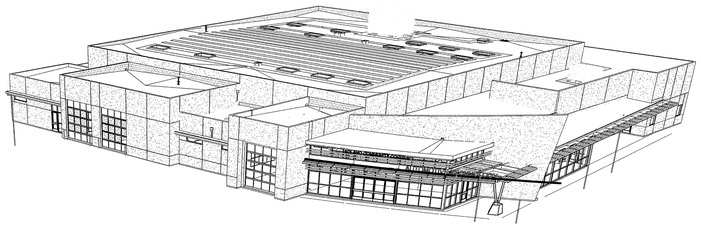
SOLANO COMMUNITY COLLEGE

AUTO TECH FACILITY



PROJECT DIRECTORY

PROJECT — **AUTO TECHNOLOGY FACILITY**
1687 Ascot Pkwy
Vallejo, CA 94591

OWNER — **SOLANO COMMUNITY COLLEGE**
4000 Suisun Valley Road
Fairfield, CA 94534

Owners Representatives;
KITCHELL CEM
360 CAMPUS LAND, SUITE 203
FAIRFIELD, CA 94534
Christine Tai
707.863.7854

SWINERTON MANAGEMENT & CONSULTING
360 CAMPUS LAND, SUITE 203
FAIRFIELD, CA 94534
Christine Tai
707.863.7854

CONTRACTOR — **CLARK AND SULLIVAN**
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SPARKS, NV 89431
ZACH SMITH
775-355-8500

ARCHITECT — **JK ARCHITECTURE**
11661 BLOCKER DR, SUITE 220
AUBURN, CA 95603
Chris Vicencio
530.888.0998

CIVIL — **WOOD RODGERS**
3301 C STREET, Bldg. 100-B
SACRAMENTO, CA 95816
Ron Johnson
916.341.7760

LANDSCAPE — **WOOD RODGERS**
3301 C STREET, Bldg. 100-B
SACRAMENTO, CA 95816
Corey Kazinec
916.341.7760

STRUCTURAL — **BUEHLER & BUEHLER**
600 Q St., SUITE 200
SACRAMENTO, CA 95811
GILLIAN MONTGOMERY
916.443.0303

MECHANICAL — **AIRCO MECHANICAL**
8210 DEMETRE AVE
SACRAMENTO, CA 95828
CHRIS BARKER
916.381.4523

PLUMBING — **AIRCO MECHANICAL**
8210 DEMETRE AVE
SACRAMENTO, CA 95828
MARK BRAMBLE
916.381.4523

ELECTRICAL — **SCHETTER ELECTRIC**
471 BANNON STREET
SACRAMENTO, CA 95811
JABIN MCDONALD
916.233.3232

EQUIPMENT — **MURAKAMI / NELSON**
100 FILBERT STREET
OAKLAND, CA 94607
KEVIN CHANG
510.444.7959 ext.209

FIRE SPRINKLER — WESTERN STATES FIRE PROTECTION COMPANY
4740 NORTHGATE BLVD. SUITE 150
SACRAMENTO, CA 95834
NICK CLUTTS
916. 924. 1631

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Grand total: 157

PARTIAL LIST OF APPLICABLE STANDARDS

NFPA 13	INSTALLATION OF SPRINKLER SYSTEMS	2013 EDITION
NFPA 14	STANDPIPE SYSTEMS	2013 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	2013 EDITION
NFPA 17a	WET CHEMICAL SYSTEMS	2013 EDITION
NFPA 20	STATIONARY PUMPS	2013 EDITION
NFPA 22	WATER TANKS FOR PRIVATE FIRE PROTECTION	2013 EDITION
NFPA 24	PRIVATE FIRE MAINS	2013 EDITION
NFPA 72	NATIONAL FIRE ALARM CODE	2013 EDITION
NFPA 80	FIRE DOOR AND OTHER OPENING PROTECTIVES	2013 EDITION
NFPA 92	STANDARD FOR SMOKE CONTROL SYSTEM	2012 EDITION
UL 464	AUDIBLE SIGNAL APPLIANCES	2003 EDITION
UL 521	HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	1999 EDITION

REFERENCE CODE SECTION FOR NFPA STANDARDS - 2013 CBC (SFM) CHAPTER 35
SEE CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO NFPA STANDARDS

ASME A18.1-2003, SAFETY STANDARD FOR PLATFORM LIFTS AND STAIRWAY CHAIRLIFTS

BHMA A156.10-1999 AMERICAN NATIONAL STANDARD FOR POWER OPERATED PEDESTRIAN DOORS

BHMA A156.19-2002 AMERICAN NATIONAL STANDARD FOR POWER ASSIST AND LOW ENERGY POWER OPERATED DOORS

PARTIAL LIST OF APPLICABLE CODES

1. CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH:

2013 CALIFORNIA ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.

2013 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.
(2012 INTERNATIONAL BUILDING CODE VOLUMES 1-2 & 2013 CALIFORNIA AMENDMENTS)

2013 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
(2011 NATIONAL ELECTRICAL CODE & 2013 CALIFORNIA AMENDMENTS)

2013 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24 C.C.R.
(2012 UNIFORM MECHANICAL CODE & 2013 CALIFORNIA AMENDMENTS)

2013 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.
(2012 UNIFORM PLUMBING CODE & 2013 CALIFORNIA AMENDMENTS)

2013 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.

2013 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
(2012 INTERNATIONAL FIRE CODE & 2013 CALIFORNIA AMENDMENTS)

2013 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), Part 11, Title 24 C.C.R.

2013 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.

TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

2. WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE REQUIREMENTS OF THESE CODES AND APPLICABLE LOCAL ORDINANCES. WHERE CONTRACT DOCUMENTS EXCEED SUCH REQUIREMENTS, WITHOUT VIOLATING SUCH CODES, REGULATIONS AND ORDINANCES, CONTRACT DOCUMENTS TAKE PRECEDENCE. WHERE CODES CONFLICT, THE MORE STRINGENT SHALL APPLY.

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 consultants who are licensed and/or authorized to prepare such drawings in this state. It has been examined by me for:
1) Design intent and appears to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications 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 relieving me of my rights, duties and responsibilities under sections 17302 and 81138 of the Education Code and sections 4-336, 4-341 and 4-344 of Title 24, Part 1 (Title 24, Part 1, section 4-317(b))

SIGNATURE OF THE ARCHITECT — DATE 8/29/2016
CHRIS VICENCIO AIA, PARTNER, JK ARCHITECTURE

C26985 — LICENSE NUMBER
06/30/17 — EXPIRATION

SCOPE OF WORK

NEW AUTO TECHNOLOGY CENTER FOR SOLANO COMMUNITY COLLEGE. A CMU AND METAL STUD BUILDING LOCATED ON A PARTIALLY COMPLETED SITE. EARTHWORK ADJACENT THE BUILDING IS REQUIRED.

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 IOR CLASSIFICATION PER SECTION 4-342, TITLE 24, PART 1 CCR AND IR A-7: CLASS 1 CERTIFIED BY DSA.

FLOOD HAZARD -
PER FEMA PANEL 440 OF 730 PROJECT SITE IS OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

DEFERRED APPROVAL ITEMS

INSTALLATION OF DEFERRED APPROVAL ITEMS SHALL NOT BE STARTED UNTIL CONTRACTOR'S DRAWINGS, SPECIFICATIONS AND ENGINEERING CALCULATIONS 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.

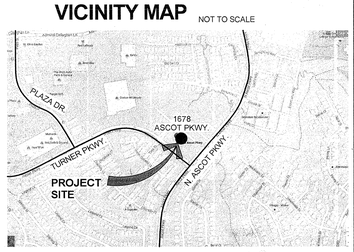
WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

DEFERRED APPROVAL ITEMS ARE AS FOLLOWS:
STOREFRONT SYSTEMS WITH SPANS GREATER THAN 10'-0"

THE PLANS AND SPECIFICATIONS SHALL BE STAMPED AND SIGNED BY THE ARCHITECT AND ENGINEER OF RECORD BEFORE SUBMITTAL TO DSA.

VICINITY MAP

NOT TO SCALE



NORTH
N

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

SEAL

LICENSED ARCHITECT — CHRISTOPHER VICENCIO — NO. C26985 — REN. 6-30-17 — STATE OF CALIFORNIA

FILE 48-C1 AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL# 02-114995
AC APPROVED FILE CHECKED DATE: 9/8/16

SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TITLE SHEET / SHEET INDEX

NO.	DATE	ISSUE

Drawn By: FH
Checked By: SP
Project No.: 15-245
Date: 08/30/2016
DRAWING NO.: G0.1.1

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BUILDING AREA / HEIGHT ANALYSIS

CONSTRUCTION TYPE	OCCUPANCY	SPRINKLERS	HEIGHT INCREASE: ALLOWABLE STORIES (3)	STORY INCREASE (4)	TOTAL ALLOWABLE	ACTUAL STORIES	ALLOWABLE HEIGHT (3)	HEIGHT INCREASE (4)	TOTAL ALLOWABLE	ACTUAL HEIGHT	AREA INCREASE: ALLOWABLE AREA PER STORY (3)	FRONTAGE (5) %	FRONTAGE (5) INCREASE	SPRINKLER (6) %	SPRINKLER (6) INCREASE	TOTAL ALLOWABLE AREA PER STORY (9)	MULTI-STORY (7) STORIES	MULTI-STORY (7) INCREASE	TOTAL ALLOWABLE	ACTUAL AREA (8)	RATIO TOTAL (10)	Comments
VB	A3	Yes	1	0	1	1	40'	0'	40'	25'	6000 SF	75%	4500 SF	300%	18000 SF	28500 SF	1	0 SF	28500 SF	2085 SF	0.07	
VB	B	Yes	2	0	2	1	40'	0'	40'	25'	9000 SF	75%	6750 SF	300%	27000 SF	42750 SF	1	0 SF	42750 SF	27494 SF	0.65	
VB	ROOF OVERHANG	Yes	1	0	1	1	40'	0'	40'	25'	9000 SF	75%	6750 SF	300%	27000 SF	42750 SF	1	0 SF	42750 SF	2760 SF	0.06	
VB	S1	Yes	1	0	1	1	40'	0'	40'	25'	9000 SF	75%	6750 SF	300%	27000 SF	42750 SF	1	0 SF	42750 SF	3505 SF	0.08	S1 AREA INCLUDES 1422 SQ FT OF MEZZANINE AREA THERFORE S-1 ratio 2083/42750 = .05

Grand total: 13

35845 SF

2 MEZZANINE (STORAGE)
1/8" = 1'-0"

1 BUILDING AREA ANALYSIS
1/8" = 1'-0"

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

PROJECT: NEW AUTOMOTIVE TECHINCAL BUILDING
LOCATION: 1691 ASCOT PARKWAY, VALLEJO, CA 94591
OWNER: SOLANO COMMUNITY COLLEGE DISTRICT
BUILDING CODE: 2013 CALIFORNIA BUILDING CODE
OCCUPANCIES:
MAJOR: B
MINOR: S1 AND A3
CONSTRUCTION TYPE: VB
SPRINKLERS: YES
MIXED USE CALCULATION.

A3 ACTUAL + B ACTUAL + S-1 ACTUAL
A3 ALLOWABLE + B ALLOWABLE + S-1 ALLOWABLE

2085 + 27494 + 3505.4 2760
28500 + 42750 + 42750 + 42750

35.849
150,750 = .22 .·. < 1

* ACCESSORY OCCUPANCY FOR CLASSROOMS

2,325
27,494 = 0.08 .·. < 0.10

NOTES

1. SEE SHEET G0.3 FOR ASSUMED AND REAL PROPERTY LINES USE FOR AREA INCREASE CALCULATIONS.

REMARKS

(1) CBC TABLE 601 (Note e) FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS
(2) CBC TABLE 1018.1 CORRIDOR FIRE-RESISTANCE RATING
(3) CBC TABLE 503 ALLOWABLE HEIGHT AND BUILDING AREAS
(4) CBC SECTION 504.2 AUTOMATIC SPRINKLER SYSTEM INCREASE
(5) CBC SECTION 506.2 FRONTAGE INCREASE
(6) CBC SECTION 506.3 AUTOMATIC SPRINKLER SYSTEM INCREASE
(7) CBC SECTION 506.4 AREA DETERMINATION
(8) CBC SECTION 502.1 "AREA, BUILDING" DEFINED
(9) CBC SECTION 506.1 AREA MODIFICATIONS PER EQUATION 5-1
(10) CBC SECTION 508.4.2 ALLOWABLE AREA OF SEPARATED OCCUPANCIES
(11) SEE SHEET G0.1.1 FOR CODE EDITION
(12) CENTRAL AREA 2 INCLUDES WHOLE BLDG. EXCEPT AREA 1
(13) CORRIDOR AREA OCCUPANCY INVENTORY FROM FILLED WITH FIRE SPRINKLER CALCULATIONS. FILLED IN

LEGEND

1 HR OCCUPANCY SEPARATION

SEAL

LICENSED ARCHITECT — REGISTERED PROFESSIONAL — No. A28863 REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC FILE
DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title: BUILDING AREA ANALYSIS

Drawn By: FH
Checked By: SP
Project No: 15-245
©Date: 08/30/2016

NO.	DATE	ISSUE

DRAWING NO.
G0.2.1

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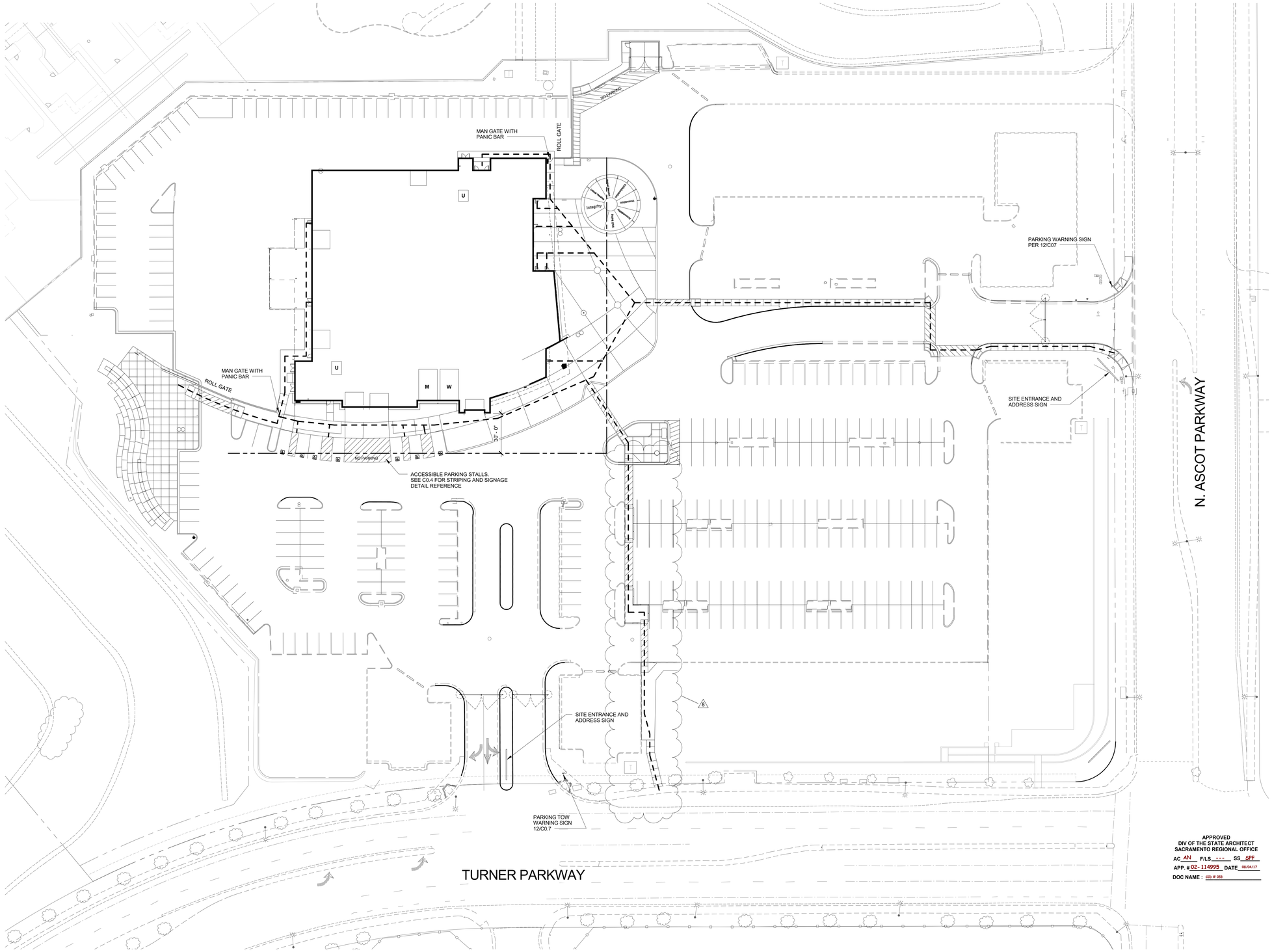

APPROVED
DIV OF THE STATE ARCHITECT
SACRAMENTO REGIONAL OFFICE
AC_AN_ F/LS_---_ SS_SPF_
APP. # 02-114995 DATE 08/04/17
DOC NAME : CCD # 053

1 ACCESSIBILITY / SIGNAGE SITE PLAN
1" = 30'-0"

PLAN NORTH
N

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530.888.0998

www.jkaia.net

KEYNOTES

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

ACCESSIBILTY NOTES

1. PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. (P.O.T.) SHALL MAINTAIN FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (11B-307.4) AND PROTRUDING 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-206.

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

3. SEE DETAIL 21/A1.1.1 FOR FENCE GATE INFORMATION

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT: THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR **PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS**. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.
DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH 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.

SEAL

LICENSED ARCHITECT
STEPHEN P. SPINNER
No. C26985
REN 08/31/17
STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
SITE CODE PLAN

Drawn By
BR

Checked By
SP

NO.	DATE	ISSUE
8	7/26/2017	Accessible Path

Project No.
15-245

©Date
10/05/2016

DRAWING NO.
G0.3.0

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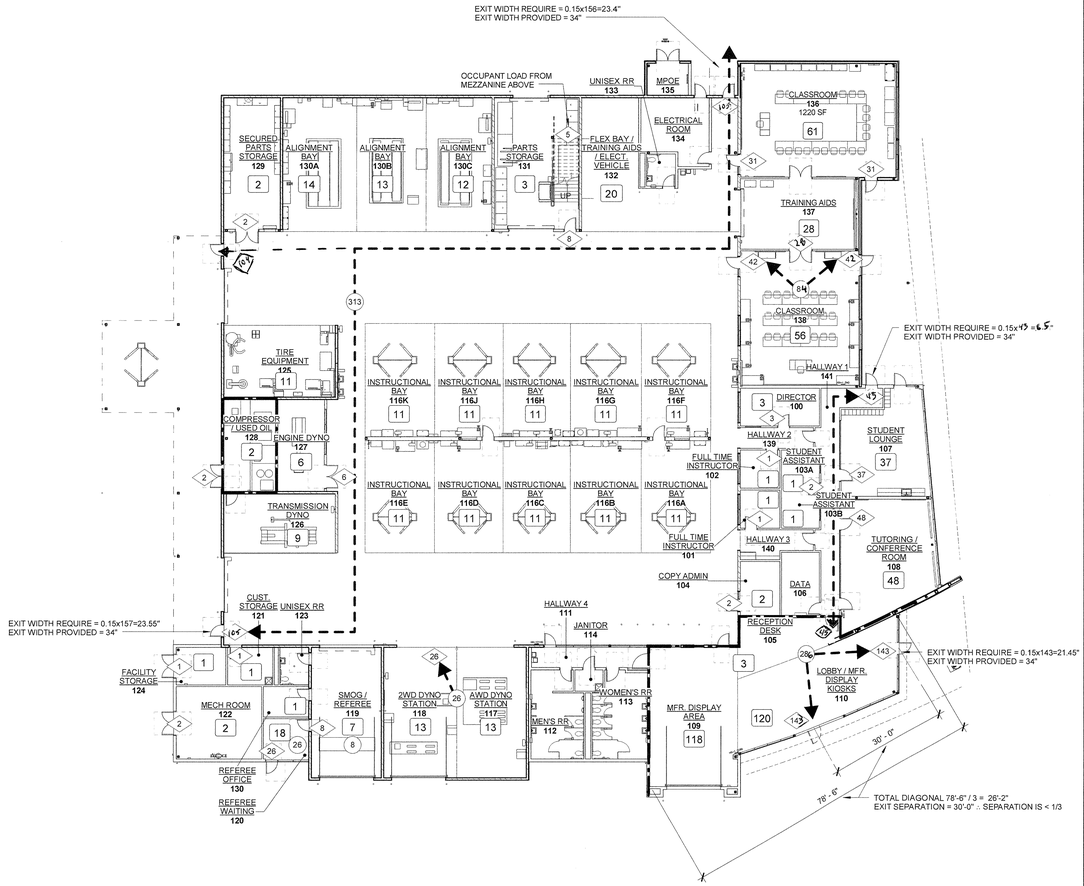

1 BUILDING EXIT ANALYSIS

1/16" = 1'-0"

EXITING ANALYSIS

NO.	ROOM NAME	AREA	LOAD FACTOR	OCCUPANT LOAD	NUMBER OF EXITS REQUIRED	EXIT WIDTH FACTOR	EXIT WIDTH REQUIRED	EXIT WIDTH PROVIDED
100	DIRECTOR	206 SF	100	3	1	0.15	0.45 / 32	34
101	FULL TIME INSTRUCTOR	103 SF	100	1	1	0.15	0.15 / 32	34
102	FULL TIME INSTRUCTOR	103 SF	100	1	1	0.15	0.15 / 32	34
103A	STUDENT ASSISTANT	104 SF	100	1	1	0.15	0.15 / 32	34
103B	STUDENT ASSISTANT	104 SF	100	1	1	0.15	0.15 / 32	34
104	COPY ADMIN	145 SF	100	2	1	0.15	0.3 / 32	34
105	RECEPTION DESK	293 SF	100	3	1	0.15	0.45 / 32	34
106	DATA	169 SF	300	1	1	0.15	0.15 / 32	34
107	STUDENT LOUNGE	551 SF	15	37	1	0.15	5.55 / 32	34
108	TUTORING / CONFERENCE ROOM	718 SF	15	48	1	0.15	7.2 / 32	34
109	MFR. DISPLAY AREA	826 SF	7	118	2	0.15	17.7 / 64	68
110	LOBBY / MFR. DISPLAY KIOSKS	837 SF	7	120	2	0.15	18 / 64	68
111	HALLWAY 4	162 SF	0	-	1	0.15	0 / 32	46
112	MEN'S RR	304 SF	0	-	1	0.15	0 / 32	34
113	WOMEN'S RR	297 SF	0	-	1	0.15	0 / 32	34
114	JANITOR	40 SF	100	1	1	0.15	0.15 / 32	34
115	DRIVE AISLE	7344 SF	0	-	1	0.15	0 /32	288
116A	INSTRUCTIONAL BAY	527 SF	50	11	1	0.15	1.65 / 32	34
116B	INSTRUCTIONAL BAY	527 SF	50	11	1	0.15	1.65 / 32	34
116C	INSTRUCTIONAL BAY	527 SF	50	11	1	0.15	1.65 / 32	34
116D	INSTRUCTIONAL BAY	527 SF	50	11	1	0.15	1.65 / 32	34
116E	INSTRUCTIONAL BAY	527 SF	50	11	1	0.15	1.65 / 32	34
116F	INSTRUCTIONAL BAY	533 SF	50	11	1	0.15	1.65 / 32	34
116G	INSTRUCTIONAL BAY	533 SF	50	11	1	0.15	1.65 / 32	34
116H	INSTRUCTIONAL BAY	533 SF	50	11	1	0.15	1.65 / 32	34
116J	INSTRUCTIONAL BAY	533 SF	50	11	1	0.15	1.65 / 32	34
116K	INSTRUCTIONAL BAY	533 SF	50	11	1	0.15	1.65 / 32	34
117	AWD DYNO STATION	631 SF	50	13	1	0.15	1.95 / 32	34
118	2WD DYNO STATION	642 SF	50	13	1	0.15	1.95 / 32	34
119	SMOG / REFEREE	614 SF	100	7	1	0.15	1.05 / 32	34
120	REFEREE WAITING	124 SF	15	9	1	0.15	2.7 / 32	34
121	CUST. STORAGE	115 SF	300	1	1	0.15	0.15 / 32	34
122	MECH ROOM	428 SF	300	2	1	0.15	0.3 / 64	68
123	UNISEX RR	72 SF	0	-	1	0.15	0 / 32	34
124	FACILITY STORAGE	129 SF	300	1	1	0.15	0.15 / 64	68
125	TIRE EQUIPMENT	534 SF	50	11	1	0.15	1.65 / 32	34
126	TRANSMISSION DYNO	441 SF	50	9	1	0.15	1.35 / 32	34
127	ENGINE DYNO	283 SF	50	6	1	0.15	0.9 / 64	68
128	COMPRESSOR / USED OIL	321 SF	300	2	1	0.15	0.3 / 32	34
129	SECURED PARTS STORAGE	505 SF	300	2	1	0.15	0.3 / 64	68
130	REFEREE OFFICE	94 SF	100	1	1	0.15	0.15 / 32	34
130A	ALIGNMENT BAY	658 SF	50	14	1	0.15	2.1 / 32	34
130B	ALIGNMENT BAY	629 SF	50	13	1	0.15	1.95 / 32	34
130C	ALIGNMENT BAY	600 SF	50	12	1	0.15	1.8 / 32	34
131	PARTS STORAGE	778 SF	300	3	1	0.15	0.45 / 32	34
132	FLEX BAY / TRAINING AIDS / ELECT. VEHICLE	994 SF	50	20	1	0.15	3 / 32	34
133	UNISEX RR	62 SF	0	-	1	0.15	0 / 32	34
134	ELECTRICAL ROOM	281 SF	300	1	1	0.15	0.15 / 32	34
135	MPOE	68 SF	100	1	1	0.15	0.15 / 64	68
136	CLASSROOM	1220 SF	20	61	2	0.15	9.15 / 32	34
137	TRAINING AIDS	558 SF	20	28	1	0.15	4.2 / 64	68
138	CLASSROOM	1106 SF	20	56	2	0.15	8.4 / 32	34
139	HALLWAY 2	104 SF	0	-	1	0.15	0 / 32	34
140	HALLWAY 3	129 SF	0	-	1	0.15	0 / 32	34
141	HALLWAY 1	375 SF	0	-	1	0.15	0 / 32	34
201	MEZZANINE (STORAGE)	1434 SF	300	5	1	0.15	0.75 / 32	34
Grand total: 58		31552 SF						

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

LEGEND

- ROOM NAME / X — ROOM NAME / ROOM NUMBER
- X — ROOM OCCUPANCY LOAD
- M — CUMULATIVE OCCUPANCY
- X — EXITING OCCUPANTS
- EXIT PATH OF TRAVEL
- 1 HR OCCUPANCY SEPARATION

SEAL

LICENSED ARCHITECT — CHRISTOPHER A. JOSEPH — REN. 5-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC: APM F/S: SS
DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title: BUILDING EXIT ANALYSIS

Drawn By: BR
Checked By: SP

NO.	DATE	ISSUE

Project No.: 15-245
©Date: 08/30/2016

DRAWING NO.: G0.3.1

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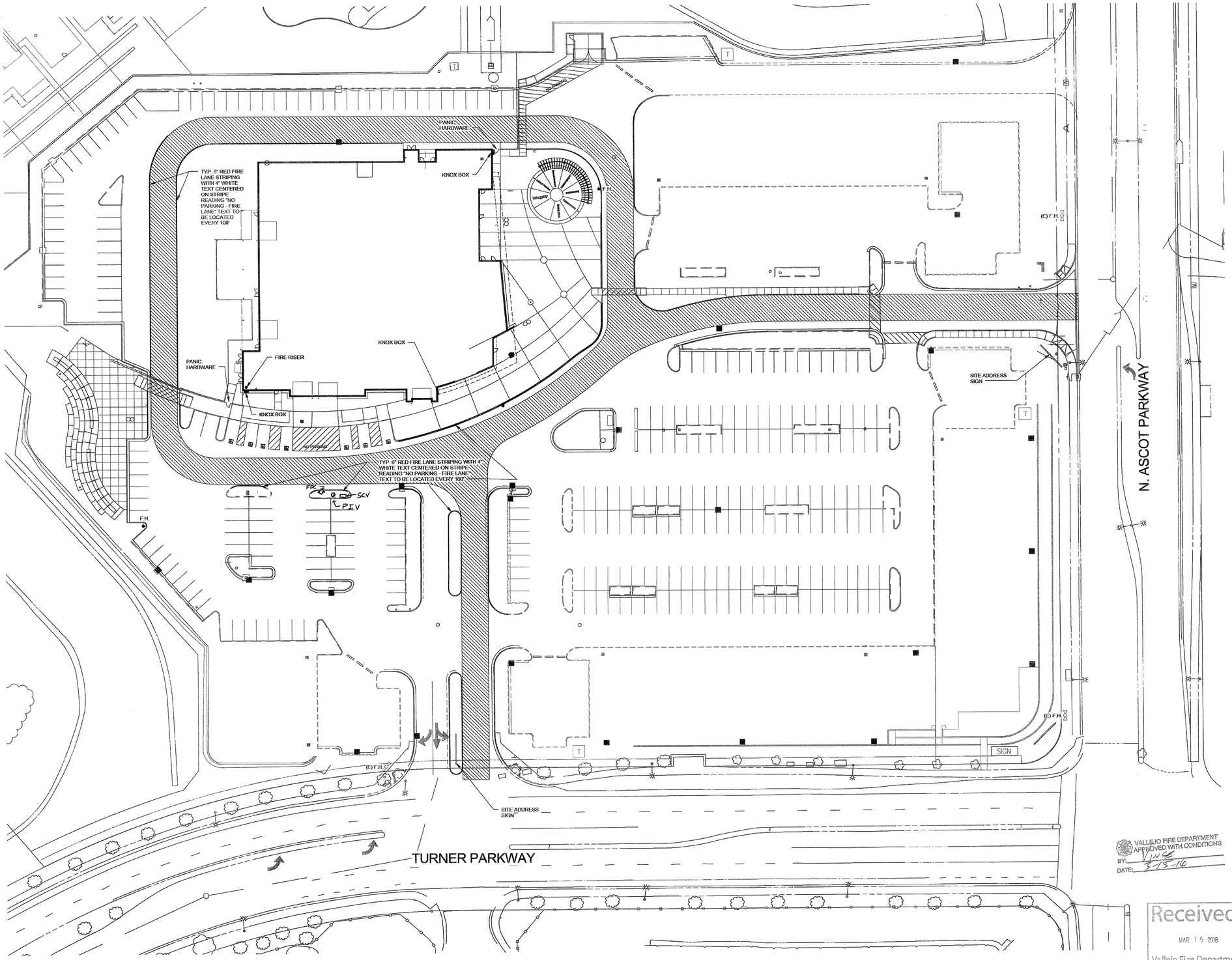

1 FIRE ACCESS SITE PLAN
1" = 30'-0"

VALLEJO FIRE DEPARTMENT
APPROVED WITH CONDITIONS
BY: VWE
DATE: 3-15-16

Received
MAR 15 2016
Vallejo Fire Department
Fire Prevention Division

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
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LEGEND

- FIRE LANE - 20'-0" WIDE WITH 28'-0" MINIMUM INSIDE TURNING RADIUS, U.N.O.
- (E) F.H. — EXISTING FIRE HYDRANT LOCATION
- F.H. — NEW FIRE HYDRANT LOCATION

GENERAL NOTES

1. SEE CIVIL DRAWINGS FOR SITE EXCAVATION, GRADING, DRAINAGE, WATER, SEWER, PAVING, HORIZONTAL AND VERTICAL CONTROL, AND ADDITIONAL SITE AND CONSTRUCTION INFORMATION.

DSA-810 - LOCAL FIRE AUTHORITY REVIEW

LOCAL FIRE AUTHORITY IS TO COMPLETE SECTIONS 1-7 AS APPLICABLE TO THIS PROJECT, AND SIGN BELOW. (CHECK SECTIONS 1-5 PER KEY)

KEY: **"YES"** = Complies with LFA Requirements
"N/A" = Not applicable to this project
"NR" = LFA elects not to review
NO CHECK MARK = Reviewed but not approved. Complete Section 7.

YES N/A NR

1. ☐ ☒ ☐ **Elevators** Where an Elevator does not meet medical emergency service cab size, per 2010 California Building Code, the Local Fire Authority approves the use of stairways for emergency rescue and patient transport.
2. ☑ ☐ ☐ **Access Roads** Access Roads, Fire Lane Markings, pavers and Gate Entrances are in accordance with Title 19, California Code of Regulations & 2010 California Fire Code, Chapter 5.
3. ☒ ☐ ☐ **Fire Flow** Fire Hydrant location and distribution complies with ☐ 2010 CFC ☐ NFPA 1142 (Alternate Means) When NR is checked, DSA can only review on-site water storage as an alternate means. Signature of the School District Official is required to acknowledge use of NFPA 1142 as LFA alternate means.

Signature of School District Official (Sign and Print Name and Title) (Date)

4. ☒ ☐ ☐ **Automatic Fire Sprinkler Systems** The location(s) of the proposed Post Indicator Valve and Fire Department Connection meet the requirements of this jurisdiction.
5. ☒ ☐ ☐ The location(s) of the Detector Check Valve Assembly meet the requirements of this jurisdiction.
6. YES ☐ NO ☒ **Is project located in a Hazard Severity Zone Area?** (2010 CBC, Chapter 7A, Section 701A.3.1)
   If YES, Type (check one): ☐ Moderate ☐ High ☐ Very High ☐ WIFA (If one of these boxes is checked, plans will have to meet requirements of Chapter 7A)
7. **COMMENTS:** Note Deficiencies:

8. **LOCAL FIRE AUTHORITY INFORMATION:**
AGENCY NAME (Print): CITY OF VALLEJO
ADDRESS (Print): 555 SANTA CLARA ST.
CITY/STATE/ZIP (Print): VALLEJO CA. 94590
PHONE NUMBER (Print): 648-4616 e-mail:

Completion of lines 1-7 (including school district representative signature on line 3 if alternate means required) and LFA signature below signifies that the Local Fire Authority has reviewed the listed items for this project.
Items not checked or marked NR will be reviewed by the DSA.

REVIEWED BY: VWE Sprecher (Print Name) (Signature) 3-15-16 (Date)

RANK/TITLE (Print):

SEAL

LICENSED ARCHITECT — NO. C29885 REN. 5-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL.# 02-114995
AC. APM FLS. JSS SP
DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title: **FIRE ACCESS SITE PLAN**

NO.	DATE	ISSUE

Drawn By: BR
Checked By: SP
Project No.: 15-245
©Date: 03/21/16
DRAWING NO.: **G0.4.0**

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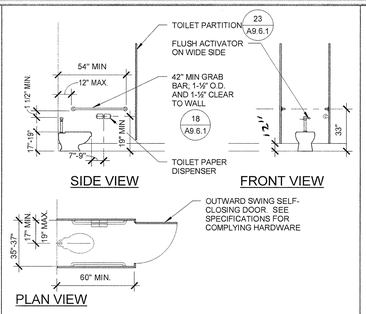
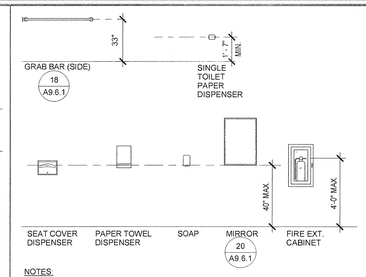


SEMI-AMBULATORY TOILET STALL

1/4" = 1'-0"

11



NOTES:

HEIGHTS SHOWN ARE TO OPERABLE PART OF THE DEVICES.

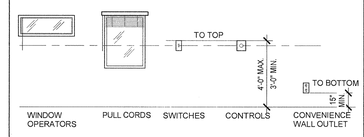
TYPICAL TOILET ACCESSORY MOUNTING HGHTS

1/4" = 1'-0"

6

NOTES:

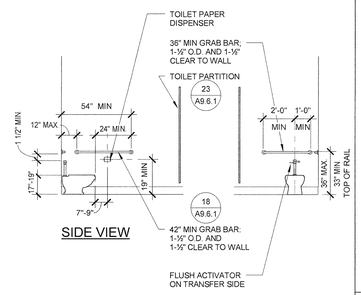
1. ELECTRICAL CONVENIENCE FLOOR OUTLETS AND BASEBOARD ELECTRICAL OUTLETS USED IN MOVABLE PARTITIONS OR WINDOW WALLS ARE NOT SUBJECT TO THE MINIMUM HEIGHT REQUIREMENTS.
2. HEIGHTS SHOWN ARE TO OPERABLE PART OF THE DEVICES.



ACCESSIBLE CONTROL HEIGHTS

1/4" = 1'-0"

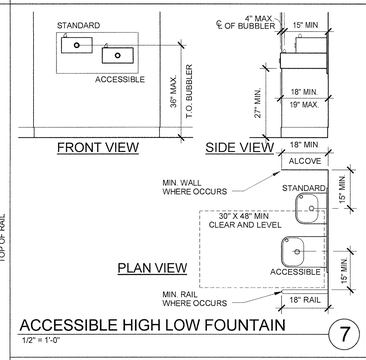
1



MULTI-ACCOMODATION TOILET, SIDE ACCESS

1/4" = 1'-0"

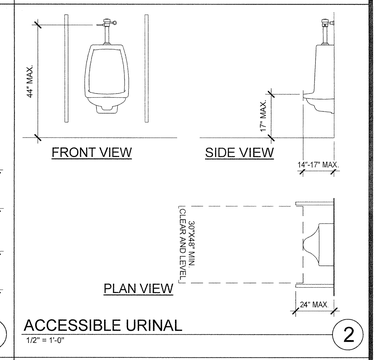
13



ACCESSIBLE HIGH LOW FOUNTAIN

1/2" = 1'-0"

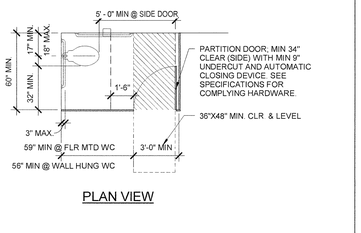
7



ACCESSIBLE URINAL

1/2" = 1'-0"

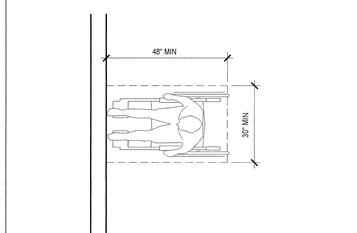
2



MULTI-ACCOMODATION TOILET, SIDE ACCESS

1/4" = 1'-0"

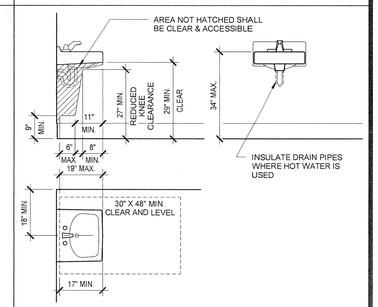
13



FORWARD REACH

1/2" = 1'-0"

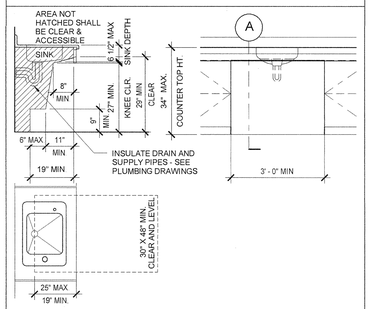
9



ACCESSIBLE LAVATORY

1/2" = 1'-0"

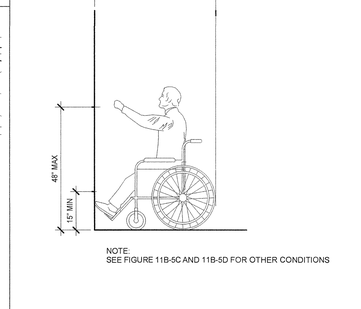
3



ACCESSIBLE SINK KNEE CLEARANCE

1/2" = 1'-0"

14

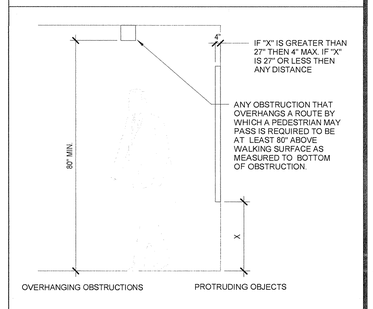


NOTE:
SEE FIGURE 11B-5C AND 11B-5D FOR OTHER CONDITIONS

FORWARD REACH

1/2" = 1'-0"

9



HAZARDS & OBSTRUCTIONS WARNING

1/4" = 1'-0"

4

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
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SEAL

LICENSED ARCHITECT
Mark Kaminski
REN 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC F.I.S. SS

DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ACCESSIBILITY REQUIREMENTS

NO.	DATE	ISSUE

Drawn By: FH
Checked By: SP
Project No: 15-245
©Date: 08/30/2016

DRAWING NO.
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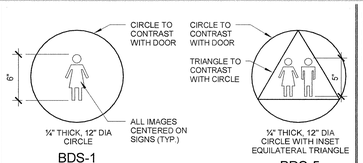
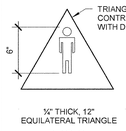


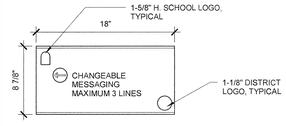
BDS-1

BDS-5

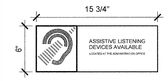


BDS-2

NOTES:
1. DIMENSIONS & NOTES ARE TYPICAL.
2. PICTOGRAMS SHALL CONTRAST WITH BACKGROUND (TYPICAL).
3. NUMBER, LETTERS, CHARACTERS, & COLORS PER SPECIFICATIONS (TYPICAL).
4. GENDER CHARACTERS / PICTOGRAPHS PER SPECIFICATIONS (TYPICAL).
5. MOUNT SIGNS PER SPECIFICATIONS AND DETAILS.



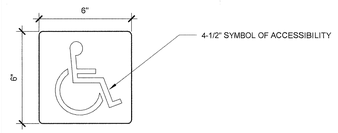
BDS-3



BDS-4

BLDNG DIRECTIONAL & INFORMATIONAL SIGNAGE

1 1/2" = 1'-0" — 7



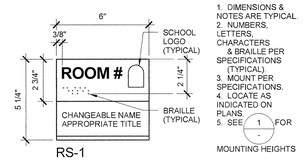
AES-1

NOTES:
1. ALL BLDG. ENTRANCES THAT ARE ACCESSIBLE TO & USABLE BY PERSONS WITH DISABILITIES SHALL BE IDENTIFIED W/ INTERNATIONAL SYMBOL OF ACCESSIBILITY SIGNAGE & ADDITIONAL DIRECTIONAL SIGNS AS REQUIRED TO BE VISIBLE TO PERSONS ALONG APPROACHING PEDESTRIAN WAYS.
2. SYMBOL PER SPECIFICATIONS (TYPICAL).
3. MOUNT SIGNS PER SPECIFICATIONS & DETAILS.

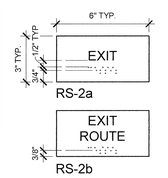
ACCESSIBLE ENTRANCE SIGN

3" = 1'-0" — 8

NOTES:
1. DIMENSIONS & NOTES ARE TYPICAL.
2. NUMBERS, LETTERS, CHARACTERS & BRAILLE PER SPECIFICATIONS (TYPICAL).
3. MOUNT PER SPECIFICATIONS.
4. LOCATE AS INDICATED ON PLANS.
5. SEE 1 FOR MOUNTING HEIGHTS

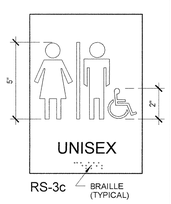


RS-1

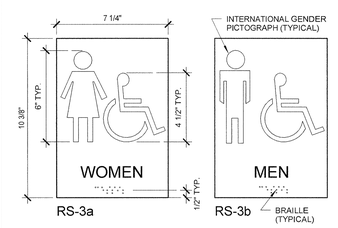


RS-2a

RS-2b



RS-3c



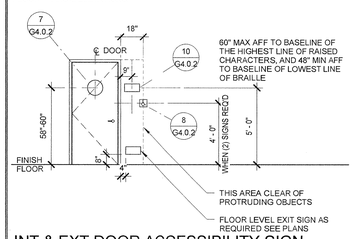
RS-3a

RS-3b

PERMANENT IDENTIFICATION SIGNAGE

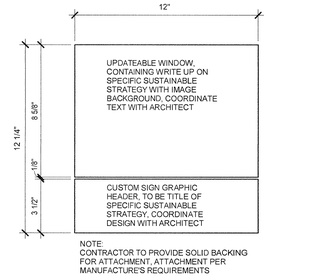
3" = 1'-0" — 10

NOTES:
1. SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE, INCLUDING AT DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLE ON THE RIGHT. SEE FLOOR PLANS & ELEVATIONS.



INT & EXT DOOR ACCESSIBILITY SIGN LOCATIONS

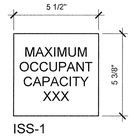
1/4" = 1'-0" — 1



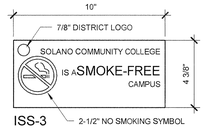
NOTE:
CONTRACTOR TO PROVIDE SOLID BACKING FOR ATTACHMENT, ATTACHMENT PER MANUFACTURE'S REQUIREMENTS

SUSTAINABLE SIGNAGE

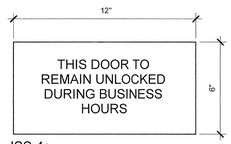
3" = 1'-0" — 2



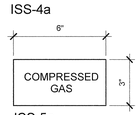
ISS-1



ISS-3



ISS-4a



ISS-5a

NOTES:
1. DIMENSIONS & NOTES ARE TYPICAL.
2. NUMBERS, LETTERS & CHARACTERS PER SPECIFICATIONS.
3. MOUNT PER SPECIFICATIONS.
4. LOCATE AS INDICATED ON PLANS.

INTERIOR SAFETY SIGNAGE

3" = 1'-0" — 5

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SEAL

LICENSED ARCHITECT — ROBERT E. SIMPSON — NO. C26985 — REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC APN FILE 1400-55 SS

DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
SIGNAGE

Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE

Project No.: 15-245
Date: 08/30/2016

DRAWING NO.
G4.0.2

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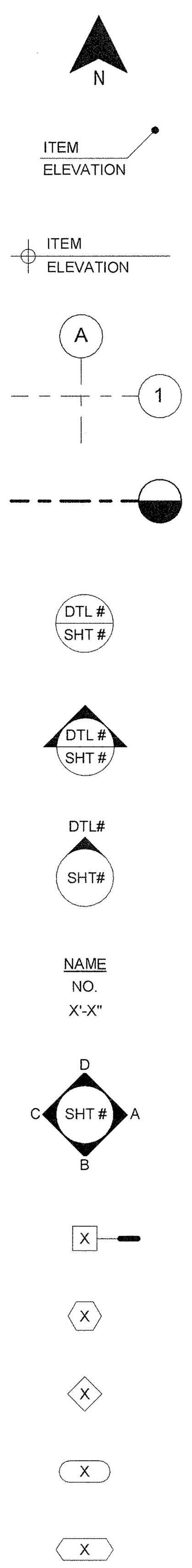
SYMBOLS



NORTH ARROW

SPOT ELEVATION

FINISH FLOOR LEVEL

STRUCTURAL GRID LINES

MATCH LINE

DETAIL REFERENCE TAG
DETAIL NUMBER
SHEET NUMBER

BUILDING SECTION TAG
DETAIL NUMBER
SHEET NUMBER

BUILDING ELEVATION TAG
DETAIL NUMBER
SHEET NUMBER

ROOM NAME TAG
ROOM NUMBER
ROOM CEILING HEIGHT

INTERIOR ELEVATION TAG
DETAIL NUMBER
SHEET NUMBER

WALL TYPE TAG
(SEE SHEET G0.7)

WINDOW NUMBER TAG
(SEE WINDOW SCHEDULE)

EQUIPMENT TAG
(SEE EQUIPMENT SCHEDULE)

DOOR NUMBER TAG
(SEE DOOR / FRAME SCHEDULE)

CONSTRUCTION KEYNOTE
(SEE LEGEND EACH SHEET)

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)., REFER TO SHEET G0.1.1

2. DURING THE ENTIRE CONSTRUCTION PERIOD, IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN CONDITIONS AT THE PROJECT SITE, TO MEET THE REQUIREMENTS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND STATE AND LOCAL REGULATIONS . THIS PROVISION SHALL COVER THE CONTRACTOR'S EMPLOYEES AND OTHER PERSONS WORKING UPON OR VISITING THE SITE. THE CONTRACTOR SHALL BECOME FULLY INFORMED OF APPLICABLE STANDARDS AND REGULATIONS AND INFORM PERSONS AND REPRESENTATIVES RESPONSIBLE FOR WORK UNDER THIS CONTRACT.

3. CONFIRM NEW AND EXISTING CONDITIONS WITH THE CONTRACT DOCUMENTS. NOTIFY ARCHITECT IMMEDIATELY IN WRITING OF DISCREPANCIES OR CONFLICTS. DO NOT PROCEED WITH WORK IN THE AREA OF DISCREPANCY OR CONFLICT UNTIL DIRECTION IS GIVEN BY ARCHITECT. IF CONTRACTOR PROCEEDS WITHOUT DIRECTION FROM ARCHITECT, IT SHALL BE AT CONTRACTORS RISK, AND CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED CORRECTIVE ACTION.

4. REVIEW THE ARCHITECTURAL DRAWINGS BEFORE THE INSTALLATION OF SYSTEMS SHOWN ON CONSULTING ENGINEERS DOCUMENTS. DISCREPANCIES BETWEEN THE ARCHITECTURAL AND CONSULTING ENGINEER'S DOCUMENTS SHALL BE BROUGHT TO ARCHITECT'S ATTENTION FOR DIRECTION. CONSTRUCTION INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY CONTRACTOR AT NO EXPENSE TO THE OWNER.

5. DO NOT SCALE THE CONSTRUCTION DOCUMENTS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED GRAPHICS. NOTIFY ARCHITECT IMMEDIATELY IN WRITING OF ADDITIONAL REQUIRED DIMENSIONS. DO NOT PROCEED WITH WORK IN THE AREA OF DISCREPANCY OR CONFLICT UNTIL DIRECTION IS GIVEN BY ARCHITECT. IF THE CONTRACTOR PROCEEDS WITHOUT DIRECTION FROM ARCHITECT, IT SHALL BE AT CONTRACTORS RISK, AND CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED CORRECTIVE ACTION.

6. CORRECT WORK INSTALLED IN CONFLICT WITH THE CONSTRUCTION DOCUMENTS BY CONTRACTOR AS DIRECTED BY ARCHITECT AND AT NO ADDITIONAL EXPENSE TO THE OWNER.

7. VISIT PROJECT SITE PRIOR TO BEGINNING WORK AND VERIFY DIMENSIONS AND CONDITIONS.

8. SECURE AND PAY FOR PERMITS, GOVERNMENTAL FEES AND LICENSES REQUIRED FOR PROPER COMPLETION OF THE WORK. REQUEST INSPECTIONS REQUIRED BY LOCAL GOVERNMENTAL AGENCIES AND COORDINATE THE WORK ACCORDINGLY.

9. WHERE WORK OR EQUIPMENT IS INDICATED "N.I.C." (NOT IN CONTRACT) ON THE DRAWINGS, SUCH WORK AND/OR EQUIPMENT SHALL BE PROVIDED BY OTHERS. COORDINATE AND COOPERATE TO EFFECT SUCH INSTALLATION.

10. PLAN DIMENSIONS SHOWN AT CENTER OF WALL REPRESENT CENTER LINE OF STUD OR STRUCTURAL ELEMENT UNLESS NOTED OTHERWISE.

11. PLAN DIMENSIONS FOR MASONRY AND CONCRETE REPRESENT FACE OF MATERIAL AND OPENING UNLESS NOTED OTHERWISE.

12. DIMENSIONS SHOWN ARE TO FACE OF STUD AT NEW CONSTRUCTION AND FACE OF FINISH AT EXISTING CONSTRUCTION, UNLESS NOTED OTHERWISE.

13. DIMENSIONS ARE NOT ADJUSTABLE WITHOUT THE REVIEW OF ARCHITECT UNLESS NOTED (+/-) OR "VERIFY". DIMENSIONS NOTED "HOLD" SHALL BE CONSIDERED AS ABSOLUTE AND USED FOR LAY-OUT CONTROL UNLESS OTHERWISE DIRECTED BY ARCHITECT.

14. HEIGHTS ARE DIMENSIONED FROM TOP OF SLAB UNLESS NOTED "AFF" (ABOVE FINISH FLOOR).

15. "TYPICAL" MEANS COMPARABLE CHARACTERISTICS FOR THE ELEVATION OR DETAIL NOTED. WHEN A DETAIL OR NOTE IS IDENTIFIED AS "TYPICAL", APPLY THIS DETAIL OR NOTE TO EVERY LIKE CONDITION, WHETHER OR NOT THE REFERENCE IS REPEATED IN EVERY INSTANCE. VERIFY DIMENSIONS AND ORIENTATION ON PLANS.

16. PROVIDE WORK NOT SPECIFICALLY DETAILED OR SPECIFIED IN ACCORDANCE WITH DETAILS OR SIZES COVERING SIMILAR WORK.

17. "SIMILAR" MEANS COMPARABLE CHARACTERISTICS FOR THE ELEVATION OR DETAIL NOTED VERIFY DIMENSIONS AND ORIENTATION ON PLANS.

18. ABBREVIATIONS THROUGHOUT THE DOCUMENTS COMPLY WITH DOCUMENT ABBREVIATION LIST OR ARE THOSE IN COMMON USE. ARCHITECT WILL DEFINE THE INTENT OF ANY IN QUESTION.

19. REFER TO THE PROJECT MANUAL FOR GENERAL CONDITIONS, SUPPLEMENTARY AND SPECIAL CONDITIONS, AND OTHER REQUIREMENTS.

20. PROVIDE BARRICADES AND PROTECTIVE DEVICES SEPARATING CONSTRUCTION AREAS. PROVIDE TEMPORARY PASSAGES AS REQUIRED. PRIOR TO DELIVERY OF MATERIALS TO CONSTRUCTION ZONE AND REMOVAL OF WASTE FROM SITE, CHECK WITH OWNER & CONSTRUCTION MANAGER FOR ACCEPTABLE ACCESS ROUTE AND TIME. UNDER NO CIRCUMSTANCES USE AREA OUTSIDE THE CONSTRUCTION ZONE WITHOUT PRIOR CLEARANCE FROM THE OWNER & CONSTRUCTION MANAGER. COMPLY WITH REQUIREMENTS AS SPECIFIED IN PROJECT MANUAL.

21. PROVIDE FOR THE PROPER SEQUENCE OF CONSTRUCTION, LOCATION AND SIZE OF OPENINGS. COORDINATE CONSTRUCTION AS INDICATED BY THE CONTRACT DOCUMENTS, INCLUDING SHOP DRAWINGS REVIEWED BY ARCHITECT.

22. TAKE MEASURES TO ACCOMPLISH THE WORK WITH THE MINIMUM OF INTERRUPTION TO NORMAL BUILDING PROCEDURES. NOTIFY OWNER IN ADVANCE OF HVAC, ELECTRICAL OR OTHER BUILDING SYSTEM SHUT-OFFS. MINIMIZE NOISE AND DUST GENERATION TO MAXIMUM EXTENT POSSIBLE. COMPLY WITH REQUIREMENTS AS SPECIFIED IN PROJECT MANUAL.

23. REMOVE TRASH AND DEBRIS DAILY. DO NOT STORE BUILDING MATERIALS IN CORRIDORS AT ANY TIME. COMPLY WITH REQUIREMENTS AS SPECIFIED IN PROJECT MANUAL.

24. PERFORM CUTTING, PATCHING, AND FINISHING NECESSARY TO RESTORE THE BUILDING AND SITE TO ORIGINAL CONDITION OF EXISTING PORTIONS OF THE BUILDING AND SITE AFFECTED BY CONTRACTOR'S WORK, TO THE SATISFACTION OF ARCHITECT AND OWNER.

25. VERIFY POINTS OF CONNECTION, INCLUDING SIZES AND LOCATIONS, AND OTHER REQUIRED OPERATING CRITERIA WITH EQUIPMENT MANUFACTURER.

26. COORDINATE THE LOCATION AND TYPE OF ACCESS PANELS REQUIRED FOR ACCESSING MECHANICAL, PLUMBING, ELECTRICAL AND OTHER BUILDING SYSTEMS WITH ARCHITECT.

27. STIPULATE THAT PROPOSED SUBSTITUTIONS ARE EQUAL IN PERFORMANCE AND COMPLY WITH APPLICABLE CODES AND REGULATIONS. SUBSTITUTION OF ALTERNATE MATERIALS OR SYSTEMS SHALL BE AT NO ADDITIONAL COST TO OWNER.

28. INSURE CONSTRUCTION SHALL REMAIN ACCESSIBLE AND EXPOSED FOR INSPECTION PURPOSES UNTIL APPROVED BY THE INSPECTOR OF RECORD. FOR CONTINUOUS INSPECTION, TESTING, AND OBSERVATION REQUIREMENTS, REFER TO THE TESTING AND OBSERVATION PROGRAM.

29. PROTECTION DURING WELDING: CONFORM TO TITLE 8, C.C.R. FURTHER PROTECT OCCUPANTS AND THE PUBLIC WITH PORTABLE SOLID VISION BARRICADES AROUND LOCATION WHERE WELDING IS BEING PERFORMED. PROVIDE SIGNS WARNING AGAINST LOOKING AT WELDING WITHOUT PROPER EYE PROTECTION OR EQUIVALENT. SEE CFC FOR REQUIREMENTS FOR ON SITE WELDING.

30. PROVIDE FIREPROOFING AS REQUIRED TO OBTAIN FIRE RATINGS PER CBC TABLE 601 FOR TYPE 1B CONSTRUCTION

31. FOLLOW REQUIREMENTS FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) FOR PORTIONS OF STRUCTURAL STEEL ELEMENTS EXPOSED TO VIEW.

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

33. GRADING PLANS. DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL CONFORM TO LOCAL ORDINANCES.

34. A COPY OF TITLE 24 PARTS 1-5 SHALL BE KEPT ON SITE DURING CONSTRUCTION.

FINISH NOTES

1. CEILING HEIGHT DIMENSIONS ARE MEASURED TO FINISH SURFACES UNLESS NOTED OTHERWISE.

2. EXTEND BASE MATERIAL BEHIND MOVABLE EQUIPMENT AND INTO ALCOVES, KNEE SPACES AND SIMILAR AREAS, UNLESS NOTED OTHERWISE.

3. WHEN COUNTERTOP SPLASH IS REQUIRED, EXTEND SPLASH ON SIDES WHERE COUNTER JOINS ADJACENT WALL SURFACE UNLESS NOTED OTHERWISE.

4. INTERIOR FINISHES SHALL COMPLY WITH CHAPTERS 8 AND 25, PART 2, TITLE 24, CCR, INCLUDING TABLES 803.9, 2506.2, AND 2507.2.

5. PROVIDE BACKING OR BLOCKING BEHIND WALL MOUNTED EQUIPMENT, CASEWORK, AND ACCESSORIES AS REQUIRED FOR POSITIVE ATTACHMENT TO STRUCTURE. ***SEE DETAILS ON SHEET A9.6.1.***

6. SEAL PENETRATIONS OF SOUND RATED PARTITIONS, FLOORS OR CEILING ASSEMBLIES , INCLUDING ELECTRICAL DEVICES, CABINETS AND OTHER ELEMENTS WITH APPROVED RESILIENT SEALANT. SEE FIRE & LIFE SAFETY NOTES FOR PENETRATION REQUIREMENTS OF FIRE RATED AND SOUND RATED ASSEMBLIES.

STRUCTURAL NOTES

1. SUPPORT AND BRACE PIPES, DUCTS, AND CONDUITS PER THE FOLLOWING STANDARDS OR APPROVED EQUAL:

* OSHPD ANCHORAGE PRE-APPROVAL #R-0010: SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS"
* OSHPD ANCHORAGE PRE-APPROVAL #R-0003: SUPERSTRUT SEISMIC RESTRAINT SYSTEM (FOR PIPES AND CONDUIT ONLY)

2. PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED FOR DEMOLITION AND NEW WORK AS REQUIRED. ASSUME FULL RESPONSIBILITY FOR REPAIR AND/OR REPLACEMENT OF DAMAGED AREAS, INCLUDING BUT NOT NECESSARILY LIMITED TO, STRUCTURE, FINISHES, EQUIPMENT AND FURNISHINGS IF DAMAGE OF ANY KIND OCCURS AS RESULT OF IMPROPER OR INADEQUATE SHORING OR BRACING,

3. UNLESS SPECIFICALLY DETAILED ON STRUCTURAL DRAWINGS, DO NOT CUT OR OTHERWISE MODIFY STRUCTURAL ELEMENTS WITHOUT DIRECTION FROM ARCHITECT. PROVIDE REINFORCEMENT, SUPPORT, TEMPORARY SHORING SATISFACTORY TO THE ARCHITECT, STRUCTURAL ENGINEER AND APPROVED BY DSA PRIOR TO CUTTING INTO STRUCTURAL PORTIONS OF A BUILDING ELEMENT. PROVIDE CUTTING OF STRUCTURAL ELEMENTS, AND ASSOCIATED REPAIR OR REFINISHING OF ADJACENT SURFACES AT NO ADDITIONAL EXPENSE TO THE OWNER.

4. WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWER DRIVEN PINS IN EXISTING NON-PRE-STRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING EXISTING REINFORCING BARS. WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWER DRIVEN PINS IN EXISTING PRE-STRESSED REINFORCED CONCRETE (POST OR PRE TENSIONED), USE A NON-DESTRUCTIVE METHOD TO LOCATE TENDONS PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.

5. PROVIDE TEMPORARY SHORING FOR EXCAVATIONS THAT REMOVE THE LATERAL SUPPORT FROM AN EXISTING BUILDING OR A PUBLIC WAY. PRIOR TO ISSUANCE OF PERMIT, OBTAIN APPROVAL FROM THE ENFORCING AGENCY FOR EXCAVATIONS ADJACENT TO A PUBLIC WAY.

6. OBTAIN NECESSARY PERMITS, INCLUDING CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, PRIOR TO ISSUANCE OF A BUILDING OR GRADING PERMIT FOR TRENCHING.

7. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.

DEMOLITION NOTES

1. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO MAINTAIN THE SITE ACCESSIBILITY IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS SUCH THAT THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CONSTRUCTION CHANGE DOCUMENT (CCD) DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA-AC BEFORE PROCEEDING WITH THE WORK.

2. VERIFY EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO, MECHANICAL, PLUMBING, ELECTRICAL AND OTHER EXISTING SYSTEMS. MAKE NECESSARY PROVISIONS TO MAINTAIN THE INTEGRITY OF EXISTING SYSTEMS PRIOR TO THE COMMENCEMENT OF DEMOLITION.

3. REFER TO DOCUMENTS PREPARED BY CONSULTING ENGINEERS FOR INFORMATION REGARDING THE REMOVAL OF EXISTING SYSTEMS.

4. COMPLY WITH ANSI A10.6 "SAFETY REQUIREMENTS FOR DEMOLITION" PUBLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE.

5. IN AREAS WHERE SPRAYED FIREPROOFING HAS BEEN DAMAGED OR REMOVED, INSTALL W. R. Grace RETRO-GUARD RG per I.C.B.O. REPORT #4587 AND AS REQUIRED TO RESTORE ORIGINAL FIRE RATING.

ACCESSIBILITY NOTES

1. PUBLIC WALKS FROM THE BUILDING TO THE PUBLIC WAY AND TO PARKING AREAS DESIGNATED AS ACCESSIBLE SHALL COMPLY WITH CHAPTER 11B, PART 2, TITLE 24, CCR. PROVIDE WALKS A MINIMUM OF 48 INCHES WIDE AND WITH A GRADIENT NOT GREATER THAN 5% (1:20), WITH NO ABRUPT CHANGES GREATER THAN 1/2 INCHES IN THE DIRECTION OF TRAVEL.

2. PROVIDE WALKS WITH LEVEL LANDINGS AT EXTERIOR EXIT DOORS COMPLYING WITH CHAPTERS 10 AND 11B, PART 2, TITLE 24, CCR., WITH NOT LESS THAN 60 INCHES X 60 INCHES IN DIMENSION AND WITH MAXIMUM 2 PERCENT SLOPE.

3. SURFACE CROSS SLOPE GRADIENT SHALL NOT EXCEED 2 PERCENT PER FOOT AT WALKS AND PATHS WITHIN THE ACCESSIBLE PATH OF TRAVEL.

4. PROVIDE ACCESSIBLE BUILDING ENTRANCES COMPLYING WITH CHAPTERS 10 AND 11B, PART 2, TITLE 24, CCR., UNLESS SHOWN OTHERWISE.

5. PROVIDE WARNING CURB, RAILING/GUIDE RAIL OR OTHER PROTECTIVE DEVICE AT ABRUPT CHANGES IN LEVEL, (EXCEPT BETWEEN A WALK/SIDEWALK AND ADJACENT STREET OR DRIVEWAY) COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR. PROVIDE MINIMUM 6 INCH HIGH CURB. WHERE GUARDRAIL OR HANDRAIL IS PROVIDED, NO CURB IS REQUIRED IF GUIDE RAIL IS PROVIDED CENTERED AT 3 INCHES ABOVE SURFACE OF WALKWAY, PLUS OR MINUS 1 INCH. NO CURB IS REQUIRED IF WALKWAY IS 5 PERCENT OR LESS IN GRADIENT OR NO ADJACENT HAZARD EXISTS.

6. DOOR CONSTRUCTION AND HARDWARE

PROVIDE THE BOTTOM 10 INCHES OF DOORS (EXCEPT AUTOMATIC AND SLIDING DOORS) WITH A SMOOTH UNINTERRUPTED SURFACE PERMITTING THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.

LIMIT DOOR OPERATING FORCE IN COMPLIANCE WITH CHAPTER 11B, PART 2, TITLE 24, CCR. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED THE FOLLOWING:

5 POUNDS FOR EXTERIOR DOORS
5 POUNDS FOR INTERIOR DOORS.
15 POUNDS FOR DOORS WITH FIRE RATED LABELS.

PROVIDE DOOR OPENING HARDWARE COMPLYING WITH CHAPTERS 10 AND 11B, PART 2, TITLE 24, CCR. CENTER HAND-ACTIVATED DOOR OPENING HARDWARE BETWEEN 30 INCHES AND 44 INCHES ABOVE THE FLOOR. HAND ACTIVATED LATCHING AND LOCKING DOORS, LOCATED IN THE PATH OF TRAVEL, SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, BY PANIC BARS, PUSH-PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE. LOCKED EXIT DOORS SHALL BE ACCESSIBLE AS SPECIFIED IN DIRECTION OF EGRESS.

PROVIDE THRESHOLDS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR, WITH MAXIMUM TOTAL HEIGHT OF 1/2 INCHES.

7. ACCESSIBLE WATER CLOSET COMPARTMENTS AND FIXTURES

PROVIDE ACCESSIBLE WATER CLOSETS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND ACCESSIBLE DIMENSION SCHEDULE, **DETAIL** 11,13/G0.4.1

PROVIDE ACCESSIBLE CONTROLS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND CHAPTER 15, PART 5, TITLE 24, CCR.

EXCEPT FOR DOOR OPENING WIDTHS AND DOOR SWINGS, PROVIDE A MINIMUM 44 INCH WIDE CLEAR AND UNOBSTRUCTED ACCESS PATH TO ACCESSIBLE WATER CLOSET COMPARTMENTS.

PROVIDE MINIMUM 48 INCH CLEAR SPACE IMMEDIATELY IN FRONT OF WATER CLOSET WHEN DOOR IS AT END OF COMPARTMENT.

PROVIDE MINIMUM 60 INCH CLEAR SPACE IMMEDIATELY IN FRONT OF WATER CLOSET WHEN DOOR IS AT SIDE OF COMPARTMENT.

PROVIDE ACCESSIBLE WATER CLOSETS WITH SEAT HEIGHTS A MINIMUM OF 17 INCHES AND A MAXIMUM OF 19 INCHES AFF, MEASURED TO THE TOP OF THE TOILET SEAT.

PROVIDE FLUSH CONTROLS OPERABLE BY AN OSCILLATING HANDLE WITH A MAXIMUM OPERATING FORCE OF FIVE POUNDS, REMOTE LOW VOLTAGE BUTTON OR OTHER APPROVED CONTROL DEVICE. LOCATE HANDLE OR CONTROL TO BE OPERABLE WITHOUT REQUIRING EXCESSIVE BODY MOVEMENT.

PROVIDE WATER CLOSET COMPARTMENT DOORS WITH AN AUTOMATIC CLOSING DEVICE, PROVIDE COMPARTMENT DOORS WITH A CLEAR UNOBSTRUCTED OPENING WIDTH OF 32 INCHES WHEN LOCATED AT THE END AND 34 INCHES WHEN LOCATED AT THE SIDE, MEASURED WITH THE DOOR POSITIONED AT AN ANGLE OF 90 DEGREES FROM ITS CLOSED POSITION.

8. ACCESSIBLE URINALS

PROVIDE ACCESSIBLE URINALS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND ACCESSIBLE DIMENSION SCHEDULE, **DETAIL 2/G0.4.1**.

PROVIDE ACCESSIBLE CONTROLS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND CHAPTER 15, PART 5, TITLE 24, CCR.

WHERE URINALS ARE PROVIDED, PROVIDE AT LEAST ONE ELONGATED RIM FIXTURE WITH RIM MOUNTED AT A MAXIMUM OF 17 INCHES ABOVE THE FLOOR. PROVIDE FLUSH CONTROLS OPERABLE BY AN OSCILLATING HANDLE WITH A MAXIMUM OPERATING FORCE OF FIVE POUNDS, REMOTE LOW VOLTAGE BUTTON OR OTHER APPROVED CONTROL DEVICE. MOUNT CONTROL A MAXIMUM OF 44 INCHES AFF.

9. ACCESSIBLE LAVATORIES

PROVIDE LAVATORIES COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND ACCESSIBLE DIMENSION SCHEDULE, ***DETAIL 3/G0.4.1***.

PROVIDE ACCESSIBLE CONTROLS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND CHAPTER 15, PART 5, TITLE 24, CCR.

PROVIDE LAVATORIES WITH MINIMUM 29 INCHES CLEARANCE FROM FINISH FLOOR TO APRON. PROVIDE KNEE CLEARANCE UNDER FRONT APRON MINIMUM 30 INCHES WIDE, MINIMUM 27 INCHES HIGH MEASURED 8 INCHES BACK FROM APRON FRONT EDGE. PROVIDE TOE CLEARANCE MINIMUM 9 INCHES HIGH, 30 INCHES WIDE, EXTENDING MINIMUM 17 INCHES AND MAXIMUM 19 INCHES IN DEPTH FROM THE FRONT OF LAVATORY.

INSULATE OR OTHERWISE COVER WATER AND DRAIN PIPES UNDER LAVATORY. SHARP OR ABRASIVE SURFACES UNDER LAVATORIES ARE NOT PERMITTED.

PROVIDE FAUCET CONTROLS AND OPERATING MECHANISMS OPERABLE WITH ONE HAND AND NOT REQUIRING TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. LIMIT FORCE REQUIRED TO ACTIVATE CONTROLS TO MAXIMUM 5 POUNDS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.

10. ACCESSIBLE SINKS

PROVIDE SINKS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND CHAPTER 15, PART 5, TITLE 24, CCR CHAPTER 11B AND WITH ACCESSIBLE DIMENSION SCHEDULE, ***DETAIL 14/G0.4.1***.

PROVIDE ACCESSIBLE CONTROLS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND CHAPTER 15, PART 5, TITLE 24, CCR.

PROVIDE KNEE CLEARANCE UNDER SINKS, SEE ***DETAIL 14/G0.4.1***

PROVIDE SINKS WITH MAXIMUM DEPTH OF 6-1/2 INCHES.

INSULATE OR OTHERWISE COVER WATER AND DRAIN PIPES UNDER SINK. SHARP OR ABRASIVE SURFACES UNDER SINKS ARE NOT PERMITTED.

PROVIDE FAUCET CONTROLS AND OPERATING MECHANISMS OPERABLE WITH ONE HAND AND NOT REQUIRING TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. LIMIT FORCE REQUIRED TO ACTIVATE CONTROLS TO MAXIMUM 5 POUNDS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.

11. GRAB BARS

PROVIDE GRAB BARS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND ACCESSIBLE DIMENSION SCHEDULE, ***DETAIL 11,13/G0.4.1***.

SHARP OR ABRASIVE SURFACES ADJACENT TO GRAB BARS ARE NOT PERMITTED.

LOCATE GRAB BARS ON ONE SIDE AND THE BACK OF THE WATER CLOSET, 33 INCHES ABOVE AND PARALLEL TO THE FLOOR. PROVIDE SIDE GRAB BARS AT LEAST 42 INCHES LONG, WITH THE FRONT END POSITIONED 24 INCHES IN FRONT OF THE WATER CLOSET. LOCATE SIDE MOUNTED GRAB BAR MAXIMUM 12 INCHES FROM REAR WALL.

PROVIDE REAR GRAB BARS AT LEAST 36 INCHES LONG, MOUNTED AS SHOWN IN DETAIL 13/G0.4.1

PROVIDE GRAB BARS WITH GRIPPING SURFACE DIAMETER OR WIDTH LIMITED TO 1-1/4 INCHES TO 1-1/2 INCHES OR EQUIVALENT GRIPPING SURFACE. PROVIDE MINIMUM 1/8 INCH RADIUS AT GRAB BAR EDGES. WHERE GRAB BARS ARE MOUNTED ADJACENT TO A WALL, THE SPACE BETWEEN THE WALL AND THE GRAB BARS SHALL BE 1-1/2 INCHES.

GRAB BARS SHALL NOT ROTATE IN THEIR FITTINGS.

12. ACCESSIBLE TOILET ACCESSORIES

PROVIDE ACCESSORIES COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND ACCESSIBLE DIMENSION SCHEDULE, ***DETAIL 6/G0.4.1***.

WHERE TOWEL, SOAP AND SIMILAR DISPENSING AND DISPOSAL FIXTURES ARE PROVIDED, PROVIDE AT LEAST ONE OF EACH TYPE WITH ALL OPERABLE PARTS, INCLUDING COIN SLOTS, LOCATED MAXIMUM 40 INCHES AFF.

MOUNT MIRRORS WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE MAXIMUM 40 INCHES AFF.

LOCATE THE CENTERLINE OF THE TOILET TISSUE DISPENSERS WITHIN 7" TO 9" INCHES OF THE FRONT EDGE OF THE TOILET SEAT.

ACCESSIBILITY NOTES

13. ACCESSIBLE DRINKING FOUNTAINS

PROVIDE DRINKING FOUNTAINS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR, CHAPTER 15, PART 5, TITLE 24, CCR AND ACCESSIBLE DIMENSION SCHEDULE, **DETAIL 7/G0.4.1**.

PROVIDE DRINKING FOUNTAIN WITH MINIMUM 18 INCH DEPTH.

PROVIDE DRINKING FOUNTAINS WITH KNEE CLEARANCE MINIMUM 32 INCHES WIDE, MINIMUM 27 INCHES HIGH MEASURED 8 INCHES BACK FROM FOUNTAIN FRONT EDGE. PROVIDE TOE CLEARANCE MINIMUM 9 INCHES HIGH, 32 INCHES WIDE, EXTENDING MAXIMUM 6 INCHES IN DEPTH BEYOND KNEE CLEARANCE.

SIDE APPROACH DRINKING FOUNTAIN IS NOT ACCEPTABLE.

ACTIVATE WITH LEVER, PUSH BAR OR OTHER APPROVED CONTROL LOCATED MAXIMUM 5 INCHES FROM FRONT EDGE. LOCATE BUBBLER ORIFICE MAXIMUM 4 INCHES FROM FRONT EDGE AND MAXIMUM 36 INCHES AFF. THE WATER STREAM FROM THE BUBBLER SHALL BE SUBSTANTIALLY PARALLEL TO THE FRONT EDGE OF THE DRINKING FOUNTAIN.

14. ACCESSIBILITY SIGNAGE

PROVIDE ACCESSIBLE PARKING SIGNAGE COMPLYING WITH CHAPTER 11B, DIVISION II, PART 2, TITLE 24, CCR AND ***SHEET C07***

PROVIDE TOILET ROOM ACCESSIBILITY SIGNAGE COMPLYING WITH CHAPTER 11B, DIVISION I, PART 2, TITLE 24, CCR AND ***SHEET G0.4.2***

PROVIDE PERMANENT ROOM ACCESSIBILITY SIGNAGE COMPLYING WITH CHAPTER 11B, DIVISION I, PART 2, TITLE 24, CCR AND **SHEET *G0.4.2***

PROVIDE DIRECTIONAL AND INFORMATIONAL ACCESSIBILITY SIGNAGE COMPLYING WITH CHAPTER 11B, DIVISION I, PART 2, TITLE 24, CCR AND ***SHEET G0.4.2***

IDENTIFY EACH ACCESSIBLE PARKING SPACE WITH A PERMANENTLY AFFIXED REFLECTORIZED SIGN, NO SMALLER THAN 70 SQUARE INCHES, DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. WHEN LOCATED IN PATH OF TRAVEL, INSTALL BOTTOM OF SIGN AT MINIMUM 80 INCHES ABOVE FINISHED GRADE. HEIGHT OF 80 INCHES FROM BOTTOM OF SIGN TO FINISHED GRADE AT PATH OF TRAVEL. SIGN MAY BE CENTERED ON THE WALL AT THE INTERIOR END OF THE PARKING SPACE AT A MINIMUM HEIGHT OF 60 INCHES FROM THE PARKING SPACE FINISHED GRADE.

PROVIDE SIGN AT EACH ENTRANCE TO OFF-STREET PARKING WITH ACCESSIBLE PARKING, NOT LESS THAN 17 X 22 INCHES IN SIZE, WITH LETTERING NOT LESS THAN 1 INCH IN HEIGHT CLEARLY AND CONSPICUOUSLY STATING THE FOLLOWING:

"UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT ______ OR BY BY TELEPHONING __________
BLANK SPACES ARE TO BE FILLED IN WITH THE APPROPRIATE INFORMATION AS A PERMANENT PART OF THE SIGN. CONTACT OWNER FOR NAME AND PHONE NUMBER OF THE TOWING SERVICE TO USED PRIOR TO FABRICATION.

PROVIDE AT EACH ACCESSIBLE PARKING SPACE A SURFACE APPLIED IDENTIFICATION DUPLICATING THE SYMBOL OF ACCESSIBILITY IN BLUE PAINT, A MINIMUM OF 3 X 3 FEET, AND VISIBLE FROM DRIVE AREA WHEN VEHICLE IS PROPERLY PARKED.

PROVIDE 1/4" THICK IDENTIFICATION SYMBOLS ON DOORS TO SANITARY FACILITIES, CONSISTING OF A 12 INCH TRIANGLE FOR MEN AND 12 INCH DIAMETER CIRCLE FOR WOMEN. SYMBOL COLOR SHALL CONTRAST WITH DOOR.

FIRE & LIFE SAFETY NOTES

1. INTERIOR FINISHES SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 8, VOLUME 1, PART 2, TITLE 24, CCR. FINISHES SHALL HAVE A FLAME SPREAD RATING OF 75 OR LESS AND A SMOKE DENSITY NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E-84 OR UL 723, and SHALL CONFORM TO THE REQUIREMENTS OF TABLE 803.9 FOR EACH OCCUPANCY.

2. INSULATION MATERIALS INSTALLED WITHIN ROOF - CEILING ASSEMBLIES, ATTICS, OR WALLS SHALL HAVE A FLAME - SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DENSITY NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E-84 OR UL 723.

3. RATED DOORS SHALL BE POSITIVE LATCHING.

4. PROVIDE FIRE RATED DOOR ASSEMBLIES WITH APPROVED GASKETING MATERIAL INSTALLED TO PROVIDE A SEAL WHERE THE DOOR MEETS THE STOP ON BOTH SIDES AND ACROSS THE TOP.

5. MANUFACTURERS INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE PROJECT SITE FOR RATED OPENING ASSEMBLIES.

6. SEAL PENETRATIONS THROUGH RATED WALLS AND FLOORS WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN SUBJECTED TO THE REQUIREMENTS OF ASTM E-814, 2013 CBC AND IN COMPLIANCE WITH THE PROJECT MANUAL.

7. TIGHTLY AND SOLIDLY SEAL ELECTRICAL, MECHANICAL, AND PLUMBING PENETRATIONS, INCLUDING CONDUITS AND PIPING, THROUGH FIRE RATED WALL, FLOOR AND CEILING ASSEMBLIES, WITH FIRESTOPPING COMPLYING WITH 2013 CBC AND THE PROJECT MANUAL. WHERE ITEM PENETRATES AN AREA SEPARATION WALL, THE SECTION PASSING THROUGH THE WALL SURFACE AND THE FIXTURE CONNECTIONS THERETO SHALL BE ONLY OF METAL.

8. PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN:

4-A-40BC WITHIN 30'-0" OR 4-A-80BC WITHIN 50'-0" TRAVEL DISTANCE FOR VOCATIONAL SHOPS AND EXTRA HIGH HAZARD AREAS

2-A-10BC WITHIN A 75'-0" TRAVEL DISTANCE FOR LIGHT HAZARD AREAS

9. PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 1-BC FOR ELECTRICAL ROOMS, MECHANICAL ROOMS, ELEVATOR MACHINE ROOMS AND TRASH ROOMS.

10. PROVIDE AN APPROPRIATE NUMBER OF PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 4A-60BC FOR PROTECTION DURING CONSTRUCTION.

11. PROVIDE AND INSTALL TEMPORARY PEDESTRIAN PROTECTION AS REQUIRED BY LOCAL CODE AND SPECIFICATION.

12. DO NOT BLOCK EXITS AT ANY TIME.

13. PROVIDE FIRE DAMPERS AT DUCT PENETRATIONS OF FIRE RATED WALLS, FLOORS, SHAFTS AND CEILINGS. COMBINATION FIRE/SMOKE DAMPERS SHALL BE USED AT DUCT PENETRATIONS OF RATED CORRIDOR WALLS.

14. FIRE DAMPER DETAILS SHOWN FOR REFERENCE ONLY. FIRE DAMPERS SHALL BE APPROVED AND LISTED BY STATE FIRE MARSHAL. INSTALL STRICTLY PER MANUFACTURER'S PRINTED INSTRUCTIONS AND LISTING APPROVAL. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITIES.

15. DUCT INSULATION APPLIED TO THE EXTERIOR SURFACE OF DUCTS LOCATED IN BUILDINGS SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED AS A COMPOSITE INSTALLATION INCLUDING INSULATION, FACING MATERIALS, TAPES AND ADHESIVES AS NORMALLY APPLIED.

16. THE FIRE ALARM SYSTEM SHALL CONFORM TO ARTICLE 760 OF THE CALIFORNIA ELECTRICAL CODE, STANDARDS AS DEFINED IN CHAPTER 35 CALIFORNIA BUILDING CODE AND APPLICABLE NFPA STANDARDS.

17. DURING WELDING PROVIDE PROTECTION COMPLYING WITH TITLE 8, CCR. FURTHER PROTECTION SHALL BE PROVIDED TO BUILDING OCCUPANTS AND THE PUBLIC WITH PORTABLE SOLID VISION BARRICADES AROUND LOCATION WHERE WELDING IS BEING PERFORMED. PROVIDE SIGNS WARNING AGAINST LOOKING AT WELDING WITHOUT PROPER EYE PROTECTION OR EQUIVALENT, REFER TO THE TESTING AND OBSERVATION PROGRAM.

18. COMPLIANCE WITH CFC CHAPTER 33, "FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION" AND CBC CHAPTER 33 WILL BE ENFORCED.

19. EMERGENCY VEHICLE ACCESS ROADS AND ON-SITE HYDRANTS SHALL BE IN SERVICE AND OPERABLE PRIOR TO LOADING THE SITE WITH COMBUSTIBLE MATERIALS.

20. LICENSED C16 FIRE SPRINKLER CONTRACTOR THAT DESIGNS THE SYSTEM IS TO BE THE SAME CONTRACTOR THAT INSTALLS THE SYSTEM.

21. FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING. SUCH IDENTIFICATION SHALL:
A. BE LOCATED IN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING OR ATTIC SPACES;
B. BE REPEATED AT INTERVALS NOT EXCEEDING 30 FEET MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION; AND
C. INCLUDE LETTERING NOT LESS THAN 0.5 INCH IN HEIGHT, INCORPORATING THE SUGGESTED WORDING: "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS", OR OTHER WORDING. (REF: CBC, 703.6)

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IDENTIFICATION STAMP
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DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
GENERAL NOTES

Drawn By
FH

Checked By
SP

NO.	DATE	ISSUE

Project No.
15-245

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DRAWING NO.
A0.0.1

ABBREVIATIONS

&	AND
∠	ANGLE
@	AT
AB	ANCHOR BOLT
ABAN	ABANDON
ABS	ACRYLONITRILE BUTADIENE STYRENE
ABV	ABOVE
AC	AIR CONDITIONING
AC	ASPHALTIC CONCRETE
ACOUS	ACOUSTICAL
AC PVG	ASPHALT CONCRETE PAVING
ACP	ACOUSTICAL PANEL
ACT	ACOUSTICAL TILE
ACU	AIR CONDITIONING UNIT
AD	AREA DRAIN
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGGR	AGGREGATE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ALT	ALTERNATE
AMT	AMOUNT
ANOD	ANODIZED
AP	ACCESS PANEL
APPROX	APPROXIMATE
ARCH	ARCHITECT/ARCHITECTURAL
ASD	AUTOMATIC SPRINKLER DRAIN
ASPH	ASPHALT
ASSY	ASSEMBLY
AV	AUDIO VISUAL
AWP	ACOUSTICAL WALL PANEL
BAL	BALANCE
BBD	BULLETIN BOARD
BBRG	BALL BEARING
BC	BACK OF CURB
BD	BOARD
BG	BUMPER GUARD
BETW	BETWEEN
BEV	BEVEL
BITUM	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BLKHD	BULKHEAD
BLW	BELOW
BM	BEAM
BM	BENCH MARK
BMU	BRICK MASONRY UNIT
BOF	BOTTOM OF FOOTING
BOT	BOTTOM
BRG	BEARING
BRS	BRASS
BRZ	BRONZE
BSMNT	BASEMENT
BUR	BUILT-UP ROOF
C_L	CENTERLINE
C&G	CURB AND GUTTER
C/C	CENTER TO CENTER
CAB	CABINET
CB	CORNER BEAD
CB	CATCHBASIN
CBD	CHALKBOARD
CCTV	CLOSED CIRCUIT TELEVISION
CCW	COUNTER CLOCKWISE
CEM	CEMENT
CER	CERAMIC
CI	CAST IRON
CIP	CAST IRON PIPE
CJ	CONSTRUCTION JOINT
CF	CLEAR FINISH COATING
CFX	CLEAR FINISH COATING - EXTERIOR
CG	CORNER GUARD
CL	CENTER LINE
CLG	CEILING
CLG DIFF	CEILING DIFFUSER
CLG HT	CEILING HEIGHT
CLG REG	CEILING REGISTER
CLO	CLOSET
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMPL	COMPLETE
CONC	CONCRETE
CONC FL	CONCRETE FLOOR
COND	CONDENSER/CONDENSATE
CONF	CONFERENCE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS/CONTINUATION
CONTR	CONTRACT/CONTRACTOR
COORD	COORDINATE
CORR	CORRIDOR
COTG	CLEAN OUT TO GRADE
COV	COVER
COV PL	COVER PLATE
CP	CONCRETE PAVING
CP	CONTROL PANEL
CPT	CARPET
CPVC	CHLORINATED POLYVINYL CHLORIDE
CR	CRASHRAIL
CR	COAT RACK/COAT ROD
CRSTL	COLD ROLLED STEEL
CS	CHANGING STATION
CSK	COUNTERSINK
CSMNT	CASEMENT
CT	CERAMIC TILE
CTV	CABLE TELEVISION
CU YD	CUBIC YARD
CW	COLD WATER
CYL	CYLINDER
DAT	DATUM
DBL ACT	DOUBLE ACTING
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DIAG	DIAGONAL
DIAM	DIAMETER
DIFF	DIFFERENCE
DIFF	DIFFUSER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISP	DISPENSER
DIV	DIVISION
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DR	DOOR
DRN	DRAIN
DS	DIRECTIONAL SIGN
DS	DOWNSPOUT
DUPL	DUPLICATE

DW	DISHWASHER
DWG	DRAWING
DWL	DOWEL
DWR	DRAWER
DWV	DRAIN WASTE & VENT
E	EAST
EA	EACH
(E)	EXISTING
EC	ELASTOMERIC COATING
ECON	ECONOMIZER
ECU	EVAPORATIVE COOLING UNIT
EF	EACH FACE
EHD	ELECTRIC HAND DRYER
EJ	EXPANSION JOINT
EL	ELEVATION
ELAST	ELASTOMERIC
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR
EMER	EMERGENCY
ENAM	ENAMEL
ENCL	ENCLOSURE
ENGR	ENGINEER
ENTR	ENTRANCE
EP	ELECTRICAL PANEL
EOP	EDGE OF PAVEMENT
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ	EQUAL
EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
ES	EACH SIDE
EST	ESTIMATE
ESMNT	EASEMENT
EW	EACH WAY
EWC	ELECTRICAL WATER COOLER
EXH	EXHAUST
EXIST	EXISTING
EXIST GR	EXISTING GRADE
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
F/F	FACE TO FACE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FC	FOOTCANDLE
FCO	FLOOR CLEANOUT
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FEM	FEMALE
FGL	FIBERGLASS
FHC	FIRE HOSE CABINET
FHMS	FLAT HEAD MACHINE SCREW
FHWS	FLAT HEAD WOOD SCREW
FH	FIRE HYDRANT
FIN	FINISH
FIXT	FIXTURE
FF	FINISH FLOOR
FG	FINISH GRADE
FL	FLASHING
FL	FLOW LINE
FLR	FLOOR/FLOORING
FLR FIN	FLOOR FINISH
FLUOR	FLUORESCENT
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FPM	FEET PER MINUTE
FREQ	FREQUENCY
FS	FLOOR SINK
FSPKR	FIRE SPRINKLER
FSS	FOLDING SHOWER SEAT
FSTNR	FASTENER
FT	FOOT
FTG	FITTING
FTG	FOOTING
FURR	FURRING
FURN	FURNITURE
FUT	FUTURE
FWC	FABRIC WALL COVERING
G	GAS
GA	GAGE/GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR
GI	GALVANIZED IRON
GL	GLASS
GLU LAM	GLUE LAMINATED
GLBM	GLUE LAMINATED BEAM
GLZ	GLAZING
GMU	GLASS MASONRY UNIT
GND	GROUND
GOVT	GOVERNMENT
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRADE/GRADING
GRC	GRAFFITTI RESISTANT COATING
GR BM	GRADE BEAM
GR LN	GRADE LINE
GRTG	GRATING
GRV	GRAVITY ROOF VENTILATOR
GSTL	GALVANIZED STEEL
GV	GRAVITY VENT
GVL	GRAVEL
GVTR	GAS VENT THROUGH ROOF
GYP	GYPSUM
GBD	GYPSUM BOARD
H	HIGH
H PLAM	HIGH PRESSURE LAMINATE
HB	HOSE BIBB
HC	HOLLOW CORE
HC	HOSE CABINET
HD	HEAD
HDBD	HARDBOARD
HDR	HEADER
HDWL	HEADWALL
HDWR	HARDWARE
HGR	HANGER
HGT	HEIGHT
HHWS	HEX HEAD WOOD SCREW
HM	HOLLOW METAL
HO	HOLD-OPEN
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HS	HIGH STRENGTH
HSB	HIGH STRENGTH BOLT
HTG	HEATING
HTR	HEATER
HVY	HEAVY
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HW	HOT WATER
HYD	HYDRANT

ID	INSIDE DIAMETER
IF	INSIDE FACE
ILLUM	ILLUMINATION
INCAND	INCANDESCENT
INL	INLET
INSTL	INSTALLATION
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
INV EL	INVERT ELEVATION
IP	IRON PIPE
IPS	INSIDE PIPE SIZE
IPS	INTERNATIONAL PIPE STANDARD
ISO	ISOMETRIC
IWH	INSTANTANEOUS WATER HEATER
JAN	JANITOR
JB	JUNCTION BOX
JST	JOIST
JT	JOINT
KD	KILN DRIED
KD	KNOCK DOWN
KO	KNOCKOUT
KPL	KICKPLATE
L	LEFT
LAD	LADDER
LAM	LAMINATED
LAT	LATERAL
LAV	LAVATORY
LB	LAG BOLT
LB	POUND
LDG	LANDING
LDR	LEADER
LF	LINEAR FOOT
LG	LONG
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LIN	LINEAR
LKR	LOCKER
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDINAL
LP	LOW POINT
LP	LOW PRESSURE
LS	LUMP SUM
LT	LIGHT
LT WT	LIGHTWEIGHT
LTG	LIGHTING
LTG PNL	LIGHTING PANEL
LUB	LUBRICATE
LV	LOW VOLTAGE
LVL	LEVEL
LVR	LOUVER
LVR	LEVER
LWC	LIGHTWEIGHT CONCRETE
M	MIRROR
MACH RM	MACHINE ROOM
MAINT	MAINTENANCE
MAN	MANUAL
MARB	MARBLE
MAS	MASONRY
MATL	MATERIAL
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MB	MACHINE BOLT
MB	MIXING BOX
MBF	THOUSAND BOARD FEET
MBD	MARKER BOARD
MC	MOMENT CONNECTION
MC	MEDICINE CABINET
MDF	MEDIUM DENSITY FIBERBOARD
MDO	MEDIUM DENSITY OVERLAID
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MET	METAL
MEZZ	MEZZANINE
MFGR	MANUFACTURER
MH	MANHOLE
MI	MILE
MIR	MIRROR
MGL	MIRROR GLASS
MLDG	MOLDING
MLWK	MILLWORK
MO	MASONRY OPENING
MOD	MODULE
MON	MONUMENT
MPH	MILES PER HOUR
MR	MOP RACK
MS	MIRROR WITH SHELF
MTD	MOUNTED
MTG	MEETING
MTG	MOUNTING
MTR	METER
MTR	MORTAR
MULL	MULLION
MULT	MULTIPLE
#	NUMBER
N	NORTH
NA	NOT APPLICABLE
NAT	NATURAL
NCP	NON-REINFORCED CONCRETE PIPE
NEG	NEGATIVE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
NRC	NOISE REDUCTION COEFFICIENT
NST	NATURAL STONE TILE
NTS	NOT TO SCALE
O/O	OUT TO OUT
OA	OUTSIDE AIR
OA	OVERALL
OBS	OBSCURE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OD	OUTSIDE DIMENSION
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OH	OPPOSITE HAND
OHD	OVERHEAD
OHWS	OVAL HEAD WOOD SCREW
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
OVFL	OVERFLOW
OZ	OUNCE
d	PENNY
PAR	PARALLEL
PB	PANIC BAR
PBD	PARTICLEBOARD
PC	PIECE

PC	POINT OF CURVE
PC	PORTLAND CEMENT
PCF	POUNDS PER CUBIC FOOT
PD	PLANTER DRAIN
PERF	PERFORATED
PERIM	PERIMETER
PERM	PERMANENT
PERP	PERPENDICULAR
PF	PAINT FINISH
PFX	PAINT FINISH - EXTERIOR
PGL	PLASTIC GLAZING
PH	PHASE
PHOTO	PHOTOGRAPH
PHS	PHILLIP HEAD SCREW
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PKG	PACKAGE
PL	PLATE
PL	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLAT	PLATFORM
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PLYWD	PLYWOOD
PNL	PANEL
PNT	PAINT
POL	POLISHED
PORT	PORTABLE
POS	POSITIVE
POT	PATH OF TRAVEL
PR	PAIR
PRCST	PRECAST
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PRELIM	PRELIMINARY
PREP	PREPARATION
PRKG	PARKING
PROJ	PROJECT
PROP	PROPERTY
PS	PROJECTION SCREEN
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PTR	PAPER TOWEL RECEPTACLE
PTS	PNUEMATIC TUBE STATION
PVC	POLYVINYL CHLORIDE
PVG	PAVING
PVMT	PAVEMENT
PWR	POWER
QT	QUARRY TILE
QTR	QUARTER
QTY	QUANTITY
QUAL	QUALITY
RA	RETURN AIR
RA GR	RETURN AIR GRILLE
RAD	RADIUS
RB	RUBBER BASE
RBR	RUBBER
RC	REINFORCED CONCRETE
RCP	PREINFORCED CONCRETE PIPE
RD	ROAD
RD	ROOF DRAIN
REC	RECESSED
RECD	RECEIVED
RECIRC	RECIRCULATE
RECPT	RECEPTACLE
RECPT	RECEPTIONIST
RECT	RECTANGULAR
REF	REFERENCE
REFL	REFLECTOR
REFR	REFRIGERATOR
REG	REGISTER
REINF	REINFORCED/REINFORCING
REM	REMOVABLE
RE	RIM ELEVATION
REQD	REQUIRED
RESIL	RESILIENT
RET	RETURN
RFG	ROOFING
RH	RELATIVE HUMIDITY
RH	RIGHT HAND
RHMS	ROUND HEAD MACHINE SCREW
RHR	RIGHT HAND REVERSE
RHWS	ROUND HEAD WOOD SCREW
RLG	RAILING
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RPW	RIGID PROTECTIVE WALLCOVERING
RS	ROOM SIGN
RSF	RESILIENT SHEET FLOORING
RTF	RESILIENT TILE FLOOR
RWC	RAIN WATER CONDUCTOR
RWF	RESILIENT WOOD FLOOR
RWL	RAIN WATER LEADER
S	SOUTH
S	SHELF
SA	SUPPLY AIR
SAG	SUPPLY AIR GRILLE
SALV	SALVAGE
SAN	SANITARY
SAT	SATURATION
SB	SPLASH BLOCK
SC	SHOWER CURTAIN
SC	SOLID CORE
SCD	SEAT COVER DISPENSER
SCHED	SCHEDULE
SD	SOAP DISPENSER
SD	STORM DRAIN
SD	SUPPLY DIFFUSER
SDS	SITE DIRECTIONAL SIGN
SEC	SECOND
SECT	SECTION
SGL	SINGLE
SHT	SHEET/SHEETING
SHTHG	SHEATHING
SHV	SHELVES/SHELVING
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SLV	SLEEVE
SM	SHEET METAL
SMS	SHEET METAL SCREW
SNK	SINK
SP	SPACING
SPCL	SPECIAL
SPEC	SPECIFICATION
SPD	SANITARY PRODUCTS DISPENSER
SPRM	SPRAYED FIRE RESISTIVE MATERIAL
SPKLR	SPRINKLER
SPKR	SPEAKER
SPLY	SUPPLY
SPW	SANITARY PRODUCTS WASTE RECEPTACLE

SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SS	SANITARY SEWER
SR	SHOWER ROD
SSNK	SERVICE SINK
SSTL	STAINLESS STEEL
ST	STREET
ST	STAIN FINISH
STA	STATION
STAG	STAGGERED
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
STX	STAIN FINISH - EXTERIOR
SUH	SUSPENDED UNIT HEATER
SUSP	SUSPENDED
SV	STONE VENEER
SWHR	SHOWER
SWR	SEWER
SYM	SYMBOL
SYM	SYMMETRICAL
SYNTH	SYNTHETIC
SYS	SYSTEM
T	TEE
T	THERMOSTAT
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TAN	TANGENT
TB	TOWEL BAR
TBD	TACKBOARD
TBD	TO BE DETERMINED
TBT	THIN BRICK TILE
TC	TOP OF CONCRETE
TC	TOP OF CURB
TD	TOWEL DISPENSER
TD	TRENCH DRAIN
TDR	TOWEL DISPENSER WASTE RECEPTACLE
TE	TOP ELEVATION
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERED
TEMP	TEMPERATURE
TEMP	TEMPORARY
TER	TERRAZZO
TERM	TERMINAL
THK	THICKNESS
THRESH	THRESHOLD
THRU	THROUGH
TOBM	TOP OF BEAM
TOC	TOP OF CURB
TOF	TOP OF FOOTING
TOL	TOLERANCE
TOM	TOP OF MASONRY
TOP	TOP OF PAVING
TOP	TOP OF PARAPET
TOS	TOP OF SHEATHING
TOS	TOP OF STEEL
TOT	TOTAL
TOW	TOP OF WALL
TPH	TOILET PAPER HOLDER
TPL	TOP OF PLATE
TRANS	TRANSPARENT
TRMS	TAMPER RESISTANT METAL SCREW
TRWS	TAMPER RESISTANT WOOD SCREW
TS	TUBE STEEL
TV	TELEVISION
TYP	TYPICAL
UC	UNDERCUT
UNFIN	UNFINISHED
UNGND	UNDERGROUND
UNIF	UNIFORM
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
UTIL	UTILITY
UV	ULTRAVIOLET
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VALVE BOX
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VCP	VITRIFIED CLAY PIPE
VCTBD	VINYL COVERED TACKBOARD
VENT	VENTILATOR
VERT	VERTICAL
VEST	VESTIBULE
VIB	VIBRATION
VIT	VITREOUS
VNR	VENEER
VOL	VOLUME
VS	VEHICULAR SIGN
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W	WEST
W/	WITH
W/O	WITHOUT
W/W	WALL TO WALL
WC	WATER CLOSET
WCO	WALL CLEANOUT
WD	WOOD
WDW	WINDOW
WF	WIDE FLANGE
WGL	WIRE GLASS
WH	WALL HYDRANT
WHTR	WATER HEATER
WI	WROUGHT IRON
WIC	WOODWORK INSTITUTE OF CALIFORNIA
WID	WIDTH
WL	WATER LINE
WL	WIND LOAD
WP	WORKING POINT
WP	WATERPROOF
WR	WATER RESISTANT
WR	WASTE RECEPTACLE
WSCT	WAINSCOT
WSP	WET STAND PIPE
WT	WEIGHT
WTR	WATER
WTRPRF	WATERPROOFING
WWF	WELDED WIRE FABRIC
XFMR	TRANSFORMER
YB	YARD BOX
YD	YARD
ZA	ZINC ALLOY

SYMBOLS

NORTH ARROW

ITEM / ELEVATION — SPOT ELEVATION

ITEM / ELEVATION — FINISH FLOOR LEVEL

A / 1 — STRUCTURAL GRID LINES

MATCH LINE

DTL # / SHT # — DETAIL REFERENCE TAG
DETAIL NUMBER
SHEET NUMBER

DTL # / SHT # — BUILDING SECTION TAG
DETAIL NUMBER
SHEET NUMBER

DTL# / SHT# — BUILDING ELEVATION TAG
DETAIL NUMBER
SHEET NUMBER

NAME / NO. / X'-X" — ROOM NAME TAG
ROOM NUMBER
ROOM CEILING HEIGHT

D / C SHT # A / B — INTERIOR ELEVATION TAG
DETAIL NUMBER
SHEET NUMBER

X — WALLTYPE TAG
(SEE SHEET G0.7)

X — WINDOW NUMBER TAG
(SEE WINDOW SCHEDULE)

X — EQUIPMENT TAG
(SEE EQUIPMENT SCHEDULE)

X — DOOR NUMBER TAG
(SEE DOOR / FRAME SCHEDULE)

X — CONSTRUCTION KEYNOTE
(SEE LEGEND EACH SHEET)

X — DEMOLITION KEYNOTE
(SEE LEGEND EACH SHEET)

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

SEAL

LICENSED ARCHITECT — JOHN KRAUSE — NO. C26885 — REN. 8-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC APPR FLS SS

DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
SYMBOLS / ABBREVIATIONS

Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE

Project No.: 15-245
Date: 08/30/2016

DRAWING NO.
A0.2.1

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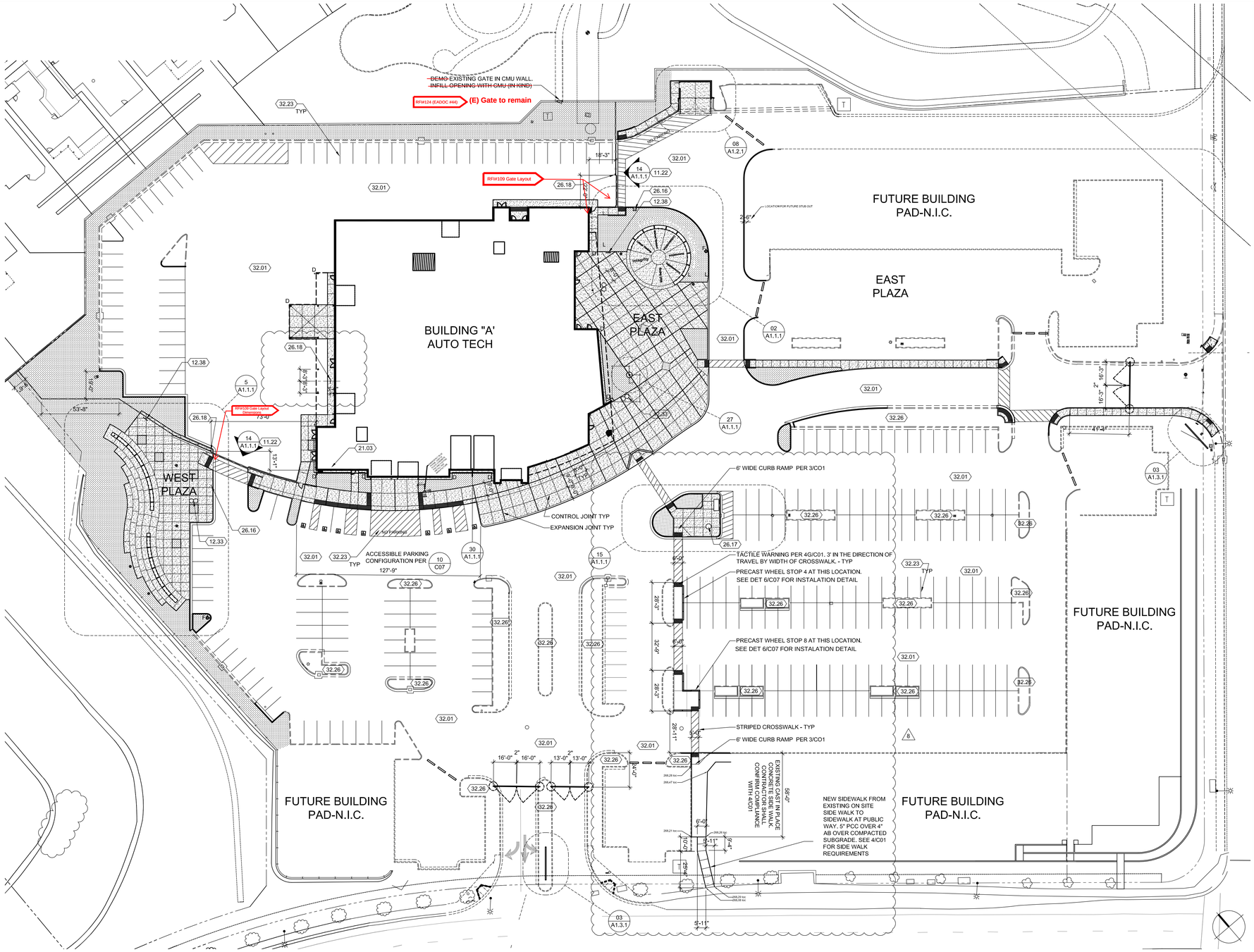

SITE PLAN

SCALE: 1" = 30'-0"

APPROVED
DIV OF THE STATE ARCHITECT
SACRAMENTO REGIONAL OFFICE
AC 4N **F/LS** --- **SS** SPF
APP. # 02-114995 **DATE** 08/04/17
DOC NAME : CCD # 053

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Auburn, CA 95603
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KEYNOTES

11.22 PARKING CARD KEY ACCESS UNIT – 11 12 00
12.33 TRASH RECEPTACLE – 12 40 00/12 93 00
12.38 BICYCLE RACK – 12 93 00
21.03 FIRE SPRINKLER RISER AND VALVE ASSEMBLY
26.16 GATE CONTROL BOLLARD
26.17 EMERGENCY PHONE
26.18 GATE CONTROL MOTOR
32.01 ASPHALT PAVING PROFILE PER CIVIL – 32 12 16
32.03 CONCRETE PAVING PROFILE PER CIVIL – 32 13 13
32.21 CHAIN LINK FENCES AND GATES ___ - 32 31 13
32.23 SITE STRIPING PER CIVIL
32.26 LANDSCAPE PLANTING – 32 90 00

RFI#213
Trash & Recycling Receptacles, Bicycle Racks

RFI#198
Revised control joint layout

RFI#214
Add slip dowels every 18" at flatwork control joints

LEGEND

- CROSSWALK - STRIPING PER CIVIL
- 32.03 CONCRETE - PROFILE PER CIVIL
- 32.26 LANDSCAPE - MATERIAL PER LANDSCAPE
- TACTILE WARNING SURFACES
- F FIRE HYDRANT
- L LIGHT BOLLARD
- D DOWNSPOUT

SEAL

LICENSED ARCHITECT CHRISTOPHER C YOUNG No. C029854 REN 8/31/2017 STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC. ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title
OVERALL SITE PLAN

Drawn By: HUGG
Checked By: CHECKED BY

NO.	DATE	ISSUE
8	7/26/2017	ACCESSIBLE PATH

Project No.: 15-245
©Date: 08/30/2016

DRAWING NO.
A1.0.1
AX-61

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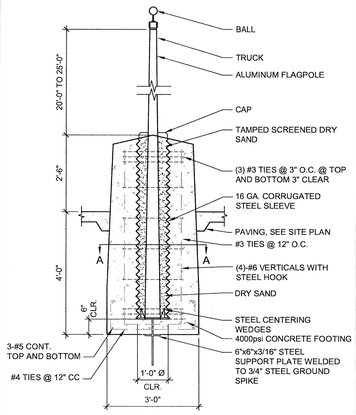
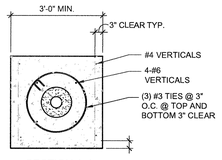
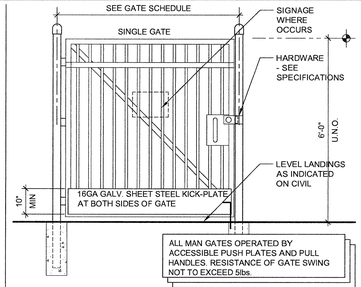




SECTION A-A

FLAGPOLE FOOTING

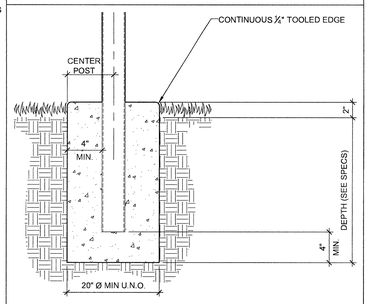
SCALE: 1/2" = 1'-0" FLGPL-FTNG 27



CCD#033
ASI#017
Anti vandal mesh

ORNAMENTAL MAN GATE

SCALE: 1/2" = 1'-0" SIT-FNC-CHNLNK-MANGAT 21

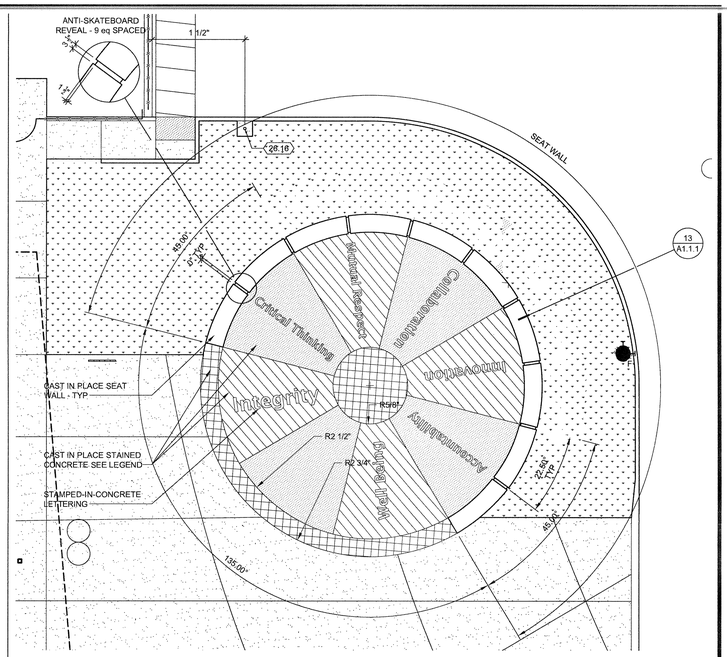


FENCE POST FOOTING

SCALE: 1 1/2" = 1'-0" SIT-FNC-CHNLNK-FTG 22

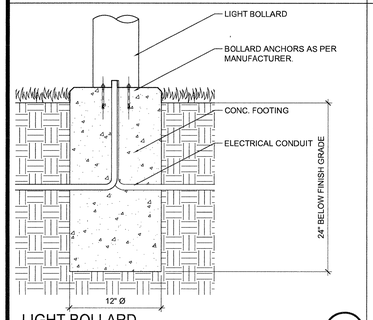
RFI#109 Gate Layouts

Detail added



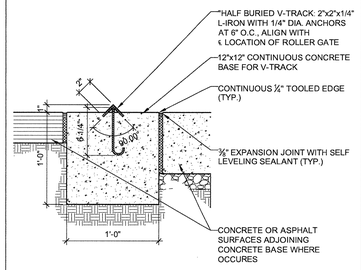
ENLARGED TRELLIS PLAN

SCALE: 1/8" = 1'-0" 2



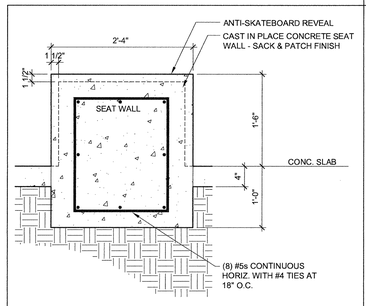
LIGHT BOLLARD

SCALE: 1 1/2" = 1'-0" SIT-BLRD-LGHT 28



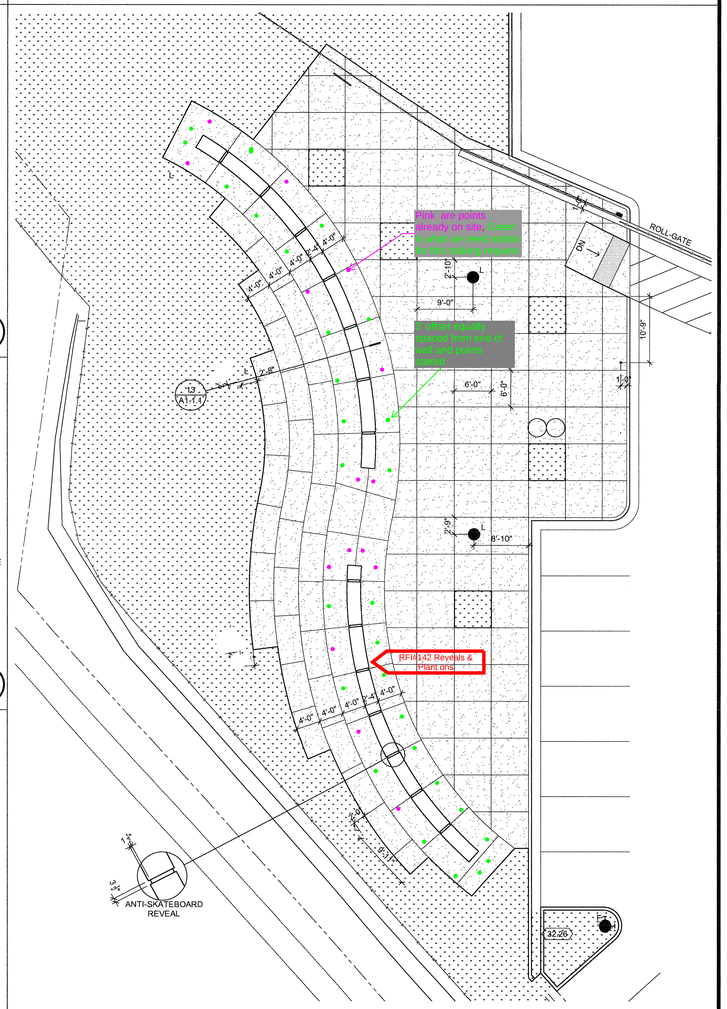
ROLLING GATE "V" TRACK

SCALE: 1 1/2" = 1' - 0" SIT-FNC-GAT-TRCK 23



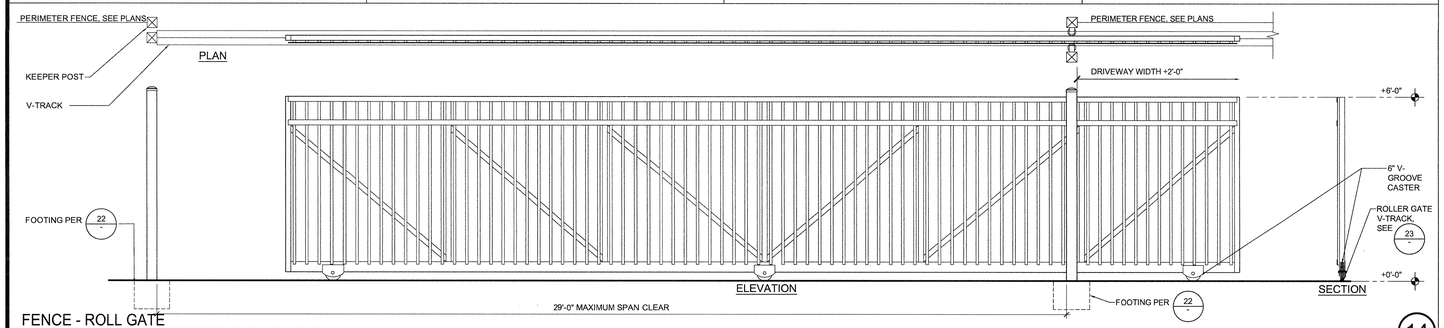
CONC. SEAT WALL

SCALE: 1" = 1'-0" SIT-CONC SEAT-SECT 13



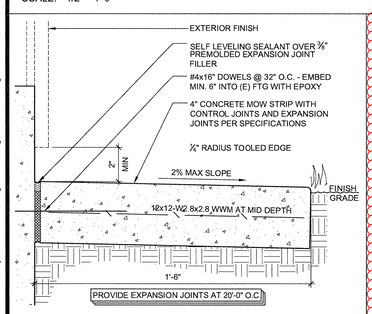
ENLARGED SEAT WALL PLAN

SCALE: 1" = 10'-0" 5



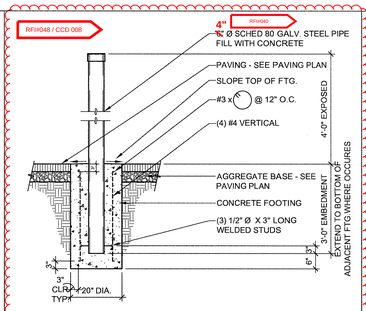
FENCE - ROLL GATE

SCALE: 1/2" = 1'-0" SIT-FNC-ROLGAT 14



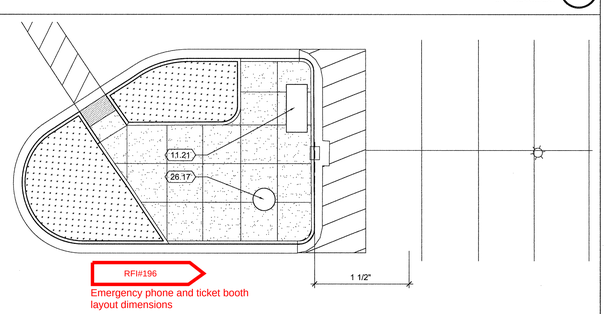
CONC. MOW STRIP AT BUILDING

SCALE: 3" = 1'-0" CONC-MWSTRP-BLDG 30



TYPICAL FIXED PIPE BOLLARD

SCALE: 1/2" = 1'-0" SIT-BLRD-FXD 25



Emergency phone and ticket booth layout dimensions

ENLARGED PARKING PERMIT

SCALE: 1" = 10'-0" 15

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26.16 GATE CONTROL BOLLARD

32.03 CONCRETE PAVING CP-____ – 32 13 13
32.26 LANDSCAPE PLANTING – 32 90 00

11.21 PARKING TICKET MACHINE
VENTEK VENSTATION.
IN GROUND MOUNTING OPTION

26.17 EMERGENCY PHONE
TALK PHONE ETP-MT/R-OPS

LEGEND

- CONCRETE COLOR - 1
- CONCRETE COLOR - 2
- CONCRETE COLOR - 3
- ROLL-GATE MOTOR
- 32.03 CONCRETE
- 32.26 LANDSCAPE
- TACTILE WARNING SURFACES
- F FIRE HYDRANT
- L LIGHT BOLLARD
- TRASH RECEPTACLES
- BIKE RACK

GENERAL NOTES

1. REFER TO CIVIL GRADING PLAN FOR ALL CURB RAMP AND CUT DESIGN AND SLOPES.

SEAL

LICENSED ARCHITECT — CHRISTOPHER A. JOSEPH — NO. C26995 REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC FLS SS
DATE: 9/8/16

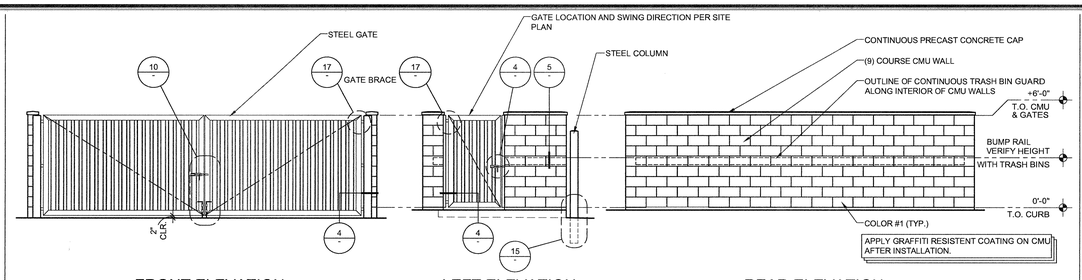
Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: ENLARGED SITE PLANS

Drawn By: HUGG
Checked By: CHECKED BY
Project No.: 15-245
@Date: 08/30/2016

DRAWING NO. A1.1.1

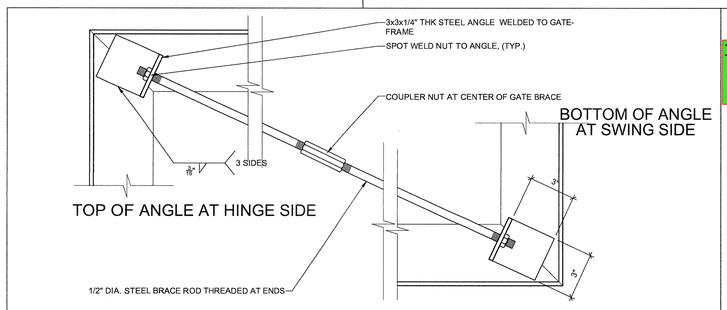
NO.	DATE	ISSUE



TRASH ENCLOSURE - ELEVATIONS

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

CMU-TRSHCLSR-ELEV **6**

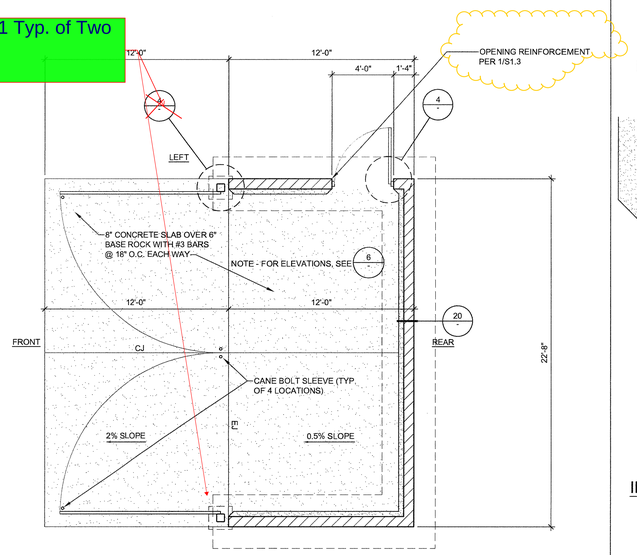


TRASH ENCLOSURE

SCALE: 3" = 1'-0"

CMU-TRSHCLSR-GARBRC **17**

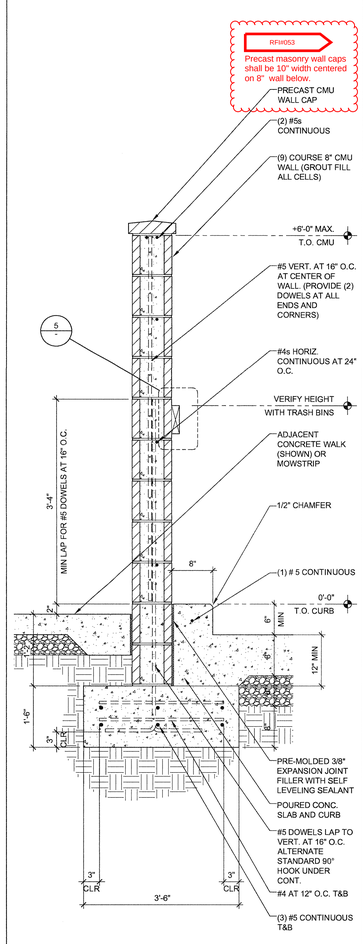
15 on A 1.2.1 Typ. of Two



TRASH ENCLOSURE PLAN

SCALE: 1/4" = 1-0"

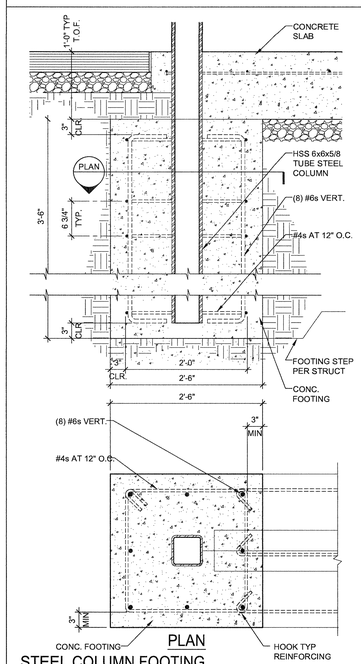
CMU - TRSHCLSR **8**



TRASH ENCLOSURE WALL SECTION

SCALE: 1" = 1'-0"

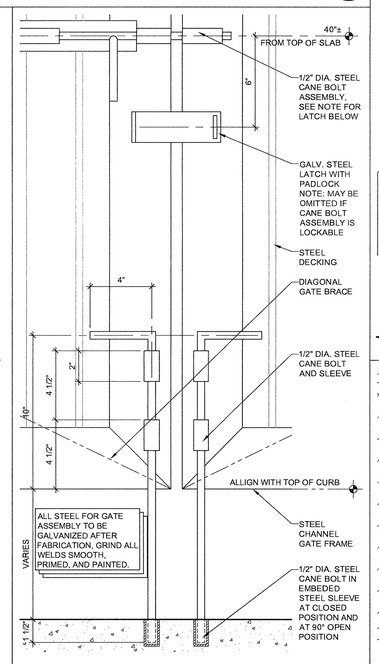
CMU-TRSHCLSR-WLLSCT **20**



STEEL COLUMN FOOTING TRASH ENCLOSURE

SCALE: 1" = 1'-0"

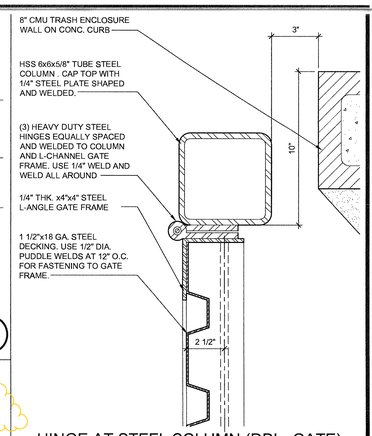
CMU-TRSHCLSR-CLMN-FTG **15**



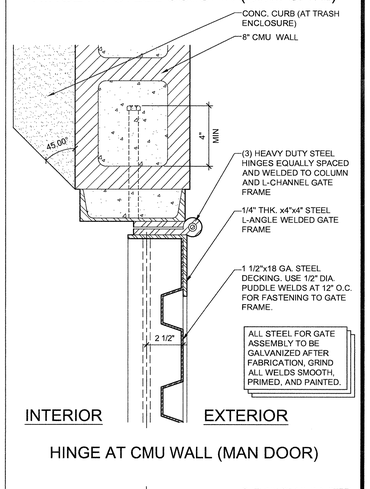
DBL. GATE LATCH

SCALE: 3" = 1'-0"

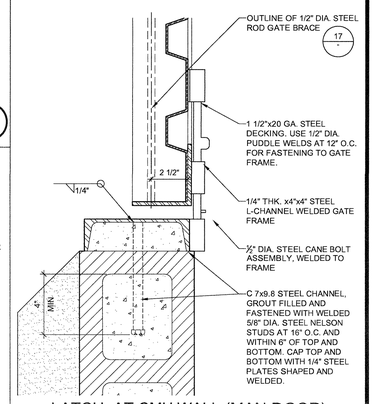
CMU-TRSHCLSR-LTCH **10**



HINGE AT STEEL COLUMN (DBL. GATE)



HINGE AT CMU WALL (MAN DOOR)

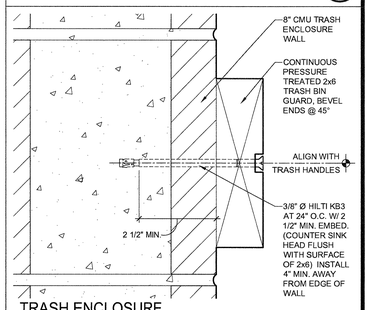


LATCH AT CMU WALL (MAN DOOR)

TRASH ENCLOSURE DOOR JAMBS AND HINGES

SCALE: 3" = 1'-0"

CMU-TRSHCLSR-GAT-JMB-STRIKE **4**



TRASH ENCLOSURE TRASH BIN GUARD

SCALE: 6" = 1'-0"

CMU-TRSHCLSR-BNGRD **5**

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CCD#043 (ASI #024)

LIGHT POLE FOOTING DETAIL
(RFI #208 SUPERCEDED)

SEAL

LICENSED ARCHITECT — NO. C26985 REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL.# 02-114995

AC APN FILE SS

DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title
SITE SECTIONS AND DETAILS

Drawn By: HJGG
Checked By: CHECKED BY
Project No.: 15-245
Date: 08/30/2016

NO. DATE ISSUE

DRAWING NO.
A1.2.1

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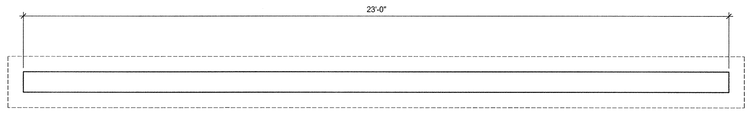
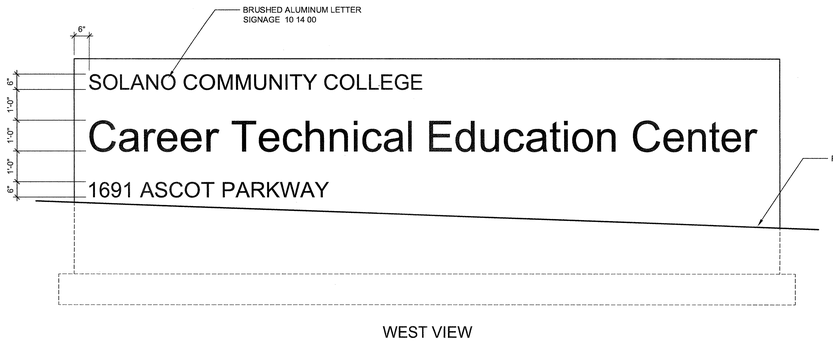
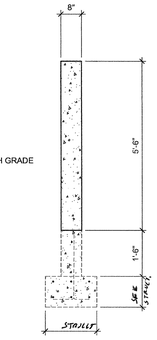


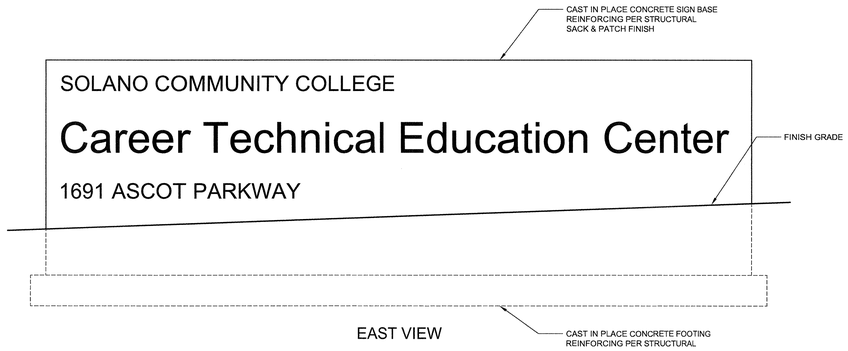
TOP VIEW



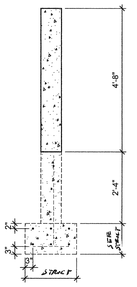
WEST VIEW



SOUTH VIEW



EAST VIEW



NORTH VIEW

STREETFRONT SIGN

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

SIT-SIGN-STREETFRONT

3

1

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite 220
Auburn, CA 95603
530.888.0998
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SEAL

LICENSED ARCHITECT
Oliver
NO. C30085
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC FA SS

DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title
SITE SECTIONS AND DETAILS

Drawn By
HUGG

Checked By
CHECKED BY

NO.	DATE	ISSUE

Project No.
15-245

@Date
08/30/2016

DRAWING NO.
A1.3.1

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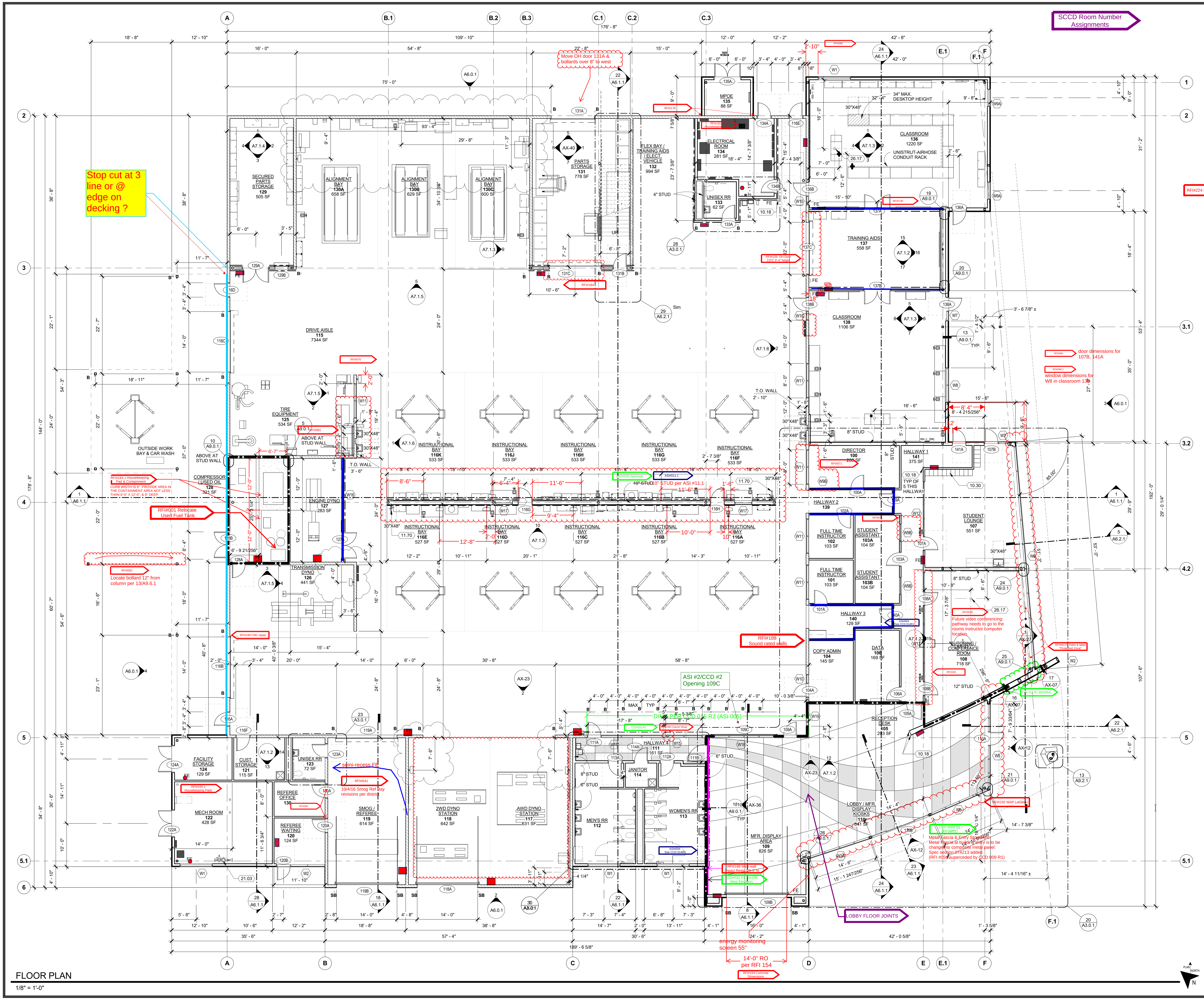

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Suite120
Auburn, CA 95603
530.888.0998

www.jkaia.net

KEYNOTES

10.18	CORNER GUARD – 10 26 00
10.30	METAL LOCKERS – 10 51 13
11.17	PROJECTION SCREEN – 11 52 13
11.70	COMBINATION EMERGENCY EYEWASH/SHOWER
21.03	FIRE SPRINKLER RISER AND VALVE ASSEMBLY
26.17	FLOOR BOX - SEE ELECTRICAL DRAWINGS

FLOOR PLAN LEGEND

- RFI#224 FE Locations — FE — FIRE EXTINGUISHER
- RFI#205 — Acoustic Wall Treatment Locations
- IMPACT RESISTANT GYPSUM BOARD
- NON-RATED PARTITION
- 1 HOUR RATED PARTITION
- 8" CMU PARTITION
- B — 4" BOLLARD PAINTED SAFETY YELLOW - SEE 26/A9.6.1
- SB — 4" BOLLARD PAINTED SILVER, EXACT HUE T.B.D. - SEE 26/A9.6.1
- 60" DIAMETER CLEAR TURNING SPACE
- 48" x 30" CLEAR FLOOR SPACE

60" CLEAR PULL SIDE
2'-3" TYP @ 3'-6" DOOR
2'-0" TYP @ 3'-0" DOOR
18" CLEAR PULL SIDE @ INT.
24" CLEAR PULL SIDE @ EXT.
ROOM SIGNAGE - 10 14 00 (-/G4.0.2)
TACTILE EXIT SIGNAGE - 10 14 00 (-/G4.0.2)
RS-1 RS-2
12" CLEAR PUSH SIDE
ACCESSIBLE CLEARANCE ZONE AT DOOR.
48" CLEAR PUSH SIDE

TYPICAL DOOR LAYOUT UNO

30" CLEAR
48" CLEAR
ACCESSIBLE CLEARANCE ZONE AT DESK.
UNOBSTRUCTED KNEE CLEARANCE HEIGHT 29"

ACCESSIBLE DESK

GENERAL NOTES

1. FIRST FLOOR FINISH FLOOR IS 0'-0" = 266.33'
2. SEE -/G0.4.1 FOR ALL ACCESSIBLE CLEARENCE REQUIREMENTS.
3. DOOR FRAMES LOCATED NEAR ADJACENT WALLS OR CASEWORK TO BE 4" FROM INSIDE CORNER, OR TO NEAREST BLOCK MODULE AT CMU WALLS, U.N.O.
4. COORDINATE AND CONFIRM EXACT LOCATIONS OF ALL FLOOR MOUNTED OUTLETS PRIOR TO CONCRETE PLACEMENT, SEE ELECT.
5. FOR TYPICAL WALL FRAMING DETAILS, SEE SHEET A9.0.1
6. ALL EXTERIOR DIMENSIONS ARE TO FACE OF EXTERIOR SHEATHING, FOUNDATION CURB, AND CMU.
7. ALL INTERIOR DIMENSIONS ARE TO FACE OF FRAMING.
8. VERIFY ALL STUD WIDTHS AND GAUGES WITH STRUCTURAL DRAWINGS
9. ALL EXTERIOR METAL STUDS ARE 6" U.N.O
10. ALL INTERIOR METAL STUDS ARE 4" U.N.O.
11. ALL STUD WALLS IN C.M.U. AREA (INSTRUCTIONAL BAYS) ARE 6" U.N.O.
12. ALL INTERIOR PARTITIONS ARE FULL HEIGHT TO BOTTOM ROOF DECK U.N.O.
13. SEE -/G0.4.1 FOR RESTROOM MOUNTING HEIGHTS AND DIMENSIONS

SEAL

LICENSED ARCHITECT CHRISTOPHER C. VICENCIO NO. C26985 REN. 6-30-19 STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
FLOOR PLAN

360-degree Photo Floor Plan

Drawn By	FH
Checked By	SP
Project No.	15-245
©Date	10/05/2016

NO. DATE ISSUE

DRAWING NO.
A2.1.1
AX - 59.1

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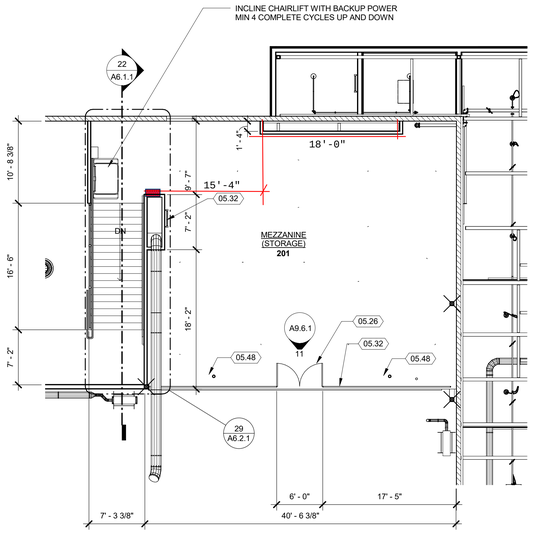
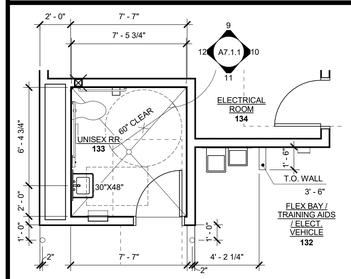
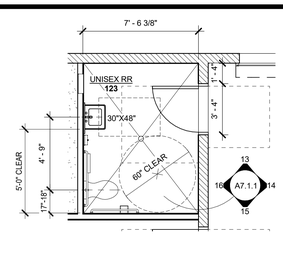


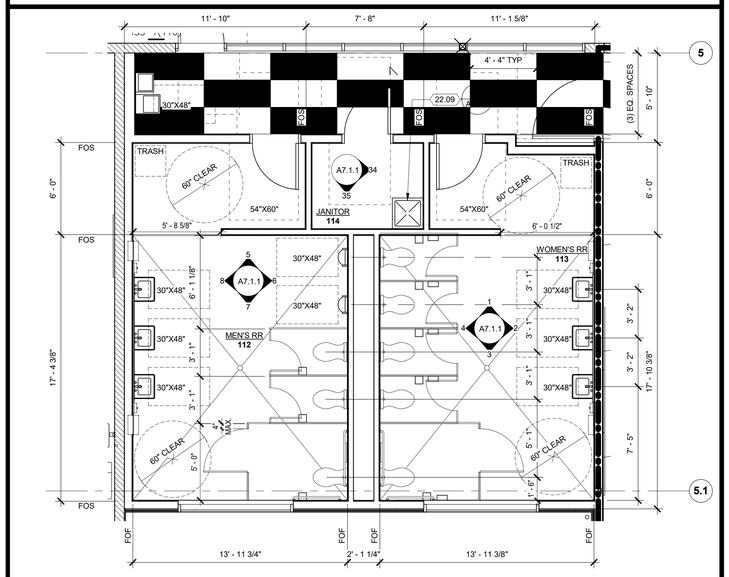
27 MEZZANINE PLAN
1/8" = 1'-0"



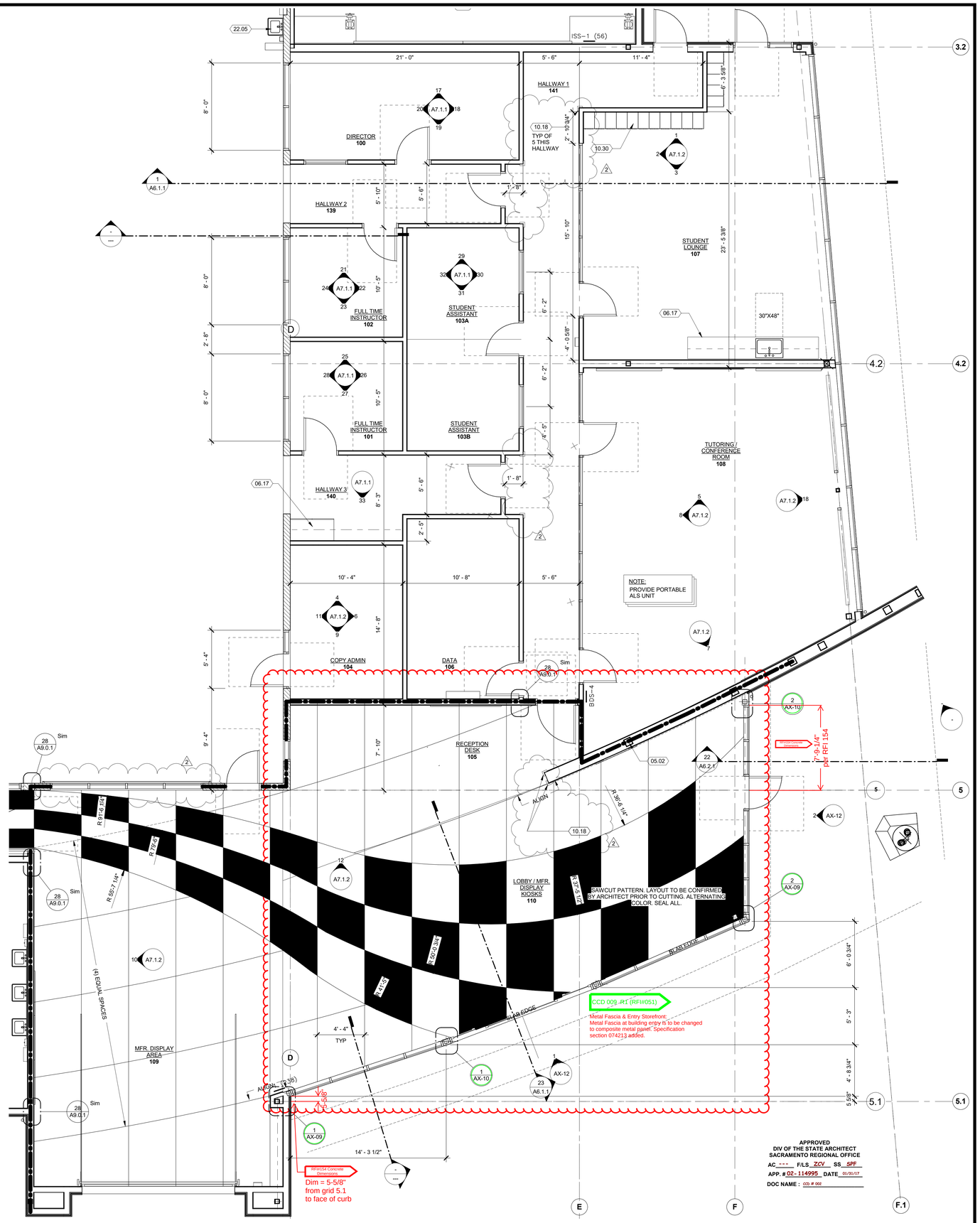
28 FLOOR PLAN - ENLARGED UNISEX 136
1/4" = 1'-0"



23 FLOOR PLAN - ENLARGED UNISEX 123
1/4" = 1'-0"



30 FLOOR PLAN - ENLARGED MEN'S / WOMEN'S
1/4" = 1'-0"



APPROVED
DIV OF THE STATE ARCHITECT
SACRAMENTO REGIONAL OFFICE
AC -- F/LS ZCV SS SPF
APP. # 02-114995 DATE 01/31/17
DOC NAME : CCD # 002

20 FLOOR PLAN - ENLARGED LOBBY / OFFICES
1/4" = 1'-0"

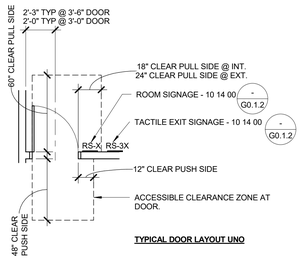
JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

KEYNOTES

05.02	STEEL COLUMN – 05 12 00
05.26	FABRICATED STEEL GATE – 05 50 00
05.32	STEEP PIPE GUARDRAIL – 05 50 00
05.48	FALL ARREST TIE OFF
06.17	PLASTIC LAMINATE CUSTOM CASEWORK – 06 41 00
10.18	CORNER GUARD – 10 26 00
10.30	METAL LOCKERS – 10 51 13
22.05	SINK
22.09	MOP SINK

FLOOR PLAN LEGEND

- FE — FIRE EXTINGUISHER
- IMPACT RESISTANT GYPSUM BOARD
- NON-RATED PARTITION
- 1 HOUR RATED PARTITION
- 8" CMU PARTITION
- B — 4" BOLLARD PAINTED SAFETY YELLOW - SEE 26/A9.6.1
- SB — 4" BOLLARD PAINTED SILVER, EXACT HUE T.B.D. - SEE 26/A9.6.1
- 60" DIAMETER CLEAR TURNING SPACE
- 48" x 30" CLEAR FLOOR SPACE



TYPICAL DOOR LAYOUT UNO

GENERAL NOTES

1. FIRST FLOOR FINISH FLOOR IS 0'-0" = 266.33'
2. SEE G0.4.1 FOR ALL ACCESSIBLE CLEARENCE REQUIREMENTS.
3. DOOR FRAMES LOCATED NEAR ADJACENT WALLS OR CASEWORK TO BE 4" FROM INSIDE CORNER, OR TO NEAREST BLOCK MODULE AT CMU WALLS, U.N.O.
4. COORDINATE AND CONFIRM EXACT LOCATIONS OF ALL FLOOR MOUNTED OUTLETS PRIOR TO CONCRETE PLACEMENT, SEE ELECT.
5. FOR TYPICAL WALL FRAMING DETAILS, SEE SHEET A9.0.1
6. ALL EXTERIOR DIMENSIONS ARE TO FACE OF EXTERIOR SHEATHING, FOUNDATION CURB, AND CMU.
7. ALL INTERIOR DIMENSIONS ARE TO FACE OF FRAMING.
8. VERIFY ALL STUD WIDTHS AND GAUGES WITH STRUCTURAL DRAWINGS
9. ALL EXTERIOR METAL STUDS ARE 6" U.N.O
10. ALL INTERIOR METAL STUDS ARE 4" U.N.O.
11. ALL STUD WALLS IN C.M.U. AREA (INSTRUCTIONAL BAYS) ARE 6" U.N.O.
12. ALL INTERIOR PARTITIONS ARE FULL HEIGHT TO BOTTOM ROOF DECK U.N.O.
13. SEE G0.4.1 FOR RESTROOM MOUNTING HEIGHTS AND DIMENSIONS

SEAL

LICENSED ARCHITECT
CHRISTOPHER C. VIGANO
STATE OF CALIFORNIA
NO. C29585
REN: 6-30-17

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
MEZZANINE PLAN /
ENLARGED FLOOR PLANS

Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE
2	10/19/2016	ASI 002

Project No.: 15-245
©Date: 10/05/2016
DRAWING NO.
A3.0.1
AX - 15

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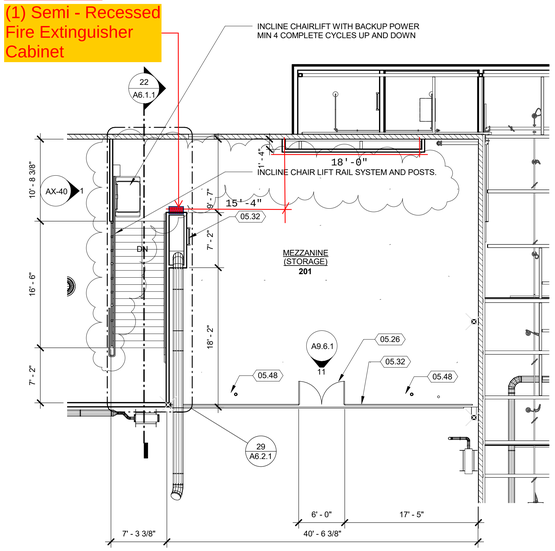
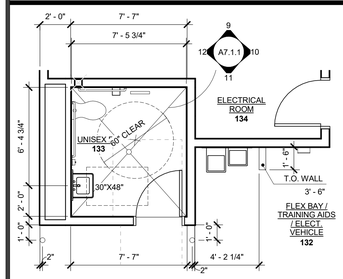
RFI#224

(1) Semi - Recessed Fire Extinguisher Cabinet



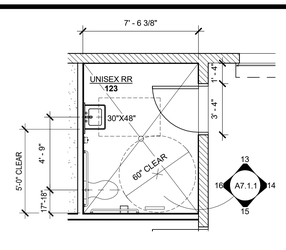
27 MEZZANINE PLAN

1/8" = 1'-0"



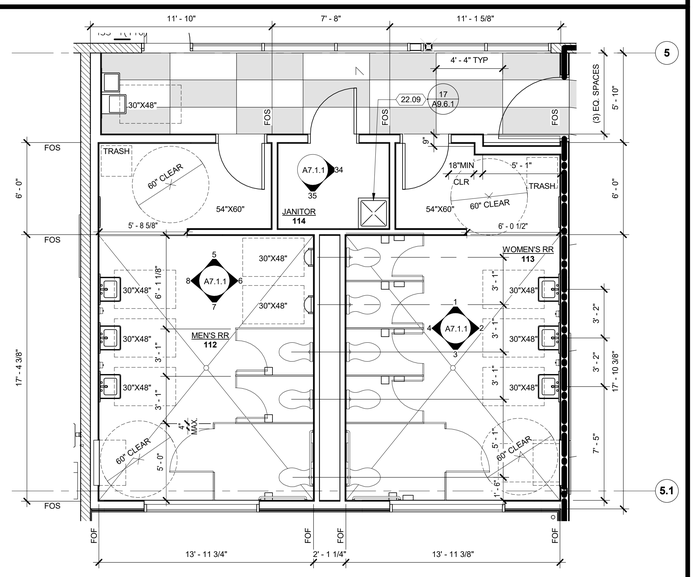
28 FLOOR PLAN - ENLARGED UNISEX 136

1/4" = 1'-0"



23 FLOOR PLAN - ENLARGED UNISEX 123

1/4" = 1'-0"



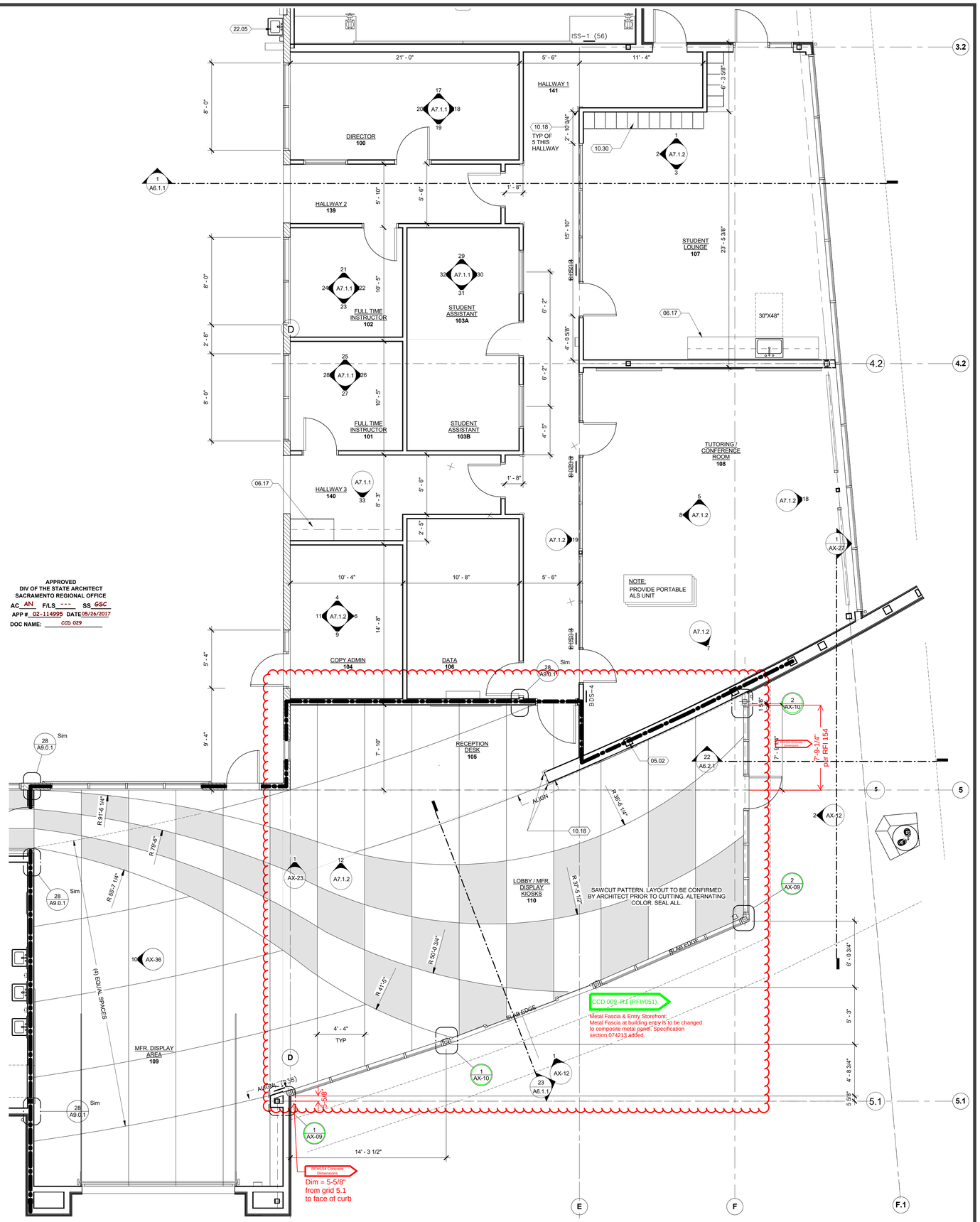
RFI#201

Restroom mirrors with shelves will not conflict with plumbing faucets.

30 FLOOR PLAN - ENLARGED MEN'S / WOMEN'S

1/4" = 1'-0"

APPROVED
DIV OF THE STATE ARCHITECT
SACRAMENTO REGIONAL OFFICE
AC AN F/LS --- SS SSC
APP # 02-114995 DATE 05/26/2017
DOC NAME: CCD 029



20 FLOOR PLAN - ENLARGED LOBBY / OFFICES

1/4" = 1'-0"

JK ARCHITECTURE PARTNERSHIP

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Suite120
Auburn, CA 95603
530.888.0998

www.jkaia.net

KEYNOTES

05.02	STEEL COLUMN – 05 12 00
05.26	FABRICATED STEEL GATE – 05 50 00
05.32	STEEP PIPE GUARDRAIL – 05 50 00
05.48	FALL ARREST TIE OFF
06.17	PLASTIC LAMINATE CUSTOM CASEWORK – 06 41 00
10.18	CORNER GUARD – 10 26 00
10.30	METAL LOCKERS – 10 51 13
22.05	SINK
22.09	MOP SINK

FLOOR PLAN LEGEND

FE — FIRE EXTINGUISHER

IMPACT RESISTANT GYPSUM BOARD

NON-RATED PARTITION

1 HOUR RATED PARTITION

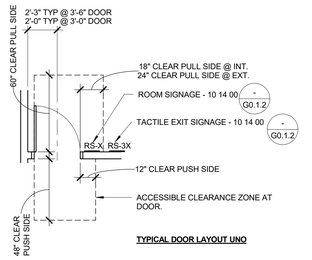
8" CMU PARTITION

B — 4" BOLLARD PAINTED SAFETY YELLOW - SEE 26/A9.6.1

SB — 4" BOLLARD PAINTED SILVER, EXACT HUE T.B.D. - SEE 26/A9.6.1

60" DIAMETER CLEAR TURNING SPACE

48" x 30" CLEAR FLOOR SPACE



TYPICAL DOOR LAYOUT UNO

GENERAL NOTES

1. FIRST FLOOR FINISH FLOOR IS 0'-0" = 266.33'
2. SEE G0.4.1 FOR ALL ACCESSIBLE CLEARENCE REQUIREMENTS.
3. DOOR FRAMES LOCATED NEAR ADJACENT WALLS OR CASEWORK TO BE 4" FROM INSIDE CORNER, OR TO NEAREST BLOCK MODULE AT CMU WALLS, U.N.O.
4. COORDINATE AND CONFIRM EXACT LOCATIONS OF ALL FLOOR MOUNTED OUTLETS PRIOR TO CONCRETE PLACEMENT, SEE ELECT.
5. FOR TYPICAL WALL FRAMING DETAILS, SEE SHEET A9.0.1
6. ALL EXTERIOR DIMENSIONS ARE TO FACE OF EXTERIOR SHEATHING, FOUNDATION CURB, AND CMU.
7. ALL INTERIOR DIMENSIONS ARE TO FACE OF FRAMING.
8. VERIFY ALL STUD WIDTHS AND GAUGES WITH STRUCTURAL DRAWINGS
9. ALL EXTERIOR METAL STUDS ARE 6" U.N.O
10. ALL INTERIOR METAL STUDS ARE 4" U.N.O.
11. ALL STUD WALLS IN C.M.U. AREA (INSTRUCTIONAL BAYS) ARE 6" U.N.O.
12. ALL INTERIOR PARTITIONS ARE FULL HEIGHT TO BOTTOM ROOF DECK U.N.O.
13. SEE G0.4.1 FOR RESTROOM MOUNTING HEIGHTS AND DIMENSIONS

SEAL

LICENSED ARCHITECT
CHRISTOPHER C. YEANDLE
No. C26985
REN 6-30-2018
STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
MEZZANINE PLAN /
ENLARGED FLOOR PLANS

Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE
6	5/12/2017	ASI 23
7	5/17/2017	ASI 16

Project No. 15-245
©Date 10/05/2016

DRAWING NO.
A3.0.1
AX - 56

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Auburn, CA 95603
530.888.0998

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KEYNOTES

05.32	STEEP PIPE GUARDRAIL – 05 50 00
07.26	ROOF DECK INSULATION – BY ROOFING SYSTEM
08.59	LAMINATED GLASS GL-___ – 08 81 00
09.11	PORTLAND CEMENT PLASTER – 09 20 00
09.16	SOFFIT VENT <WIDTH> - 09 20 00
09.63	SUSPENDED ACOUSTICAL CEILING GRID – 09 51 00
11.17	PROJECTION SCREEN – 11 52 13

LEGEND

- OVERHEAD PROJECTOR (4 / A9.5.2)
- GLASS.
- EXPOSED STEEL, SEE STRUCT.
- 2'-0" x 4'-0" SUSPENDED ACOUSTICAL GRID PANELS PER ROOM FINISH SCHEDULE
- GYPSUM BOARD OVER CEILING JOIST PER FINISH SCHEDULE
- CEMENT PLASTER OVER EXT GYP SHEATHING.
- + X'-X" HEIGHT OF CEILING / SOFFIT
- CEILING ACCESS HATCH (11 / A9.5.2)
- PENDANT LIGHTS (9 / A9.5.2)
- PLASTIC UNIT SKYLIGHT - EXPOSED CEILING
- SUPPLY AIR DIFFUSER
- RETURN AIR DIFFUSER
- EXHAUST AIR DIFFUSER

GENERAL NOTES

1. CENTER SUSPENDED CEILING GRIDS EACH WAY WITHIN SPACE, UNLESS NOTED OTHERWISE
2. CENTER MECHANICAL AIR GRILLES BETWEEN LIGHTS / WALLS IN GYPSUM BOARD CEILINGS AS SHOWN
3. CENTER LIGHT FIXTURES WITHIN SPACES UNLESS NOTED OTHERWISE
4. EXIT LIGHTS NOT SHOWN, SEE ELECTRICAL DRAWINGS
5. FOR ALL LOCATIONS OF N.I.C. LCD PROJECTORS, INSTALL OVERHEAD MOUNTED EQUIPMENT SUPPORT PER ELECTRICAL DRAWINGS.
6. SEE ELECTRICAL DRAWINGS FOR LIGHT LEGENDS AND INFO
7. FOR TYPICAL CEILING NOTES AND DETAILS, SEE SHEET (2 / A9.5.1)

SEAL

LICENSED ARCHITECT CHRISTOPHER J. VISCONTI NO. C26985 REN. 6-30-19 STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

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DIV OF THE STATE ARCHITECT
SACRAMENTO REGIONAL OFFICE
AC --- F/LS --- SS SPP
APP. # 02-114995 DATE 07/31/17
DOC NAME : CCD # 050

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
REFLECTED CEILING PLAN

Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE
7	7/13/2017	CCD 050

Project No.: 15-245
@Date: 10/05/2016

DRAWING NO.
A4.1.1
AX-61

2 REFLECTED CEILING MEZZANINE PLAN
1/8" = 1'-0"

1 REFLECTED CEILING PLAN
1/8" = 1'-0"

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JK ARCHITECTURE PARTNERSHIP
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Auburn, CA 95603
530.888.0998
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KEYNOTES

05.47	
05.48	FALL ARREST TIE OFF
07.43	METAL GUTTER - 07 60 00
07.46	METAL SCUPPER - 07 60 00
07.55	ROOF DRAIN – 07 72 00
07.66	ROOF ACCESS HATCH - 07 72 00
08.70	UNIT SKYLIGHT – 08 62 00

Mechanical Roof Penetrations

LEGEND

DS	DOWN SPOUT
	AREA OF WALKWAY PROTECTION PAD
	GLASS ROOF - 08 81 00
	TPO ROOFING OVER COVER BOARD OVER 5 1/2" RIGID INSULATION - 07 54 00

GENERAL NOTES

1. FOR TYPICAL ROOF PENETRATIONS, SEE DETAIL 4/A9.1.1
2. FOR TYPICAL DUCT SUPPORT, SEE MECHANICAL

SEAL

LICENSED ARCHITECT CHRISTOPHER C. VIVERETTE NO. C22986 REG. 12/31/17 STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
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OFFICE OF REGULATION SERVICES

APPL # 02-114995

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DATE:

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DIV OF THE STATE ARCHITECT
SACRAMENTO REGIONAL OFFICE
AC --- F/LS ---- SS SPF
APP. # 02 - 114995 DATE 04/27/17
DOC NAME : CCD # 028

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ROOF PLAN

Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE
3	2/22/20017	ASI 012

Project No.: 15-245
@Date: 10/05/2016

DRAWING NO.
A5.0.1
AX-27

ROOF PLAN
1/8" = 1'-0"

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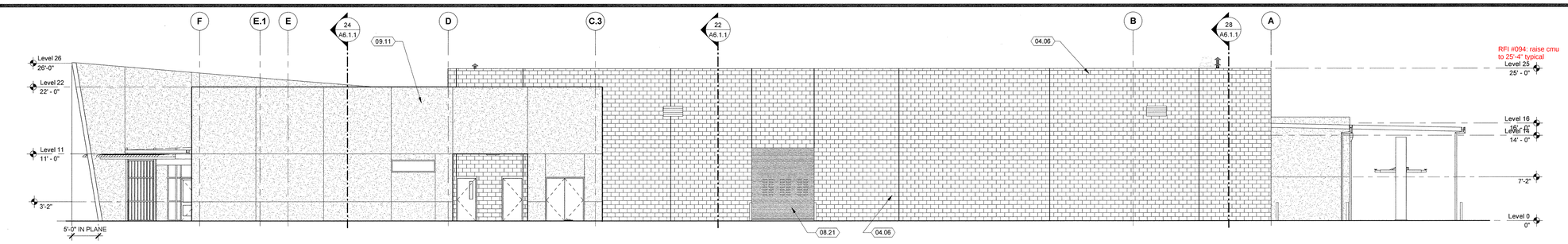
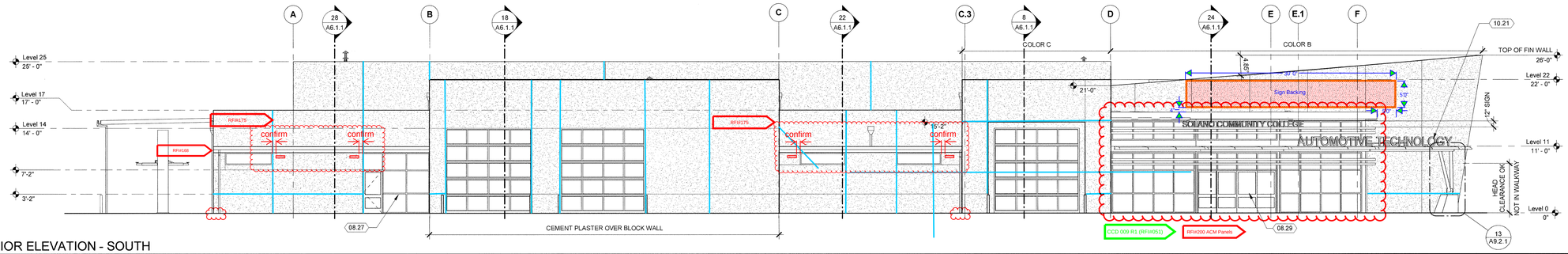


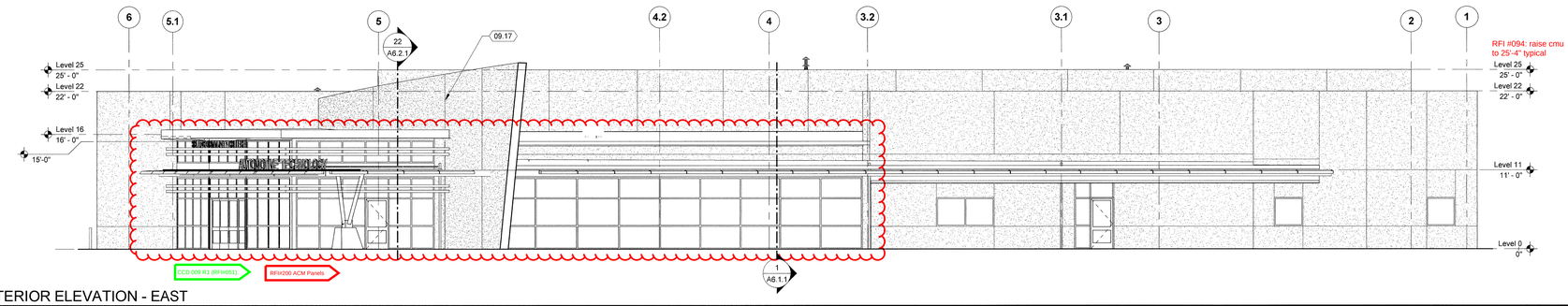
1 EXTERIOR ELEVATION - NORTH

1/8" = 1'-0"



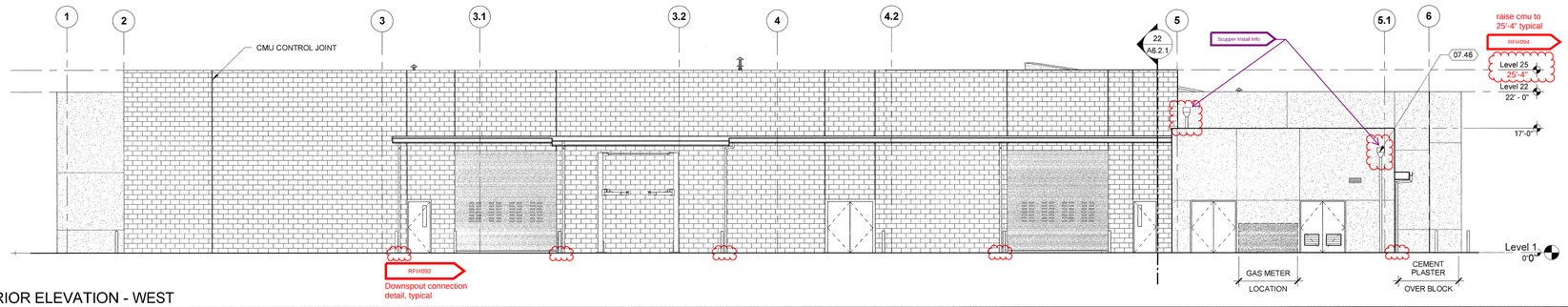
2 EXTERIOR ELEVATION - SOUTH

1/8" = 1'-0"



3 EXTERIOR ELEVATION - EAST

1/8" = 1'-0"



4 EXTERIOR ELEVATION - WEST

1/8" = 1'-0"

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
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Auburn, CA 95603
530.888.0998
www.jkaia.net

KEYNOTES

04.06	CONCRETE MASONRY UNIT CMU-___ - 04 22 00
07.46	METAL SCUPPER - 07 60 00 (Scupper Install Info)
08.21	OVERHEAD COILING DOOR – 08 33 13
08.27	ALUMINUM STOREFRONT – 08 41 00
08.29	AUTOMATIC ENTRANCE DOOR SYSTEM – 08 42 29
09.11	PORTLAND CEMENT PLASTER – 09 20 00
09.17	EXPANSION JOINT <WIDTH> - 09 20 00
10.21	SIGNAGE – 10 14 00

CCD#035 (ASI 018)
Paint & Finish Materials

LEGEND

CONCRETE MASONRY UNIT SEE STRUCTURAL FOR EXPANSION JOINT LOCATIONS

25 / A9.2.1 — CONTROL / EXPANSION JOINTS ALLIGN WITH RECD CMU CONTROL JOINTS WHERE OCCURES.

CEMENT PLASTER OVER RIGID OVER SHEATING OVER FRAMED WALLS U.N.O.

GENERAL NOTES

1. FOR WALL MOUNTED LIGHT FIXTURES, SEE ELECTRICAL FOR MOUNTING HEIGHT.
2. ALL KEYNOTES TO BE ASSUMED TYPICAL FOR ALL ELEVATION VIEWS.

SEAL

LICENSED ARCHITECT — NO. C26985 REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC FLS SS SP

DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title: EXTERIOR ELEVATIONS

Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE

Project No.: 15-245
Date: 08/30/2016

DRAWING NO.: A6.0.1

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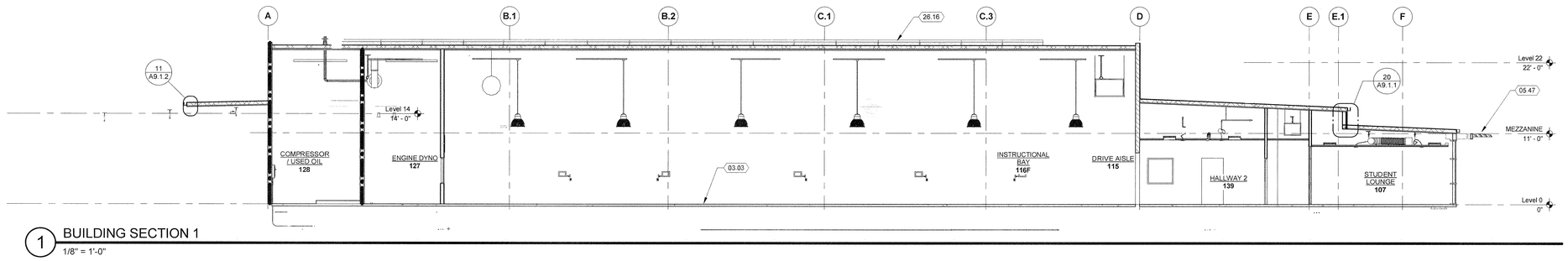
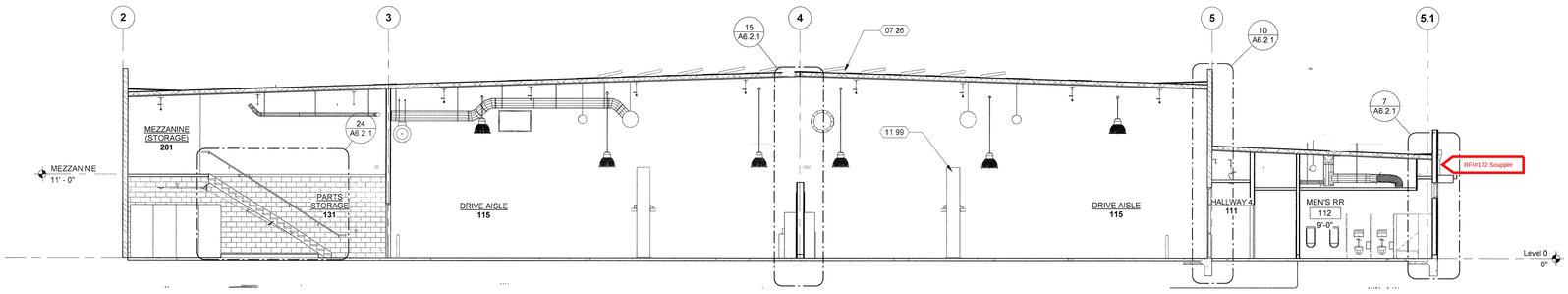
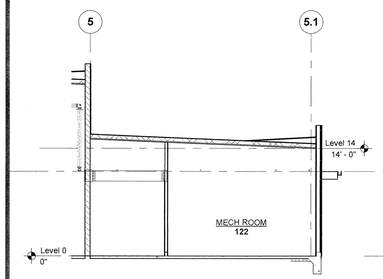
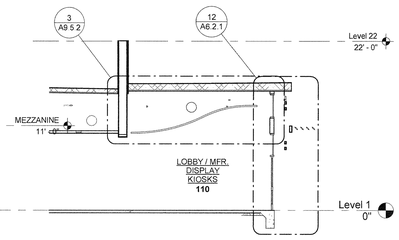


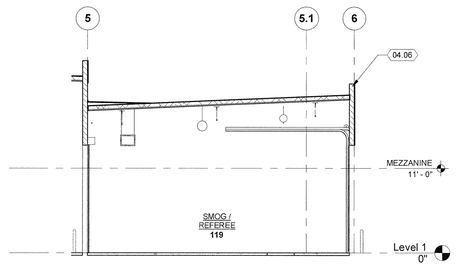
1 BUILDING SECTION 1
1/8" = 1'-0"

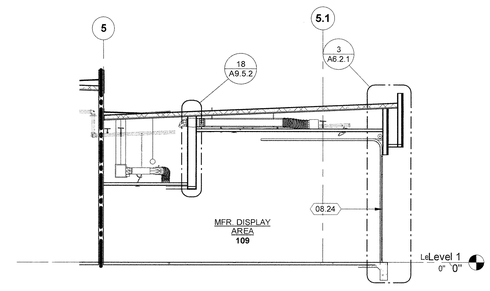


22 BUILDING SECTION 2
1/8" = 1'-0"







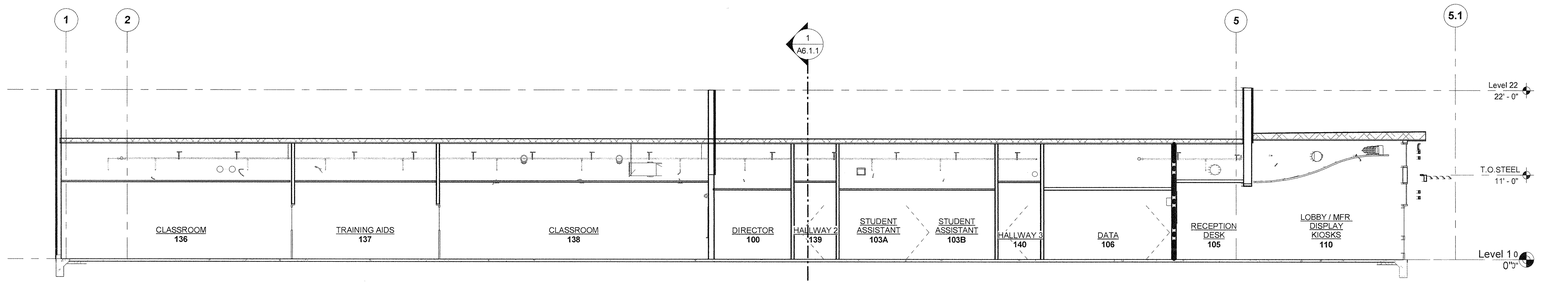


28 BULIDING SECTION 4
1/8" = 1'-0"

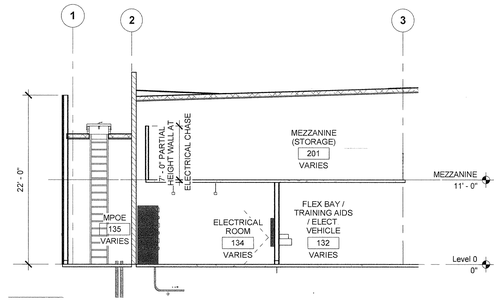
23 BUILDING SECTION 5
1/8" = 1'-0"

18 BUILDING SECTION 6
1/8" = 1'-0"

8 BUILDING SECTION 7
1/8" = 1'-0"



24 BUILDING SECTION 3
1/8" = 1'-0"



2 BUILDING SECTION
1/8" = 1'-0"

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530.888.0998
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KEYNOTES

03.03	CAST-IN-PLACE CONCRETE SLAB – 03 30 10
04.06	CONCRETE MASONRY UNIT CMU-___ - 04 22 00
05.01	STEEL BEAM – 05 12 00
05.47	
07.26	ROOF DECK INSULATION – BY ROOFING SYSTEM
08.24	SECTIONAL OVERHEAD DOOR – 08 36 13
11.99	VEHICLE LIFT, SEE EQUIPMENT DRAWINGS
26.16	SOLAR PANEL SYSTEM - SEE ELECTRICAL DRAWINGS

LEGEND

1 HR OCCUPANCY SEPARATION

SEAL

LICENSED ARCHITECT
DAVID L. WILLIAMS
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC AFH F/S ZONE SS

DATE 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
BUILDING SECTIONS

Drawn By
FH

Checked By
SP

NO.	DATE	ISSUE

Project No.
15-245

Date
08/30/2016

DRAWING NO.
A6.1.1

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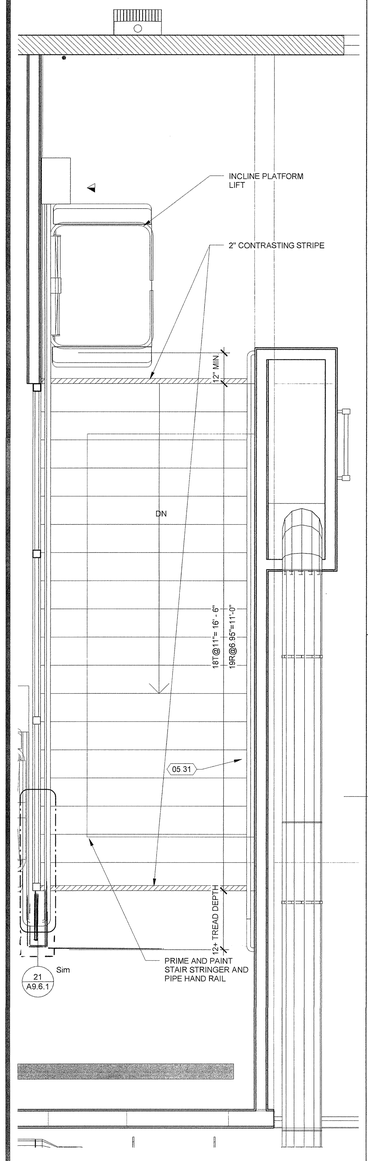
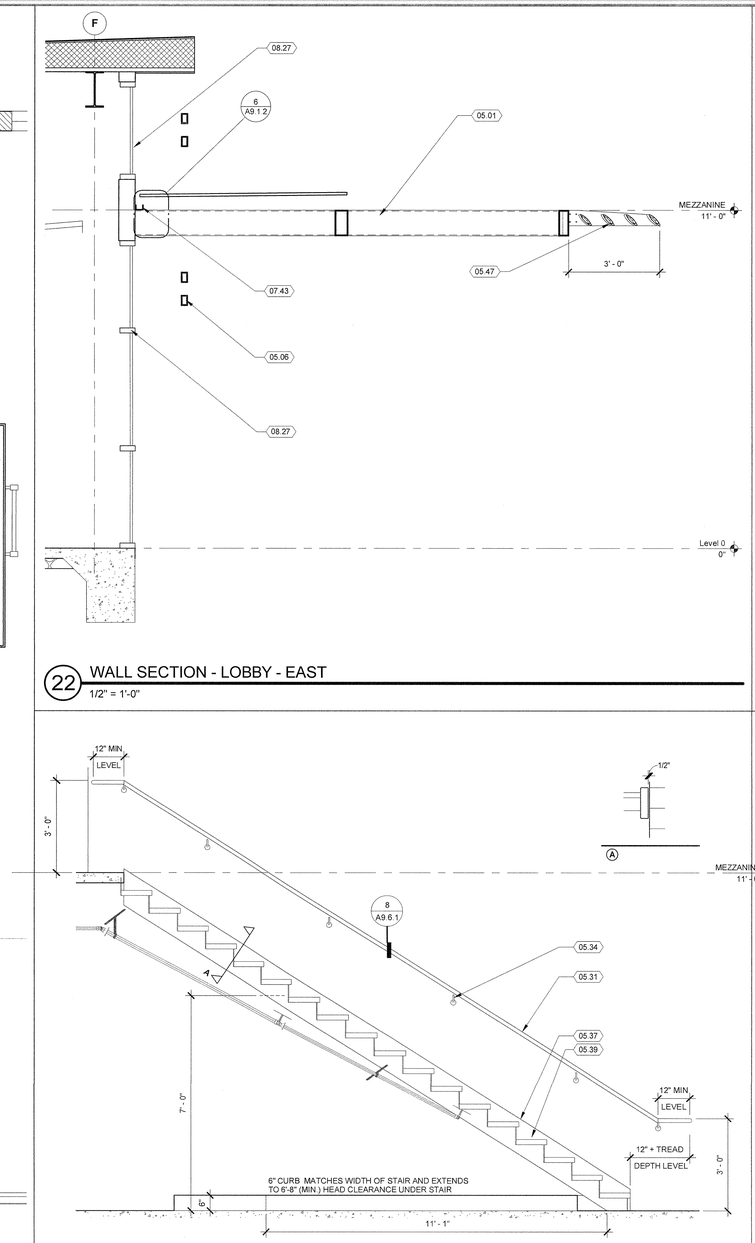


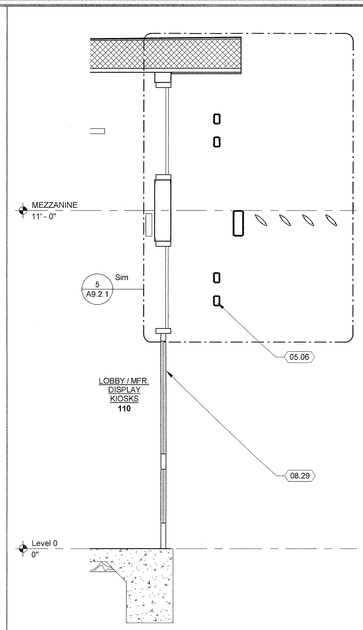
CCD#029 (ASI #016)

29 ENLARGED MEZZANINE STAIR PLAN
1/2" = 1'-0"



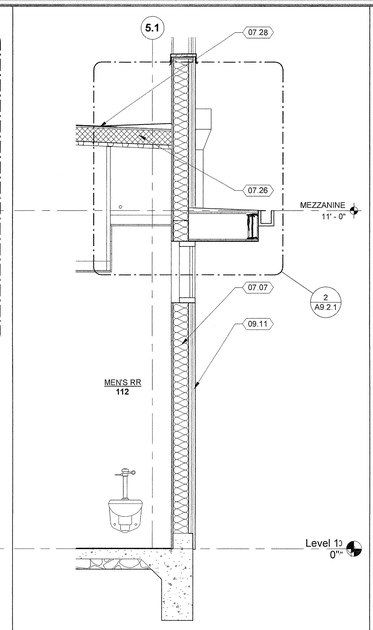
CCD#029 (ASI #016)

24 ENLARGED STAIR SECTION
1/2" = 1'-0"

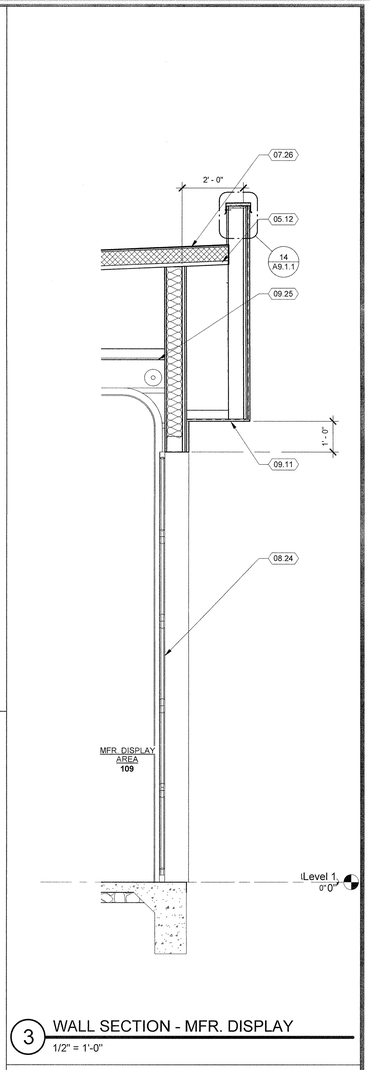


22 WALL SECTION - LOBBY - EAST
1/2" = 1'-0"

12 WALL SECTION - LOBBY - SOUTH
1/2" = 1'-0"



7 WALL SECTION - MEN'S REST ROM
1/2" = 1'-0"



3 WALL SECTION - MFR. DISPLAY
1/2" = 1'-0"

15 WALL SECTION - INSTRUCTIONAL BAY
1/2" = 1'-0"

10 WALL SECTION - HALLWAY 4
1/2" = 1'-0"

5 WALL SECTION - STUDENT LOUNGE
1/2" = 1'-0"

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03.03	CAST-IN-PLACE CONCRETE SLAB – 03 30 10
04.06	CONCRETE MASONRY UNIT CMU-___ - 04 22 00
05.01	STEEL BEAM – 05 12 00
05.02	STEEL COLUMN – 05 12 00
05.06	STEEL TUBE
05.12	STEEL ROOF DECK [ACOUSTICAL] – 05 30 00
05.31	STEEL PIPE HANDRAIL – 05 50 00
05.34	STEEL HANDRAIL BRACKET – 05 50 00
05.37	STAIR STRINGER – 05 50 00
05.39	STAIR TREAD, CONCRETE FILLED – 05 50 00
05.47	ALUMINUM LOUVER SHADE DEVICE - 08 91 00
07.07	THERMAL INSULATION TYPE __ – 07 21 00
07.26	ROOF DECK INSULATION – BY ROOFING SYSTEM
07.28	EPDM SINGLE PLY MEMBRANE – 07 53 23
07.43	METAL GUTTER - 07 60 00
08.24	SECTIONAL OVERHEAD DOOR – 08 36 13
08.27	ALUMINUM STOREFRONT – 08 41 00
08.29	AUTOMATIC ENTRANCE DOOR SYSTEM – 08 42 29
08.59	LAMINATED GLASS GL-___ – 08 81 00
09.11	PORTLAND CEMENT PLASTER – 09 20 00
09.25	GYPSUM BOARD - 09 21 16

SEAL

LICENSED ARCHITECT
STEVEN PARTNER
NO. C29885
REN. 8-30-17
STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC FILE
DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ENLARGED STAIR AND WALL SECTIONS

NO.	DATE	ISSUE

Drawn By: FH
Checked By: SP
Project No.: 15-245
©Date: 08/30/2016
DRAWING NO.: A6.2.1

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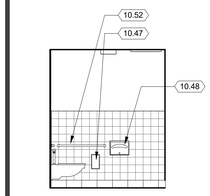
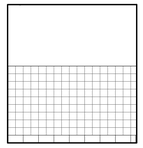
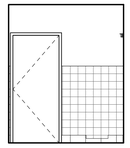


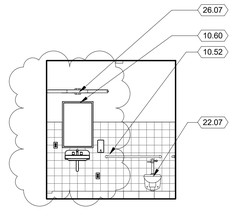
9 133-NORTH
1/4" = 1'-0"



10 133-EAST
1/4" = 1'-0"

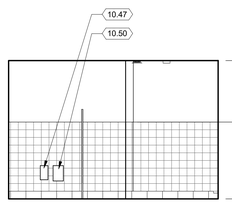


11 133-SOUTH
1/4" = 1'-0"

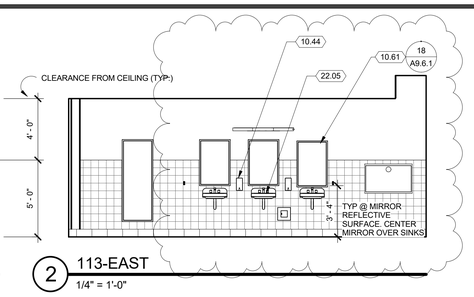


12 133-WEST
1/4" = 1'-0"

ROOM 133 - UNISEX



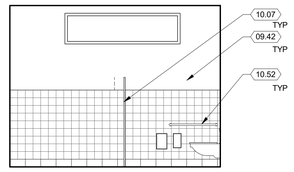
1 113-NORTH
1/4" = 1'-0"



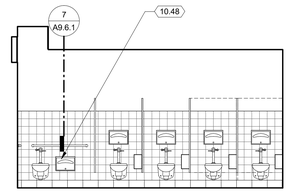
2 113-EAST
1/4" = 1'-0"

RFI#201

Restroom mirrors with shelves will not conflict with faucets

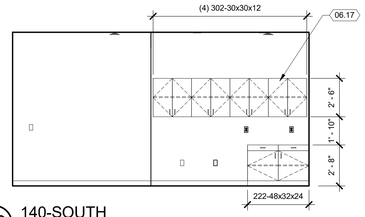


3 113-SOUTH
1/4" = 1'-0"



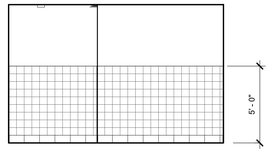
4 113-WEST
1/4" = 1'-0"

ROOM 113 - WOMENS RESTROOM

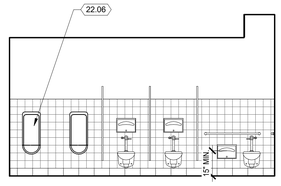


33 140-SOUTH
1/4" = 1'-0"

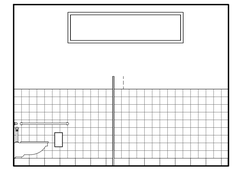
ROOM 140 - HALLWAY 3



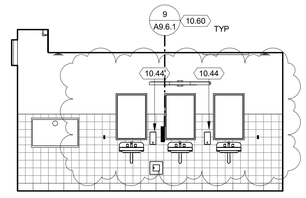
5 112-NORTH
1/4" = 1'-0"



6 112-EAST
1/4" = 1'-0"



7 112-SOUTH
1/4" = 1'-0"

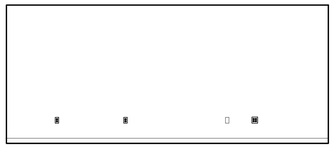


8 112-WEST
1/4" = 1'-0"

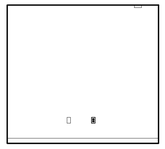
RFI#201

Restroom mirrors with shelves will not conflict with faucets

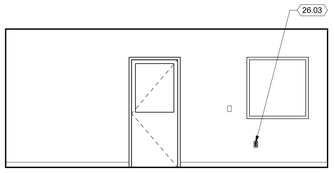
ROOM 112 - MENS RESTROOM



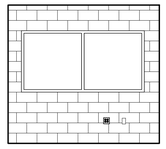
17 100-NORTH
1/4" = 1'-0"



18 100-EAST
1/4" = 1'-0"

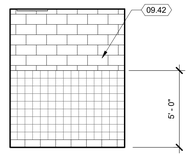


19 100-SOUTH
1/4" = 1'-0"

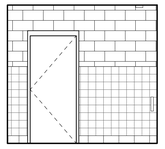


20 100-WEST
1/4" = 1'-0"

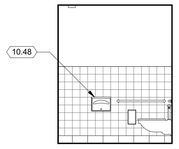
ROOM 100 - DIR



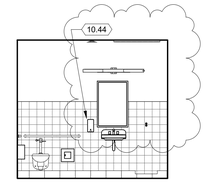
13 123-NORTH
1/4" = 1'-0"



14 123-EAST
1/4" = 1'-0"

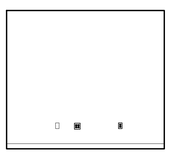


15 123-SOUTH
1/4" = 1'-0"

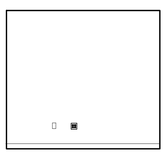


16 123-WEST
1/4" = 1'-0"

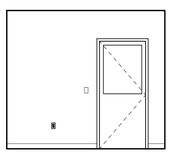
ROOM 123 - UNISEX RESTROOM



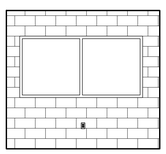
25 101-NORTH
1/4" = 1'-0"



26 101-EAST
1/4" = 1'-0"

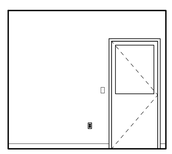


27 101-SOUTH
1/4" = 1'-0"

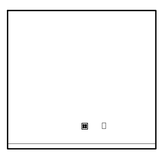


28 101-WEST
1/4" = 1'-0"

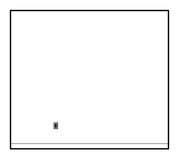
ROOM 101 - FT



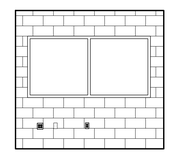
21 102-NORTH
1/4" = 1'-0"



22 102-EAST
1/4" = 1'-0"

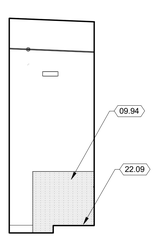


23 102-SOUTH
1/4" = 1'-0"

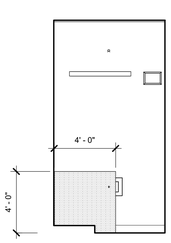


24 102-WEST
1/4" = 1'-0"

ROOM 102 - FT

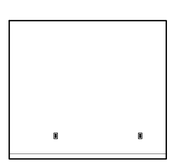


34 114 EAST
1/4" = 1'-0"

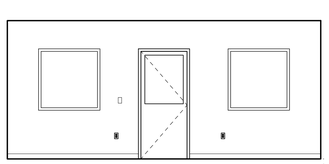


35 114 SOUTH
1/4" = 1'-0"

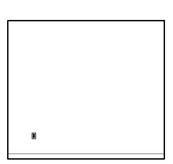
ROOM 114 JANITOR



29 103-NORTH
1/4" = 1'-0"



30 103-EAST
1/4" = 1'-0"



31 103-SOUTH
1/4" = 1'-0"

32 103-WEST
1/4" = 1'-0"

ROOM 103 A & B - SA

C:\Users\Shawn.JKA\Documents\VALLEJO AUTO TECH - ARCH_Shawn.rvt

4/17/2017 10:34:35 AM

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

KEYNOTES

06.17	PLASTIC LAMINATE CUSTOM CASEWORK – 06 41 00
09.42	CERAMIC TILE CT-___– 09 30 13
09.94	RIGID PROTECTIVE WALL COVERING RPW-___– 09 72 17
10.07	PHENOLIC TOILET COMPARTMENT – 10 21 14
10.44	SOAP DISPENSER SD-___- 10 28 00
10.47	TOILET PAPER HOLDER TPH-___- 10 28 00
10.48	SEAT COVER DISPENSER SCD-___- 10 28 00
10.50	SANITARY PRODUCTS WASTE RECEPTACLE SPW-___- 10 28 00
10.52	GRAB BAR GB-___ - 10 28 00
10.60	MIRROR M-___ – 10 28 00
10.61	MIRROR AND SHELF UNIT MS-___– 10 28 00
22.05	SINK
22.06	URINAL
22.07	TOILET
22.09	MOP SINK
26.03	ELECTRICAL OUTLET
26.07	LIGHT FIXTURE

CMU Penetration Dwgs

ASI#013

LEGEND

PAINT FINISH GYPSUM BOARD OVER METAL STUD FRAMING

RIGID PROTECTIVE WALL COVERING SEE SPEC. SECTION 09-72-17

TILE

CMU

GENERAL NOTES

1. FOR TYPICAL CABINET ANCHORAGE SEE DETAIL 1/A9.6.1.
2. FOR TYPICAL ACCESSIBILITY MOUNTING HEIGHTS AND CLEARANCES SEE SHEET G0.4.1.
3. FOR TYPICAL SIGNAGE MOUNTING HEIGHTS AND REQUIREMENTS SEE SHEET G0.4.2.
4. FOR TYPICAL INTERIOR DETAILS SEE SHEETS A9.6.1.
5. FOR WAINSCOT HEIGHTS SEE ROOM FINISH SCHEDULE, SHEET A8.1.1.
6. NUMBERS UNDER CASEWORK REFER TO THE "WOODWORK INSTITUTE" CASEWORK DESIGNATIONS.
7. WALL MOUNTED ACCESSORIES INCLUDING PAPER TOWEL, SOAP AND GLOVE DISPENSERS, HEADWALL METAL BASKET & SHARPS CONTAINERS, ARE PROVIDED BY OWNER. CONTRACTOR TO PROVIDE BLOCKING IN WALLS.
8. MARKER BOARDS 8'-0" WIDE U.N.O.

SEAL

LICENSED ARCHITECT SHAWN C. PARKER STATE OF CALIFORNIA
No. C26985
REN. 5/31/2017

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
INTERIOR ELEVATIONS

Drawn By
FH

Checked By
SP

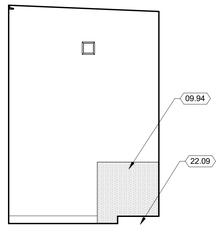
NO.	DATE	ISSUE
3	2/22/20017	ASI 012

Project No.
15-245

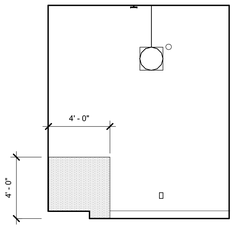
@Date
10/05/2016

DRAWING NO.
A7.1.1

AX-37

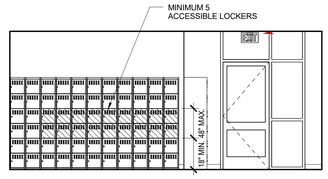


14 121 EAST
1/4" = 1'-0"

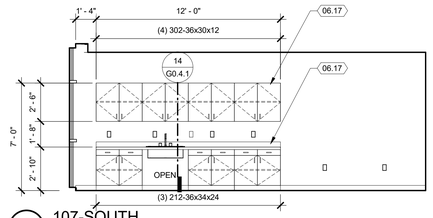


13 121 SOUTH
1/4" = 1'-0"

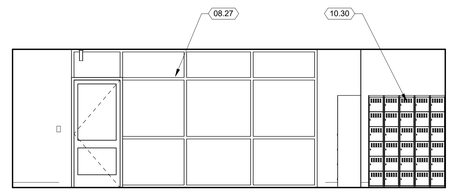
ROOM 121 - CUST. STORAGE



1 107-NORTH
1/4" = 1'-0"

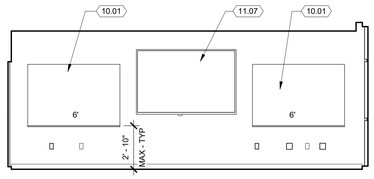


3 107-SOUTH
1/4" = 1'-0"

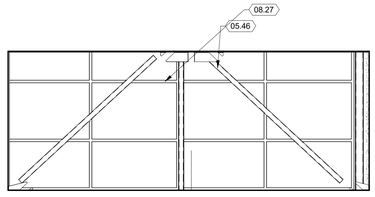


2 107-WEST
1/4" = 1'-0"

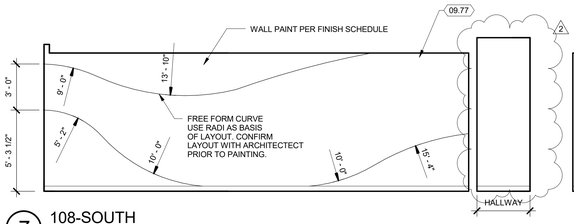
ROOM 107 - STUDENT LOUNGE



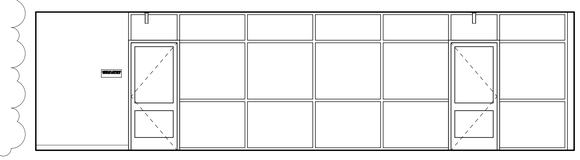
5 108-NORTH
1/4" = 1'-0"



18 108 EAST
1/4" = 1'-0"

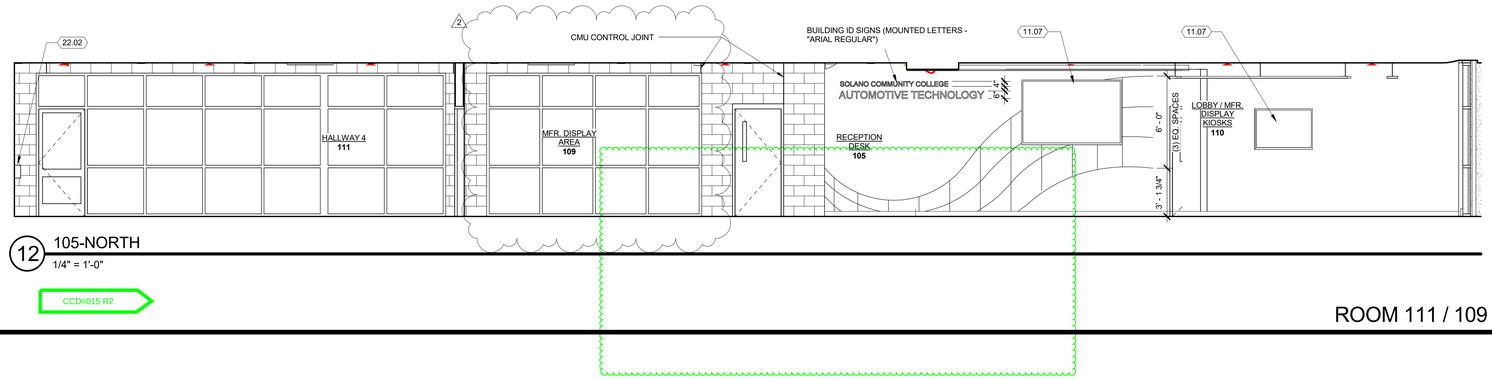


7 108-SOUTH
1/4" = 1'-0"



8 108-WEST
1/4" = 1'-0"

ROOM 108 - TUTORING / CONFERENCE ROOM



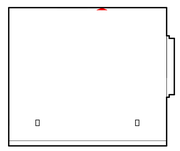
12 105-NORTH
1/4" = 1'-0"

CCD#015 R2

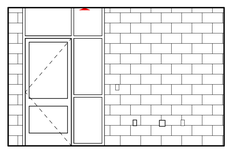
ROOM 111 / 109 / 105 / 110

4 104 NORTH
1/4" = 1'-0"

6 104 EAST
1/4" = 1'-0"

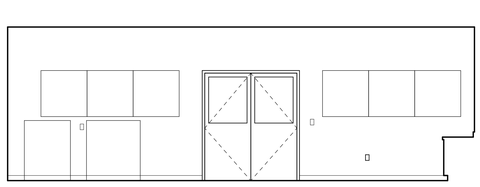


9 104 SOUTH
1/4" = 1'-0"

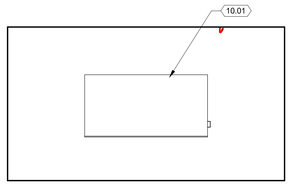


11 104 WEST
1/4" = 1'-0"

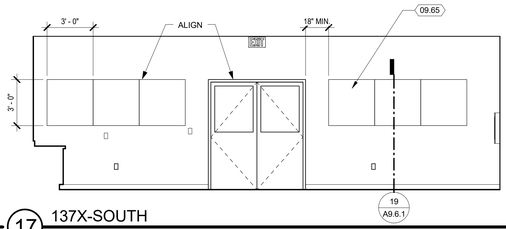
ROOM 104 - COPY / ADMIN



15 137X-NORTH
1/4" = 1'-0"



16 137X-EAST
1/4" = 1'-0"

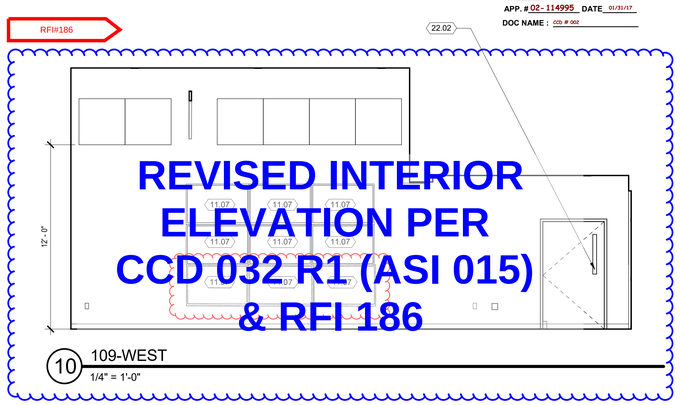


17 137X-SOUTH
1/4" = 1'-0"

ROOM 137 - TRAINING AIDS

APPROVED
DIV OF THE STATE ARCHITECT
SACRAMENTO REGIONAL OFFICE
AC ---- F/LS ZCV SS SPF
APP. # 02 - 114995 DATE 01/31/17
DOC NAME : CCD_# 002

RFI#186



REVISED INTERIOR ELEVATION PER CCD 032 R1 (ASI 015) & RFI 186

10 109-WEST
1/4" = 1'-0"

ROOM 109 - MFR DISPLAY AREA

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

05.46	STEEL BRACE FRAME – 05 12 00
06.17	PLASTIC LAMINATE CUSTOM CASEWORK – 06 41 00
08.27	ALUMINUM STOREFRONT – 08 41 00
09.65	ACOUSTICAL WALL PANEL AWP-___ – 09 84 33
09.77	MARKER BOARD PAINT – 09 91 00
09.94	RIGID PROTECTIVE WALL COVERING RPW-___ – 09 72 17
10.01	MARKERBOARD – 10 11 16
10.30	METAL LOCKERS – 10 51 13
11.07	WALL MOUNTED TELEVISION
22.02	DRINKING FOUNTAIN – 22 47 00
22.09	MOP SINK

RFI#103
Clock Elevations

CMU Penetration Dwgs

LEGEND

- PAINT FINISH GYPSUM BOARD OVER METAL STUD FRAMING
- RIGID PROTECTIVE WALL COVERING SEE SPEC. SECTION 09-72-17
- TILE
- CMU

GENERAL NOTES

1. FOR TYPICAL CABINET ANCHORAGE SEE DETAIL 1/A9.6.1.
2. FOR TYPICAL ACCESSIBILITY MOUNTING HEIGHTS AND CLEARANCES SEE SHEET G0.4.1.
3. FOR TYPICAL SIGNAGE MOUNTING HEIGHTS AND REQUIREMENTS SEE SHEET G0.4.2.
4. FOR TYPICAL INTERIOR DETAILS SEE SHEETS A9.6.1.
5. FOR WAINSCOT HEIGHTS SEE ROOM FINISH SCHEDULE, SHEET A8.1.1.
6. NUMBERS UNDER CASEWORK REFER TO THE "WOODWORK INSTITUTE" CASEWORK DESIGNATIONS.
7. WALL MOUNTED ACCESSORIES INCLUDING PAPER TOWEL, SOAP AND GLOVE DISPENSERS, HEADWALL METAL BASKET & SHARPS CONTAINERS, ARE PROVIDED BY OWNER. CONTRACTOR TO PROVIDE BLOCKING IN WALLS.
8. MARKER BOARDS 8'-0" WIDE U.N.O.

SEAL

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
INTERIOR ELEVATIONS

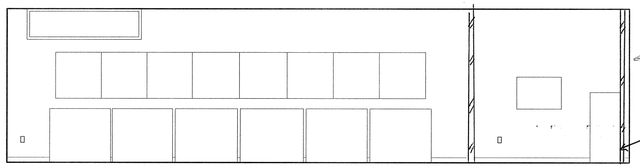
Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE
2	10/19/2016	ASI 002

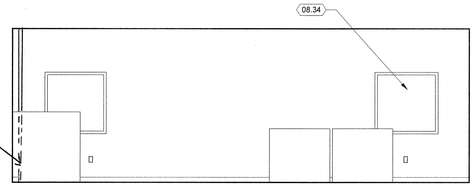
Project No.: 15-245
©Date: 10/05/2016

DRAWING NO.
A7.1.2
AX - 16

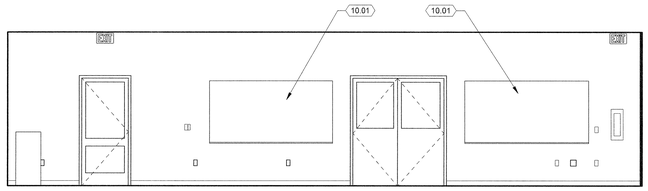
C:\Users\Shawn\Documents\VALLEJO AUTO TECH - ARCH_Shawn.rvt
10/19/2016 12:22:39 PM



1 136-NORTH
1/4" = 1'-0"

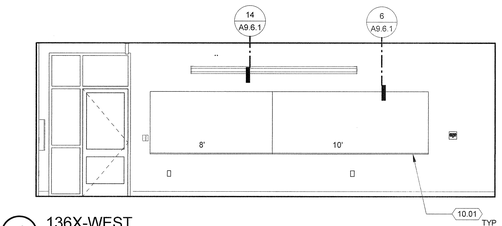


2 136-EAST
1/4" = 1'-0"

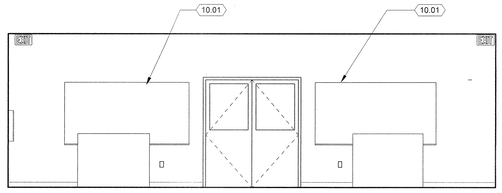


3 136-SOUTH
1/4" = 1'-0"

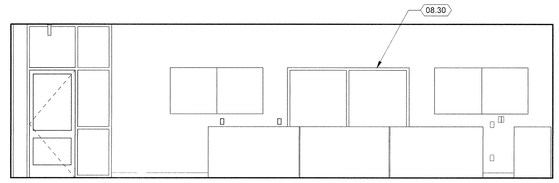
ROOM 136 - CLASSROOM



4 136X-WEST
1/4" = 1'-0"



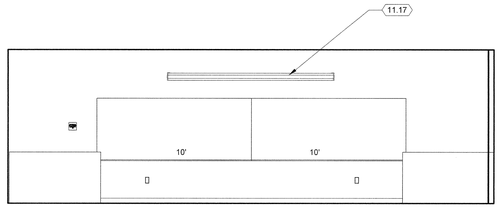
5 138-NORTH
1/4" = 1'-0"



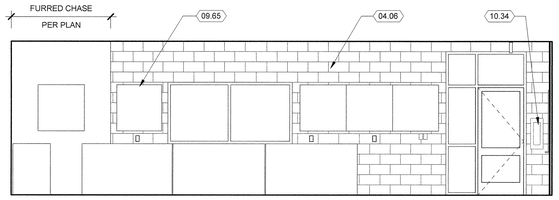
6 138-EAST
1/4" = 1'-0"

ROOM 107 - CLASSROOM CONT.

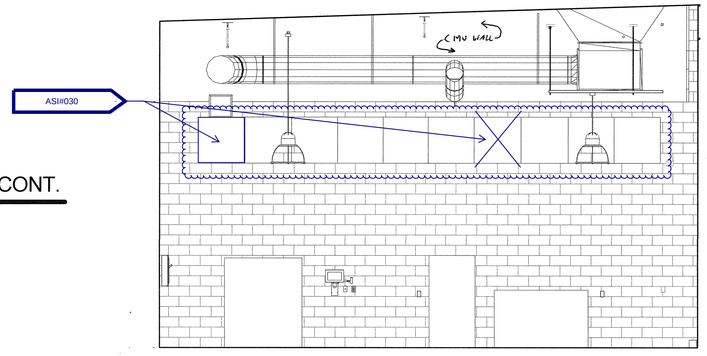
ROOM 138 - CLASSROOM



7 138-SOUTH
1/4" = 1'-0"



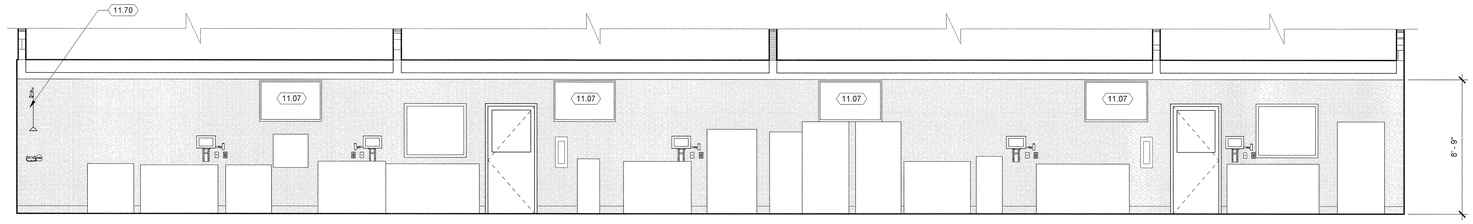
8 138-WEST
1/4" = 1'-0"



9 130 EAST
1/4" = 1'-0"

ROOM 138 - CLASSROOM CONT.

ROOM 130 - ALIGNMENT BAY



10 116 NORTH
1/4" = 1'-0"

ROOM 116 - INSTRUCTIONAL BAY

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

04.06	CONCRETE MASONRY UNIT CMU-___ - 04 22 00
05.02	STEEL COLUMN – 05 12 00
08.30	STEEL WINDOW – 08 51 23
08.34	ALUMINUM WINDOW – 08 41 00
09.65	ACOUSTICAL WALL PANEL AWP-___ – 09 84 33
10.01	MARKERBOARD – 10 11 16
10.34	FIRE EXTINGUISHER FE-___ – 10 44 00
11.07	WALL MOUNTED TELEVISION *
11.17	PROJECTION SCREEN – 11 52 13
11.70	COMBINATION EMERGENCY EYEWASH/SHOWER

CMU Penetration Dwgs

* 4" MAXIMUM PROTRUSION FROM WALL

LEGEND

- PAINT FINISH GYPSUM BOARD OVER METAL STUD FRAMING
- RIGID PROTECTIVE WALL COVERING SEE SPEC. SECTION 09-72-17
- TILE
- CMU

GENERAL NOTES

1. FOR TYPICAL CABINET ANCHORAGE SEE DETAIL 1/A9.6.1.
2. FOR TYPICAL ACCESSIBILITY MOUNTING HEIGHTS AND CLEARANCES SEE SHEET G0.4.1.
3. FOR TYPICAL SIGNAGE MOUNTING HEIGHTS AND REQUIREMENTS SEE SHEET G0.4.2.
4. FOR TYPICAL INTERIOR DETAILS SEE SHEETS A9.6.1.
5. FOR WAINSCOT HEIGHTS SEE ROOM FINISH SCHEDULE, SHEET A8.1.1.
6. NUMBERS UNDER CASEWORK REFER TO THE "WOODWORK INSTITUTE" CASEWORK DESIGNATIONS.
7. WALL MOUNTED ACCESSORIES INCLUDING PAPER TOWEL, SOAP AND GLOVE DISPENSERS, HEADWALL METAL BASKET & SHARPS CONTAINERS, ARE PROVIDED BY OWNER. CONTRACTOR TO PROVIDE BLOCKING IN WALLS.
8. MARKER BOARDS 8'-0" WIDE U.N.O.

SEAL

LICENSED ARCHITECT
STEPHEN PARKER
NO. C26995
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC SP FI SS SP

DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
INTERIOR ELEVATIONS

Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE

Project No.: 15-245
©Date: 08/30/2016

DRAWING NO.
A7.1.3

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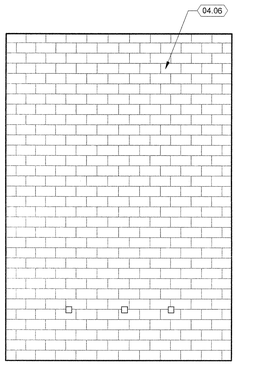
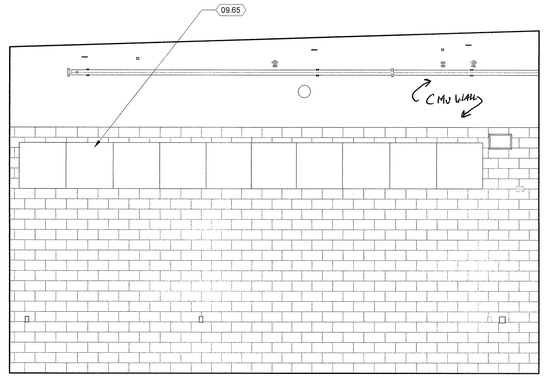
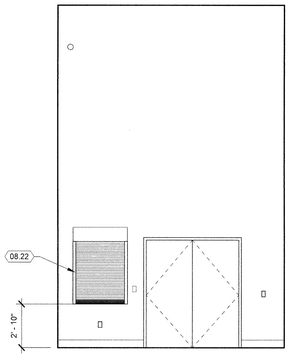


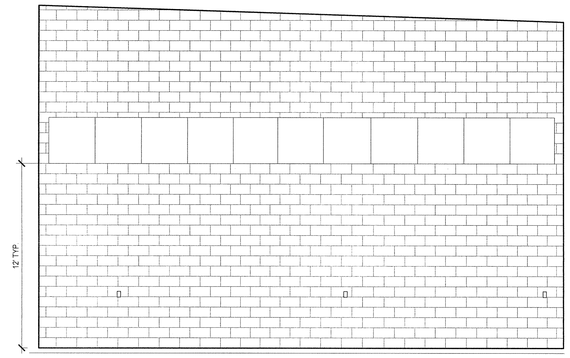
1 129 NORTH
1/4" = 1'-0"



2 129 EAST
1/4" = 1'-0"



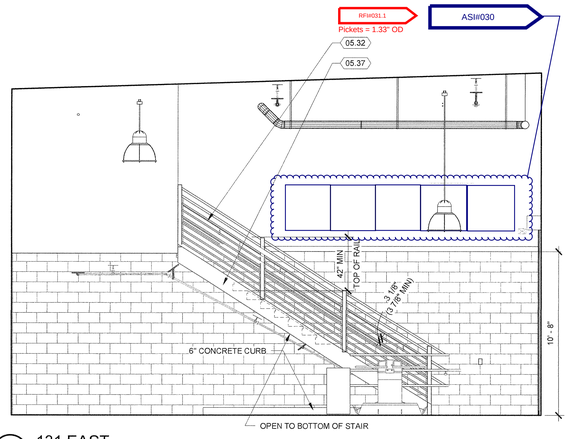
3 129 SOUTH
1/4" = 1'-0"



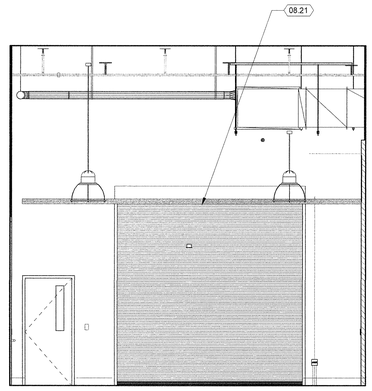
4 129 WEST
1/4" = 1'-0"

ROOM 129 - SECURED PARTS STORAGE

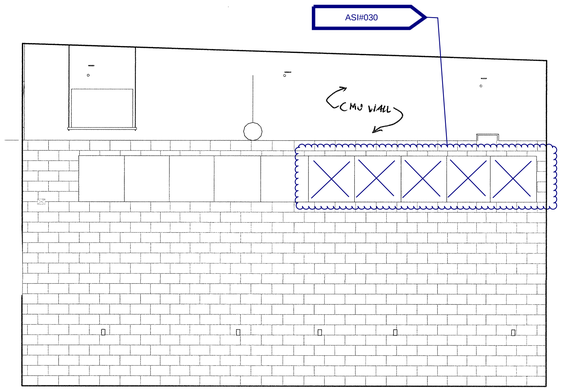
5 131 NORTH
1/4" = 1'-0"



6 131 EAST
1/4" = 1'-0"



7 131 SOUTH
1/4" = 1'-0"



8 131 WEST
1/4" = 1'-0"

ROOM 131 - PARTS STORAGE

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

04.06	CONCRETE MASONRY UNIT CMU-___ - 04 22 00
05.01	STEEL BEAM – 05 12 00
05.32	STEEP PIPE GUARDRAIL – 05 50 00
05.37	STAIR STRINGER – 05 50 00
08.21	OVERHEAD COILING DOOR – 08 33 13
08.22	OVERHEAD COILING COUNTER DOOR – 08 33 13
09.65	ACOUSTICAL WALL PANEL AWP-___ – 09 84 33

RFI#103
Clock Elevations

CMU Penetration Dwgs

LEGEND

- PAINT FINISH GYPSUM BOARD OVER METAL STUD FRAMING
- RIGID PROTECTIVE WALL COVERING SEE SPEC. SECTION 09-72-17
- TILE
- CMU

GENERAL NOTES

1. FOR TYPICAL CABINET ANCHORAGE SEE DETAIL 1/A9.6.1.
2. FOR TYPICAL ACCESSIBILITY MOUNTING HEIGHTS AND CLEARANCES SEE SHEET G0.4.1
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6. NUMBERS UNDER CASEWORK REFER TO THE "WOODWORK INSTITUTE" CASEWORK DESIGNATIONS.
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8. MARKER BOARDS 8'-0" WIDE U.N.O.

SEAL

LICENSED ARCHITECT — NO. C25985 — REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC APN FLS ZMTG SS SPP

DATE: 9/15/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
INTERIOR ELEVATIONS

Drawn By
FH

Checked By
SP

NO.	DATE	ISSUE

Project No.
15-245

©Date
08/30/2016

DRAWING NO.
A7.1.4

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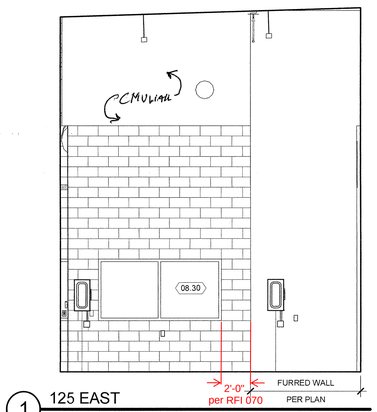
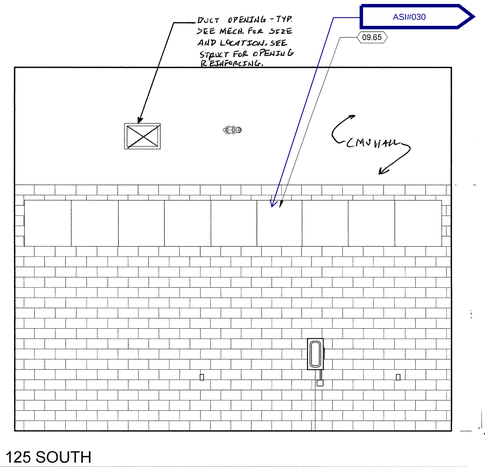
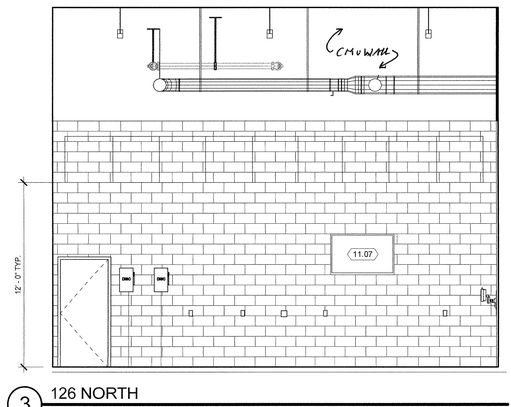


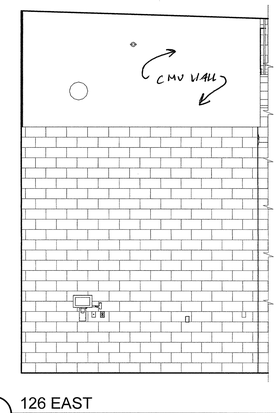
1 125 EAST
1/4" = 1'-0"



2 125 SOUTH
1/4" = 1'-0"



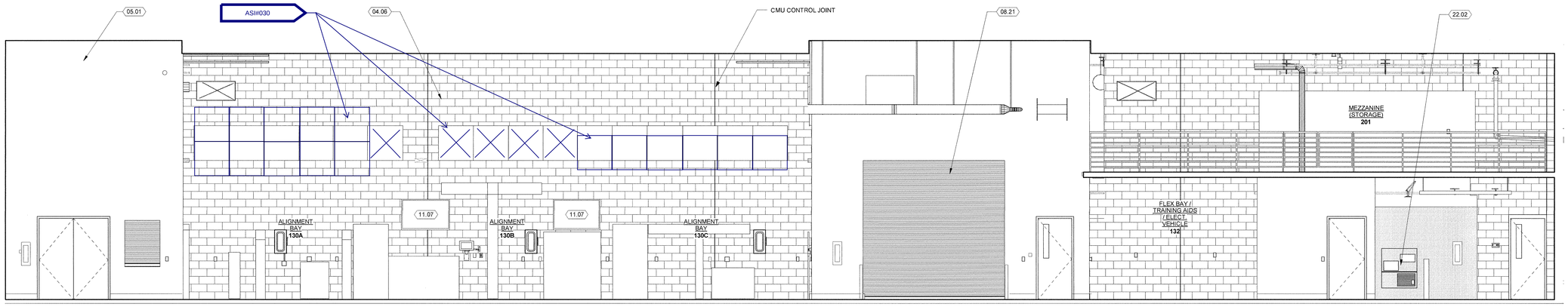
3 126 NORTH
1/4" = 1'-0"



4 126 EAST
1/4" = 1'-0"

ROOM 125 - TIRE EQUIPMENT

ROOM 126 - TRANSMISSION DYNO



5 115-NORTH
1/4" = 1'-0"

ROOM 115 - DRIVE ISLE

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

04.06	CONCRETE MASONRY UNIT CMU-___ - 04 22 00
05.01	STEEL BEAM – 05 12 00
08.21	OVERHEAD COILING DOOR – 08 33 13
08.30	STEEL WINDOW – 08 51 23
09.65	ACOUSTICAL WALL PANEL AWP-___ – 09 84 33
11.07	WALL MOUNTED TELEVISION *
22.02	DRINKING FOUNTAIN – 22 47 00

RFI#103
Clock Elevations

CMU Penetration Dwgs

* 4" MAXIMUM PROTRUSION FROM WALL

LEGEND

- PAINT FINISH GYPSUM BOARD OVER METAL STUD FRAMING
- RIGID PROTECTIVE WALL COVERING SEE SPEC. SECTION 09-72-17
- TILE
- CMU

GENERAL NOTES

1. FOR TYPICAL CABINET ANCHORAGE SEE DETAIL 1/A9.6.1.
2. FOR TYPICAL ACCESSIBILITY MOUNTING HEIGHTS AND CLEARANCES SEE SHEET G0.4.1.
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8. MARKER BOARDS 8'-0" WIDE U.N.O.

SEAL

LICENSED ARCHITECT
CHRISTOPHER J. KIEFER
No. C26985
REN. 8-30-17
STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC FLS SS
DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
INTERIOR ELEVATIONS

Drawn By
Author

Checked By
Checker

NO.	DATE	ISSUE

Project No.
15-245

Date
08/30/2016

DRAWING NO.
A7.1.5

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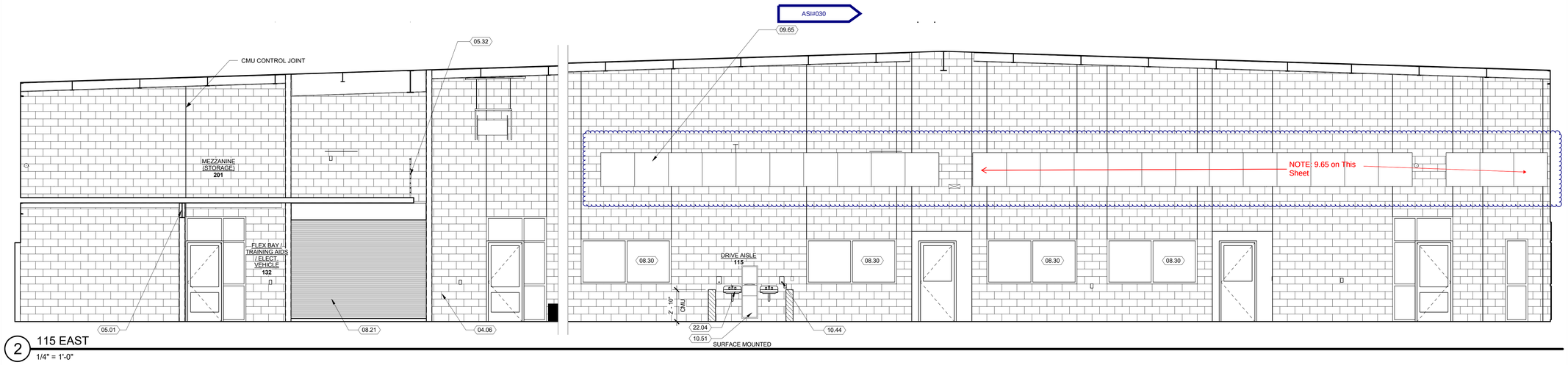
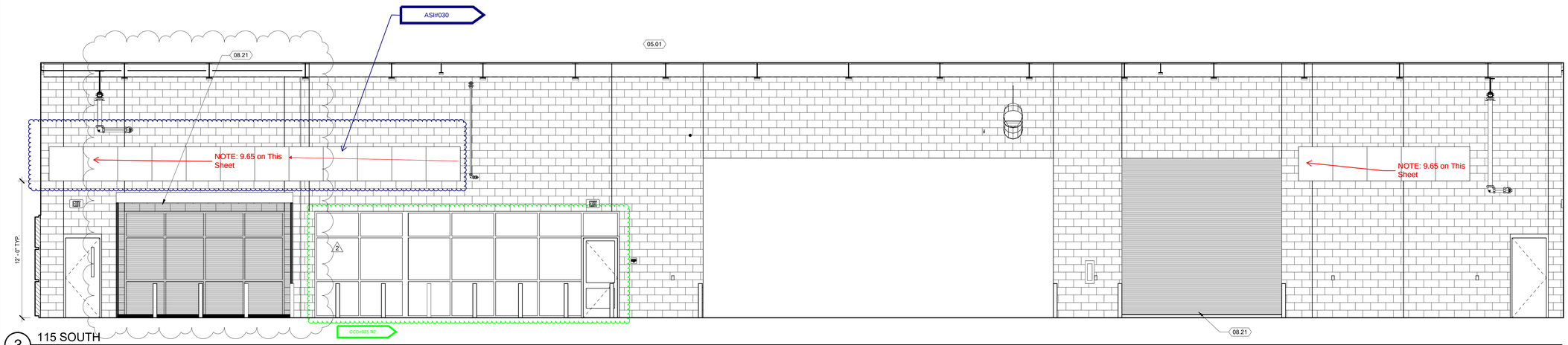


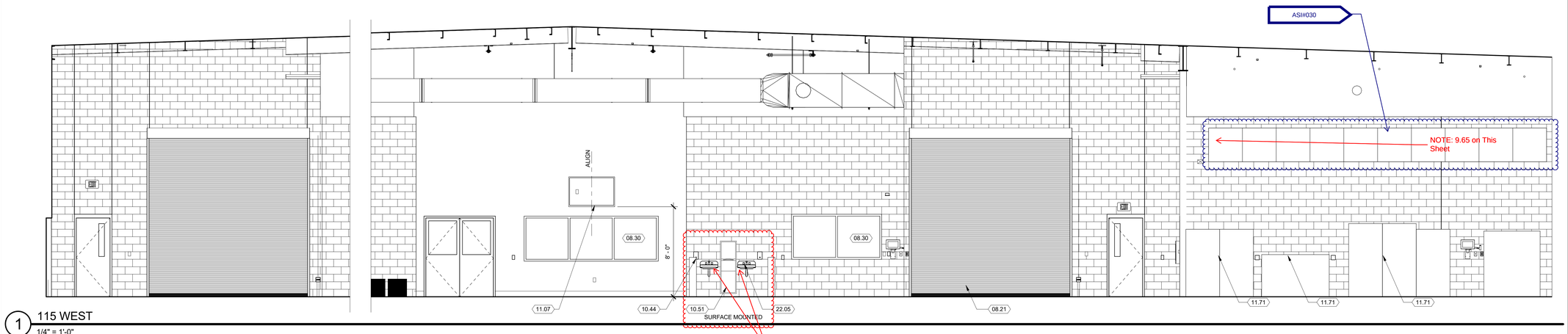
2 115 EAST
1/4" = 1'-0"

ROOM 115 - DRIVE ISLE



3 115 SOUTH
1/4" = 1'-0"

ROOM 115 - DRIVE ISLE



1 115 WEST
1/4" = 1'-0"

ROOM 115 - DRIVE ISLE

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JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

04.06	CONCRETE MASONRY UNIT CMU-___ - 04 22 00
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08.21	OVERHEAD COILING DOOR – 08 33 13
08.30	STEEL WINDOW – 08 51 23
09.65	ACOUSTICAL WALL PANEL AWP-___ – 09 84 33
10.44	SOAP DISPENSER SD-___- 10 28 00
10.51	COMBINATION UNITS COMB-____– 10 28 00
11.07	WALL MOUNTED TELEVISION
11.71	SHOP EQUIPMENT, SEE EQUIPMENT DRAWINGS
22.04	LAVATORY
22.05	SINK

RFI#103
Clock Elevations

CMU Penetration Dwgs

APPROVED
DIV OF THE STATE ARCHITECT
SACRAMENTO REGIONAL OFFICE
AC. ---- F/LS. ZCV SS. SPF
APP. # 02-114995 DATE. 01/31/17
DOC NAME : CCD # 002

LEGEND

- PAINT FINISH GYPSUM BOARD OVER METAL STUD FRAMING
- RIGID PROTECTIVE WALL COVERING SEE SPEC. SECTION 09-72-17
- TILE
- CMU

GENERAL NOTES

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8. MARKER BOARDS 8'-0" WIDE U.N.O.

SEAL

LICENSED ARCHITECT CHRISTOPHER C. CHERICO NO. C36220 REN. 6-30-17 STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
INTERIOR ELEVATIONS

Drawn By
FH

Checked By
SP

NO.	DATE	ISSUE
2	10/19/2016	ASI 002

Project No.
15-245

Date
10/05/2016

DRAWING NO.
A7.1.6

AX - 17

ROOM FINISH SCHEDULE

NO.	ROOM NAME	FLOOR FIN.	BASE	WALLS NORTH MAT.	NORTH FIN.	EAST MAT.	EAST FIN.	SOUTH MAT.	SOUTH FIN.	WEST MAT.	WEST FIN.	WAINSCOT MAT.	WAINSCOT FIN.	WAINSCOT HEIGHT	CEILING MAT.	CEILING FIN.	CEILING HEIGHT	REMARKS
100	DIRECTOR	CPT-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1	-	-	-	ACP-1	-	9'-0"	/ 32
101	FULL TIME INSTRUCTOR	CPT-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1	-	-	-	ACP-1	-	9'-0"	/ 32
102	FULL TIME INSTRUCTOR	CPT-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1	-	-	-	ACP-1	-	9'-0"	/ 32
103A	STUDENT ASSISTANT	CPT-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	ACP-1	-	9'-0"	/ 32
103B	STUDENT ASSISTANT	CPT-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	ACP-1	-	9'-0"	/ 32
104	COPY ADMIN	CPT-1 ~~RSF-1~~	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1	-	-	-	ACP-1	-	9'-0"	/ 32
105	RECEPTION DESK	CS-1 / CS-2	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	GB	PT-3	10'-0"	/ 32
106	DATA	CS-1 ~~RSF-1~~	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	ACP-1	-	9'-0"	/ 32
107	STUDENT LOUNGE	RSF-1	RB-1	GB	PT-1	-	-	GB	PT-1	GB	PT-1	-	-	-	ACP-1	-	9'-0"	/ 32
108	TUTORING / CONFERENCE ROOM	~~RSF-1~~	RB-1	GB	PT-1	-	-	GB	PT-1	-	-	-	-	-	ACP-1	-	9'-0"	/ 32
109	MFR. DISPLAY AREA	CS-1 / CS-2	RB-1	-	-	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	GB	PT-3	18'-0"	/ 64
110	LOBBY / MFR. DISPLAY KIOSKS	CS-1 / CS-2	RB-1	GB	PT-1	-	-	-	-	-	-	-	-	-	ACC	PT-5	VARIES	/ 64
111	HALLWAY 4	CS-1 / CS-2	RB-1	-	-	-	-	GB	PT-1	GB	PT-1	-	-	-	GB	PT-3	10'-0"	/ 32
112	MEN'S RR	CS-1	CTB - EB	GB	PT-4	GB	PT-4	GB	PT-4	GB	PT-4	CBU	CT-2	5'-0"	GB	PT-4	9'-0"	/ 32
113	WOMEN'S RR	CS-1	CTB - EB	GB	PT-4	GB	PT-4	GB	PT-4	GB	PT-4	CBU	CT-2	5'-0"	GB	PT-4	9'-0"	/ 32
114	JANITOR	CS-1	RB-1	GB	PT-4	GB	PT-4	GB	PT-4	GB	PT-4	-	-	-	EXP	PT-2	VARIES	/ 32
115	DRIVE AISLE	CS-1	RB-1	GBIR	PT-1	CMU	PT-1	CMU	PT-1	CMU	PT-1	-	-	-	EXP	PT-2	VARIES	/32
116A	INSTRUCTIONAL BAY	CS-1	RB-1	GB	PT-1	-	-	-	-	-	-	-	-	-	EXP	PT-2	VARIES	/ 32
116B	INSTRUCTIONAL BAY	CS-1	RB-1	GB	PT-1	-	-	-	-	-	-	-	-	-	EXP	PT-2	O.T.S.	/ 32
116C	INSTRUCTIONAL BAY	CS-1	RB-1	GB	PT-1	-	-	-	-	-	-	-	-	-	EXP	PT-2	VARIES	/ 32
116D	INSTRUCTIONAL BAY	CS-1	RB-1	GB	PT-1	-	-	-	-	-	-	-	-	-	EXP	PT-2	VARIES	/ 32
116E	INSTRUCTIONAL BAY	CS-1	RB-1	GB	PT-1	-	-	-	-	-	-	-	-	-	EXP	PT-2	VARIES	/ 32
116F	INSTRUCTIONAL BAY	CS-1	RB-1	-	-	-	-	GB	PT-1	-	-	-	-	-	EXP	PT-2	VARIES	/ 32
116G	INSTRUCTIONAL BAY	CS-1	RB-1	-	-	-	-	GB	PT-1	-	-	-	-	-	EXP	PT-2	VARIES	/ 32
116H	INSTRUCTIONAL BAY	CS-1	RB-1	-	-	-	-	GB	PT-1	-	-	-	-	-	EXP	PT-2	VARIES	/ 32
116J	INSTRUCTIONAL BAY	CS-1	RB-1	-	-	-	-	GB	PT-1	-	-	-	-	-	EXP	PT-2	VARIES	/ 32
116K	INSTRUCTIONAL BAY	CS-1	RB-1	-	-	-	-	GB	PT-1	-	-	-	-	-	EXP	PT-2	VARIES	/ 32
117	AWD DYNO STATION	CS-1	RB-1	CMU	PT-1	-	-	CMU	PT-1	CMU	-	-	-	-	EXP	PT-2	VARIES	/ 32
118	2WD DYNO STATION	CS-1	RB-1	CMU	PT-1	CMU	PT-1	CMU	PT-1	-	-	-	-	-	EXP	PT-2	VARIES	/ 32
119	SMOG / REFEREE	CS-1	RB-1	CMU	PT-1	CMU	PT-1	CMU	PT-1	CMU	PT-1	-	-	-	EXP	PT-2	VARIES	/ 32
120	REFEREE WAITING	CPT-1	RB-1	GB	PT-1	CMU	PT-1	GB	PT-1	GB	PT-1	-	-	-	ACP-1	-	9'-0"	/ 32
121	CUST. STORAGE	CS-1	RB-1	CMU	PT-4	GB	PT-4	GB	PT-4	GB	PT-4	-	-	-	EXP	PT-2	VARIES	/ 32
122	MECH ROOM	CS-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 64
123	UNISEX RR	CS-1	CTB - EB	GB	PT-4	GB	PT-4	GB	PT-4	GB	PT-4	CBU	CT-2	5'-0"	GB	PT-4	9'-0"	/ 32
124	FACILITY STORAGE	CS-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 64
125	TIRE EQUIPMENT	CS-1	RB-1	-	-	GB	PT-1	GB	PT-1	CMU	PT-1	-	-	-	EXP	PT-2	VARIES	/ 32
126	TRANSMISSION DYNO	CS-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1	-	-	-	EXP	PT-2	VARIES	/ 32
127	ENGINE DYNO	CS-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 64
128	COMPRESSOR / USED OIL	CS-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1	FRP	-	8'-0"	EXP	PT-2	VARIES	/ 32
129	SECURED PARTS STORAGE	CS-1	RB-1	CMU	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 64
130	REFEREE OFFICE	CPT-1	RB-1	GB	PT-1	GB	PT-1	-	-	GB	PT-1	-	-	-	ACP-1	-	9'-0"	/ 32
130A	ALIGNMENT BAY	CS-1	RB-1	CMU	PT-1	GB	PT-1	-	-	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 32
130B	ALIGNMENT BAY	CS-1	RB-1	CMU	PT-1	GB	PT-1	-	-	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 32
130C	ALIGNMENT BAY	CS-1	RB-1	CMU	PT-1	GB	PT-1	-	-	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 32
131	PARTS STORAGE	CS-1	RB-1	CMU	PT-1	GB	PT-1	-	-	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 32
132	FLEX BAY / TRAINING AIDS / ELECT. VEHICLE	CS-1	RB-1	CMU	PT-1	GB	PT-1	-	-	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 32
133	UNISEX RR	CS-1	CTB - EB	GB	PT-4	GB	PT-4	GB	PT-4	GB	PT-4	CBU	CT-2	5'-0"	GB	PT-4	9'-0"	/ 32
134	ELECTRICAL ROOM	CS-1	RB-1	CMU	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 32
135	MPOE	CS-1	RB-1	GB	PT-1	GB	PT-1	CMU	PT-1	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 64
136	CLASSROOM	CS-1 ~~RSF-1~~	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1	-	-	-	ACP-1	-	10'-0"	/ 32
137	TRAINING AIDS	CS-1 ~~RSF-1~~	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1	-	-	-	ACP-1	-	10'-0"	/ 64
138	CLASSROOM	CS-1 ~~RSF-1~~	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1	-	-	-	ACP-1	-	10'-0"	/ 32
139	HALLWAY 2	RSF-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	GB	PT-3	10'-0"	/ 32
140	HALLWAY 3	RSF-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	GB	PT-3	10'-0"	/ 32
141	HALLWAY 1	RSF-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1	-	-	-	GB	PT-3	10'-0"	/ 32
201	MEZZANINE (STORAGE)	CS-1	RB-1	CMU	PT-1	CMU	PT-1	-	-	GB	PT-1	-	-	-	EXP	PT-2	VARIES	/ 32

RFI#213 Carpet in Tutor/Conf 108

RFI#204 (rooms 114, 116A–116K, 121, 128)

FINISH LEGEND

ACP-1 2'-0"x4'-0" 2ND LOOK 2X2 ACOUSTICAL PANELS - 09 51 00
AWP-1 ACOUSTICAL WALL PANEL - 09 84 33
ACC ACOUSTICAL CLOUD CEILING SYSTEM

CBU CEMENTITIOUS BACKER UNIT
CS-1 POLISHED CONCRETE SEALER - COLORLESS - 03 30 10
CS-2 POLISHED CONCRETE SEALER - STAINED COLOR T.B.D. - 03 30 10

CMU CONCRETE MASONRY UNIT

CPT - 1 CARPET TILE

CT-1 CERAMIC TILE - 6 x 6 FLOOR - 09 30 13
CT-2 CERAMIC TILE - 6 x 6 WALL - 09 30 13

CTB - EB CERAMIC TILE COVE BASE AND EDGE BAND - 12 X 6 - 09 30 13

EXP EXPOSED STRUCTURE

FF FACTORY FINISH

GB GYPSUM BOARD - 09 21 16
GBX GYPSUM BOARD, FIRE RATED - 09 21 16
GBMR GYPSUM BOARD, MOISTURE RESISTANT - 09 21 16

GBIR GYPSUM BOARD, IMPACT RESISTANT - 09 21 16

RFI#197 Paint Sheens

PF-1 PAINT - SEMI-GLOSS - 09 91 00
PF-2 PAINT - EGGSHELL - 09 91 00
PF-3 PAINT - SEMI-GLOSS ENAMEL - 09 91 00
PF-4 PAINT - FERROUS METAL PIPING, MISC METALS - 09 91 00
PF-5 PAINT - GALVANIZED DUCTWORK, ELECT CONDUIT - 09 91 00
PF-6 PAINT - EPOXY - 09 91 00

PFX-1 PAINT - STEEL DOORS & FRAMES - 09 91 00
PFX-2 PAINT - HIGH PERFORMANCE COATING - 09 91 00
PFX-3 PAINT - FERROUS METAL PIPING, MISC METALS - 09 91 00
PFX-4 PAINT - FLAT FINISH ACRYLIC - 09 91 00

RPW RIGID PROTECTIVE WALLCOVERING - 09 72 17
RB-1 4" RESILIENT BASE - 09 65 00
RSF-1 RESILIENT SHEET FLOORING - 09 65 00

SSTL STAINLESS STEEL

UNF UNFINISHED

4

INTERIOR PAINT COLORS

PT-1 EGG SHELL PAINT
PT-2 EGG SHELL PAINT
PT-3 EGG SHELL PAINT
PT-4 SEMI GLOSS PAINT
PT-5 FLAT PAINT

FINISH REMARKS

1. FOR TILE PATTERN , SEE ENLARGED PLANS / INTERIOR ELEVATIONS
2. PRIME & PAINT ALL EXPOSED STRUCTURAL STEEL, METAL DECK, DUCTWORK AND ELECTRICAL COMPONENTS - 09 91 00
3. PROVIDE RPW TO WALLS WITH JANITOR SINK PER INTERIOR ELEVATIONS
4. PROVIDE WINDOW COVERINGS (TYPE 1) AT ALL WINDOWS - 12 21 16
5. FOR DIAGONALLY ORIENTED ROOMS, NORTHWEST WALL IS ASSUMED AS NORTH WALL
6. SEE DETAIL 20/A9.3.1 FOR TRANSITIONS BETWEEN FLOOR MATERIALS
7. LEVEL 5 GYPSUM: FINISHED
8. HEAVY BROOM FINISH AT CONCRETE STAIRS

GENERAL NOTES

1. ALL FINISHES SHALL COMPLY WITH CBC CHAPTER 8 AND WITH TITLE 19 C.C.R. & C.F.C.
2. PRIME & PAINT ALL EXPOSED SURFACES AND ITEMS WHICH ARE NOT FACTORY FINISHED, INCLUDING BUT NOT LIMITED TO; INTERIOR AND EXTERIOR SOFFITS, WOOD TRIM, REVEALS, METAL FLASHING AND TRIM, ROOF PENETRATIONS, EXPOSED STEEL STRUCTURE, EXPOSED PLUMBING, DUCTWORK AND OTHER MECHANICAL ITEMS, EXPOSED ELECTRICAL CONDUIT AND OTHER ELECTRICAL ITEMS, UNO.
3. PREPARE ALL SURFACES TO BE FINISHED PRIOR TO PAINTING, INCLUDING GALVANIZED STEEL AND ALL SURFACES ON WHICH DEBRIS OR OTHER RESIDUES EXIST WHICH MAY INTERFERE WITH FINISHING.

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RFI#204

1.) On 4-line wall (both sides) change to semi-gloss/high-gloss paint, not wall covering material.
2.) For Custodial Closets (both, Rooms 114 & 121) use FRP, not wall covering material.
3.) For Compressed Air/Oil Room 128 use FRP, not wall covering material.
4.) Behind drinking fountain use FRP, not wall covering material.

ASI#025 CCD#045

Floor finish revisions:

ROOM FINISH SCHEDULE - ASI 25

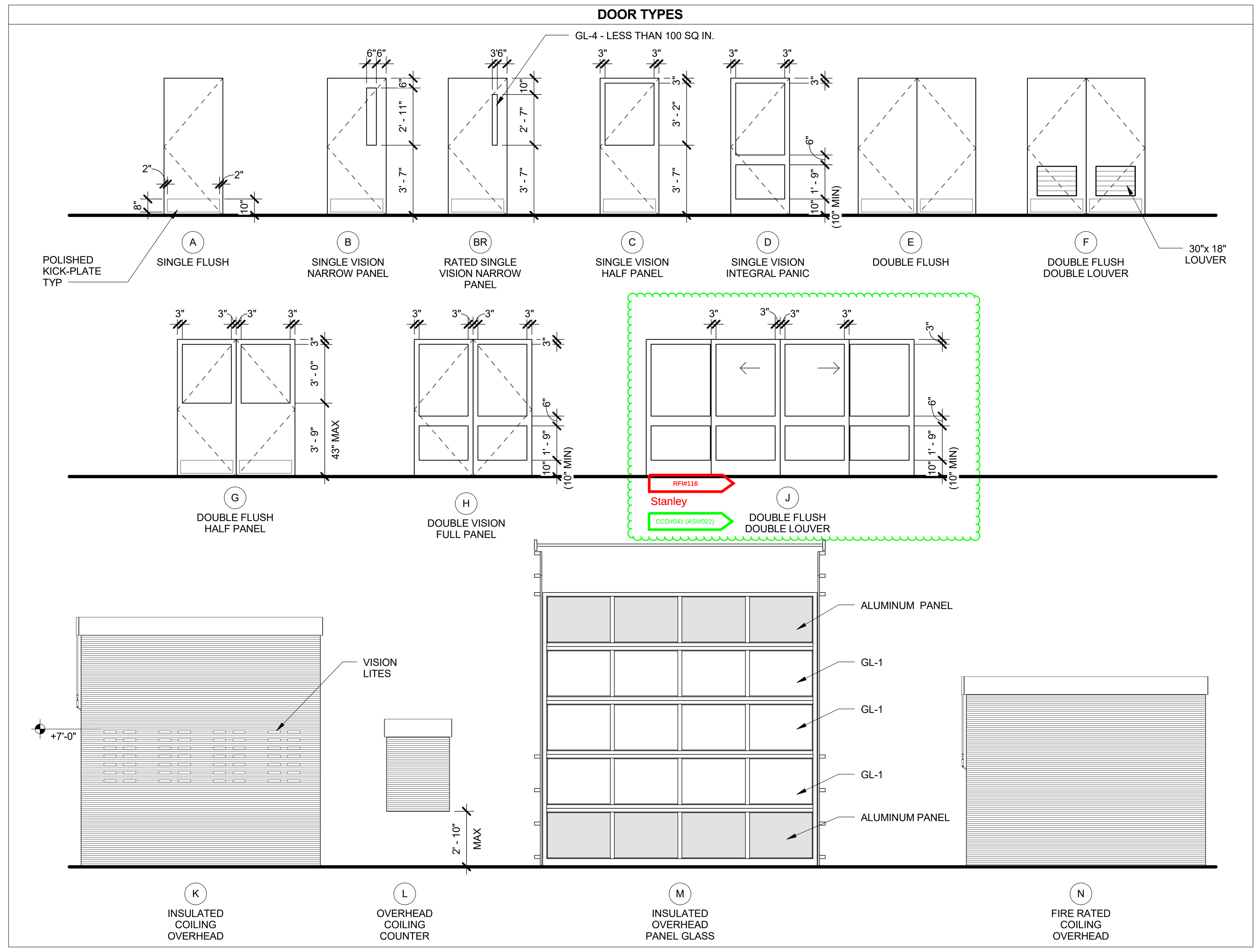
NO.	ROOM NAME	FLOOR FIN.	BASE	NORTH MAT.	NORTH FIN.	EAST MAT.	EAST FIN.	SOUTH MAT.	SOUTH FIN.	WEST MAT.	WEST FIN.
104	COPY ADMIN	CPT-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1
106	DATA	CS-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	GB	PT-1
136	CLASSROOM	CS-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1
137	TRAINING AIDS	CS-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1
138	CLASSROOM	CS-1	RB-1	GB	PT-1	GB	PT-1	GB	PT-1	CMU	PT-1

RFI#203

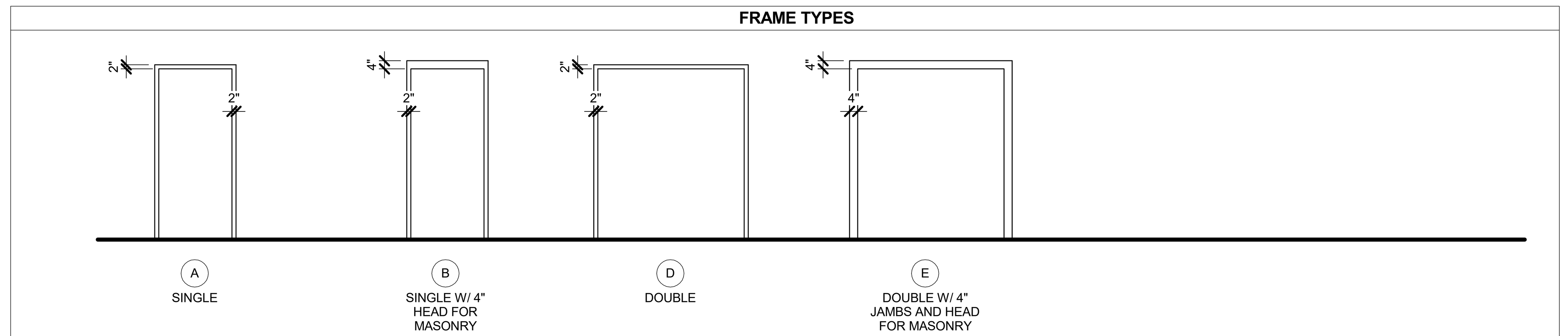
1. The storefront doors concealed overhead door stops to be installed with 105 degrees setting. District prefers door stops to be openable to fullest extent.

2. Per the manufacturer, the storefront doors that are to have cylindrical locks (doors 107B, 108B, 111 A, 110A and 120B) require the door stiles to be wide.

DOOR TYPES



FRAME TYPES



DOOR / GATE SCHEDULE

RFI#064

NO.	DOOR WIDTH	DOOR HEIGHT	DOOR TYPE	DOOR MAT.	DOOR FIN.	GLASS	FRAME TYPE	FRAME MAT.	FRAME FIN.	OPENING LABEL	DETAILS HEAD	DETAILS JAMB	DETAILS THRESH	PANIC HDW	HARDWARE GROUP	REMARKS
100A	3' - 0"	7' - 0"	C	WD	STN-1	GL-2	A	HM	PF-1		8/A9.3.1	8/A9.3.1	9/A9.3.1	No	01	1,14
101A	3' - 0"	7' - 0"	C	WD	STN-1	GL-2	A	HM	PF-1		8/A9.3.1	8/A9.3.1	9/A9.3.1	No	01	1,14
102A	3' - 0"	7' - 0"	C	WD	STN-1	GL-2	A	HM	PF-1		8/A9.3.1	8/A9.3.1	9/A9.3.1	No	01	1,14
103A	3' - 0"	7' - 0"	C	WD	STN-1	GL-2	A	HM	PF-1		8/A9.3.1	8/A9.3.1	9/A9.3.1	No	01	1
104A	3' - 0"	7' - 0"	D	WD	STN-1	GL-2	B	HM	PF-1		11/A9.3.1 SIM	12/A9.3.1 SIM	9/A9.3.1	No	02	1,14
105A	3' - 6"	7' - 0"	BR	STL	PF-1	GL-4	A	HM	PF-1	45 MIN	17/A9.3.1	17/A9.3.1	9/A9.3.1 SIM	Yes	32	
106A	3' - 0"	7' - 0"	B	WD	STN-1	GL-2	A	HM	PF-1		6/A9.3.1	6/A9.3.1	7/A9.3.1	No	03	1,11,12
107A	3' - 0"	7' - 0"	D	ALUM.	FF	GL-2	SFS	SFS			5/A9.3.1	5/A9.3.1	5/A9.3.1	No	04	1
107B	3' - 0"	7' - 0"	D	ALUM	FF	GL-1	SFS	SFS			5/A9.3.1	5/A9.3.1	5/A9.3.1	Yes	05	11,12
108A	3' - 0"	7' - 0"	D	ALUM.	FF	GL-2	SFS	SFS			5/A9.3.1	5/A9.3.1	5/A9.3.1		04	1
108B	3' - 0"	7' - 0"	D	ALUM.	FF	GL-2	SFS	SFS			5/A9.3.1	5/A9.3.1	5/A9.3.1	No	06	1
109A	3' - 0"	7' - 0"	BR	STL	PF-1	GL-4	D	HM	PF-1	45 MIN	17/A9.3.1	17/A9.3.1	9/A9.3.1 SIM	No	08	1,14
109B	14' - 0"	14' - 0"	M	ALUM.	FF	GL-1	SFS	STL			16/A9.3.1 SIM	16/A9.3.1	15/A9.3.1	No	07	11
109C	15' - 0"	10' - 0"	N	STL	PF-1	-	-	STL		45 MIN	13/A9.3.1	14/A9.3.1	15/A9.3.1 SIM			
110A	3' - 0"	7' - 0"	D	ALUM.	FF	GL-1	SFS	SFS			5/A9.3.1	5/A9.3.1	5/A9.3.1	Yes	09	1,2,11,12
110B	~~13' - 8"~~ 14'-0"	~~7' - 0"~~ 10'-0"	~~J~~ AA	ALUM.	FF	GL-1	SFS	SFS			~~5/A9.3.1~~	~~5/A9.3.1~~	5/A9.3.1	Yes	07	11,12
111A	3' - 0"	7' - 0"	D	ALUM.	FF	GL-2	SFS	SFS			5/A9.3.1	5/A9.3.1	5/A9.3.1	No	~~10~~ 06	1 hardware revised per OCR#9
111B	4' - 0"	7' - 0"	BR	STL	PF-1	GL-4	A	HM	PF-1	45 MIN	17/A9.3.1	17/A9.3.1	9/A9.3.1 SIM	No	32	1
112A	3' - 0"	7' - 0"	A	WD	STN-1	-	A	HM	PF-1		6/A9.3.1	6/A9.3.1	7/A9.3.1	No	11	1,3
113A	3' - 0"	7' - 0"	A	WD	STN-1	-	A	HM	PF-1		6/A9.3.1	6/A9.3.1	7/A9.3.1	No	11	1,3
114A	3' - 0"	7' - 0"	A	WD	STN-1	-	A	HM	PF-1		6/A9.3.1	6/A9.3.1	7/A9.3.1	No	12	1
116A	3' - 0"	7' - 0"	B	STL	PF-1	-	D	HM	PF-1		11/A9.3.1	12/A9.3.1	3/A9.3.1	Yes	05	11,12,13
116B	14' - 0"	14' - 0"	K	STL	-	GL-1	-	STL			13/A9.3.1	14/A9.3.1	15/A9.3.1	No	07	11
116C	14' - 0"	14' - 0"	K	STL	-	GL-1	-	STL			13/A9.3.1	14/A9.3.1	15/A9.3.1	No	07	11
116D	3' - 0"	7' - 0"	B	STL	PF-1	GL-1	B	HM	PF-1		11/A9.3.1	12/A9.3.1	3/A9.3.1	No	05	1, 11,12,13
116E	3' - 0"	7' - 0"	B	STL	PF-1	GL-2	D	HM	PF-1		11/A9.3.1	12/A9.3.1	3/A9.3.1	Yes	05	1,2,
116F	3' - 0"	7' - 0"	A	WD	STN-1	-	D	HM	PF-1		11/A9.3.1	12/A9.3.1	3/A9.3.1	No	12	1
116G	3' - 0"	7' - 0"	C	STL	PF-1	GL-3	A	HM	PF-1		6/A9.3.1	6/A9.3.1	7/A9.3.1	No	13	
116H	3' - 0"	7' - 0"	C	STL	PF-1	GL-3	A	HM	PF-1		6/A9.3.1	6/A9.3.1	7/A9.3.1	No	13	
118A	14' - 0"	14' - 0"	M	ALUM.	FF	GL-1	SFS	STL			13/A9.3.1	14/A9.3.1	15/A9.3.1	No	07	11
119A	14' - 0"	14' - 0"	K	STL	PF-1	GL-2	-	STL			13/A9.3.1	14/A9.3.1	15/A9.3.1	No	07	
119B	14' - 0"	14' - 0"	M	ALUM.	FF	GL-1	SFS	STL			13/A9.3.1	14/A9.3.1	15/A9.3.1	No	07	11
120A	3' - 0"	7' - 0"	A	STL	PF-1	-	B	HM	PF-1		11/A9.3.1	12/A9.3.1	3/A9.3.1	No	14	1, 14
120B	3' - 0"	7' - 0"	D	ALUM.	FF	GL-1	SFS	SFS			5/A9.3.1	5/A9.3.1	5/A9.3.1	No	15	1,2,11,12
122A	6' - 0"	7' - 0"	F	STL	PF-1	-	D	HM	PF-1		1/A9.3.1	2/A9.3.1	3/A9.3.1	No	16	1, 10,11,12
123A	3' - 0"	7' - 0"	A	WD	STN-1	-	B	HM	PF-1		11/A9.3.1	12/A9.3.1	3/A9.3.1	No	17	1,3
124A	6' - 0"	7' - 0"	E	STL	PF-1	-	D	HM	PF-1		1/A9.3.1	2/A9.3.1	3/A9.3.1	No	16	1, 10,11
127A	6' - 0"	7' - 0"	G	STL	PF-1	GL-3	D	HM	PF-1		6/A9.3.1	6/A9.3.1	7/A9.3.1	No	19	1, 11, 14
128A	3' - 0"	7' - 0"	A	WD	STN-1	-	A	HM	PF-1	45 MIN	6/A9.3.1	6/A9.3.1	7/A9.3.1	No	20	1
128B	6' - 0"	7' - 0"	E	STL	PF-1	-	D	HM	PF-1		11/A9.3.1	12/A9.3.1	3/A9.3.1	Yes	21	1, 10,11,12
129A	6' - 0"	7' - 0"	E	WD	STN-1	-	B	HM	PF-1		1/A9.3.1	2/A9.3.1	3/A9.3.1	No	22	1, 10,12
129B	3' - 0"	4' - 0"	L	STL	PF-1	-		STL			10/A9.3.1	10/A9.3.1	10/A9.3.1	No	23	
130A	3' - 0"	7' - 0"	A	STL	PF-1	-	B	HM	PF-1		11/A9.3.1	12/A9.3.1	3/A9.3.1	No	01	1, 14
131A	10' - 0"	12' - 0"	K	STL	PF-1	GL-1					13/A9.3.1	14/A9.3.1	15/A9.3.1	No	07	
131B	3' - 0"	7' - 0"	B	WD	STN-1	GL-2	A	HM	PF-1		6/A9.3.1	6/A9.3.1	7/A9.3.1	No	24	1, 12
131C	12' - 0"	12' - 0"	K	STL	PF-1	-		STL			10/A9.3.1 SIM	10/A9.3.1 SIM	15/A9.3.1 SIM	No	07	
133A	3' - 0"	7' - 0"	A	STL	PF-1	-	A	HM	PF-1		6/A9.3.1	6/A9.3.1	7/A9.3.1	No	17	
134A	3' - 0"	7' - 0"	A	STL	PF-1	-	D	HM	PF-1		11/A9.3.1	12/A9.3.1	3/A9.3.1	No	25	1, 11
134B	3' - 0"	7' - 0"	A	WD	STN-1	-	A	HM	PF-1		6/A9.3.1	6/A9.3.1	7/A9.3.1	No	03	1
135A	6' - 0"	7' - 0"	E	STL	PF-1	-	D	HM	PF-1		11/A9.3.1	12/A9.3.1	13/A9.3.1	No	18	10,11,12
136A	3' - 0"	7' - 0"	D	STL	PF-1	GL-3	A	HM	PF-1		1/A9.3.1	2/A9.3.1	3/A9.3.1	Yes	31	1,2, 11
136B	3' - 0"	7' - 0"	D	WD	STN-1	GL-2		SFS			8/A9.3.1 SIM	8/A9.3.1 SIM	9/A9.3.1 SIM	Yes	26	1,2, 12, 14
137A	6' - 0"	7' - 0"	G	STL	PF-1	GL-2	D	HM	PF-1		8/A9.3.1	8/A9.3.1	9/A9.3.1	No	27	1, 14
137B	6' - 0"	7' - 0"	G	WD	STN-1	GL-2	D	HM	PF-1		8/A9.3.1	8/A9.3.1	9/A9.3.1	No	27	1,14
137C	12' - 0"	9'-4"	K	STL	PF-1	GL-2	-	STL			13/A9.3.1	14/A9.3.1	-	No	07	
138A	3' - 0"	7' - 0"	D	ALUM	PF-1	GL-2	SFS	SFS			1/A9.4.1	2/A9.4.1	3/A9.3.1	Yes	31	1, 2, 11
138B	3' - 0"	7' - 0"	D	WD	STN-1	GL-2		SFS			8/A9.3.1 SIM	8/A9.3.1 SIM	9/A9.3.1 SIM	Yes	26	1, 2, 12, 14
139A	3' - 0"	7' - 0"	C	WD	STN-1	GL-2	A	HM	PF-1		8/A9.3.1	8/A9.3.1	9/A9.3.1	No	28	1,14
140A	3' - 0"	7' - 0"	C	WD	STN-1	GL-2	A	HM	PF-1		8/A9.3.1	8/A9.3.1	9/A9.3.1	No	28	1, 14
141A	3' - 0"	7' - 0"	D	STL	PF-1	GL-3	A	HM	PF-1		1/A9.3.1	2/A9.3.1	3/A9.3.1	Yes	30	9,11,12,13

RFI#116
Storefront Door 110B Stanley

CCD#041 (ASI#022) RFI#074

RFI#087
Door 111B hardware group is Set #33
Door 105A hardware group is Set #34

RFI#170 doors 107B & 138A = Storefront

RFI#080
Acoustic Rated Doors 120A & 130A

RFI#126

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

DOOR LEGEND

GLASS TYPES

GL-1 INSULATING, TEMPERED GLASS, TINTED - 08 81 00
GL-2 TEMPERED GLASS, CLEAR - 08 81 00
GL-3 LAMINATED SAFETY GLASS, CLEAR - 08 81 00
GL-4 TEMPERED FIRE RATED GLASS - 08 81 00

MATERIALS

ALUM ALUMINUM
HM HOLLOW METAL
WD WOOD
STL STEEL

FINISHES

PF-1 PAINT - SEMI-GLOSS - 09 91 00
PF-2 PAINT - EGGSHELL - 09 91 00
PF-3 PAINT - SEMI-GLOSS ENAMEL - 09 91 00
PF-4 PAINT - FERROUS METAL PIPING, MISC METALS - 09 91 00
PF-5 PAINT - GALVANIZED DUCTWORK, ELECT CONDUIT - 09 91 00
PF-6 PAINT - EPOXY - 09 91 00

STN-1 FACTORY STAIN FINISH - 08 14 00

PFX-1 PAINT - STEEL DOORS & FRAMES - 09 91 00
PFX-2 PAINT - HIGH PERFORMANCE COATING - 09 91 00
PFX-3 PAINT - FERROUS METAL PIPING, MISC METALS - 09 91 00
PFX-4 PAINT - FLAT FINISH ACRYLIC - 09 91 00

FF FACTORY FINISH

REMARKS

1. ROOM IDENTIFICATION SIGNAGE RS-1 - SPEC SECTION 10 14 00 FOR MOUNTING HEIGHT SEE DETAIL 1/G4.0.2.
2. ROOM IDENTIFICATION SIGNAGE RS-2 - SPEC SECTION 10 14 00 FOR MOUNTING HEIGHT SEE DETAIL 1/G4.0.2.
3. ROOM IDENTIFICATION SIGNAGE RS-3 - SPEC SECTION 10 14 00 FOR MOUNTING HEIGHT SEE DETAIL 1/G4.0.2.
4. TOILET ROOM SYMBOLS - SPEC SECTION 10 14 00. FOR MOUNTING HEIGHT SEE DETAIL 1/G4.0.2.
5. SAFETY SIGNAGE SS-1 - SPEC SECTION 10 14 00. FOR MOUNTING HEIGHT SEE DETAIL 1/G4.0.2.
6. SAFETY SIGNAGE SS-2 - SPEC SECTION 10 14 00. FOR MOUNTING HEIGHT SEE DETAIL 1/G4.0.2.
7. GLASS TRANSOM (GLAZING TO MATCH DOOR GLAZING)
8. LOUVERED DOOR
9. PANIC HARDWARE - 08 71 00
10. VERTICAL LOCKING ROD
11. ALARM CONTACT. SEE AC1.1 FOR CONACT INFORMATION.
12. CARD READER. SEE AC1.1 FOR CARD READER INFORMATION.
13. KEY PAD AT THIS DOOR. SEE AC1.1 FOR KEY PAD INFORMATION.
14. STC RATED DOOR. INSULATED DOOR WITH FULL PERIMETER ACOUSTICAL GASKETS

GENERAL NOTES

1. ALL DOORS ARE 1-3/4" THICK UNLESS NOTED OTHERWISE.
2. SEE WINDOW TYPES FOR DOOR / WINDOW FRAME COMBINATIONS

SEAL

LICENSED ARCHITECT CHRISTOPHER C. VICENCIO NO. C26985 REN. 6-30-17 STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

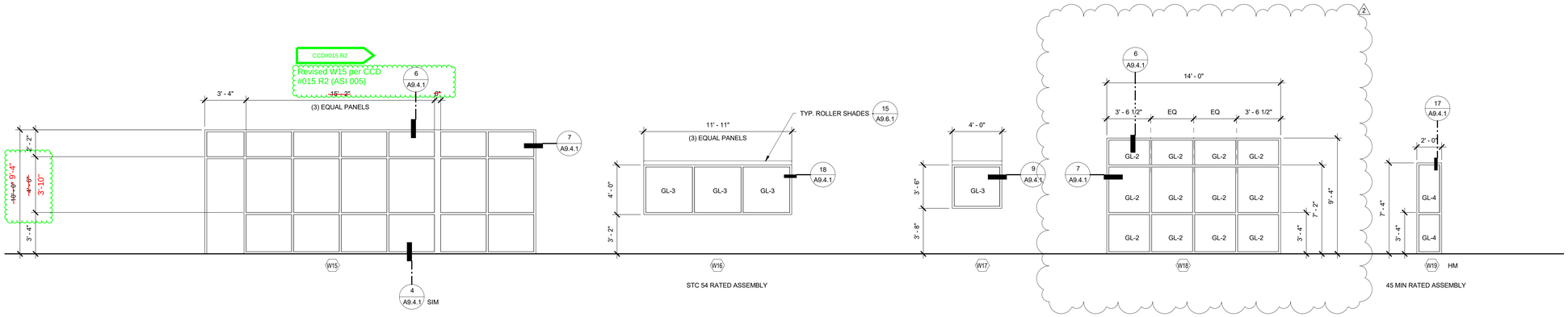
Drawing Title
DOOR AND FINISH SCHEDULE

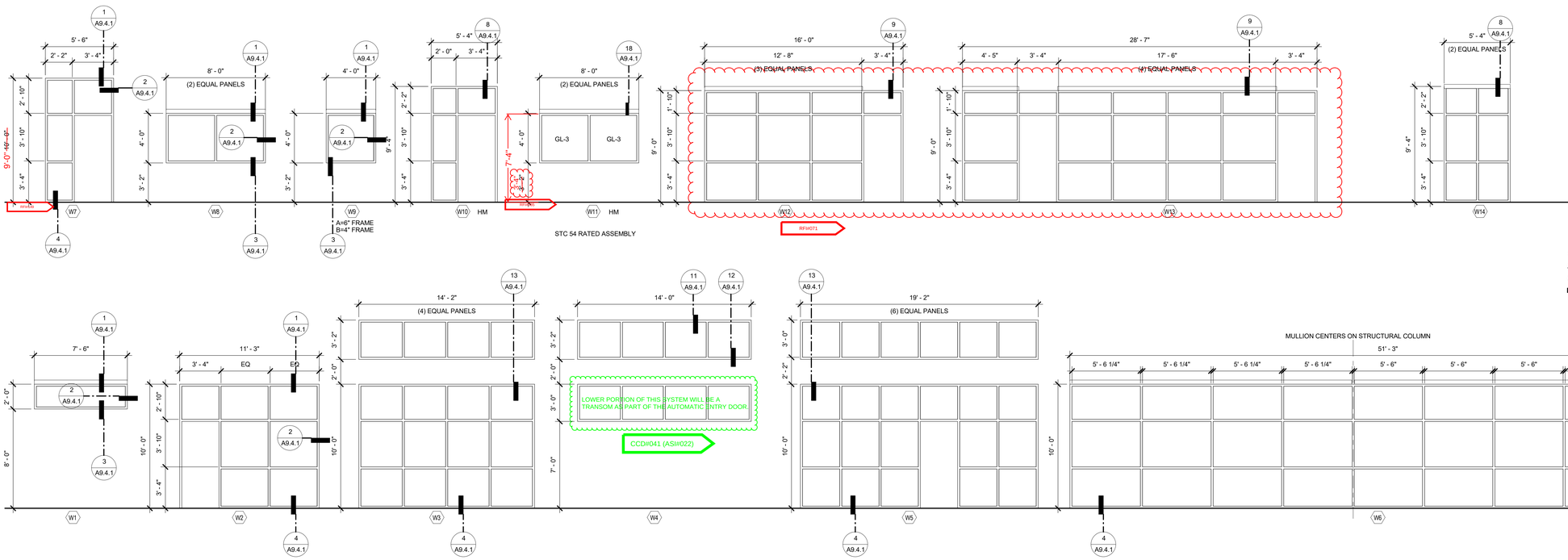
Drawn By FH
Checked By SP

NO.	DATE	ISSUE
4	4/24/2014	ASI 18

Project No. 15-245
©Date 10/05/2016

DRAWING NO.
A8.1.1





JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998

www.jkaia.net

LEGEND

GLASS TYPES

GL-1	INSULATING, TEMPERED GLASS, TINTED - 08 81 00
GL-2	TEMPERED GLASS, CLEAR - 08 81 00
GL-3	LAMINATED SAFETY GLASS, CLEAR - 08 81 00
GL-4	TEMPERED FIRE RATED GLASS - 08 81 00

MATERIALS

ALUM	ALUMINUM
HM	HOLLOW METAL
WD	WOOD
STL	STEEL

FINISHES

PF-1	PAINT - SEMI-GLOSS - 09 91 00
PF-2	PAINT - EGGSHELL - 09 91 00
PF-3	PAINT - SEMI-GLOSS ENAMEL - 09 91 00
PF-4	PAINT - FERROUS METAL PIPING, MISC METALS - 09 91 00
PF-5	PAINT - GALVANIZED DUCTWORK, ELECT CONDUIT - 09 91 00
PF-6	PAINT - EPOXY - 09 91 00
PFX-1	PAINT - STEEL DOORS & FRAMES - 09 91 00
PFX-2	PAINT - HIGH PERFORMANCE COATING - 09 91 00
PFX-3	PAINT - FERROUS METAL PIPING, MISC METALS - 09 91 00
PFX-4	PAINT - FLAT FINISH ACRYLIC - 09 91 00
FF	FACTORY FINISH

GENERAL NOTES

1. DIMENSIONS TO INTERMEDIATE WINDOW MULLIONS ARE TO CENTERLINE OF MULLION. DIMENSIONS TO EDGE MULLIONS ARE TO FACE OF FRAME.
2. ALL GLASS TO BE TEMPERED
3. ALL EXTERIOR GLASS TO BE GL-1
   ALL INTERIOR GLASS TO BE GL-2
4. SEE 21 A9.2.1 THRU 24 A9.2.1 FOR MORE WATERPROOFING INFO.

SEAL

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
WINDOW SCHEDULE

Drawn By: BR
Checked By: SP

NO.	DATE	ISSUE
2	10/19/2016	ASI 002

Project No.: 15-245
Date: 10/05/2016

DRAWING NO.
A8.2.1
AX - 19

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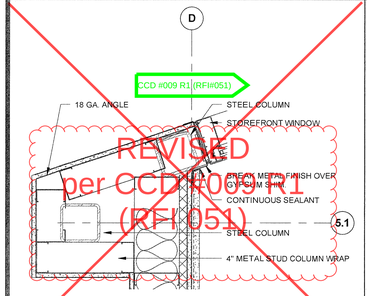
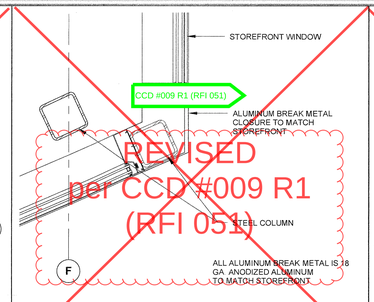
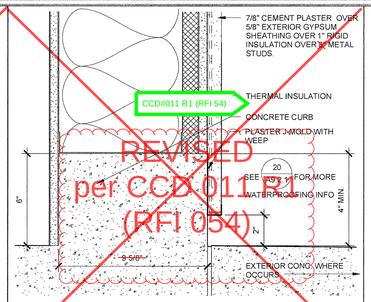


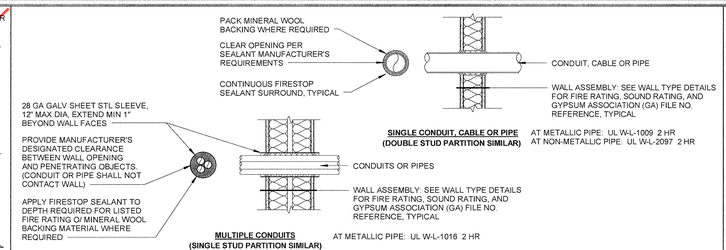
STOREFRONT-COLUNM-MFR DISPLAY 26
1 1/2" = 1'-0"



STOREFRONT-COLUMN-CORNER 21
1 1/2" = 1'-0"

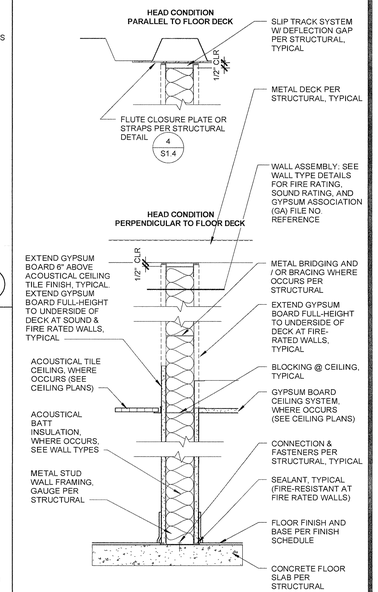


WALL-CURB-EXT-WING WALL 2 16
3" = 1'-0"

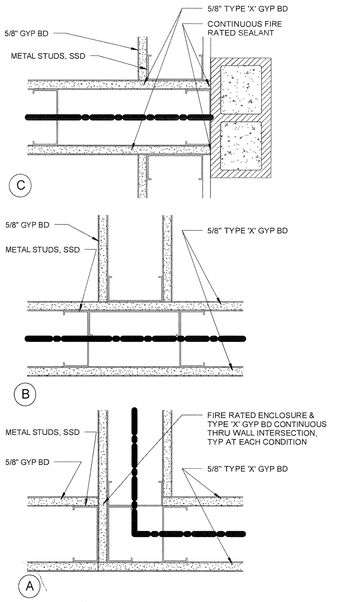


NOTES.
1. CONDUIT, CABLE, PIPE, ETC. PENETRATIONS OF FIRE-RATED PARTITIONS SHALL BE SEALED AS SHOWN, IN COMPLIANCE WITH MANUFACTURER'S INSTRUCTIONS. ANY GAP LARGER THAN ALLOWED FOR SPECIFIED FIRESTOP SEALANT SHALL BE FILLED WITH FIRE BLOCKS CUT TO SIZE FOR PENETRATIONS IN PLACE, PRIOR TO INSTALLING FIRESTOP SEALANT.
2. FIRE BLOCK AND FIRESTOP SEALANT PROVISIONS FOR PENETRATIONS AT FIRE-RATED WALL ASSEMBLIES TAKE PRIORITY OVER ACOUSTICAL PROVISIONS.

CONDUIT OR PIPE PENETRATION FIRESTOP 6
1" = 1'-0"



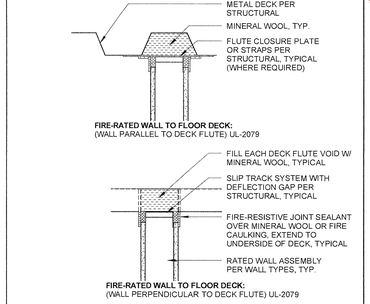
TYPICAL FULL-HEIGHT WALL PARTITION 2
1 1/2" = 1'-0"



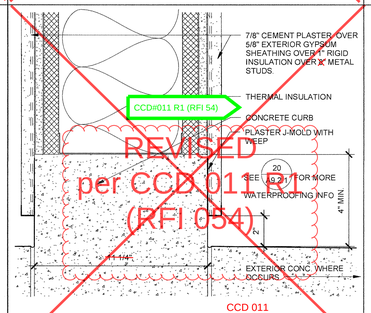
NOTE:
AT EACH WALL INTERSECTION 1HR WALL CONDITION SHOWN.

NON-RATED WALLS MAY HAVE GYP BD ON ONE OR BOTH SIDES

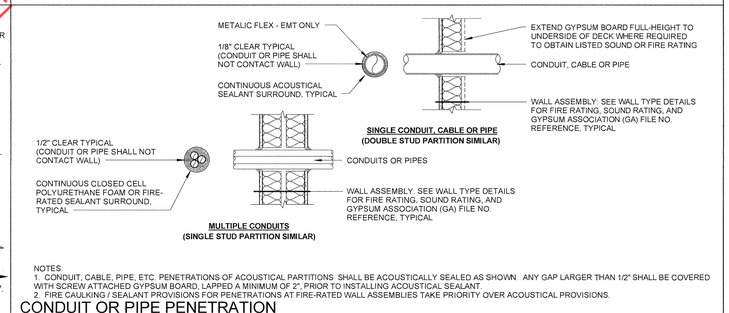
RATED WALL INTERSECTIONS 28
3" = 1'-0"



FIRE RATED WALL HEAD 22
1 1/2" = 1'-0"

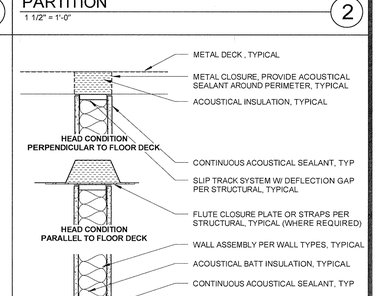


WALL-CURB-EXT-WING WALL 1 17
3" = 1'-0"

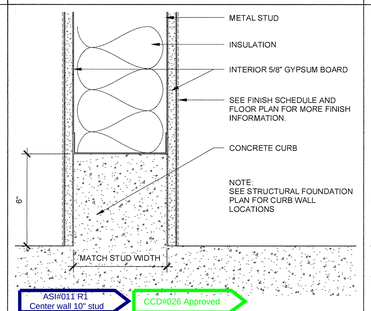


NOTES.
1. CONDUIT, CABLE, PIPE, ETC. PENETRATIONS OF ACOUSTICAL PARTITIONS SHALL BE ACOUSTICALLY SEALED AS SHOWN. ANY GAP LARGER THAN 1/2" SHALL BE COVERED WITH SCREW ATTACHED GYPSUM BOARD, LAPPED A MINIMUM OF 2", PRIOR TO INSTALLING ACOUSTICAL SEALANT.
2. FIRE CAULKING / SEALANT PROVISIONS FOR PENETRATIONS AT FIRE-RATED WALL ASSEMBLIES TAKE PRIORITY OVER ACOUSTICAL PROVISIONS.

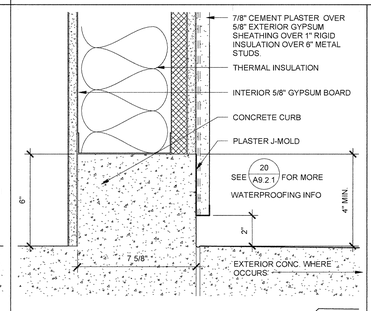
CONDUIT OR PIPE PENETRATION ACOUSTIC PROVISIONS 7
1" = 1'-0"



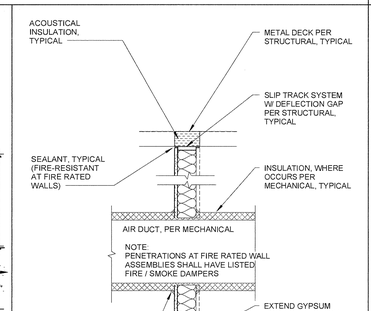
TYPICAL SOUND / ACOUSTICAL RATED WALL 3
1 1/2" = 1'-0"



WALL-CURB-INT-METAL STUD 18
3" = 1'-0"



WALL-CURB-EXT-METAL STUD 13
3" = 1'-0"

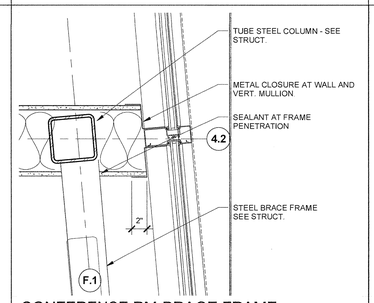


NOTE:
DUCTWORK PENETRATIONS OF ACOUSTICAL PARTITIONS SHALL BE ACOUSTICALLY SEALED AS SHOWN. ANY GAP LARGER THAN 1/2" SHALL BE COVERED WITH SCREW ATTACHED GYPSUM BOARD, LAPPED A MINIMUM OF 2", PRIOR TO INSTALLING ACOUSTICAL SEALANT

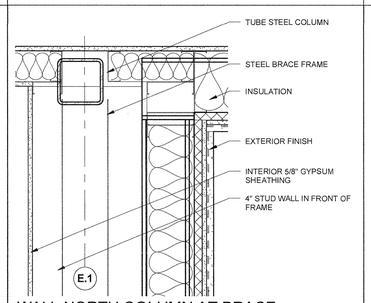
FULL-HEIGHT SOUND RATED WALL PARTITION:
(SEE DETAILS ON THIS SHEET FOR TYPICAL ACOUSTIC & FIRE-RATED WALL HEAD AND SILL CONDITIONS)

DUCT PENETRATION ACOUSTIC PROVISIONS 9
1" = 1'-0"

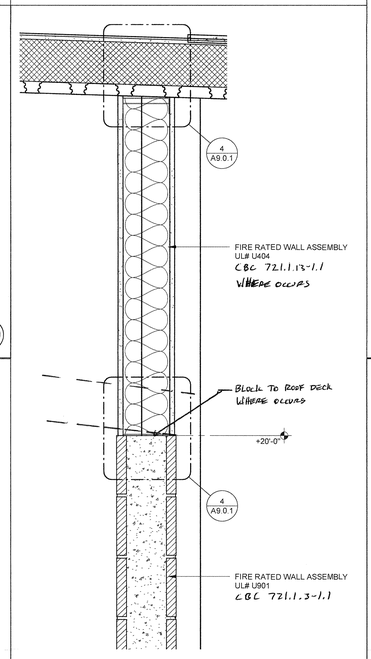
TYPICAL FIRE RATED WALL 4
1 1/2" = 1'-0"



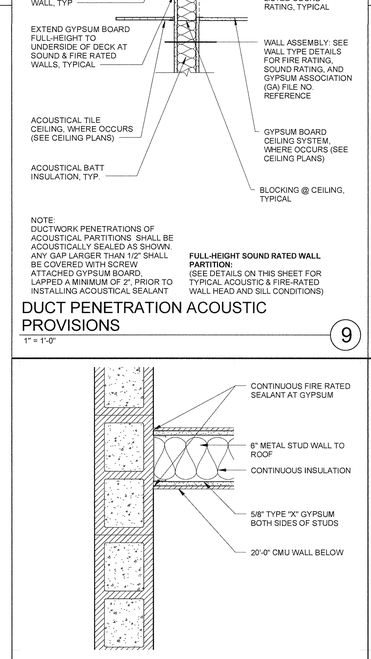
CONFERENCE RM-BRACE FRAME COLUMN-NORTH 24
1 1/2" = 1'-0"



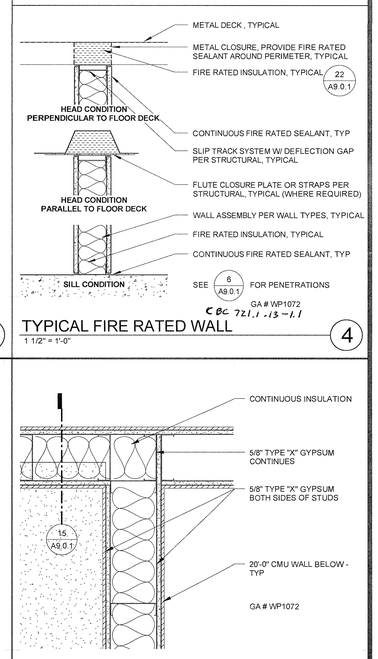
WALL-NORTH COLUMN AT BRACE FRAME 19
1 1/2" = 1'-0"



WALL - 1 HR FIRE RATED - SECTION 15
1 1/2" = 1'-0"



WALL-1 HR FIRE RATED-AT CMU 10
1 1/2" = 1'-0"



WALL-1 HR FIRE RATED-TRANSITION 5
1 1/2" = 1'-0"

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SEAL

LICENSED ARCHITECT — NO. C26986 — REN. 5-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC FILE SS

DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
WALL DETAILS

NO.	DATE	ISSUE

Drawn By: FH
Checked By: SP
Project No.: 15-245
©Date: 08/30/2016
DRAWING NO.: A9.0.1

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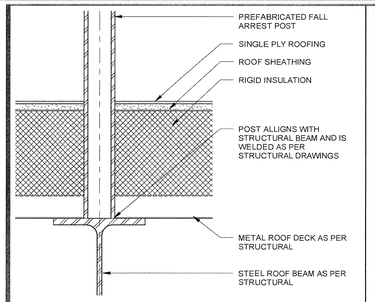
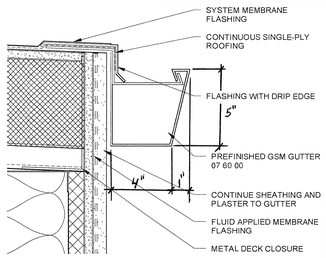
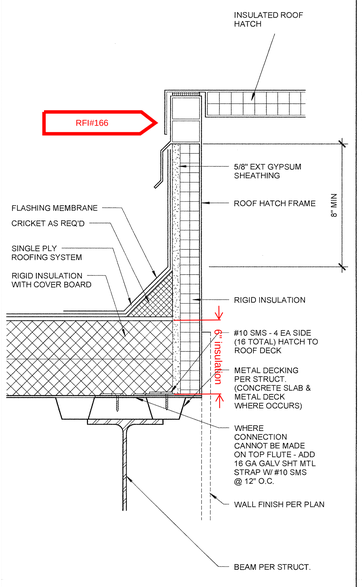


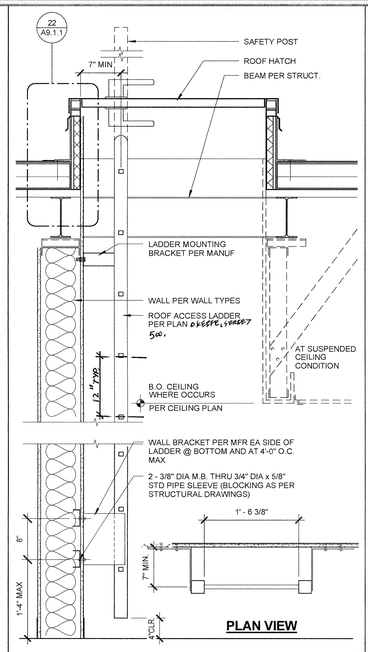
FALL ARREST POST
3" = 1'-0" — 26



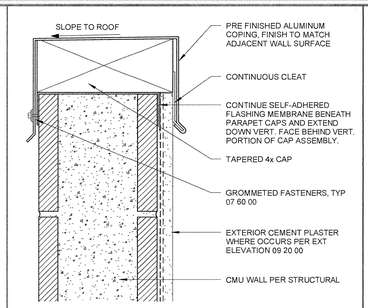
TYPICL GUTTER
3" = 1'-0" — 27



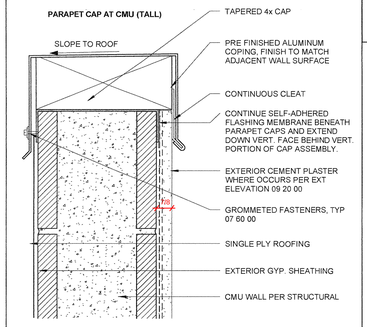
ENLARGED ROOF HATCH
3" = 1'-0" — 22



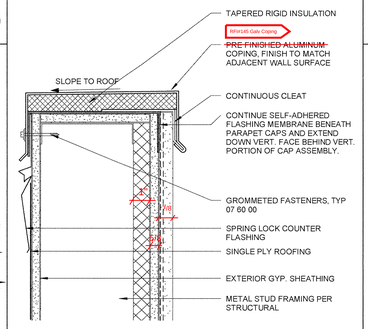
ROOF HATCH
1" = 1'-0" — 17



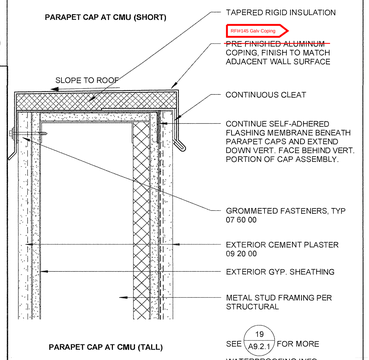
PARAPET CAP AT CMU (TALL)



PARAPET CAP AT CMU (SHORT)

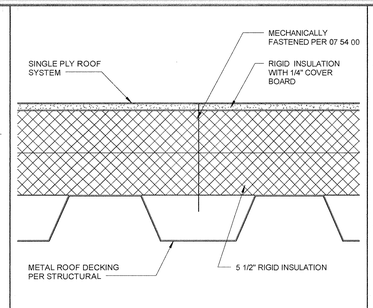


PARAPET CAP AT CMU (SHORT)

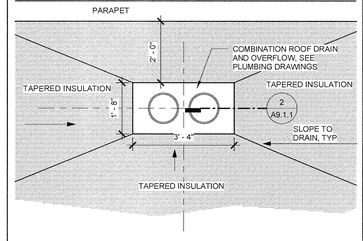


PARAPET CAP AT CMU (TALL)

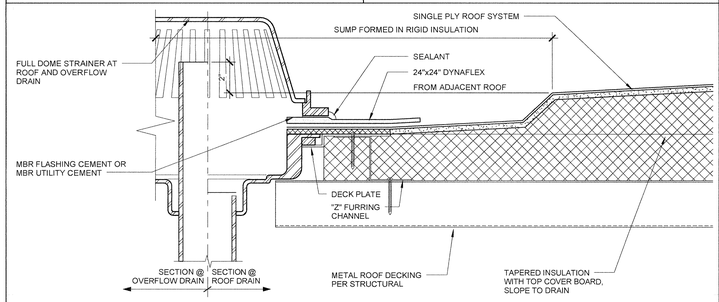
PARAPET CONDITIONS
3" = 1'-0" — 14



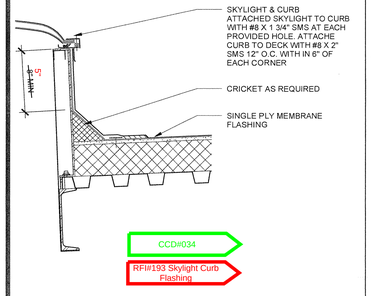
TYPICAL ROOF ASSEMBLY
3" = 1'-0" — 6



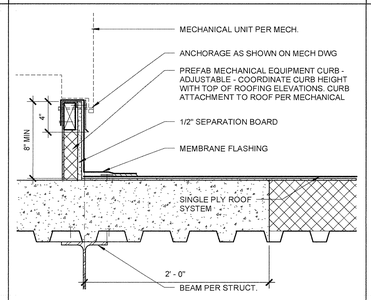
ROOF DRAIN PLAN
1/2" = 1'-0" — 1



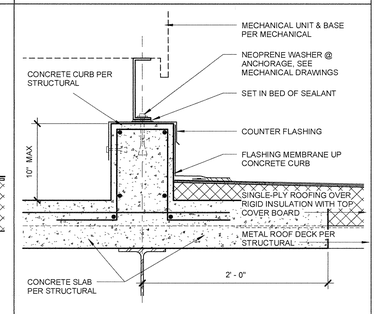
ROOF DRAIN AND OVERFLOW
3" = 1'-0" — 2



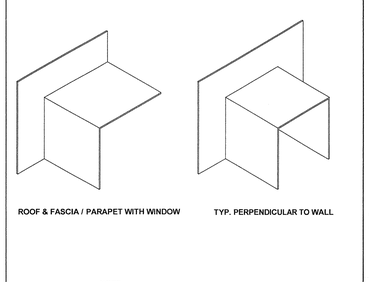
SKYLITE
1 1/2" = 1'-0" — 28



MECHANICAL CURB
1 1/2" = 1'-0" — 23



MECHANICAL CONCRETE CURB
1 1/2" = 1'-0" — 18



ROOF & FASCIA / PARAPET WITH WINDOW

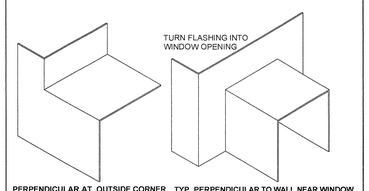
TYP. PERPENDICULAR TO WALL

NOTE
MAINTAIN 4" MIN LAP ON ALL SIDES OF FLASHING

FIELD VERIFY FOR EXACT MEASUREMENTS AND CONDITIONS

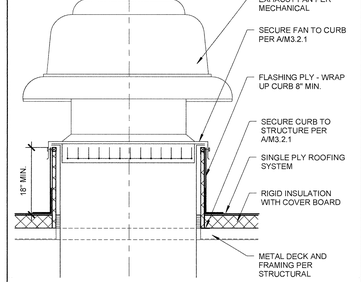
APPLY SOLID SUB-FLASH TO SUBSTRATE IN ALL PERPENDICULAR CONDITIONS

JOINTS TO BE CAULKED FULLY

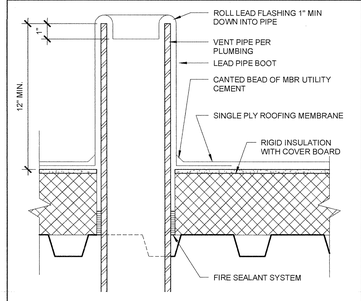


PERPENDICULAR AT OUTSIDE CORNER **TYP. PERPENDICULAR TO WALL NEAR WINDOW**

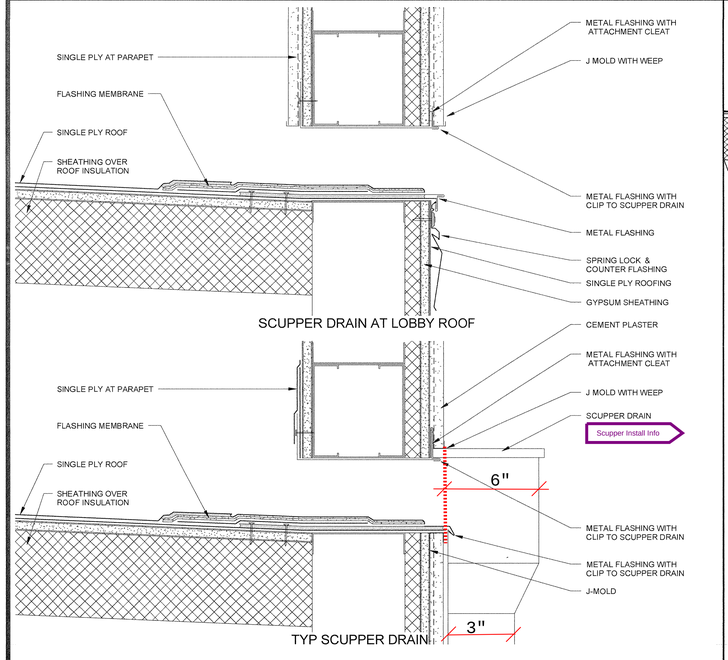
SUBSTRATE FLASHING AT PERPENDICULAR CONDITIONS
RFI#143
3" = 1'-0" — 9



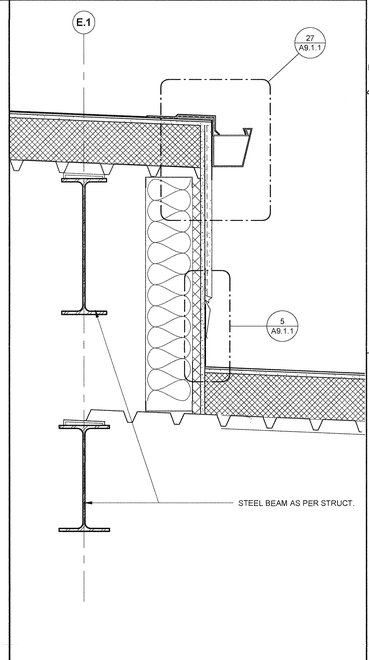
DETAIL - EXHAUST FAN @ CURB
1/2" = 1'-0" — 3



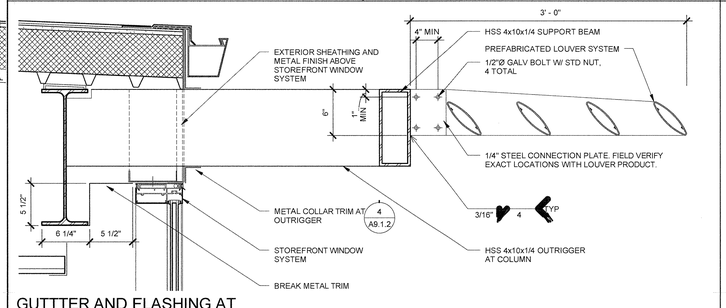
PIPE PENETRATION THRU SINGLE PLY
3" = 1'-0" — 4



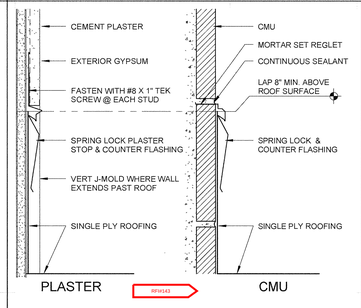
SCUPPER DRAINS
3" = 1'-0" — 25



CLERESTORY ROOF
1 1/2" = 1'-0" — 20



GUTTTER AND FLASHING AT SUNSHADE (STUDENT LOUNGE)
1 1/2" = 1'-0" — 10



PARAPET END FLASHING
3" = 1'-0" — 5

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RFI#178 Flashing at MPOE Room

CCD#028 / ASI#012 STD SEAM DETAILS

SEAL

LICENSED ARCHITECT — REGISTERED PROFESSIONAL — NO. C26885 REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC FLS SS
DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title: ROOF DETAILS

NO.	DATE	ISSUE

Drawn By: Author
Checked By: Checker
Project No.: 15-245
©Date: 08/30/2016
DRAWING NO.: A9.1.1

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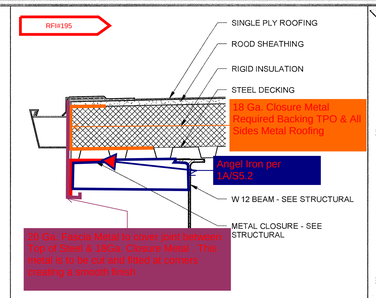
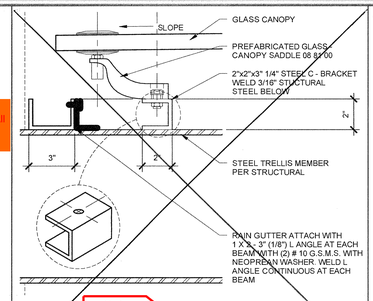


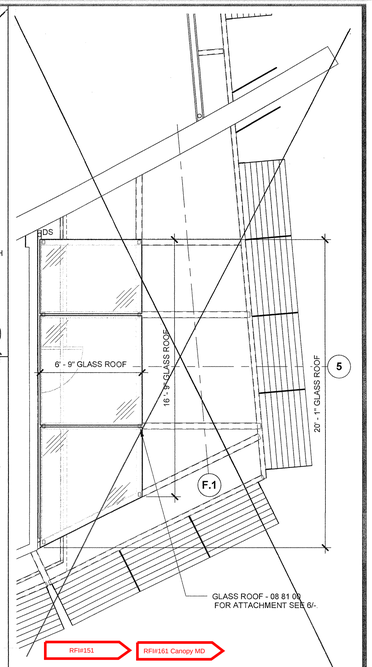
EAVE - CAR WASH CANOPY 11

1 1/2" = 1'-0"



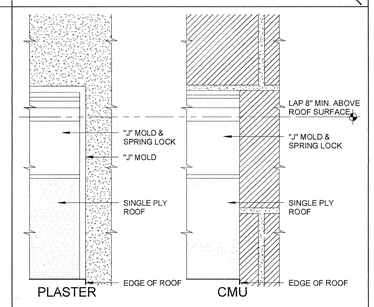
LOBBY - GLASS ROOF & GUTTER 6

3" = 1'-0"



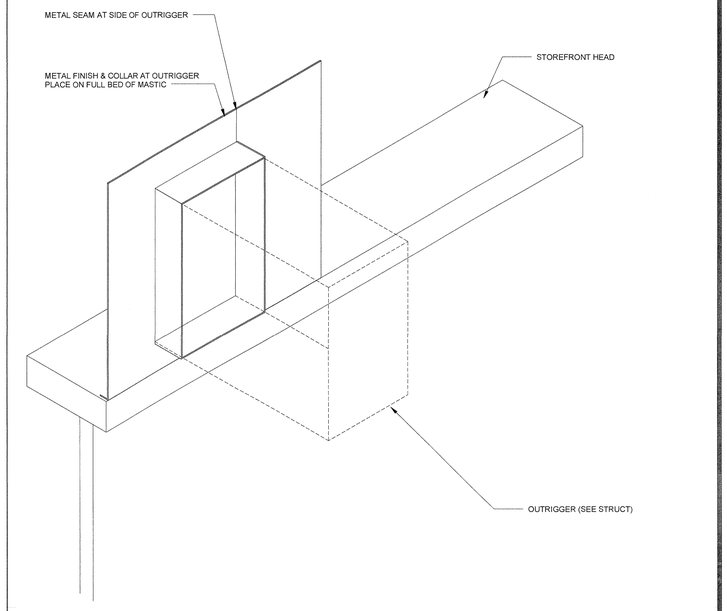
ENLARGED GLASS ROOF 2

1/4" = 1'-0"



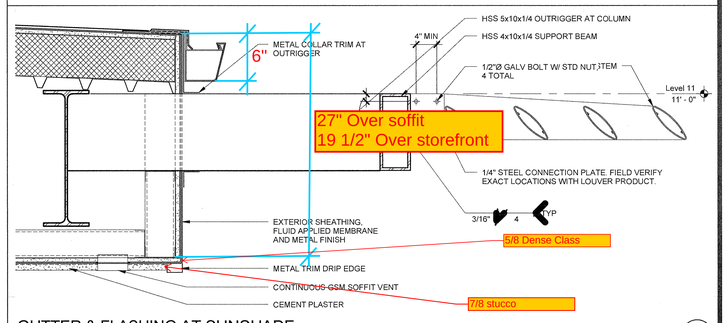
PARAPET END FLASHING 7

3" = 1'-0"



OUTLOOKER FLASHING 4

3" = 1'-0"



GUTTER & FLASHING AT SUNSHADE 5

1 1/2" = 1'-0"

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REN. 6-30-17
STATE OF CALIFORNIA

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FH

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SP

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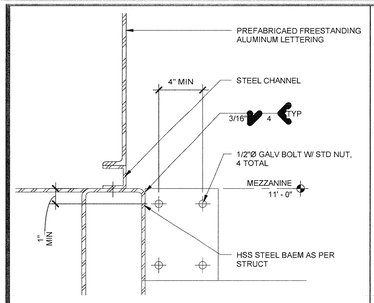
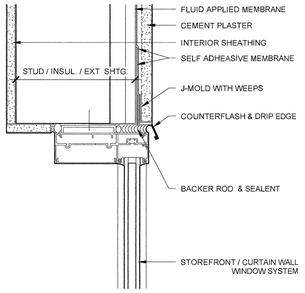
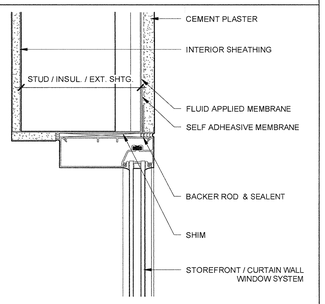


BUILDING LETTERING 26
3" = 1'-0"



WATERPROOFING-STOREFRONT HEAD 21
3" = 1'-0"



WATERPROOFING-STOREFRONT JAMB 22
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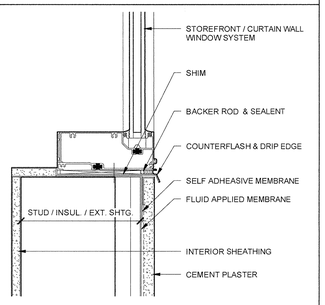
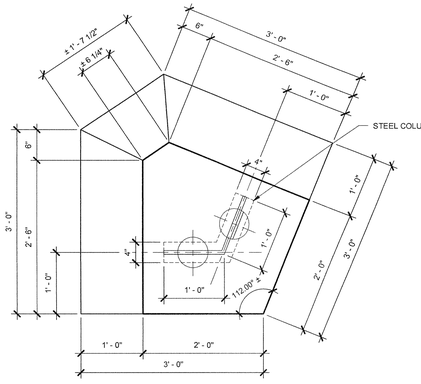
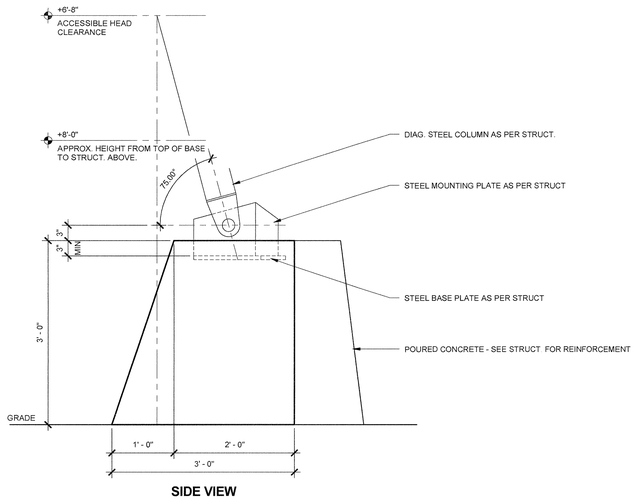


WATERPROOFING-STOREFRONT SILL 23
3" = 1'-0"

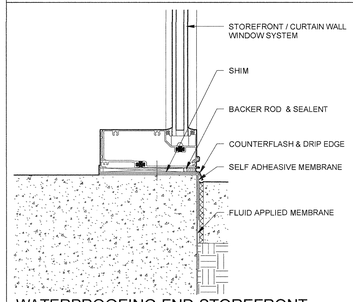


TOP VIEW

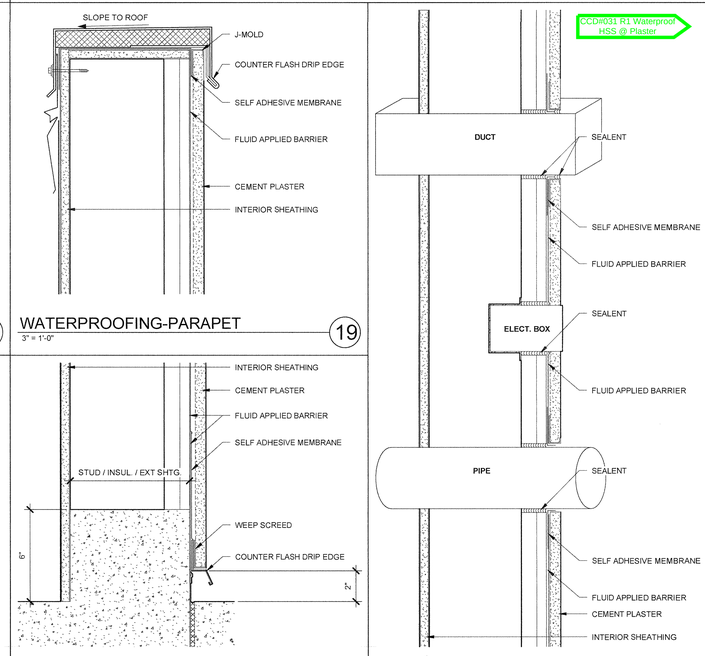


SIDE VIEW

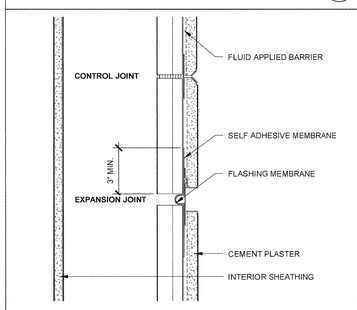
CONCRETE COLUMN BASE 13
1" = 1'-0"



WATERPROOFING-PARAPET 19
3" = 1'-0"

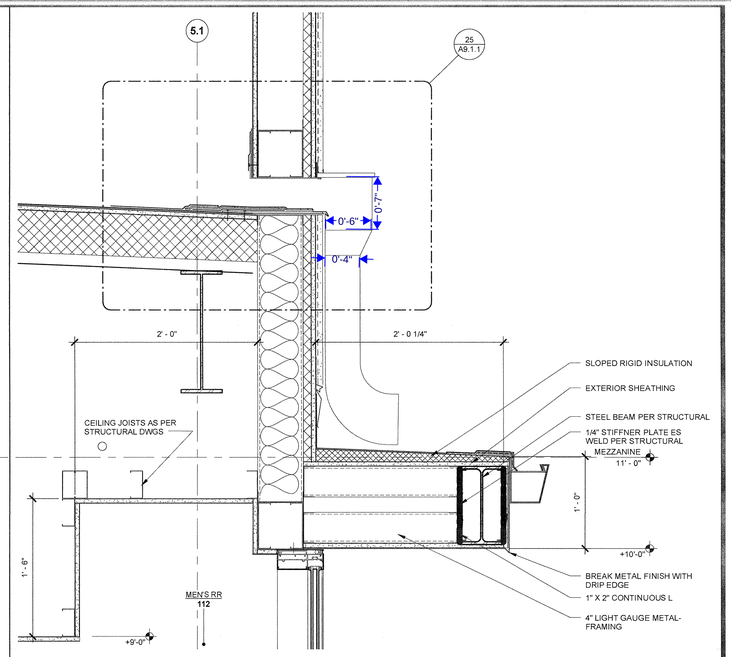


WATERPROOFING-PENETRATIONS 15
3" = 1'-0"



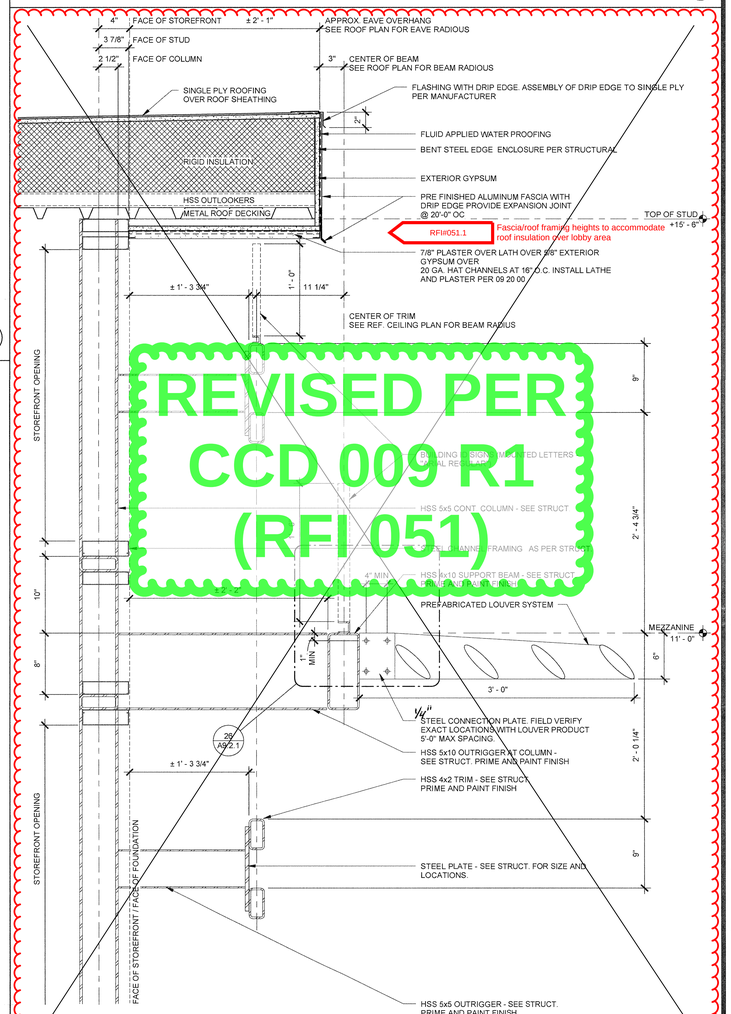
WATERPROOFING-PLASTER JOINTS 25
3" = 1'-0"

WATERPROOFING-FOUNDATION 20
3" = 1'-0"



RESTROOM SOFFIT / EYEBROW
1 1/2" = 1'-0"

2



LOUVER AND TRIM AT COLUMN 5
1 1/2" = 1'-0"

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LICENSED ARCHITECT — JOHN KRIEGER — NO. C29985 — REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

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APPL # 02-114995

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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
EXTERIOR DETAILS

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Checked By
Checker

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15-245
Date
08/30/2016

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A9.2.1

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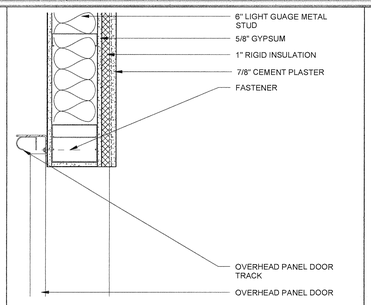
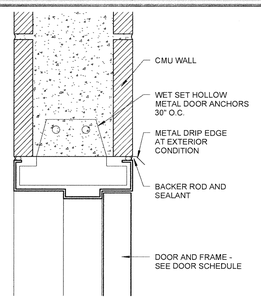
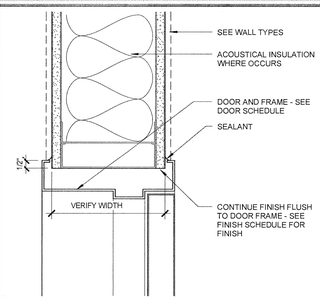


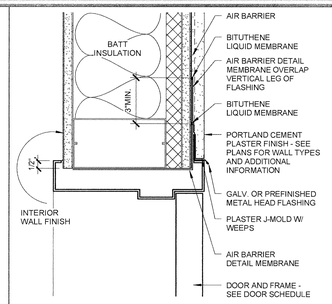
PANEL O.H. DOOR JAMB
1 1/2" = 1'-0" — 16



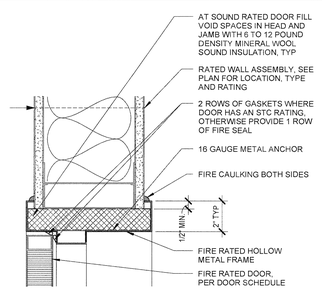
DR HEAD CMU
3" = 1'-0" — 11



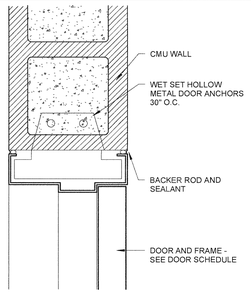
INTERIOR DOOR - HEAD/JAMB SIMILAR
3" = 1'-0" — 6



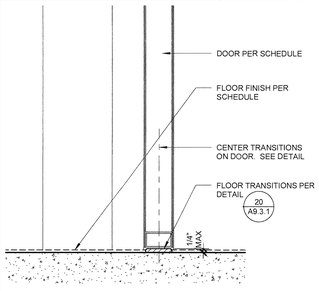
EXTERIOR DOOR - HEAD PLASTER
3" = 1'-0" — 1



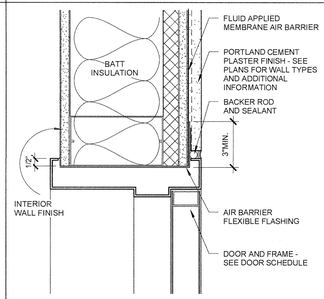
INTERIOR DOOR - HEAD/JAMB SIMILAR
3" = 1'-0" — 17



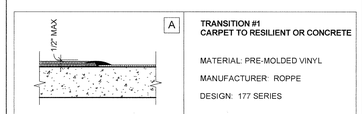
DR JAMB CMU
3" = 1'-0" — 12



DOOR THRESHOLD - INTERIOR
3" = 1'-0" — 7

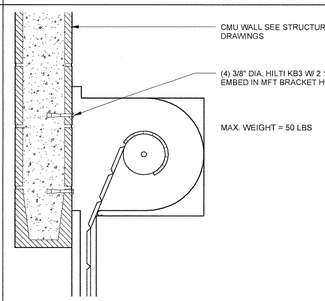


EXTERIOR DOOR - JAMB PLASTER
3" = 1'-0" — 2

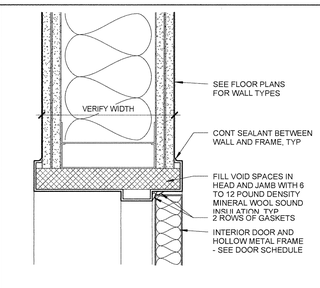


NOTES:
1. CENTER TRANSITION STRIP AT DOOR OPENINGS WHERE OCCURS.

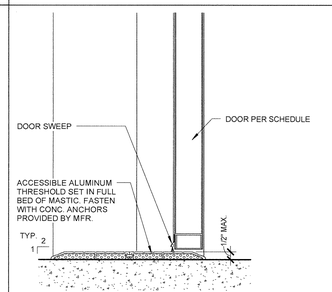
FLOOR FINISH TRANSITIONS
3" = 1'-0" — 20



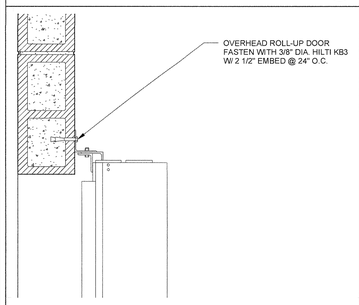
ROLL-UP DOOR HEAD
1 1/2" = 1'-0" — 13



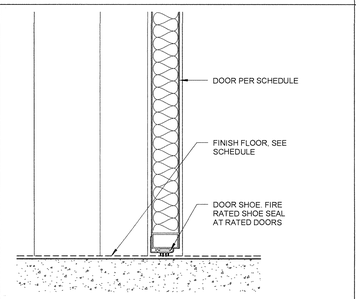
SOUND RATED DOOR - HEAD/JAMB SIMILAR
3" = 1'-0" — 8



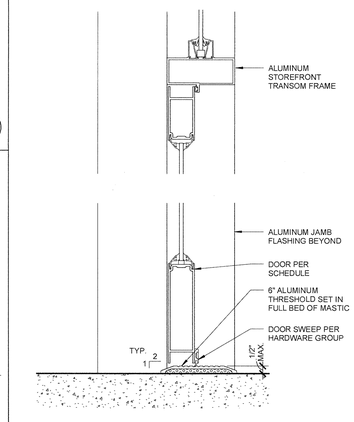
DOOR THRESHOLD - HOLLOW METAL EXTERIOR
3" = 1'-0" — 3



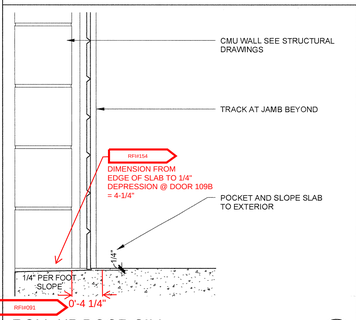
ROLL-UP DOOR JAMB
1 1/2" = 1'-0" — 14



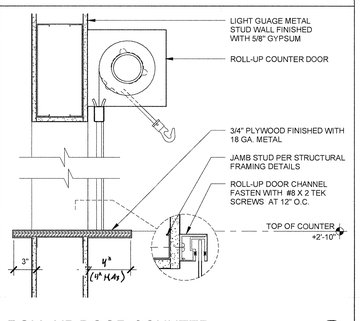
SOUND RATED DOOR - THRESHOLD
3" = 1'-0" — 9



DOOR THRESHOLD / HEAD - STOREFRONT EXTERIOR
3" = 1'-0" — 5



ROLL-UP DOOR SILL
1 1/2" = 1'-0" — 15



ROLL-UP DOOR COUNTER
1 1/2" = 1'-0" — 10

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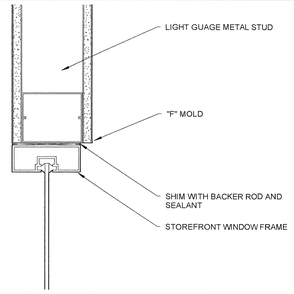
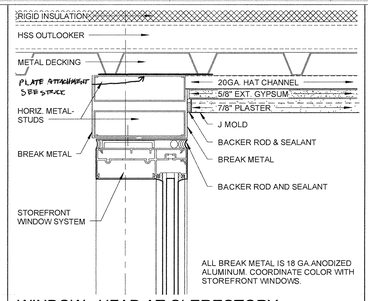
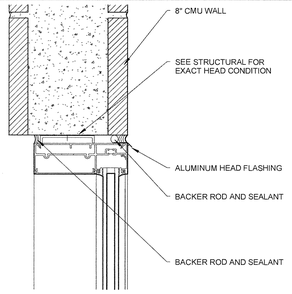


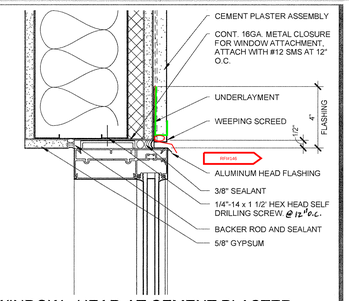
WINDOW - HEAD / JAMB AT METAL STUD 16
3" = 1'-0"



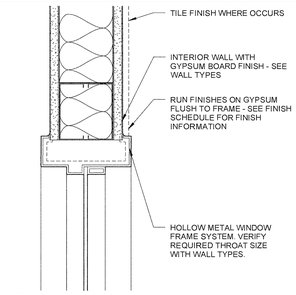
WINDOW - HEAD AT CLERESTORY LOBBY 11
3" = 1'-0"



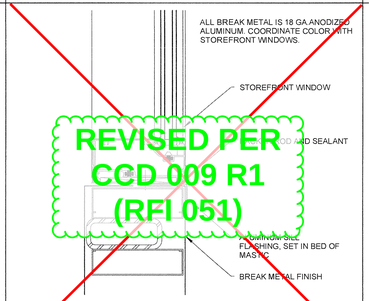
WINDOW - HEAD AT CMU 6
3" = 1'-0"



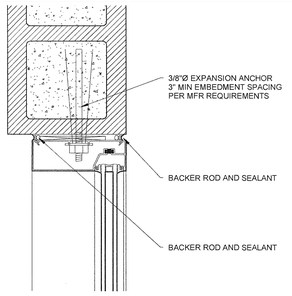
WINDOW - HEAD AT CEMENT PLASTER EXTERIOR 1
3" = 1'-0"



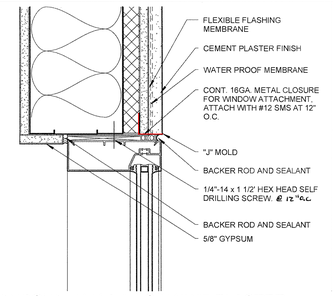
FIRE RATED WINDOW - HEAD / JAMB AT MTL STUD - HOLLOW MTL 17
3" = 1'-0"



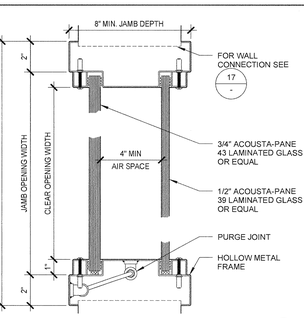
WINDOW - SILL AT LOBBY 12
3" = 1'-0"



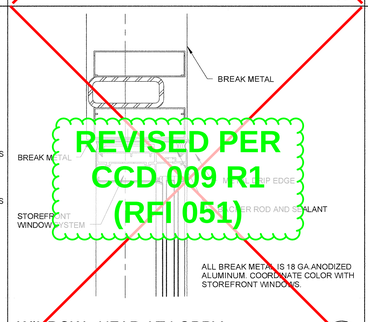
WINDOW - JAMB AT CMU 7
3" = 1'-0"



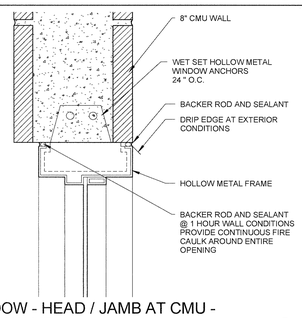
WINDOW - JAMB AT CEMENT PLASTER EXTERIOR 2
3" = 1'-0"



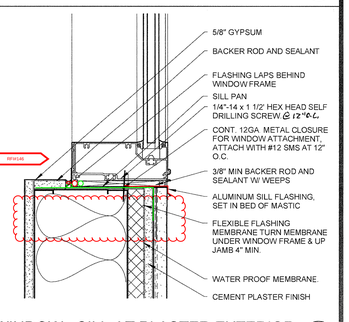
ACOUSTICALLY RATED WINDOW 18
3" = 1'-0"



WINDOW - HEAD AT LOBBY 13
3" = 1'-0"

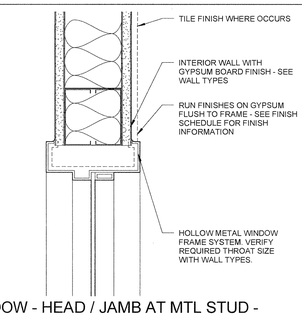


WINDOW - HEAD / JAMB AT CMU - HOLLOW MTL 8
3" = 1'-0"

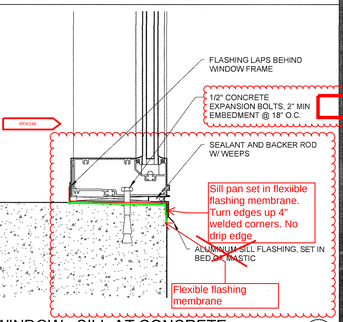


WINDOW - SILL AT PLASTER EXTERIOR 3
3" = 1'-0"

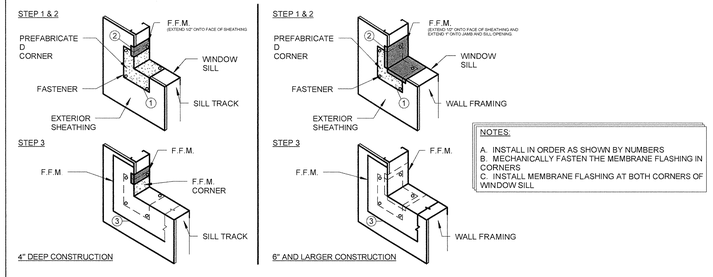
FLEXIBLE FLASHING MEMBRANE 15
3" = 1'-0"



WINDOW - HEAD / JAMB AT MTL STUD - HOLLOW MTL 9
3" = 1'-0"



WINDOW - SILL AT CONCRETE 4
3" = 1'-0"



TYPICAL FLEXIBLE FLASHING MEMBRANE - CORNER 5
3" = 1'-0"

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

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LICENSED ARCHITECT — RICHARD L. WEBER — NO. C29885 REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC FLS SS

DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
WINDOW DETAILS

Drawn By
FH

Checked By
SP

NO.	DATE	ISSUE

Project No.
15-245

Date
08/30/2016

DRAWING NO.
A9.4.1

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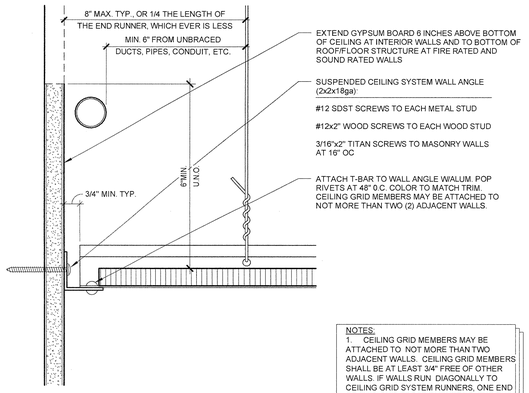
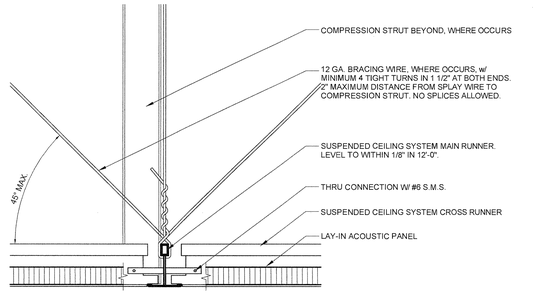


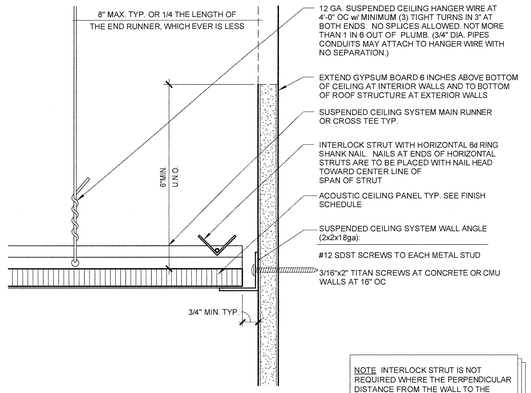
NOTES:
1. CEILING GRID MEMBERS MAY BE ATTACHED TO NOT MORE THAN TWO ADJACENT WALLS. CEILING GRID MEMBERS SHALL BE AT LEAST 3/4" FREE OF OTHER WALLS. IF WALLS RUN DIAGONALLY TO CEILING GRID SYSTEM RUNNERS, ONE END OF MAIN AND CROSS RUNNERS SHOULD BE FREE, AND A MINIMUM OF 3/4" CLEAR OF WALL.

T-BAR AT CONNECTED WALL



NOTE:
PROVIDE TRAPEZE OR OTHER SUPPLEMENTARY SUPPORT MEMBERS AT OBSTRUCTIONS TO TYPICAL HANGER SPACING. PROVIDE ADDITIONAL HANGERS, STRUTS OR BRACES AS REQUIRED AT ALL CEILING BREAKS, SOFFITS OR DISCONTINUOUS AREAS. HANGER WIRES THAT ARE MORE THAN 1 IN 6 OUT OF PLUMB ARE TO HAVE COUNTER SLOPING WIRES.

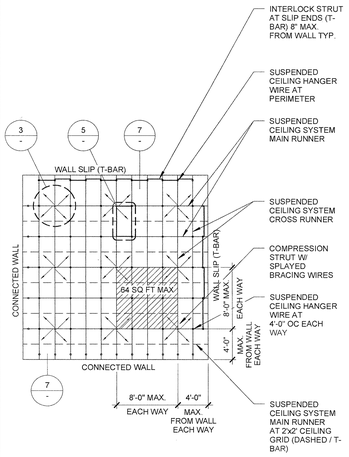
VERTICAL HANGER WIRE



NOTE INTERLOCK STRUT IS NOT REQUIRED WHERE THE PERPENDICULAR DISTANCE FROM THE WALL TO THE FIRST PARALLEL RUNNER IS 12" OR LESS.

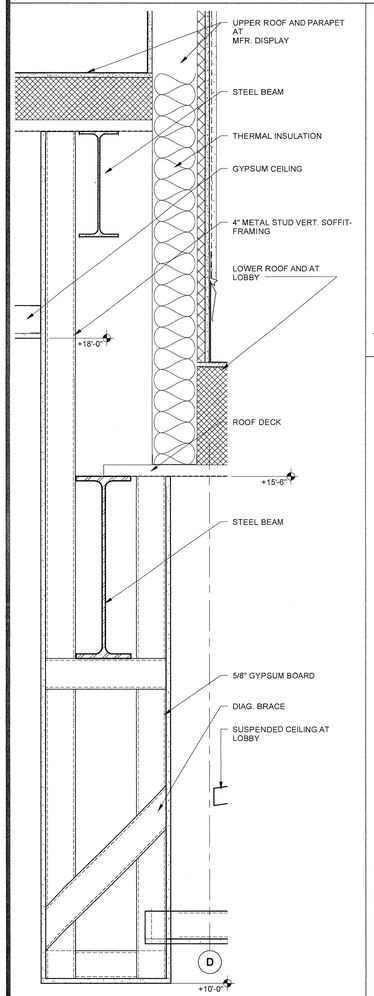
T-BAR AT WALL SLIP

CEILING T-BAR ATTACHMENTS
6" = 1'-0" — 7

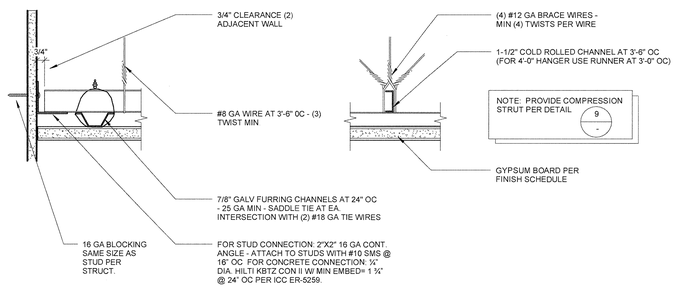


NOTES:
1. IN ALL CASES, HANGER WIRES SHALL BE 12 GA. (T-BAR) & 8 GA. (GYPSUM) AND ATTACH TO THE GRID MEMBERS WITHIN 3 INCHES OF EACH CORNER OF THE FIXTURE.

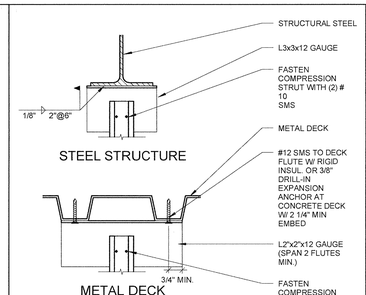
CEILING COMPRESSION STRUT LAYOUT
1/8" = 1'-0" — 2



MFR DISPLAY CEILING SOFFIT
1 1/2" = 1'-0" — 30



CEILING - TYP. GYP BD CEILING
3" = 1'-0" — 18

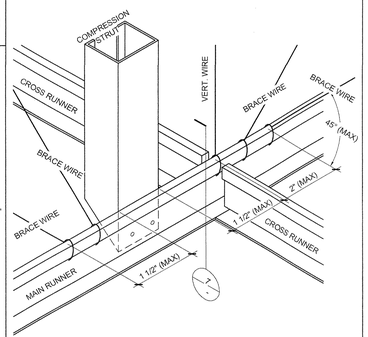


METAL DECK
CEILING TOP OF COMPRESSION STRUT
3" = 1'-0" — 13

COMPRESSION STRUTS STEEL SECTION WITH L/R RATIO OF 200 MAXIMUM. ATTACH TO MAIN RUNNERS WITHIN 1 1/2" OF CROSS RUNNER WITH (2) 1/4" DIA. MACHINE BOLTS. COMPRESSION STRUT SHALL NOT REPLACE HANGER WIRE.
ATTACH TOP OF STRUT AS PER 13

ALLOWABLE HEIGHTS OF 1 5/8"X20 GA. STRUT

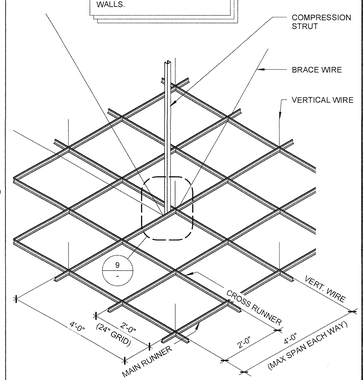
MAX. LENGTH	CHANNEL COMP. STRUT
5'-0"	250S125-33
6'-10"	250S137-33
8'-0"	362S137-43
8'-10"	250137-43
10'-10"	400S137-43



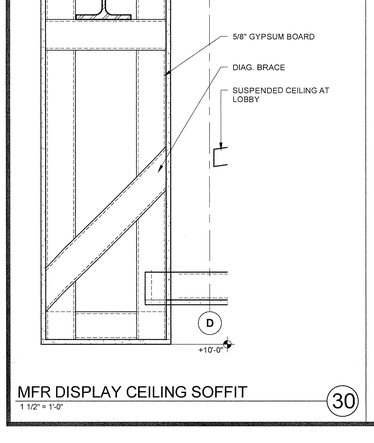
CEILING BOTTOM OF COMPRESSION STRUT
6" = 1'-0" — 9

ATTACH TOP OF WIRE AS PER 15 FOR METAL

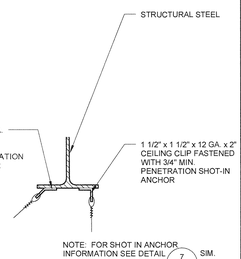
NOTE:
SUSPENDED ACOUSTICAL CEILING SYSTEMS WITH A CEILING AREA OF 144 SQ. FT. OR LESS, AND FIRE RATED SUSPENDED ACOUSTICAL CEILING SYSTEMS WITH A CEILING AREA OF 96 SQ. FT. OR LESS, SURROUNDED BY WALLS WHICH CONNECT DIRECTLY TO THE STRUCTURE ABOVE, DO NOT REQUIRE BRACING ASSEMBLIES WHEN ATTACHED TO TWO ADJACENT WALLS.



CEILING SUSPENDED T-BAR GRID
1/2" = 1'-0" — 3

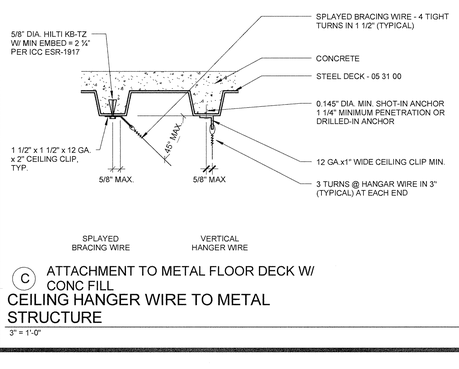


B ATTACHMENT TO METAL ROOF DECK



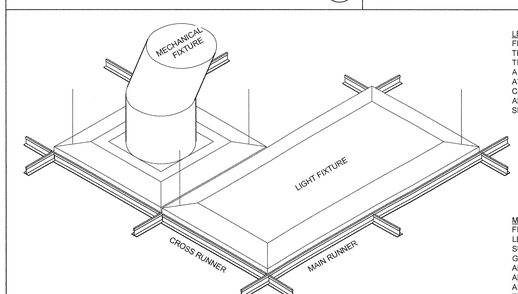
NOTE: FOR SHOT IN ANCHOR INFORMATION SEE DETAIL 7/S1.5 SIM.

A ATTACHMENT TO STEEL STRUCTURE



C ATTACHMENT TO METAL FLOOR DECK W/ CONC FILL

CEILING HANGER WIRE TO METAL STRUCTURE
3" = 1'-0" — 15



LESS THAN 56 LBS.
FLUSH OR RECESSED FIXTURES WEIGHING LESS THAN 56 LBS. MAY BE SUPPORTED DIRECTLY ON THE MAIN RUNNERS. BUT, IN ADDITION, MUST HAVE A MIN. OF (2) 12 GA. SLACK SAFETY WIRES ATTACHED TO THE FIXTURE AT DIAGONAL CORNERS AND ANCHORED TO THE STRUCTURE ABOVE. ALL 4'x4' LIGHTING FIXTURES MUST HAVE SLACK SAFETY WIRES AT EACH CORNER.

MORE THAN 56 LBS.
FLUSH OR RECESSED FIXTURES WEIGHING 56 LBS. OR MORE MUST BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN (4) TAUT 12 GA. WIRES EACH ATTACHED TO THE TERMINAL AND TO THE STRUCTURE ABOVE. THE WIRES AND THEIR ATTACHMENT TO THE STRUCTURE ABOVE MUST BE CAPABLE OF SUPPORTING 4 TIMES THE WEIGHT OF THE UNIT.

CEILING SUSPENDED - MECH. & LIGHT SUPPORT
1" = 1'-0" — 5

SEAL
LICENSED ARCHITECT — SCOTT PETERSON — NO. C26884 — REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC FI/LS SS
DATE: 8/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
CEILING DETAILS

Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE

Project No.: 15-245
Date: 08/30/2016
DRAWING NO.: A9.5.1

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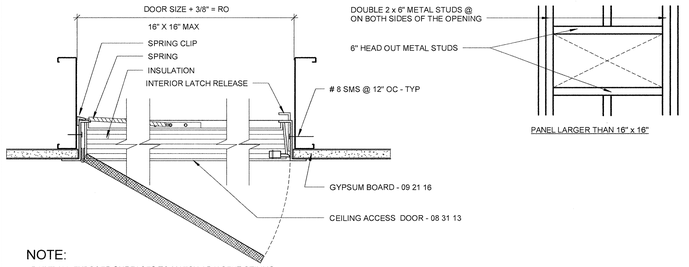
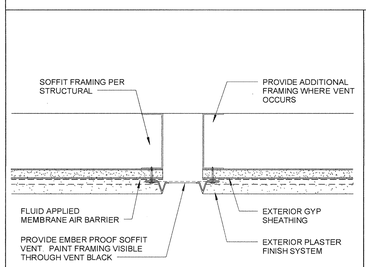
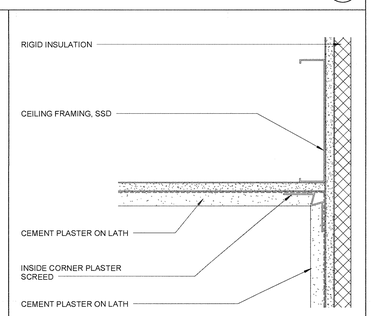


NOTE:
- PAINT ALL EXPOSED SURFACES TO MATCH ADJACENT CEILING.
- ACCESS DOOR TO BE 1-HOUR RATED WITH UL# B LABEL IN RATED CEILING ONLY

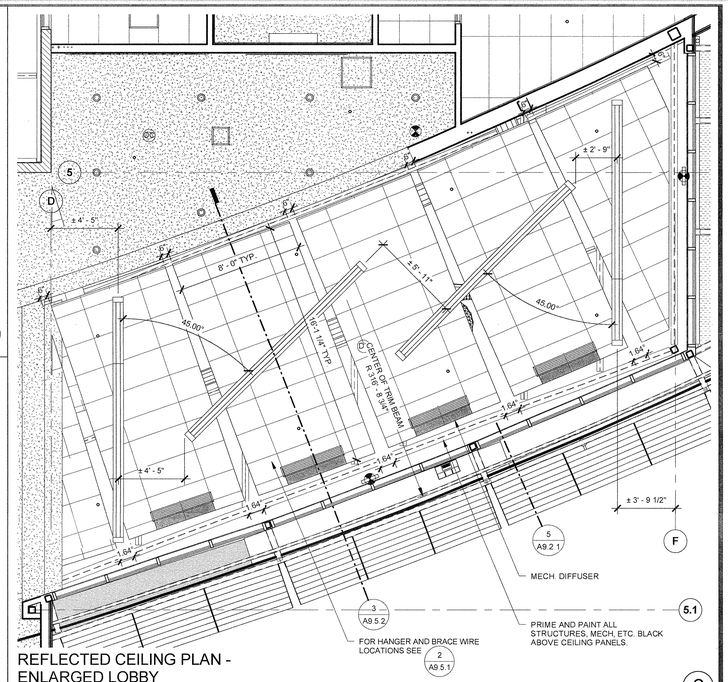
CEILING - ACCESS PANEL1 11
3" = 1'-0"



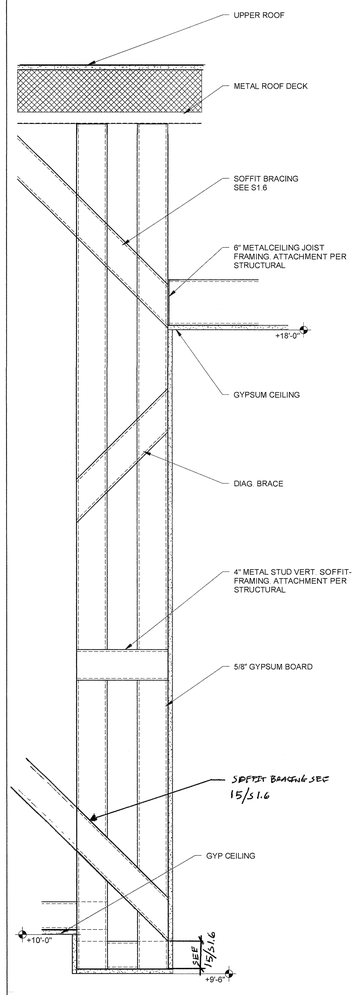
VENT AT PLASTER SOFFIT 17
3" = 1'-0"



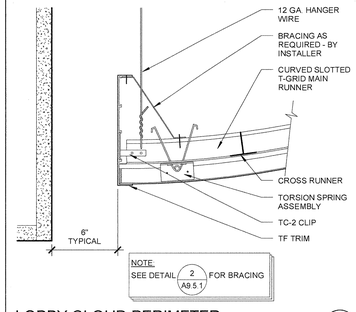
. CEILING TO WALL 12
3" = 1'-0"



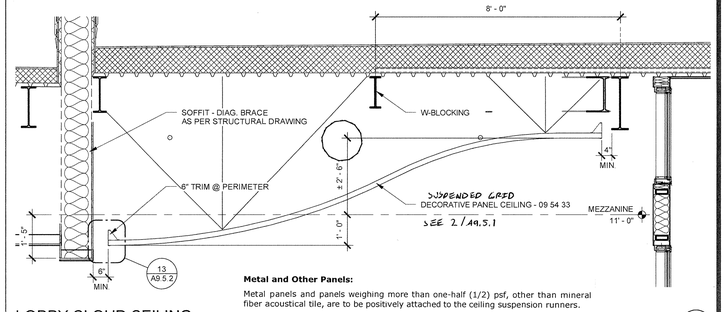
REFLECTED CEILING PLAN - ENLARGED LOBBY 2
1/4" = 1'-0"



SOFFIT @ MFR DISPLAY 18
1 1/2" = 1'-0"



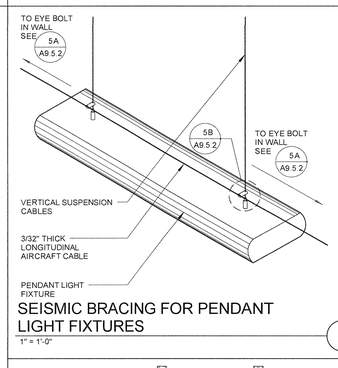
LOBBY CLOUD PERIMETER 13
3" = 1'-0"



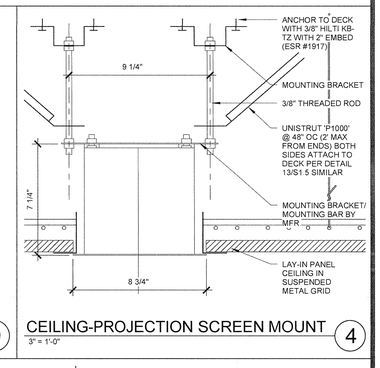
Metal and Other Panels:

Metal panels and panels weighing more than one-half (1/2) psf, other than mineral fiber acoustical tile, are to be positively attached to the ceiling suspension runners.

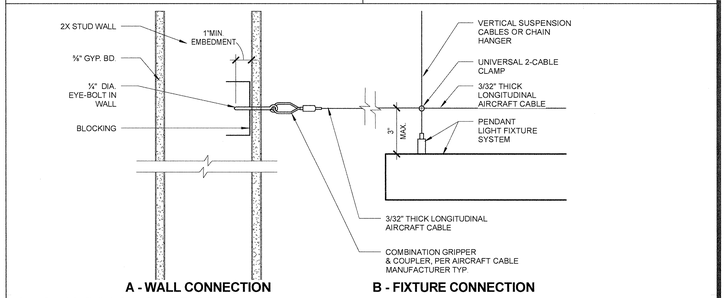
LOBBY CLOUD CEILING 3
1/2" = 1'-0"



SEISMIC BRACING FOR PENDANT LIGHT FIXTURES 9
1" = 1'-0"



CEILING-PROJECTION SCREEN MOUNT 4
3" = 1'-0"



SEISMIC BRACING FOR PENDANT LIGHT FIXTURES 5
3" = 1'-0"

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11661 Blocker Drive
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SEAL

LICENSED ARCHITECT — SHAWN PITTMAN — NO. C28985 — REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

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DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC APN FILS Zoning SPF

DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title: CEILING DETAILS

Drawn By: FH
Checked By: SP

NO.	DATE	ISSUE

Project No. 15-245
Date 09/30/2016

DRAWING NO. A9.5.2

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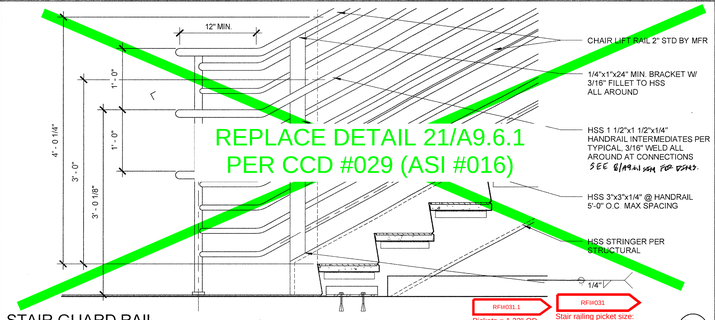
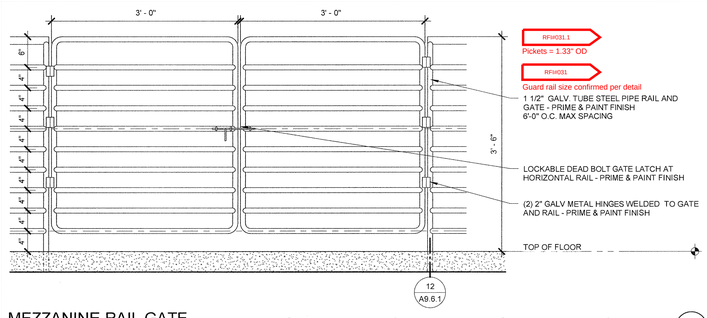
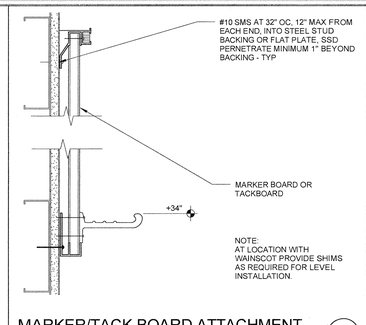


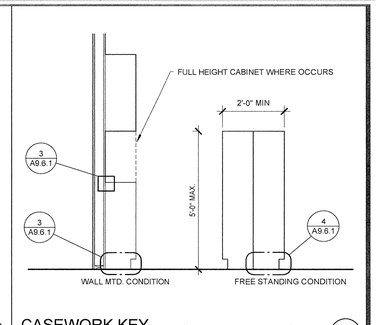
STAIR GUARD RAIL
1" = 1'-0"
21



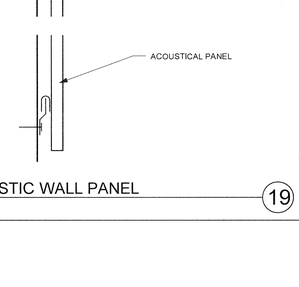
MEZZANINE RAIL GATE
1" = 1'-0"
11



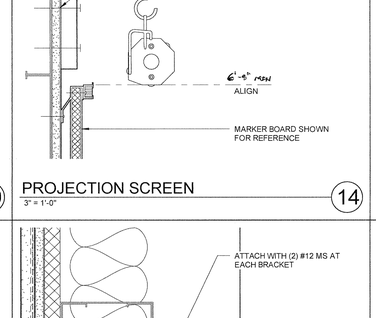
MARKER/TACK BOARD ATTACHMENT
3" = 1'-0"
6



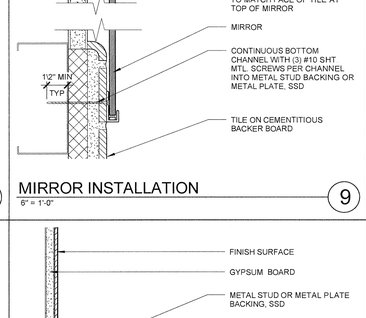
CASEWORK KEY
1/2" = 1'-0"
1



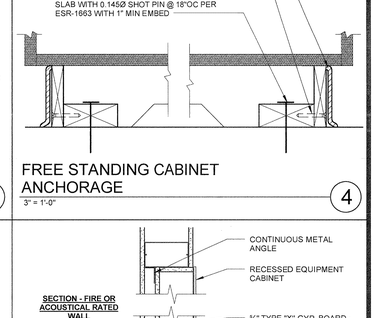
SERVICE SINK
1 1/2" = 1'-0"
17



RAIL GATE ATTACHMENT
3" = 1'-0"
12



GRAB BAR ANCHORAGE @ FRAMING
3" = 1'-0"
7



WASTE RECEPTICAL ANCHORAGE
6" = 1'-0"
18

TYPICAL BOLLARD LOCATIONS
3/4" = 1'-0"
13

RAIL TO WALL ATTACHMENT
3" = 1'-0"
8

CABINET ANCHORAGE
3" = 1'-0"
3

ACOUSTIC WALL PANEL
3" = 1'-0"
19

PROJECTION SCREEN
3" = 1'-0"
14

MIRROR INSTALLATION
6" = 1'-0"
9

FREE STANDING CABINET ANCHORAGE
3" = 1'-0"
4

ROLLER SHADE
3" = 1'-0"
15

TOILET PARTITION MOUNTING
3" = 1'-0"
10

RECESSED EQUIPMENT CABINET
1 1/2" = 1'-0"
5

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
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530.888.0998
www.jkaia.net

SEAL

LICENSED ARCHITECT — STEVEN P. KIDDER — No. C-26387 — REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC FILE

DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
INTERIOR DETAILS

Drawn By: FH
Checked By: SP
Project No: 15-245
©Date: 08/30/2016

DRAWING NO.
A9.6.1

NO.	DATE	ISSUE

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GENERAL NOTES

APPLICABLE TO ALL DRAWINGS UNLESS NOTED OR SHOWN OTHERWISE

GENERAL NOTES
100TN001-1

1. Interpretation of Drawings & Specifications
   a. Where specifications have been prepared for this project, they are arranged in several sections, but such separation shall not be considered as the limits of the work required of any separate trade. The terms and conditions of such limitations are wholly between the contractor and his subcontractors.
   b. In general, the working details will indicate dimensions, position and kind of construction, and the specifications, qualities and methods. Any work indicated on the working details and not mentioned in the specifications, or vice versa, shall be furnished as though fully set forth in both. Work not particularly detailed, marked or specified, shall identical or similar to like cases of construction that are detailed, marked or specified. If conflicts occur on drawings and/or specifications, the most expensive materials or methods will prevail.
   c. Should an error appear in the working details or specifications or in work done by others affecting this work, the Contractor shall notify the Architect at once and in writing. If the Contractor proceeds with the work so affected without having given such written notice and without receiving the necessary approval, decision or instructions in writing from the Owner, then he shall have no valid claim against the Owner, for the cost of so proceeding and shall make good any resulting damage or defect. No verbal approval, decision, or instruction shall be valid or be the basis for any claim against the Owner, its officers, employees or agents. The foregoing includes typical errors in the specifications or notational errors in the working details where the interpretation is doubtful or where the error is sufficiently apparent as to place a reasonably prudent contractor on notice that, should he elect to proceed, he is doing so at his own risk.
2. Construction shall conform to all applicable codes and regulations.
3. Shop Drawing Note:
   a. When not addressed by division 1 of the specifications, paper format Structural Shop Drawings shall be submitted in the form of three copies minimum of each sheet. Where submittals are electronic, format shall be PDF.
   b. The purpose of Shop Drawing submittals by the Contractor is to demonstrate to the Structural Engineer that he understands the design concept by indicating which material he intends to furnish and install, and by detailing the fabrication and installation methods he intends to use on a stand alone set of documents. Duplication of design documents for the purpose of shop drawings is not acceptable.
   c. Prior to fabrication, Shop Drawings shall be submitted for review by the Structural Engineer. Shop Drawing submittals shall include, but are not necessarily limited to, structural steel, reinforcing steel, & glue-laminated beams.
   d. Prior to submission the Contractor shall review all submittals for conformance with the Contract Documents and shall stamp submittals as being "Reviewed for Conformance".
   e. Shop Drawing submittals processed by the Structural Engineer are not Change Orders.
   f. Any detail on the Shop Drawings that deviates from the Contract Documents shall clearly be marked with the note "This is a change".
   g. Shop drawings or calculations submitted for review that require resubmittal for re-review shall be billed hourly for such time to the General Contractor. Re-review will not proceed without written approval from the General Contractor for additional engineering review services.
4. Safety Note:
   a. It is the Contractors responsibility to comply with the pertinent sections, as they apply to this project, of the "Construction Safety Orders" issued by the State of California latest edition, and all OSHA requirements.
   b. The Contractor shall be responsible for adequate design and construction of all forms and shoring required. Shoring indications (location, direction, duration, etc.) are only shown on the Structural dwgs when required to implement the design intent of the final work product. Determination whether shoring is required for temporary or intermediate conditions during construction is wholly the responsibility of the contractor.
   c. The Owner and the Structural Engineer do not accept any responsibility for the Contractor's failure to comply with these requirements.
5. The contractor shall notify the Architect and Structural Engineer where a conflict or discrepancy occurs between the Structural drawings and any other portion of the Contract Documents or existing 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 precedence unless written approval has been given for the least restrictive. Contractor shall verify all dimensions with Architectural prior to commencing any work.
6. 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 any question, contact the Architect and Structural Engineer prior to proceeding.
7. 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).
8. Contractor shall provide an allowance equal to 2% of the bid for structural steel, misc. iron and reinforcing steel to be used at the discretion of the Structural Engineer. Unused amount to revert to the Owner upon completion of the job.
9. Any substitutions for structural members, hardware or details shall be reviewed by the Architect and Structural Engineer. Such review will be billed on a time and materials basis to the General Contractor with no guarantee that the substitution will be allowed.
10. Do not scale drawings. Contact the Architect or Structural Engineer for any dimensions not shown.
11. These drawings are not complete until reviewed and accepted by the enforcement agency and signed by the Structural Engineer.

DESIGN CRITERIA
100TN002-1

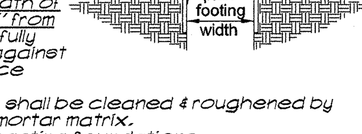
1. Codes and Standards
   2013 California Building Code (CBC w/ State of Ca Amendments)
   ASCE 7-10
   ACI 318-11
   AISC 360-10, 341-10, 358-10
   TMS 402-11/ACI 530-11/ASCE 5-11
   TMS 602-11/ACI 530.1-11/ASCE 6-11
   2012 NDS, 2008 SDPWS
2. Vertical loads
   Roof Live Load = 20 psf
   PV System = 7 psf
   Floor Live Load = 125 psf (light storage)
   Live loads are reduced where permitted by code.
3. Soils Values
   Allowable soils pressure
   a. DL N/A psf
   b. DL + LL 2500 psf
   c. DL + LL + Seismic 3330 psf
   Footing
   Minimum depth = 30"
   Minimum width = 18"
   Tie-beam
   Minimum depth = 18"
   Minimum width = 12"
4. Lateral loads
   Seismic:
   Site Class C Cs = 0.2757
   Ss = 1.654; Sds = 1.103
   S1 = 0.603 ; Sd1 = 0.523
   R = 5 ; I_E = 1.25
   Ωo = 2.5 ; Cd = 3.5
   Ip = 1.5 per ASCE 7-10 section 13.1.3
   Risk Category: III
   Seismic Design Category: D
   Seismic Base Shear
   = 606.5 kips (NS dir.)
   = 559.6 kips (EW dir.)
   Seismic Force Resisting System:
   Special Reinforced Masonry Shear Walls (R = 5, Ωo = 2.5, Cd = 3.5)
   Steel Special Concentric Braced Frame (R = 6, Ωo = 2.0, Cd = 5)
   Analysis Procedure:
   Equivalent Lateral Force
   Seismic design based on Special Reinforced Masonry Shear Walls per section 12.2.3.3 of ASCE 7-10
   Wind:
   V_{ult} = 115 mph ; V_{asd} = 90 mph
   Risk Category: III
   Exposure Category: C
   GCpi = ±0.18

ABBREVIATIONS
100TN003-1

AB	Anchor Bolt	MI	Malleable Iron
abv	Above	mtl	Metal
agg	Aggregate	(n)	New
blw	Below	NIC	Not in Contract
bof	Bottom of Footing	NS	Near Side
brg	Bearing	nts	Not to Scale
btwn	Between	NW	Normal Weight
cc	Center to Center	OH	Opposite Hand
CJ	Construction Joint	OSB	Oriented Strand Board
clr	Clear	OSHPD	Office of Statewide Health Planning & Development
CMU	Concrete Masonry Unit		
cont	Continuous		
contr	Contractor	pc	Piece
CP	Complete Joint Penetration	pp	Partial Joint Penetration
CRC	Cold Rolled Channel	PT	Pressure Treated
csk	Countersink	rein	Reinforcing
DF	Douglas Fir	rwd	Redwood
DL	Dead Load	SC	Slip Critical
do	Ditto	shtg	Sheathing
DSA	Division of the State Architect	sim	Similar
		SJ	Slab Control Joint
dwg	Drawing	SMS	Sheet Metal Screw
(e)	Existing	SP	Structural Panel
EF	Each Face or Edge Fastener	stfnr	Stiffener
EJ	Expansion Joint	stl	Steel
Elev	Elevation	stgrd	Staggered
EN	Edge Nailing	t&b	Top & Bottom
eos	Edge of Slab	t&g	Tongue & Groove
eq	Equal	thrd	Threaded
EW	Each Way	tn	Toe Nail
EWEF	Each Way Each Face	to	Top of
FB	Face of Block(or Brick) or Flat Bar	toc	Top of Concrete (slab uno)
		tof	Top of Footing or Top of Framing
FC	Face of Concrete or Framing Clip(Simpson A35 uno)	top	Top of Parapet
		tos	Top of Steel
FF	Finish Floor	tow	Top of Wall
FS	Face of Stud or Far Side	uno	Unless Noted Otherwise
FT	Fire Treated	VIF	Verify In Field
ga	Gauge or gage	w/	With
glb	Glued Laminated Beam	w/o	Without
HDG	Hot Dipped Galvanized	wp	Work Point
hdr	Header	WS	Wood Screw
HSB	High Strength Bolt	WWF	Welded Wire Fabric
HSS	Hollow Structural Section	℄	Centerline
ht	Height	⅊	Plate
IOR	Inspector of Record	WF	Wide Flange
jh	Joist Hanger	#	Number or Pounds
LL	Live Load	sq	Square
LLH	Long Leg Horizontal	⌀	Round or Diameter
LLV	Long Leg Vertical	(symbol)	Cont Wood in Section
LS	Lag Screw	(symbol)	Wood Blocking in Section
LW	Light Weight	(a)	"member" above
MB	Machine Bolt	(b)	"member" below
mfr	Manufacturer		

FOUNDATIONS
200TN001-1

1. All foundation work shall be done in accordance with the requirements of the Soils Report # VV3966 by KC Engineering Company dated January 15, 2016.
2. Foundations shall bear on existing compacted soil or engineered fill. See notes and details on sheet S1.2.
3. All filling, backfilling and compaction shall be done under the observation of a representative of the Soils Engineer and must be compacted to the minimum density specified in accordance with the procedure outlined in the soils report.
4. Building pad construction has been constructed to conform to the requirements of the soils report. Final depth and extent of excavation and fill shall be determined at time of construction by a representative of the Soils Engineer. Foundation depths indicated on plans are for estimating purposes only.
5. Bottoms of all foundations shall be level. Changes in bottom of foundation elevation shall be made according to Stepped Footing Detail on the Typical Detail Sheet.
6. Foundation concrete may be placed directly into neat excavations provided prior written approval is obtained and a representative of the Soils Engineer determines that the excavations are stable. Width of all unformed foundations shall be increased by 2" from plan dimension. Otherwise, foundations shall be fully formed. Use minimum planking shown to protect against sloughing, as required. Planking does not replace formwork required to stabilize excavation.



7. The surface of all horizontal construction joints shall be cleaned & roughened by exposing clean aggregate solidly embedded in mortar matrix.
8. Notify the Structural Engineer 48 hours before casting foundations.
9. A representative of the Soils Engineer shall advise the Building Official in writing that:
   a. The utility trenches have been properly backfilled and compacted and;
   b. The foundation excavation depth and material are adequate to achieve design bearing capacity; and forming comply with the soils report and approved plan.
   c. The building pad was prepared in accordance with the soils report

STATEMENT OF STRUCTURAL INSPECTIONS AND TESTING
100TN004-1

1. Special inspections and testing shall be provided by an inspection agency, employed by the owner, and qualified by the building official to inspect the particular type of construction. Tests and inspections, as required by sections 110, 1704A, 1705A.10, 1705A.11 and 1705A.12 of the 2013 CBC w/ CA Amendments, shall be performed during construction on the types of work listed below:

	Inspections/Testing
■ Steel Construction	Section 1705A.2.1 & 1705A.2.2
□ Steel Joist and Joist Girders	Section 1705A.2.2.3
□ Light-Framed Steel Truss	Section 1705A.2.2.4
■ Concrete Construction	Section 1705A.3
■ Batch Plant Inspection	Section 1705A.3.2
□ Prestressed Concrete	Section 1705A.3.4
■ Masonry Construction-Level C	Section 1705A.4
□ Glass Unit Masonry and Masonry Veneer	Section 1705A.4.1
□ Prefabricated Wood Structural Elements	Section 1705A.5
□ High-Load Diaphragm	Section 1705A.5.1
□ Metal-Plate-Connected Wood Trusses Spanning > 60 ft	Section 1705A.5.2
□ Structural Glu-Lam Timber	Section 1705A.5.4
□ Open Web Trusses	Section 1705A.5.5
□ Timber Connectors	Section 1705A.5.6
■ Soils	Section 1705A.6
□ Driven Deep Foundations	Section 1705A.7
□ Cast-in-place Deep Foundations	Section 1705A.8
□ Helical Pile Foundations	Section 1705A.9
□ Shotcrete	Section 1705A.18
■ Post-Installed Anchors	See Drilled-In Anchor Notes
Lateral Force-Resisting System (LFRS):	
■ Structural Steel	Section 1705A.11.1 & 1705A.12.2
□ Structural Wood	Section 1705A.11.2
□ Cold-Formed Steel Light-Frame Construction	Section 1705A.11.3
□ Concrete Reinforcement	Section 1705A.12.1

2. Inspections shall be continuous or periodic as noted for the individual material or component inspection sections and tables noted above.
3. The special inspector shall submit inspection reports to the building official and the design professional in responsible charge. The reports shall indicate whether work inspected conformed to the Construction Documents. Any discrepancies shall be immediately brought to the attention of the Contractor for correction. If discrepancies are not corrected, they shall be brought to the attention of the building official and the design professional in responsible charge.
4. All Special Inspection Agencies / Individuals and Shop Fabricators shall be approved by the building official prior to commencement of work.
5. Testing and inspection records shall be retained until completion of construction.
6. The Contractor shall submit a written statement to the building official acknowledging responsibility for construction of the main lateral-force resisting system prior to commencement of that work as required by section 1704A.4 of the 2013 CBC.
7. All soils and foundation excavation inspections shall be by the Geotechnical Engineer of Record.
8. For testing and inspection requirements for non-structural materials and components, see construction documents and comply with chapter 17A of the 2013 CBC. Special inspection shall be provided for equipment and components requiring special seismic certification per section 1705A.11.4 of the 2013 CBC.
9. Special inspections and testing of the lateral force resisting system shall be performed as noted above.

POWDER ACTUATED FASTENERS (SHOT PINS)
100TN016-1

1. These notes govern all conditions called out on the plans as 'shot pins' unless specifically noted otherwise.
2. All shot pins shall be X-U Universal Knurled Shank Fasteners with shank diameter of 0.157" as manufactured by Hilti Incorporated in accordance with ICC ESR-2269 and the current edition of the Hilti 'Product Technical Guide.'
3. All shot pins shall include standard Hilti steel washers.
4. Shot pins driven into steel base material shall maintain a minimum edge distance at all steel elements of 1/2" and minimum fastener spacing shall be 1". Length of pin shall be as required to penetrate thru steel member uno. At 3/4" thick steel, penetration need not exceed 1/2".
5. Shot pins driven into concrete base material shall maintain a minimum edge distance at all concrete elements of 3" and minimum fastener spacing shall be 4". Pins shall have 1 1/4" penetration uno Minimum concrete thickness shall be 3 times the penetration depth. Concrete shall attain full design strength prior to installing shot pins.
6. Shot pins driven into 2 1/2" minimum light weight concrete fill over 3"x 20 ga minimum metal deck may be installed from the bottom into the low flute. Pins installed from the bottom in the low flutes shall be installed within 1" of the flute center and shall be no closer than 1 1/8" to the edge of the low flute. Pins installed from the bottom shall be spaced no closer than 5 1/2" parallel to the flutes. Pins shall have 1" penetration into concrete uno. Concrete shall attain full design strength prior to installing shot pins.
7. Shot pins may be driven into 8" nominal minimum thickness fully grouted normal-weight CMU with type S mortar and minimum f'm = 1500 psi at time of installation. Shot pins may be installed into the face shells, horizontal mortar joints or vertically centered in the top of grouted cells. Shot pins shall not be installed in vertical mortar joints or within 1" of vertical mortar joints. No more than one shot pin may occur in an individual masonry unit cell and must be installed a minimum of 4" from the edge of the wall. Shot pins in mortar joints must be a minimum of 8" from the end of the wall and shall have a minimum spacing of 8".
8. The operator, tool, and fastener shall be pre-qualified by the project inspector of record. Shot pin installers shall be certified by Hilti and have a current Hilti issued operators license. Shot pin installation shall meet all OSHA requirements.
9. Shot pins used to attach hanger wires for suspended ceilings shall be tested in accordance with DSA IR 25-2.13.

CONCRETE
300SN001-1

1. Structural concrete shall attain 28 day compressive strength as required in note #23. Maximum slump shall not exceed 4 inches.
2. Concrete mix designs shall be prepared by a registered Civil Engineer, reviewed by Owner's testing laboratory and submitted to the Structural Engineer for review.
3. Cementitious materials:
   Cement shall conform to ASTM C-150 type II or V.
   Fly ash shall conform to ASTM C-618. Max. quantity of fly ash shall be as given in specs.
4. Concrete aggregates shall conform to ASTM C-33 for normal weight concrete.
5. Non-shrink grout or drypack shall consist of a premixed nonmetallic formula.
6. Reinforcing steel shall conform to ASTM A-615 Grade 60 for #4 and larger, except reinforcing steel to be welded shall conform to ASTM A-706. Contractor shall submit rebar mill certificates.
7. All preheating and welding of reinforcing bars shall be done in accordance with AWS D1.4 latest edition and shall be continuously inspected by a qualified laboratory. Contractor shall furnish WPS for all rebar welding to the laboratory.
8. Reinforcing steel shall be fabricated according to "Manual of Standard Practice for Reinforced Concrete Construction".
9. Wire fabric shall conform to ASTM A-185.
10. Dimensions shown for location of reinforcing are to the face of bars listed and denote clear coverage. Non-prestressed, cast-in-place concrete coverage shall be as follows, uno:
    Concrete deposited directly against ground (except slabs)--- 3"
    Concrete exposed to ground or weather but placed in forms:
    #5 and smaller---------- 1-1/2"
    #6 and larger---------- 2"
    Columns/Pier (ties)---------- 1-1/2"
    Columns/Pier (main reinforcing)---------- 2"
    Slabs (on forms)---------- 3/4"
    Slabs (on ground)---------- 2" clear from top uno
11. Splices in continuous reinforcement shall be lapped uno, see schedule this sheet. Splices in adjacent bars shall be greater than 5'-0" apart. Splice continuous bars in soil-bearing grade beams, structural slabs on grade and mat foundations as follows uno: top bars at centerline of support; bottom bars at mid-span. Splice continuous bars in elevated slabs and beams, etc. as follows uno: top bars at mid-span; bottom bars at centerline of support. All bars size #14 and larger shall be continuous for full length shown or spliced with mechanical couplers as noted in details. Splices in WWF shall be 1-1/2 meshes wide.
12. The minimum clear spacing between parallel bars in a layer shall not be less than the larger of bar diameter, 1", or 33% greater than the maximum aggregate size (nominal), whichever is greatest. This requirement also applies to the clear spacing between different layers of parallel bars and to the clear distance between a contact lap splice and adjacent splices or bars.
13. All hooks shall be standard hooks unless otherwise shown or noted.
14. Construction joints shall be made rough and all laitance removed from the surface. Concrete may be roughened by chipping the entire surface, sand blasting, or raking the surface to provide 1/4" deep deformations.
15. Remove all debris from forms before casting any concrete.
16. Reinforcing, dowels, bolts, anchors, sleeves, etc. to be embedded in concrete shall be securely positioned before placing concrete.
17. Anchor bolts (AB's) cast in concrete or masonry for wall sill and ledger\applications shall be headed bolts with cut threads conforming to ASTM A307, uno. Refer to 'Structural Steel' note for requirements for anchor rods (AR's) cast in concrete for column base plate and steel embed applications.
18. Consolidate concrete placed in forms by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with the recommended practices of ACI 309 to suit the type of concrete and project conditions. Concrete shall not be dropped through reinforcing steel (as in walls) so as to cause segregation of aggregates. In such cases hoppers and chutes or trunks of variable lengths shall be used so that the free unconfined fall of concrete shall not exceed 6 feet.
19. No wood spreaders allowed. No wood stakes allowed in areas to be concreted.
20. Provide #5 x 4'-0" diagonal reinforcing at top and bottom of slab at all re-entrant corners typical. This applies to slab on grade, and concrete over metal deck.
21. All saw cutting shall be done after initial set has occurred to avoid tearing or damage by the saw blade, but before initial shrinkage has occurred.
22. Notify Structural Engineer a minimum of 48 hours before placing any concrete.
23. CONCRETE STRENGTHS & MIX PROPERTIES:

type	item	f'c @ 28 days	max aggr. size	weight	max w/cm* ratio
A.	Foundations, Tie Beams	3000 psi	1-1/2"	NW	0.50
B.	Slab on Grade, Pier	3500 psi	1"	NW	0.45
D.	NW Conc Fill over Deck	3500 psi	3/4"	NW	0.45
	Site & Miscellaneous - see Civil or Arch'l drawings				

* w/cm = Water : Cementitious material ratio

REINFORCEMENT LAP SPLICE SCHEDULE
300SN002-1

ACI 318 CBC/IBC

(All lengths shown are in inches.)

		fc' = 3000 psi conc				fc' = 3500 psi conc			
Splice Class	Reinf Location	#3	#4	#5	#6	#3	#4	#5	#6
B	Top	19	37	47	56	18	35	43	52
	Other	15	29	36	43	14	27	33	40

Notes:
1. Schedule applies to normal weight concrete with uncoated, Grade 60 reinforcing steel for #4 bars and larger (values for #3 bars based on Grade 40).
2. Top reinforcement is horizontal reinforcement located such that more than 12 inches of fresh concrete is cast in the member below the splice.
3. Where clear spacing of bars being spliced is less than 2 bar dia. OR where clear cover of bars being spliced is less than 1 bar dia., multiply lap lengths by 1.50, uno.
4. Where notes #3 AND #5 occur, multiply lap lengths by 2.00, uno.
5. Where Class A lap splice is noted in detail, divide lengths above by 1.30.

HOLLOW CONCRETE UNIT MASONRY (BLOCK)
410TN001-1

1. All masonry shall be manufactured and placed in accordance with ACI 530, "Building Code Requirements for Masonry Structures", and ACI 530.1 "Specification for Masonry Structures".
2. Masonry units and components that are damaged are not to be installed in this project. Reinforcements and accessories are not to be stored on the ground and are to be protected from permanent distortions.
3. When the ambient air temperature is below 40°F, the Cold Weather procedures from ACI 530.1, article 1.8C are to be implemented. When the ambient air temperature is above 90°F, the Hot Weather procedures from ACI 530.1, article 1.8D are to be implemented.
4. Concrete block units shall conform to ASTM C90 . Compressive strength of units to be 1000 psi for gross area and 1900 psi for net area. f'm = 1500 psi. f'm shall be verified in accordance with section 2105A.2.2.1.2 of the 2013 CBC. Concrete block units shall be mediumweight, fully grouted concrete block units not to exceed 115 pcf.
5. Mortar shall be type S per ASTM C270 with 28 day compressive strength of 1800 psi.
6. Grout shall be proportioned to attain a 28 day compressive strength of 2000 psi. Not more than 5% of the pea gravel shall pass the No. 8 sieve and 100% shall pass the 3/8" sieve. When required, grout strength shall be verified in accordance with section 2105A.2.2.1.2 of the CBC with California Amendments.
7. Reinforcing steel shall conform to ASTM A615 Grade 60 for #4 and larger, Grade 40 for #3 and smaller. Reinforcing steel that is to be welded shall conform to ASTM A706. Contractor shall submit rebar mill certificates.
8. Vertical reinforcing shall consist of #5 bars at 16" on center, located at each face of masonry wall, uno. Locate bars at all corners, wall ends, intersections, jambs and at each side of a wall joint. Locate bars or add additional bars directly under framing members such as beams, joists, girders, and trusses where center to center spacing of framing members exceed 48" cc. Dowels with standard 90° hooks into the foundation shall match and lap vertical reinforcing, typical, unless noted otherwise.
9. Intermediate horizontal reinforcing per plan, located at center of masonry block adjacent to vertical reinforcing. Locate one horizontal bar at all elevated framing assemblies, such as roofs, floors, and stairs. Also, locate one horizontal bar at tops of parapets, tops of free-standing walls, at the bottom of all walls, and aligned with the slab-on-grade, uno.
10. Place all horizontal bars in bond beam units. When 2 bars are used, stagger laps minimum of 5'-0".
11. Minimum rebar clearance to face shell is one bar diameter or 1/2", whichever is greater. Where walls are exposed to earth or weather, a minimum cover for the reinforcing bars of 2" shall be maintained.
12. Before block is placed on concrete, thoroughly clean concrete of all laitance and all loose material. Roughen as in a concrete construction joint.
13. Concrete block masonry shall be built to preserve the unobstructed vertical continuity of the cells. All head and end joints shall be solidly filled with mortar for a distance in from the face of the wall or unit not less than the thickness of the longitudinal face shells. Bond shall be provided by lapping successive courses or by equivalent mechanical anchorage.
14. Vertical cells shall have vertical alignment sufficient to maintain a clear unobstructed continuous vertical cell.
15. Low-lift grouted construction shall conform to CBC Section 2104A.5.1.1.1.1. High-lift grouted construction shall conform to CBC Section 2104A.5.1.1.1.2 and DSA IR # 21-2.
16. Clean out openings shall be provided at the bottoms of all cells to be filled at each lift or pour of grout where such lift or pour of grout is in excess of 4'-0" in height, in accordance with ACI 530.1 Section 3.2F. Any overhanging mortar or other obstruction or debris shall be removed from inside of such cells. The clean outs shall be sealed after inspection and before grouting. Mechanically vibrate all grout pours.
17. Vertical reinforcing shall be held in position at top and bottom and at intervals not to exceed 192 bar diameters.
18. Thoroughly clean all cells and bond beams of mortar before grouting.
19. All cells shall be filled solidly with grout. All grouting shall be done under the observation of a qualified inspector where indicated on plans. Refer to Special Structural Inspection section of these notes for frequency of grouting inspection.
20. When grouting is stopped for one hour or longer, horizontal construction joints, or keys, shall be formed by stopping the pour of grout 1-1/2" below the top of the uppermost unit.
21. Provide 2-#5 vertical bars EF with matching footing dowels (full height of wall) at wall jambs where opng occurs, uno. Provide 2-#5 horizontal bars EF above and below wall opng, uno. Extended horizontal bars 25 inches past edge of opening, uno. Where extension can not be achieved, bend bars w/90° hook.
22. Every vertical bar in walls shall be lapped per the table below with a dowel of the same size extending from the foundation. Carry each dowel to within 3" of the bottom of the foundation and terminate with 90 degree hook. Dowels shall be straight and plumb.
23. All embedded items (bolts, straps, etc.) shall be secured in place prior to grouting. Cut a hole in the face shell to attain a minimum of 1/2" grout all around embedded items at the face shell. Within the cell of the unit, provide a minimum of 8" of grout around embedded items.
24. Single conduits (3/4" max) may be placed in vertical cells not containing vertical. rebar. No horizontal conduits allowed in wall construction.
25. Anchor bolts cast in masonry shall be headed bolts with cut threads conforming to ASTM F1554 grade 36, or ASTM A307 grade A, as indicated on dwgs. Bent bar anchor bolts are not permitted.
26. Use open end block for all construction not laid in running bond.
27. All rebar shall be lap spliced as follows (uno). Where epoxy coated rebar is used, multiply lap lengths by 1.5. Bars larger than #8 are to be lapped with mechanical splices that develop at least 125 percent of the yield strength of the bar.

CMU Slice Lengths (f'm = 1500 psi)

Bar Size	fy (ksi)	γ	8" CMU Center	8" CMU E.F.
#3	40	1.0	16"	16"
#4	60	1.0	21"	26"
#5	60	1.0	26"	40"
#6	60	1.3	43"	54"
#7	60	1.3	60"	-

DRILLED-IN ANCHORS
305TN001-1

RFI#046 — Drilled & epoxied rebar dowels acceptable. Install #3 rebar set in Hilti HIT-HY 200 epoxy with 3 inch embed. Ensure inspection and testing occurs per Statement of Structural Inspections and Testing General Notes.

1. For concrete construction, epoxy anchors shall be Hilti HIT-HY 200 per ESR-3187, Hilti HIT-RE500-SD per ESR-2322, Simpson SET-XP per ESR-2508, or Powers Pure 110 per ESR-3298 for thr'd rod & rebar. Expansion anchors shall be Hilti KB-TZ per ESR-1917, Simpson Strong-Bolt 2 per ESR-3037, or Powers Power-Stud+ SD2 per ESR-2502. Screw anchors shall be Hilti KWIK HUS-EZ (KH-EZ) per ESR-3027, Simpson Titen HD per ESR-2713, or Powers Wedgebolt+ per ESR-2526.
2. For masonry construction, epoxy anchors shall be Hilti HIT-HY 70 per ESR-2682, Simpson SET per ESR-1772, or Powers AC100+ per ESR-3200 for thrd'd rod & rebar. Expansion anchors shall be Hilti Kwik Bolt 3 (KB3) per ESR-1385, Simpson Wedge-All per ESR-1396, or Powers Power-Stud+ per ESR-2966. Screw anchors shall be Hilti Kwik HUS-EZ (KH-EZ) per ESR-3056, Simpson Titen HD per ESR-1056, or Powers Wedgebolt+ per ESR-1678.
3. Anchor type, size & embedment shall be indicated in drawings. Post-installed anchors for repair shall be evaluated on a case by case basis. Notify Structural Engineer for repairs.
4. Anchors shall be installed in accordance with the requirements given in the ICC report.
5. Unless noted otherwise anchors have been designed for special inspection. Provide Special Inspection as indicated in the ICC report.
6. When installing drilled-in anchors in existing concrete or masonry, use care and caution to avoid cutting or damaging existing reinforcing bars. Do not install anchors in prestressed concrete elements.
7. Anchors installed from the bottom into metal deck with concrete shall be installed in the center of the low flute of the decking unless noted otherwise in ICC report. The decking shall have a minimum thickness of 20 gauge. The minimum thickness of the concrete above the high flute of the metal deck shall be as indicated in the ICC report. See ICC report for additional requirements, including minimum dimensions for flute width and depth.
8. Adhesive anchors shall be installed in concrete having a minimum age of 21 days at the time of anchor installation per ACI 318, appendix D.
9. Installer certification and inspection is required for horizontal and upwardly inclined adhesive anchors subjected to sustained tension loading in accordance with ACI 318, appendix D.
10. The testing of the anchors shall be done by a qualified testing agency and a report of the test results shall be submitted to the governing agency and Architect/Structural Engineer. See notes on this sheet for testing criteria.

DRILLED-IN ANCHOR TESTING CRITERIA
305TN002-1

1. Wedge & screw anchor testing shall comply with installation torque values provided in manufacturer's ICC report. Epoxy anchor testing shall comply with tension test values specified in drawings. Testing frequency shall comply with CBC section 1913A.7.3.
2. Apply proof test loads to wedge anchors without removing the nut if possible. If not, remove nut and install a threaded coupler to the same tightness as the original nut using a torque wrench to apply the test load.
3. Reaction loads from test fixtures may be applied close to the anchor being tested, provided the anchor is not restrained from withdrawing by the fixture(s).
4. Test equipment (including torque wrenches) is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.
5. The following criteria apply for the acceptance of installed anchors:
   a. HYDRAULIC RAM METHOD: The anchor shall have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
   b. TORQUE WRENCH METHOD: The applicable test torque must be reached within the following limits:
      Wedge type:
      i. One-half (1/2) turn of the nut.
6. Testing shall occur a minimum of 24 hours after installation.

METAL DECK NOTES
530SN001-1

1. Provide metal decking of type and gauge as shown on plans.
2. Metal floor deck shall be composite type, conforming to ASTM A653, structural quality, with minimum yield strength of 38 ksi and shall be zinc coated per ASTM A653, G60 coating designation.
3. Metal roof deck shall conform to ASTM A653, structural quality, with minimum yield strength of 38 ksi and shall be zinc coated per ASTM A653, G60 coating designation.
4. Prior to fabrication, the Contractor shall submit shop drawings for the metal decking, showing deck gauge, size and layout as well as closure conditions, welds to supports and side lap details.
5. Connection and welding of decking to structural supports and deck side seams shall be as specified in the structural drawings. All electrodes for welding shall comply with AWS code, E60 series minimum.
6. All reinforced openings in metal deck shall be installed by metal deck subcontractor.
7. At metal decks to receive concrete, absolutely no conduit or piping of any type is to be placed horizontally within the depth of the concrete above the metal deck.
8. At metal deck without concrete fill the following may be attached without specific approval of the Structural Engineer: acoustical tile and gypsum board ceilings only; no piping, ducting or conduit. Maximum ceiling weight - 3.5 psf. Maximum wire hanger load = 60#. (RFI#068)
9. Where suspension or hanger wires are required by others, verify and coordinate locations, patterns, spacings, etc. with the appropriate trade. Drill or punch holes at bottom of deck flutes of sufficient size to pass support wires. Wire supports shall be looped and secured with a minimum of three (3) tight turns around a minimum 1-1/2" x 12" long forming channel or No. 3 x 12" long reinforcing bar centered above the hole and laid in the deck flutes.

STRUCTURAL STEEL
500SN001-1

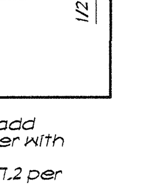
1. Fabrication, erection and materials shall conform with the AISC Specification for Structural Steel Buildings, the AISC Seismic Provisions for Structural Steel Buildings, and the California Building Code, latest editions uno in the Design Criteria Notes.
2. Structural Steel wide flange shapes shall conform with ASTM A992. All other Structural Steel rolled shapes (channels, angles, etc) and plates shall conform with ASTM A36, uno.
3. Steel Pipe shall conform to ASTM A53, Types E or S, Grade B.
4. All Hollow Structural Sections (HSS) shall conform to ASTM A500, Grade B.
5. All structural steel shall receive a minimum of one shop coat of red primer paint. Do not paint areas to be field welded, fireproofed, galvanized, to receive slip-critical high strength bolts, or to be embedded in concrete. Provide additional painting as noted in the specifications.
6. 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. Contractor responsible for reviewing all base plate and support conditions during erection and bracing as required. See AISC and OSHA requirements.
7. Place non-shrink grout under all base plates before adding vertical load.
8. Structural steel below grade shall have 3 inches minimum of concrete cover.
9. Bolted Connections:
   a. Bolted connections shall consist of unfinished bolts conforming to ASTM A307 uno. Where high strength bolts are indicated, bolts conforming to ASTM A325 or ASTM A490 as specified shall be provided. Anchor rods cast in concrete or masonry shall be headed bolts with cut thread, full diameter body style conforming to ASTM F1554 gr. 36, 55 (weldable per S1 Supplementary Requirements), or 105 as indicated on drawings. In lieu of headed anchor bolts, threaded rod conforming to the above specification may be used with a single nut welded to the rod or double nuts tightened to prevent rotation. Anchor rod projection above top of foundation shall be as noted on the drawings.
   b. Bolted connections shall have washers conforming to ASTM F436 uno. Washers may be omitted at snug-tightened and slip-critical connections, except where required by the RCSC Specification for Structural Joints, latest edition.
   c. Base plates shall have nuts and washers at top and bottom of plate. Washers for base plates shall be A36 square or circular plate unless ASTM F844 washers are permitted. See base plate details for plate size and permissible washer type.
10. (RFI#033) Additional Requirements for "Slip-Critical" Bolted Connections:
    a. "Slip-critical" connections (A325SC design values with special inspection) are required at all braced frame connections, at all connections along chord lines and drag lines (as noted on plans), and uno, at all bolts in oversized or slotted holes.
    b. The special inspector must be present during installation and tightening operation of "slip-critical" connections.
11. Provide 3/4" diameter stitch bolts and ring fills, spaced at not more than 2'-0" on center for all double angle members uno.
12. At wood to steel parallel contact, bolt with 1/2" diameter bolts at maximum 24"cc.
13. Holes for unfinished bolts shall be of the same nominal diameter of the bolt plus 1/16". Use standard AISC gage and pitch for bolts except as noted otherwise.
14. 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 exposed welds shall be ground smooth. All electrodes for welding shall comply with AWS code, E70 series minimum.
15. Weld lengths called for on plans are the net effective lengths required.
16. Minimum fillet welds: 3/16" @ t < 1/2"
    1/4" @ t < 3/4"
    5/16" @ t > 3/4"
17. Welding Procedure Specifications (WPS) for shop and field prequalified weld joints and weld joints qualified by test shall be prepared for review prior to fabrication. All welding procedure items such as base metals, welding processes, filler metals and joint details that meet the requirements of AWS D1.1 Section 3 shall be considered as prequalified. Any change or substitution that is beyond the range or tolerance or requirements for prequalification shall be qualified by test per AWS D1.1 Section 4 part B. Qualification testing is required for partial penetration and complete penetration welds.
18. For nondestructive testing of welded connections excluding primary members of moment resisting frames:
    a. Welded connections shall be tested by nondestructive methods for compliance with AISC N5.5, and job specifications. Ultrasonic Testing shall be in accordance with AWS D1.1, ASTM E164 and ASME Section V. Radiography shall be in accordance with AWS D1.1, ASTM E94 and E99, and ASME Section V. This testing shall be part of the special inspection requirements of CBC Section 1705 performed by an approved independent testing laboratory as follows:
       1. Base metal thicker than 1-1/2 inch when subject to through thickness weld shrinkage strains.
       2. All complete joint penetration groove or butt welds.
       3. All partial joint penetration groove welds when used in column splices.
    b. Any material discontinuities shall be accepted or rejected on the basis of defect rating in accordance with the (larger reflector) criteria of AISC N5.5.

COLD FORMED METAL FRAMING
540SN001-1

1. Galvanized sheet steel shall conform to ASTM A653, structural quality, with a minimum yield strength of 33 ksi for 43 mils (18 ga) and thinner and ASTM A653, structural quality, with a minimum yield strength of 50 ksi for 54 mils (16 ga) and thicker. Hot-rolled carbon sheet and strip steel used in the fabrication of cold-formed members shall conform to ASTM A1011 with a rust inhibitive coating.
2. Metal studs and joists shall be of size and thickness shown on drawings with the minimum effective section properties shown in the table(s).
3. Minimum thickness shown in table for the thickness specified represents 95% of design thickness per ANSI AISI-S100-07.
4. Metal framing shall be per ICC-ES No. 3064P. Contractor shall be responsible for obtaining agency approval for any substitutions.
5. Welding shall be in accordance with AWS D1.3 "Structural Welding Code-Sheet Steel". Welders shall be AWS certified. Welding Rods: E60XX series. All field welding shall have special inspection.
6. Typical metal track shall be same gauge as studs which it supports, unpunched, with a flange width of 1 1/4 inches and a depth equal to the nominal stud plus 2 times the track thickness plus the radius. Nested tracks shall be fabricated to fill the outside of a typical metal track. Deep leg tracks shall have a minimum flange width of 2 inches. Use slotted slip tracks where specified. See sections and typical metal stud details.
7. Metal studs shall not have punch-outs closer than 10" from the end of the stud or at intermediate lateral bearing points of studs. Metal studs which are part of built-up header sections shall be unpunched full length.

COLD FORMED METAL FRAMING SECTION PROPERTIES - SSMA C STUDS & JOISTS - S162 SECTIONS [2,3]
540SN002-1

Gauge/Mil	20/33		18/43		16/54		14/68		S studs & joists
Designation	S162-33		S162-43		S162-54		S162-68		
Min Thickness	0.0329		0.0428		0.0538		0.0677		
Depth "D"	Ix	Sx	Ix	Sx	Ix	Sx	Ix	Sx	
2 1/2"	0.235	0.180	0.302	0.240	0.370	0.284	0.450	0.357	
3 5/8"	0.551	0.268	0.710	0.372	0.873	0.444	1.069	0.574	
4"	0.692	0.299	0.892	0.417	1.098	0.498	1.346	0.648	
6"	1.793	0.577	2.316	0.767	2.860	0.916	3.525	1.164	
8"	3.384	0.710	4.300	1.019	5.600	1.229	7.070	1.663	
10"	-	-	7.523	1.302	9.391	1.572	11.978	2.154	
12"	-	-	-	-	14.298	1.914	18.390	2.645	



1. For complete section designations in accordance with SSMA standards, add member depth to front of indicated designation. Example: For 3 5/8" member with gauge/mil of 18/43, the full designation is 362S162-43.
2. Section properties shown are effective properties conforming to AISI A7.2 per SSMA standards for material strength noted below.
3. Provide 33 ksi min material for 18/43 & listed sections, provide 50 ksi material for 16/54 & heavier sections.

DEFERRED APPROVALS
100TN007-1

1. The following items require deferred approval from the enforcement agency:
   a. Store front systems
2. The design of the above items is by the contractor/manufacturer. Contractor/manufacturer must prepare all necessary calculations and drawings per the California Building Code under the supervision of a Structural Engineer, registered in California, and shall obtain all necessary plan check approvals from the enforcement agency.
3. Installation of the above items shall not be started until detailed plans, specifications, and engineering calculations have been stamped and signed by the Structural Engineer who has been delegated responsibility covering the work shown on a particular plan or specification reviewed by the Architect or Structural Engineer of record, and approved by the enforcement agency.

STRUCTURAL OBSERVATION
100TN017-1

1. In accordance with section 1704A of the 2013 CBC w/ CA Amendments, this project is required to have structural observation. Structural observation means the visual observation of the structural system, for general conformance to the approved plans and specifications, at significant construction stages and at completion of the structural system. Structural observation does not include or waive the responsibility for the inspections required by CBC sections 110 and 1704A. The following project milestones shall be observed:
   a. Foundations (prior to concrete placement)
   b. CMU shear walls (prior to grouting)
   c. Steel erection prior to completion of first elevated level (floor or roof)
   d. Metal deck and concrete over deck reinforcing (prior to concrete placement)
2. The owner shall employ the architect or structural engineer of record, or another registered professional engineer or architect designated to perform structural observation. Observed deficiencies shall be reported in writing to the owner's representative, special inspector, contractor and building official. The structural observer shall submit to the building official a statement that the field visits have occurred and identify any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved.
3. The contractor shall notify the structural observer a minimum of 48 hours in advance of project milestones so that observations may be scheduled.

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S1.4	TYPICAL EXTERIOR METAL STUD DETAILS
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S1.6	TYPICAL METAL STUD DETAILS
S2.1	FOUNDATION PLAN
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S5.5	DETAILS

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AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC ___ FLS ___ SS ___
DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
GENERAL NOTES

Drawn By GCM
Checked By WBR
Project No. 2015-0348.00
©Date 08/30/2016

NO. DATE ISSUE

DRAWING NO.
S1.1

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TYPICAL DETAILS

APPLICABLE TO ALL DRAWINGS UNLESS NOTED OR SHOWN OTHERWISE

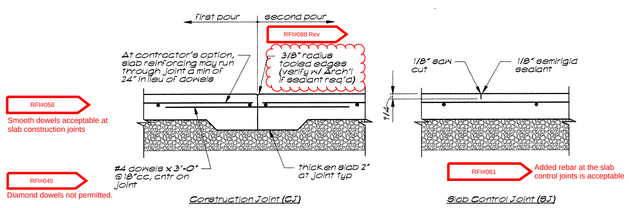
RFI#214
Slip dowels every 18" at flatwork expansion joints

RFI#088 Rev

RFI#058
Smooth dowels acceptable at slab construction joints

RFI#045
Diamond dowels not permitted.

RFI#061
Added rebar at the slab control joints is acceptable



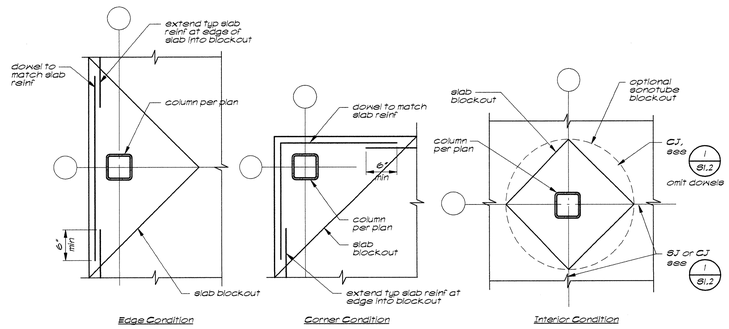
Construction Joint (CJ)

Slab Control Joint (SJ)

Notes:
1. Construction joints and control joints shall divide slab into areas not exceeding 225 sq ft without reentrant corners and with length to width ratios not exceeding 1 1/2 to 1. Joint spacing shall not exceed 15 feet in either direction.
2. Contractor shall submit layout plan showing proposed control and construction joint locations to Architect & Structural Engineer for review & approval prior to construction.
3. Semirigid sealant to be Euclid Eucо #700 or equal.

Slab On Grade Joints (1 / S1.2)

310SD001-12



Edge Condition

Corner Condition

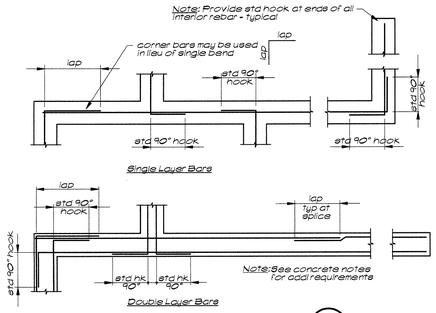
Interior Condition

RFI#060
Install of added rebar at re-entrant corner locations is acceptable

Notes:
1. Slab blockout shall not extend beyond footing.
2. At exposed concrete conditions, coordinate blockout shape and size w/ Arch't dwgs.

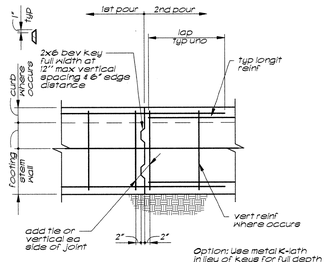
Slab Blockout (2 / S1.2)

310SD002-12



Corner Reinforcing at Concrete Ftgs (3 / S1.2)

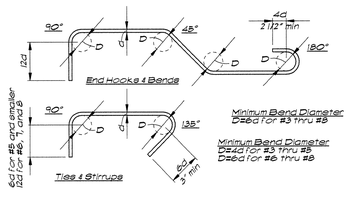
2005D011-32



Option: Use metal K-kith in lieu of keys for full depth of foundation at unexposed foundations only.

Typical Foundation Construction Joint (4 / S1.2)

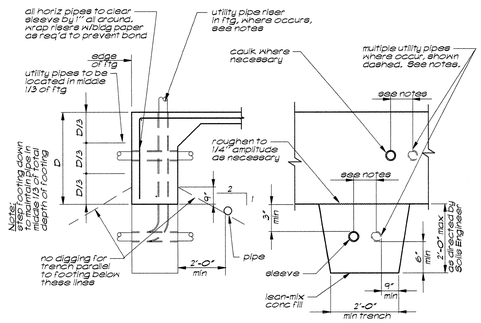
2005D012-24



Note: All hooks shall be 90° or 180° standard hooks unless otherwise shown or noted.

Standard Rebar Hooks and Bends (5 / S1.2)

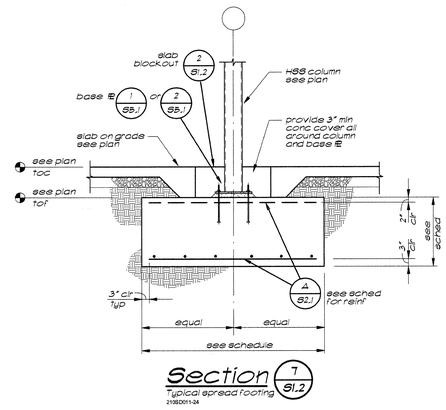
3005D001-12



Concrete Footings at Utility Pipes (6 / S1.2)

2005D003-32

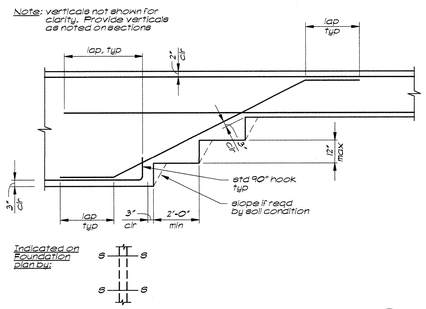
Notes:
1. Reinforcing shall not be interrupted, cut or displaced by placement of utility pipe.
2. Lean mix concrete fill to be placed before ftg is cast (mono-pour ftg conc optional). Make same width as ftg and full width of pipe trench.
3. Step ftg if pipe occurs in lower third of original footing depth per (8 / S1.2)
4. No pipes shall be placed below spread ftgs or within 2 to 1 bearing zone around spread footing.
5. If pipe is in place prior to casting concrete, wrap pipe w/ 1" Styrofoam insulation in lieu of sleeve.
6. Utility pipes are not allowed parallel in footing.
7. Multiple utility pipes (two or more) may be installed as shown @ left, provided they are spaced a minimum of 4 pipe/conduit diameters on center with a minimum of 3" of concrete between. Pipe diameter indicated is the rough hole size thru footing.
8. Utility pipes risers may occur in continuous wall footings provided they are no larger than (footing width/6) and occur with the middle 1/2 of the footing width. Multiple risers may occur if spaced as noted @ left.
9. Utility pipes perpendicular to footings and more than 2'-0" below bottom of footings do not require lean-mix concrete encasement subject to acceptance of the Soils Engineer.
10. Conditions not conforming to the parameters noted above shall be reviewed on a case-by-case basis.



Section (7 / S1.2)

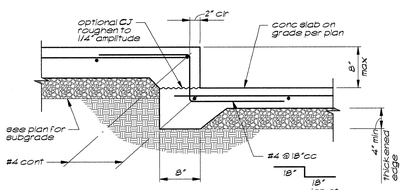
Typical spread footing

210SD011-24



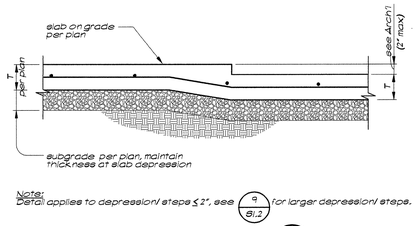
Footing Step @ Deepened Conventional Footing (8 / S1.2)

2005D019-32



Step In Slab (9 / S1.2)

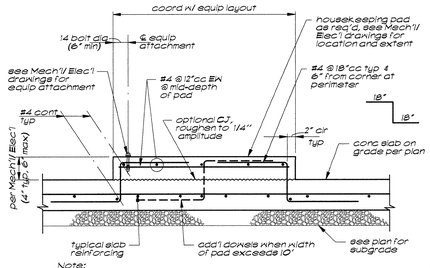
310SD003-12



Note: Detail applies to depression/steps ≤ 2", see (9 / S1.2) for larger depression/steps.

Slab Depression (10 / S1.2)

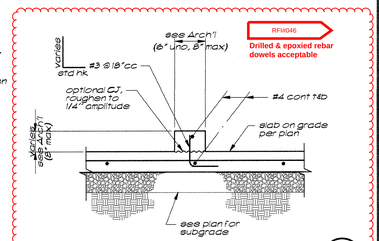
310SD004-12



Note: Where isolated equipment is noted on dwg, provide concrete pad w/ #4 @ 18"cc at bottom, #4 @ 12"cc at top. Isolate pad from typ flatwork on grade w/ EJ. Depth of pad equals flatwork depth plus 4" above and, 9" min concrete pad thickness.

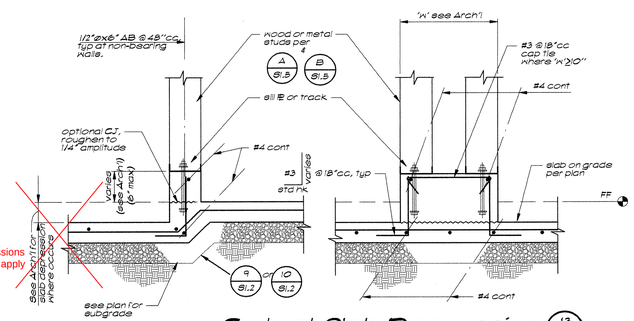
Housekeeping Pad at Slab on Grade (11 / S1.2)

3105D005-16



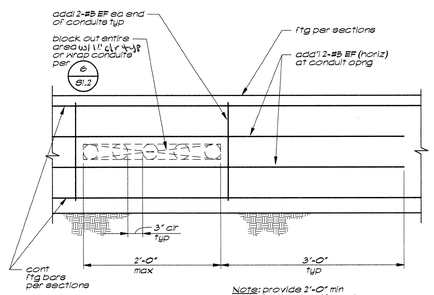
Curb at Slab on Grade (12 / S1.2)

3105D006-12



Curb at Slab Depression (13 / S1.2)

3105D007-12

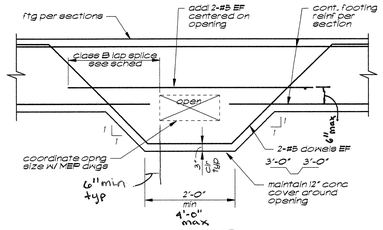


Note: provide 2'-0" min between adjacent groupings of conduits

Detail (14 / S1.2)

More than 2 conduits pass thru footing

211SD001-12



Detail (15 / S1.2)

Footing detail at MEP blockout

211SD002-24

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AC ____ FILS ____ SS ____
DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TYPICAL CONCRETE DETAILS

Drawn By: GCM
Checked By: WBR

NO.	DATE	ISSUE

Project No.: 2015-0348.00
Date: 08/30/2016

DRAWING NO.
S1.2

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TYPICAL DETAILS

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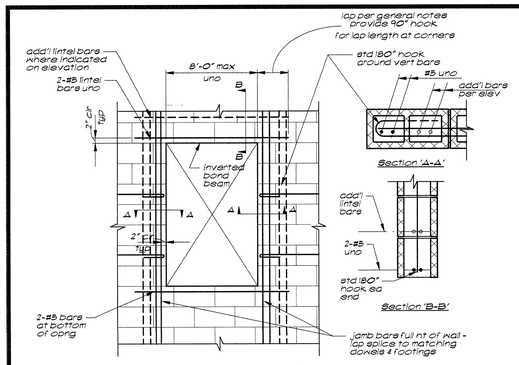
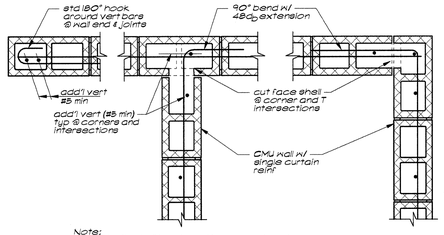


Opening Reinforcing at CMU Wall Opening (1 / S1.3)

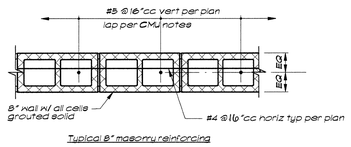
4115D001-12



Note:
1. CMU units shall be placed in common bond uno.
2. Lap all vertical bars with matching dowels @ footings.
3. See masonry general notes for splice lap lengths. See for typical reinforcing.
4. Horizontal bars at intersections & corners shall be hooked around vertical bars with standard 90° hook, plus an extension equal to the bar development length or 48d$_b$ min. Separate corner bars maybe used in place of single bends of horizontal bars.

Typical Block Wall Reinforcing at Corners and Intersections (2 / S1.3)

4115D002-12



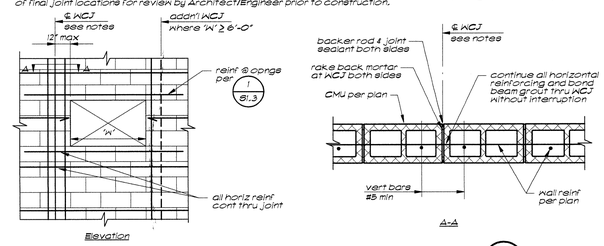
Typical 8" masonry reinforcing

Note:
Provide dowels @ footings to match vertical bars in size and location - lap splice with vertical bars per CMU notes.

Typical Block Wall Reinforcing (3 / S1.3)

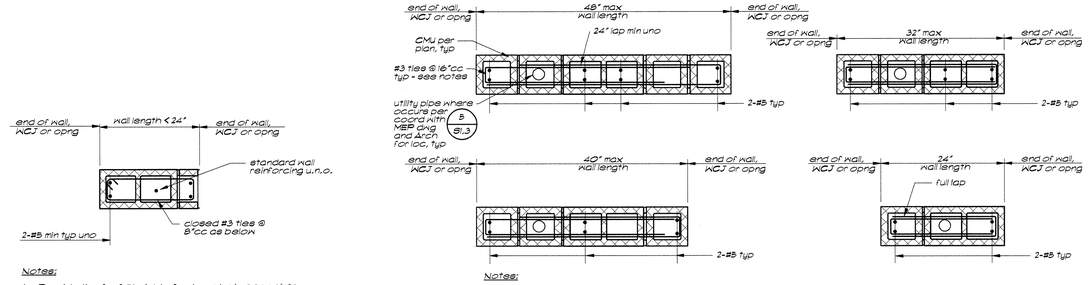
4115D003-12

Note:
1. WCJ indicates a wall control joint. Location as noted on plan and elevation.
2. Wall joints shall be full height, uno.
3. The contractor shall coordinate location of wall joints with joints in finish material and openings in wall. Submitplans of final joint locations for review by Architect/Engineer prior to construction.



Typical Block Wall Control Joint (WCJ) (4 / S1.3)

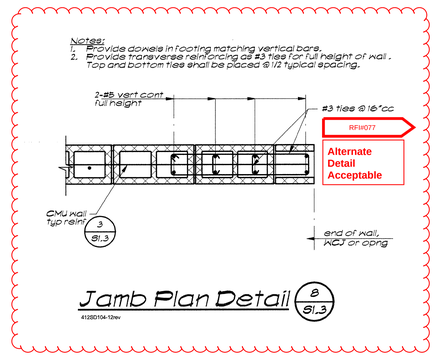
4115D010-12



Notes:
1. Pier reinforcing is required for walls lengths between 3'1" and 6'1" & pier clear height less than 5 'L'.
2. Provide transverse reinforcing as #3 ties for full height of wall. Top and bottom ties shall be placed @ 1/2 typical spacing.
3. Vertical reinforcing is to be symmetrical and uniform thru section. Provide dowels to match vertical bars & lap per CMU notes.

CMU Pier Detail (7 / S1.3)

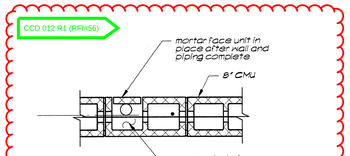
4115D005-12



Jamb Plan Detail (8 / S1.3)

4125D104-12rev

CCD 012 R1 (RFI#56)



Plan

Note:
3/4"Ø max pipe/conduit allowed in CMU walls where verticals do not occur. Typical spacing of vert cell with pipes/conduit is 8'-0"cc max.

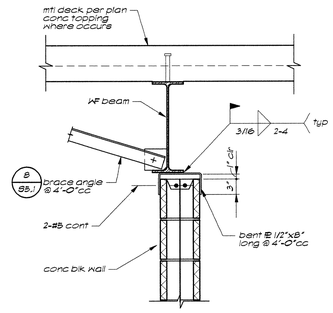
Pipes in CMU Wall (5 / S1.3)

4115D101-12

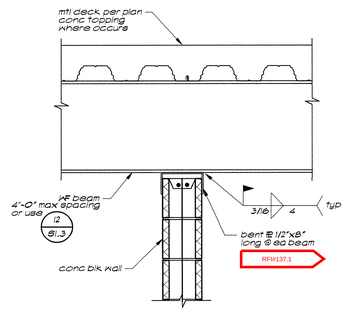
Notes:
1. Provide ties for full height of columns between points of lateral support. Top 3 and bottom 3 ties shall be placed @ 1/2 typical spacing.
2. Wall sections less than 3 times nominal thickness (L < 3t) shall be reinforced as columns.

CMU Column Detail (6 / S1.3)

4115D006-12



Beam Parallel to Wall

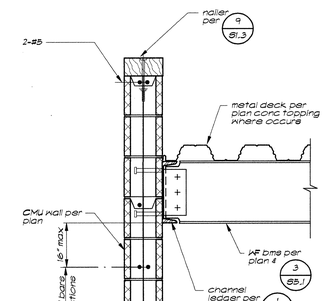


RFI#137

Beam Perpendicular to Wall

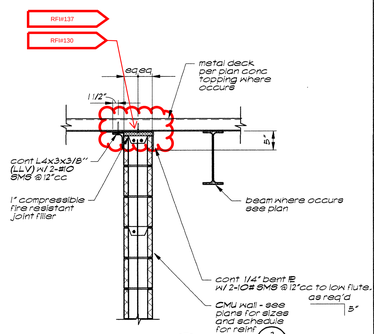
Non-Bearing Masonry Partition (10 / S1.3)

4165D202-12



Detail (11 / S1.3) — 1" = 1'-0"

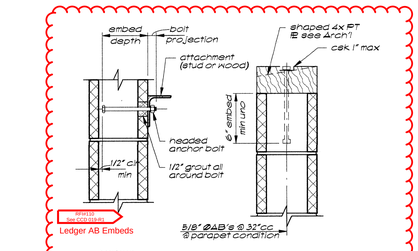
Drafting 15



Detail (12 / S1.3)

Non-bearing masonry partition, Conn to Metal Deck

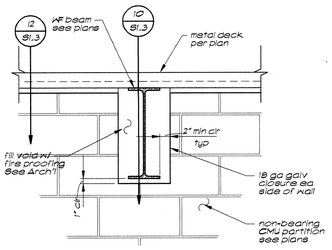
4165D203-16rev



Notes:
1. Anchors in CMU shall be headed bolts uno.
2. Lengths of bolts shall be as required for bolt projection plus specified embedment depth. Where embedment is not specified, embed bolt for 1/2" min clr to block face.

Typ. Anchor Bolt in Conc Block (9 / S1.3)

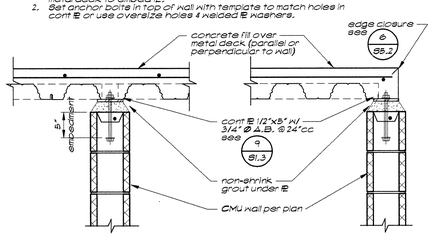
4115D008-8



Typical Beam Penetration at Masonry Partition Wall (13 / S1.3)

4145D205-12

Notes:
1. See plan for floor deck & metal deck details for attachment of metal deck to embed ℄.
2. Set anchor bolts in top of wall with template to match holes in cont ℄ or use oversize holes & welded ℄ washers.

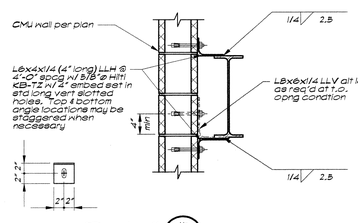


Deck two sides

Deck one side

Detail (14 / S1.3)

4115D201-12 rev



Detail (15 / S1.3) — 1" = 1'-0"

Drafting 15

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RFI#139

Attachment of metal studs to CMU. Acceptable to install with shot pins at 24" oc.

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AC ____ F/LS ____ SS ____
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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TYPICAL CMU DETAILS

Drawn By: GCM
Checked By: WBR

NO.	DATE	ISSUE

Project No.: 2015-0348.00
Date: 08/30/2016

DRAWING NO.
S1.3

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TYPICAL DETAILS

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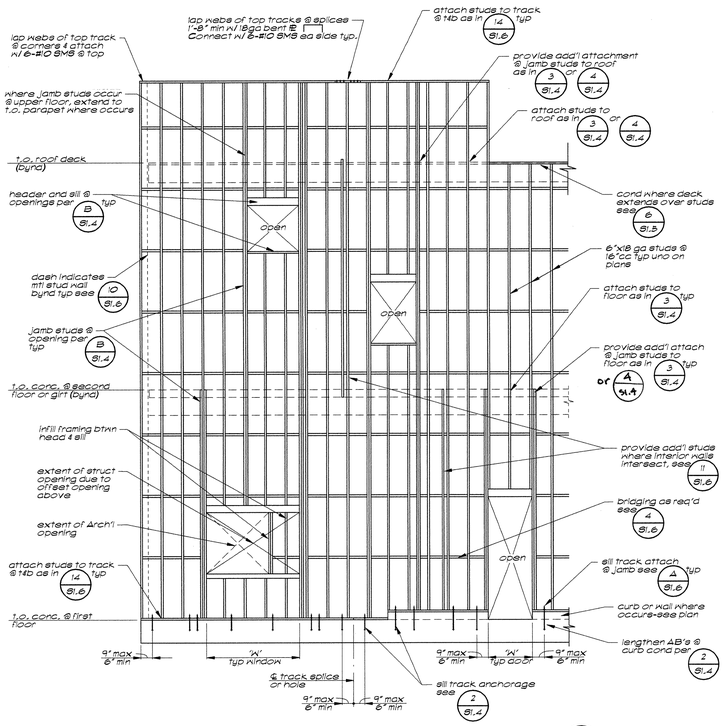


Typical Balloon Framing Elevation A/S1.4

S415D015-48

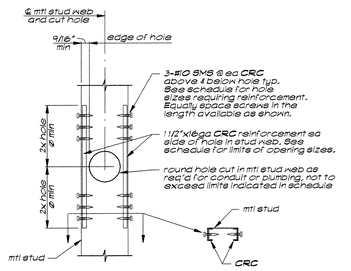
S415D001-1

B/S1.4 Exterior Wall Opening Framing Schedule

6" studs, 18ga min Non Bearing Deflection Limit L/120

'W' Width max	Jambs [6]	Header [7]	Sill [8]
4'-0"	J2	H4	S1
8'-0"	J3	H4	S1
12'-0"	J4	HC4-8 [2]	S2
16'-0"	J4 (16ga) [3]	HC4-8 (16ga) [2,3]	S4 [3]

1. See sheet S1.6 for jamb, header, and sill details.
2. "H4-8" indicates header type and depth of vertical stud elements inside header. "HC4-8" indicates composite header w/ add'l screw requirements - see 3/S1.6. Screw spacing shall be 6"cc max.
3. J4 (16ga) (header/sill similar) - indicates at members of the built-up section shall be noted gauge as a minimum.
4. For connection @ base of wall at jambs, see 2/S1.4
5. For connection @ top of wall at jambs, see 3/S1.4 & 4/S1.4
6. Jamb detail, see 1/S1.6
7. Header details see 2/S1.6 & 3/S1.6 for HC screw schedule, see D/S1.5
8. Sill details see 5/S1.6, 6/S1.6, 7/S1.6, & 8/S1.6
9. 'W' width is the max width of a single opening or the combined width of side by side openings that share a single jamb stud configuration

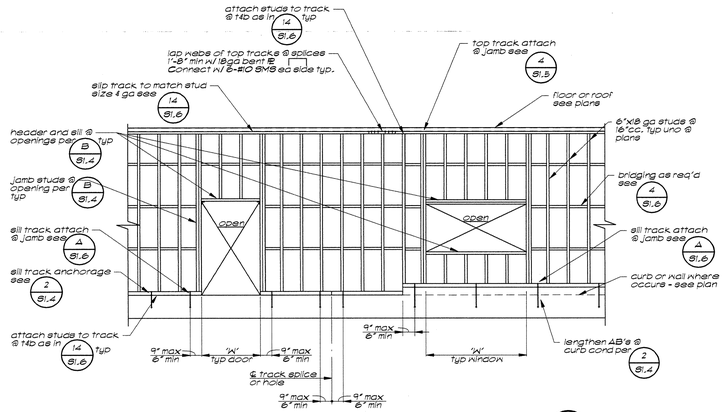


Allowable Holes In Interior Metal Stud Webs		
Stud Size	Unreinforced [3]	Reinforced [4]
3 5/8"	2"ø	2 1/2"ø
4"	2 1/2"ø	2 7/8"ø
6"	3 5/8"ø	4 7/8"ø

Notes:
1. Pipe, conduit or other utilities shall be located in the pre-punched openings of metal stud webs wherever possible.
2. Holes in metal studs shall be cut in web only. Flanges or the stiffening projections at flanges shall not be cut.
3. Round holes up to this size may be cut in metal stud webs without additional reinforcement.
4. Maximum allowable hole size when L reinforcement is used.
5. CRC = Cold Rolled Channel.

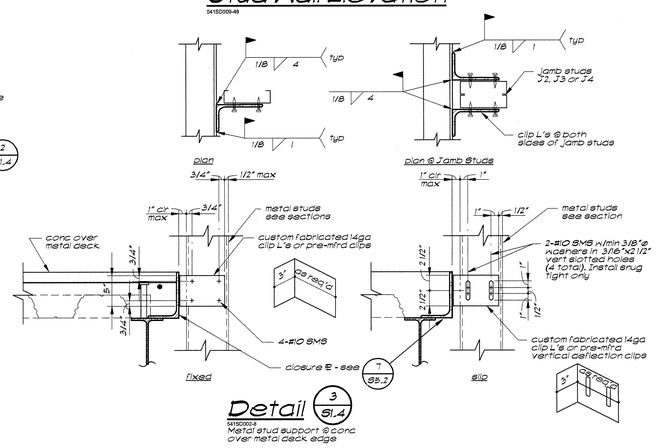
Detail 8/S1.4

S425D029-8



Typical Platform Framing Metal Stud Wall Elevation 1/S1.4

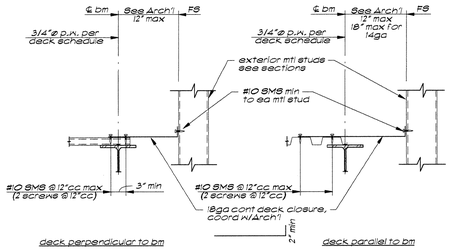
S415D009-48



Detail 3/S1.4

S415D003-8

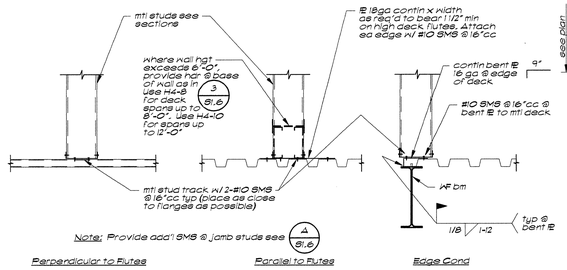
Metal stud support @ conc over metal deck edge



Detail 5/S1.4

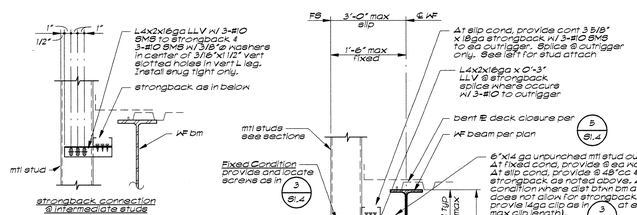
Typical edge at deck w/o conc fill

S415D007-12



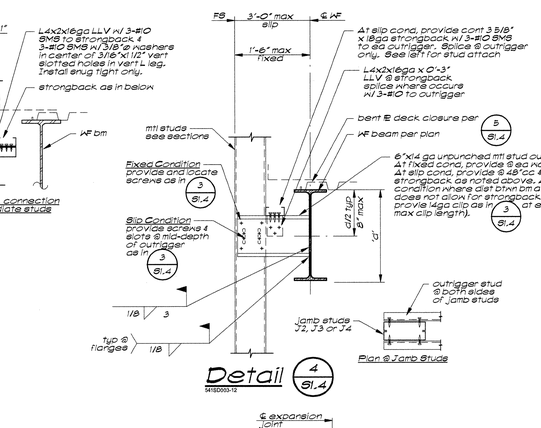
Typical Sill Track to Metal Deck 6/S1.4

S415D004-12



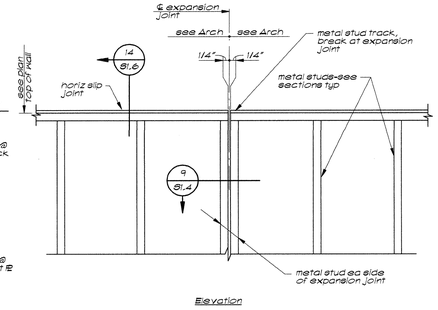
Exterior Metal Stud Sill 2/S1.4

S415D001-12



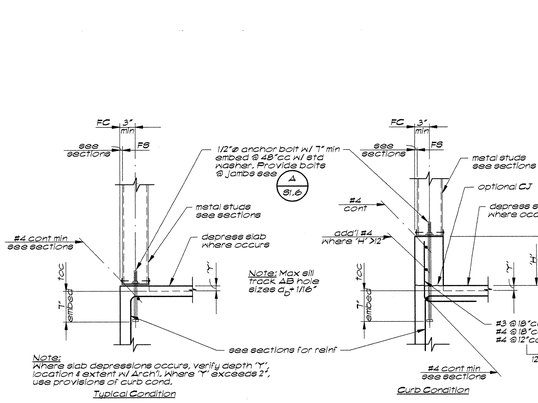
Detail 4/S1.4

S415D003-12



Metal Stud Expansion Joint 7/S1.4

S415D005-12



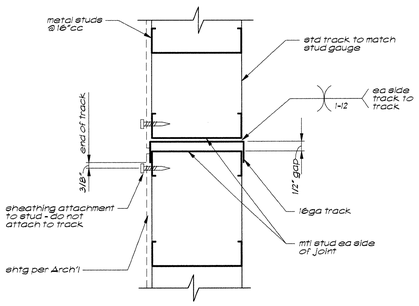
Typical Platform Framing Metal Stud Wall Elevation 1/S1.4

S415D009-48

Detail 3/S1.4

S415D003-8

Metal stud support @ conc over metal deck edge



Expansion Joint Detail 9/S1.4

S415D006

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APPL # 02-114995

AC ____ FILS ____ SS

DATE: 7/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TYPICAL EXTERIOR METAL STUD DETAILS

Drawn By: GCM
Checked By: WBR

NO.	DATE	ISSUE

Project No. 2015-0348.00
Date 08/30/2016

DRAWING NO.
S1.4

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TYPICAL DETAILS

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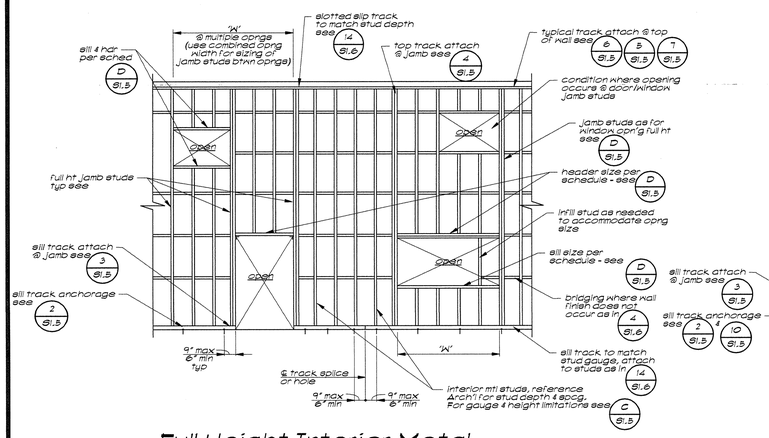
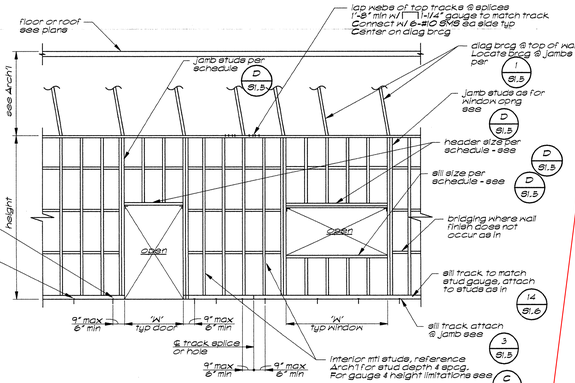


Full Height Interior Metal Stud Wall Elevation A/S1.5

5425D011-48



Partial Height Interior Metal Stud Wall Elevation B/S1.5

5425D012-48

RFI#150 max height

Where no cabinets, max height 15'-11" acceptable. Use 9'-6" max height where cabinets/ equip occur, backing per 13/S1.6.

5425D043-1

C/S1.5 Interior Metal Stud Partitions

Maximum Height for Metal Studs With
℄c = 1.5, Ip = 1.5
Deflection Limit: L/180 - Non Bearing with Double Cabinets or Equipment

16"cc spacing			
Depth	Gage	Designation [3]	Height
3 5/8"	20	362S162-33	8'-7"
3 5/8"	18	362S162-43	11'-6"
3 5/8"	16	362S162-54	13'-5"
3 5/8"	14	362S162-68	14'-9"
4"	20	400S162-33	9'-6"
4"	18	400S162-43	12'-7"
4"	16	400S162-54	15'-0"
4"	14	400S162-68	16'-7"
6"	20	600S162-33	16'-11"
6"	18	600S162-43	22'-0"
6"	16	600S162-54	24'-6"
6"	14	600S162-68	27'-0"
8"	20	800S162-33	24'-10"
8"	18	800S162-43	30'-4"
8"	16	800S162-54	33'-6"
8"	14	800S162-68	37'-0"

1. Studs shall be depth as indicated on Arch drawings and gauge as determined by height of wall and the schedule above.
2. See elevations A/S1.5 & B/S1.5 for typical wall framing conditions.
3. Designation conforms to Steel Stud Manufacturers Association standards.
4. For wall supported cabinet installation see 16/S1.6.
5. The max. hts noted in this table are based upon the use of seismic component load Fp or a live load of 5psf, whichever governs.

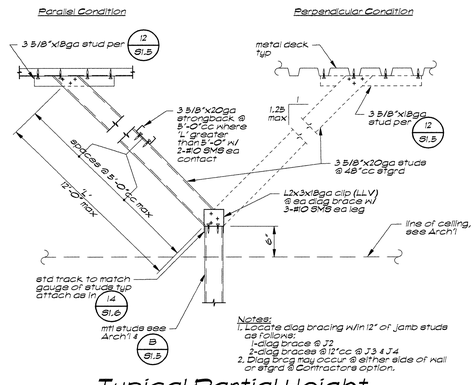
5425D013-1

D/S1.5 Interior Wall Opening Framing Schedule

Deflection Limit = L/180

'W' Width max 12	Jamb [13]	Header [14]	Sill [15]	HC4-B Screw Spcg	
				3-5/8" & 4" walls	6" & 8" walls
4'-0"	J1 [1]	H2	S1		
8'-0"	J2	H4	S1 [6]		
12'-0"	J3	HC4-B [2, 9]	S2	8"cc	12"cc
16'-0"	J4	HC4-B [3, 4, 5, 9]	S4 [7]	8"cc	12"cc

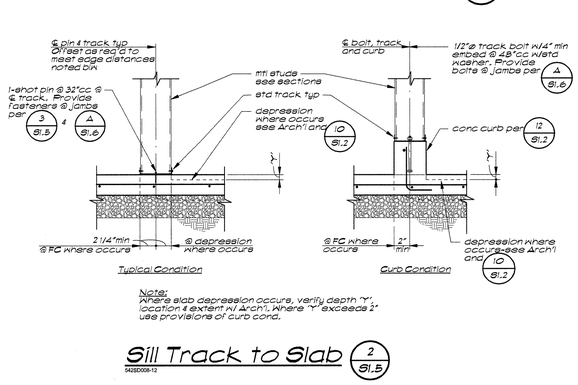
1. Use J2 minimum at door openings
2. H4-B may be used at 12'-0" max opngs in 16ga and 14ga walls w/ the exception of 8" walls
3. Use 18ga min. headers at 16'-0" max opngs in 3-5/8" & 4" walls
4. Use 16ga min. headers at 16'-0" max opngs in 6" walls
5. Use 14ga headers at 16'-0" max opngs in 8" walls
6. Use S2 sills at 8'-0" max opngs in 3-5/8x20ga walls
7. S2 may be used at 16'-0" max opngs in 6" & 8" walls (18ga min)
8. See sheet S1.6 for jamb, header, and sill details
9. "H4-B" indicates header type and depth of vertical stud elements inside header. "HC4-B" indicates composite header w/ addl screw requirements - see schedule 4
10. For connection @ base of wall at jambs see 3/S1.6 & 3/S1.5
11. For connection @ top of wall at jambs see 4/S1.5
12. 'W' width is the max width of a single opening or the combined width of side by side openings that share a single jamb stud configuration.
13. Jamb detail, see 1/S1.6
14. Header details see 2/S1.6 & 3/S1.6 for HC screw schedule, see
15. Sill details see 5/S1.6, 6/S1.6, 7/S1.6 & 8/S1.6



Notes:
1. Locate diag bracing w/in 12" of jamb stude as follows:
   1-diag brace @ J2
   2-diag braces @ 12"cc @ J3 & J4.
2. Diag brcg may occur @ either side of wall or at grd @ Contractors option.

Typical Partial Height Partition Wall Bracing 1/S1.5

5425D031-12

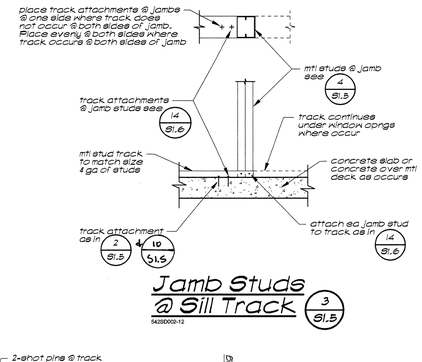


Typical Condition — Curb Condition

Note:
Where slab depression occure, verify depth 'Y', location & extent w/ Arch't. Where 'Y' exceeds 2" use provisions of curb cond.

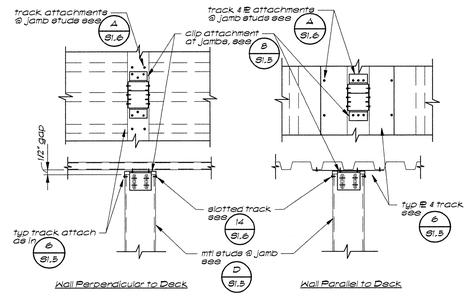
Sill Track to Slab 2/S1.5

5425D008-12



Jamb Studs @ Sill Track 3/S1.5

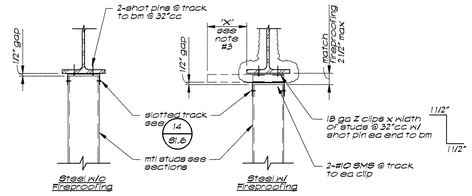
5425D002-12



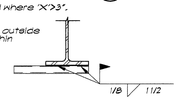
Wall Perpendicular to Deck — Wall Parallel to Deck

Jamb Studs @ Top Track 4/S1.5

5425D003-12

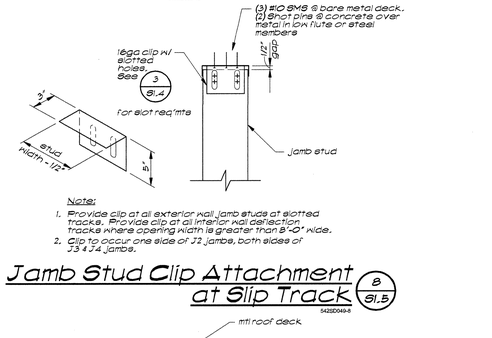


Notes:
1. Provide Z clips as req'd for fasteners @ jamb stude see A/S1.6
2. At soffit hangers, studs may be attached as shown above with the following modifications:
   A. Use std 18 ga deep leg track in lieu of slip track. Provide 2-#10 SMS ea side of hanger.
   B. Where fireproofing occure, use 14 ga Z clips @ ea hgr. Attach track to clips w/ 3-#10 SMS located within 1/2" of ea edge and at middle of track. Align Z clips w/ hangers (±1/2").
   C. Where no fireproofing occure, attach track to bm with 2-shot pins @ 16"cc located within 1/2" of ea edge of track. For additional information @ suspended soffits see 15/S1.6
3. Studs & hgrs may be offset from bm flange up to 9" @ studs & 6" @ hgrs with the following modifications:
   A. At studs, provide 16ga Z clip & 3 shot pins evenly spaced where 'X'>3".
   B. At hangers, weld clip to beam as shown, where 'X'>3".
4. Notify the SEOR prior to attaching to moment frame beams outside of the protected zone. No attachments shall be made within protected zones of moment frame beams.



Slip Track to Steel Beam 7/S1.5

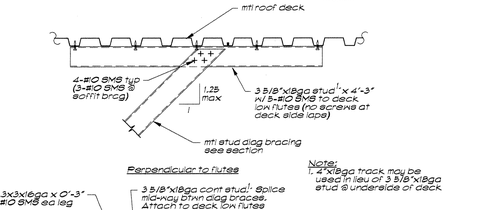
5425D006-12



Note:
1. Provide clip at all exterior wall jamb studs at slotted tracks. Provide clip at all interior wall deflection tracks where opening width is greater than 8'-0" wide.
2. Clip to occur one side of J2 jambs, both sides of J3 & J4 jambs.

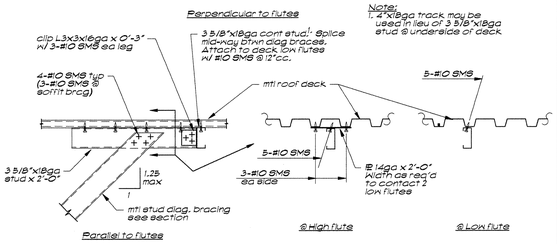
Jamb Stud Clip Attachment at Slip Track B/S1.5

5425D040-8



Perpendicular to flutes

Note:
1. 4"x18ga track may be used in lieu of 3 5/8"x18ga stud @ underside of deck.

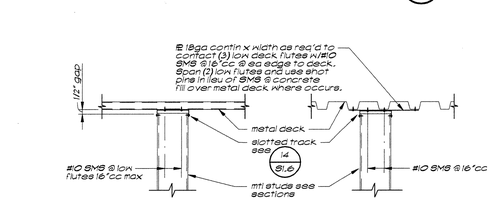


Parallel to flutes — @ High flute — @ Low flute

Detail 12/S1.5

5425D031-12

Metal stud diag bracing connections @ bare metal roof deck conditions



Notes:
1. Where conc fill occurs over metal deck, use shot pins in lieu of SMS into low flute.
2. Provide Z clips as req'd for fasteners @ jamb studs, see A/S1.6

Slip Track to Metal Deck w/ Fireproofing 5/S1.5

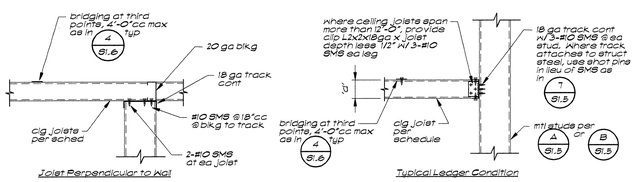
5425D005-12

Wall Perpendicular to Deck — Wall Parallel to Deck

Notes:
1. Where concrete over metal deck occure:
   a. Where wall is perpendicular to deck, attach track to deck w/ (1) shot pin w/ steel washer @ 24"cc max in lieu of SMS into low flute.
   b. Where wall is parallel to deck, 4 nail ℄ in w/in 1-1/2" of ℄ of low deck flute, top track may be attached directly to deck as in perpendicular cond 4 confirm ℄ may be omitted.
2. See shot pin notes for spacing, edge distance & placement requirements. At SMS maintain 1.5 x diameter min spacing & edge distance.
3. For cond @ jamb studs see 4/S1.5

Slip Track to Metal Deck w/o Fireproofing 6/S1.5

5425D004-12

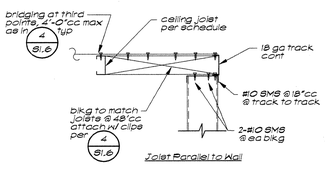


Joist Perpendicular to Wall

Typical Ledger Condition

Ceiling Joist Schedule		
Non-accessible Span	Accessible Span	ceiling joist
10'-0" max	5'-0" max	2 1/2" x 18 ga @ 16"cc
14'-0" max	8'-0" max	3 5/8" x 18 ga @ 16"cc
19'-0" max	10'-0" max	6" x 20 ga @ 16"cc
20'-0" max	12'-0" max	6" x 18 ga @ 16"cc
22'-0" max	16'-0" max	6" x 16 ga @ 16"cc

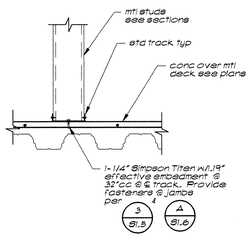
1. All stude & joists are 'S' type.
2. Where clg joists are supported from soffit hgrs as in 4 clg joists occur @ both sides of hgrs, joist spans shall not exceed 8'-0". Provide addl lines of hgrs as req'd. — 15/S1.6



Joist Parallel to Wall

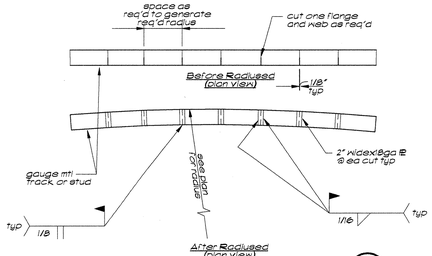
Typical Framed Ceiling Details 9/S1.5

5425D010-12



Sill Track to Concrete Over Metal Deck 10/S1.5

5425D009-12



Radiused Track Detail 11/S1.5

5425D032-24

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WILLIAM B. RADER
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CIVIL
STATE OF CALIFORNIA

RFI#139

Attachment of metal studs to CMU. Acceptable to install with shot pins at 24" oc.

SEAL

LICENSED ARCHITECT
CHRISTOPHER C. HINRICHS
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW
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DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE — AUTO TECH FACILITY

Drawing Title: **TYPICAL INTERIOR METAL STUD DETAILS**

NO.	DATE	ISSUE

Drawn By: GCM
Checked By: WBR
Project No.: 2015.0348.00
©Date: 08/30/2016
DRAWING NO.: **S1.5**

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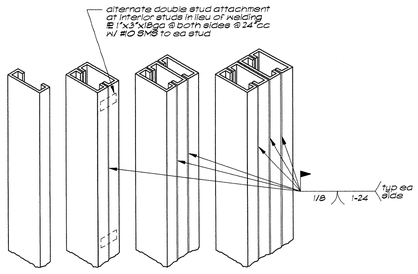
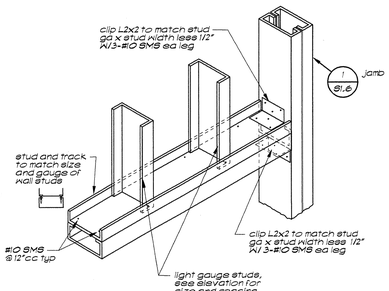
TYPICAL DETAILS

APPLICABLE TO ALL DRAWINGS UNLESS NOTED OR SHOWN OTHERWISE



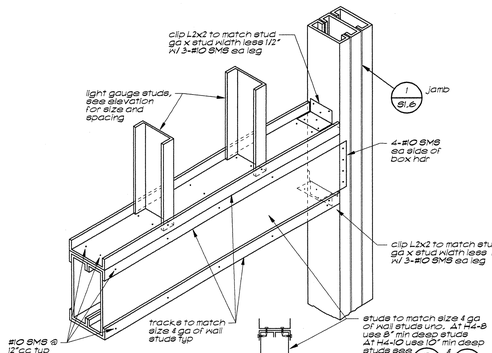
Jamb Detail 1/S1.6

S405D001-12



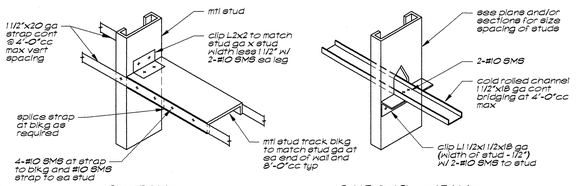
H2 Header Detail 2/S1.6

S405D002-12



H4/HC-4 Header Detail 3/S1.6

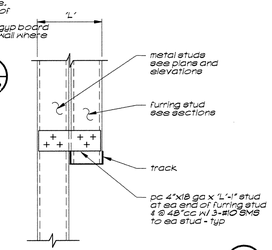
S405D003-12



Note:
1. Bridging for 8" and smaller studs may be constructed of cold rolled channel or straps at contractor's option unless noted otherwise.
2. Where full height sheathing or gyp board occurs on both sides of metal stud framing, the bridging may be omitted.
3. At cond where strap bridging is used & where nail sheathing or gyp board occurs on one side of wall only, strap may be omitted on side of wall where sheathing or gyp occurs.

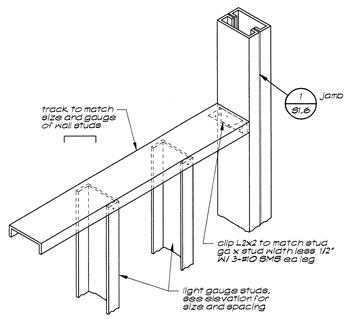
Typical Stud Bridging 4/S1.6

S405D004-12



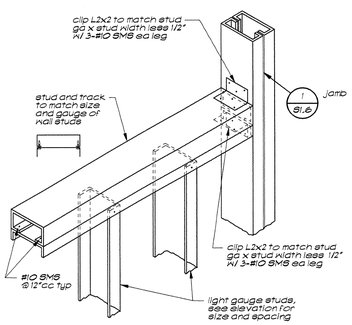
Stud Furring Detail 9/S1.6

S405D009-12



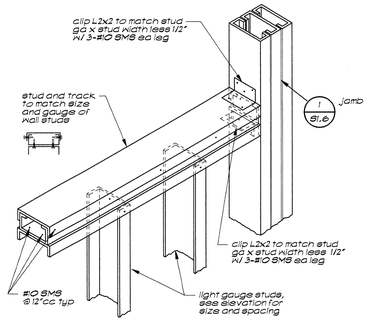
S1 Sill Detail 5/S1.6

S405D005-12



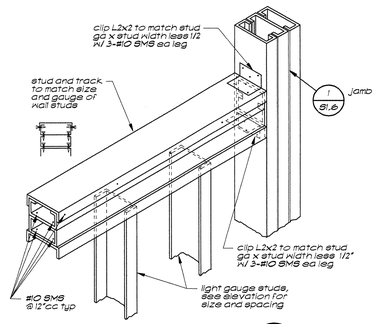
S2 Sill Detail 6/S1.6

S405D006-12



S3 Sill Detail 7/S1.6

S405D007-12



S4 Sill Detail 8/S1.6

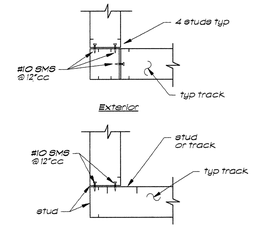
S405D008-12

S405D017-1

Track Attachment @ Jamb Studs 4/S1.6

Jamb Type	Track Attachment Method 1,2		
	Shot Pin	SMS/ screw anchor	1/2"ø bolts
J1	1	1	1
J2	2	2	1
J3	3	3	1
J4	4	4	2

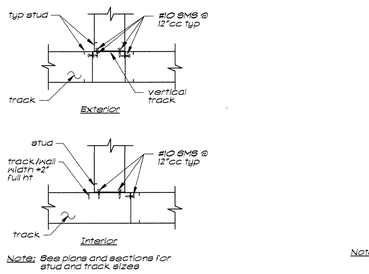
Notes:
1. Schedule indicates track attachments required where jamb studs occur. See typical sill and top track attachment details for basic attachment methods (i.e. shot pins, SMS, bolts etc...) 4 conditions beyond jamb studs.
2. Locate all required attachments as close to jamb studs as possible. Maintain all fastener spacing and edge distance requirements. At shot pins, see typical notes, @ SMS maintain 1.5xdiameter min edge distance & spcg. At bolts space no closer than 12 diameters and no more than 9" from end of track.



Note: See plans and sections for stud and track sizes

Typical Wall Corner 10/S1.6

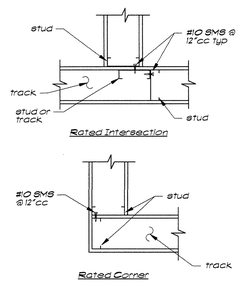
S405D015-12



Note: See plans and sections for stud and track sizes

Typical Tee Intersection 11/S1.6

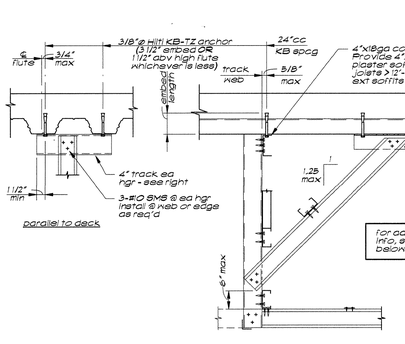
S405D011-12



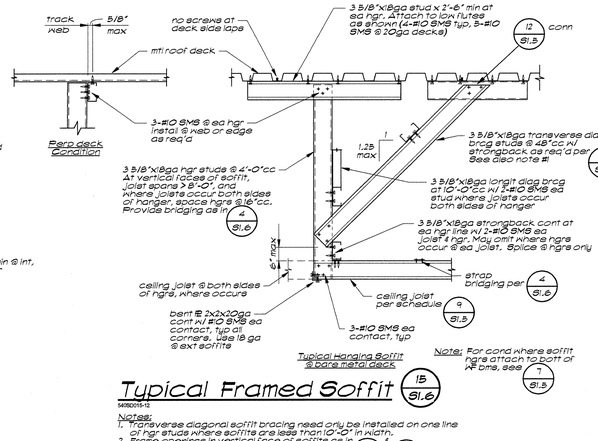
Note: See plans and sections for stud and track sizes See Arch't drawings for wall finish construction

Typical Fire Rated Wall Corners 12/S1.6

S405D012-12



Typical Hanging Soffit @ conc over mtl deck



Typical Hanging Soffit @ bare metal deck

Note: For cond where soffit hgrs attach to bott of MF bms, see
7/S1.5

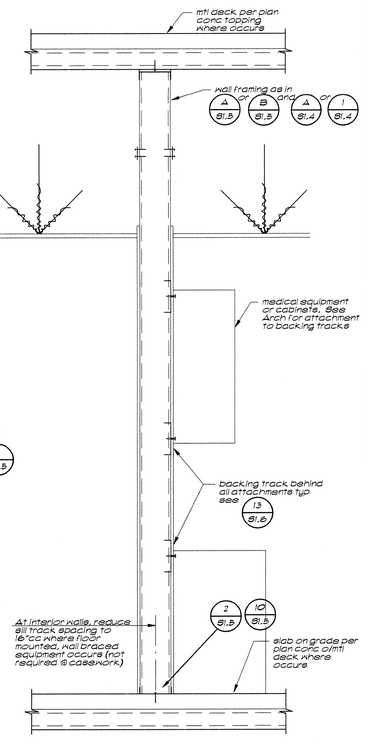
Typical Framed Soffit 15/S1.6

S405D015-12

Notes:
1. Transverse diagonal soffit bracing need only be installed on one line of hgr studs where soffits are less than 10'-0" in width.
2. Frame openings in vertical faces of soffits as in Maximum opening width = 4'-0"

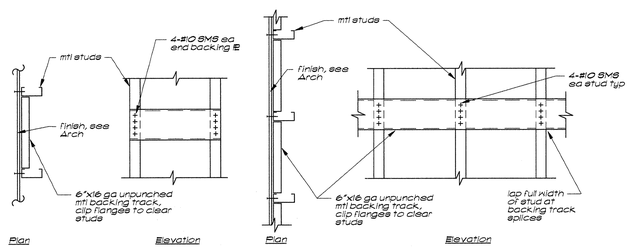
B/S1.5 D/S1.5

RFI#183 Soffit support at F & F.1 Line



Typical Backing Details 16/S1.6

S405D016-12

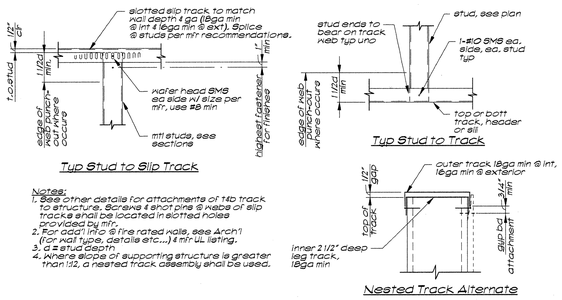


Note: In lieu of track, a 6"x16ga flat strap may be used to support loads up to 20 lbs/lf x a max. concentrated load of 50 lbs. Strap shall be cont over 3 studs min. Attach as noted above.

Typical Backing Detail 13/S1.6

S405D013-12

RFI#100 Interior stud backing @ cabinets/sh



Notes:
1. See other details for attachments of t&b track to structure. Screws & shot pins @ webs of slip track & shall be located in slotted holes provided by mfr.
2. For add'l info @ fire rated walls, see Arch't (for wall type, details etc...) & mfr UL listing.
3. 0 x stud depth.
4. Where slope of supporting structure is greater than 1:12, a nested track assembly shall be used.

Typical Stud to Track Connection 14/S1.6

S405D014-12

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RFI#139

Attachment of metal studs to CMU. Acceptable to install with shot pins at 24" oc.

SEAL

LICENSED ARCHITECT
CHRISTOPHER D. JUDKINS
NO. C26985
REN. 8-30-17
STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC ____ FILS ____ SS
DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TYPICAL METAL STUD DETAILS

Drawn By: GCM
Checked By: WBR

NO.	DATE	ISSUE

Project No.: 2015-0348.00
@Date: 05/30/2016
DRAWING NO.: S1.6

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Sacramento · Phoenix · San Francisco · Los Angeles

REGISTERED PROFESSIONAL ENGINEER
WILLIAM B RADER
No. 3867
STRUCTURAL
STATE OF CALIFORNIA

SUB#030-033000-0
Concrete joint layout & pour plan

RFI 054 & 059 supercede AB shop dwgs
RFI#059

RFI#065
1.) Base plate elevation @ C.3/1 and A.1/3 install at -1 "-2 1/2" elevation
2.) Steps noted in the shop drawing markups do not apply and do not need to be installed.

RFI#056 (CCD 012 R1)
Outlet receptacle & conduit install details in CMU

RFI#102.1
Revised base plate for column assembly #1048

RFI#102
Per AB Survey, proposed offset columns/base plates acceptable.

RFI#060
Install of added rebar at re-entrant corner locations is acceptable

RFI#049
Additional staking request entry survey points
Survey staking points from Kier & Wright

RFI#133: Column 1053
Install Repair

CCD 011
RFI#002

RFI#100.1
RFI#100

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DIV OF THE STATE ARCHITECT
SACRAMENTO REGIONAL OFFICE
AC ---- F/LS ZCV SS SPF
APP. # 02-114995 DATE 01/31/17
DOC NAME : CCD # 002

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LICENSED ARCHITECT
CHRISTOPHER S. CHO
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

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APPL # 02-114995
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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
FOUNDATION PLAN

NO.	DATE	ISSUE

Drawn By: GCM
Checked By: WBR
Project No.: 2015-0348.00
Date: 08/30/2016
DRAWING NO.
S2.1

Footing Schedule

Mark	Size	Reinforcing
A	3'-0"$ x 2'-0" deep	4-#5 EW (B)
B	4'-0"$ x 2'-0" deep	5-#6 EW (B)
F1	5'-0"$ x 2'-0" deep	6-#6 EW (B)
D	6'-0"$ x 2'-0" deep	7-#6 EW (B)

Notes:
1. Typical pad footing see S2.1 detail 7
2. T4b indicates rebar top and bottom

Foundation Plan — 1/8" = 1'-0"

For Foundation Plan Notes See sheet S2.2

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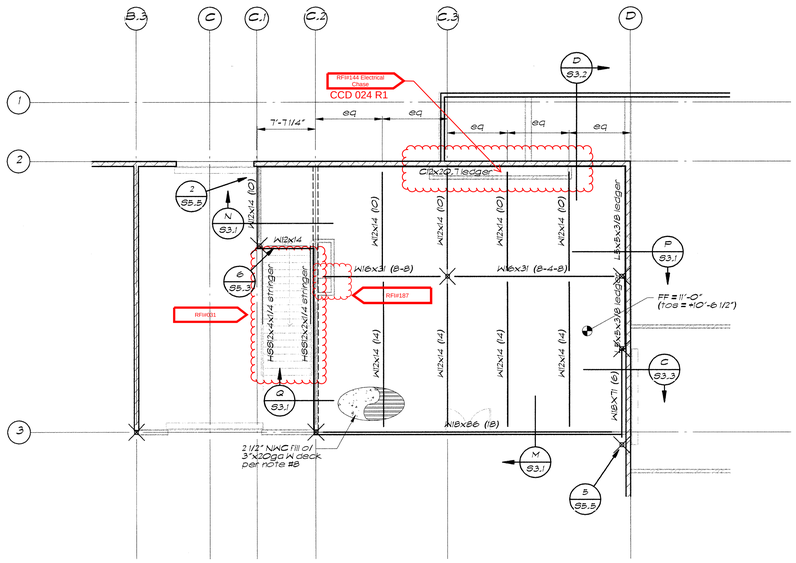
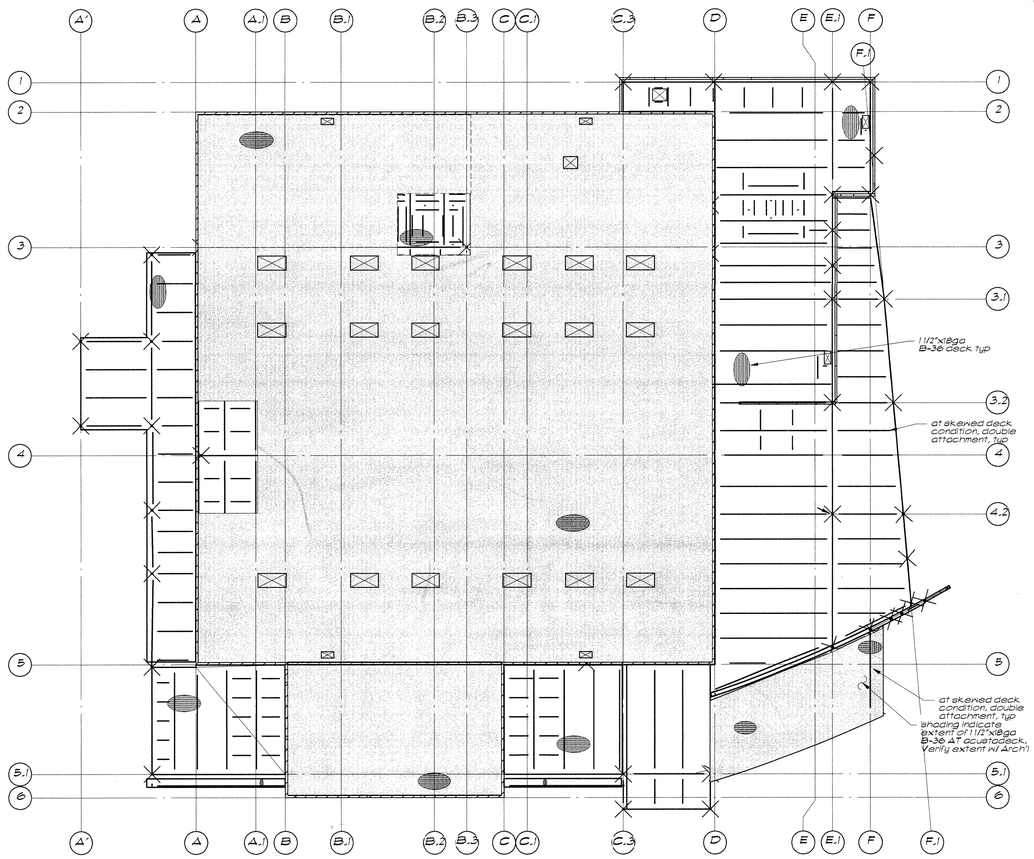


Mezzanine Framing Plan — 1/8" = 1'-0"



Roof Deck Plan (A / S2.2) — 1/16" = 1'-0"

RFI#055
4 inches clean crushed drainrock beneath the concrete slab (w/ vapor barrier between drainrock and slab) acceptable. Drainrock should be placed via vibratory means. The 95 percent requirement is not applicable and compaction testing will not be performed.

Floor Framing Plan Notes:

1. Verify all building dimensions and elevations w/ Arch't drawings. Notify the Architect immediately if there are any conflicts w/ dimensions shown.
2. Dimensions shown are to ℄ of column or face of block uno.
3. See sheets S1.1 thru S1.6 for General Notes & Typical Details which are applicable to all drawings uno.
4. (c) or (b) Indicates column is above only (c) or below only (b). No symbol indicates that col is above and below.
5. Indicates floor opening. Locate opening per AMEP drawings. For support, see typical details.
6. See sheets S5.1 thru S5.2 for typical steel details.
7. Indicates elevation of FF and top of concrete over metal deck. Verify with Arch't.
8. Indicates conc over metal deck. Concrete over metal deck construction shall be 3"x20ga type 3A steel roof deck (two span minimum without shoring) with min 2 1/2" NW concrete. Reinforce concrete with #3 @18"cc each way. Orientation as shown on plan. Provide deck welding to all beams per (B / S5.2).
9. The minimum thickness of concrete over metal deck shall be as specified on plan. Note that the concrete depth will vary due to deck and beam deflections during concrete placement, and shall be considered in the estimating of concrete volume, cost and placement strategies. See spec section 03 3000 subsections 2.1.3 and 3.1.5 for additional requirements related to concrete placement. For additional information see (1 / S5.2).
10. See Arch't dwgs for location of all slab edges at floor perimeter and ground openings. Where not shown or indicated otherwise on Structural or Arch't dwgs, beams adjacent to slab edges shall be 3 5/8" from ℄ of beam to edge of slab.
11. W18x35 (32) C=1" Indicates beam size, number of 3/4"Ø welded headed studs, and upward camber (where no camber is specified fabricate with natural mill camber up). Provide 3/4"Ø studs @ 24"cc min at all beams that receive mtl deck and concrete, typ uno.
12. No Mech't, Elec't, Plumbing or other non-structural items shall be placed in concrete over metal deck.
13. Contractor shall submit an edge of concrete over metal deck plan to Architect & Structural Engineer for review. Submittal shall be dimensioned and located relative to structural grids.
14. All beams shall be equally spaced between dimensioned columns, grids, or beams where occurs, typ uno.
15. For typical beam to beam connection, see (3 / S5.1) or (4 / S5.1) uno.
16. For typical beam to column connection, see (9 / S5.1).
17. Indicates HSS column. Size indicated @ base level of column only.
18. Contractor to coordinate exact location of framing members supporting mechanical units & similar items not dimensioned on plan.
19. All visually exposed steel shall meet 'architecturally exposed structural steel' requirements. See Arch't dwgs and specs.
20. Indicates solid grouted conc masonry wall. See foundation plan for add'l info.
21. Indicates solid grouted conc masonry wall below.

Foundation Plan Notes:

1. Site preparation and building pad construction shall be done in accordance with Soils Report #WJ3866.To KC Engineering Company dated January 15, 2016. Bottom of footing excavations shall be reviewed by Geotechnical Engineer prior to placement of reinforcing steel. Foundations shall bear on existing compacted soil or engineered fill per the requirements of the Soils Report.
2. Verify all building dimensions and elevations w/ Arch't drawings. Notify the Architect immediately if there are any conflicts w/ dimensions shown.
3. Dimensions shown are to ℄ of column, or face of block uno.
4. Slab on grade shall be thickness as indicated per plan w/ #4 @18"cc EW at mid-depth. Concrete shall be installed over 4" clean crushed rock over 15 mil vapor retarder. Verify compacted agreggate to min 95% relative compaction per Soils Report. Top of concrete slab is +0'-0" uno. Datum elevation = +266.33'
5. Contractor shall submit an edge of slab plan to Architect & Structural engineer for review. Submittal shall be dimensioned and located relative to structural grids.
6. Provide 3" min. concrete cover at structural steel and anchor bolts below grade typ.
7. Provide slab on grade control joints (SJ) as indicated per typ @ all interior slabs. Construction joints (CJ) may replace control joints as required. (1 / S1.2)
8. See sheets S1.1 thru S1.6 for General Notes & Typical Details which are applicable to all drawings uno.
9. It is the contractor's responsibility to coordinate slab control joints with any architecturally exposed slab areas or the location of tile crack control joints. Verify special condition control joints with Arch't drawings.
10. Provide thickened slab @ base of all stairs per (5 / S5.3).
11. Contractor to coordinate exact dimensions and locations of thickened slabs, housekeeping pads, etc. with all other disciplines' dwg's as well as with the equipment provided prior to commencing work.
12. See Arch't & Civil drawings for all exterior curbs, flatwork, planters, ramps, etc.
13. Continue all reinforcing in continuous footings through spread footings, typ, uno.
14. W4 Indicates reference to footing schedule, see (A / S2.1). W4 14b Indicates that additional top reinforcing as noted in schedule shall be placed @ 2" clr of top of footing.
15. Indicates concrete curb. For curbs below non-structural walls, see (12 / S1.2) & (13 / S1.2). Verify exact extent w/ Arch't dwgs.
16. Indicates sloped and/or depressed slab. Depress building pad and provide full slab and base thickness. Where depression is greater than 2" and adjacent to building foundation element it may be necessary to step footing in order to maintain minimum footing embedment per sections. Contractor to coordinate in field. See also (9 / S1.2) & (10 / S1.2). Dim per plan, see arch't for slope & depth, typ.
17. All depressions, slopes, curbs, etc. are shown for reference only. Contractor to verify exact depths, slopes, extents, etc. see other disciplines' drawings.
18. Indicates housekeeping pad at slab on grade - see (11 / S1.2). Verify location w/ Arch't & MEP.
19. Temporary loads applied during construction have not been considered in slab on grade design.
20. 1'-4" / 101 Indicates top of footing elevation with respect to reference top of concrete (+0'-0"). The bottom of all footings shall be at least 30" below adjacent minimum prepared building pad elevation (on all sides), typ uno and as shown on sections.
21. Indicates slab step per (9 / S1.2) & (10 / S1.2).
22. S — S Indicates footing step per (8 / S1.2). Step locations are diagrammatic only. Contractor to coordinate in field. Intent is that no top of ftg is within 12" of exterior finish grade.
23. +2'-0" Indicates top of concrete slab elevation relative to reference T.O. concrete +0'-0".
24. HSS6x6x1/2 Indicates HSS column & size. For base plate, see (1 / S5.1) typ uno.
25. Indicates 8" CMU wall. For reinforcing, see (3 / S1.3) and lap per general note on sheet S1.1
26. WCJ Indicates wall control joint per (4 / S1.3).
27. PI Indicates flush wall pipe as shown on plan. Refer to detail (7 / S1.3).
28. 'dim' CI Indicates CMU column as shown on plan. Refer to detail (6 / S1.3).
29. Indicates steel braced frame. See elevations for add'l info. See plan and elevation for configuration.

Roof Framing Plan Notes:

1. Verify all building dimensions and elevations w/ Arch't drawings. Notify the Architect immediately if there are any conflicts w/ dimensions shown.
2. Dimensions shown are to ℄ of column or face of block uno.
3. See sheets S1.1 thru S1.6 for General Notes & Typical Details which are applicable to all drawings uno.
4. (c) or (b) Indicates column is above only (c) or below only (b). No symbol indicates that col is above and below.
5. Indicates roof opening. Locate opening per AMEP drawings. For support, see typical details.
6. See sheets S5.1 thru S5.2 for typical steel details.
7. 1'-0" / 10'-9" Indicates elevation of top of steel framing and bottom of metal deck @ flat roofs. Where sloped roof occurs, elevation indicates top of bent closure plate @ ℄ of beam and bottom of metal deck.
8. Indicates bare metal deck per plan. Provide acoustical deck where indicated on Roof Deck Plan on (A / S2.2). Orientation as shown on plan. Provide deck welding to all beams per (B / S5.2).
9. Concrete over metal deck construction at mech't units where indicated on plan.
10. See Arch't dwgs for location of all slab edges at floor perimeter and ground openings. Where not shown or indicated otherwise on Structural or Arch't dwgs, beams adjacent to slab edges shall be 3 5/8" from ℄ of beam to edge of slab.
11. W18x35 C=1" Indicates beam size, and upward camber (where no camber is specified fabricate with natural mill camber up). Provide 3/4"Ø studs @ 24"cc min at all beams that receive mtl deck and concrete, typ uno
12. No Mech't, Elec't, Plumbing or other non-structural items shall be placed in concrete over metal deck.
13. W10 denotes W10x12 typ, uno.
    W12 denotes W12x14 typ, uno.
    W14 denotes W14x22 typ, uno.
    C10 dentoes C10x15.3 typ, uno.
    C12 denotes C12x20.7 typ, uno.
    L4 denotes L4x4x1/4 typ, uno.
14. All beams shall be equally spaced between dimensioned columns, grids, or beams where occurs, typ uno.
15. For typical beam to beam connection, see (3 / S5.1) or (4 / S5.1) uno.
16. For typical beam to column connection, see (9 / S5.1).
17. Indicates WF non-frame moment connection, see (5 / S5.1).
18. ● Indicates single row 'slip-critical' bolted connection per (10 / S5.1) or (12 / S5.1).
19. ●● Indicates double row 'slip-critical' bolted connection per (10 / S5.1) or (12 / S5.1).
20. All welds at connections indicated as (● ●● ◆) shall be made w/ filler metals in accordance w/ AISC 341 Section A3.3. For Demand Critical Weld requirements, see notes on frame detail sheet S4.3.
21. Indicates HSS column. Size indicated @ base level of column only.
22. Contractor to coordinate exact location of framing members supporting mechanical units & similar items not dimensioned on plan.
23. AHU 14 Indicates mechanical unit. All blocking beams shall be W10x12 uno and shall be located directly below unit edges and/or curbs. See mechanical unit schedule for weights and attachment of unit/curbs to structure.
24. Dashed line indicates bottom flange brace. Arrow indicates low end, see (8 / S5.1). Intent is that braces are equally spaced btwn adjacent girders or beams, uno on plan.
25. Solid line indicates bottom flange bracing. See (7 / S5.1).
26. All visually exposed steel shall meet 'architecturally exposed structural steel' requirements. See Arch't dwgs and specs.
27. Indicates solid grouted conc masonry wall. See foundation plan for add'l info.
28. Indicates solid grouted CMU partition, see (10 / S1.3) & (12 / S1.3).
29. Indicates steel braced frame. See elevations for add'l info. See plan and elevation for configuration.
30. Indicates steel brace. See sections for add'l info.

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WILLIAM B. RADER No. 3592 REGISTERED PROFESSIONAL ENGINEER STRUCTURAL

RFI#098
CCD #018 R1:
DGB-36AW is acceptable in place of DGB-36AT. Please note the Sammy Xpress are acceptable for loads less than 60 lbs.

SEAL
LICENSED ARCHITECT CHRISTOPHER C. VIGNERON NO. C26985 REN. 8-30-17 STATE OF CALIFORNIA

AGENCY REVIEW

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OFFICE OF REGULATION SERVICES

APPL # 02-114995
AC ____ F/LS ____ SS ____
DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
MEZZANINE FRAMING PLAN AND PLAN NOTES

Drawn By: GCM
Checked By: WBR
Project No.: 2015-0348.00
Date: 08/30/2016

DRAWING NO.
S2.2

NO.	DATE	ISSUE

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Sacramento . Phoenix . San Francisco . Los Angeles

REGISTERED PROFESSIONAL ENGINEER
WILLIAM B. RADER
No. 3592
STRUCTURAL

RFI#138 14ga studs

SUB#022
Metal Decking Shop Drawings Approved

SUB#031
PV Steel Supports Shop Drawings Approved

SUB#023
Steel Shop Drawings Approved

REVISED E102 SHEET 01/09/17

SUB#018 (Record Set)
Steel Ledger Shop Drawings: Record set not yet approved

RFI#075
Steel Roof Framing for Mechanical Equipment

RFI#076
Steel Shop Dwg Clarifications

RFI#098
DGB-36AW is acceptable in place of DGB-36AT. Please note the Sammy Xpress are acceptable for loads less than 60 lbs. (CCD 009)

RFI#101
Column 1020:
As noted on 4/S4.1, upper attachment of steel column is per 6/S5.5, defined by architectural opening. Height of column as required per referenced detail and reference detail 10/S1.3. Please note there is a 1" clear from the 1/2" plate and bottom of CMU (column height should be ± 9' 2 1/2"). Contractor to verify height.

RFI#120
3/4" or No.6 anchor w/ 6 3/4" embedment into face of CMU block w/ Hilti HIT-HY 70 Adhesive (6 total W12 condition, 4 total W10 condition) (CCD 021)

RFI#125: Embed 354

RFI#182
Use 14/S5.2 for typical cantilever metal deck.

RFI#183 Details F & G

RFI#152 Decking & Bracing at Parapet

RFI#157 Shell wall

RFI#047
PV Ballasted System Beam Profile & Locating Dims

RFI#168 Cantilever Beam

RFI#033
Slotted holes in ledger in this area acceptable

RFI#125
Embed #354 Repair

RFI#122
Ledger Embed #361 Conflict: move penetration 8"-12" to avoid embed

RFI#127 Embed 357

RFI #099 - Column welding

CCD(DAB) (RFI #209)

Roof Framing Plan — 1/8" = 1'-0"
For Roof Plan Notes See sheet S2.2

SEAL
LICENSED ARCHITECT CHRISTOPHER C. VUCKOVICH NO. C26985 REN. 6-30-17 STATE OF CALIFORNIA

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Drawing Title
ROOF FRAMING PLAN

NO. DATE ISSUE

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawn By: GCM
Checked By: WBR
Project No.: 2015-0348.00
©Date: 08/30/2016

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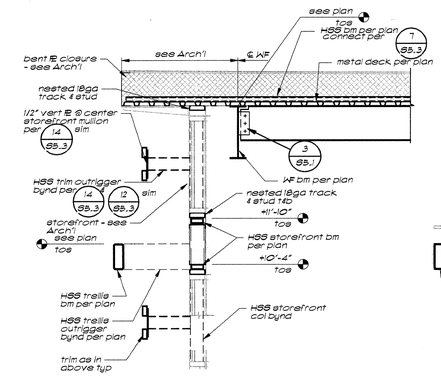
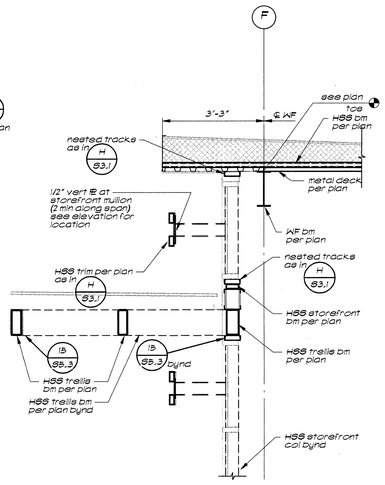
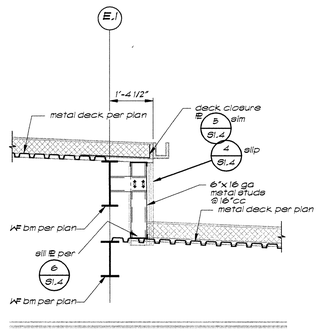


Section H S3.1 — 1/2" = 1'-0"



Section J S3.1 — 1/2" = 1'-0"



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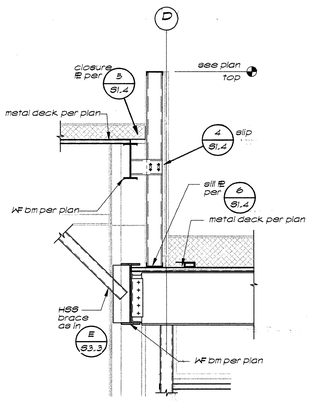

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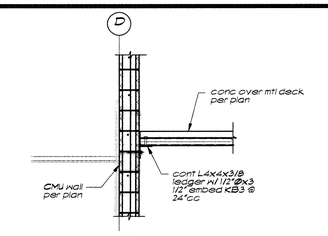

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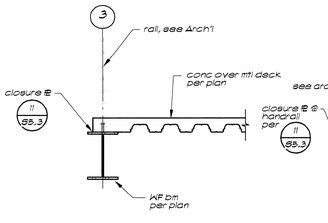

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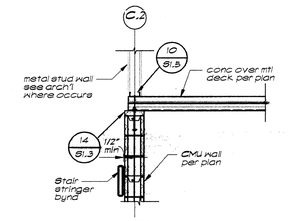

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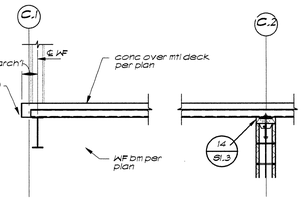

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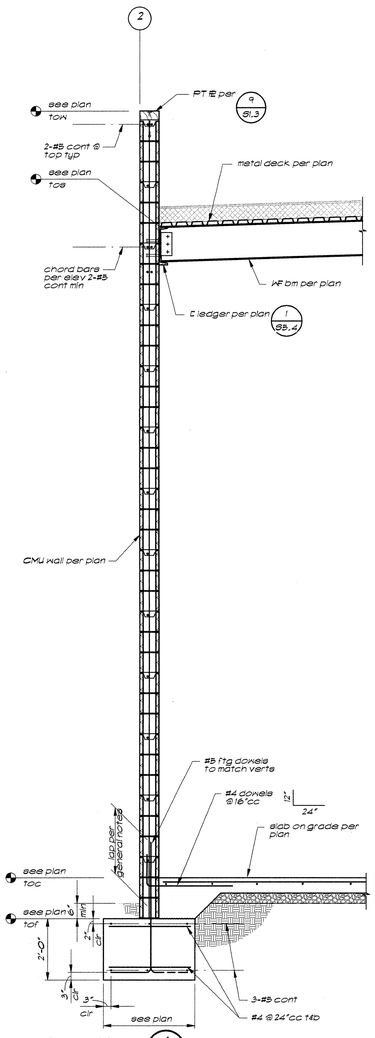

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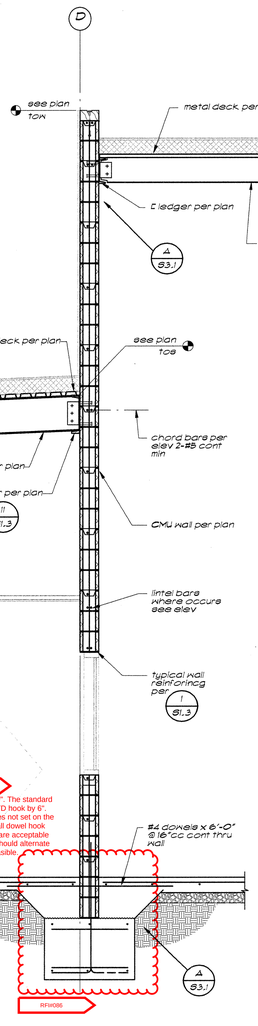
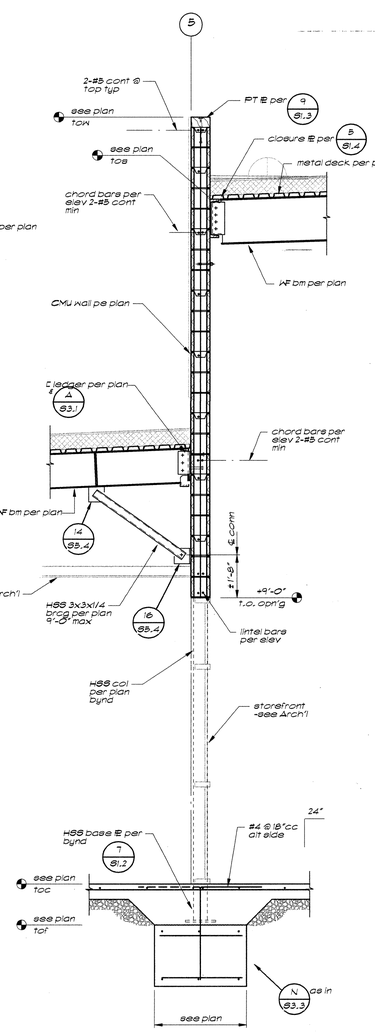
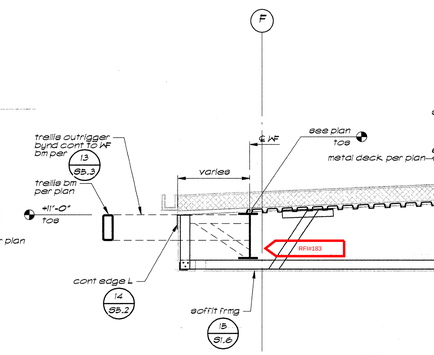


Section B S3.1 — 1/2" = 1'-0"



Section C S3.1 — 1/2" = 1'-0"



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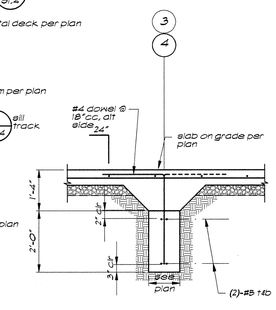
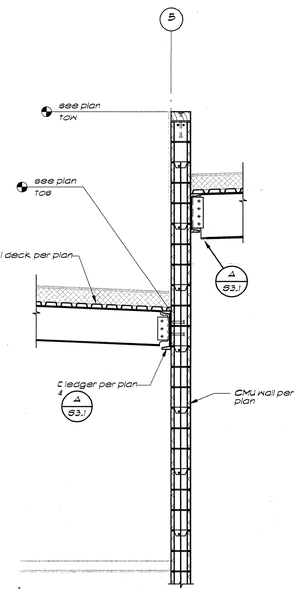
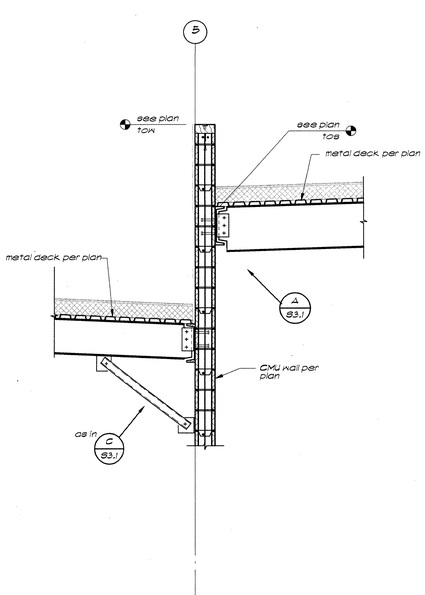


Section G S3.1 — 1/2" = 1'-0"



Section D S3.1 — 1/2" = 1'-0"



Section E S3.1 — 1/2" = 1'-0"

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AGENCY REVIEW

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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
SECTIONS

Drawn By
GCM

Checked By
WBR

NO.	DATE	ISSUE

Project No.
2015-0348.00

Date
08/30/2016

DRAWING NO.
S3.1

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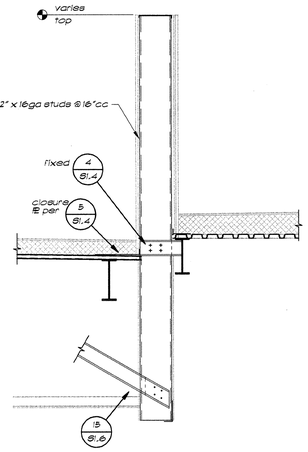

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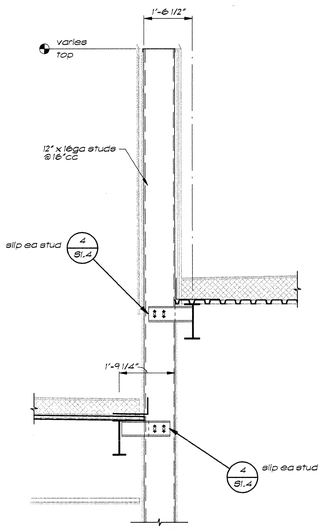

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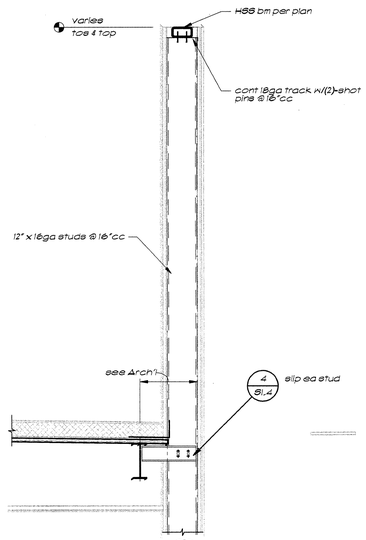

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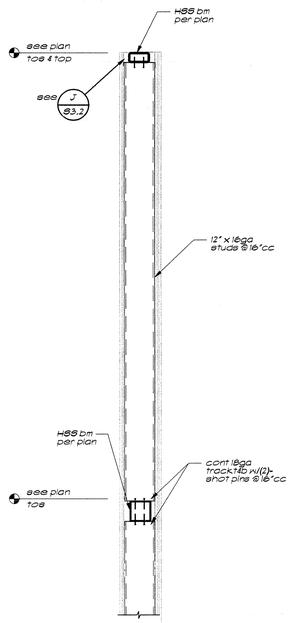

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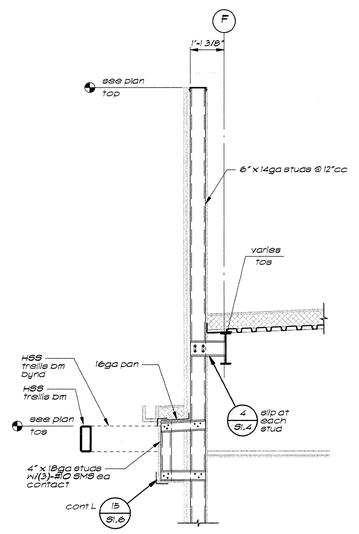

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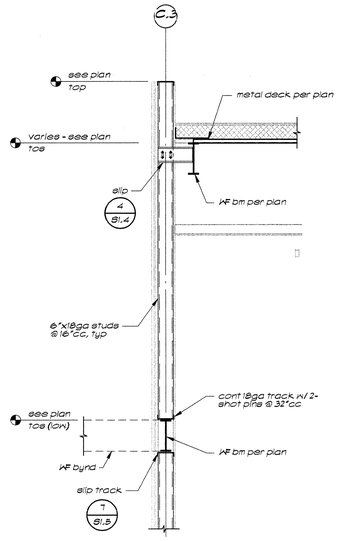

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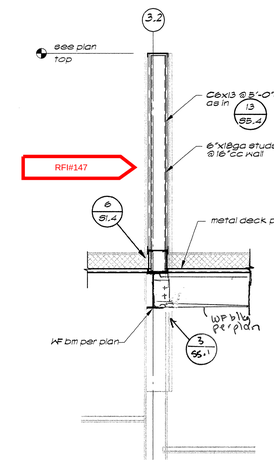

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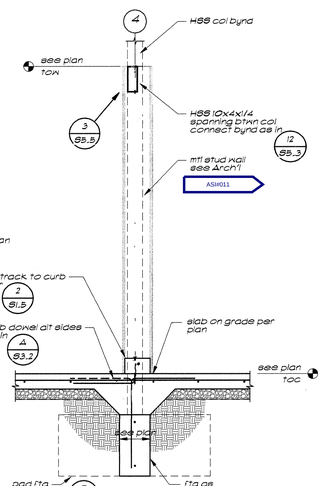

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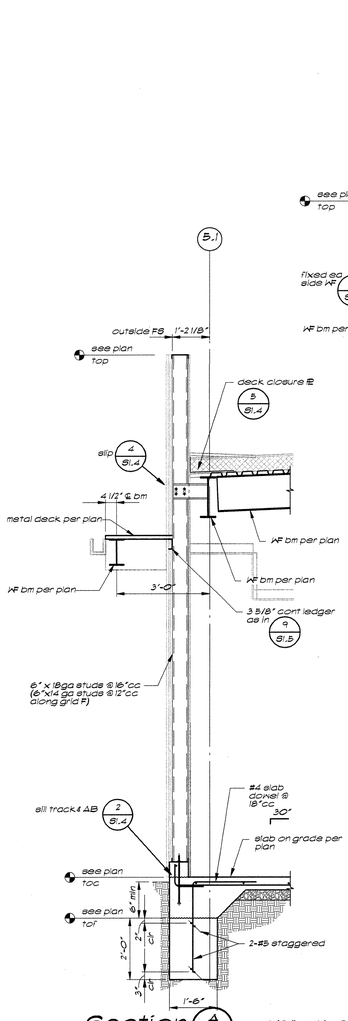

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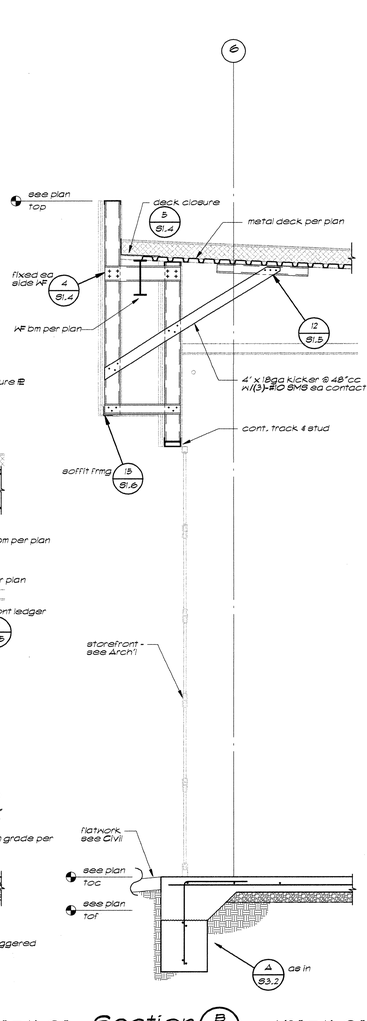

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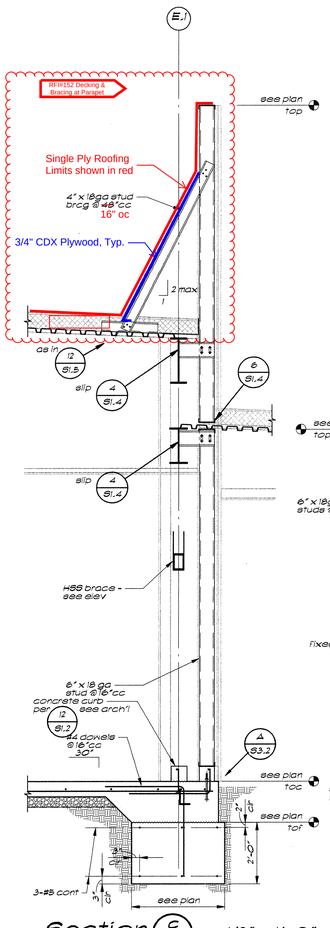

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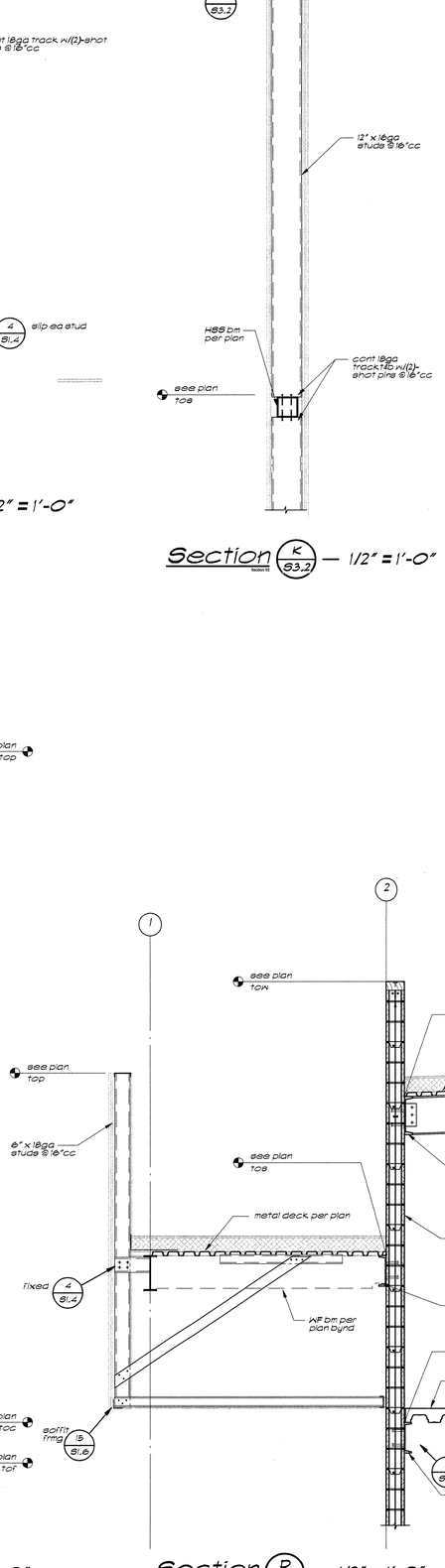

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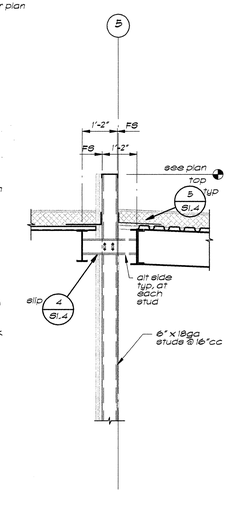
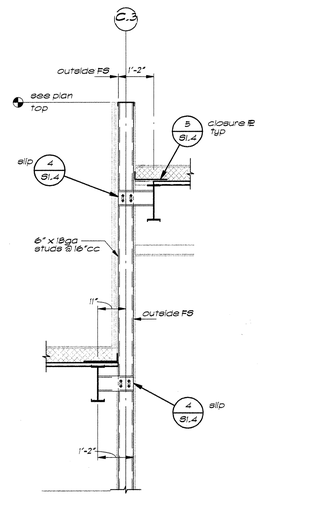


Section E S3.2 — 1/2" = 1'-0"



Section F S3.2 — 1/2" = 1'-0"

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Project
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Drawing Title
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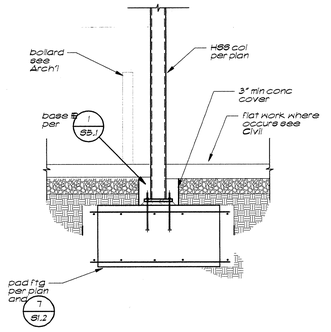

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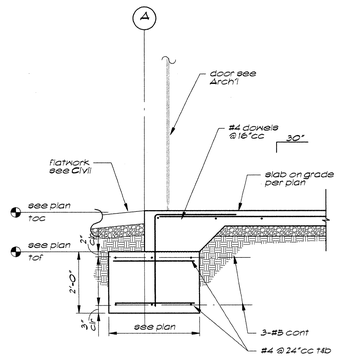

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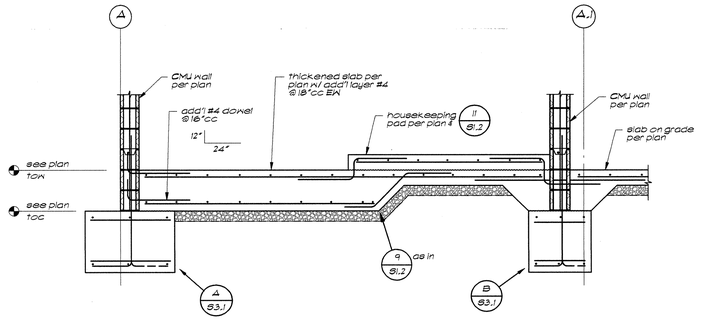

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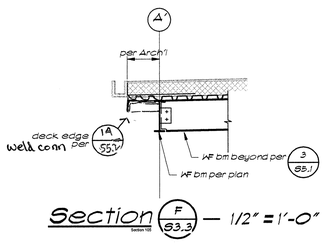

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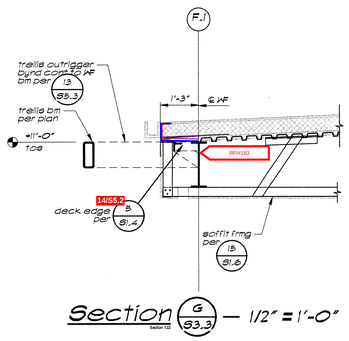

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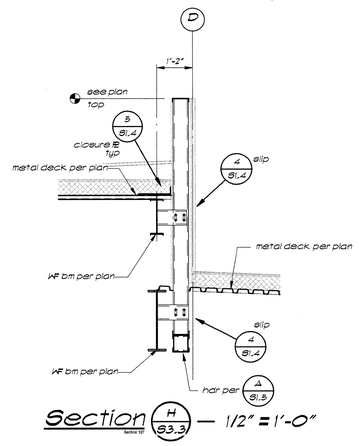

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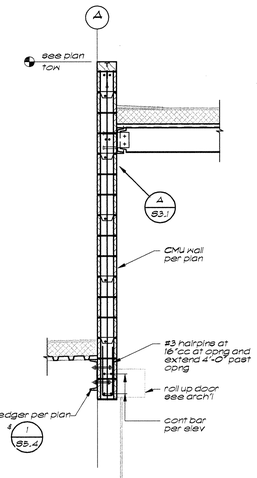

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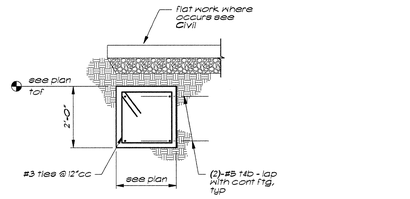

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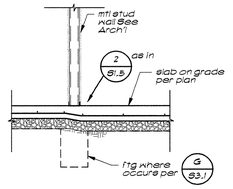

Section K S3.3 — 1/2" = 1'-0"

Section A S3.3 — 1/2" = 1'-0"

Section B S3.3 — 1/2" = 1'-0"

Section C S3.3 — 1/2" = 1'-0"

Section D S3.3 — 1/2" = 1'-0"

Section E S3.3 — 1/2" = 1'-0"

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DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
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Drawing Title
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S3.3

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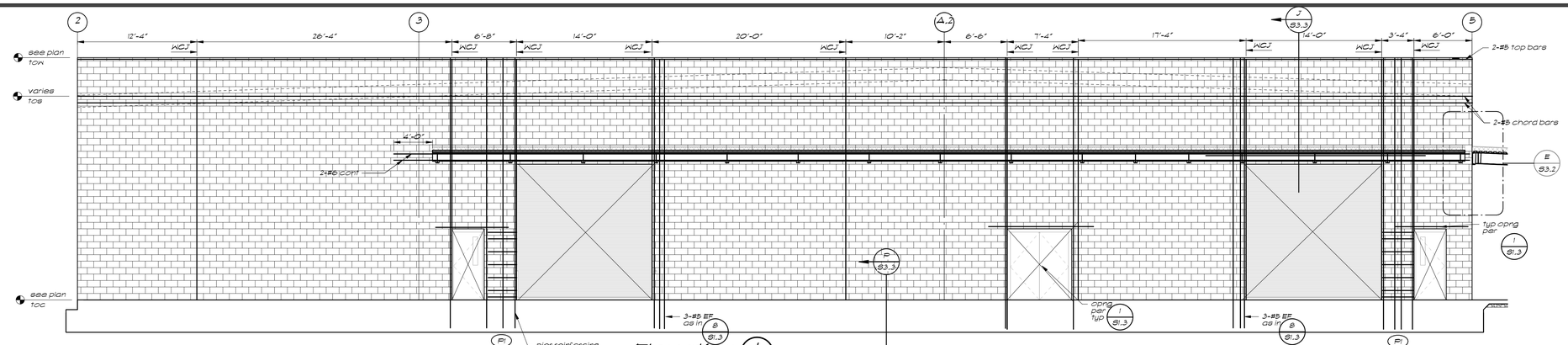
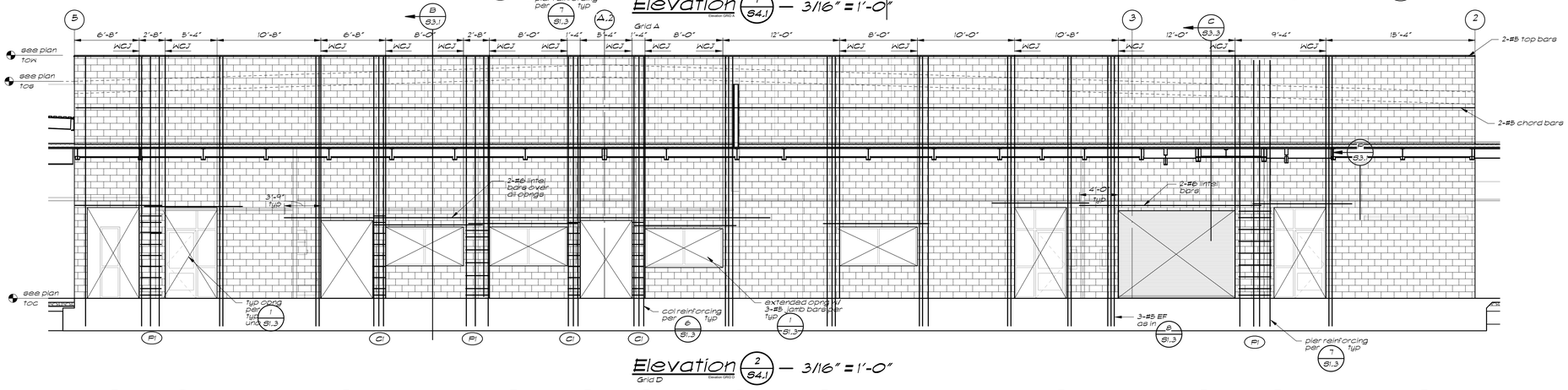


Elevation 1 S4.1 — 3/16" = 1'-0"
Elevation GRID 5 Grid A



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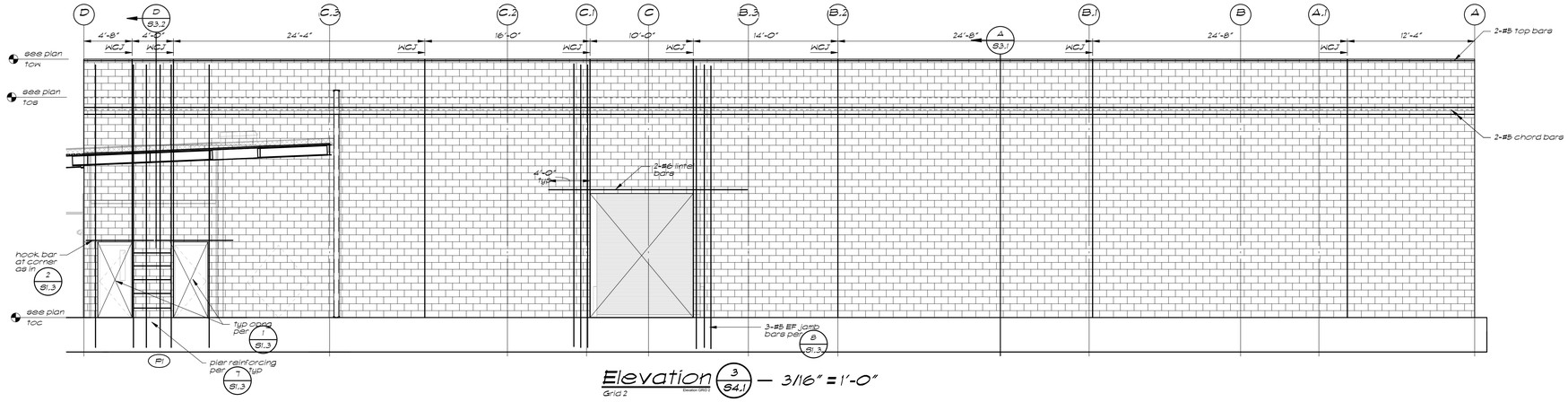

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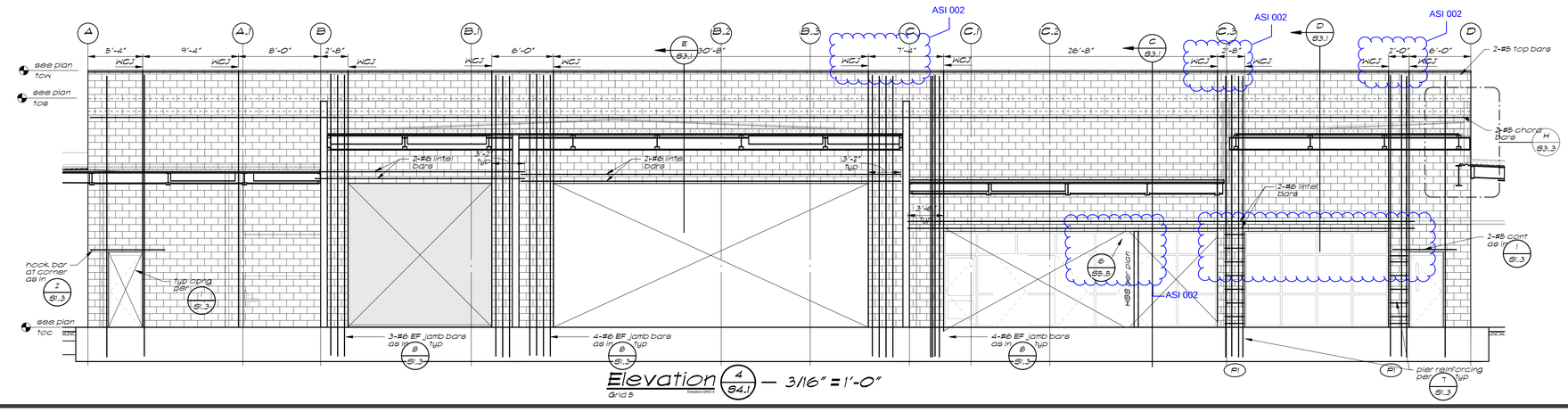

Elevation 4 S4.1 — 3/16" = 1'-0"
Grid 5 Elevation GRID 2

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CMU WALL PENETRATIONS

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APPL # 02-114995

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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

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Project No.
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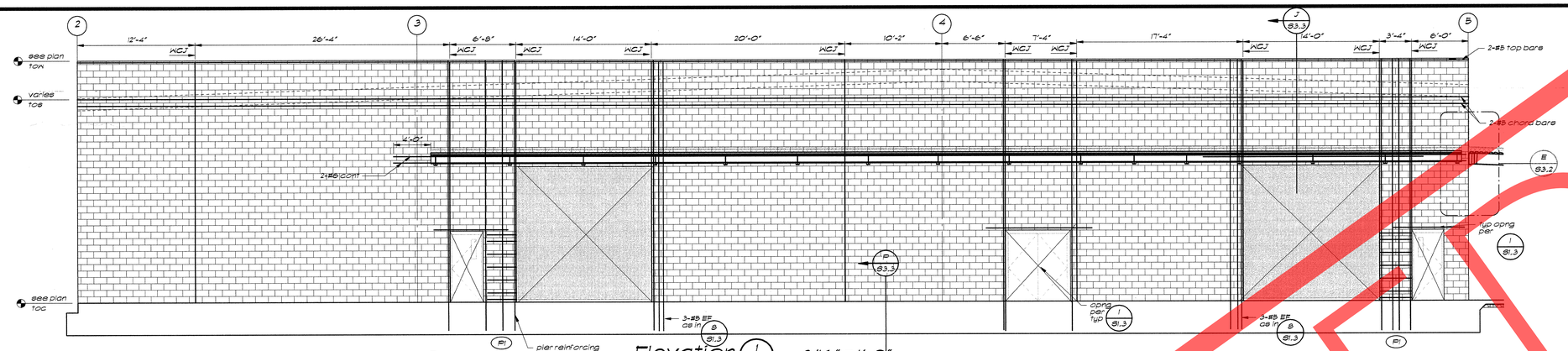
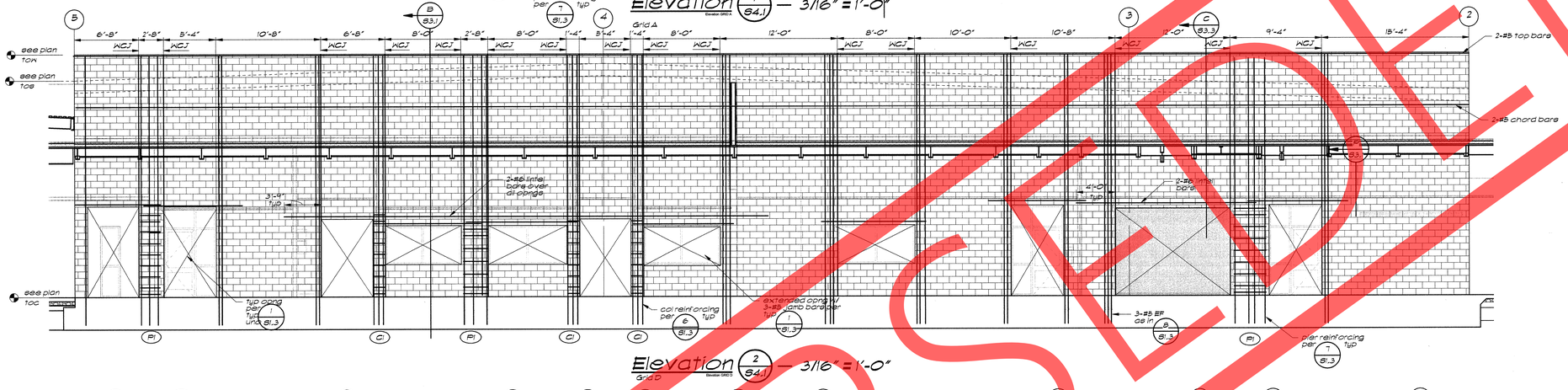
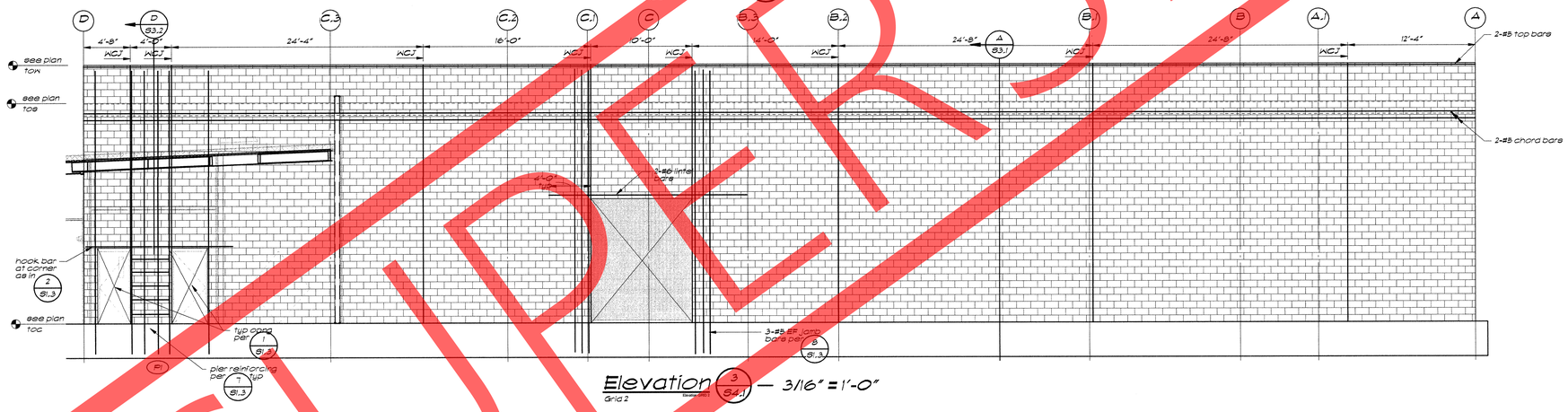


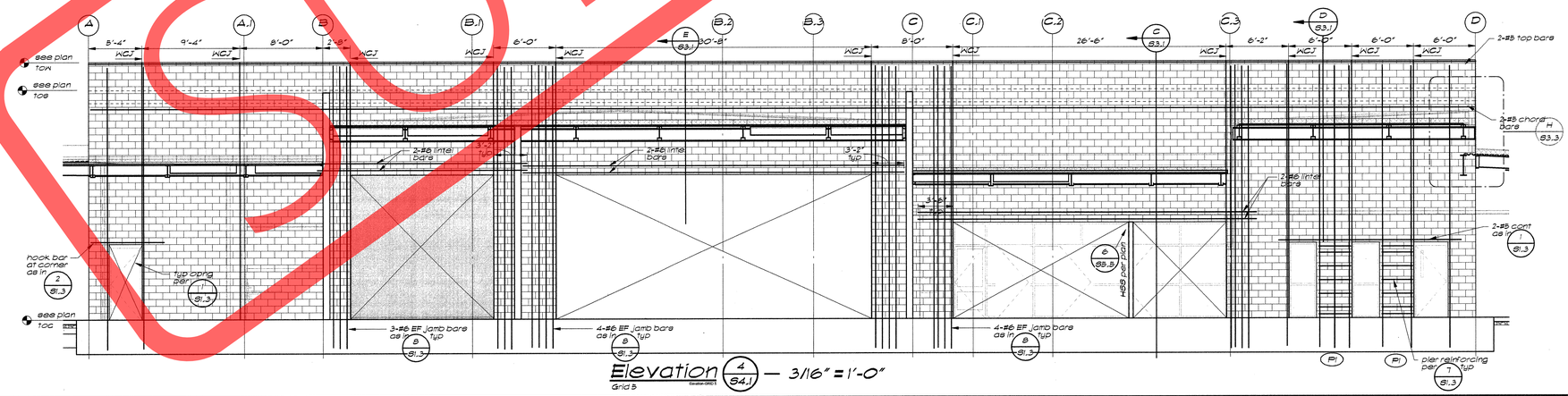
Elevation 1/S4.1 — 3/16" = 1'-0"



Elevation 2/S4.1 — 3/16" = 1'-0"
Grid D



Elevation 3/S4.1 — 3/16" = 1'-0"
Grid 2



Elevation 4/S4.1 — 3/16" = 1'-0"
Grid 5

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Project No.
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S4.1

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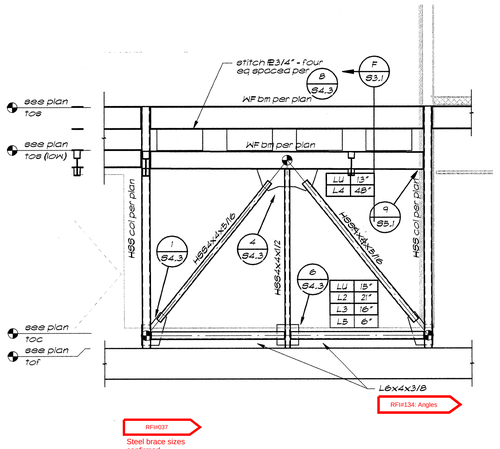

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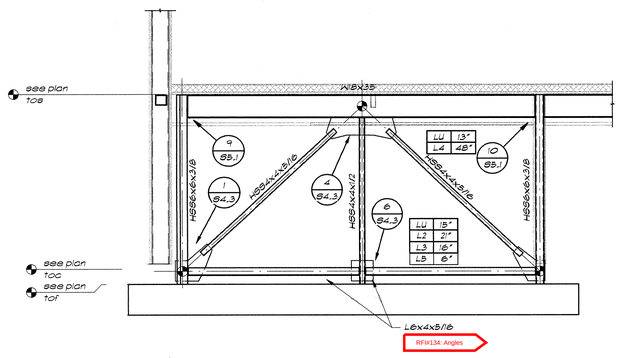
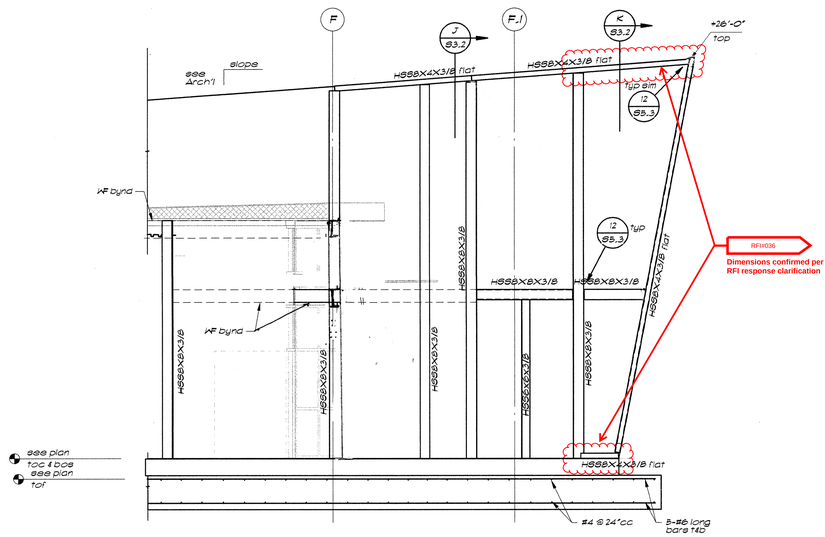
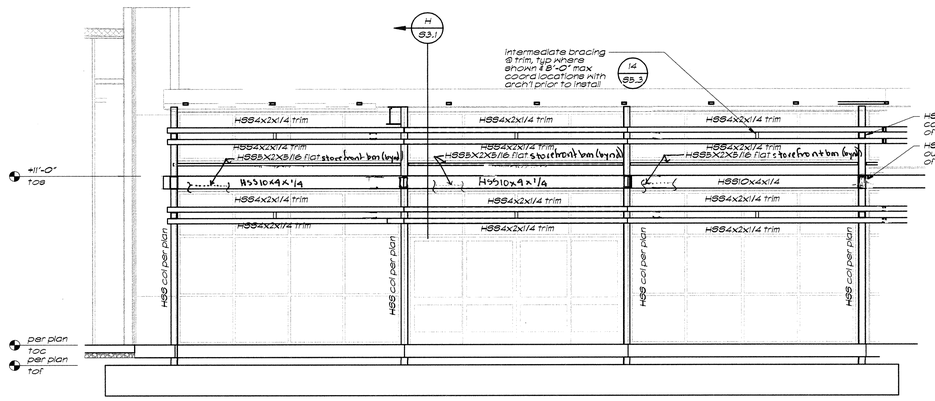
Line F1



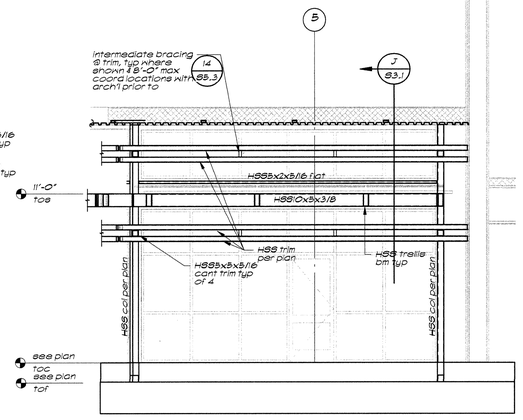
Elevation 2/S4.2 — 1/4" = 1'-0"
Line F.1



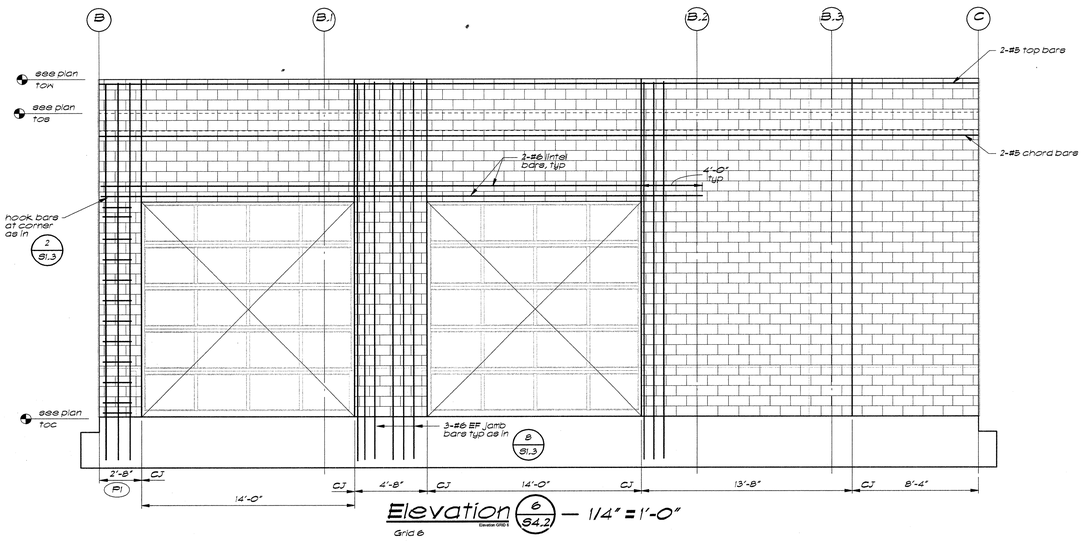
Elevation 3/S4.2 — 1/4" = 1'-0"
Line F



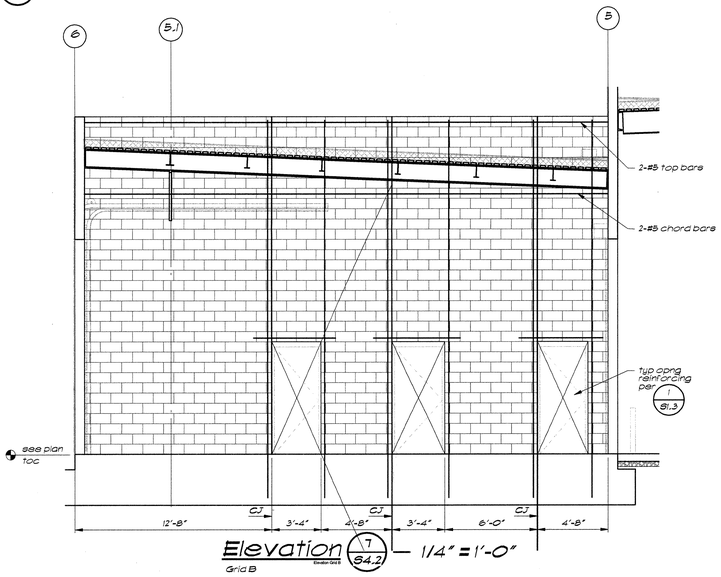
Elevation 4/S4.2 — 1/4" = 1'-0"
Line F2



Elevation 5/S4.2 — 1/4" = 1'-0"
Line F



Elevation 6/S4.2 — 1/4" = 1'-0"
Grid 6



Elevation 7/S4.2 — 1/4" = 1'-0"
Grid B

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
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CMU WALL PENETRATIONS

SEAL
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CHRISTOPHER C. VILLAGRAN
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REN. 6-30-17
STATE OF CALIFORNIA

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APPL# 02-114995
AC ____ FILS ____ SS
DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ELEVATIONS

Drawn By: GCM
Checked By: WBR
Project No.: 2015-0348.00
©Date: 08/30/2016

DRAWING NO.
S4.2

NO. DATE ISSUE

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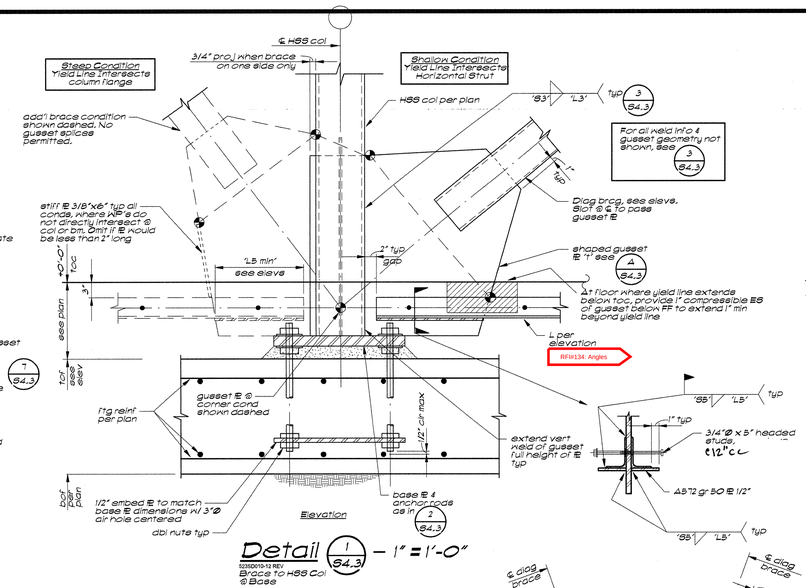
523SD009-12

Brace Connection Welding Schedule (A 84.3)

Brace Size	Brace to Gusset Welds		Gusset Plate At Beam to Column and Base ℄ Connections			Gusset Plate At Beam Midspan Connections		Horizontal Strut
	S1	L1	E "1"	G2	G3	E "1"	G4	G5
HSS 4x4x5/16	5/16	15"	3/4"	3/8"	3/8"	3/4"	7/16"	5/16"

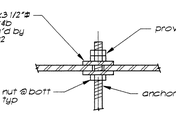
Notes:
1. Gusset E's to be ASTM A572 Gr 50
2. Plate lengths may be adjusted ± 1/2" to facilitate fabrication. Length of welds L1, L2, L3 and L4 have been increased by 1" to accommodate start-stop tolerance in application of the weld. Detailer need not add additional weld length to the dimension provided unless the gusset plate geometry dictates so.
3. Where diag brcg ℄ horiz strut attach to a common conn E, the diag brcg size shall determine the conn E "1".
4. For typical diagonal brace slot detail see (5 84.3).
5. All welds shown on this sheet shall be 'Demand Critical Welds' (DCW) as defined in AISC 341-10 section A3.4b and ANSI D1.8/D1.8M, made with filler material that can produce welds with minimum Charpy V-Notch toughness of 20 ft-lbs at minus 20°F and 40 ft-lbs @ 70°F.
6. Contractor shall clearly delineate, with durable methods, the yield line on all braced frame gusset plates to facilitate proper installation and inspection. For additional information, see (3 84.3) (7 84.3)
7. Do not make attachments to diagonal bracing or gusset plates within protected zones - see
8. Fabricator shall submit shop drawings for each joint that is drawn, to the same horizontal and vertical scales so that proper joint detailing may be verified.
9. The Fabricator shall submit one representative sample connection detail for each joint configuration type for review to verify the parameters given have been properly interpreted PRIOR TO detailing all of the building braced frame joints. The Fabricator is to detail the remaining joints only after this submittal has been reviewed, approved, and returned to the General Contractor.
10. L2 - ; L3 - ; L4 - ; L5 - — L2, L3, L44 L5 (where occurs) indicate weld lengths in inches as noted on frame elevations. Lu indicates maximum unbraced length of gusset plate. See (3 84.3) and other details this sheet for additional information

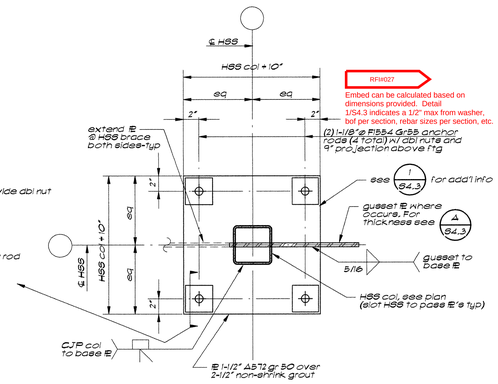


Detail (1 84.3) — 1" = 1'-0"

523SD015-12 REV.
Brace to HSS Col ℄ Base

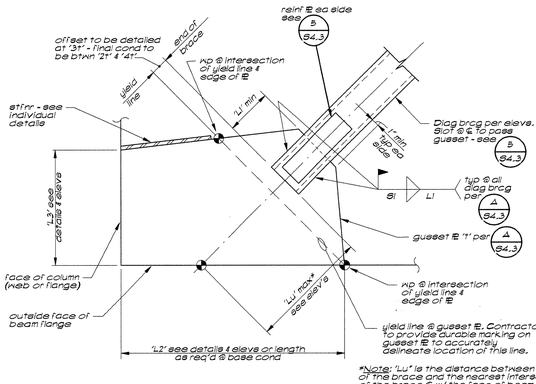
Note: holes in base E shall be as follows:
1. 5/16" larger than bolt ø or
2. E hole ø may be 13/16" larger than anchor rod ø however E washers must be used (as shown below).





Detail (2 84.3) — 1 1/2" = 1'-0"

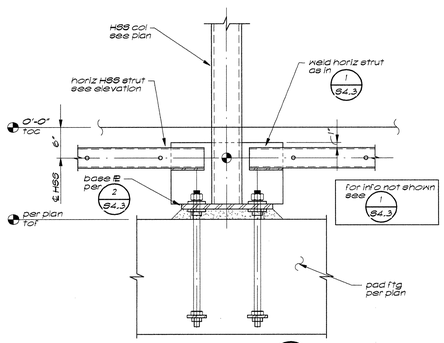
523SD013-8



*Note: "Lu" is the distance between the end of the brace and the nearest intersection of the brace ℄ w/ the face of beam or column at the bm-col joint (condition at beam intersection shown here)

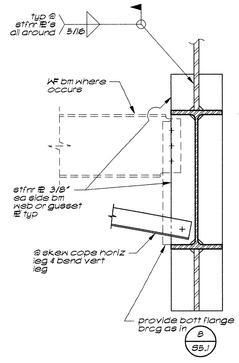
Brace Frame Gusset E Geometry Detail (3 84.3)

523SD007-8

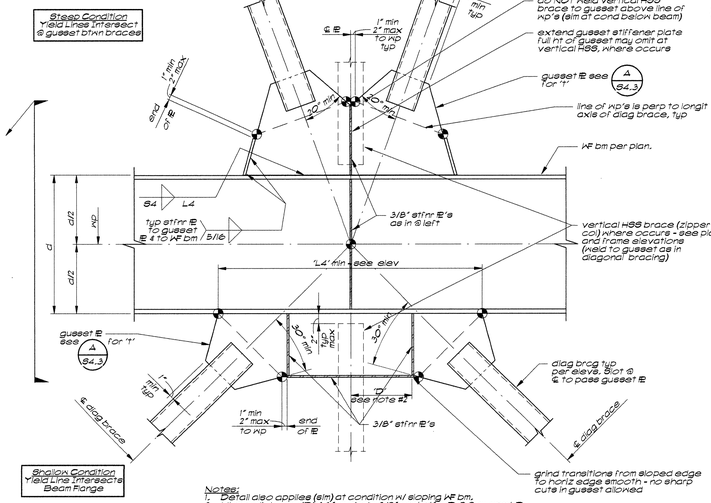


Detail (6 84.3)

523SD005-12
Zipper Column



Section

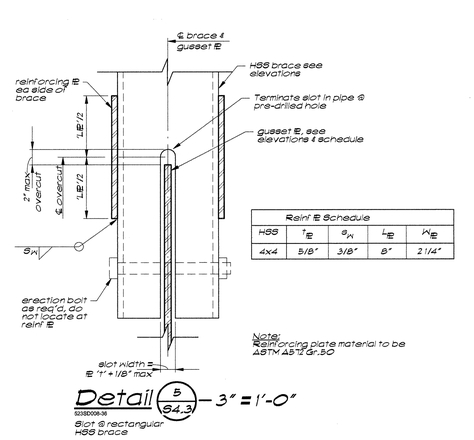


Shallow Condition Yield Line Intersects Beam Flange

Notes:
1. Detail also applies (elim) at condition w/ sloping WF bm.
2. Where distance 'D' < 6', a single 3/8" vert stiff E @ ℄ gusset E length may be used in lieu of the two shown.
3. For all weld info and gusset geometry not shown, see (3 84.3)

Detail (4 84.3) — 1" = 1'-0"

523SD006-12
Beam midspan

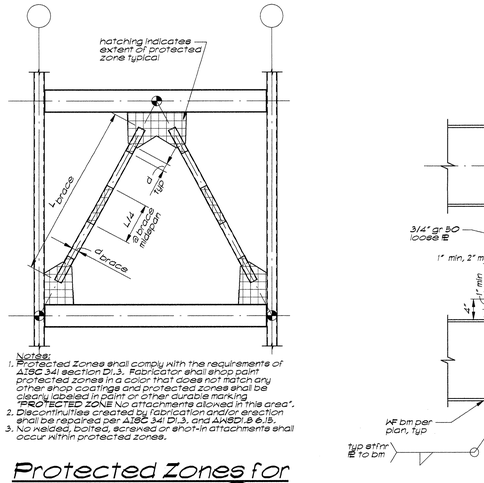


Reinf E Schedule				
HSS	t_E	g_{PL}	L_E	W_E
4x4	5/8"	3/8"	8"	2 1/4"

Note: Reinforcing plate material to be ASTM A572 Gr.50

Detail (5 84.3) — 3" = 1'-0"

523SD008-36
Slot @ rectangular HSS brace



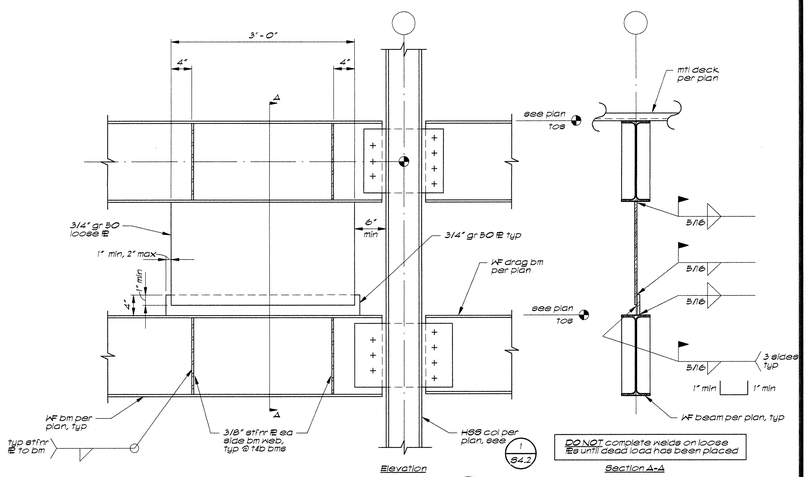
Notes:
1. Protected Zones shall comply with the requirements of AISC 341 section D1.3. Fabricator shall shop paint protected zones in a color that does not match any other shop coatings and protected zones shall be clearly labeled in paint or other durable marking "PROTECTED ZONE" No attachments allowed in this area'.
2. Discontinuities created by fabrication and/or erection shall be repaired per AISC 341 D1.3, and AWS D1.8 6.18.
3. No welded, bolted, screwed or shot-in attachments shall occur within protected zones.

Protected Zones for Braced Frames (7 84.3)

523SD015-48

RFI#179 Protected Zone labels location

Brace frame in conference room needs to be painted according to 7/S4.3. Locate "Protected Zone" labels on bottom side of brace frame.



Elevation

Section A-A

Detail (8 84.3)

513SD020-12

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LICENSED ARCHITECT GREGORY M. VIGNERA NO. C26985 REN. 8-30-17 STATE OF CALIFORNIA

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OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
BRACED FRAME DETAILS

NO.	DATE	ISSUE

Drawn By: GCM
Checked By: WBR
Project No.: 2015-0348.00
©Date: 08/30/2016

DRAWING NO.
S4.3

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Connection Schedule (A/55.1)

513SD001-1

Beam Size	No. & Dia. A325-N Bolts	Shr ℄ 't'	W	Max. load capacity
C8 & C10	2 - 7/8"ø	1/4"	3/16"	26.1 K
W8 & W10	2 - 7/8"ø	1/4"	3/16"	26.1 K
W12 & W14	3 - 7/8"ø	1/4"	3/16"	39.2 K
W16	4 - 7/8"ø	3/8"	1/4"	78.3 K
W18	5 - 7/8"ø	3/8"	1/4"	97.9 K

1. This schedule applies to non-frame connections, typical.
2. LRFD load capacity per AISC Manual 14th ed., table 10-10a.

Base Plate Schedule (B/55.1)

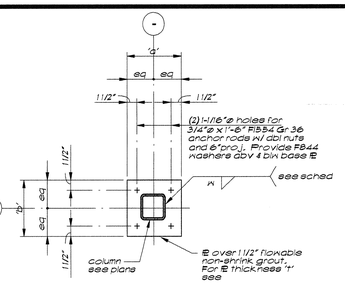
513SD001-1

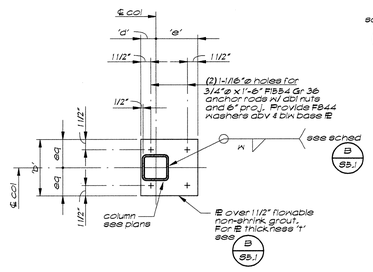
Column Size	Base Plate Size 't'	'a'	'b'	'c'	'd'	'e'
3x3	5/8"	9"	9"	3 1/2"	2"	7"
4x4	5/8"	10"	10"	5"	2 1/2"	7 1/2"
5x5	1"	11"	11"	5 1/2"	3"	8"
6x6	1"	12"	12"	6"	3 1/2"	8 1/2"
7x7	1 1/4"	13"	13"	6"	4"	9"
8x8	1 1/4"	14"	14"	9"	4 1/2"	9 1/2"
10x10	1 1/2"	16"	16"	11"	5 1/2"	10 1/2"
12x12	1 1/2"	18"	18"	13"	6 1/2"	11 1/2"

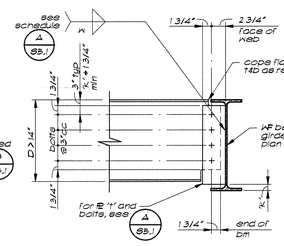
Notes:
1. Weld 'N' shall be 1/4" at base plates 3/4" and less, 5/16" at base plates greater than 3/4".

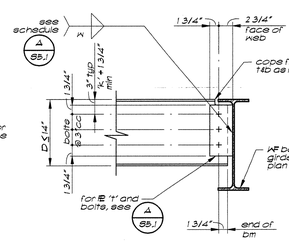
RFI#029

Dimension "c" not used in project conditions

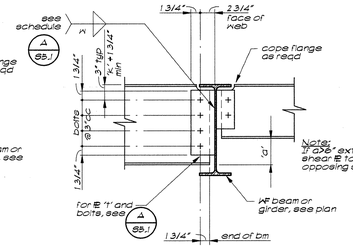








Note: Contractor may use horizontal short slotted holes for these connections only. The short slotted holes shall be in the shear ℇ with hardened washers provided over the slots. Type 'N' bearing connections shall be used.

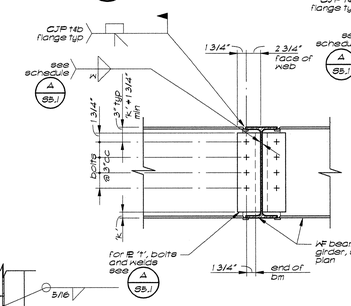


Notes: 'd' DIM extend shear ℇ to match opposing shear ℇ

Note: Contractor may use horizontal short slotted holes for these connections only. The short slotted holes shall be in the shear ℇ with hardened washers provided over the slots. Type 'N' bearing connections shall be used unc on the drawings.

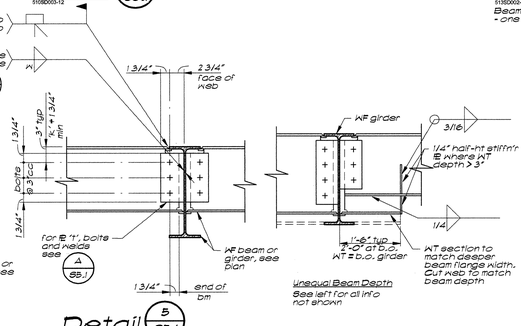
Detail 1/55.1

513SD002-12



Detail 2/55.1

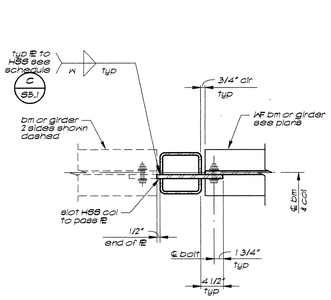
513SD003-12



Detail 3/55.1

513SD003-12

Beam to Beam - one side

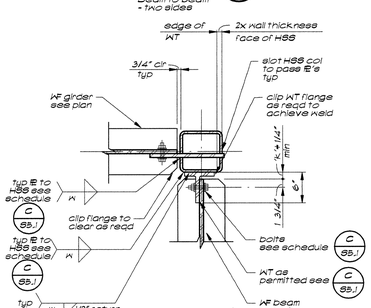


Beam One or Two Sides

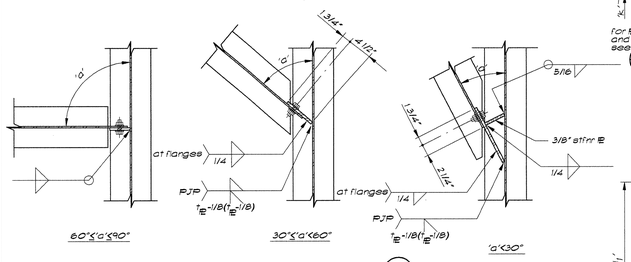
Detail 4/55.1

513SD003-12

Beam to beam - two sides



Beam Two Sides

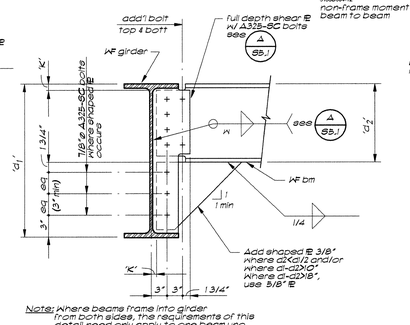


Notes:
1. For shear ℇ, fillet welds, and bolts, see A/55.1
2. For dimensions and spacing not shown, see 3/55.1
3. Fillet welding at bm webs shall conform to AWS D1.1 3.9.3 Increase weld size as required by root opening and shear plate end prep to maintain effective throat.

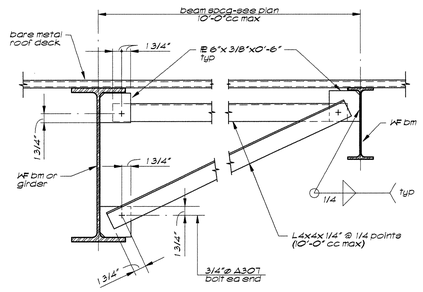
Detail 6/55.1

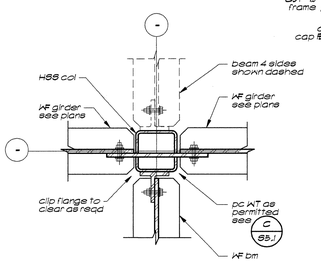
513SD005-12

Beam to Beam - One side Skewed

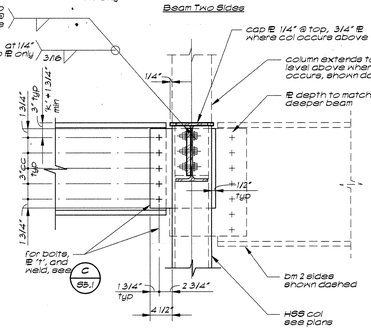


Note: Where beams frame into girder from both sides, the requirements of this detail need only apply to one beam unc





Beam Three or Four Sides



Elevation

Detail 7/55.1

513SD010-12

WF size	ℇ length 'L'	Wl	# of bolts
W14	6	1/2	3
W18	8	1/2	5

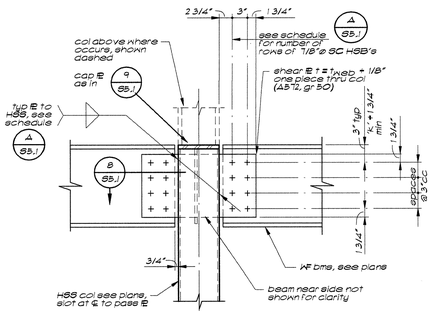
Detail 8/55.1

513SD011-12

Detail 9/55.1

513SD018-12

*CJP weld @ frame col splice is a Demand Critical weld to be performed in accordance w/ AISC 341 section 7.3b and appendix W8

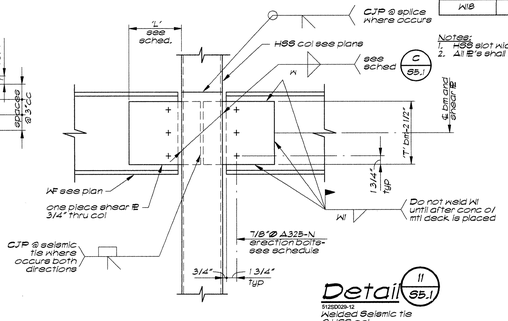


Note: Similar condition at I-iron SC seismic connection where indicated on plan by Mk. ●

Detail 10/55.1

513SD008-12

Seismic tie WF beam to HSS column

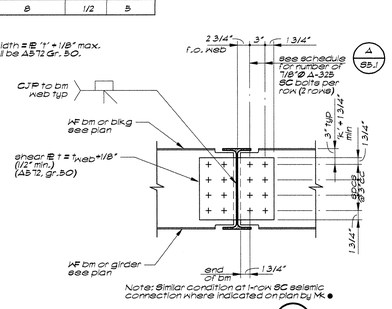


Notes:
1. HSS slot width = ℇ 't' + 1/8" max.
2. All ℇ's shall be A572 Gr. 50.

Detail 11/55.1

512SD009-12

Welded Seismic tie @ HSS col

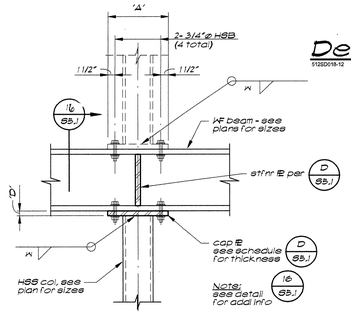


Note: Similar condition at I-iron SC seismic connection where indicated on plan by Mk. ●

Detail 12/55.1

513SD013-12

Seismic tie @ WF bm or girder



Detail 13/55.1

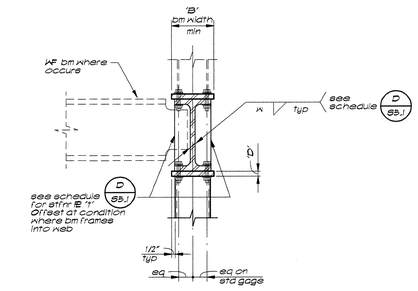
512SD023-12

C/55.1 Connection Schedule

512SD016-1

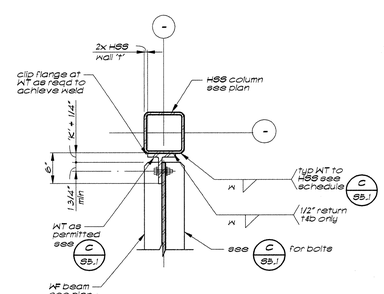
Beam Size	No. & Dia. A325-N Bolts	Shr ℇ 't'	W	WT size where occurs
C8 & C10	2- 7/8"ø	1/4"	1/4"	WT6x13
W8 & W10	2- 7/8"ø	1/4"	1/4"	WT6x13
C12, W12 & W14	3- 7/8"ø	3/8"	1/4"	WT6x25
W16	4- 7/8"ø	3/8"	5/16"	WT6x25
W18	5- 7/8"ø	3/8"	5/16"	WT6x25
W21	5- 7/8"ø	3/8"	5/16"	WT6x25
W24	6- 7/8"ø	1/2"	3/8"	
W27	7- 7/8"ø	1/2"	3/8"	

1. Shear ℇ 't' is minimum. Use greater thickness as required by details.
2. WT sizes where shown are for use as floor beam connections as in 15/55.1. Not for use with beams 24" or deeper.



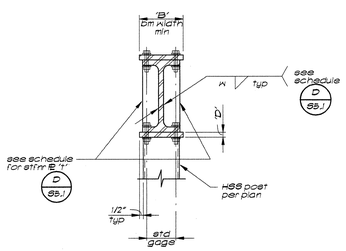
Detail 14/55.1

512SD025-12



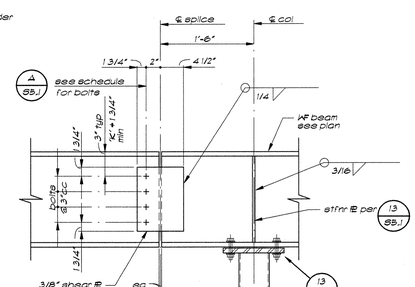
Detail 15/55.1

512SD017-12



Detail 16/55.1

512SD015-12



Detail 17/55.1

513SD005-12

Beam to beam splice

D/55.1 Connection Schedule

512SD021-1

HSS Column Size	Stiffnr ℇ 't' (1)	W	Base ℇ 'A'	'B' (2)	'C'	'D'
3"x3"	1/4"	3/16"	11"	4"	7 1/2"	1/2"
4"x4"	1/4"	1/4"	12"	5"	8 1/2"	5/8"
5"x5"	3/8"	1/4"	13"	6"	9 1/2"	3/4"
6"x6"	3/8"	1/4"	14"	7"	10 1/2"	3/4"
8"x8"	3/4"	5/16"	15"	9"	12 1/2"	7/8"

Notes:
1. Use ℇ 't' for largest HSS column at connection
2. 'B' indicates the minimum width. Use the greater width of the beam flange or the minimum indicated.
3. Where beam frames into column at web stiffener ℇ, see 14/55.1 or 9/55.1 for additional requirements.
4. Weld 'w' shall be 1/4" at base plates 3/4" thick and less, 5/16" at base plates greater than 3/4" thick.

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STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC ____ F/LS ____ SS ____
DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
DETAILS

Drawn By: GCM
Checked By: WBR

NO.	DATE	ISSUE

Project No.: 2015-0348.00
Date: 08/30/2016

DRAWING NO.
S5.1

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S305D001-1

A / S5.2 Deck Welding Schedule

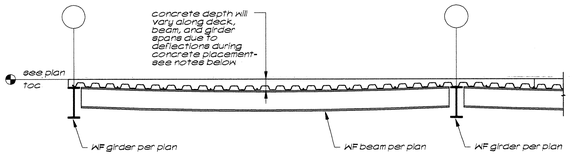
Deck Type	Depth & Gauge	Perpendicular Supports	Parallel Supports	Side Laps	Diaphragm Shear Capacity (per ICC report)
3W-36 Floor Deck	3"x 20 ga	4 PW per sheet	PW @ 12" cc	BP @ 36" cc	417 0#/, (9'-0" max span)
B-36 Roof Deck	1 1/2"x 18 ga	7 PW per sheet	PW @ 12" cc	TBW @ 12" cc	1138 #/, (8'-0" max span)
B-36AT Acustadek	1 1/2"x 18 ga	7 PW per sheet	PW @ 12" cc	TBW @ 12" cc	968 #/, (8'-0" max span)

1. PW= 1/2" effective diameter puddle weld ; TBW= 1 1/2" min top seam weld ; BP= button punch
2. Metal deck shall be ASC (ICC ESR-1414) of type and gauge shown, or approved equal. Max diaphragm shear
3. At composite floor decks, 3/4"Ø shear studs may substitute for 3/4" puddle welds.
4. See B / S5.2 for typical weld patterns.
5. See 1C / S5.2 , 13 / S5.2 & 8 / S5.2 for metal deck welding at struct steel supports.
6. All metal deck shall have two spans minimum, uno.
7. Provide shoring as required at all decks per mfr recommendations.
8. Provide acoustical decking where noted on plans. Install insulation in low flutes per Arch't and/or mfr's instructions
9. 80% of ICC ESR value used in design per DSA IR A-5

S305D002-1

B / S5.2 Metal Deck Weld Patterns

Deck Type	Profile	No. 3/4"Ø PW per sheet
Type 3W-36	36"	4
Type B36	36"	7

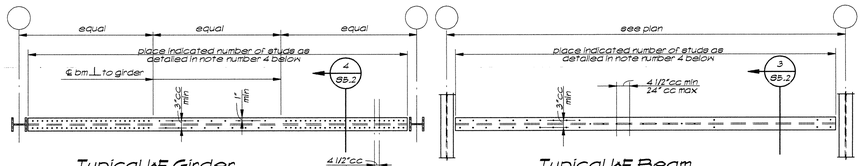


1. Provide a work plan detailing the means and methods to be used for placement of concrete, including screeding procedures and locations of any construction joints, which will achieve the performance criteria noted below. A pre-construction meeting shall be scheduled by the General Contractor, to include the concrete sub-contractor, Architect, Structural Engineer, and Owner's Representative to discuss the work plan and performance objectives.
2. The final top of concrete elevation shall not deviate by more than 3/8" above or below the top of concrete elevation noted on plan.
3. Floor flatness for concrete over metal deck shall conform to ACI117. Unless stricter requirements are specified by the Architect, floor flatness for the complete overall floor area shall meet the following minimum values:

   Specified Overall Value for Flatness (SOFF): 25
   Minimum Local Value for Flatness (MLFF): 17

   Areas of non-compliance shall be reviewed by the Owner and Architect and may require additional floor leveling or grinding. The cost of any remedial action shall be borne by the Contractor.
4. In no case shall the depth of concrete over metal deck be less than that specified on plan. Note that the concrete depth will vary due to deck and beam deflections during concrete placement, and shall be considered in the estimating of concrete volume, cost and placement strategies.

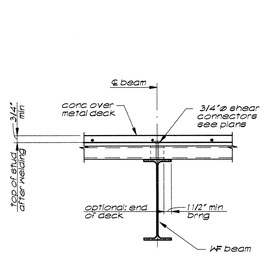
Detail 1 / S5.2
S315D019-48
Concrete Placement Over Metal Deck at Floors



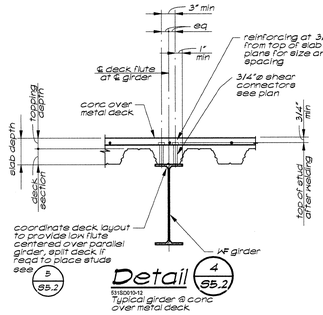
Notes:

1. Shear connectors for composite beams shall be automatic welded high strength 3/4"ø Nelson headed anchors or approved equivalent.
2. All welding of shear connectors shall conform to the latest edition of "Recommended Practices for Stud Welding" and "Structural Welding Code" published by the American Welding Society.
3. Shear connectors shall project a minimum of 1 3/4" above the top of the metal deck, and shall be held a minimum of 3/4" clear from top of the concrete slab.
4. Shear connectors shall be uniformly spaced. Use no more than one stud per rib where the number of shear connectors required is less than or equal to the number of ribs available. Where the number of shear connectors exceeds the number of ribs available, place one shear connector per rib full length of beam. Place balance of shear connectors in each rib beginning at the supports at each end and moving toward mid span until the required number of shear connectors are supplied.
5. Where not indicated otherwise, provide 3/4"ø shear connectors at 24"cc maximum spacing at all beams receiving metal deck and concrete .
6. Contractor shall submit shop drawings for review prior to installation.

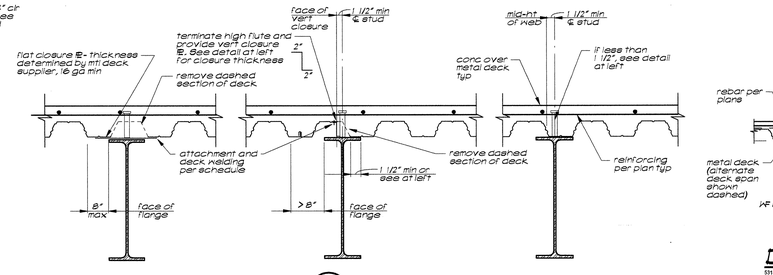
Detail 2 / S5.2
S315D006-12



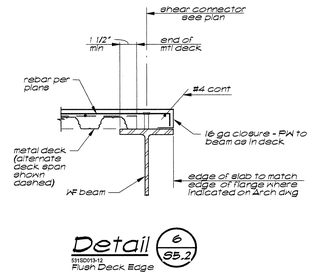
Detail 3 / S5.2
S315D009-12
Typical beam @ concrete over metal deck



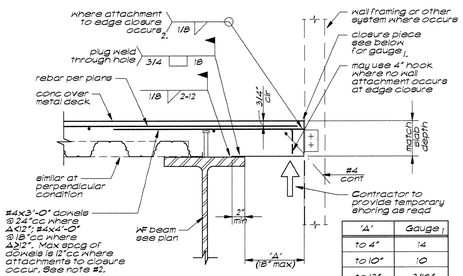
Detail 4 / S5.2
S315D010-12
Typical girder @ conc over metal deck



Detail 5 / S5.2
S315D011-12
Metal deck w/ concrete parallel to beam



Detail 6 / S5.2
S315D013-12
Flush Deck Edge

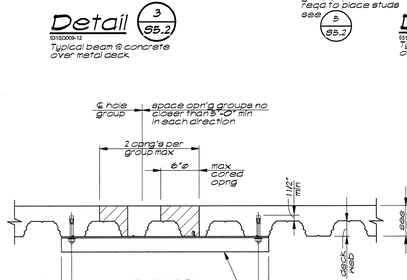


'A'	Gauge
to 4"	14
to 10"	10
to 13"	3/16"
to 18"	1/4"

Notes:

1. Use 3/16" min closure where metal stud wall, curtainwal, or other system or component attachments occur.
2. Welded deformed bar anchors (DBA) may be provided in lieu of welded reinforcing dowels. At 1/4" closure, match size & spcg of dowels. At 3/16" closure, provide #3 DBAs and reduce spcg by 50%.
3. Notch closure around shear studs where clearance is not sufficient for stud installation
4. Where 'A' exceeds 18", see detail 14 / S5.2

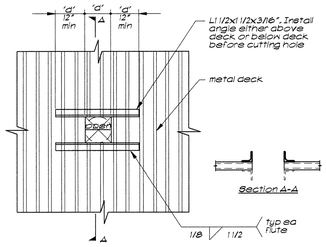
Detail 7 / S5.2
S315D014-12
Deck at cantilevered slab edge



Notes:

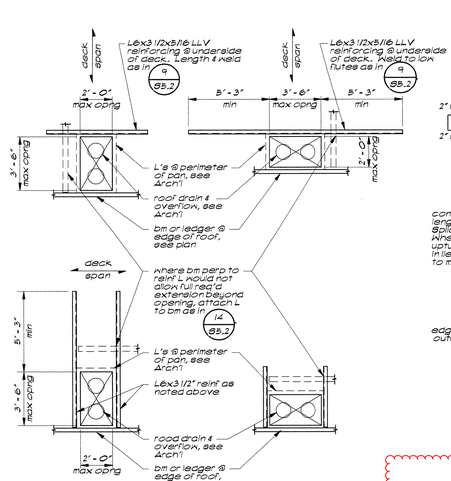
1. Holes less than 6"ø and cutting no more than one deck web require no reinforcing.
2. If more than two deck webs are cut in adjacent openings, supplemental steel framing will be required - notify Structural Engineer.

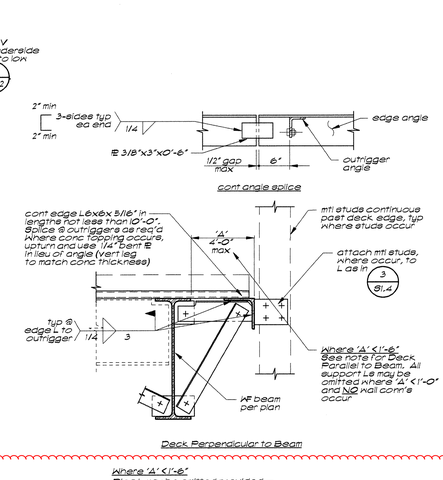
Composite Floor Deck Reinforcing at Cored Openings 8 / S5.2
S315D020-12

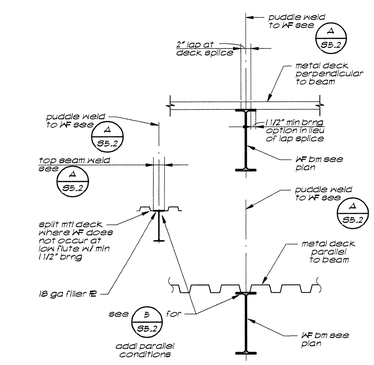


Note: Applies at holes from 6" to 24" wide in metal deck without concrete

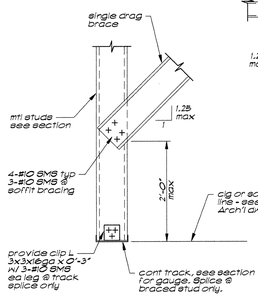
Detail 9 / S5.2
S315D003-12



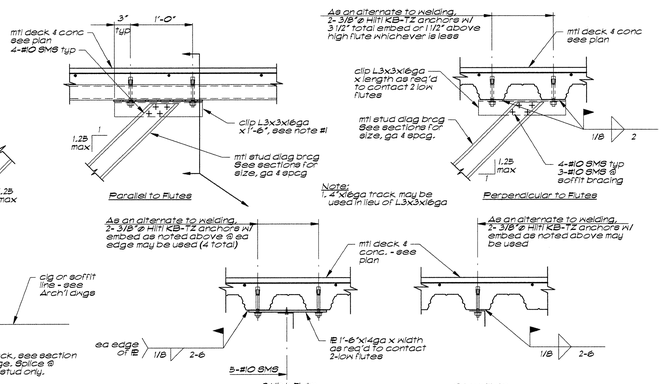




Detail 10 / S5.2
S305D002-12
Metal deck, w/o conc to WF beams

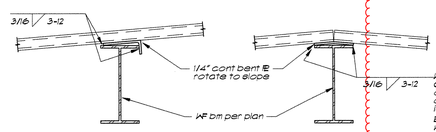


Brace Attachment at Stud



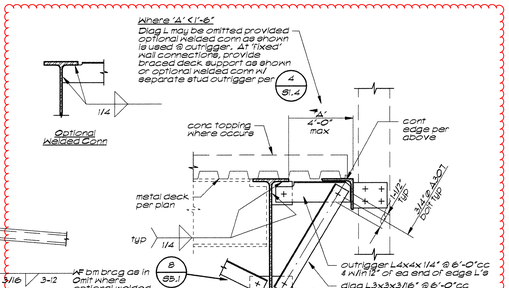
Brace Attachment at Composite Deck

Detail 11 / S4.2S
S423D030-12
Metal stud bracing connections at conc over mtl deck



Deck support at slopes greater than 1/8"/12

Detail 13 / S5.2
S305D004-8



RFI#162

Detail 14 / S5.2
S305D011-12
Typical Deck Edge Support (Applies to all bare mtl deck cantilevers as well as conc over mtl deck cantilevers > 8")

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WILLIAM B. RADER No. 3592 REGISTERED PROFESSIONAL ENGINEER STRUCTURAL

RFI#098

DGB-36AW is acceptable in place of DGB-36AT. Please note the Sammy Xpress are acceptable for loads less than 60 lbs.

SEAL
CHRISTOPHER C. VUCKOVICH LICENSED ARCHITECT NO. C26985 REN. 6-30-17 STATE OF CALIFORNIA

AGENCY REVIEW
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DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC ____ FILS ____ SS
DATE: 9/9/16

Project: SOLANO COMMUNITY COLLEGE — AUTO TECH FACILITY

Drawing Title: DETAILS

Drawn By: GCM
Checked By: WBR

NO.	DATE	ISSUE

Project No. 2015-0348.00
©Date 08/30/2016
DRAWING NO. S5.2

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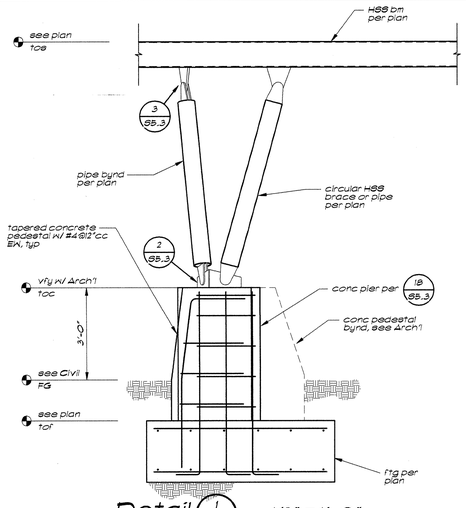
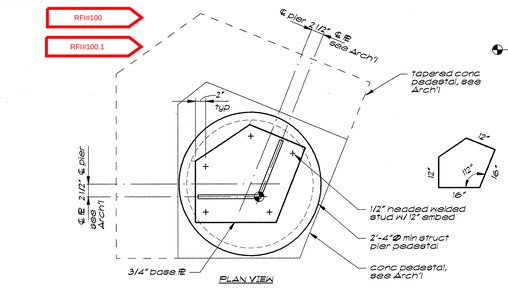
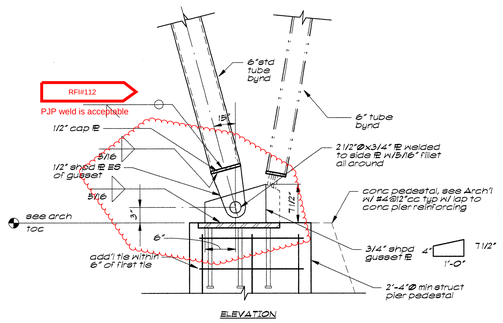


Detail 1 S5.3 — 1/2" = 1'-0"





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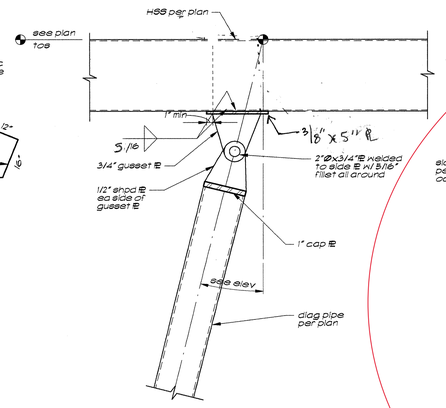

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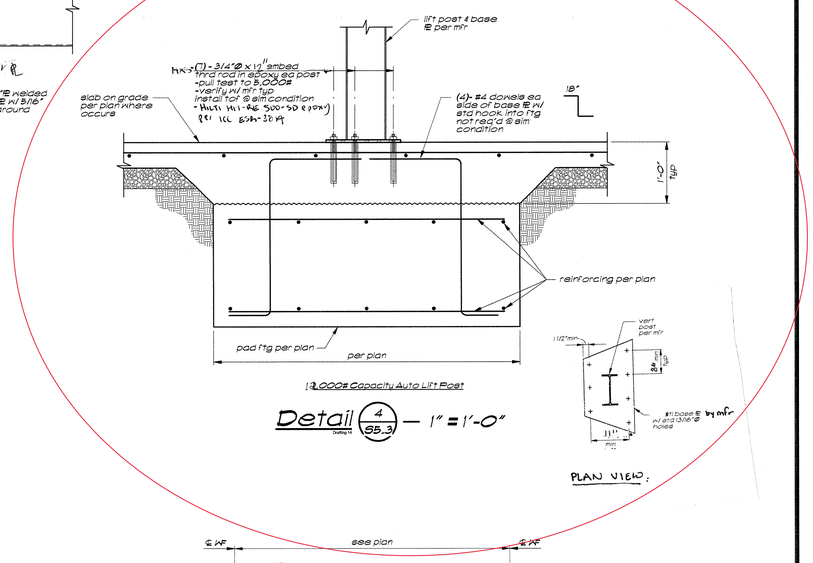

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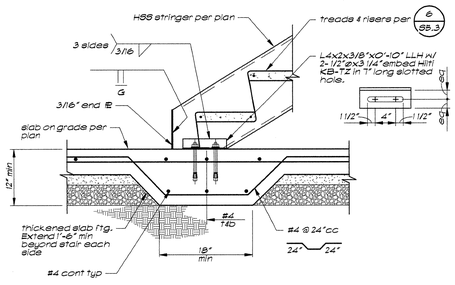
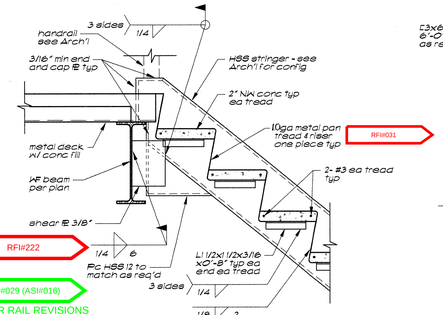
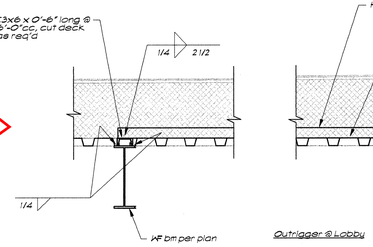


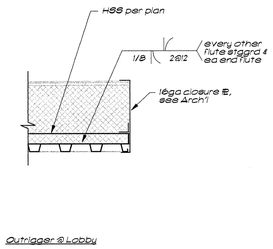
Typical Stair Stringer to Slab-On-Grade Detail 5 S5.3



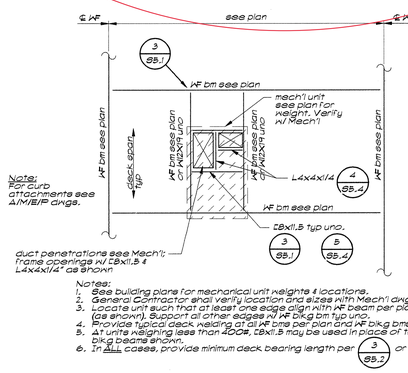
Typical Stair Stringer to Floor Detail 6 S5.3



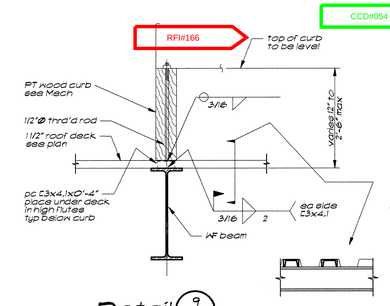
Detail 7 S5.3 — 1" = 1'-0"



Outrigger @ Lobby

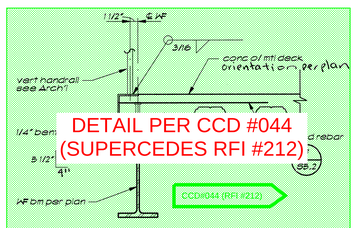


Typical Mech't Unit Framing Plan 8 S5.3

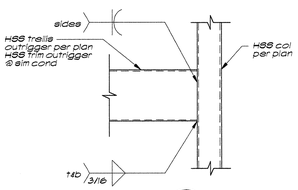


Detail 9 S5.3
10SD0003-12
Mech curb @ roof deck w/ E3

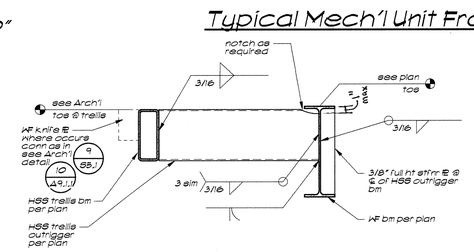
CCD#054
CCD#029 (ASI#016)
STAIR RAIL REVISIONS



Detail 11 S5.3 — 1" = 1'-0"



Detail 12 S5.3 — 1" = 1'-0"



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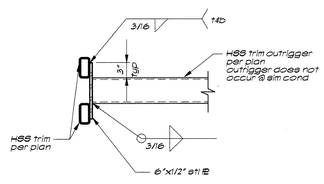
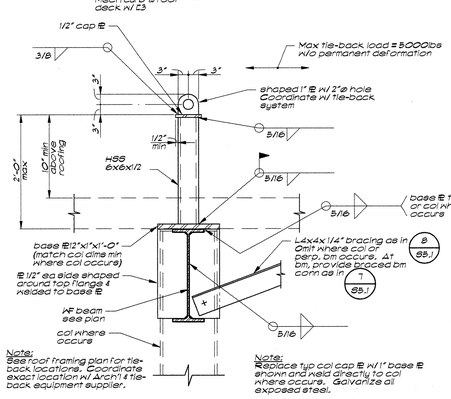
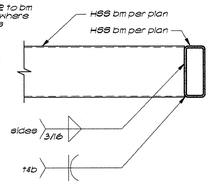


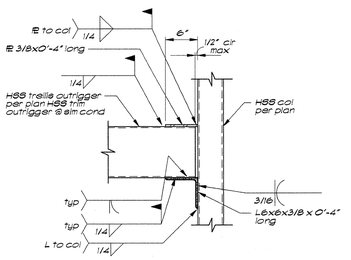
Detail 14 S5.3 — 1" = 1'-0"



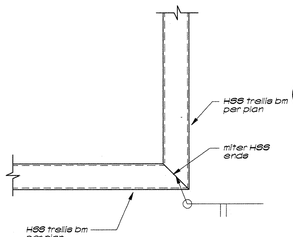
Detail 10 S5.3
55210003-12..



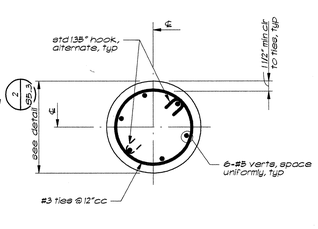
Detail 15 S5.3 — 1" = 1'-0"



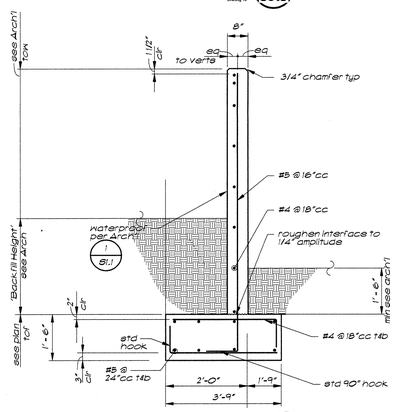
Detail 16 S5.3 — 1" = 1'-0"



Detail 17 S5.3 — 1" = 1'-0"



Detail 18 S5.3
3319D002-12 rev



Detail 19 S5.3
2718D101-24

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Drawing Title
DETAILS

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawn By: GCM
Checked By: WBR
Project No.: 2015-0348.00
Date: 08/30/2016
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S5.3

NO.	DATE	ISSUE

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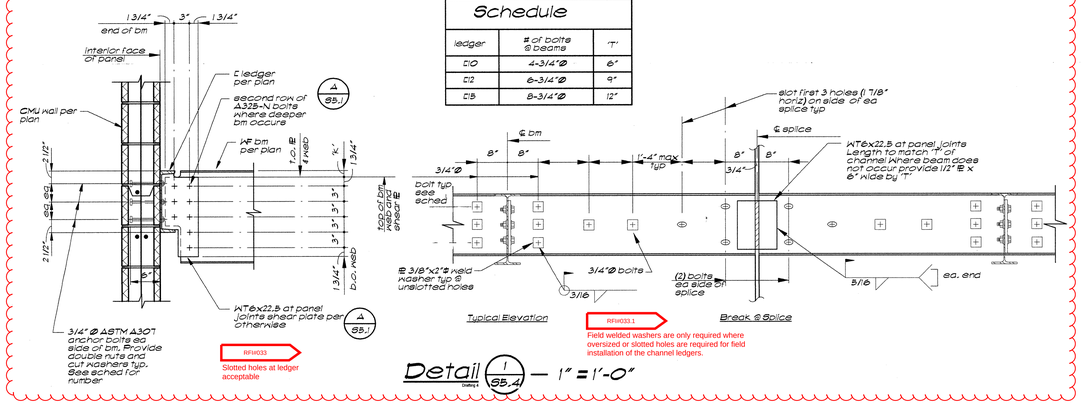
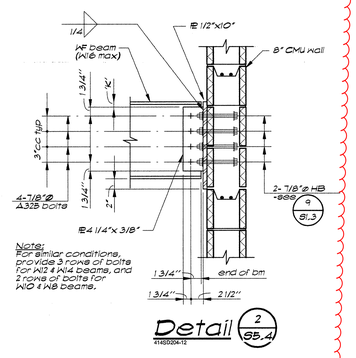
Schedule		
ledger	# of bolts @ beams	"t"
L10	4-3/4"Ø	6"
L12	6-3/4"Ø	9"
L18	8-3/4"Ø	12"



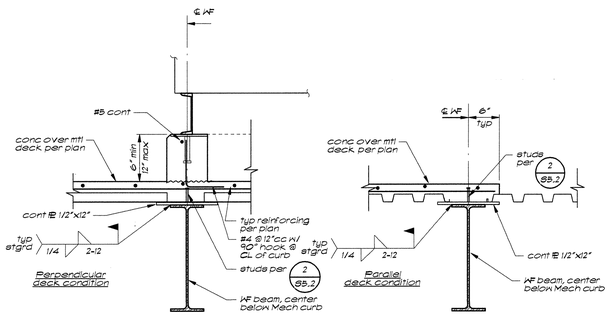
Detail (Detail 1 / 55.4) — 1" = 1'-0"

RFI#033.1
Field welded washers are only required where oversized or slotted holes are required for field installation of the channel ledgers.



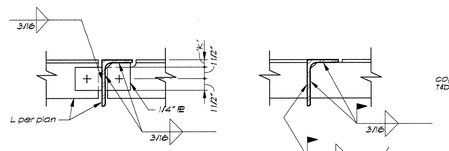
Note: For similar conditions, provide 3 rows of bolts for W12 & W14 beams, and 2 rows of bolts for W10 & W8 beams.

Detail (Detail 2 / 55.4)
41450D04-12

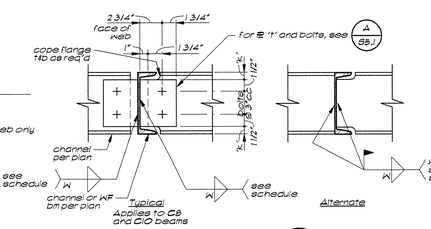


Detail (Detail 3 / 55.4)
53150006-12

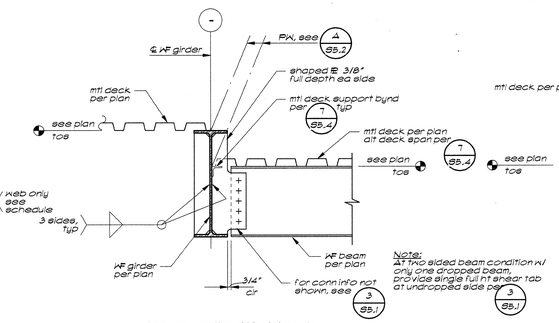
RFI#131: D.K./M3.2.1 supercede 3/55.4



Detail (Detail 4 / 55.4)
51350015-4
Typical Angle Connections (Depth < 6")

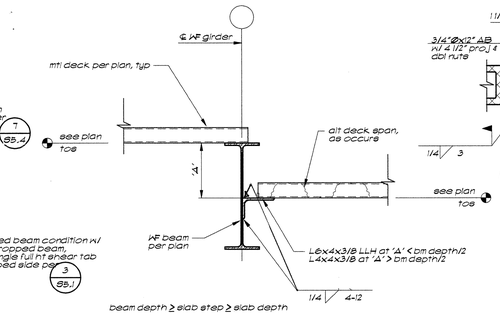


Detail (Detail 5 / 55.4)
51350015-4
Typical Channel Connections

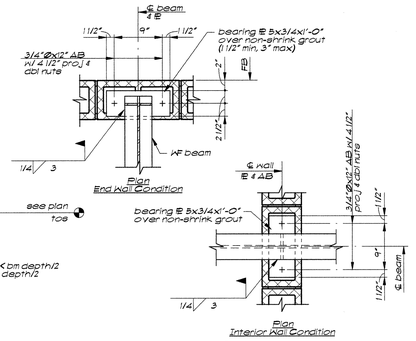


beam connection w/thin girder web

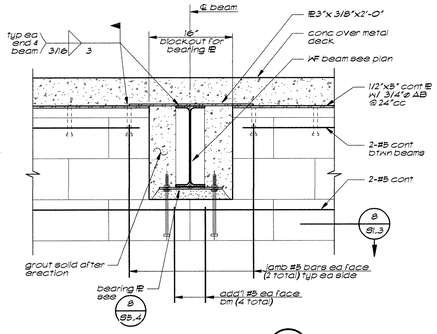
Detail (Detail 6 / 55.4)
Beam to Beam - Dropped Beam
51350016-12



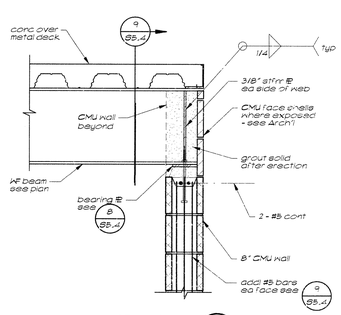
Detail (Detail 7 / 55.4)
53150042-12
Deck edge support - Web Supported



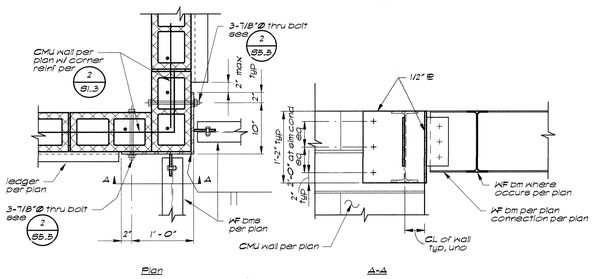
Detail (Detail 8 / 55.4)
41450D06-12



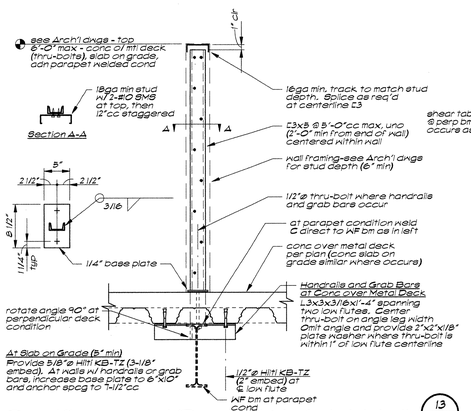
Detail (Detail 9 / 55.4)
41450D21-12



Detail (Detail 11 / 55.4)
41450D03-12

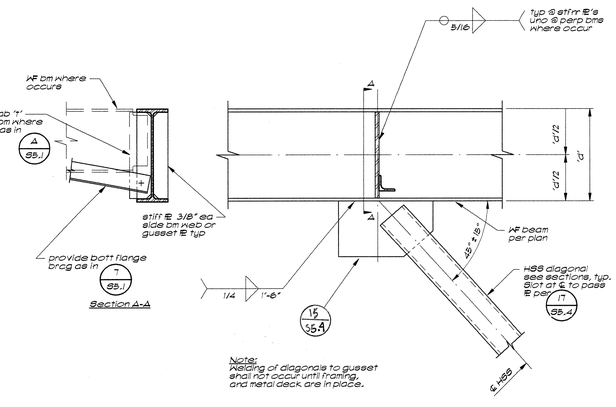


Detail (Detail 12 / 55.4) — 1" = 1'-0"

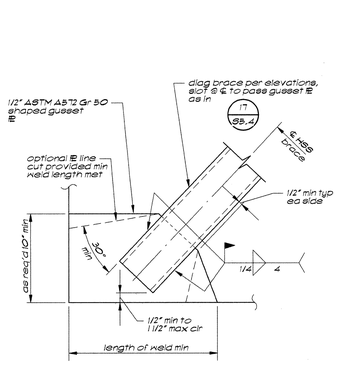


Cantilevered Partial Height Wall (13 / 55.4)
54250046-12

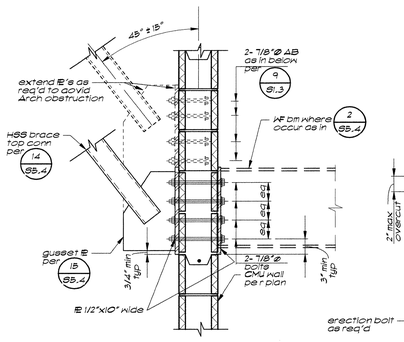
RFI#147



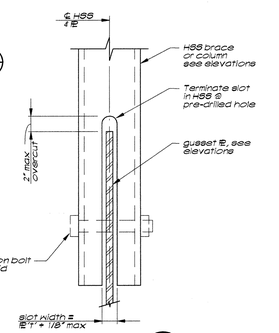
Detail (Detail 14 / 55.4)
52250003-12
Beam Midspan



Detail (Detail 15 / 55.4)
52250008-8



Detail (Detail 16 / 55.4)
41450D04-12 rev



Detail (Detail 17 / 55.4)
52250010-1
Typ HSS slot - OCBF

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Drawing Title: **DETAILS**

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Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

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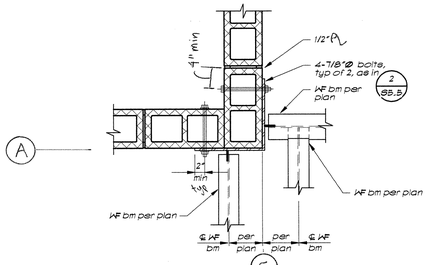
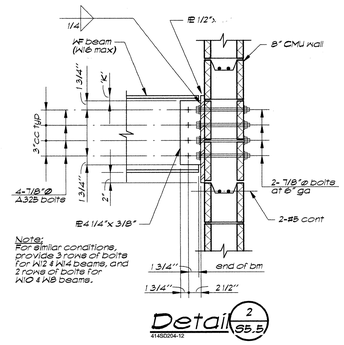
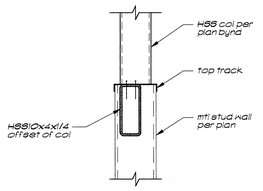


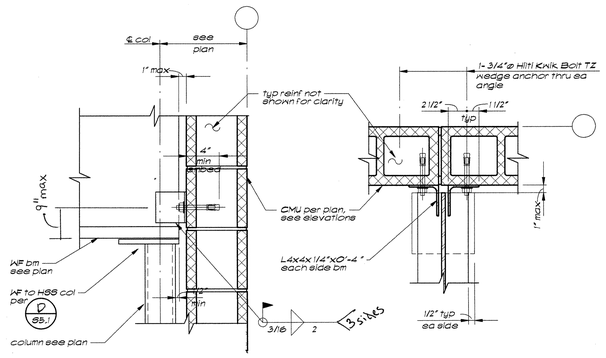
Detail 1 S5.5 — 1" = 1'-0"



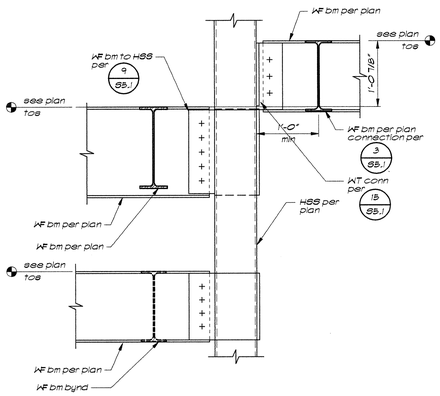
Detail 2 S5.5



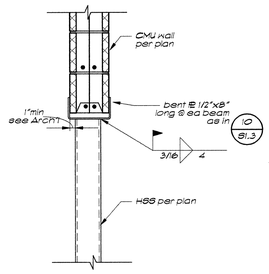
Detail 3 S5.5 — 1" = 1'-0"



Detail 4 S5.5



Detail 5 S5.5 — 1" = 1'-0"



Detail 6 S5.5 — 1" = 1'-0"

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Author
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2015-0348.00
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S5.5

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ANCHORAGE NOTES

EQUIPMENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2013 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26, AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS, OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

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 LBS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM THE ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.8, 13.6.7, 13.6.5.6 AND 2013 CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A1.25 AND 1616A.1.26.

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE ACCORDING TO OSHPD PRE-APPROVAL MASON OPM-0043-13 TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

COPIES OF THE MANUAL SHALL BE AVAILBLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

VALVE AND DEVICE SCHEDULE

ALL VALVES SHALL BE, OR EQUIVALENT TO THE FOLLOWING. USE DOMESTIC MANUFACTRUED PRODUCTS IF POSSIBLE ADDITIONAL VALVE ARE AS SPECIFIED IN THE DESIGN BUILD SPECIFICATIONS. EQUAL ARE ACCEPTABLE.

MARK	ITEM	DESCRIPTION
PRV-1	PRESSURE REDUCING VALVE (Water)	WILKINS MODEL 500YSBR LPV 3/4" PRESSURE REDUCING VALVE WITH INTEGRAL Y STRAINER AND LOW PRESSURE SPRING RANGE
PF-1	CHEMICAL POT FEEDER	ELDI DB1-300, 1 GALLON CHEMICAL BYPASS FEEDER, 3/4" FTP CONNECTIONS, 17 LB DRY WEIGHT, CARBON STEEL ENAMELED PAINT FINISH, DOME BOTTOM, 300 PSI @ 350°F MAX OPERATING LIMIT, PROVIDE WITH VICAULIC CLOSURE CAP, GASKET, CENTER PLATE WITH TAP, AND LEGS
SPRV-1	SAFETY PRESSURE RELIEF VALVE (Water)	WATTS LF3L, LEAD FREE 3/4" SPRING LOADED ASME RATED SAFETY RELIEF VALVE, PRESSURE SET AT 100 PSIG.
TMV-1	THERMOSTATIC MIXING VALVE (Water)	FPE 2510, 2-1/2" FLANGED THERMOSTATIC MIXING VALVE, CAST IRON BODY, 125 PSI RATING, 140°F

MIN. RECT. DUCT HANGER SIZES

MAX. 1/2 OF DUCT PERIMETER	PAIR AT 10' SPACING STRAP	PAIR AT 10' SPACING WIRE/ROD	PAIR AT 8' SPACING STRAP	PAIR AT 8' SPACING WIRE/ROD	PAIR AT 5' SPACING STRAP	PAIR AT 5' SPACING WIRE/ROD	PAIR AT 4' SPACING STRAP	PAIR AT 4' SPACING WIRE/ROD
P/2 = 30"	1" X 22 GA	10 GA (.135")	1" X 22 GA	10 GA (.135")	1" X 22 GA	12 GA (.106")	1" X 22 GA	12 GA (.106")
P/2 = 72"	1" X 18 GA	3/8"	1" X 20 GA	1/4"	1" X 22 GA	1/4"	1" X 22 GA	1/4"
P/2 = 96"	1" X 16 GA	3/8"	1" X 18 GA	3/8"	1" X 20 GA	3/8"	1" X 22 GA	1/4"
P/2 = 120"	1-1/2" X 16 GA	1/2"	1" X 16 GA	3/8"	1" X 18 GA	3/8"	1" X 20 GA	1/4"
P/2 = 168"	1-1/2" X 16 GA	1/2"	1-1/2" X 16 GA	1/2"	1" X 16 GA	3/8"	1" X 18 GA	3/8"
P/2 = 192"	NOT GIVEN	1/2"	1-1/2" X 16 GA	1/2"	1" X 16 GA	3/8"	1" X 16 GA	3/8"
P/2 = 193 & UP	SPECIAL ANALYSIS REQUIRED							

WHEN STRAPS ARE LAP JOINED USE THESE MINIMUM FASTENERS:	SINGLE HANGER MAXIMUM ALLOWABLE LOAD STRAP	WIRE OR ROD (DIA.)
1" X 18, 20, 22 GA - TWO #10 OR ONE 1/4" BOLT	1" X 22 GA - 260 LBS.	0.106" - 80 LBS
1" X 16 GA - TWO 1/4" BOLT	1" X 20 GA - 320 LBS.	0.135" - 120 LBS
1-1/2" X 16 GA - TWO 3/8" BOLT	1" X 18 GA - 420 LBS.	0.162" - 160 LBS
	1" X 16 GA - 700 LBS.	1/4" - 270 LBS
	1-1/2" X 16 GA - 1100 LBS.	3/8" - 680 LBS
		1/2" - 1250 LBS
		5/8" - 2000 LBS
*PLACE FASTENERS IN SERIES, NOT SIDE-BY-SIDE		3/4" - 3000 LBS

TABLE 5-1 FROM SMACNA HVAC DUCT CONTRUCTION STANDARDS, 2005

MIN. ROUND DUCT HANGER SIZES

DIAMETER.	MAXIMUM SPACING	WIRE DIAMETER	ROD	STRAP
10"	12'	ONE 12 GA	1/4"	1" X 22 GA
11-18"	12'	TWO 12 GA OR ONE 8 GA	1/4"	1" X 22 GA
19-24"	12'	TWO 10 GA	1/4"	1" X 22 GA
25-36"	12'	TWO 8 GA	3/8"	1" X 20 GA
37-50"	12'		TWO 3/8"	1" X 20 GA
51-60"	12'		TWO 3/8"	TWO 1" X 18 GA
61-84"	12'		TWO 3/8"	TWO 1" X 16 GA
85-96"	12'		TWO 1/2"	TWO 1-1/2" X 16 GA

TABLE 5-2 FROM SMACNA HVAC DUCT CONTRUCTION STANDARDS, 2005

PIPE MATERIAL SCHEDULE

APPLICATION	MATERIAL	JOINT	REMARKS
HEATING HOT WATER	SCHEDULE 40 BLACK STEEL OR TYPE "L" DRAWN COPPER	WELDED, FLANGED OR VICTAULIC OR BRAZED OR SILVER SOLDERED	INSIDE & OUTSIDE ABOVE GROUND INSIDE & OUTSIDE ABOVE GROUND
CONDENSATE DRAIN	TYPE "M" DRAWN COPPER SCHEDULE 40 PVC	LEAD FREE SOLDER SOLVENT	INSIDE & OUTSIDE ABOVE GROUND BOILER CONDENSATE ONLY
HYDRONIC MAKE-UP WATER	TYPE "L" DRAWN COPPER	LEAD FREE SOLDER	INSIDE & OUTSIDE ABOVE GROUND
RADIANT IN-SLAB PIPING	OXYGEN BARRIER PEX	MECHANICAL COMPRESSION	IN-SLAB

PIPE HANGER/SUPPORT SCHEDULE

COPPER TUBE AND PIPE, SOLDERED, BRAZED, OR WELDED

PIPE SIZE	HORIZONTAL ROD SIZE	HORIZONTAL MAXIMUM INTERVAL	VERTICAL
LESS THAN 1-1/2"	3/8"Ø	6'	EACH FLOOR, NOT TO EXCEED 10' (5).
2" - 4"	3/8"Ø	10'	
5" - 8"	1/2"Ø	10'	
10" - 12"	5/8"Ø	10'	

WATER OR DWV PIPING, STEEL OR BRASS, THREADED OR WELDED

PIPE SIZE	HORIZONTAL ROD SIZE	HORIZONTAL MAXIMUM INTERVAL	VERTICAL
3/4" OR SMALLER	3/8"Ø	10'	EVERY FLOOR NOT TO EXCEED 25' (5)
1" - 4"	3/8"Ø	12'	
5" - 8"	1/2"Ø	12'	
10" - 12"	5/8"Ø	12'	

(1) SUPPORT ADJACENT TO JOINT, NOT TO EXCEED 18".
(2) BRACE AT NOT MORE THAN 40' INTEVRALS TO PREVENT HORIZONTAL MOVEMENT.
(3) SUPPORT AT EACH HORIZONTAL BRANCH.
(4) HANGERS SHALL NOT BE PLACED ON THE COUPLING.
(5) VERTICAL WATER LINES MAY BE SUPPORTED IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRINCIPLES WITH REGARD TO EXPANSION AND CONTRACTION, WHEN FIRST APPROVED BY THE ADMINISTRATIVE AUTHORITY.
(6) SEE IAPMO INSTALLATION STANDARD FOR EXPANSION AND OTHER SPECIAL REQUIREMENTS

MINIMUM INSULATION THICKNESS

FLUID TEMP	INSULATION THICKNESS (IN INCHES) FOR LISTED NOMINAL PIPE DIAMETER 1" & LESS	1.25"	1.5"-3"	4"-6"	8" & LARGER	CONDUCTIVITY RANGE (in Btu-in/ hr/sq.ft./°F)	INSULATION MEAN RATING TEMPERATURE (°F)
HEATING HOT WATER, STEAM, STEAM CONDENSATE, & DOMESTIC HOT WATER							
141°F-200°F	1.5"	1.5"	2.0"	2.0"	2.0"	0.25-0.29	125
SPACE COOLING SYSTEMS							
40°F-60°F	0.5"	0.5"	1.0"	1.0"	1.0"	0.21-0.27	75

PROVIDE 0.015 ALUMINUM JACKET SECURED WITH 1/2" ALUMINUM BANDS ON ALL INSULATED PIPING EXPOSED TO THE WEATHER. PLASTIC FITTING COVERS ARE ACCEPTABLE. INSULATION SHALL BE VAPOR TIGHT BEFORE APPLYING METAL JACKET OR PLASTIC COVERS. UPDATED PER 2013 T-24 REQUIREMENTS

AIR DISTRIBUTION SCHEDULE

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MARK	MFGR.	MODEL	BORDER	REMARKS
S1	PRICE	SMCD	3	T-BAR LAY-IN MODULAR CORE STEEL DIFFUSER. PROVIDE W/ STD. B12 WHITE FINISH AND RNA. SIZE AND THROW PATTERN AS SHOWN ON PLANS.
S2	PRICE	SMCD	6	SURFACE MTD. MODULAR CORE STEEL DIFFUSER. PROVIDE W/ STD. B12 WHITE FINISH, RNA, AND OBD. SIZE AND THROW PATTERN AS SHOWN ON PLANS.
S3	PRICE	RCD	-	ROUND CONE STEEL CEILING DIFFUSERS. PROVIDE W/STD. B12 WHITE FINISH. 3-POSITION ADJUSTMENT. SIZE AS SHOWN ON PLANS.
S4	PRICE	SDGE	-	ROUND DUCT MOUNTED ALUMINUM SUPPLY DIFFUSER. PROVIDE W/CLEAR ANODIZED (CA) FINISH. FRONT BLADES PARALLEL TO WIDTH, AND CABLE OPERATED AIR SCOOP. SIZE AS SHOWN ON PLANS.
S5	PRICE	AST210	23	LAY-IN T-BAR LINEAR SLOT DIFFUSER W/ENGINEERED PLENUM. PROVIDE W/STD. B12 FINISH & (2) 1" WIDE SLOTS. SLOT NEAREST GLASS W/THROW PATTERN DOWN; SECOND SLOT TO THROW AWAY FROM GLASS. LENGTH AS SHOWN ON PLANS.
S6	PRICE	S35	F	SURFACE MTD. 45° DEFLECTION STEEL SUPPLY GRILLES. PROVIDE W/ STD. B12 WHITE FINISH UNLESS OTHERWISE NOTED. SIZE AS SHOWN ON PLANS.
R1/E1/ TAG1	PRICE	PDDR	3	LAY-IN T-BAR PERFORATED FACE RETURN, EXHAUST, TRANSFER GRILLES. PROVIDE W/ STD. B12 WHITE FINISH. SIZE AS SHOWN ON PLANS.
R2/E2/ TAG2	PRICE	635	F	SURFACE MTD. 45° DEFLECTION ALUMINUM RETURN, EXHAUST, TRANSFER GRILLES. PROVIDE W/ STD. B12 WHITE FINISH UNLESS OTHERWISE NOTED. SIZE AS SHOWN ON PLANS.
E3	PRICE	SDGE	-	ROUND DUCT MOUNTED ALUMINUM EXHAUST GRILLE. PROVIDE W/CLEAR ANODIZED FINISH (CA). FRONT BLADES PARALLEL TO WIDTH, AND CABLE OPERATED AIR SCOOP. SIZE AS SHOWN ON PLANS.

DAMPER SCHEDULE

MARK	MFGR	MODEL	SLEEVE	UL RATING	DESCRIPTION
FSD	POTTORFF (OR EQUAL)	FSD-141	20" LONG 20 GAUGE	1.5 HR CLASS I	PROVIDE WITH U.L. AND CAL. STATE FIRE MARSHAL APPROVAL FOR DAMPER AND ACTUATOR. ACTUATOR TO BE 120V, TWO POSITION, CONTROLLED CLOSURE (8-15 SEC), 165° HEAT ACTUATION WITH MANUAL RESET AFTER SMOKE SIGNAL CEASES. INSTALL PER MANUFACTURERS APPROVED INSTALLATION INSTRUCTIONS.

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MECHANICAL GENERAL NOTES

1. CONSTRUCTION SHALL CONFORM TO APPLICABLE SECTIONS OF 2013 CBC, CMC, & 2013 CALIFORNIA TITLE 24 ENERGY STANDARDS.
2. ALL DUCTWORK TO BE FABRICATED, INSTALLED AND SUPPORTED IN ACCORDANCE WITH LOCAL CODES. SMACNA "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE", AND 2013 BUILDING ENERGY EFFICIENCY STANDARDS TITLE 24 SECTION 124. DUCT SIZES SHOWN ARE OUTSIDE DIMENSIONS. DUCTWORK SHALL BE FABRICATED AND/OR PROVIDED ACCORDING TO SPECIFICATION SECTION 23 31 13 METAL DUCTS. SEE DETAILS C, D, & E/M3.02 FOR SUPPORT DETAILS.
3. THERMOSTATS SHALL BE MOUNTED 4'-0" MAX ABOVE FINISHED FLOOR, AND SHALL COMPLY WITH TITLE 24 2013 BUILDING ENERGY EFFICIENCY STANDARDS.
4. PROVIDE THERMAL INSULATION AS REQUIRED FOR DUCT SYSTEMS PER TITLE 24 2013 BUILDING ENERGY EFFICIENCY STANDARDS AND PER SECTION 604 OF THE CMC. EXTERIOR DUCT WRAP AND INTERNAL DUCT LINER TO HAVE A MINIMUM INSTALLED R VALUE OF 4.2. EXHAUST DUCTWORK NEED NOT BE INSULATED. DUCTS OUTSIDE OF THE BUILDING INSULATED ENVELOPE SHALL BE INSULATED TO AN R VALUE OF 8.0.
5. SUPPLY AIR DUCTWORK SHALL BE WRAPPED GALVANIZED SHEET METAL, LINED GALVANIZED SHEET METAL, OR GLASS FLEX DUCTWORK.
6. EXHAUST AIR DUCTWORK SHALL BE UN-INSULATED GALVANIZED SHEET METAL, ALUMAFLEX, OR GLASS FLEX UNLESS OTHERWISE NOTED.
7. DUCTWORK, PIPING AND EQUIPMENT WILL BE BRACED PER CBC/IBC REQUIREMENTS FOR MECHANICAL AND PLUMBING SYSTEMS.
8. COORDINATE DUCTWORK AND DUCT HANGERS WITH FIRE SPRINKLER PIPING AND ELECTRICAL CONDUIT.
9. SEAL DUCTWORK IN IDD-1 SYSTEM PER SMACNA SEAL CLASS "A". DUCTWORK SHALL BE CONSTRUCTED TO 4" PRESSURE CLASS. SEAL DUCTWORK UPSTREAM OF VAV BOXES PER SMACNA SEAL CLASS "B". DUCTWORK SHALL BE CONSTRUCTED TO 2" PRESSURE CLASS. SEAL DUCTWORK DOWNSTREAM OF VAV BOXES, EXHAUST DUCTWORK AND CONSTANT VOLUME DUCTWORK PER SMACNA SEAL CLASS "C". DUCTWORK SHALL BE CONSTRUCTED TO 1" PRESSURE CLASS.
10. FLEXIBLE DUCTWORK SHALL BE MAXIMUM 7 FEET LONG.
11. ALL DUCT MOUNTED SMOKE DETECTORS WILL BE SUPPLIED BY THE ELECTRICAL CONTRACTOR. ALL ROOM OR PLENUM MOUNTED SMOKE DETECTORS WILL BE SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR WILL WIRE ALL SMOKE DETECTORS TO FIRE CONTROL PANEL IF REQUIRED BY CODE.
12. ALL ARCHITECTURAL GRATES, GRILLES, AND EXTERIOR LOUVERS TO BE PROVIDED AND INSTALLED BY OTHERS. HVAC LOUVERS TO BE MANUFACTURED WITH 50% OR MORE FREE AREA.
13. ALL SUPPLY AND RETURN GRILLES WILL BE TYPE S1 AND R1 UNLESS OTHERWISE NOTED.
14. DIFFUSERS ARE SHOWN IN THE CORRECT LOCATION BUT MAY NOT BE CENTERED OR LINED UP BETWEEN LIGHTS DUE TO REFLECTED CEILING PLAN CHANGE. CHECK ARCHITECTURAL REFLECTED CEILING PLAN TO VERIFY LOCATIONS. CONTACT MECHANICAL ENGINEER IF MAJOR DISCREPANCIES OCCUR.
15. (E) DENOTES ITEMS SUPPLIED AND WIRED BY THE ELECTRICAL CONTRACTOR. VERIFY WITH EQUIPMENT MANUFACTURER IF OTHER THAN COPPER WIRING, IS PERMITTED AT UNIT CONNECTIONS.
16. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.

APPLICABLE CODES

THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS AND CODES AND INCLUDE, BUT NOT BE LIMITED TO, THE LATEST ADOPTED EDITIONS OF:

2013 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
2013 CALIFORNIA BUILDING CODE PART 2, TITLE 24, CCR
2013 CALIFORNIA ELECTRICAL CODE PART 3, TITLE 24 CCR
2013 CALIFORNIA MECHANICAL CODE PART 4, TITLE 24, CCR
2013 CALIFORNIA PLUMBING CODE PART 5, TITLE 24, CCR
2013 CALIFORNIA BUILDING EFFICIENCY STANDARDS PART 6, TITLE 24 CCR
2013 CALIFORNIA FIRE CODE PART 6, TITLE 24, CCR
2013 CALIFORNIA GREEN CODE PART 11, TITLE 24, CCR

WHERE LAWS AND CODES ARE FOUND TO BE IN CONFLICT WITH EACH OTHER, THE MORE STRINGENT REQUIREMENTS WILL PREVAIL.

HYDRONIC PIPING LEGEND

AUTOMATIC AIR VENT
AUTOMATIC FLOW CONTROL VALVE
BALANCE VALVE
BALL VALVE
BUTTERFLY VALVE
CALIBRATED ORIFICE
CAP
CHECK VALVE
CONCENTRIC REDUCER
CONDENSER WATER RETURN — CWR
CONDENSER WATER SUPPLY — CWS
DRAIN — DRAIN
ECCENTRIC REDUCER
ELEC MOTOR VALVE ACTUATOR — M
ELEC SOLENOID VALVE ACTUATOR — S
FLEXIBLE CONNECTOR
FLOW SWITCH
HOSE CONNECTION
HEATING HOT WATER SUPPLY & RETURN — HWS&R
LEVER VALVE ACTUATOR
MANUAL AIR VENT
MANUAL VALVE ACTUATOR — T
NORMALLY OPEN — N.O.
NORMALLY CLOSED — N.C.
PETE'S PLUG
PRESSURE GAUGE
PIPE RISE
PIPE DROP
PNEUMATIC MOTOR VALVE ACTUATOR — M
PRESSURE REDUCING VALVE
PRESSURE RELIEF VALVE
PROCESS WATER RETURN — PWR
PROCESS WATER SUPPLY — PWS
SHUT-OFF VALVE
STRAINER
SUCTION DIFFUSER
TEMPERATURE SENSOR
THERMOMETER
THREE-WAY VALVE
TRIPLE DUTY VALVE
UNION
WELL

MECHANICAL DRAWING INDEX

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DRAWING	DESCRIPTION
M1.1.1	MECHANICAL SCHEDULES, NOTES & LEGENDS
M1.2.1	MECHANICAL SCHEDULES (CONT'D)
M1.3.1	TITLE 24 DOCUMENTATION
M1.3.2	TITLE 24 DOCUMENTATION (CONT'D)
M1.3.3	TITLE 24 DOCUMENTATION (CONT'D)
M1.3.4	TITLE 24 DOCUMENTATION (CONT'D)
M2.1.1	FIRST FLOOR MECHANICAL PLAN
M2.2.1	ROOF MECHANICAL PLAN
M2.3.1	FIRST FLOOR PIPING PLAN
M3.1.1	ENLARGED MECHANICAL ROOM PLAN
M3.2.1	MECHANICAL DETAILS
M3.3.1	MECHANICAL DETAILS (CONT'D) & HEATING WATER SCHEMATIC

MECHANICAL LEGEND

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ABC — ABOVE CEILING
ACD — AUTOMATIC CONTROL DAMPER
AFF — ABOVE FINISHED FLOOR
BDD — BACK DRAFT DAMPER
CFM — CUBIC FEET PER MINUTE AIR
CLG — CEILING
(D) — DROP, DOWN
DSD — DUCT SMOKE DETECTOR
(E) — EXISTING
EA — EXHAUST AIR
EC — ELECTRICAL CONTRACTOR
FD — FIRE DAMPER
FSD — FIRE/SMOKE DAMPER
GC — GENERAL CONTRACTOR
LVR — LOUVER
MCC — MOTOR CONTROL CENTER
MVD — MANUAL VOLUME DAMPER
(N) — NEW
NIMC — NOT IN MECHANICAL CONTRACT
OBD — OPPOSED BLADE DAMPER
OPNG — OPENING
OSA — OUTSIDE AIR
PC — PLUMBING CONTRACTOR
POC — POINT OF CONNECTION
(R) — RISE, RISER
RA — RETURN AIR
(RL) — RELOCATE
SA — SUPPLY AIR
SW — SWITCH
UCD — UNDER CUT DOOR
UON — UNLESS OTHERWISE NOTED
VD — VOLUME DAMPER
W/ — WITH
S — SUPPLY AIR DIFFUSER
R — RETURN AIR GRILLE
E — EXHAUST AIR GRILLE
TAG — TRANSFER AIR GRILLE
L — 10"x10" — GALVANIZED STEEL RECTANGULAR DUCT LINED, DUCT SIZE (INCHES)
10"Ø — GALVANIZED STEEL OR FLEXIBLE ROUND DUCT W/VOLUME DAMPER, DUCT SIZE (INCHES DIAMETER)
T VAV 1-1 — THERMOSTAT FOR INDICATED HVAC EQUIPMENT SEE GENERAL NOTE#3. (AC, FC, HP, VAV, etc.)
DUCT TRANSITION
VAV BOX
PLENUM (LINED)

CAL GREEN COMPLIANCE NOTES

1. **SECTION 5.504.1.3 TEMPORARY VENTILATION.** THE PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION THE BUILDING OR AREAS OF ADDITION OR ALTERATION WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN FILTERS WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8, BASED ON ASHRAE 52.2-1999, OR AN AVERAGE EFFICIENCY OF 30 PERFECT BASED ON ASHRAE 52.1-1999. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY, OR IF THE BUILDING IS OCCUPIED DURING ALERATION, AT THE CONCLUSION OF THE CONSTRUCTION.
2. **SECTION 5.504.3 COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION.** AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING, AND VENTILATION EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.
3. **SECTION 5.504.5.3 FILTERS.** IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8. MERV 8 FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY, AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL.
   EXCEPTIONS:
   1. AN ASHRAE 10-PERCENT TO 15-PERCENT EFFICIENCY FILTER SHALL BE PERMITTED FOR AN HVAC UNIT MEETING THE 2013 CALIFORNIA ENERGY CODE HAVING 60,000BTU/H OR LESS CAPACITY PER FAN COIL, IF THE ENERGY USE OF THE AIR DELIVERY SYSTEM IS 0.4 W/CFM OR LESS AT DESIGN AIR FLOW.
   2. EXISTING MECHANICAL EQUIPMENT.

   SECTION 5.504.5.3.1 LABELING. INSTALLED FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATED MERV RATING.
4. **SECTION 5.505.1 INDOOR MOISTURE CONTROL.** BUILDINGS SHALL MEET OR EXCEED THE PROVISIONS OF CALIFORNIA BUILDING CODE, CCR, TITLE 24, PART 2, SECTIONS 1203 (VENTILATION) AND CHAPTER 14 (EXTERIOR WALLS). FOR ADDITIONAL MEASURES NOT APPLICABLE TO LOW-RISE RESIDENTIAL OCCUPANCIES, SEE SECTION 5.407.2 OF THIS CODE.

Mechanical O&Ms
Mechanical Warranties

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THIS PLAN IS PREPARED BY AIRCO MECHANICAL, INC. AND IS GUARANTEED ONLY IF AIRCO MECHANICAL, INC. IS THE INSTALLING CONTRACTOR.

SEAL:
REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER S. BARKER — No. M34463 — Exp. June 30, 2019 — MECHANICAL — STATE OF CALIFORNIA

SEAL
LICENSED ARCHITECT — CHRISTOPHER C. CYGERICO — NO. C26985 REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC _____ F/LS _____ SS _____
DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: MECHANICAL SCHEDULES, NOTES & LEGENDS

NO.	DATE	ISSUE
7	12-06-2016	ASI 006
6	01-23-2017	ASI 009
5	04-07-2017	ASI 020
4	06-22-2017	ASI 027
3	06-28-2017	ASI 028
2	08-04-2017	ASI 031
1	08-16-2017	RECORD SET

Drawn By: E. FRIESEN
Checked By: C. BARKER
Project No.: 160024
@Date: 08/30/2016
DRAWING NO.: M1.1.1

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INDIRECT/DIRECT UNIT SCHEDULE

MARK	MFGR	MODEL	LOCATION	SERVES	ELECTRICAL			SUPPLY AIR FAN (DATA PER EACH)						EXHAUST AIR FAN						AIR SIDE				INDIRECT EVAP			DIRECT EVAP			HOT WATER COIL											WEIGHT (lbs)	(K, M3.2.1)	REMARKS
					VOLTAGE	MCA	MOCP	FANS	FILTER	CFM	ESP	RPM	BHP	MHP	FANS	FILTER	CFM (TOTAL)	ESP	RPM	BHP	MHP	E.A.T. DB°F	E.A.T. WB°F	R.A.T. DB°F	R.A.T. WB°F	LVG DB	LVG WB	SENSIBLE	LVG DB	LVG WB	SENSIBLE	CAPACITY (MBH)	GPM	FPI	ROWS	AIR ENT(DB)	AIR LVG(DB)	△P AIR	WATER ENT	WATER LVG	△P WATER	CONTROL VALVE			
IDD 1	SPEC AIR	SSC12	ROOF	VEHICLE AREAS ENTIRE BUILDING	460/3	-	-	2	MERV 13	10,000	1.00"	900	5.3	7.5	3	NONE	11,300	0.3"	1725	-	1	90°	66°	76°	63.5°	66.5°	57.96°	515.8	62	58	96.7	783.2	50.25	9	1	48	84.1	34	180	140	30	3-WAY	12,500		PROVIDE W/TWO (2) VFD CONTROLLED DIRECT DRIVE PLENUM SUPPLY FANS. VFD CONTROLLED DIRECT DRIVE EXHAUST FANS, MERV 13 FILTERS W/MAGNAHELIC FILTER GAUGE, 2" DOUBLE WALL INSULATION. SEE SUBMITTAL DATA FOR ELECTRICAL WIRING DIAGRAM, DUCT SMOKE DETECTOR SUPPLIED BY ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR, AS REQUIRED FOR UNIT SHUTDOWN PER 2013 CMC 608.

AIR CONDITIONING UNIT SCHEDULE

MARK	MFGR MODEL	LOCATION	SERVES	CAPACITY		AIR SIDE ENT. COIL		AIR SIDE LVG. COIL		OUTSIDE AIR		HOT WATER COILS			SUPPLY					ELECTRICAL			WEIGHT	EER	MIN OSA	FILTRATION	REFRIG-ERANT	(D, M3.2.1)	REMARKS
				TOTAL	SENSIBLE	DB°F	WB°F	DB°F	WB°F	DB°F	WB°F		CAPACITY	GPM	CFM	ESP	RPM	BHP	MHP	VOLTAGE	MCA	MOCP	(lbs)						
AC 1	TRANE TSD210F	ROOF	OFFICE & CLASSROOM	216.9	179.0	83.8	64.6	60.5	55.2	90	66	HC-1	58.0	3.9	7000	1.9	3470	6.19	4.6kW	208-230/60/3	100	125	2,500	11.0	2160	MERV 13	R-410A		PROVIDE WITH: 0-100% FULLY MODULATING POWERED EXHAUST ECONOMIZER WITH DRY BULB CONTROL, MODULATING HOT GAS REHEAT, VAV SUPPLY FAN, OUTSIDE AIRFLOW MONITORING AND FACTORY INSTALLED BACNET CARD. DUCT SMOKE DETECTORS SUPPLIED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR, AS REQUIRED FOR UNIT SHUTDOWN PER 2013 CMC 608.
												HC-2	79.2	5.3															

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FAN COIL SCHEDULE

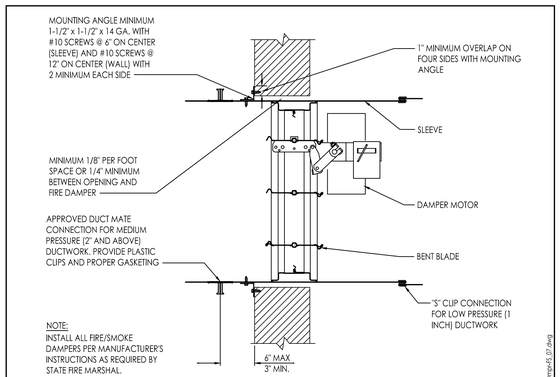
MARK	MFGR	MODEL	LOCATION	SERVES	CAPACITY-MBH		AIRSIDE ENT COIL		AIRSIDE LVG COIL		FAN		ELECTRICAL			WEIGHT (lbs)	OSA (cfm)	(I, M3.2.1)	(F, M3.3.1)	REMARKS
					TOTAL	SENSIBLE	DB°F	WB°F	DB°F	WB°F	CFM	ESP	VOLTS/Ø	MCA	MOCP					
FC 1	MITSUBISHI	PKA-A18HA6	ON WALL	1ST FLR MDF ROOM	17.3	13.7	80	67	-	-	335	-	230V/3Ø	1.0	20	40	0			PROVIDE WITH: THROWAWAY FILTER, THERMOSTAT, CONDENSATE PUMP.
FC 2	TRANE	GAM550S36M31SA	ABOVE CLG.	1ST FLR REF. WAITING ROOM	36.6	28.8	80	66	5	55	1200	-	230V/3Ø	5.0	15	150	240			PROVIDE WITH: THROWAWAY FILTER, THERMOSTAT, CONDENSATE PUMP.

CONDENSING UNIT SCHEDULE

MARK	MFGR	MODEL	LOCATION	SERVES	AMBIENT	ELECTRICAL VOLTS/Ø	ELECTRICAL MCA	ELECTRICAL MAX FUSE	SEER	WEIGHT (lbs)	LINESET SIZING	(F, M3.3.1)	(M, M3.3.1)	REMARKS
CU 1	MITSUBISHI	PUY-A18NHA6	ROOF	1ST FLR MDF ROOM	105	230V/1Ø	13	30	15.3	100	SEE PLANS			PROVIDE WITH: COOLING OPERATION DOWN TO 25F AMBIENT. R-410A REFRIGERANT
CU 2	TRANE	4TWA3036B3000	ROOF	1ST FREF. WAITING ROOM	105	230V/3Ø	1.3	20	15.0	280	SEE PLANS			PROVIDE WITH: COOLING OPERATION DOWN TO 25F AMBIENT. R-410A REFRIGERANT

VAV BOX SCHEDULE

BOX	MFGR	MODEL	INLET SIZE	COOL CFM	HEAT CFM	MIN CFM	COIL # ROW	COIL MBH	COIL GPM	CONTROL VALVE	(B,C,E,F, M3.2.1)	REMARKS
VAV 1-1	TITUS	ESV3000	12"Ø	1400	700	280 UNOCC. 615*	2	19.1	0.8	2-WAY		HOT WATER REHEAT VAV. PROVIDE WITH CROSSFLOW SENSOR ONLY; ALC CONTROLS BY AIRCO AUTOMATION. DEMAND CONTROL VENTILATION BY WALL MOUNTED CO2 SENSOR.
VAV 1-2	TITUS	ESV3000	8"Ø	410	280	85 UNOCC. 280*	2	7.3	0.3	2-WAY		HOT WATER REHEAT VAV. PROVIDE WITH CROSSFLOW SENSOR ONLY; ALC CONTROLS BY AIRCO AUTOMATION. DEMAND CONTROL VENTILATION BY WALL MOUNTED CO2 SENSOR.
VAV 1-3	TITUS	ESV3000	12"Ø	1280	600	260 UNOCC. 555*	2	17.0	0.7	2-WAY		HOT WATER REHEAT VAV. PROVIDE WITH CROSSFLOW SENSOR ONLY; ALC CONTROLS BY AIRCO AUTOMATION. DEMAND CONTROL VENTILATION BY WALL MOUNTED CO2 SENSOR.
VAV 1-4	TITUS	ESV3000	10"Ø	1000	500	200	2	12.1	0.5	2-WAY		HOT WATER REHEAT VAV. PROVIDE WITH CROSSFLOW SENSOR ONLY; ALC CONTROLS BY AIRCO AUTOMATION. DEMAND CONTROL VENTILATION BY WALL MOUNTED CO2 SENSOR.
VAV 1-5	TITUS	ESV3000	8"Ø	520	-	140	-	-	-	-		COOLING ONLY VAV. PROVIDE WITH CROSSFLOW SENSOR ONLY; ALC CONTROLS BY AIRCO AUTOMATION.
VAV 1-6	TITUS	ESV3000	8"Ø	780	350	160 UNOCC. 350*	2	9.0	0.4	2-WAY		HOT WATER REHEAT VAV. PROVIDE WITH CROSSFLOW SENSOR ONLY; ALC CONTROLS BY AIRCO AUTOMATION. DEMAND CONTROL VENTILATION BY WALL MOUNTED CO2 SENSOR.
VAV 1-7	TITUS	ESV3000	8"Ø	480	-	125	-	-	-	-		COOLING ONLY VAV. PROVIDE WITH CROSSFLOW SENSOR ONLY; ALC CONTROLS BY AIRCO AUTOMATION.
VAV 1-8	TITUS	ESV3000	12"Ø	1800	365	365	2	12.3	0.5	2-WAY		HOT WATER REHEAT VAV. PROVIDE WITH CROSSFLOW SENSOR ONLY; ALC CONTROLS BY AIRCO AUTOMATION.
VAV 1-9	TITUS	ESV3000	12"Ø	1520	340	310	2	12.0	0.5	2-WAY		HOT WATER REHEAT VAV. PROVIDE WITH CROSSFLOW SENSOR ONLY; ALC CONTROLS BY AIRCO AUTOMATION.



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FIRE/SMOKE DAMPER INSTALLATION DETAIL | SCALE NONE | A

FAN SCHEDULE

MARK	MFGR	MODEL	LOCATION	SERVES	CFM	ESP	SONES	FAN TYPE	DISCH	DRIVE	FAN RPM	FAN BHP	ELECTRICAL HP	ELECTRICAL V-Ø	ELECTRICAL FLA	WEIGHT (lbs)	CONTROL	(A,G,H, M3.2.1)	REMARKS
EF 1	PENN BARRY	DX11B	ROOF	RESTROOMS	1050	0.375	7.5	CENTRIFUGAL	DOWN	BELT	952	0.17	1/4	115-1	4.6	70	INTERLOCK WITH AC-1		PROVIDE WITH BACKDRAFT DAMPER, ROOF CURB, BIRD SCREEN, ODP MOTOR, PRE-WIRED DISCONNECT, ALUMINUM FAN WHEEL, GALVANIZED HOUSING, SOLID STATE SPEED CONTROLLER.
EF 2	PENN BARRY	DX12B	ROOF	HAZARDOUS MATL STORAGE	1400	0.375	14.0	CENTRIFUGAL	DOWN	BELT	962	0.20	1/4	115-1	4.6	120	INTERLOCK WITH IDD-1		PROVIDE WITH BACKDRAFT DAMPER, ROOF CURB, BIRD SCREEN, ODP MOTOR, PRE-WIRED DISCONNECT, ALUMINUM FAN WHEEL, GALVANIZED HOUSING, SOLID STATE SPEED CONTROLLER.
EF 3	PENN BARRY	D15	ROOF	NORTH VEX HOSE REELS	2400	3.75	24.9	UTILITY SET	TOP HORIZ.	BELT	2010	2.29	3	208-1	-	200	INTERLOCK WITH IDD-1		PROVIDE WITH BACKDRAFT DAMPER, ROOF CURB, BIRD SCREEN, ODP MOTOR, PRE-WIRED DISCONNECT, ALUMINUM FAN WHEEL, GALVANIZED HOUSING, SOLID STATE SPEED CONTROLLER.
EF 4	PENN BARRY	AC36	ROOF	VEHICLE AREA GEN. EXHAUST	7000	0.13	13.7	HOODED PROPELLER	DOWN	BELT	545	0.53	3/4	208-1	7.6	480	INTERLOCK WITH IDD-1		PROVIDE WITH BACKDRAFT DAMPER, ROOF CURB, BIRD SCREEN, ODP MOTOR, PRE-WIRED DISCONNECT, ALUMINUM FAN WHEEL, GALVANIZED HOUSING, SOLID STATE SPEED CONTROLLER.
EF 5	PENN BARRY	D10	ROOF	SOUTH VEX HOSE REELS	1500	3.75	29.7	UTILITY SET	TOP HORIZ.	BELT	3217	2.1	3	208-1	-	175	INTERLOCK WITH IDD-1		PROVIDE WITH BACKDRAFT DAMPER, ROOF CURB, BIRD SCREEN, ODP MOTOR, PRE-WIRED DISCONNECT, ALUMINUM FAN WHEEL, GALVANIZED HOUSING, SOLID STATE SPEED CONTROLLER.
EF 6	PENN BARRY	DX24B	ROOF	VEHICLE AREA GEN. EXHAUST	6025	0.5	16.2	CENTRIFUGAL	DOWN	BELT	747	1.9	1-1/2	208-1	-	200	INTERLOCK WITH IDD-1		PROVIDE WITH BACKDRAFT DAMPER, ROOF CURB, BIRD SCREEN, ODP MOTOR, PRE-WIRED DISCONNECT, ALUMINUM FAN WHEEL, GALVANIZED HOUSING, SOLID STATE SPEED CONTROLLER.
EF 7	PENN BARRY	ZJ1	CEILING	COPY/ADMIN RM 104	115	0.38	1.7	CELING CABINET FAN	TOP	DIRECT	957	0.03	N/A	115-1	125 (WATTS)	40	INTERLOCK WITH AC-1		PROVIDE WITH INTEGRAL BACKDRAFT DAMPER, ODP MOTOR, DISCONNECT PLUG, GALVANIZED HOUSING, SOLID STATE SPEED CONTROLLER.
TF 1	PENN BARRY	Z12ISTDA	CEILING	MECHANICAL ROOM	850	0.375	6.0	INLINE CABINET FAN	TOP	DIRECT	1050	0.20	N/A	115-1	3.5	65	T-STAT		PROVIDE WITH INTEGRAL BACKDRAFT DAMPER, ODP MOTOR, DISCONNECT PLUG, GALVANIZED HOUSING, SOLID STATE SPEED CONTROLLER.
TF 2	PENN BARRY	Z10HTDA	CEILING	ELECTRICAL ROOM	600	0.375	7.9	INLINE CABINET FAN	TOP	DIRECT	1550	0.24	N/A	115-1	3.6	50	T-STAT		PROVIDE WITH INTEGTRAL BACKDRAFT DAMPER, ODP MOTOR. DISCONNECT PLUG, GALVANIZED HOUSING, SOLID STATE SPEED CONTROLLER.

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VARIABLE FREQUENCY DRIVE SCHEDULE

MARK	MFR	MODEL	LOCATION	SERVES	MAX AMPS	VOLTAGE	INPUT SIGNAL	MOTOR HP	MOTOR EFF.	WEIGHT (lbs)	DIMENSIONS			(L, M3.2.1)	REMARKS
VFD 1,2	YASKAWA	Z1B1B003PMG	MECH ROOM	SHWP 1,2	3.0	460v-3Ø	0-10 VDC	2	-	70	41.6" TALL	6.77" WIDE	12.92" DEEP		PROVIDE EACH WITH NEMA-1 INDOOR ENCLOSURE, INTEGRAL DISCONNECT CIRCUIT BREAKER AND SERVICE SWITCH. RATED FOR 2 HP MOTOR, 460-V, 3-Ø, 11 FLA

HYDRONIC BOILER SCHEDULE

MARK	MFGR	MODEL	LOCATION	SERVES	CAPACITY-MBH INPUT	CAPACITY-MBH OUTPUT	EFFICIENCY	WATER PD(FT)	EWT °F	LWT °F	GPM	ELECTRICAL V-Ø	WEIGHT (lbs)	(A,N, M3.3.1)	REMARKS
B 1	RAYPAK	MVB-H7-504A	MECH ROOM	BUILDING HEATING	500 (EA)	420 (EA)	85%	1.4'	150°F	180°F	28 (EA)	120/1Ø	600 LBS (EACH)		INDOOR, NON-CONDENSING, 8'Ø CAT IV FLUE, 3.5' MIN - 14' MAX GAS PRESSURE. 1" GAS CONN., 2" WATER CONNECTION, AUTO TEMP RESET, 115-V, 1-Ø, 12 FLA EA. PROVIDE 20 AMP CIRCUIT
B 2	RAYPAK	MVB-H7-504A	MECH ROOM	BUILDING HEATING	500 (EA)	420 (EA)	85%	1.4'	150°F	180°F	28 (EA)	120/1Ø	600 LBS (EACH)		INDOOR, NON-CONDENSING, 8'Ø CAT IV FLUE, 3.5' MIN - 14' MAX GAS PRESSURE. 1" GAS CONN., 2" WATER CONNECTION, AUTO TEMP RESET, 115-V, 1-Ø, 12 FLA EA. PROVIDE 20 AMP CIRCUIT

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HYDRONIC PUMP SCHEDULE

MARK	MFGR	MODEL	LOCATION	SERVES	PUMP TYPE	GPM	TOTAL HEAD FT/H20	IMPELLER SIZE	% EFFICIENCY	BHP	MOTOR HP	MOTOR V-Ø	RPM	WEIGHT (lbs)	(A, N, M3.3.1)	REMARKS
CHWP 1	TACO	1611	MECHANICAL ROOM	(B 1)	HORIZONTAL INLINE	28	15	4.1"	51%	0.21	1/4	120/1	1750	100		1-1/2" SUCTION, 1-1/2" DISCHARGE, INLINE PUMP, OBD MOTOR, PROVIDED WITH BOILER
CHWP 2	TACO	1611	MECHANICAL ROOM	(B 2)	HORIZONTAL INLINE	28	15	4.1"	51%	0.21	1/4	120/1	1750	100		1-1/2" SUCTION, 1-1/2" DISCHARGE, INLINE PUMP, OBD MOTOR, PROVIDED WITH BOILER
SHWP 1	TACO	1919	MECHANICAL ROOM	BUILDING HEATING	HORIZONTAL INLINE	56	56	7.7"	53%	1.49	2	460/3	1750	145		2" SUCTION, 2" DISCHARGE, PROVIDE OBD INVERTER DUTY MOTOR
SHWP 2	TACO	1919	MECHANICAL ROOM	BUILDING HEATING	HORIZONTAL INLINE	56	56	7.7"	53%	1.49	2	460/3	1750	145		2" SUCTION, 2" DISCHARGE, PROVIDE OBD INVERTER DUTY MOTOR

MSHWP-000.dwg

EXPANSION TANK SCHEDULE

MARK	MFGR	MODEL	LOCATION	SYSTEM	CAPACITY-VOL ACCEPT	CAPACITY-VOL TANK	OPERATING WEIGHT (lbs)	(H, M3.3.1)	REMARKS
ET 1	TACO	CA-140	MECH ROOM	HHW LOOP	8.52	37 GAL	430		ASME THERMAL EXPANSION TANK WITH REMOVABLE BLADDER, MAXIMUM 150 PSI PRESSURE, AND 240°F TEMPERATURE, 19.7" DIAMETER, 43.3" TALL, 1" NPT SYSTEM CONNECTION, 422 LBS FLOODED WEIGHT. FACTOR CHARGED TO 12 PSIG. CHARGE TO 21 PSIG.

MSTANK-002.dwg

DEDICATED VEHICLE EXHAUST HOSE REEL & FAN SCHEDULE

MARK	MFGR	MODEL	LOCATION	SERVES	CFM	ESP	dbA @ 5FT.	FAN TYPE	DISCH	DRIVE	FAN RPM	FAN BHP	ELECTRICAL HP	ELECTRICAL V-Ø	ELECTRICAL FLA	WEIGHT (lbs)	CONTROL	(O, M3.3.1)	REMARKS
VEX 1-1	VENTAIRE	HRA400	SUSPENDED FROM ROOF STRUCTURE	ALIGNMENT BAY	300	3.5	-	CONN. TO FAN ON ROOF	-	-	-	-	-	-	-	175	N/A		PROVIDE WITH MEDIUM TEMPERATURE 4"X25' HOSE WITH WEAR STRIP, NEOPRENE OVAL TAILPIPE ADAPTER.
VEX 1-2	VENTAIRE	HRA400	SUSPENDED FROM ROOF STRUCTURE	ALIGNMENT BAY	300	3.5	-	CONN. TO FAN ON ROOF	-	-	-	-	-	-	-	175	N/A		PROVIDE WITH MEDIUM TEMPERATURE 4"X25' HOSE WITH WEAR STRIP, NEOPRENE OVAL TAILPIPE ADAPTER.
VEX 1-3	VENTAIRE	HRA400	SUSPENDED FROM ROOF STRUCTURE	FLEX BAY	300	3.5	-	CONN. TO FAN ON ROOF	-	-	-	-	-	-	-	175	N/A		PROVIDE WITH MEDIUM TEMPERATURE 4"X25' HOSE WITH WEAR STRIP, NEOPRENE OVAL TAILPIPE ADAPTER.
VEX 1-4 TO VEX 1-13	VENTAIRE	HRA400	SUSPENDED FROM ROOF STRUCTURE	INSTRUCT. BAYS	300	3.5	-	CONN. TO FAN ON ROOF	-	-	-	-	-	-	-	175	N/A		PROVIDE WITH MEDIUM TEMPERATURE 4"X25' HOSE WITH WEAR STRIP, NEOPRENE OVAL TAILPIPE ADAPTER.
VEX 1-14	VENTAIRE	HRA400	SUSPENDED FROM ROOF STRUCTURE	TEACHING AID	300	3.5	75.77	CENTRIFUGAL	HORIZ.*	DIRECT	3500	-	1/2	115-1	-	245	AUTO UPON EXTENDING HOSE		PROVIDE WITH PK10 PULL DOWN KIT, MICRO SWITCH FOR HOSE REEL, MEDIUM TEMPERATURE 4"X25' HOSE WITH WEAR STRIP, NEOPRENE OVAL TAILPIPE ADAPTER & PW9-1 DIRECT DRIVE BLOWER WITH OVERLOAD PROTECTION, DISCHARGE ARRANGEMENT #3 & RESET BUTTON.
VEX 2-1	VENTAIRE	HRA800	SUSPENDED FROM ROOF STRUCTURE	ENGINE DYNO	1200	4.0	82	CENTRIFUGAL	HORIZ.*	DIRECT	3500	-	3	208-1	-	375	AUTO UPON EXTENDING HOSE		PROVIDE W/PK10 PULL DOWN KIT, MICRO SWITCH FOR HOSE REEL, HI-TEMP, 8"X25' HOSE W/ WEAR STRIP, 8" DUAL TAILPIPE ADAPTER W/(2) 4"X5' HOSE ASSEMBLIES W/TS40 ADAPTERS & TPD 12R DIRECT DRIVE BLOWER WITH STARTER, OVERLOAD PROTECTION, DISCHARGE ARRANGEMENT #3 & RESET BUTTON.
VEX 2-2	VENTAIRE	HRA800	SUSPENDED FROM ROOF STRUCTURE	2WD/AWD DYNO	1200	4.0	82	CENTRIFUGAL	HORIZ.*	DIRECT	3500	-	3	208-1	-	375	AUTO UPON EXTENDING HOSE		PROVIDE W/PK10 PULL DOWN KIT, MICRO SWITCH FOR HOSE REEL, HI-TEMP, 8"X25' HOSE W/ WEAR STRIP, 8" DUAL TAILPIPE ADAPTER W/(2) 4"X5' HOSE ASSEMBLIES W/TS40 ADAPTERS & TPD 12R DIRECT DRIVE BLOWER WITH STARTER, OVERLOAD PROTECTION, DISCHARGE ARRANGEMENT #3 & RESET BUTTON.

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AIR SEPARATOR SCHEDULE

MARK	MFGR	MODEL	LOCATION	SERVES	FLOW GPM	OPERATING WEIGHT (lbs)	(A, N, M3.3.1)	REMARKS
AS 1	TACO	435	MECHANICAL ROOM	BUILDING HEATING	56	18		2-1/2" INLINE AIR SCOOP, THREADED, PROVIDE WITH HIGH CAPACITY AUTO AIR VENT

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite 220
Auburn, CA 95603
530.888.0998
www.jkaia.net

CONTRACTOR/ENGINEER:
AIRCO mechanical, inc.
Contractors & Engineers
T 916 381 4523 I FAX 916 386 0350
8210 Demetre Ave., Sacramento, CA 95828
www.aircomech.com

THIS PLAN IS PREPARED BY AIRCO MECHANICAL, INC. AND IS GUARANTEED ONLY IF AIRCO MECHANICAL, INC. IS THE INSTALLING CONTRACTOR.

SEAL:

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. BARKER
No. M34483
Exp. June 30, 2019
MECHANICAL
STATE OF CALIFORNIA

Mechanical O&Ms

Mechanical Warranties

SEAL

LICENSED ARCHITECT
CHRISTOPHER G. VIGNOLO
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: MECHANICAL SCHEDULES (CON'T)

Drawn By: E. FREESEN
Checked By: C. BARKER
Project No.: 160124
@Date: 08/30/2016

DRAWING NO.
M1.2.1

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	01-23-2017	ASI 009
3	04-07-2017	ASI 020
4	06-22-2017	ASI 027
5	06-28-2017	ASI 028
6	08-04-2017	ASI 031
7	08-16-2017	RECORD SET

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STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CEC-NRCC-MCH-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 1 of 4)
Project Name: Solano CCD Autotech building 160024	Date Prepared: 16-Aug-17

A. MECHANICAL COMPLIANCE FORMS & WORKSHEETS (check box if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2013 Nonresidential Manual Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.

YES	NO	Form/Worksheet #	Title
X		NRCC-MCH-01-E (Part 1 of 3)	Certificate of Compliance, Declaration. Required on plans for all submittals.
X		NRCC-MCH-01-E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12A to 11A). Required on plans for all submittals.
X		NRCC-MCH-01-E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12A to 18A). Required on plans where applicable.
X		NRCC-MCH-02-E (Part 1 of 2)	Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on
X		NRCC-MCH-02-E (Part 2 of 2)	Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water systems. It is optional on plans.
X		NRCC-MCH-03-E	Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is optional on plans.
		NRCC-MCH-07-E (Part 1 of 2)	Power Consumption of Fans. Required on plans where applicable
		NRCC-MCH-07-E (Part 2 of 2)	Power Consumption of Fans, Declaration. Required on plans where applicable

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CEC-NRCC-MCH-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 2 of 4)
Project Name: Solano CCD Autotech building 160024	Date Prepared: 8/16/2017

B. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required forms)

Test Performed By:

Designer:
This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:
The contractor who installed the equipment is responsible to either conduct the acceptance test them self or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:
Plancheck – The NRCC-MCH-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked. Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description	MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A
Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
FC-1/CU-1	1		☒								
FC-2/CU-2	1		☒								
VAV 1-1	1					☒					
VAV 1-2	1					☒					
VAV 1-4	1					☒					
VAV 1-5	1					☒					

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CEC-NRCC-MCH-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 3 of 4)
Project Name: Solano CCD Autotech building 160024	Date Prepared: 8/16/2017

C. MECHANICAL HVAC ACCEPTANCE

Test Performed By:

Designer:
This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:
The contractor who installed the equipment is responsible to either conduct the acceptance test them self or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible. The following tests require a

Enforcement Agency:
Plancheck – The NRCC-MCH-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked. Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A
Equipment Requiring Testing or Verification	# of units	Fault Detection & Diagnostics for DX Units	Automatic Fault Detection & Diagnostics for Air & Zone	Distributed Energy Storage DX AC Systems	Thermal Energy Storage (TES) Systems	Supply Air Temperature Reset Controls	Condenser Water Reset Controls	ECMS
FC-1/CU-1	1							
FC-2/CU-2	1							
VAV 1-1	1							
VAV 1-2	1							
VAV 1-4	1							
VAV 1-5	1							

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CEC-NRCC-MCH-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 4 of 4)
Project Name: Solano CCD Autotech building 160024	Date Prepared: 8/16/2017

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Chris Barker, P.E.	Documentation Author Signature:
Company: Airco Mechanical Inc.	Signature Date: 18-Mar-16
Address: 8210 Demetre Avenue	CEA/HERS Certification Identification (If applicable):
City/State/Zip: Sacramento, CA 95828	Phone: (916) 381-4523

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Chris Barker, P.E.	Responsible Designer Signature:
Company: Airco Mechanical Inc.	Date Signed: 18-Mar-16
Address: 8210 Demetre Avenue	License: M34463
City/State/Zip: Sacramento, CA 95828	Phone: (916) 381-4523

STATE OF CALIFORNIA
HVAC SYSTEM REQUIREMENTS
CEC-NRCC-MCH-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-02-E
HVAC Dry System Requirements	(Page 1 of 3)
Project Name: Solano CCD Autotech Building 160024	Date Prepared: 8/16/2017

A. Equipment Tags and System Description[1]

MANDATORY MEASURES	T-24 Sections	Reference to the Requirements in the Contract Documents[2]			
Heating Equipment Efficiency	110.1 or 110.2(a)	M1.1			
Cooling Equipment Efficiency	110.1 or 110.2(a)	M1.1			
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)	M1.1			
Furnace Standby Loss Control	110.2(d)	N/A			
Low leakage AHUs	110.2(f)	N/A			
Ventilation	120.1(b)	M1.1			
Demand Control Ventilation	120.1(c)4	N/A			
Occupant Sensor Ventilation Control	120.1(c)5, 120.2(e)3	N/A			
Shutoff and Reset Controls	120.2(e)	N/A			
Outdoor Air and Exhaust Damper Control	120.2(f)	N/A			
Isolation Zones	120.2(g)	N/A			
Automatic Demand Shed Controls	120.2(h)	N/A			
Economizer FDD	120.2(i)	N/A			
Duct Insulation	120.4	M1.1			
PRESCRIPTIVE MEASURES					
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	Y/N			
Supply Fan Pressure Control	140.4(c)	N/A			
Simultaneous Heat/Cool Economizer	140.4(d)	N/A			
Heat and Cool Air Supply Reset	140.4(e)	N/A			
Electric Resistance Heating	140.4(f)	N/A			
Duct Leakage Sealing and Testing.[3]	140.4(g)	N/A			
	140.4(l)	N/A			

Notes:
1. *Provide equipment tags (e. g. AHU 1 to 10) and system description (e.g. Single Duct VAV/reheat) as appropriate. Multiple units with common requirements can be grouped together.*
2. *Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.*
3. *The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. Where appliance standards apply (110.1), identify where equipment is required to be listed per Title 20 1602 et seq.*
4. *Identify where the ventilation requirements are documented for each central HVAC system. Include references to both central unit schedules and sequences of operation. If one or more space is naturally ventilated identify where this is documented in the plans and specifications. Multiple zone central air systems must also provide a MCH-03-E form.*
5. *If one or more space has demand controlled ventilation identify where it is specified including the sensor specifications and the sequence of operation.*
6. *If one or more space has occupant sensor ventilation control identify where it is specified including the sensor specifications and the sequence of operation*
7. *If the system is DDC identify the sequences for the system start/stop, optimal start, setback (if required) and setup (if required). For all systems identify the specification for the thermostats and time clocks (if applicable).*
8. *Identify where the heating, cooling and deadband airflows are scheduled for this system. Include a reference to the specification of the zone controls. Provide a MCH-03-E form.*
9. *Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.*
10. *If duct leakage sealing and testing is required, a MCH-04-A form must be submitted.*

STATE OF CALIFORNIA
HVAC WET SYSTEM REQUIREMENTS
CEC-NRCC-MCH-02-E (Revised 05/14) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-02-E
HVAC Wet System Requirements	(Page 2 of 3)
Project Name: Solano CCD Autotech building 160024	Date Prepared: 8/16/2017

B. Equipment Tags and System Description[1]

MANDATORY MEASURES	T-24 Sections	B-1 2 Raypak			
		Reference to the Requirements in the Contract			
Heating Hot Water Equipment Efficiency	110.1	See M1.1			
Cooling Chilled and Condenser Water Equipment Efficiency	110.1, 140.4(i)	N/A			
Open and Closed Circuit Cooling Towers conductivity or flow-based controls	110.2(e) 1	N/A			
Open and Closed Circuit Cooling Towers Maximum Achievable Cycles of Concentration (LSI)	110.2(e) 2	N/A			
Open and Closed Circuit Cooling Towers Flow Meter with analog output	110.2(e) 3	N/A			
Open and Closed Circuit Cooling Towers Overflow Alarm	110.2(e) 4	N/A			
Open and Closed Circuit Cooling Towers Efficient Drift Eliminators	110.2(e) 5	N/A			
Pipe Insulation	120.3	See M1.1			
PRESCRIPTIVE MEASURES					
Cooling Tower Fan Controls Cooling Tower	140.4(h)2,	N/A			
Flow Controls	140.4(h)3	N/A			
Centrifugal Fan Cooling Towers	140.4(h)4	N/A			
Air-Cooled Chiller Limitation	140.4(j)	N/A			
Variable Flow System Design Chiller and Boiler Isolation CHW and HHW Reset	140.4(k)	N/A			
Controls WUHP Isolation Valves	140.4(k)	N/A			
VSD on CHW, CW & WUHP Pumps >5HP	140.4(k)	N/A			
DP Sensor Location	140.4(k)	N/A			
	140.4(k)	See M3.3.1			

Notes:
1. *Provide equipment tags (e.g. CH 1 to 3) or system description (e.g. CHW loop) as appropriate. Multiple units with common requirements can be grouped together.*
2. *Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.*
3. *The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. For chillers operating at non-standard efficiencies provide the Kadj values. For chillers also note whether the efficiencies are Path A or Path B.*
4. *Identify if cooling towers have propeller fans. If towers use centrifugal fans document which exception is used.*
5. *If air-cooled chillers are used, document which exceptions have been used to comply with 140.4(j) and the total installed design capacity of the air-cooled chillers in the chilled water plant.*
6. *Identify the existence of a completed MCH-06-E (when open or closed circuit cooling towers are specified to be installed, otherwise enter "N/A".*

STATE OF CALIFORNIA
HVAC SYSTEM REQUIREMENTS
CEC-NRCC-MCH-02-E (Revised 05/14) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-02-E
HVAC Wet System Requirements	(Page 3 of 3)
Project Name: Solano CCD Autotech Building 160024	Date Prepared: [redacted]

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate

Documentation Author Name: Chris Barker, P.E.	Documentation Author Signature:
Company: Airco Mechanical Inc.	Signature Date: 18-Mar-16
Address: 8210 Demetre Avenue	CEA/HERS Certification Identification (If applicable):
City/State/Zip: Sacramento, CA 95828	Phone: (916) 381-4523

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Chris Barker, P.E.	Responsible Designer Signature:
Company: Airco Mechanical Inc.	Date Signed: 18-Mar-16
Address: 8210 Demetre Avenue	License: M34463
City/State/Zip: Sacramento, CA 95828	Phone: (916) 381-4523

STATE OF CALIFORNIA
MECHANICAL VENTILATION AND REHEAT
CEC-NRCC-MCH-03-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-03-E
Mechanical Ventilation & Reheat	(Page 1 of 2)
Project Name: Solano CCD Autotech building 160024	Date Prepared: 8/16/2017

ACTUAL DESIGN INFO (FROM EQUIPMENT SCHEDULES, ETC)					AREA BASIS			OCCUPANCY BASIS			MINIMUM	VAV Reheated Primary Air CFM			VAV Deadband Primary Air CFM			
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SUPPLY FAN AIRFLOW RATE (CFM)	OUTDOOR AIRFLOW RATE (CFM)	OUTDOOR AIRFLOW RATE PER AREA (CFM/SQ FT)	OUTDOOR AIRFLOW RATE PER OCCUPANT (CFM/PERSON)	CENTRAL AIR ECONOMIZER (Y/N)	TRANSFER AIR (CFM)	FLOOR AREA (SQ FT)	OCCUPANT DENSITY (PEOPLE/1000 SQ FT)	# OF OCCUPANTS	MAIN AIR DIFFUSER	OCCUPANT SENSOR CONTROL	SUPPLY AIR TEMPERATURE RESET	MIN AIR FLOW RATE (CFM)	DDC CONTROLS	MAXIMUM AIRFLOW RATE (CFM)	MINIMUM AIRFLOW RATE (CFM)	DDC CONTROLS	MAXIMUM AIRFLOW RATE (CFM)	MINIMUM AIRFLOW RATE (CFM)	COMMENTS
1400	615	700	Y	0	1230	0.50	615	26	15	390	615	Y	700	700	Y	280	615	Y	
410	280	280	Y	0	558	0.50	280	16	15	240	280	Y	205	280	Y	82	280	Y	
1280	555	600	Y	0	1109	0.50	555	26	15	390	555	Y	640	640	Y	256	555	Y	
1040	500	500	Y	0	532	0.15	80	12	15	180	180	Y	500	500	Y	200	200	Y	
520	140		Y	0	911	0.15	135	5	15	75	135	Y	260		Y	104	135	Y	
780	350	350	Y	0	703	0.50	350	20	15	300	350	Y	390	390	Y	156	350	Y	
480	125		Y	0	807	0.15	120	4	15	60	120	Y	240		Y	96	120	Y	
1800	365	365	Y	0	850	0.15	130	8	15	120	130	Y	900	900	Y	360	360	Y	
1520	310	340	Y	0	1690	0.15	255	17	15	255	255	Y	760	760	Y	304	304	Y	

Yellow shaded cells require user input. Remaining cells are protected and automatic

B. The largest amount of primary air supplied by the terminal unit when it's operating in the cooling mode.
C. The smallest amount of primary air supplied by the terminal unit in the deadband mode.
D. The largest amount of primary air supplied by the terminal unit when it's operating in the heating mode.
E. A terminal unit can be controlled with DDC controls, or non-DDC controls. Each control category has different reheat limitations in code.
F. Transfer Air must be provided where Required Ventilation Airflow (Column M) is greater than the Design Primary Deadband Airflow (Column C).
H. Minimum ventilation rate per Section §120.1, Table 120-1-A.
J. Based on number of fixed seats where applicable or the greater of the expected number of occupants and 50% of the CBC occupant load for egress purposes for spaces without fixed seating.
M. Required Ventilation Airflow (Req'd Ventilation Airflow) is the larger of the ventilation rates calculated on an AREA BASIS or OCCUPANCY BASIS (Column I or L)
N. This column identifies whether or not the Design Primary Deadband Airflow complies or not. It compares the value in column M to the value in column C and column F.
O. Design Primary Cooling Airflow * 0.50 for DDC, Design Primary Cooling Airflow * 0.30 for Non-DDC. If the Design Primary Cooling Airflow is less than 300 cfm, then this is not applicable.
P. Maximum of Column M and Column O. If the Design Primary Cooling Airflow is 300 cfm or less, then this is not applicable.
Q. This column identifies whether or not the Design Primary Reheat Airflow at the zone level, complies or not. It compares the value in column P to the value in column D.
R. Design Primary Cooling Airflow * 0.20 for DDC. Not applicable for Non-DDC zones or zones where Design Primary Cooling Airflow is 300 cfm or less.
S. Maximum of Column M and Column R. Not applicable if the Design Primary Cooling Airflow is 300 cfm or less.
T. This column identifies whether or not the Design Primary Deadband Airflow at the zone level, complies or not. It compares the value in column S to the value in column C.

STATE OF CALIFORNIA
MECHANICAL VENTILATION AND REHEAT
CEC-NRCC-MCH-03-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-03-E
Mechanical Ventilation & Reheat	(Page 2 of 2)
Project Name: Solano CCD Autotech building 160024	Date Prepared: 8/16/2017

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Chris Barker, P.E.	Documentation Author Signature:
Company: Airco Mechanical Inc.	Signature Date: 27-Jan-16
Address: 8210 Demetre Avenue	CEA/HERS Certification Identification (If applicable):
City/State/Zip: Sacramento, CA 95821	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
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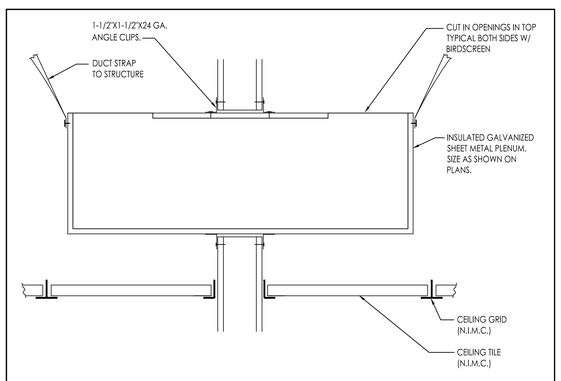
Responsible Designer Name: Chris Barker, P.E.	Responsible Designer Signature:
Company: Airco Mechanical Inc.	Date Signed: 27-Jan-16
Address: 8210 Demetre Avenue	License: M34463
City/State/Zip: Sacramento, CA 95821	Phone: (916) 381-4523



RETURN AIR/SOUND PLENUM DETAIL — SCALE: NONE — -

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite 220
Auburn, CA 95603
530.888.0998
www.jkaia.net

CONTRACTOR/ENGINEER:

AIRCO mechanical, inc.
Contractors & Engineers
l 916 381 4523 l FAX 916 386 0350
8210 Demetre Ave., Sacramento, CA 95828
www.aircomech.com

THIS PLAN IS PREPARED BY
AIRCO MECHANICAL, INC. AND IS GUARANTEED
ONLY IF AIRCO MECHANICAL, INC. IS THE
INSTALLING CONTRACTOR.

SEAL:

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER S. BARKER — No. M34463 — Exp. June 30, 2019 — MECHANICAL — STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT — CHRISTOPHER C. VIVIANO — NO. C26985 REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC _____ F/LS _____ SS _____
DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: TITLE 24 DOCUMENTATION

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	01-23-2017	ASI 009
3	04-07-2017	ASI 020
4	06-22-2017	ASI 027
5	06-28-2017	ASI 028
6	08-04-2017	ASI 031
1	08-16-2017	RECORD SET

Drawn By: E. FRIESEN
Checked By: C. BARKER
Project No.: 160024
©Date: 08/30/2016
DRAWING NO.: M1.3.1

P:\00 - Work\2-Projects\2016\Solano CCD Autotech Building_16-0024\Engineering\CAD\0424-0MECH.dwg 08/16/17 2:50:20pm 1 EvanF

Project Name:	Auto Tech Facility	NRCC-PRF-01-E	Page 1 of 21
Project Address:	1691 Ascot Pkwy Vallejo 94591	Calculation Date/Time:	15:12, Fri, Mar 18, 2016
Compliance Scope:	NewComplete	Input File Name:	160322 Solano Autotech - Copy.xml

A. PROJECT GENERAL INFORMATION

1.	Project Location (city)	Vallejo	7.	# of dwelling units	0
2.	CA Zip Code	94591	8.	Standards Version	Compliance2015
3.	Climate Zone	3	9.	Compliance Software (version)	EnergyPro 6.7
4.	Total Conditioned Floor Area	30,123 ft²	10.	Building Orientation (deg)	(N) 0 deg
5.	Total Unconditioned Floor Area	0 ft²	11.	Permitted Scope of Work	NewComplete
6.	# of Stories (Habitable Above Grade)	1	12	Building Type(s)	Nonresidential

B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS — § 140.1

BUILDING COMPLIES

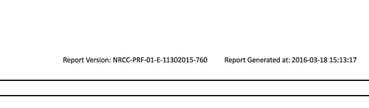
1. Energy Component	2. Standard Design (TDV)	3. Proposed Design (TDV)	4. Compliance Margin (TDV)	5. Percent Better than Standard
Space Heating	16.2	4.4	11.8	72.8%
Space Cooling	51.3	19.4	31.9	62.2%
Indoor Fans	182.7	233.3	-50.6	-27.7%
Heat Rejection	--	--	--	--
Pumps & Misc.	1.2	0.9	0.3	25.0%
Domestic Hot Water	8.8	7.9	0.9	10.2%
Indoor Lighting	115.5	53.2	62.3	53.9%
COMPLIANCE TOTAL	**375.7**	**319.1**	**56.6**	**15.1%**
Receptacle	128.4	128.4	0.0	0.0%
Process	2.6	2.6	0.0	0.0%
Process Ltg	--	--	--	--
TOTAL	**506.7**	**450.1**	**56.6**	**11.2%**

Project Name:	Auto Tech Facility	NRCC-PRF-01-E	Page 2 of 21
Project Address:	1691 Ascot Pkwy Vallejo 94591	Calculation Date/Time:	15:12, Fri, Mar 18, 2016
Compliance Scope:	NewComplete	Input File Name:	160322 Solano Autotech - Copy.xml

C. PRIORITY PLAN CHECK/ INSPECTION ITEMS (in order of highest to lowest TDV energy savings)

1st	Indoor Lighting: Check lighting
2nd	Space Cooling: Check envelope and mechanical
3rd	Space Heating: Check envelope and mechanical
4th	Domestic Hot Water: Check mechanical
5th	Pumps & Misc.: Check mechanical
6th	Heat Rejection: Check envelope and mechanical
7th	Indoor Fans: Check envelope and mechanical

Compliance Margin By Energy Component (from Table B column 4)



D. EXCEPTIONAL CONDITIONS

E. HERS VERIFICATION

This Section Does Not Apply

F. ADDITIONAL REMARKS

None Provided

Project Name:	Auto Tech Facility	NRCC-PRF-01-E	Page 3 of 21
Project Address:	1691 Ascot Pkwy Vallejo 94591	Calculation Date/Time:	15:12, Fri, Mar 18, 2016
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G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

Identify which building components use the performance or prescriptive path for compliance. "NA"= not in project

For components that utilize the performance path, indicate the sheet number that includes mandatory notes on plans.

Building Component	Compliance Path	Compliance Forms *(required for submittal)*	Location of Mandatory Notes on Plans
Envelope	☒ Performance	NRCC-PRF-ENV-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-ENV-01 / 02 / 03 / 04 / 05 / 06-E	
	☐ NA		
Mechanical	☒ Performance	NRCC-PRF-MCH-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-MCH-01 / 02 / 03 / 04 / 05 / 06 / 07-E	
	☐ NA		
Domestic Hot Water	☒ Performance	NRCC-PRF-PLB-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PLB-01-E	
	☐ NA		
Lighting (Indoor Conditioned)	☒ Performance	NRCC-PRF-LTI-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	
	☐ NA		
Covered Process: Commercial Kitchens	☐ Performance	S2 (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PRC-01/ 03-E	
	☒ NA		
Covered Process: Computer Rooms	☒ Performance	S3 (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PRC-01/ 04-E	
	☐ NA		
Covered Process: Laboratory Exhaust	☐ Performance	S4 (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PRC-01/ 09-E	
	☒ NA		

Project Name:	Auto Tech Facility	NRCC-PRF-01-E	Page 4 of 21
Project Address:	1691 Ascot Pkwy Vallejo 94591	Calculation Date/Time:	15:12, Fri, Mar 18, 2016
Compliance Scope:	NewComplete	Input File Name:	160322 Solano Autotech - Copy.xml

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

The following building components are only eligible for prescriptive compliance. Indicate which are relevant to the project.				*The following building components may have mandatory requirements per Part 6. Indicate which are relevant to the project.*			
Yes	NA	Prescriptive Requirement	Compliance Forms	Yes	NA	Mandatory Requirement	Compliance Forms
☐	☒	Lighting (Indoor Unconditioned) §140.6	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	☒ ☒	☐ ☐	Commissioning: §120.8 Simple Systems Complex Systems	NRCC-CXR-01 / 02 / 03 / 05-E NRCC-CXR-01 / 02 / 04 / 05-E
☐	☒	Lighting (Outdoor) §140.7	NRCC-LTO-01 / 02 / 03-E	☐	☒	Electrical: §130.5	NRCC-ELC-01-E
☐	☒	Lighting (Sign) §140.8	NRCC-LTS-01-E	☒	☐	Solar Ready: §110.10	NRCC-SRA-01 / 02-E
☐	☒	Solar Thermal Water Heating: §140.5	NRCC-STH-01-E	☐ ☐ ☐ ☐ ☐	☒ ☒ ☒ ☒ ☒	Covered Process: §120.6 Parking Garage Commercial Refrigeration Warehouse Refrigeration Compressed Air Process Boilers	NRCC-PRC-01-E NRCC-PRC-02-E NRCC-PRC-05-E NRCC-PRC-06/07/08-E NRCC-PRC-10-E NRCC-PRC-11-E

Project Name:	Auto Tech Facility	NRCC-PRF-01-E	Page 5 of 21
Project Address:	1691 Ascot Pkwy Vallejo 94591	Calculation Date/Time:	15:12, Fri, Mar 18, 2016
Compliance Scope:	NewComplete	Input File Name:	160322 Solano Autotech - Copy.xml

H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) –
Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance
(Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).
See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.

Building Component	Compliance Forms *(required for submittal)*	Confirmed Pass	Confirmed Fail
Envelope	☒ NRCI-ENV-01-E - For all buildings	☐	☐
	☐ NRCA-ENV-02-F- NFRC label verification for fenestration	☐	☐
Mechanical	☒ NRCI-MCH-01-E - For all buildings with Mechanical Systems	☐	☐
	☒ NRCA-MCH-02-A- Outdoor Air	☐	☐
	☒ NRCA-MCH-03-A – Constant Volume Single Zone HVAC	☐	☐
	☐ NRCA-MCH-04-H- Air Distribution Duct Leakage	☐	☐
	☒ NRCA-MCH-05-A- Air Economizer Controls	☐	☐
	☒ NRCA-MCH-06-A- Demand Control Ventilation	☐	☐
	☒ NRCA-MCH-07-A – Supply Fan Variable Flow Controls	☐	☐
	☒ NRCA-MCH-08-A- Valve Leakage Test	☐	☐
	☒ NRCA-MCH-09-A – Supply Water Temp Reset Controls	☐	☐
	☒ NRCA-MCH-10-A- Hydronic System Variable Flow Controls	☐	☐
	☒ NRCA-MCH-11-A – Auto Demand Shed Controls	☐	☐
	☒ NRCA-MCH-12-A- Packaged Direct Expansion Units	☐	☐
	☐ NRCA-MCH-13-A- Air Handling Units and Zone Terminal Units	☐	☐
	☐ NRCA-MCH-14-A- Distributed Energy Storage	☐	☐
	☐ NRCA-MCH-15-A – Thermal Energy Storage	☐	☐
	☒ NRCA-MCH-16-A- Supply Air Temp Reset Controls	☐	☐
	☐ NRCA-MCH-17-A – Condensate Water Temp Reset Controls	☐	☐
	☐ NRCA-MCH-18-A- Energy Management Controls Systems	☐	☐
	☐ NRCV-MCH-04-H- Duct Leakage Test	☐	☐

Project Name:	Auto Tech Facility	NRCC-PRF-01-E	Page 6 of 21
Project Address:	1691 Ascot Pkwy Vallejo 94591	Calculation Date/Time:	15:12, Fri, Mar 18, 2016
Compliance Scope:	NewComplete	Input File Name:	160322 Solano Autotech - Copy.xml

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Building Component	Compliance Forms *(required for submittal)*	Confirmed Pass	Confirmed Fail
Plumbing	☒ NRCI-PLB-01-E - For all buildings with Plumbing Systems	☐	☐
	☐ NRCI-PLB-02-E - required on central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-03-E - Single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-21-E - HERS verified central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-22-E - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCV-PLB-21-H- HERS verified central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-STH-01-E - Any solar water heating	☐	☐
Indoor Lighting	☒ NRCI-LTI-01-E - For all buildings	☐	☐
	☐ NRCI-LTI-02-E - Lighting control system, or for an Energy Management Control System (EMCS)	☐	☐
	☐ NRCI-LTI-03-E - Line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting	☐	☐
	☐ NRCI-LTI-04-E - Two interlocked systems serving an auditorium, a convention center, a conference room, or a theater	☐	☐
	☐ NRCI-LTI-05-E - Lighting Control Credit Power Adjustment Factor (PAF)	☐	☐
	☐ NRCI-LTI-06-E - Additional wattage installed in a video conferencing studio	☐	☐
	☐ NRCA-LTI-02-A - Occupancy sensors and automatic time switch controls.	☐	☐
	☐ NRCA-LTI-03-A - Automatic daylighting controls	☐	☐
	☐ NRCA-LTI-04-A - Demand responsive lighting controls	☐	☐
Outdoor Lighting	☐ NRCI-LTO-01-E – Outdoor Lighting	☐	☐
	☐ NRCI-LTO-02-E- EMCS Lighting Control System	☐	☐
	☐ NRCA-LTO-02-A - Outdoor Lighting Control	☐	☐
Sign Lighting	☐ NRCI-LTS-01-E – Sign Lighting	☐	☐
Electrical	☐ NRCI-ELC-01-E - Electrical Power Distribution	☐	☐
Photovoltaic	☐ NRCI-SPV-01-E Photovoltaic Systems	☐	☐

Project Name:	Auto Tech Facility	NRCC-PRF-01-E	Page 7 of 21
Project Address:	1691 Ascot Pkwy Vallejo 94591	Calculation Date/Time:	15:12, Fri, Mar 18, 2016
Compliance Scope:	NewComplete	Input File Name:	160322 Solano Autotech - Copy.xml

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See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.

Building Component	Compliance Forms *(required for submittal)*	Confirmed Pass	Confirmed Fail
Covered Process	☐ NRCI-PRC-01-E Refrigerated Warehouse	☐	☐
	☐ NRCA-PRC-01-F- Compressed Air Systems	☐	☐
	☐ NRCA-PRC-02-F- Kitchen Exhaust	☐	☐
	☐ NRCA-PRC-03-F- Garage Exhaust	☐	☐
	☐ NRCA-PRC-04-F- Refrigerated Warehouse- Evaporator Fan Motor Controls	☐	☐
	☐ NRCA-PRC-05-F- Refrigerated Warehouse- Evaporative Condenser Controls	☐	☐
	☐ NRCA-PRC-06-F- Refrigerated Warehouse- Air Cooled Condenser Controls	☐	☐
	☐ NRCA-PRC-07F- Refrigerated Warehouse- Variable Speed Compressor	☐	☐
	☐ NRCA-PRC-08-F- Electrical Resistance Underslab Heating System	☐	☐

I. ENVELOPE GENERAL INFORMATION (See NRCC-PRF-ENV-DETAILS for more information)

						Confirmed Pass	Confirmed Fail
1.	Total Conditioned Floor Area	30,123 ft²	5.	Number of Floors Above Grade	1		
2.	Total Unconditioned Floor Area	0 ft²	6.	Number of Floors Below Grade	0		
3.	Addition Conditioned Floor Area	0 ft²					
4.	Addition Unconditioned Floor Area	0 ft²					

7. Opaque Surfaces & Orientation	8. Total Gross Surface Area	9. Total Fenestration Area	10. Window to Wall Ratio	Pass	Fail
North Wall	4,229 ft²	55 ft²	01.3%	☐	☐
East Wall	4,707 ft²	857 ft²	18.2%	☐	☐
South Wall	3,341 ft²	968 ft²	29.0%	☐	☐
West Wall	3,727 ft²	16 ft²	00.4%	☐	☐
Total	**16,004 ft²**	**1,896 ft²**	**11.8%**	☐	☐
Roof	30,123 ft²	535 ft²	01.8%	☐	☐

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J. FENESTRATION ASSEMBLY SUMMARY — § 110.6 — Confirmed

1. Fenestration Assembly Name / Tag or I.D.	2. Fenestration Type	3. Certification Method[1]	4. Assembly Method	5. Area ft²	6. Overall U-factor	7. Overall SHGC	8. Overall VT	9. Status[2]	Pass	Fail
Double Non Metal Clear	VerticalFenestration	DefaultPerformance	SiteBuilt	535	0.60	0.67	0.62	N	☐	☐
Double Thermal Break Tinted	VerticalFenestration	DefaultPerformance	SiteBuilt	16	0.60	0.57	0.53	N	☐	☐
Double Metal Tinted	VerticalFenestration	DefaultPerformance	Manufactured	1880	0.76	0.60	0.55	N	☐	☐

[1] Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Site-built fenestration less than 1,000 ft², or more than or equal to 1,000 ft² see Reference Nonresidential Appendix NA6.
[2] Status: N - New, A – Altered, E – Existing

Taking compliance credit for fenestration shading devices? (if "Yes", see NRCC-PRF-ENV-DETAILS for more information)

K. OPAQUE SURFACE ASSEMBLY SUMMARY — § 120.7/ § 140.3 — Confirmed

1. Surface Name	2. Surface Type	3. Area (ft²)	4. Framing Type	5. Cavity R-Value	6. Continuous R-Value	7. U-Factor / F-Factor / C-Factor	8. Status[1]	Pass	Fail
8 CMU Wall10	ExteriorWall	10555	NA	0	NA	U-Factor: 0.281	N	☐	☐
R-38 Metal Deck Roof19	Roof	30123	NA	0	35	U-Factor: 0.027	N	☐	☐
Slab On Grade22	UndergroundFloor	47053	NA	0	NA	F-Factor: 0.730	N	☐	☐
R-19 Wall Metal Stud37	ExteriorWall	5449	Metal	19	NA	U-Factor: 0.183	N	☐	☐

[1] Status: N – New, A – Altered, E – Existing

L. ROOFING PRODUCT SUMMARY — § 140.3 — Confirmed

1. Product Type	2. Product ≥25 lb ft²	3. Aged Solar Reflectance	4. Thermal Emittance	5. SRI	6. Cool Roof Credit	7. CRRC Product ID Number	Pass	Fail
R-38 Metal Deck Roof19	No	0.08	0.75	NA	No	NA	☐	☐

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M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information) — § 110.1 / § 110.2

Dry System Equipment [1] (Fan & Economizer info included below in Table N)

1. Equip Name	2. Equip Type	3. System Type (Simple [4] or Complex [4])	4. Qty	5. Total Heating Output (kBtu/h)	6. Supp Heat Source (Y/N)	7. Supp Heat Output (kBtuh)	8. Total Cooling Output (kBtu/h)	9. Efficiency: Cooling	9. Efficiency: Heating	10. Acceptance Testing Required? (Y/N) [5]	11. Status[6]	Confirmed Pass	Confirmed Fail
Indirect/Direct Unit4	HV (Packaged3Phase)	Simple	1	832	No	0	0	NA	NA	Yes	N	☐	☐
Zone 16	Exhaust (Packaged3Phase)	Simple	5	0	No	0	0	NA	NA	No	N	☐	☐
Zone 523	Exhaust (Packaged3Phase)	Simple	2	0	No	0	0	NA	NA	No	N	☐	☐
Air Cooled DX (AC-1)31	PVAV (Packaged3Phase)	Complex	1	137	No	0	217	EER-11.0	NA	Yes	N	☐	☐
Zone 233	Exhaust (Packaged3Phase)	Simple	1	0	No	0	0	NA	NA	No	N	☐	☐
Air Cooled Split DX (FC/C49	SZAC (Split3Phase)	Simple	1	0	No	0	36	SEER-15.3	NA	Yes	N	☐	☐
Air Cooled Split DX (FC/C57	SZAC (Split3Phase)	Simple	1	0	No	0	36	SEER-15.3	NA	Yes	N	☐	☐

Wet System Equipment [2] / *Pumps*

12. Equip Name	13. Equip Type	14. Qty	15. Vol (gal)	16. Rated Capacity (kBtu/h)	17. Efficiency	18. Standby Loss	19. Tank Ext. R Value	20. Pumps: Qty	21. GPM	22. HP	23. VSD (Y/N)	24. Status[6]	Confirmed Pass	Confirmed Fail
HTP Inc. MODCON1000VWH2-0	HotWater	NA	NA	950	Thrml. Eff: 0.95	NA	NA	1	66.0	2.000	Yes	N	☐	☐
Rheem GHE80ES2003	Storage	1	80	199	Thrml. Eff.: 0.850	0.0050	NA	NA	NA	NA	No	N	☐	☐

[1] Dry System Equipment includes furnaces, air handling units, heat pumps, etc.
[2] Wet System Equipment includes boilers, chillers, cooling towers, water heaters, etc.
[3] Simple Systems must complete NRCC-CXR-03-E commissioning design review form
[4] Complex Systems must complete NRCC-CXR-04-E commissioning design review form
[5] A summary of which acceptance tests are applicable is provided in NRCC-PRF-MCH-DETAILS
[6] Status: N – New, A – Altered, E – Existing

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite 220
Auburn, CA 95603
530.888.0998
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CONTRACTOR/ENGINEER:

AIRCO mechanical, inc.
Contractors & Engineers
1 916 381 4523 1 FAX 916 386 0350
8210 Demetre Ave., Sacramento, CA 95828
www.aircomech.com

THIS PLAN IS PREPARED BY
AIRCO MECHANICAL, INC. AND IS GUARANTEED
ONLY IF AIRCO MECHANICAL, INC. IS THE
INSTALLING CONTRACTOR.

SEAL:

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. BARKER
No. M34463
Exp. June 30, 2019
MECHANICAL
STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT
CHRISTOPHER C. CVIJANOVIC
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Drawing Title: TITLE 24 DOCUMENTATION (CONT'D)

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	01-23-2017	ASI 009
3	04-07-2017	ASI 020
4	06-22-2017	ASI 027
5	06-28-2017	ASI 028
6	08-04-2017	ASI 031
1	08-16-2017	RECORD SET

Drawn By: E. FRIESEN
Checked By: C. BARKER
Project No.: 160024
@Date: 08/30/2016

DRAWING NO.
M1.3.2

P:\00 - Work\2-Projects\2016\Solano CCD Autotech Building_16-0024\Engineering\CAD\2024-0MECH.dwg 08/16/17 2:50:26pm 1 Evan

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Discrepancy between modeled and designed equipment sizing? (if "Yes", see Table F. "Additional Remarks" for an explanation)	No

N. ECONOMIZER & FAN SYSTEMS SUMMARY[1] — § 140.4 — Confirmed

1.	2.	3.					4.					5.	Pass	Fail
Equip Name	Outside Air	Supply Fan					Return Fan					Economizer Type (if present)		
	CFM	CFM	HP	BHP	TSP (inch WC)	Control	CFM	HP	BHP	TSP (inch WC)	Control			
Indirect/Direct Unit4	3177	20000	10.650	10.650	2.09	ConstantVolume	13200	3.750	3.750	1.08	ConstantVolume	NoEconomizer	☐	☐
Air Cooled DX (AC-1)31	6402	7000	6.190	6.190	3.37	VariableSpeedDrive	NA	NA	NA	NA	NA	DifferentialDryBulb	☐	☐
Air Cooled Split DX (FC/C49	25	1200	0.242	0.242	0.64	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
Air Cooled Split DX (FC/C57	241	1200	0.242	0.242	0.64	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐

[1] *Mechanical ventilation calculations and exhaust fans are included in the NRCC-PRF-MCH-DETAILS section*

O. EQUIPMENT CONTROLS — § 120.2 — Confirmed

1.	2.	3.	Pass	Fail
Equip Name	Equip Type	Controls		
Indirect/Direct Unit4	HV	No DCV Controls No Economizer Supply Air Temp. Fixed at 55	☐	☐
Zone 16	Exhaust	No DCV Controls Economizer type not properly specified No Supply Air Temp. Control	☐	☐
Zone 523	Exhaust	No DCV Controls Economizer type not properly specified No Supply Air Temp. Control	☐	☐
Air Cooled DX (AC-1)31	PVAV	1 Zones With CO2Sensor Vent. Control, DDC Controls and Dual Maximum Reheat Controls Differential Drybulb Economizer Supply Air Temp. Reset on Outside Air Temp.	☐	☐

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O. EQUIPMENT CONTROLS — § 120.2 — Confirmed

1.	2.	3.	Pass	Fail
Equip Name	Equip Type	Controls		
Zone 233	Exhaust	No DCV Controls Economizer type not properly specified No Supply Air Temp. Control	☐	☐
Air Cooled Split DX (FC/C49	SZAC	No DCV Controls No Economizer No Supply Air Temp. Control	☐	☐
Air Cooled Split DX (FC/C57	SZAC	No DCV Controls No Economizer No Supply Air Temp. Control	☐	☐
Hydronic Boiler1 - HotWater	Heating Hot Water, Primary Only	Fixed Temperature Control, No DDC	☐	☐
Hydronic Boiler1 - SHW	Service Hot Water, Primary Only	Fixed Temperature Control, No DDC	☐	☐

P. SYSTEM DISTRIBUTION SUMMARY — § 120.4/ § 140.4(i)

This Section Does Not Apply

Does the Project Include Zonal Systems? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Does the Project Include a Solar Hot Water System? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Multifamily or Hotel/ Motel Occupancy? (if "Yes", see NRCC-PRF-MCH-DETAILS for DHW system information)	No

Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info)[3] — § 140.6 — Confirmed

1.	2.	3.	4.	5.		Pass	Fail
Occupancy Type [1]	Conditioned Floor Area [2] (ft²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance			
				Area Category Footnotes (Watts)	Tailored Method (Watts)	☐	☐
General Commercial and Industrial Work Areas, High Bay	21,177	8,470	0	0	0	☐	☐

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Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info)[3] — § 140.6 — Confirmed

1.	2.	3.	4.	5.		Pass	Fail
Occupancy Type [1]	Conditioned Floor Area [2] (ft²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance			
				Area Category Footnotes (Watts)	Tailored Method (Watts)	☐	☐
Classrooms, Lecture, Training, Vocational Areas	8,536	7,042	0	0	0	☐	☐
Computer Room	169	86	0	0	0	☐	☐
Waiting Area	241	93	0	0	0	☐	☐
Building Totals:	30,123	15,691		0			

[1] *See Table 140.6-C*
[2] *See NRCC-LTI-01-E for unconditioned spaces*
[3] *Lighting information for existing spaces modeled is not included in the table*

R. INDOOR CONDITIONED LIGHTING SCHEDULE (Adapted from NRCC-LTI-01-E)[1] — § 130.0 — Confirmed

Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft² in offices)		Installed Watts (Conditioned)					
Name or Item Tag	Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per luminaire	How Wattage is Determined: CEC Default from NAB	How Wattage is Determined: According to §130.0(c)	Total Number Luminaires	Installed Watts	Pass / Fail

[1] *If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.*

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES — § 140.9

This Section Does Not Apply

S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS — § 140.9

This Section Does Not Apply

S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS — § 140.9

This Section Does Not Apply

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S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS — § 140.9

This Section Does Not Apply

T. UNMET LOAD HOURS

Thermal Zone Name	Cooling Unmet Load Hour Limit for Thermal Zone	Proposed Cooling Unmet Load Hours	Heating Unmet Load Hour Limit for Thermal Zone	Proposed Heating Unmet Load Hours
1-Zone 1	150	10.75	150	4455
2-Zone 5	150	4261.25	150	68.5
3-Zone 2	150	1455.25	150	1429
5-Zone 4	150	0	150	2000

U. ENERGY USE SUMMARY

	Electric (kWh/yr)	Natural Gas (therms/yr)
Total Annual Baseline	563798	4338.26
Total Annual Proposed	543703	2192.16

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT — § 10-103

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Signature:
Company: Airco Mechanical, Inc.	
Address:	Signature Date:
City/State/Zip:	CEA Identification (If applicable):
Phone:	

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer, mechanical engineer, electrical engineer, or I am a licensed architect.
2. I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
3. I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

Responsible Envelope Designer Name:	Signature:	
Company: JK Architecture Partnership		
Address: 11661 Blocker Drive, Suite 120	Date Signed:	
City/State/Zip: Auburn CA 95603	Declaration Statement Type:	
Phone: 530 888-0998	Title:	License #:
Responsible Lighting Designer Name: Jim Hines	Signature:	
Company: Schetter Electric Inc		
Address: 471 Bannon St	Date Signed:	
City/State/Zip: Sacrmaneto CA 95811	Declaration Statement Type:	
Phone: 916 446-2521	Title:	License #:
Responsible Mechanical Designer Name: Chris Barker	Signature:	
Company: Airco Mechanical, Inc.		
Address: 8210 Demetre Ave.	Date Signed:	
City/State/Zip: Sacramento CA 95828	Declaration Statement Type:	
Phone: 916 381-4523	Title:	License #: Engineering Manager

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NRCC-PRF-ENV-DETAILS -SECTION START-

A. OPAQUE SURFACE ASSEMBLY DETAILS — Confirmed

1.	2.	3.	4.	Pass	Fail
Surface Name	Surface Type	Description of Assembly Layers	Notes		
8 CMU Wall10	ExteriorWall	Concrete - Part Grouted and Empty - 125 lb/ft3 - 8 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more		☐	☐
R-38 Metal Deck Roof19	Roof	Built-up roofing - 3/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Metal Deck - 1/16 in. Compliance Insulation R34.93		☐	☐
Slab On Grade22	UndergroundFloor			☐	☐
R-19 Wall Metal Stud37	ExteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Metal framed wall, 16in. OC, 5.5in., R-19 Gypsum Board - 1/2 in.		☐	☐

B. OVERHANG DETAILS (Adapted from NRCC-ENV-02-E)

This Section Does Not Apply

C. OPAQUE DOOR SUMMARY — Confirmed

1.	2.	3.	4.	5.	Pass	Fail
Opaque Door Assembly Name / Tag or I.D.	Door Type	Certification Method	Operation	Overall U-factor		
Metal Roll-up Door12	MetalUninsulatedSingleLayerRollupDoor	DefaultPerformance	NonSwinging	1.450	☐	☐

[1] *Status: N - New, A – Altered, E – Existing*

NRCC-PRF-MCH-DETAILS -SECTION START-

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A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2013-NRCC-MCH-03-E)* — Confirmed

1. DESIGN AIR FLOWS								2. VENTILATION (§ 120.1)									Pass	Fail
CONDITIONED ZONE NAME	HEATING / COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DOC CONTROL [Y/N]	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	RECTI VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)	DCV [Y/N]		
1-Zone 1	Indirect/Direct Unit4	17,720	17,720	1.00	NA	NA	N	Indirect/Direct Unit4	19,296	0.15	193	15.0	2,894	2,894	NA	N	☐	☐
2-Zone 5	Indirect/Direct Unit4	2,280	2,280	1.00	NA	NA	N	Indirect/Direct Unit4	1,881	0.15	19	15.0	282	282	NA	N	☐	☐
3-Zone 2	Air Cooled DX (AC-1)31	7,000	6,650	0.95	7,000	1	Y	Air Cooled DX (AC-1)31	8,536	0.38	427	7.5	3,201	6,402	NA	Y	☐	☐
4-Zone 3	Air Cooled Split DX (FC/C49	1,200	1,200	1.00	NA	NA	N	Air Cooled Split DX (FC/C49	169	0.15	1	50.0	25	25	NA	N	☐	☐
5-Zone 4	Air Cooled Split DX (FC/C57	1,200	1,200	1.00	NA	NA	N	Air Cooled Split DX (FC/C57	241	0.50	16	7.5	120	241	NA	N	☐	☐
								TOTAL	30,123		656		6,522	9,844	NA		☐	☐

B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY — § 140.4 — Confirmed

1.	2.	3.	4.		5.	6.	7.			8.			Pass	Fail
System ID	System Type	Qty	Rated Capacity (kBtuh)		Economizer	Zone Name	Airflow (cfm)			Fan				
			Heating	Cooling			Design	Min.	Min. Ratio	BHP	Cycles	ECM Motor		
Zone 523-TRM	VAVNoReheatBox	1	NA	NA	NA	2-Zone 5	2280	2280	1.00	NA	NA	☐	☐	☐

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B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY — § 140.4 — Confirmed

1.	2.	3.	4.		5.	6.	7.			8.			Pass	Fail
System ID	System Type	Qty	Rated Capacity (kBtuh)		Economizer	Zone Name	Airflow (cfm)			Fan				
			Heating	Cooling			Design	Min.	Min. Ratio	BHP	Cycles	ECM Motor		
Zone 16-TRM	VAVNoReheatBox	1	NA	NA	NA	1-Zone 1	17720	17720	1.00	NA	NA	☐	☐	☐
Zone 233-TRM	VAVReheatBox	1	NA	NA	NA	3-Zone 2	7000	6650	0.95	NA	NA	☐	☐	☐
Zone 351-TRM	VAVNoReheatBox	1	NA	NA	NA	4-Zone 3	1200	1200	1.00	NA	NA	☐	☐	☐
Zone 458-TRM	VAVNoReheatBox	1	NA	NA	NA	5-Zone 4	1200	1200	1.00	NA	NA	☐	☐	☐

C. EXHAUST FAN SUMMARY — Confirmed

1.	2.	3.	4.	5.	Pass	Fail
System ID	Zone Name	Qty	CFM	BHP		
Zone 16	1-Zone 1	5	10300	6.260	☐	☐
Zone 523	2-Zone 5	2	7225	4.900	☐	☐
Zone 233	3-Zone 2	1	1765	0.410	☐	☐

D. DHW EQUIPMENT SUMMARY – *(Adapted from NRCC-PLB-01)* — § 110.3 — Confirmed

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	Pass	Fail
DHW Name	Fuel	Type	Qty	Distribution Type	Rated Input kBtuh	Efficiency	Pilot Energy (Btu/h)	External Tank Insulation	Vol	Standby Loss	Vol. of Suppl. Storage Tank		
Rheem GHE80ES2003	NaturalGas	Storage	1	Nonrecirculating	199	Thrml. Eff.: 0.850	0	NA	80	0.005	NA	☐	☐

E. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS

This Section Does Not Apply

F. SOLAR HOT WATER HEATING SUMMARY (Adapted from NRCC-STH-01)

This Section Does Not Apply

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Project Address:	1691 Ascot Pkwy Vallejo 94591	Calculation Date/Time:	15:12, Fri, Mar 18, 2016
Compliance Scope:	NewComplete	Input File Name:	160322 Solano Autotech - Copy.xml

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2013-NRCC-MCH-01-E)* — § RA4

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description	MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto-FDD for Air & Zone	Dist. Ecomy (Wattage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	EDMS	Pass	Fail
Hydronic Boiler1 - HotWater	1	--	--	--	--	--	--	X	X	X	--	--	--	--	--	--	--	--	☐	☐
Hydronic Boiler1 - SHW	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Indirect/Direct Unit4	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Zone 16	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Zone 523	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Air Cooled DX (AC-1)31	1	X	--	--	X	X	X	--	--	--	X	X	--	--	--	X	--	--	☐	☐
Zone 233	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Air Cooled Split DX (FC/C49	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Air Cooled Split DX (FC/C57	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

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www.jkaia.net

CONTRACTOR/ENGINEER:

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www.aircomech.com

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INSTALLING CONTRACTOR.

SEAL:

REGISTERED PROFESSIONAL ENGINEER
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Exp. June 30, 2019
MECHANICAL
STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT
CHRISTOPHER C. CYCHOSZ
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC _____ F/LS _____ SS _____
DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: TITLE 24 DOCUMENTATION (CONT'D)

Drawn By: E. FRIESEN
Checked By: C. BARKER

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	01-23-2017	ASI 009
3	04-07-2017	ASI 020
4	04-22-2017	ASI 027
5	06-28-2017	ASI 028
6	08-04-2017	ASI 031
1	08-16-2017	RECORD SET

Project No.: 160024
Date: 08/30/2016
DRAWING NO.: M1.3.3

P:\00 - Work\2-Projects\2016\Solano CCD Autotech Building_16-0024\Engineering\CAD\024-0MECH.dwg 08/16/17 2:50:32pm 1 EvanF

Project Name:	Auto Tech Facility	NRCC-PRF-01-E	Page 19 of 21
Project Address:	1691 Ascot Pkwy Vallejo 94591	Calculation Date/Time:	15:12, Fri, Mar 18, 2016
Compliance Scope:	NewComplete	Input File Name:	160322 Solano Autotech - Copy.xml

NRCC-PRF-LTI-DETAILS -SECTION START-

A. INDOOR CONDITIONED LIGHTING CONTROL CREDITS (Adapted from NRCC-LTI-02-E)	**§ 140.6**
This Section Does Not Apply	

B. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS (Adapted from NRCC-LTI-02-E)	**§ 130.1**
This Section Does Not Apply	

§130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive

C. TAILORED METHOD LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST (Adapted from NRCC-LTI-04-E)	**§ 140.6**
General lighting power (see Table D)	0
General lighting power from special function areas (see Table E)	NA
Additional "use it or lose it" (See Table G)	0
Total watts	0

D. GENERAL LIGHTING POWER (Adapted from NRCC-LTI-04-E)	**§ 140.6-D**
This Section Does Not Apply	

E. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS (Adapted from NRCC-LTI-04-E)							**§ 140.6(c) 3H**	
Room Number	Primary Function Area	Illuminance Value (LUX)	Room Cavity Ratio (Table G)	Allowed LPD	Floor Area (ft²)	**Allowed Watts**	**Confirmed** Pass	Fail
NA	NA	NA	NA	NA	NA	NA	☐	☐

Note: Tailored Method for Special Function Areas is not currently implemented

F. ROOM CAVITY RATIO (Adapted from NRCC-LTI-04-E)

Rectangular Spaces							
Room Number	Task/Activity Description	Room Length (ft)	Room Width (ft)	Room Cavity Height (ft)	**RCR**	**Confirmed** Pass	Fail
NA	NA	NA	NA	NA	NA	☐	☐

Non-Rectangular Spaces
This Section Does Not Apply

Project Name:	Auto Tech Facility	NRCC-PRF-01-E	Page 20 of 21
Project Address:	1691 Ascot Pkwy Vallejo 94591	Calculation Date/Time:	15:12, Fri, Mar 18, 2016
Compliance Scope:	NewComplete	Input File Name:	160322 Solano Autotech - Copy.xml

Note: All applicable spaces are listed under the Non-Rectangular Spaces table

G. ADDITIONAL "USE IT OR LOSE IT" (Adapted from NRCC-LTI-04-E)						
1.	**2.**	**3.**	**4.**		**Confirmed**	
Wall Display	**Combined Floor Display and Task Lighting**	**Combined Ornamental and Special Effects Lighting**	**Very Valuable Merchandise**	**Allowed Watts**	Pass	Fail
0	0	0	0	**0**	☐	☐

5. Wall Display
This Section Does Not Apply

6. Floor Display and Task Lighting
This Section Does Not Apply

7. Combined Ornamental and Special Effects Lighting
This Section Does Not Apply

8. Very Valuable Merchandise
This Section Does Not Apply

H. INDOOR & OUTDOOR LIGHTING ACCEPTANCE TESTS & FORMS (Adapted from NRCC-LTI-01-E and NRCC-LTO-01-E)						**§ 130.4**
Declaration of Required Acceptance Certificates (NRCA) –Acceptance Certificates that must be verified in the field. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).						
Test Description		**Indoor**		**Outdoor**	**Confirmed**	
		NRCA-LTI-02-A	**NRCA-LTI-03-A**	**NRCA-LTI-04-A**	**NRCA-LTO-02-A**	
Equipment Requiring Testing or Verification	# of units	Occ Sensors / Auto Time Switch	Auto Daylight	Demand Responsive	Outdoor Controls	Pass / Fail
Occupant Sensors	0	☐	☐	☐	☐	☐ ☐
Automatic Time Switch	0	☐	☐	☐	☐	☐ ☐
Automatic Daylighting	0	☐	☐	☐	☐	☐ ☐
Demand Responsive	0	☐	☐	☐	☐	☐ ☐
Outdoor Controls	0	☐	☐	☐	☐	☐ ☐

ENERGY USE AND COST SUMMARY — ECON-1

Project Name: *Solano Community College Auto Tech Facility* — Date: *3/18/2016*

Rate: *PG&E A-1 (TOU)* — **Fuel Type:** *Electricity*

	STANDARD Energy Use (kWh)	STANDARD Peak Demand (kW)	STANDARD Cost ($)	PROPOSED Energy Use (kWh)	PROPOSED Peak Demand (kW)	PROPOSED Cost ($)	MARGIN Energy Use (kWh)	MARGIN Peak Demand (kW)	MARGIN Cost ($)
Jan	42,520	124.8	6,042	44,194	112.0	6,280	-1,674	12.8	-237
Feb	40,195	133.4	5,712	41,052	114.3	5,834	-857	19.1	-122
Mar	47,063	164.6	6,686	46,577	126.7	6,617	485	38.0	69
Apr	47,039	167.2	6,683	45,939	127.1	6,527	1,100	40.1	156
May	45,879	173.7	9,040	43,395	127.2	8,525	2,485	46.5	515
Jun	49,563	178.3	9,715	45,561	128.1	8,893	4,002	50.1	821
Jul	52,612	184.6	10,430	47,805	130.6	9,417	4,807	54.0	1,014
Aug	51,941	176.5	10,200	47,657	128.1	9,340	4,184	48.4	861
Sep	50,107	181.7	9,850	45,182	128.5	8,838	4,924	53.3	1,012
Oct	47,683	164.1	9,404	45,093	126.5	8,859	2,590	37.6	545
Nov	42,428	140.0	6,029	43,298	117.0	6,153	-870	23.0	-123
Dec	46,870	136.7	6,659	47,952	116.2	6,812	-1,082	20.5	-153
Year	563,799	184.6	96,451	543,704	130.6	92,094	20,095	54.0	4,357
CO_2	389,021	lbs/yr		375,155	lbs/yr		13,866	lbs/yr	

Rate: *PG&E G-NR2* — **Fuel Type:** *Natural Gas*

	STANDARD Energy Use (therms)	STANDARD Peak Demand (kBtu/hr)	STANDARD Cost ($)	PROPOSED Energy Use (therms)	PROPOSED Peak Demand (kBtu/hr)	PROPOSED Cost ($)	MARGIN Energy Use (therms)	MARGIN Peak Demand (kBtu/hr)	MARGIN Cost ($)
Jan	713	435.7	789	310	292.8	427	403	143.0	362
Feb	480	459.9	579	214	280.2	341	266	179.7	239
Mar	463	327.5	564	216	165.3	343	247	162.2	222
Apr	413	263.1	480	205	164.1	313	208	99.0	167
May	245	194.3	345	136	95.0	256	109	99.4	87
Jun	206	156.4	314	133	96.1	255	73	60.3	59
Jul	165	90.4	281	128	76.3	251	37	14.1	30
Aug	159	87.6	276	125	68.4	249	33	19.2	27
Sep	165	139.2	281	121	63.8	245	45	75.4	36
Oct	248	208.6	348	135	118.8	257	113	89.8	91
Nov	430	479.5	534	186	282.2	316	244	197.3	219
Dec	652	426.1	734	284	309.9	404	368	116.1	330
Year	4,338	479.5	5,526	2,192	309.9	3,658	2,146	169.5	1,868
CO_2	50,541	lbs/yr		25,539	lbs/yr		25,002	lbs/yr	

Annual Totals	Energy	Demand	Cost	Cost/sqft	Virtual Rate
Electricity	543,704 kWh	131 kW	$ 92,094	$ 3.06 /sqft	$ 0.17 /kWh
Natural Gas	2,192 therms	310 kBtu/hr	$ 3,658	$ 0.12 /sqft	$ 1.67 /therm
		Total	$ 95,753	$ 3.18 /sqft	

Avoided CO_2 Emissions: 38,868 lbs/yr

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www.aircomech.com

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INSTALLING CONTRACTOR.

SEAL:

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER S. BARKER — No. M34463 — Exp. June 30, 2019 — MECHANICAL — STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT — CHRISTOPHER C. VICKERS — NO. C26985 REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: TITLE 24 DOCUMENTATION (CONT'D)

Drawn By: E. FRESEN
Checked By: C. BARKER

NO.	DATE	ISSUE
7	12-06-2016	ASI 006
6	01-23-2017	ASI 009
5	04-07-2017	ASI 020
4	06-22-2017	ASI 027
3	06-28-2017	ASI 028
2	08-04-2017	ASI 031
1	08-16-2017	RECORD SET

Project No.: 160024
@Date: 08/30/2016
DRAWING NO.: M1.3.4

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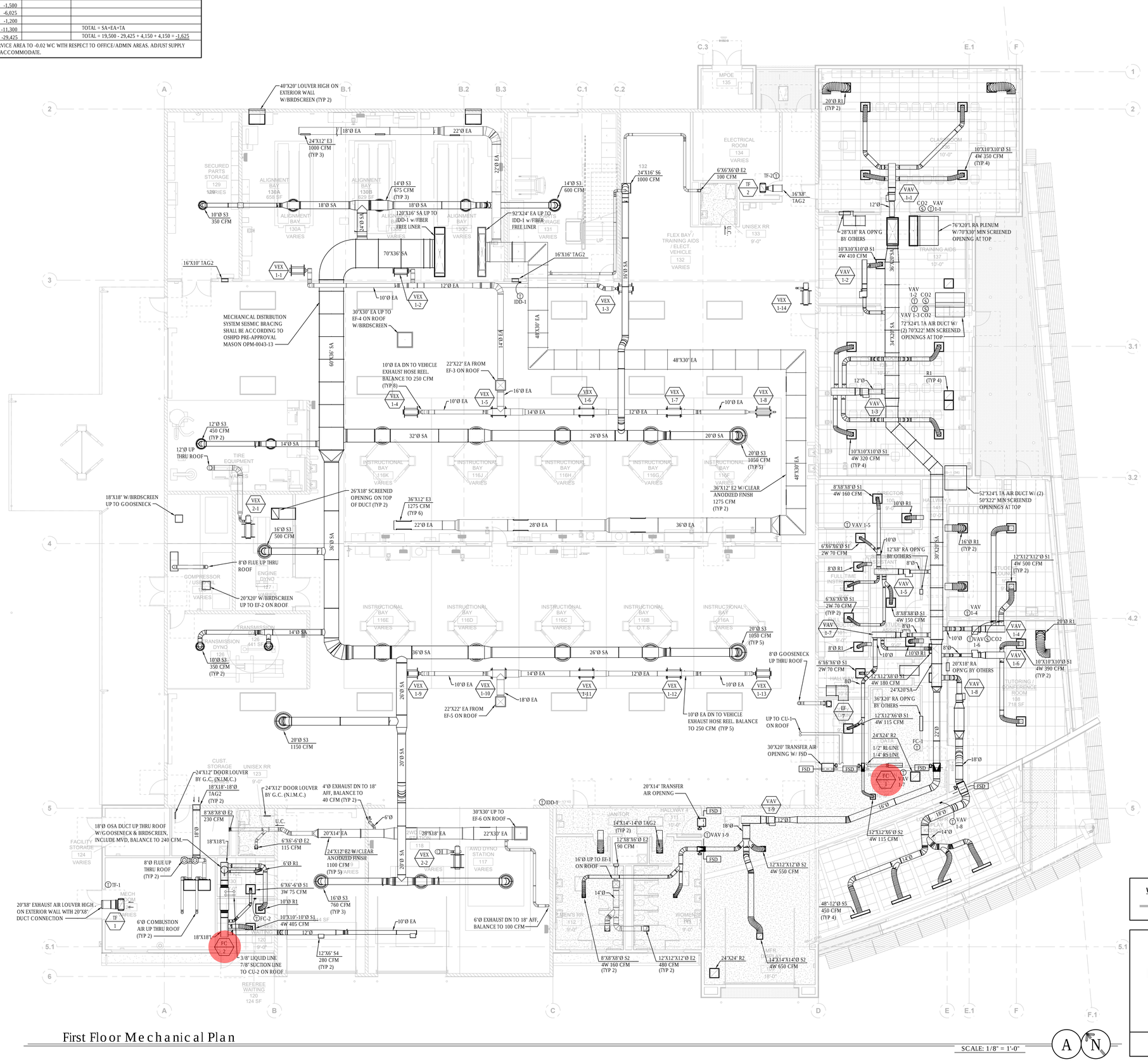
SUPPLY AIR (CFM)	EXHAUST AIR (CFM)	TRANSFER AIR (CFM)	REMARKS
IDD-1 20,000	EF-3 -2,400	4,150	TRANSFER AIR FROM OUTSIDE
RM 127 -500	EF-4 -7,000	4,150	TRANSFER AIR FROM OUTSIDE
	EF-5 -1,500		
	EF-6 -6,025		
	VEX 2-2 -1,200		
	IDD-1 -11,300		TOTAL = SA+EA+TA
TOTAL 19,500	TOTAL -29,425		TOTAL = 19,500 - 29,425 + 4,150 + 4,150 = -1,625
NOTE: BALANCE VEHICLE SERVICE AREA TO -0.02 WC WITH RESPECT TO OFFICE/ADMIN AREAS. ADJUST SUPPLY AIRFLOW AS NECESSARY TO ACCOMMODATE.			



First Floor Mechanical Plan

SCALE: 1/8" = 1'-0"

WALL RATING LEGEND:

1 HR RATED CONSTRUCTION

KEY PLAN

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
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530.888.0998
www.jkaia.net

CONTRACTOR/ENGINEER:

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www.aircomech.com

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Exp. June 30, 2019
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STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT
CHRISTOPHER C. VIDEAU
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW

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DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Drawing Title: FIRST FLOOR MECHANICAL PLAN

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	01-23-2017	ASI 009
3	04-07-2017	ASI 020
4	06-22-2017	ASI 027
5	06-28-2017	ASI 028
6	08-04-2017	ASI 031
1	08-16-2017	RECORD SET

Drawn By: E. FRESEN
Checked By: C. BARKER
Project No.: 160024
Date: 08/30/2016

DRAWING NO.: M2.1.1

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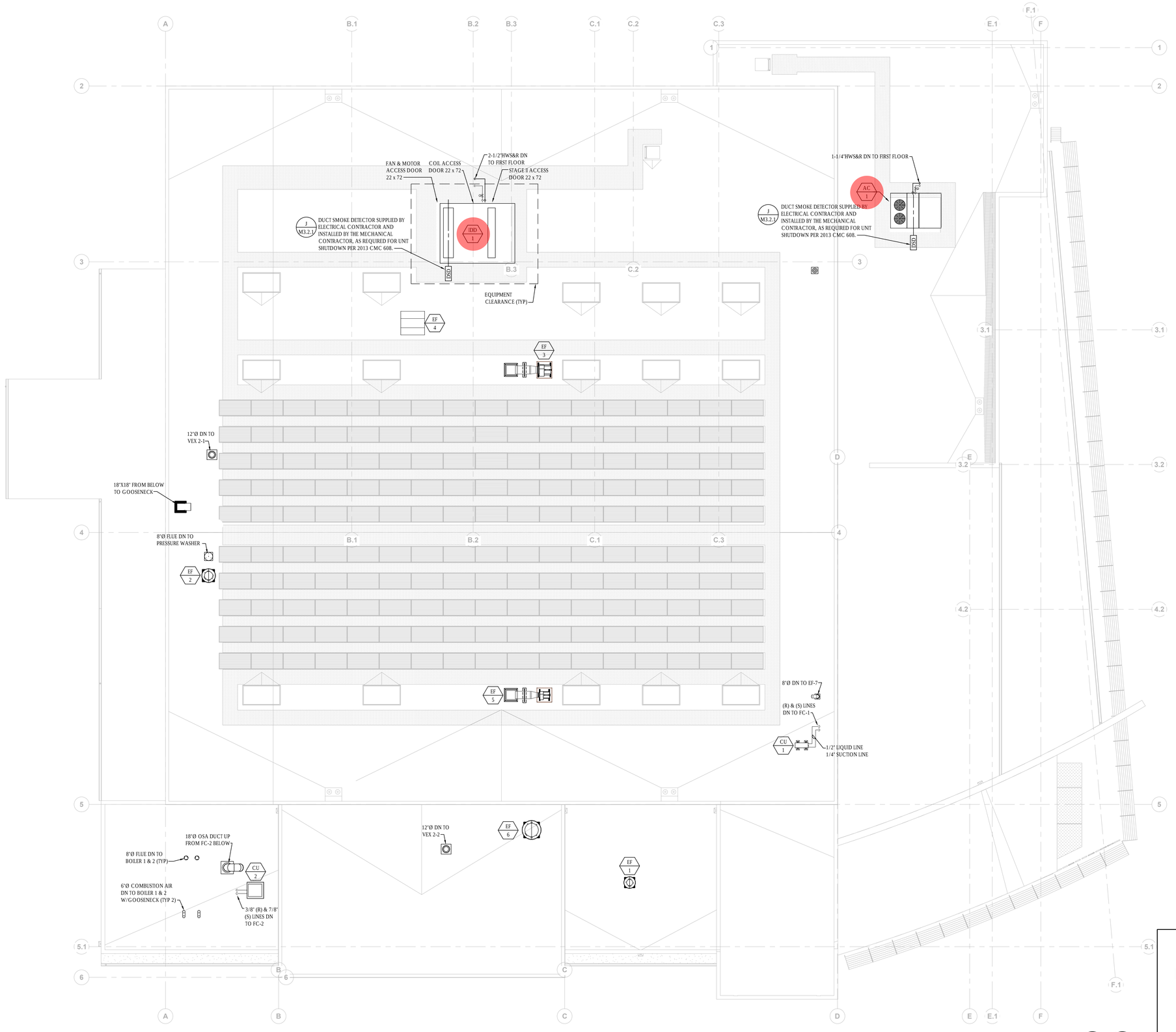

Roof Mechanical Plan

SCALE: 1/8" = 1'-0"

KEY PLAN

JK ARCHITECTURE PARTNERSHIP
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SEAL:

REGISTERED PROFESSIONAL ENGINEER
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No. M34463
Exp. June 30, 2019
MECHANICAL
STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT
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STATE OF CALIFORNIA

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DIVISION OF THE STATE ARCHITECT
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APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Drawing Title: ROOF MECHANICAL PLAN

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	01-23-2017	ASI 009
3	04-07-2017	ASI 020
4	06-22-2017	ASI 027
5	06-28-2017	ASI 028
6	08-04-2017	ASI 031
7	08-16-2017	RECORD SET

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawn By: E. FRESEN
Checked By: C. BARKER
Project No.: 160024
©Date: 08/30/2016

DRAWING NO.: M2.2.1

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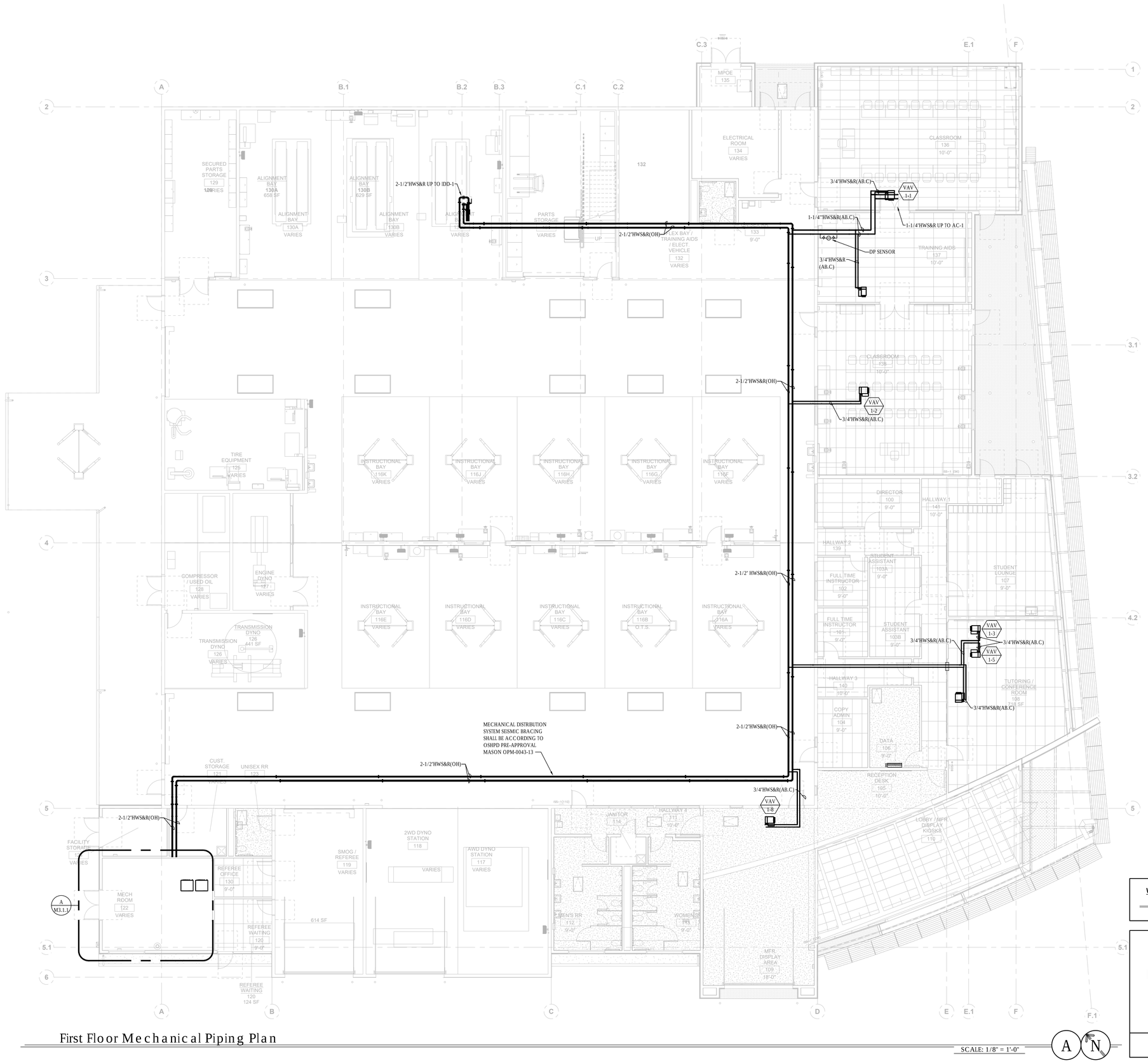

First Floor Mechanical Piping Plan

SCALE: 1/8" = 1'-0"

WALL RATING LEGEND:

1 HR RATED CONSTRUCTION

KEY PLAN

JK ARCHITECTURE PARTNERSHIP
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CONTRACTOR/ENGINEER:

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APPL # 02-114995

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DATE:

Project
SOLANO COMMUNITY COLLEGE DISTRICT

AUTO TECH FACILITY

Drawing Title
FIRST FLOOR MECHANICAL PIPING PLAN

Drawn By
E. FRESEN

Checked By
C. BARKER

Project No.
160024

©Date
08/30/2016

DRAWING NO.
M2.3.1

NO.	DATE	ISSUE
7	12-06-2016	ASI 006
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5	04-07-2017	ASI 020
4	06-22-2017	ASI 027
3	06-28-2017	ASI 028
2	08-04-2017	ASI 031
1	08-16-2017	RECORD SET

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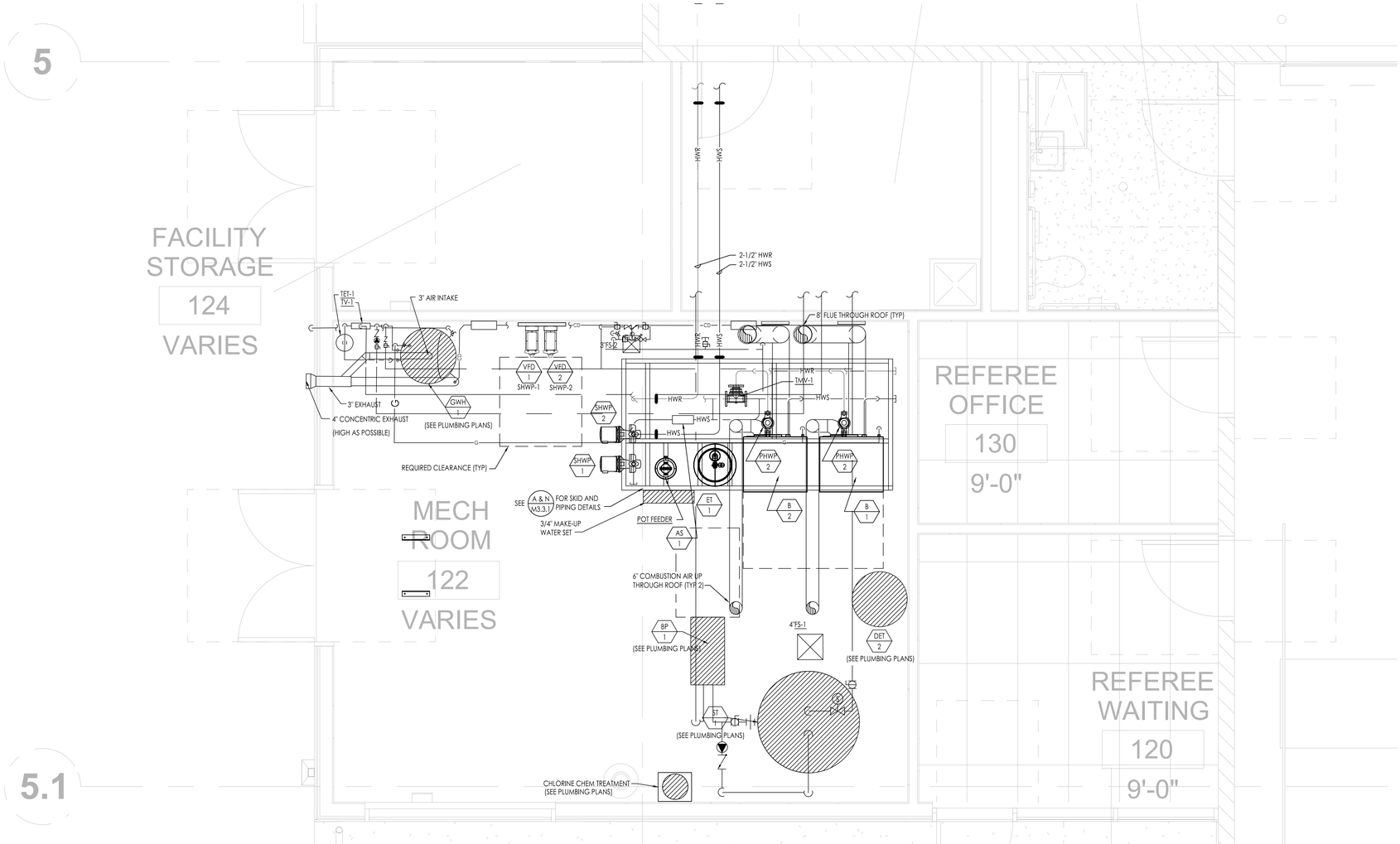

5.1

Enlarged Mechanical Room Plan

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

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STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT
CHRISTOPHER C. VIDOVICH
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

AREA OF WORK

KEY PLAN

Drawing Title: ENLARGED MECHANICAL ROOM PLAN

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	01-23-2017	ASI 009
3	04-07-2017	ASI 020
4	06-22-2017	ASI 027
5	06-28-2017	ASI 028
6	08-04-2017	ASI 031
7	08-16-2017	RECORD SET

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawn By: E. FREIDEN
Checked By: C. BARKER
Project No.: 160024
©Date: 08/30/2016
DRAWING NO.: M3.1.1

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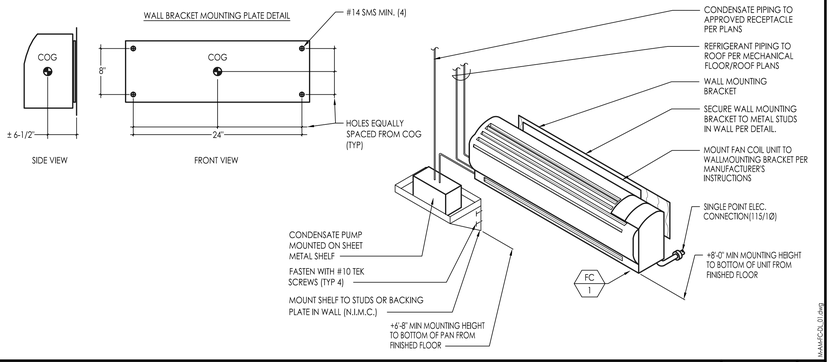
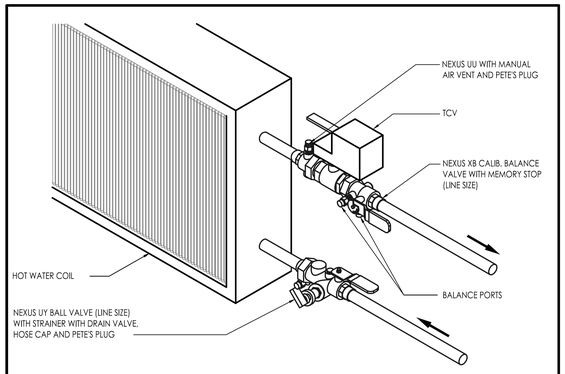


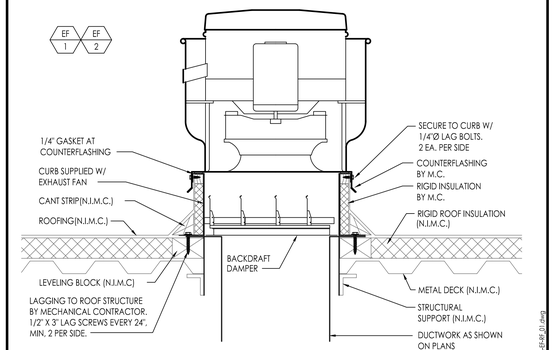
WALL MOUNTED FAN COIL DETAIL

SCALE: NONE | I



2-WAY VAV/CAV PIPING DETAIL

SCALE: NONE | E



EXHAUST FAN MOUNTING DETAIL

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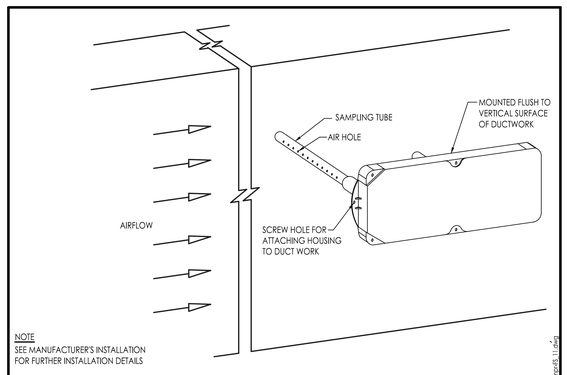

UNIT SHUT DOWN SMOKE DETECTOR DETAIL

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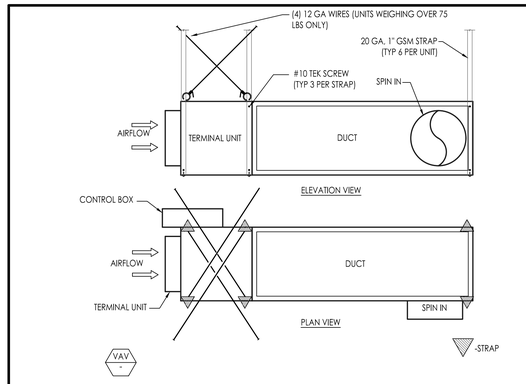

TERMINAL UNIT W/PLENUM DETAILS

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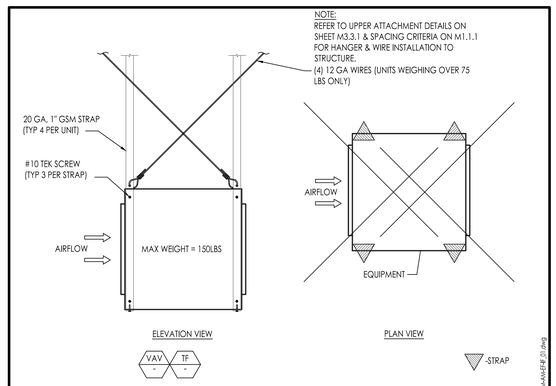

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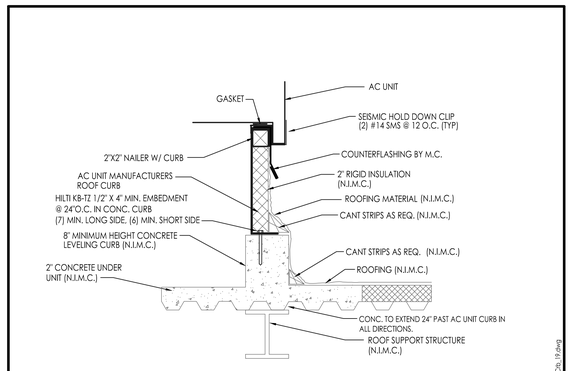

IDD UNIT CURB DETAIL

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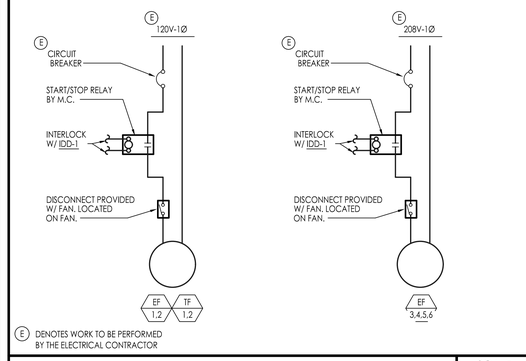

EXHAUST FAN WIRING DIAGRAM

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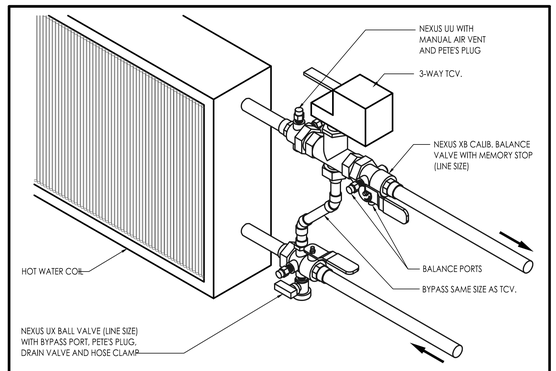

3-WAY VAV/CAV COIL PIPING DETAIL

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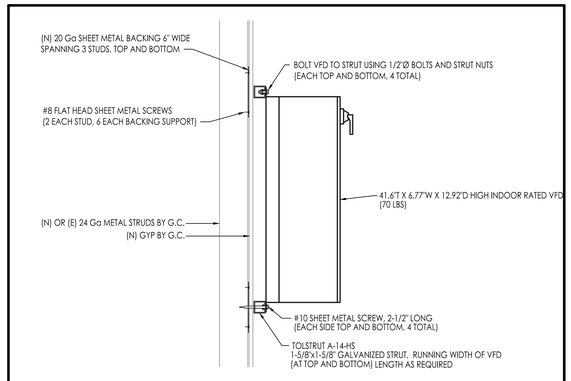

PANEL MOUNTING ON FRAMED WALL

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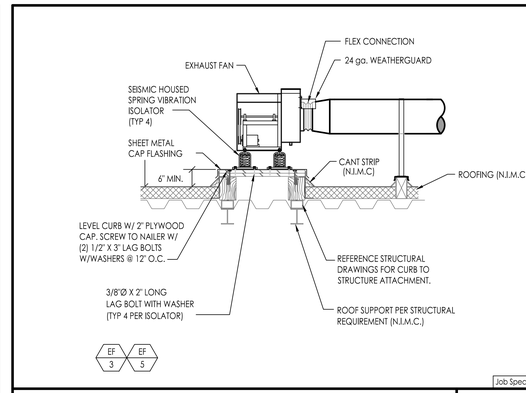

EXHAUST FAN MOUNTING DETAIL

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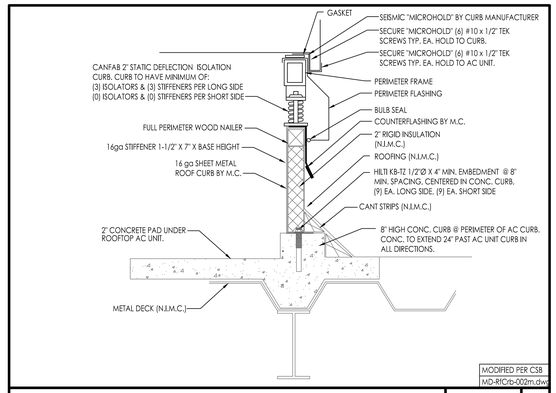

AC UNIT ROOF CURB DETAIL

SCALE: NONE | D

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THIS PLAN IS PREPARED BY AIRCO MECHANICAL, INC. AND IS GUARANTEED ONLY IF AIRCO MECHANICAL, INC. IS THE INSTALLING CONTRACTOR.

SEAL:

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER S. BARKER — No. M34463 — Exp. June 30, 2019 — MECHANICAL — STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT — CHRISTOPHER C. VIDOVICH — NO. C26985 — REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Drawing Title: MECHANICAL DETAILS

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	01-23-2017	ASI 009
3	04-07-2017	ASI 020
4	04-22-2017	ASI 027
5	04-28-2017	ASI 028
6	08-04-2017	ASI 031
7	08-16-2017	RECORD SET

Drawn By: E. FRIESEN
Checked By: C. BARKER
Project No.: 160024
Date: 08/30/2016
DRAWING NO.: M3.2.1

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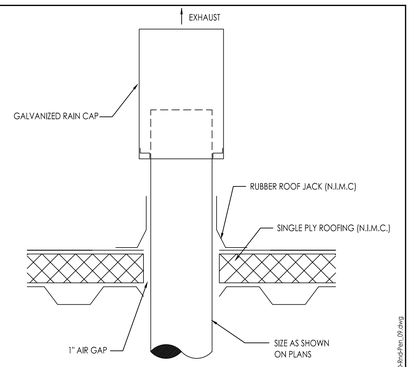
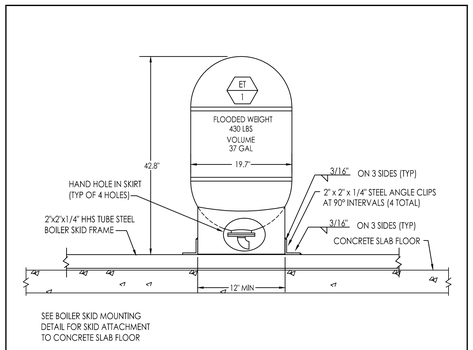


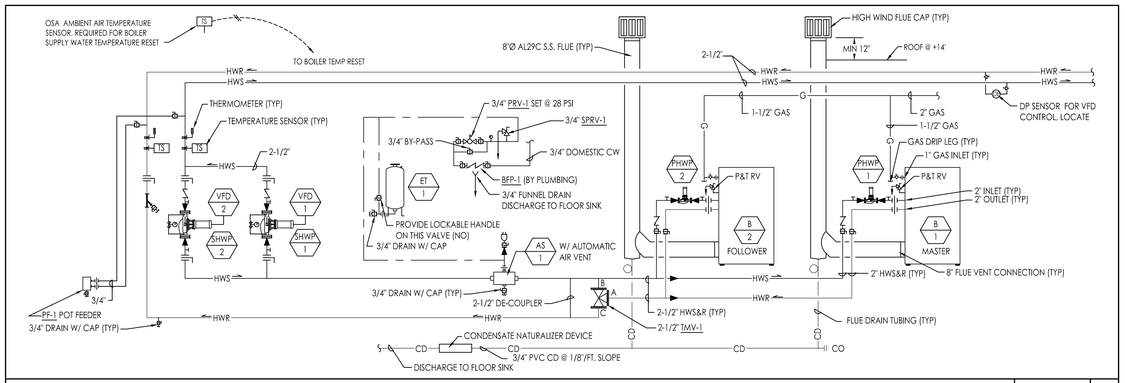
EXHAUST DUCT THRU ROOF

SCALE: NONE — L



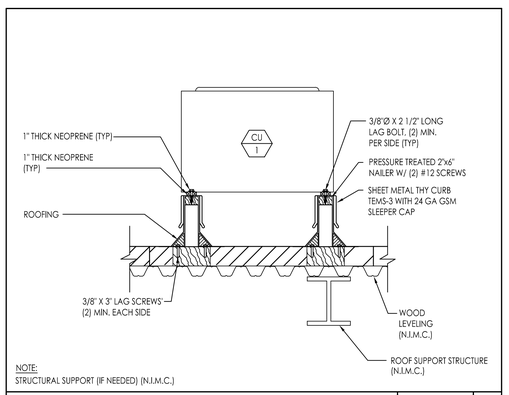
EXPANSION TANK MOUNTING DETAIL

SCALE: NONE — H



HEATING WATER PIPING SCHEMATIC

SCALE: NONE — A



CONDENSING UNIT MOUNTING DETAIL

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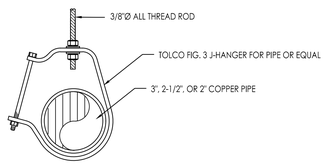

PIPE HANGER DETAIL

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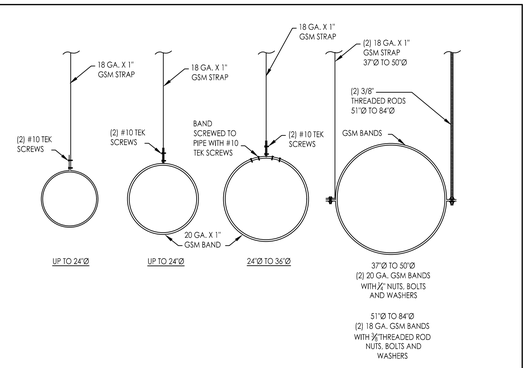
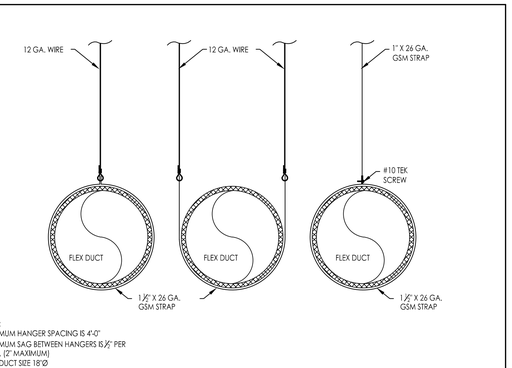


ROUND SHEET METAL DUCT SUPPORT

SCALE: NONE — E



FLEXIBLE DUCT SUPPORT

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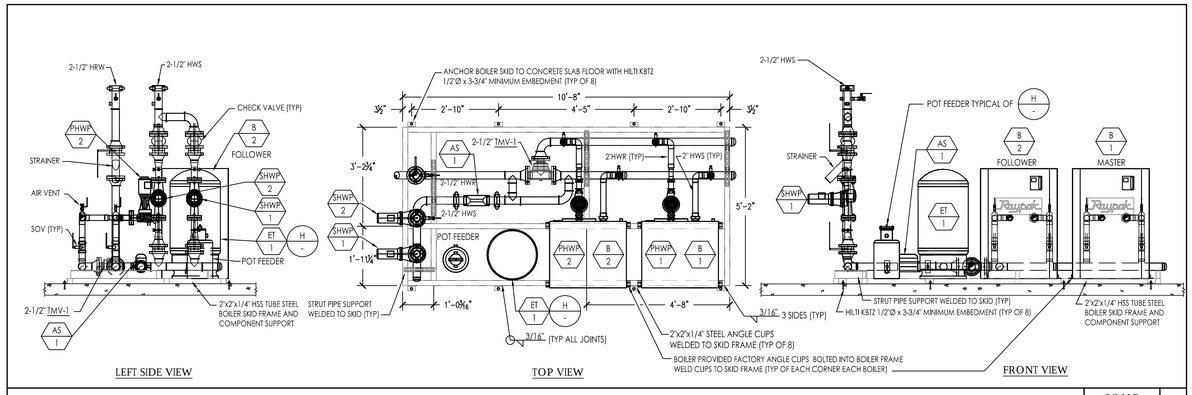
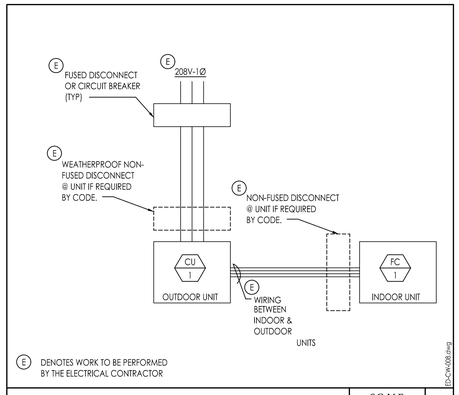


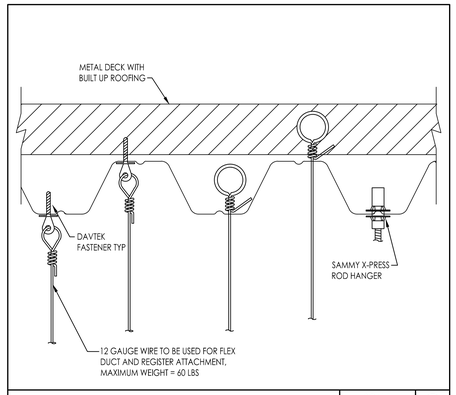
BOILER SKID MOUNTING DETAIL

SCALE: NONE — N



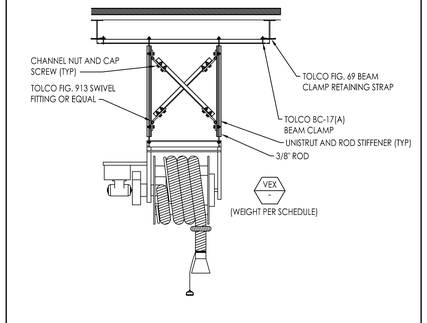
FC-1 & CU-1 WIRING DIAGRAM

SCALE: NONE — F



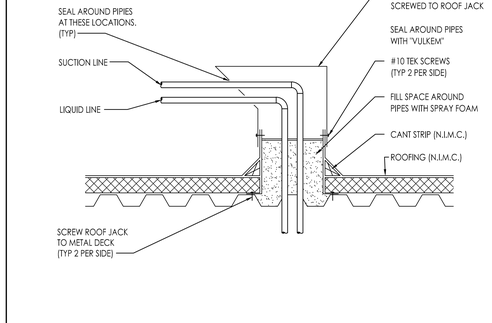
UPPER ATTACHMENTS

SCALE: NONE — C



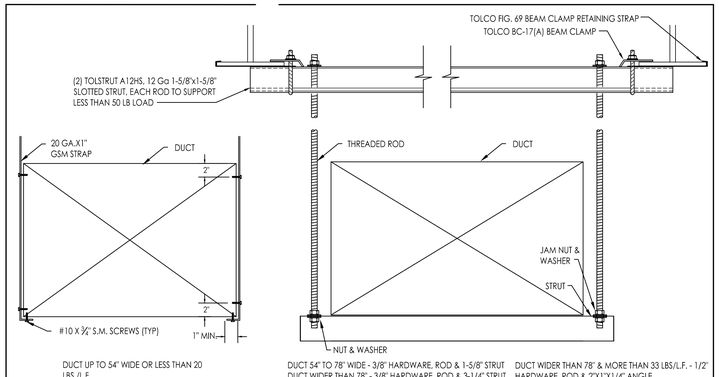
VEHICLE EXHAUST REEL DETAIL

SCALE: NONE — O



REFRIGERANT PIPING THRU ROOF DETAIL

SCALE: NONE — J



RECTANGULAR SHEET METAL DUCT SUPPORT

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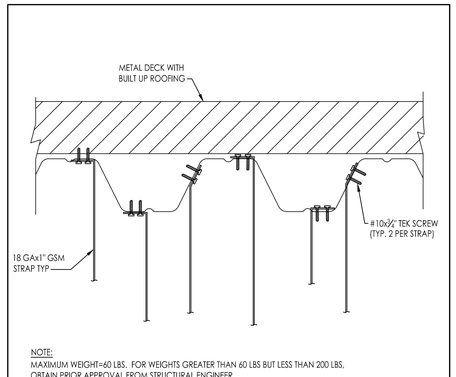

UPPER ATTACHMENTS

SCALE: NONE — D

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APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: MECHANICAL DETAILS (CONT'D) & HEATING WATER SCHEMATIC

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	01-29-2017	ASI 009
3	04-07-2017	ASI 020
4	06-22-2017	ASI 027
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Drawn By: E. FRIESEN
Checked By: C. BARKER
Project No.: 160024
@Date: 08/30/2016
DRAWING NO.: M3.3.1

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PNEUMATIC COMPRESSOR SCHEDULE

MARK	DETAIL	MFGR	MODEL	TANK	ACFM	PSIG	HP	VOLTS-Ø	OPERATING WEIGHT	REMARKS
PC 1	B P4.1.1	CHAMPION	HRA-15D-25	250 GALLON	107.4	175	(2) @ 15 HP	460 V-3Ø	1335	30 HP DUPLEX WITH TWO 15 HP SPLASH LUBRICATED 2-CYLINDER TANK MOUNTED R40A RECIPROCATING COMPRESSOR PUMPS, LARGE FIN INTER-COOLERS, AIR COOLED AFTER-COOLERS. 250 GALLON ASME HORIZONTAL AIR RECEIVER, AUTOMATIC TANK DRAIN, VIBRATION PADS. OIL MONITOR, MOTOR STARTERS, ALTERNATOR (MOUNTED AND WIRED), TEST-OFF-AUTO SWITCHES, 5 MICRON INLET AIR FILTER. ELECTRICAL: 460-V, 3-PHASE, 15 hp (11.19 KW) EACH, DRIVE MOTOR FLA = 21.0 AMPS, TANK CAPACITY = 398.8 CU FT @ 175 PSI, 284.9 CU FT @ 125 PSI, 84 dBA, 33,600 BTUH HEAT REJECTION, 35 DIFFERENTIAL WORKING PRESSURE.

NATURAL GAS WATER HEATER SCHEDULE

MARK	DETAIL	MFGR	MODEL	LOCATION	SERVES	STORAGE CAPACITY	BTU/HOUR INPUT	RECOVERY @ 100° F RISE	GAS CONN.	INTAKE & VENT Ø	ELECTRICAL VOLTS	ELECTRICAL AMPS	OPERATING WEIGHT	REMARKS
GWH 1	A P4.1.1 / C P4.1.2	RHEEM	GHE80ES-200	MECH 132	DOMESTIC HW	80 GAL	199,000	228 GPH	1/2"	2"	120-V 1-Ø	< 10	1412 LBS	ULTRA LOW NOx BURNER DESIGN. UP TO 97% EFFICIENCY, 2" PVC AIR INTAKE. 2" CPVC EXHAUST. UL/ULC LISTED ASME P&T RV PROVIDED. 150 PSIG RATED PRESSURE. 2" NPT INLET AND OUTLET WATER CONNECTIONS. 1/2" GAS INLET.

COLD WATER CALCULATION

COLD WATER CALCULATION WORKSHEET FOR SIZING WATER MAINS FROM APPENDIX A, CPC 2010. VALUES TAKEN FROM TABLE A-2.

NO.	FIXTURE TYPE	COLD WATER FU	COLD WATER TOTAL	HOT WATER TOTAL @ 75%	WASTE FU	WASTE TOTAL
10	WC (F.V.)	5.0	50	0	4	40
0	WC (TANK)	2.5	0	0	5	0
2	UR (F.V.)	4.0	8	0	4	8
8	LAV	1.0	8	6	1	8
4	HAND SINK	2.0	8	6	2	8
1	SINK	1.5	1.5	1.1	3	3
2	MOP SINK	3.0	6	4.5	3	6
4	D.F.	0.5	2	0	0.5	2
0	SHOWER	2.0	0	0	2	0
0	DISH WASHER	1.5	0	0	2	0
2	3" F.D./F.S.	0.0	0	0	6	12
2	2" F.D.	0.0	0	0	0	0
0	2" R.R.	0.0	0	0	2	0
1	1ST HOSE BIB	2.5	2.5	0	0	0
5	ADD HOSE BIBS	1.0	5	0	0	0
	TOTAL UNITS		91	17.6		103

SYSTEM IS SIZED USING FLUSH VALVES

TOTAL FIXTURE UNITS	91	F.U.
ADDITIONAL CONST. FLOW	0	F.U.
FUTURE FLOW	37	F.U.
TOTAL	128	F.U.
TOTAL FLOW TO SIZE SERVICE	75	GPM

CALCULATION FROM STREET TO FURTHEST FIXTURE

PRESSURE AVAILABLE		50	PSI
1-1/2" TURBO METER LOSSES		5	PSI
BACKFLOW PREVENTER		13	PSI
ELEVATION LOSS	3' x 0.43 =	1.29	PSI
FINAL PRESSURE REQUIRED		25	PSI
PRESSURE AVAILABLE FOR PIPE LOSSES		9.71	PSI
TOTAL ACTUAL LENGTH:		210	FT
TOTAL DEVELOPED LENGTH:		235	FT
AVAILABLE PRESSURE DROP PER 100 FT:		2.4	PSI/100 FT.
WATER METER SIZE (TURBO)		1-1/2	IN
BUILDING WATER SERVICE PIPE SIZE (8 FT/S MAX.):		3"	IN
SEWER SIZE		4	IN

Pressure loss from street to and inside building, 3" at 625' length with 1.4'/110' friction loss = 3.8 psi loss at design conditions. Adjusting final pressure to account for this loss, Minimum final pressure = 21.2 psi.

FIXTURE CONNECTION SCHEDULE

FIXTURE	SYMBOL	VENT	WASTE BRANCH	WASTE OUTLET	COLD WATER BRANCH	COLD WATER OUTLET	HOT WATER BRANCH	HOT WATER OUTLET	REMARKS
MINIMUM STANDARDS									
WATER CLOSET	WC	2	3	3	1-1/2	1	-	-	FLUSH VALVE
URINAL	UR	1-1/2	2	2	1-1/2	3/4	-	-	SIPHON
LAVATORY	LAV	1-1/2	1-1/2	1-1/4	3/4	1/2	3/4	1/2	
SINK	SK	1-1/2	2	1-1/2	3/4	1/2	3/4	1/2	
MOP SINK	MS	2	2	2	3/4	3/4	3/4	3/4	W/ VAC BRK
DRINKING FOUNT.	EDF	1-1/2	1-1/2	1-1/4	1/2	1/2	-	-	
FLOOR DRAIN	FD	1-1/2	2	2	-	-	-	-	
FLOOR SINK	FS	1-1/2	2	2	-	-	-	-	
ROOF RECEPTOR	RR	2	2	2	-	-	-	-	
ROOF DRAIN	RD	-	2-6	2-6	-	-	-	-	3" MIN. HOR.
OVERFLOW DRAIN	OFD	-	2-6	2-6	-	-	-	-	3" MIN. HOR.
HOSE BIBB	HB	-	-	-	3/4	3/4	-	-	W/ VAC BRK
EYE WASH/SHOWER	EW	1-1/2	1-1/2	2	1-1/4	1-1/4	-	-	
EYE WASH	EW	1-1/2	1-1/2	2	1/2	1/2	-	-	

* HOT & COLD WATER OUTLETS ARE DEFINED TO BE A MAXIMUM OF 4 FEET IN LENGTH FROM BRANCH

PIPE HANGER SCHEDULE

PIPE SIZE	HORIZONTAL ROD SIZE	HORIZONTAL MAXIMUM INTERVAL	VERTICAL
COPPER TUBE AND PIPE, SOLDERED, BRAZED, OR WELDED			
1 1/2" OR LESS	3/8"ø	6'	EACH FLOOR, NOT
2" - 4"	3/8"ø	10'	TO EXCEED 10'(5).
GAS PIPING, STEEL OR BRASS, THREADED OR WELDED			
1/2"	3/8"ø	6'	6'
3/4" - 1"	3/8"ø	8'	8'
1-1/4" - 4"	3/8"ø	10'	EVERY FLOOR
CAST IRON, HUBLESS			
1/2" OR LESS	3/8"ø	EVERY OTHER JOINT UNLESS OVER 4' THEN SUPPORT EACH JOINT PER (1,2,3,4)	BASE AND EACH FLOOR NOT TO EXCEED 15'.
2" - 4"	3/8"ø		
5" - 8"	1/2"ø		

(1) SUPPORT ADJACENT TO JOINT, NOT TO EXCEED 18".
(2) PROVIDE SEISMIC PIPE BRACING PER OPM-0043-13
(3) SUPPORT AT EACH HORIZONTAL BRANCH.
(4) HANGERS SHALL NOT BE PLACED ON THE COUPLING.
(5) VERTICAL WATER LINES MAY BE SUPPORTED IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRINCIPLES WITH REGARD TO EXPANSION AND CONTRACTION.

PLUMBING FIXTURES SCHEDULE

ALL PLUMBING FIXTURES SHALL BE CALIFORNIA CERTIFIED PER T-24 SEC. 2-5314(A) AND SHALL BE, OR EQUIVALENT TO THE FOLLOWING:

MARK	ITEM	DESCRIPTION
WC-1	WATER CLOSET	ZURN Z5615 HET WALL MOUNT FLUSH VALVE TOILET, 1.1 GPF, ELONGATED BOWL, WHITE VITREOUS CHINA.
	FLUSH VALVE	ZURN ZTR6200-ONE-HW EXPOSED FLUSH VALVE, HARDWIRED SENSOR TYPE, INCLUDE P6000-HW-6 TRANSFORMER FOR UP TO 8 VALVES
	SEAT	ZURN Z5955SS-EL, WHITE, HEAVY DUTY, ELONGATED, OPEN FRONT , LESS COVER
	CARRIERS	ZURN Z-1201-N_3, N_4, AND -ND3 ADJUSTABLE, HORIZONTAL (LEFT OR RIGHT) NO-HUB AND Z-1204 ADJUSTABLE VERTICAL (LEFT OR RIGHT) NO-HUB AS REQUIRED.
WC-2	WATER CLOSET (ADA)	SAME AS WC-1 EXCEPT MOUNTED PER ADA REQUIREMENTS
UR-1	URINAL	SLOAN HYB-1000 HY8RID (WATER FREE) WALL MOUNT URINAL, WHITE VITREOUS CHINA, 2" OUTLET, PROVIDE 16 GO BACKING PLATE FOR WALL MOUNTING BRACKET, CARTRIDGE HOUSING, AND CARTRIDGE KIT (ADDITIONAL CARTRIDGES SOLD SEPERATELY).
UR-2	URINAL (ADA)	SAME AS UR-1 EXCEPT MOUNTED PER ADA REQUIREMENTS.
LAV-1	LAVATORY	KOHLER KINGSTON K-2005, WALL-MOUNT, WHITE VITREOUS CHINA, WITH OVERFLOW, CONCEALED ARM HOLES, AND 3-HOLE PUNCHING, 4" CENTERS
	CARRIER	ZURN Z1231-EZ CONCEALED ARM SYSTEM
	LAV FAUCET	SPEAKMAN S-8811-CA ELECTRONIC SENSOR OPERATION, WITH 0.5 GPM VANDAL RESISTANT FLOW CONTROL, 4" DECK PLATE, UNDER-COUNTER MECHANICAL MIXER, SOLENOID VALVE AND ELECTRONICS, SINGLE SUPPLY FOR TEMPERED WATER INLET, FILTER SCREENS, CAST BRASS, PROVIDE SPEAKMAN SUH WALL MOUNTED HARD WIRED TRANSFORMER AS NEEDED (TO 8 FAUCETS).
	DRAIN	DEARBORN #760 BRASS GRID DRAIN & 1-1/4" TAILPIECE.
	P-TRAP	1-1/4"x 1-1/2" POLISHED CHROME 17 GA.
	SUPPLIES	BRASSCRAFT G2CR19B (12/16/20 LENGTH AS NEEDED) LOW-LEAD 1/4 TURN ANGLE STOP WITH 1/2" FIP OUTLET BRAIDED CONNECTOR AND ESCUTCHEON
LAV-2	LAVATORY	SAME AS LAV-1
	LAV FAUCET	SAME AS LAV-1 EXCEPT PROVIDE WITH SPEAKMAN SU PLUG-IN TRANSFORMER
EDF-1	ELECTRIC DRINKING FOUNTAIN	ELKAY MODEL LZSTL8WLK, SELF CONTAINED, BI-LEVEL, FILTERED, HIGH EFFICIENCY COOLER, TWO STATION, NO LEAD, BARRIER FREE, WALL MOUNT, WITH BOTTLE FILLING STATION. LIGHT GRAY GRANITE VINYL CLAD, FLEXI GUARD BUBBLER, 8.0 GPH CAPACITY. ELECTRICAL: 115-V, I-Ø 60-hz, 370 WATTS, 5.0 FLA, WEIGHT = 92 LBS.
SK-1	HAND SINK (ADA COMPLIANT) HAND WASH FAUCET	ELKAY MODEL WCLI923OSD3 WALL MOUNTED 18 GA STAINLESS STEEL HAND SINK, 19"L x 23"W x 4" DEEP SINK, 3-HOLE PUNCHING 4" CENTERS AMERICAN STANDARD 2475.500.F15 GOOSNECK SWIVEL SPOUT, 1.5 GPM FLOW RATE, LEVER HANDLES, 4" DOUBLE HOLE MOUNT, (ADA COMPLIANT)
	DRAIN	DEARBORN #760 BRASS GRID DRAIN & 1-1/4" TAILPIECE.
	P-TRAP	1-1/4" x 1-1/2" POLISHED CHROME 17 GA.
	SUPPLIES	SPEEDWAY OCR-19S15A C, 15"LONG, 3/8"COMP. x 1/2"COMP.
SK-2	SINK (ADA COMPLIANT) FAUCET	ELKAY MODEL LRAD-1720-3, 17"x 20"x 6" DEEP SINK, 18 Ga STAINLESS STEEL, SELF RIMMING, 3-HOLE PUNCHING 4" CENTERS, 14" x 14" BOWL AMERICAN STANDARD RELIANT 4205.000.F15, LEAD FREE, 1 HANDLE SWING SPOUT, 4" CENTERS, 3 HOLE MOUNTING, ADA COMPLIANT CERAMIC DISK CARTRIDGE, AERATOR, 1/2" INLETS ELKAY, 1.5 GPM FLOW RATE
	DRAIN	LK-35, 3-1/2" DRAIN OUTLET W/ STRAINER BASKET, STOPPER & 1-1/2" TAILPIECE (NOT NEEDED IF GARBAGE DISPOSER IS INSTALLED)
	P-TRAP	1-1/2" x 1-1/2" POLISHED CHROME. 17 GAUGE.
	SUPPLIES	BRASSCRAFT G2CR19B (12/16/20 LENGTH AS NEEDED) LOW-LEAD 1/4 TURN ANGLE STOP WITH 1/2" FIP OUTLET BRAIDED CONNECTOR AND ESCUTCHEON
MS-1	MOP SINK	FLORESTONE MODEL 90, 24"x 24"x 12" DEEP WITH DROP FRONT TERRAZZO MOP SERVICE RECEPTOR 3" OUTLET & DRAIN
	FAUCET	T&S B-0665-BSTR, ROUGH CHROME, TOP BRACE, VACUUM BREAKER, 1/2" INLETS & INTEGRAL STOPS, 3/4" THREADED OUTLET
	RECOMMENDED MOP SINK MOP HANGER	ACCESSORIES TO BE PROVIDED BY ARCHITECT FLORESTONE MR-373 MOP HANGER WITH 3-CLAMPS (BY ARCHITECT)
FD-1	FLOOR DRAIN	ZURN ZN-415-8 CAST IRON BODY WITH NICKEL BRONZE 5" ADJUSTABLE ROUND STRAINER WITH MEMBRANE CLAMP AND NO-HUB OUTLET. (SEE DWGS FOR OUTLET SIZE)
FS-1	FLOOR SINK	ZURN Z-1902, A.R.E. CAST IRON 12"x 12"x 10" DEEP, WITH FLANGE, DOME STRAINER, 3/4 GRATE, NO HUB OUTLET.
FS-2	FLOOR SINK	ZURN Z-1910, A.R.E. CAST IRON 8"x 8"x 6" FLOOR SINK WITH FLANGE, DOME STRAINER, 3/4 GRATE, NO-HUB OUTLET.
RR-1	ROOF RECEPTOR	ZURN Z-127-R-C, 8-1/2" DIAMETER RECEPTOR DRAIN, CAST IRON BODY, INTERNAL DOME STRAINER, ROOF SUMP RECEIVER, UNDER DECK CLAMPS, 2" NO-HUB OUTLET.
WCO	WALL CLEANOUT	ZURN Z-1468-ZS POLISHED NICKEL BRONZE PLUG WITH SCREW AND ROUND STAINLESS STEEL COVER.
FCO	FLOOR CLEANOUT	ZURN ZN-1400 CAST IRON BODY, ADJUSTABLE CLEANOUT WITH POLISHED NICKEL BRONZE TOP, AND NO-HUB OUTLET.
TP-1	TRAP PRIMER	SURE SEAL MODEL SS2009V INLINE 2" FLOOR DRAIN TRAP SEAL, UV ABS PLASTIC HOUSING WITH EPDM RUBBER DIAPHRAGM AND SOFT RUBBER SEALING GASKET, PROVIDES 100% WATER SAVINGS OVER TRADITIONAL METHODS. FLOOR RATING ASSE-1072 AF-GW, IAPMO LISTED.
TP-2	TRAP PRIMER	PRECISION PLUMBING PRODUCTS, MODEL PR-500 TRAP PRIMER VALVE FOR FLOOR DRAIN, PROVIDE DISTRIBUTION UNIT DU- WHEN CONNECTING TO MORE THAN ONE DRAIN.
GCO	GRADE CLEANOUT	ZURN ZN-1400 CAST IRON BODY, ADJUSTABLE CLEANOUT WITH POLISHED NICKEL BRONZE TOP, AND NO-HUB OUTLET.
HB-1	HOSE BIBB	ARROWHEAD #255-CP-LK SOLID FLANGE SILL FAUCET, CHROME PLATED, 1/2" FIP X 3/4" HOSE CONNECTION TYPE WITH LOOSE KEY AND LEGEND 107-195NL NO LEAD CHROME VACUUM BREAKER.
HB-2	HOSE BIBB	ARROWHEAD #925-RB-LK, 3/4" FIP X 3/4" HOSE CONNECTION STANDPIPE TYPE WITH LOOSE KEY AND LEGEND 107-194 3/4" VACUUM BREAKER.
HB-3	WALL HYDRANT	WOODFORD MODEL 68 WALL HYDRANT, BACKFLOW PROTECTED, AUTOMATIC DRAINING, FREEZE LESS, CHROME, LOCKING HEAD COVER, LOSE KEY FLUSH, 3/4" FEMALE PIPE THREAD INLET, 3/4" HOSE CONNECTION.
SGV-1	SEISMIC GAS VALVE	KOSO 2" EV314-60 SEISMIC GAS SHUT-OFF VALVE. 60 PSI MAX PRESSURE. 5.25" LENGTH, 2" FPT CONNECTIONS, HORIZONTAL INSTALLATION.
GPR-1	GAS PRESSURE REGULATOR	PIETRO MODEL 300S1, 390 MBH, 1/2" GOVERNOR LINE PRESSURE REGULATOR, 1 PSIG (28" W.C.) INLET GAS PRESSURE, 8" W.C. OUTLET GAS PRESSURE, WHITE OUTLET SPRING, INTEGRAL VENT LIMITER, EXTERNAL VENT LIMITER (NO VENT LINE REQUIRED), POSITIVE 100% BUBBLE TIGHT LOCKUP. INLET AND OUTLET TEST PORTS, 500:1 TURNDOWN.
GPR-2	GAS PRESSURE REGULATOR	PIETRO MODEL 301S0, 1200 MBH, 1/2" HIGH CAPACITY GOVERNOR LINE PRESSURE REGULATOR, 1 PSIG INLET GAS PRESSURE, 8" W.C. OUTLET GAS PRESSURE, WHITE OUTLET SPRING, INTEGRAL VENT LIMITER, EXTERNAL VENT LIMITER (NO VENT LINE REQUIRED), POSITIVE 100% BUBBLE TIGHT LOCKUP. INLET AND OUTLET TEST PORTS, 500:1 TURNDOWN.

PLUMBING FIXTURES SCHEDULE

ALL PLUMBING FIXTURES SHALL BE CALIFORNIA CERTIFIED PER T-24 SEC. 2-5314(A) AND SHALL BE, OR EQUIVALENT TO THE FOLLOWING:

MARK	ITEM	DESCRIPTION
WHA-2	WATER HAMMER ARRESTER	SIOUX CHIEF MODEL 655-DS HYDRA-RESTER, SEAMLESS COPPER PISTON TYPE SHOCK ABSORBER, 1" SWEAT CONNECTION SIZE, CALIFORNIA AB 1953 NO-LEAD COMPLIANT. FOR UP TO A BANK OF 3 TO 5 FLUSH VALVES
DET-1	DOMESTIC THERMAL EXPANSION TANK	ELBI MODEL DST-8 BLADDER TYPE 2 GALLON ASTM, APPROVED FOR DOMESTIC WATER USE. PRECHARGE TO 2 PSI BELOW SYSTEM WATER PRESSURE, 2 GALLON ACCEPTANCE. MAXIMUM POSSIBLE WET WEIGHT = 38 POUNDS.
BFP-1	BACKFLOW PREVENTER	WILKINS MODEL 975XL-3/4" REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTER, MAX 12PSI DROP FOR UP TO 15 GPM.
TV-1	TEMPERING VALVE	SYMMONS TEMPCONTROL 7-400 THERMOSTATIC WATER TEMPERATURE CONTROLLER, LEAD FREE, 3/4" INLETS, 1" OUTLET, SET AT 120 DEGREES F, 18 GPM @ 5 PSI PRESSURE DROP
TV-2	TEMPERING VALVE (FOR DRENCH SHOWER)	GUARDIAN G3800-LF THERMOSTATIC WATER TEMPERATURE CONTROLLER, LEAD FREE, 1" INLETS, 1-1/4" OUTLET, PRESET AT 85°F. HIGH TEMP LIMIT AT 90°F ANSI COMPLIANT 20 GPM @ 5 PSI PRESSURE DROP
CP-1	CIRCULATION PUMP	TACO 009-SF3,STAINLESS STEEL CASING HOT WATER RE-CIRCULATION PUMP, 265-3 TIMER CONTROL, 1" FLANGED CONNECTIONS, 3 GPM @ 15 'H, 115V/1PH/ 1.4 Amps, 1/8 HP
RBV-1	DOMESTIC HOT WATER RETURN BALANCE VALVE	CIRCUIT SOLVER CS-1/2-115, SELF-ACTUACTING THERMOSTATIC RE-CIRCULATION VALVE CONTINUOUSLY MAINTAINS THE END OF EACH DOMESTIC HOT WATER LINE AT THE SPECIFIED WATER TEMPERATURE. BY-PASS LEAKAGE WHEN CLOSED IS .033 GPM AT 2 PSI DROP, FLOW WHEN OPEN IS 1.7 GPM AT 2 PSI DROP
EW-1	EYE WASH	GUARDIAN G8F1848 WALL MOUNTED SWING DOWN EYE WASH UNIT, 1/2" VALVE. CHROME PLATED, ANSI COMPLIANT SIGN. ADA COMPLIANT WITH UNOBSTRUCTED REACH MOUNTED AT +34" ABOVE FLOOR
DS-1	DRENCH SHOWER	GUARDIAN G8F1672 RECESSED SURFACE MOUNTED EMERGENCY SHOWER VALVE WITH WALL MOUNTED SHOWER HEAD. ADA COMPLIANT,1" STAY OPEN VALVE, 10" SHOWER HEAD, ANSI COMPLIANT SIGN
AP-1	ACCESS PANEL	KARP ASSOCIATED INC. MODEL DSC-214M ACCESS DOOR. PRIMER COATED STEEL. PROVIDE WITH KEYED PADDLE LATCH, VARIOUS SIZES AS NEEDED.
RD/OF-1	ROOF/OVERFLOW DRAIN	ZURN Z164-NH COMBINATION ROOF AND OVERFLOW DRAIN, CAST IRON BODY, INTEGRAL ROOF SUMP RECEIVER, CAST IRON DOME STRAINERS FOR BOTH, & FLASHING CLAMP.
AD-1	AREA DRAIN	ZURN Z-512-NH-Y, 12" DIAMETER HEAVY DUTY CAST IRON DEEP SUMP BODY WITH BOTTOM OUTLET, SEEPAGE PAN, WITH MEMBRANE CLAMP, NO-HUB OUTLET, FRAME FOR HEAVY DUTY TRACTOR GRATE. WITH SEDIMENT BUCKET. (SEE DWGS FOR OUTLET SIZE)
WHA-1	WATER HAMMER ARRESTER	SIOUX CHIEF MODEL 655-CS HYDRA-RESTER, SEAMLESS COPPER PISTON TYPE SHOCK ABSORBER, 1" SWEAT CONNECTION SIZE, FOR 1 OR 2 FLUSH VALVES

MINIMUM INSULATION THICKNESS

FLUID TEMP	1" & LESS	1.25"	1.5"-3"	4"-6"	8" & LARGER	CONDUCTIVITY RANGE (in Btu-in/ hr/sq.ft./°F)	INSULATION MEAN RATING TEMPERATURE (°F)
INSULATION THICKNESS (IN INCHES) FOR LISTED NOMINAL PIPE DIAMETER							
HEATING HOT WATER, STEAM, STEAM CONDENSATE, & DOMESTIC HOT WATER							
105°F-140°F	1.0"	1.5"	1.5"	1.5"	1.5"	0.24-0.28	100

PROVIDE 0.015 ALUMINUM JACKET SECURED WITH 1/2" ALUMINUM BANDS ON ALL INSULATED PIPING EXPOSED TO THE WEATHER. PLASTIC FITTING COVERS ARE ACCEPTABLE. INSULATION SHALL BE VAPOR TIGHT BEFORE APPLYING METAL JACKET OR PLASTIC COVERS. UPDATED PER 2013 T-24 REQUIREMENTS

PIPE SIZING FIXTURE UNITS

PSI/100'		CW PIPE SIZES (INCHES) MAX 6'/SEC							
		1/2	3/4	1	1- 1/4	1-1/2	2	2-1/2	3
2.4	FLUSH VALVE (F.U.)					7	53	205	396
	TANK (F.U.)	1	4	12	22	39	138	337	506
		HW PIPE SIZES (INCHES) MAX 5'/SEC							
		1	4	12	22	39	119	245	406

PIPE MATERIAL SCHEDULE

APPLICATION	MATERIAL	JOINT	REMARKS
DRAIN, WASTE, AND VENT	CAST IRON	NO HUB COUPLING	INSIDE BLDG & UNDER SLAB
RAIN WATER LEADER	CAST IRON	NO HUB COUPLING	INSIDE BLDG & UNDER SLAB
OVERFLOW LEADER	EPOXY LINED CAST IRON	NO HUB COUPLING	INSIDE BLDG ABOVE SLAB
DOMESTIC WATER	TYPE "L" DRAWN COPPER	LEAD FREE SOLDER OR GROOVED ENDS	INSIDE BLDG ABOVE SLAB
DOMESTIC WATER	TYPE "K" DRAWN COPPER	LEAD FREE BRAZE SOLDER	BELOW SLAB
CONDENSATE DRAIN	TYPE "M" DRAWN COPPER	SOLDER	INSIDE AND OUTSIDE BLDG
LOW PRESSURE NATURAL GAS	SCHEDULE 40 BLACK STEEL	THREADED OR WELDED	INSIDE AND OUTSIDE BLDG
COMPRESSED AIR	TYPE "L" DRAWN COPPER	SOLDER	INSIDE AND BELOW SLAB
RECLAIM WATER	SCHEDULE 40 PURPLE PIGMENT PVC	SOLVENT	INSIDE AND ABOVE SLAB

PLUMBING DRAWING INDEX

DRAWING	DESCRIPTION
P1.1.1	PLUMBING SCHEDULES, NOTES & LEGENDS
P1.2.1	PLUMBING SCHEDULES (CONTD) & CA GREEN CODE WATER SAVINGS WORKSHEETS
P2.1.1	FIRST FLOOR OVERALL PLUMBING PLAN
P2.2.1	ROOF PLUMBING PLAN
P3.1.1	ENLARGED PLUMBING PLANS
P3.1.2	ENLARGED PLUMBING PLAN
P3.1.3	ENLARGED PLUMBING PLANS
P3.1.4	ENLARGED PLUMBING PLAN
P4.1.1	PLUMBING DETAILS
P4.1.2	PLUMBING DETAILS

PLUMBING LEGEND

AB,C		ABOVE CEILING
AG		ABOVE GRADE
AFF		ABOVE FINISHED FLOOR
BF		BELOW FLOOR
BFF		BELOW FINISHED FLOOR
BTS		BELOW TOP OF SLAB
CD	CD	CONDENSATE DRAIN
CK.V.		CHECK VALVE
CW		COLD WATER
(D)		DROP
DI		DROP INLET
(E)		EXISTING
FA		FROM ABOVE
FB		FROM BELOW
FCO		FLOOR CLEAN OUT
FD		FLOOR DRAIN
G	G	GAS
GCO		GRADE CLEAN OUT
HB		HOSE BIBB
HW		DOMESTIC HOT WATER
HWR		DOMESTIC HOT WATER RETURN
IE		INVERT ELEVATION
IW	IW	INDIRECT WASTE
MPG	MPG	MEDUIM PRESSURE GAS
(N)		NEW
NTS		NOT TO SCALE
OFD		OVERFLOW DRAIN
OFL	OFL	OVERFLOW LEADER
OH		OVER HEAD
POC		POINT OF CONNECTION
(R)		RISE, RISER
RD		ROOF DRAIN
RR		ROOF RECEPTOR
RWL	RWL	RAIN WATER LEADER
SD		STORM DRAIN
SOC		SHUT-OFF COCK
SOV		SHUT-OFF VALVE
TA		TO ABOVE
TB		TO BELOW
T&PRV		TEMPERATURE & PRESSURE RELIEF VALVE
TPL	TPL	TRAP PRIMER LEADER
TYP		TYPICAL
UF		UNDER FLOOR
UG		UNDERGROUND
US		UNDER SLAB
V		VENT
VTR		VENT THRU ROOF
W		WASTE
W/		WITH
WCO		WALL CLEAN OUT
WHA		WATER HAMMER ARRESTER

PLUMBING GENERAL NOTES

1. PLUMBING INSTALLATION SHALL BE IN ACCORDANCE WITH THE 2013 CBC, 2013 CPC, 2013 CMC, AND ALL APPLICABLE LOCAL CODES.
2. INSULATION ON PIPING SHALL BE PROVIDED PER 2013 CALIFORNIA TITLE 24 ENERGY STANDARDS, SECTION 120.3: REQUIREMENTS FOR PIPE INSULATION.
3. WHERE ACCESSIBILITY IS REQUIRED, PLUMBING FIXTURES SHALL BE INSTALLED PER CBC CHAPTER 11B, SECTION 213.
4. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
5. INSTALL ALL EQUIPMENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
6. WASTE PIPE SHALL BE SLOPED AT MINIMUM OF 1/4" PER FOOT UNLESS OTHERWISE NOTED ON PLANS. PRIOR WRITTEN AUTHORIZATION IS REQUIRED FOR SMALLER SLOPE.
7. ALL SHUTOFF VALVES 2" AND SMALLER SHALL BE FULL PORT BALL VALVES, UNLESS OTHERWISE NOTED.
8. ALL SHUTOFF VALVES 2-1/2" AND LARGER SHALL BE BUTTERFLY VALVES OR GATE VALVES, UNLESS OTHERWISE NOTED
9. WATER HAMMER SHOCK ABSORBERS SHALL BE INSTALLED IN COLD WATER BRANCHES THAT HAVE QUICK CLOSING SHUTOFF VALVE(S). SIZE AND LOCATION PER PLANS.
10. TRAP PRIMERS/ SEALS SHALL BE INSTALLED TO EACH FLOOR DRAIN TRAP AS NOTED. LOCATIONS PER PLANS.
11. CONDENSATE DRAINS FROM AIR CONDITIONING COILS SHALL BE COPPER TYPE M, HARD DRAWN TUBING. PITCH 1/8" PER FOOT TO APPROVED RECEPTOR UNLESS OTHERWISE NOTED.
12. COORDINATE ANY REQUIRED SLEEVES THROUGH CONCRETE PANELS FOR PLUMBING SYSTEMS WITH THE GENERAL CONTRACTOR PRIOR TO POURS.
13. RAIN WATER PIPE SIZING BASED ON MAXIMUM RAINFALL RATE OF 1.5" PER HOUR

Plumbing O&M

Plumbing Warranties

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite 220
Auburn, CA 95603
530.888.0998
www.jkaia.net

CONTRACTOR/ENGINEER:

AIRCO mechanical, inc.
Contractors & Engineers
| 916 381 4523 | FAX 916 386 0350
8210 Demetre Ave., Sacramento, CA 95828
www.aircomech.com

THIS PLAN IS PREPARED BY AIRCO MECHANICAL, INC. AND IS GUARANTEED ONLY IF AIRCO MECHANICAL, INC. IS THE INSTALLING CONTRACTOR.

SEAL:

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER S. BARKER — No. M34463 — Exp. June 30, 2019 — MECHANICAL — STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT — CHRISTOPHER C. CUSICK — NO. C26985 — REN. 6-30-17 — STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: PLUMBING SCHEDULES, NOTES & LEGENDS

Drawn By: M. BRAMBLE
Checked By: C. BARKER

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
0	09-16-2017	RECORD SET

Project No.: 160024
Date: 08/30/2016

DRAWING NO.: P1.1.1

C:\Users\Derek\Hoppdata\local\temp\AcPublish_11896\0224-0PLUMB.dwg, 08/16/17 2:45:59pm, Derek H

Water Usage Summary			
Baseline Water Usage (BWU)	=	847.15	gal.
Goal			
20% Reduction	=	677.72	gal.
30% Reduction	=	593.005	gal.
35% Reduction	=	550.6475	gal.
40% Reduction	=	508.29	gal.
Design			
Proposed Water Usage			
30% Reduction	=	502.725	gal.
30-35 or 40% Reduction	=	502.725	gal.

WORKSHEET (WS-1)
BASELINE WATER USE
BASELINE WATER USE CALCULATION TABLE

	FIXTURE TYPE	FLOW RATE (gpm)[1]		DURATION (MIN.)		DAILY USES		OCCUPANTS [3,4]		GALLONS PER DAY
	Showerheads	2.5	X	5	X	1	X	0	=	0
	Showerheads residential	2.5	X	8	X	1	X	0	=	0
	Lavatory faucets	0.5	X	0.25	X	3	X	114	=	42.75
*	Kitchen faucets	2.2	X	4	X	1	X	37	=	325.6
	Replacement aerators	2.2	X		X		X	0	=	0
	Wash fountains	2.2	X		X		X	0	=	0
	Metering faucets	0.25	X	0.25	X	3	X	0	=	0
	Metering faucets for wash fountains	2.2	X	0.25	X		X	0	=	0
	Gravity tank type water closets (Male)	1.6	X	1	X	1	X	0	=	0
	(Female)	1.6		1		3		0		0
	Flushometer tank water closets (Male)	1.6	X	1	X	1	X	0	=	0
	(Female)	1.6		1		3		0		0
	Flushometer valve water closets (Male)	1.6	X	1	X	1	X	57	=	91.2
	(Female)	1.6		1		3		57		273.6
	Electromechanical hydraulic water closets (Male)	1.6	X	1	X	1	X	0	=	0
	(Female)	1.6		1		3		0		0
	Urinals	1	X	1	X	2	X	57	=	114
	Total daily baseline water use (BWU):								=	847.15

(BWU)	X	70%	=	Allowable Water Usage
847.15	X	70%	=	593.005

1. The daily use number shall be increased to three if urinals are not installed in the room.
2. The flow rate is from the CEC Appliance Efficiency Standards, Title 20 *California Code of Regulations;* where a conflict occurs, the CEC standards shall apply.
3. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom.
4. For nonresidential occupancies, refer to Table A, Chapter 4, 2013 *California Plumbing Code,* for occupant load factors.

WORKSHEET (WS-2)
20 PERCENT REDUCTION WATER USE
20 PERCENT REDUCTION WATER USE CALCULATION TABLE

	FIXTURE TYPE	FLOW RATE (gpm)[1]		DURATION (MIN.)		DAILY USES		OCCUPANTS [3,4]		GALLONS PER DAY
	Showerheads	1.5	X	5	X	1	X	0	=	0
	Showerheads residential	1.5	X	8	X	1	X	0	=	0
	Lavatory faucets	0.35	X	0.25	X	3	X	114	=	29.925
*	Kitchen faucets	1.5	X	4	X	1	X	37	=	222
	Replacement aerators	2.2	X		X		X	0	=	0
	Wash fountains	2.2	X		X		X	0	=	0
	Metering faucets	1.5	X	0.25	X	3	X	0	=	0
	Metering faucets for wash fountains	1.5	X	0.25	X		X	0	=	0
	Gravity tank type water closets (Male)	1.2	X	1	X	1	X	0	=	0
	(Female)	1.2		1		3		0		0
	Flushometer tank water closets (Male)	1.2	X	1	X	1	X	0	=	0
	(Female)	1.2		1		3		0		0
	Flushometer valve water closets (Male)	1.1	X	1	X	1	X	57	=	62.7
	(Female)	1.1		1		3		57		188.1
	Electromechanical hydraulic water closets (Male)	0.8	X	1	X	1	X	0	=	0
	(Female)	0.8		1		3		0		0
	Urinals	0	X	1	X	2	X	57	=	0
	Proposed Water Use								=	502.725

(BWU) from WS-1 x 70%	=	593.005

1. The daily use number shall be increased to three if urinals are not installed in the room.
2. The flow rate is from the CEC Appliance Efficiency Standards, Title 20 *California Code of Regulations;* where a conflict occurs, the CEC
3. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person
4. For nonresidential occupancies, refer to Table A, Chapter 4, 2013 *California Plumbing Code,* for occupant load factors.
5. Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.

Single flush toilets-The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A 112.19.233.2

Dual flush toilets-The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A 112.19.2 and ASME A 112.19.14.

WORKSHEET (WS-2)
30-35 or 40 PERCENT REDUCTION WATER USE
30-35 or 40 PERCENT REDUCTION WATER USE CALCULATION TABLE

	FIXTURE TYPE	FLOW RATE (gpm)[1]		DURATION (MIN.)		DAILY USES		OCCUPANTS [3,4]		GALLONS PER DAY
	Showerheads	1.5	X	5	X	1	X	0	=	0
	Showerheads residential	1.5	X	8	X	1	X	0	=	0
	Lavatory faucets	0.35	X	0.25	X	3	X	114	=	29.925
*	Kitchen faucets	1.5	X	4	X	1	X	37	=	222
	Replacement aerators	2.2	X		X		X	0	=	0
	Wash fountains	2.2	X		X		X	0	=	0
	Metering faucets	1.5	X	0.25	X	3	X	0	=	0
	Metering faucets for wash fountains	1.5	X	0.25	X		X	0	=	0
	Gravity tank type water closets (Male)	1	X	1	X	1	X	0	=	0
	(Female)	1		1		3		0		0
	Flushometer tank water closets (Male)	1	X	1	X	1	X	0	=	0
	(Female)	1		1		3		0		0
	Flushometer valve water closets (Male)	1.1	X	1	X	1	X	57	=	62.7
**	(Female)	1.1		1		3		57		188.1
	Electromechanical hydraulic water closets (Male)	0.8	X	1	X	1	X	0	=	0
	(Female)	0.8		1		3		0		0
	Urinals	0	X	1	X	2	X	57	=	0
	Proposed Water Use								=	502.725

(BWU) from WS-1 x 70%	=	593.005	gal.
(BWU) from WS-1 x 65%	=	550.6475	gal.
(BWU) from WS-1 x 60%	=	508.29	gal.

1. The daily use number shall be increased to three if urinals are not installed in the room.
2. The flow rate is from the CEC Appliance Efficiency Standards, Title 20 *California Code of Regulations;* where a conflict occurs, the CEC
3. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person
4. For nonresidential occupancies, refer to Table A, Chapter 4, 2013 *California Plumbing Code,* for occupant load factors.
5. Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.

Single flush toilets-The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A 112.19.233.2

Dual flush toilets-The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A 112.19.2 and ASME A 112.19.14.

CALIFORNIA GREEN CODE WATER SAVING WORK SHEETS

* NOTE: KITCHEN SINK OCCUPANTS BASE ON 549 SQ. FT. AREA WITH AN OCCUPANT LOAD OF 15 SQ. FT. PER PERSON FOR A TOTAL OF 37 OCCUPANTS
** NOTE: ADDITIONAL WATER SAVINGS FROM RAINWATER HARVESTING, RECLAIMED WATER USED FOR FLUSHING ONE TOILET IN UNISEX RESTROOM #123.

MISC EQUIPMENT SCHEDULE

AD-1 (B/P4.1.1)	AIR DRYER	CHAMPION CRN150 REFRIGERATED AIR DRYER, 150 CFM CAPACITY, WITH I-CONTROLLER LEVEL 2, 1"NPT CONNECTIONS, 38"H x 29"W x 20"D, ELECTRICAL 115-V, 1-Ø, 1.3 kW,OPERATING WEIGHT=287 LB
AF-1	AIR FILTER	CHAMPION CFF170C17AGYTW GENERAL PURPOSE 1 MICRON COALESCING FILTER, 170 CFM CAPACITY, INTERNAL AUTOMATIC DRAIN, DIFFERENTIAL PRESSURE GAUGE, 1" NPTF CONNECTIONS, 11.3 LBS
HR-1 (I/P4.1.1)	HOSE REEL	COXREEL SH-N-350 HEAVY DUTY SPRING DRIVEN AUTO-REWIND, GUIDE ARM, MULTI-POSITION LOCK RATCHET, 3/8" X 50' HOSE, WEIGHT (with hose)=50 LBS
FRL-1 (K/P4.1.1)	FILTER-REGULATOR-LUBRICATOR	ARO MODEL C38341-610 WITH P39344-610 FILTER REGULATOR & L36341-110 LUBRICATOR, WITH 1/2" NPT PORTS, MANUAL DRAIN, METAL BOWL, SIGHT GLASS, RELIEVING, WITH PRESSURE GAUGE, MAX 250 PSI, 120 CFM, 5 MICRON FILTER, PROVIDE WITH 1/2" MODEL 104392-4 MODULAR LOCKOUT VALVE AND 104401 ALUMINUM T-BRACK WALL MOUNTING BRACKET
PR-1	PRESSURE REGULATOR	ARO MODEL R37461-600 1" PRESSURE REGULATOR, RELIEVING, STANDARD KNOB, 290 SCFM FLOW CAPACITY, 250 PSI MAXIMUM INLET PRESSURE, PROVIDE 0-140 PSI SPRING RANGE, PROVIDED WITH 0-140 PSI 1/8" FLUSH PRESSURE GAUGE
QC-1	QUICK CONNECT	ARO TYPE C1 COMPRESSED AIR QUICK CONNECTOR, 1/4" NPT MALE THREADS, PLATED STEEL
ST-1 (D/P4.1.1)	STORAGE TANK	SNYDER ASM TK 550 VCT X 48, 550 GALLON VERTICAL, FLAT BOTTOM, HDPE RAIN HARVESTING TANK, 18'Ø VENTED MAN WAY, 48'Ø X 75" OVERALL HEIGHT, SEISMIC RATED FOR 1.9 SG, 347-400-3000 SYSTEM SEISMIC RESTRAINT WITH ORIGINAL WET STAMP CALCULATIONS, 1" ECHOPOD LEVEL CONTROL WITH 1" BULKHEAD FITTING, 4" INLET LOCATE AT THE MOLDED FLAT NEAR THE CENTER OF TOP, 3" OVERFLOW MAX SIZE FITTING THAT WILL FIT ON THE SIDEWALL TANK, 3" BOTTOM OUTLET, WEIGHT = 110 LBS., TOTAL WEIGHT = 4694 LBS.
ST-2 (L/P4.1.1)	STORAGE TANK	SNYDER ASM TK 550 VDT X 64, 550 GALLON VERTICAL, FLAT BOTTOM, HDPE ENGINE DYNO COOLING TANK, 18'Ø VENTED MAN WAY, 64'Ø X 47" OVERALL HEIGHT, SEISMIC RATED FOR 1.9 SG, 347-400-3000 SYSTEM SEISMIC RESTRAINT WITH ORIGINAL WET STAMP CALCULATIONS, 3" BOTTOM OUTLET AT 90° OR 270°MAX, TANK WEIGHT = 100 LBS., TOTAL WEIGHT = 4684 LBS.
DSF-1	DOWNSPOUT FILTER	OLDCASTLE FG-DS4, 4" INLET AND OUTLET, 14" X 29" X 7.5" TYPE 304 STAINLESS STEEL BOX, WITH REMOVABLE SLIDE IN STRAINER BASKET, WATER PROOF ACCESS DOOR, 30 GPM FILTERED FLOW WITH 145 GPM BY-PASS CAPACITY,
FFD-1	FIRST FLOW DIVERTER	RAINHARVESTING 4" FIRST FLUSH WATER DIVERTER KIT, INCLUDES 4" LINE PVC ASSEMBLY WITH SEATING BALL, DIVERTER CHAMBER (LENGTH AS NOTED), PROVIDE WITH OPTIONAL STAINLESS STEEL PRIMARY SCREEN WITH PLASTIC FILTER SCREEN END SCREW CAP, FLOW CONTROL VALVE AND HOSE CONNECTOR
CP-2	STORAGE TANK ST-1 CIRCULATION PUMP	TACO 0011-FS4, STAINLESS STEEL CASING, 265-3 TIMER CONTROL, 3/4" FLANGED CONNECTIONS, 2 GPM @ 15' H, 115V/1PH/ 1.76 Amps, 1/8 HP, WEIGHT = 12 LBS
CP-3	STORAGE TANK ST-3 CIRCULATION PUMP	TACO 0014-FS1, STAINLESS STEEL CASING, 265-3 TIMER CONTROL, 3/4" FLANGED CONNECTIONS, 1.0 GPM @ 22'H, 115V/1PH/ 1.45 Amps, 1/8 HP, WEIGHT = 12 LBS
EDP-1 (F/P4.1.2)	ENGINE DYNO PUMP	TACO MODEL 1919, 2" x 2" INLINE PUMP, 55 GPM, 48' HEAD, 7.3" IMPELLER, 54% EFFICIENT, 1760 rpm, 1.25 BHP, 1.48 NOL HP, 1.5 MOTOR HP @ 480-V, 3-PHASE. ELECTRICAL TO PROVIDE MOTOR STARTER AND DISCONNECT. WEIGHT = 125 LBS.
CH-1 (F/P4.1.2)	ENGINE DYNO CHILLER	ELKAY MODEL ER30 AIR COOLED CHILLER, WITH 80°F ENTERING WATER, CAN PROVIDE UP TO 30 GALLONS PER HOUR AT 50°F (7,500 BTUh). ELECTRICAL: 120-V, 1-PHASE. 14.0 AMPS, 1290 WATTS, ENCLOSED ADJUSTABLE THERMOSTAT IS FACTORY PRESET AT 50°F, WEIGHT = 125 LBS
BP-1 (J/P4.1.1)	RECYCLED WATER BOOSTER PUMP	CANARIIS MODEL SE-40-4S SIMPLES CONSTANT SPEED PRESSURE BOOSTER PUMP, TACO 1204, 3 HP, 3500 RPM PUMPS 460-V, 3Ø, 40 gpm @ 104' HEAD, PRV AT PUMP WITH PRV, ISOLATION VALVE, THERMAL PURGE VALVE, NEMA-1 CONTROL PANEL, UL LISTED
DET-2 (H/P4.1.1)	RECYCLED WATER EXPANSION TANK	WESSELS FX300V, 80 GALLON 150 PSI HYDRO-PNEUMATIC EXPANSION TANK PROVIDED WITH BOOSTER PUMP, SHIPPED LOOSE. WEIGHT = 141 LBS. FLOODED WEIGHT = 807.4 LBS
CHEM	RECYCLED WATER CHEM TREATMENT SYSTEM	TO BE DETERMINED, ELECTRICAL TO PROVIDE 120-V, 1-Ø POWER FOR CHLORINE SENSOR, AND CHLORINE CHEM FEEDER PUMP
LS-1	RECYCLED WATER TANK LEVEL SENSOR & SOLENOID VALVE	ECHOPOD DL24-01 LEVEL CONTROLLER, 9.8' RANGE, ELECTRICAL TO PROVIDE 120-V, 1-Ø POWER FOR LIQUID LEVEL SENSOR AND 3/4" LOW TANK WATER LEVEL MAKE-UP WATER SOLENOID VALVE (NORMALLY CLOSED)

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THIS PLAN IS PREPARED BY AIRCO MECHANICAL, INC. AND IS GUARANTEED ONLY IF AIRCO MECHANICAL, INC. IS THE INSTALLING CONTRACTOR.

SEAL:

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. BARKER
No. M34463
Exp. June 30, 2019
MECHANICAL
STATE OF CALIFORNIA

Plumbing O&M

Plumbing Warranties

SEAL

LICENSED ARCHITECT
CHRISTOPHER C. CARSON
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC ____ F/LS ____ SS ____
DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: PLUMBING SCHEDULES (CONT'D) & CA GREEN CODE WORKSHEETS

NO.	DATE	ISSUE
1	12-06-2016	ASI'006
1	08-16-2017	RECORD SET

Drawn By: M. BRAMBLE
Checked By: C. BARKER
Project No.: 160024
Date: 08/30/2016
DRAWING NO.: P1.2.1

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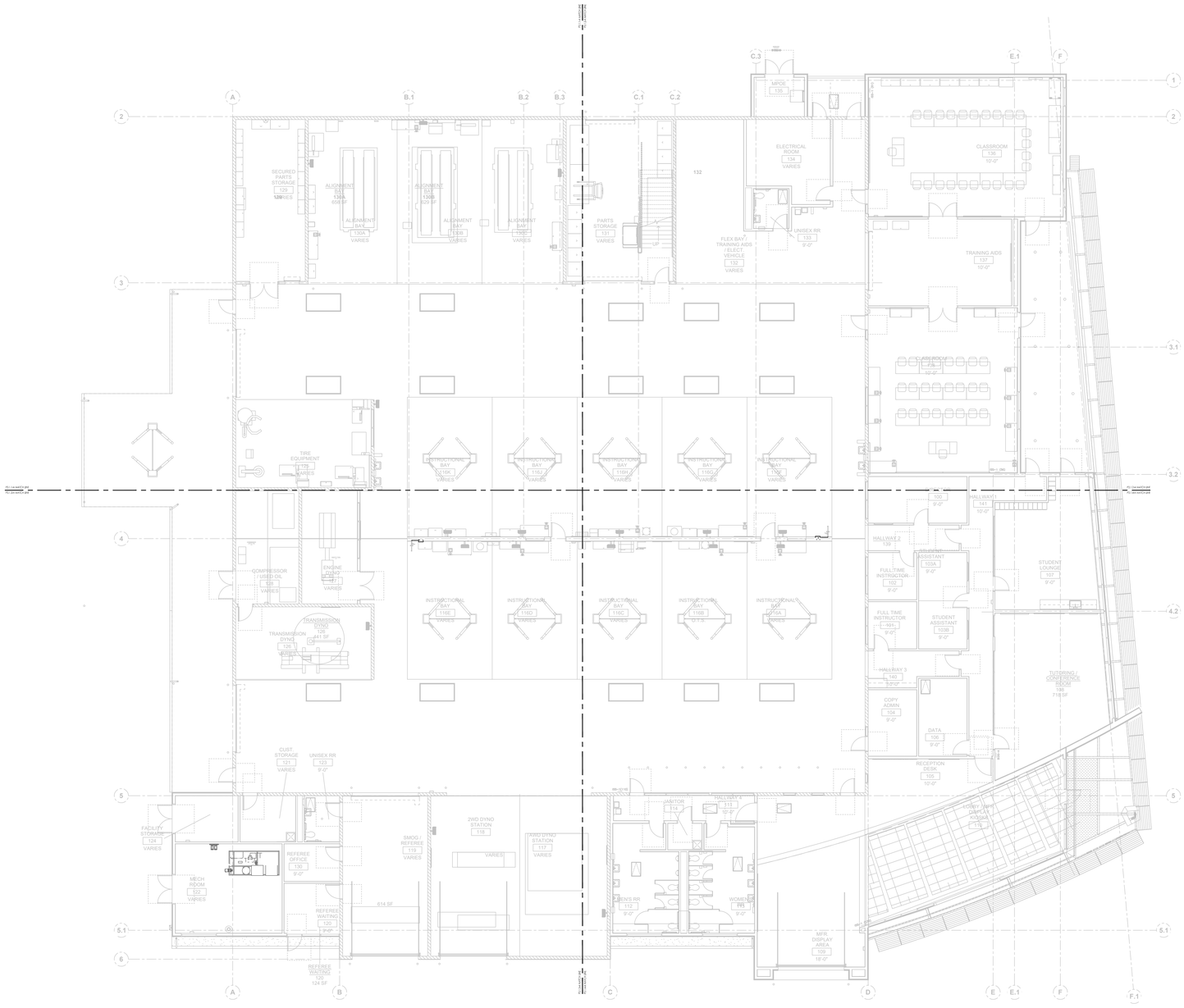

First Floor Overall Plumbing Plan

SCALE: 3/32" = 1'-0"

WALL RATING LEGEND:

1 HR RATED CONSTRUCTION

KEY PLAN

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CHRISTOPHER S. BARKER
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Exp. June 30, 2019
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SEAL

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CHRISTOPHER C. TORCIVIA
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AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: FIRST FLOOR OVERALL PLUMBING PLAN

Drawn By: M. BRAMBLE
Checked By: C. BARKER

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	09-16-2017	RECORD SET

Project No.: 160024
Date: 08/30/2016

DRAWING NO.: P2.1.1

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WALL RATING LEGEND:

1 HR RATED CONSTRUCTION

KEY PLAN

Roof Plumbing Plan

SCALE: 1/8" = 1'-0"

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AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: ROOF PLUMBING PLAN

Drawn By: M. BRAMBLE
Checked By: C. BARKER

NO.	DATE	ISSUE
2	12-06-2016	ASI-006
1	08-16-2017	RECORD SET

Project No.: 160024
Date: 08/30/2016

DRAWING NO.: P2.2.1

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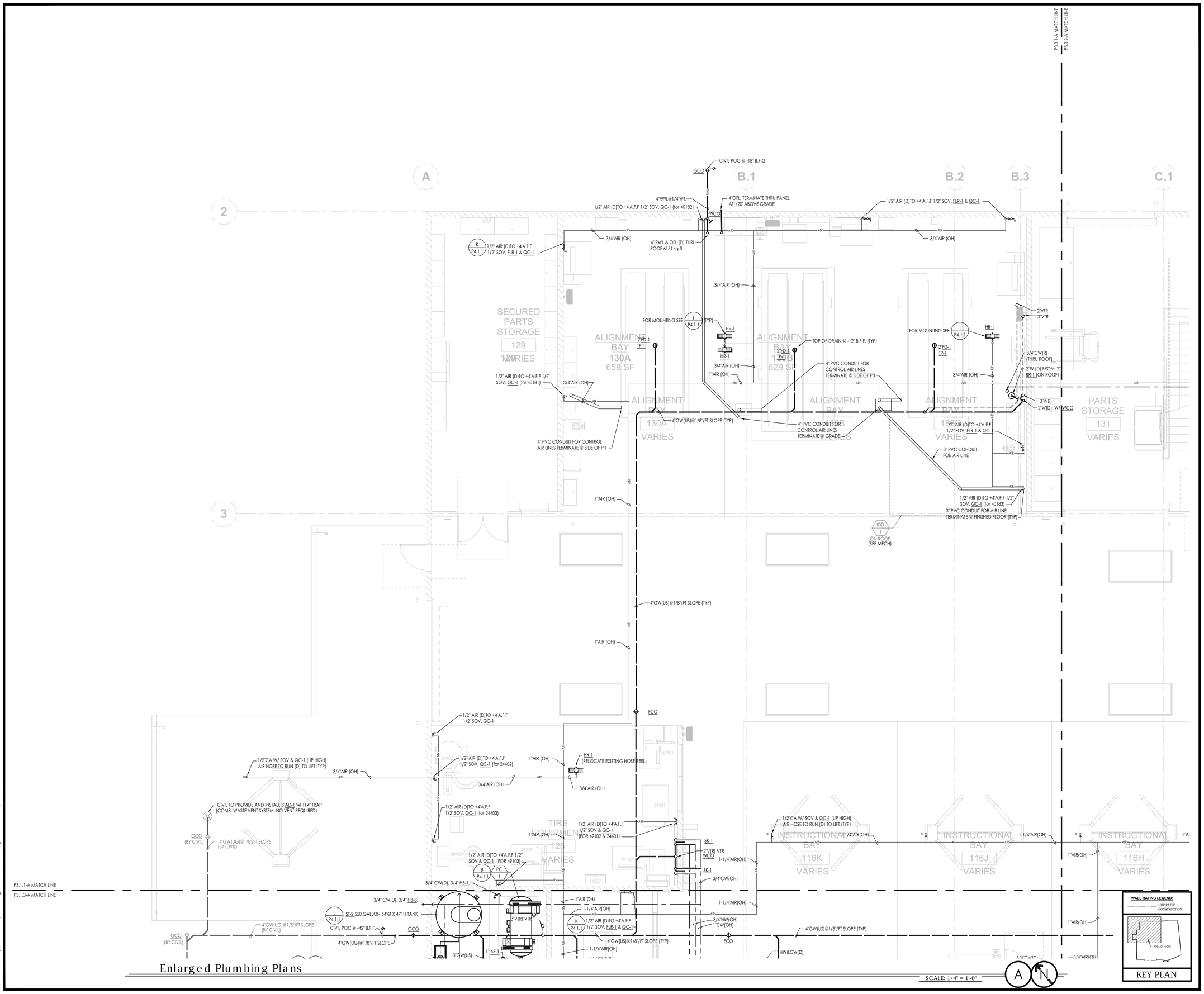

Enlarged Plumbing Plans

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

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STATE OF CALIFORNIA

SEAL

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STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

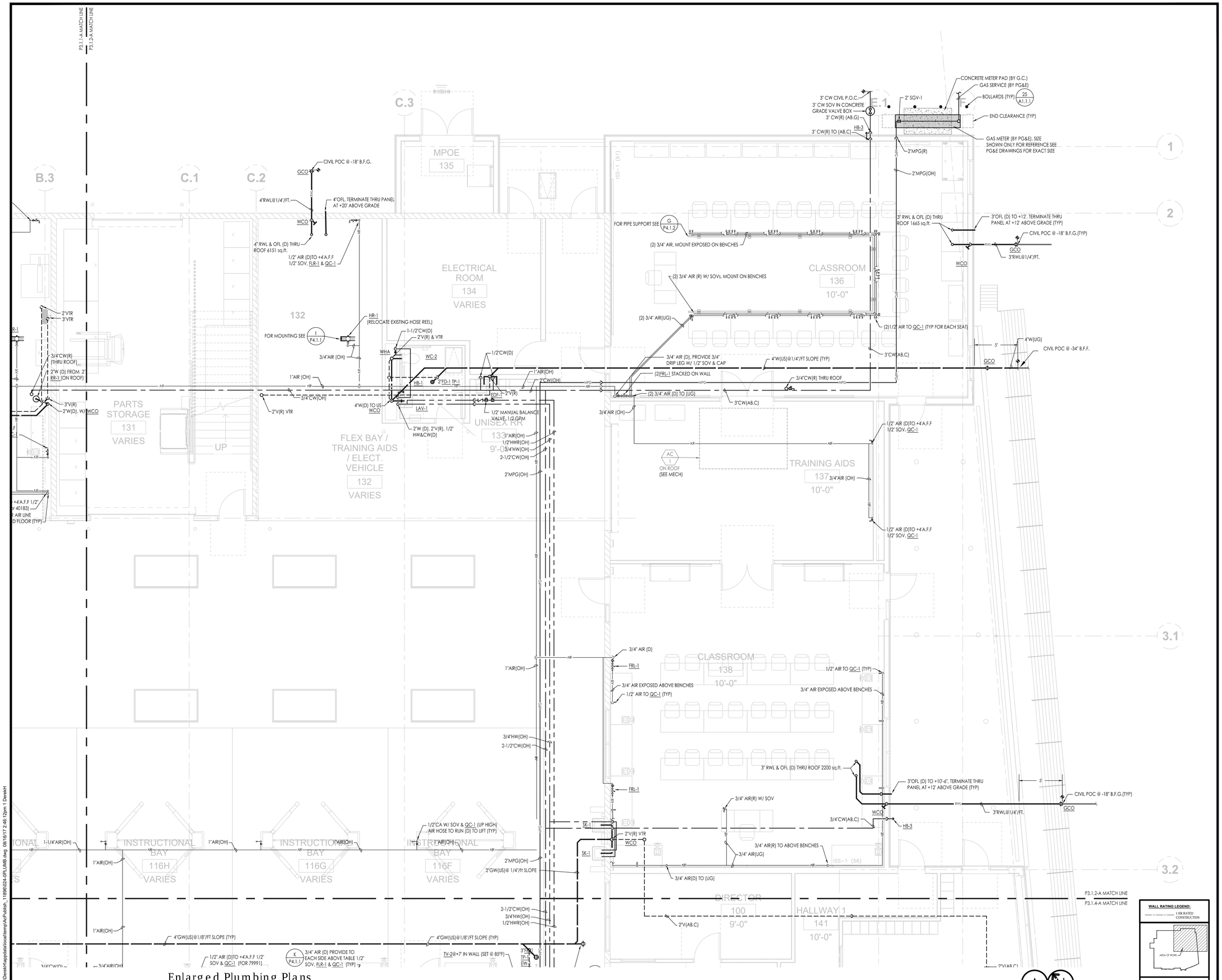
Project
SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title
ENLARGED PLUMBING PLANS

NO.	DATE	ISSUE
2	12-06-2016	AS1006
1	08-16-2017	RECORD SET

Drawn By: M. BRAMBLE
Checked By: C. BARKER
Project No.: 160024
Date: 08/30/2016

DRAWING NO.
P3.1.1



Enlarged Plumbing Plans

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

WALL RATING LEGEND:

1 HR RATED CONSTRUCTION

AREA OF WORK

KEY PLAN

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LICENSED ARCHITECT
CHRISTOPHER C. TYSON
NO. C26985
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STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: ENLARGED PLUMBING PLANS

NO.	DATE	ISSUE
2	10-06-2016	ASI'006
1	08-16-2017	RECORD SET

Drawn By: M. BRAMBLE
Checked By: C. BARKER
Project No.: 160024
Date: 08/30/2016

DRAWING NO.: P3.1.2

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P3.1.1-A MATCH LINE

P3.1.3-A MATCH LINE

3/4" CW(D), 3/4" HB-1

3/4" CW(D), 3/4" HB-3

L P4.1.1 ST-2 550 GALLON 64"Ø X 47" H TANK

CIVIL POC @ -42" B.F.F.

4"GW(UG)@1/8"/FT SLOPE

4"GW(UG)@1/8"/FT SLOPE (BY CIVIL)

GCO (BY CIVIL)

GCO

B P4.1.1 PC 1

3"V(R) VTR

1"AIR(OH)

1-1/4"AIR(OH)

K P4.1.1 1/2" AIR (D)TO +4'A.F.F 1/2" SOV, FLR-1 & QC-1

4"GW(US)@1/8"/FT SLOPE (TYP)

3'GW(US)

1" AF-1

2"SS-1

1" AD-1

1" PR-1

1-1/4"AIR(R)

3'GW(US)

FCO

2"FD-1 TP-1

E P4.1.2 F P4.1.2 CH-1 (ON TOP OF STEEL TABLE SUPPORT) EDP-1 (UNDER STEEL TABLE SUPPORT)

3/4" CW(D) W/ SOV

POWER WASHER (BY OWNER)

3/4"GAS CONN

8"Ø FLUE UP THRU ROOF (BY MECH)

1-1/2" G (D)

GPR-1

E P4.1.2 2" DYNO COOLING SUPPLY AND RETURN

1/2"CA W/ QC-1

4

ENGINE DYNO 127 VARIES

COMPRESSOR / USED OIL 128 VARIES

1-1/4" MPG (OH)

1/2" AIR (D)TO +4'A.F.F 1/2" SOV, FLR-1 & QC-1

TRANSMISSION DYNO 126 441 SF

TRANSMISSION DYNO 126 VARIES

3/4"AIR(OH)

3/4"CW(OH)

1/2" AIR (D)TO +4'A.F.F 1/2" SOV, FLR-1 & QC-1

3/4"AIR(OH)

1"AIR(OH)

1-1/4" MPG (OH)

1-1/2"CW(OH)

1-1/2"HW(OH)

3/4"HWR(OH)

2"MPG(OH)

CUST. STORAGE 421 VARIES

UNISEX RR 423 9'-0"

5

5.1

6

A

B

SK-1

3/4"CW(OH)

1-1/4"AIR(OH)

3/4"HW(OH)

1"CW(OH)

4"GW(US)@1/8"/FT SLOPE (TYP)

FCO

1"HW&CW(D)

TV-2@+7" IN WALL (SET @ 85°F)

2"V(R) VTR

EW-1 DS-1 TP-1 3"FD-1

WCO AP-1 3/4"AIR (D)

3/4"AIR(IN WALL)

K P4.1.1 3/4" AIR (D) PROVIDE TO EACH SIDE ABOVE TABLE 1/2" SOV, FLR-1 & QC-1 (TYP)

3/4"CW(D)

3/4"AIR(OH)

HB-1

3/4"AIR (D)

1"AIR(OH)

4"GW(US)@1/8"/FT SL

1/2

SO

VARIES

1/2"HWR(OH)

1-1/4"HW(OH)

1-1/4"CW(OH)

INSTRUCTIONAL BAY 116E VARIES

INSTRUCTIONAL BAY 116D VARIES

INSTRUCTIONAL BAY 116C VARIES

1/2"CA W/SOV & QC-1 (UP HIGH) AIR HOSE TO RUN (D) TO LIFT (TYP)

3/4"AIR(OH)

1"AIR(OH)

1"AIR(OH)

1"AIR(OH)

1"AIR(OH)

2" RWL @ 1/4"/FT.

4" RWL & OFL (D) THRU ROOF 3777 sq.ft.

4" OFL @ 1/4"/FT.

4" RWL

4" OFL @ 1/4"/FT (7,554 sq.ft.)

4"RWL @ 1/4"/FT (3,777 sq.ft.)

2"W(US)@

FD-1 WCO

2"V(R) VTR

1-1/2" RECLAIM SUPPLY (OH)

2"W (D), 2"V(R), 1/2" HW&CW(D)

4"RWL(AB,C)

HB-1

LAV-2 WCO

2"FD-1 TP-1

2" MPG (OH)

2"FD-1 TP-1

1-1/2" RECLAIM CW(D)

3"MS-1

WC-2

2"V(R) & VTR

1"AIR(OH)

2" PVC AIR EXHAUST TERMINATE @ +18", MECH. TO CONN. TO EXHAUST

2" PVC AIR EXHAUST

2" PVC AIR EXHAUST

2WD DYNO STATION 118

AWD DYNO STATION 117

4187

1/2" AIR (D)TO +4'A.F.F 1/2" SOV. FLR-1 & QC-1

3"V(R) FOR COMB. WASTE VEN

4"GW(US)@1/8"/FT SLOP

HB-1

LAV-1

LAV-1 WCO

2"W(US)

3"VTR

LAV-1

MEN'S RR 112 9'-0"

1/2" AIR (D)TO +4'A.F.F 1/2" SOV & QC-1

WCO

4"OFL (D) TO. TERMINATE THR PANEL AT +15" ABOVE GRAD

4"RWL@1/4"/FT.

4"GW(UG)@1/8"/FT SLOPE (TYP)

DRAIN @ -12-1/2" B.F.F. 2" FD-1 W/ 3" TRAP TP-1

1"AIR(OH)

TP-1 DRAIN @ -18" B.F.F. 2" FD-1 W/ 3" TRAP (TYP)

6" PVC AIR EXHAUST

6 PVC AIR EXHAUST TERMINATE @ +18", MECH. TO CONN. TO EXHAUST

2" PVC CONDUIT FOR AIR LINE

3" PVC CONDUIT FOR AIR LINES

3" PVC CONDUIT FOR AIR LINE

FCO

3" PVC CONDUIT TERMINATE @ BOTTOM OF FIT (TYP)

DRAIN @ -12-1/2" B.F.F. 2" FD-1 W/ 3" TRAP TP-1

QC-1

FLR-1

4188-A CONTROLS

4188-B CONTROLS

4188-A

4188-B

1/2" AIR (D)TO +4'A.F.F 1/2" SOV, FLR-1 & QC-1

3/4"AIR (OH)

1/2" AIR (D)TO +4'A.F.F 1/2" SOV & QC-1

DRAIN @ -12-1/2" B.F.F. 2" FD-1 W/ 3" TRAP TP-1

SMOG / REFEREE OFFICE 5'-0"

REFEREE WAITING 120 -0" 124 SF

614 SF

REFEREE WAITING 120 VARIES

FACILITY STORAGE 124 VARIES

MECH ROOM 122 VARIES

GWH 1 A P4.1.1 (SEE MECH) VFD 1&2 SHWP-1 SHWP-2

CP-1 TV-1 7

3" AIR INTAKE

DET-1

3"SS-2

3" EXHAUST

2" VTR

2" V (R) WCO

1-1/2"HW

1-1/2"CW

3/4"HWR

4" CONCENTRIC EXHAUST (HIGH AS POSSIBLE)

GPR-2

1-1/2" G (D)...1"GAS CONN (TYP OF 2) 2' G (OH)

3/4" MAKE-UP WATER SET

2" RECLAIM SUPPLY (OH)

H P4.1.1 DET-2

3/4"CW

4"RWL(AB,C)

2"V(R) & VTR

A P4.1.2 J P4.1.1 BP-1

2" TANK MAKE-UP SOLENOID VALVE (NC)

D P4.1.1 ST-1 (550 GAL) (48"Ø x 71" HIGH)

4"FS-1

3" TOP OVERFLOW

3" BOTTOM OUTLET

4" DOWNSPOUT FILTER

CHLORINE CHEM TREATMENT

CP-2

4" RWL (D)

2"V(R) & VTR

4"W(US)

4"RWL(UG)

4"W(UG)

GCO

CIVIL POC @ -30" B.F.F.

CIVIL POC @ -18" B.F.G.

HB-1

FIRE SPRINKLER RISER AND TEST DRAIN BY FIRE PROTECTION CONTRACTOR

4" HUB DRAIN FOR FIRE SPRINKLER TEST DRAIN

CIVIL P.O.C.@-54"B.F.F.

2" VAPOR VENT

GCO

2" VAPOR VENT (UG)

CIVIL P.O.C.@-50"B.F.F.

4"GW(UG)

24" DIAMETER VAPOR TIGHT LIDS TO GRADE (H-20 TRAFFIC RATED)

SOS-1 500 GALLON CONCRETE SAND/OIL SEPARATOR

GCO

2" NORMAL VENT

CIVIL P.O.C.@-54"B.F.F.

2" V (R) WCO

2" VTR

2" STANDARD SANITARY VENT (UG)

P3.1.3-A MATCH LINE

P3.1.4-A MATCH LINE

GCO

CIVIL POC @ -18" B.F.G.(TYP.)

WALL RATING LEGEND: CIVIL

1 HR RATED CONSTRUCTION

AREA OF WORK

KEY PLAN

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

Enlarged Plumbing Plans

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JK ARCHITECTURE PARTNERSHIP

11661 Blocker Drive
Suite 220
Auburn, CA 95603
530.888.0998

www.jkaia.net

CONTRACTOR/ENGINEER:

AIRCO mechanical, inc.

Contractors & Engineers
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8210 Demetre Ave., Sacramento, CA 95828
www.aircomech.com

THIS PLAN IS PREPARED BY AIRCO MECHANICAL, INC. AND IS GUARANTEED ONLY IF AIRCO MECHANICAL, INC. IS THE INSTALLING CONTRACTOR.

SEAL:

REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER S. BARKER No. M34463 Exp. June 30, 2019 MECHANICAL STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT CHRISTOPHER C. TYSON NO. C26985 REN. 6-30-17 STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project: SOLANO COMMUNITY COLLEGE DISTRICT
AUTO TECH FACILITY

Drawing Title: ENLARGED PLUMBING PLANS

Drawn By: M. BRAMBLE

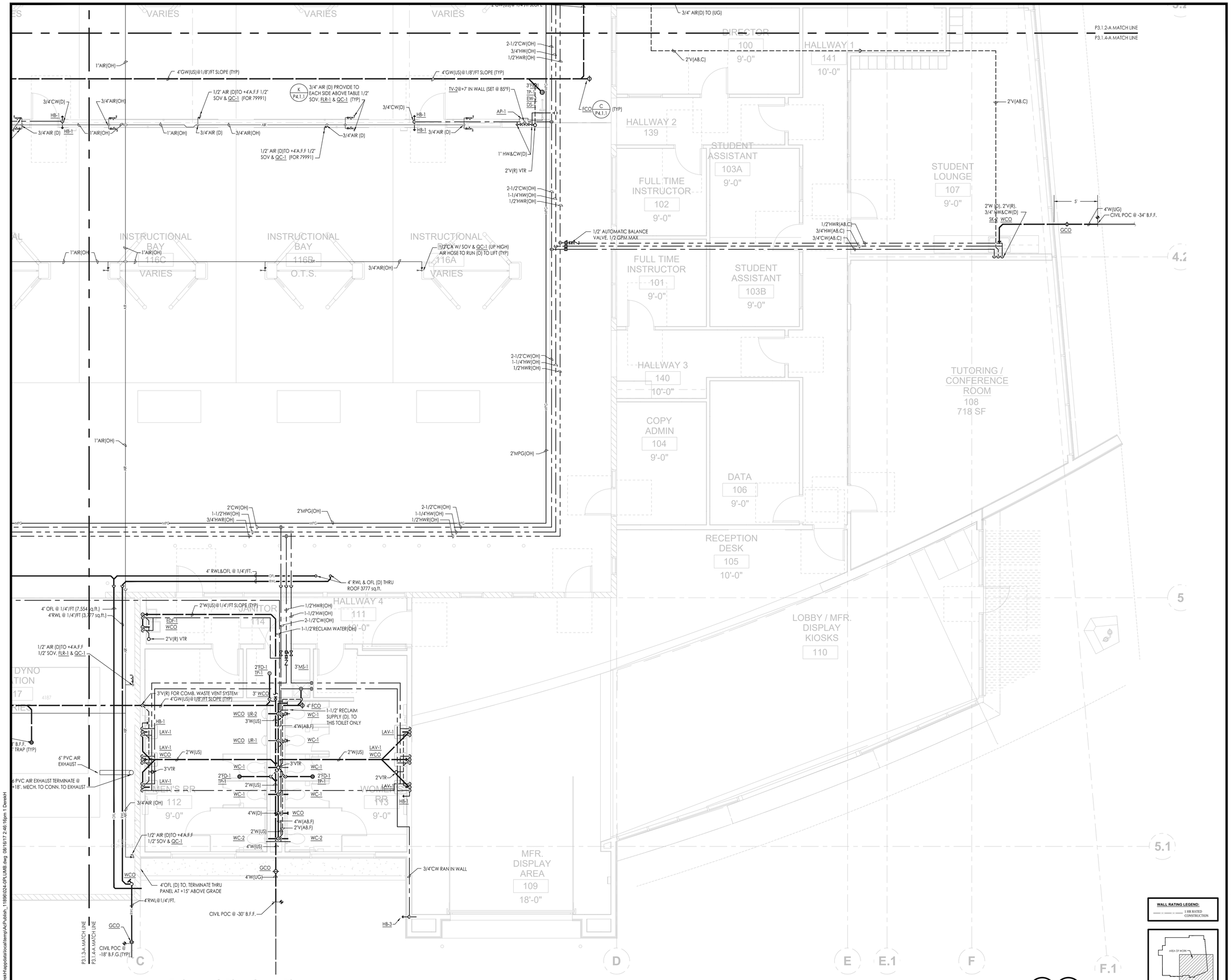
Checked By: C. BARKER

NO.	DATE	ISSUE
1	12-06-2016	ASI 006
2	06-16-2017	RECORD SET

Project No. 160024

Date 08/30/2016

DRAWING NO. P3.1.3



Enlarged Plumbing Plans

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

WALL RATING LEGEND:
1 HR RATED CONSTRUCTION

KEY PLAN

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Exp. June 30, 2019
MECHANICAL
STATE OF CALIFORNIA

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LICENSED ARCHITECT
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Drawn By: M. BRAMBLE
Checked By: C. BARKER
Project No.: 160024
Date: 08/30/2016
DRAWING NO.: P3.1.4

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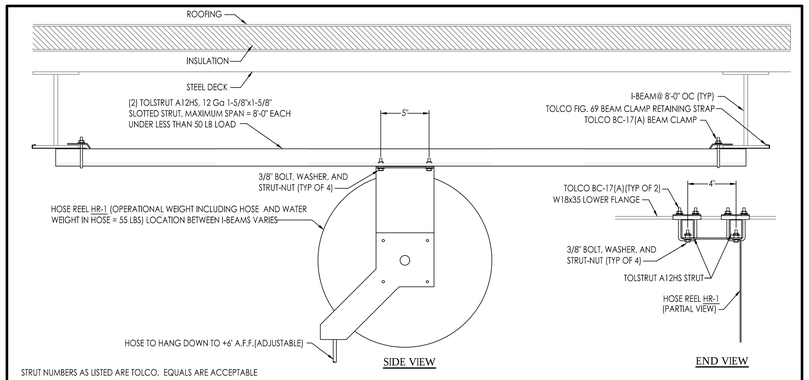
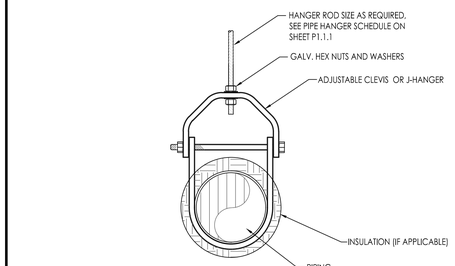


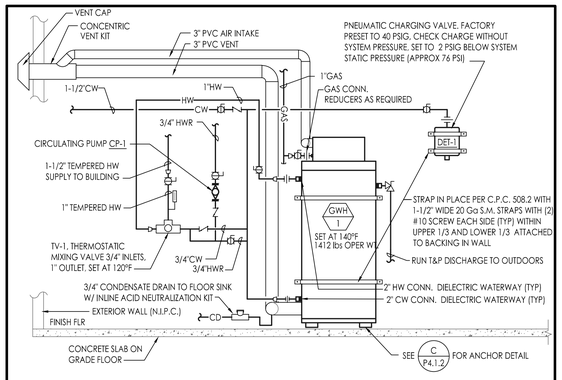
HOSE REEL MOUNTING DETAIL

SCALE NONE | I



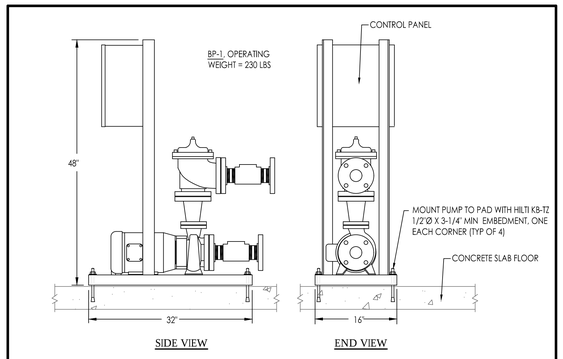
PIPE HANGER DETAIL

SCALE NONE | E



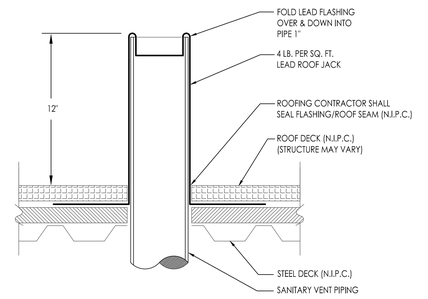
WATER HEATER W/ RECIRCULATION PUMP DETAIL

SCALE NONE | A



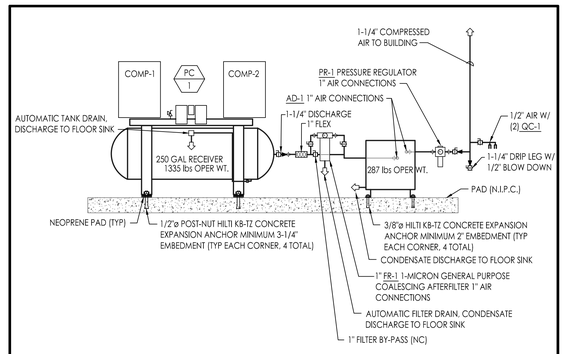
BOOSTER PUMP MOUNTING DETAIL

SCALE NONE | J



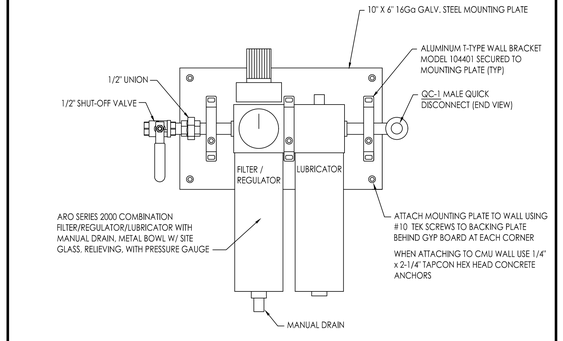
VENT THRU ROOF

SCALE NONE | F



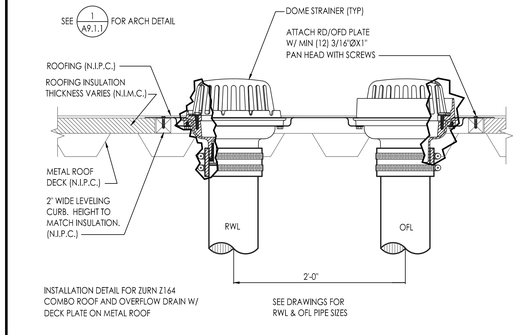
AIR COMPRESSOR DETAIL

SCALE NONE | B



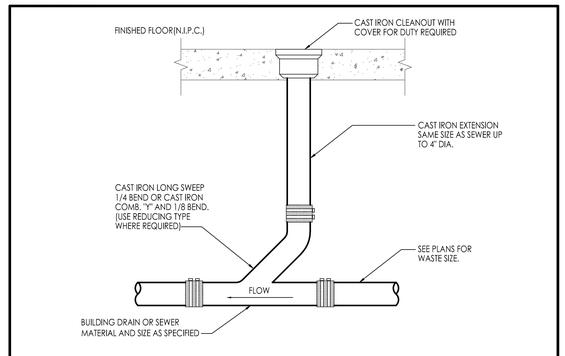
OIL/FILTER/REGULATOR DETAIL

SCALE NONE | K



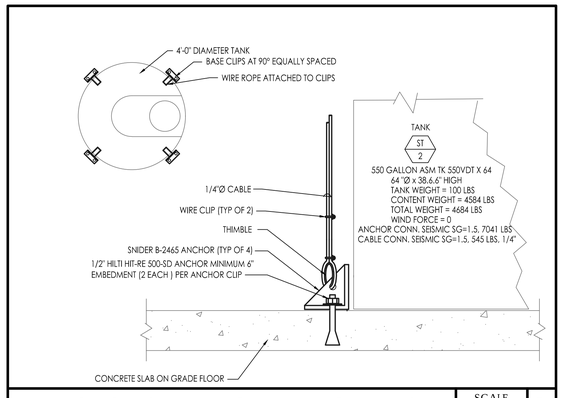
ROOF DRAIN & OVERFLOW DRAIN

SCALE NONE | G



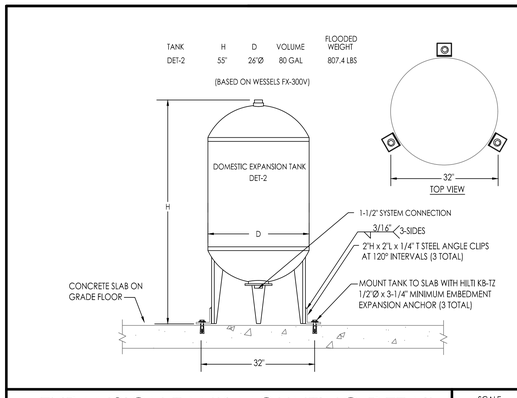
FLOOR CLEAN-OUT DETAIL

SCALE NONE | C



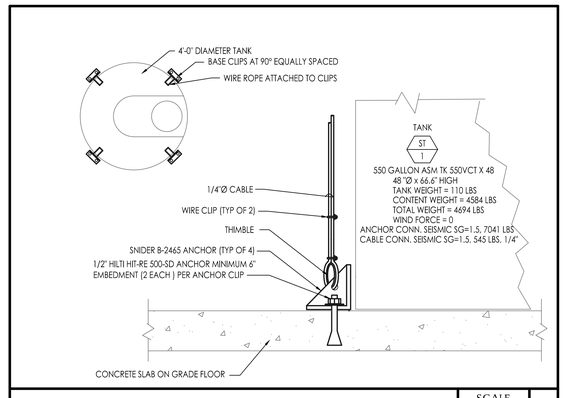
ST-2 TANK MOUNTING DETAIL

SCALE NONE | L



EXPANSION TANK MOUNTING DETAIL

SCALE NONE | H



ST-1 TANK MOUNTING DETAIL

SCALE NONE | D

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REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER S. BARKER — No. M34463 — Exp. June 30, 2019 — MECHANICAL — STATE OF CALIFORNIA

SEAL

LICENSED ARCHITECT — CHRISTOPHER C. CYPHERS — NO. C26085 — REN. 6-30-17 — STATE OF CALIFORNIA

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Drawing Title: PLUMBING DETAILS

Drawn By: M. BRAMBLE
Checked By: C. BARKER

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Date 08/30/2016
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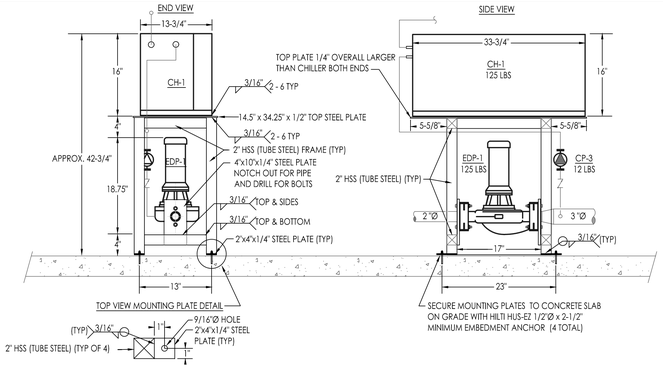
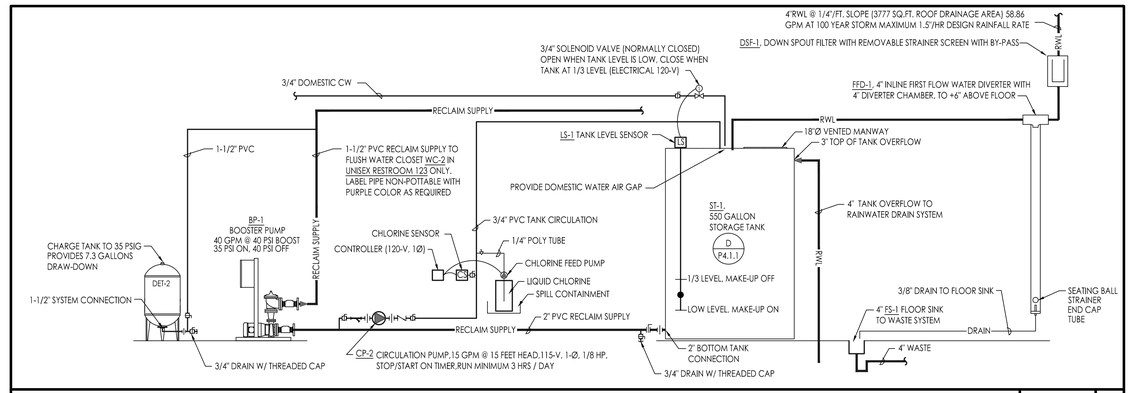


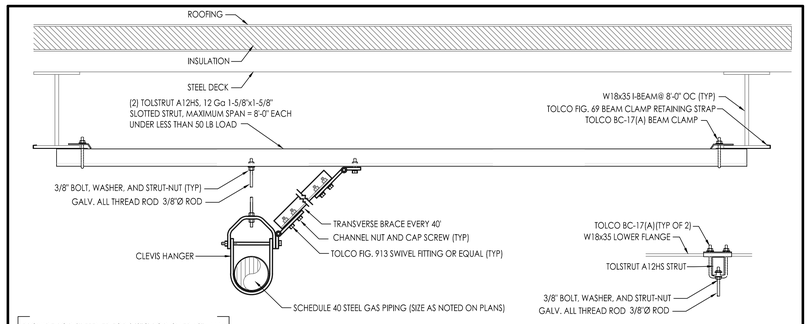
EDP-1 AND CH-1 MOUNTING DETAIL

SCALE NONE | F



RAINWATER HARVESTING PIPING SCHEMATIC

SCALE NONE | A

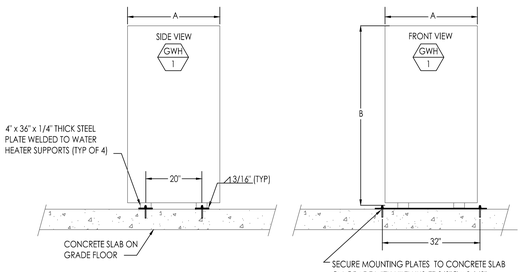


TRANSVERSE GAS PIPE BRACING DETAIL

SCALE NONE | D

	A	B	OPER. WEIGHT
WATER HEATER WH-1	26-1/4"	69-5/8"	1412 lbs

REFER TO STRUCTURAL CALCULATIONS FOR DRAWING OF DIMENSIONAL DETAILS FOR MOUNTING PLATE



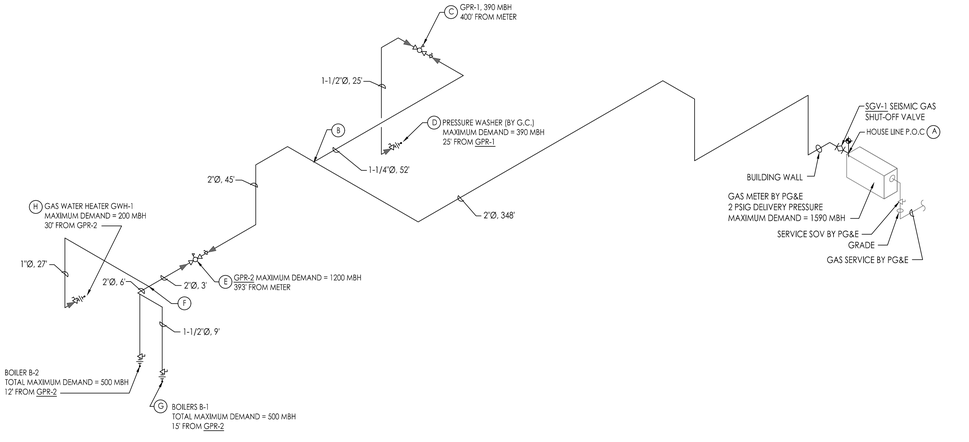
WATER HEATER ANCHOR DETAIL

SCALE NONE | C

MEDIUM PRESSURE GAS SYSTEM (1 PSIG)				
NO TABLES TO REFERENCE PIPING LENGTH METER TO BRANCH: (A) + (B) = 348' PIPING LENGTH METER TO GPR-1 (A) + (B) + (C) = 400' PIPING LENGTH METER TO GPR-2 (A) + (B) + (E) = 393' NOTE: 1,000 BTUh = 1 MBH = 1 CFH				
SECTION	LOAD	PIPE SIZE	2013 CPC PIPE MAXIMUM CAPACITY	
(A) (B)	1,590 CFH	2"	1,856 CFH	500' COLUMN
(B) (C)	390 CFH	1-1/4"	643 CFH	500' COLUMN
(B) (E)	1,200 CFH	2"	1,856 CFH	500' COLUMN

LOW PRESSURE GAS SYSTEM (LESS THAN 2 PSIG)				
2013 CPC TABLE 1216.2(1), SCHEDULE 40 METALIC PIPE, LESS THAN 2 PSIG WITH PRESSURE DROP OF 0.5" W.C. PIPING LENGTH FROM GPR-1 TO PRESSURE WASHER (C) + (D) = 25' PIPING LENGTH FROM GPR-2 TO BOILERS (E) + (F) + (G) = 9' PIPING LENGTH TO PRESSURE WASHER: (E) + (F) + (H) = 30' NOTE: 1,000 BTUh = 1 MBH = 1 CFH				
SECTION	LOAD	PIPE SIZE	2013 CPC PIPE MAXIMUM CAPACITY	
(C) (D)	390 CFH	1-1/2	1,150 CFH	30' COLUMN
(E) (F)	1200 CFH	2"	1,680 CFH	50' COLUMN
(F) (G)	1,000 CFH	2"	1,680 CFH	50' COLUMN
(F) (H)	200 CFH	1"	284 CFH	50' COLUMN

NOTE: PROVIDE SEISMIC PIPE BRACING PER OPM-0043-13



1 PSI GAS PIPING ISOMETRIC

SCALE NONE | B

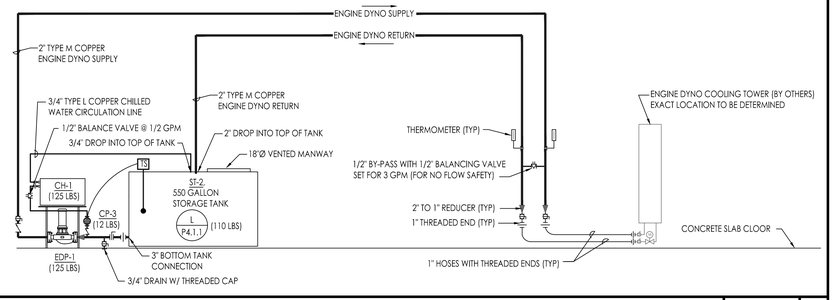
SEQUENCE OF OPERATION

ENGINE DYNO PUMP EDP-1 MOTOR STARTER TO BE INTERLOCKED WITH ENGINE DYNO CONTROLS (DRY CONTACTS ARE PROVIDED). WHEN ENGINE DYNAMOMETER IS STARTED, EDP-1 PUMP WILL START.

ENGINE DYNO COOLING WATER IN THE STORAGE TANK ST-2 WILL BE CIRCULATED TO THE ENGINE DYNO COOLING TOWER HEAT EXCHANGER AND BACK AGAIN TO THE STORAGE TANK. THE HEAT EXCHANGER (PROVIDED BY THE AUTO EQUIPMENT VENDOR) HAS AN ADJUSTABLE THERMOSTAT THAT WILL AUTOMATICALLY VARY THE CIRCULATED WATER RUNNING THRU THE HEAT EXCHANGER TO MATCH THE REQUIRED ENGINE COOLANT TEMPERATURE.

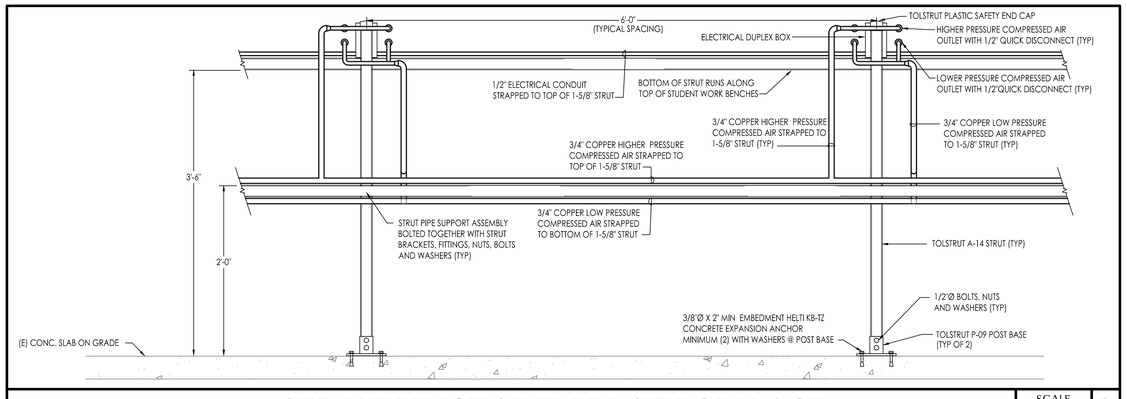
WHEN THE ENGINE DYNAMOMETER IS TURNED OFF, EDP-1 PUMP WILL ALSO TURN OFF.

CH-1 ENGINE DYNO CHILLER SHALL PROVIDE ACTIVE COOLING OF THE ENGINE DYNO COOLING WATER AND CAN DROP 1/2 GPM OF WATER 30°F. A 24/7 TIME CLOCK SHALL PROVIDE 7 DAY PER WEEK PRESET TIMES CP-3 PUMP WILL RUN. A TEMPERATURE SENSOR INSERTED IN ST-2 TANK CAN START CP-3 IF THE TANK TEMPERATURE RISES TO 80°F TO MAXIMIZE THE RUN TIME OF THE CHILLER, AND TURN CP-3 OFF IF THE TANK TEMPERATURE DROPS TO 60°F.



ENGINE DYNO COOLING PIPING SCHEMATIC

SCALE NONE | E



STUDENT BENCH STRUT PIPE SUPPORT RACK

SCALE NONE | G

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AUTO TECH FACILITY

Drawing Title: PLUMBING DETAILS

Drawn By: M. BRAMBLE
Checked By: C. BARKER

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2	08-16-2017	RECORD SET

Project No. 160024
Date 08/30/2016
DRAWING NO. P4.1.2

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GENERAL NOTES

1. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS.
2. DEVICES MOUNTED IN FIRE RATED WALLS AND CEILINGS SHALL COMPLY WITH C.B.C. SECTION 709.7 AND C.B.C. SECTION 710.2.
3. REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXACT LOCATION OF MECHANICAL/PLUMBING EQUIPMENT.
4. LIGHTING DESIGNED IN ACCORDANCE WITH CRITERIA DOCUMENTS AND IES, 10TH EDITION STANDARDS
5. PROVIDE ALL SYSTEMS, EQUIPMENT, DEVICES, MATERIALS, FEEDERS, WIRING, AND CONDUITS AS SPECIFIED, WHETHER SHOWN OR NOT SHOWN OF FLOOR PLANS TO INSTALL COMPLETE AND FUNCTIONING ELECTRICAL SYSTEMS.
6. PROVIDE SEPARATE RACEWAYS FOR EMERGENCY SYSTEM WIRING PER THE REQUIREMENTS OF CEC 700-9(b).
7. ALL POWER ON SINGLE LINE DRAWING SHALL BE FURNISHED AND INSTALLED AS PART OF THIS CONTRACT, WHETHER OR NOT THIS WIRING IS SHOWN OF FLOOR PLANS.
8. MAKE ALL FINAL ELECTRICAL CONNECTIONS TO ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO THE CONNECTIONS OF ALL MECHANICAL, PLUMBING, AND OWNER PROVIDED EQUIPMENT WHICH IS TO BE INSTALLED AS PART OF THIS CONTRACT.
9. PROVIDE NAMEPLATES ON ALL PANELBOARDS, DISCONNECTS, AND STARTERS DENOTING LOAD DESIGNATION, AMPERAGE, VOLTAGE, AND PHASE.
10. FOR FUSED DISCONNECT SWITCHES, FUSE RATING AND TYPE SHALL BE AS PER EQUIPMENT MANUFACTURER RECOMMENDATIONS.

PATHWAYS AND CIRCUITRY

SWITCHING

13a/b — FIXTURE SUPPLIED BY CIRCUIT 13 CONTROLLED THROUGH SWITCHES "a" AND "b"

13,13c/d — FIXTURE SUPPLIED BY UNSWITCHED CIRCUIT "13" SUPPLYING POWER TO BATTERY BACKUP BALLAST, AND CIRCUIT 13 CONTROLLED THROUGH SWITCHES "c" AND "d".

13 — FIXTURE SUPPLIED BY UNSWITCHED CIRCUIT "13" SUPPLYING POWER TO NORMAL AND BATTERY BACKUP BALLASTS.

HL1-1, 3/5, 7/9/11, 13SW

- DENOTES SWITCHED CONDUCTOR FROM LIGHTING CONTROL PANEL
- 3 PHASE CONDUCTORS SUPPLYING A 3 PHASE LOAD
- 2 PHASE CONDUCTORS SUPPLYING A SINGLE PHASE LOAD
  1 PHASE CONDUCTOR PAIRED WITH A NEUTRAL CONDUCTOR SUPPLYING A SINGLE PHASE LOAD
- PANEL HL1

PATHWAYS

- EMT CONDUIT CONCEALED IN CEILING OR WALL IN FINISHED AREAS, EXPOSED IN UTILITY ROOMS, OPEN WAREHOUSE AND SERVICE BAYS, U.O.N.
- PVC CONDUIT UNDERGROUND OR CONCEALED UNDER FLOOR, U.O.N.
- OVERHEAD COMM PATHWAYS.
- HOME RUN TO PANEL OR TERMINAL. CIRCUITS AS NOTED.
- CONNECTION TO GROUND.
- CONDUIT STUB-OUT.
- CONDUIT TURNED UP.
- CONDUIT TURNED DOWN.
- 1 / E3.1 — DETAIL TAG. "1" INDICATES DETAIL NUMBER E3.1 INDICATES SHEET DETAIL IS SHOWN ON.
- A — FIXTURE TAG. "A" INDICATES FIXTURE TYPE LOCATED ON THE FIXTURE SCHEDULE.
- 1 — NOTE TAG. "1" INDICATES NOTE NUMBER.
- AC / 1 — EQUIPMENT TAG. "AC" INDICATES EQUIPMENT TYPE "1" INDICATED THE EQUIPMENT NUMBER.

COMPONENT ANCHORAGE NOTE

ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2013 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26, 30

1. ALL PERMANENT EQUIPMENT AND COMPONENTS
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED CONDUIT.

A. COMPONENTS WEIGHTING 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 WEIGHTING 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.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.8,13.6.7, 13.6.5.6 AND 2013 CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25 AND 1616A.1.26.

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS (OPM#) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURAL TO SUPPORT THE HANGER AND BRACE LOADS.

ELECTRICAL SYMBOLS

- LIGHT FIXTURE, RECESSED.
- WALL MOUNT LIGHT FIXTURE
- DOWN LIGHT, RECESSED.
- K — HIGH BAY PENDANT LIGHT FIXTURE
- EXTERIOR SURFACE MOUNT FIXTURE
- SITE LIGHTING, POLE MOUNTED.
- STRIP FIXTURE
- LIGHTING OR DISTRIBUTION PANEL.
- FUSED DISCONNECT SIZE PER UNIT NAMEPLATE RATING.
- NON FUSED DISCONNECT SIZE PER UNIT NAMEPLATE RATING.
- DUPLEX RECEPTACLE NEMA 5-20R
- J — THE FOLLOWING IDENTIFIERS ARE ASSOCIATED TO RECEPTACLES AND J-BOXES FOR CONNECTIONS AND FUNCTION SERVED:
  AD - AUTO DOOR
  AFV - AUTO FLUSH VALVE
  OC - CONTROLLED BY ROOM OCCUPANCY SENSOR
  GD - GARBAGE DISPOSAL
  TR - TAMPER PROOF
  NOTE: ALL RECEPTACLES TO BE 15" MIN TO BOTTOM OF DEVICE, AND 48" MAX TO TOP TOP OF DEVICE A.F.F. PER CBC 11B-308.3
- GFCI — DUPLEX RECEPTACLE NEMA 5-20R, GROUND FAULT CURRENT INTERRUPTER
- QUADPLEX RECEPTACLE
- DEDICATED DUPLEX RECEPTACLE NEMA 5-20R
- 20 AMP DUPLEX RECEPTACLE WITH USB PORT
- L630R OR L650R, AS DESIGNATED
- CEILING — DUPLEX RECEPTACLE NEMA 5-15R MOUNTED IN CEILING.
- DOUBLE DUPLEX RECEPTACLE NEMA 5-15R MOUNTED IN CEILING.
- FLOOR — DOUBLE DUPLEX RECEPTACLE NEMA 5-15R MOUNTED IN FLOOR
- J — JUNCTION BOX
- FLOOR — FLUSH FLOOR MOUNTED COMBINATION DUPLEX/TELEDATA/AUDIO VISUAL DEVICE.
- FLUSH FLOOR MOUNTED COMBINATION QUAD OUTLET/DATA DEVICE.
- J — FURNITURE SYSTEM ELECTRICAL AND TELEDATA BASE FEEDS, WALL MOUNTED.
- SURFACE MOUNTED RACEWAY - WIREMOLD RECEPTACLES AT 18" O.C.
- SWITCH SPST, SUBSCRIPT: R = RESET, D = DIMMER, OC = OCCUPANCY SENSOR, T = TIMER, M= MOTOR RATED, OR = OVERRIDE
  NOTE: ALL SWITCHES TO BE 48" MAX TO TOP OF DEVICE A.F.F. PER CBC 11B-308.2
- OC — CEILING OCCUPANCY SENSOR
- DL — CEILING DAY LIGHT SENSOR
- WAP — CEILING WIRELESS ACCESS POINT
- TRANSFORMER
  T1 — TRANSFORMER DESIGNATION
  45KVA — TRANSFORMER RATING
- VOICE DATA OUTLET
- AUDIO/VISUAL OUTLET
- AUDIO/VISUAL OUTLET IN CEILING
- CCTV - SURVEILLANCE CAMERA
- CCTV - FISHEYE SURVEILLANCE CAMERA
- SURFACE MOUNTED RACEWAY - WIREMOLD

LIGHTING CONTROL SYMBOLS

- RP — nLIGHT nPP20 ON/OFF (NO DIMMING)
- RL — nLIGHT nPP16 ON/OFF (NO DIMMING)
- RLD — nLIGHT nPP16-DS, ON/OFF, DIMMING POWER PACK
- M1 — nLIGHT nCM-DPT-9 SMALL AREA (12')OCCUPANCY CONTROL
- M2 — nLIGHT nCM-PDT-10 LARGE AREA (28') OCCUPANCY CONTROL
- MG — nLIGHT nCM10-RJB-ADCX LARGE AREA (28') OCCUPANCY CONTROL + DAYLIGHT
- DL — nLIGHT nCM-ADCX -WH DAY LIGHT SENSOR
- $ D2 — 2 CHANNEL ON/OFF + RAISE/LOWER CONTROL @ +48" TOP OF BOX, TYPICAL. NLIGHT #NPODM-2P-DX
- $ — ON/OFF TOGGLE SWITCH MOUNTED @ +48" TOP OF BOX, TYPICAL. NLIGHT #NPODM WH
- $ D — 1 CHANNEL ON/OFF + RAISE/LOWER CONTROL @ +48" TOP OF BOX, TYPICAL. NLIGHT #NPODM-DX
- $ D MD — OCCUPANCY CONTROL + ON/OFF + RAISE/LOWER CONTROL @ +48" TOP OF BOX, TYPICAL. NLIGHT #NWSXLVDX-WH
- $ O — OCCUPANCY CONTROL + ON/OFF CONTROL @ +48" TOP OF BOX, TYPICAL. NLIGHT #NWSXLV-WH
- $ OC — OCCUPANCY CONTROL + ON/OFF CONTROL @ +48" TOP OF BOX, TYPICAL. SENSOR SWITCH # WSP-WH (NON-NETWORK)
- MV — SENSOR SWITCH # CMR10 LINE VOLTAGE OCCUPANCY CONTROL
- Z 1 — LIGHTING CONTROL ZONE NUMBER
- DLV — DAYLIGHT ZONE
  CIRCUITS CONTROLLED BY NIGHT TIMER: "LTG"-8, 10,12,14,16,18

ABBREVIATIONS

A	AMPERE
AC	ABOVE COUNTER
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
ANN	ANNUNCIATOR
AIC	AMPS OF INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO/VISUAL
AT	AMP TRIP
BC	BELOW COUNTER
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CO	CONDUIT ONLY
CU	COPPER
CL	CURRENT LIMITING
D	DEDICATED
(E)	EXISTING
(ER)	EXISTING RELOCATED
E.C.	ELECTRICAL CONTRACTOR
EM	FIXTURE WITH BATTERY BACKUP
EV	ELECTRIC VEHICLE
EWC	ELECTRIC WATER COOLER
F	FUSED
(F)	FUTURE
FA	FIRE ALARM SYSTEM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FDR	FEEDER
FS	FLOW SWITCH
FSD	FIRE SMOKE DAMPER
G	GROUND
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
IG	ISOLATED GROUND
KVA	KILOVOLT-AMPERE
KW	KILOWATT
LA	LIGHTNING ARRESTOR
LCP	LIGHTING CONTROL PANEL
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
MSB	MAIN SWITCHBOARD
MTC	EMPTY CONDUIT WITH PULL ROPE
MTS	MANUAL TRANSFER SWITCH
(N)	NEW
N.E.C.	NATIONAL ELECTRICAL CODE
NEU	NEUTRAL
N.I.C.	NOT IN CONTRACT
NL	NIGHT LIGHT CIRCUIT
NTS	NOT TO SCALE
OC	OCCUPANCY SENSOR
PB	PULLBOX
PE	PHOTOELECTRIC CELL
PFB	PROVISION FOR BREAKER
PH	PHASE
PNL	PANEL
PV	PHOTOVOLTAIC
PVC	PVC CONDUIT
QTY	QUANTITY
(R)	EXISTING TO BE REMOVED
REC	RECEPTACLE
REF	REFERENCE
REFR	REFRIGERATOR
RM	ROOM
SD	SMOKE DETECTOR
SEC	SECURITY SYSTEM
TBD	TO BE DETERMINED
TC	TIME CLOCK
TEL	TELEPHONE
TEL/DATA	TELEPHONE/DATA
TELECOM	TELECOMMUNICATION
TRANS	TRANSFORMER
TS	TAMPER SWITCH
TTB	TELEPHONE TERMINAL BACKBOARD
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VA	VOLT-AMPERE
VFD	VARIABLE FREQUENCY DRIVE
XFMR	TRANSFORMER
W	WIRE
W/	WITH
WP	WEATHERPROOF
3R	NEMA 3R ENCLOSURE

SCCD AUTOTECH SHEET INDEX

SHEET #	DESCRIPTION
E0.1	SYMBOLS, ABBREVIATIONS, SCHEDULES
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E0.3	TITLE 24 DOCUMENTATION
E0.4	TITLE 24 DOCUMENTATION
E1.1	SITE POWER AND SIGNAL
E1.2	SITE LIGHTING
E1.3	SITE PHOTOMETRICS
E2.1	INTERIOR LIGHTING 1ST FLOOR
E2.2	INTERIOR LIGHTING MEZZANINE
E2.3	INTERIOR PHOTOMETRICS
E2.4	LIGHTING CONTROL DIAGRAMS
E2.5	LIGHTING CONTROL DIAGRAMS
E2.6	LIGHTING CONTROL DIAGRAMS
E3.1	POWER AND SIGNAL 1ST FLOOR
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E3.3	ROOFTOP ELECTRICAL
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E4.8	ELECTRICAL DETAILS
E4.9	ELECTRICAL DETAILS
E4.10	ELECTRICAL DETAILS
E5.1	SINGLE LINE
E5.2	PANEL SCHEDULES
E5.3	PANEL SCHEDULES
E5.4	PANEL SCHEDULES
AV1.1	AUDIO/VISUAL
FA1.1	FIRE ALARM - GENERAL REQUIREMENTS
FA1.2	FIRE ALARM - FIRST FLOOR DEVICE LAYOUT
FA1.3	FIRE ALARM - MEZZANINE DEVICE LAYOUT
FA1.4	FIRE ALARM - ROOF PLAN DEVICE LAYOUT
FA1.5	FIRE ALARM - ONE LINE DIAGRAM
FA1.6	FIRE ALARM - FACP AND LOC WIRING DETAILS
FA1.7	FIRE ALARM - FACP PANEL FRONT & DIMENSION DETAILS
FA1.8	FIRE ALARM - DEVICE DETAILS AND CALCULATIONS
AC1.1	ACCESS AND SECURITY COVER SHEET
AC1.2	ACCESS AND SECURITY 1ST FLOOR PLAN
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AC1.4	ACCESS AND SECURITY RISER DIAGRAM
PA1.1	PUBLIC ADDRESS COVER SHEET
PA1.2	PUBLIC ADDRESS 1ST FLOOR PLAN
PA1.3	PUBLIC ADDRESS DETAILS AND RISER DIAGRAM
CAM1.1	CAMERA FIELD OF VIEWS
CAM1.2	CCTV SYSTEM ONE-LINE

LUMINAIRE SCHEDULE

INTERIOR

TYPE	DESCRIPTION	MFG	PART #	MOUNTING	LAMP	VA	VOLT
A	2'X4' ACRYLIC LENS TROFFER	LITHONIA	2VTL4 48L ADP EZ1 LP835 N100	RECESSED	LED	46.4	277
AE	2'X4' ACRYLIC LENS TROFFER	LITHONIA	2VTL4 48L ADP EZ1 LP835 N100 EMG	RECESSED	LED	46.4	277
B	2'X2' ACRYLIC LENS TROFFER	LITHONIA	2VTL2 33L ADP EZ1 LP835 N100 NES7	RECESSED	LED	34.5	277
BE	2'X2' ACRYLIC LENS TROFFER	LITHONIA	2VTL2 33L ADP EZ1 LP835	RECESSED	LED	34.5	277
C	8' LINEAR PENDANT	PINNACLE	EX3B AL 0 35HO 35HO 8 AC48G1 277 1C W	SUSPENDED	LED	40.8	277
F	4' RESTROOM VANITY	PRUDENTIAL	R1 LED35 MO 4' SAL TMW UNV SUR DM10	SURFACE	LED	22	277
G	6" CAN	LITHONIA	EVO 35/25 6AR MD LD 277 EZ1 NPS80EZ	RECESSED	LED	42.1	277
G2	6" CAN - WET LOCATION	LITHONIA	EVO 35/25 6AR MD LD 277 EZ1 NPS80EZ	RECESSED	LED	42.1	277
H4	4' STRIP	LITHONIA	ZL1N L48 5000LM FST MVOLT 35K 80CRI WH	SUSPENDED	LED	42	277
H8	8' STRIP	LITHONIA	TZLIN L96 6000LM FST MVOLT 35K 80CRI WH	SUSPENDED	LED	60	277
J	1'X4' STRIP WRAP-AROUND	LITHONIA	STL4 40L EZ1 LP835	SURFACE	LED	34.9	277
K	HIGHBAY	BAGHELLI	BS830LED 125W WT40 22AL PK48 120/277 AL	SUSPENDED	LED	131	277
M	16' LINEAR DIRECT/INDIRECT	BARTCO	BSS260 4S 85CRI DIM 1 5 5 CM48 WH	SUSPENDED	LED	247.2	277
X1	EXIT - OFFICE	LITHONIA	EDG 2 G EL	SURFACE	LED	3	277
X2	EXIT - SHOP	LITHONIA	LQM S W 3 G 120/277 EL N	SURFACE	LED	1	277

SITE/EXTERIOR

TYPE	DESCRIPTION	MFG	PART #	MOUNTING	LAMP	VA	VOLT
G2	6" CAN - WET LOCATION	LITHONIA	EVO 35/25 6AR MD LD 277 EZ1 NPS80EZ	RECESSED	LED	42.1	277
S1	WALL PACK	LITHONIA	DSXW2 LED 30C 700 40K T3M MVOLT DDBXD	SURFACE	LED	47	277
S2	DOWN LIGHT	GOTHAM	EVO 35/25 6AR MWD LS	RECESSED	LED	29	277
S3	4' LINEAR STRIP (WEATHERPROOF)	LUMINAIRE	LVP751 50W 3500K 277 CP WHT DIM WET TXSD	SURFACE	LED	54.3	277
S2-SL4 HS	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-04-LED-E1-SL4-600-HSS	POLE	LED	129	277
S2-SLL2 HS	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-04-LED-E1-SL2-600-HSS	POLE	LED	129	277
S2-SL4	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-04-LED-E1-SL4-600	POLE	LED	129	277
S2-SL2	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-04-LED-E1-SL2-600	POLE	LED	129	277
S2-T4FT	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-02-LED-E1-T4FT-600	POLE	LED	66	277
S2-SLR	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-01-LED-E1-SLR	POLE	LED	59	277
S4	ENTRANCE SIGN LIGHT	MODA	MODA COVE EXT SO S1 S 3HI 4	SURFACE	LED	19	277
S5	MONUMENT SIGN LIGHT	LITHONIA	OLBF 8 50K DDB	GROUND	LED	11	277
S5-D-SYM	BOLLARD	LITHONIA	DSXB LED 16C 700 40K SYM	GROUND	LED	39	277
S6	SIGN LIGHT	ECOSENSE	F080 2H-H0-40-8-15-S-X-C/F080-SMP-S	SURFACE	LED	23	277
S7	FLAG POLE LIGHT	LITHONIA	HLF1 LED P1 MFL MVOLT IS DDBXD	POLE	LED	166	277
S8	TRASH AREA WALL PACK	LITHONIA	KAXW LED P1 40K R3 MVOLT DDBXD	SURFACE	LED	78	277

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SCHETTER ELECTRIC, INC.
Contracting and Engineering
471 Bannon Street, Sacramento, CA 95814
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CA License No. 245778 NV License No. B-54453 & C2-54454

Electrical O&M

Electrical Warranties

THESE PLANS HAVE BEEN PREPARED BY SCHETTER ELECTRIC, INC. IN ACCORDANCE WITH THE CALIFORNIA BUSINESS AND PROFESSIONS CODE SECTION 6737.3 FOR EXCLUSIVE USE BY SCHETTER ELECTRIC, INC. IN THE DESIGN-BUILD ELECTRICAL INSTALLATION OF THE INDICATED WORK. THESE PLANS ARE THE SOLE PROPERTY OF SCHETTER ELECTRIC, INC. AND ARE NOT TO BE USED FOR THE PURPOSE OF BIDDING OR INSTALLATION BY ANY OTHER ELECTRICAL CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER — JAMES MICHAEL KEATING — E 009586 Exp. 9-30-2019 — ELECTRICAL — STATE OF CALIFORNIA

SIGNATURE DATE: _____

SEAL

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
SYMBOLS, ABBREVIATIONS, SCHEDULES

Drawn By: KPB
Checked By: JMc
Project No.: 15-245
Date: 08/30/2016

NO.	DATE	ISSUE
1	2016/11/09	CONTROLS UPDATE

DRAWING NO.
E0.1

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STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

A separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
■ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

H. INDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST

Luminaire Schedule		Installed Watts					Location	Field Inspector[1]	
A	B	C	D		E	F	G	H	
			How wattage was determined						
Name or Item Tag	Complete Luminaire Description (i.e., 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	CEC Default from NA8	According to §130.0(c)	Number Luminaires	Total Installed Watts in this area (C x E)	Primary Function area in which these luminaires are installed	Pass	Fail
A	2X4 LED TROFFER	46	■	☐	52	2,412.8	CLASSROOM, OFFICE	☐	☐
B	2X2 LED TROFFER	34	☐	☐	20	680.0	CLASSROOM, CORRIDOR	☐	☐
C	8' LINEAR PENDANT	41	☐	☐	7	287.0	CONFERENCE	☐	☐
F	4' RESTROOM VANITY	22	☐	☐	4	88.0	RESTROOM	☐	☐
G	6" LED CAN	42	☐	☐	39	1,638.0	LOBBY, RECEPTION	☐	☐
H4	4' LED STRIP	42	☐	☐	1	42.0	MPOE	☐	☐
H8	8' LED STRILP	83	☐	☐	32	2,656.0	ELECTRIC RM, VOCATIONAL RM	☐	☐
J	1X4 STRIP WRAP	35	☐	☐	9	315.0	UTILILTY RM	☐	☐
K	HIGHBAY LED	131	☐	☐	62	8,122.0	VOCATIONAL RM	☐	☐
M	16' LINEAR LED	247	☐	☐	16	3,952.0	LOBBY	☐	☐
			☐	☐	-	-		☐	☐
					INSTALLED WATTS PAGE TOTAL:	16,240.8	Enter sum total of all pages into NRCC-LTI-01-E, Page 2	16,240.8	

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 6 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: K BOWMAN	Documentation Author Signature:
Company: SCHETTER ELECTRIC, INC.	Signature Date: 15-Mar-16
Address: 471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: K BOWMAN	Responsible Designer Signature:
Company: SCHETTER ELECTRIC, INC.	Date Signed: 15-Mar-16
Address: 471 BANNON STREET	License: C-10 #245778
City/State/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

STATE OF CALIFORNIA
INDOOR LIGHTING - LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 1 of 3)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

The NRCC-LTI-02-E shall be used to document all mandatory and prescriptive lighting controls that are applicable to the project.

Mandatory Lighting Control Declaration Statements (Indicate if the measure applies by checking yes or no below.)

YES	NO	Control Requirements
■		Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with Section 110.9.
■		Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with Section 130.4(b).
	■	One or more Track Lighting Integral Current Limiters shall be installed which have been certified to the Energy Commission in accordance with §110.9 and §130.0. Additionally, an Installation Certificate shall be submitted in accordance with Section 130.4(b).
	■	A Track Lighting Supplementary Overcurrent Protection Panel shall be installed in accordance with Section 110.9 and Section 130.3. Additionally, an Installation Certificate shall be installed in accordance with Section 130.4(b).
■		All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with Section 130.1.
■		All luminaires shall be functionally controlled with manually switched ON and OFF lighting controls in accordance with Section 130.1(a).
■		General lighting shall be separately controlled from all other lighting systems in an area. Floor and wall display, window display, case display, ornamental, and special effects lighting shall each be separately controlled on circuits that are 20 amps or less. When track lighting is used, general, display, ornamental, and special effects lighting shall each be separately controlled; in accordance with Section 130.0(a)4.
■		The general lighting of any enclosed area 100 square feet or larger, with a connected lighting load that exceeds 0.5 watts per square foot shall meet the multi-level lighting control requirements in accordance with Section 130.1(b).
■		An installed indoor lighting shall be equipped with controls that meet the applicable Shut-OFF control requirements in Section 130.1(c).
■		Lighting in all Daylit Zones shall be controlled in accordance with the requirements in Section 130.1(d) and daylit zones are shown on the plans.
■		Lighting power in buildings larger than 10,000 square feet shall be capable of being automatically reduced in response to a Demand Responsive Signal in accordance with Section 130.1(e).
■		Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4(a). The controls required to meet the Acceptance Requirements include automatic daylight controls, automatic shut-OFF controls, and demand responsive controls.

STATE OF CALIFORNIA
INDOOR LIGHTING - LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 2 of 3)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

A separate document must be filled out for Conditioned and Unconditioned Spaces. This page is used only for the following:
■ CONDITIONED SPACE ☐ UNCONDITIONED SPACE

B. MANDATORY AND PRESCRIPTIVE INDOOR LIGHTING CONTROL SCHEDULE, PAF CALCULATION, and FIELD INSPECTION CHECKLIST

Lighting Control Schedule			Standards Complying With[1] (✓ all that apply, or enter 'E' if Exempted)							PAF Credit Calculation[2]			✓ if Acceptance Test Required	Field Inspector	
										Watts of Controlled Lighting	PAF	Control Credit (K x L)			
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
Location in Building	Type/ Description of Lighting Control (i.e.: occupancy sensor, automatic time switch, dimmer, automatic daylight, etc...)	# of Units	§130.1(a)	§130.0(b)	§130.1(c)	§130.1(d)	§130.1(e)	§140.6(a)2	§140.6(d)					Pass	Fail
ELECTRIC ROOM	DEMAND RESPONSE	1					■					-	■	☐	☐
OFFICES, CONFERENCE	OCCUPANCY SENSOR	15										-	■	☐	☐
ALL EXCEPT ELECTRIC, RESTROOMS	MANUAL ON/OFF/DIM	16	■	■								-	■	☐	☐
CLASSROOM, CONF	DAYLIGHT	3				■						-	■	☐	☐
												-		☐	☐
												-		☐	☐
												-		☐	☐
Control Credit PAGE TOTAL (Sum of Column M):												-			
IF MULTIPLE PAGES ARE USED, ENTER SUM TOTAL OF Control Credit for all pages HERE (Sum of all Column M):												-			
												Enter Control Credit total into NRCC-LTI-01-E; Page 2			

1. §130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive; §140.6(a) = Additional lighting controls installed to earn a PAF; §140.6(d) = Prescriptive Secondary Sidelit Daylight Controls.
2. Check Table 140.6-A for correct Factor. PAFs shall not be traded between conditioned and unconditioned spaces. As a condition to earn a PAF, an Installation Certificate is also required to be filled out, signed, and submitted.

STATE OF CALIFORNIA
INDOOR LIGHTING - LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 3 of 3)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: K BOWMAN	Documentation Author Signature:
Company: SCHETTER ELECTRIC, INC.	Signature Date: 15-Mar-16
Address: 471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: K BOWMAN	Responsible Designer Signature:
Company: SCHETTER ELECTRIC, INC.	Date Signed: 15-Mar-16
Address: 471 BANNON STREET	License: C-10 #245778
City/State/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

ELECTRICAL VOLTAGE DROP WORKSHEET
VOLTAGE DROP WORKSHEET (TITLE 24, PART 8.4)
Project Name: SCCD AUTOTECH Date Prepared: 15-Mar-16

	CONDUCTOR ID	CU	AL	LENGTH	AMPS	PARALLEL	VOLTS	T24 Power Factor		COS Ø	RADIANS	SINØ	V DROP	% DROP
1	MSB-MH	3/0		20 FT	320.0 A	2	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.52	0.11%
2	MSH-QH	3/0		20 FT	320.0 A	2	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.52	0.11%
3	MSB-LTG	2		20 FT	80.0 A	1	480V 3Ø	277V LED LIGHTING	0.50	0.500	1.047	0.866	0.41	0.09%
4	MSB-EV	4/0		20 FT	180.0 A	1	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.50	0.10%
5	MSB-PV	4/0		20 FT	180.0 A	1	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.50	0.10%
6	MH - TX-M	2		220 FT	50.0 A	1	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	3.81	0.79%
7	QH -TX-Q	250		15 FT	150.0 A	2	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.14	0.03%
8	LTG - INV	6		30 FT	18.0 A	1	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.42	0.09%
9	MSB-TX-L	250		20 FT	125.0 A	1	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.32	0.07%
10	TX-M - ML	1/0		15 FT	140.0 A	1	208V 3Ø	RECEPTACLES	0.60	0.600	0.927	0.800	0.42	0.20%
11	TX-Q - QDL	350		15 FT	15.0 A	2	208V 3Ø	RECEPTACLES	0.60	0.600	0.927	0.800	0.01	0.01%
12	TX-L - LA1,2,3	3/0		15 FT	380.0 A	2	208V 3Ø	RECEPTACLES	0.60	0.600	0.927	0.800	0.44	0.21%
13	LA3 - TX	2		155 FT	80.0 A	1	208V 3Ø	RECEPTACLES	0.60	0.600	0.927	0.800	3.55	1.71%
14				FT	A									
15				FT	A									
16				FT	A									
17				FT	A									
18				FT	A									
19				FT	A									
20				FT	A									
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25				FT	A									
26				FT	A									
27				FT	A									
28				FT	A									
29				FT	A									
30				FT	A									

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 1 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

A. General Information

Climate Zone: 12	Conditioned Floor Area: 29,987.0		
	Unconditioned Floor Area: -		
Building Type:	■ Nonresidential	☐ High-Rise Residential	☐ Hotel/Motel
☐ Schools	☐ Relocatable Public Schools	■ Conditioned Spaces	☐ Unconditioned Spaces
Phase of Construction:	☐ New Construction	☐ Addition	■ Alteration
Method of Compliance:	☐ Complete Building	■ Area Category	☐ Tailored

B. Lighting Compliance Documents (select yes for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

YES	NO	FORM	TITLE
■		NRCC-LTI-01-E	Certificate of Compliance. All Pages required on plans for all submittals.
■		NRCC-LTI-02-E	Lighting Controls, Certificate of Compliance, and PAF Calculation. All Pages required on plans for all submittals.
■		NRCC-LTI-03-E	Indoor Lighting Power Allowance
	■	NRCC-LTI-04-E	Tailored Method Worksheets
	■	NRCC-LTI-05-E	Line Voltage Track Lighting Worksheets

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 2 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

C. Summary of Allowed Lighting Power

Conditioned and Unconditioned space Lighting must not be combined for compliance

	Indoor Lighting Power for Conditioned Spaces		Watts	Indoor Lighting Power for Unconditioned Spaces		Watts
1.	Installed Lighting NRCC-LTI-01-E, Page 5	+	16,240.8	Installed Lighting NRCC-LTI-010E, Page 5	+	-
2.	PORTABLE ONLY FOR OFFICES NRCC-LTI-01-E, Page 4	+	-			
3.	Minus Lighting Control Credits NRCC-LTI-02-E, Page 2	-	-	Minus Lighting Control Credits NRCC-LTI-02-E, Page 2	-	-
4.	Adjusted **Installed** Lighting Power (row 1 plus row 2 minus row 3)	=	16,240.8	Adjusted **Installed** Lighting Power (row 1 minus row 3)	=	-
5.	Complies ONLY if **Installed ≤ Allowed**		⇕	Complies ONLY if **Installed ≤ Allowed**		⇕
6.	**Allowed** Lighting Power Conditioned NRCC-LTI-03-E, Page 1		32,175.3	**Allowed** Lighting Power Unconditioned NRCC-LTI-03-E, Page 1		-

D. Declaration of Required Installation Certificates

Declare by selecting yes for all Installation Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Form/Title	
■		NRCI-LTI-01-E - Must be submitted for all buildings.	☐ Field Inspector
	■	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS) to be recognized for compliance.	☐ Field Inspector
	■	NRCI-LTI-03-E - Must be submitted for a line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting, to be recognized for compliance.	☐ Field Inspector
	■	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐ Field Inspector
	■	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐ Field Inspector
	■	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐ Field Inspector

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 3 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

E. Declaration of Required Certificates of Acceptance

Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Form/Title	
■		NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐ Field Inspector
■		NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐ Field Inspector
	■	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐ Field Inspector

A separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
■ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

F. INDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST

- ■ The actual indoor lighting power listed on this page and on the next page includes all installed permanent and planned portable lighting systems.
- ☐ When Complete Building Method is used for compliance, list each different type of luminaire on separate lines.
- ■ When Area Category Method or Tailored Method is used for compliance, list each different type of luminaire by each different function area on separate lines.
- ☐ Also include track lighting in schedule, and submit the track lighting compliance form (NRCC-LTI-05-E) when line-voltage track lighting is installed.

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 4 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

G. Installed Portable Luminaires in Offices - Exception to Section 140.6(a)

- ☐ This section shall be filled out ONLY for portable luminaires in offices (As defined in §100.1). All other planned portable luminaires shall be documented on next page of this compliance form.
- ☐ This section is used to determine if greater than 0.3 watts of portable lighting is planned for any office.
- ☐ Fill out a separate line for each different office. Small offices that are typical (having the same general and portable lighting) may be grouped together. This allowance shall not be traded between offices having different lighting systems.

Office Portable Luminaire Schedule	Office Installed Portable Luminaire Watts Per Square Foot						Accountable Watts	Office Location	Field Inspector	
1	2	3	4	5	6	7	8	9	10	
Complete Luminaire Description (i.e., LED, under cabinet, furniture mounted direct/indirect)	Watts per Luminaire	Number of Luminaires	Installed portable luminaire watts in this office (G02 x G03)	Square feet of this office	Watts per square foot (G04 / G05)	If F ≤ 0.3, enter zero. If G06 > 0.3, (G06-0.3)	G05 x G07	Identify Office area in which these portable luminaires are installed	Pass	Fail
N/A			-		-	-	-		☐	☐
			-		-	-	-		☐	☐
Total installed portable luminaire watts that are greater than 0.3 watts per square foot per office:							-	Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (Revised 12/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 4 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

E. Voltage Drop

- ■ Attach voltage drop worksheet to this form.
- ■ Field inspector has discretion to approve the worksheets; the tables shown below in this section are advisory only.
- ■ Feeder conductors and branch circuits that are dedicated to emergency services are exempt from these requirements.
- ■ An advisory tables of typical power factors is shown below.

	Field Inspector Pass	Fail
Feeders. Feeder conductors shall be sized for a maximum voltage drop of 2 percent at design load.	☐	☐
Branch Circuits. Branch circuit conductors shall be sized for a maximum voltage drop of 3 percent at design load.	☐	☐

Compliance Manual, Chapter 8, Table 8-2: Typical Power Factors for Voltage Drop Calculations

Load Type	Default Power Factor at 120 volts	Default Power Factor at 277 volts	Clarifying Notes
Fluorescent lighting	0.95	0.95	
Compact fluorescent lighting	0.9 (hardwired) 0.5 (GU-24)	0.9 (hardwired) 0.3 (GU-24)	NPF magnetic ballasts use GU-24 values
LED lighting	0.7	0.5	May be higher if specifications call for high power factor drivers
Incandescent lighting	1.0	1.0	
HID lighting	0.9	0.9	May be lower if NPF ballasts are specified
HVAC packages	0.85	0.9	
Other motors < 5 HP	0.8	0.8	
Other motors > 5 HP	0.85	0.85	
Kitchen Equipment	0.9	N/A	
Receptacles	0.6	N/A	For dedicated receptacles, may be rated according to the load
Electric heating including hot water	1.0	1.0	
Other	0.85	0.85	

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (Revised 12/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 5 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

F. Circuit Controls for 120-Volt Receptacles

- ■ Controlled 120 volt receptacles shall be provided, as required by Section 130.5(d) of the Standards.
- ■ In open office areas, controlled circuit receptacles are not required if, at time of final permit, workstations are installed, and each workstation is equipped with an occupant sensing control that is permanently mounted in each workstation, and which controls a hardwired, nonresidential-rated power strip. Plug-in strips and other plug-in devices that incorporate an occupant sensor shall not be used for this exception.
- ■ Receptacles that are only for the following purposes are exempt:
  - Receptacles specifically for refrigerators and water dispensers in kitchenettes.
  - Receptacles located a minimum of six feet above the floor that are specifically for clocks.
  - Receptacles for network copiers, fax machines, A/V and data equipment other than personal computers in copy rooms.

		Field Inspector Pass	Fail
1.	At least one controlled receptacle is installed within 6 feet of each uncontrolled receptacle, or split-wired duplex receptacles are installed, that have one controlled and one uncontrolled receptacle. This applies in all of the following spaces: • Private offices, open office areas • Receptions and lobbies • Conference rooms • Kitchenettes in office spaces • Copy room	☐	☐
2.	Electric circuits serving controlled receptacles are equipped with automatic shut-OFF controls following the requirements prescribed in Section 130.1(c)1 through 5 (in many cases this will mean that the receptacles are connected to the same automatic shut-OFF system as the general lighting of the space).	☐	☐
3.	Controlled receptacles shall have a permanent marking to differentiate them from uncontrolled receptacles.	☐	☐
4.	For open office areas, controlled circuits shall be provided and marked to support installation and configuration of office furniture with receptacles that comply with Section 130.1(a), 130.5(d)1,2, and 3.	☐	☐
5.	For hotel and motel guest rooms at least one-half of the 120-volt receptacles in each guest room are controlled receptacles that comply with Section 130.5(d)1, 2, and 3 (see numbers 1, 2 and 3 above). Electric circuits serving controlled receptacles have captive card key controls, occupancy sensing controls, or automatic controls such that no longer than 30 minutes after the guest room has been vacated, power is switched off.	☐	☐
6.	Plug-in strips and other plug-in devices that incorporate an occupant sensor are not used to comply with any of these requirements.	☐	☐

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (Revised 12/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 6 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: K BOWMAN	Documentation Author Signature:
Company: SCHETTER ELECTRIC, INC.	Signature Date: 15-Mar-16
Address: 471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):
City/Sate/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: K BOWMAN	Responsible Designer Signature:
Company: SCHETTER ELECTRIC, INC.	Date Signed: 15-Mar-16
Address: 471 BANNON STREET	License: C-10 #245778
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STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (Revised 12/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 1 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

A. General Information

Project Address: 1683 N. ASCOT PARKWAY, VALLEJO	Climate Zone: 12	Conditioned Floor Area: 29,987.0	Unconditioned Floor Area: -
General Information			
Building Type: ■ Nonresidential	☐ High-Rise Residential	☐ Hotel / Motel	
☐ Schools	☐ Relocatable Public Schools	■ Conditioned Spaces	☐ Unconditioned Spaces
Phase of Construction: ■ New Construction	☐ Addition	☐ Alteration	

B. Electrical Service Metering

- ■ Each newly installed electrical service (in both existing and newly constructed buildings) is required to be metered, as set out in Table 130.5-A, which is reproduced below.
- ■ Fill out a separate line for each electrical service that is connected to the building.

Electrical Service Schedule	Electrical Service Rating	Metering Capabilities (check all that are present)				Field Inspector	
A	B	C	D	E	F	G	
Designation/location in building/description	kVA	Instantaneous (at the time) kW demand	Historical peak demand (kW)	Resettable kWh	kWh per rate period	Pass	Fail
MSB	996.0	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐

Table 130.5-A - MINIMUM REQUIREMENTS FOR METERING OF ELECTRICAL LOAD

Meter Rating (kVA)	50 kVA or less	More than 50kVA and less than or equal to 250 kVA	More than 250 kVA and less than or equal to 1000kVA	Services rated more than 1000kVA
Instantaneous (at the time) kW demand	Required	Required	Required	Required
Historical peak demand (kW)	Not required	Not required	Required	Required
Resettable kWh	Required	Required	Required	Required
kWh per rate period	Not required	Not required	Not required	Required

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
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CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 2 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

C. Disaggregation of Electrical Circuits

- ■ Each newly installed switchboard, panel, and motor control center (in both existing and newly constructed buildings) is required to be disaggregated according to the requirements of Table 130.5-B, shown on the next page.
- ■ Individual branch circuits, taps or disconnects that require overcurrent protection devices rated 60A or greater.
- ☐ As an alternative, current transformers can be added for individual branch circuits and loads throughout the building, and a permanent measurement system can be installed. In this case, disaggregated wiring would not be required as long as the metering system allows the equivalent desaggregated measurements.
- ■ Fill out a separate line for each switchboard, motor control center, panelboard and subpanel.

Switchboard, motor control center, panelboard or subpanel	Electrical Service that supplies that switchboard or panel	Electrical Service Rating	Field Inspector Pass	Fail
A	B	C	D	
Designation/location in building/description	Designation/location in building/description	kVA	☐	☐
MSB	ELECTRIC ROOM	996	☐	☐
MH	ELECTRIC ROOM	332	☐	☐
QH	ELECTRIC ROOM	332	☐	☐
LTG	ELECTRIC ROOM	83	☐	☐
EV	ELECTRIC ROOM	75	☐	☐
ML	ELECTRIC ROOM	45	☐	☐
QDL	ELECTRIC ROOM	150	☐	☐
EM LTG	ELECTRIC ROOM	15	☐	☐
LA1,2,3	ELECTRIC ROOM	112.5	☐	☐
QL1A,B	ELECTRIC ROOM	108	☐	☐
QL2A,B	ELECTRIC ROOM	108	☐	☐
TC	ELECTRIC ROOM	36	☐	☐
			☐	☐

OR

Current transformers have been attached to individual branch circuits and loads throughout the building, and a permanent measurement system is installed that allows an equivalent degree of disaggregated measurement as required by the standards.	☐	☐

STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 3 of 6)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

D. Disaggregation of Electrical Circuits (continued)

Table 130.5-B - MINIMUM REQUIREMENTS FOR SEPARATION OF ELECTRICAL LOAD

Table 130.5 - B sets the upper limit on how many load(s) of each type can be supplied by each feeder. A feeder may not supply loads of more than one type unless the service is rated at 50 kVA or less. For instance, on the fifth row of the table, one feeder on a service > 50 kVA could be used to supply all the plug loads on a floor of a building, provided that there are no areas in which more than 25kVA of plug load is supplied to a space less than 5000sf.

Load Type	Services rated 50 kVA or less	Services rated more than 50kVA and less than or equal to 250 kVA	Services rated more than 250kVA and less than or equal to 1000 kVA	Services rated more than 1000kVA
Lighting including exit and egress lighting and exterior lighting	Not required	All lighting in aggregate	All lighting disaggregated by floor, type or area	All lighting disaggregated by floor, type or area
HVAC systems and components including chillers, fans, heaters, furnaces, package units, cooling towers, and circulation pumps associated with HVAC	Not required	All HVAC in aggregate	All HVAC in aggregate and each HVAC load rated at least 50 kVA	All HVAC in aggregate and each HVAC load rated at least 50 kVA
Domestic and service water system pumps and related systems and components	Not required	All loads in aggregate	All loads in aggregate	All loads in aggregate
Plug load including appliances rated less than 25 kVA	Not required	All plug load in aggregate Groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf	All plug load separated by floor, type or area. Groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf	All plug loads separated by floor, type or area. All groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf
Elevators, escalators, moving walks, and transit systems	Not required	All loads in aggregate	All loads in aggregate	All loads in aggregate
Other individual non-HVAC loads or appliances rated 25 kVA or greater	Not required	All	Each	Each
Industrial and commercial load centers 25 kVA or greater including theatrical lighting installations and commercial kitchens	Not required	All	Each	Each
Renewable power source (net or total)	Each group	Each group	Each group	Each group
Loads associated with renewable power source	Not required	All loads in aggregate	All loads in aggregate	All loads in aggregate
Charging stations for electric vehicles	All loads in aggregate	All loads in aggregate	All loads in aggregate	All loads in aggregate

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(916) 446-2521 Fax (916) 446-2621
CA License No. 245778 NV License No. B-54453 & C2-54454

THESE PLANS HAVE BEEN PREPARED BY SCHETTER ELECTRIC, INC. IN ACCORDANCE WITH THE CALIFORNIA BUSINESS AND PROFESSIONS CODE SECTION 6737.3 FOR EXCLUSIVE USE BY SCHETTER ELECTRIC, INC. IN THE DESIGN-BUILD ELECTRICAL INSTALLATION OF THE INDICATED WORK. THESE PLANS ARE THE SOLE PROPERTY OF SCHETTER ELECTRIC, INC. AND ARE NOT TO BE USED FOR THE PURPOSE OF BIDDING OR INSTALLATION BY ANY OTHER ELECTRICAL CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER JAMES WAYNE HINES E 009586 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

SIGNATURE DATE:___________

SEAL

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC ______ F/LS ______ SS ______
DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TITLE 24 DOCUMENTATION

Drawn By KPB
Checked By JMc
Project No. 15-245
©Date 08/30/2016

NO. DATE ISSUE

DRAWING NO.
E0.2

C:\Users\jjohnston\Documents\VALLEJO AUTO TECH - ELEC_Neckster.rvt
8/2/2017 12:33:27 PM

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-03-E
Outdoor Lighting Power Allowances		(Page 1 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A. OUTDOOR LIGHTING POWER ALLOWANCE SUMMARY

1. General Hardscape Lighting Power Allowance (Site Total from Section B of NRCC-LTO-03-E)	1.	30,001.6
2. Additional Specific "use it or lose it" Lighting Power Allowances listed in each of these cells shall be identical to total allowed watts determined in Section C-1 to C-4 of NRCC-LTO-03-E. PER APPLICATION from Section C-1: - + PER UNIT LENGTH (SALES FRONTAGE) from Section C-2: - + PER HARDSCAPE AREA (ORNAMENTAL LIGHTING) from Section C-3: - + PER SPECIFIC AREA from Section C-4: - =	2.	-
3. **Sum Total ALLOWED** Outdoor Lighting Wattage (add rows 1 and 2)	3.	30,001.6

B. GENERAL HARDSCAPE LIGHTING POWER ALLOWANCE FROM TABLE 140.7-A

Area Wattage Allowance (AWA)				Linear Wattage Allowance (LWA)			Initial Wattage Allowance (IWA)	Total General Hardscape Lighting Allowance
A	B	C	D	E	F	G	H	I
Name of area	Illuminated Hardscape Area	AWA Per Square Foot	AWA (B x C)	Perimeter Length of General Hardscape	LPA per Linear Foot	LWA (E x F)	IWA (Watts)	D + G + H
PARKING	282293.0	0.09	25,406.4	2727.0	0.6	1,636.2	770.0	27,812.6
11 ENTRYDOORS @90W			-			-	990.0	990.0
CANOPIES (2939 SQFT@.408W)			-			-	1199.0	1,199.0
			-			-		-
			-			-		-
							TOTAL	30,001.6

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-03-E
Outdoor Lighting Power Allowances		(Page 2 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

C. ADDITIONAL SPECIFIC "USE IT OR LOSE IT" OUTDOOR LIGHTING POWER ALLOWANCES FOR SPECIFIC APPLICATIONS

☐ The additional specific outdoor lighting power allowance shall be the smaller of the allowed lighting power or the actual lighting power used.
☐ Use Outdoor Lighting Zone (OLZ) that is documented on page 1 of NRCC-LTO-01-E to calculate the specific wattage allowances.

C-1 WATTAGE ALLOWANCE PER APPLICATION - Table 140.7-B

☐ Available only for qualifying locations, which include Building Entrances or Exits; Primary Entrances to Senior Care Facilities, Police Stations, Hospitals, Fire Stations, and Emergency Vehicle Facilities; Drive Up Windows; Vehicle Service Station Uncovered Fuel Dispenser.
☐ If more than one luminaire type is used per location, use multiple rows for that location.

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for which allowance is claimed	Number of qualifying locations	Wattage Allowance per qualifying location	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			-					-	-
			-					-	-
			-					-	-
			-					-	-
								Sum total allowance per application on this site:	-

C-2 WATTAGE ALLOWANCE PER UNIT LENGTH (Sales Frontage) from Table 140.7-B

☐ If more than one luminaire type is used per location, use multiple rows for that location.

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for which allowance is claimed	Linear feet of Sales Frontage	Wattage Allowance per linear foot	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			-					-	-
			-					-	-
			-					-	-
			-					-	-
								Sum total allowance for sales frontage on this site:	-

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-03-E
Outdoor Lighting Power Allowances		(Page 3 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

C-3 WATTAGE ALLOWANCE PER SQUARE FOOT OF HARDSCAPE AREA (Ornamental Lighting) - Table 140.7-B

☐ Allowance for the total site illuminated hardscape area. Luminaires qualifying for this allowance shall be rated for 100 watts or less as determined in accordance with Section 130.0(c), and shall be post-top luminaires, lanterns, pendant luminaires, or chandeliers.
☐ If more than one luminaire type is used per location, use multiple rows for that location.

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS			DESIGN WATTS					
Name of area for which ornamental allowance is claimed	Square feet of Hardscape	Wattage Allowance per square foot	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			-					-	-
			-					-	-
			-					-	-
			-					-	-
								Sum total allowance for ornamental on this site:	-

C-4 WATTAGE ALLOWANCE PER SQUARE FOOT OF SPECIFIC AREA - Table 140.7-B

☐ Allowances for Building Facades; Outdoor Sales Lots; Vehicle Service Station Hardscape; Vehicle Service Station Canopies; Sales Canopies; Non-sales Canopies; Guard Stations; Student Pick-up/Drop-off zone; Outdoor Dining; Special Security Lighting for Retail Parking and Pedestrian Hardscape.
☐ If more than one luminaire type is used per location, use multiple rows for that location.

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for which allowance is claimed	Illuminated Area of Application	Wattage Allowance per square foot	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			-					-	-
			-					-	-
			-					-	-
			-					-	-
								Sum total allowance per square foot of specific area on this site:	-

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-03-E
Outdoor Lighting Power Allowances		(Page 4 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	K BOWMAN	Documentation Author Signature:	
Company:	SCHETTER ELECTRIC, INC.	Signature Date:	15-Mar-16
Address:	471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	K BOWMAN	Responsible Designer Signature:	
Company:	SCHETTER ELECTRIC, INC.	Date Signed:	15-Mar-16
Address:	471 BANNON STREET	License:	C-10 #245778
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-01-E
Outdoor Lighting		(Page 3 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

I. OUTDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
A	B	C	D		E	F	G	H	I	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NA8	According to §130.0(c)	Number Luminaires	Total Installed Watts in this area (C x E)	Primary Function area in which these luminaires are installed	BUG Rating	Pass	Fail
S1	WALL PACK	71.0	■	☐	25	1,775.0	AREA LIGHTING	B2 U0 G3	☐	☐
S2	POLE LIGHT	157.0	☐	☐	49	7,693.0	AREA LIGHTING	B2 U0 G3	☐	☐
S3	4' STRIP	54.0	☐	☐	15	810.0	CANOPY	NA	☐	☐
G2	DOWN LIGHT	30.0	☐	☐	12	360.0	ENTRIES	NA	☐	☐
			☐	☐		-			☐	☐
			☐	☐		-			☐	☐
				INSTALLED WATTS PAGE TOTAL:		10,638.0	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-1-E, Page 1			

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-01-E
Outdoor Lighting		(Page 4 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

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3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
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Address:	471 BANNON STREET	License:	C-10 #245778
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-02-E
Outdoor Lighting Controls		(Page 1 of 3)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

The NRCC-LTO-02-E shall be used to document all mandatory outdoor lighting controls that are applicable to the project.

A. Mandatory Outdoor Lighting Control Declaration Statements

Check all that apply:
- ■ Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with §110.9.
- ☐ Lighting shall be controlled by a lighting control system or an energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with §130.4(b).
- ■ All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with §130.1.
- ☐ Part-Night Outdoor Lighting Controls, as defined in Section 100.1, shall meet the requirements in Section 110.9(b)5.
- ☐ All outdoor incandescent luminaires rated over 100 watts, determined in accordance with Section 130.0(c), shall be controlled by a motion sensor.
- ■ All outdoor luminaires rated for use with lamps greater than 150 lamp watts, determined in accordance with Section 130.0(c), shall comply with Backlight, Uplight, and Glare (collectively referred to as "BUG") in accordance with Section 130.2(b).
- ■ All installed outdoor lighting shall be controlled by a photocontrol or outdoor astronomical time-switch control in accordance with Section 130.2(c)1.
- ■ All installed outdoor lighting shall be circuited and independently controlled from other electrical loads by an automatic scheduling control in accordance with Section 130.2(c)2.
- ☐ All installed outdoor lighting, where the bottom of the luminaire is mounted 24 feet or less above the ground, shall be controlled with automatic lighting controls in accordance with Section 130.2(c)3.
- ☐ For Outdoor Sales Frontage, Outdoor Sales Lots, and Outdoor Sales Canopies lighting, an automatic lighting control in accordance with Section 130.2(c)4.
- ☐ For Building Façade, Ornamental Hardscape and Outdoor Dining lighting, an automatic lighting control in accordance with Section 130.2(c)5.
- ■ Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with 130.4(a). Outdoor lighting controls shall comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA7.8.

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-02-E
Outdoor Lighting Controls		(Page 2 of 3)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

B. Mandatory Outdoor Lighting Control Schedule and Field Inspection Checklist

Outdoor Lighting Control Schedule			Standards Complying With [1] (✓ all that apply, or enter 'E' if Exempted)						✓ if Acceptance Test Required	Field Inspector	
A	B	C	D	E	F	G	H	I	N	O	
Location and Application of Luminaires being controlled	Type/ Description of Lighting Control (i.e. motion sensor, photocontrol, outdoor astronomical time-switch control, centralized time-based zone lighting control)	# of Units	§130.2(a)	§130.2(c)1	§130.2(c)2	§130.2(c)3	§130.2(c)4	§130.2(c)5		Pass	Fail
STORAGE LOT	SA, SB, SC - TIMECLOCK, PHOTOCELL	1	E	■	■	E	E	E	■	☐	☐
										☐	☐
										☐	☐

§130.2(a) Incandescent lamps > 100W to be controlled by motion. §130.2(c)1 Photocontrol or astronomical time switch off. §130.2(c)2 Independently controlled.
§130.2(c)3 Fixtures mounted < 24 feet above ground to be dimmable and controlled by motion. §130.2(c)4 Specific controls for sales frontage, sales lots, and sales canopies.
§130.2(c)5 Specific controls for building facade, ornamental hardscape, and dining.

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-02-E
Outdoor Lighting Controls		(Page 3 of 3)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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Address:	471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

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3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
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City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

STATE OF CALIFORNIA
LINE-VOLTAGE TRACK LIGHTING WORKSHEET
CEC-NRCC-LTI-04-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-05-E
Indoor Lighting - Line-Voltage Track Lighting Worksheet		(Page 2 of 2)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	K BOWMAN	Documentation Author Signature:	
Company:	SCHETTER ELECTRIC, INC.	Signature Date:	15-Mar-16
Address:	471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

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STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-01-E
Outdoor Lighting		(Page 1 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A. General Information

Project Address: 1683 N. ASCOT PARKWAY, VALLEJO			Total Illuminated Hardscape Area: -	
Phase of Construction:	■ New Construction	☐ Addition	☐ Alteration	
Outdoor Lighting Zone (OLZ)	☐ OLZ-1	☐ OLZ-2	■ OLZ-3	☐ OLZ-4

I have confirmed with the AHJ which OLZ applies to this site. For default lighting zone designations, see Title 24 Part 6, §10-114.

B. LIGHTING COMPLIANCE DOCUMENTS
(check box for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

- ■ NRCC-LTO-01-E Certificate of Compliance.
- ■ NRCC-LTO-02-E Outdoor Lighting Controls Certificate of Compliance.
- ■ NRCC-LTO-03-E Outdoor Lighting Power Allowance Certificate of Compliance.

C. Summary of Allowed Outdoor Lighting Power			Watts
1.	**Sum Total ALLOWED** Outdoor Lighting Wattage from NRCC-LTO-03-E, page 1	=	30,001.6
	Complies ONLY if **Installed ≤ Allowed**		⇕
2.	**Sum Total INSTALLED** Outdoor lighting Wattage from NRCC-LTO-01-E, page 3		10,638.0

D. Declaration of Required Installation Certificates

Declare by checking all Installation Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

■ NRCI-LTO-01-E	Must be submitted for all buildings.	☐ Field Inspector
■ NRCI-LTO-02-E	Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐ Field Inspector

E. Declaration of Required Certificates of Acceptance

Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify forms are completed and signed.)

■ NRCA-LTO-02-A	Must be submitted for outdoor lighting controls.	☐ Field Inspector

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-01-E
Outdoor Lighting		(Page 2 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

F. Schedule of luminaires exempt from the outdoor lighting power requirements in §140.7

Name or Symbol	Description of exempt luminaire in accordance with the exemptions.
N/A	

G. Schedule of luminaires exempt from the cutoff requirements in §130.2(b)

Name or Symbol	Description of exempt luminaire in accordance with the exemptions.
SC	150W LED SECURITY LTG

H. Schedule of luminaires exempt from the outdoor lighting control requirements in §130.2(c)

Name or Symbol	Description of exempt luminaire in accordance with the exemptions.
N/A	

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance		(Page 1 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
■ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

A. SUMMARY TOTALS OF LIGHTING POWER ALLOWANCES

☐ If using Complete Building Method for compliance, use only the total in column (a) as total allowed building watts.
■ If using Area Category Method, Tailored Method, or a combination of Area Category and Tailored Method for compliance, use only the total in column (b) as the total allowed building watts.

	(a)	(b)
1. Complete Building Method Allowed Watts. Documented in section B of NRCC-LTI-03-E (below on this page)	-	
2. Area Category Method Allowed Watts. Documented in section C-1 of NRCC-LTI-03-E (below of this page)		32,175.3
3. Tailored Method Allowed Watts. Documented in section A of NRCC-LTI-04-E		-
TOTAL ALLOWED BUILDING WATTS. Enter number into correct cell on NRCC-LTI-01, Page 2, Row 1	-	32,175.3

☐ Check here if building contains both conditioned and unconditioned areas.

B. COMPLETE BUILDING METHOD TOTAL LIGHTING POWER ALLOWANCE

1	2		3		4
TYPE OF BUILDING (From §140.6 Table 140.6-B)	WATTS PER (ft²)	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
N/A					-
	Total Area:		-		
Total Watts. Enter Total Watts into section A, row 1 (Above on this page)					-

C-1 AREA CATEGORY METHOD TOTAL LIGHTING POWER ALLOWANCES (D PLUS E)	Watts
Total from section C-2	32,175.3
Total from section C-3	-
Total Watts. Enter Total Watts into section A, row 2 (Above on this page)	32,175.3

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance		(Page 2 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
■ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

C-2 AREA CATEGORY METHOD GENERAL LIGHTING POWER ALLOWANCE

■ Do not include portable lighting for offices. Portable lighting for offices shall be documented only in section B of NRCC-LTI-01-E.
■ Separately list lighting for each primary function area as defined in §100.1 of the Standards.

A		B		C		D
AREA CATEGORY (From §140.6 Table 140.6-C)						
Location in Building	Primary Function Area per Table 140.6-C	WATTS PER (ft²)	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
MAIN LOBBY	MAIN ENTRY LOBBY	0.95		869.0		825.6
CONVERENCE	CONFERENCE	1.20		739.0		886.8
MAIN INSTRUCTION AREA	CLASSROOM, TRAINING (MAIN AREA)	1.20		20,760.0		24,912.0
RECEPTION, MFG DISPLAY AREA	LOBBY	0.95		988.0		938.6
OFFICES	OFFICE (≤ 250 SF)	1.00		1,360.0		1,360.0
CORRIDOR	CORRIDOR, RR, SUPPORT	0.60		668.0		400.8
ELECTRICAL ROOM, IT ROOM	ELECTRICAL, IT	0.55		479.0		263.5
ELECTRICAL ROOM, IT ROOM	NOTE 2, SPECIALIZED TASK	0.50		400.0		200.0
RESTROOMS, JANITOR	RESTROOMS, JANITOR	0.60		1,644.0		986.4
REFEREE WAITING	REFEREE WAITING	0.80		241.0		192.8
ABOVE MAIN INSTRUCTIONAL AREA	MEZ. UTILITY RM	0.55		1,275.0		701.3
STUDENT LOUNGE	LOUNGE	0.90		564.0		507.6
			TOTALS	29,987.0		
Enter sum total Area Category allowed watts into section C-1 of NRCC-LTI-03-E (this compliance form)						32,175.3
						WATTS

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance		(Page 3 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
■ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

C-3 AREA CATEGORY METHOD ADDITIONAL LIGHTING WATTAGE ALLOWANCE (from Table 140.6-C Footnotes)

A	B	C[2]	D	E	F	G
Primary Function	Sq Ft or Linear Ft [1]	Additional Watts Allowed	Wattage Allowance (B x C)	Description(s) and Quantity of Special Luminaire Types in each Primary Function Area	Total Design Watts [3]	ALLOWED WATTS Smaller of D or F
N/A		0.2	-			-
		0.2	-			-
TOTALS - Enter into TOTAL AREA CATEGORY METHOD ADDITIONAL ALLOWANCES - Section C-1						-

1. Use linear feet only for additional allowance for white board or chalk board. All other additional Area Category allowances shall use watts per square foot.
2. Additional watts are available only when allowed according to the footnotes on bottom of Table 146-C, which include: Specialized task work; Ornamental lighting; Precision commercial and industrial work; Per linear foot of white board or chalk board; Accent, display and feature lighting; and Videoconferencing Studio lighting.
3. Luminaire classification and wattage shall be determined in accordance with §130.0(c) of the Standards.

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance		(Page 4 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	K BOWMAN	Documentation Author Signature:	
Company:	SCHETTER ELECTRIC, INC.	Signature Date:	15-Mar-16
Address:	471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	K BOWMAN	Responsible Designer Signature:	
Company:	SCHETTER ELECTRIC, INC.	Date Signed:	15-Mar-16
Address:	471 BANNON STREET	License:	C-10 #245778
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

STATE OF CALIFORNIA
LINE-VOLTAGE TRACK LIGHTING WORKSHEET
CEC-NRCC-LTI-04-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-05-E
Indoor Lighting - Line-Voltage Track Lighting Worksheet		(Page 1 of 2)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

- ■ There are four different methods available for determining how many watts of line-voltage track or line-voltage busway has been installed. One or more methods may be used to determine how many watts of line-voltage track or line-voltage busway has been installed. Use this worksheet to separately calculate the input wattage for each system.
- ■ Separately enter each row of this worksheet into the Luminaire Schedule in section C of NRCC-LTI-01E.
- ☐ Method 1 is the only option available for determining wattage for track or busway rated for more than 20 amperes.

☐ METHOD 1 - VOLT-AMPERE (VA) RATING OF THE BRANCH CIRCUIT(S)

A	B
BRANCH CIRCUIT NAME OR ID	VOLT-AMPERE (VA) RATING OF THE BRANCH CIRCUIT

☐ METHOD 2 - USE THE HIGHER OF 45 WATTS PER LINEAR FOOT OF TRACK OR TOTAL RATED WATTAGE OF ALL LUMINAIRES

A	B	C	D	E	F
Track or Name #	Linear Feet of Track	(W/LF)	B x C (W)	Total Rated Wattage of all Luminaires	Larger of (D or E)
		45	-		-
		45	-		-
		45	-		-

☐ METHOD 3 - USE THE HIGHER OF: 12.5 WATTS / LINEAR FOOT OF TRACK - OR VA RATING OF INTEGRAL CURRENT LIMITER

☐ Only integral current limiters which are certified to the Energy Commission shall be recognized by the Standards.
☐ This method shall not be recognized if an Installation Certificate is not submitted.

A	B	C	D	E	F
Track or Name #	Linear Feet of Track	(W/LF)	B x C (W)	VA Rating of Integral Current Limiter	Larger of (D or E)
		12.5	-		-
		12.5	-		-
		12.5	-		-

☐ METHOD 4 - DEDICATED TRACK LIGHTING SUPPLIMENTARY OVERCURRENT PROTECTION PANEL

☐ This method shall not be recognized if an Installation Certificate is not submitted.
☐ This method shall be used only for line-voltage track lighting, and shall not be recognized for any other lighting systems. If any other lighting systems or devices are installed, the supplementary overcurrent protection panel shall not be recognized for compliance with the Standards.

A	B	C	D
Name or ID	Voltage of the Branch Circuit	Sum of the Ampere Rating of all Devices installed in the Panel	Wattage = Sum of the Ampere Ratings of all of the Devices Times the Branch Circuit Voltage (B x C)
			-
			-
			-

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THESE PLANS HAVE BEEN PREPARED BY SCHETTER ELECTRIC, INC. IN ACCORDANCE WITH THE CALIFORNIA BUSINESS AND PROFESSIONS CODE SECTION 6737.3 FOR EXCLUSIVE USE BY SCHETTER ELECTRIC, INC. IN THE DESIGN-BUILD ELECTRICAL INSTALLATION OF THE INDICATED WORK. THESE PLANS ARE THE SOLE PROPERTY OF SCHETTER ELECTRIC, INC. AND ARE NOT TO BE USED FOR THE PURPOSE OF BIDDING OR INSTALLATION BY ANY OTHER ELECTRICAL CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER
JAMES WAYNE HINES
E 009586
Exp. 9-30-2018
ELECTRICAL
STATE OF CALIFORNIA

SIGNATURE DATE:__________

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AGENCY REVIEW
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APPL # 02-114995
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DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TITLE 24 DOCUMENTATION

Drawn By: KPB
Checked By: JMc
Project No.: 15-245
©Date: 08/30/2016
DRAWING NO.: **E0.3**

NO.	DATE	ISSUE

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STATE OF CALIFORNIA
SOLAR READY AREAS
CEC-NRCC-SRA-01-E (Revised 05/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-01-E
Solar Ready Areas	(Page 1 of 3)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

A. General Information

Project Address: 1643 N. ABCOT PARKWAY, VALLEJO

Building Type:

☐ Hotel/Motel building with ten stories or fewer ☐ High-rise multi-family building with ten stories or fewer
■ Other nonresidential building with three stories or fewer

Solar-ready requirements do not apply to hotel/motel buildings and high-rise multifamily building with more than ten stories or other nonresidential buildings with more than three stories.

Type of Construction: ■ New Construction ☐ Addition that increases roof area by more than 2,000 ft²

Solar-ready requirements do not apply to alterations or additions that increase the roof area by 2,000 ft² or less.

B. Solar-Ready

(Choose Path A, B, C, D, or E from below)

☐ A. Allocated Solar Zone

NRCC-SRA-02-E Minimum Solar Zone Area Worksheet is required to be submitted.

Minimum Solar Zone Area (sqft)
This is quantity [G] from NRCC-SRA-02-E Minimum Solar Zone Area Worksheet.

Proposed Solar Zone Area (sqft)
This is quantity [S] from NRCC-SRA-02-E Minimum Solar Zone Area Worksheet.

The construction documents will indicate a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service. The construction documents will indicate a pathway for routing of plumbing from the solar zone to the water heating system.

A copy of the construction documents or a comparable document indicating information about the solar zone and interconnection pathways will be provided to the occupant.

If the installer certifies that all above requirements have been met and the Proposed Solar Area meets or exceeds the Minimum Solar Zone Area, the building complies, otherwise it does not comply. ☐ does not comply ☐ complies

■ B. Permanently Installed Solar Photovoltaic (PV) System

Total Roof Area (sqft)* [A]	Minimum Nameplate DC Power Rating (watts) [B] = A X 1watt/ft²
4500	4500

* New construction: report total roof area; Additions: report newly added roof area

Will the proposed building have a permanently installed solar electric system that meets or exceeds the Minimum Nameplate DC Power Rating? ■ Yes ☐ No

If yes, a NRCI-SPV-01-E Certificate of Installation: Solar Photovoltaic System documenting the installed system must be submitted as a condition of final approval.

Please check box to right if answered yes to all questions in this section. ☐ EXEMPT

☐ C. Permanently Installed Solar Water Heating System

Will the building have a permanently installed solar water heating system? ☐ Yes ■ No

If yes, a NRCI-STH-01-E Certificate of Installation: Solar Water Heating System documenting the installed system must be submitted as condition of final approval.

Is the annual solar savings fraction equal to or greater than 0.2 in climate zones 1 through 9 or 0.35 in climate zones 10 through 16? ■ Yes ☐ No

Annual Solar Savings Fraction How was Annual Solar Savings Fraction Calculated?

Please check box to right if answered yes to all questions in this section. ☐ EXEMPT

STATE OF CALIFORNIA
SOLAR READY AREAS
CEC-NRCC-SRA-01-E (Revised 05/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-01-E
Solar Ready Areas	(Page 2 of 3)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

☐ D. Thermostats and High Efficacy Lighting

Is the building a high-rise multifamily building with ten stories or fewer?	☐ Yes ■ No
Will all thermostats in each dwelling unit comply with Reference Joint Appendix 5 (JA5) and will they be capable of receiving and responding to Demand Response Signals prior to granting of an occupancy permit by the enforcing agency?	☐ Yes ■ No
Will all installed luminaires be classified as high efficacy in accordance with the applicable requirements in Section 130.0(c), and in accordance with TABLE 150.0-B?	☐ Yes ■ No
Please check box to right if answered yes to all questions in this section.	☐ EXEMPT

☐ E. Roof Is Designed for Vehicle Traffic or Parking or for Heliport

Will the roof be designed and approved to be used for vehicular traffic or parking or for a heliport.	☐ Yes ■ No
Please provide building plan reference:	
Please check box to right if answered yes to all questions in this section.	☐ EXEMPT

STATE OF CALIFORNIA
SOLAR READY AREAS
CEC-NRCC-SRA-01-E (Revised 05/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-01-E
Solar Ready Areas	(Page 3 of 3)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	K BOWMAN	Documentation Author Signature:	
Company:	SCHETTER ELECTRIC, INC.	Signature Date:	15-Mar-16
Address:	471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
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Responsible Designer Name:	K BOWMAN	Responsible Designer Signature:	
Company:	SCHETTER ELECTRIC, INC.	Date Signed:	15-Mar-16
Address:	471 BANNON STREET	License:	C-10 #245778
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

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REGISTERED PROFESSIONAL ENGINEER JASON WAYNE INNES E 035596 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

SIGNATURE DATE: _____

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DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TITLE 24 DOCUMENTATION

Drawn By
KPB

Checked By
JMc

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Project No.
15-245

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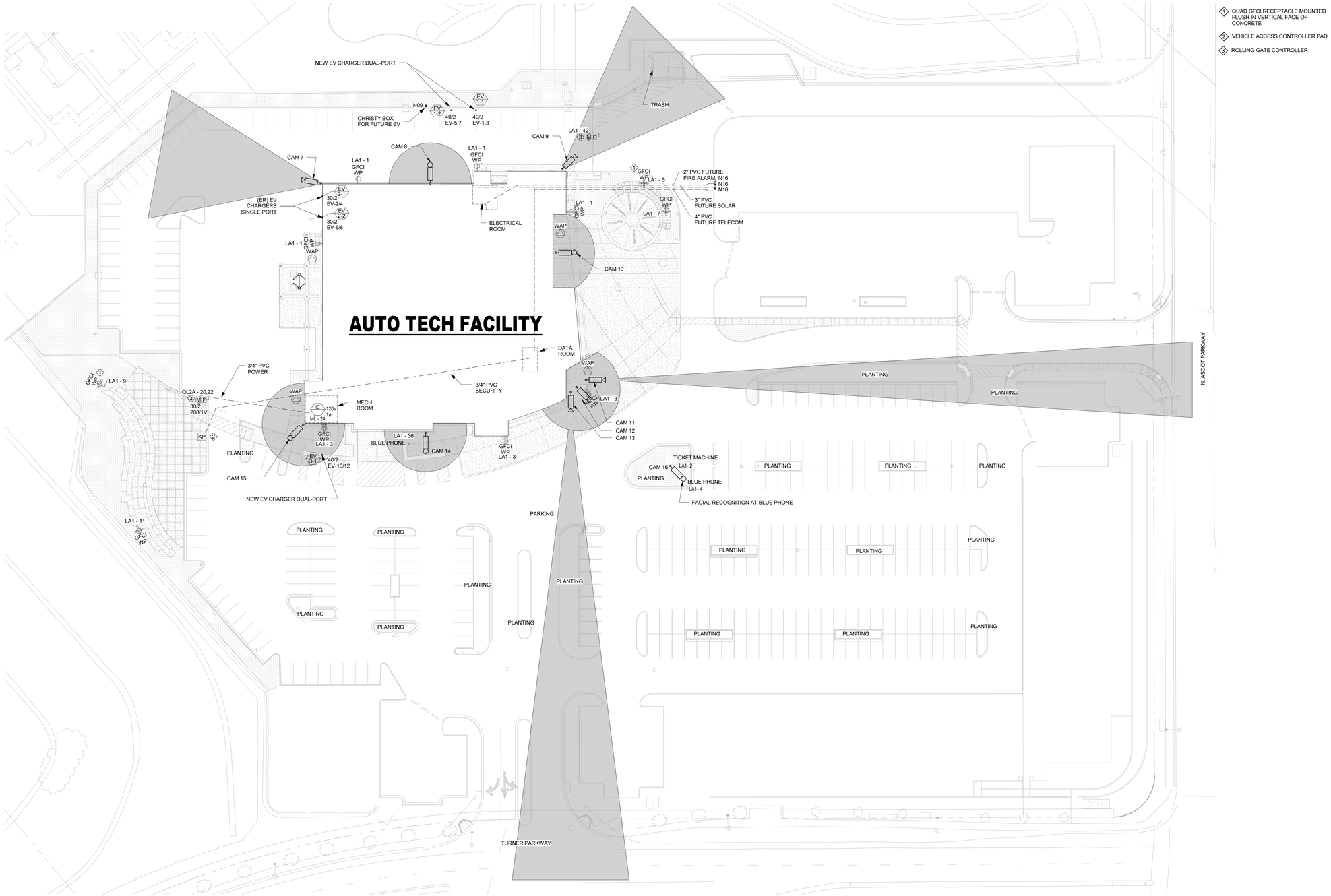

1. QUAD GFCI RECEPTACLE MOUNTED FLUSH IN VERTICAL FACE OF CONCRETE
2. VEHICLE ACCESS CONTROLLER PAD
3. ROLLING GATE CONTROLLER

1 SITE POWER AND SIGNAL

1" = 30'-0"

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JAMES WAYNE JONES E 009586 Exp. 9-30-2018 ELECTRICAL CALIFORNIA

SIGNATURE DATE: _____

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APPL # 02-114995

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DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
SITE POWER AND SIGNAL

Drawn By
KPB

Checked By
JMc

Project No.
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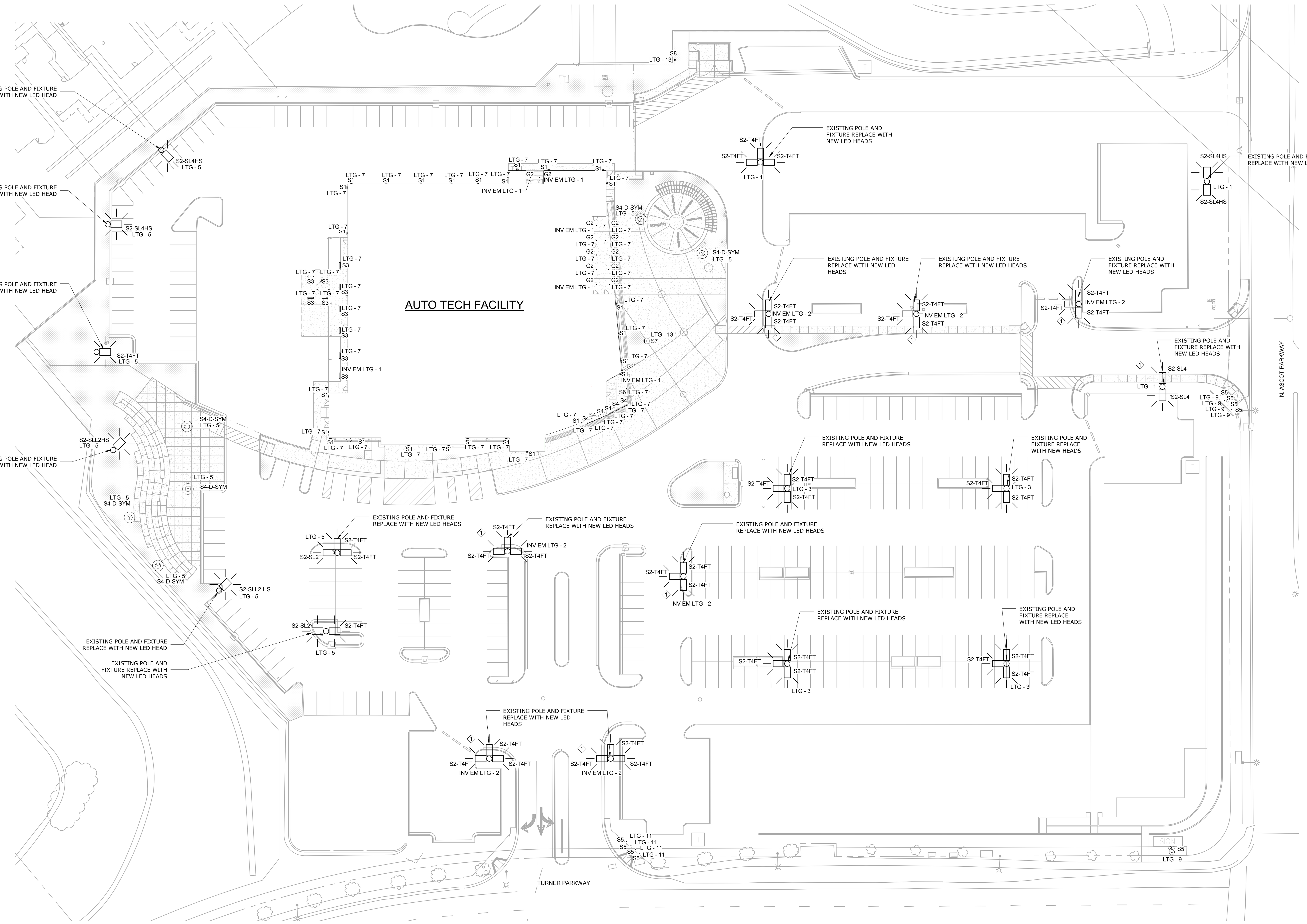

1 SITE LIGHTING

1" = 30'-0"

1. EGRESS EMERGENCY LIGHTING FED FROM EMERGENCY LIGHTING INVERTER

SHEET NOTES:

1. FIELD VERIFY EXISTING CONDUIT ROUTING TO EXISTING LIGHT POLES PRIOR TO ROUGH-IN

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REGISTERED PROFESSIONAL ENGINEER JAMES WAYNE HINES E 009586 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

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Project
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SITE LIGHTING

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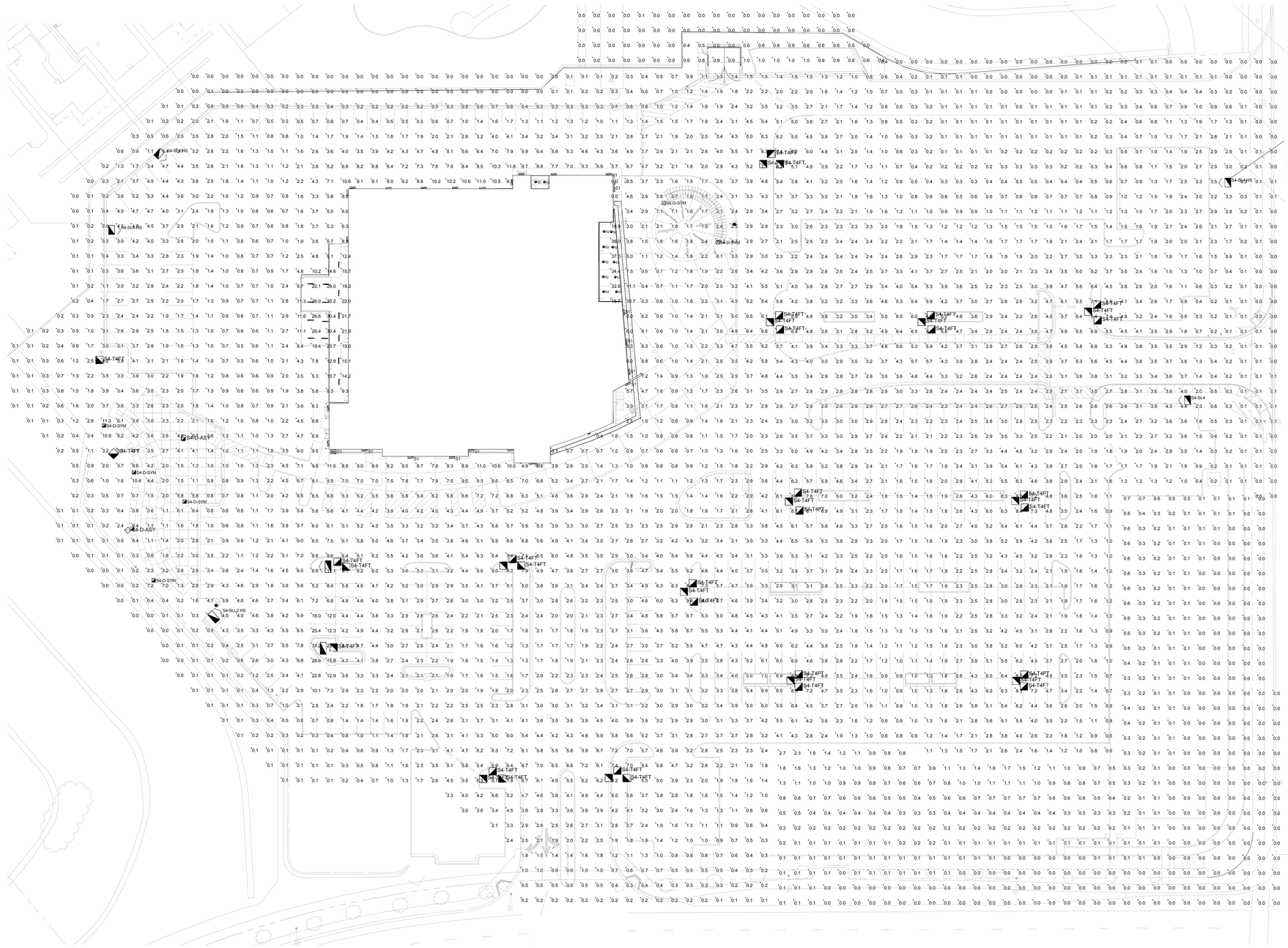

1 SITE PHOTOMETRIC
1" = 30'-0"

Luminaire Schedule

Symbol	Label	QTY	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage	
	S4-T4FT	40	GLLDN-4E-03-LED-E1-T4FT	GALLEON LED AREA AND ROADWAY LUMINAIRE (3) FX-OS, 4000K, 4A LIGHTGUIDE(S) WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORY CREATED USING LAB-LUMEN-STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 25 FEET		40	327.8413	1	157	Max: 1442fc
	S1	25	OSSHO LED 30C 700 GW 72W MVOLT	OSSHO LED WITH 3 LIGHT ENGINES, 3C LEDs, 700mA DRIVER, 3000K CRI, TYPE I, MEDIUM OPTIC	LED	1	7824.868	1	72	Max: 1967fc
	S2	11	PAO 35/25 6AR MVOLT	2500LM 3K CRI 3500K 6" EVO ROUND DOWNLIGHT APECULAR	LED	1	2625.903	1	29.52	Max: 4995fc
	S3	14	LHP624 50W 4000K CP	Luminaire LED, 1no., 4' linear ceiling mount luminaire. Catalog number: LHP624 50W 4000K CP. Luminaire consists of housing with clear prismatic plastic wrap and white powder coated steel backplate. (58) LEDs on eight white PCBs with staggered row of 42 on each. Rated 7W LED RGB 4000K 80CRI. Luminaire has a 120 to 277V white painted formed metal reflector. Two Thomas Research Products Drivers. Model #: LHP624 50W 4000K CP. Operating at 120 Hz and 60Hz.		336	17.59645	1	53.7	Max: 259fc
	S4-SL4 HS	1	GLLDN-4E-08-LED-E1-SL4-SSH-MVG	GALLEON LED AREA AND ROADWAY LUMINAIRE (8) FX-OS, 4000K, 4A LIGHTGUIDE(S) WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORY CREATED USING LAB-LUMEN-STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 25 FEET		96	331.3998	1	159	Max: 1195fc
	S4-SLL2 HS	1	GLLDN-4E-07-LED-E1-SLL2-SSH-MVG	GALLEON LED AREA AND ROADWAY LUMINAIRE (7) FX-OS, 4000K, 530mA LIGHTGUIDE(S) WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORY CREATED USING LAB-LUMEN-STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 25 FEET		112	194.5882	1	184	Max: 1417fc
	S4-SL4	1	GLLDN-4E-06-LED-E1-SL4-530	GALLEON LED AREA AND ROADWAY LUMINAIRE (6) FX-OS, 4000K, 530mA LIGHTGUIDE(S) WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORY CREATED USING LAB-LUMEN-STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 25 FEET		96	177.5366	1	159	Max: 1430fc
	S4-SL2	7	GLLDN-4E-07-LED-E1-SLL2-530	GALLEON LED AREA AND ROADWAY LUMINAIRE (7) FX-OS, 4000K, 530mA LIGHTGUIDE(S) WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORY CREATED USING LAB-LUMEN-STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 25 FEET		112	185.4617	1	184	Max: 1939fc
	S4-D-SYM	9	GDIB LED 16C 700 40K SYM	D-SERIES BOLLARD WITH 16 4000K LEDS, OPERATED AT 700mA AND SYMMETRIC DISTRIBUTION	LED	1	2054.802	1	39	Max: 794cd
	S4-D-ASY	2	GDIB LED 12C 700 40K ASY	D-SERIES BOLLARD WITH 12 4000K LEDS, OPERATED AT 700mA AND ASYMMETRIC DISTRIBUTION	LED	1	1588.185	1	31	Max: 821cd

NOTE: SYMBOLS AND LABELS ON LUMINAIRE SCHEDULE AND SITE PHOTOMETRIC PLAN ARE INTENDED FOR SITE PHOTOMETRICS SHEET ONLY. FOR ALL OTHER SHEETS SEE SHEET ES 1.

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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
SITE PHOTOMETRICS

Drawn By: KPB
Checked By: JMc
Project No.: 15-245
Date: 08/30/2016

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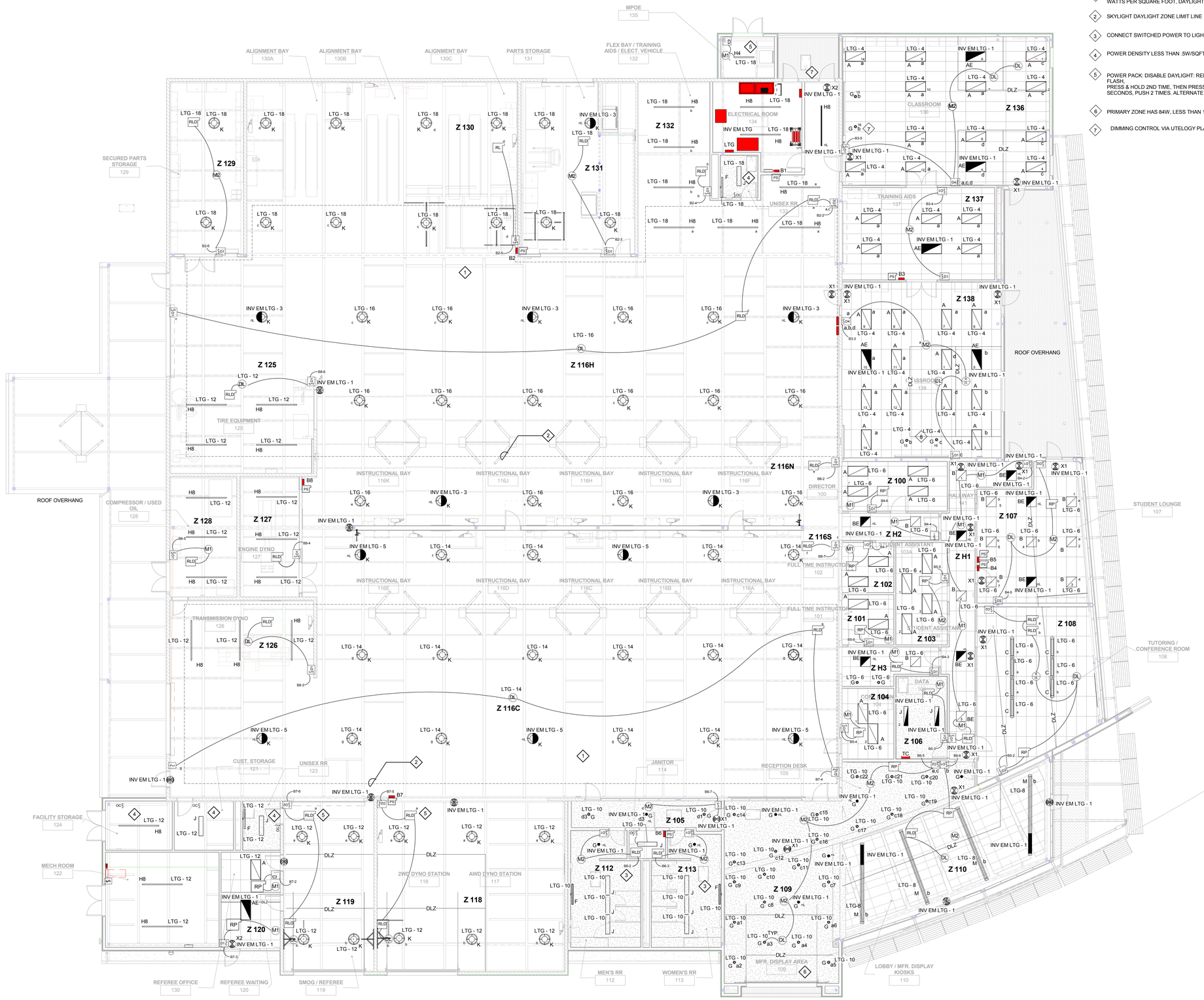
NUMBERED NOTES

1. T24: OPEN TECHNICAL TRAINING AREA IS 16662 SQUARE FEET, LIGHTING POWER IS 7614W, OR 0.45 WATTS PER SQUARE FOOT , THEREFORE DIMMING IS NOT REQUIRED. AS MORE THAN .3 WATTS PER SQUARE FOOT, DAYLIGHT DIMMING IS REQUIRED.
2. SKYLIGHT DAYLIGHT ZONE LIMIT LINE
3. CONNECT SWITCHED POWER TO LIGHTS FROM POWER PACK
4. POWER DENSITY LESS THAN .5W/SQFT USE NON-NETWORK CONTROLS
5. POWER PACK: DISABLE DAYLIGHT: RED BUTTON, PRESS & HOLD TO FLASH,
   PRESS & HOLD 2ND TIME, THEN PRESS 13 TIMES, WAIT APPROX. 3-4 SECONDS, PUSH 2 TIMES. ALTERNATE IS WITH SENSOR VIEW.
6. PRIMARY ZONE HAS 84W, LESS THAN 120, NO DIMMING REQUIRED
7. DIMMING CONTROL VIA UTELOGY PLATFORM AT TEACHING STATION



1 INTERIOR LIGHTING
1/8" = 1'-0"

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INTERIOR LIGHTING 1ST FLOOR

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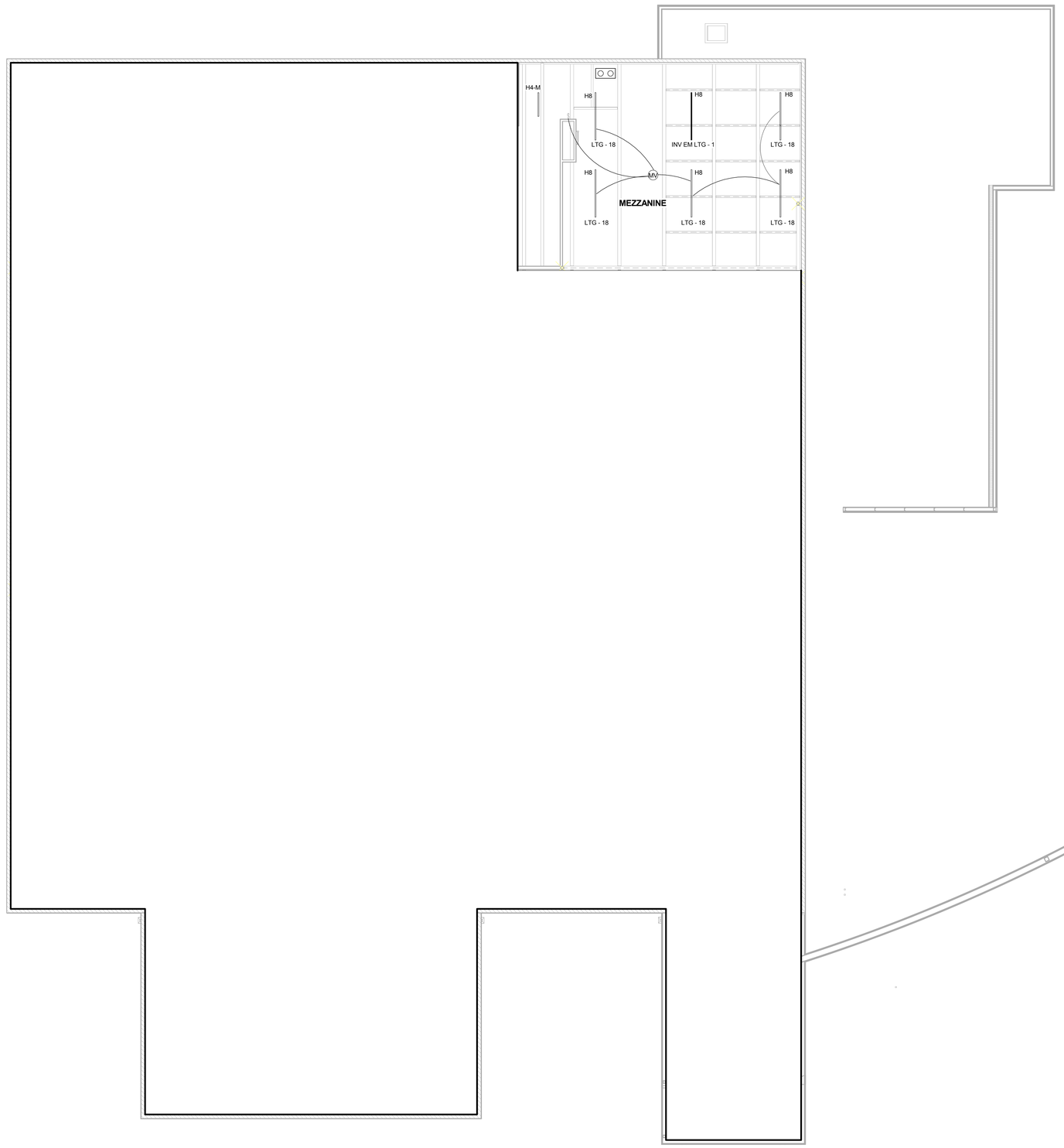

1 MEZZANINE
1/8" = 1'-0"

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FRANCIS WAYNE WEBER
E 009586
Exp. 9-30-2018
ELECTRICAL

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Drawing Title
INTERIOR LIGHTING
MEZZANINE

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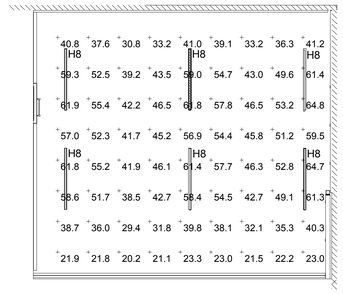
FIRST FLOOR LIGHTING



MEZZANINE LIGHTING

1 PHOTOMETRIC - INTERIOR LIGHTING
1/8" = 1'-0"

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Drawing Title
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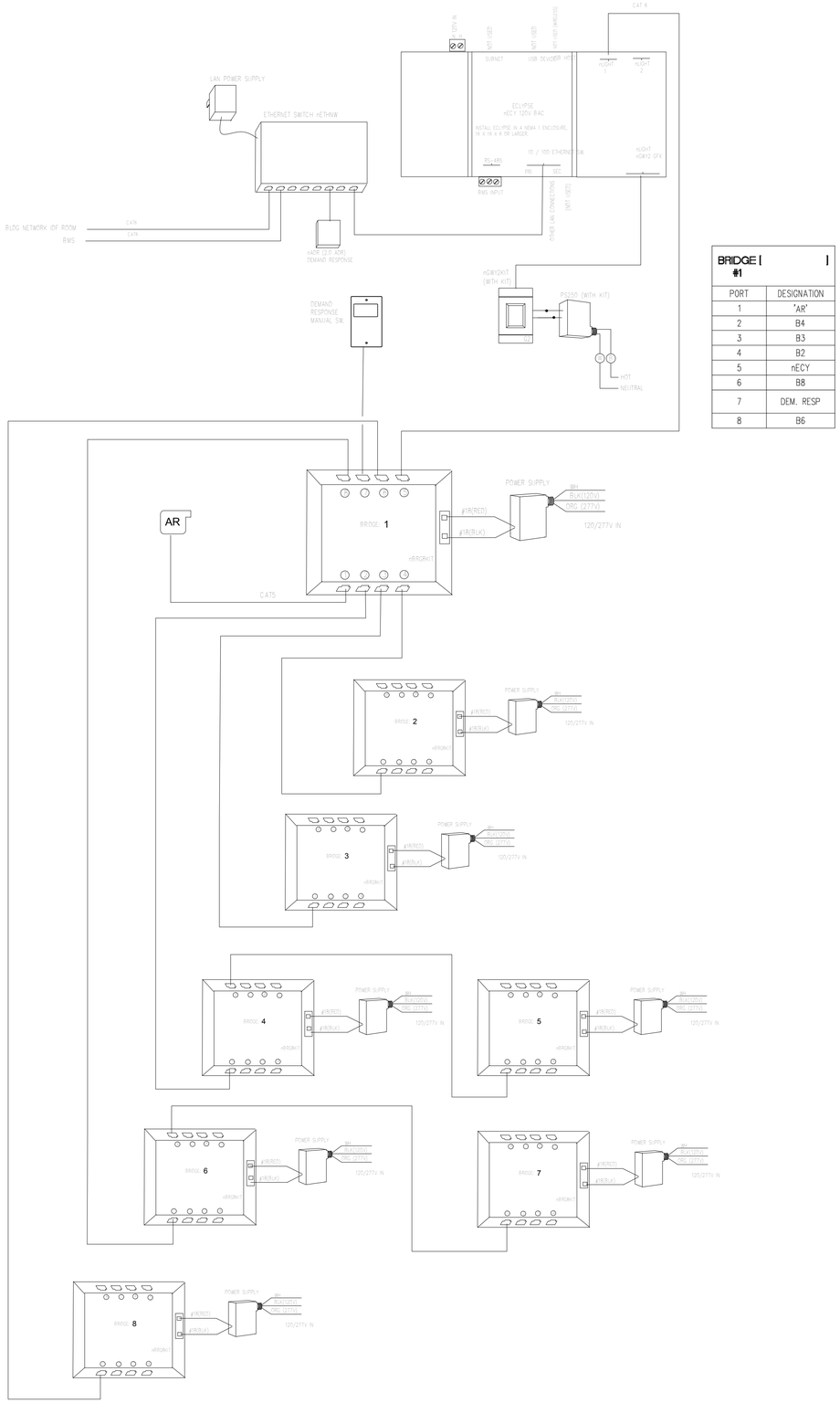


BRIDGE # 1	
PORT	DESIGNATION
1	'AR'
2	B4
3	B3
4	B2
5	nECY
6	B8
7	DEM. RESP
8	B6

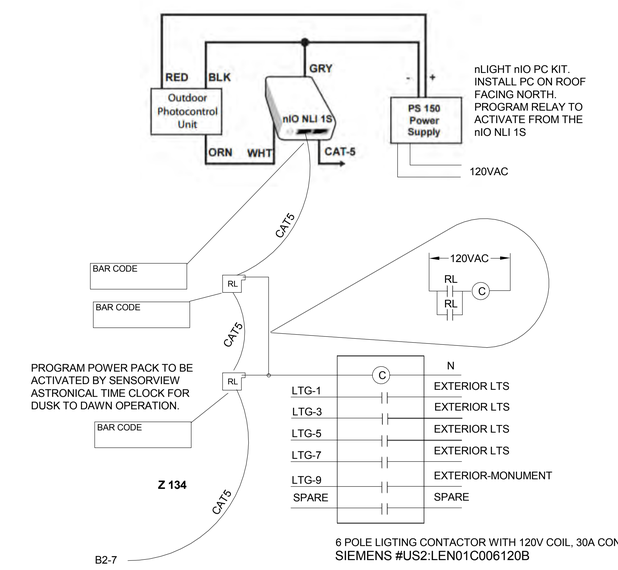
1 LIGHTING CONTROL SENSOR VIEW
12" = 1'-0"

SOFTWARE LINKED

Z130A	RLD	Z130A
Z132	RLD	Z132
Z116H	RLD	Z116H
Z116N	RLD	Z116N
Z125	RLD	Z125
Z126	RLD	Z126
Z116C	RLD	Z116C
Z116S	RLD	Z116S
Z118	RLD	Z118
Z119	RLD	Z119
Z127	RLD	Z127

PROGRAM ZONE SWITCHES TO ACTIVATE THEIR ASSOCIATED POWER PACK. PROGRAM SENSORVIEW 'TIMER' FOR STANDARD OPERATING HOURS (6:00AM - 6:00PM) AND OVERRIDE FOR TWO HOURS DURING NON-OPERATING HOURS. VERIFY SCHEDULE WITH OWNER REPRESENTATIVE. PROVIDE 'OWNER' ACCESS TO CHANGE STANDARD OPERATING HOURS OR TEMPORARY EXTENSION OF HOURS FOR EVENING EVENTS.

INTERIOR LIGHTING - CA T24 TIMING CONTROL

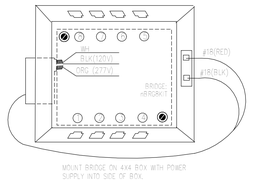


nLIGHT nIO PC KIT. INSTALL PC ON ROOF FACING NORTH. PROGRAM RELAY TO ACTIVATE FROM THE nIO NLI 1S

6 POLE LIGTING CONTACTOR WITH 120V COIL, 30A CONTACTS
SIEMENS #US2:LEN01C006120B

EXTERIOR LIGHTING CONTROL

2 LIGHTING CONTROL -EXTERIOR & TIMING
12" = 1'-0"



MOUNT BRIDGE ON 4X4 BOX WITH POWER SUPPLY INTO SIDE OF BOX.

BRIDGE INSTALLATION DETAIL

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Drawing Title
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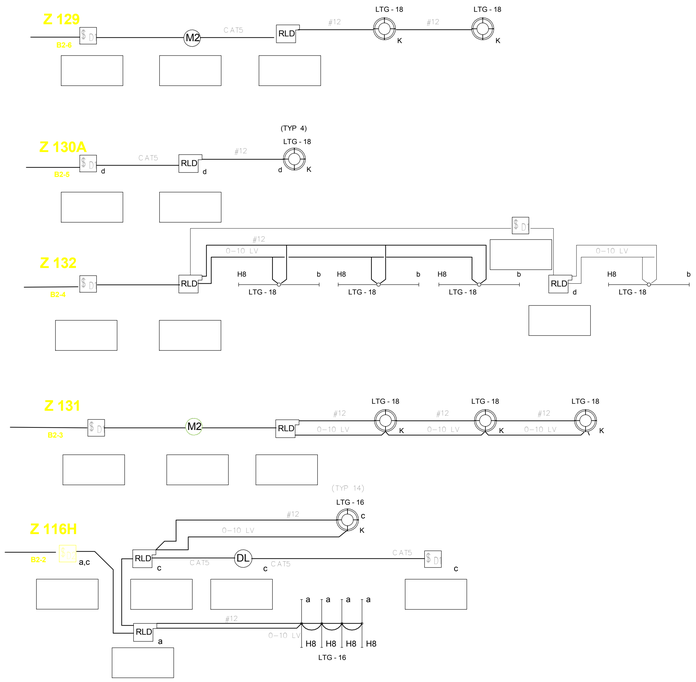
BRIDGE 'B2'

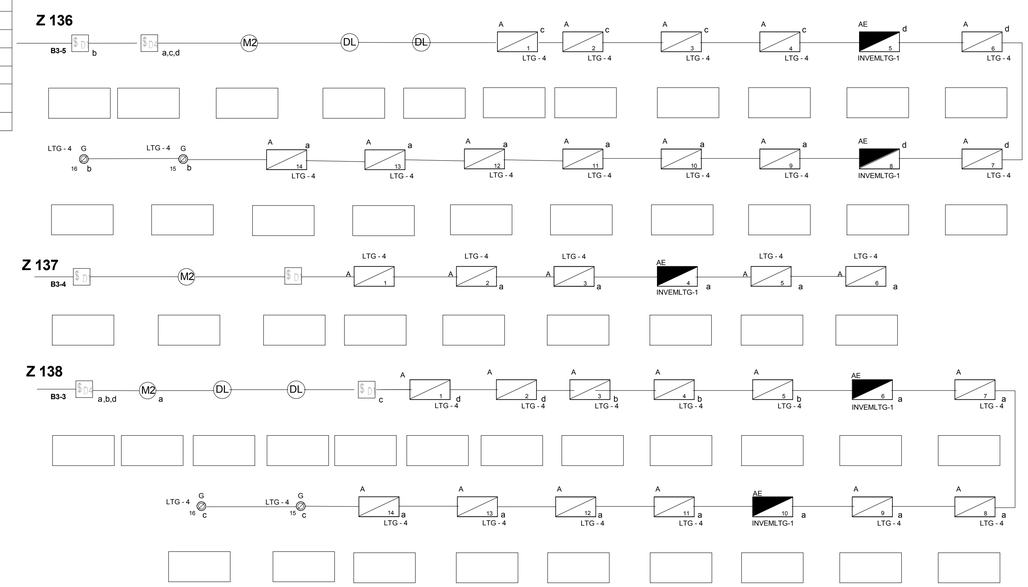
BRIDGE [#2]	
PORT	DESIGNATION
1	B1–4
2	116H
3	131
4	132
5	130A
6	129
7	134
8	SPARE



1 LIGHTING CONTROL BRIDGE B2
12" = 1'-0"

BRIDGE 'B3'

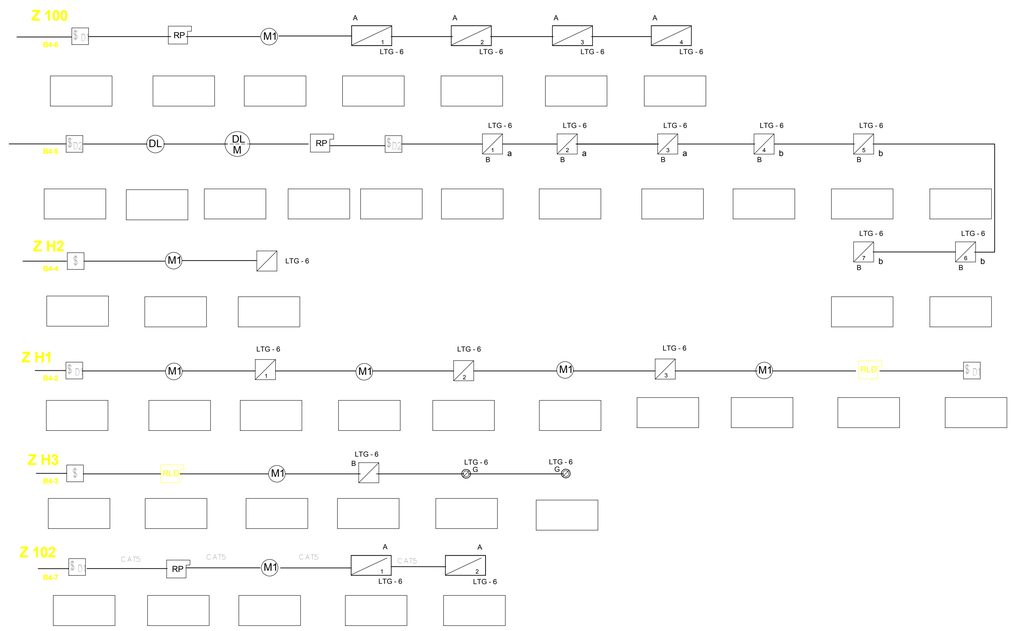
BRIDGE [#3]	
PORT	DESIGNATION
1	B1–3
2	SPARE
3	138
4	137
5	136
6	SPARE
7	SPARE
8	SPARE



2 LIGHTING CONTROL BRIDGE B3
12" = 1'-0"

BRIDGE 'B4'

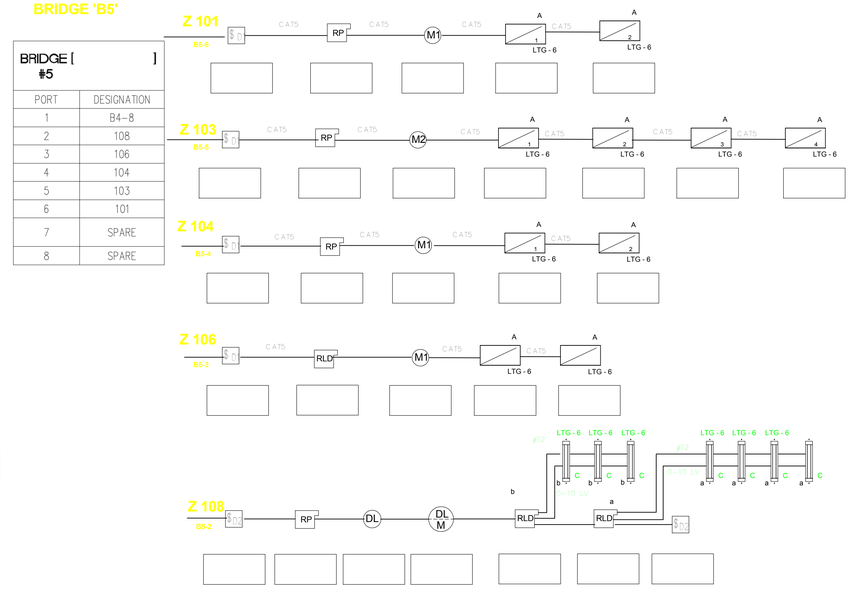
BRIDGE [#4]	
PORT	DESIGNATION
1	B1–2
2	H1
3	H3
4	H2
5	107
6	100
7	102
8	B5–1



3 LIGHTING CONTROL BRIDGE B4
12" = 1'-0"

BRIDGE 'B5'

BRIDGE [#5]	
PORT	DESIGNATION
1	B4–8
2	108
3	106
4	104
5	103
6	101
7	SPARE
8	SPARE



4 LIGHTING CONTROL BRIDGE B5
12" = 1'-0"

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AUTO TECH FACILITY

Drawing Title
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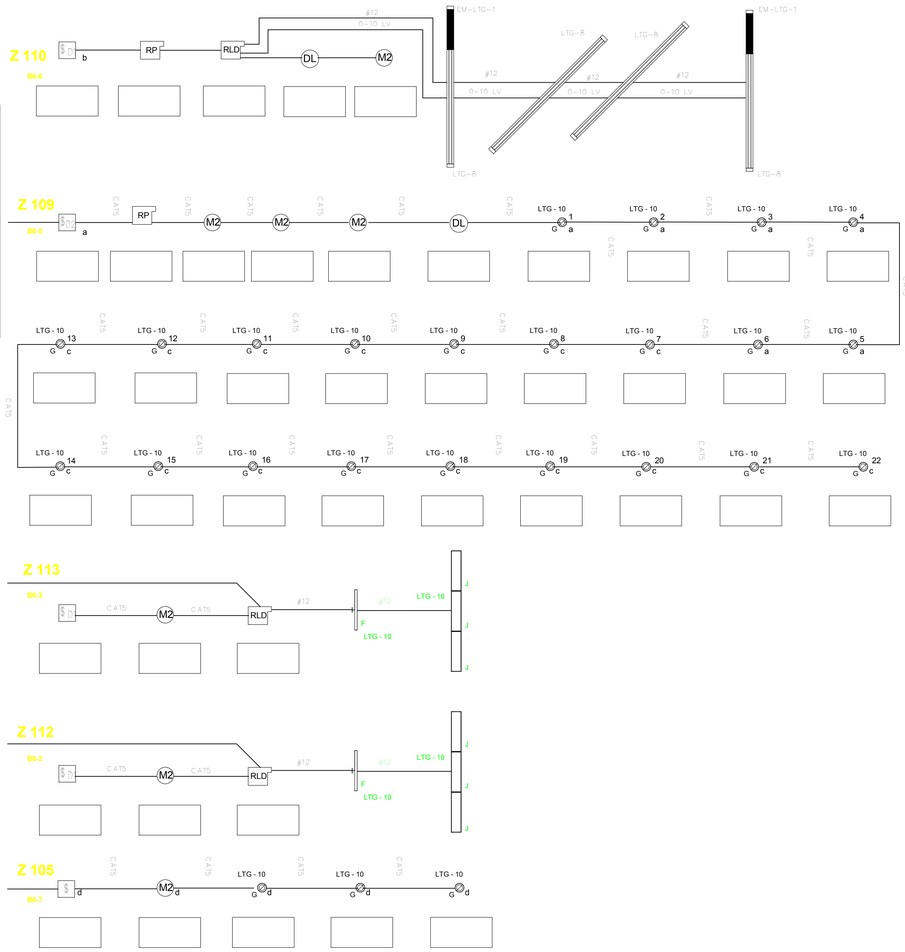
BRIDGE 'B6'

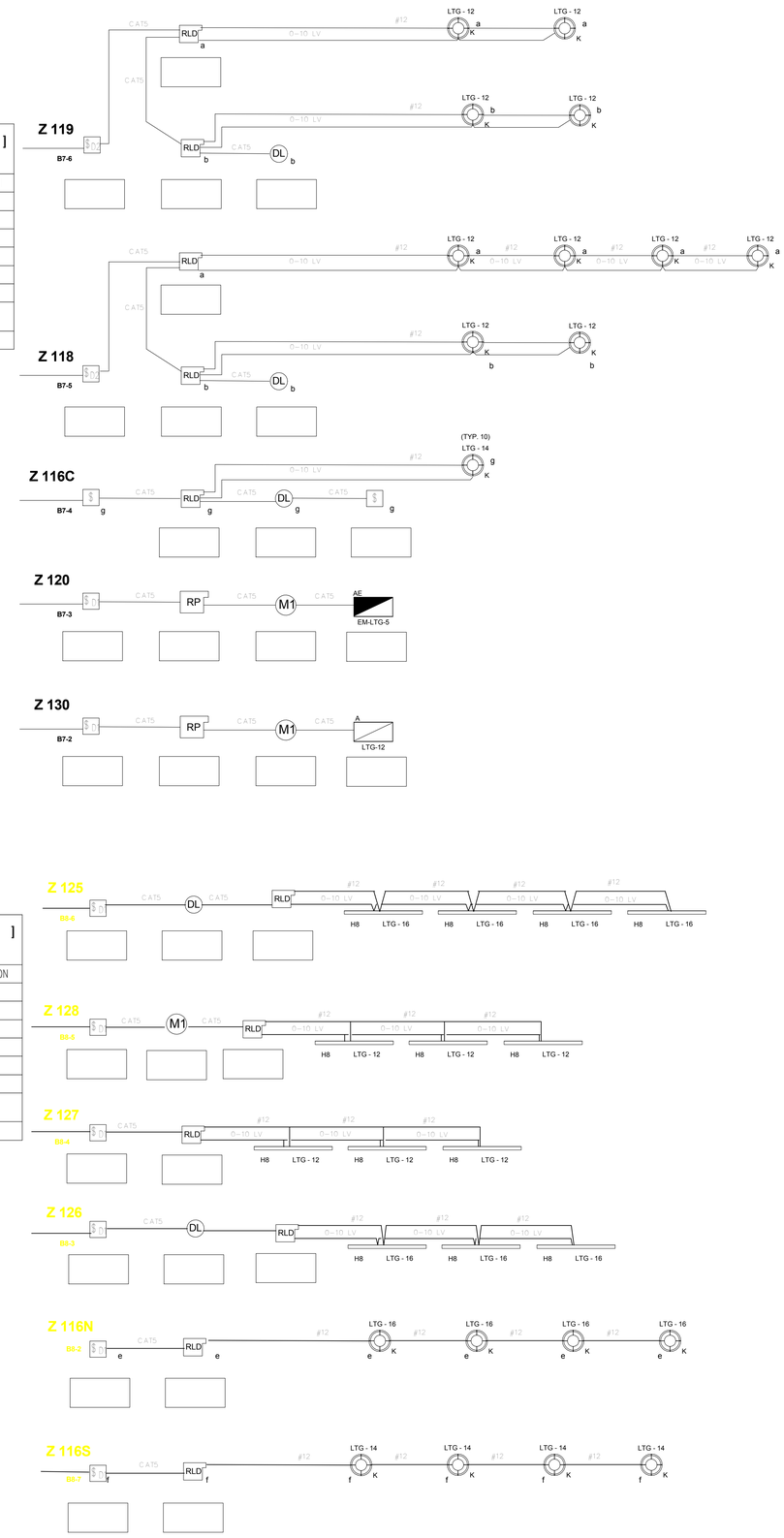
BRIDGE [#6]	
PORT	DESIGNATION
1	B1–8
2	112
3	113
4	SPARE
5	109
6	110
7	105
8	B7–1



1 LIGHTING CONTROL BRIDGE B6
12" = 1'-0"

BRIDGE 'B7'

BRIDGE [#7]	
PORT	DESIGNATION
1	B6–8
2	130
3	120
4	116C
5	118
6	119
7	SPARE
8	SPARE



BRIDGE 'B8'

BRIDGE [#8]	
PORT	DESIGNATION
1	B1–6
2	116N
3	126
4	127
5	128
6	125
7	116S
8	SPARE

2 LIGHITING CONTROL DIAGRAMS B7 & B8
12" = 1'-0"

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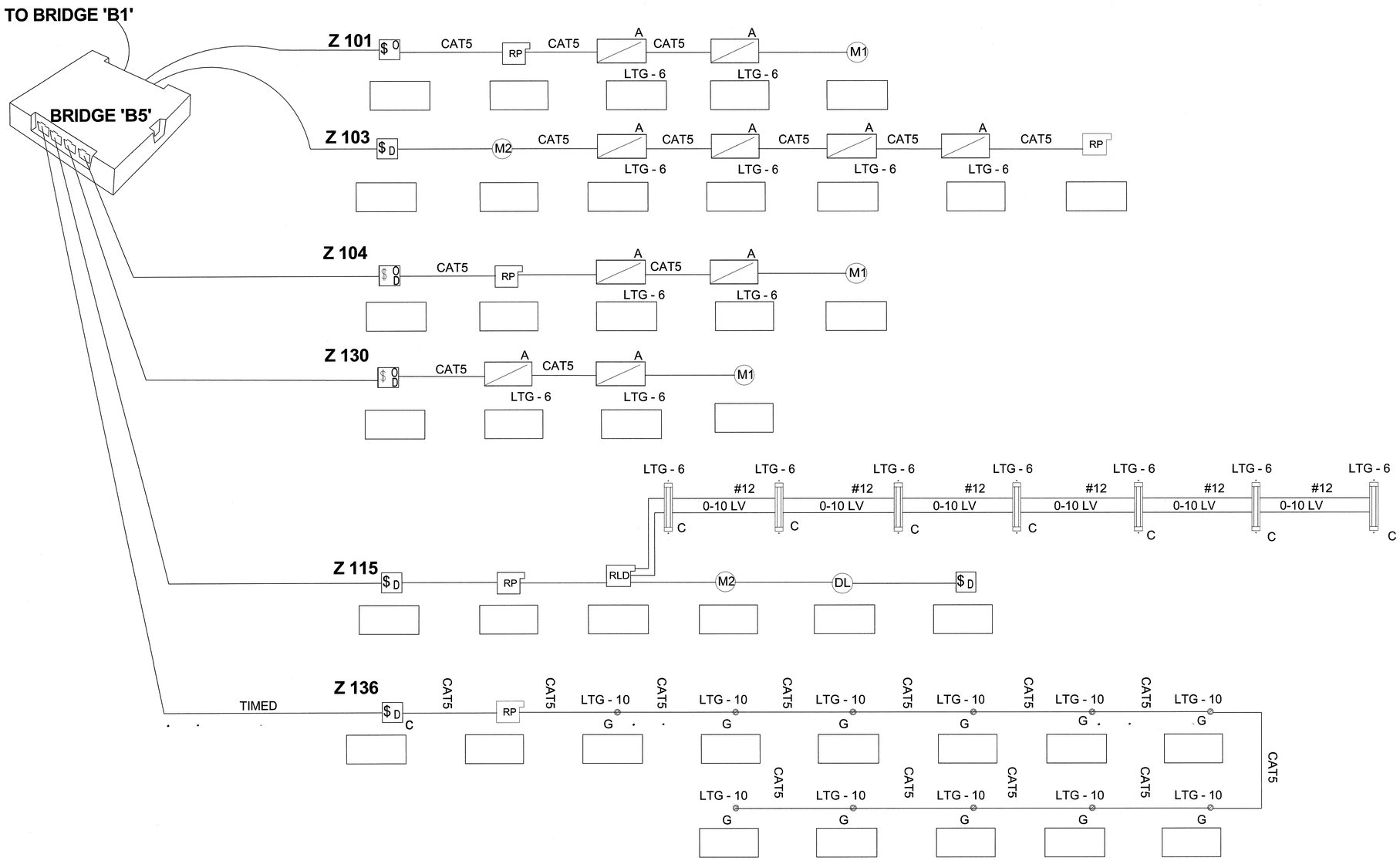

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APPL # 02-114995

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DATE: 9/8/16

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Drawing Title
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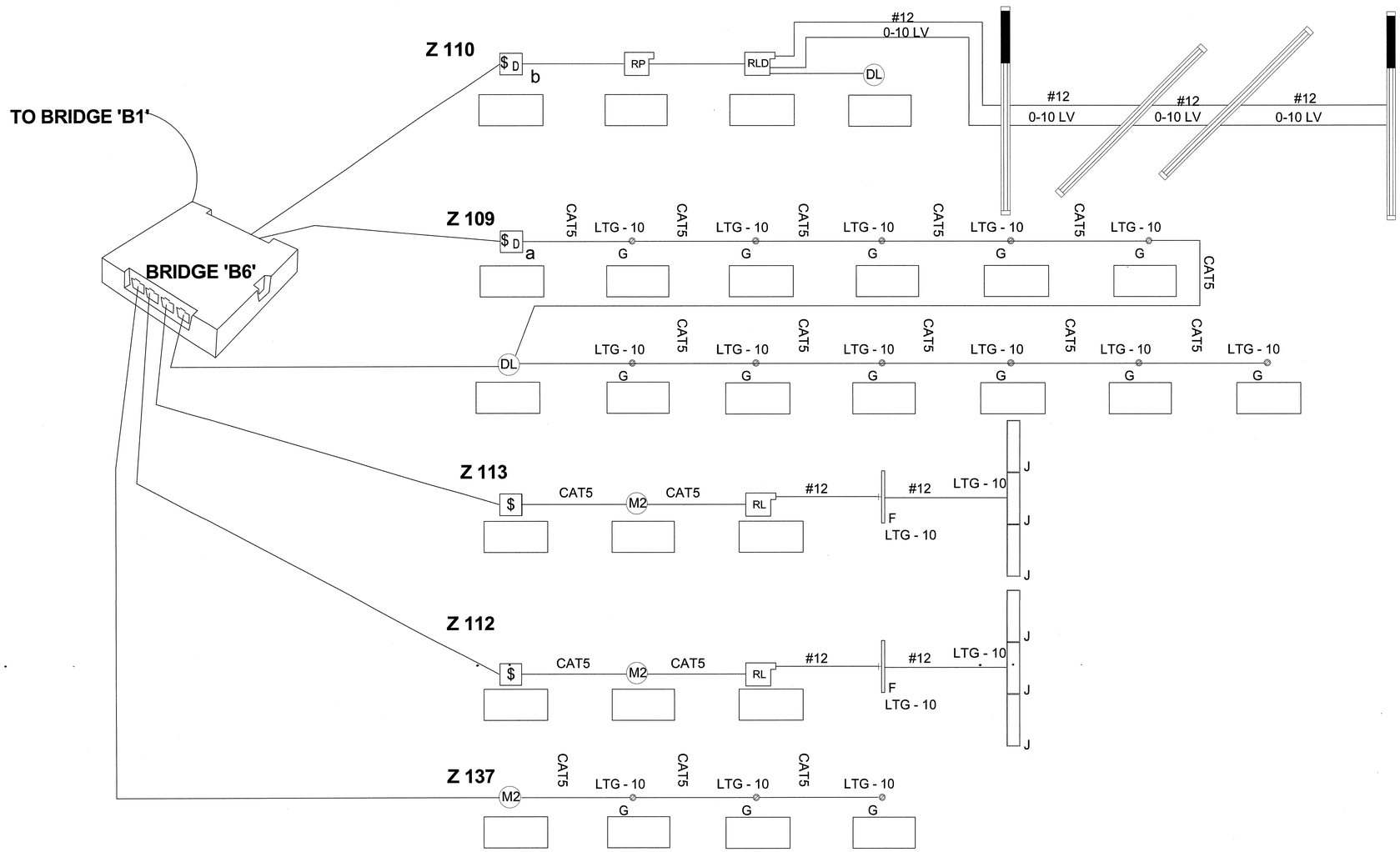

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OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC ___ F/LS ___ SS ___
DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
LIGHTING CONTROL DIAGRAMS

Drawn By: KPB
Checked By: JMc

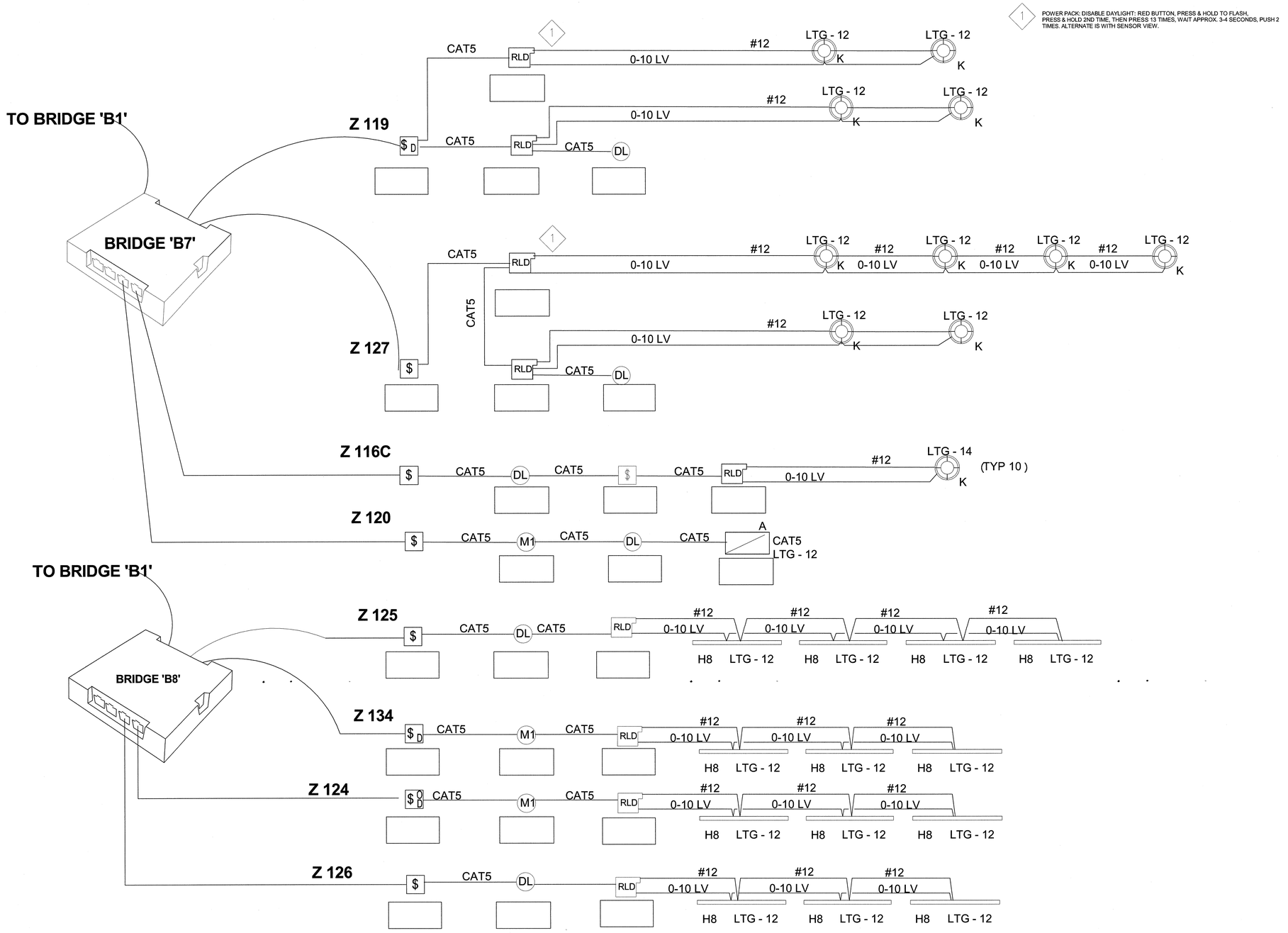
NO.	DATE	ISSUE

Project No.: 15-245
©Date: 08/30/2016

DRAWING NO.
E2.8

C:\Users\jjohnston\Documents\VALLEJO AUTO TECH- ELEC_Nickster.rvt
8/26/2016 8:24:23 AM

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net



SCHETTER ELECTRIC, INC.
Contracting and Engineering
471 Bannon Street, Sacramento, CA 95814
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SIGNATURE DATE: AUG 2 6 2016

SEAL

LICENSED ARCHITECT CHRISTOPHER C VIRGINIA NO. C26985 REN. 6-30-17 STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC: — FLS: — SS:

DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title: LIGHTING CONTROL DIAGRAMS

Drawn By: KPB
Checked By: JMc
Project No.: 15-245
@Date: 08/30/2016

DRAWING NO.: E2.9

NO.	DATE	ISSUE

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NUMBERED NOTES

1. FLOOR BOX POWER & DATA CONNECTION TO MFG FURNITURE
2. DOUBLE DUPLEX RECEPTACLE MOUNTED AT COUNTER HEIGHT; FIELD COORDINATE
3. POINT OF CONNECTION TO AUTO FLUSH/ AUTO SINK
4. POINT OF CONNECTION FOR AUTOMATIC ROLL-UP DOOR AND CONTROLS
5. DOOR SECURITY POWER
6. PREACTION CONTROL PANEL
7. PREACTION AIR COMPRESSOR
8. FIRE ALARM BELL
9. PRESSURE SWITCH
10. FLOAT LEVEL SENSOR

SHEET NOTES

1.) ALL NON-OFFICE/STUDENT AREA RECEPTACLES TO BE GFCI
2.) ALL RECEPTACLES IN RESTROOMS TO BE GFCI

1 POWER AND SIGNAL

1/8" = 1'-0"

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AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC ____ F/LS ____ SS ____
DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
POWER AND SIGNAL 1ST FLOOR

Drawn By: KPB
Checked By: JMc
Project No.: 15-245
Date: 08/30/2016
DRAWING NO.: E3.1

NO.	DATE	ISSUE
2	10/19/2016	ASI 002
3	12/19/2016	ASI 007
5	07/07/2017	CCD 049

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1 MEZZANINE
1/8" = 1'-0"

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E 009998
Exp. 9-30-2018
ELECTRICAL
STATE OF CALIFORNIA

SIGNATURE DATE:_____

SEAL

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC _____ F/LS _____ SS _____
DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
POWER AND SIGNAL MEZZANINE

Drawn By
KPB
Checked By
JMc
Project No.
15-245
Date
08/30/2016
DRAWING NO.
E3.2

NO. DATE ISSUE

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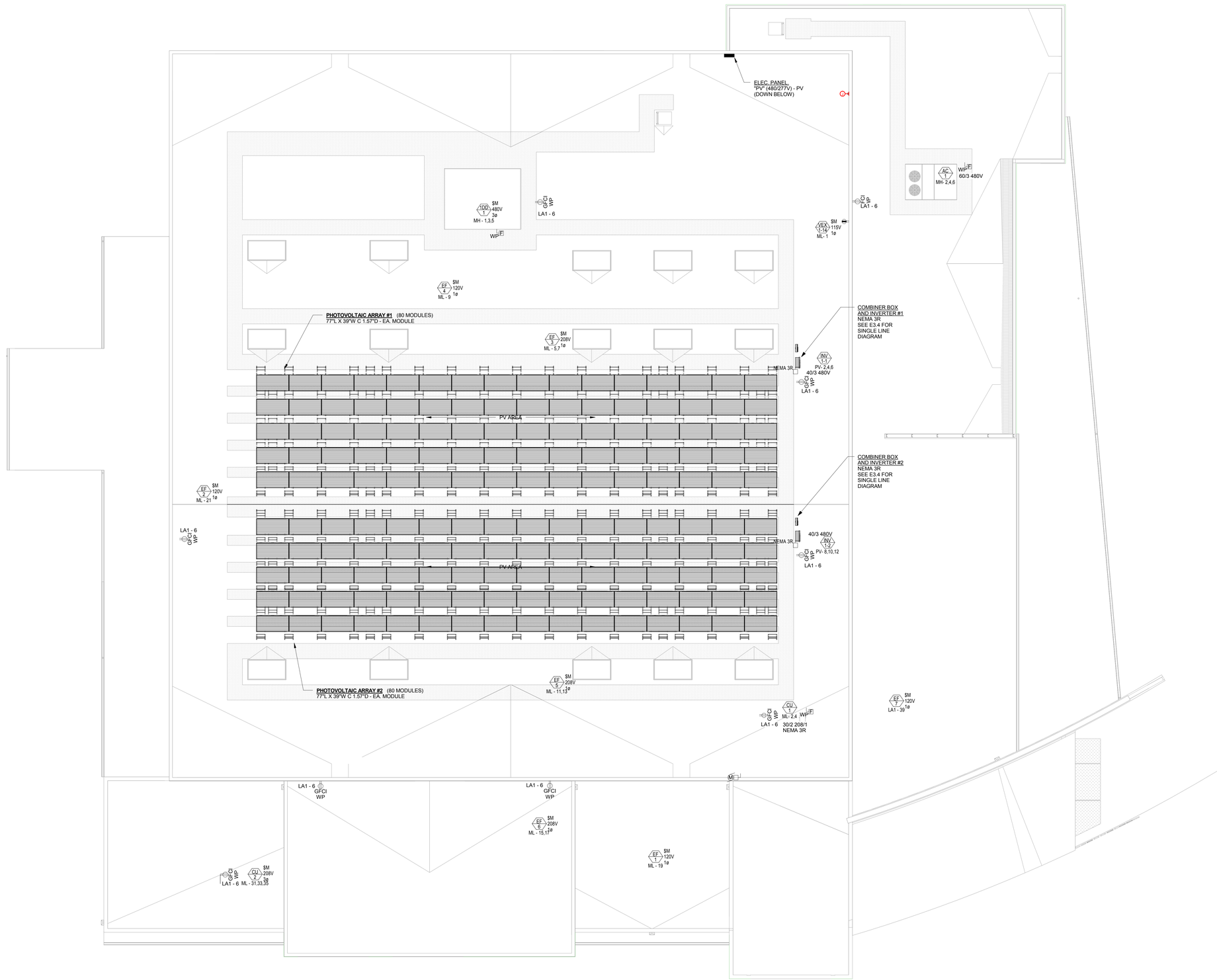

1 ROOTPOINT ELECTRICAL

1/8" = 1'-0"

JK ARCHITECTURE PARTNERSHIP

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REGISTERED PROFESSIONAL ENGINEER
JAMES MICHAEL
E 035998
Exp. 9-30-2018
ELECTRICAL
STATE OF CALIFORNIA

SIGNATURE DATE:_____

SEAL

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ROOFTOP ELECTRICAL

Drawn By
KPB

Checked By
JMc

Project No.
15-245

@Date
08/30/2016

DRAWING NO.
E3.3

NO. DATE ISSUE

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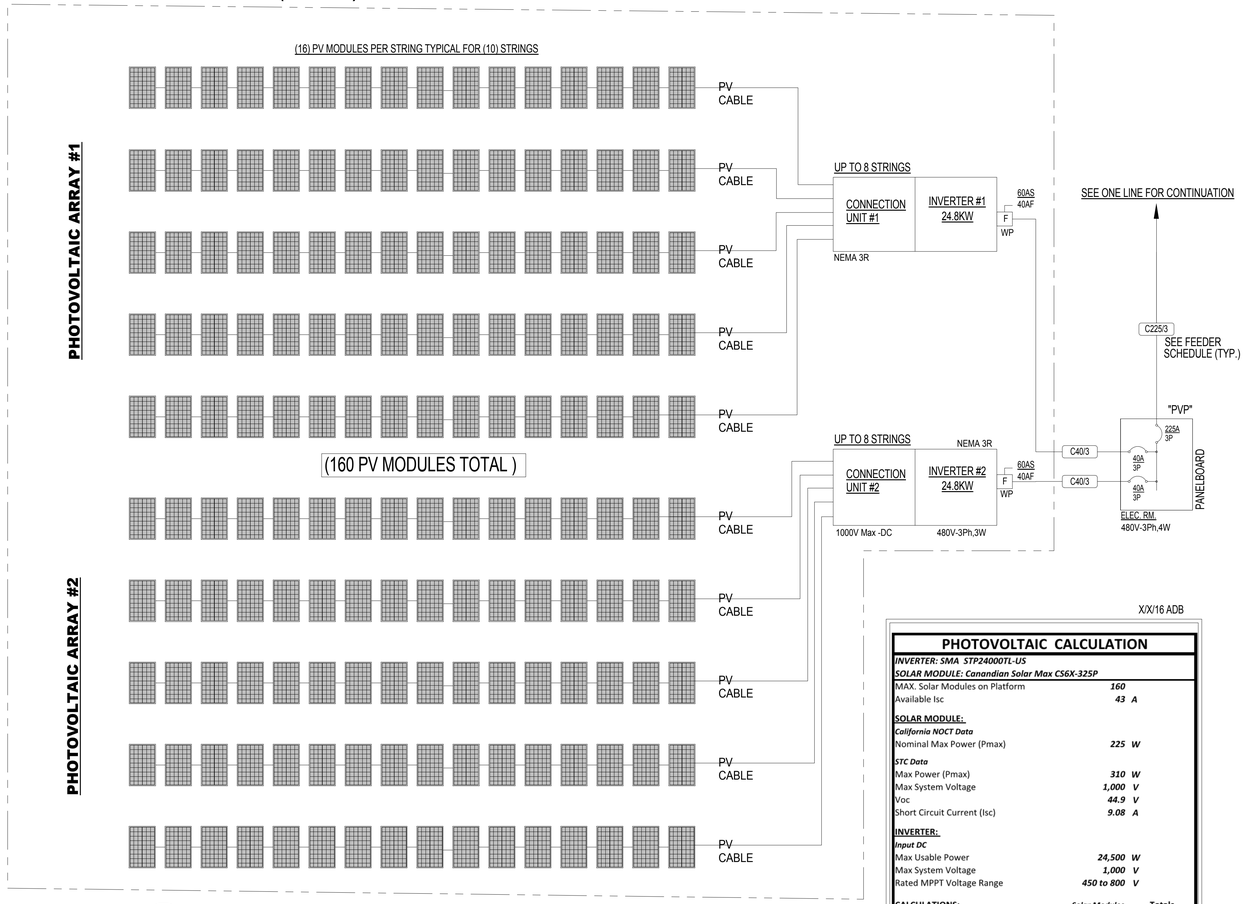
MOUNTED ON ROOF TOP - ALL WP (NEMA 3R)



1 - PHOTOVOLTAIC ONE LINE DIAGRAM - 48KW

SCALE: NONE

X/X/16 ADB

PHOTOVOLTAIC CALCULATION

INVERTER: SMA STP24000TL-US
SOLAR MODULE: Canandian Solar Max CS6X-325P

MAX. Solar Modules on Platform	*160*	
Available Isc	*43*	*A*
SOLAR MODULE:		
California NOCT Data		
Nominal Max Power (Pmax)	*225*	*W*
STC Data		
Max Power (Pmax)	*310*	*W*
Max System Voltage	*1,000*	*V*
Voc	*44.9*	*V*
Short Circuit Current (Isc)	*9.08*	*A*
INVERTER:		
Input DC		
Max Usable Power	*24,500*	*W*
Max System Voltage	*1,000*	*V*
Rated MPPT Voltage Range	*450 to 800*	*V*

CALCULATIONS:	***Solar Modules***		**Totals**
MAX Allowed Solar Modules per String	*44.9 V X 22*	=	*988 V*
Use (16) Solar Modules per String	*310 W X 16*	=	*4,960 W*
Use (5) Strings Per Inverter (5 X 16 = 80)	*310 W X 80*	=	*24,800 W*
Max Input from Solar Module System			
(160) Total Solar Modules	*310 W X 160*	=	*49,600 W*
Max Input Capacity of Inverter System			
(2) Inverters	*24,500 W X 2*	=	*49,000 W*
Module to Inverter Ratio	***49.6W/49W***	=	*1.01 W*

1. INVERTER "1" MAXIMUM STRING VOLTAGE (CEC 690.7)
   = 45.3VDC X 17 X 1.08 (CEC 690.7)
   = 832V
2. INVERTER "2" MAXIMUM STRING VOLTAGE (CEC 690.7)
   = 45.3VDC X 17 X 1.08 (CEC 690.7)
   = 832V

PV LABELS:

1. PROVIDE DIRECTORY AT MAIN SWITCHBOARD LISTING INVERTERS AND THEIR LOCATION (CEC 705.10).
2. PROVIDE WARNING LABEL PER CEC 690.5C:

WARNING
ELECTRICAL SHOCK HAZARD
IF A GROUND FAULT IS INDICATED
NORMALLY GROUNDED CONDUCTORS
MAY BE UNGROUNDED & ENERGIZED

3. PROVIDE WARNING LABEL PER CEC 690.35:

WARNING
ELECTRICAL SHOCK HAZARD
THE DC CONDUCTORS OF THIS
PHOTOVOLTAIC SYSTEM
ARE UNGROUNDED AND MAY BE ENERGIZED

4. PROVIDE WARNING LABEL PER CEC 690. 13 B:

WARNING
PHOTOVOLTAIC AC DISCONNECT

3. PROVIDE THE FOLLOWING WARNING LABEL CEC 705. 13:

WARNING
THIS EQUIPMENT FED BY MULTIPLE
SOURCES. TOTAL RATING OF ALL OVER
CURRENT DEVICES, EXCLUDING MAIN
SUPPLY OVER CURRENT DEVICE, SHALL NOT
EXCEED AMPACITY OF BUSBAR

PV GENERAL NOTES:

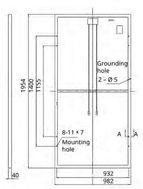
1. MAXIMUM CIRCUIT CURRENT (CEC 690.8) = 1.03 X 1.25 X 1.25 = 11.0A
2. PV OUTPUT CIRCUIT CURRENT (CEC 690.8.2) MAXIMUM CURRENT = 11A X 4 = 44A DC
3. INVERTER OUTPUT CIRCUIT CURRENT (CEC 690.8.3) = 24 KW @ 480V-3□ = 28.8A
4. ARC - FAULT PROTECTION IS PROVIDED WITH SMA INVERTER (CEC 690.11)
5. SMA INVERTERS ARE ANTI-ISLAND & ONLY PRODUCE POWER WHEN CONNECTED TO THE UTILITY SOURCE.
6. DISCONNECTING MEANS (CEC 690.13) - DISCONNECT TO BE READILY ACCESSIBLE - LOCATION FOR UNGROUNDED DC CONDUCTORS IS PROVIDED BT SMA CONNECTION UNIT.
7. THE SMA INVERTER WITH CONNECTOR BOX IS AN UNGROUNDED SYSTEM. PER CEC 690.35 AND HAS DISCONNECTS, OVER CURRENT PROTECTION AND GROUND FAULT PROTECTION. CONDUCTORS SHALL BE "PV" WIRE OR I NSTALLED IN RACEWAYS. THE ENCLOSURE SHALL BE GROUNDED BY AN EQUIPMENT GROUND.
8. GROUNDING: EXPOSED NON-CURRENT CARRYING METAL PARTS OF PV MODULAR FRAMES & ELECTRICAL EQUIPMENT SHALL BE GROUNDED. FOR MODULE, FACTORY GROUNDING SCREWS MAY BE UTILIZED FOR BONDING. REMOVAL OF A MODULE SHALL NOT INTERRUPT THE GROUND TO OTHER COMPONENTS.

SOLAR MODULE(S):

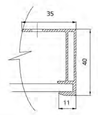
PROVIDE SOLAR PANEL MODULES COMPLETE AND OPERABLE AS MANUFACTURED BY CANADIAN MODEL # CS6X-325P SERIES

MODULE / ENGINEERING DRAWING (mm)

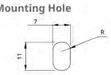
Rear View



Frame Cross Section A-A



Mounting Hole



ELECTRICAL DATA / STC*

Electrical Data CS6X	310P	315P	320P
Nominal Max. Power (Pmax)	310 W	315 W	320 W
Opt. Operating Voltage (Vmp)	36.4 V	36.6 V	36.8 V
Opt. Operating Current (Imp)	8.52 A	8.61 A	8.69 A
Open Circuit Voltage (Voc)	44.9 V	45.1 V	45.3 V
Short Circuit Current (Isc)	9.08 A	9.18 A	9.26 A
Module Efficiency	16.16%	16.42%	16.68%
Operating Temperature	-40°C ~ +85°C		
Max. System Voltage	1000 V (IEC) or 1000 V (UL)		
Module Fire Performance	TYPE 1 (UL 1703) or CLASS C (IEC 61730)		
Max. Series Fuse Rating	15 A		
Application Classification	Class A		
Power Tolerance	0 ~ + 5 W		

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

ELECTRICAL DATA / NOCT*

Electrical Data CS6X	310P	315P	320P
Nominal Max. Power (Pmax)	225 W	228 W	232 W
Opt. Operating Voltage (Vmp)	33.2 V	33.4 V	33.6 V
Opt. Operating Current (Imp)	6.77 A	6.84 A	6.91 A
Open Circuit Voltage (Voc)	41.3 V	41.5 V	41.6 V
Short Circuit Current (Isc)	7.36 A	7.44 A	7.50 A

* Under Nominal Operating Cell Temperature (NOCT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

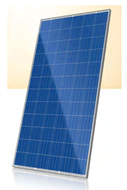
INVERTER(S):

PROVIDE INVERTERS COMPLETE AND OPERABLE AS MANUFACTURED BY SMA MODEL # STP24000TL-US

INVERTER(S):

SMA MODEL # STP24000TL-US

Technical data	Sunny Tripower 24000TL-US
Input (DC)	
Max. usable DC power (@ cos φ = 1)	24500 W
Max. DC voltage	* 1000 V
Rated MPPT voltage range	450 V...800 V
MPPT operating voltage range	150 V...1000 V
Min. DC voltage / start voltage	150 V / 188 V
Number of MPP tracker inputs	2
Max. input current / per MPP tracker input	66 A / 33 A



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JAMES WAYNE JENKINS E 009986 Exp. 9-30-2018 ELECTRICAL

SIGNATURE DATE: _____

SEAL

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
PV SINGLE LINE

Drawn By
KPB

Checked By
JMc

Project No.
15-245

Date
08/30/2016

DRAWING NO.
E3.4

NO.	DATE	ISSUE
6	07/07/2017	PG&E NEM REQUIREMENTS

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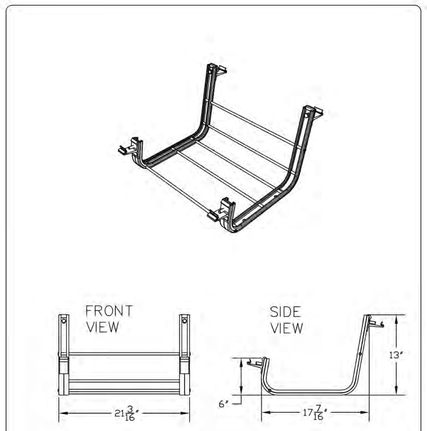
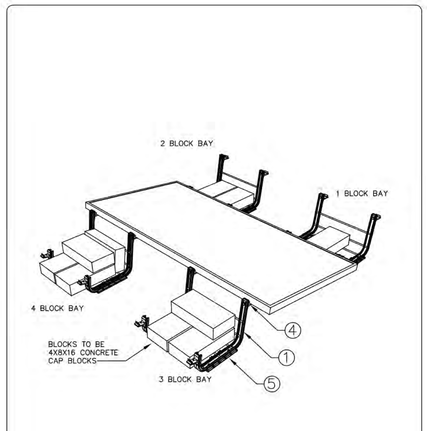


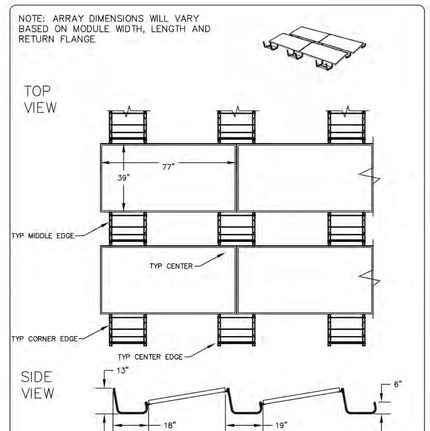
UNIRAC	PRODUCT LINE:	RM	DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
1411 BROADWAY BLVD NE ALBUQUERQUE, NM 87102 USA	DRAWING TYPE:	COMPONENT ASSEMBLY	
WWW.UNIRAC.COM	DESCRIPTION:	BAY & MODULE CLIPS:	PRODUCT PROTECTED BY ONE OR MORE US PATENTS
	REVISION DATE:	APRIL – 2016	LEGAL NOTICE
			RM-A01 SHEET

1 RACK COMPONENTS
N.T.S



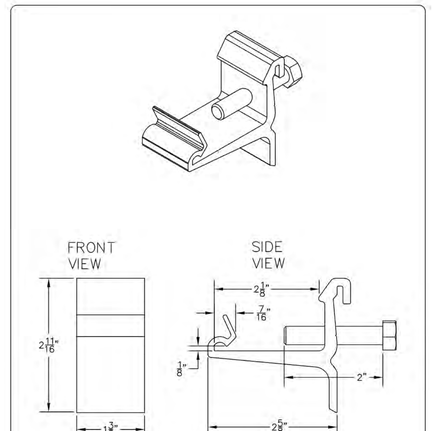
UNIRAC	PRODUCT LINE:	RM	DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
1411 BROADWAY BLVD NE ALBUQUERQUE, NM 87102 USA	DRAWING TYPE:	ASSEMBLY	
WWW.UNIRAC.COM	DESCRIPTION:	1–2–3–4 BLOCK RM BAYS	PRODUCT PROTECTED BY ONE OR MORE US PATENTS
	REVISION DATE:	APRIL – 2016	LEGAL NOTICE
			RM-A02 SHEET

2 RACK BLOCK PLACEMENT
N.T.S



UNIRAC	PRODUCT LINE:	RM	DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
1411 BROADWAY BLVD NE ALBUQUERQUE, NM 87102 USA	DRAWING TYPE:	ASSEMBLY	
WWW.UNIRAC.COM	DESCRIPTION:	4 MODULE RM LAYOUT	PRODUCT PROTECTED BY ONE OR MORE US PATENTS
	REVISION DATE:	APRIL – 2016	LEGAL NOTICE
			RM-A03 SHEET

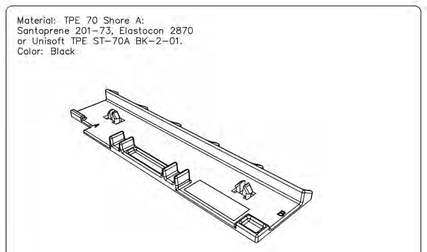
3 FOUR MODULE RACK LAYOUT
N.T.S

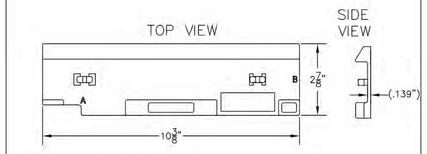


UNIRAC	PRODUCT LINE:	RM	DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
1411 BROADWAY BLVD NE ALBUQUERQUE, NM 87102 USA	DRAWING TYPE:	PART	
WWW.UNIRAC.COM	DESCRIPTION:	RM CLIP & BOLT	PRODUCT PROTECTED BY ONE OR MORE US PATENTS
	REVISION DATE:	APRIL – 2016	LEGAL NOTICE
			RM-P01 SHEET

4 MODULE CLIP
N.T.S

Material: TPE 70 Shore A:
Santoprene 201-73, Elastocon 2870
or Unisoft TPE ST-70A BK-2-01.
Color: Black





*PROTECTS ROOF FROM RAIL

UNIRAC	PRODUCT LINE:	RM	DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
1411 BROADWAY BLVD NE ALBUQUERQUE, NM 87102 USA	DRAWING TYPE:	PART	
WWW.UNIRAC.COM	DESCRIPTION:	RM FOOT PAD	PRODUCT PROTECTED BY ONE OR MORE US PATENTS
	REVISION DATE:	APRIL – 2016	LEGAL NOTICE
			RM-P02 SHEET

5 ROOF FOOT PAD
N.T.S

PZSE STRUCTURAL ENGINEERS

October 14, 2015

Unirac
1411 Broadway Boulevard NE
Albuquerque, New Mexico 87102-1545
TEL: (505) 242- 6411
FAX: (505) 242-6512

Attn.: Engineering Department,

Re: Engineering Certification for the Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System.

The Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System is a proprietary framed ballasted assembly which supports Photovoltaic panels. The ballast frames hold the PV panels and are ballasted with concrete blocks as required for the wind loads. The wind uplift loads are resisted directly by the ballast. Lateral forces, both wind and seismic, are resisted by friction between the ballast and the roof surface. For wind forces, the system is designed for no lateral or vertical displacement of the array. For seismic forces, the system is designed per SEAOC PV1-2012 requirements for lateral movement/displacement.
The ballasting requirements are determined using the Unirac online "U-Builder" Design Assistant tool. The Design Assistant covers a wide range of system configurations and loading and allows the user to customize the input to match the specific project conditions.

We have reviewed the Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System, the RDWI wind tunnel test results and the Unirac ballasted system design methodology and have determined that the Unirac RM ballasted system design methodology is a rational approach and is in compliance with the structural requirements of the following Reference Documents:

Codes: ASCE/SEI 7-05 and ASCE/SEI 7-10 Minimum Design Loads for Buildings and other Structures
International Building Code, 2009 & 2012 Editions
California Building Code, 2010 & 2013 Editions
Other: Aluminum Design Manual, 2010 Edition
RWDI Wind Pressure Study Report #1308856
SEAOC PV1-2012 Report – Structural Seismic Requirements and Commentary for Rooftop Solar PV Arrays
SEAOC PV2-2012 Report - Wind Design for Low-Profile Solar Photovoltaic Arrays on Flat Roofs
Terrapin Testing #TT513010-ASTM G115 Coefficient of Friction Testing Report

This letter certifies that the Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System and the Unirac online "U-Builder" Design Assistant tool are in compliance with the above Reference Documents.

If you have any questions on the above, do not hesitate to call.

Prepared By:
PZSE, Inc. - Structural Engineers
Roseville, CA

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6 ENGINEERING CERTIFICATION
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7 ELECTRICAL DATA
N.T.S

JK ARCHITECTURE PARTNERSHIP
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SCHETTER ELECTRIC, INC.
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LICENSED PROFESSIONAL ENGINEER — LANCE WAYNE NEWMAN — E 020596 — Exp. 9-30-2018 — ELECTRICAL — STATE OF CALIFORNIA

SIGNATURE DATE:_____

SEAL

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
PV DETAILS

Drawn By
Author

Checked By
Checker

Project No.
15-245

Date
08/30/2016

DRAWING NO.
E3.5

NO.	DATE	ISSUE

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8/2/2017 12:34:11 PM

REFERENCE DOCUMENTS:

1. CALCULATIONS BASED ON WIND TUNNEL REPORT PERFORMED BY RWDI WIND PRESSURE STUDY #1302956
2. FRICTION TEST REPORT NO. TT 513010 CONDUCTED BY TERRAPIN TESTING (10/4/2013).
3. UNIRAC U-BUILDER PROJECT OUTPUTS
4. DRAG SAMPLE CALCULATION IS DONE ON SMALLEST ARRAY TO CHECK FOR WORST CASE VALUES

SEISMIC DESIGN FOR BALLASTED PV SYSTEMS PER SEAOC PV1

	VALUE	UNITS
MODULE LENGTH = M_{LEN}	76.93	IN
MODULE WIDTH =M_{WID}	38.70	IN
MODULE WEIGHT	48.5	LBS
ROW_{C-C} = CENTER TO CENTER OF ROW DIMENSION (((M_{WID})*COSINE(10)) +19.5)/12	4.82	FT
AVG PROJECT WEIGHT = W_I TAKEN FROM U-BUILDER REPORT	6.45	PSF
NUMBER OF MODULE COLUMNS OF SUBJECT CALCULATED ARRAY	16	
CAPACITY OF 2 CONNECTIONS (N-S) STRENGTH DESIGN	317	LBS
IMPORTANCE FACTOR OF BUILDING = I_E RISK/OCC. I, II =1.0, III = 1.25, IV = 1.5	1.25	
IMPORTANCE FACTOR OF ARRAY = I_E RISK/OCC. I, II = 1.0, III, IV = 1.5	1.50	
SITE CLASSIFICATION	D	
MAPPED ACCELERATION PARAMETER, S_S	1.654	g
SITE COEFFICIENT IN SITE CLASS D F_A S_S = 0.75 (F_a=1.2) S_S = 1.0 (F_a=1.1) S_S ≥ 1.25 (F_a=1.0)	1.00	
DESIGN SPECTRAL ACCELERATION PARAMETER, S_{DS} = $\frac{2}{3}$ * F_a * S_S	1.10	g
(DESIGN SEISMIC SEPARATION) Δ_{SEPV} = [(S_{DS} 0.4)^2* 60 INCHES], BUT NOT LESS THAN 6 INCHES	29.62	IN
SEISMIC INTERCONNECTION LOADING (SEAOC PV-1) Fp = MAXIMUM OF 0.133*S_{DS}*W_I or 0.1*W_I		
0.133 * S_{DS}	0.15	
IF ABOVE VALUE IS > 0.1 IT IS USED IN SUBSEQUENT EQUATIONS IF NOT USE 0.1		
Fp = 0.133 S_{DS} x W_I	0.95	PSF
LATERAL LOAD FOR A COLUMN OF MODULES. Wp = M_{LEN}(FT) * Fp	6.06	PLF
N-S CONNECTION CAPACITY/ LATERAL LOAD	52.24	FT
DOUBLE LENGTH FOR EACH DIRECTION FOR N-S LENGTH = DL_{NS}	104.48	FT
MAX NUMBER OF MODULE ROWS = (((DL_{NS})- (M_{WID}*COS(10))/12) / ROW_{C-C})+1	22	ROUNDED DOWN
E-W_{FORCE} = E-W CLIP CAPACITY/ INTERCONNECTION FORCE = 252 LBS /(0.133*S_{DS})	1718.32	LBS
SETBACK BETWEEN ARRAYS = 0.5 (I_E) Δ_{SEPV}	22.22	IN
SETBACK BETWEEN ARRAY AND OBJECTS = (I_E) Δ_{SEPV}	44.44	IN
SETBACK BETWEEN ARRAY AND ROOF EDGE WITH PARAPET = (I_E) Δ_{SEPV}	37.03	IN
SETBACK BETWEEN ARRAY AND ROOF EDGE WITHOUT PARAPET= 1.5 (I_E) Δ_{SEPV}	55.55	IN
MAX N-S ARRAY DIMENSION	104.48	FT
MAX E-W ARRAY DIMENSION = (E-W_{FORCE}*2)-/Wp) / ROW_{C-C}	110.59	FT

BALLAST DESIGN SPECIFICATIONS/VARIABLES

	VALUE	UNITS
MODULE LENGTH	76.93	IN
MODULE WIDTH	38.70	IN
MODULE WEIGHT	48.5	LBS
BALLAST BAY WEIGHT	3.5	LBS
FACTOR OF SAFETY SF = (1.67)	1.67	
TILT ANGLE (10 DEGREES)	10.0	DEGREES
COSINE (10 DEGREES)	0.99	
SINE (10 DEGREES)	0.2	
α_D = FACTOR ON DEAD LOAD	0.6	
α_W=FACTOR ON WIND LOAD (1 for ASCE 7-05, 0.6 for ASCE 7-10)	0.6	
μ= COEFFICIENT OF FRICTION	0.4	
D = MODULE WEIGHT + BAY WEIGHT	52.00	LBS
A_{UPLIFT} = AREA OF THE MODULE PROJECTED ONTO A HORIZONTAL PLANE	20.4	SQFT
A_{DRAG} = AREA OF THE MODULE PROJECTED ONTO A VERTICAL PLANE	3.59	SQFT
q_p = 0.00256 * K_z* K_{zt} * K_d* V^2 * I (WIND GUST PRESSURE)	27.05	PSF
K_z = EXPOSURE FACTOR	0.94	
K_{zt} = TOPOGRAPHIC FACTOR	1	
K_d = DIRECTIONALITY FACTOR	0.85	
V = BASIC WIND SPEED	115	MPH
I = IMPORTANCE FACTOR (FOR 7-05 CALCULATIONS ONLY)	1	
$GC_{P\ UPLIFT}$ = ABSOLUTE VALUE FROM WIND TUNNEL STUDY	0.61	
$BALLAST_{UPLIFT}$= WEIGHT REQUIRED TO RESIST UPLIFT FORCES		
$BALLAST_{UPLIFT}$ = [α_W * q_z * $GC_{P\ UPLIFT}$ * A_{UPLIFT} - D * α_D] / α_D		
$BALLAST_{UPLIFT}$ = [α_W * q_z * $GC_{P\ UPLIFT}$ * A_{UPLIFT} - D * α_D] * SF	285	LBS
$GC_{P\ DRAG\ MAX}$ = HIGHEST VALUE FOR DOWNFORCE LOADING	0.61	
$BALLAST_{DRAG}$ = WEIGHT REQUIRED TO RESIST DRAG		
NORTH ARRAY IS USED IN EXAMPLE		
RF= ROOF AREA REDUCTION FACTOR FROM WIND TUNNEL STUDY TABLE (5258 ft²)	0.145	
$BALLAST_{DRAG}$ = [(α_W * q_z) * [{($GC_{P\ DRAG\ MAX}$* RF * A_{DRAG} * 1/μ + $GC_{P\ UPLIFT}$ * RF * A_{UPLIFT}) - (α_D * D)} / α_D		
$BALLAST_{DRAG}$= [(0.6 * 27.05) * {((0.61 * 0.145 * 3.59 * 1/0.4) + (0.61* 0.145 * 20.4)] - (0.6 * 52)} / 0.6	17.8	LBS
BALLAST CHECK : UPLIFT BALLAST > REQUIRED DRAG BALLAST EXAMPLE 285 LBS > 17.8 LBS		PASS

ROOF AREA REDUCTION TABLE FROM THE WIND TUNNEL STUDY

ROOF AREA COVERED BY SOLAR (FT^2)	REDUCTION FACTOR
100	0.6
200	0.475
300	0.4
400	0.35
500	0.33
600	0.31
700	0.29
800	0.275
900	0.26
1000	0.25
2000	0.19
3000	0.16
4000	0.15
5000	0.145
6000	0.13
7000	0.12
8000	0.11
9000	0.105
10000	0.1

VELOCITY PRESSURE COEFFICIENT K_z

HEIGHT ABOVE GROUND LEVEL (FT)	B	C
0-15	0.57	0.65
20	0.62	0.90
25	0.66	0.94
30	0.70	0.00
40	0.76	1.00
50	0.81	1.00
60	0.85	1.00

SHEET INDEX

BC.100	SEISMIC AND BALLAST CALCULATIONS TABLES
BC.200	U-BUILDER REPORT AND U-BUILDER ASSUMPTIONS
BC.300	BALLAST BLOCK LAYOUT MAP
BC.400	GCp COEFFICIENT MAP
BC.500	UPLIFT FORCE PER MODULE MAP
BC.600	DRAG FORCE PER MODULE MAP

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REVISIONS: REV | DATE | DESCRIPTION

DATE: 9/1/16
SCALE: NOT TO SCALE
DRAWN BY: IB
CHECKED BY: JH
APPROVED BY:
REV NO:
PROJECT NO: SOLANO CC AUTO

PROJECT: SOLANO CC AUTO TECH, 1691 ASCOT PARKWAY, VALLEJO, CA 94591

TITLE: SEISMIC CALCULATION VARIABLES / BALLAST CALCULATION VARIABLES

DRAWING: BC.100

1 SEISMIC AND BALLAST CALCULATION VARIABLES
N.T.S

U-BUILDER ENGINEERING OUTPUT

U-BUILDER PROJECT REPORT
UNIRAC 1.4.0 BETA

SEP 07, 2016, 10:21 PM

PROJECT TITLE: SOLANO COMMUNITY COLLEGE JLB
PROJECT ID: CSEFCF74

Name:	None	Designed by:	jeanette
Address:	1691 Ascot Parkway Vallejo, CA, 94591		RM-BALLASTED FLAT ROOF
City, State:	Vallejo, CA, 94591		160 - 320 Watt Panels
Module:	Canadian Solar CS6X-320P		5258 Sq Ft
	326 Watts		51.2 kWs

ENGINEERING REPORT

Plan review

Average PSF:	6.79 lbs/ft²
Total weight on roof:	35722 lbs
- Racking weight:	626 lbs
- Module weight:	48 lbs
- Ballast weight:	27136 lbs
- Max Bay Load (Dead):	180 lbs
Loads Used for Design	
- Building Code:	ASCE 7-10
- Wind Speed:	115 mph
- Ground Snow Load:	0 psf
- Roof Snow Load:	0.0 psf
- Seismic (Ss):	1.654
- Wind Exposure:	C
Loads Determined by Zip	
- City, State:	Vallejo, CA
- Wind Speed:	110 mph
- Ground Snow Load:	0 psf

Inspection

Project:	RM-BALLASTED FLAT ROOF
Module Manufacturer:	Canadian Solar
Model:	CS6X-320P
Module Watts:	320 watts
Module Length:	76.93 "
Module Width:	38.70 "
Module Thickness:	1.57 "
Module Weight:	48.00 lbs
Ballast Block Weight:	32 lbs
Max Blocks per Bucket:	4
Building Height:	25 ft
Roof Type:	Other
Parapet Height:	>= 2 ft

RM PRODUCT ASSUMPTIONS

RM-- Ballasted Flat Roof Systems

1. Importance Factor = 1
2. Building Height ≤ 60 ft.
3. Roof Slope ≥ 1.2° and < 3°
4. Topographic Factor (Kzt) = 1
5. ASCE 7-05: Basic Wind Speed: 85-150 mph (IBC 2006/ASCE 7-05), Wind Exposure: B or C.
6. ASCE 7-10: Basic Wind Speed: 110-180 mph (IBC 2012/ASCE 7-10), Wind Exposure: B or C.
7. Ballast Calculations are based on ASCE 7-05 & ASCE 7-10 load combinations and product specific wind tunnel testing per ASCE 7-05 and ASCE 7-10
8. Ground Snow Load: 0-60 psf. (Reduction can be input if this is acceptable with your local building authority). Results are based on uniform snow loading and do not consider unbalanced, drifting, and sliding conditions.
9. Roof Snow Load: Reduction calculated per Section 7.3 of ASCE 7-05 with the following assumptions: Exposure factor = 0.9, Thermal factor = 1.2, Importance factor = 1. Please verify these are appropriate for your site before using this max bay loads reported above.
10. Dead Load Due to Racking: 3.5 lbs. per ballast tray
11. Module Gap (GW): 0.25 in.
12. Seismic: Installations must be in seismic site class A, B, C, or D as defined in IBC 2006/ASCE 7-05.

SEAOC PV1-2012 describes Structural Seismic Requirements for Rooftop Photovoltaic Arrays:

Minimum Separation Distances: SEAOC PV1-2012 prescribes a minimum separation distance for unattached PV arrays on rooftops.

Array Size Limits for Seismic: SEAOC PV1-2012 limits the size of an unattached array by the design strength of the system connections.

Assumptions:

1. For Unattached Rooftop Photovoltaic Arrays
2. Array Importance Factor, Ip = 1.0
3. Building Importance Factor, Ie = 1.0
4. Site Class = D
5. Snapshot (S) is to a qualified parapet or rooftop obstruction
6. Array to Array Minimum Distance = 0.5 * S
7. Array to Unqualified Parapet Minimum Distance = 1.5 * S
8. Ss: Spectral response acceleration parameter at short periods per ASCE 7-05
9. Sds: Design, 5 percent damped spectral acceleration parameter at short periods per ASCE 7-05
10. A minimum module return flange of 0.9in (when using 1-3/4 in. clip bolts) is required for all RM Installations
11. A minimum module return flange of 0.85in (when using 2 in. clip bolts) is required for all RM installations
12. Coefficient of friction used for calculations = 0.4

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PROJECT NO: SOLANO CC AUTO

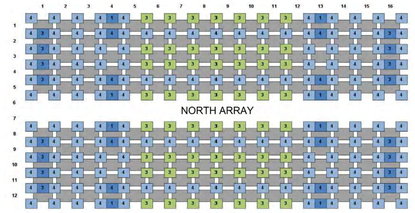
PROJECT: SOLANO CC AUTO TECH, 1691 ASCOT PARKWAY, VALLEJO, CA 94591

TITLE: U-BUILDER ENGINEERING REPORT WITH CALCULATION ASSUMPTIONS

DRAWING: BC.200

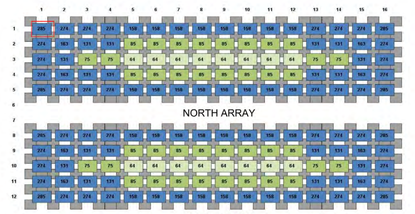
6 U-BUILDER ENGINEERING OUTPUT
N.T.S

BALLAST BLOCK LAYOUT



2 BALLAST BLOCK LAYOUT
N.T.S

BALLAST REQUIRED TO OVERCOME UPLIFT FORCES (LBS)
RED SQUARE DENOTES SAMPLE CALCULATION LOCATION
$BALLAST_{UPLIFT}$ = [α_W * q_z * $GC_{P\ UPLIFT}$ * A_{UPLIFT} - D * α_D] * SF
$BALLAST_{UPLIFT}$ = [0.6 * 27.05 * 0.61 * 20.4 - 52 * 0.6] * 1.67 = 285 LBS



3 BALLAST REQUIRED TO OVERCOM UPLIFT FORCES
N.T.S

BALLAST REQUIRED TO OVERCOME DRAG FORCES (LBS)
RED SQUARE DENOTES SAMPLE CALCULATION LOCATION
$BALLAST_{DRAG}$= [(α_W * q_z) * [{($GC_{P\ DRAG\ MAX}$* RF * A_{DRAG} * 1/μ + $GC_{P\ UPLIFT}$ * RF * A_{UPLIFT}) - (α_D * D)} / α_D
BALLAST/DRAG = [(0.6 * 27.05) * {((0.61 * 0.145 * 3.59 * 1/0.4) + (0.61 * 0.145 * 20.4)] - (0.6 * 52)} / 0.6 = 17.8 LBS
UPLIFT BALLAST > REQUIRED DRAG BALLAST
NORTH ARRAY : 285 LBS > 17.8 LBS

17.8	16.2	16.2	16.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	16.2	16.2	16.2	17.8	0.0
16.2	0.2	-4.4	-4.4	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-4.4	-4.4	0.2	16.2	0.0
16.2	-4.4	-12.5	-12.5	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-12.5	-12.5	-4.4	16.2	0.0
16.2	0.2	-4.4	-4.4	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-4.4	-4.4	0.2	16.2	0.0
17.8	16.2	16.2	16.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	16.2	16.2	16.2	17.8	0.0

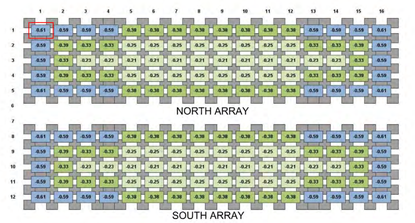
NORTH ARRAY

17.8	16.2	16.2	16.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	16.2	16.2	16.2	17.8	0.0
16.2	0.2	-4.4	-4.4	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-4.4	-4.4	0.2	16.2	0.0
16.2	-4.4	-12.5	-12.5	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-12.5	-12.5	-4.4	16.2	0.0
16.2	0.2	-4.4	-4.4	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-4.4	-4.4	0.2	16.2	0.0
17.8	16.2	16.2	16.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	16.2	16.2	16.2	17.8	0.0

SOUTH ARRAY

4 BALLAST REQUIRED TO OVERCOM DRAG FORCES
N.T.S

GCp COEFFICIENT MAP — RED SQUARE DENOTES SAMPLE CALCULATION LOCATION



5 GCp COEFFICIENT MAP
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JAMES WAYNE JONES, E 009586, Exp. 9-30-2018, LICENSED ELECTRICAL CONTRACTOR, STATE OF CALIFORNIA

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Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title: **PV DETAILS**

Drawn By: Author
Checked By: Checker

NO.	DATE	ISSUE

Project No.: 15-245
Date: 08/30/2016
DRAWING NO.: **E3.6**

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1 LOW VOLTAGE SYSTEMS PATHWAYS

1/8" = 1'-0"

JK ARCHITECTURE PARTNERSHIP

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Drawing Title
LOW VOLTAGE SYSTEMS PATHWAYS

Drawn By
KPB

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Project No.
15-245

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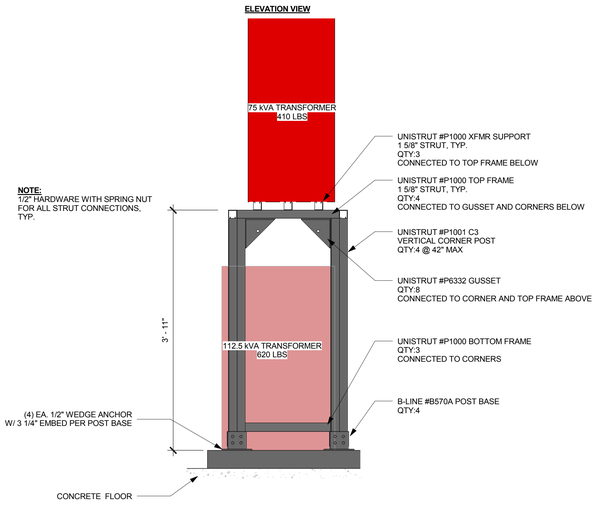
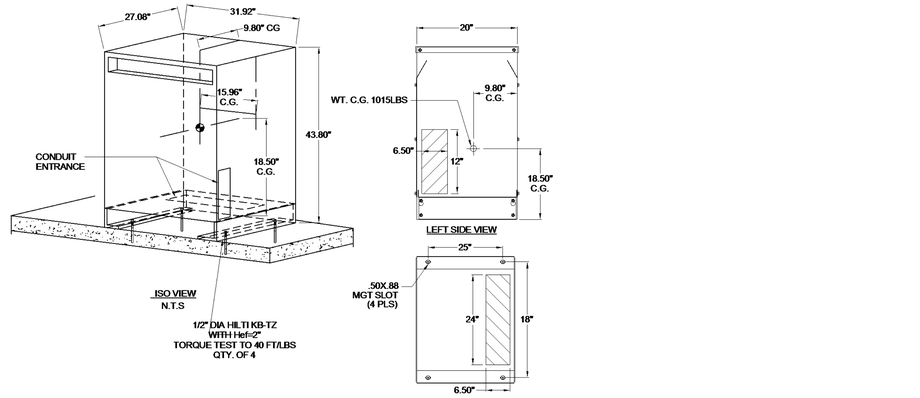


1 STACKED TRANSFORMER

1" = 1'-0"



2 FLOOR MOUNTED TRANSFORM ANCHORAGE

N.T.S.

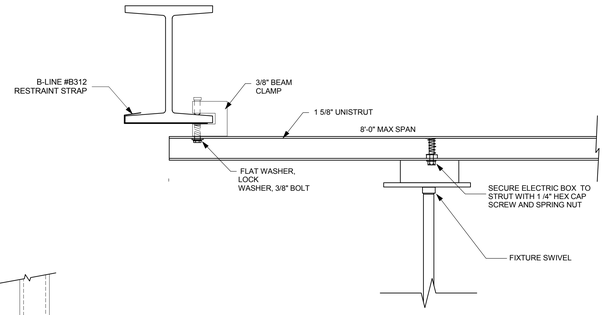
PANEL BOARD INFORMATION

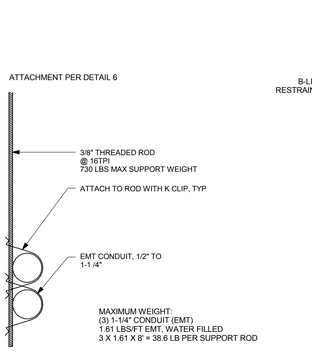
PANEL NAME	HEIGHT (INCHES)	DEPTH (INCHES)	WIDTH (INCHES)	SKIRT (INCHES)	MAX WEIGHT (LBS)	MOUNT TYPE
MH	62	5.75	20	10	248	WALL
ML	38	5.75	20	34	1152	WALL
QL1A	72	5.75	20	N/A	288	FLOOR
QL1B	72	5.75	20	N/A	288	FLOOR
QL2A	72	5.75	20	N/A	288	FLOOR
QL2B	72	5.75	20	N/A	288	FLOOR
LTG	32	5.75	20	40	128	WALL
LA1	72	5.75	20	N/A	288	FLOOR
LA2	72	5.75	20	N/A	288	FLOOR
LA3	72	5.75	20	N/A	288	FLOOR
TC	32	5.75	20	40	128	WALL
EV	38	5.75	20	34	152	WALL
QH	80	7.75	24	N/A	400	FLOOR
PV	56	7.75	24	16	280	WALL
QDL	90	10	32	N/A	720	FLOOR

NOTE: LARGEST 16GA SHEET METAL SKIRT: 40" X (20+6+6) = 22 LBS)

10 PANEL BOARD SIZING INFORMATION

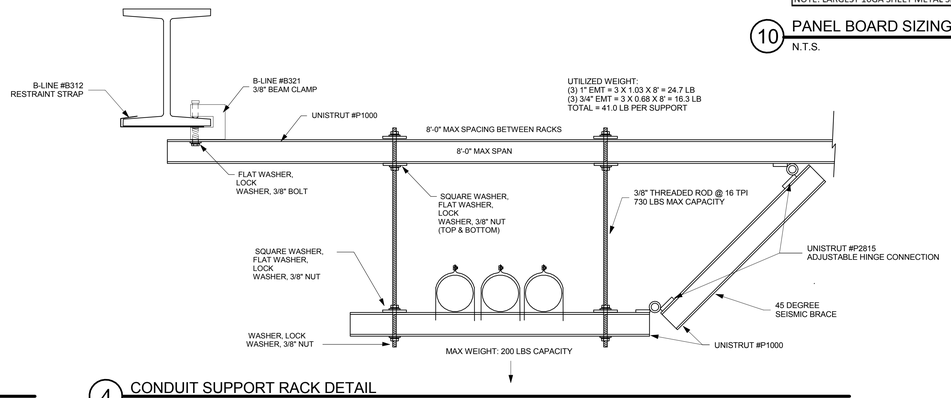
N.T.S.



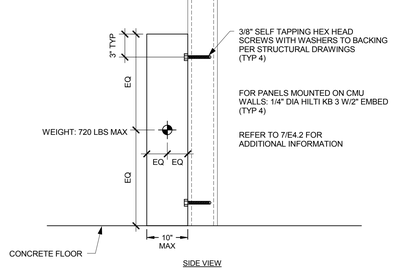


3 ROD SUPPORT AT ROOF DECK

N.T.S.

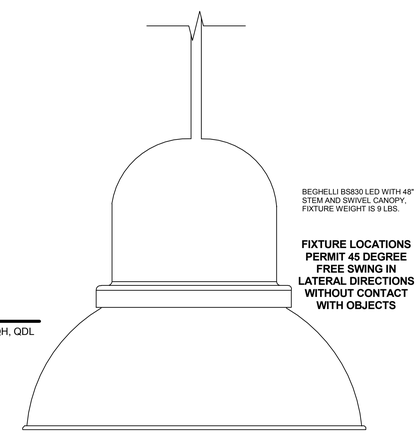


4 CONDUIT SUPPORT RACK DETAIL



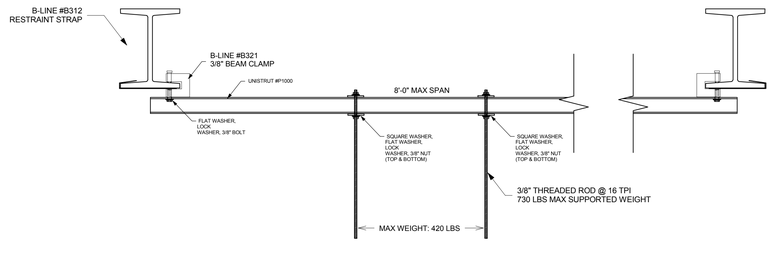
9 PANEL MOUNTING DETAIL

N.T.S. PANELS QL1A, QL1B, QL2A, QL2B, LA1, LA2, LA3, QH, QDL



5 FIXTURE 'K' MOUNTING DETAIL

N.T.S.



6 TYPICAL STRUT SUPPORT ASSEMBLY

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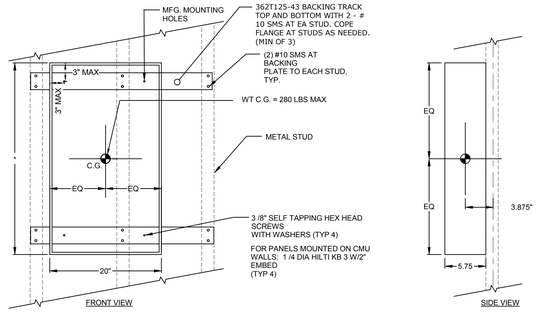
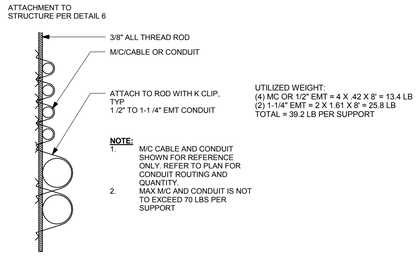


7 TYPICAL PANEL MOUNTING DETAIL

N.T.S. *PANELS MH, ML, LTG, TC, EV, PV



8 M/C CABLE OR CONDUIT ROD SUPPORT

N.T.S.

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

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REGISTERED PROFESSIONAL ENGINEER JASON WAYNE JOHNSTON E 035590 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

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AGENCY REVIEW

IDENTIFICATION STAMP
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OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ELECTRICAL DETAILS

Drawn By
RFR

Checked By
JMc

Project No.
15-245

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08/30/2016

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E4.2

NO.	DATE	ISSUE

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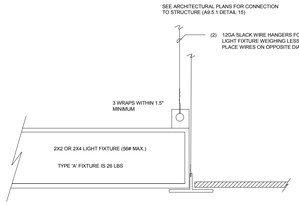

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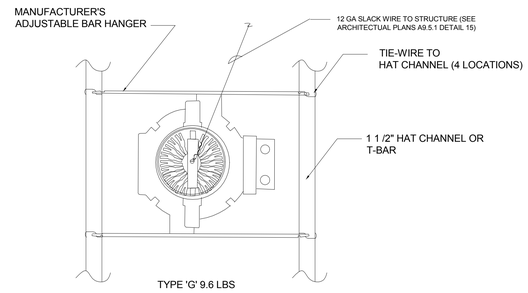
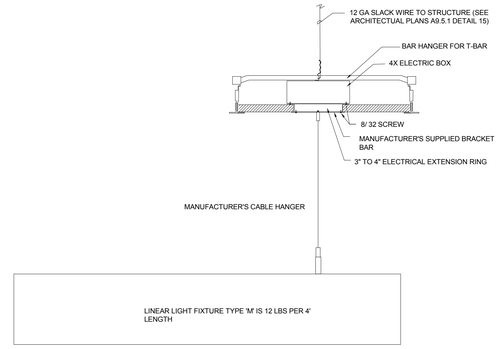


TYPE 'G' 9.6 LBS

SC ALE:



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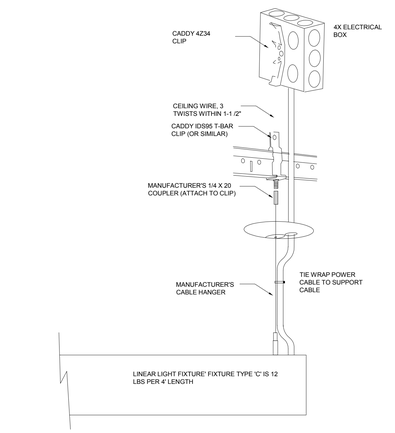

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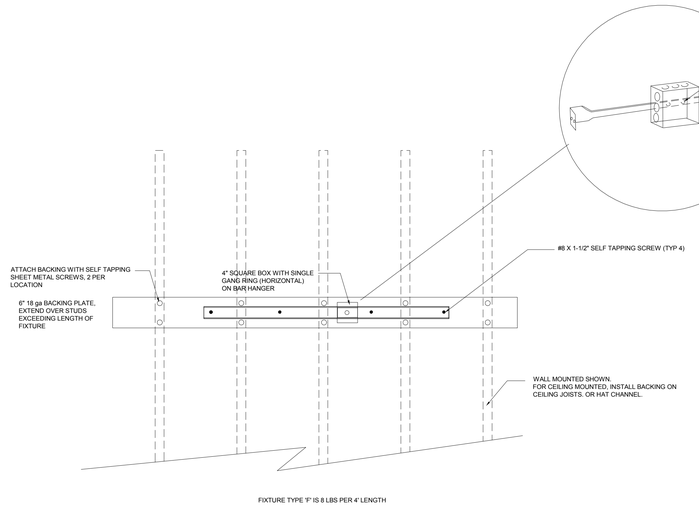
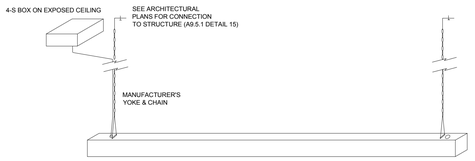


FIXTURE TYPE 'F' IS 8 LBS PER 4' LENGTH

SC ALE:



FIXTURE H4 WEIGTH: 5.5 LBS, FIXTURE H8 WEIGHT: 11.1 LBS

SC ALE:

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JAMES WAYNE RIGGS E 009986 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

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LICENSED ARCHITECT CHRISTOPHER C VIVIENO NO. C26985 REN. 6-30-17 STATE OF CALIFORNIA

AGENCY REVIEW

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SOLANO COMMUNITY COLLEGE
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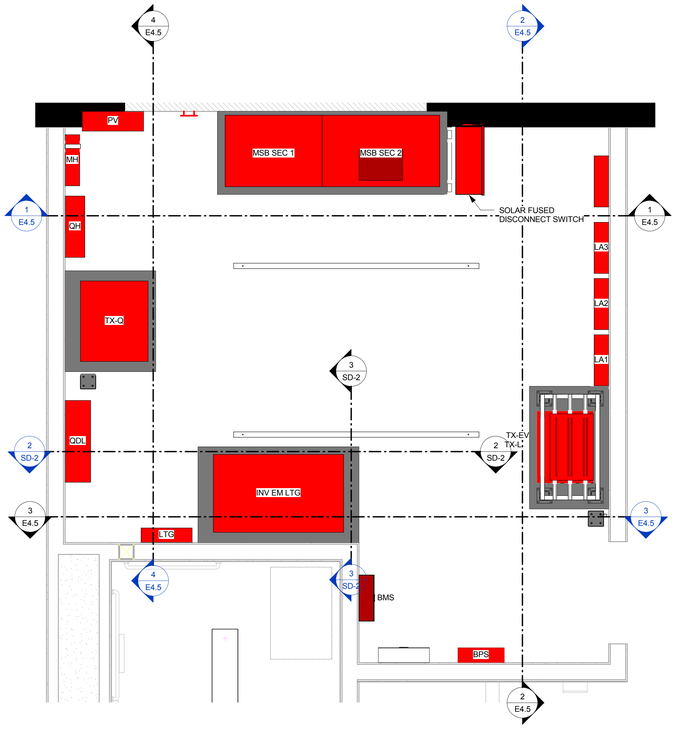
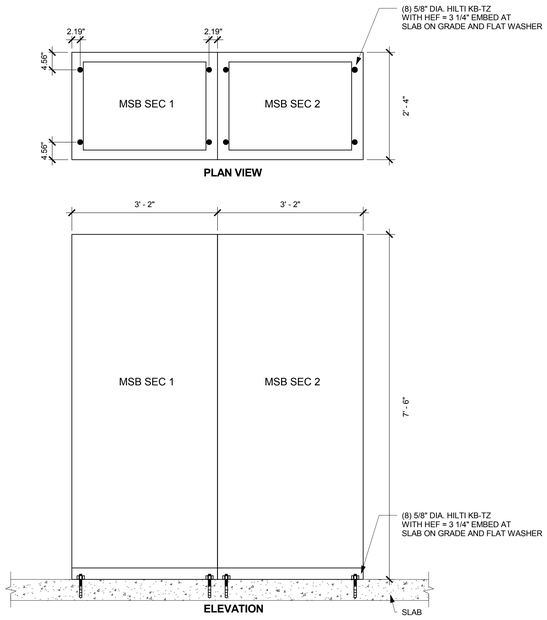


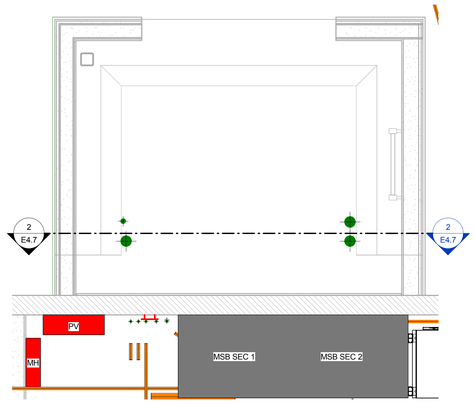
1 Electrical Room - Enlarged

1/2" = 1'-0"



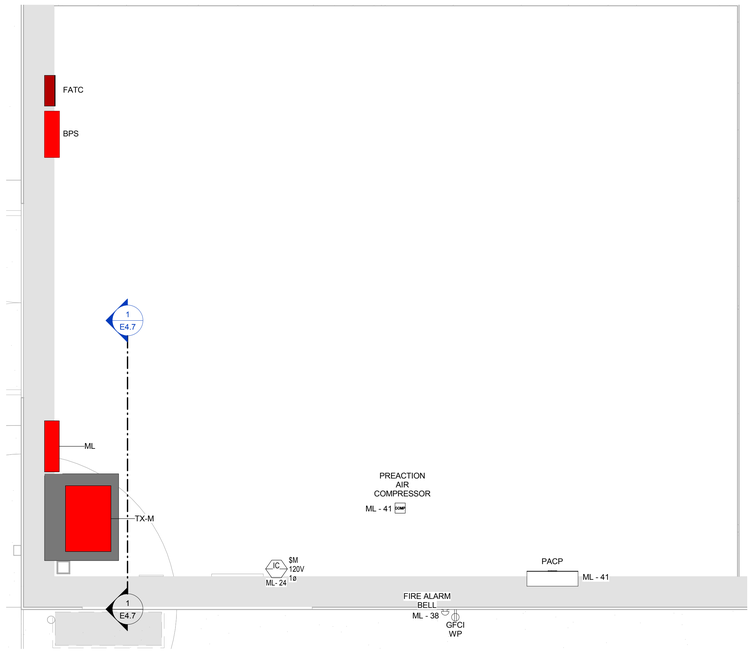
3 MSB MOUNTING DETAIL **OSP-0090-10**

N.T.S



4 MPOE Room - Enlarged

1/2" = 1'-0"



5 Mechanical Room - Enlarged

1/2" = 1'-0"

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LANCE WAYNE [illegible] E 60996 Exp 9-30-2018 ELECTRICAL

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AUTO TECH FACILITY

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ELECTRICAL DETAILS

Drawn By KT
Checked By Checker
Project No. 15-245
Date 08/30/2016

NO.	DATE	ISSUE
5	07/07/2017	CCD 049
6	07/07/2017	PG&E NEM REQUIREMENTS

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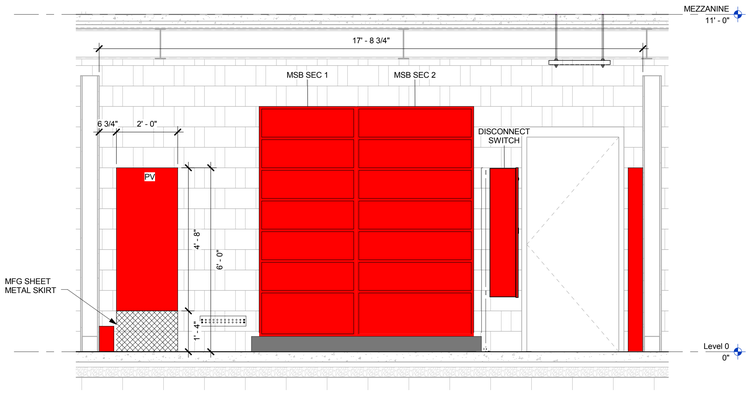
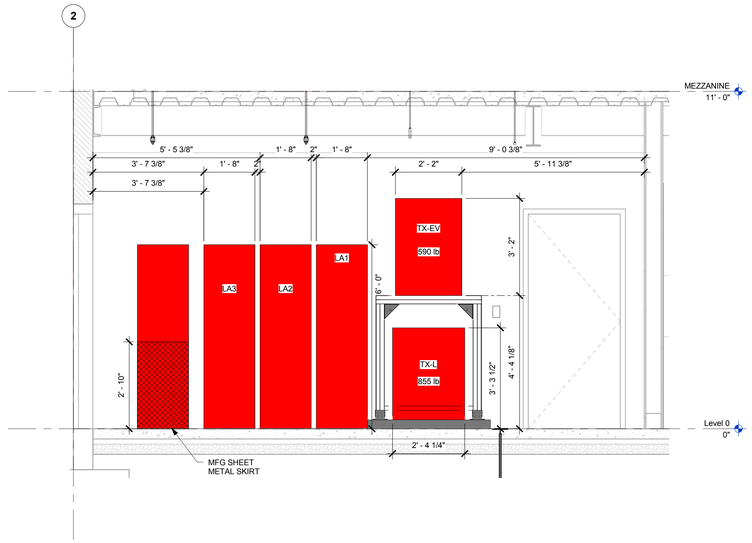
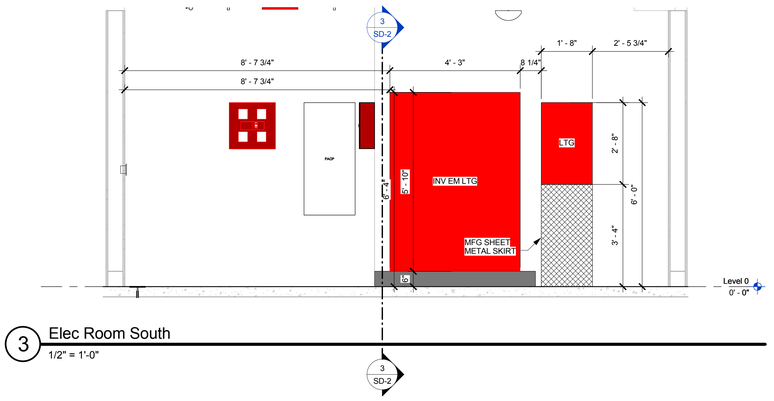


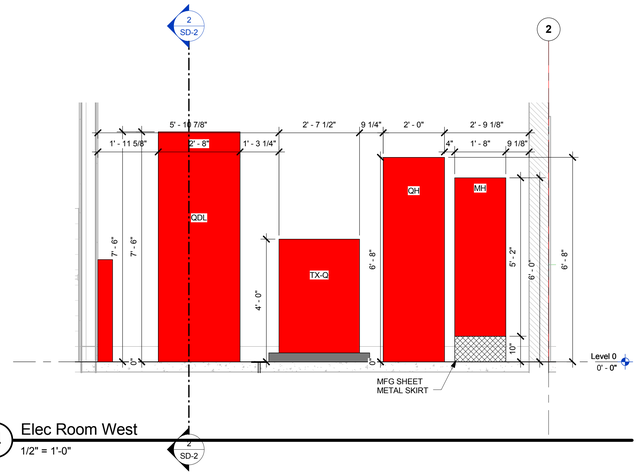
1 Elec Room North
1/2" = 1'-0"



2 Elec Room East
1/2" = 1'-0"



3 Elec Room South
1/2" = 1'-0"



4 Elec Room West
1/2" = 1'-0"

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Drawing Title
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Drawn By
KT
Checked By
Checker

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08/30/2016

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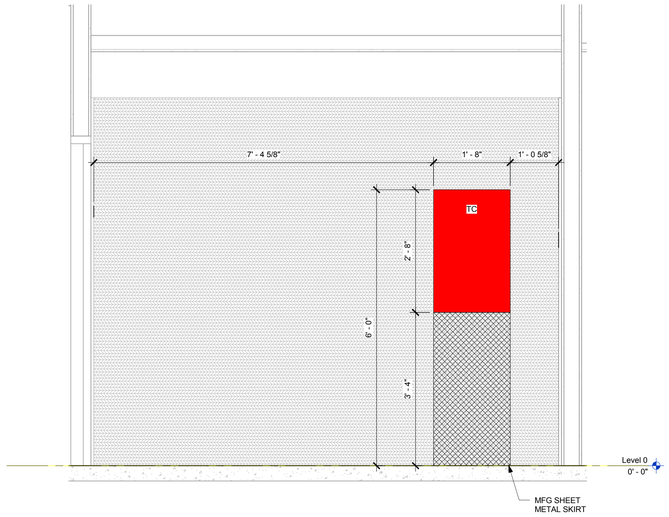
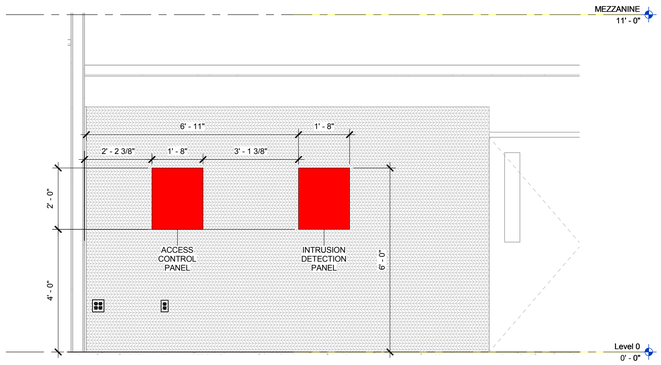
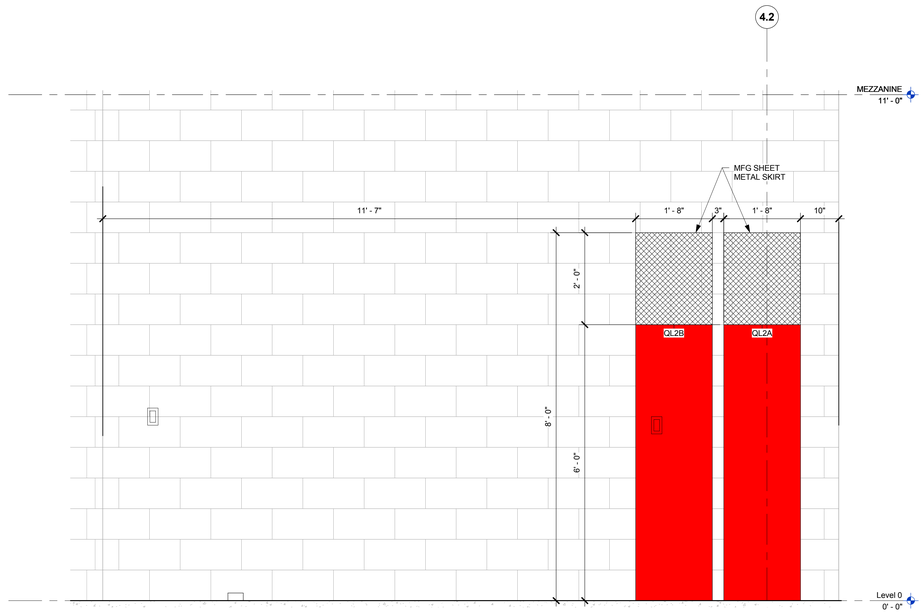


1 IDF South Wall
3/4" = 1'-0"



5 IDF East Wall
1/2" = 1'-0"



3 QL2B/QL2A
3/4" = 1'-0"

4 QL1B/QL1A
3/4" = 1'-0"

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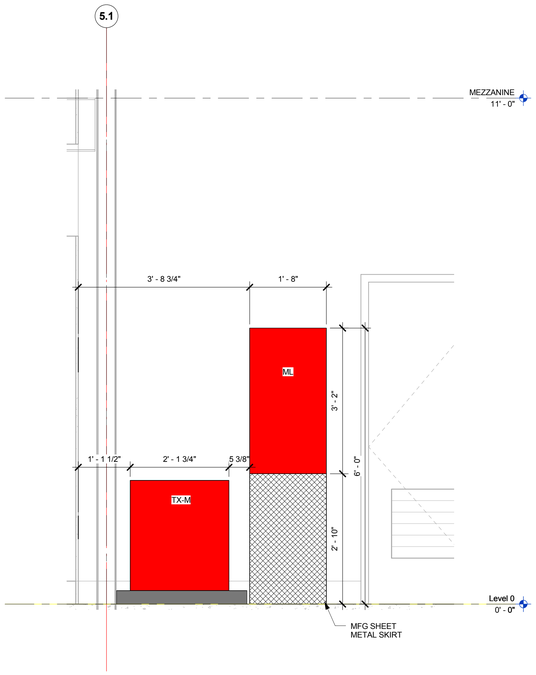
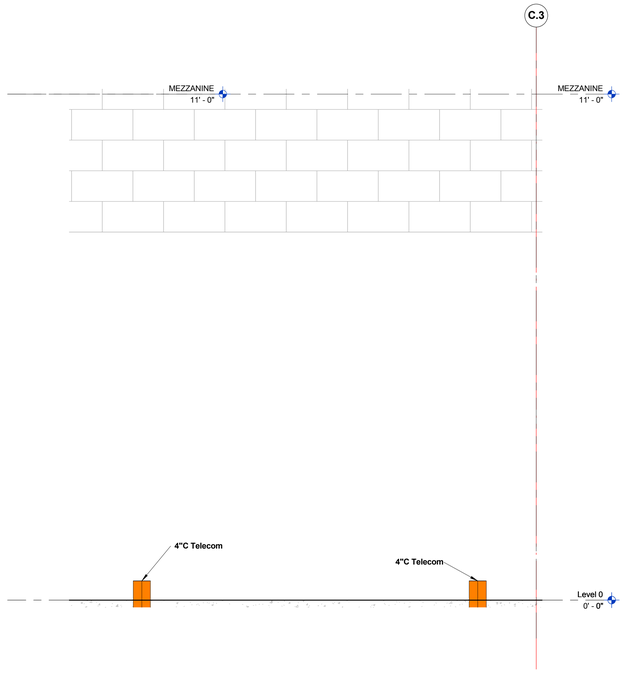


1 Mech Room West Wall
3/4" = 1'-0"



2 MPOE South Wall
3/4" = 1'-0"

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JAMES WAYNE JONES
E 009586
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STATE OF CALIFORNIA

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LICENSED ARCHITECT
CHRISTOPHER C VIVIANO
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

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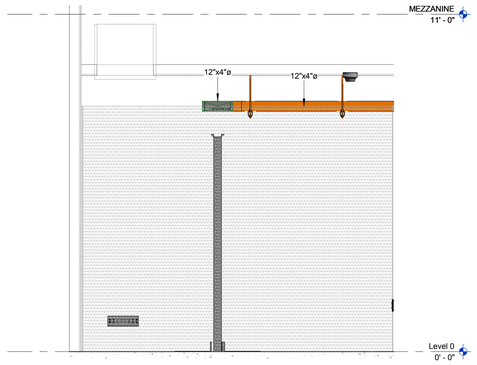
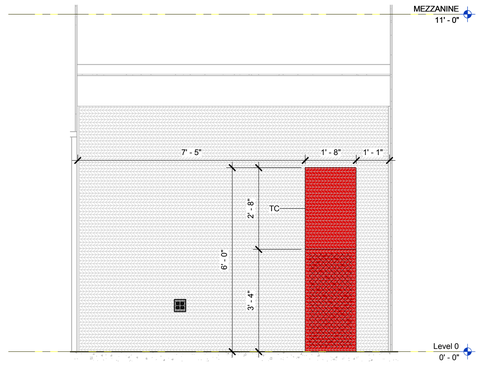
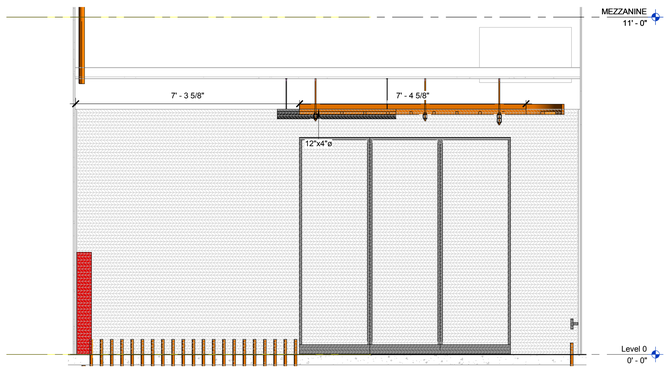


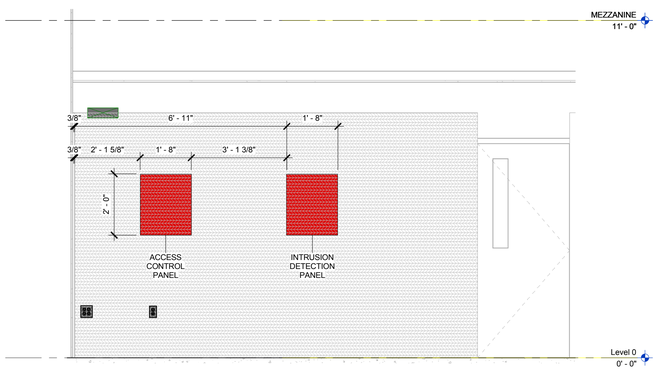
1 IDF North Wall Elevation
1/2" = 1'-0"



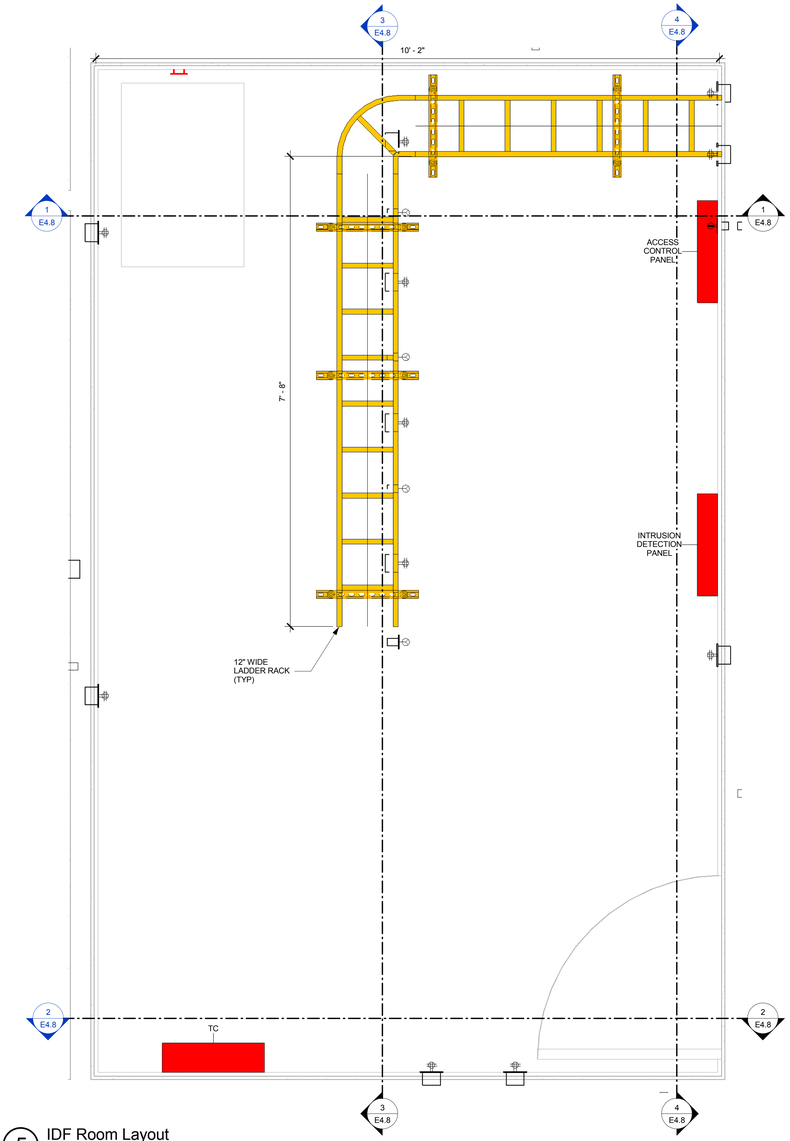
2 IDF South Wall Elevation
1/2" = 1'-0"



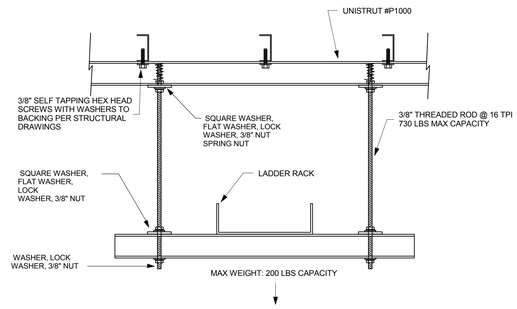
3 IDF West Wall Elevation
1/2" = 1'-0"



4 IDF East Wall Elevation
1/2" = 1'-0"



5 IDF Room Layout
1" = 1'-0"



6 LADDER RACK SUPPORT DETAIL
1 1/2" = 1'-0"

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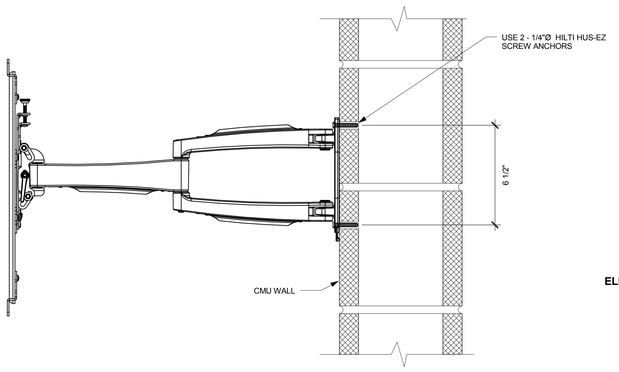
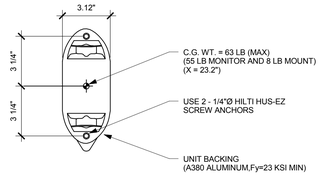
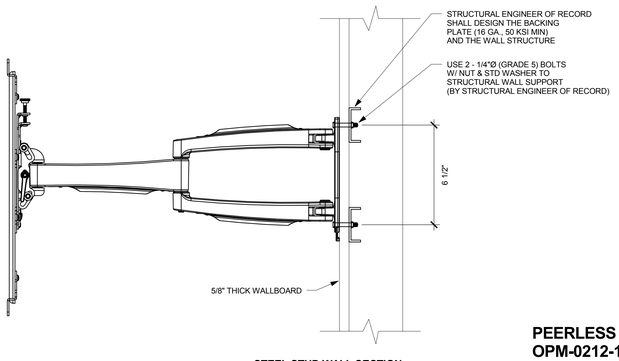


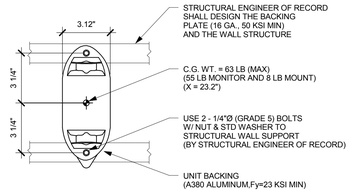
CONCRETE BLOCK WALL SECTION



ELEVATION WALL PLATE CONCRETE BLOCK

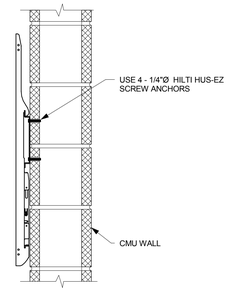


STEEL STUD WALL SECTION

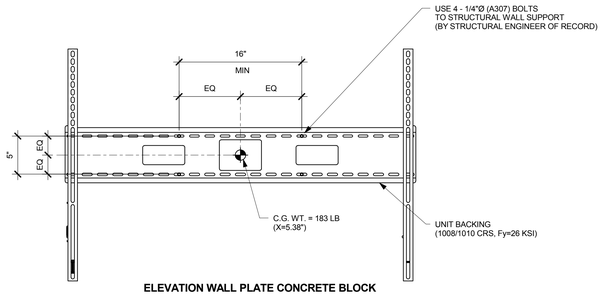


ELEVATION WALL PLATE STEEL STUD

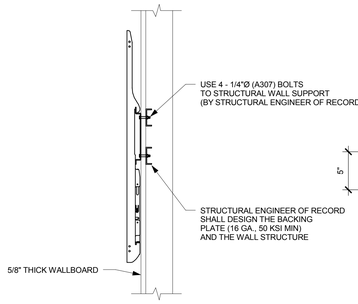
PEERLESS #SA746PU
OPM-0212-13
40"- 55" MONITOR BRACKET



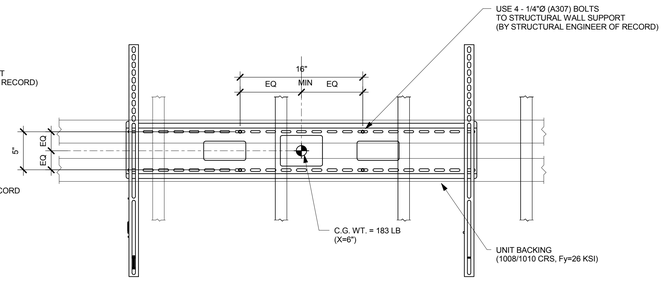
CONCRETE BLOCK WALL SECTION



ELEVATION WALL PLATE CONCRETE BLOCK



STEEL STUD WALL SECTION



ELEVATION WALL PLATE STEEL STUD

PEERLESS #SF680P
OPM-0211-13
90" MONITOR BRACKET

1 SMARTMOUNT ARTICULATING WALL ARM
N.T.S

2 SMARTMOUNT UNIVERSAL FLAT WALL MOUNT
N.T.S

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

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CA License No. 245778 NV License No. B-54453 & C2-54454

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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ELECTRICAL DETAILS

Drawn By
Author
Checked By
Checker

NO. DATE ISSUE

Project No.
15-245
©Date
08/30/2016
DRAWING NO.
E4.9

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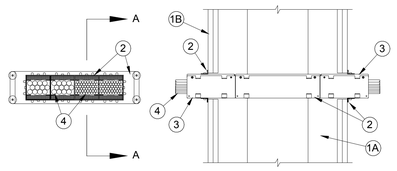
System No. W-L-3286

F Ratings - 1, 2, 3 and 4 Hr (See Items 1 and 4)
T Ratings - 3/4 and 1 Hr (See Item 4)
L Rating At Ambient - Less than 1, 1.3, 4 or 7 CFM/Device Module (See Item 3)
L Rating At 400 F - Less than 1, 2 or 3 CFM/Device Module (See Item 3)



Section A-A

1. Wall Assembly - The 1, 2, 3 or 4 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs - Wall framing may consist of either single, double or staggered wood studs or steel channel studs. Wood studs to consist of min 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.

   B. Gypsum Board* - The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Opening to be max 1/4 in. (6 mm) larger than width and height dimensions of firestop device(s) for rectangular openings. Diameter of circular opening to be nom 4 in.

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Firestop Device* - One, two, three, four or seven firestop device modules ganged together. Each firestop device module consists of a 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long galv steel tube with an intumescent material lining. Firestop device modules to be installed in accordance with the accompanying installation instructions. The space between the firestop device module(s) and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1/8 in. (3 mm) for square or rectangular plates and min 0 in. (0 mm, point contact) to max 1/2 in. (13 mm) when circular wall plates (not shown) are used. Firestop device module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device by means of steel set screws provided with device. Each four- and seven-gang steel wall plate shall be fastened to the studs with steel screws sized to extend through the gypsum board layers and penetrate min 1/2 in. (13 mm) into the framing member. Each firestop device module is to be installed with ends projecting an equal distance beyond each surface of the wall assembly.

   As an alternate, the four- and seven-gang steel wall plates may be installed directly against the studs for walls having 16 and 24 in. (406 and 610 mm) center-to-center stud spacing, respectively, prior to installation of the gypsum board layers. The steel wall plates shall be secured to the stud by means of steel screws. After installation of the steel wall plates and firestop device modules, the gypsum board shall be installed as specified in the individual U300, U400 or V400 Design with a maximum 1/8 in. (3 mm) gap between the firestop device module and the cutout in the gypsum board. Gap between the firestop device module and the cutout in the gypsum board may be filled with gypsum joint compound or fill material (Item 5).

   SPECIFIED TECHNOLOGIES INC - EZ PATH Series 33 Fire Rated Pathway

3. Firestop Device* - Extension Module - Module attached to ends of 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long firestop device (Item 2) to increase its length. Each module consists of a 3 by 3 by 6 in. (76 by 76 by 152 mm) long galv steel tube with an intumescent material lining. Extension module to be installed in accordance with the accompanying installation instructions. When module is used, firestop device (Item 2) and extension module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device or extension module(s) by means of steel set screws provided with wall plates. Firestop device and extension module(s) assembly to be installed with ends projecting an equal distance beyond each surface of the wall assembly.

   SPECIFIED TECHNOLOGIES INC - EZ PATH Extension

4. Cables - Within the loading area for each firestop device module, the cables may represent a 0 to 100 percent visual fill. Cable fill to be distributed at a uniform height across the width of the firestop device module. Cables to be rigidly supported on both sides of the wall assembly. Any combination of the following types of cables may be used:

   A. Max 400 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.

   B. Max 350 kcmil single copper conductor power cable with XLPE jacket and insulation.

   C. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.

   D. Max 3/C No. 10 AWG metal clad or armored cable with steel or aluminum jacket.

   E. Max 3/C No. 8 AWG NM cable (Romex) with PVC insulation and jacket.

   F. Max four pair No. 22 AWG (or smaller) copper conductor data cable with PVC or plenum rated jacketing and insulation.

   G. Max RG/U coaxial cable with fluorinated ethylene insulation and jacketing.

   H. Optical fiber cable with PVC or polyethylene (PE) jacket and insulation and having a max diam of 5/8 in. (16 mm).

   I. Optical Fiber Raceway+ - Max 1-1/2 in. (38 mm) diam (or smaller) optical fiber raceway ("innerduct") formed of either PVC or polyvinylidene fluoride (PVDF) with optical fiber cable fill. Raceways installed in accordance with the National Electrical Code (NFPA 70).

   When Item 4A, 4B, 4C, 4D or 4E is used, the max F Rating is 2 hr and the T Rating is 3/4 hr. When max 200 pair No. 24 AWG telecommunication cable is used or when Item 4F, 4G, 4H or 4I is used, the max F Rating is 4 hr and the T Rating is 1 hr.

   The L Rating for each empty firestop device module is less than 1 cfm at ambient and at 400F. When Item 3A is used, the L Rating for each firestop device module with 100 percent visual fill is 4 cfm at ambient and 3 cfm at 400F. When Item 3F is used, the L Rating for each firestop device with 100 percent visual fill is 1.3 cfm at ambient and less than 1 cfm at 400F. When Item 3G or 3H is used, the L Rating for each firestop device module with 100 percent visual fill is 7 cfm at ambient and 2 cfm at 400F.

5. Fill, Void or Cavity Material* - Sealant or Putty - (Not Shown) - As an alternate to gypsum joint compound, the gap between the firestop device module and the cutout in the gypsum board may be sealed with fill material on each side of the wall assembly when four- and seven-gang steel wall plates are installed directly against the wood or steel studs.

   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant, SpecSeal Putty

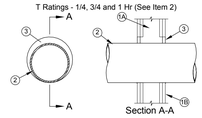
   +Bearing the UL Listing Mark

   *Bearing the UL Classification Mark

1 FIREWALL CABLE PENETRATION DETAIL
N.T.S

System No. W-L-1222

F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1/4, 3/4 and 1 Hr (See Item 2)



Section A-A

1. Wall Assembly - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.

   B. Gypsum Board* - Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 10-5/8 in. (270 mm).

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrant - One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:

   A. Steel Pipe - Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

   B. Iron Pipe - Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.

   C. Conduit - Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.

   D. Copper Pipe - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

   E. Copper Tube - Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.

Type of Penetrant	Max Diam	T Rating
Steel or iron pipe, steel conduit or EMT	2 in. (51 mm)	1 hr
Steel or iron pipe, steel conduit or EMT	8 in. (203 mm)	3/4 hr
Copper pipe or tube	4 in. (102 mm)	1/4 hr

2A. Through Penetrating Product* - Flexible Metal Piping - As an alternate to Item 2, one nom 1-1/4 in. (32 mm) diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe to be rigidly supported on both sides of the wall assembly.
   OMEGA FLEX INC
   TITEFLEX CORP
   A BUNDY CO
   WARD MFG INC

3. Fill, Void or Cavity Material* - Sealant - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. (6 mm) diam bead of fill material applied at metallic pipe/gypsum board interface on both surfaces of wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal LCI Sealant

   *Bearing the UL Classification Mark

2 FIREWALL CONDUIT PENETRATION DETAIL
N.T.S

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

SCHETTER ELECTRIC, INC.
Contracting and Engineering
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(916) 446-2521 Fax (916) 446-2621
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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ELECTRICAL DETAILS

Drawn By
Author
Checked By
Checker

NO. DATE ISSUE

Project No.
15-245
@Date
08/30/2016
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E4.10

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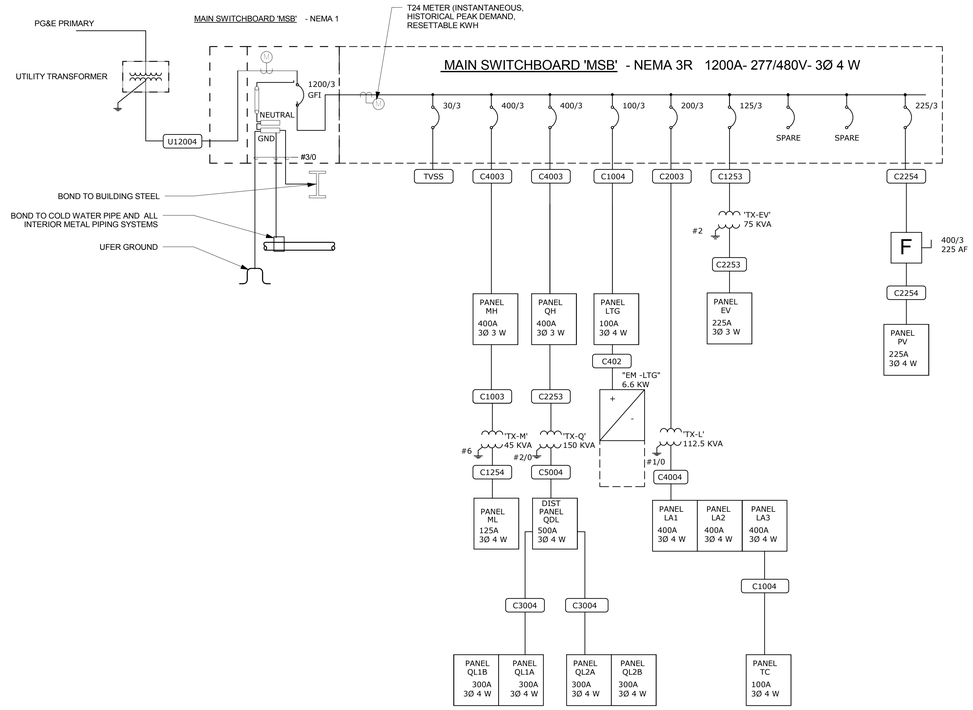
FEEDER	CONDUIT			CONDUCTOR (EA. CONDUIT)		GROUND (EA. CONDUIT)		AMPS
CALLOUT	QTY	EMT	PVC	QTY	SIZE	QTY	SIZE	RATING
C40/2	1	3/4"	3/4"	2	#8	1	#10	*40A*
C100/4	1	1 1/4"	1 1/4"	4	#2	1	#8	*95A*
C125/4	1	1 1/2"	1 1/2"	4	#1	1	#6	*130A*
C225/4	1	2 1/2"	2 1/2"	4	#4/0	1	#4	*230A*
C300/4	1	2 1/2"	3"	4	300kcm	1	#4	*285A*
C400/4	2	2"	2"	4	#3/0	1	#3	*400A*
C500/4	2	2 1/2"	2 1/2"	4	250kcm	1	#2	*510A*
NO NEUTRAL								
C100/3	1	1 1/4"	1 1/4"	3	#2	1	#8	*95A*
C125/3	1	1 1/4"	1 1/4"	3	#1	1	#6	*130A*
C200/3	1	2"	2"	3	#3/0	1	#6	*200A*
C225/3	1	2"	2"	3	#4/0	1	#4	*230A*
C400/3	2	2"	2"	3	#3/0	1	#3	*400A*

PG&E SECONDARY

FEEDER	CONDUIT			NOTES	AMPS
CALLOUT	QTY	RMC	PVC		RATING
U1200/4	4	5"	5"		*1200A*

Notes:

1. *Conductor parameters are based on THWN (COPPER)*
2. *Ampacities taken from CEC 310.16 amended by CEC 110.14.C.1*
3. *PVC inside diameters are based on Schedule 80.*
4. *Overcurrent protection may be less than wire rating-CEC 240.4(B).*



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REGISTERED PROFESSIONAL ENGINEER JEREMY WAYNE MILES E 035596 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

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AUTO TECH FACILITY

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KPB

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JMc

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6	07/07/2017	PG&E NEM REQUIREMENTS

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Branch Panel: LA1

Location: ELECTRICAL ROOM 134
Supply From: TX-L
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 400 A
MCB Rating: 400 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	NORTH EXTERIOR RECEP	20 A	1	720 VA	500 VA					1	20 A	TICKET MACHINE	2
3	SOUTH EXTERIOR RECEP	20 A	1			540 VA	500 VA			1	20 A	BLUE PHONE - EAST	4
5	QUAD DED RECEP	20 A	1					180 VA	1620...	1	20 A	ROOF RECEPTACLE	6
7	QUAD DED RECEP	20 A	1	180 VA	1560...					2	30 A	COPIER	8
9	AMP DED RECEP	20 A	1			180 VA	1560...			--	--	--	10
11	AMP DED RECEP	20 A	1					180 VA	1080...	1	20 A	RECEPTS	12
13	RECEPTS	20 A	1	900 VA	1080...					1	20 A	RECEPTS	14
15	SPARE	20 A	1			0 VA	1080...			1	20 A	RECEPTS	16
17	RECEPTS	20 A	1					1800...	720 VA	1	20 A	RECEPTS	18
19	RECEPTS	20 A	1	1620...	1260...					1	20 A	RECEPTS	20
21	RECEPTS	20 A	1			1080...	1620...			1	20 A	RECEPTS	22
23	RECEPTS	20 A	1					720 VA	1440...	1	20 A	RECEPTS RESTROOMS	24
25	RECEPTS	20 A	1	1440...	1080...					1	20 A	RECEPTS ELECT RM	26
27	RECEPTS	20 A	1			1260...	2180...			1	20 A	RECEPTS	28
29	RECEPTS	20 A	1					1080...	600 VA	1	20 A	RECEPTS	30
31	RECEPTS	20 A	1	1080...	720 VA					1	20 A	RECEPTS	32
33	RECEPTS	20 A	1			900 VA	1320...			1	20 A	RECEPTS	34
35	FSD	20 A	1					2500...	500 VA	1	20 A	BLUE PHONE - SOUTH	36
37	SECURITY MEZZANINE	20 A	1	120 VA	120 VA					1	20 A	DOOR SECURITY POWER	38
39	EF-7	20 A	1			552 VA	276 VA			1	20 A	FACP	40
41	POWER - ECLIPSE LIGHTING	20 A	1					180 VA	500 VA	1	20 A	GATE CONTROLLER NORTH	42
			Total Load:	12380 VA		13048 VA		13100 VA					
			Total Amps:	103 A		110 A		110 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	500 VA	100.00%	500 VA		
Power	5052 VA	100.00%	5052 VA	**Total Conn. Load:**	38528 VA
Receptacle	32460 VA	65.40%	21230 VA	**Total Est. Demand:**	27298 VA
Non Continuous	516 VA	100.00%	516 VA	**Total Conn. Current:**	107 A
				Total Est. Demand Current:	76 A

Branch Panel: LA2

Location: ELECTRICAL ROOM 134
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 400 A
MCB Rating:

Notes:
FED THRU LA1

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPTS	20 A	1	900 VA	720 VA					1	20 A	RECEPTS	2
3	RECEPTS	20 A	1			720 VA	720 VA			1	20 A	RECEPTS	4
5	RECEPTS	20 A	1					720 VA	720 VA	1	20 A	RECEPTS	6
7	RECEPTS	20 A	1	1080...	720 VA					1	20 A	RECEPTS	8
9	RECEPTS	20 A	1			720 VA	720 VA			1	20 A	RECEPTS	10
11	RECEPTS	20 A	1					720 VA	720 VA	1	20 A	RECEPTS	12
13	RECEPTS	20 A	1	720 VA	1080...					1	20 A	RECEPTS	14
15	RECEPTS	20 A	1			1260...	0 VA			1	20 A	FLOOR BOX	16
17	RECEPTS	20 A	1					1260...	900 VA	1	20 A	RECEPTS	18
19	GARB DISP	20 A	1	180 VA	720 VA					1	20 A	RECEPTS	20
21	RECEPTS	20 A	1			180 VA	480 VA			1	20 A	OVERHEAD PROJECTOR RM 136	22
23	RECEPTS	20 A	1					180 VA	0 VA	1	20 A	SPARE	24
25	VENDING	20 A	1	180 VA	0 VA					1	20 A	SPARE	26
27	VENDING	20 A	1			180 VA	720 VA			1	20 A	RECEPTS	28
29	RECEPTS	20 A	1					1080...	720 VA	1	20 A	RECEPTS	30
31	RECEPTS	20 A	1	360 VA	480 VA					1	20 A	RECEPTS	32
33	AV CABINET	20 A	1			720 VA	720 VA			1	20 A	AV CABINET	34
35	RECEPTS	20 A	1					900 VA	720 VA	1	20 A	RECEPTS	36
37	Receptacle	20 A	1	540 VA	0 VA					1	20 A	SPARE	38
39	SPACE	--	--			0 VA	0 VA			1	20 A	SPARE	40
41	SPACE	--	--					0 VA	0 VA	1	20 A	SPARE	42
			Total Load:	7680 VA		7140 VA		8640 VA					
			Total Amps:	65 A		60 A		73 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	960 VA	100.00%	960 VA		
Receptacle	22500 VA	72.22%	16250 VA	**Total Conn. Load:**	23460 VA
				Total Est. Demand:	17210 VA
				Total Conn. Current:	65 A
				Total Est. Demand Current:	48 A

Branch Panel: LA3

Location: ELECTRICAL ROOM 134
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 400 A
MCB Rating:

Notes:
FED THRU LA2

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPTS	20 A	1	720 VA	720 VA					1	20 A	RECEPTS	2
3	RECEPTS	20 A	1			900 VA	1080...			1	20 A	RECEPTS	4
5	RECEPTS	20 A	1					1080...	720 VA	1	20 A	RECEPTS	6
7	RECEPTS	20 A	1	1080...	1440...					1	20 A	RECEPTS	8
9	RECEPTS	20 A	1			720 VA	720 VA			1	20 A	RECEPTS	10
11	RECEPTS	20 A	1					720 VA	1440...	1	20 A	RECEPTS	12
13	RECEPTS	20 A	1	1080...	720 VA					1	20 A	RECEPTS	14
15	RECEPTS	20 A	1			900 VA	1440...			1	20 A	RECEPTS	16
17	RECEPTS	20 A	1					720 VA	720 VA	1	20 A	RECEPTS	18
19	RECEPTS	20 A	1	360 VA	0 VA					1	20 A	SPARE	20
21	SPARE	20 A	1			0 VA	1080...			1	20 A	RECEPTS	22
23	BMS	20 A	1					720 VA	1440...	1	20 A	RECEPTS	24
25	MECHO SHADES	20 A	1	120 VA	1440...					1	20 A	RECEPTS	26
27	CONFERENCE FURNITURE	20 A	1			0 VA	180 VA			1	20 A	DED RECEPT	28
29	CONFERENCE FURNITURE	20 A	1					0 VA	240 VA	1	20 A	INTRUSION DETECTION PANEL	30
31	CONFERENCE FURNITURE	20 A	1	0 VA	0 VA					1	20 A	SPARE	32
33	CONFERENCE FURNITURE	20 A	1			0 VA	0 VA			1	20 A	SPARE	34
35	CONFERENCE FURNITURE	20 A	1					0 VA	0 VA	1	20 A	SPARE	36
37	PANEL TC	100 A	3	4560...	0 VA					1	20 A	CONFERENCE FURNITURE	38
39	--	--	--			2640...	0 VA			--	--	SPACE	40
41	--	--	--					3000...	0 VA	--	--	SPACE	42
			Total Load:	12240 VA		9680 VA		10800 VA					
			Total Amps:	103 A		81 A		91 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA		
Receptacle	31620 VA	65.81%	20810 VA	**Total Conn. Load:**	32460 VA
Non Continuous	840 VA	100.00%	840 VA	**Total Est. Demand:**	21650 VA
				Total Conn. Current:	90 A
				Total Est. Demand Current:	60 A

Branch Panel: LTG

Location: ELECTRICAL ROOM 134
Supply From: MSB SEC 2
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 100 A
MCB Rating: 100 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EXTERIOR PARKING LIGHTING	20 A	1	471 VA	5714...					1	40 A	INV EM LTG	2
3	EXTERIOR PARKING LIGHTING	20 A	1			0 VA	1426...			1	20 A	CLASSROOM LTG	4
5	EXTERIOR PARKING LIGHTING	20 A	1					234 VA	1144...	1	20 A	OFFICE LTG	6
7	EXTERIOR BUILDING MOUNTED	20 A	1	1850...	664 VA					1	20 A	RECEPTION LTG	8
9	MONUMENT SIGN	20 A	1			0 VA	1255...			1	20 A	LOBBY LTG	10
11	FLAGPOLE LIGHT	20 A	1					0 VA	1423...	1	20 A	SOUTH LTG	12
13	TRASH AREA LIGHT/ FLAGPOLE LIGHT	20 A	1	0 VA	1834...					1	20 A	SOUTH BAY LTG	14
15	SPARE	20 A	1			0 VA	1834...			1	20 A	NORTH BAY LTG	16
17	SPARE	20 A	1					0 VA	1736...	1	20 A	NORTH LTG	18
19	SPARE	20 A	1	0 VA	0 VA					1	20 A	SPARE	20
21	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	22
23	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	24
25	SPACE	--	--	0 VA	0 VA					--	--	SPACE	26
27	SPACE	--	--			0 VA	0 VA			--	--	SPACE	28
29	SPACE	--	--					0 VA	0 VA	--	--	SPACE	30
			Total Load:	10533 VA		5301 VA		4537 VA					
			Total Amps:	38 A		20 A		16 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	13186 VA	100.00%	13186 VA		
Lighting	4826 VA	125.00%	6032 VA	**Total Conn. Load:**	20433 VA
Lighting - Dwelling Unit	2421 VA	100.00%	2421 VA	**Total Est. Demand:**	21640 VA
				Total Conn. Current:	25 A
				Total Est. Demand Current:	26 A

Branch Panel: INV EM LTG

Location: ELECTRICAL ROOM 134
Supply From: LTG
Mounting: Surface
Enclosure: Type 1

Volts: 277V
Phases: 1
Wires: 3

A.I.C. Rating: 42k
Mains Type: MCB
Mains Rating: 40 A
MCB Rating: 40 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	INTERIOR EM LIGHTING	20 A	1	1770 VA	3297 VA			1	20 A	EXTERIOR EM LIGHTING	2
3	INTERIOR EM LIGHTING	20 A	1			786 VA	0 VA	--	--	SPACE	4
5	INTERIOR EM LIGHTING	20 A	1	655 VA	0 VA			--	--	SPACE	6
			Total Load:	5722 VA		786 VA					
			Total Amps:								

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	5136 VA	100.00%	5136 VA		
Lighting	846 VA	125.00%	1058 VA	**Total Conn. Load:**	6528 VA
Lighting - Dwelling Unit	545 VA	100.00%	545 VA	**Total Est. Demand:**	6739 VA
				Total Conn. Current:	
				Total Est. Demand Current:	

Branch Panel: TC

Location: DATA 106
Supply From: LA3
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 100 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	L5-30R	30 A	1	1560...	360 VA					1	20 A	RECEPT - IDF	2
3	L5-30R	30 A	1			1560...	360 VA			1	20 A	RECEPT - IDF	4
5	L5-30R	30 A	1					1560...	360 VA	1	20 A	RECEPT - IDF	6
7	L5-30R	30 A	1	1560...	360 VA					1	20 A	RECEPT - IDF	8
9	SPARE	20 A	1			0 VA	360 VA			1	20 A	RECEPT - IDF	10
11	SPARE	20 A	1					0 VA	360 VA	1	20 A	RECEPT - IDF	12
13	SPARE	20 A	1	0 VA	360 VA					1	20 A	RECEPT - FLOOD PUMP - IDF	14
15	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	16
17	RACK MOUNT QUAD	20 A	1					360 VA	0 VA	1	20 A	SPARE	18
19	RACK MOUNT QUAD	20 A	1	360 VA	0 VA					1	20 A	SPARE	20
21	RACK MOUNT QUAD	20 A	1			360 VA	0 VA			1	20 A	SPARE	22
23	RACK MOUNT QUAD	20 A	1					360 VA	0 VA	--	--	SPACE	24
25	SPARE	20 A	1	0 VA	0 VA					--	--	SPACE	26
27	SPARE	20 A	1			0 VA	0 VA			--	--	SPACE	28
29	SPARE	20 A	1					0 VA	0 VA	--	--	SPACE	30
31													32
33													34
35													36
37													38
39													40
41													42
			Total Load:	4560 VA		2640 VA		3000 VA					
			Total Amps:	38 A		22 A		25 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	10200 VA	99.02%	10100 VA		
				Total Conn. Load:	10200 VA
				Total Est. Demand:	10100 VA
				Total Conn. Current:	28 A
				Total Est. Demand Current:	28 A

PNL LA1	PNL LTG
PNL LA2	INV EM LTG
PNL LA3	PNL TC

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REGISTERED PROFESSIONAL ENGINEER JAMES MICHAEL MCNEIL E 020998 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

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AGENCY REVIEW

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DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
PANEL SCHEDULES

Drawn By: KPB
Checked By: JMc
Project No.: 15-245
Date: 08/30/2016
DRAWING NO.: **E5.2**

NO. DATE ISSUE

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Branch Panel: QH

Location: ELECTRICAL ROOM 134
Supply From: MSB SEC 2
Mounting: Surface
Enclosure: Type 1

Volts: 480V
Phases: 3
Wires: 3

A.I.C. Rating:
Mains Type:
Mains Rating: 400 A
MCB Rating: 400 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	TRANSMISSION DYNO	80 A	3	17728...	34470...					3	225 A	TX-Q	2
3	--	--	--			17728...	36482...			--	--	--	4
5	--	--	--					17728...	34328...	--	--	--	6
7	SPACE	--	--	0 VA	0 VA					--	--	SPACE	8
9	SPACE	--	--			0 VA	0 VA			--	--	SPACE	10
11	SPACE	--	--					0 VA	0 VA	--	--	SPACE	12
13	SPACE	--	--	0 VA	0 VA					--	--	SPACE	14
15	SPACE	--	--			0 VA	0 VA			--	--	SPACE	16
17	SPACE	--	--					0 VA	0 VA	--	--	SPACE	18
19	SPACE	--	--	0 VA	0 VA					--	--	SPACE	20
21	SPACE	--	--			0 VA	0 VA			--	--	SPACE	22
23	SPACE	--	--					0 VA	0 VA	--	--	SPACE	24
25	SPACE	--	--	0 VA	0 VA					--	--	SPACE	26
27	SPACE	--	--			0 VA	0 VA			--	--	SPACE	28
29	SPACE	--	--					0 VA	0 VA	--	--	SPACE	30
31	SPACE	--	--	0 VA	0 VA					--	--	SPACE	32
33	SPACE	--	--			0 VA	0 VA			--	--	SPACE	34
35	SPACE	--	--					0 VA	0 VA	--	--	SPACE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		52198 VA		54210 VA		52056 VA					
		Total Amps:		188 A		196 A		188 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	15000 VA	100.00%	15000 VA		
Other	115440 VA	100.00%	115440 VA	**Total Conn. Load:**	158224 VA
Power	2704 VA	100.00%	2704 VA	**Total Est. Demand:**	151104 VA
Receptacle	24240 VA	70.63%	17120 VA	**Total Conn. Current:**	190 A
Non Continuous	840 VA	100.00%	840 VA	**Total Est. Demand Current:**	182 A

Branch Panel: QDL

Location: ELECTRICAL ROOM 134
Supply From: TX-Q
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type: MCB
Mains Rating: 500 A
MCB Rating: 500 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	QL1A & QL1B	300 A	3	22212...	12258...					3	300 A	QL2A & QL2B	2
3	--	--	--			24688...	11794...			--	--	--	4
5	--	--	--					21396...	12932...	--	--	--	6
7	SPACE	--	--	0 VA	0 VA					--	--	SPACE	8
9	SPACE	--	--			0 VA	0 VA			--	--	SPACE	10
11	SPACE	--	--					0 VA	0 VA	--	--	SPACE	12
13	SPACE	--	--	0 VA	0 VA					--	--	SPACE	14
15	SPACE	--	--			0 VA	0 VA			--	--	SPACE	16
17	SPACE	--	--					0 VA	0 VA	--	--	SPACE	18
19	SPACE	--	--	0 VA	0 VA					--	--	SPACE	20
21	SPACE	--	--			0 VA	0 VA			--	--	SPACE	22
23	SPACE	--	--					0 VA	0 VA	--	--	SPACE	24
25	SPACE	--	--	0 VA	0 VA					--	--	SPACE	26
27	SPACE	--	--			0 VA	0 VA			--	--	SPACE	28
29	SPACE	--	--					0 VA	0 VA	--	--	SPACE	30
31	SPACE	--	--	0 VA	0 VA					--	--	SPACE	32
33	SPACE	--	--			0 VA	0 VA			--	--	SPACE	34
35	SPACE	--	--					0 VA	0 VA	--	--	SPACE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		34470 VA		36482 VA		34328 VA					
		Total Amps:		287 A		304 A		286 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	15000 VA	100.00%	15000 VA		
Other	62256 VA	100.00%	62256 VA	**Total Conn. Load:**	105040 VA
Power	2704 VA	100.00%	2704 VA	**Total Est. Demand:**	97920 VA
Receptacle	24240 VA	70.63%	17120 VA	**Total Conn. Current:**	292 A
Non Continuous	840 VA	100.00%	840 VA	**Total Est. Demand Current:**	272 A

Branch Panel: QL1A

Location: DRIVE AISLE 115
Supply From: QDL
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 300 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LATH, BREAK	20 A	1	1800 VA	900 VA					1	20 A	LIFT TRUCK CHARGER	2
3	LATH, BREAK	20 A	1			1800 VA	0 VA			1	20 A	SPARE	4
5	LATH, BREAK	20 A	1					1800 VA	360 VA	1	20 A	ALIGNMENT SYSTEM	6
7	SPARE	20 A	1	0 VA	2704 VA					2	40 A	ALIGNMENT LIFT	8
9	SPARE	20 A	1			0 VA	2704 VA			--	--	--	10
11	ALIGNMENT LIFT	30 A	2					1872 VA	0 VA	1	20 A	SPARE	12
13	--	--	--	1872 VA	0 VA					1	20 A	SPARE	14
15	SPARE	20 A	1			0 VA	2704 VA			2	40 A	ALIGNMENT LIFT	16
17	SPARE	20 A	1					0 VA	2704 VA	--	--	--	18
19	SPARE	20 A	1	0 VA	180 VA					1	20 A	ALIGNMENT SYSTEM	20
21	AUTO ROLLUP DOOR	20 A	1			1500 VA	1872 VA			2	20 A	TIRE CHANGER	22
23	AUTO ROLLUP DOOR	20 A	1					1500 VA	1872 VA	--	--	--	24
25	AUTO ROLLUP DOOR	20 A	1	1500 VA	0 VA					1	20 A	SPARE	26
27	AUTO ROLLUP DOOR	20 A	1			1500 VA	0 VA			1	20 A	SPARE	28
29	AUTO ROLLUP DOOR	20 A	1					1500 VA	0 VA	1	20 A	SPARE	30
31	LOBBY DOOR	20 A	1	1500 VA	0 VA					1	20 A	SPARE	32
33	SPARE	30 A	1			0 VA	0 VA			1	20 A	SPARE	34
35	SPACE	--	--					0 VA	0 VA	1	20 A	SPARE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		22212 VA		24688 VA		21396 VA					
		Total Amps:		186 A		207 A		178 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	9000 VA	100.00%	9000 VA		
Other	45616 VA	100.00%	45616 VA	**Total Conn. Load:**	68296 VA
Receptacle	13560 VA	86.87%	11780 VA	**Total Est. Demand:**	66516 VA
Non Continuous	120 VA	100.00%	120 VA	**Total Conn. Current:**	190 A
				Total Est. Demand Current:	185 A

Branch Panel: QL2A

Location: DRIVE AISLE 115
Supply From: QDL
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type: MCB
Mains Rating: 300 A
MCB Rating: 300 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	2 POST LIFT	30 A	2	1664...	360 VA					1	20 A	DRILL PRESS	2
3	--	--	--			1664...	360 VA			1	20 A	GRINDER	4
5	2 POST LIFT	30 A	2					1664...	360 VA	1	20 A	PARTS CLEANER	6
7	--	--	--	1664...	0 VA					1	20 A	SPARE	8
9	2 POST LIFT	30 A	2			1664...	1560...			2	30 A	FLOOR WASHER CHARGER	10
11	--	--	--					1664...	1560...	--	--	--	12
13	2 POST LIFT	30 A	2	1664...	2640...					1	20 A	RECEPT	14
15	--	--	--			1664...	720 VA			1	20 A	RECEPT	16
17	2 POST LIFT	30 A	2					1664...	500 VA	1	20 A	JIB CRANE POWER	18
19	--	--	--	1664...	1102...					2	30 A	GATE CONTROLLER (S)	20
21	SPARE	20 A	1			0 VA	1102...			--	--	--	22
23	AUTO ROLLUP DOOR	20 A	1					1500...	720 VA	1	20 A	DOOR SECURITY POWER	24
25	AUTO ROLLUP DOOR	20 A	1	1500...	0 VA					1	20 A	SPARE	26
27	AUTO ROLLUP DOOR	20 A	1			1500...	0 VA			1	20 A	SPARE	28
29	AUTO ROLLUP DOOR	20 A	1					1500...	0 VA	1	20 A	SPARE	30
31	SPACE	--	--	0 VA	0 VA					--	--	SPACE	32
33	PARTS WASHER/TRANNY DYNO	20 A	2			1560...	0 VA			--	--	SPACE	34
35	--	--	--					1560...	240 VA	1	20 A	ACCESS CONTROL PANEL	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		12258 VA		11794 VA		12932 VA					
		Total Amps:		103 A		98 A		108 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	6000 VA	100.00%	6000 VA		
Other	16640 VA	100.00%	16640 VA	**Total Conn. Load:**	36744 VA
Power	2704 VA	100.00%	2704 VA	**Total Est. Demand:**	36404 VA
Receptacle	10680 VA	96.82%	10340 VA	**Total Conn. Current:**	102 A
Non Continuous	720 VA	100.00%	720 VA	**Total Est. Demand Current:**	101 A

Branch Panel: QL1B

Location: DRIVE AISLE 115
Supply From: QL1A
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 300 A
MCB Rating:

Notes:
FED THRU QL1A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	2 Post Lift	30 A	2	1664...	1440...					1	20 A	TIRE CHANGER	2
3	--	--	--			1664...	900 VA			2	20 A	WHEEL BALANCER	4
5	2 Post Lift	30 A	2					1664...	900 VA	--	--	--	6
7	--	--	--	1664...	900 VA					2	20 A	WHEEL BALANCER	8
9	2 Post Lift	30 A	2			1664...	900 VA			--	--	--	10
11	--	--	--					1664...	0 VA	1	20 A	SPARE	12
13	2 Post Lift	30 A	2	1664...	0 VA					1	20 A	SPARE	14
15	--	--	--			1664...	1872...			2	20 A	DISC RECEPT	16
17	2 Post Lift	30 A	2					1664...	1872...	--	--	--	18
19	--	--	--	1664...	1080...					1	20 A	RECEPTS	20
21	2 Post Lift	30 A	2			1664...	720 VA			1	20 A	RECEPTS	22
23	--	--	--					1664...	360 VA	1	20 A	OUTDOOR 2 POST LIFT RECEPT	24
25	SPARE	0 A	1	0 VA	120 VA					1	20 A	DOOR SECURITY POWER	26
27	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	28
29	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	30
31	SPARE	20 A	1	0 VA	0 VA					1	20 A	SPARE	32
33	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	34
35	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	36
37	WELDER	50 A	2	1560...	0 VA					--	--	SPACE	38
39	--	--	--			1560...	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		11756 VA		12608 VA		9788 VA					
		Total Amps:		100 A		108 A		82 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	27312 VA	100.00%	27312 VA		
Receptacle	6720 VA	100.00%	6720 VA	**Total Conn. Load:**	34152 VA
Non Continuous	120 VA	100.00%	120 VA	**Total Est. Demand:**	34152 VA
				Total Conn. Current:	95 A
				Total Est. Demand Current:	95 A

Branch Panel: QL2B

Location: DRIVE AISLE 115
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 300 A
MCB Rating:

Notes:
FED THRU QL2A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	DRYER	20 A	1	840 VA	5817...					3	60 A	ENGINE DYNO	2
3	FUEL TANK RECEPT	20 A	1			240 VA	5817...			--	--	--	4
5	ENGINE DYNO CONTROL	20 A	1					1260...	5817...	--	--	--	6
7	TRANSMISSION DYNO	20 A	1	360 VA	7680...					3	60 A	TRANSMISSION DYNO	8
9	AWD DYNO CONSOLE	20 A	1			180 VA	7680...			--	--	--	10
11	2WD DYNO CONSOLE	20 A	1					180 VA	7680...	--	--	--	12
13	RECEP	20 A	1	540 VA	1560...					1	30 A	TRANS DYNO RECEPT	14
15	RECEP	20 A	1			720 VA	0 VA			1	20 A	SPARE	16
17	2WD DYNO CONSOLE	20 A	1					180 VA	3328...	2	40 A	2WD DYNO	18
19	SPARE	20 A	1	0 VA	3328...					--	--	--	20
21	TIRE EQUIP	20 A	2			900 VA	900 VA			2	40 A	2WD DYNO	22
23	--	--	--					900 VA	900 VA	--	--	--	24
25	SMOG REFEREE EQUIP	40 A	2	3328...	0 VA					1	20 A	SPARE	26
27	--	--	--			3328...	3328...			2	40 A	AWD DYNO	28
29	TRANS DYNO RECEPT	20 A	1					360 VA	3328...	--	--	--	30
31	ROLL UP FIRE DOOR	20 A	1	1500...	0 VA					--	--	SPACE	32
33	SPACE	--	--			0 VA	0 VA			--	--	SPACE	34
35	SPACE	--	--					0 VA	0 VA	--	--	SPACE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		24953 VA		23093 VA		23933 VA					
		Total Amps:		209 A		192 A		201 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	1500 VA	100.00%	1500 VA		
Other	64059 VA	100.00%	64059 VA	**Total Conn. Load:**	71979 VA
Receptacle	6420 VA	100.00%	6420 VA	**Total Est. Demand:**	71979 VA
				Total Conn. Current:	200 A
				Total Est. Demand Current:	200 A

PNL QH	PNL QDL
PNL QL1A	PNL QL2A
PNL QL1B	PNL QL2B

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OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC _____ F/LS _____ SS _____
DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
PANEL SCHEDULES

Drawn By: KPB
Checked By: JMc

NO.	DATE	ISSUE
2	10/19/2016	ASI 002

Project No.: 15-245
©Date: 08/30/2016
DRAWING NO.: **E5.3**

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Branch Panel: MH

Location: ELECTRICAL ROOM 134
Supply From: MSB SEC 2
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phases: 3
Wires: 4

A.I.C. Rating: 14k
Mains Type:
Mains Rating: 400 A
MCB Rating: 400 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	IDD-1	80 A	3	7980...	5852...					3	60 A	AC-1	2
3	--	--	--			7980...	5852...			--	--	--	4
5	--	--	--					7980...	5852...	--	--	--	6
7	TX-M	70 A	3	13057...	2394...					3	30 A	VFD-2 / SHWP-2	8
9	--	--	--			10736...	2394...			--	--	--	10
11	--	--	--					9669...	2394...	--	--	--	12
13	VFD-1 / SHWP-1	30 A	3	2394...	5817...					3	30 A	COMPRESSOR	14
15	--	--	--			2394...	5817...			--	--	--	16
17	--	--	--					2394...	5817...	--	--	--	18
19	ENGINE DYNO BOOST PUMP	20 A	3	831 VA	0 VA					3	30 A	SPARE	20
21	--	--	--			831 VA	0 VA			--	--	--	22
23	--	--	--					831 VA	0 VA	--	--	--	24
25	POWER WASHER	20 A	3	600 VA	167 VA					3	20 A	RAIN WATER PUMP	26
27	--	--	--			600 VA	167 VA			--	--	--	28
29	--	--	--					600 VA	167 VA	--	--	--	30
31	SPACE	--	--	0 VA	0 VA					--	--	SPACE	32
33	SPACE	--	--			0 VA	0 VA			--	--	SPACE	34
35	SPACE	--	--					0 VA	0 VA	--	--	SPACE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
			Total Load:	39091 VA		36771 VA		35704 VA					
			Total Amps:	142 A		133 A		129 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	1460 VA	100.00%	1460 VA		
Other	23448 VA	100.00%	23448 VA	**Total Conn. Load:**	111566 VA
Power	85230 VA	100.00%	85230 VA	**Total Est. Demand:**	111566 VA
Receptacle	720 VA	100.00%	720 VA	**Total Conn. Current:**	134 A
Non Continuous	708 VA	100.00%	708 VA	**Total Est. Demand Current:**	134 A

Branch Panel: PV

Location: ELECTRICAL ROOM 134
Supply From: MSB SEC 2
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 225 A
MCB Rating: 225 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	SPACE	--	--	0 VA	3457...					3	40 A	INV 1-1	2
3	SPACE	--	--			0 VA	3457...			--	--	--	4
5	SPACE	--	--					0 VA	3457...	--	--	--	6
7	SPACE	--	--	0 VA	3457...					3	40 A	INV 1-2	8
9	SPACE	--	--			0 VA	3457...			--	--	--	10
11	SPACE	--	--					0 VA	3457...	--	--	--	12
13	SPACE	--	--	0 VA	0 VA					--	--	SPACE	14
15	SPACE	--	--			0 VA	0 VA			--	--	SPACE	16
17	SPACE	--	--					0 VA	0 VA	--	--	SPACE	18
19	SPACE	--	--	0 VA	0 VA					--	--	SPACE	20
21	SPACE	--	--			0 VA	0 VA			--	--	SPACE	22
23	SPACE	--	--					0 VA	0 VA	--	--	SPACE	24
25	SPACE	--	--	0 VA	0 VA					--	--	SPACE	26
27	SPACE	--	--			0 VA	0 VA			--	--	SPACE	28
29	SPACE	--	--					0 VA	0 VA	--	--	SPACE	30
31	SPACE	--	--	0 VA	0 VA					--	--	SPACE	32
33	SPACE	--	--			0 VA	0 VA			--	--	SPACE	34
35	SPACE	--	--					0 VA	0 VA	--	--	SPACE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
			Total Load:	6914 VA		6914 VA		6914 VA					
			Total Amps:	25 A		25 A		25 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	20742 VA	100.00%	20742 VA		
				Total Conn. Load:	20742 VA
				Total Est. Demand:	20742 VA
				Total Conn. Current:	25 A
				Total Est. Demand Current:	25 A

Branch Panel: ML

Location: MECH ROOM 122
Supply From: TX-M
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 125 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	VEX 1-14	20 A	1	528 VA	2340 VA					2	30 A	FC-1 / CU-1	2
3	VAV's	20 A	1			450 VA	2340 VA			--	--	--	4
5	EF-3	20 A	2					1103 VA	720 VA	1	20 A	RECEPTACLE	6
7	--	--	--	1103 VA	212 VA					1	20 A	CP-2	8
9	EF-4	20 A	1			480 VA	528 VA			1	20 A	TRANSFER FAN	10
11	EF-5	20 A	2					1103 VA	528 VA	1	20 A	TRANSFER FAN	12
13	--	--	--	1103 VA	500 VA					1	20 A	B-1	14
15	EF-6	20 A	2			687 VA	500 VA			1	20 A	B-2	16
17	--	--	--					687 VA	500 VA	1	20 A	GWH-1	18
19	EF-1	20 A	1	552 VA	960 VA					1	20 A	PHWP-1	20
21	EF-2	20 A	1			552 VA	960 VA			1	20 A	PHWP-2	22
23	VEX 2-1	20 A	2					1737 VA	600 VA	1	20 A	IRRIGATION CONTROL	24
25	--	--	--	1737 VA	2705 VA					1	20 A	FLUSH VALVE MEN/EF-8	26
27	VEX 2-2	20 A	2			1102 VA	780 VA			2	20 A	WHEELCHAIR PLATFORM LIFT	28
29	--	--	--					1102 VA	780 VA	--	--	--	30
31	CU-2	20 A	3	167 VA	170 VA					1	20 A	CIRC PUMP 1	32
33	--	--	--			167 VA	1290 VA			1	20 A	ELKAY CHILLER	34
35	--	--	--					167 VA	0 VA	1	20 A	SPARE	36
37	FC-2	20 A	2	625 VA	356 VA					1	20 A	PRESSURE SWITCH/FA BELL	38
39	--	--	--			625 VA	276 VA			1	20 A	HVAC RELAY PANEL	40
41	BPS	20 A	1					432 VA	212 VA	1	20 A	FLOAT LEVEL SENSOR	42
			Total Load:	13057 VA		10736 VA		9669 VA					
			Total Amps:	110 A		91 A		81 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	1460 VA	100.00%	1460 VA		
Other	1704 VA	100.00%	1704 VA	**Total Conn. Load:**	33462 VA
Power	28870 VA	100.00%	28870 VA	**Total Est. Demand:**	33462 VA
Receptacle	720 VA	100.00%	720 VA	**Total Conn. Current:**	93 A
Non Continuous	708 VA	100.00%	708 VA	**Total Est. Demand Current:**	93 A

Branch Panel: EV

Location: ELECTRICAL ROOM 134
Supply From: TX-EV
Mounting: Surface
Enclosure: Type 1

Volts: 120/240V
Phases: 3
Wires: 3

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 225 A
MCB Rating: 225 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	SPACE	--	--	0 VA	0 VA					--	--	SPACE	2
3	SPACE	--	--			0 VA	0 VA			--	--	SPACE	4
5	EV 1-2	40 A	2					3840 VA	2880 VA	2	30 A	EV 2-2	6
7	--	--	--	3840 VA	2880 VA					--	--	--	8
9	SPACE	--	--			0 VA	0 VA			--	--	SPACE	10
11	EV 1-1	40 A	2					3840 VA	2880 VA	2	30 A	EV 2-1	12
13	--	--	--	3840 VA	2880 VA					--	--	--	14
15	SPACE	--	--			0 VA							16
17	EV 1-3	40 A	2					3840 VA					18
19	--	--	--	3840 VA									20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
			Total Load:	17280 VA		0 VA		17280 VA					
			Total Amps:	144 A		0 A		144 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	34560 VA	100.00%	34560 VA		
				Total Conn. Load:	34560 VA
				Total Est. Demand:	34560 VA
				Total Conn. Current:	83 A
				Total Est. Demand Current:	83 A

PNL MH	PNL PV
PNL ML	PNL EV

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APPL # 02-114995

AC _____ F/LS _____ SS _____

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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
PANEL SCHEDULES

Drawn By: TAJ
Checked By: JMc
Project No.: 15-245
Date: 08/30/2016

NO.	DATE	ISSUE
4	04/25/2017	ASI 021
5	07/07/2017	CCD 049

DRAWING NO.
E5.4

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GENERAL NOTES

1. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS.
2. DEVICES MOUNTED IN FIRE RATED WALLS AND CEILINGS SHALL COMPLY WITH C.B.C. SECTION 709.7 AND C.B.C. SECTION 710.2.
3. REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXACT LOCATION OF MECHANICAL/PLUMBING EQUIPMENT.
4. LIGHTING DESIGNED IN ACCORDANCE WITH CRITERIA DOCUMENTS AND IES, 10TH EDITION STANDARDS
5. PROVIDE ALL SYSTEMS, EQUIPMENT, DEVICES, MATERIALS, FEEDERS, WIRING, AND CONDUITS AS SPECIFIED, WHETHER SHOWN OR NOT SHOWN OF FLOOR PLANS TO INSTALL COMPLETE AND FUNCTIONING ELECTRICAL SYSTEMS.
6. PROVIDE SEPARATE RACEWAYS FOR EMERGENCY SYSTEM WIRING PER THE REQUIREMENTS OF CEC 700-9(b).
7. ALL POWER ON SINGLE LINE DRAWING SHALL BE FURNISHED AND INSTALLED AS PART OF THIS CONTRACT, WHETHER OR NOT THIS WIRING IS SHOWN OF FLOOR PLANS.
8. MAKE ALL FINAL ELECTRICAL CONNECTIONS TO ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO THE CONNECTIONS OF ALL MECHANICAL, PLUMBING, AND OWNER PROVIDED EQUIPMENT WHICH IS TO BE INSTALLED AS PART OF THIS CONTRACT.
9. PROVIDE NAMEPLATES ON ALL PANELBOARDS, DISCONNECTS, AND STARTERS DENOTING LOAD DESIGNATION, AMPERAGE, VOLTAGE, AND PHASE.
10. FOR FUSED DISCONNECT SWITCHES, FUSE RATING AND TYPE SHALL BE AS PER EQUIPMENT MANUFACTURER RECOMMENDATIONS.

PATHWAYS AND CIRCUITRY

SWITCHING

13a/b — FIXTURE SUPPLIED BY CIRCUIT 13 CONTROLLED THROUGH SWITCHES "a" AND "b"

13,13c/d — FIXTURE SUPPLIED BY UNSWITCHED CIRCUIT "13" SUPPLYING POWER TO BATTERY BACKUP BALLAST, AND CIRCUIT 13 CONTROLLED THROUGH SWITCHES "c" AND "d".

13 — FIXTURE SUPPLIED BY UNSWITCHED CIRCUIT "13" SUPPLYING POWER TO NORMAL AND BATTERY BACKUP BALLASTS.

HL1-1, 3/5, 7/9/11, 13SW

- DENOTES SWITCHED CONDUCTOR FROM LIGHTING CONTROL PANEL
- 3 PHASE CONDUCTORS SUPPLYING A 3 PHASE LOAD
- 2 PHASE CONDUCTORS SUPPLYING A SINGLE PHASE LOAD
  1 PHASE CONDUCTOR PAIRED WITH A NEUTRAL CONDUCTOR SUPPLYING A SINGLE PHASE LOAD
- PANEL HL1

PATHWAYS

- EMT CONDUIT CONCEALED IN CEILING OR WALL IN FINISHED AREAS, EXPOSED IN UTILITY ROOMS, OPEN WAREHOUSE AND SERVICE BAYS, U.O.N.
- PVC CONDUIT UNDERGROUND OR CONCEALED UNDER FLOOR, U.O.N.
- OVERHEAD COMM PATHWAYS.
- HOME RUN TO PANEL OR TERMINAL. CIRCUITS AS NOTED.
- CONNECTION TO GROUND.
- CONDUIT STUB-OUT.
- CONDUIT TURNED UP.
- CONDUIT TURNED DOWN.
- 1 / E3.1 — DETAIL TAG. "1" INDICATES DETAIL NUMBER E3.1 INDICATES SHEET DETAIL IS SHOWN ON.
- A — FIXTURE TAG. "A" INDICATES FIXTURE TYPE LOCATED ON THE FIXTURE SCHEDULE.
- 1 — NOTE TAG. "1" INDICATES NOTE NUMBER.
- AC / 1 — EQUIPMENT TAG. "AC" INDICATES EQUIPMENT TYPE "1" INDICATED THE EQUIPMENT NUMBER.

COMPONENT ANCHORAGE NOTE

ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2013 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26, 30

1. ALL PERMANENT EQUIPMENT AND COMPONENTS
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED CONDUIT.

A. COMPONENTS WEIGHTING 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 WEIGHTING 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.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.8,13.6.7, 13.6.5.6 AND 2013 CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25 AND 1616A.1.26.

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS (OPM#) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURAL TO SUPPORT THE HANGER AND BRACE LOADS.

ELECTRICAL SYMBOLS

- LIGHT FIXTURE, RECESSED.
- WALL MOUNT LIGHT FIXTURE
- DOWN LIGHT, RECESSED.
- K — HIGH BAY PENDANT LIGHT FIXTURE
- EXTERIOR SURFACE MOUNT FIXTURE
- SITE LIGHTING, POLE MOUNTED.
- STRIP FIXTURE
- LIGHTING OR DISTRIBUTION PANEL.
- FUSED DISCONNECT SIZE PER UNIT NAMEPLATE RATING.
- NON FUSED DISCONNECT SIZE PER UNIT NAMEPLATE RATING.
- DUPLEX RECEPTACLE NEMA 5-20R
- J — THE FOLLOWING IDENTIFIERS ARE ASSOCIATED TO RECEPTACLES AND J-BOXES FOR CONNECTIONS AND FUNCTION SERVED:
  AD - AUTO DOOR
  AFV - AUTO FLUSH VALVE
  OC - CONTROLLED BY ROOM OCCUPANCY SENSOR
  GD - GARBAGE DISPOSAL
  TR - TAMPER PROOF
  NOTE: ALL RECEPTACLES TO BE 15" MIN TO BOTTOM OF DEVICE, AND 48" MAX TO TOP TOP OF DEVICE A.F.F. PER CBC 11B-308.3
- GFCI — DUPLEX RECEPTACLE NEMA 5-20R, GROUND FAULT CURRENT INTERRUPTER
- QUADPLEX RECEPTACLE
- DEDICATED DUPLEX RECEPTACLE NEMA 5-20R
- 20 AMP DUPLEX RECEPTACLE WITH USB PORT
- L630R OR L650R, AS DESIGNATED
- CEILING — DUPLEX RECEPTACLE NEMA 5-15R MOUNTED IN CEILING.
- DOUBLE DUPLEX RECEPTACLE NEMA 5-15R MOUNTED IN CEILING.
- FLOOR — DOUBLE DUPLEX RECEPTACLE NEMA 5-15R MOUNTED IN FLOOR
- J — JUNCTION BOX
- FLOOR — FLUSH FLOOR MOUNTED COMBINATION DUPLEX/TELEDATA/AUDIO VISUAL DEVICE.
- FLUSH FLOOR MOUNTED COMBINATION QUAD OUTLET/DATA DEVICE.
- J — FURNITURE SYSTEM ELECTRICAL AND TELEDATA BASE FEEDS, WALL MOUNTED.
- SURFACE MOUNTED RACEWAY - WIREMOLD RECEPTACLES AT 18" O.C.
- SWITCH SPST, SUBSCRIPT: R = RESET, D = DIMMER, OC = OCCUPANCY SENSOR, T = TIMER, M= MOTOR RATED, OR = OVERRIDE
  NOTE: ALL SWITCHES TO BE 48" MAX TO TOP OF DEVICE A.F.F. PER CBC 11B-308.2
- OC — CEILING OCCUPANCY SENSOR
- DL — CEILING DAY LIGHT SENSOR
- WAP — CEILING WIRELESS ACCESS POINT
- TRANSFORMER
  T1 — TRANSFORMER DESIGNATION
  45KVA — TRANSFORMER RATING
- VOICE DATA OUTLET
- AUDIO/VISUAL OUTLET
- AUDIO/VISUAL OUTLET IN CEILING
- CCTV - SURVEILLANCE CAMERA
- CCTV - FISHEYE SURVEILLANCE CAMERA
- SURFACE MOUNTED RACEWAY - WIREMOLD

LIGHTING CONTROL SYMBOLS

- RP — nLIGHT nPP20 ON/OFF (NO DIMMING)
- RL — nLIGHT nPP16 ON/OFF (NO DIMMING)
- RLD — nLIGHT nPP16-DS, ON/OFF, DIMMING POWER PACK
- M1 — nLIGHT nCM-DPT-9 SMALL AREA (12')OCCUPANCY CONTROL
- M2 — nLIGHT nCM-PDT-10 LARGE AREA (28') OCCUPANCY CONTROL
- MG — nLIGHT nCM10-RJB-ADCX LARGE AREA (28') OCCUPANCY CONTROL + DAYLIGHT
- DL — nLIGHT nCM-ADCX -WH DAY LIGHT SENSOR
- $ D2 — 2 CHANNEL ON/OFF + RAISE/LOWER CONTROL @ +48" TOP OF BOX, TYPICAL. NLIGHT #NPODM-2P-DX
- $ — ON/OFF TOGGLE SWITCH MOUNTED @ +48" TOP OF BOX, TYPICAL. NLIGHT #NPODM WH
- $ D — 1 CHANNEL ON/OFF + RAISE/LOWER CONTROL @ +48" TOP OF BOX, TYPICAL. NLIGHT #NPODM-DX
- $ D MD — OCCUPANCY CONTROL + ON/OFF + RAISE/LOWER CONTROL @ +48" TOP OF BOX, TYPICAL. NLIGHT #NWSXLVDX-WH
- $ O — OCCUPANCY CONTROL + ON/OFF CONTROL @ +48" TOP OF BOX, TYPICAL. NLIGHT #NWSXLV-WH
- $ OC — OCCUPANCY CONTROL + ON/OFF CONTROL @ +48" TOP OF BOX, TYPICAL. SENSOR SWITCH # WSP-WH (NON-NETWORK)
- MV — SENSOR SWITCH # CMR10 LINE VOLTAGE OCCUPANCY CONTROL
- Z 1 — LIGHTING CONTROL ZONE NUMBER
- DLV — DAYLIGHT ZONE
  CIRCUITS CONTROLLED BY NIGHT TIMER: "LTG"-8, 10,12,14,16,18

ABBREVIATIONS

A	AMPERE
AC	ABOVE COUNTER
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
ANN	ANNUNCIATOR
AIC	AMPS OF INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO/VISUAL
AT	AMP TRIP
BC	BELOW COUNTER
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CO	CONDUIT ONLY
CU	COPPER
CL	CURRENT LIMITING
D	DEDICATED
(E)	EXISTING
(ER)	EXISTING RELOCATED
E.C.	ELECTRICAL CONTRACTOR
EM	FIXTURE WITH BATTERY BACKUP
EV	ELECTRIC VEHICLE
EWC	ELECTRIC WATER COOLER
F	FUSED
(F)	FUTURE
FA	FIRE ALARM SYSTEM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FDR	FEEDER
FS	FLOW SWITCH
FSD	FIRE SMOKE DAMPER
G	GROUND
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
IG	ISOLATED GROUND
KVA	KILOVOLT-AMPERE
KW	KILOWATT
LA	LIGHTNING ARRESTOR
LCP	LIGHTING CONTROL PANEL
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
MSB	MAIN SWITCHBOARD
MTC	EMPTY CONDUIT WITH PULL ROPE
MTS	MANUAL TRANSFER SWITCH
(N)	NEW
N.E.C.	NATIONAL ELECTRICAL CODE
NEU	NEUTRAL
N.I.C.	NOT IN CONTRACT
NL	NIGHT LIGHT CIRCUIT
NTS	NOT TO SCALE
OC	OCCUPANCY SENSOR
PB	PULLBOX
PE	PHOTOELECTRIC CELL
PFB	PROVISION FOR BREAKER
PH	PHASE
PNL	PANEL
PV	PHOTOVOLTAIC
PVC	PVC CONDUIT
QTY	QUANTITY
(R)	EXISTING TO BE REMOVED
REC	RECEPTACLE
REF	REFERENCE
REFR	REFRIGERATOR
RM	ROOM
SD	SMOKE DETECTOR
SEC	SECURITY SYSTEM
TBD	TO BE DETERMINED
TC	TIME CLOCK
TEL	TELEPHONE
TEL/DATA	TELEPHONE/DATA
TELECOM	TELECOMMUNICATION
TRANS	TRANSFORMER
TS	TAMPER SWITCH
TTB	TELEPHONE TERMINAL BACKBOARD
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VA	VOLT-AMPERE
VFD	VARIABLE FREQUENCY DRIVE
XFMR	TRANSFORMER
W	WIRE
W/	WITH
WP	WEATHERPROOF
3R	NEMA 3R ENCLOSURE

SCCD AUTOTECH SHEET INDEX

SHEET #	DESCRIPTION
E0.1	SYMBOLS, ABBREVIATIONS, SCHEDULES
E0.2	TITLE 24 DOCUMENTATION
E0.3	TITLE 24 DOCUMENTATION
E0.4	TITLE 24 DOCUMENTATION
E1.1	SITE POWER AND SIGNAL
E1.2	SITE LIGHTING
E1.3	SITE PHOTOMETRICS
E2.1	INTERIOR LIGHTING 1ST FLOOR
E2.2	INTERIOR LIGHTING MEZZANINE
E2.3	INTERIOR PHOTOMETRICS
E2.4	LIGHTING CONTROL DIAGRAMS
E2.5	LIGHTING CONTROL DIAGRAMS
E2.6	LIGHTING CONTROL DIAGRAMS
E3.1	POWER AND SIGNAL 1ST FLOOR
E3.2	POWER AND SIGNAL MEZZANINE
E3.3	ROOFTOP ELECTRICAL
E3.4	PV SINGLE LINE
E3.5	PV DETAILS
E3.6	PV DETAILS
E4.1	LOW VOLTAGE SYSTEMS PATHWAYS
E4.2	ELECTRICAL DETAILS
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E4.4	ELECTRICAL DETAILS
E4.5	ELECTRICAL DETAILS
E4.6	ELECTRICAL DETAILS
E4.7	ELECTRICAL DETAILS
E4.8	ELECTRICAL DETAILS
E4.9	ELECTRICAL DETAILS
E4.10	ELECTRICAL DETAILS
E5.1	SINGLE LINE
E5.2	PANEL SCHEDULES
E5.3	PANEL SCHEDULES
E5.4	PANEL SCHEDULES
AV1.1	AUDIO/VISUAL
FA1.1	FIRE ALARM - GENERAL REQUIREMENTS
FA1.2	FIRE ALARM - FIRST FLOOR DEVICE LAYOUT
FA1.3	FIRE ALARM - MEZZANINE DEVICE LAYOUT
FA1.4	FIRE ALARM - ROOF PLAN DEVICE LAYOUT
FA1.5	FIRE ALARM - ONE LINE DIAGRAM
FA1.6	FIRE ALARM - FACP AND LOC WIRING DETAILS
FA1.7	FIRE ALARM - FACP PANEL FRONT & DIMENSION DETAILS
FA1.8	FIRE ALARM - DEVICE DETAILS AND CALCULATIONS
AC1.1	ACCESS AND SECURITY COVER SHEET
AC1.2	ACCESS AND SECURITY 1ST FLOOR PLAN
AC1.3	ACCESS AND SECURITY DETAILS
AC1.4	ACCESS AND SECURITY RISER DIAGRAM
PA1.1	PUBLIC ADDRESS COVER SHEET
PA1.2	PUBLIC ADDRESS 1ST FLOOR PLAN
PA1.3	PUBLIC ADDRESS DETAILS AND RISER DIAGRAM
CAM1.1	CAMERA FIELD OF VIEWS
CAM1.2	CCTV SYSTEM ONE-LINE

LUMINAIRE SCHEDULE

INTERIOR

TYPE	DESCRIPTION	MFG	PART #	MOUNTING	LAMP	VA	VOLT
A	2'X4' ACRYLIC LENS TROFFER	LITHONIA	2VTL4 48L ADP EZ1 LP835 N100	RECESSED	LED	46.4	277
AE	2'X4' ACRYLIC LENS TROFFER	LITHONIA	2VTL4 48L ADP EZ1 LP835 N100 EMG	RECESSED	LED	46.4	277
B	2'X2' ACRYLIC LENS TROFFER	LITHONIA	2VTL2 33L ADP EZ1 LP835 N100 NES7	RECESSED	LED	34.5	277
BE	2'X2' ACRYLIC LENS TROFFER	LITHONIA	2VTL2 33L ADP EZ1 LP835	RECESSED	LED	34.5	277
C	8' LINEAR PENDANT	PINNACLE	EX3B AL 0 35HO 35HO 8 AC48G1 277 1C W	SUSPENDED	LED	40.8	277
F	4' RESTROOM VANITY	PRUDENTIAL	R1 LED35 MO 4' SAL TMW UNV SUR DM10	SURFACE	LED	22	277
G	6" CAN	LITHONIA	EVO 35/25 6AR MD LD 277 EZ1 NPS80EZ	RECESSED	LED	42.1	277
G2	6" CAN - WET LOCATION	LITHONIA	EVO 35/25 6AR MD LD 277 EZ1 NPS80EZ	RECESSED	LED	42.1	277
H4	4' STRIP	LITHONIA	ZL1N L48 5000LM FST MVOLT 35K 80CRI WH	SUSPENDED	LED	42	277
H8	8' STRIP	LITHONIA	TZLIN L96 6000LM FST MVOLT 35K 80CRI WH	SUSPENDED	LED	60	277
J	1'X4' STRIP WRAP-AROUND	LITHONIA	STL4 40L EZ1 LP835	SURFACE	LED	34.9	277
K	HIGHBAY	BAGHELLI	BS830LED 125W WT40 22AL PK48 120/277 AL	SUSPENDED	LED	131	277
M	16' LINEAR DIRECT/INDIRECT	BARTCO	BSS260 4S 85CRI DIM 1 5 5 CM48 WH	SUSPENDED	LED	247.2	277
X1	EXIT - OFFICE	LITHONIA	EDG 2 G EL	SURFACE	LED	3	277
X2	EXIT - SHOP	LITHONIA	LQM S W 3 G 120/277 EL N	SURFACE	LED	1	277

SITE/EXTERIOR

TYPE	DESCRIPTION	MFG	PART #	MOUNTING	LAMP	VA	VOLT
G2	6" CAN - WET LOCATION	LITHONIA	EVO 35/25 6AR MD LD 277 EZ1 NPS80EZ	RECESSED	LED	42.1	277
S1	WALL PACK	LITHONIA	DSXW2 LED 30C 700 40K T3M MVOLT DDBXD	SURFACE	LED	47	277
S2	DOWN LIGHT	GOTHAM	EVO 35/25 6AR MWD LS	RECESSED	LED	29	277
S3	4' LINEAR STRIP (WEATHERPROOF)	LUMINAIRE	LVP751 50W 3500K 277 CP WHT DIM WET TXSD	SURFACE	LED	54.3	277
S2-SL4 HS	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-04-LED-E1-SL4-600-HSS	POLE	LED	129	277
S2-SLL2 HS	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-04-LED-E1-SL2-600-HSS	POLE	LED	129	277
S2-SL4	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-04-LED-E1-SL4-600	POLE	LED	129	277
S2-SL2	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-04-LED-E1-SL2-600	POLE	LED	129	277
S2-T4FT	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-02-LED-E1-T4FT-600	POLE	LED	66	277
S2-SLR	REPLACEMENT HEAD ON EXISTING POLE	MCGRA	GLEON-AF-01-LED-E1-SLR	POLE	LED	59	277
S4	ENTRANCE SIGN LIGHT	MODA	MODA COVE EXT SO S1 S 3HI 4	SURFACE	LED	19	277
S5	MONUMENT SIGN LIGHT	LITHONIA	OLBF 8 50K DDB	GROUND	LED	11	277
S5-D-SYM	BOLLARD	LITHONIA	DSXB LED 16C 700 40K SYM	GROUND	LED	39	277
S6	SIGN LIGHT	ECOSENSE	F080 2H-H0-40-8-15-S-X-C/F080-SMP-S	SURFACE	LED	23	277
S7	FLAG POLE LIGHT	LITHONIA	HLF1 LED P1 MFL MVOLT IS DDBXD	POLE	LED	166	277
S8	TRASH AREA WALL PACK	LITHONIA	KAXW LED P1 40K R3 MVOLT DDBXD	SURFACE	LED	78	277

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
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SCHETTER ELECTRIC, INC.
Contracting and Engineering
471 Bannon Street, Sacramento, CA 95814
(916) 446-2521 Fax (916) 446-2621
CA License No. 245778 NV License No. B-54453 & C2-54454

Electrical O&M

Electrical Warranties

THESE PLANS HAVE BEEN PREPARED BY SCHETTER ELECTRIC, INC. IN ACCORDANCE WITH THE CALIFORNIA BUSINESS AND PROFESSIONS CODE SECTION 6737.3 FOR EXCLUSIVE USE BY SCHETTER ELECTRIC, INC. IN THE DESIGN-BUILD ELECTRICAL INSTALLATION OF THE INDICATED WORK. THESE PLANS ARE THE SOLE PROPERTY OF SCHETTER ELECTRIC, INC. AND ARE NOT TO BE USED FOR THE PURPOSE OF BIDDING OR INSTALLATION BY ANY OTHER ELECTRICAL CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER — JAMES MICHAEL KEATING — E 009586 Exp. 9-30-2019 — ELECTRICAL — STATE OF CALIFORNIA

SIGNATURE DATE: _____

SEAL

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
SYMBOLS, ABBREVIATIONS, SCHEDULES

Drawn By: KPB
Checked By: JMc
Project No.: 15-245
Date: 08/30/2016

NO.	DATE	ISSUE
1	2016/11/09	CONTROLS UPDATE

DRAWING NO.
E0.1

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STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-01-E
Indoor Lighting		(Page 5 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
■ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

H. INDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST

Luminaire Schedule		Installed Watts					Location	Field Inspector[1]	
A	B	C	D		E	F	G	H	
Name or Item Tag	Complete Luminaire Description (i.e., 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	How wattage was determined: CEC Default from NA8	According to §130.0(c)	Number Luminaires	Total Installed Watts in this area (C x E)	Primary Function area in which these luminaires are installed	Pass	Fail
A	2X4 LED TROFFER	46	■	☐	52	2,412.8	CLASSROOM, OFFICE	☐	☐
B	2X2 LED TROFFER	34	☐	☐	20	680.0	CLASSROOM, CORRIDOR	☐	☐
C	8' LINEAR PENDANT	41	☐	☐	7	287.0	CONFERENCE	☐	☐
F	4' RESTROOM VANITY	22	☐	☐	4	88.0	RESTROOM	☐	☐
G	6" LED CAN	42	☐	☐	39	1,638.0	LOBBY, RECEPTION	☐	☐
H4	4' LED STRIP	42	☐	☐	1	42.0	MPOE	☐	☐
H8	8' LED STRILP	83	☐	☐	32	2,656.0	ELECTRIC RM, VOCATIONAL RM	☐	☐
J	1X4 STRIP WRAP	35	☐	☐	9	315.0	UTILILTY RM	☐	☐
K	HIGHBAY LED	131	☐	☐	62	8,122.0	VOCATIONAL RM	☐	☐
M	16' LINEAR LED	247	☐	☐	16	3,952.0	LOBBY	☐	☐
			☐	☐	-	-		☐	☐
					INSTALLED WATTS PAGE TOTAL:	16,240.8	Enter sum total of all pages into NRCC-LTI-01-E, Page 2	16,240.8	

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-01-E
Indoor Lighting		(Page 6 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: K BOWMAN	Documentation Author Signature:
Company: SCHETTER ELECTRIC, INC.	Signature Date: 15-Mar-16
Address: 471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: K BOWMAN	Responsible Designer Signature:
Company: SCHETTER ELECTRIC, INC.	Date Signed: 15-Mar-16
Address: 471 BANNON STREET	License: C-10 #245778
City/State/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

STATE OF CALIFORNIA
INDOOR LIGHTING - LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-02-E
Indoor Lighting - Lighting Controls		(Page 1 of 3)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

The NRCC-LTI-02-E shall be used to document all mandatory and prescriptive lighting controls that are applicable to the project.

Mandatory Lighting Control Declaration Statements (Indicate if the measure applies by checking yes or no below.)

YES	NO	Control Requirements
■		Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with Section 110.9.
■		Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with Section 130.4(b).
	■	One or more Track Lighting Integral Current Limiters shall be installed which have been certified to the Energy Commission in accordance with §110.9 and §130.0. Additionally, an Installation Certificate shall be submitted in accordance with Section 130.4(b).
	■	A Track Lighting Supplementary Overcurrent Protection Panel shall be installed in accordance with Section 110.9 and Section 130.3. Additionally, an Installation Certificate shall be installed in accordance with Section 130.4(b).
■		All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with Section 130.1.
■		All luminaires shall be functionally controlled with manually switched ON and OFF lighting controls in accordance with Section 130.1(a).
■		General lighting shall be separately controlled from all other lighting systems in an area. Floor and wall display, window display, case display, ornamental, and special effects lighting shall each be separately controlled on circuits that are 20 amps or less. When track lighting is used, general, display, ornamental, and special effects lighting shall each be separately controlled; in accordance with Section 130.0(a)4.
■		The general lighting of any enclosed area 100 square feet or larger, with a connected lighting load that exceeds 0.5 watts per square foot shall meet the multi-level lighting control requirements in accordance with Section 130.1(b).
■		An installed indoor lighting shall be equipped with controls that meet the applicable Shut-OFF control requirements in Section 130.1(c).
■		Lighting in all Daylit Zones shall be controlled in accordance with the requirements in Section 130.1(d) and daylit zones are shown on the plans.
■		Lighting power in buildings larger than 10,000 square feet shall be capable of being automatically reduced in response to a Demand Responsive Signal in accordance with Section 130.1(e).
■		Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4(a). The controls required to meet the Acceptance Requirements include automatic daylight controls, automatic shut-OFF controls, and demand responsive controls.

STATE OF CALIFORNIA
INDOOR LIGHTING - LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-02-E
Indoor Lighting - Lighting Controls		(Page 2 of 3)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A separate document must be filled out for Conditioned and Unconditioned Spaces. This page is used only for the following:
■ CONDITIONED SPACE ☐ UNCONDITIONED SPACE

B. MANDATORY AND PRESCRIPTIVE INDOOR LIGHTING CONTROL SCHEDULE, PAF CALCULATION, and FIELD INSPECTION CHECKLIST

Lighting Control Schedule			Standards Complying With[1] (✓ all that apply, or enter 'E' if Exempted)							PAF Credit Calculation[2]				Field Inspector	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
Location in Building	Type/ Description of Lighting Control (i.e.: occupancy sensor, automatic time switch, dimmer, automatic daylight, etc...)	# of Units	§130.1(a)	§130.0(b)	§130.1(c)	§130.1(d)	§130.1(e)	§140.6(a)2	§140.6(d)	Watts of Controlled Lighting	PAF	Control Credit (K x L)	✓ if Acceptance Test Required	Pass	Fail
ELECTRIC ROOM	DEMAND RESPONSE	1					■					-	■	☐	☐
OFFICES, CONFERENCE	OCCUPANCY SENSOR	15										-	■	☐	☐
ALL EXCEPT ELECTRIC, RESTROOMS	MANUAL ON/OFF/DIM	16	■	■								-	■	☐	☐
CLASSROOM, CONF	DAYLIGHT	3				■						-	■	☐	☐
												-		☐	☐
												-		☐	☐
												-		☐	☐
Control Credit PAGE TOTAL (Sum of Column M):												-			
IF MULTIPLE PAGES ARE USED, ENTER SUM TOTAL OF Control Credit for all pages HERE (Sum of all Column M):												-			
												Enter Control Credit total into NRCC-LTI-01-E; Page 2.			

1. §130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive; §140.6(a) = Additional lighting controls installed to earn a PAF; §140.6(d) = Prescriptive Secondary Sidelit Daylight Controls.
2. Check Table 140.6-A for correct Factor. PAFs shall not be traded between conditioned and unconditioned spaces. As a condition to earn a PAF, an Installation Certificate is also required to be filled out, signed, and submitted.

STATE OF CALIFORNIA
INDOOR LIGHTING - LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-02-E
Indoor Lighting - Lighting Controls		(Page 3 of 3)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: K BOWMAN	Documentation Author Signature:
Company: SCHETTER ELECTRIC, INC.	Signature Date: 15-Mar-16
Address: 471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: K BOWMAN	Responsible Designer Signature:
Company: SCHETTER ELECTRIC, INC.	Date Signed: 15-Mar-16
Address: 471 BANNON STREET	License: C-10 #245778
City/State/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

ELECTRICAL VOLTAGE DROP WORKSHEET
VOLTAGE DROP WORKSHEET (TITLE 24, PART 8.4)

Project Name: SCCD AUTOTECH Date Prepared: 15-Mar-16

	CONDUCTOR ID	CU	AL	LENGTH	AMPS	PARALLEL	VOLTS	T24 Power Factor		COS Ø	RADIANS	SINØ	V DROP	% DROP
1	MSB-MH	3/0		20 FT	320.0 A	2	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.52	0.11%
2	MSH-QH	3/0		20 FT	320.0 A	2	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.52	0.11%
3	MSB-LTG	2		20 FT	80.0 A	1	480V 3Ø	277V LED LIGHTING	0.50	0.500	1.047	0.866	0.41	0.09%
4	MSB-EV	4/0		20 FT	180.0 A	1	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.50	0.10%
5	MSB-PV	4/0		20 FT	180.0 A	1	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.50	0.10%
6	MH - TX-M	2		220 FT	50.0 A	1	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	3.81	0.79%
7	QH -TX-Q	250		15 FT	150.0 A	2	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.14	0.03%
8	LTG - INV	6		30 FT	18.0 A	1	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.42	0.09%
9	MSB-TX-L	250		20 FT	125.0 A	1	480V 3Ø	OTHER	0.85	0.850	0.555	0.527	0.32	0.07%
10	TX-M - ML	1/0		15 FT	140.0 A	1	208V 3Ø	RECEPTACLES	0.60	0.600	0.927	0.800	0.42	0.20%
11	TX-Q - QDL	350		15 FT	15.0 A	2	208V 3Ø	RECEPTACLES	0.60	0.600	0.927	0.800	0.01	0.01%
12	TX-L - LA1,2,3	3/0		15 FT	380.0 A	2	208V 3Ø	RECEPTACLES	0.60	0.600	0.927	0.800	0.44	0.21%
13	LA3 - TX	2		155 FT	80.0 A	1	208V 3Ø	RECEPTACLES	0.60	0.600	0.927	0.800	3.55	1.71%
14				FT	A									
15				FT	A									
16				FT	A									
17				FT	A									
18				FT	A									
19				FT	A									
20				FT	A									
21				FT	A									
22				FT	A									
23				FT	A									
24				FT	A									
25				FT	A									
26				FT	A									
27				FT	A									
28				FT	A									
29				FT	A									
30				FT	A									

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-01-E
Indoor Lighting		(Page 1 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A. General Information

Climate Zone: 12	Conditioned Floor Area: 29,987.0		
	Unconditioned Floor Area: -		
Building Type:	■ Nonresidential	☐ High-Rise Residential	☐ Hotel/Motel
☐ Schools	☐ Relocatable Public Schools	■ Conditioned Spaces	☐ Unconditioned Spaces
Phase of Construction:	☐ New Construction	☐ Addition	■ Alteration
Method of Compliance:	☐ Complete Building	■ Area Category	☐ Tailored

B. Lighting Compliance Documents (select yes for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

YES	NO	FORM	TITLE
■		NRCC-LTI-01-E	Certificate of Compliance. All Pages required on plans for all submittals.
■		NRCC-LTI-02-E	Lighting Controls, Certificate of Compliance, and PAF Calculation. All Pages required on plans for all submittals.
■		NRCC-LTI-03-E	Indoor Lighting Power Allowance
	■	NRCC-LTI-04-E	Tailored Method Worksheets
	■	NRCC-LTI-05-E	Line Voltage Track Lighting Worksheets

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-01-E
Indoor Lighting		(Page 2 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

C. Summary of Allowed Lighting Power

Conditioned and Unconditioned space Lighting must not be combined for compliance

	Indoor Lighting Power for Conditioned Spaces		Watts	Indoor Lighting Power for Unconditioned Spaces		Watts
1.	**Installed** Lighting NRCC-LTI-01-E, Page 5	+	16,240.8	**Installed** Lighting NRCC-LTI-010E, Page 5	+	-
2.	PORTABLE ONLY FOR OFFICES NRCC-LTI-01-E, Page 4	+	-			
3.	Minus Lighting Control Credits NRCC-LTI-02-E, Page 2	-	-	Minus Lighting Control Credits NRCC-LTI-02-E, Page 2	-	-
4.	Adjusted **Installed** Lighting Power (row 1 plus row 2 minus row 3)	=	16,240.8	Adjusted **Installed** Lighting Power (row 1 minus row 3)	=	-
5.	Complies ONLY if **Installed ≤ Allowed**		⇕	Complies ONLY if **Installed ≤ Allowed**		⇕
6.	**Allowed** Lighting Power Conditioned NRCC-LTI-03-E, Page 1		32,175.3	**Allowed** Lighting Power Unconditioned NRCC-LTI-03-E, Page 1		-

D. Declaration of Required Installation Certificates

Declare by selecting yes for all Installation Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Form/Title	
■		NRCI-LTI-01-E - Must be submitted for all buildings.	☐ Field Inspector
	■	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS) to be recognized for compliance.	☐ Field Inspector
	■	NRCI-LTI-03-E - Must be submitted for a line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting, to be recognized for compliance.	☐ Field Inspector
	■	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐ Field Inspector
	■	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐ Field Inspector
	■	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐ Field Inspector

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-01-E
Indoor Lighting		(Page 3 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

E. Declaration of Required Certificates of Acceptance

Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Form/Title	
■		NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐ Field Inspector
■		NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐ Field Inspector
	■	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐ Field Inspector

A separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
■ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

F. INDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST

- ■ The actual indoor lighting power listed on this page and on the next page includes all installed permanent and planned portable lighting systems.
- ☐ When Complete Building Method is used for compliance, list each different type of luminaire on separate lines.
- ■ When Area Category Method or Tailored Method is used for compliance, list each different type of luminaire by each different function area on separate lines.
- ☐ Also include track lighting in schedule, and submit the track lighting compliance form (NRCC-LTI-05-E) when line-voltage track lighting is installed.

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-01-E
Indoor Lighting		(Page 4 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

G. Installed Portable Luminaires in Offices - Exception to Section 140.6(a)

- ☐ This section shall be filled out ONLY for portable luminaires in offices (As defined in §100.1). All other planned portable luminaires shall be documented on next page of this compliance form.
- ☐ This section is used to determine if greater than 0.3 watts of portable lighting is planned for any office.
- ☐ Fill out a separate line for each different office. Small offices that are typical (having the same general and portable lighting) may be grouped together. This allowance shall not be traded between offices having different lighting systems.

Office Portable Luminaire Schedule	Office Installed Portable Luminaire Watts Per Square Foot						Accountable Watts	Office Location	Field Inspector	
1	2	3	4	5	6	7	8	9	10	
Complete Luminaire Description (i.e., LED, under cabinet, furniture mounted direct/indirect)	Watts per Luminaire	Number of Luminaires	Installed portable luminaire watts in this office (G02 x G03)	Square feet of this office	Watts per square foot (G04 / G05)	If F ≤ 0.3, enter zero. If G06 > 0.3, (G06-0.3)	G05 x G07	Identify Office area in which these portable luminaires are installed	Pass	Fail
N/A			-		-	-	-		☐	☐
			-		-	-	-		☐	☐
Total installed portable luminaire watts that are greater than 0.3 watts per square foot per office:							-	Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (Revised 12/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-01-E
Electrical Power Distribution		(Page 4 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

E. Voltage Drop
- ■ Attach voltage drop worksheet to this form.
- ■ Field inspector has discretion to approve the worksheets; the tables shown below in this section are advisory only.
- ■ Feeder conductors and branch circuits that are dedicated to emergency services are exempt from these requirements.
- ■ An advisory tables of typical power factors is shown below.

	Field Inspector: Pass	Fail
Feeders. Feeder conductors shall be sized for a maximum voltage drop of 2 percent at design load.	☐	☐
Branch Circuits. Branch circuit conductors shall be sized for a maximum voltage drop of 3 percent at design load.	☐	☐

Compliance Manual, Chapter 8, Table 8-2: Typical Power Factors for Voltage Drop Calculations

Load Type	Default Power Factor at 120 volts	Default Power Factor at 277 volts	Clarifying Notes
Fluorescent lighting	0.95	0.95	
Compact fluorescent lighting	0.9 (hardwired) 0.5 (GU-24)	0.9 (hardwired) 0.3 (GU-24)	NPF magnetic ballasts use GU-24 values
LED lighting	0.7	0.5	May be higher if specifications call for high power factor drivers
Incandescent lighting	1.0	1.0	
HID lighting	0.9	0.9	May be lower if NPF ballasts are specified
HVAC packages	0.85	0.9	
Other motors < 5 HP	0.8	0.8	
Other motors > 5 HP	0.85	0.85	
Kitchen Equipment	0.9	N/A	
Receptacles	0.6	N/A	For dedicated receptacles, may be rated according to the load
Electric heating including hot water	1.0	1.0	
Other	0.85	0.85	

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (Revised 12/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-01-E
Electrical Power Distribution		(Page 5 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

F. Circuit Controls for 120-Volt Receptacles
- ■ Controlled 120 volt receptacles shall be provided, as required by Section 130.5(d) of the Standards.
- ■ In open office areas, controlled circuit receptacles are not required if, at time of final permit, workstations are installed, and each workstation is equipped with an occupant sensing control that is permanently mounted in each workstation, and which controls a hardwired, nonresidential-rated power strip. Plug-in strips and other plug-in devices that incorporate an occupant sensor shall not be used for this exception.
- ■ Receptacles that are only for the following purposes are exempt:
  - Receptacles specifically for refrigerators and water dispensers in kitchenettes.
  - Receptacles located a minimum of six feet above the floor that are specifically for clocks.
  - Receptacles for network copiers, fax machines, A/V and data equipment other than personal computers in copy rooms.

		Field Inspector: Pass	Fail
1.	At least one controlled receptacle is installed within 6 feet of each uncontrolled receptacle, or split-wired duplex receptacles are installed, that have one controlled and one uncontrolled receptacle. This applies in all of the following spaces: • Private offices, open office areas • Receptions and lobbies • Conference rooms • Kitchenettes in office spaces • Copy room	☐	☐
2.	Electric circuits serving controlled receptacles are equipped with automatic shut-OFF controls following the requirements prescribed in Section 130.1(c)1 through 5 (in many cases this will mean that the receptacles are connected to the same automatic shut-OFF system as the general lighting of the space).	☐	☐
3.	Controlled receptacles shall have a permanent marking to differentiate them from uncontrolled receptacles.	☐	☐
4.	For open office areas, controlled circuits shall be provided and marked to support installation and configuration of office furniture with receptacles that comply with Section 130.1(a), 130.5(d)1,2, and 3.	☐	☐
5.	For hotel and motel guest rooms at least one-half of the 120-volt receptacles in each guest room are controlled receptacles that comply with Section 130.5(d)1, 2, and 3 (see numbers 1, 2 and 3 above). Electric circuits serving controlled receptacles have captive card key controls, occupancy sensing controls, or automatic controls such that no longer than 30 minutes after the guest room has been vacated, power is switched off.	☐	☐
6.	Plug-in strips and other plug-in devices that incorporate an occupant sensor are not used to comply with any of these requirements.	☐	☐

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
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CERTIFICATE OF COMPLIANCE		NRCC-ELC-01-E
Electrical Power Distribution		(Page 6 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: K BOWMAN	Documentation Author Signature:
Company: SCHETTER ELECTRIC, INC.	Signature Date: 15-Mar-16
Address: 471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):
City/Sate/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: K BOWMAN	Responsible Designer Signature:
Company: SCHETTER ELECTRIC, INC.	Date Signed: 15-Mar-16
Address: 471 BANNON STREET	License: C-10 #245778
City/Sate/Zip: SACRAMENTO, CA 95811	Phone: 916-446-2521

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (Revised 12/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-01-E
Electrical Power Distribution		(Page 1 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A. General Information

Project Address: 1683 N. ASCOT PARKWAY, VALLEJO	Climate Zone: 12	Conditioned Floor Area: 29,987.0	
		Unconditioned Floor Area: -	
General Information			
Building Type: ■ Nonresidential	☐ High-Rise Residential	☐ Hotel / Motel	
☐ Schools	☐ Relocatable Public Schools	■ Conditioned Spaces	☐ Unconditioned Spaces
Phase of Construction: ■ New Construction	☐ Addition	☐ Alteration	

B. Electrical Service Metering
- ■ Each newly installed electrical service (in both existing and newly constructed buildings) is required to be metered, as set out in Table 130.5-A, which is reproduced below.
- ■ Fill out a separate line for each electrical service that is connected to the building.

Electrical Service Schedule	Electrical Service Rating	Metering Capabilities (check all that are present)				Field Inspector	
A	B	C	D	E	F	G	
Designation/location in building/description	kVA	Instantaneous (at the time) kW demand	Historical peak demand (kW)	Resettable kWh	kWh per rate period	Pass	Fail
MSB	996.0	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐

Table 130.5-A - MINIMUM REQUIREMENTS FOR METERING OF ELECTRICAL LOAD

Meter Rating (kVA)	50 kVA or less	More than 50kVA and less than or equal to 250 kVA	More than 250 kVA and less than or equal to 1000kVA	Services rated more than 1000kVA
Instantaneous (at the time) kW demand	Required	Required	Required	Required
Historical peak demand (kW)	Not required	Not required	Required	Required
Resettable kWh	Required	Required	Required	Required
kWh per rate period	Not required	Not required	Not required	Required

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (Revised 12/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-01-E
Electrical Power Distribution		(Page 2 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

C. Disaggregation of Electrical Circuits
- ■ Each newly installed switchboard, panel, and motor control center (in both existing and newly constructed buildings) is required to be disaggregated according to the requirements of Table 130.5-B, shown on the next page.
- ■ Individual branch circuits, taps or disconnects that require overcurrent protection devices rated 60A or greater.
- ☐ As an alternative, current transformers can be added for individual branch circuits and loads throughout the building, and a permanent measurement system can be installed. In this case, disaggregated wiring would not be required as long as the metering system allows the equivalent desaggregated measurements.
- ■ Fill out a separate line for each switchboard, motor control center, panelboard and subpanel.

Switchboard, motor control center, panelboard or subpanel	Electrical Service that supplies that switchboard or panel	Electrical Service Rating	Field Inspector	
A	B	C	D	
Designation/location in building/description	Designation/location in building/description	kVA	Pass ☐	Fail ☐
MSB	ELECTRIC ROOM	996	☐	☐
MH	ELECTRIC ROOM	332	☐	☐
QH	ELECTRIC ROOM	332	☐	☐
LTG	ELECTRIC ROOM	83	☐	☐
EV	ELECTRIC ROOM	75	☐	☐
ML	ELECTRIC ROOM	45	☐	☐
QDL	ELECTRIC ROOM	150	☐	☐
EM LTG	ELECTRIC ROOM	15	☐	☐
LA1,2,3	ELECTRIC ROOM	112.5	☐	☐
QL1A,B	ELECTRIC ROOM	108	☐	☐
QL2A,B	ELECTRIC ROOM	108	☐	☐
TC	ELECTRIC ROOM	36	☐	☐
			☐	☐

OR

Current transformers have been attached to individual branch circuits and loads throughout the building, and a permanent measurement system is installed that allows an equivalent degree of disaggregated measurement as required by the standards.	☐	☐

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (Revised 12/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-01-E
Electrical Power Distribution		(Page 3 of 6)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

D. Disaggregation of Electrical Circuits (continued)

Table 130.5-B - MINIMUM REQUIREMENTS FOR SEPARATION OF ELECTRICAL LOAD

Table 130.5 - B sets the upper limit on how many load(s) of each type can be supplied by each feeder. A feeder may not supply loads of more than one type unless the service is rated at 50 kVA or less. For instance, on the fifth row of the table, one feeder on a service > 50 kVA could be used to supply all the plug loads on a floor of a building, provided that there are no areas in which more than 25kVA of plug load is supplied to a space less than 5000sf.

Load Type	Services rated 50 kVA or less	Services rated more than 50kVA and less than or equal to 250 kVA	Services rated more than 250kVA and less than or equal to 1000 kVA	Services rated more than 1000kVA
Lighting including exit and egress lighting and exterior lighting	Not required	All lighting in aggregate	All lighting disaggregated by floor, type or area	All lighting disaggregated by floor, type or area
HVAC systems and components including chillers, fans, heaters, furnaces, package units, cooling towers, and circulation pumps associated with HVAC	Not required	All HVAC in aggregate	All HVAC in aggregate and each HVAC load rated at least 50 kVA	All HVAC in aggregate and each HVAC load rated at least 50 kVA
Domestic and service water system pumps and related systems and components	Not required	All loads in aggregate	All loads in aggregate	All loads in aggregate
Plug load including appliances rated less than 25 kVA	Not required	All plug load in aggregate Groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf	All plug load separated by floor, type or area. Groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf	All plug loads separated by floor, type or area. All groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf
Elevators, escalators, moving walks, and transit systems	Not required	All loads in aggregate	All loads in aggregate	All loads in aggregate
Other individual non-HVAC loads or appliances rated 25 kVA or greater	Not required	All	Each	Each
Industrial and commercial load centers 25 kVA or greater including theatrical lighting installations and commercial kitchens	Not required	All	Each	Each
Renewable power source (net or total)	Each group	Each group	Each group	Each group
Loads associated with renewable power source	Not required	All loads in aggregate	All loads in aggregate	All loads in aggregate
Charging stations for electric vehicles	All loads in aggregate	All loads in aggregate	All loads in aggregate	All loads in aggregate

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CA License No. 245778 NV License No. B-54453 & C2-54454

THESE PLANS HAVE BEEN PREPARED BY SCHETTER ELECTRIC, INC. IN ACCORDANCE WITH THE CALIFORNIA BUSINESS AND PROFESSIONS CODE SECTION 6737.3 FOR EXCLUSIVE USE BY SCHETTER ELECTRIC, INC. IN THE DESIGN-BUILD ELECTRICAL INSTALLATION OF THE INDICATED WORK. THESE PLANS ARE THE SOLE PROPERTY OF SCHETTER ELECTRIC, INC. AND ARE NOT TO BE USED FOR THE PURPOSE OF BIDDING OR INSTALLATION BY ANY OTHER ELECTRICAL CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER
JAMES WAYNE HINES
E 009586
Exp. 9-30-2018
ELECTRICAL
STATE OF CALIFORNIA

SIGNATURE DATE:__________

SEAL

AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC ______ F/LS ______ SS ______
DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TITLE 24 DOCUMENTATION

Drawn By	KPB
Checked By	JMc
Project No.	15-245
©Date	08/30/2016
DRAWING NO.	**E0.2**

NO. DATE ISSUE

C:\Users\tjohnston\Documents\VALLEJO AUTO TECH - ELEC_Neckster.rvt
8/2/2017 12:33:27 PM

STATE OF CALIFORNIA

OUTDOOR LIGHTING POWER ALLOWANCES

CEC-NRCC-LTO-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-03-E
Outdoor Lighting Power Allowances		(Page 1 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A. OUTDOOR LIGHTING POWER ALLOWANCE SUMMARY

1.	General Hardscape Lighting Power Allowance (Site Total from Section B of NRCC-LTO-03-E)	1.	30,001.6
2.	Additional Specific "use it or lose it" Lighting Power Allowances listed in each of these cells shall be identical to total allowed watts determined in Section C-1 to C-4 of NRCC-LTO-03-E.		
	PER APPLICATION from Section C-1: - + PER UNIT LENGTH (SALES FRONTAGE) from Section C-2: - + PER HARDSCAPE AREA (ORNAMENTAL LIGHTING) from Section C-3: - + PER SPECIFIC AREA from Section C-4: - =	2.	-
3.	**Sum Total ALLOWED** Outdoor Lighting Wattage (add rows 1 and 2)	3.	30,001.6

B. GENERAL HARDSCAPE LIGHTING POWER ALLOWANCE FROM TABLE 140.7-A

Area Wattage Allowance (AWA)				Linear Wattage Allowance (LWA)			Initial Wattage Allowance (IWA)	Total General Hardscape Lighting Allowance
A	B	C	D	E	F	G	H	I
Name of area	Illuminated Hardscape Area	AWA Per Square Foot	AWA (B x C)	Perimeter Length of General Hardscape	LPA per Linear Foot	LWA (E x F)	IWA (Watts)	D + G + H
PARKING	282293.0	0.09	25,406.4	2727.0	0.6	1,636.2	770.0	27,812.6
11 ENTRYDOORS @90W			-			-	990.0	990.0
CANOPIES (2939 SQFT@.408W)			-			-	1199.0	1,199.0
			-			-		-
			-			-		-
							TOTAL	30,001.6

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

STATE OF CALIFORNIA

OUTDOOR LIGHTING POWER ALLOWANCES

CEC-NRCC-LTO-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-03-E
Outdoor Lighting Power Allowances		(Page 2 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

C. ADDITIONAL SPECIFIC "USE IT OR LOSE IT" OUTDOOR LIGHTING POWER ALLOWANCES FOR SPECIFIC APPLICATIONS

☐ The additional specific outdoor lighting power allowance shall be the smaller of the allowed lighting power or the actual lighting power used.

☐ Use Outdoor Lighting Zone (OLZ) that is documented on page 1 of NRCC-LTO-01-E to calculate the specific wattage allowances.

C-1 WATTAGE ALLOWANCE PER APPLICATION - Table 140.7-B

☐ Available only for qualifying locations, which include Building Entrances or Exits; Primary Entrances to Senior Care Facilities, Police Stations, Hospitals, Fire Stations, and Emergency Vehicle Facilities; Drive Up Windows; Vehicle Service Station Uncovered Fuel Dispenser.

☐ If more than one luminaire type is used per location, use multiple rows for that location.

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for which allowance is claimed	Number of qualifying locations	Wattage Allowance per qualifying location	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			-					-	-
			-					-	-
			-					-	-
			-					-	-
Sum total allowance per application on this site:									-

C-2 WATTAGE ALLOWANCE PER UNIT LENGTH (Sales Frontage) from Table 140.7-B

☐ If more than one luminaire type is used per location, use multiple rows for that location.

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for which allowance is claimed	Linear feet of Sales Frontage	Wattage Allowance per linear foot	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			-					-	-
			-					-	-
			-					-	-
			-					-	-
Sum total allowance for sales frontage on this site:									-

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OUTDOOR LIGHTING POWER ALLOWANCES

CEC-NRCC-LTO-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-03-E
Outdoor Lighting Power Allowances		(Page 3 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

C-3 WATTAGE ALLOWANCE PER SQUARE FOOT OF HARDSCAPE AREA (Ornamental Lighting) - Table 140.7-B

☐ Allowance for the total site illuminated hardscape area. Luminaires qualifying for this allowance shall be rated for 100 watts or less as determined in accordance with Section 130.0(c), and shall be post-top luminaires, lanterns, pendant luminaires, or chandeliers.

☐ If more than one luminaire type is used per location, use multiple rows for that location.

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS			DESIGN WATTS					
Name of area for which ornamental allowance is claimed	Square feet of Hardscape	Wattage Allowance per square foot	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			-					-	-
			-					-	-
			-					-	-
			-					-	-
Sum total allowance for ornamental on this site:									-

C-4 WATTAGE ALLOWANCE PER SQUARE FOOT OF SPECIFIC AREA - Table 140.7-B

☐ Allowances for Building Facades; Outdoor Sales Lots; Vehicle Service Station Hardscape; Vehicle Service Station Canopies; Sales Canopies; Non-sales Canopies; Guard Stations; Student Pick-up/Drop-off zone; Outdoor Dining; Special Security Lighting for Retail Parking and Pedestrian Hardscape.

☐ If more than one luminaire type is used per location, use multiple rows for that location.

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for which allowance is claimed	Illuminated Area of Application	Wattage Allowance per square foot	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			-					-	-
			-					-	-
			-					-	-
			-					-	-
Sum total allowance per square foot of specific area on this site:									-

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OUTDOOR LIGHTING POWER ALLOWANCES

CEC-NRCC-LTO-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-03-E
Outdoor Lighting Power Allowances		(Page 4 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	K BOWMAN	Documentation Author Signature:	
Company:	SCHETTER ELECTRIC, INC.	Signature Date:	15-Mar-16
Address:	471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	K BOWMAN	Responsible Designer Signature:	
Company:	SCHETTER ELECTRIC, INC.	Date Signed:	15-Mar-16
Address:	471 BANNON STREET	License:	C-10 #245778
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

STATE OF CALIFORNIA

OUTDOOR LIGHTING

CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-01-E
Outdoor Lighting		(Page 3 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

I. OUTDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
A	B	C	D		E	F	G	H	I	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NA8	According to §130.0(c)	Number Luminaires	Total Installed Watts in this area (C x E)	Primary Function area in which these luminaires are installed	BUG Rating	Pass	Fail
S1	WALL PACK	71.0	■	☐	25	1,775.0	AREA LIGHTING	B2 U0 G3	☐	☐
S2	POLE LIGHT	157.0	☐	☐	49	7,693.0	AREA LIGHTING	B2 U0 G3	☐	☐
S3	4' STRIP	54.0	☐	☐	15	810.0	CANOPY	NA	☐	☐
G2	DOWN LIGHT	30.0	☐	☐	12	360.0	ENTRIES	NA	☐	☐
			☐	☐		-			☐	☐
			☐	☐		-			☐	☐
INSTALLED WATTS PAGE TOTAL:						10,638.0	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-1-E, Page 1			

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STATE OF CALIFORNIA

OUTDOOR LIGHTING

CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-01-E
Outdoor Lighting		(Page 4 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

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CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

STATE OF CALIFORNIA

OUTDOOR LIGHTING CONTROLS

CEC-NRCC-LTO-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-02-E
Outdoor Lighting Controls		(Page 1 of 3)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

The NRCC-LTO-02-E shall be used to document all mandatory outdoor lighting controls that are applicable to the project.

A. Mandatory Outdoor Lighting Control Declaration Statements

Check all that apply:

- ■ Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with §110.9.
- ☐ Lighting shall be controlled by a lighting control system or an energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with §130.4(b).
- ■ All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with §130.1.
- ☐ Part-Night Outdoor Lighting Controls, as defined in Section 100.1, shall meet the requirements in Section 110.9(b)5.
- ☐ All outdoor incandescent luminaires rated over 100 watts, determined in accordance with Section 130.0(c), shall be controlled by a motion sensor.
- ■ All outdoor luminaires rated for use with lamps greater than 150 lamp watts, determined in accordance with Section 130.0(c), shall comply with Backlight, Uplight, and Glare (collectively referred to as "BUG") in accordance with Section 130.2(b).
- ■ All installed outdoor lighting shall be controlled by a photocontrol or outdoor astronomical time-switch control in accordance with Section 130.2(c)1.
- ■ All installed outdoor lighting shall be circuited and independently controlled from other electrical loads by an automatic scheduling control in accordance with Section 130.2(c)2.
- ☐ All installed outdoor lighting, where the bottom of the luminaire is mounted 24 feet or less above the ground, shall be controlled with automatic lighting controls in accordance with Section 130.2(c)3.
- ☐ For Outdoor Sales Frontage, Outdoor Sales Lots, and Outdoor Sales Canopies lighting, an automatic lighting control in accordance with Section 130.2(c)4.
- ☐ For Building Façade, Ornamental Hardscape and Outdoor Dining lighting, an automatic lighting control in accordance with Section 130.2(c)5.
- ■ Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with 130.4(a). Outdoor lighting controls shall comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA7.8.

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

STATE OF CALIFORNIA

OUTDOOR LIGHTING CONTROLS

CEC-NRCC-LTO-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-02-E
Outdoor Lighting Controls		(Page 2 of 3)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

B. Mandatory Outdoor Lighting Control Schedule and Field Inspection Checklist

Outdoor Lighting Control Schedule			Standards Complying With [1] (✓ all that apply, or enter 'E' if Exempted)						✓ if Acceptance Test Required	Field Inspector	
A	B	C	D	E	F	G	H	I	N	O	
Location and Application of Luminaires being controlled	Type/ Description of Lighting Control (i.e. motion sensor, photocontrol, outdoor astronomical time-switch control, centralized time-based zone lighting control)	# of Units	§130.2(a)	§130.2(c)1	§130.2(c)2	§130.2(c)3	§130.2(c)4	§130.2(c)5		Pass	Fail
STORAGE LOT	SA, SB, SC - TIMECLOCK, PHOTOCELL	1	E	■	■	E	E	E	■	☐	☐
										☐	☐
										☐	☐

§130.2(a) Incandescent lamps > 100W to be controlled by motion. §130.2(c)1 Photocontrol or astronomical time switch off. §130.2(c)2 Independently controlled.
§130.2(c)3 Fixtures mounted < 24 feet above ground to be dimmable and controlled by motion. §130.2(c)4 Specific controls for sales frontage, sales lots, and sales canopies.
§130.2(c)5 Specific controls for building facade, ornamental hardscape, and dining.

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

STATE OF CALIFORNIA

OUTDOOR LIGHTING CONTROLS

CEC-NRCC-LTO-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-02-E
Outdoor Lighting Controls		(Page 3 of 3)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

STATE OF CALIFORNIA

LINE-VOLTAGE TRACK LIGHTING WORKSHEET

CEC-NRCC-LTI-04-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-05-E
Indoor Lighting - Line-Voltage Track Lighting Worksheet		(Page 2 of 2)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

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Company:	SCHETTER ELECTRIC, INC.	Signature Date:	15-Mar-16
Address:	471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

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Responsible Designer Name:	K BOWMAN	Responsible Designer Signature:	
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Address:	471 BANNON STREET	License:	C-10 #245778
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

STATE OF CALIFORNIA

OUTDOOR LIGHTING

CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-01-E
Outdoor Lighting		(Page 1 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A. General Information

Project Address: 1683 N. ASCOT PARKWAY, VALLEJO			Total Illuminated Hardscape Area: -	
Phase of Construction:	■ New Construction	☐ Addition	☐ Alteration	
Outdoor Lighting Zone (OLZ)	☐ OLZ-1	☐ OLZ-2	■ OLZ-3	☐ OLZ-4
I have confirmed with the AHJ which OLZ applies to this site. For default lighting zone designations, see Title 24 Part 6, §10-114.				

B. LIGHTING COMPLIANCE DOCUMENTS

(check box for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

- ■ NRCC-LTO-01-E — Certificate of Compliance.
- ■ NRCC-LTO-02-E — Outdoor Lighting Controls Certificate of Compliance.
- ■ NRCC-LTO-03-E — Outdoor Lighting Power Allowance Certificate of Compliance.

C. Summary of Allowed Outdoor Lighting Power			Watts
1.	**Sum Total ALLOWED** Outdoor Lighting Wattage from NRCC-LTO-03-E, page 1	=	30,001.6
	Complies ONLY if **Installed ≤ Allowed**		⇕
2.	**Sum Total INSTALLED** Outdoor lighting Wattage from NRCC-LTO-01-E, page 3		10,638.0

D. Declaration of Required Installation Certificates

Declare by checking all Installation Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

■ NRCI-LTO-01-E	Must be submitted for all buildings.	☐ Field Inspector
■ NRCI-LTO-02-E	Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐ Field Inspector

E. Declaration of Required Certificates of Acceptance

Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify forms are completed and signed.)

■ NRCA-LTO-02-A	Must be submitted for outdoor lighting controls.	☐ Field Inspector

STATE OF CALIFORNIA

OUTDOOR LIGHTING

CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-01-E
Outdoor Lighting		(Page 2 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

F. Schedule of luminaires exempt from the outdoor lighting power requirements in §140.7

Name or Symbol	Description of exempt luminaire in accordance with the exemptions.
N/A	

G. Schedule of luminaires exempt from the cutoff requirements in §130.2(b)

Name or Symbol	Description of exempt luminaire in accordance with the exemptions.
SC	150W LED SECURITY LTG

H. Schedule of luminaires exempt from the outdoor lighting control requirements in §130.2(c)

Name or Symbol	Description of exempt luminaire in accordance with the exemptions.
N/A	

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STATE OF CALIFORNIA

INDOOR LIGHTING POWER ALLOWANCE

CEC-NRCC-LTI-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance		(Page 1 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
■ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

A. SUMMARY TOTALS OF LIGHTING POWER ALLOWANCES

☐ If using Complete Building Method for compliance, use only the total in column (a) as total allowed building watts.
■ If using Area Category Method, Tailored Method, or a combination of Area Category and Tailored Method for compliance, use only the total in column (b) as the total allowed building watts.

		(a)	(b)
1.	Complete Building Method Allowed Watts. Documented in section B of NRCC-LTI-03-E (below on this page)	-	
2.	Area Category Method Allowed Watts. Documented in section C-1 of NRCC-LTI-03-E (below of this page)		32,175.3
3.	Tailored Method Allowed Watts. Documented in section A of NRCC-LTI-04-E		-
	TOTAL ALLOWED BUILDING WATTS. Enter number into correct cell on NRCC-LTI-01, Page 2, Row 1	-	32,175.3

☐ Check here if building contains both conditioned and unconditioned areas.

B. COMPLETE BUILDING METHOD TOTAL LIGHTING POWER ALLOWANCE

1	2		3		4
TYPE OF BUILDING (From §140.6 Table 140.6-B)	WATTS PER (ft^2)	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
N/A					-
	Total Area:		-		
Total Watts. Enter Total Watts into section A, row 1 (Above on this page).					-

C-1 AREA CATEGORY METHOD TOTAL LIGHTING POWER ALLOWANCES (D PLUS E)	Watts
Total from section C-2	32,175.3
Total from section C-3	-
Total Watts. Enter Total Watts into section A, row 2 (Above on this page).	32,175.3

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

STATE OF CALIFORNIA

INDOOR LIGHTING POWER ALLOWANCE

CEC-NRCC-LTI-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance		(Page 2 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
■ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

C-2 AREA CATEGORY METHOD GENERAL LIGHTING POWER ALLOWANCE

■ Do not include portable lighting for offices. Portable lighting for offices shall be documented only in section B of NRCC-LTI-01-E.
■ Separately list lighting for each primary function area as defined in §100.1 of the Standards.

A		B		C		D
AREA CATEGORY (From §140.6 Table 140.6-C)		WATTS PER (ft^2)	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
Location in Building	Primary Function Area per Table 140.6-C					
MAIN LOBBY	MAIN ENTRY LOBBY	0.95		869.0		825.6
CONVERENCE	CONFERENCE	1.20		739.0		888.8
MAIN INSTRUCTION AREA	CLASSROOM, TRAINING (MAIN AREA)	1.20		20,760.0		24,912.0
RECEPTION, MFG DISPLAY AREA	LOBBY	0.95		988.0		938.6
OFFICES	OFFICE (≤ 250 SF)	1.00		1,360.0		1,360.0
CORRIDOR	CORRIDOR, RR, SUPPORT	0.60		668.0		400.8
ELECTRICAL ROOM, IT ROOM	ELECTRICAL, IT	0.55		479.0		263.5
ELECTRICAL ROOM, IT ROOM	NOTE 2, SPECIALIZED TASK	0.50		400.0		200.0
RESTROOMS, JANITOR	RESTROOMS, JANITOR	0.60		1,644.0		986.4
REFEREE WAITING	REFEREE WAITING	0.80		241.0		192.8
ABOVE MAIN INSTRUCTIONAL AREA	MEZ. UTILITY RM	0.55		1,275.0		701.3
STUDENT LOUNGE	LOUNGE	0.90		564.0		507.6
		TOTALS		29,987.0		
Enter sum total Area Category allowed watts into section C-1 of NRCC-LTI-03-E (this compliance form)						32,175.3
						WATTS

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

STATE OF CALIFORNIA

INDOOR LIGHTING POWER ALLOWANCE

CEC-NRCC-LTI-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance		(Page 3 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
■ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

C-3 AREA CATEGORY METHOD ADDITIONAL LIGHTING WATTAGE ALLOWANCE (from Table 140.6-C Footnotes)

A	B	C[2]	D	E	F	G
Primary Function	Sq Ft or Linear Ft [1]	Additional Watts Allowed	Wattage Allowance (B x C)	Description(s) and Quantity of Special Luminaire Types in each Primary Function Area	Total Design Watts [3]	ALLOWED WATTS Smaller of D or F
N/A		0.2	-			-
		0.2	-			-
TOTALS - Enter into TOTAL AREA CATEGORY METHOD ADDITIONAL ALLOWANCES - Section C-1						-

1. Use linear feet only for additional allowance for white board or chalk board. All other additional Area Category allowances shall use watts per square foot.
2. Additional watts are available only when allowed according to the footnotes on bottom of Table 146-C, which include: Specialized task work; Ornamental lighting; Precision commercial and industrial work, Per linear foot of white board or chalk board; Accent, display and feature lighting; and Videoconferencing Studio lighting.
3. Luminaire classification and wattage shall be determined in accordance with §130.0(c) of the Standards.

STATE OF CALIFORNIA

INDOOR LIGHTING POWER ALLOWANCE

CEC-NRCC-LTI-03-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance		(Page 4 of 4)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	K BOWMAN	Documentation Author Signature:	
Company:	SCHETTER ELECTRIC, INC.	Signature Date:	15-Mar-16
Address:	471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	K BOWMAN	Responsible Designer Signature:	
Company:	SCHETTER ELECTRIC, INC.	Date Signed:	15-Mar-16
Address:	471 BANNON STREET	License:	C-10 #245778
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

STATE OF CALIFORNIA

LINE-VOLTAGE TRACK LIGHTING WORKSHEET

CEC-NRCC-LTI-04-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-05-E
Indoor Lighting - Line-Voltage Track Lighting Worksheet		(Page 1 of 2)
Project Name: SCCD AUTOTECH	Date Prepared:	15-Mar-16

- ■ There are four different methods available for determining how many watts of line-voltage track or line-voltage busway has been installed. One or more methods may be used to determine how many watts of line-voltage track or line-voltage busway has been installed. Use this worksheet to separately calculate the input wattage for each system.
- ■ Separately enter each row of this worksheet into the Luminaire Schedule in section C of NRCC-LTI-01E.
- ☐ Method 1 is the only option available for determining wattage for track or busway rated for more than 20 amperes.

☐ METHOD 1 - VOLT-AMPERE (VA) RATING OF THE BRANCH CIRCUIT(S)

A	B
BRANCH CIRCUIT NAME OR ID	VOLT-AMPERE (VA) RATING OF THE BRANCH CIRCUIT

☐ METHOD 2 - USE THE HIGHER OF 45 WATTS PER LINEAR FOOT OF TRACK OR TOTAL RATED WATTAGE OF ALL LUMINAIRES

A	B	C	D	E	F
Track or Name #	Linear Feet of Track	(W/LF)	B x C (W)	Total Rated Wattage of all Luminaires	Larger of (D or E)
		45	-		-
		45	-		-
		45	-		-

☐ METHOD 3 - USE THE HIGHER OF: 12.5 WATTS / LINEAR FOOT OF TRACK - OR VA RATING OF INTEGRAL CURRENT LIMITER

☐ Only integral current limiters which are certified to the Energy Commission shall be recognized by the Standards.
☐ This method shall not be recognized if an Installation Certificate is not submitted.

A	B	C	D	E	F
Track or Name #	Linear Feet of Track	(W/LF)	B x C (W)	VA Rating of Integral Current Limiter	Larger of (D or E)
		12.5	-		-
		12.5	-		-
		12.5	-		-

☐ METHOD 4 - DEDICATED TRACK LIGHTING SUPPLIMENTARY OVERCURRENT PROTECTION PANEL

☐ This method shall not be recognized if an Installation Certificate is not submitted.
☐ This method shall be used only for line-voltage track lighting, and shall not be recognized for any other lighting systems. If any other lighting systems or devices are installed, the supplementary overcurrent protection panel shall not be recognized for compliance with the Standards.

A	B	C	D
Name or ID	Voltage of the Branch Circuit	Sum of the Ampere Rating of all Devices installed in the Panel	Wattage = Sum of the Ampere Ratings of all of the Devices Times the Branch Circuit Voltage (B x C)
			-
			-
			-

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance August 2015

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CA License No. 245778 NV License No. B-54453 & C2-54454

THESE PLANS HAVE BEEN PREPARED BY SCHETTER ELECTRIC, INC. IN ACCORDANCE WITH THE CALIFORNIA BUSINESS AND PROFESSIONS CODE SECTION 6737.3 FOR EXCLUSIVE USE BY SCHETTER ELECTRIC, INC. IN THE DESIGN-BUILD ELECTRICAL INSTALLATION OF THE INDICATED WORK. THESE PLANS ARE THE SOLE PROPERTY OF SCHETTER ELECTRIC, INC. AND ARE NOT TO BE USED FOR THE PURPOSE OF BIDDING OR INSTALLATION BY ANY OTHER ELECTRICAL CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER
JAMES WAYNE HINES
E 009586
Exp. 9-30-2018
ELECTRICAL
STATE OF CALIFORNIA

SIGNATURE DATE:__________

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OFFICE OF REGULATION SERVICES

APPL # 02-114995

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DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TITLE 24 DOCUMENTATION

Drawn By	KPB
Checked By	JMc
Project No.	15-245
©Date	08/30/2016
DRAWING NO.	**E0.3**

NO.	DATE	ISSUE

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STATE OF CALIFORNIA
SOLAR READY AREAS
CEC-NRCC-SRA-01-E (Revised 05/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-01-E
Solar Ready Areas	(Page 1 of 3)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

A. General Information

Project Address: 1643 N. ABCOT PARKWAY, VALLEJO

Building Type:

☐ Hotel/Motel building with ten stories or fewer ☐ High-rise multi-family building with ten stories or fewer
■ Other nonresidential building with three stories or fewer

Solar-ready requirements do not apply to hotel/motel buildings and high-rise multifamily building with more than ten stories or other nonresidential buildings with more than three stories.

Type of Construction: ■ New Construction ☐ Addition that increases roof area by more than 2,000 ft²

Solar-ready requirements do not apply to alterations or additions that increase the roof area by 2,000 ft² or less.

B. Solar-Ready

(Choose Path A, B, C, D, or E from below)

☐ A. Allocated Solar Zone

NRCC-SRA-02-E Minimum Solar Zone Area Worksheet is required to be submitted.

Minimum Solar Zone Area (sqft)
This is quantity [G] from NRCC-SRA-02-E Minimum Solar Zone Area Worksheet.

Proposed Solar Zone Area (sqft)
This is quantity [S] from NRCC-SRA-02-E Minimum Solar Zone Area Worksheet.

The construction documents will indicate a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service. The construction documents will indicate a pathway for routing of plumbing from the solar zone to the water heating system.

A copy of the construction documents or a comparable document indicating information about the solar zone and interconnection pathways will be provided to the occupant.

If the installer certifies that all above requirements have been met and the Proposed Solar Area meets or exceeds the Minimum Solar Zone Area, the building complies, otherwise it does not comply. ☐ does not comply ☐ complies

■ B. Permanently Installed Solar Photovoltaic (PV) System

Total Roof Area (sqft)* [A]	Minimum Nameplate DC Power Rating (watts) [B] = A X 1watt/ft²
4500	4500

* New construction: report total roof area; Additions: report newly added roof area

Will the proposed building have a permanently installed solar electric system that meets or exceeds the Minimum Nameplate DC Power Rating? ■ Yes ☐ No

If yes, a NRCI-SPV-01-E Certificate of Installation: Solar Photovoltaic System documenting the installed system must be submitted as a condition of final approval.

Please check box to right if answered yes to all questions in this section. ☐ EXEMPT

☐ C. Permanently Installed Solar Water Heating System

Will the building have a permanently installed solar water heating system? ☐ Yes ■ No

If yes, a NRCI-STH-01-E Certificate of Installation: Solar Water Heating System documenting the installed system must be submitted as condition of final approval.

Is the annual solar savings fraction equal to or greater than 0.2 in climate zones 1 through 9 or 0.35 in climate zones 10 through 16? ■ Yes ☐ No

Annual Solar Savings Fraction How was Annual Solar Savings Fraction Calculated?

Please check box to right if answered yes to all questions in this section. ☐ EXEMPT

STATE OF CALIFORNIA
SOLAR READY AREAS
CEC-NRCC-SRA-01-E (Revised 05/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-01-E
Solar Ready Areas	(Page 2 of 3)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

☐ D. Thermostats and High Efficacy Lighting

Is the building a high-rise multifamily building with ten stories or fewer?	☐ Yes ■ No
Will all thermostats in each dwelling unit comply with Reference Joint Appendix 5 (JA5) and will they be capable of receiving and responding to Demand Response Signals prior to granting of an occupancy permit by the enforcing agency?	☐ Yes ■ No
Will all installed luminaires be classified as high efficacy in accordance with the applicable requirements in Section 130.0(c), and in accordance with TABLE 150.0-B?	☐ Yes ■ No
Please check box to right if answered yes to all questions in this section.	☐ EXEMPT

☐ E. Roof Is Designed for Vehicle Traffic or Parking or for Heliport

Will the roof be designed and approved to be used for vehicular traffic or parking or for a heliport.	☐ Yes ■ No
Please provide building plan reference:	
Please check box to right if answered yes to all questions in this section.	☐ EXEMPT

STATE OF CALIFORNIA
SOLAR READY AREAS
CEC-NRCC-SRA-01-E (Revised 05/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-01-E
Solar Ready Areas	(Page 3 of 3)
Project Name: SCCD AUTOTECH	Date Prepared: 15-Mar-16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	K BOWMAN	Documentation Author Signature:	
Company:	SCHETTER ELECTRIC, INC.	Signature Date:	15-Mar-16
Address:	471 BANNON STREET	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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Responsible Designer Name:	K BOWMAN	Responsible Designer Signature:	
Company:	SCHETTER ELECTRIC, INC.	Date Signed:	15-Mar-16
Address:	471 BANNON STREET	License:	C-10 #245778
City/State/Zip:	SACRAMENTO, CA 95811	Phone:	916-446-2521

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REGISTERED PROFESSIONAL ENGINEER JASON WAYNE INNES E 035596 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

SIGNATURE DATE: _____

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APPL # 02-114995

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DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
TITLE 24 DOCUMENTATION

Drawn By
KPB

Checked By
JMc

NO.	DATE	ISSUE

Project No.
15-245

@Date
08/30/2016

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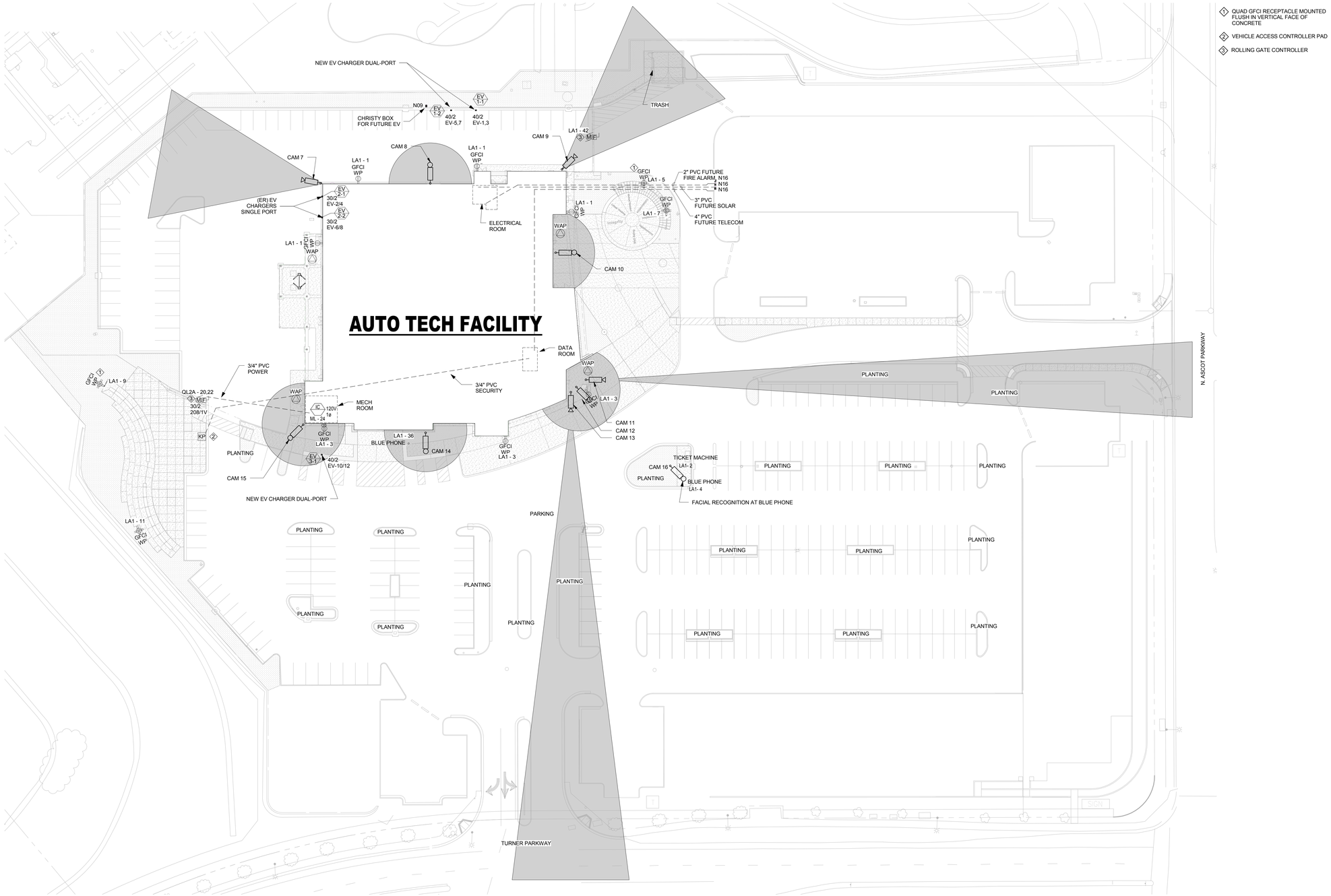

1. QUAD GFCI RECEPTACLE MOUNTED FLUSH IN VERTICAL FACE OF CONCRETE
2. VEHICLE ACCESS CONTROLLER PAD
3. ROLLING GATE CONTROLLER

1 SITE POWER AND SIGNAL

1" = 30'-0"

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JAMES WAYNE JONES E 009586 Exp. 9-30-2018 ELECTRICAL CALIFORNIA

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AUTO TECH FACILITY

Drawing Title
SITE POWER AND SIGNAL

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KPB

Checked By
JMc

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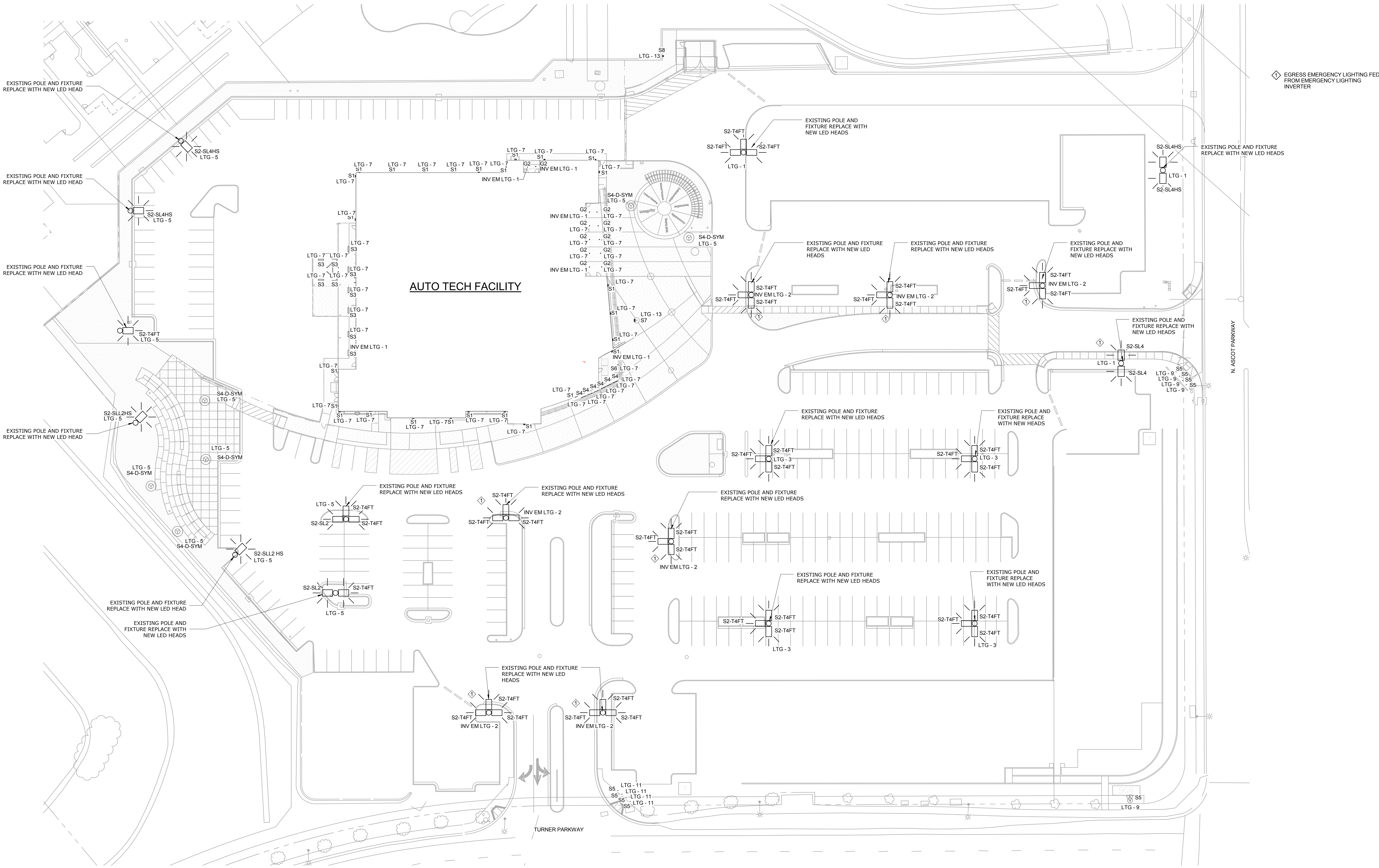

1 SITE LIGHTING

1" = 30'-0"

SHEET NOTES:

1. FIELD VERIFY EXISTING CONDUIT ROUTING TO EXISTING LIGHT POLES PRIOR TO ROUGH-IN

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REGISTERED PROFESSIONAL ENGINEER JAMES WAYNE HINES E 009586 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

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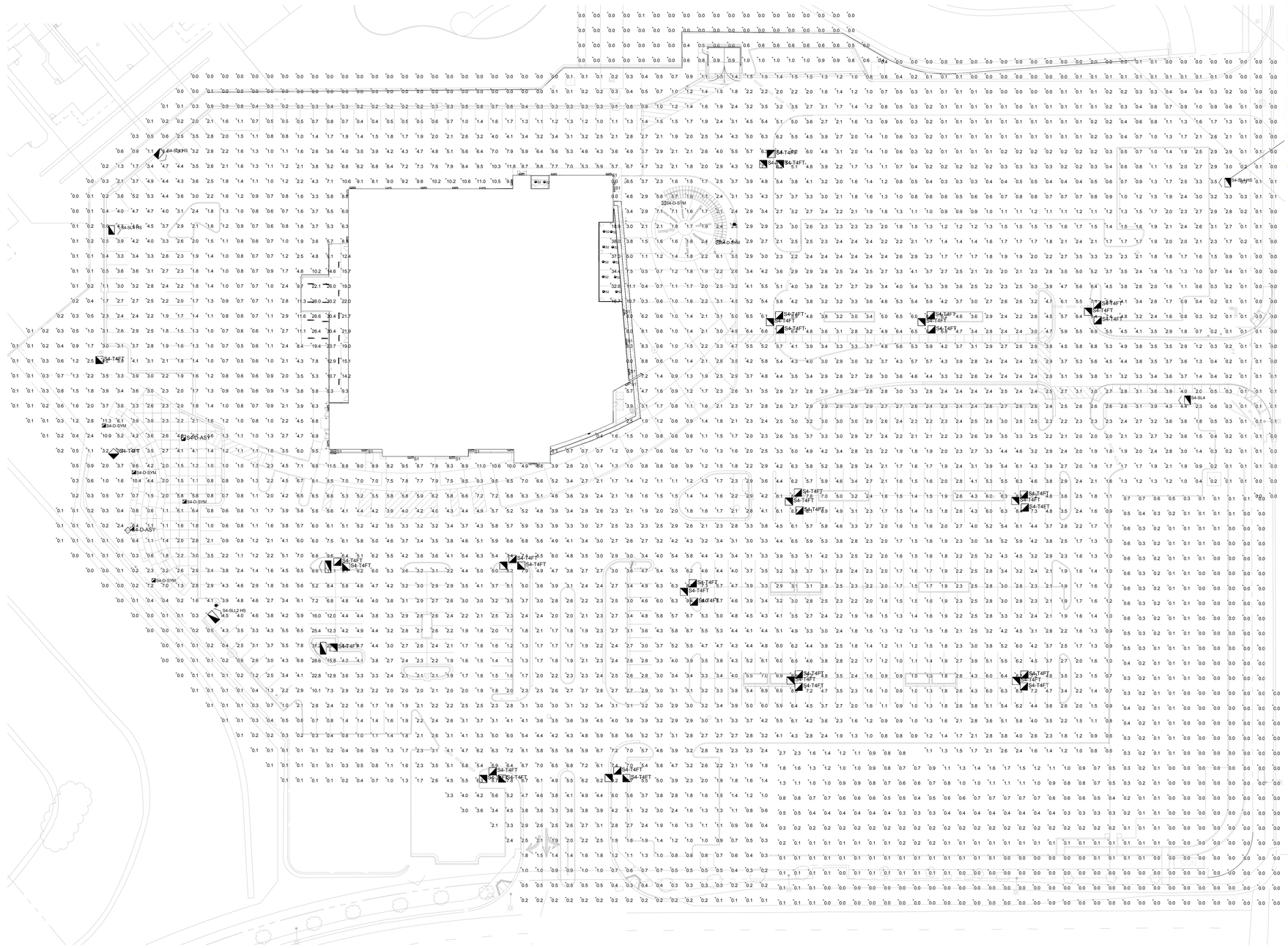

1 SITE PHOTOMETRIC
1" = 30'-0"

Luminaire Schedule

Symbol	Label	QTY	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage	
	S4-T4FT	40	GLLDN-4E-03-LED-E1-T4FT	GALLEON LED AREA AND ROADWAY LUMINAIRE (3) FX-OS, 4000K, 4A LIGHTGUIDE(S) WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORY CREATED USING LAB-LUMEN-STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 25 FEET		40	327.8413	1	157	Max: 1442fc
	S1	25	OSSHO LED 30C 700 GW 72W MVOLT	OSSHO LED WITH 3 LIGHT ENGINES, 3C LEDs, 700mA DRIVER, 3000K CRI, TYPE I, MEDIUM OPTIC	LED	1	7824.868	1	72	Max: 1967fc
	S2	11	PAO 35/25 6AR MVOLT	2500LM 3K CRI 3500K 6" EVO ROUND DOWNLIGHT APECULAR	LED	1	2625.903	1	29.52	Max: 4995fc
	S3	14	LHP624 50W 4000K CP	Luminaire LED, 1no., 4' linear ceiling mount luminaire. Catalog number: LHP624 50W 4000K CP. Luminaire consists of housing with clear prismatic plastic wrap and white powder coated steel backplate. (58) LEDs on eight white PCBs with staggered row of 42 on each. Rated 7W LED RGB 4000K 80CRI. Luminaire has a 120 to 277V white painted formed metal reflector. Two Thomas Research Products Drivers. Model #: LHP624 50W 4000K CP. Operating at 120 Hz and 60Hz.		336	17.59645	1	53.7	Max: 259fc
	S4-SL4 HS	1	GLLDN-4E-08-LED-E1-SL4-SSH-MVG	GALLEON LED AREA AND ROADWAY LUMINAIRE (8) FX-OS, 4000K, 4A LIGHTGUIDE(S) WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORY CREATED USING LAB-LUMEN-STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 25 FEET		96	331.3998	1	159	Max: 1195fc
	S4-SLL2 HS	1	GLLDN-4E-07-LED-E1-SLL2-SSH-MVG	GALLEON LED AREA AND ROADWAY LUMINAIRE (7) FX-OS, 4000K, 530mA LIGHTGUIDE(S) WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORY CREATED USING LAB-LUMEN-STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 25 FEET		112	194.5882	1	184	Max: 1417fc
	S4-SL4	1	GLLDN-4E-06-LED-E1-SL4-530	GALLEON LED AREA AND ROADWAY LUMINAIRE (6) FX-OS, 4000K, 530mA LIGHTGUIDE(S) WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORY CREATED USING LAB-LUMEN-STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 25 FEET		96	177.5366	1	159	Max: 1430fc
	S4-SL2	7	GLLDN-4E-07-LED-E1-SLL2-530	GALLEON LED AREA AND ROADWAY LUMINAIRE (7) FX-OS, 4000K, 530mA LIGHTGUIDE(S) WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORY CREATED USING LAB-LUMEN-STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 25 FEET		112	185.4617	1	184	Max: 1939fc
	S4-D-SYM	9	GDIB LED 16C 700 40K SYM	D-SERIES BOLLARD WITH 16 4000K LEDS, OPERATED AT 700mA AND SYMMETRIC DISTRIBUTION	LED	1	2054.802	1	39	Max: 794cd
	S4-D-ASY	2	GDIB LED 12C 700 40K ASY	D-SERIES BOLLARD WITH 12 4000K LEDS, OPERATED AT 700mA AND ASYMMETRIC DISTRIBUTION	LED	1	1588.185	1	31	Max: 821cd

NOTE: SYMBOLS AND LABELS ON LUMINAIRE SCHEDULE AND SITE PHOTOMETRIC PLAN ARE INTENDED FOR SITE PHOTOMETRICS SHEET ONLY. FOR ALL OTHER SHEETS SEE SHEET ES 1.

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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
SITE PHOTOMETRICS

Drawn By: KPB
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Project No.: 15-245
Date: 08/30/2016

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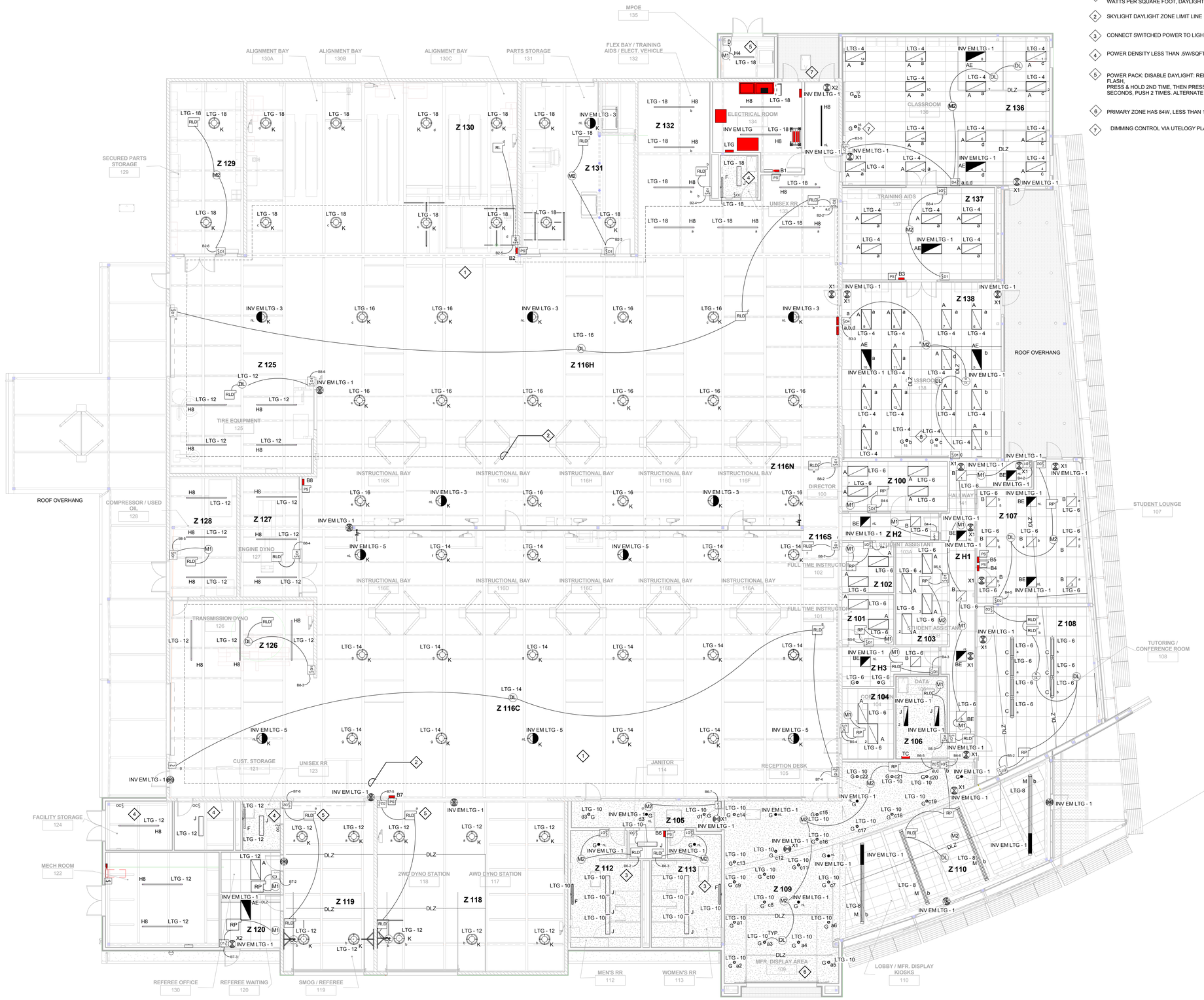
NUMBERED NOTES

1. T24: OPEN TECHNICAL TRAINING AREA IS 16662 SQUARE FEET, LIGHTING POWER IS 7614W, OR 0.45 WATTS PER SQUARE FOOT , THEREFORE DIMMING IS NOT REQUIRED. AS MORE THAN .3 WATTS PER SQUARE FOOT, DAYLIGHT DIMMING IS REQUIRED.
2. SKYLIGHT DAYLIGHT ZONE LIMIT LINE
3. CONNECT SWITCHED POWER TO LIGHTS FROM POWER PACK
4. POWER DENSITY LESS THAN .5W/SQFT USE NON-NETWORK CONTROLS
5. POWER PACK: DISABLE DAYLIGHT: RED BUTTON, PRESS & HOLD TO FLASH,
   PRESS & HOLD 2ND TIME, THEN PRESS 13 TIMES, WAIT APPROX. 3-4 SECONDS, PUSH 2 TIMES. ALTERNATE IS WITH SENSOR VIEW.
6. PRIMARY ZONE HAS 84W, LESS THAN 120, NO DIMMING REQUIRED
7. DIMMING CONTROL VIA UTELOGY PLATFORM AT TEACHING STATION



1 INTERIOR LIGHTING
1/8" = 1'-0"

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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
INTERIOR LIGHTING 1ST FLOOR

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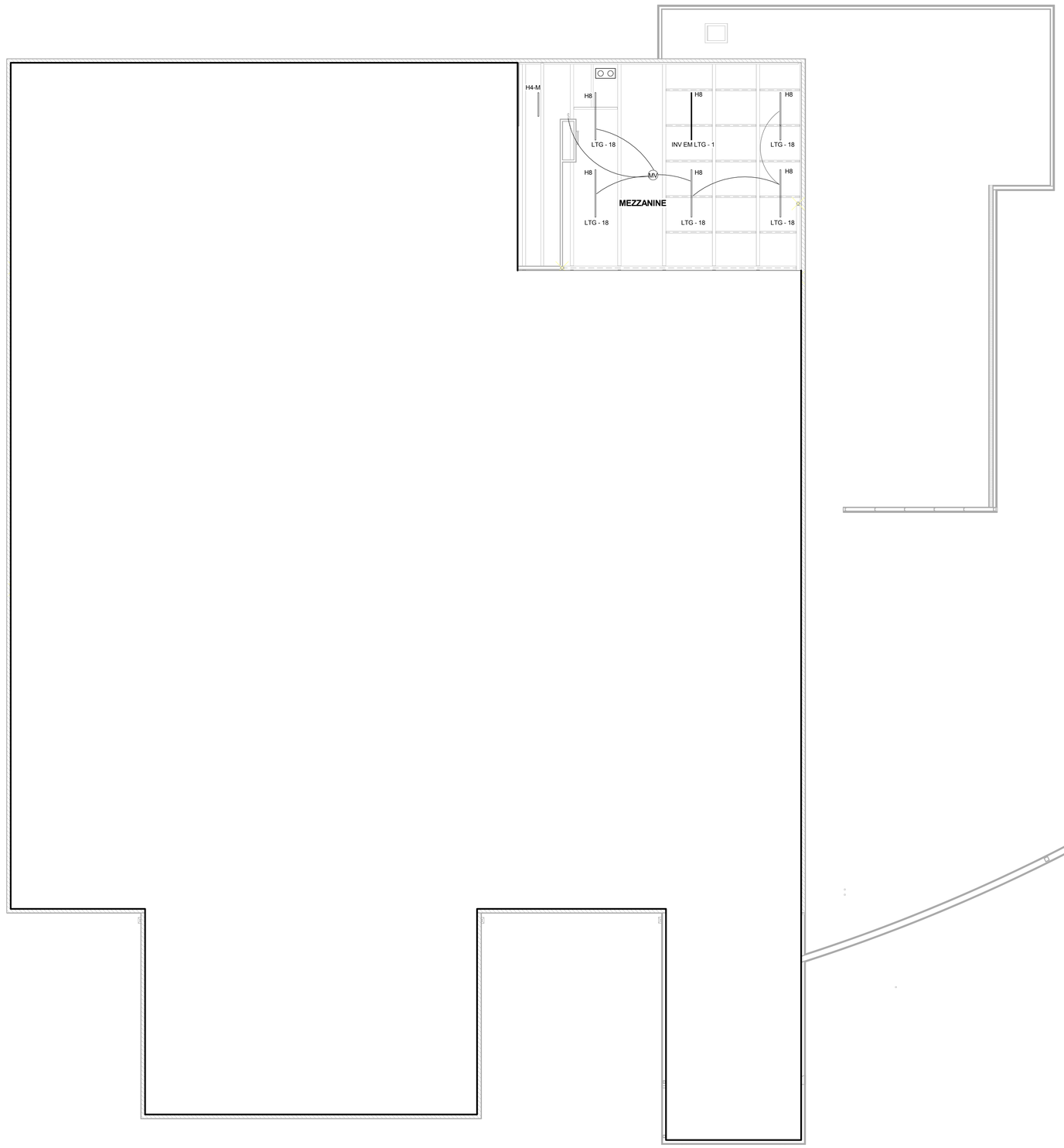

1 MEZZANINE
1/8" = 1'-0"

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FRANCIS WAYNE WEBER
E 009586
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ELECTRICAL

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Project
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Drawing Title
INTERIOR LIGHTING
MEZZANINE

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Project No.
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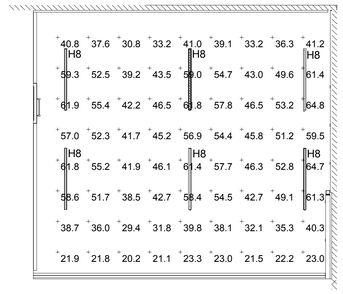
FIRST FLOOR LIGHTING



MEZZANINE LIGHTING

1 PHOTOMETRIC - INTERIOR LIGHTING
1/8" = 1'-0"

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SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
INTERIOR PHOTOMETRICS

Drawn By
KPB

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NO. DATE ISSUE

Project No.
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Date
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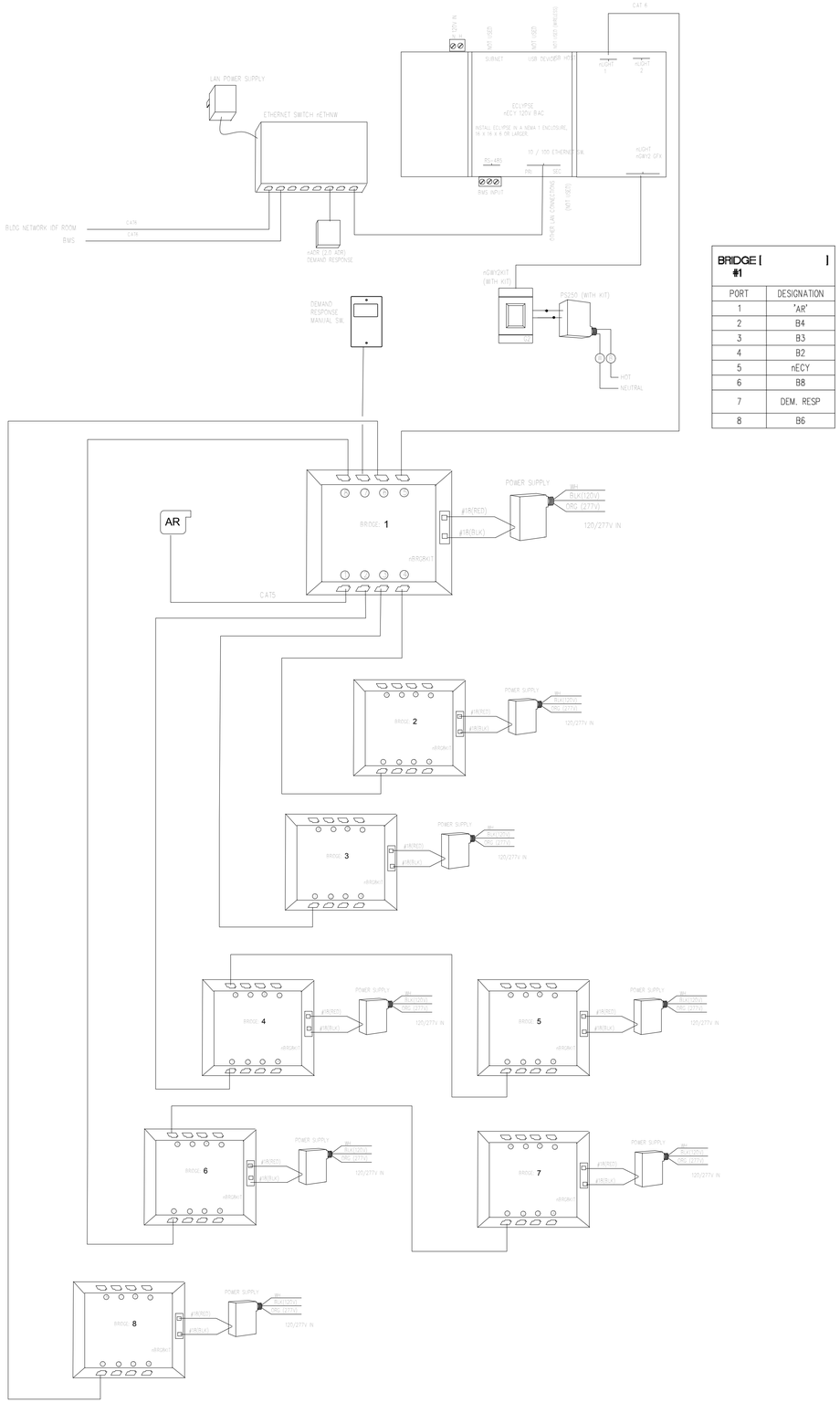


BRIDGE # 1	
PORT	DESIGNATION
1	'AR'
2	B4
3	B3
4	B2
5	nECY
6	B8
7	DEM. RESP
8	B6

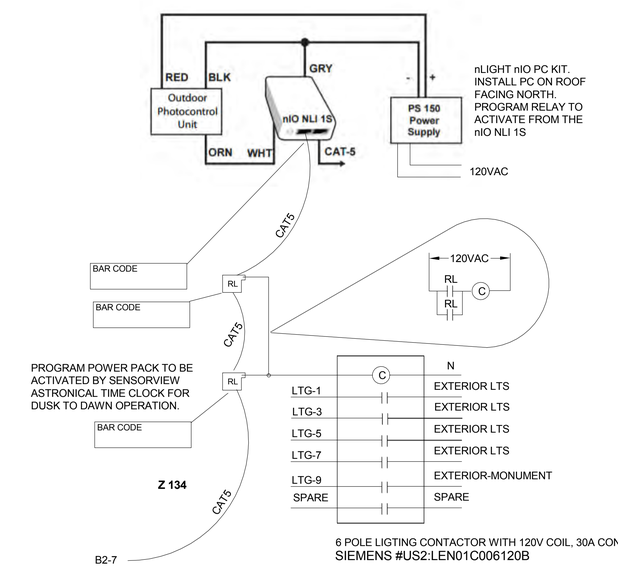
1 LIGHTING CONTROL SENSOR VIEW
12" = 1'-0"

SOFTWARE LINKED

Z130A	RLD	Z130A
Z132	RLD	Z132
Z116H	RLD	Z116H
Z116N	RLD	Z116N
Z125	RLD	Z125
Z126	RLD	Z126
Z116C	RLD	Z116C
Z116S	RLD	Z116S
Z118	RLD	Z118
Z119	RLD	Z119
Z127	RLD	Z127

PROGRAM ZONE SWITCHES TO ACTIVATE THEIR ASSOCIATED POWER PACK. PROGRAM SENSORVIEW 'TIMER' FOR STANDARD OPERATING HOURS (6:00AM - 6:00PM) AND OVERRIDE FOR TWO HOURS DURING NON-OPERATING HOURS. VERIFY SCHEDULE WITH OWNER REPRESENTATIVE. PROVIDE 'OWNER' ACCESS TO CHANGE STANDARD OPERATING HOURS OR TEMPORARY EXTENSION OF HOURS FOR EVENING EVENTS.

INTERIOR LIGHTING - CA T24 TIMING CONTROL

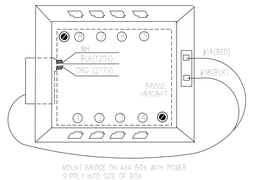


nLIGHT nIO PC KIT. INSTALL PC ON ROOF FACING NORTH. PROGRAM RELAY TO ACTIVATE FROM THE nIO NLI 1S

6 POLE LIGTING CONTACTOR WITH 120V COIL, 30A CONTACTS
SIEMENS #US2:LEN01C006120B

EXTERIOR LIGHTING CONTROL

2 LIGHTING CONTROL -EXTERIOR & TIMING
12" = 1'-0"



MOUNT BRIDGE ON 4X4 BOX WITH POWER SUPPLY INTO SIDE OF BOX.

BRIDGE INSTALLATION DETAIL

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REGISTERED PROFESSIONAL ENGINEER JASON WAYNE JONES E 035556 Exp. 9-30-2018 ELECTRICAL

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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
LIGHTING CONTROL DIAGRAMS

Drawn By: Author
Checked By: Checker
Project No.: 15-245
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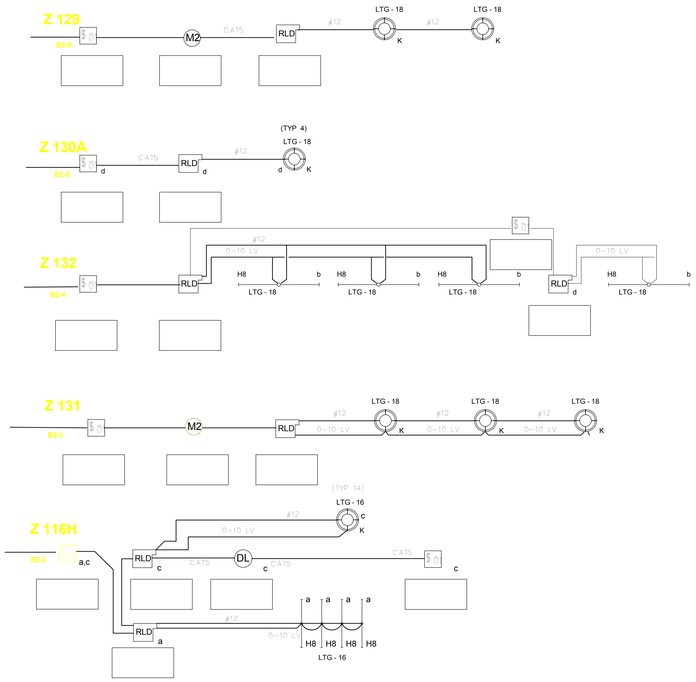
BRIDGE 'B2'

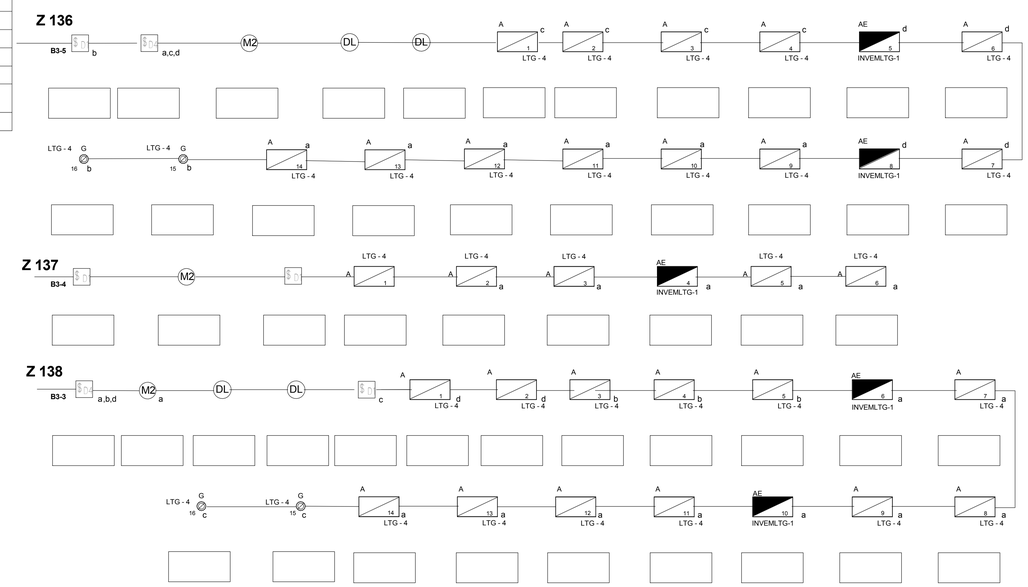
BRIDGE [#2]	
PORT	DESIGNATION
1	B1–4
2	116H
3	131
4	132
5	130A
6	129
7	134
8	SPARE



1 LIGHTING CONTROL BRIDGE B2
12" = 1'-0"

BRIDGE 'B3'

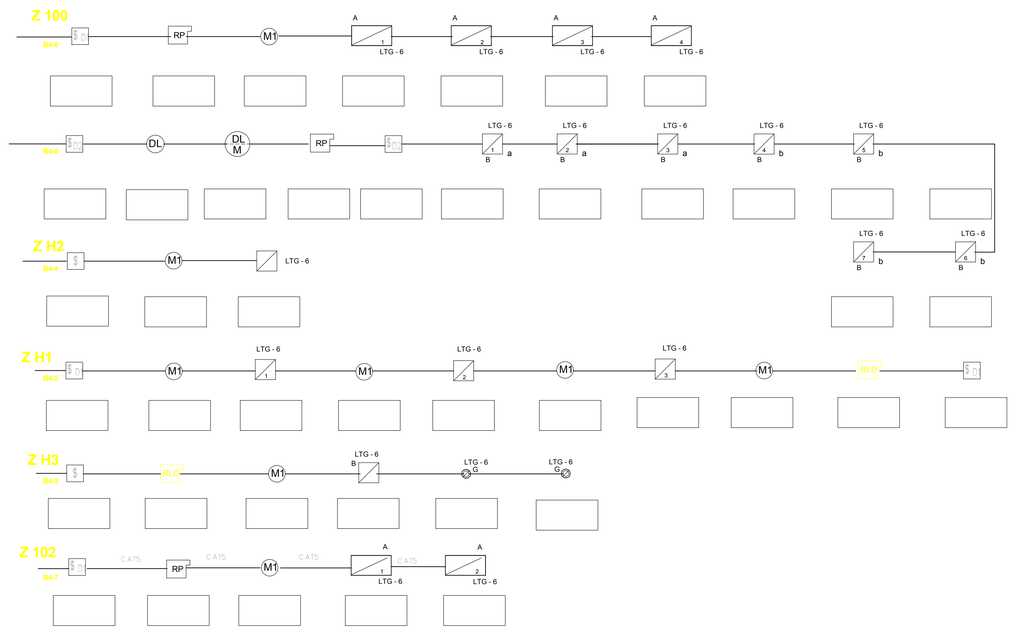
BRIDGE [#3]	
PORT	DESIGNATION
1	B1–3
2	SPARE
3	138
4	137
5	136
6	SPARE
7	SPARE
8	SPARE



2 LIGHTING CONTROL BRIDGE B3
12" = 1'-0"

BRIDGE 'B4'

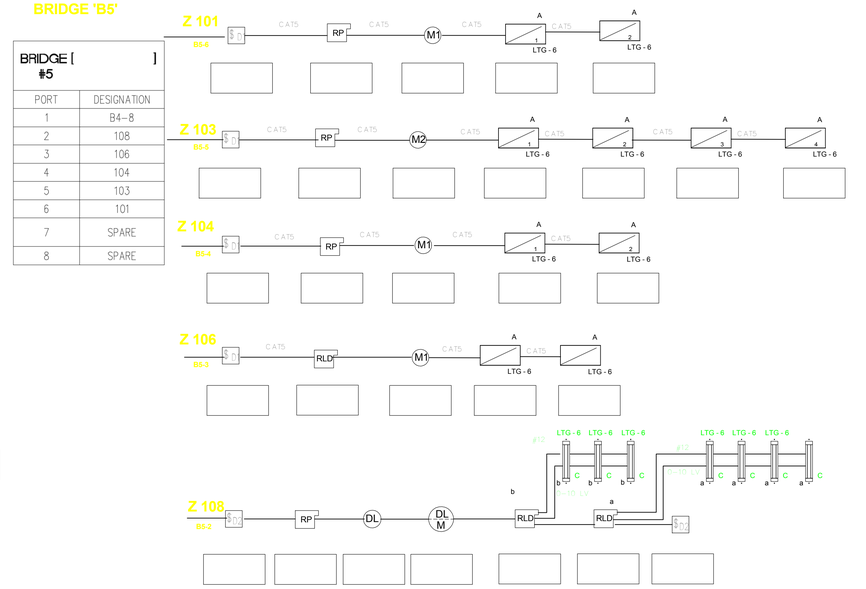
BRIDGE [#4]	
PORT	DESIGNATION
1	B1–2
2	H1
3	H3
4	H2
5	107
6	100
7	102
8	B5–1



3 LIGHTING CONTROL BRIDGE B4
12" = 1'-0"

BRIDGE 'B5'

BRIDGE [#5]	
PORT	DESIGNATION
1	B4–8
2	108
3	106
4	104
5	103
6	101
7	SPARE
8	SPARE



4 LIGHTING CONTROL BRIDGE B5
12" = 1'-0"

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SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
LIGHTING CONTROL DIAGRAMS

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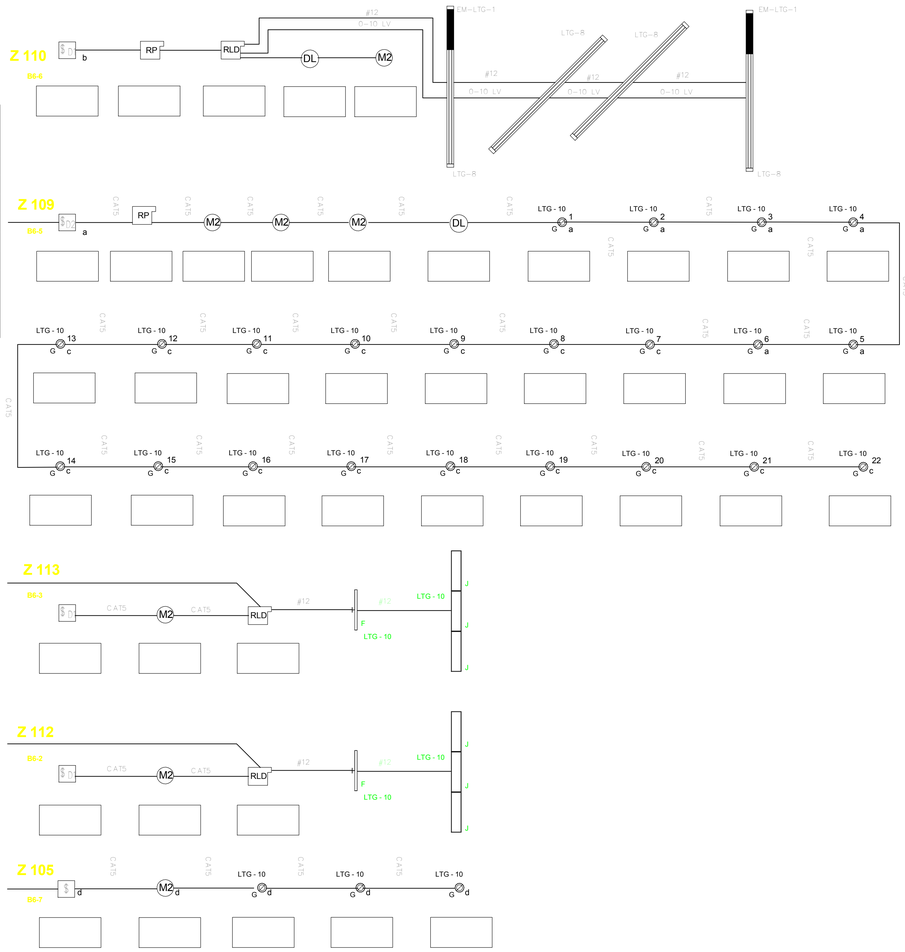
BRIDGE 'B6'

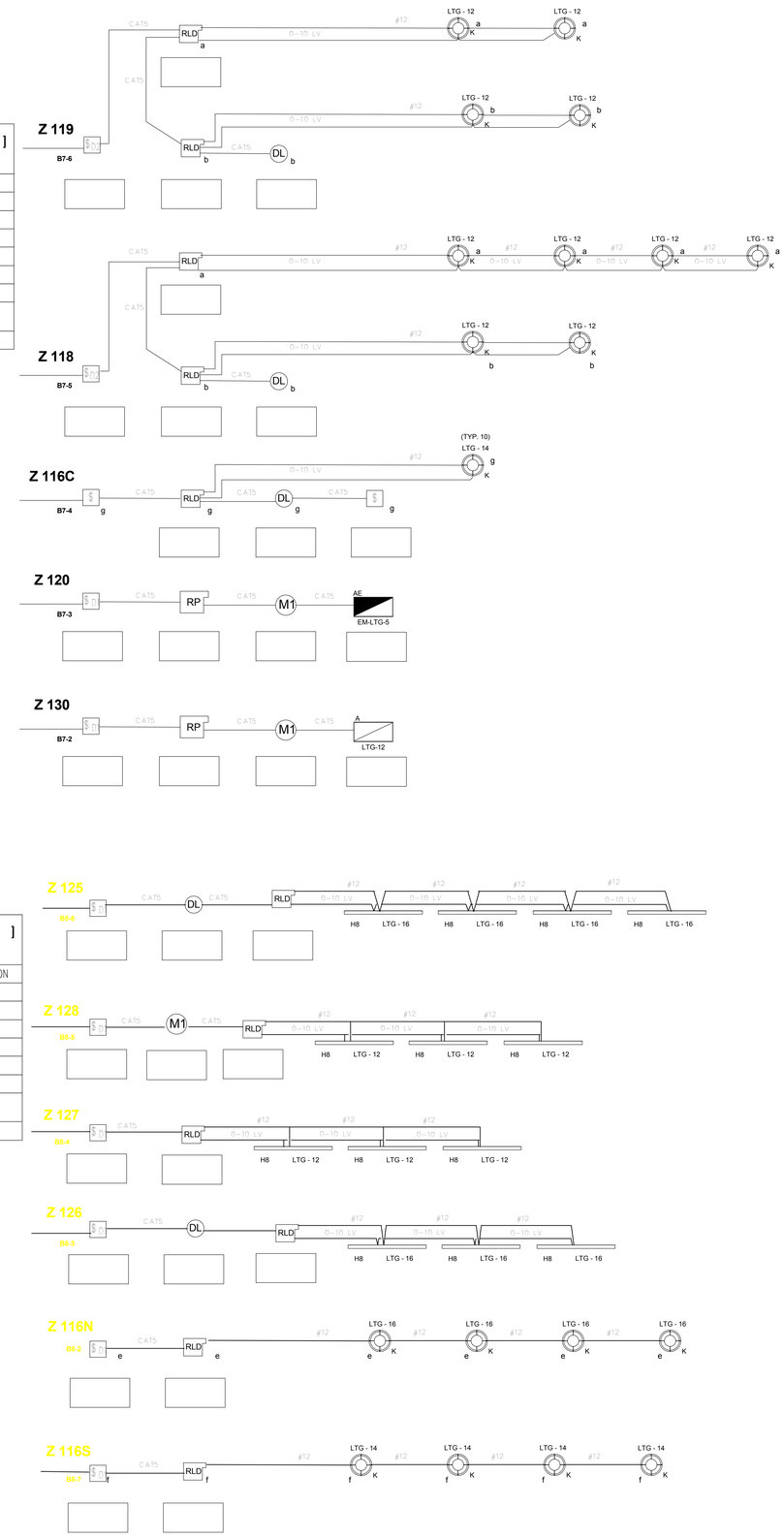
BRIDGE [#6]	
PORT	DESIGNATION
1	B1–8
2	112
3	113
4	SPARE
5	109
6	110
7	105
8	B7–1



1 LIGHTING CONTROL BRIDGE B6
12" = 1'-0"

BRIDGE 'B7'

BRIDGE [#7]	
PORT	DESIGNATION
1	B6–8
2	130
3	120
4	116C
5	118
6	119
7	SPARE
8	SPARE



BRIDGE 'B8'

BRIDGE [#8]	
PORT	DESIGNATION
1	B1–6
2	116N
3	126
4	127
5	128
6	125
7	116S
8	SPARE

2 LIGHITING CONTROL DIAGRAMS B7 & B8
12" = 1'-0"

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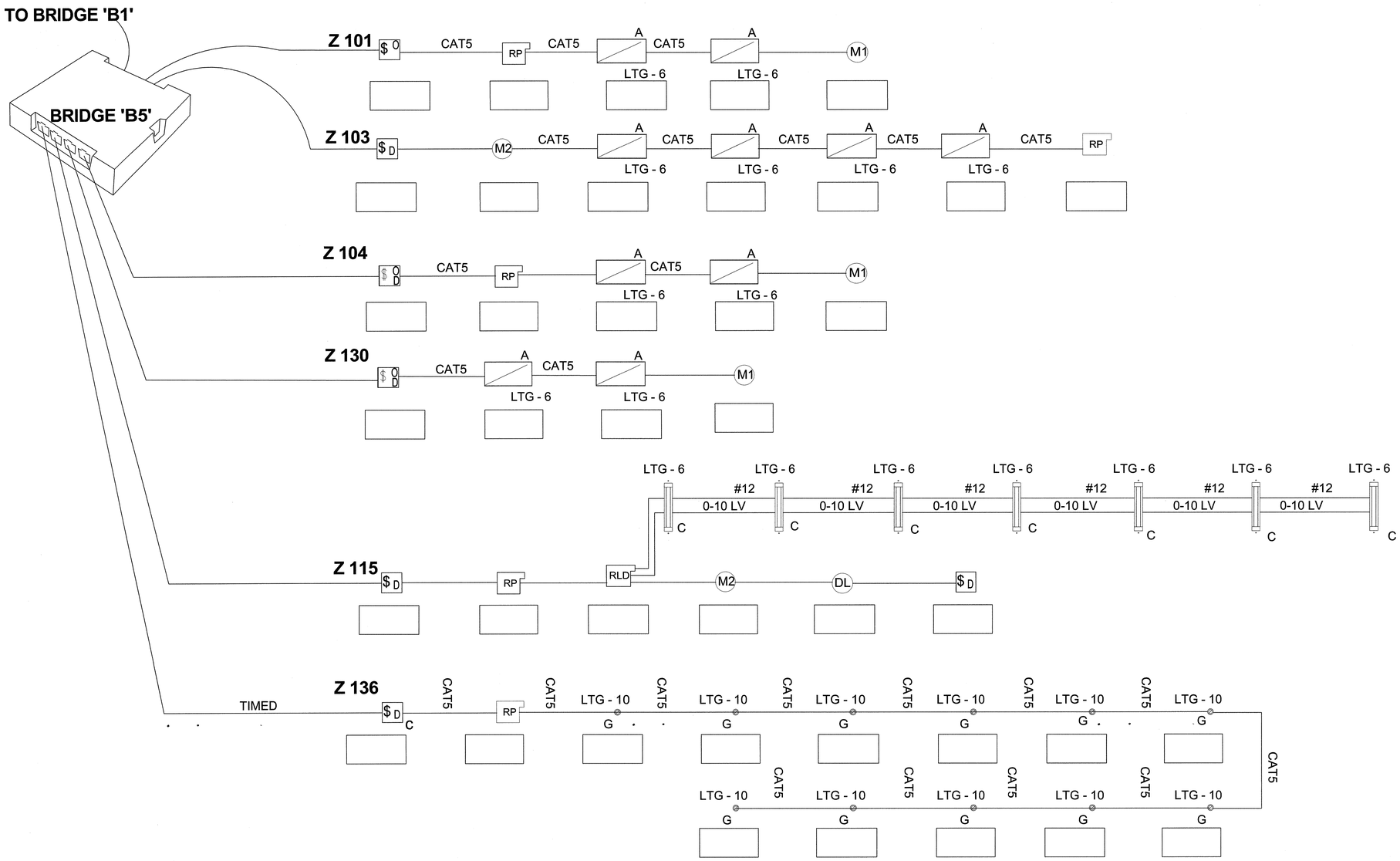

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DATE: 9/8/16

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Project No.: 15-245
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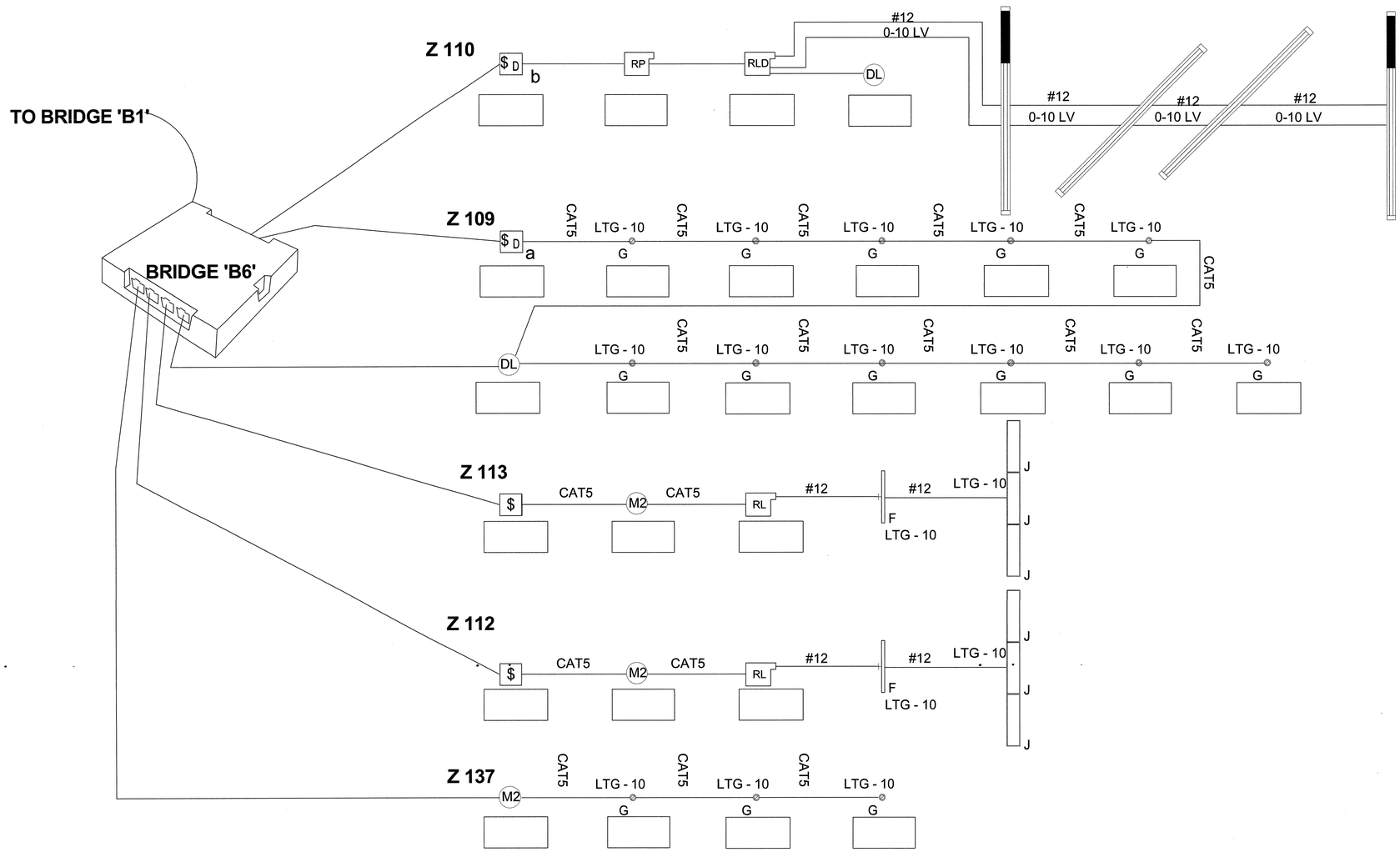

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APPL # 02-114995
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DATE: 9/8/16

Project
SOLANO COMMUNITY COLLEGE
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Drawing Title
LIGHTING CONTROL DIAGRAMS

Drawn By: KPB
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Project No.: 15-245
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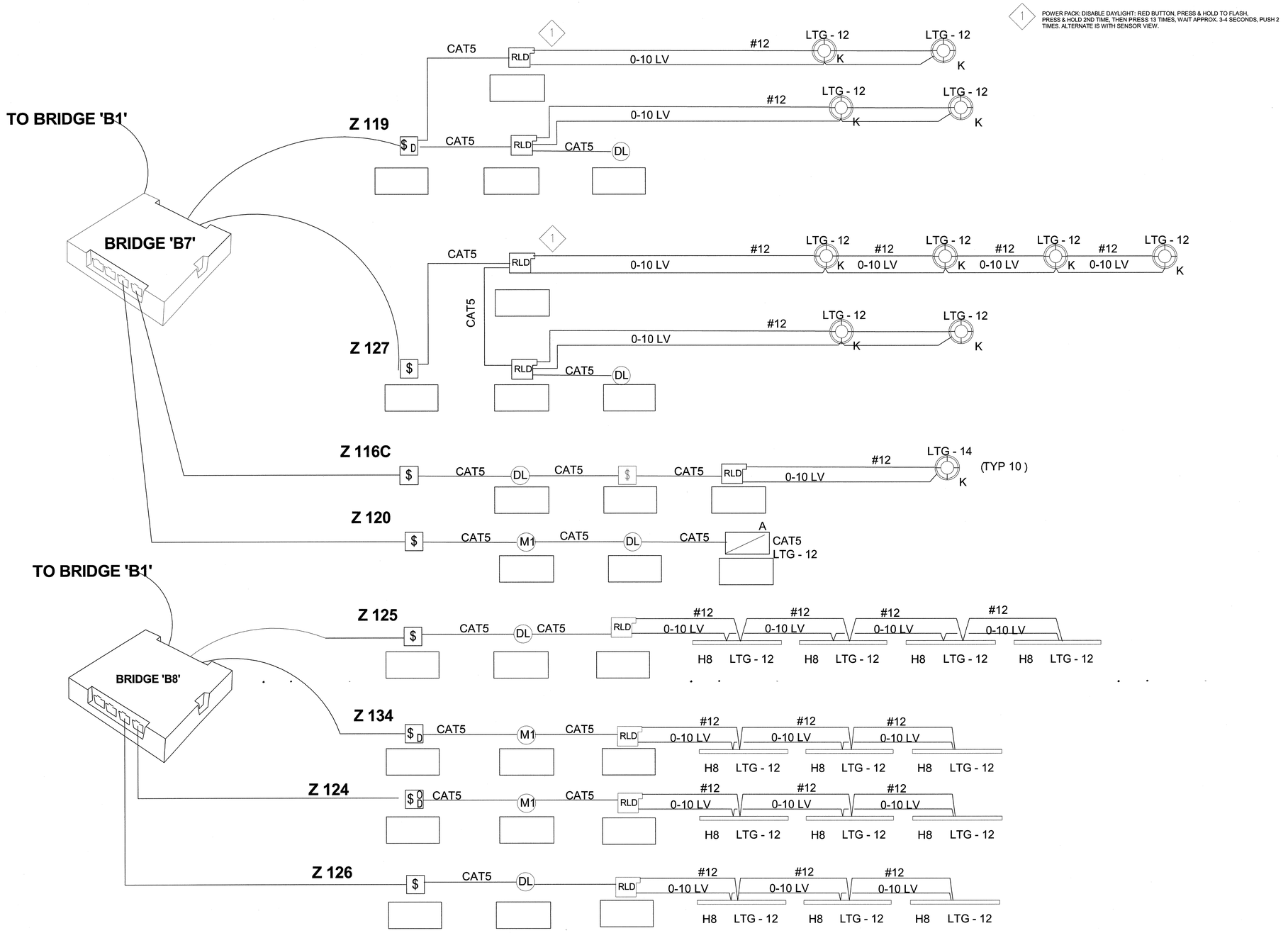

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APPL # 02-114995

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DATE: 9/8/16

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title: LIGHTING CONTROL DIAGRAMS

Drawn By: KPB
Checked By: JMc
Project No.: 15-245
@Date: 08/30/2016

DRAWING NO.: E2.9

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NUMBERED NOTES

1. FLOOR BOX POWER & DATA CONNECTION TO MFG FURNITURE
2. DOUBLE DUPLEX RECEPTACLE MOUNTED AT COUNTER HEIGHT; FIELD COORDINATE
3. POINT OF CONNECTION TO AUTO FLUSH/ AUTO SINK
4. POINT OF CONNECTION FOR AUTOMATIC ROLL-UP DOOR AND CONTROLS
5. DOOR SECURITY POWER
6. PREACTION CONTROL PANEL
7. PREACTION AIR COMPRESSOR
8. FIRE ALARM BELL
9. PRESSURE SWITCH
10. FLOAT LEVEL SENSOR

SHEET NOTES

1.) ALL NON-OFFICE/STUDENT AREA RECEPTACLES TO BE GFCI
2.) ALL RECEPTACLES IN RESTROOMS TO BE GFCI

1 POWER AND SIGNAL

1/8" = 1'-0"

JK ARCHITECTURE PARTNERSHIP
11661 Blocker Drive
Suite120
Auburn, CA 95603
530.888.0998
www.jkaia.net

SCHETTER ELECTRIC, INC.
Contracting and Engineering
471 Bannon Street, Sacramento, CA 95814
(916) 446-2521 Fax (916) 446-2621
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SIGNATURE DATE: 04/07/2017

SEAL

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DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC ____ F/LS ____ SS ____
DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
POWER AND SIGNAL 1ST FLOOR

Drawn By: KPB
Checked By: JMc
Project No.: 15-245
Date: 08/30/2016
DRAWING NO.: E3.1

NO.	DATE	ISSUE
2	10/19/2016	ASI 002
3	12/19/2016	ASI 007
5	07/07/2017	CCD 049

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1 MEZZANINE
1/8" = 1'-0"

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Auburn, CA 95603
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E 009998
Exp. 9-30-2018
ELECTRICAL
STATE OF CALIFORNIA

SIGNATURE DATE:_____

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AGENCY REVIEW
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC _____ F/LS _____ SS _____
DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
POWER AND SIGNAL MEZZANINE

Drawn By
KPB
Checked By
JMc
Project No.
15-245
Date
08/30/2016
DRAWING NO.
E3.2

NO. DATE ISSUE

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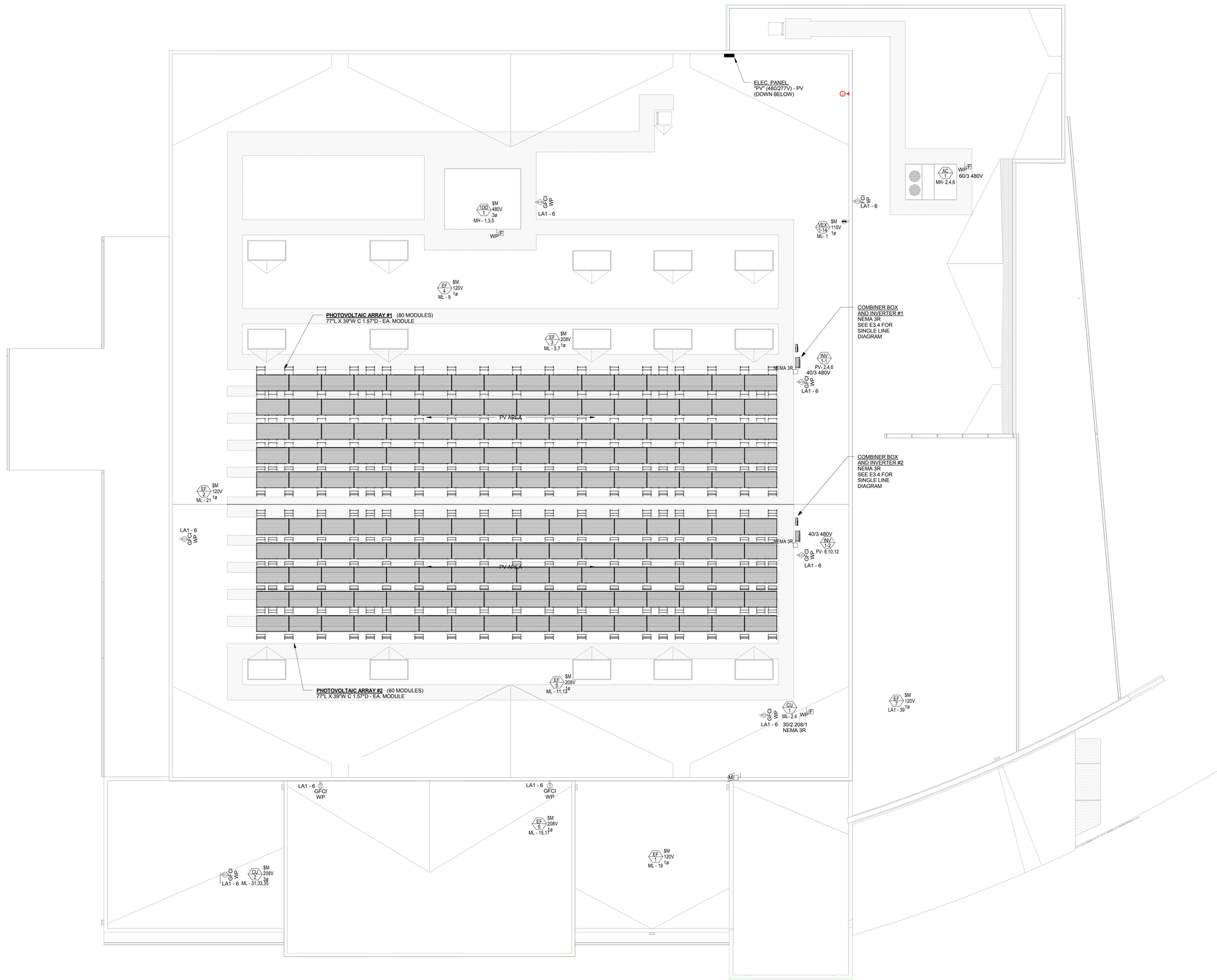

1 ROOTPOINT ELECTRICAL

1/8" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER
JAMES MICHAEL
E 035998
Exp. 9-30-2018
ELECTRICAL
STATE OF CALIFORNIA

SIGNATURE DATE:_____

SEAL

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ROOFTOP ELECTRICAL

Drawn By
KPB

Checked By
JMc

Project No.
15-245

@Date
08/30/2016

DRAWING NO.
E3.3

NO. DATE ISSUE

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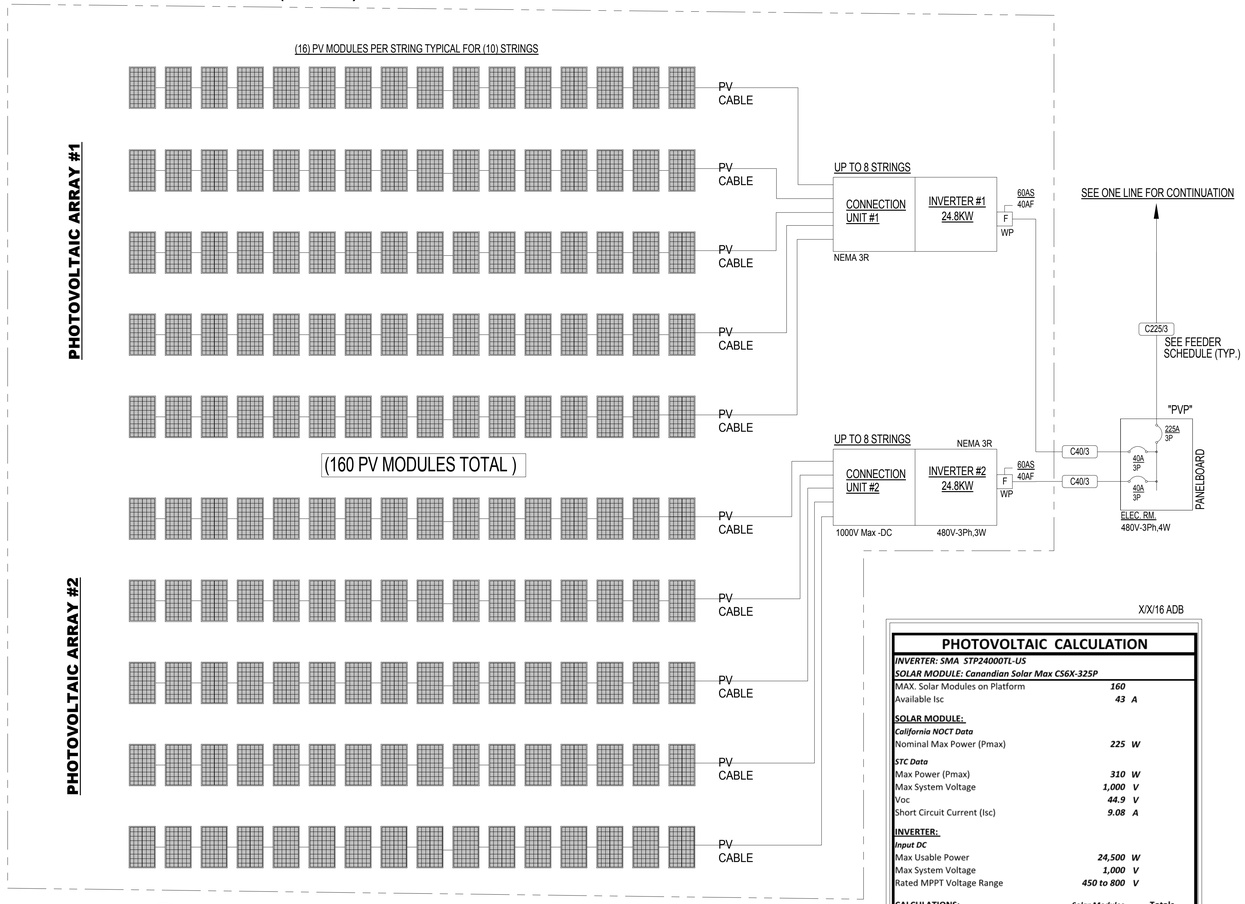
MOUNTED ON ROOF TOP - ALL WP (NEMA 3R)



1 - PHOTOVOLTAIC ONE LINE DIAGRAM - 48KW

SCALE: NONE

X/X/16 ADB

PHOTOVOLTAIC CALCULATION

INVERTER: SMA STP24000TL-US
SOLAR MODULE: Canandian Solar Max CS6X-325P

MAX. Solar Modules on Platform	*160*	
Available Isc	*43*	*A*
SOLAR MODULE:		
California NOCT Data		
Nominal Max Power (Pmax)	*225*	*W*
STC Data		
Max Power (Pmax)	*310*	*W*
Max System Voltage	*1,000*	*V*
Voc	*44.9*	*V*
Short Circuit Current (Isc)	*9.08*	*A*
INVERTER:		
Input DC		
Max Usable Power	*24,500*	*W*
Max System Voltage	*1,000*	*V*
Rated MPPT Voltage Range	*450 to 800*	*V*

CALCULATIONS:	***Solar Modules***		**Totals**
MAX Allowed Solar Modules per String	*44.9 V X 22*	=	*988 V*
Use (16) Solar Modules per String	*310 W X 16*	=	*4,960 W*
Use (5) Strings Per Inverter (5 X 16 = 80)	*310 W X 80*	=	*24,800 W*
Max Input from Solar Module System			
(160) Total Solar Modules	*310 W X 160*	=	*49,600 W*
Max Input Capacity of Inverter System			
(2) Inverters	*24,500 W X 2*	=	*49,000 W*
Module to Inverter Ratio	***49.6W/49W***	=	*1.01 W*

1. INVERTER "1" MAXIMUM STRING VOLTAGE (CEC 690.7)
   = 45.3VDC X 17 X 1.08 (CEC 690.7)
   = 832V
2. INVERTER "2" MAXIMUM STRING VOLTAGE (CEC 690.7)
   = 45.3VDC X 17 X 1.08 (CEC 690.7)
   = 832V

PV LABELS:

1. PROVIDE DIRECTORY AT MAIN SWITCHBOARD LISTING INVERTERS AND THEIR LOCATION (CEC 705.10).
2. PROVIDE WARNING LABEL PER CEC 690.5C:

WARNING
ELECTRICAL SHOCK HAZARD
IF A GROUND FAULT IS INDICATED
NORMALLY GROUNDED CONDUCTORS
MAY BE UNGROUNDED & ENERGIZED

3. PROVIDE WARNING LABEL PER CEC 690.35:

WARNING
ELECTRICAL SHOCK HAZARD
THE DC CONDUCTORS OF THIS
PHOTOVOLTAIC SYSTEM
ARE UNGROUNDED AND MAY BE ENERGIZED

4. PROVIDE WARNING LABEL PER CEC 690. 13 B:

WARNING
PHOTOVOLTAIC AC DISCONNECT

3. PROVIDE THE FOLLOWING WARNING LABEL CEC 705. 13:

WARNING
THIS EQUIPMENT FED BY MULTIPLE
SOURCES. TOTAL RATING OF ALL OVER
CURRENT DEVICES, EXCLUDING MAIN
SUPPLY OVER CURRENT DEVICE, SHALL NOT
EXCEED AMPACITY OF BUSBAR

PV GENERAL NOTES:

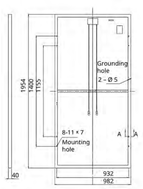
1. MAXIMUM CIRCUIT CURRENT (CEC 690.8) = 1.03 X 1.25 X 1.25 = 11.0A
2. PV OUTPUT CIRCUIT CURRENT (CEC 690.8.2) MAXIMUM CURRENT = 11A X 4 = 44A DC
3. INVERTER OUTPUT CIRCUIT CURRENT (CEC 690.8.3) = 24 KW @ 480V-3□ = 28.8A
4. ARC - FAULT PROTECTION IS PROVIDED WITH SMA INVERTER (CEC 690.11)
5. SMA INVERTERS ARE ANTI-ISLAND & ONLY PRODUCE POWER WHEN CONNECTED TO THE UTILITY SOURCE.
6. DISCONNECTING MEANS (CEC 690.13) - DISCONNECT TO BE READILY ACCESSIBLE - LOCATION FOR UNGROUNDED DC CONDUCTORS IS PROVIDED BT SMA CONNECTION UNIT.
7. THE SMA INVERTER WITH CONNECTOR BOX IS AN UNGROUNDED SYSTEM. PER CEC 690.35 AND HAS DISCONNECTS, OVER CURRENT PROTECTION AND GROUND FAULT PROTECTION. CONDUCTORS SHALL BE "PV" WIRE OR I NSTALLED IN RACEWAYS. THE ENCLOSURE SHALL BE GROUNDED BY AN EQUIPMENT GROUND.
8. GROUNDING: EXPOSED NON-CURRENT CARRYING METAL PARTS OF PV MODULAR FRAMES & ELECTRICAL EQUIPMENT SHALL BE GROUNDED. FOR MODULE, FACTORY GROUNDING SCREWS MAY BE UTILIZED FOR BONDING. REMOVAL OF A MODULE SHALL NOT INTERRUPT THE GROUND TO OTHER COMPONENTS.

SOLAR MODULE(S):

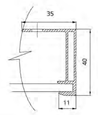
PROVIDE SOLAR PANEL MODULES COMPLETE AND OPERABLE AS MANUFACTURED BY CANADIAN MODEL # CS6X-325P SERIES

MODULE / ENGINEERING DRAWING (mm)

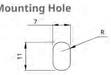
Rear View



Frame Cross Section A-A



Mounting Hole



ELECTRICAL DATA / STC*

Electrical Data CS6X	310P	315P	320P
Nominal Max. Power (Pmax)	310 W	315 W	320 W
Opt. Operating Voltage (Vmp)	36.4 V	36.6 V	36.8 V
Opt. Operating Current (Imp)	8.52 A	8.61 A	8.69 A
Open Circuit Voltage (Voc)	44.9 V	45.1 V	45.3 V
Short Circuit Current (Isc)	9.08 A	9.18 A	9.26 A
Module Efficiency	16.16%	16.42%	16.68%
Operating Temperature	-40°C ~ +85°C		
Max. System Voltage	1000 V (IEC) or 1000 V (UL)		
Module Fire Performance	TYPE 1 (UL 1703) or CLASS C (IEC 61730)		
Max. Series Fuse Rating	15 A		
Application Classification	Class A		
Power Tolerance	0 ~ + 5 W		

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

ELECTRICAL DATA / NOCT*

Electrical Data CS6X	310P	315P	320P
Nominal Max. Power (Pmax)	225 W	228 W	232 W
Opt. Operating Voltage (Vmp)	33.2 V	33.4 V	33.6 V
Opt. Operating Current (Imp)	6.77 A	6.84 A	6.91 A
Open Circuit Voltage (Voc)	41.3 V	41.5 V	41.6 V
Short Circuit Current (Isc)	7.36 A	7.44 A	7.50 A

* Under Nominal Operating Cell Temperature (NOCT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

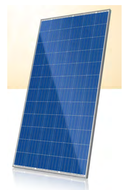
INVERTER(S):

PROVIDE INVERTERS COMPLETE AND OPERABLE AS MANUFACTURED BY SMA MODEL # STP24000TL-US

INVERTER(S):

SMA MODEL # STP24000TL-US

Technical data	Sunny Tripower 24000TL-US
Input (DC)	
Max. usable DC power (@ cos φ = 1)	24500 W
Max. DC voltage	* 1000 V
Rated MPPT voltage range	450 V...800 V
MPPT operating voltage range	150 V...1000 V
Min. DC voltage / start voltage	150 V / 188 V
Number of MPP tracker inputs	2
Max. input current / per MPP tracker input	66 A / 33 A



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JAMES WAYNE JENKINS E 009986 Exp. 9-30-2018 ELECTRICAL

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DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
PV SINGLE LINE

Drawn By
KPB

Checked By
JMc

Project No.
15-245

Date
08/30/2016

DRAWING NO.
E3.4

NO.	DATE	ISSUE
6	07/07/2017	PG&E NEM REQUIREMENTS

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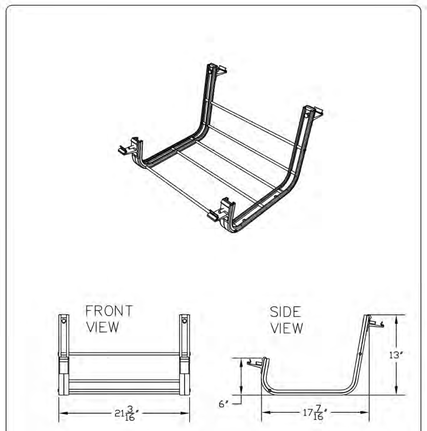
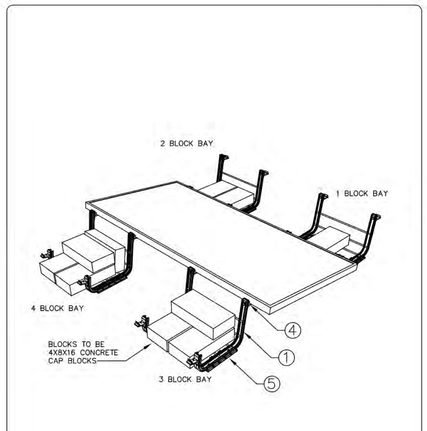


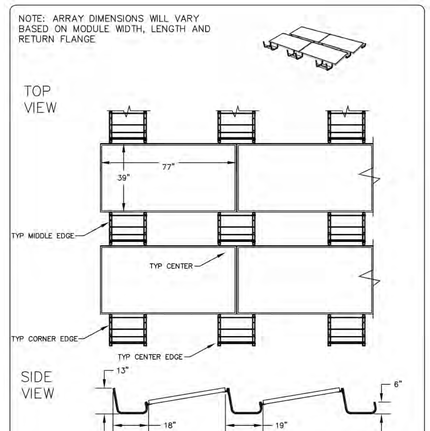
UNIRAC	PRODUCT LINE:	RM	DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
1411 BROADWAY BLVD NE ALBUQUERQUE, NM 87102 USA	DRAWING TYPE:	COMPONENT ASSEMBLY	
WWW.UNIRAC.COM	DESCRIPTION:	BAY & MODULE CLIPS:	PRODUCT PROTECTED BY ONE OR MORE US PATENTS
	REVISION DATE:	APRIL – 2016	LEGAL NOTICE
			RM-A01 SHEET

1 RACK COMPONENTS
N.T.S



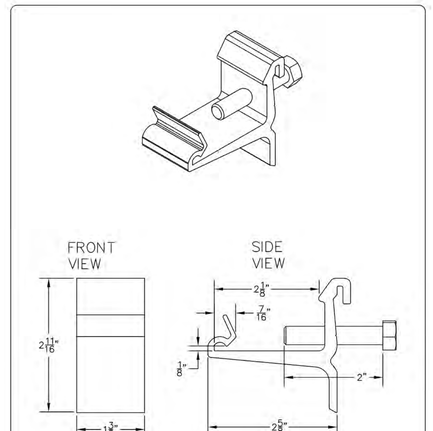
UNIRAC	PRODUCT LINE:	RM	DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
1411 BROADWAY BLVD NE ALBUQUERQUE, NM 87102 USA	DRAWING TYPE:	ASSEMBLY	
WWW.UNIRAC.COM	DESCRIPTION:	1–2–3–4 BLOCK RM BAYS	PRODUCT PROTECTED BY ONE OR MORE US PATENTS
	REVISION DATE:	APRIL – 2016	LEGAL NOTICE
			RM-A02 SHEET

2 RACK BLOCK PLACEMENT
N.T.S



UNIRAC	PRODUCT LINE:	RM	DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
1411 BROADWAY BLVD NE ALBUQUERQUE, NM 87102 USA	DRAWING TYPE:	ASSEMBLY	
WWW.UNIRAC.COM	DESCRIPTION:	4 MODULE RM LAYOUT	PRODUCT PROTECTED BY ONE OR MORE US PATENTS
	REVISION DATE:	APRIL – 2016	LEGAL NOTICE
			RM-A03 SHEET

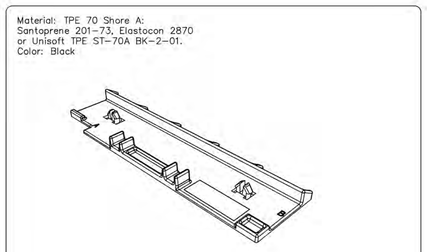
3 FOUR MODULE RACK LAYOUT
N.T.S

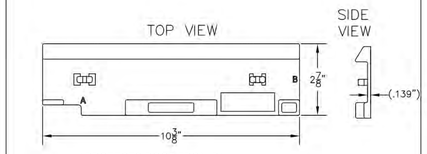


UNIRAC	PRODUCT LINE:	RM	DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
1411 BROADWAY BLVD NE ALBUQUERQUE, NM 87102 USA	DRAWING TYPE:	PART	
WWW.UNIRAC.COM	DESCRIPTION:	RM CLIP & BOLT	PRODUCT PROTECTED BY ONE OR MORE US PATENTS
	REVISION DATE:	APRIL – 2016	LEGAL NOTICE
			RM-P01 SHEET

4 MODULE CLIP
N.T.S

Material: TPE 70 Shore A:
Santoprene 201-73, Elastocon 2870
or Unisoft TPE ST-70A BK-2-01.
Color: Black





*PROTECTS ROOF FROM RAIL

UNIRAC	PRODUCT LINE:	RM	DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
1411 BROADWAY BLVD NE ALBUQUERQUE, NM 87102 USA	DRAWING TYPE:	PART	
WWW.UNIRAC.COM	DESCRIPTION:	RM FOOT PAD	PRODUCT PROTECTED BY ONE OR MORE US PATENTS
	REVISION DATE:	APRIL – 2016	LEGAL NOTICE
			RM-P02 SHEET

5 ROOF FOOT PAD
N.T.S

PZSE STRUCTURAL ENGINEERS

October 14, 2015

Unirac
1411 Broadway Boulevard NE
Albuquerque, New Mexico 87102-1545
TEL: (505) 242- 6411
FAX: (505) 242-6512

Attn.: Engineering Department,

Re: Engineering Certification for the Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System.

The Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System is a proprietary framed ballasted assembly which supports Photovoltaic panels. The ballast frames hold the PV panels and are ballasted with concrete blocks as required for the wind loads. The wind uplift loads are resisted directly by the ballast. Lateral forces, both wind and seismic, are resisted by friction between the ballast and the roof surface. For wind forces, the system is designed for no lateral or vertical displacement of the array. For seismic forces, the system is designed per SEAOC PV1-2012 requirements for lateral movement/displacement.
The ballasting requirements are determined using the Unirac online "U-Builder" Design Assistant tool. The Design Assistant covers a wide range of system configurations and loading and allows the user to customize the input to match the specific project conditions.

We have reviewed the Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System, the RDWI wind tunnel test results and the Unirac ballasted system design methodology and have determined that the Unirac RM ballasted system design methodology is a rational approach and is in compliance with the structural requirements of the following Reference Documents:

Codes: ASCE/SEI 7-05 and ASCE/SEI 7-10 Minimum Design Loads for Buildings and other Structures
International Building Code, 2009 & 2012 Editions
California Building Code, 2010 & 2013 Editions
Other: Aluminum Design Manual, 2010 Edition
RWDI Wind Pressure Study Report #1308856
SEAOC PV1-2012 Report – Structural Seismic Requirements and Commentary for Rooftop Solar PV Arrays
SEAOC PV2-2012 Report - Wind Design for Low-Profile Solar Photovoltaic Arrays on Flat Roofs
Terrapin Testing #TT513010-ASTM G115 Coefficient of Friction Testing Report

This letter certifies that the Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System and the Unirac online "U-Builder" Design Assistant tool are in compliance with the above Reference Documents.

If you have any questions on the above, do not hesitate to call.

Prepared By:
PZSE, Inc. - Structural Engineers
Roseville, CA

REGISTERED PROFESSIONAL ENGINEER — No. 28472 — Exp.6-30-17 — STATE OF CALIFORNIA — CIVIL

8150 Sierra College Boulevard, Suite 150 • Roseville, CA 95661 • 916.961.3960 P • 916.961.3965 F • www.pzse.com

6 ENGINEERING CERTIFICATION
N.T.S

7 ELECTRICAL DATA
N.T.S

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LICENSED PROFESSIONAL ENGINEER — LANCE WAYNE NEWMAN — E 020596 — Exp. 9-30-2018 — ELECTRICAL — STATE OF CALIFORNIA

SIGNATURE DATE:_____

SEAL

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
PV DETAILS

Drawn By
Author

Checked By
Checker

Project No.
15-245

Date
08/30/2016

DRAWING NO.
E3.5

NO.	DATE	ISSUE

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REFERENCE DOCUMENTS:

1. CALCULATIONS BASED ON WIND TUNNEL REPORT PERFORMED BY RWDI WIND PRESSURE STUDY #1302956
2. FRICTION TEST REPORT NO. TT 513010 CONDUCTED BY TERRAPIN TESTING (10/4/2013).
3. UNIRAC U-BUILDER PROJECT OUTPUTS
4. DRAG SAMPLE CALCULATION IS DONE ON SMALLEST ARRAY TO CHECK FOR WORST CASE VALUES

SEISMIC DESIGN FOR BALLASTED PV SYSTEMS PER SEAOC PV1

	VALUE	UNITS
MODULE LENGTH = M_{LEN}	76.93	IN
MODULE WIDTH =M_{WID}	38.70	IN
MODULE WEIGHT	48.5	LBS
ROW_{C-C} = CENTER TO CENTER OF ROW DIMENSION (((M_{WID})*COSINE(10)) +19.5)/12	4.82	FT
AVG PROJECT WEIGHT = W_I TAKEN FROM U-BUILDER REPORT	6.45	PSF
NUMBER OF MODULE COLUMNS OF SUBJECT CALCULATED ARRAY	16	
CAPACITY OF 2 CONNECTIONS (N-S) STRENGTH DESIGN	317	LBS
IMPORTANCE FACTOR OF BUILDING = I_E RISK/OCC. I, II =1.0, III = 1.25, IV = 1.5	1.25	
IMPORTANCE FACTOR OF ARRAY = I_E RISK/OCC. I, II = 1.0, III, IV = 1.5	1.50	
SITE CLASSIFICATION	D	
MAPPED ACCELERATION PARAMETER, S_S	1.654	g
SITE COEFFICIENT IN SITE CLASS D F_A S_S = 0.75 (F_a=1.2) S_S = 1.0 (F_a=1.1) S_S ≥ 1.25 (F_a=1.0)	1.00	
DESIGN SPECTRAL ACCELERATION PARAMETER, S_{DS} = $\frac{2}{3}$ * F_a * S_S	1.10	g
(DESIGN SEISMIC SEPARATION) Δ_{SEPV} = [(S_{DS} 0.4)^2* 60 INCHES], BUT NOT LESS THAN 6 INCHES	29.62	IN
SEISMIC INTERCONNECTION LOADING (SEAOC PV-1) Fp = MAXIMUM OF 0.133*S_{DS}*W_I or 0.1*W_I		
0.133 * S_{DS}	0.15	
IF ABOVE VALUE IS > 0.1 IT IS USED IN SUBSEQUENT EQUATIONS IF NOT USE 0.1		
Fp = 0.133 S_{DS} x W_I	0.95	PSF
LATERAL LOAD FOR A COLUMN OF MODULES. Wp = M_{LEN}(FT) * Fp	6.06	PLF
N-S CONNECTION CAPACITY/ LATERAL LOAD	52.24	FT
DOUBLE LENGTH FOR EACH DIRECTION FOR N-S LENGTH = DL_{NS}	104.48	FT
MAX NUMBER OF MODULE ROWS = (((DL_{NS})- (M_{WID}*COS(10))/12) / ROW_{C-C})+1	22	ROUNDED DOWN
E-W_{FORCE} = E-W CLIP CAPACITY/ INTERCONNECTION FORCE = 252 LBS /(0.133*S_{DS})	1718.32	LBS
SETBACK BETWEEN ARRAYS = 0.5 (I_E) Δ_{SEPV}	22.22	IN
SETBACK BETWEEN ARRAY AND OBJECTS = (I_E) Δ_{SEPV}	44.44	IN
SETBACK BETWEEN ARRAY AND ROOF EDGE WITH PARAPET = (I_E) Δ_{SEPV}	37.03	IN
SETBACK BETWEEN ARRAY AND ROOF EDGE WITHOUT PARAPET= 1.5 (I_E) Δ_{SEPV}	55.55	IN
MAX N-S ARRAY DIMENSION	104.48	FT
MAX E-W ARRAY DIMENSION = (E-W_{FORCE}*2)-/Wp) / ROW_{C-C}	110.59	FT

BALLAST DESIGN SPECIFICATIONS/VARIABLES

	VALUE	UNITS
MODULE LENGTH	76.93	IN
MODULE WIDTH	38.70	IN
MODULE WEIGHT	48.5	LBS
BALLAST BAY WEIGHT	3.5	LBS
FACTOR OF SAFETY SF = (1.67)	1.67	
TILT ANGLE (10 DEGREES)	10.0	DEGREES
COSINE (10 DEGREES)	0.99	
SINE (10 DEGREES)	0.2	
α_D = FACTOR ON DEAD LOAD	0.6	
α_W=FACTOR ON WIND LOAD (1 for ASCE 7-05, 0.6 for ASCE 7-10)	0.6	
μ= COEFFICIENT OF FRICTION	0.4	
D = MODULE WEIGHT + BAY WEIGHT	52.00	LBS
A_{UPLIFT} = AREA OF THE MODULE PROJECTED ONTO A HORIZONTAL PLANE	20.4	SQFT
A_{DRAG} = AREA OF THE MODULE PROJECTED ONTO A VERTICAL PLANE	3.59	SQFT
q_p = 0.00256 * K_z* K_{zt} * K_d* V^2 * I (WIND GUST PRESSURE)	27.05	PSF
K_z = EXPOSURE FACTOR	0.94	
K_{zt} = TOPOGRAPHIC FACTOR	1	
K_d = DIRECTIONALITY FACTOR	0.85	
V = BASIC WIND SPEED	115	MPH
I = IMPORTANCE FACTOR (FOR 7-05 CALCULATIONS ONLY)	1	
$GC_{P\ UPLIFT}$ = ABSOLUTE VALUE FROM WIND TUNNEL STUDY	0.61	
$BALLAST_{UPLIFT}$= WEIGHT REQUIRED TO RESIST UPLIFT FORCES		
$BALLAST_{UPLIFT}$ = [α_W * q_z * $GC_{P\ UPLIFT}$ * A_{UPLIFT} - D * α_D] / α_D		
$BALLAST_{UPLIFT}$ = [α_W * q_z * $GC_{P\ UPLIFT}$ * A_{UPLIFT} - D * α_D] * SF	285	LBS
$GC_{P\ DRAG\ MAX}$ = HIGHEST VALUE FOR DOWNFORCE LOADING	0.61	
$BALLAST_{DRAG}$ = WEIGHT REQUIRED TO RESIST DRAG		
NORTH ARRAY IS USED IN EXAMPLE		
RF= ROOF AREA REDUCTION FACTOR FROM WIND TUNNEL STUDY TABLE (5258 ft²)	0.145	
$BALLAST_{DRAG}$ = [(α_W * q_z) * [{($GC_{P\ DRAG\ MAX}$* RF * A_{DRAG} * 1/μ + $GC_{P\ UPLIFT}$ * RF * A_{UPLIFT}) - (α_D * D)} / α_D		
$BALLAST_{DRAG}$= [(0.6 * 27.05) * {((0.61 * 0.145 * 3.59 * 1/0.4) + (0.61* 0.145 * 20.4)] - (0.6 * 52)} / 0.6	17.8	LBS
BALLAST CHECK : UPLIFT BALLAST > REQUIRED DRAG BALLAST EXAMPLE 285 LBS > 17.8 LBS		PASS

ROOF AREA REDUCTION TABLE FROM THE WIND TUNNEL STUDY

ROOF AREA COVERED BY SOLAR (FT^2)	REDUCTION FACTOR
100	0.6
200	0.475
300	0.4
400	0.35
500	0.33
600	0.31
700	0.29
800	0.275
900	0.26
1000	0.25
2000	0.19
3000	0.16
4000	0.15
5000	0.145
6000	0.13
7000	0.12
8000	0.11
9000	0.105
10000	0.1

VELOCITY PRESSURE COEFFICIENT K_z

HEIGHT ABOVE GROUND LEVEL (FT)	B	C
0-15	0.57	0.65
20	0.62	0.90
25	0.66	0.94
30	0.70	0.00
40	0.76	1.00
50	0.81	1.00
60	0.85	1.00

SHEET INDEX

BC.100	SEISMIC AND BALLAST CALCULATIONS TABLES
BC.200	U-BUILDER REPORT AND U-BUILDER ASSUMPTIONS
BC.300	BALLAST BLOCK LAYOUT MAP
BC.400	GCp COEFFICIENT MAP
BC.500	UPLIFT FORCE PER MODULE MAP
BC.600	DRAG FORCE PER MODULE MAP

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SCHETTER ELECTRIC, INC.

REVISIONS: REV | DATE | DESCRIPTION

DATE: 9/1/16
SCALE: NOT TO SCALE
DRAWN BY: IB
CHECKED BY: JH
APPROVED BY:
REV NO:
PROJECT NO: SOLANO CC AUTO

PROJECT: SOLANO CC AUTO TECH, 1691 ASCOT PARKWAY, VALLEJO, CA 94591

TITLE: SEISMIC CALCULATION VARIABLES / BALLAST CALCULATION VARIABLES

DRAWING: BC.100

1 SEISMIC AND BALLAST CALCULATION VARIABLES
N.T.S

U-BUILDER ENGINEERING OUTPUT

U-BUILDER PROJECT REPORT
UNIRAC 1.4.0 BETA

SEP 07, 2016, 10:21 PM

PROJECT TITLE: SOLANO COMMUNITY COLLEGE JLB
PROJECT ID: CSEFCF74

Name:	None	Designed by:	jeanette
Address:	1691 Ascot Parkway Vallejo, CA, 94591		RM-BALLASTED FLAT ROOF
City, State:	Vallejo, CA, 94591		160 - 320 Watt Panels
Module:	Canadian Solar CS6X-320P		5258 Sq Ft
	326 Watts		51.2 kWs

ENGINEERING REPORT

Plan review

Average PSF:	6.79 lbs/ft²
Total weight on roof:	35722 lbs
- Racking weight:	626 lbs
- Module weight:	48 lbs
- Ballast weight:	27136 lbs
- Max Bay Load (Dead):	180 lbs
Loads Used for Design	
- Building Code:	ASCE 7-10
- Wind Speed:	115 mph
- Ground Snow Load:	0 psf
- Roof Snow Load:	0.0 psf
- Seismic (Ss):	1.654
- Wind Exposure:	C
Loads Determined by Zip	
- City, State:	Vallejo, CA
- Wind Speed:	110 mph
- Ground Snow Load:	0 psf

Inspection

Project:	RM-BALLASTED FLAT ROOF
Module Manufacturer:	Canadian Solar
Model:	CS6X-320P
Module Watts:	320 watts
Module Length:	76.93 "
Module Width:	38.70 "
Module Thickness:	1.57 "
Module Weight:	48.00 lbs
Ballast Block Weight:	32 lbs
Max Blocks per Bucket:	4
Building Height:	25 ft
Roof Type:	Other
Parapet Height:	>= 2 ft

RM PRODUCT ASSUMPTIONS

RM-- Ballasted Flat Roof Systems

1. Importance Factor = 1
2. Building Height ≤ 60 ft.
3. Roof Slope ≥ 1.2° and < 3°
4. Topographic Factor (Kzt) = 1
5. ASCE 7-05: Basic Wind Speed: 85-150 mph (IBC 2006/ASCE 7-05), Wind Exposure: B or C.
6. ASCE 7-10: Basic Wind Speed: 110-180 mph (IBC 2012/ASCE 7-10), Wind Exposure: B or C.
7. Ballast Calculations are based on ASCE 7-05 & ASCE 7-10 load combinations and product specific wind tunnel testing per ASCE 7-05 and ASCE 7-10
8. Ground Snow Load: 0-60 psf. (Reduction can be input if this is acceptable with your local building authority). Results are based on uniform snow loading and do not consider unbalanced, drifting, and sliding conditions.
9. Roof Snow Load: Reduction calculated per Section 7.3 of ASCE 7-05 with the following assumptions: Exposure factor = 0.9, Thermal factor = 1.2, Importance factor = 1. Please verify these are appropriate for your site before using this max bay loads reported above.
10. Dead Load Due to Racking: 3.5 lbs. per ballast tray
11. Module Gap (GW): 0.25 in.
12. Seismic: Installations must be in seismic site class A, B, C, or D as defined in IBC 2006/ASCE 7-05.

SEAOC PV1-2012 describes Structural Seismic Requirements for Rooftop Photovoltaic Arrays:

Minimum Separation Distances: SEAOC PV1-2012 prescribes a minimum separation distance for unattached PV arrays on rooftops.

Array Size Limits for Seismic: SEAOC PV1-2012 limits the size of an unattached array by the design strength of the system connections.

Assumptions:

1. For Unattached Rooftop Photovoltaic Arrays
2. Array Importance Factor, Ip = 1.0
3. Building Importance Factor, Ie = 1.0
4. Site Class = D
5. Snapshot (S) is to a qualified parapet or rooftop obstruction
6. Array to Array Minimum Distance = 0.5 * S
7. Array to Unqualified Parapet Minimum Distance = 1.5 * S
8. Ss: Spectral response acceleration parameter at short periods per ASCE 7-05
9. Sds: Design, 5 percent damped spectral acceleration parameter at short periods per ASCE 7-05
10. A minimum module return flange of 0.9in (when using 1-3/4 in. clip bolts) is required for all RM Installations
11. A minimum module return flange of 0.85in (when using 2 in. clip bolts) is required for all RM installations
12. Coefficient of friction used for calculations = 0.4

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APPROVED BY:
REV NO:
PROJECT NO: SOLANO CC AUTO

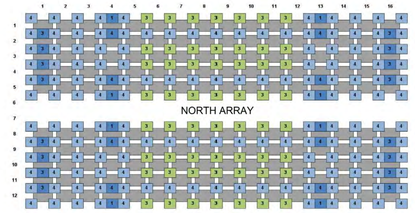
PROJECT: SOLANO CC AUTO TECH, 1691 ASCOT PARKWAY, VALLEJO, CA 94591

TITLE: U-BUILDER ENGINEERING REPORT WITH CALCULATION ASSUMPTIONS

DRAWING: BC.200

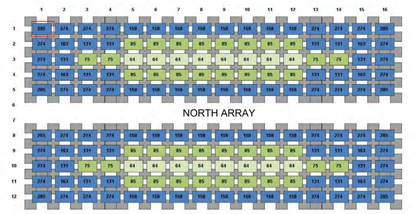
6 U-BUILDER ENGINEERING OUTPUT
N.T.S

BALLAST BLOCK LAYOUT



2 BALLAST BLOCK LAYOUT
N.T.S

BALLAST REQUIRED TO OVERCOME UPLIFT FORCES (LBS)
RED SQUARE DENOTES SAMPLE CALCULATION LOCATION
$BALLAST_{UPLIFT}$ = [α_W * q_z * $GC_{P\ UPLIFT}$ * A_{UPLIFT} - D * α_D] * SF
$BALLAST_{UPLIFT}$ = [0.6 * 27.05 * 0.61 * 20.4 - 52 * 0.6] * 1.67 = 285 LBS



3 BALLAST REQUIRED TO OVERCOM UPLIFT FORCES
N.T.S

BALLAST REQUIRED TO OVERCOME DRAG FORCES (LBS)
RED SQUARE DENOTES SAMPLE CALCULATION LOCATION
$BALLAST_{DRAG}$= [(α_W * q_z) * [{($GC_{P\ DRAG\ MAX}$* RF * A_{DRAG} * 1/μ + $GC_{P\ UPLIFT}$ * RF * A_{UPLIFT}) - (α_D * D)} / α_D
BALLAST/DRAG = [(0.6 * 27.05) * {((0.61 * 0.145 * 3.59 * 1/0.4) + (0.61 * 0.145 * 20.4)] - (0.6 * 52)} / 0.6 = 17.8 LBS
UPLIFT BALLAST > REQUIRED DRAG BALLAST
NORTH ARRAY : 285 LBS > 17.8 LBS

17.8	16.2	16.2	16.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	16.2	16.2	16.2	17.8	0.0
16.2	0.2	-4.4	-4.4	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-4.4	-4.4	0.2	16.2	0.0
16.2	-4.4	-12.5	-12.5	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-12.5	-12.5	-4.4	16.2	0.0
16.2	0.2	-4.4	-4.4	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-4.4	-4.4	0.2	16.2	0.0
17.8	16.2	16.2	16.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	16.2	16.2	16.2	17.8	0.0

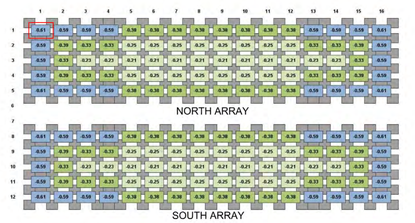
NORTH ARRAY

17.8	16.2	16.2	16.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	16.2	16.2	16.2	17.8	0.0
16.2	0.2	-4.4	-4.4	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-4.4	-4.4	0.2	16.2	0.0
16.2	-4.4	-12.5	-12.5	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-14.1	-12.5	-12.5	-4.4	16.2	0.0
16.2	0.2	-4.4	-4.4	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1	-4.4	-4.4	0.2	16.2	0.0
17.8	16.2	16.2	16.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	16.2	16.2	16.2	17.8	0.0

SOUTH ARRAY

4 BALLAST REQUIRED TO OVERCOM DRAG FORCES
N.T.S

GCp COEFFICIENT MAP — RED SQUARE DENOTES SAMPLE CALCULATION LOCATION



5 GCp COEFFICIENT MAP
N.T.S

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JAMES WAYNE JONES, E 009586, Exp. 9-30-2018, LICENSED ELECTRICAL CONTRACTOR, STATE OF CALIFORNIA

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AUTO TECH FACILITY

Drawing Title: **PV DETAILS**

Drawn By: Author
Checked By: Checker

NO.	DATE	ISSUE

Project No.: 15-245
Date: 08/30/2016
DRAWING NO.: **E3.6**

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1 LOW VOLTAGE SYSTEMS PATHWAYS

1/8" = 1'-0"

JK ARCHITECTURE PARTNERSHIP

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KPB

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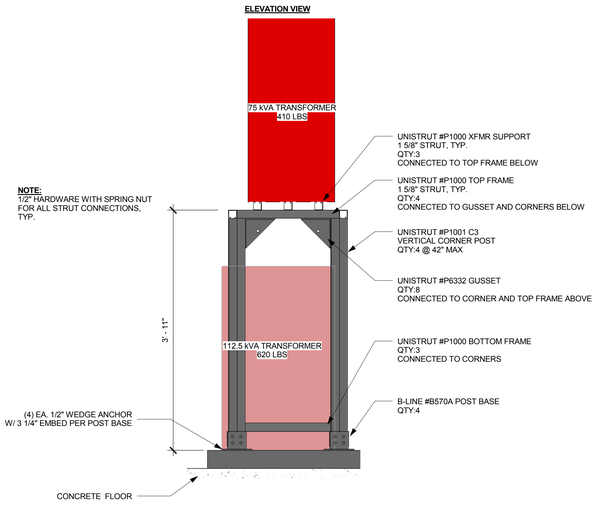
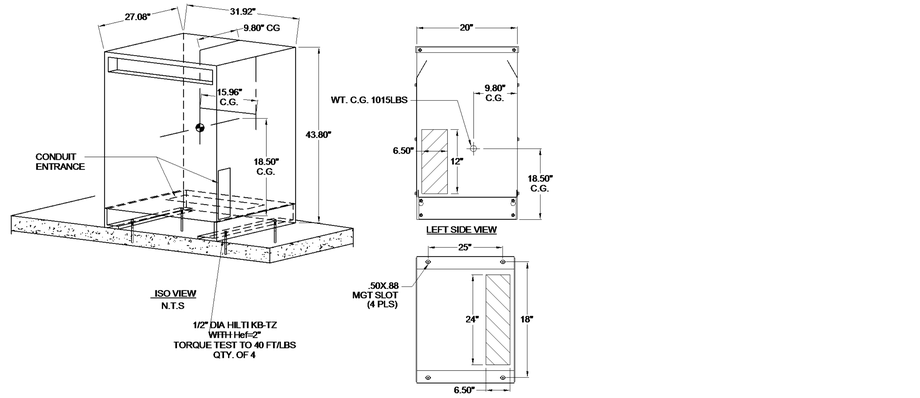


1 STACKED TRANSFORMER

1" = 1'-0"



2 FLOOR MOUNTED TRANSFORM ANCHORAGE

N.T.S.

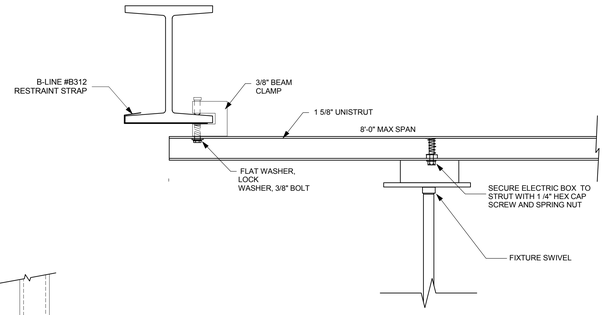
PANEL BOARD INFORMATION

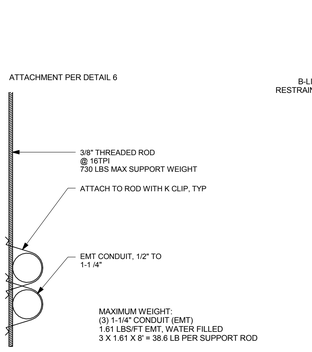
PANEL NAME	HEIGHT (INCHES)	DEPTH (INCHES)	WIDTH (INCHES)	SKIRT (INCHES)	MAX WEIGHT (LBS)	MOUNT TYPE
MH	62	5.75	20	10	248	WALL
ML	38	5.75	20	34	1152	WALL
QL1A	72	5.75	20	N/A	288	FLOOR
QL1B	72	5.75	20	N/A	288	FLOOR
QL2A	72	5.75	20	N/A	288	FLOOR
QL2B	72	5.75	20	N/A	288	FLOOR
LTG	32	5.75	20	40	128	WALL
LA1	72	5.75	20	N/A	288	FLOOR
LA2	72	5.75	20	N/A	288	FLOOR
LA3	72	5.75	20	N/A	288	FLOOR
TC	32	5.75	20	40	128	WALL
EV	38	5.75	20	34	152	WALL
QH	80	7.75	24	N/A	400	FLOOR
PV	56	7.75	24	16	280	WALL
QDL	90	10	32	N/A	720	FLOOR

NOTE: LARGEST 16GA SHEET METAL SKIRT: 40" X (20+6+6) = 22 LBS)

10 PANEL BOARD SIZING INFORMATION

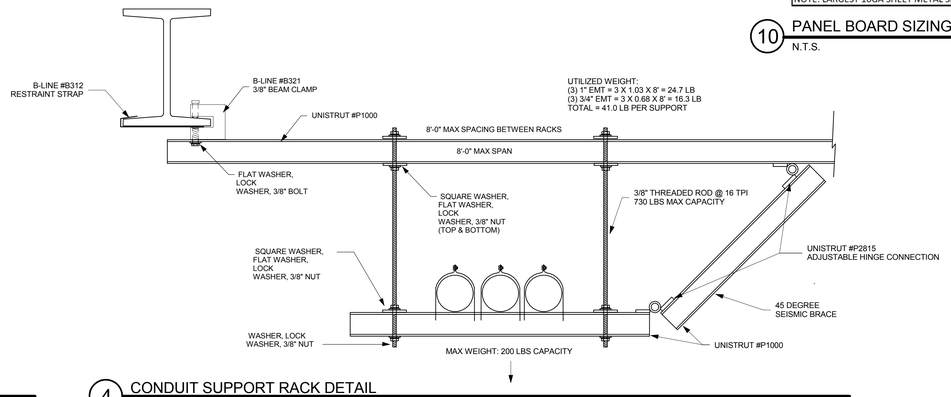
N.T.S.



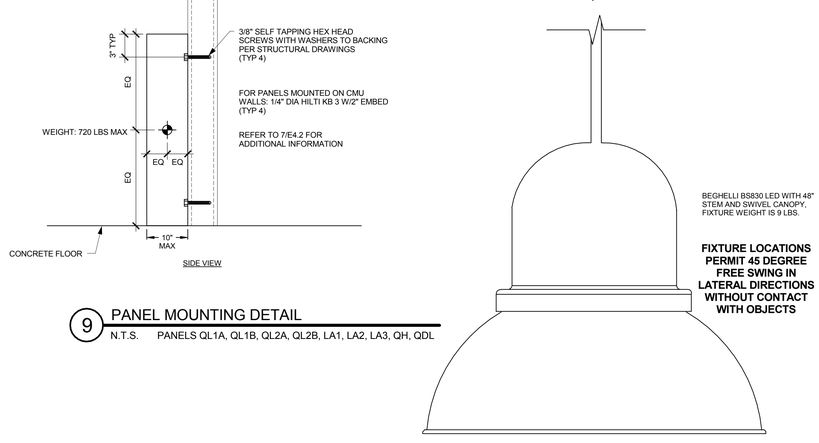


3 ROD SUPPORT AT ROOF DECK

N.T.S.



4 CONDUIT SUPPORT RACK DETAIL

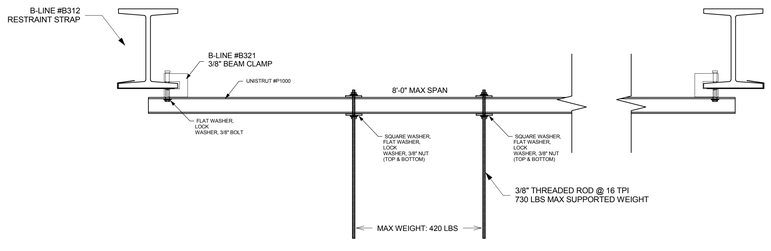


9 PANEL MOUNTING DETAIL

N.T.S. PANELS QL1A, QL1B, QL2A, QL2B, LA1, LA2, LA3, QH, QDL

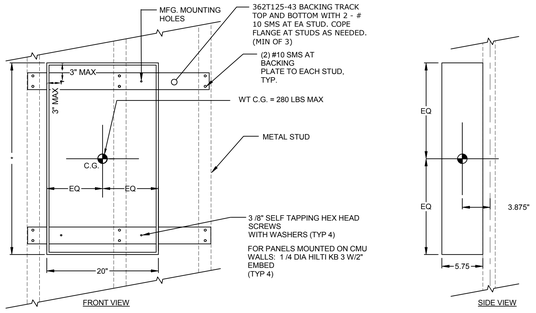
5 FIXTURE 'K' MOUNTING DETAIL

N.T.S.



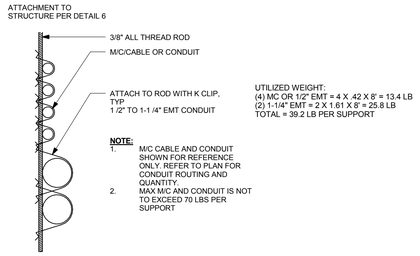
6 TYPICAL STRUT SUPPORT ASSEMBLY

N.T.S.



7 TYPICAL PANEL MOUNTING DETAIL

N.T.S. *PANELS MH, ML, LTG, TC, EV, PV



8 M/C CABLE OR CONDUIT ROD SUPPORT

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REGISTERED PROFESSIONAL ENGINEER JASON WAYNE JOHNSTON E 035590 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

SIGNATURE DATE: _____

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AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ELECTRICAL DETAILS

Drawn By: RFR
Checked By: JMc
Project No.: 15-245
@Date: 08/30/2016

DRAWING NO.
E4.2

NO.	DATE	ISSUE

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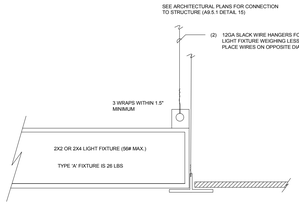

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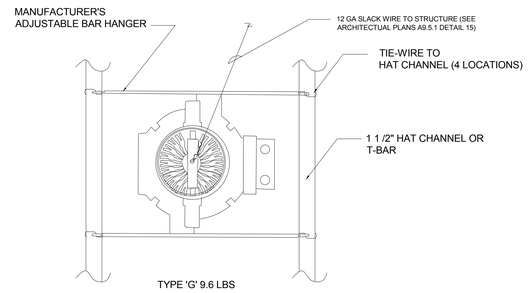

TYPE 'G' 9.6 LBS

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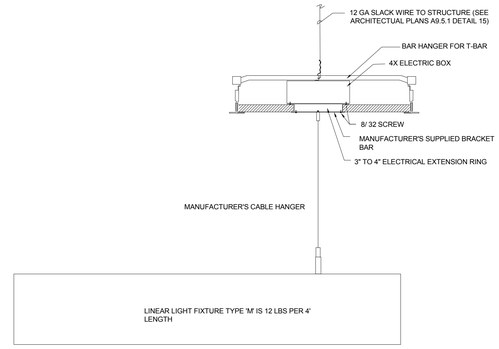

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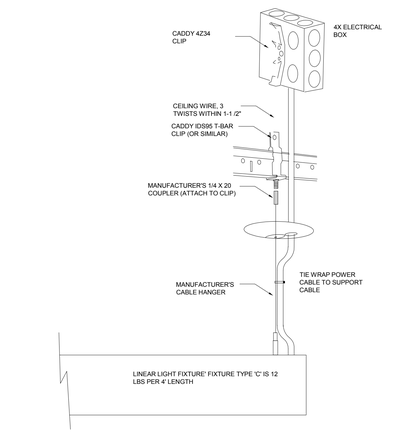

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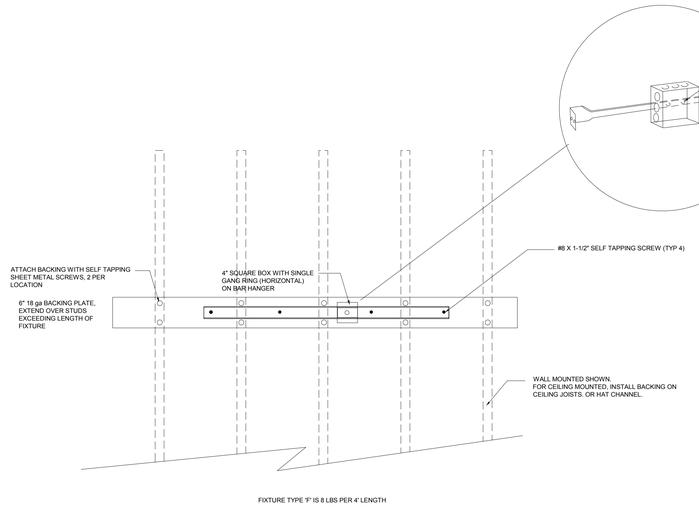

FIXTURE TYPE 'F' IS 8 LBS PER 4' LENGTH

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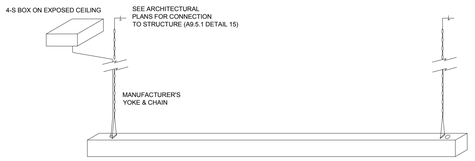

FIXTURE H4 WEIGTH: 5.5 LBS, FIXTURE H8 WEIGHT: 11.1 LBS

SC ALE:

JK ARCHITECTURE PARTNERSHIP
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Suite120
Auburn, CA 95603
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JAMES WAYNE RIGGS No. E 009986 Exp. 9-30-2018 ELECTRICIAN STATE OF CALIFORNIA

SIGNATURE DATE: _____

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LICENSED ARCHITECT CHRISTOPHER C VIVIENO NO. C26985 REN. 6-30-17 STATE OF CALIFORNIA

AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project
SOLANO COMMUNITY COLLEGE
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Drawing Title
ELECTRICAL DETAILS

Drawn By
RFR

Checked By
JMc

NO.	DATE	ISSUE

Project No.
15-245

©Date
08/30/2016

DRAWING NO.
E4.3

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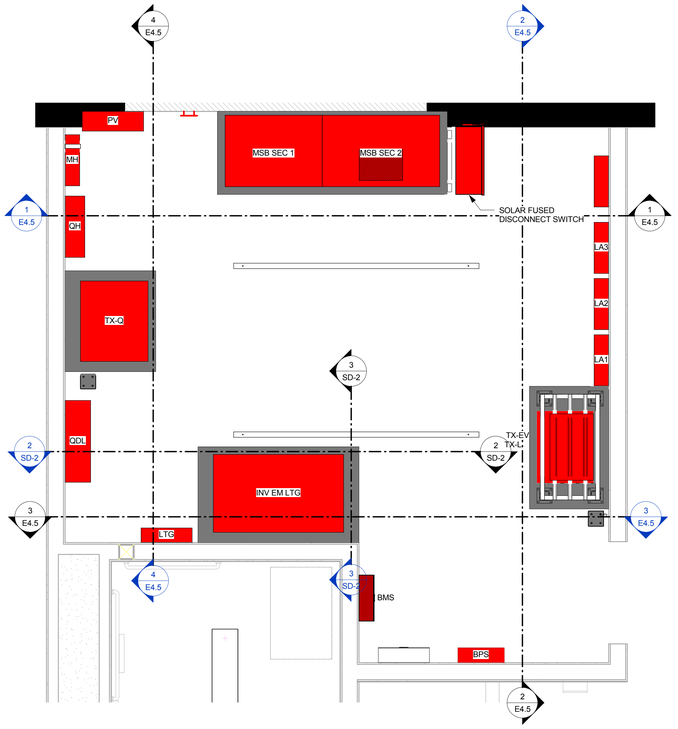
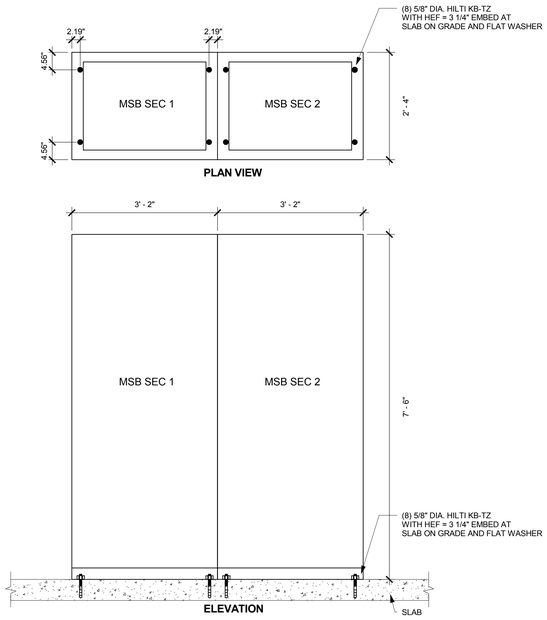


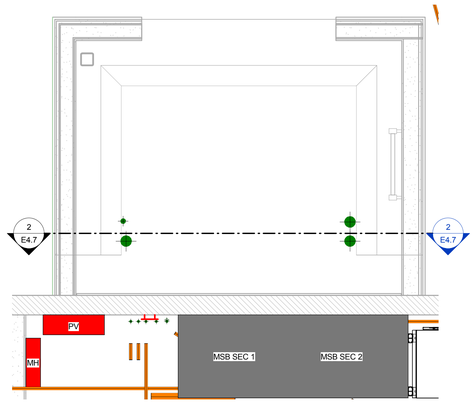
1 Electrical Room - Enlarged

1/2" = 1'-0"



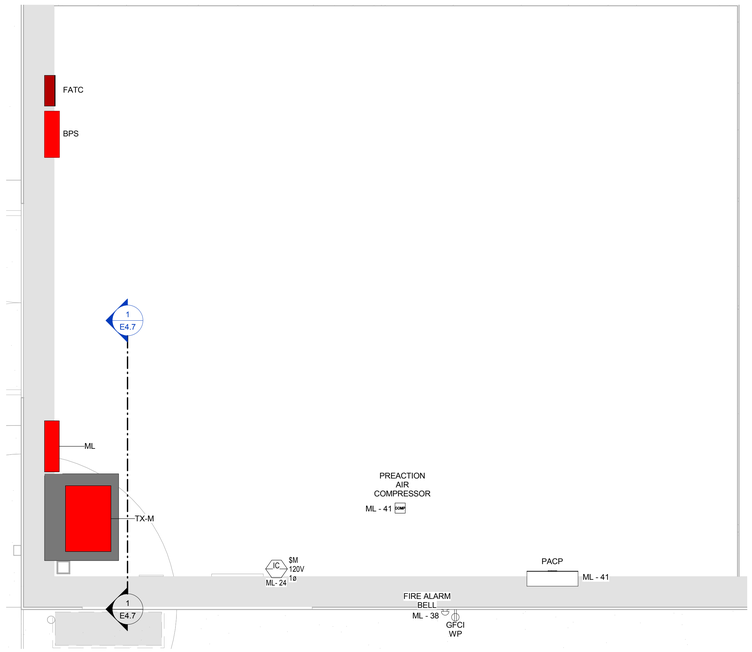
3 MSB MOUNTING DETAIL **OSP-0090-10**

N.T.S



4 MPOE Room - Enlarged

1/2" = 1'-0"



5 Mechanical Room - Enlarged

1/2" = 1'-0"

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LANCE WAYNE [illegible] E 60996 Exp 9-30-2018 ELECTRICAL

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IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL # 02-114995

AC ____ F/LS ____ SS ____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ELECTRICAL DETAILS

Drawn By KT
Checked By Checker
Project No. 15-245
Date 08/30/2016

NO.	DATE	ISSUE
5	07/07/2017	CCD 049
6	07/07/2017	PG&E NEM REQUIREMENTS

DRAWING NO.
E4.4

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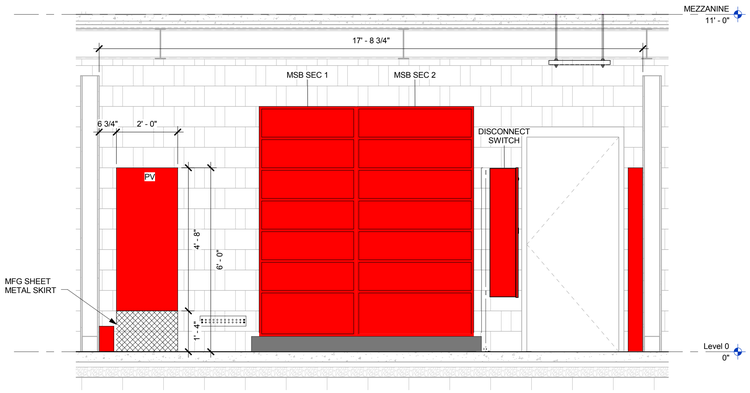
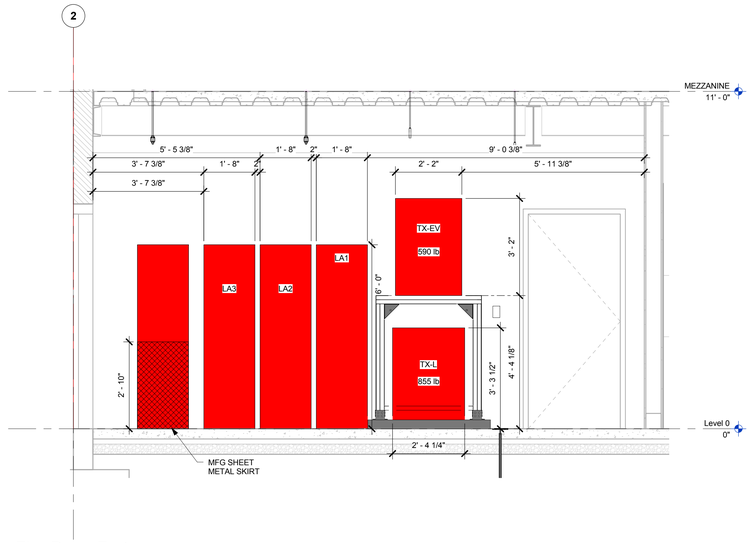
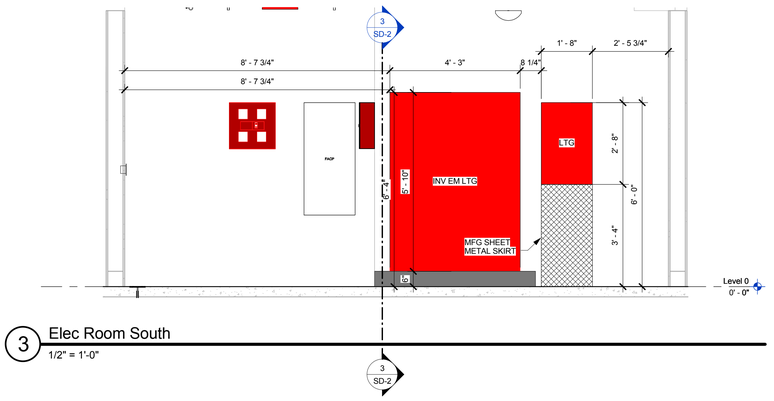


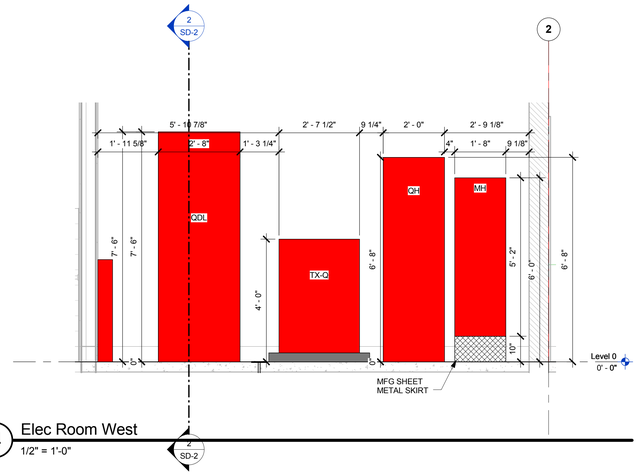
1 Elec Room North
1/2" = 1'-0"



2 Elec Room East
1/2" = 1'-0"



3 Elec Room South
1/2" = 1'-0"



4 Elec Room West
1/2" = 1'-0"

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AGENCY REVIEW

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 02-114995
AC _____ F/LS _____ SS _____
DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ELECTRICAL DETAILS

Drawn By
KT
Checked By
Checker

NO.	DATE	ISSUE

Project No.
15-245
@Date
08/30/2016

DRAWING NO.
E4.5

C:\Users\jkinster\Documents\VALLEJO AUTO TECH - ELEC_Nickster.rvt
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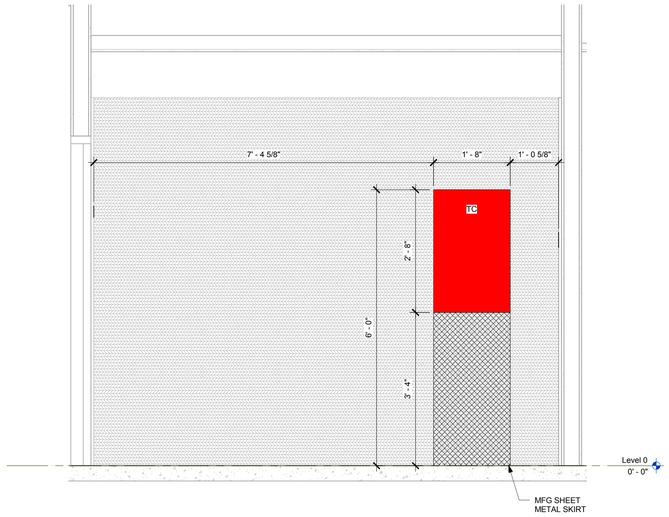
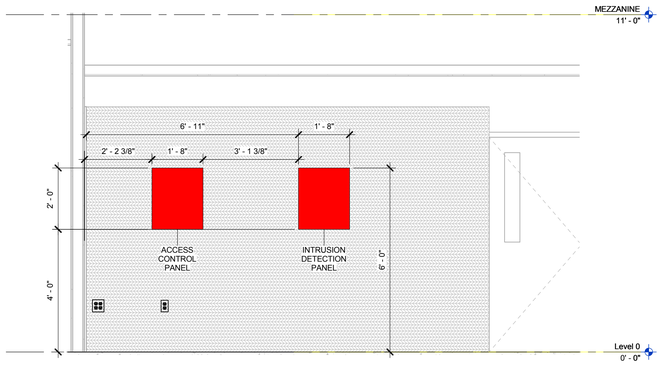
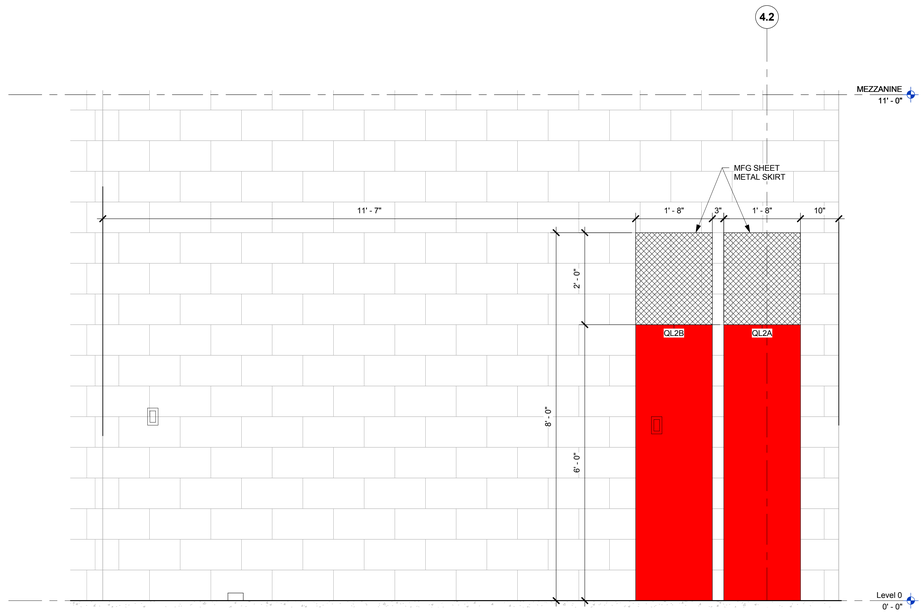


1 IDF South Wall
3/4" = 1'-0"



5 IDF East Wall
1/2" = 1'-0"



3 QL2B/QL2A
3/4" = 1'-0"

4 QL1B/QL1A
3/4" = 1'-0"

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APPL # 02-114995
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SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
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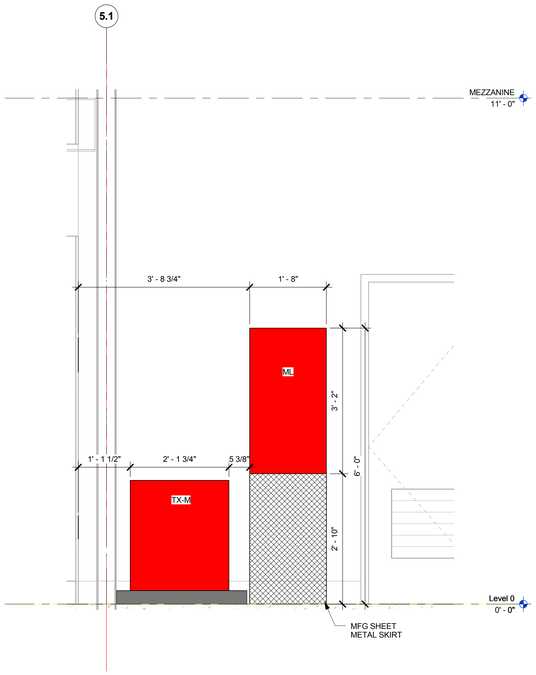
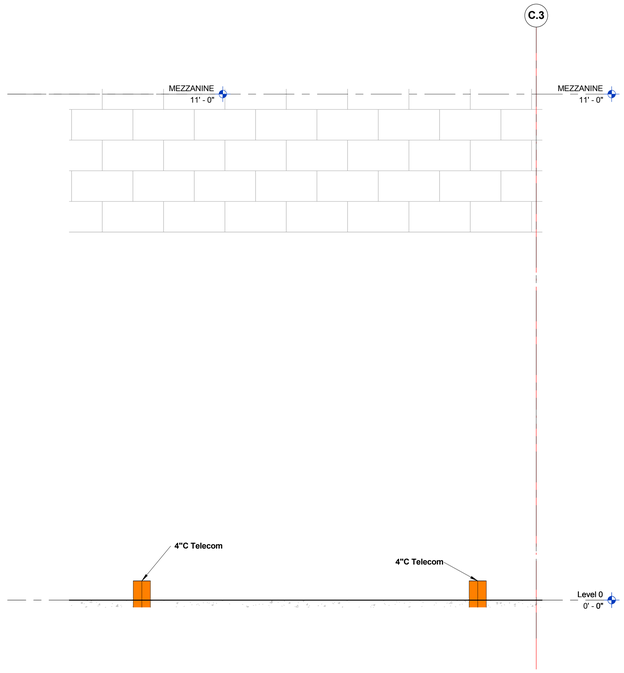


1 Mech Room West Wall
3/4" = 1'-0"



2 MPOE South Wall
3/4" = 1'-0"

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JAMES WAYNE JONES
E 009586
Exp. 9-30-2016
ELECTRICAL
STATE OF CALIFORNIA

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LICENSED ARCHITECT
CHRISTOPHER C VIVIANO
NO. C26985
REN. 6-30-17
STATE OF CALIFORNIA

AGENCY REVIEW
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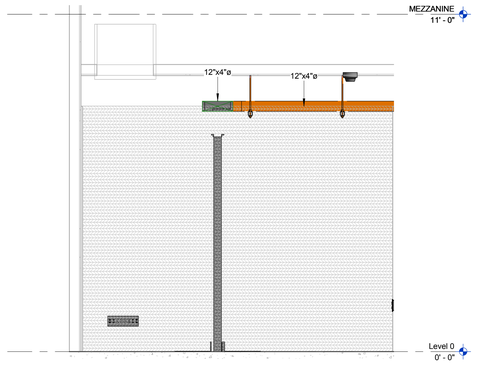
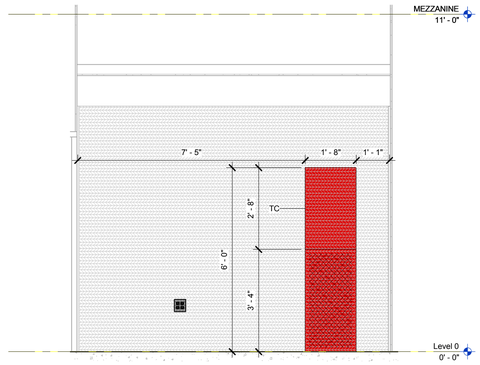
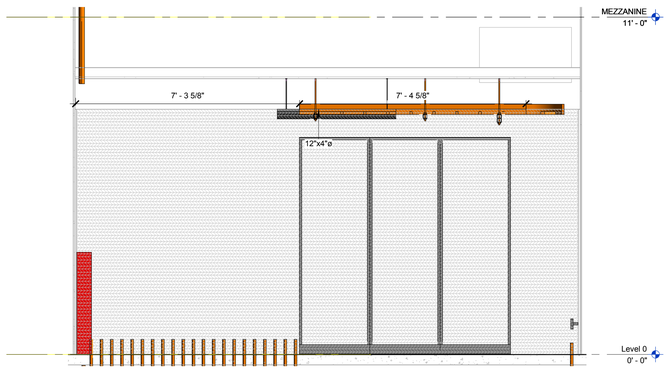


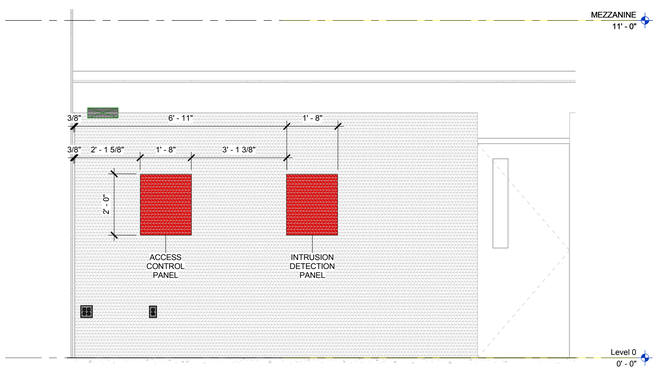
1 IDF North Wall Elevation
1/2" = 1'-0"



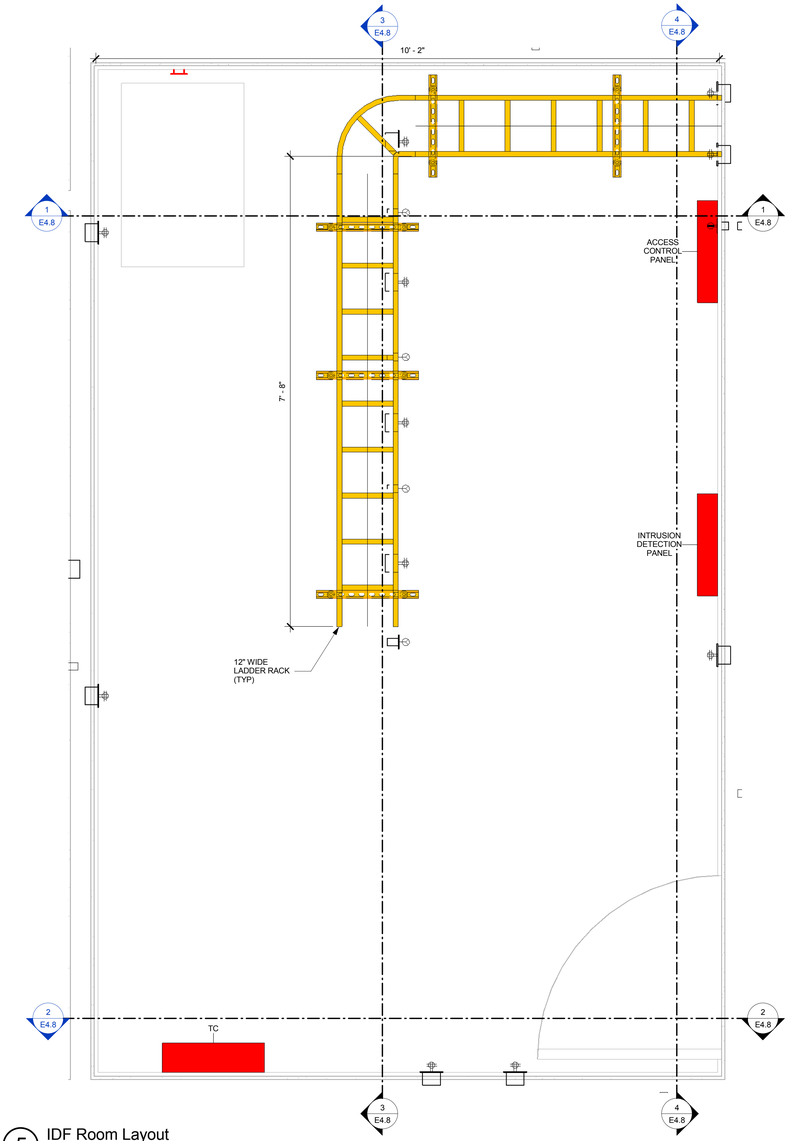
2 IDF South Wall Elevation
1/2" = 1'-0"



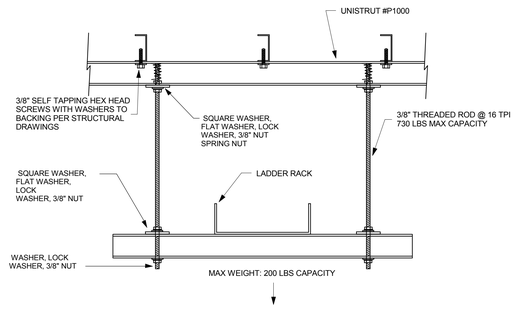
3 IDF West Wall Elevation
1/2" = 1'-0"



4 IDF East Wall Elevation
1/2" = 1'-0"



5 IDF Room Layout
1" = 1'-0"



6 LADDER RACK SUPPORT DETAIL
1 1/2" = 1'-0"

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AUTO TECH FACILITY

Drawing Title
ELECTRICAL DETAILS

Drawn By: KT
Checked By: Checker
Project No.: 15-245
Date: 08/30/2016

NO.	DATE	ISSUE

DRAWING NO.
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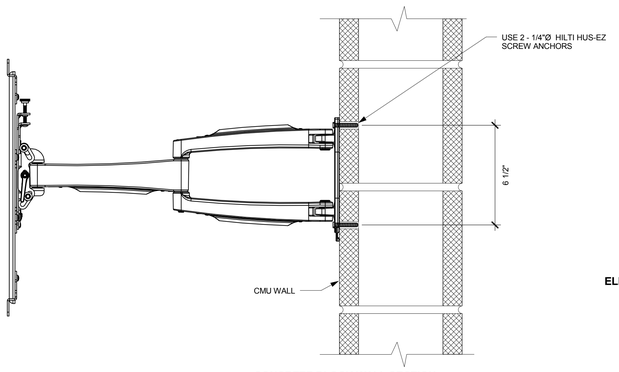
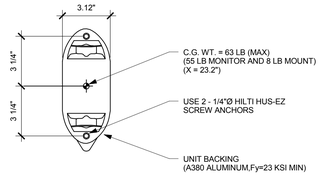
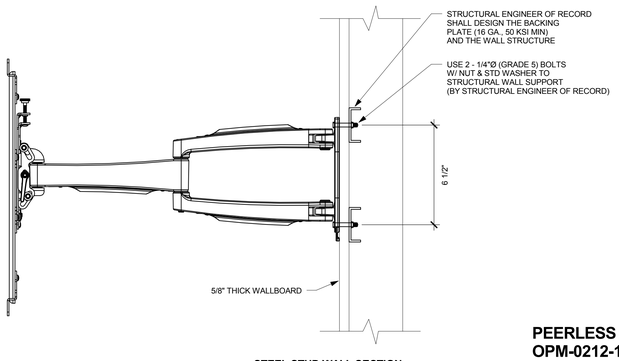


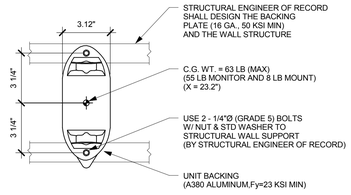
CONCRETE BLOCK WALL SECTION



ELEVATION WALL PLATE CONCRETE BLOCK

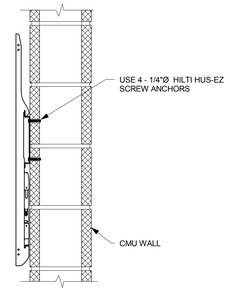


STEEL STUD WALL SECTION

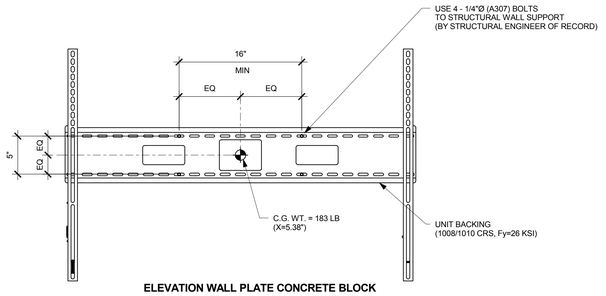


ELEVATION WALL PLATE STEEL STUD

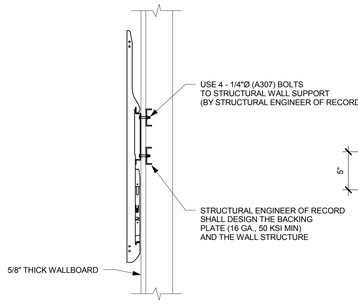
PEERLESS #SA746PU
OPM-0212-13
40"- 55" MONITOR BRACKET



CONCRETE BLOCK WALL SECTION



ELEVATION WALL PLATE CONCRETE BLOCK



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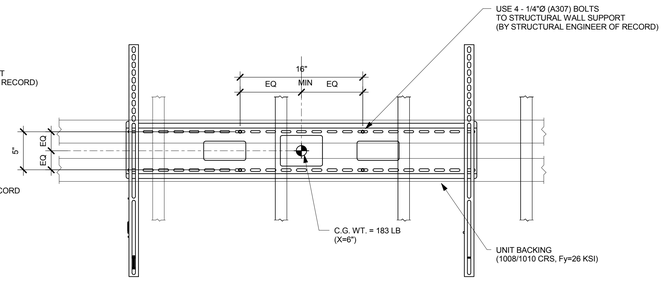

ELEVATION WALL PLATE STEEL STUD

PEERLESS #SF680P
OPM-0211-13
90" MONITOR BRACKET

1 SMARTMOUNT ARTICULATING WALL ARM
N.T.S

2 SMARTMOUNT UNIVERSAL FLAT WALL MOUNT
N.T.S

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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
ELECTRICAL DETAILS

Drawn By
Author
Checked By
Checker

NO. DATE ISSUE

Project No.
15-245
©Date
08/30/2016
DRAWING NO.
E4.9

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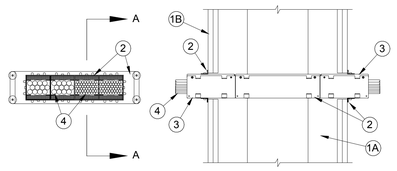
System No. W-L-3286

F Ratings - 1, 2, 3 and 4 Hr (See Items 1 and 4)
T Ratings - 3/4 and 1 Hr (See Item 4)
L Rating At Ambient - Less than 1, 1.3, 4 or 7 CFM/Device Module (See Item 3)
L Rating At 400 F - Less than 1, 2 or 3 CFM/Device Module (See Item 3)



Section A-A

1. Wall Assembly - The 1, 2, 3 or 4 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs - Wall framing may consist of either single, double or staggered wood studs or steel channel studs. Wood studs to consist of min 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.

   B. Gypsum Board* - The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Opening to be max 1/4 in. (6 mm) larger than width and height dimensions of firestop device(s) for rectangular openings. Diameter of circular opening to be nom 4 in.

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Firestop Device* - One, two, three, four or seven firestop device modules ganged together. Each firestop device module consists of a 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long galv steel tube with an intumescent material lining. Firestop device modules to be installed in accordance with the accompanying installation instructions. The space between the firestop device module(s) and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1/8 in. (3 mm) for square or rectangular plates and min 0 in. (0 mm, point contact) to max 1/2 in. (13 mm) when circular wall plates (not shown) are used. Firestop device module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device by means of steel set screws provided with device. Each four- and seven-gang steel wall plate shall be fastened to the studs with steel screws sized to extend through the gypsum board layers and penetrate min 1/2 in. (13 mm) into the framing member. Each firestop device module is to be installed with ends projecting an equal distance beyond each surface of the wall assembly.

   As an alternate, the four- and seven-gang steel wall plates may be installed directly against the studs for walls having 16 and 24 in. (406 and 610 mm) center-to-center stud spacing, respectively, prior to installation of the gypsum board layers. The steel wall plates shall be secured to the stud by means of steel screws. After installation of the steel wall plates and firestop device modules, the gypsum board shall be installed as specified in the individual U300, U400 or V400 Design with a maximum 1/8 in. (3 mm) gap between the firestop device module and the cutout in the gypsum board. Gap between the firestop device module and the cutout in the gypsum board may be filled with gypsum joint compound or fill material (Item 5).

   SPECIFIED TECHNOLOGIES INC - EZ PATH Series 33 Fire Rated Pathway

3. Firestop Device* - Extension Module - Module attached to ends of 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long firestop device (Item 2) to increase its length. Each module consists of a 3 by 3 by 6 in. (76 by 76 by 152 mm) long galv steel tube with an intumescent material lining. Extension module to be installed in accordance with the accompanying installation instructions. When module is used, firestop device (Item 2) and extension module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device or extension module(s) by means of steel set screws provided with wall plates. Firestop device and extension module(s) assembly to be installed with ends projecting an equal distance beyond each surface of the wall assembly.

   SPECIFIED TECHNOLOGIES INC - EZ PATH Extension

4. Cables - Within the loading area for each firestop device module, the cables may represent a 0 to 100 percent visual fill. Cable fill to be distributed at a uniform height across the width of the firestop device module. Cables to be rigidly supported on both sides of the wall assembly. Any combination of the following types of cables may be used:

   A. Max 400 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.

   B. Max 350 kcmil single copper conductor power cable with XLPE jacket and insulation.

   C. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.

   D. Max 3/C No. 10 AWG metal clad or armored cable with steel or aluminum jacket.

   E. Max 3/C No. 8 AWG NM cable (Romex) with PVC insulation and jacket.

   F. Max four pair No. 22 AWG (or smaller) copper conductor data cable with PVC or plenum rated jacketing and insulation.

   G. Max RG/U coaxial cable with fluorinated ethylene insulation and jacketing.

   H. Optical fiber cable with PVC or polyethylene (PE) jacket and insulation and having a max diam of 5/8 in. (16 mm).

   I. Optical Fiber Raceway+ - Max 1-1/2 in. (38 mm) diam (or smaller) optical fiber raceway ("innerduct") formed of either PVC or polyvinylidene fluoride (PVDF) with optical fiber cable fill. Raceways installed in accordance with the National Electrical Code (NFPA 70).

   When Item 4A, 4B, 4C, 4D or 4E is used, the max F Rating is 2 hr and the T Rating is 3/4 hr. When max 200 pair No. 24 AWG telecommunication cable is used or when Item 4F, 4G, 4H or 4I is used, the max F Rating is 4 hr and the T Rating is 1 hr.

   The L Rating for each empty firestop device module is less than 1 cfm at ambient and at 400F. When Item 3A is used, the L Rating for each firestop device module with 100 percent visual fill is 4 cfm at ambient and 3 cfm at 400F. When Item 3F is used, the L Rating for each firestop device with 100 percent visual fill is 1.3 cfm at ambient and less than 1 cfm at 400F. When Item 3G or 3H is used, the L Rating for each firestop device module with 100 percent visual fill is 7 cfm at ambient and 2 cfm at 400F.

5. Fill, Void or Cavity Material* - Sealant or Putty - (Not Shown) - As an alternate to gypsum joint compound, the gap between the firestop device module and the cutout in the gypsum board may be sealed with fill material on each side of the wall assembly when four- and seven-gang steel wall plates are installed directly against the wood or steel studs.

   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant, SpecSeal Putty

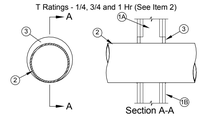
   +Bearing the UL Listing Mark

   *Bearing the UL Classification Mark

1 FIREWALL CABLE PENETRATION DETAIL
N.T.S

System No. W-L-1222

F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1/4, 3/4 and 1 Hr (See Item 2)



Section A-A

1. Wall Assembly - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.

   B. Gypsum Board* - Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 10-5/8 in. (270 mm).

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrant - One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:

   A. Steel Pipe - Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

   B. Iron Pipe - Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.

   C. Conduit - Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.

   D. Copper Pipe - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

   E. Copper Tube - Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.

Type of Penetrant	Max Diam	T Rating
Steel or iron pipe, steel conduit or EMT	2 in. (51 mm)	1 hr
Steel or iron pipe, steel conduit or EMT	8 in. (203 mm)	3/4 hr
Copper pipe or tube	4 in. (102 mm)	1/4 hr

2A. Through Penetrating Product* - Flexible Metal Piping - As an alternate to Item 2, one nom 1-1/4 in. (32 mm) diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe to be rigidly supported on both sides of the wall assembly.
   OMEGA FLEX INC
   TITEFLEX CORP
   A BUNDY CO
   WARD MFG INC

3. Fill, Void or Cavity Material* - Sealant - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. (6 mm) diam bead of fill material applied at metallic pipe/gypsum board interface on both surfaces of wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal LCI Sealant

   *Bearing the UL Classification Mark

2 FIREWALL CONDUIT PENETRATION DETAIL
N.T.S

JK ARCHITECTURE PARTNERSHIP
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SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

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15-245
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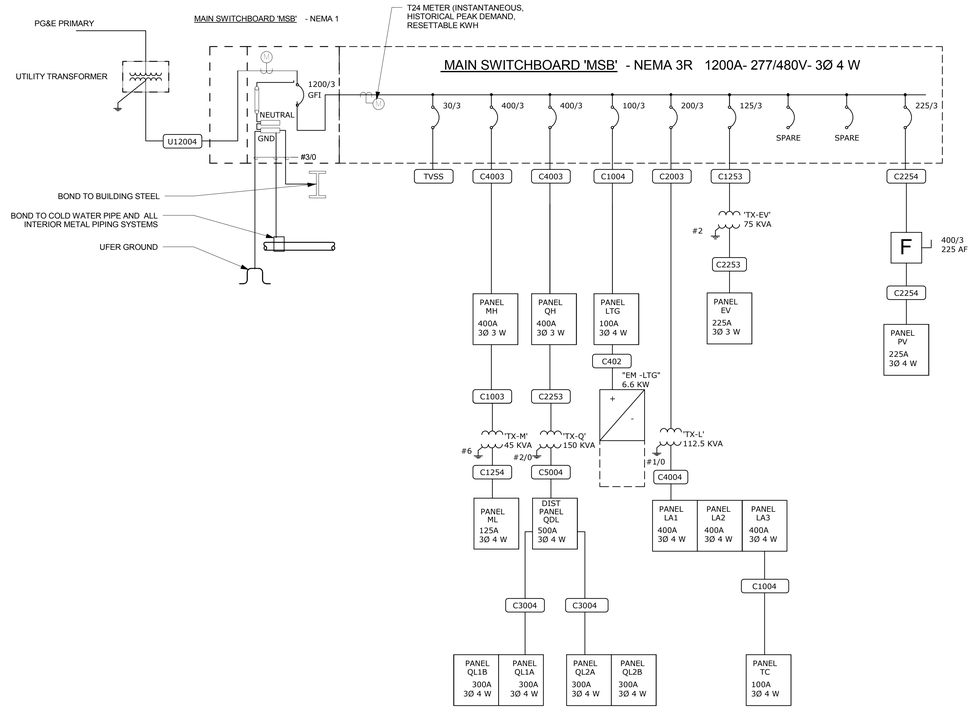
FEEDER	CONDUIT			CONDUCTOR (EA. CONDUIT)		GROUND (EA. CONDUIT)		AMPS
CALLOUT	QTY	EMT	PVC	QTY	SIZE	QTY	SIZE	RATING
C40/2	1	3/4"	3/4"	2	#8	1	#10	*40A*
C100/4	1	1 1/4"	1 1/4"	4	#2	1	#8	*95A*
C125/4	1	1 1/2"	1 1/2"	4	#1	1	#6	*130A*
C225/4	1	2 1/2"	2 1/2"	4	#4/0	1	#4	*230A*
C300/4	1	2 1/2"	3"	4	300kcm	1	#4	*285A*
C400/4	2	2"	2"	4	#3/0	1	#3	*400A*
C500/4	2	2 1/2"	2 1/2"	4	250kcm	1	#2	*510A*
NO NEUTRAL								
C100/3	1	1 1/4"	1 1/4"	3	#2	1	#8	*95A*
C125/3	1	1 1/4"	1 1/4"	3	#1	1	#6	*130A*
C200/3	1	2"	2"	3	#3/0	1	#6	*200A*
C225/3	1	2"	2"	3	#4/0	1	#4	*230A*
C400/3	2	2"	2"	3	#3/0	1	#3	*400A*

PG&E SECONDARY

FEEDER	CONDUIT			NOTES	AMPS
CALLOUT	QTY	RMC	PVC		RATING
U1200/4	4	5"	5"		*1200A*

Notes:

1. *Conductor parameters are based on THWN (COPPER)*
2. *Ampacities taken from CEC 310.16 amended by CEC 110.14.C.1*
3. *PVC inside diameters are based on Schedule 80.*
4. *Overcurrent protection may be less than wire rating-CEC 240.4(B).*



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REGISTERED PROFESSIONAL ENGINEER JEREMY WAYNE MILES E 035596 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

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SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
SINGLE LINE

Drawn By
KPB

Checked By
JMc

NO.	DATE	ISSUE
4	04/25/2017	ASI 021
6	07/07/2017	PG&E NEM REQUIREMENTS

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Branch Panel: LA1

Location: ELECTRICAL ROOM 134
Supply From: TX-L
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 400 A
MCB Rating: 400 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	NORTH EXTERIOR RECEP	20 A	1	720 VA	500 VA					1	20 A	TICKET MACHINE	2
3	SOUTH EXTERIOR RECEP	20 A	1			540 VA	500 VA			1	20 A	BLUE PHONE - EAST	4
5	QUAD DED RECEP	20 A	1					180 VA	1620...	1	20 A	ROOF RECEPTACLE	6
7	QUAD DED RECEP	20 A	1	180 VA	1560...					2	30 A	COPIER	8
9	AMP DED RECEP	20 A	1			180 VA	1560...			--	--	--	10
11	AMP DED RECEP	20 A	1					180 VA	1080...	1	20 A	RECEPTS	12
13	RECEPTS	20 A	1	900 VA	1080...					1	20 A	RECEPTS	14
15	SPARE	20 A	1			0 VA	1080...			1	20 A	RECEPTS	16
17	RECEPTS	20 A	1					1800...	720 VA	1	20 A	RECEPTS	18
19	RECEPTS	20 A	1	1620...	1260...					1	20 A	RECEPTS	20
21	RECEPTS	20 A	1			1080...	1620...			1	20 A	RECEPTS	22
23	RECEPTS	20 A	1					720 VA	1440...	1	20 A	RECEPTS RESTROOMS	24
25	RECEPTS	20 A	1	1440...	1080...					1	20 A	RECEPTS ELECT RM	26
27	RECEPTS	20 A	1			1260...	2180...			1	20 A	RECEPTS	28
29	RECEPTS	20 A	1					1080...	600 VA	1	20 A	RECEPTS	30
31	RECEPTS	20 A	1	1080...	720 VA					1	20 A	RECEPTS	32
33	RECEPTS	20 A	1			900 VA	1320...			1	20 A	RECEPTS	34
35	FSD	20 A	1					2500...	500 VA	1	20 A	BLUE PHONE - SOUTH	36
37	SECURITY MEZZANINE	20 A	1	120 VA	120 VA					1	20 A	DOOR SECURITY POWER	38
39	EF-7	20 A	1			552 VA	276 VA			1	20 A	FACP	40
41	POWER - ECLIPSE LIGHTING	20 A	1					180 VA	500 VA	1	20 A	GATE CONTROLLER NORTH	42
			Total Load:	12380 VA		13048 VA		13100 VA					
			Total Amps:	103 A		110 A		110 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	500 VA	100.00%	500 VA		
Power	5052 VA	100.00%	5052 VA	**Total Conn. Load:**	38528 VA
Receptacle	32460 VA	65.40%	21230 VA	**Total Est. Demand:**	27298 VA
Non Continuous	516 VA	100.00%	516 VA	**Total Conn. Current:**	107 A
				Total Est. Demand Current:	76 A

Branch Panel: LA2

Location: ELECTRICAL ROOM 134
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 400 A
MCB Rating:

Notes:
FED THRU LA1

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPTS	20 A	1	900 VA	720 VA					1	20 A	RECEPTS	2
3	RECEPTS	20 A	1			720 VA	720 VA			1	20 A	RECEPTS	4
5	RECEPTS	20 A	1					720 VA	720 VA	1	20 A	RECEPTS	6
7	RECEPTS	20 A	1	1080...	720 VA					1	20 A	RECEPTS	8
9	RECEPTS	20 A	1			720 VA	720 VA			1	20 A	RECEPTS	10
11	RECEPTS	20 A	1					720 VA	720 VA	1	20 A	RECEPTS	12
13	RECEPTS	20 A	1	720 VA	1080...					1	20 A	RECEPTS	14
15	RECEPTS	20 A	1			1260...	0 VA			1	20 A	FLOOR BOX	16
17	RECEPTS	20 A	1					1260...	900 VA	1	20 A	RECEPTS	18
19	GARB DISP	20 A	1	180 VA	720 VA					1	20 A	RECEPTS	20
21	RECEPTS	20 A	1			180 VA	480 VA			1	20 A	OVERHEAD PROJECTOR RM 136	22
23	RECEPTS	20 A	1					180 VA	0 VA	1	20 A	SPARE	24
25	VENDING	20 A	1	180 VA	0 VA					1	20 A	SPARE	26
27	VENDING	20 A	1			180 VA	720 VA			1	20 A	RECEPTS	28
29	RECEPTS	20 A	1					1080...	720 VA	1	20 A	RECEPTS	30
31	RECEPTS	20 A	1	360 VA	480 VA					1	20 A	RECEPTS	32
33	AV CABINET	20 A	1			720 VA	720 VA			1	20 A	AV CABINET	34
35	RECEPTS	20 A	1					900 VA	720 VA	1	20 A	RECEPTS	36
37	Receptacle	20 A	1	540 VA	0 VA					1	20 A	SPARE	38
39	SPACE	--	--			0 VA	0 VA			1	20 A	SPARE	40
41	SPACE	--	--					0 VA	0 VA	1	20 A	SPARE	42
			Total Load:	7680 VA		7140 VA		8640 VA					
			Total Amps:	65 A		60 A		73 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	960 VA	100.00%	960 VA		
Receptacle	22500 VA	72.22%	16250 VA	**Total Conn. Load:**	23460 VA
				Total Est. Demand:	17210 VA
				Total Conn. Current:	65 A
				Total Est. Demand Current:	48 A

Branch Panel: LA3

Location: ELECTRICAL ROOM 134
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 400 A
MCB Rating:

Notes:
FED THRU LA2

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPTS	20 A	1	720 VA	720 VA					1	20 A	RECEPTS	2
3	RECEPTS	20 A	1			900 VA	1080...			1	20 A	RECEPTS	4
5	RECEPTS	20 A	1					1080...	720 VA	1	20 A	RECEPTS	6
7	RECEPTS	20 A	1	1080...	1440...					1	20 A	RECEPTS	8
9	RECEPTS	20 A	1			720 VA	720 VA			1	20 A	RECEPTS	10
11	RECEPTS	20 A	1					720 VA	1440...	1	20 A	RECEPTS	12
13	RECEPTS	20 A	1	1080...	720 VA					1	20 A	RECEPTS	14
15	RECEPTS	20 A	1			900 VA	1440...			1	20 A	RECEPTS	16
17	RECEPTS	20 A	1					720 VA	720 VA	1	20 A	RECEPTS	18
19	RECEPTS	20 A	1	360 VA	0 VA					1	20 A	SPARE	20
21	SPARE	20 A	1			0 VA	1080...			1	20 A	RECEPTS	22
23	BMS	20 A	1					720 VA	1440...	1	20 A	RECEPTS	24
25	MECHO SHADES	20 A	1	120 VA	1440...					1	20 A	RECEPTS	26
27	CONFERENCE FURNITURE	20 A	1			0 VA	180 VA			1	20 A	DED RECEPT	28
29	CONFERENCE FURNITURE	20 A	1					0 VA	240 VA	1	20 A	INTRUSION DETECTION PANEL	30
31	CONFERENCE FURNITURE	20 A	1	0 VA	0 VA					1	20 A	SPARE	32
33	CONFERENCE FURNITURE	20 A	1			0 VA	0 VA			1	20 A	SPARE	34
35	CONFERENCE FURNITURE	20 A	1					0 VA	0 VA	1	20 A	SPARE	36
37	PANEL TC	100 A	3	4560...	0 VA					1	20 A	CONFERENCE FURNITURE	38
39	--	--	--			2640...	0 VA			--	--	SPACE	40
41	--	--	--					3000...	0 VA	--	--	SPACE	42
			Total Load:	12240 VA		9680 VA		10800 VA					
			Total Amps:	103 A		81 A		91 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA		
Receptacle	31620 VA	65.81%	20810 VA	**Total Conn. Load:**	32460 VA
Non Continuous	840 VA	100.00%	840 VA	**Total Est. Demand:**	21650 VA
				Total Conn. Current:	90 A
				Total Est. Demand Current:	60 A

Branch Panel: LTG

Location: ELECTRICAL ROOM 134
Supply From: MSB SEC 2
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 100 A
MCB Rating: 100 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EXTERIOR PARKING LIGHTING	20 A	1	471 VA	5714...					1	40 A	INV EM LTG	2
3	EXTERIOR PARKING LIGHTING	20 A	1			0 VA	1426...			1	20 A	CLASSROOM LTG	4
5	EXTERIOR PARKING LIGHTING	20 A	1					234 VA	1144...	1	20 A	OFFICE LTG	6
7	EXTERIOR BUILDING MOUNTED	20 A	1	1850...	664 VA					1	20 A	RECEPTION LTG	8
9	MONUMENT SIGN	20 A	1			0 VA	1255...			1	20 A	LOBBY LTG	10
11	FLAGPOLE LIGHT	20 A	1					0 VA	1423...	1	20 A	SOUTH LTG	12
13	TRASH AREA LIGHT/ FLAGPOLE LIGHT	20 A	1	0 VA	1834...					1	20 A	SOUTH BAY LTG	14
15	SPARE	20 A	1			0 VA	1834...			1	20 A	NORTH BAY LTG	16
17	SPARE	20 A	1					0 VA	1736...	1	20 A	NORTH LTG	18
19	SPARE	20 A	1	0 VA	0 VA					1	20 A	SPARE	20
21	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	22
23	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	24
25	SPACE	--	--	0 VA	0 VA					--	--	SPACE	26
27	SPACE	--	--			0 VA	0 VA			--	--	SPACE	28
29	SPACE	--	--					0 VA	0 VA	--	--	SPACE	30
			Total Load:	10533 VA		5301 VA		4537 VA					
			Total Amps:	38 A		20 A		16 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	13186 VA	100.00%	13186 VA		
Lighting	4826 VA	125.00%	6032 VA	**Total Conn. Load:**	20433 VA
Lighting - Dwelling Unit	2421 VA	100.00%	2421 VA	**Total Est. Demand:**	21640 VA
				Total Conn. Current:	25 A
				Total Est. Demand Current:	26 A

Branch Panel: INV EM LTG

Location: ELECTRICAL ROOM 134
Supply From: LTG
Mounting: Surface
Enclosure: Type 1

Volts: 277V
Phases: 1
Wires: 3

A.I.C. Rating: 42k
Mains Type: MCB
Mains Rating: 40 A
MCB Rating: 40 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	INTERIOR EM LIGHTING	20 A	1	1770 VA	3297 VA			1	20 A	EXTERIOR EM LIGHTING	2
3	INTERIOR EM LIGHTING	20 A	1			786 VA	0 VA	--	--	SPACE	4
5	INTERIOR EM LIGHTING	20 A	1	655 VA	0 VA			--	--	SPACE	6
			Total Load:	5722 VA		786 VA					
			Total Amps:								

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	5136 VA	100.00%	5136 VA		
Lighting	846 VA	125.00%	1058 VA	**Total Conn. Load:**	6528 VA
Lighting - Dwelling Unit	545 VA	100.00%	545 VA	**Total Est. Demand:**	6739 VA
				Total Conn. Current:	
				Total Est. Demand Current:	

Branch Panel: TC

Location: DATA 106
Supply From: LA3
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 100 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	L5-30R	30 A	1	1560...	360 VA					1	20 A	RECEPT - IDF	2
3	L5-30R	30 A	1			1560...	360 VA			1	20 A	RECEPT - IDF	4
5	L5-30R	30 A	1					1560...	360 VA	1	20 A	RECEPT - IDF	6
7	L5-30R	30 A	1	1560...	360 VA					1	20 A	RECEPT - IDF	8
9	SPARE	20 A	1			0 VA	360 VA			1	20 A	RECEPT - IDF	10
11	SPARE	20 A	1					0 VA	360 VA	1	20 A	RECEPT - IDF	12
13	SPARE	20 A	1	0 VA	360 VA					1	20 A	RECEPT - FLOOD PUMP - IDF	14
15	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	16
17	RACK MOUNT QUAD	20 A	1					360 VA	0 VA	1	20 A	SPARE	18
19	RACK MOUNT QUAD	20 A	1	360 VA	0 VA					1	20 A	SPARE	20
21	RACK MOUNT QUAD	20 A	1			360 VA	0 VA			1	20 A	SPARE	22
23	RACK MOUNT QUAD	20 A	1					360 VA	0 VA	--	--	SPACE	24
25	SPARE	20 A	1	0 VA	0 VA					--	--	SPACE	26
27	SPARE	20 A	1			0 VA	0 VA			--	--	SPACE	28
29	SPARE	20 A	1					0 VA	0 VA	--	--	SPACE	30
31													32
33													34
35													36
37													38
39													40
41													42
			Total Load:	4560 VA		2640 VA		3000 VA					
			Total Amps:	38 A		22 A		25 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	10200 VA	99.02%	10100 VA		
				Total Conn. Load:	10200 VA
				Total Est. Demand:	10100 VA
				Total Conn. Current:	28 A
				Total Est. Demand Current:	28 A

PNL LA1	PNL LTG
PNL LA2	INV EM LTG
PNL LA3	PNL TC

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REGISTERED PROFESSIONAL ENGINEER JAMES MICHAEL MCNEIL E 020998 Exp. 9-30-2018 ELECTRICAL STATE OF CALIFORNIA

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AGENCY REVIEW

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APPL # 02-114995

AC _____ F/LS _____ SS _____

DATE:

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
PANEL SCHEDULES

Drawn By: KPB
Checked By: JMc
Project No.: 15-245
Date: 08/30/2016
DRAWING NO.: **E5.2**

NO. DATE ISSUE

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Branch Panel: QH

Location: ELECTRICAL ROOM 134
Supply From: MSB SEC 2
Mounting: Surface
Enclosure: Type 1

Volts: 480V
Phases: 3
Wires: 3

A.I.C. Rating:
Mains Type:
Mains Rating: 400 A
MCB Rating: 400 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	TRANSMISSION DYNO	80 A	3	17728...	34470...					3	225 A	TX-Q	2
3	--	--	--			17728...	36482...			--	--	--	4
5	--	--	--					17728...	34328...	--	--	--	6
7	SPACE	--	--	0 VA	0 VA					--	--	SPACE	8
9	SPACE	--	--			0 VA	0 VA			--	--	SPACE	10
11	SPACE	--	--					0 VA	0 VA	--	--	SPACE	12
13	SPACE	--	--	0 VA	0 VA					--	--	SPACE	14
15	SPACE	--	--			0 VA	0 VA			--	--	SPACE	16
17	SPACE	--	--					0 VA	0 VA	--	--	SPACE	18
19	SPACE	--	--	0 VA	0 VA					--	--	SPACE	20
21	SPACE	--	--			0 VA	0 VA			--	--	SPACE	22
23	SPACE	--	--					0 VA	0 VA	--	--	SPACE	24
25	SPACE	--	--	0 VA	0 VA					--	--	SPACE	26
27	SPACE	--	--			0 VA	0 VA			--	--	SPACE	28
29	SPACE	--	--					0 VA	0 VA	--	--	SPACE	30
31	SPACE	--	--	0 VA	0 VA					--	--	SPACE	32
33	SPACE	--	--			0 VA	0 VA			--	--	SPACE	34
35	SPACE	--	--					0 VA	0 VA	--	--	SPACE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		52198 VA		54210 VA		52056 VA					
		Total Amps:		188 A		196 A		188 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	15000 VA	100.00%	15000 VA		
Other	115440 VA	100.00%	115440 VA	**Total Conn. Load:**	158224 VA
Power	2704 VA	100.00%	2704 VA	**Total Est. Demand:**	151104 VA
Receptacle	24240 VA	70.63%	17120 VA	**Total Conn. Current:**	190 A
Non Continuous	840 VA	100.00%	840 VA	**Total Est. Demand Current:**	182 A

Branch Panel: QDL

Location: ELECTRICAL ROOM 134
Supply From: TX-Q
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type: MCB
Mains Rating: 500 A
MCB Rating: 500 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	QL1A & QL1B	300 A	3	22212...	12258...					3	300 A	QL2A & QL2B	2
3	--	--	--			24688...	11794...			--	--	--	4
5	--	--	--					21396...	12932...	--	--	--	6
7	SPACE	--	--	0 VA	0 VA					--	--	SPACE	8
9	SPACE	--	--			0 VA	0 VA			--	--	SPACE	10
11	SPACE	--	--					0 VA	0 VA	--	--	SPACE	12
13	SPACE	--	--	0 VA	0 VA					--	--	SPACE	14
15	SPACE	--	--			0 VA	0 VA			--	--	SPACE	16
17	SPACE	--	--					0 VA	0 VA	--	--	SPACE	18
19	SPACE	--	--	0 VA	0 VA					--	--	SPACE	20
21	SPACE	--	--			0 VA	0 VA			--	--	SPACE	22
23	SPACE	--	--					0 VA	0 VA	--	--	SPACE	24
25	SPACE	--	--	0 VA	0 VA					--	--	SPACE	26
27	SPACE	--	--			0 VA	0 VA			--	--	SPACE	28
29	SPACE	--	--					0 VA	0 VA	--	--	SPACE	30
31	SPACE	--	--	0 VA	0 VA					--	--	SPACE	32
33	SPACE	--	--			0 VA	0 VA			--	--	SPACE	34
35	SPACE	--	--					0 VA	0 VA	--	--	SPACE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		34470 VA		36482 VA		34328 VA					
		Total Amps:		287 A		304 A		286 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	15000 VA	100.00%	15000 VA		
Other	62256 VA	100.00%	62256 VA	**Total Conn. Load:**	105040 VA
Power	2704 VA	100.00%	2704 VA	**Total Est. Demand:**	97920 VA
Receptacle	24240 VA	70.63%	17120 VA	**Total Conn. Current:**	292 A
Non Continuous	840 VA	100.00%	840 VA	**Total Est. Demand Current:**	272 A

Branch Panel: QL1A

Location: DRIVE AISLE 115
Supply From: QDL
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 300 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LATH, BREAK	20 A	1	1800 VA	900 VA					1	20 A	LIFT TRUCK CHARGER	2
3	LATH, BREAK	20 A	1			1800 VA	0 VA			1	20 A	SPARE	4
5	LATH, BREAK	20 A	1					1800 VA	360 VA	1	20 A	ALIGNMENT SYSTEM	6
7	SPARE	20 A	1	0 VA	2704 VA					2	40 A	ALIGNMENT LIFT	8
9	SPARE	20 A	1			0 VA	2704 VA			--	--	--	10
11	ALIGNMENT LIFT	30 A	2					1872 VA	0 VA	1	20 A	SPARE	12
13	--	--	--	1872 VA	0 VA					1	20 A	SPARE	14
15	SPARE	20 A	1			0 VA	2704 VA			2	40 A	ALIGNMENT LIFT	16
17	SPARE	20 A	1					0 VA	2704 VA	--	--	--	18
19	SPARE	20 A	1	0 VA	180 VA					1	20 A	ALIGNMENT SYSTEM	20
21	AUTO ROLLUP DOOR	20 A	1			1500 VA	1872 VA			2	20 A	TIRE CHANGER	22
23	AUTO ROLLUP DOOR	20 A	1					1500 VA	1872 VA	--	--	--	24
25	AUTO ROLLUP DOOR	20 A	1	1500 VA	0 VA					1	20 A	SPARE	26
27	AUTO ROLLUP DOOR	20 A	1			1500 VA	0 VA			1	20 A	SPARE	28
29	AUTO ROLLUP DOOR	20 A	1					1500 VA	0 VA	1	20 A	SPARE	30
31	LOBBY DOOR	20 A	1	1500 VA	0 VA					1	20 A	SPARE	32
33	SPARE	30 A	1			0 VA	0 VA			1	20 A	SPARE	34
35	SPACE	--	--					0 VA	0 VA	1	20 A	SPARE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		22212 VA		24688 VA		21396 VA					
		Total Amps:		186 A		207 A		178 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	9000 VA	100.00%	9000 VA		
Other	45616 VA	100.00%	45616 VA	**Total Conn. Load:**	68296 VA
Receptacle	13560 VA	86.87%	11780 VA	**Total Est. Demand:**	66516 VA
Non Continuous	120 VA	100.00%	120 VA	**Total Conn. Current:**	190 A
				Total Est. Demand Current:	185 A

Branch Panel: QL2A

Location: DRIVE AISLE 115
Supply From: QDL
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type: MCB
Mains Rating: 300 A
MCB Rating: 300 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	2 POST LIFT	30 A	2	1664...	360 VA					1	20 A	DRILL PRESS	2
3	--	--	--			1664...	360 VA			1	20 A	GRINDER	4
5	2 POST LIFT	30 A	2					1664...	360 VA	1	20 A	PARTS CLEANER	6
7	--	--	--	1664...	0 VA					1	20 A	SPARE	8
9	2 POST LIFT	30 A	2			1664...	1560...			2	30 A	FLOOR WASHER CHARGER	10
11	--	--	--					1664...	1560...	--	--	--	12
13	2 POST LIFT	30 A	2	1664...	2640...					1	20 A	RECEPT	14
15	--	--	--			1664...	720 VA			1	20 A	RECEPT	16
17	2 POST LIFT	30 A	2					1664...	500 VA	1	20 A	JIB CRANE POWER	18
19	--	--	--	1664...	1102...					2	30 A	GATE CONTROLLER (S)	20
21	SPARE	20 A	1			0 VA	1102...			--	--	--	22
23	AUTO ROLLUP DOOR	20 A	1					1500...	720 VA	1	20 A	DOOR SECURITY POWER	24
25	AUTO ROLLUP DOOR	20 A	1	1500...	0 VA					1	20 A	SPARE	26
27	AUTO ROLLUP DOOR	20 A	1			1500...	0 VA			1	20 A	SPARE	28
29	AUTO ROLLUP DOOR	20 A	1					1500...	0 VA	1	20 A	SPARE	30
31	SPACE	--	--	0 VA	0 VA					--	--	SPACE	32
33	PARTS WASHER/TRANNY DYNO	20 A	2			1560...	0 VA			--	--	SPACE	34
35	--	--	--					1560...	240 VA	1	20 A	ACCESS CONTROL PANEL	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		12258 VA		11794 VA		12932 VA					
		Total Amps:		103 A		98 A		108 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	6000 VA	100.00%	6000 VA		
Other	16640 VA	100.00%	16640 VA	**Total Conn. Load:**	36744 VA
Power	2704 VA	100.00%	2704 VA	**Total Est. Demand:**	36404 VA
Receptacle	10680 VA	96.82%	10340 VA	**Total Conn. Current:**	102 A
Non Continuous	720 VA	100.00%	720 VA	**Total Est. Demand Current:**	101 A

Branch Panel: QL1B

Location: DRIVE AISLE 115
Supply From: QL1A
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 300 A
MCB Rating:

Notes:
FED THRU QL1A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	2 Post Lift	30 A	2	1664...	1440...					1	20 A	TIRE CHANGER	2
3	--	--	--			1664...	900 VA			2	20 A	WHEEL BALANCER	4
5	2 Post Lift	30 A	2					1664...	900 VA	--	--	--	6
7	--	--	--	1664...	900 VA					2	20 A	WHEEL BALANCER	8
9	2 Post Lift	30 A	2			1664...	900 VA			--	--	--	10
11	--	--	--					1664...	0 VA	1	20 A	SPARE	12
13	2 Post Lift	30 A	2	1664...	0 VA					1	20 A	SPARE	14
15	--	--	--			1664...	1872...			2	20 A	DISC RECEPT	16
17	2 Post Lift	30 A	2					1664...	1872...	--	--	--	18
19	--	--	--	1664...	1080...					1	20 A	RECEPTS	20
21	2 Post Lift	30 A	2			1664...	720 VA			1	20 A	RECEPTS	22
23	--	--	--					1664...	360 VA	1	20 A	OUTDOOR 2 POST LIFT RECEPT	24
25	SPARE	0 A	1	0 VA	120 VA					1	20 A	DOOR SECURITY POWER	26
27	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	28
29	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	30
31	SPARE	20 A	1	0 VA	0 VA					1	20 A	SPARE	32
33	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	34
35	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	36
37	WELDER	50 A	2	1560...	0 VA					--	--	SPACE	38
39	--	--	--			1560...	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		11756 VA		12608 VA		9788 VA					
		Total Amps:		100 A		108 A		82 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	27312 VA	100.00%	27312 VA		
Receptacle	6720 VA	100.00%	6720 VA	**Total Conn. Load:**	34152 VA
Non Continuous	120 VA	100.00%	120 VA	**Total Est. Demand:**	34152 VA
				Total Conn. Current:	95 A
				Total Est. Demand Current:	95 A

Branch Panel: QL2B

Location: DRIVE AISLE 115
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 300 A
MCB Rating:

Notes:
FED THRU QL2A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	DRYER	20 A	1	840 VA	5817...					3	60 A	ENGINE DYNO	2
3	FUEL TANK RECEPT	20 A	1			240 VA	5817...			--	--	--	4
5	ENGINE DYNO CONTROL	20 A	1					1260...	5817...	--	--	--	6
7	TRANSMISSION DYNO	20 A	1	360 VA	7680...					3	60 A	TRANSMISSION DYNO	8
9	AWD DYNO CONSOLE	20 A	1			180 VA	7680...			--	--	--	10
11	2WD DYNO CONSOLE	20 A	1					180 VA	7680...	--	--	--	12
13	RECEP	20 A	1	540 VA	1560...					1	30 A	TRANS DYNO RECEPT	14
15	RECEP	20 A	1			720 VA	0 VA			1	20 A	SPARE	16
17	2WD DYNO CONSOLE	20 A	1					180 VA	3328...	2	40 A	2WD DYNO	18
19	SPARE	20 A	1	0 VA	3328...					--	--	--	20
21	TIRE EQUIP	20 A	2			900 VA	900 VA			2	40 A	2WD DYNO	22
23	--	--	--					900 VA	900 VA	--	--	--	24
25	SMOG REFEREE EQUIP	40 A	2	3328...	0 VA					1	20 A	SPARE	26
27	--	--	--			3328...	3328...			2	40 A	AWD DYNO	28
29	TRANS DYNO RECEPT	20 A	1					360 VA	3328...	--	--	--	30
31	ROLL UP FIRE DOOR	20 A	1	1500...	0 VA					--	--	SPACE	32
33	SPACE	--	--			0 VA	0 VA			--	--	SPACE	34
35	SPACE	--	--					0 VA	0 VA	--	--	SPACE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
		Total Load:		24953 VA		23093 VA		23933 VA					
		Total Amps:		209 A		192 A		201 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	1500 VA	100.00%	1500 VA		
Other	64059 VA	100.00%	64059 VA	**Total Conn. Load:**	71979 VA
Receptacle	6420 VA	100.00%	6420 VA	**Total Est. Demand:**	71979 VA
				Total Conn. Current:	200 A
				Total Est. Demand Current:	200 A

PNL QH	PNL QDL
PNL QL1A	PNL QL2A
PNL QL1B	PNL QL2B

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SIGNATURE DATE: _____

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AC _____ F/LS _____ SS _____
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Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
PANEL SCHEDULES

Drawn By: KPB
Checked By: JMc

NO.	DATE	ISSUE
2	10/19/2016	ASI 002

Project No.: 15-245
©Date: 08/30/2016
DRAWING NO.: **E5.3**

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Branch Panel: MH

Location: ELECTRICAL ROOM 134
Supply From: MSB SEC 2
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phases: 3
Wires: 4

A.I.C. Rating: 14k
Mains Type:
Mains Rating: 400 A
MCB Rating: 400 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	IDD-1	80 A	3	7980...	5852...					3	60 A	AC-1	2
3	--	--	--			7980...	5852...			--	--	--	4
5	--	--	--					7980...	5852...	--	--	--	6
7	TX-M	70 A	3	13057...	2394...					3	30 A	VFD-2 / SHWP-2	8
9	--	--	--			10736...	2394...			--	--	--	10
11	--	--	--					9669...	2394...	--	--	--	12
13	VFD-1 / SHWP-1	30 A	3	2394...	5817...					3	30 A	COMPRESSOR	14
15	--	--	--			2394...	5817...			--	--	--	16
17	--	--	--					2394...	5817...	--	--	--	18
19	ENGINE DYNO BOOST PUMP	20 A	3	831 VA	0 VA					3	30 A	SPARE	20
21	--	--	--			831 VA	0 VA			--	--	--	22
23	--	--	--					831 VA	0 VA	--	--	--	24
25	POWER WASHER	20 A	3	600 VA	167 VA					3	20 A	RAIN WATER PUMP	26
27	--	--	--			600 VA	167 VA			--	--	--	28
29	--	--	--					600 VA	167 VA	--	--	--	30
31	SPACE	--	--	0 VA	0 VA					--	--	SPACE	32
33	SPACE	--	--			0 VA	0 VA			--	--	SPACE	34
35	SPACE	--	--					0 VA	0 VA	--	--	SPACE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
			Total Load:	39091 VA		36771 VA		35704 VA					
			Total Amps:	142 A		133 A		129 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	1460 VA	100.00%	1460 VA		
Other	23448 VA	100.00%	23448 VA	**Total Conn. Load:**	111566 VA
Power	85230 VA	100.00%	85230 VA	**Total Est. Demand:**	111566 VA
Receptacle	720 VA	100.00%	720 VA	**Total Conn. Current:**	134 A
Non Continuous	708 VA	100.00%	708 VA	**Total Est. Demand Current:**	134 A

Branch Panel: PV

Location: ELECTRICAL ROOM 134
Supply From: MSB SEC 2
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 225 A
MCB Rating: 225 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	SPACE	--	--	0 VA	3457...					3	40 A	INV 1-1	2
3	SPACE	--	--			0 VA	3457...			--	--	--	4
5	SPACE	--	--					0 VA	3457...	--	--	--	6
7	SPACE	--	--	0 VA	3457...					3	40 A	INV 1-2	8
9	SPACE	--	--			0 VA	3457...			--	--	--	10
11	SPACE	--	--					0 VA	3457...	--	--	--	12
13	SPACE	--	--	0 VA	0 VA					--	--	SPACE	14
15	SPACE	--	--			0 VA	0 VA			--	--	SPACE	16
17	SPACE	--	--					0 VA	0 VA	--	--	SPACE	18
19	SPACE	--	--	0 VA	0 VA					--	--	SPACE	20
21	SPACE	--	--			0 VA	0 VA			--	--	SPACE	22
23	SPACE	--	--					0 VA	0 VA	--	--	SPACE	24
25	SPACE	--	--	0 VA	0 VA					--	--	SPACE	26
27	SPACE	--	--			0 VA	0 VA			--	--	SPACE	28
29	SPACE	--	--					0 VA	0 VA	--	--	SPACE	30
31	SPACE	--	--	0 VA	0 VA					--	--	SPACE	32
33	SPACE	--	--			0 VA	0 VA			--	--	SPACE	34
35	SPACE	--	--					0 VA	0 VA	--	--	SPACE	36
37	SPACE	--	--	0 VA	0 VA					--	--	SPACE	38
39	SPACE	--	--			0 VA	0 VA			--	--	SPACE	40
41	SPACE	--	--					0 VA	0 VA	--	--	SPACE	42
			Total Load:	6914 VA		6914 VA		6914 VA					
			Total Amps:	25 A		25 A		25 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	20742 VA	100.00%	20742 VA		
				Total Conn. Load:	20742 VA
				Total Est. Demand:	20742 VA
				Total Conn. Current:	25 A
				Total Est. Demand Current:	25 A

Branch Panel: ML

Location: MECH ROOM 122
Supply From: TX-M
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 125 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	VEX 1-14	20 A	1	528 VA	2340 VA					2	30 A	FC-1 / CU-1	2
3	VAV's	20 A	1			450 VA	2340 VA			--	--	--	4
5	EF-3	20 A	2					1103 VA	720 VA	1	20 A	RECEPTACLE	6
7	--	--	--	1103 VA	212 VA					1	20 A	CP-2	8
9	EF-4	20 A	1			480 VA	528 VA			1	20 A	TRANSFER FAN	10
11	EF-5	20 A	2					1103 VA	528 VA	1	20 A	TRANSFER FAN	12
13	--	--	--	1103 VA	500 VA					1	20 A	B-1	14
15	EF-6	20 A	2			687 VA	500 VA			1	20 A	B-2	16
17	--	--	--					687 VA	500 VA	1	20 A	GWH-1	18
19	EF-1	20 A	1	552 VA	960 VA					1	20 A	PHWP-1	20
21	EF-2	20 A	1			552 VA	960 VA			1	20 A	PHWP-2	22
23	VEX 2-1	20 A	2					1737 VA	600 VA	1	20 A	IRRIGATION CONTROL	24
25	--	--	--	1737 VA	2705 VA					1	20 A	FLUSH VALVE MEN/EF-8	26
27	VEX 2-2	20 A	2			1102 VA	780 VA			2	20 A	WHEELCHAIR PLATFORM LIFT	28
29	--	--	--					1102 VA	780 VA	--	--	--	30
31	CU-2	20 A	3	167 VA	170 VA					1	20 A	CIRC PUMP 1	32
33	--	--	--			167 VA	1290 VA			1	20 A	ELKAY CHILLER	34
35	--	--	--					167 VA	0 VA	1	20 A	SPARE	36
37	FC-2	20 A	2	625 VA	356 VA					1	20 A	PRESSURE SWITCH/FA BELL	38
39	--	--	--			625 VA	276 VA			1	20 A	HVAC RELAY PANEL	40
41	BPS	20 A	1					432 VA	212 VA	1	20 A	FLOAT LEVEL SENSOR	42
			Total Load:	13057 VA		10736 VA		9669 VA					
			Total Amps:	110 A		91 A		81 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	1460 VA	100.00%	1460 VA		
Other	1704 VA	100.00%	1704 VA	**Total Conn. Load:**	33462 VA
Power	28870 VA	100.00%	28870 VA	**Total Est. Demand:**	33462 VA
Receptacle	720 VA	100.00%	720 VA	**Total Conn. Current:**	93 A
Non Continuous	708 VA	100.00%	708 VA	**Total Est. Demand Current:**	93 A

Branch Panel: EV

Location: ELECTRICAL ROOM 134
Supply From: TX-EV
Mounting: Surface
Enclosure: Type 1

Volts: 120/240V
Phases: 3
Wires: 3

A.I.C. Rating: 10k
Mains Type:
Mains Rating: 225 A
MCB Rating: 225 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	SPACE	--	--	0 VA	0 VA					--	--	SPACE	2
3	SPACE	--	--			0 VA	0 VA			--	--	SPACE	4
5	EV 1-2	40 A	2					3840 VA	2880 VA	2	30 A	EV 2-2	6
7	--	--	--	3840 VA	2880 VA					--	--	--	8
9	SPACE	--	--			0 VA	0 VA			--	--	SPACE	10
11	EV 1-1	40 A	2					3840 VA	2880 VA	2	30 A	EV 2-1	12
13	--	--	--	3840 VA	2880 VA					--	--	--	14
15	SPACE	--	--			0 VA							16
17	EV 1-3	40 A	2					3840 VA					18
19	--	--	--	3840 VA									20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
			Total Load:	17280 VA		0 VA		17280 VA					
			Total Amps:	144 A		0 A		144 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	34560 VA	100.00%	34560 VA		
				Total Conn. Load:	34560 VA
				Total Est. Demand:	34560 VA
				Total Conn. Current:	83 A
				Total Est. Demand Current:	83 A

PNL MH	PNL PV
PNL ML	PNL EV

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SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawing Title
PANEL SCHEDULES

Drawn By: TAJ
Checked By: JMc
Project No.: 15-245
Date: 08/30/2016

NO.	DATE	ISSUE
4	04/25/2017	ASI 021
5	07/07/2017	CCD 049

DRAWING NO.
E5.4

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