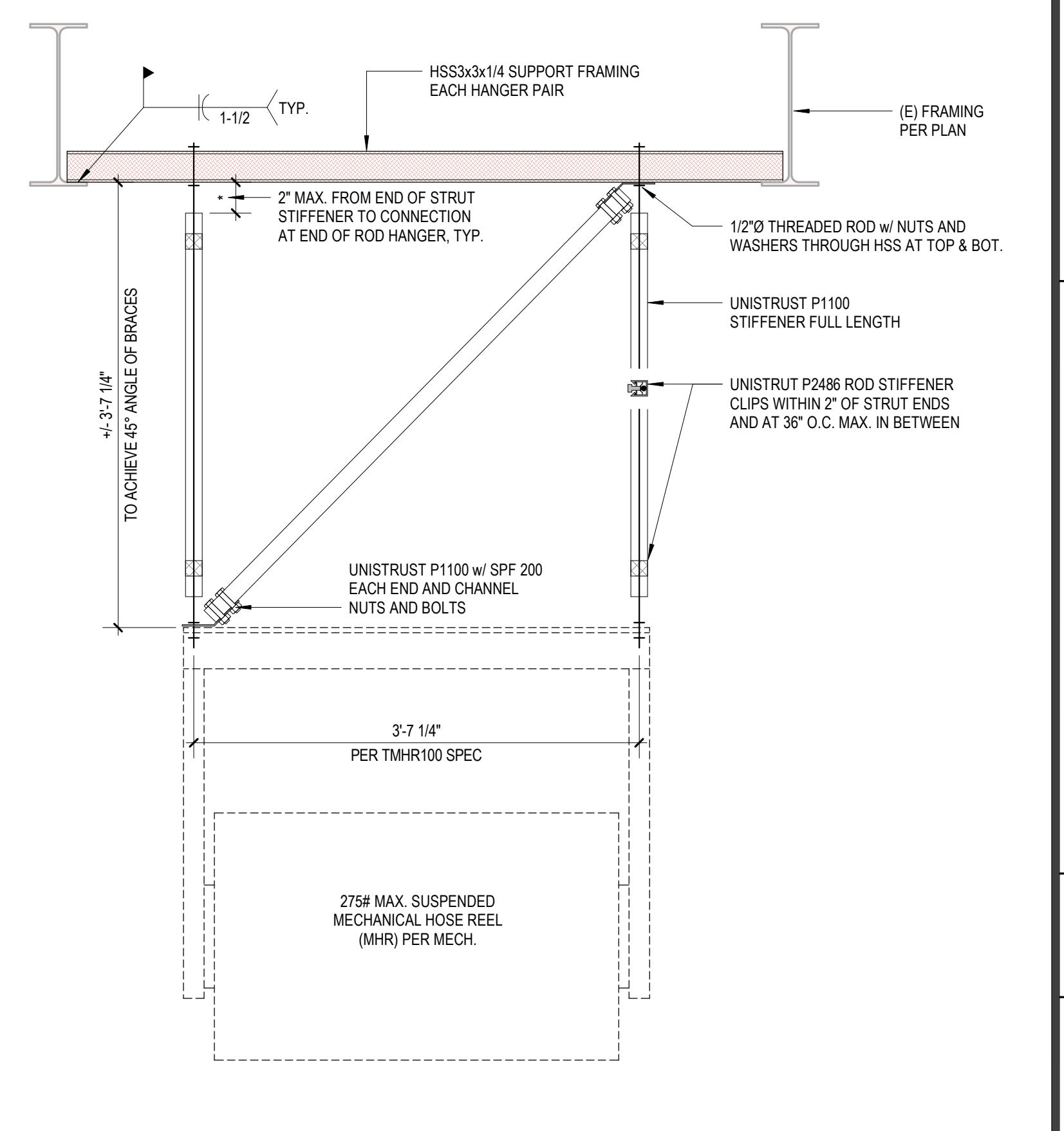
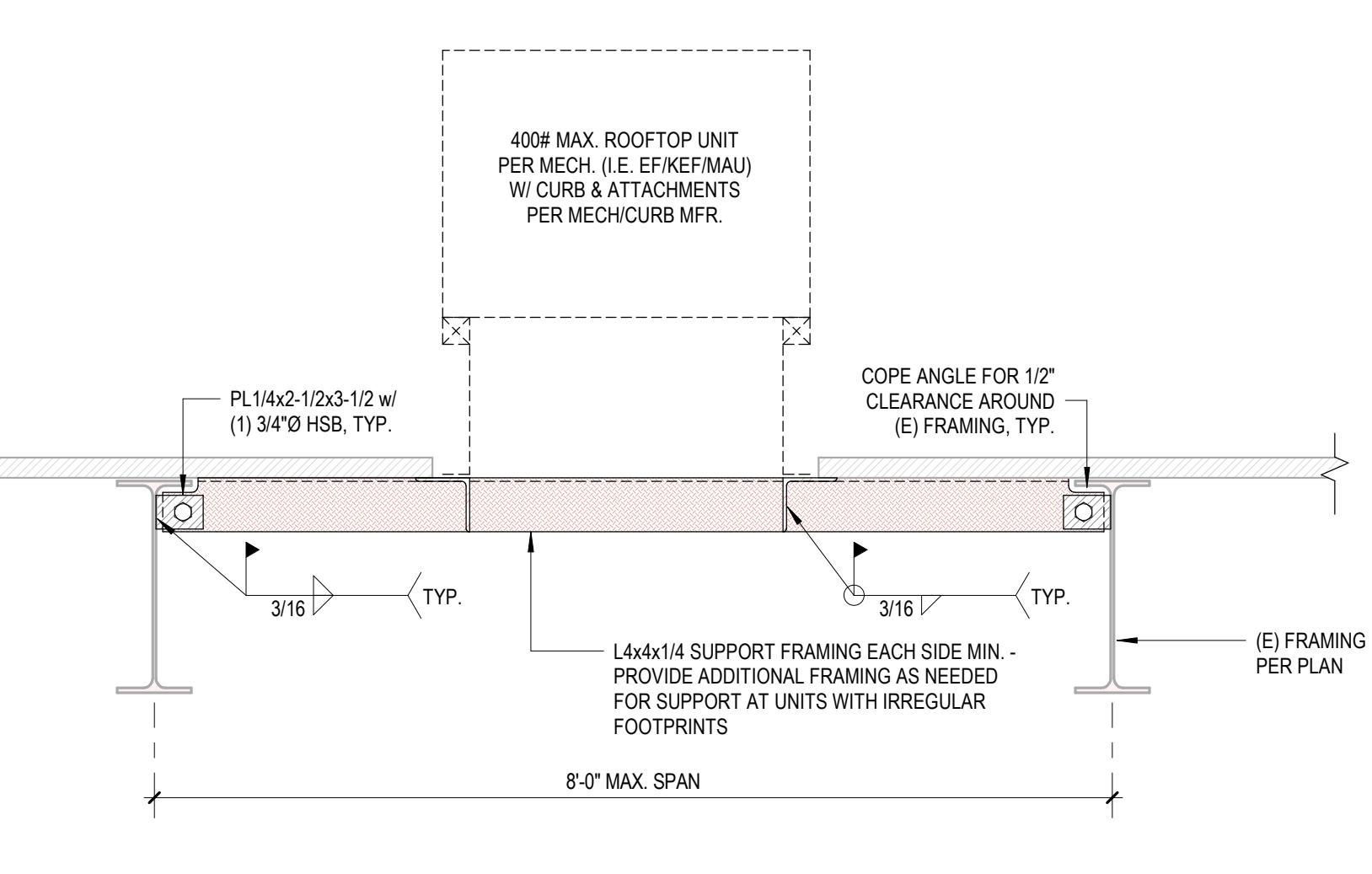
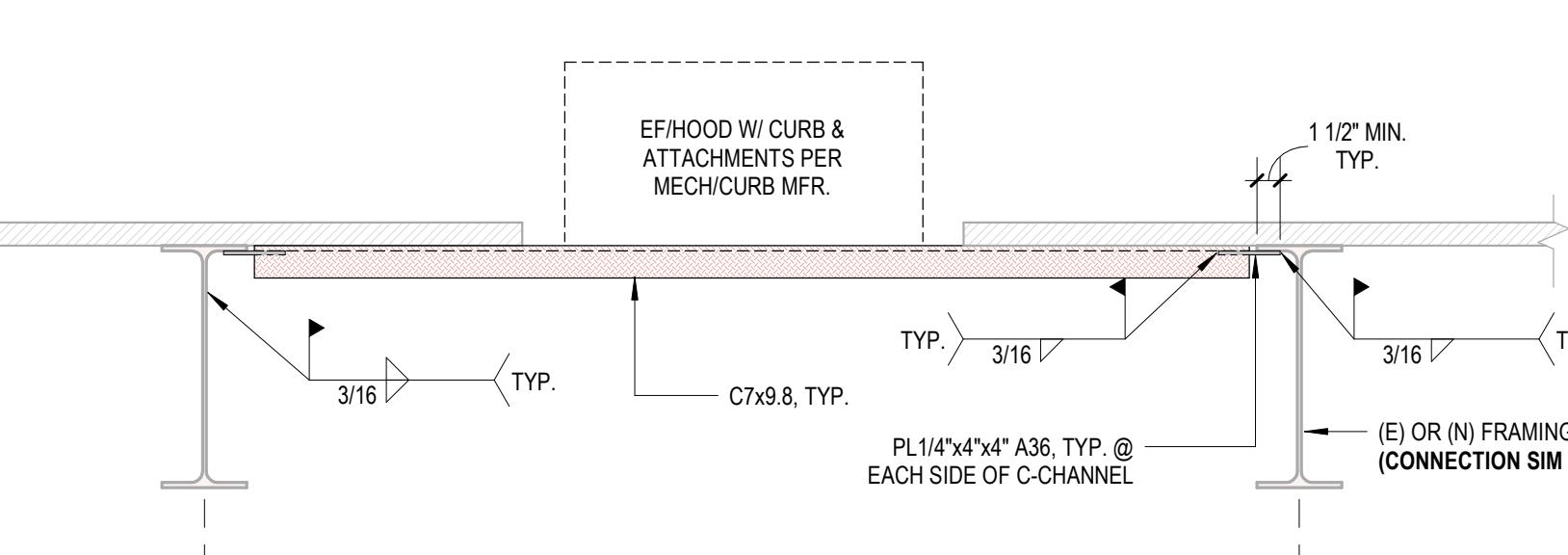
- STRUCTURAL STEEL DETAILING, FABRICATION, ERECTION, AND MATERIALS SHALL CONFORM TO THE CURRENT VERSION OF THE AISC MANUAL FOR STEEL CONSTRUCTION, AISC 360 FOR STRUCTURAL STEEL BUILDINGS AND TO AISC 341 FOR SEISMIC PROVISIONS.
- ALL HOT ROLLED STEEL SHAPES, PLATES, AND BARS SHALL CONFORM TO ASTM A6 AND THE FOLLOWING, U.N.O.:
  - WIDE FLANGE (W) AND WT SHAPES: ASTM A992
  - RECTANGULAR HSS TUBING: ASTM A505, GR. C (F<sub>r</sub> = 50 KSI)
  - ASTM A505, GR. C (F<sub>r</sub> = 46 KSI)
  - STEEL PIPE SHAPES: ASTM A53, GR. B (F<sub>r</sub> = 35 KSI)
  - ALL OTHER SHAPES, PLATES, AND BARS: ASTM A36, U.N.O.
- ALL STRUCTURAL BOLTS AND THREADED FASTENERS SHALL CONFORM TO RCSC AND THE FOLLOWING, U.N.O.:
  - TYPICAL HIGH-STRENGTH BOLTS (HSB): ASTM F3125, GR. A325
  - TWIST-OFF TENSION-CONTROLLED HSB: ASTM F3125, GR. F1852
  - STANDARD MACHINE BOLTS (MB): ASTM F1554, GR. A
  - ANCHOR BOLTS (AB): ASTM F1554, GR. 36
  - HEAVY HEX NUTS: ASTM F563
  - TYPICAL WASHERS: ASTM F844
  - HARDENED WASHERS (TYP HSB): ASTM F436
- HIGH-STRENGTH BOLTS (HSB) MAY BE TYPE N (THREADS INCLUDED) TYP. U.N.O. AND MAY BE INSTALLED SNUG-TIGHT IN ACCORDANCE WITH RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS AT THE CONTRACTOR'S OPTION. TWIST-OFF TENSION-CONTROL BOLTS MAY BE USED TO SIMPLIFY INSTALLATION.
- BOLT HOLES SHALL BE AISC STANDARD HOLES UNLESS SPECIFIED OTHERWISE. USE STANDARD AISC GAGE AND PITCH FOR BOLTS EXCEPT AS NOTED OTHERWISE.
- WELDING SHALL BE DONE BY THE ELECTRIC ARC PROCESS IN ACCORDANCE WITH AMERICAN WELDING SOCIETY STANDARDS, USING ONLY CERTIFIED WELDERS. ALL GROOVE WELDS SHALL HAVE COMPLETE PENETRATION UNLESS NOTED OTHERWISE. ALL FILLET WELDS FOR WELDING SHALL COMPLY WITH AWS D1.1 AND D1.8 AS APPLICABLE. E70X SERIES MINIMUM.
- WELD LENGTHS SPECIFIED ON PLANS ARE THE NET EFFECTIVE LENGTHS REQUIRED.
- MINIMUM FILLET WELDS. (T = THICKNESS OF THINNER PART JOINED)
 

|                 |
|-----------------|
| T < 1/2": 3/16" |
| T = 1/2": 1/4"  |
| T > 1/2": 5/16" |
- HEADED AND THREADED STUDS SHALL BE NELSON STUD ANCHORS (NSA) OR APPROVED EQUAL. EQUAL OF THE SIZES INDICATED ON THE DRAWINGS, WITH FLUXED ENDS AUTOMATICALLY END WELDED PER THE MANUFACTURER'S REQUIREMENTS.
- ALL STRUCTURAL AND MISCELLANEOUS STEEL WORK SHALL BE SHOP PRIMED AND TOUCHED UP IN THE FIELD AFTER ERECTION EXCEPT STEEL TO BE EMBEDDED IN CONCRETE, SPRAY FIRE PROOFED, GALVANIZED OR WHERE REQUIRED FOR SPECIAL CONDITIONS. ALL WELDS SHALL BE TIG WELDS AT CONTACT FACES OF MEMBERS USING HIGH STRENGTH BOLTS, COORDINATE PRIMER WITH FINISH REQUIREMENTS TO ENSURE PRIMER IS COMPATIBLE WITH TOPCOAT. PROVIDE 3" MINIMUM CONCRETE COVER FOR ALL STEEL EXPOSED TO EARTH.
- ALL STRUCTURAL STEEL SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND SHALL BE LEFT IN PLACE UNTIL OTHER MEANS ARE PROVIDED TO ADEQUATELY BRACE THE STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL BASE PLATE AND SUPPORT CONDITIONS DURING ERECTION AND BRACING AS REQUIRED. SEE AISC AND OSHA REQUIREMENTS.

**SHEET INDEX**

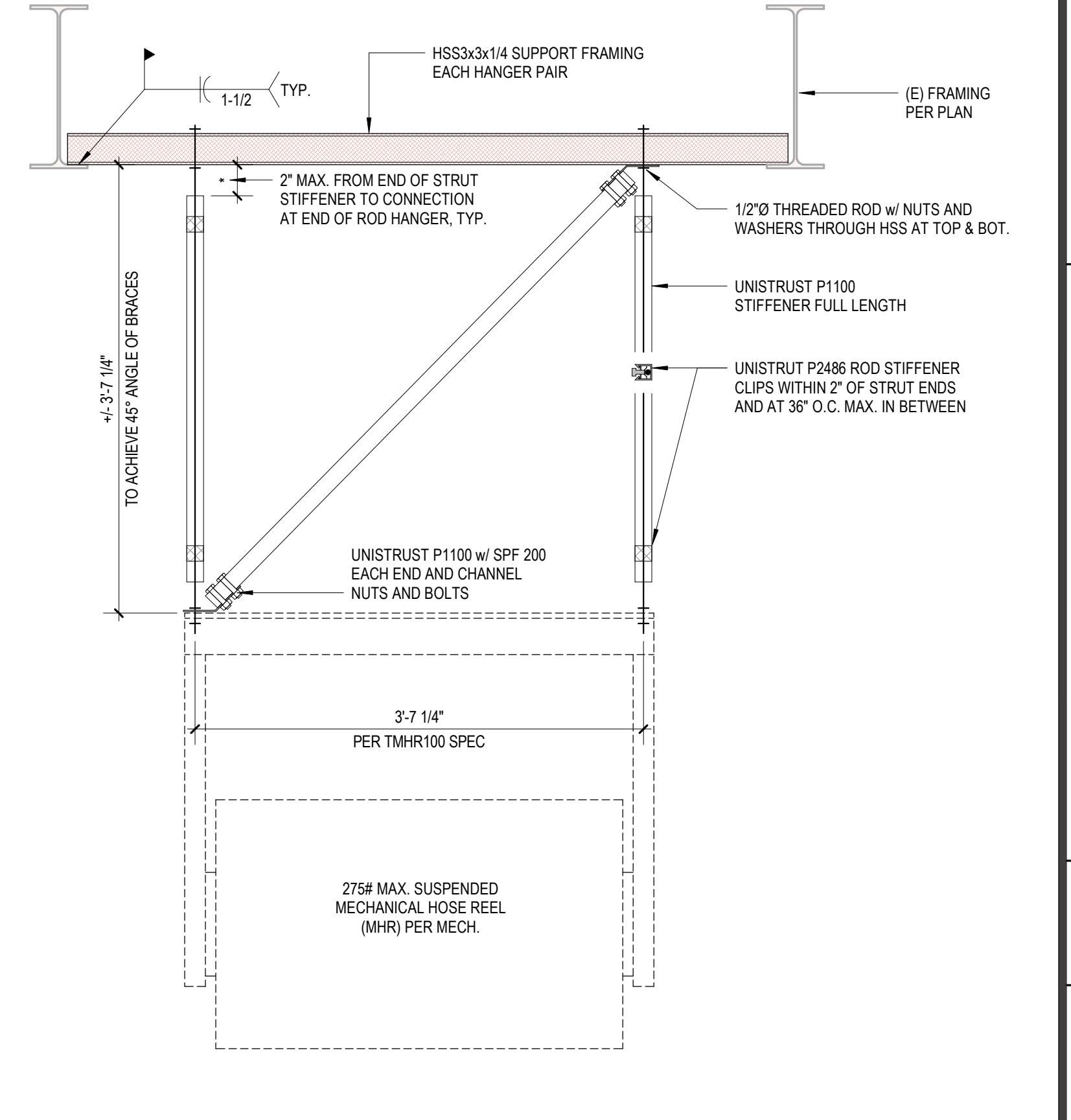
|        |                                            |
|--------|--------------------------------------------|
| S0.0.1 | STRUCTURAL GENERAL NOTES & TYPICAL DETAILS |
| S2.0.1 | STRUCTURAL ROOF FRAMING PLAN               |

Grand total: 2



**DSA SUBMITTAL**  
DSA #: 02-122544  
Drawing Title  
STRUCTURAL GENERAL NOTES & TYPICAL DETAILS  
NO. DATE ISSUE  
Project No. 23-265  
Checked By CBS  
©Date 09.04.2024  
Drawing No. S0.0.1

**Project SOLANO COMMUNITY COLLEGE AUTO TECH FACILITY**  
Drawn By CBS  
Reviewed By CBS  
©Date 09.04.2024  
Drawing No. S0.0.1



1" = 1'-0"

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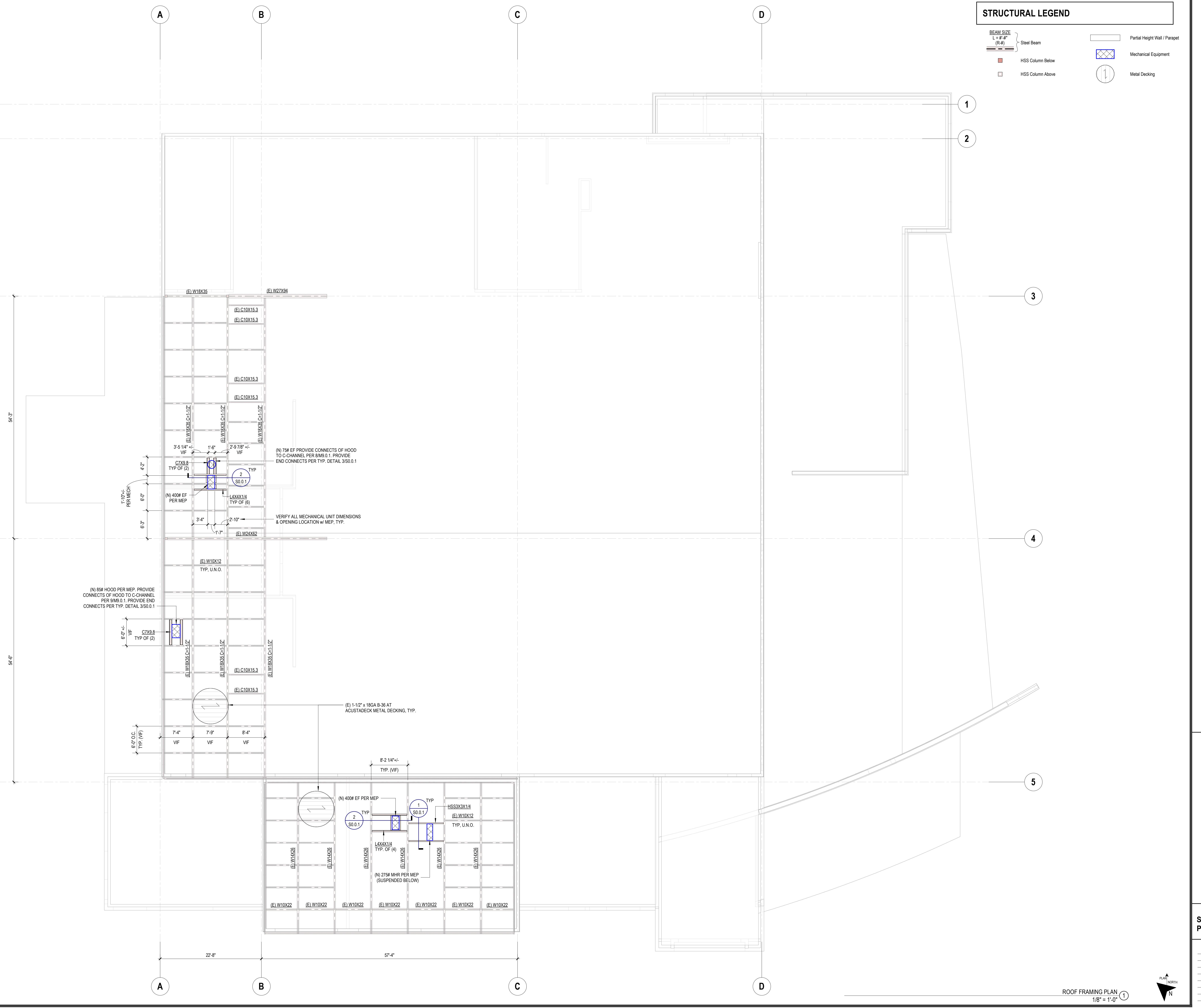
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|                                                                                                         |                                                  |                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>09.04.2024</p> |                                                  | <p>Project<br/>SOLANO COMMUNITY COLLEGE</p> <p>AUTO TECH FACILITY</p>                                                                            |
| <p>SA SUBMITTAL</p> <p>SA #: 02-122544</p> <p>Drawing Title<br/>STRUCTURAL ROOF FRAMING<br/>PLAN</p>    |                                                  | <p>Drawn By<br/>CBS</p> <p>Checked By<br/>CBS</p> <p>Project No.<br/>23-265</p> <p>©Date<br/>09.04.2024</p> <p>DRAWING NO.<br/><b>S2.0.1</b></p> |
| <p>DATE</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>                                                         | <p>ISSUE</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> |                                                                                                                                                  |

**EQUIPMENT ANCHORAGE NOTES**

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED IN ACCORDANCE WITH THE DETAILS AND REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.20 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOBILE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRIC, GAS OR WATER. EQUIPMENT ATTACHED SHALL INCLUDE ELECTRICAL CONNECTORS, EXCEPT PLUGS AND VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. EQUIPMENT AND COMPONENTS LOCATED IN AREAS 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 NOT BE ANCHORED OR BRACED IN ACCORDANCE WITH THE REQUIREMENTS PRESCRIBED IN THE 2022 CBC, ASCE 7-16, AND CONDUIT FLEXIBLE CONNECTORS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

- A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE 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, RESPONSIBILITY FOR STRUCTURAL ENGINEER DELIVERING APPROVED CONSTRUCTION DOCUMENTS IS THE DESIGNER'S RESPONSIBILITY. HOWEVER, NOT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

**PIPING AND DUCTWORK DISTRIBUTION SYSTEM  
BRACING NOTES**

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 13.6.9.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACINGS AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE PROVIDED TO THE STRUCTURAL ENGINEER AT 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.

MP  MD  PP  E OPTION 2: SHALL COMPLY WITH THE APPLICABLE HCAI PRE-APPROVAL (OPM) #0043-13.

**MECHANICAL LEGEND**

| SYMBOL                              | ITEM                                                        | ABBR. |
|-------------------------------------|-------------------------------------------------------------|-------|
| <input checked="" type="checkbox"/> | SUPPLY AIR                                                  | SA    |
| <input type="checkbox"/>            | RETURN AIR                                                  | RA    |
| <input checked="" type="checkbox"/> | EXHAUST AIR                                                 | EA    |
| <input checked="" type="checkbox"/> | OUTSIDE AIR                                                 | OSA   |
| <input checked="" type="checkbox"/> | TRANSFER AIR                                                | TA    |
| <b>M-2</b>                          | DETAL DESIGNATION<br>DETAIL NUMBER<br>SHEET NO. WHERE SHOWN |       |

|           |                                                      |
|-----------|------------------------------------------------------|
| <b>AC</b> | EQUIPMENT DESIGNATION<br>UNIT ABBREVIATION<br>NUMBER |
|-----------|------------------------------------------------------|

|          |                                                |
|----------|------------------------------------------------|
| <b>A</b> | GRILLE DESIGNATION<br>NECK SIZE<br>(CRD / FDR) |
|----------|------------------------------------------------|

|           |                         |
|-----------|-------------------------|
| <b>AC</b> | FIRE DAMPER WHERE REQ'D |
|-----------|-------------------------|

|           |                     |
|-----------|---------------------|
| <b>AL</b> | ACOUSTIC LINED DUCT |
|-----------|---------------------|

|           |               |
|-----------|---------------|
| <b>TV</b> | TURNING VANES |
|-----------|---------------|

|           |                          |
|-----------|--------------------------|
| <b>DF</b> | DUCT FLEXIBLE CONNECTION |
|-----------|--------------------------|

|           |            |
|-----------|------------|
| <b>DR</b> | DUCT RISER |
|-----------|------------|

|           |                              |
|-----------|------------------------------|
| <b>RD</b> | RECTANGULAR TO ROUND FITTING |
|-----------|------------------------------|

|           |                       |
|-----------|-----------------------|
| <b>VD</b> | VOLUME CONTROL DAMPER |
|-----------|-----------------------|

|           |                       |
|-----------|-----------------------|
| <b>FD</b> | FIRE DAMPER W/ ACCESS |
|-----------|-----------------------|

|            |                             |
|------------|-----------------------------|
| <b>FSD</b> | FIRE SMOKE DAMPER W/ ACCESS |
|------------|-----------------------------|

|            |                          |
|------------|--------------------------|
| <b>CRD</b> | CEILING RADIATION DAMPER |
|------------|--------------------------|

|            |                      |
|------------|----------------------|
| <b>OBD</b> | OPPOSED BLADE DAMPER |
|------------|----------------------|

|            |                  |
|------------|------------------|
| <b>BDD</b> | BACKDRAFT DAMPER |
|------------|------------------|

|          |                  |
|----------|------------------|
| <b>T</b> | MOTORIZED DAMPER |
|----------|------------------|

|               |                                          |
|---------------|------------------------------------------|
| <b>T-STAT</b> | THERMOSTAT @ +48° AFF (MAX) (TOP OF BOX) |
|---------------|------------------------------------------|

|          |                   |
|----------|-------------------|
| <b>S</b> | SENSOR @ +48° AFF |
|----------|-------------------|

|           |                                   |
|-----------|-----------------------------------|
| <b>SP</b> | STATIC PRESSURE SENSOR @ +48° AFF |
|-----------|-----------------------------------|

|           |                                   |
|-----------|-----------------------------------|
| <b>CO</b> | CARBON MONOXIDE SENSOR @ +48° AFF |
|-----------|-----------------------------------|

|            |                                  |
|------------|----------------------------------|
| <b>COD</b> | CARBON DIOXIDE SENSOR @ +48° AFF |
|------------|----------------------------------|

|           |                      |
|-----------|----------------------|
| <b>TC</b> | TIMECLOCK @ +48° AFF |
|-----------|----------------------|

|            |                           |
|------------|---------------------------|
| <b>TCP</b> | TEMPERATURE CONTROL PANEL |
|------------|---------------------------|

|           |                     |
|-----------|---------------------|
| <b>SD</b> | PIPE SMOKE DETECTOR |
|-----------|---------------------|

|           |                             |
|-----------|-----------------------------|
| <b>RD</b> | PIPE RISER / DROP (R) / (D) |
|-----------|-----------------------------|

|           |            |
|-----------|------------|
| <b>FA</b> | FROM ABOVE |
|-----------|------------|

|           |            |
|-----------|------------|
| <b>FB</b> | FROM BELOW |
|-----------|------------|

|           |          |
|-----------|----------|
| <b>TA</b> | TO ABOVE |
|-----------|----------|

|           |          |
|-----------|----------|
| <b>TB</b> | TO BELOW |
|-----------|----------|

|            |                      |
|------------|----------------------|
| <b>AFF</b> | ABOVE FINISHED FLOOR |
|------------|----------------------|

|            |                        |
|------------|------------------------|
| <b>UON</b> | UNLESS OTHERWISE NOTED |
|------------|------------------------|

|                |         |
|----------------|---------|
| <b>TYPICAL</b> | TYPICAL |
|----------------|---------|

|            |                |
|------------|----------------|
| <b>BOD</b> | BOTTOM OF DUCT |
|------------|----------------|

|            |                    |
|------------|--------------------|
| <b>UCD</b> | UNDERCUT DOOR 3/4" |
|------------|--------------------|

|          |     |
|----------|-----|
| <b>N</b> | NEW |
|----------|-----|

|          |          |
|----------|----------|
| <b>E</b> | EXISTING |
|----------|----------|

|                |                         |
|----------------|-------------------------|
| <b>POD/POC</b> | POINT OF DIS/CONNECTION |
|----------------|-------------------------|

|           |                    |
|-----------|--------------------|
| <b>RL</b> | REFRIGERANT LIQUID |
|-----------|--------------------|

|           |                     |
|-----------|---------------------|
| <b>RS</b> | REFRIGERANT SUCTION |
|-----------|---------------------|

|                             |
|-----------------------------|
| <b>DEMOLISHED/DEMO&lt;/</b> |
|-----------------------------|



**KEY NOTES**

1 REMOVE EXISTING VEHICLE EXHAUST MOTORIZED HOSE REEL AND RELATED DUCTWORK SHOWN DASHED. PATCH WALLS AND ROOF WHERE NEEDED.

**GENERAL NOTES**

A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.



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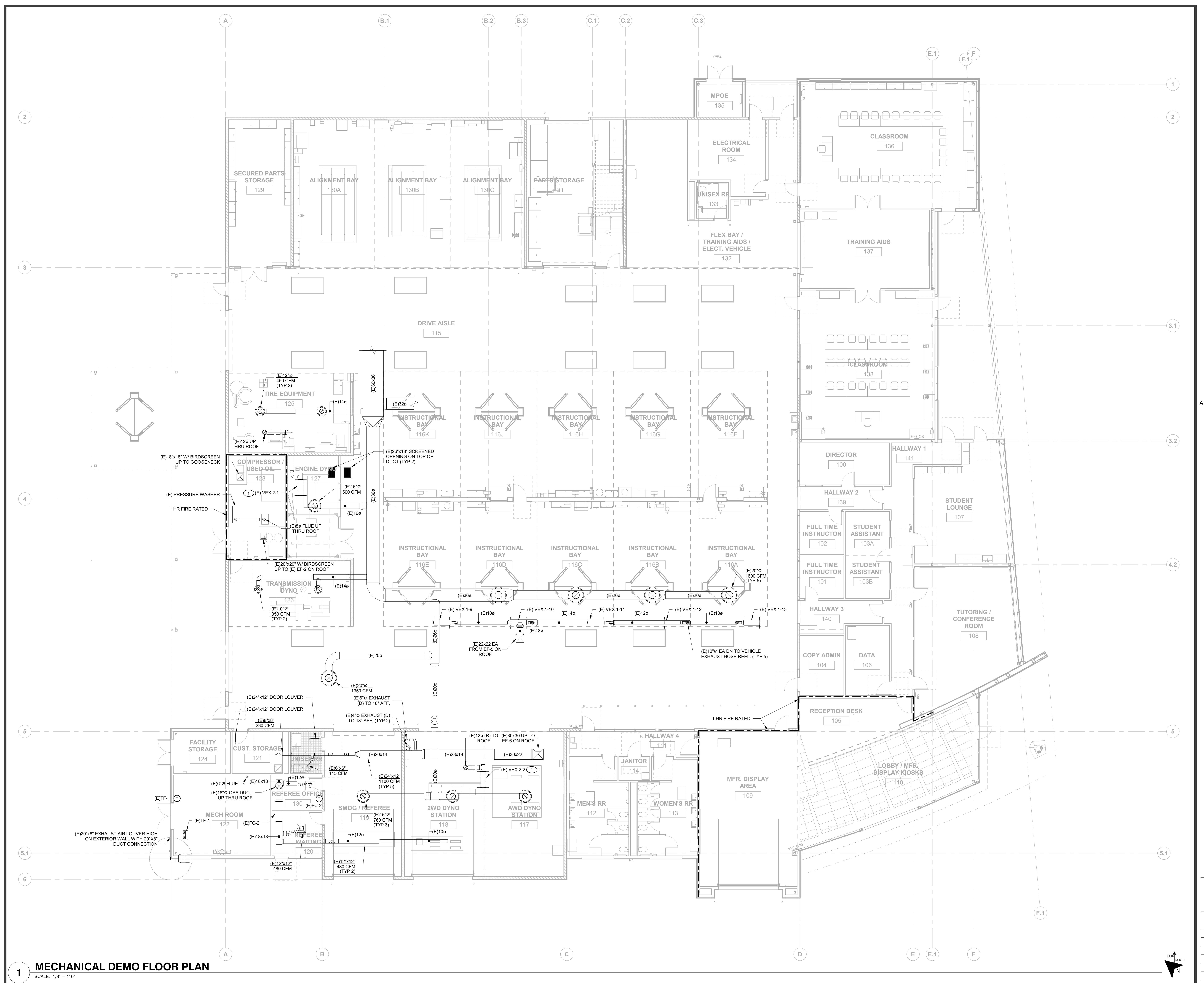
DSA #: 02-122544

Drawing Title  
**MECHANICAL DEMO FLOOR PLAN**

Drawn By  
L/R/KS  
Checked By  
RE  
Project No.  
23-265  
© Date  
06-05-2024  
DRAWING NO.  
M2.0.1

PLANE NORTH

1 MECHANICAL DEMO FLOOR PLAN  
SCALE: 1/8" = 1'-0"



**KEY NOTES**

- 1 2" GALVANIZED STEEL VENT PIPE EXPOSED ON INTERIOR WALL, ROUTE UP THROUGH ROOF WITH JR SMITH 1748 VENT CAP, PROVIDE FEMALE THREADED CONECTION AT 24" AFF. FOR CONNECTION TO FUTURE PERMANENT FUEL CELL BY OWNER, COORDINATE THREADED CONNECTION REQUIREMENTS WITH OWNER.
- 2 RIGID VEHICLE EXHAUST DUCTWORK INDOORS TO BE WELDED STAINLESS STEEL WITH TWO LAYERS OF 3M FIRE BARRIER DUCT WRAP.
- 3 VEHICLE EXHAUST FAN CONTROL PANEL BY FAN MANUFACTURER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 4 14" VEHICLE EXHAUST DUCT RACKED ON WALL WITH WYE TO (2) 8" CONNECTIONS TO VENTAIR FLEXIBLE HOSE QUICK DISCONNECTS AT BETWEEN 24" AND 36" AFF. COORDINATE EXACT HEIGHT WITH OWNER. CONNECT VENTAIR EXTREMELY HIGH TEMPERATURE FLEXIBLE HOSE WITH STANDS AND TAILPIPE ADAPTERS TO QUICK DISCONNECTS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 5 HOSE REEL CONTROL STATION. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

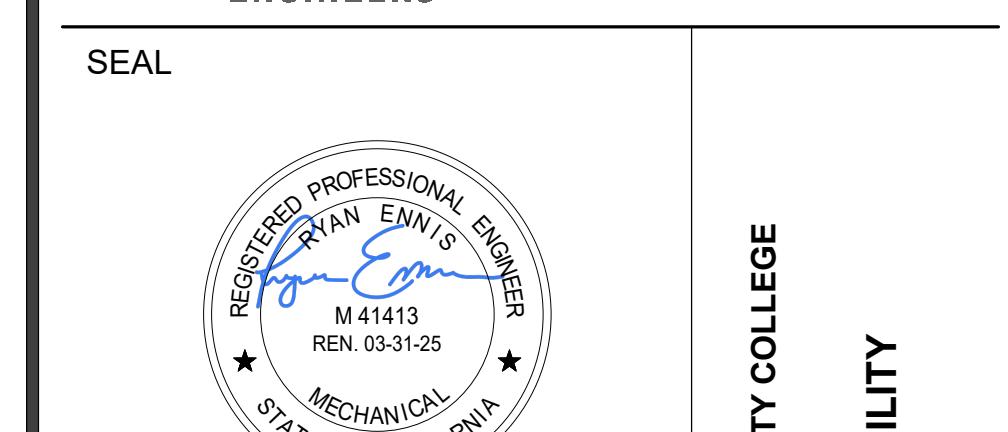
**GENERAL NOTES**

A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.



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**DSA #:** 02-122544

|                              |          |
|------------------------------|----------|
| Drawing Title                | Drawn By |
| <b>MECHANICAL FLOOR PLAN</b> |          |
| NO. DATE ISSUE               | LR/KS    |
| Checked By                   |          |
| RE                           |          |
| Project No.                  |          |
| 23-265                       |          |
| © Date                       |          |
| 06-05-2024                   |          |
| DRAWING NO.                  |          |

SOLANO COMMUNITY COLLEGE  
AUTO TECH FACILITY

**M2.1.1**

**KEY NOTES**

1 REMOVE EXISTING DUCTWORK SHOWN DASHED AND PATCH ROOF.

**GENERAL NOTES**

A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.

|                           |             |                          |
|---------------------------|-------------|--------------------------|
| SEAL                      |             | SOLANO COMMUNITY COLLEGE |
| DSA SUBMITTAL             |             |                          |
| DSA #: 02-122544          |             |                          |
| Drawing Title             | Drawn By    |                          |
| MECHANICAL DEMO ROOF PLAN | LR/KS       |                          |
| NO. DATE ISSUE            | Checked By  |                          |
| 23-265                    | RE          |                          |
| 06-05-2024                | Project No. |                          |
| DRAWING NO.               |             |                          |
| M5.0.0                    |             |                          |

**KEY NOTES**

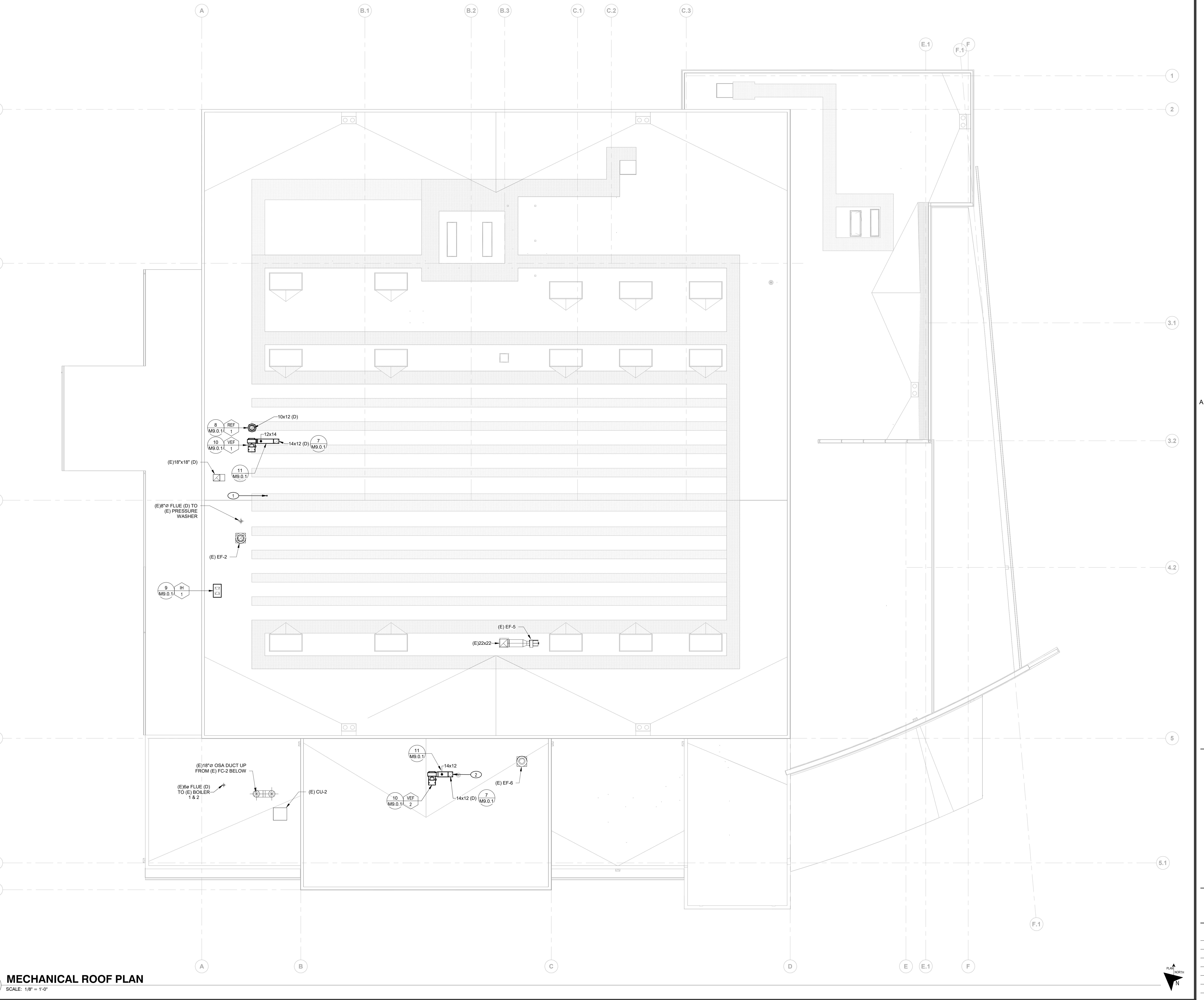
- 1 2" GALVANIZED STEEL VENT PIPE EXPOSED ON INTERIOR WALL, ROUTE UP THROUGH ROOF WITH JR SMITH 1748 VENT CAP, PROVIDE FEMALE THREADED CONNECTION AT 30" AFT OF CONNECTION TO FUTURE PERMANENT FUEL CELL BY OWNER, COORDINATE THREADED CONNECTION REQUIREMENTS WITH OWNER.
- 2 WELDED STAINLESS STEEL DUCTWORK, CONNECT TO VEHICLE EXHAUST FAN WITH UV RESISTANT FLEXIBLE DUCT CONNECTOR, DURODYNE OR EQUAL.

**GENERAL NOTES**

- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK, NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.

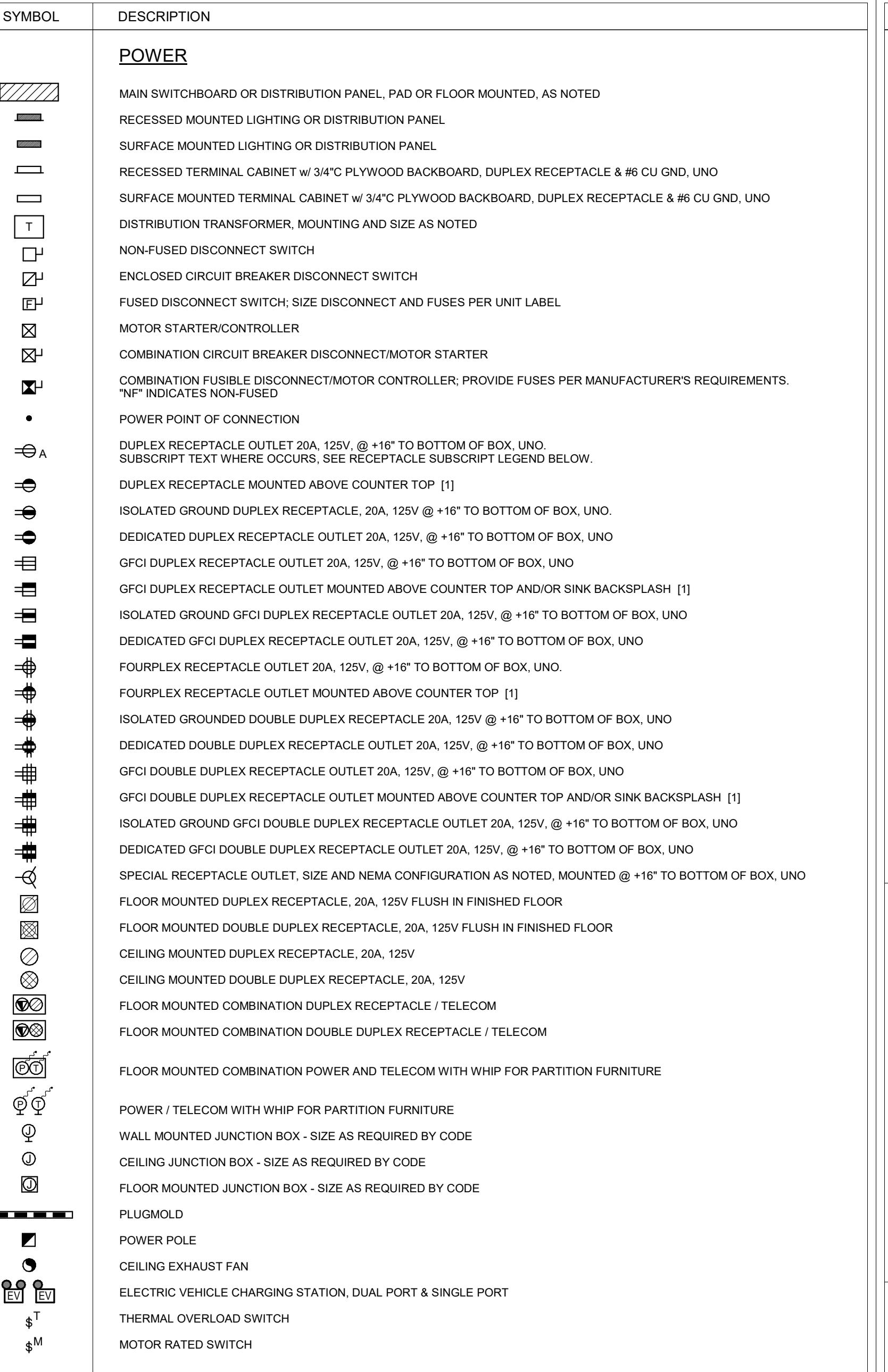
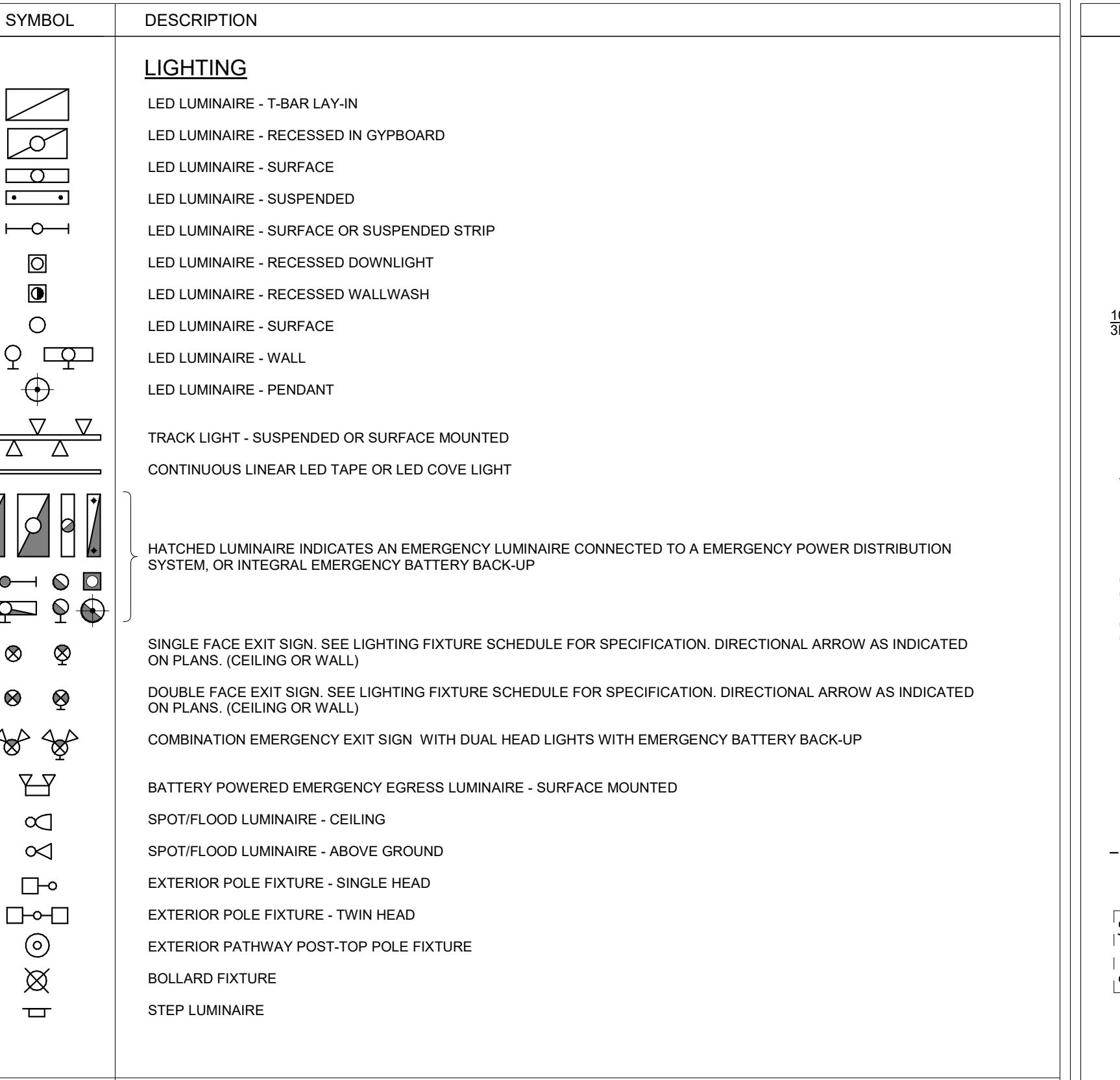
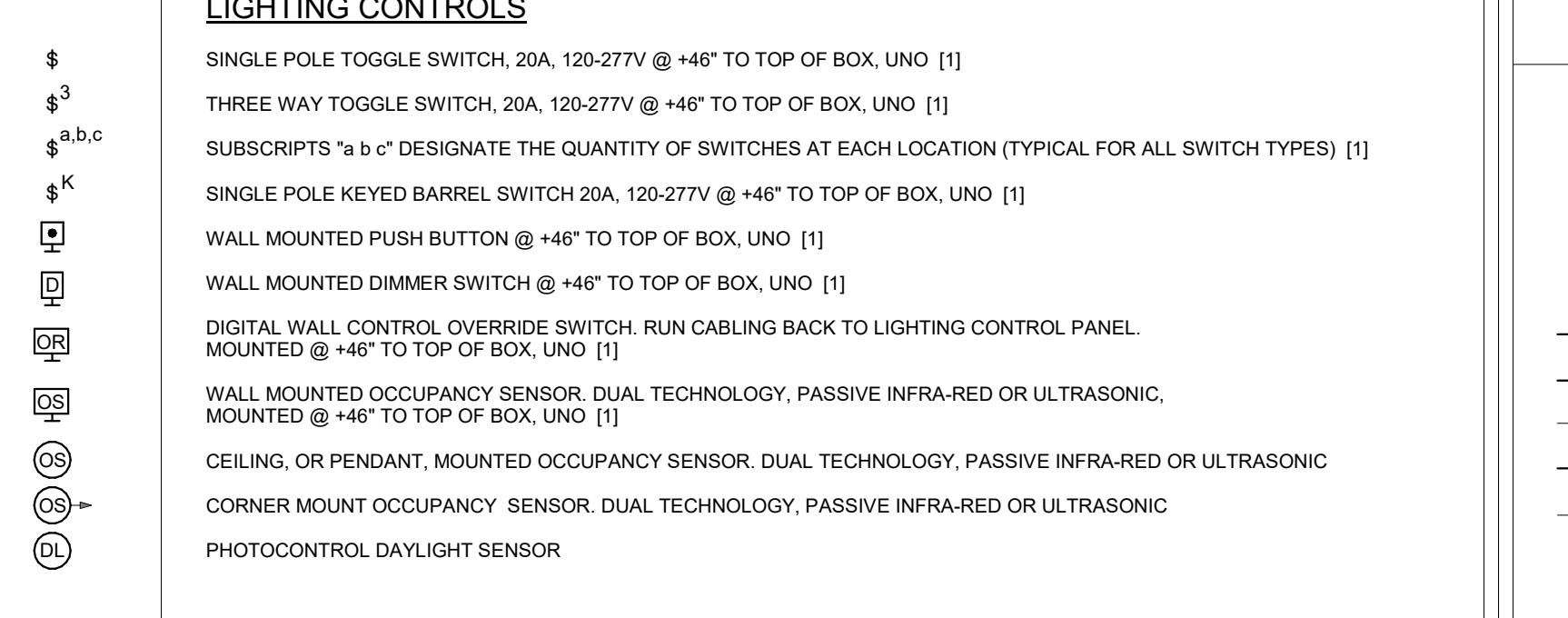
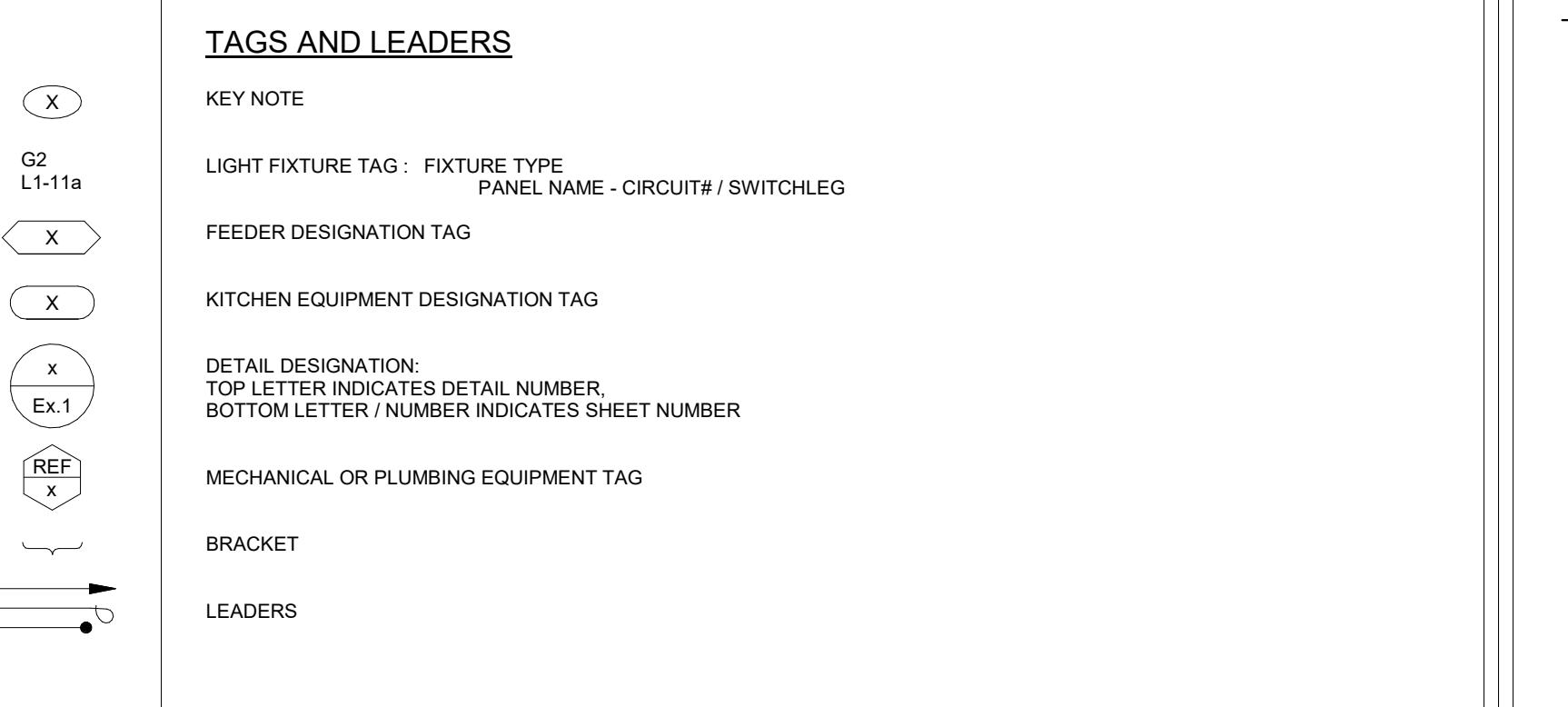
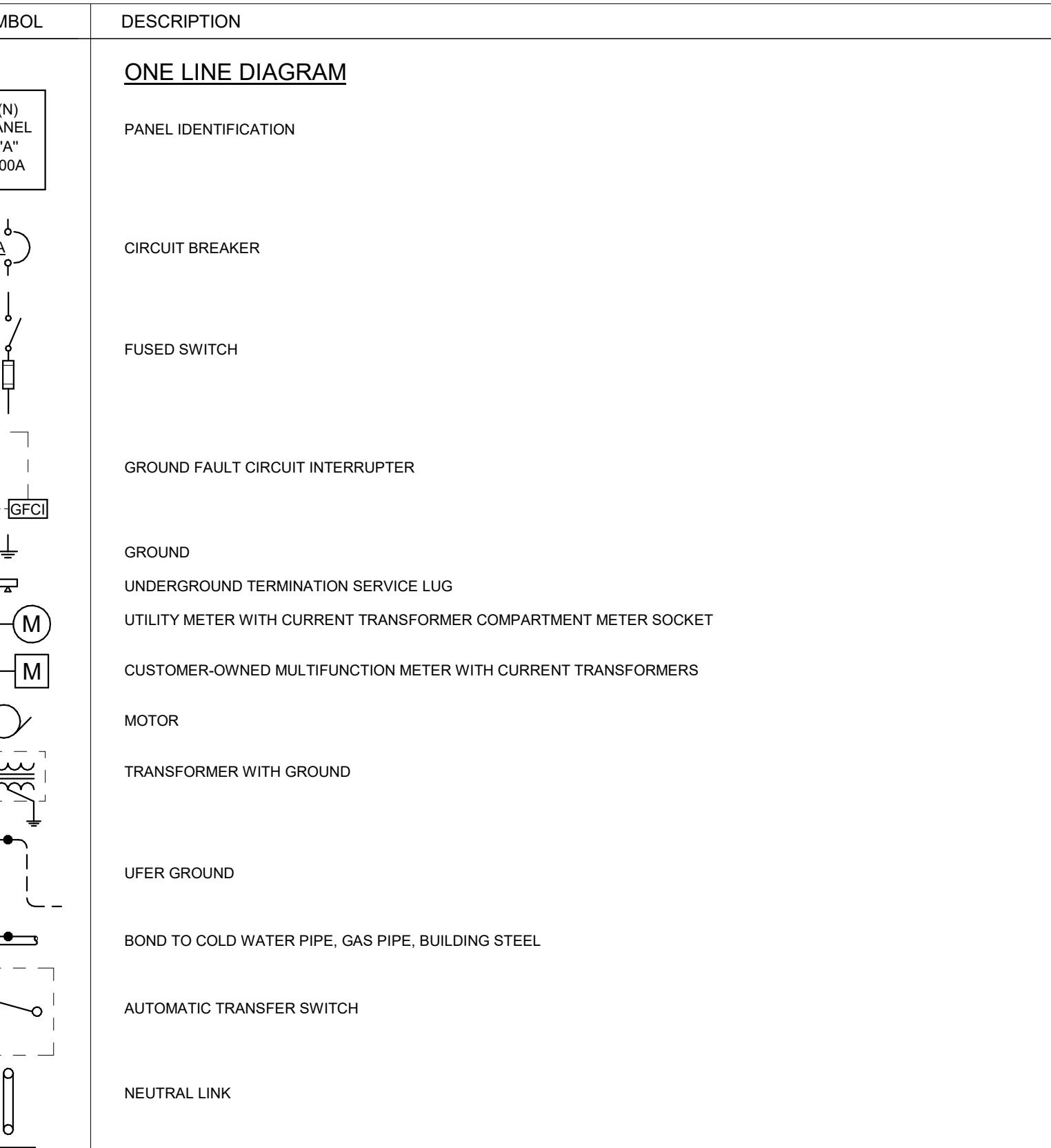
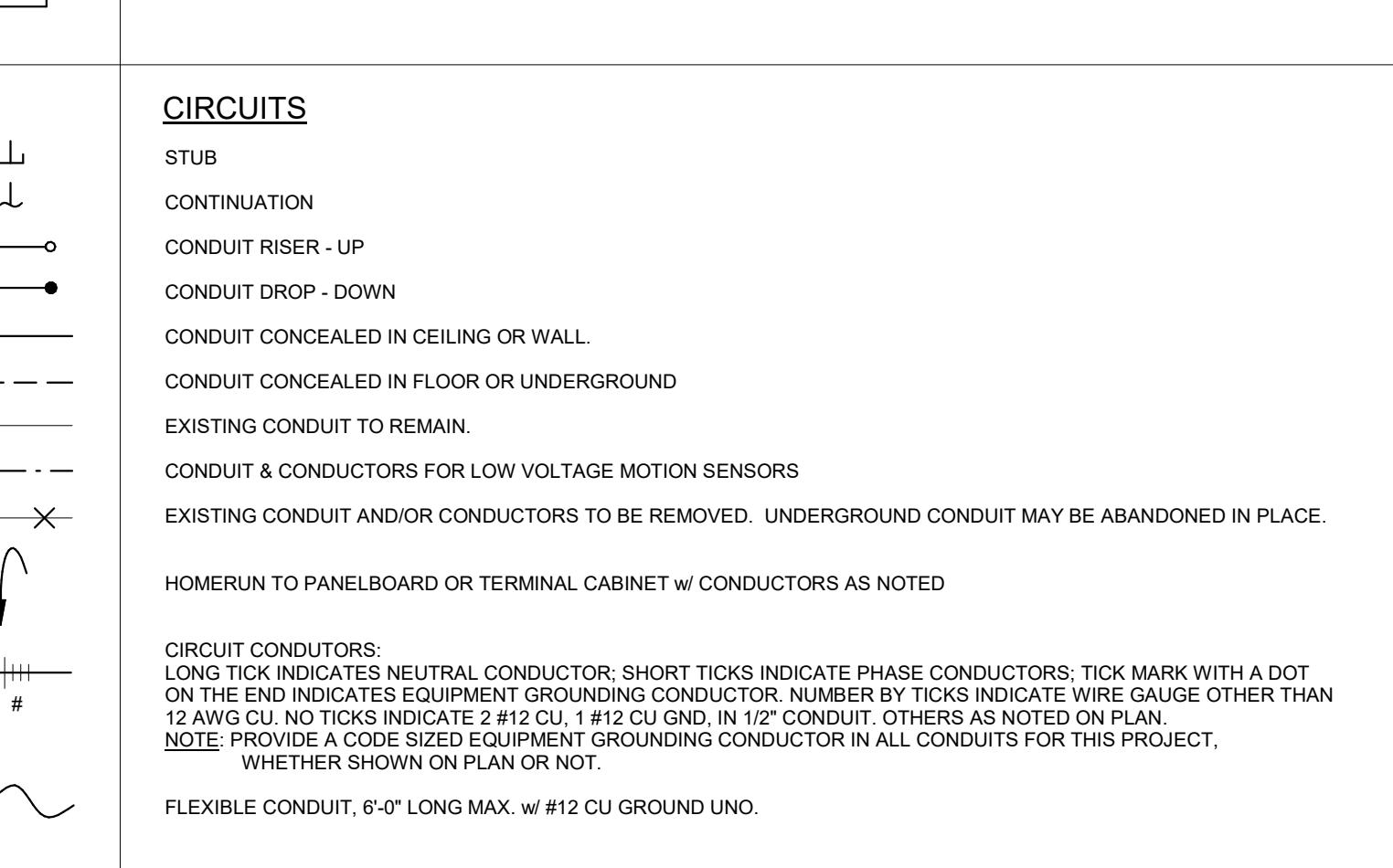
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| Drawing Title        | Drawn By   |                          |
| MECHANICAL ROOF PLAN |            |                          |
| NO. DATE ISSUE       | Checked By |                          |
| Project No. 23-265   |            |                          |
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**M5.0.1**







| ELECTRICAL SYMBOL LEGEND                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL SYMBOLS SHOWN IN THIS LEGEND ARE NOT NECESSARY USED ON PLANS IF NOT REQUIRED                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SYMBOL                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                          | <b>POWER</b><br>MAIN SWITCHBOARD OR DISTRIBUTION PANEL, PAD OR FLOOR MOUNTED, AS NOTED<br>RECESSED MOUNTED LIGHTING OR DISTRIBUTION PANEL<br>SURFACE MOUNTED LIGHTING OR DISTRIBUTION PANEL<br>RECESSED TERMINAL CABINET w/ 3/4" C PLYWOOD BACKBOARD, DUPLEX RECEPTACLE & #6 CU GND, UNO<br>SURFACE MOUNTED TERMINAL CABINET w/ 3/4" C PLYWOOD BACKBOARD, DUPLEX RECEPTACLE & #6 CU GND, UNO<br>DISTRIBUTION TRANSFORMER, MOUNTING AND SIZE AS NOTED<br>NON-FUSED DISCONNECT SWITCH<br>ENCLOSED CIRCUIT BREAKER DISCONNECT SWITCH<br>FUSED DISCONNECT SWITCH; SIZE DISCONNECT AND FUSES PER UNIT LABEL<br>MOTOR STARTER/CONTROLLER<br>COMBINATION CIRCUIT BREAKER DISCONNECT/MOTOR STARTER<br>COMBINATION FUSIBLE DISCONNECT/MOTOR CONTROLLER; PROVIDE FUSES PER MANUFACTURER'S REQUIREMENTS.<br>"NF" INDICATES NON-FUSED<br>POWER POINT OF CONNECTION<br>DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO.<br>SUBSCRIPT TEXT WHERE OCCURS, SEE RECEPTACLE SUBSCRIPT LEGEND BELOW.<br>DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP [1]<br>ISOLATED GROUND DUPLEX RECEPTACLE, 20A, 125V @ +16" TO BOTTOM OF BOX, UNO.<br>DEDICATED DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO<br>GFCI DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO<br>GFCI DUPLEX RECEPTACLE OUTLET MOUNTED ABOVE COUNTER TOP AND/OR SINK BACKSPLASH [1]<br>ISOLATED GROUND GFCI DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO<br>DEDICATED GFCI DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO<br>FOURPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO.<br>FOURPLEX RECEPTACLE OUTLET MOUNTED ABOVE COUNTER TOP [1]<br>ISOLATED GROUNDED DOUBLE DUPLEX RECEPTACLE 20A, 125V @ +16" TO BOTTOM OF BOX, UNO<br>DEDICATED DOUBLE DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO<br>GFCI DOUBLE DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO<br>GFCI DOUBLE DUPLEX RECEPTACLE OUTLET MOUNTED ABOVE COUNTER TOP AND/OR SINK BACKSPLASH [1]<br>ISOLATED GROUND GFCI DOUBLE DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO<br>DEDICATED GFCI DOUBLE DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO<br>SPECIAL RECEPTACLE OUTLET, SIZE AND NEMA CONFIGURATION AS NOTED, MOUNTED @ +16" TO BOTTOM OF BOX, UNO<br>FLOOR MOUNTED DUPLEX RECEPTACLE, 20A, 125V FLUSH IN FINISHED FLOOR<br>FLOOR MOUNTED DOUBLE DUPLEX RECEPTACLE, 20A, 125V FLUSH IN FINISHED FLOOR<br>CEILING MOUNTED DUPLEX RECEPTACLE, 20A, 125V<br>CEILING MOUNTED DOUBLE DUPLEX RECEPTACLE, 20A, 125V<br>FLOOR MOUNTED COMBINATION DUPLEX RECEPTACLE / TELECOM<br>FLOOR MOUNTED COMBINATION DOUBLE DUPLEX RECEPTACLE / TELECOM<br>FLOOR MOUNTED COMBINATION POWER AND TELECOM WITH WHIP FOR PARTITION FURNITURE<br>POWER / TELECOM WITH WHIP FOR PARTITION FURNITURE<br>WALL MOUNTED JUNCTION BOX - SIZE AS REQUIRED BY CODE<br>CEILING JUNCTION BOX - SIZE AS REQUIRED BY CODE<br>FLOOR MOUNTED JUNCTION BOX - SIZE AS REQUIRED BY CODE<br>PLUGMOLD<br>POWER POLE<br>CEILING EXHAUST FAN<br>ELECTRIC VEHICLE CHARGING STATION, DUAL PORT & SINGLE PORT<br>THERMAL OVERLOAD SWITCH<br>MOTOR RATED SWITCH |
|                                                                                                                                                                                                                                                                                                                                                                                          | <b>LIGHTING</b><br>LED LUMINAIRE - T-BAR LAY-IN<br>LED LUMINAIRE - RECESSED IN GYPBOARD<br>LED LUMINAIRE - SURFACE<br>LED LUMINAIRE - SUSPENDED<br>LED LUMINAIRE - SURFACE OR SUSPENDED STRIP<br>LED LUMINAIRE - RECESSED DOWNLIGHT<br>LED LUMINAIRE - RECESSED WALLWASH<br>LED LUMINAIRE - SURFACE<br>LED LUMINAIRE - WALL<br>LED LUMINAIRE - PENDANT<br>TRACK LIGHT - SUSPENDED OR SURFACE MOUNTED<br>CONTINUOUS LINEAR LED TAPE OR LED COVE LIGHT<br>HATCHED LUMINAIRE INDICATES AN EMERGENCY LUMINAIRE CONNECTED TO A EMERGENCY POWER DISTRIBUTION SYSTEM, OR INTEGRAL EMERGENCY BATTERY BACK-UP<br>SINGLE FACE EXIT SIGN. SEE LIGHTING FIXTURE SCHEDULE FOR SPECIFICATION. DIRECTIONAL ARROW AS INDICATED ON PLANS. (CEILING OR WALL)<br>DOUBLE FACE EXIT SIGN. SEE LIGHTING FIXTURE SCHEDULE FOR SPECIFICATION. DIRECTIONAL ARROW AS INDICATED ON PLANS. (CEILING OR WALL)<br>COMBINATION EMERGENCY EXIT SIGN WITH DUAL HEAD LIGHTS WITH EMERGENCY BATTERY BACK-UP<br>BATTERY POWERED EMERGENCY EGRESS LUMINAIRE - SURFACE MOUNTED<br>SPOT/FLOOD LUMINAIRE - CEILING<br>SPOT/FLOOD LUMINAIRE - ABOVE GROUND<br>EXTERIOR POLE FIXTURE - SINGLE HEAD<br>EXTERIOR POLE FIXTURE - TWIN HEAD<br>EXTERIOR PATHWAY POST-TOP POLE FIXTURE<br>BOLLARD FIXTURE<br>STEP LUMINAIRE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                         | <b>LIGHTING CONTROLS</b><br>SINGLE POLE TOGGLE SWITCH, 20A, 120-277V @ +46" TO TOP OF BOX, UNO [1]<br>THREE WAY TOGGLE SWITCH, 20A, 120-277V @ +46" TO TOP OF BOX, UNO [1]<br>SUBSCRIPTS "a b c" DESIGNATE THE QUANTITY OF SWITCHES AT EACH LOCATION (TYPICAL FOR ALL SWITCH TYPES) [1]<br>SINGLE POLE KEYED BARREL SWITCH 20A, 120-277V @ +46" TO TOP OF BOX, UNO [1]<br>WALL MOUNTED PUSH BUTTON @ +46" TO TOP OF BOX, UNO [1]<br>WALL MOUNTED DIMMER SWITCH @ +46" TO TOP OF BOX, UNO [1]<br>DIGITAL WALL CONTROL OVERRIDE SWITCH. RUN CABLING BACK TO LIGHTING CONTROL PANEL. MOUNTED @ +46" TO TOP OF BOX, UNO [1]<br>WALL MOUNTED OCCUPANCY SENSOR, DUAL TECHNOLOGY, PASSIVE INFRA-RED OR ULTRASONIC, MOUNTED @ +46" TO TOP OF BOX, UNO [1]<br>CEILING, OR PENDANT, MOUNTED OCCUPANCY SENSOR, DUAL TECHNOLOGY, PASSIVE INFRA-RED OR ULTRASONIC<br>CORNER MOUNT OCCUPANCY SENSOR, DUAL TECHNOLOGY, PASSIVE INFRA-RED OR ULTRASONIC<br>PHOTOCONTROL DAYLIGHT SENSOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                         | <b>TAGS AND LEADERS</b><br>KEY NOTE<br>LIGHT FIXTURE TAG : FIXTURE TYPE<br>PANEL NAME - CIRCUIT#/ SWITCHLEG<br>FEEDER DESIGNATION TAG<br>KITCHEN EQUIPMENT DESIGNATION TAG<br>DETAIL DESIGNATION:<br>TOP LETTER INDICATES DETAIL NUMBER,<br>BOTTOM LETTER / NUMBER INDICATES SHEET NUMBER<br>MECHANICAL OR PLUMBING EQUIPMENT TAG<br>BRACKET<br>LEADERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                          | <b>ONE LINE DIAGRAM</b><br><b>PANEL IDENTIFICATION</b><br>(N) PANEL "A" 100A<br>CIRCUIT BREAKER<br>FUSED SWITCH<br>GROUND FAULT CIRCUIT INTERRUPTER<br>GROUND<br>UNDERGROUND TERMINATION SERVICE LUG<br>UTILITY METER WITH CURRENT TRANSFORMER COMPARTMENT METER SOCKET<br>CUSTOMER-OWNED MULTIFUNCTION METER WITH CURRENT TRANSFORMERS<br>MOTOR<br>TRANSFORMER WITH GROUND<br>UFER GROUND<br>BOND TO COLD WATER PIPE, GAS PIPE, BUILDING STEEL<br>AUTOMATIC TRANSFER SWITCH<br>NEUTRAL LINK<br>SURGE PROTECTIVE DEVICE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                         | <b>CIRCUITS</b><br>STUB<br>CONTINUATION<br>CONDUIT RISER - UP<br>CONDUIT DROP - DOWN<br>CONDUIT CONCEALED IN CEILING OR WALL<br>CONDUIT CONCEALED IN FLOOR OR UNDERGROUND<br>EXISTING CONDUIT TO REMAIN<br>CONDUIT & CONDUCTORS FOR LOW VOLTAGE MOTION SENSORS<br>EXISTING CONDUIT AND/OR CONDUCTORS TO BE REMOVED. UNDERGROUND CONDUIT MAY BE ABANDONED IN PLACE.<br>HOMERUN TO PANELBOARD OR TERMINAL CABINET w/ CONDUCTORS AS NOTED<br><br><b>CIRCUIT CONDUCTORS:</b><br>LONG TICK INDICATES NEUTRAL CONDUCTOR; SHORT TICKS INDICATE PHASE CONDUCTORS; TICK MARK WITH A DOT ON THE END INDICATES EQUIPMENT GROUNDING CONDUCTOR. NUMBER BY TICKS INDICATE WIRE GAUGE OTHER THAN 12 AWG CU. NO TICKS INDICATE 2 #12 CU, 1 #12 CU GND, IN 1/2" CONDUIT, OTHERS AS NOTED ON PLAN.<br>NOTE: PROVIDE A CODE SIZED EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS FOR THIS PROJECT, WHETHER SHOWN ON PLAN OR NOT.<br>FLEXIBLE CONDUIT, 6'-0" LONG MAX. w/ #12 CU GROUND UNO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>FOOTNOTES:</b> <p>[1] PROVIDE 44" MAX. TO TOP OF BOX AT AREAS WITH FORWARD ACCESSIBLE APPROACH KNEE CLEARANCE, OR PROVIDE 46" MAX. TO TOP OF BOX AT AREAS WITH PARALLEL ACCESSIBLE APPROACH ( PER CBC 11B-308 ).</p> <p>[2] FOR DUPLEX RECEPTACLES: ONE HALF IS CONTROLLED, AND ONE HALF IS UNCONTROLLED. PLACE CONTROLLED HALF AT BOTTOM. FOR DOUBLE DUPLEX RECEPTACLES: ONE DUPLEX IS CONTROLLED, AND ONE DUPLEX IS UNCONTROLLED. PLACE CONTROLLED DUPLEX AT RIGHT.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>RECEPTACLE SUBSCRIPT LEGEND</b> (APPLIES TO ALL RECEPTACLES)                                                                                                                                                                                                                                                                                                                                                                                                              | <b>C</b> CONTROLLED/UNCONTROLLED [2]<br><b>LC</b> LOCKING COVER<br><b>TR</b> TAMPER-RESISTANT<br><b>U</b> USB (UNIVERSAL SERIAL BUS)<br><b>WP</b> WEATHERPROOF<br><b>WPU</b> WEATHERPROOF WHILE IN USE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

**KEY NOTES**

1 DEMOLISH 208V CONNECTION TO EXISTING VEHICLE EXHAUST MOTORIZED HOSE REEL. DEMOLISH WIRE BACK TO SOURCE. KEEP EXISTING CONDUIT AND ASSOCIATED J-BOX FOR FUTURE USE.

**GENERAL NOTES**

A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES

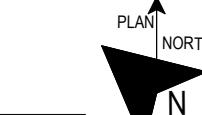


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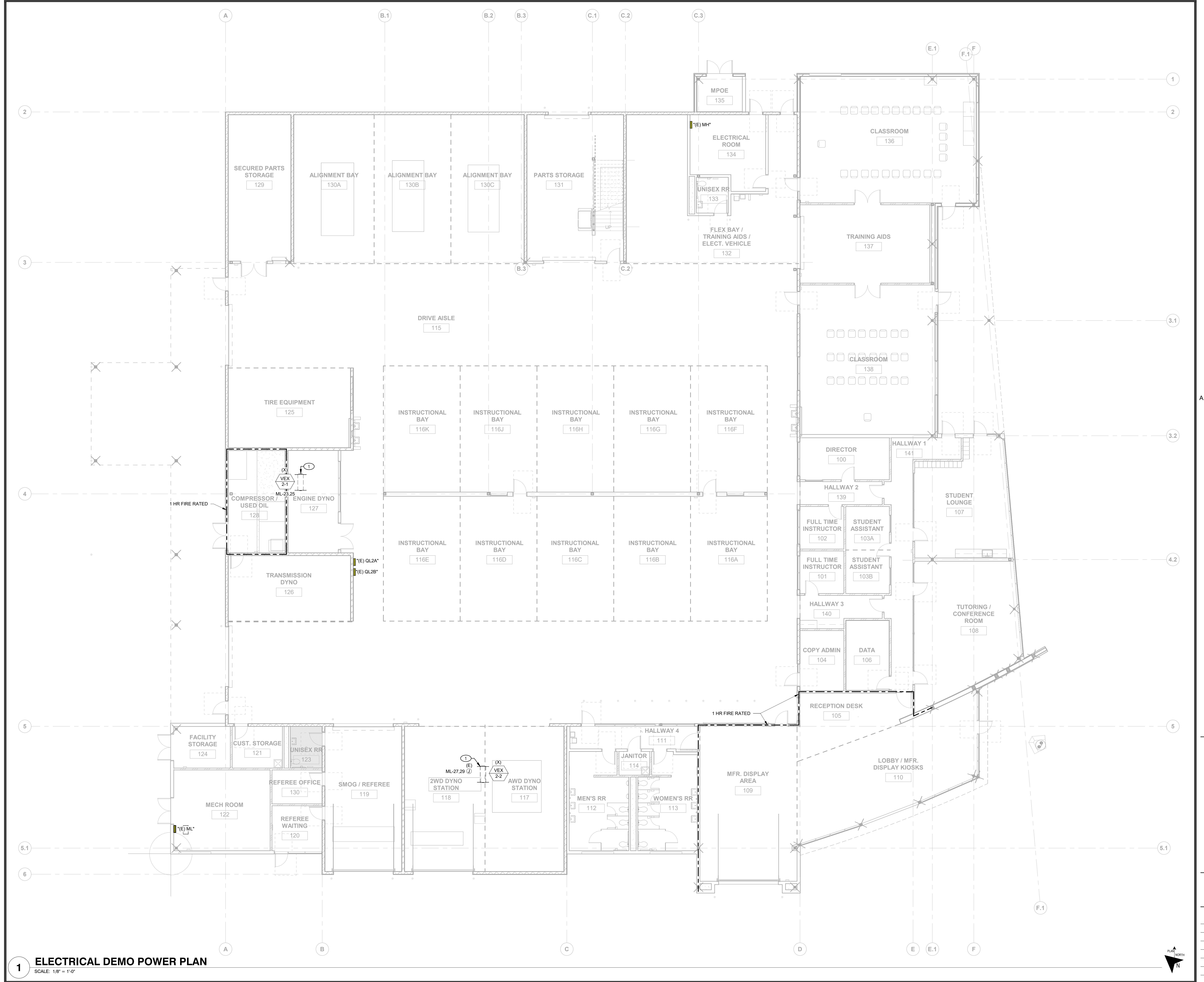
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Job #: 23-2096

|                            |  |                                                           |
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| SEAL                       |  | PROJECT<br>SOLANO COMMUNITY COLLEGE<br>AUTO TECH FACILITY |
|                            |  |                                                           |
| DSA SUBMITTAL              |  |                                                           |
| DSA #: 02-122544           |  |                                                           |
| Drawing Title              |  |                                                           |
| ELECTRICAL DEMO POWER PLAN |  |                                                           |
| No. Date Issue             |  |                                                           |
| Drawn By RSP               |  |                                                           |
| Checked By RZ              |  |                                                           |
| Project No. 23-265         |  |                                                           |
| © Date 06-05-2024          |  |                                                           |
| DRAWING NO.                |  |                                                           |



E2.0.1



**KEY NOTES**

- 1 UTILIZE EXISTING CONDUIT MADE AVAILABLE BY DEMOLITION. PULL NEW WIRE.
- 2 PROVIDE 120V LIQUIDTIGHT CONNECTION TO NEW VEHICLE EXHAUST MOTORIZED HOSE REEL. CONNECT COMPLETE PER MANUFACTURERS RECOMMENDATIONS.
- 3 COORDINATE WITH OWNER FOR LOCATION OF REEL MOTOR PB STATION.

**GENERAL NOTES**

A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES

|                                                                                       |  |                                                           |  |
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| DSA SUBMITTAL                                                                         |  | DSA #: 02-122544                                          |  |
| Drawing Title                                                                         |  | Drawn By                                                  |  |
| ELECTRICAL POWER PLAN                                                                 |  | RSP                                                       |  |
| Checked By                                                                            |  | RZ                                                        |  |
| Project No.                                                                           |  | 23-265                                                    |  |
| C-Date                                                                                |  | 06-05-2024                                                |  |
| DRAWING NO.                                                                           |  | E2.1.1                                                    |  |



**KEY NOTES**

- 1 PROVIDE NEW 3 POLE CIRCUIT BREAKER AND INSTALL IN AVAILABLE SPACE; MATCH EXISTING BREAKERS MAKE, MODEL AND AIC RATING
- 2 DEMOLISH EXISTING 2 POLE BREAKER AND LABEL AS 'SPARE'
- 3 DEMOLISH EXISTING 2 POLE BREAKER AND PROVIDE (2) 20A SINGLE POLE BREAKERS IN AVAILABLE SPACE. MATCH EXISTING BREAKERS MAKE, MODEL AND AIC RATING

| PANEL "MH"                                                      |                                                                                                                                                             |                           |        |        |             |              |                  |   |      |     |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------|--------|-------------|--------------|------------------|---|------|-----|
| 277/480 Volt, 3 Phase, 4 Wire<br>400 Amp BUS CU.<br>400 Amp MCB |                                                                                                                                                             |                           |        |        |             |              |                  |   |      |     |
| KAIC Rating<br>SURFACE Mounted<br>NEMA 1 Type                   |                                                                                                                                                             |                           |        |        |             |              |                  |   |      |     |
| PHASE SUMMARY (WATTS)                                           |                                                                                                                                                             |                           |        |        | DESCRIPTION |              |                  |   |      |     |
| CKT                                                             | BKR                                                                                                                                                         | DESCRIPTION               | A      | B      | C           | A            | B                | C | BKR  | CKT |
| 1                                                               | 80/3                                                                                                                                                        | (E) ID-1                  | 7,980  |        |             | 6,852        |                  |   | 60/3 | 2   |
| 4                                                               | -                                                                                                                                                           |                           | 7,980  |        |             | 5,852        |                  |   | -    | 4   |
| 5                                                               | -                                                                                                                                                           |                           | 7,980  |        |             | 5,852        |                  |   | -    | 6   |
| 7                                                               | 70/3                                                                                                                                                        | (E) TX-M                  | 10,287 |        |             | 3,394        | (E) VFD-2/SHWP-2 |   | 30/3 | 8   |
| 9                                                               | -                                                                                                                                                           |                           | 10,287 |        |             | 2,394        |                  |   | -    | 10  |
| 11                                                              | -                                                                                                                                                           |                           | 10,287 |        |             | 2,394        |                  |   | -    | 12  |
| 13                                                              | 30/3                                                                                                                                                        | (E) VFD-1/SHWP-1          | 2,394  |        |             | 5,817        | COMPRESSOR       |   | 30/3 | 14  |
| 15                                                              | -                                                                                                                                                           |                           | 2,394  |        |             | 5,817        |                  |   | -    | 16  |
| 19                                                              | 20/3                                                                                                                                                        | (E) ENGIN DYN0 BOOST PUMP | 831    |        |             | 5,817        | SPARE            |   | 30/3 | 20  |
| 21                                                              | -                                                                                                                                                           |                           | 831    |        |             | -            |                  |   | -    | 22  |
| 23                                                              | 15/3                                                                                                                                                        | VEF-1                     | 1,083  |        |             | SPARE        |                  |   | PFB  | 26  |
| 27                                                              | -                                                                                                                                                           |                           | 1,083  |        |             | SPARE        |                  |   | PFB  | 28  |
| 29                                                              | -                                                                                                                                                           |                           | 1,083  |        |             | SPARE        |                  |   | PFB  | 30  |
| 31                                                              | 15/3                                                                                                                                                        | VEF-2                     | 1,798  |        |             | SPARE        |                  |   | PFB  | 32  |
| 35                                                              | -                                                                                                                                                           |                           | 1,798  |        |             | SPARE        |                  |   | PFB  | 34  |
| 37                                                              | PFB                                                                                                                                                         | SPACE                     |        |        |             | SPARE        |                  |   | PFB  | 36  |
| 39                                                              | PFB                                                                                                                                                         | SPACE                     |        |        |             | SPARE        |                  |   | PFB  | 38  |
| 41                                                              | PFB                                                                                                                                                         | SPACE                     |        |        |             | SPARE        |                  |   | PFB  | 40  |
|                                                                 |                                                                                                                                                             |                           |        |        |             | PHASE TOTALS |                  |   | PFB  | 42  |
|                                                                 |                                                                                                                                                             |                           | A      | B      | C           |              |                  |   |      |     |
|                                                                 |                                                                                                                                                             |                           | 38,436 | 35,436 | 35,436      |              |                  |   |      |     |
| PANEL AND CIRCUIT BREAKER NOTES:                                |                                                                                                                                                             |                           |        |        |             |              |                  |   |      |     |
| [1]                                                             | LIGHTING / CONTINUOUS LOAD x 125% Watts<br>RECEPTACLES / OTHER x 100% Watts<br>LARGE EQUIPMENT LOADS Watts<br>TOTAL DEMAND LOADS Watts<br>TOTAL DEMAND AMPS |                           |        |        |             |              |                  |   |      |     |
| [2]                                                             |                                                                                                                                                             |                           |        |        |             |              |                  |   |      |     |
| DEMAND LOADS                                                    |                                                                                                                                                             |                           |        |        |             |              |                  |   |      |     |
|                                                                 |                                                                                                                                                             |                           |        |        |             |              |                  |   |      |     |

| PANEL "ML"                                                                 |                                                                                                                                                             |              |     |   |             |                              |   |   |      |     |
|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----|---|-------------|------------------------------|---|---|------|-----|
| 120/208 Volt, 3 Phase, 4 Wire<br>125 Amp BUS CU.<br>125 Amp MCB<br>Amp MLO |                                                                                                                                                             |              |     |   |             |                              |   |   |      |     |
| 10 KAIC Rating<br>SURFACE Mounted<br>NEMA 1 Type                           |                                                                                                                                                             |              |     |   |             |                              |   |   |      |     |
| PHASE SUMMARY (WATTS)                                                      |                                                                                                                                                             |              |     |   | DESCRIPTION |                              |   |   |      |     |
| CKT                                                                        | BKR                                                                                                                                                         | DESCRIPTION  | A   | B | C           | A                            | B | C | BKR  | CKT |
| 1                                                                          | 20/1                                                                                                                                                        | (E) VEX-1-14 |     |   |             | (E) FC-1/CLU-2               |   |   | 30/2 | 2   |
| 3                                                                          | 20/1                                                                                                                                                        | (E) VAVS     |     |   |             | (E) RECEPTACLE               |   |   | 20/1 | 4   |
| 5                                                                          | 20/2                                                                                                                                                        | (E) EP-3     |     |   |             | (E) CR-2                     |   |   | 20/1 | 8   |
| 7                                                                          | -                                                                                                                                                           |              |     |   |             | (E) TRANSFER FAN             |   |   | 20/1 | 10  |
| 9                                                                          | 20/1                                                                                                                                                        | (E) EF-4     |     |   |             | (E) B-1                      |   |   | 20/1 | 12  |
| 11                                                                         | 20/1                                                                                                                                                        | (E) EF-5     |     |   |             | (E) B-2                      |   |   | 20/1 | 14  |
| 13                                                                         | -                                                                                                                                                           |              |     |   |             | (E) B-1                      |   |   | 20/1 | 16  |
| 15                                                                         | 20/2                                                                                                                                                        | (E) EF-6     |     |   |             | (E) PVH-1                    |   |   | 20/1 | 18  |
| 17                                                                         | 20/1                                                                                                                                                        | (E) EF-1     |     |   |             | (E) PVH-2                    |   |   | 20/1 | 22  |
| 19                                                                         | 20/1                                                                                                                                                        | (E) EF-2     |     |   |             | (E) IRRIGATION CONTROL       |   |   | 20/1 | 24  |
| 21                                                                         | 20/1                                                                                                                                                        | (E) EF-2     |     |   |             | (E) EP-1                     |   |   | 20/1 | 26  |
| 23                                                                         | 20/2                                                                                                                                                        | SPARE        |     |   |             | (E) WHEELCHAIR LIFT          |   |   | 20/1 | 28  |
| 25                                                                         | -                                                                                                                                                           |              |     |   |             | (E) CIRC PUMP                |   |   | 20/1 | 30  |
| 27                                                                         | 20/1                                                                                                                                                        | MHR          | 180 |   |             | (E) KAY RECEPT               |   |   | 20/1 | 32  |
| 29                                                                         | 20/1                                                                                                                                                        | REF-1        |     |   |             | (E) ROOF RECEPT              |   |   | 20/1 | 34  |
| 31                                                                         | PFB                                                                                                                                                         | SPACE        |     |   |             | (E) FA BELLO/DELUGE CONTROL  |   |   | 20/1 | 36  |
| 33                                                                         | 20/3                                                                                                                                                        | (E) CU-2     |     |   |             | (E) HVAC CONTROL PANEL RELAY |   |   | 20/1 | 38  |
| 35                                                                         | -                                                                                                                                                           |              |     |   |             | (E) LEVEL SENSOR             |   |   | 20/1 | 40  |
| 37                                                                         | 20/2                                                                                                                                                        | (E) FC-2     |     |   |             |                              |   |   | 20/1 | 42  |
| 39                                                                         | -                                                                                                                                                           |              |     |   |             |                              |   |   |      |     |
| 41                                                                         | 20/1                                                                                                                                                        | (E) BPS-FA   |     |   |             | PHASE TOTALS                 |   |   |      |     |
|                                                                            |                                                                                                                                                             |              | A   | B | C           |                              |   |   |      |     |
|                                                                            |                                                                                                                                                             |              | 180 | 1 | 165         |                              |   |   |      |     |
| PANEL AND CIRCUIT BREAKER NOTES:                                           |                                                                                                                                                             |              |     |   |             |                              |   |   |      |     |
| [1]                                                                        | LIGHTING / CONTINUOUS LOAD x 125% Watts<br>RECEPTACLES / OTHER x 100% Watts<br>LARGE EQUIPMENT LOADS Watts<br>TOTAL DEMAND LOADS Watts<br>TOTAL DEMAND AMPS |              |     |   |             |                              |   |   |      |     |
| [2]                                                                        |                                                                                                                                                             |              |     |   |             |                              |   |   |      |     |
| DEMAND LOADS                                                               |                                                                                                                                                             |              |     |   |             |                              |   |   |      |     |
|                                                                            |                                                                                                                                                             |              |     |   |             |                              |   |   |      |     |

**LP** MEP & FS / Sustainability / Cx  
1209 Pleasant Grove Blvd.  
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p 916-771-0778  
www.lpeengineers.com  
Job #: 23-2066

SEAL



DSA SUBMITTAL

DSA #: 02-122544

Drawing Title

ELECTRICAL PANEL SCHEDULES

NO. DATE ISSUE

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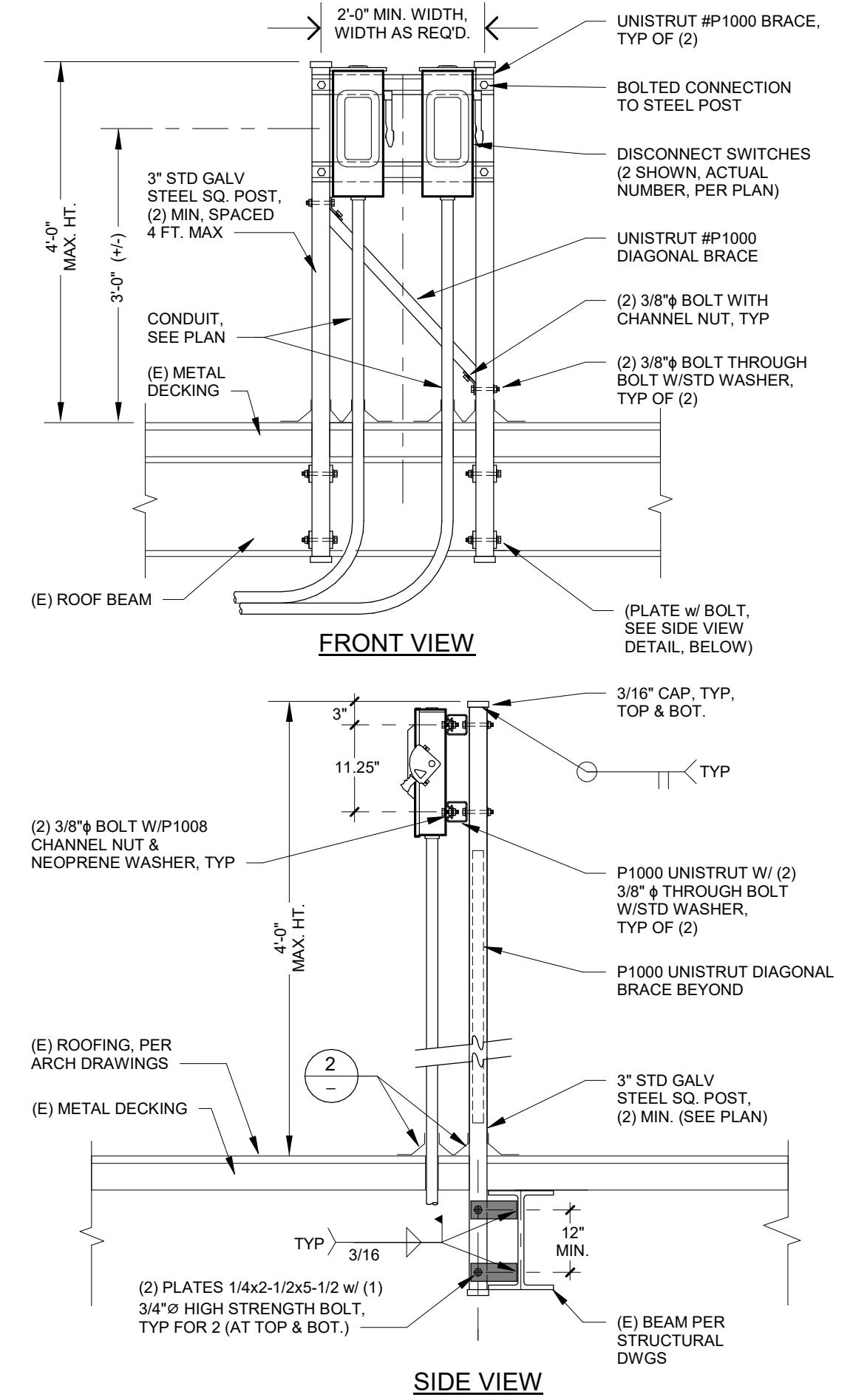
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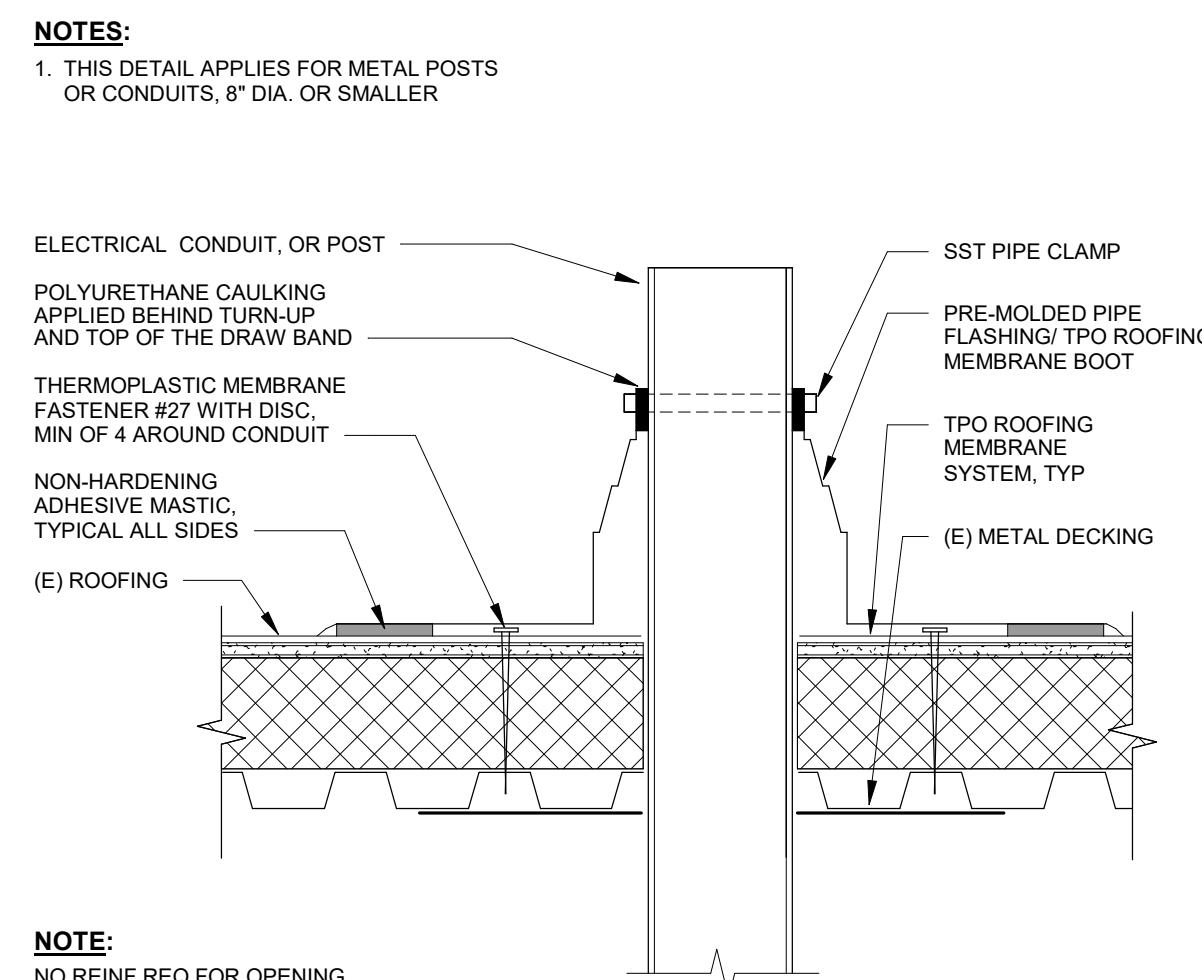
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NOTE: DISCONNECT/SUPPORT MUST BE RELOCATED PER ROOF PLAN  
IN ORDER TO BE SUPPORTED BY A BEAM

**DISCONNECT(S) MOUNTED ON ROOF, ON UNISTRUT & STEEL POST DETAIL** NTS 1



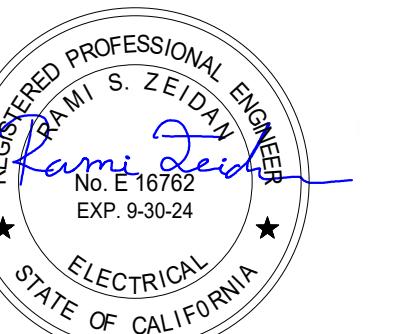
NOTE:  
NO REINF REQ FOR OPENING  
THAT DOES NOT CUT WEBS

**ROOF CONDUIT PENETRATION DETAIL** NTS 2



MEP & FS / Sustainability / Cx  
1209 Pleasant Grove Blvd.  
Roseville, CA 95878  
p 916-771-0778  
Job #: 23-2066

SEAL



DSA SUBMITTAL

DSA #: 02-122544

| Drawing Title      |      |       | Drawn By    |
|--------------------|------|-------|-------------|
| ELECTRICAL DETAILS |      |       | RSP         |
| NO.                | DATE | ISSUE | Checked By  |
|                    |      |       | RZ          |
|                    |      |       | Project No. |
|                    |      |       | 23-265      |
|                    |      |       | © Date      |
|                    |      |       | 06-05-2024  |
|                    |      |       | DRAWING NO. |

SOLANO COMMUNITY COLLEGE

AUTO TECH FACILITY

**E8.0.1**

## ELECTRICAL SPECIFICATIONS

### PART 1 - GENERAL

THE SPECIFICATION SECTIONS LISTED BELOW DO NOT ALL NECESSARILY APPLY TO THE SCOPE OF THIS PROJECT.

#### 1.01 SCOPE OF WORK

- A. FURNISH ALL NECESSARY LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED TO INSTALL A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM ACCORDING TO THE INTENT OF THIS SPECIFICATION WHETHER ITEMIZED OR NOT.
- B. EXAMINE THE MECHANICAL PLANS AND SPECIFICATIONS FOR MECHANICAL EQUIPMENT AND PROVIDE ALL STARTERS, CIRCUIT BREAKERS, SWITCHES, PUSHBUTTONS, AND APPURTENANCES, WHICH ARE NOT SPECIFIED TO BE WITH THE EQUIPMENT. THE CONTRACTOR SHALL ERECT ALL ELECTRICAL EQUIPMENT NOT DEFINITELY STATED TO BE ERECTED BY OTHERS, FURNISH AND INSTALL CONDUIT, WIRE, AND CABLE AND MAKE CONNECTIONS REQUIRED TO PLACE ALL EQUIPMENT IN COMPLETE OPERATION.

C. THE GENERAL EXTENT OF THE ELECTRICAL WORK INCLUDES, AMONG OTHERS, THE FURNISHING AND INSTALLING OF THE FOLLOWING ITEMS:

1. PRIMARY AND SECONDARY SERVICE FACILITIES INCLUDING TRANSFORMER PADS, PRIMARY CONDUIT AND TRENCHING, SECONDARY CONDUIT, TRENCHING AND CONDUCTORS, AND MAIN SWITCHBOARD INCLUDING FACILITIES FOR METERING, DISTRIBUTION PANELS, AND PANELBOARDS.
2. LIGHTING AND POWER INSTALLATION, INCLUDING FIXTURES, RECEPTACLE OUTLETS, SWITCHING, AND CIRCUITS AS INDICATED ON THE DRAWINGS.
3. ALL SUPPORTS, BASES, ANCHORS, SLEEVES, HANGERS AND THE LIKE, ALL ELECTRICAL WORK SHOWN AND/OR SPECIFIED, NOT PARTICULARLY MENTIONED ABOVE.
4. COMPLETE GROUNDING AND BONDING SYSTEMS.
5. TELEPHONE (MPOE) SERVICE CONDUIT, BACKBOARDS, AND INTERCONNECTING CONDUIT. SEE TECHNOLOGY DRAWINGS AND COORDINATE REQUIREMENTS.
6. CABLE TELEVISION SERVICE CONDUIT, BACKBOARD OR CABINET, AND INTERCONNECTING CONDUIT. SEE TECHNOLOGY DRAWINGS AND COORDINATE REQUIREMENTS.
7. THE CONTRACTOR WILL COORDINATE WITH THE LOCAL UTILITY COMPANIES FOR VERIFICATION OF THEIR REQUIREMENTS PRIOR TO BID CLOSURE AND PRIOR TO INSTALLATION. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY VOLTAGE, PHASE, CONDUIT SIZE, TYPE AND QUANTITY, WIRE SIZE, TYPE AND QUANTITY, AND THE LOCATION OF ALL EQUIPMENT REQUIRED FOR THIS PROJECT.
8. STANDBY EMERGENCY POWER GENERATOR CONCRETE PAD, AND AUTO-TRANSFER SWITCH.
9. POWER CONNECTION TO HVAC AND PLUMBING EQUIPMENT.

#### 1.02 RELATED WORK INCLUDED IN OTHER DIVISIONS

- A. FINISH PAINTING EXCEPT FACTORY APPLIED FINISHES AND REPAIR OF FACTORY FINISHES SHALL BE PROVIDED IN ACCORDANCE WITH APPROPRIATE SECTIONS OF THIS SPECIFICATION. COORDINATE "PAINTING" REQUIREMENTS OF THIS DIVISION WITH OTHER TRADES AS REQUIRED TO ASSURE TIMELY AND SATISFACTORY COMPLETION OF REQUIRED WORK IN FINISHED AREAS. ALL EXPOSED RACEWAY, BOXES, GALVANIZED STEEL BOX COVERS (WHERE APPLIED), AND OTHER EXPOSED MATERIALS SHALL BE PAINTED IN ACCORDANCE WITH THE CONTRACTOR'S REQUIREMENTS THAT RACEWAY OPENINGS ARE CLOSED AND BOX COVERS ARE IN PLACE PRIOR TO FINISHING WORK DONE BY OTHERS.

B. EXAMINE THE DRAWINGS AND SPECIFICATIONS FOR MECHANICAL EQUIPMENT AND PROVIDE ELECTRICAL INSTALLATION FOR HEATING, VENTILATION, AND AIR CONDITIONING EQUIPMENT, MOTORS, PUMPS AND ASSOCIATED MOTOR STARTERS AND CONTROLS AS DESCRIBED IN 1.15 EQUIPMENT IDENTIFICATION.

C. EXAMINE THE DRAWINGS AND SPECIFICATIONS OF OTHER TRADES FOR ELECTRICAL EQUIPMENT WHICH MAY NOT BE SHOWN ON PLANS AND COORDINATE AND PROVIDE ELECTRICAL INSTALLATIONS AS DESCRIBED IN OTHER TRADES WORK, I.E. MODULAR OFFICE SYSTEM FURNITURE, INFORMATION TECHNOLOGY (IT), SYSTEM EQUIPMENT, AUDIO/VIDEO SYSTEMS EQUIPMENT, ETC.

D. EXAMINE THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ELECTRICAL APPLIANCES AND EQUIPMENT WHICH MAY NOT BE SHOWN ON THE PLANS TO INCLUDE AND PROVIDE ELECTRICAL INSTALLATIONS AS DESCRIBED IN THE ARCHITECTURAL DIVISION OF WORK.

E. EXAMINE THE ARCHITECTURAL DRAWINGS AND PROVIDE ALL CONSTRUCTION NECESSARY TO MAINTAIN THE INTEGRITY OF THE FIRE RATED BARRIERS.

F. EXAMINE THE ARCHITECTURAL DRAWINGS AND COORDINATE WITH THE ARCHITECT TO PROVIDE ACCESS DOORS, WHETHER SHOWN ON DRAWINGS OR NOT, WHERE FLOORS, WALLS, OR CEILING MUST BE PENETRATED FOR ACCESS TO ELECTRICAL EQUIPMENT, OUTLET BOXES, DEVICES, ETC., AS DESCRIBED IN THIS SPECIFICATION.

G. PROVIDE AND INSTALL, AS PART OF THE WORK DESCRIBED IN THIS DIVISION, ALL POWER AND CONTROL WIRING FEED FROM A SOURCE OF 30 VOLTS OR MORE (I.E. ALL WIRING EXCEPT TEMPERATURE CONTROL WIRING) FOR MECHANICAL EQUIPMENT DESCRIBED IN 1.15 EQUIPMENT IDENTIFICATION.

#### 1.03 APPLICATION OF OTHER DIVISIONS

A. WHERE CARPENTRY, MASONRY, CONCRETE WORK, PAINTING, ETC., IS REQUIRED IN THE INSTALLATION OF EQUIPMENT SPECIFIED UNDER THIS DIVISION, THE WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE DIVISION OF THESE SPECIFICATIONS. THE WORK COULD INCLUDE FOR EXAMPLE: WORK ASSOCIATED WITH PANELBOARD INSTALLATION, EQUIPMENT PADS OR BASES, SUPPORT STRUCTURES, ETC.

B. DRAWINGS AND SPECIFICATIONS

A. THE INFORMATION PRESENTED IN THESE SPECIFICATIONS AND ON THE DRAWINGS IS INTENDED TO DESCRIBE THE UTILITARIAN AND PHYSICAL ASPECTS OF THE SYSTEMS SHOWN AS WELL AS THE QUALITY OF THE ENTIRE INSTALLATION. ALL INFORMATION IS AS COMPLETE AND THOROUGH AS POSSIBLE, BUT EVERY CONDITION OR SITUATION CANNOT BE ANTICIPATED. EXACT LOCATIONS, DIMENSIONS, ELEVATIONS, ETC., MUST BE DETERMINED "ON THE JOB" WITH CAREFUL ATTENTION TO THE "INTENT" OF THE DRAWINGS AND SPECIFICATIONS.

B. THE ABOVE PARAGRAPH SHALL NOT BE CONSTRUED TO ALLOW SIGNIFICANT DEVIATION FROM THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR, PRIOR TO PROPOSING ANY SUBSTITUTION, SHALL CONFIRM CONDUIT ROUTING OR EQUIPMENT LOCATIONS MAY BE REQUIRED OR DESIRED DUE TO SPECIFIC CONDITIONS ENCOUNTERED. THIS WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE SPECIFICATIONS AND NO "EXTRA CHARGES" ARE TO BE CREATED FOR ANY UNANTICIPATED LABOR OR MATERIAL.

C. ANY ERROR OR OMISSIONS OF DETAIL IN EITHER THE DRAWINGS OR THE SPECIFICATIONS SHALL NOT RELIEVE THE CONTRACTOR FROM CORRECTLY INSTALLING ALL MATERIALS NECESSARY FOR COMPLETE AND OPERATING ELECTRICAL SYSTEMS.

D. CONTRACTOR SHALL INSPECT THE SITE AND VERIFY ALL MEASUREMENTS AND CONDITIONS. NO EXTRA COMPENSATION WILL BE ALLOWED BECAUSE OF DIFFERENCES BETWEEN WORK SHOWN ON THE DRAWINGS AND MEASUREMENTS AT THE SITE.

E. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE, BUT THE LOCATIONS OF DEVICES, EQUIPMENT, OUTLETS, AND LIGHTING FIXTURES ARE SHOWN APPROXIMATELY WHERE INSTALLATIONS ARE INTENDED. ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND OTHER DRAWINGS SHALL BE EXAMINED, NOTING ALL CONDITIONS THAT MAY AFFECT THIS WORK. THE CONTRACTOR SHALL CONSULT THE ARCHITECT/ENGINEER FOR APPROVAL BEFORE PROCEEDING WITH THE WORK. SHOULD THE CONTRACTOR PROCEED WITH WORK WITHOUT REPORTING THE MATTER, HE DOES SO ON HIS OWN RESPONSIBILITY AND SHALL ALTER WORK IF DIRECTED BY THE ARCHITECT/ENGINEER AT HIS OWN EXPENSE.

F. EXAMINE THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND MANUFACTURER'S DRAWINGS FOR VARIOUS EQUIPMENT IN ORDER TO DETERMINE EXACT ROUTING AND FINAL TERMINATIONS FOR ALL CONDUITS AND CABLES. CONDUIT SHALL BE STUBBED UP AS NEAR AS POSSIBLE TO EQUIPMENT ENCLOSURE.

G. ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED SO THAT IT WILL BE READILY ACCESSIBLE FOR OPERATION AND MAINTENANCE. THE OWNER RESERVES THE RIGHT TO REQUIRE MINOR CHANGES IN LOCATION OF OUTLETS OR CABLES. CONDUIT SHALL BE STUBBED UP AS NEAR AS POSSIBLE TO EQUIPMENT ENCLOSURE.

H. IF SIGNIFICANT DEPARTURES FROM THE DRAWINGS OR SPECIFICATIONS ARE CONSIDERED NECESSARY BY THE CONTRACTOR, DETAILS OF THE CHANGES AND THE REASONS THEREFORE SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER WITHIN THIRTY DAYS AFTER AWARD OF CONTRACT. PRIOR WRITTEN ACCEPTANCE OF THE ARCHITECT IS REQUIRED FOR THESE DEPARTURES.

I. CLARIFICATION OF PLANS AND SPECIFICATIONS FOR THE PURPOSE OF FACILITATING CONSTRUCTION, BUT NOT INVOLVING ADDITIONAL LABOR AND MATERIALS, MAY BE PREPARED DURING CONSTRUCTION BY THE ARCHITECT/ENGINEER. SAID REVISED PLANS AND SPECIFICATIONS SHALL BECOME A PART OF THE CONTRACT. THE CONTRACTOR SHALL CONFORM TO THE REVISED PLANS AND SPECIFICATIONS AT NO ADDITIONAL COST TO THE OWNER.

J. WHERE EXISTING UNDERGROUND OR OTHERWISE CONCEALED FACILITIES ARE INDICATED ON THE DRAWINGS, THESE ARE LOCATED AS WELL, AS CAN BE DETERMINED FROM AVAILABLE INFORMATION. THE CONTRACTOR IS REQUIRED TO VERIFY ACTUAL LOCATIONS AS NECESSARY FOR THIS CONSTRUCTION.

K. IDENTIFICATION: SHOP DRAWINGS SHALL BE ENTITLED WITH THE NAME OF THE PROJECT ON EACH SHEET AND SHALL OTHERWISE BE IDENTIFIED BY LISTING THE PARTICULAR DIVISION, SECTION, ARTICLE OR REFERENCE OF THE WORK PERTAINING TO DIFFERENT ITEMS ON SEPARATE SHEETS. ALL SUBMITTALS SHALL BE NUMBERED SERIALLY.

M. MANNER: FURNISH FOR ARCHITECT'S APPROVAL SEPARATE SHEETS OF SUBMITTAL OF EACH SPECIALTY ITEM IN THE FOLLOWING MANNER:

1. CATALOG CUTS SHALL BE PHOTOCOPIED OR REPRODUCED IN SOME OTHER ACCEPTABLE MANNER AND SUBMITTED ON PDF, NOTING ONLY THE ITEMS IN QUESTION, TOGETHER WITH THE DESCRIPTIVE (SPECIFICATION) DATA COMPLETE. DRAWINGS SHALL BE SUBMITTED IN PDF FORM.
2. EACH SHEET SHALL BE IDENTIFIED WITH THE DIVISION, SECTION, ARTICLE OR REFERENCE IN THE CONTACT DOCUMENTS, WHICH COVERS THE ITEM SUBMITTED FOR APPROVAL.
3. EACH SHEET SHALL BE IDENTIFIED WITH THE PROJECT NAME AND THE ARCHITECT.
4. EACH SHEET SHALL BEAR THE CONTRACTOR'S STAMP AND SIGNATURE OF APPROVAL.

L. IDENTIFICATION: SHOP DRAWINGS SHALL BE ENTITLED WITH THE NAME OF THE PROJECT ON EACH SHEET AND SHALL OTHERWISE BE IDENTIFIED BY LISTING THE PARTICULAR DIVISION, SECTION, ARTICLE OR REFERENCE OF THE WORK PERTAINING TO DIFFERENT ITEMS ON SEPARATE SHEETS. ALL SUBMITTALS SHALL BE NUMBERED SERIALLY.

M. MANNER: FURNISH FOR ARCHITECT'S APPROVAL SEPARATE SHEETS OF SUBMITTAL OF EACH SPECIALTY ITEM IN THE FOLLOWING MANNER:

1. CATALOG CUTS SHALL BE PHOTOCOPIED OR REPRODUCED IN SOME OTHER ACCEPTABLE MANNER AND SUBMITTED ON PDF, NOTING ONLY THE ITEMS IN QUESTION, TOGETHER WITH THE DESCRIPTIVE (SPECIFICATION) DATA COMPLETE. DRAWINGS SHALL BE SUBMITTED IN PDF FORM.
2. EACH SHEET SHALL BE IDENTIFIED WITH THE DIVISION, SECTION, ARTICLE OR REFERENCE IN THE CONTACT DOCUMENTS, WHICH COVERS THE ITEM SUBMITTED FOR APPROVAL.
3. EACH SHEET SHALL BE IDENTIFIED WITH THE PROJECT NAME AND THE ARCHITECT.
4. EACH SHEET SHALL BEAR THE CONTRACTOR'S STAMP AND SIGNATURE OF APPROVAL.

N. IDENTIFICATION: SHOP DRAWINGS SHALL BE ENTITLED WITH THE NAME OF THE PROJECT ON EACH SHEET AND SHALL OTHERWISE BE IDENTIFIED BY LISTING THE PARTICULAR DIVISION, SECTION, ARTICLE OR REFERENCE OF THE WORK PERTAINING TO DIFFERENT ITEMS ON SEPARATE SHEETS. ALL SUBMITTALS SHALL BE NUMBERED SERIALLY.

O. IDENTIFICATION: SHOP DRAWINGS SHALL BE ENTITLED WITH THE NAME OF THE PROJECT ON EACH SHEET AND SHALL OTHERWISE BE IDENTIFIED BY LISTING THE PARTICULAR DIVISION, SECTION, ARTICLE OR REFERENCE OF THE WORK PERTAINING TO DIFFERENT ITEMS ON SEPARATE SHEETS. ALL SUBMITTALS SHALL BE NUMBERED SERIALLY.

P. IDENTIFICATION: SHOP DRAWINGS SHALL BE ENTITLED WITH THE NAME OF THE PROJECT ON EACH SHEET AND SHALL OTHERWISE BE IDENTIFIED BY LISTING THE PARTICULAR DIVISION, SECTION, ARTICLE OR REFERENCE OF THE WORK PERTAINING TO DIFFERENT ITEMS ON SEPARATE SHEETS. ALL SUBMITTALS SHALL BE NUMBERED SERIALLY.

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## ELECTRICAL SPECIFICATIONS (CONTINUED)

**G. CONDUIT SUPPORTS:**

- PIPE HANGERS FOR INDIVIDUAL CONDUITS SHALL BE THREADED SUSPENSION ROD. THE PIPE RING SHALL BE MALLEABLE IRON, SPLIT AND HINGED, OR SHALL BE SPRINGABLE WROUGHT STEEL. RINGS SHALL BE BOLTED TO OR INTERLOCKED WITH THE SUSPENSION ROD SOCKET.
- PIPE RACKS FOR GROUPS OF PARALLEL CONDUITS SHALL BE CONSTRUCTED OF GALVANIZED STRUCTURAL STEEL. PREFORMED CHANNELS OF LENGTH AS REQUIRED, SUSPENDED ON THREADED RODS AND SECURED THERETO WITH NUTS ABOVE AND BELOW THE CROSS BAR.
- FACTORY MADE PIPE STRAPS SHALL BE ONE-HOLE MALLEABLE IRON OR TWO-HOLE GALVANIZED CLAMPS.
- STRUT CHANNEL SHALL BE: KINDEOR, UNISTRUT, T&B, OR APPROVED EQUAL.

**H. OUTLET BOXES:** GALVANIZED STEEL. BOXES INSTALLED IN ANY EXTERIOR LOCATION, WHERE EXPOSED TO RAIN OR WHERE EXPOSED TO MOISTURE, LADEN ATMOSPHERE SHALL BE CAST SCREW HUB TYPE WITH GASKETED WEATHERPROOF COVERS. BOXES FOR VAPOR PROOF OR EXPLOSION PROOF APPLICATIONS SHALL BE DESIGNED SPECIFICALLY FOR SUCH USE.

- EACH BOX SHALL BE LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER AND SIZES OF CONDUITS, WIRES, SPICES AND DEVICES BUT NOT SMALLER THAN SIZE SHOWN OR SPECIFIED.

**I. PULL BOXES AND CABINETS:**

- PREFABRICATED CONCRETE TYPE, CHRISTY CONCRETE PRODUCTS, BROOKS, OR APPROVED EQUAL. ALL BOXES SHALL HAVE STANDARD BRASS HOLDDOWN BOLTS AND HARDWARE. BOXES LOCATED IN PAVED AREAS OR OTHER AREAS OVER WHICH VEHICLES NORMALLY MAY TRAVEL SHALL HAVE TRAFFIC COVERS.
- ALL PULL BOXES AND CABINETS SHALL BE CODE GAUGE GALVANIZED STEEL.

### 2.11 WIRE AND CABLE

**A. LABELING:**  
MARKED ON 24 INCH CENTERS AS FOLLOWS:

- UNDERWRITERS LABEL
- Gauge
- Voltage
- KIND OF INSULATION
- NAME OF MANUFACTURER
- TRADE NAME

### B. INSULATION:

- ALL CONDUCTORS 10 AWG AND SMALLER, SHALL BE 600 VOLT, TYPE THWN, THW, TW OR THHN UNLESS NOTED OTHERWISE.
- ALL CONDUCTORS FOR UNDERGROUND AND CONDUCTORS 8 AWG AND LARGER SHALL BE 600 VOLT, TYPE XHHW OR THWN UNLESS NOTED OTHERWISE.
- INSULATION TYPE XHHW SHALL BE USED FOR WIRE SIZES 2 AWG AND LARGER.
- ALL CIRCUIT CONDUCTORS INSTALLED WITHIN FLUORESCENT FIXTURE RACEWAYS SHALL BE 600 VOLT, 105-DEGREE TYPE RHH, OR THHN, EXCEPT IN FIXTURES THAT HAVE WIRING RACEWAYS SPECIFICALLY APPROVED FOR 75 DEGREE CENTIGRADE WIRE.

### C. GROUNDING WIRE:

- GROUNDING WIRE 1/0 AWG OR LARGER TINNED STRANDED COPPER CABLE. ALL SMALLER GROUND WIRES SHALL BE INSULATED WITH GREEN COLOR INSULATION

### D. COLOR CODING OF CONDUCTORS:

- THE GUIDELINES OF THE NEC SHALL BE FOLLOWED WHEN SELECTING WIRE COLORS. GENERALLY, ALL PHASE WIRES FOR POWER CONDUCTORS OF THE SAME SYSTEM MAY BE THE SAME COLOR EXCEPT AS FOLLOWS:

| PHASE           | 120/208 VOLTS                                | 277/480 VOLTS |
|-----------------|----------------------------------------------|---------------|
| PHASE A         | BLACK                                        | BROWN         |
| PHASE B         | RED                                          | ORANGE        |
| PHASE C         | BLUE                                         | GRAY          |
| NEUTRAL         | WHITE                                        | YELLOW        |
| GROUND          | GREEN                                        | GREEN         |
| ISOLATED GROUND | LIGHT GREEN OR LIGHT GREEN WITH WHITE STRIPE |               |

- THESE COLORS MAY BE THE CONDUCTOR INSULATION COLORS OR THE COLORS MAY BE APPLIED USING INDICATING TAPE MANUFACTURED FOR THIS PURPOSE.

- IN ADDITION TO COLOR CODING, ALL POWER, CONTROL, AND ALARM WIRING SHALL BE NUMBERED AND IDENTIFIED BY MEANS OF WIRE MARKERS AT ALL SWITCHBOARDS, PANELBOARDS, AUXILIARY CUTTERS, JUNCTION BOXES, PULL BOXES, RECEPTACLE OUTLETS, LIGHT OUTLETS, DISCONNECT SWITCHES, AND CIRCUIT BREAKERS. THESE MARKERS SHALL CORRESPOND TO NUMBERS ON SHOP DRAWINGS.

- CONDUCTORS IN SIZES UP THROUGH 10 AWG SHALL HAVE SOLID COLOR FINISH AS LISTED ABOVE. 8 AWG AND LARGER SHALL BE CODED BY APPLICATION OF PHASE TAPE FOR MINIMUM OF 6' LENGTH ON CONDUCTOR. CODING SHALL OCCUR ON ALL SPLICES AND TERMINATION AND PULL BOXES.

### E. CONDUCTORS:

- UNLESS SPECIFICALLY NOTED OTHERWISE HEREIN, ALL CONDUCTORS FOR GENERAL WIRING SHALL BE A MINIMUM OF 98% CONDUCTIVITY, STRANDED, SOFT DRAWN COPPER.
- CONDUCTORS FOR LIGHTING AND RECEPTACLE BRANCH CIRCUITS NO. 8 AND SMALLER SHALL BE SIMILAR TO THE ABOVE EXCEPT SOLID COPPER MAY BE USED.

- EXCEPT WHERE NOTED ON THE PLANS OR IN THIS SPECIFICATION, THE MINIMUM CONDUCTOR SIZE FOR BRANCH CIRCUITS SHALL BE NO. 12. MINIMUM SIZE MECHANICAL EQUIPMENT CONTROL CIRCUITS WHERE COVERED UNDER THIS SPECIFICATION SHALL BE NO. 14.
- ALUMINUM CONDUCTORS ARE NOT ALLOWED UNLESS SPECIFICALLY CALLED OUT FOR ON DRAWINGS.

**F. PULLING LUBRICANT:** UL APPROVED.

**G. CONNECTIONS:**

- NUMBER 8 AWG AND SMALLER, PRE-INSULATED SPRING TYPE CONNECTORS. THREADED OR CRIMP TYPES WILL NOT BE ACCEPTED. USE SCOTCHLOCK, HYDENT, T&B OR APPROVED EQUAL.
- TERMINALS FOR STRANDED CONDUCTORS 8 AWG AND SMALLER SHALL BE A PRE-INSULATED CRIMP TYPE.
- PIGS AND CONNECTORS FOR CONDUCTORS 8 AWG AND LARGER SHALL BE COMPRESSION TYPES OF ONE PIECE TUBULAR CONSTRUCTION WITH FLAT RECTANGULAR TONGUES. TWO-HOLE LUGS SHALL BE USED FOR SIZES #10 AND LARGER. FITTINGS FOR COPPER CONDUCTORS SHALL BE TIN-PLATED COPPER. FITTINGS FOR ALUMINUM CONDUCTORS SHALL BE TIN-PLATED ALUMINUM. FACTORY FILLED WITH A CORROSION INHIBITING AND OXIDE PENETRATING COMPOUND.
- CAST RESIN KITS SHALL BE SCOTCHLOCK SEALING PACKS FOR WIRE SIZE #10 AND SCOTCHLOCK KITS FOR LARGER SPLICES AS RECOMMENDED BY 3M COMPANY.

### 2.12 WIRING DEVICES

#### A. WALL SWITCHES:

- UREA BASE, TOGGLE TYPE WITH 20A 120/277V. A.C. RATING FOR FULL CAPACITY OF CONTACTS FOR INCANDESCENT OR FLUORESCENT LAMP LOADS. SWITCHES SHALL BE BACK AND SIDE WIRED, SELF GROUNDING. CONTACTS SHALL BE SILVER-CADMIUM OXIDE DESIGNED FOR QUIET OPERATION. COMPLY WITH FEDERAL SPECIFICATION W-896E WITH NEMA WD-1-3.02 AND UL 20 TESTS OR LATEST REVISIONS. COLOR AS SELECTED BY ARCHITECT OR OWNER.

#### 2. SCHEDULE OF ACCEPTABLE TYPES:

| SWITCH TYPE                                                                                                      | COOPER | LEVITON | HUBBELL |
|------------------------------------------------------------------------------------------------------------------|--------|---------|---------|
| <b>TOGGLE SWITCH:</b>                                                                                            |        |         |         |
| SINGLE POLE                                                                                                      | 1221   | 1221-21 | 1221    |
| DOUBLE POLE                                                                                                      | 1222   | 1222-21 | 1222    |
| THREE WAY                                                                                                        | 1231   | 1231    | 1231    |
| FOUR WAY                                                                                                         | 1241   | 1241-21 | 1241    |
| <b>DECORATOR ROCKER SWITCH:</b>                                                                                  |        |         |         |
| SINGLE POLE                                                                                                      | 7621V  | 5621-21 | DS1201  |
| DOUBLE POLE                                                                                                      | 7622V  |         | DS2201  |
| THREE WAY                                                                                                        | 7623V  | 5623-21 | DS3201  |
| FOUR WAY                                                                                                         | 7624V  | 5624-21 | DS4201  |
| <b>SPECIAL:</b>                                                                                                  |        |         |         |
| SPDT CNTR OFF                                                                                                    | 4356   | 1285    | 1385    |
| DPDT CNTR OFF                                                                                                    | 4361   | 1285    | 1385    |
| PT1 (2-POS)                                                                                                      | 1275   |         |         |
| <b>SPOT CNTR OFF:</b>                                                                                            |        |         |         |
| SPOT CNTR OFF                                                                                                    | 4354   | 4921    | 1557    |
| DOOR JAMB: N.O.                                                                                                  | 4029   | 2968    | NA      |
| DOOR JAMB: N.C.                                                                                                  | 4030   | 2969    | NA      |
| <b>WEATHERPROOF SWITCH (SP 125V, 10A) - HUBBELL #5121-0, OR APPROVED EQUAL, COMPLETE WITH SWITCH AND GASKET.</b> |        |         |         |
| <b>KEY SWITCHES:</b> EQUIVALENT TO LISTED SWITCHES, ACTIVATED WITH REMOVABLE KEY.                                |        |         |         |
| <b>SWITCH WITH PILOT LIGHT - COOPER #2221PL, OR APPROVED EQUAL.</b>                                              |        |         |         |

**B. CONVENIENCE OUTLETS:**

- GROUNDING, 20 AMPERE, 125 VOLT, NEMA 5-20R CONFIGURATION, NYLON HOUSING, SELF GROUNDING. COMPLY TO FEDERAL SPECIFICATION W-C-596E, NEMA WD-1-4.02 AND UL 498 OR LATEST REVISIONS. COLOR AS SELECTED BY ARCHITECT OR OWNER.

#### 2. SCHEDULE OF APPROVED TYPES:

| OUTLET TYPE                 | COOPER | LEVITON | HUBBELL   |
|-----------------------------|--------|---------|-----------|
| 20A, 125V, HEAVY USE DUPLEX | 5362   | 5362A   | 5362      |
| 20A, 125V, DUPLEX           | 5362   | 5362A   | 5352      |
| 30A, 125V, DUPLEX           | 5744*  | 278     | 9430A     |
| 50A, 125V, DUPLEX           | 5754*  | 279     | 9450A     |
| 20A, 125V, ISOLATED GND     | IG5362 | 5362G   | IG5362    |
| 20A, 125V, GFI              | IG5342 | 6899GFI | GF5322.03 |

|                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. WEATHERPROOF RECEPTACLE "GFCI" - HUBBELL #5103-0, OR APPROVED EQUAL.                                                                                                                                                                                                                            | 3.04 PANELBOARD INSTALLATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 3.06 WIRE INSTALLATION                                                                                                                                                                                        |
| 4. WEATHERPROOF AND LOCKABLE RECEPTACLE, WEATHERPROOF WITH PROVISION FOR PADLOCK - BRYANT # 63101-PL, OR APPROVED EQUAL.                                                                                                                                                                           | A. PANELBOARDS ARE TO BE INSTALLED PLUMB AND RIGIDLY SECURED TO STRUCTURE WITH WOOD SCREWS, MACHINE BOLTS AND CONCRETE ANCHORS, OR MACHINE BOLTS AND LOCKNUTS AS APPLICABLE.                                                                                                                                                                                                                                                                                                                                                           | A. CLEANING:                                                                                                                                                                                                  |
| 5. WEATHERPROOF RECEPTACLE INTENDED FOR UNATTACHED USE, IRRIGATION CONTROLLER OUTLET, SUMP PUMP OUTLET, ETC. COVER PLATE SHALL BE PROVIDED WITH A POLYCARBONATE CORD CAP GASKET ENCLOSURE LISTED "SUITABLE FOR WET LOCATIONS WHILE IN USE". USE TAYMAC SAFETY OUTLET ENCLOSURE, OR APPROVED EQUAL. | B. NAME PLATES SHALL BE INSTALLED AS INDICATED IN THIS SECTION.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1. ALL DEBRIS AND MOISTURE SHALL BE REMOVED FROM RACEWAYS, BOXES, AND CABINETS BEFORE INSTALLING WIRE OR CABLE.                                                                                               |
| 6. ISOLATED GROUND RECEPTACLE, NEMA 5-20R WITH AN ORANGE COLOR TRIANGLE LOCATED ON THE FACE OF THE RECEPTACLE PER NEC 402.2(D).                                                                                                                                                                    | C. RECESSED PANELBOARDS SHALL HAVE COVERS FLUSH WITH THE WALL. INSTALL 1 1/4" EMPTY CONDUIT FOR EACH (3) SINGLE POLE SPACES OR SINGLE CIRCUIT BREAKER POLE, STEEL OR PLASTIC, TO ACCOMMODATE ATTIC SPACES. APPROXIMATELY 1/2" FROM THE FLOOR OR UPWARD. WHERE BOTH ACCESSIBLE, FLOOR AND CEILING CONDUITS ARE BOTH ACCESSIBLE. STIR SPARE CONDUITS HALF EACH WAY (ONE EACH WAY MINIMUM). IDENTIFY SPARE CONDUITS. WHERE BUILDING CONSTRUCTION IS FIRE RATED, ENCLOSE RECESSED PANEL IN 5/8" GYPSUM BOARD AS DIRECTED BY THE ARCHITECT. | B. PULLING:                                                                                                                                                                                                   |
| C. PLATES: PLATES SHALL BE SUPPLIED FOR EVERY LOCAL SWITCH, RECEPTACLE, ETC. PLATES SHALL BE STAINLESS STEEL OR NYLON TO MATCH WALL FINISH. FURNISH WITH ENGRAVED OR ETOCHED DESIGNATIONS UNDER ANY ONE OF THE FOLLOWING CONDITIONS:                                                               | D. COORDINATE FRAMING REQUIREMENTS WITH OTHERS TO ACCOMMODATE PANELBOARD LOCATIONS WITHOUT REQUIRING FRAMING MEMBERS TO BE CUT AWAY FOR INSTALLATION. PROVIDE ADEQUATE BLOCKING FOR SURFACE MOUNTED PANELBOARDS AS APPLICABLE.                                                                                                                                                                                                                                                                                                         | 1. NO OIL, GREASE OR SIMILAR SUBSTANCES SHALL BE USED TO FACILITATE THE PULLING IN OF CONDUCTORS. USE A UL APPROVED WIRE PULLING COMPOUND.                                                                    |
| 1. THREE GANG OR LARGER GANG SWITCHES.                                                                                                                                                                                                                                                             | 3.05 RACEWAY INSTALLATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2. NO WIRE OR CABLE SHALL BE PULLED IN UNTIL ALL CONSTRUCTION, WHICH MIGHT DAMAGE INSULATION OR FILL CONDUIT WITH FOREIGN MATERIAL IS COMPLETED.                                                              |
| 2. SWITCHES IN LOCATIONS FROM WHICH THE EQUIPMENT OR CIRCUITS CONTROLLED CANNOT BE READILY SEEN.                                                                                                                                                                                                   | A. CONDUIT APPLICATION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3. WIRE SHALL BE PULLED THROUGH CONDUITS WITH CARE TO PREVENT DAMAGE TO INSULATION. USE BASKET MOUNTED CONDUITS AS APPLICABLE.                                                                                |
| 3. WHERE SO INDICATED ON THE DRAWINGS.                                                                                                                                                                                                                                                             | 1. MINIMUM SIZE OF CONDUIT SHALL BE 1/2 INCH. IN NO CASE SHALL THE CONDUIT SIZE BE SMALLER THAN THAT SHOWN ON THE DRAWINGS.                                                                                                                                                                                                                                                                                                                                                                                                            | 4. SURFACE CABLE MUST BE USED FOR PULING IN CONDUITS OTHER THAN STEEL.                                                                                                                                        |
| 4. AS REQUIRED ON ALL CONTROL CIRCUIT SWITCHES, SUCH AS HEATER CONTROLS, ETC.                                                                                                                                                                                                                      | 2. PVC CONDUIT, MINIMUM SIZE 1", MAY ONLY BE INSTALLED BEHIND GRADE OR IN CONCRETE. A MAXIMUM OF 4 FEET. PVC MAY BE INSTALLED IN ELECTRICAL ROOMS OR CONCEALED IN STUD SPACES WHEN DESIGNATED ON PLANS. PVC SHALL NOT BE INSTALLED IN FIRE RATED AREAS OR WHERE SUBJECT TO MECHANICAL DAMAGE. THE PVC IS TO EXTEND ONLY FROM THE CONCRETE SLAB TO THE BOTTOM OF THE SWITCHBOARD, PANELBOARD, OR SIMILAR EQUIPMENT. (CEC 300.5, 300.50, AND CEC 352).                                                                                   | 5. ONLY CRIMPING TOOLS APPROVED BY THE MANUFACTURER OF THE TERMINALS OR LUGS SHALL BE USED.                                                                                                                   |
| 5. WHERE RECEPTACLES ARE OTHER THAN STANDARD DUPLEX RECEPTACLES, TO INDICATE VOLTAGE AND PHASE.                                                                                                                                                                                                    | 3. ALL CONDUIT RUNS EXPOSED ABOVE GRADE AND UP TO 8 FEET BELOW SHALL BE RIGID STEEL OR IMC, EXCEPT AS NOTED IN CONDUIT APPLICATIONS ITEMS 2 AND 4.                                                                                                                                                                                                                                                                                                                                                                                     | 6. UNINSULATED LUGS AND WIRE ENDS SHALL BE INSULATED WITH LAYERS OF PLASTIC TAPE EQUAL TO INSULATION OF WIRE, WITH ALL IRREGULAR SURFACES PROPERLY PADDED WITH INSULATING PUTTY PRIOR TO APPLICATION OF TAPE. |
| 6. PROVIDE COVER PLATES FOR ALL TELEPHONE AND COMPUTER OUTLETS. SEE TECHNOLOGY DRAWINGS TO VERIFY AND COORDINATE.                                                                                                                                                                                  | 4. ELECTRICAL METALIC TUBING (EMT) MAY BE INSTALLED IN PROTECTED ATTIC SPACES AND HOLLOW STUD SPACES. IT MAY BE EXPOSED ON THE SURFACE OF ELECTRICAL AND MECHANICAL ROOMS WHERE DESIGNATED ON THE PLANS.                                                                                                                                                                                                                                                                                                                               | 7. SPLICES IN UNDERGROUND PULL BOXES OR IN OTHER AREAS SUBJECT TO MOISTURE SHALL BE PROVIDED AS PER RESIN KITS. PREPARE ALL SPLICES AS HEREINBEFORE SPECIFIED BEFORE RESIN KITS ARE APPLIED.                  |
| 2.13 LIGHTING FIXTURES AND ACCESSORIES                                                                                                                                                                                                                                                             | 5. FLEXIBLE METALIC CONDUIT (MAXIMUM 6 FEET LENGTH) SHALL BE USED ONLY WHERE REQUIRED FOR CONNECTION TO MOTORS, ETC., OR WITH THE APPROVAL OF THE OWNER WHERE ABSOLUTELY NECESSARY DUE TO STRUCTURAL CONDITIONS.                                                                                                                                                                                                                                                                                                                       | 3.07 LIGHTING FIXTURE INSTALLATION                                                                                                                                                                            |
| A. LIGHT FIXTURES: SUPPLY LIGHT FIXTURES AS INDICATED ON FIXTURE SCHEDULE.                                                                                                                                                                                                                         | 6. BOXES INSTALLED INDOORS OR EMBEDDED IN CONCRETE SHALL BE GALVANIZED STEEL TYPE. BOXES INSTALLED EXPOSED OR OUTDOORS SHALL BE GALVANIZED CAST STEEL WITH THREADED HUBS.                                                                                                                                                                                                                                                                                                                                                              | A. MOUNTING:                                                                                                                                                                                                  |
| 1. MANUFACTURER OF FIXTURES: ALL FIXTURES OF ONE TYPE SHALL BE OF ONE MANUFACTURER AND OF IDENTICAL FINISH AND APPEARANCE.                                                                                                                                                                         | 7. CONDUIT FOR POWER COMPANY 12 KV PRIMARY LINES SHALL BE INSTALLED 54" BELOW GRADE.                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1. UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL LIGHTING FIXTURES SHALL BE PLACED SYMMETRICALLY WITH RESPECT TO THE CEILING TILE PATTERN OR OTHER ARCHITECTURAL CEILING AND WALL MODULES.                     |
| B. ACCESSORIES: ALL FIXTURES SHALL BE COMPLETE WITH ACCESSORIES, END REQUIRED FOR THE SPECIFIC INSTALLATION.                                                                                                                                                                                       | 8. BRANCH CIRCUIT CONDUITS UNDER SLAB SHALL BE SEPARATED BY AT LEAST ONE INCH. IN ALL CASES TWO OR MORE CONDUITS INSTALLED IN A COMMON CONCRETE ENCLOSURE SHALL BE SEPARATED BY AT LEAST THREE INCHES.                                                                                                                                                                                                                                                                                                                                 | 2. ALL FIXTURE MOUNTING SHALL MEET SEISMIC REQUIREMENTS OF THE STATE OF CALIFORNIA.                                                                                                                           |
| C. DIMMABLE LED DRIVERS                                                                                                                                                                                                                                                                            | 9. CONDUIT SHALL BE SECURELY FASTENED IN PLACE SO THAT ABSOLUTELY NO SHIFTING WILL OCCUR DURING PLACING OF CONCRETE ENCLOSURE.                                                                                                                                                                                                                                                                                                                                                                                                         | 3. PROVIDE SUPPORT FOR ALL FIXTURES FROM (OR ON) BUILDING STRUCTURAL WALL MEMBERS. SUPPORT FROM CEILING TILES ONLY IS SPECIFICALLY PROHIBITED.                                                                |
| 1. DIMMING RANGE: CONTINUOUS DIMMING FROM 100 PERCENT TO 10 PERCENT RELATIVE LIGHT OUTPUT UNLESS DIMMING CAPABILITY TO LOWER LEVEL IS INDICATED, WITHOUT FLICKER.                                                                                                                                  | 10. JOINTS IN ALL CONDU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                               |