IMPERIAL COMMUNITY COLLEGE DISTRICT

IMPERIAL VALLEY COLLEGE

SPORT FIELD RESTROOM AND CONCESSION, SPORT FIELD WESTSIDE LIGHTING, AND BORDER LINK ANTENNA

380 EAST ATEN RD.
IMPERIAL, CA 92251
(760) 352-8320

APPROVALS

PROJECT BIDDING

BASE BID:

BASE BID SHALL INCLUDE ALL WORK SHOWN ON CONTRACT DOCUMENTS AS REQUIRED FOR THE CONSTRUCTION OF THE SPORT FIELD RESTROOMS, SPORT FIELD LIGHTING, CAMPUS LIGHTING AND BORDER LINK ANTENNA. THE BASE BID INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING ITEMS:

1. PROVIDE MISC SITE DEMOLITION AS REQUIRED TO COMPLETE THE PROJECT.
2. PROVIDE ENGINEERED PAD.
3. PROVIDE SITE IMPROVEMENTS, INCLUDING UTILITIES TO RESTROOM AND CONCESSION BUILDINGS.
4. CONSTRUCT PORTION OF RESTROOM AND CONCESSION BUILDING. SEE SHEET A1.
5. INSTALL SPORT FIELD LIGHTING.
6. PROVIDE CAMPUS LIGHTING.
7. PROVIDE LANDSCAPING.

BASE BID EXCLUSIONS:

1. FURNISH NEW MUSCO SPORT FIELD LIGHTING. THE MUSCO LIGHTING AND STANDARDS WILL BE FURNISHED BY MUSCO.
2. PORTION OF RESTROOM AND CONCESSION BUILDING. CONCESSION 1, STORAGE 2, SUPPLY 3, WOMEN'S DRESSING 4 AND MEN'S DRESSING 5 ARE EXCLUDED FROM THE BASE BID.

ALTERNATE ADD 1

ADD TO BASE BID
ALTERNATE ADD 1 SHALL INCLUDE ALL WORK SHOWN ON CONTRACT DOCUMENTS AS REQUIRED FOR THE CONSTRUCTION OF THE SPORT CONCESSION. ALTERNATE ADD 1 INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING ITEMS:

1. PROVIDE CONCESSION 1, STORAGE 2, SUPPLY 3.
2. PROVIDE COVERED OUTDOOR SHADE ADJACENT TO CONCESSION.

ALTERNATE ADD 2

ADD TO BASE BID
ALTERNATE ADD 2 SHALL INCLUDE ALL WORK SHOWN ON CONTRACT DOCUMENTS AS REQUIRED FOR THE CONSTRUCTION OF THE SPORT CONCESSION. ALTERNATE ADD 2 INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING ITEMS:

1. PROVIDE WOMEN'S DRESSING 4 AND MEN'S DRESSING 5.

PROJECT SCOPE

THE SCOPE OF WORK FOR THIS PROJECT INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING ITEMS:

1. PROVIDE MISC SITE DEMOLITION AS REQUIRED TO COMPLETE THE PROJECT.
2. PROVIDE ENGINEERED PAD.
3. PROVIDE SITE IMPROVEMENTS, INCLUDING UTILITIES TO RESTROOM AND CONCESSION BUILDINGS.
4. CONSTRUCT RESTROOM AND CONCESSION BUILDINGS.
5. PROVIDE SPORT FIELD LIGHTING.
6. PROVIDE CAMPUS LIGHTING.
7. PROVIDE LANDSCAPING.

SHEET INDEX KEY / KEY PLAN

DISCIPLINE (eg, A = ARCHITECTURAL, P = PLUMBING, etc)
DRAWING TYPE (eg, FLOOR PLAN, ARCHITECTURAL SECTIONS, etc)
DRAWING TYPE SUB-SHEET NUMBER

A2.2 ARCHITECTURAL SECTIONS

DRAWING TYPE SUB-SHEET NUMBER

CONSULTANTS

STRUCTURAL
BNE
DAVE K. ADAMS
9449 BALBOA AVENUE, SUITE 210
SAN DIEGO, CA 92123
(619) 291-5550

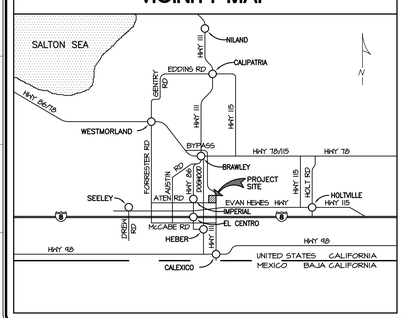
FIRE ALARM
JOHNSON CONTROLS
DAVID SLABOSZ
3568 RUFFIN ROAD SOUTH
SAN DIEGO, CA 92123
(858) 633-9100

MECHANICAL
DIVISION 15 CONSULTING SERVICES
TOM F. GREEN
11180 TURQUOISE CIRCLE
DENEY, AZ 86321
(928) 712-8448

ELECTRICAL
KRUSE AND ASSOCIATES
KEITH KRUSE
12245 WORLD TRADE DRIVE
SUITE E
SAN DIEGO, CA 92128
(858) 676-4716

GEOTECHNICAL
LANDMARK
JEFFREY O. LYON
780 NORTH 4TH STREET
EL CENTRO, CA 92243
(760) 370-3000

VICINITY MAP



GENERAL NOTES

1. EXAMINATION OF SITE AND CONTRACT DOCUMENTS:

EACH BIDDER SHALL VISIT THE SITE OF THE PROPOSED WORK AND FULLY ACQUAINT HIMSELF WITH THE CONDITIONS RELATING TO THE CONSTRUCTION AND LABOR SO THAT HE MAY FULLY UNDERSTAND THE FACILITIES, DIFFICULTIES AND RESTRICTIONS ATTENDING THE EXECUTION OF THE WORK UNDER THE CONTRACT. BIDDERS SHALL THOROUGHLY EXAMINE AND BE FAMILIAR WITH THE DRAWINGS AND PROJECT MANUAL. THE FAILURE OR OMISSION OF ANY BIDDER TO RECEIVE OR EXAMINE ANY CONTRACT, FORM, INSTRUMENT, ADDENDUM, OR OTHER DOCUMENT OR TO VISIT THE SITE AND ACQUAINT HIMSELF WITH CONDITIONS THERE EXISTING SHALL IN NO-WISE RELIEVE ANY BIDDER FROM OBLIGATIONS WITH RESPECT TO HIS BID OR TO THE CONTRACT. THE SUBMISSION OF A BID SHALL BE TAKEN AS PRIMA FACIE EVIDENCE OF COMPLIANCE WITH THIS SECTION. THE ARCHITECT SHALL BE NOTIFIED, PRIOR TO BID, OF ANY UNUSUAL CONDITIONS OR DISCREPANCIES IN THE CONTRACT DOCUMENTS OR INTENT OF WORK TO BE ACCOMPLISHED, WHEREIN, A CLARIFICATION OR ADDENDUM MAY BE ISSUED.

2. PROJECT SCOPE:

TO PROVIDE THE DISTRICT WITH (1) NEW RESTROOM/CONCESSION FACILITY (BUILDING 500) AND SPORT FIELD LIGHTING, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. TO BE CONSTRUCTED OF CONCRETE MASONRY BEARING WALLS, METAL STUD NON-BEARING WALLS, BUILT UP ROOF OVER STEEL BEAMS AND COVERED ENTRIES SUPPORTED WITH STEEL COLUMNS AND METAL DECK.
2. SITE IMPROVEMENTS.
   PROVIDE SITE CONCRETE AT PERIMETER OF NEW BUILDING.

3. GEOLOGICAL AND SOILS REPORT:

A GEOTECHNICAL INVESTIGATION REPORT HAS BEEN ACCOMPLISHED FOR THE SITE AND IS ON FILE AT COUNTY OF IMPERIAL, ARCHITECTS OFFICE, AND SOILS ENGINEERS OFFICE. SOILS REPORT NUMBER LE22111, JUNE 2022.

SOILS ENGINEER: LANDMARK, INC.
780 NORTH 4th STREET
EL CENTRO, CALIFORNIA 92243
(760) 370-3000

ALL GENERAL CONTRACTORS AND EARTH WORK SUBCONTRACTORS SHALL REVIEW THE SOILS REPORT PRIOR TO BID SUBMITTAL. COPIES OF REPORT ARE AVAILABLE UPON REQUEST AND NOT LESS THAN 7 DAYS PRIOR TO BID DATE.

4. CODES AND STANDARDS:

APPLICABLE CODES:

ALL WORK SHALL CONFORM TO 2019 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24, CCR
2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
(2018 INTERNATIONAL BUILDING CODE, VOL. 1 & 2, AND 2019 CALIFORNIA AMENDMENTS)
2019 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
(2017 NATIONAL ELECTRICAL CODE AND 2019 CALIFORNIA AMENDMENTS)
2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
(2018 IAPMO UNIFORM MECHANICAL CODE AND 2019 CALIFORNIA AMENDMENTS)
2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
(2018 IAPMO UNIFORM PLUMBING CODE AND 2019 CALIFORNIA AMENDMENTS)
2019 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
(2018 INTERNATIONAL FIRE CODE AND 2019 CALIFORNIA AMENDMENTS)
2019 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
(2018 INTERNATIONAL EXISTING BUILDING CODE AND 2019 CALIFORNIA AMENDMENTS)
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2019 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
2016 ASME A17.1/CSA B44-13 SAFETY CODE FOR ELEVATORS AND ESCALATORS (PER 2019 CBC PART 2 CH 35)

NOTE: CAL/OSHA ELEVATOR UNIT ENFORCES CCR TITLE 8 AND USES THE 2004 ASME A17.1 BY ADOPTION

PARTIAL LIST OF APPLICABLE STANDARDS:

NFPA 13	STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED)	2016 EDITION
NFPA 14	STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS (CA AMENDED)	2016 EDITION
NFPA 17	STANDARD FOR DRY CHEMICAL EXTINGUISHING SYSTEMS	2017 EDITION
NFPA 17A	STANDARD FOR WET CHEMICAL EXTINGUISHING SYSTEMS	2017 EDITION
NFPA 20	STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION	2016 EDITION
NFPA 22	STANDARD FOR WATER TANKS FOR PRIVATE FIRE PROTECTION	2013 EDITION
NFPA 24	STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (CA AMENDED)	2016 EDITION
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED)	2016 EDITION
NFPA 80	STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES	2016 EDITION
NFPA 2001	STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS (CA AMENDED)	2015 EDITION
UL 300	STANDARD FOR FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT	2005 EDITION (R2010)
UL 464	AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES	2003 EDITION
UL 521	STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	1999 EDITION
UL 1971	STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED	2002 EDITION (R2010)
ICC 300	STANDARD FOR BLEACHERS, FOLDING AND TELESCOPIC SEATING, AND GRANDSTANDS	2017 EDITION

FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2019 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.

SEE CALIFORNIA BUILDING CODE CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS.

GENERAL NOTES

5. TESTING AND INSPECTION:

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

A DSA CERTIFIED PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. THIS PROJECT SHALL REQUIRE ALL ITEMS PER DSA-103 LIST OF REQUIRED STRUCTURAL TESTS & SPECIAL INSPECTIONS, INSPECTOR OF RECORD, CLASS 2.

WORK EXEMPT FROM SPECIAL INSPECTION AND STRUCTURAL TESTING, THE PROJECT INSPECTOR SHALL VERIFY ALL CONSTRUCTION COMPLIES WITH THE APPROVED CONSTRUCTION DOCUMENTS (SEE TESTING AND INSPECTION EXEMPTION KEY).

S2 SOILS #2

C1 CONCRETE / MASONRY #1
C2 CONCRETE / MASONRY #2
C3 CONCRETE / MASONRY #3
C4 CONCRETE / MASONRY #4
C5 CONCRETE / MASONRY #5

W1 WELDING #1
W2 WELDING #2
W3 WELDING #3
W4 WELDING #4
W5 WELDING #5
W6 WELDING #6
W7 WELDING #7

6. CHANGES TO APPROVED DRAWINGS:

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

7. DEFERRED APPROVALS:

NONE THIS PROJECT

8. D.S.A. CLOSE-OUT CERTIFICATION:

NONE THIS PROJECT

9. CONSTRUCTION FIRE SAFETY:

CONTRACTOR IS RESPONSIBLE FOR FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION AND SHALL COMPLY WITH CFC 2019 CHAPTER 33.

10. LOCAL ORDINANCES:

GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

11. BUILDING DATA:

BUILDING 500 - RESTROOM/CONCESSION

OCCUPANCY ..... B
CONSTRUCTION TYPE ..... TYPE II-B
FIRE SPRINKLER SYSTEM ..... NONE
NUMBER OF STORIES 1
CONSTRUCTION AREA
BUILDING AREA ..... 2,047 SQ FT
COVERED ENTRY ..... 1,505 SQ FT
TOTAL AREA ..... 3,552 SQ FT

ALLOWABLE AREA ..... 23,000 SQ FT (TABLE 506.2)
AREA INCREASE ..... NONE

3,552 ≤ 23,000 = OK

SHEET INDEX

T	TITLE SHEET - GENERAL NOTES, SHEET INDEX	
	ARCHITECTURAL SITE	
AS1	ACCESSIBILITY SITE PLAN	
AS2	FIRE ACCESS SITE PLAN	
AS3	SITE SURVEY AND DEMOLITION	
AS4	ROUGH GRADING PLAN	
AS5	HARDSCAPE PLAN	
AS6	SITE UTILITIES PLAN	
AS7	EROSION AND SEDIMENTATION CONTROL PLAN	
ASX2	SITE DETAILS	
ASX3	SITE ACCESSIBILITY DETAILS	
	ARCHITECTURAL	
	PLANS	
A1	FLOOR PLANS - DIMENSIONAL AND ARCHITECTURAL	
A2	ARCHITECTURAL SECTIONS, REFLECTED CEILING PLAN	
A3	EXTERIOR ELEVATION, ROOF PLAN	
A4.1	INTERIOR ELEVATIONS	
A4.2	INTERIOR ELEVATIONS	
A5	FLOORING PLAN AND SIGNAGE PLAN	
	GENERAL	
AX1.1	ROOM FINISH AND DOOR SCHEDULE AND TYPES	
AX1.4	DOOR AND WINDOW DETAILS	
AX2.1	ENLARGED FLOOR PLANS	
AX3.1	ACCESS COMPLIANCE DETAILS	
AX5.1	INTERIOR ARCHITECTURAL DETAILS	
AX5.2	NON-BEARING METAL FRAMING	
AX6.1	EXTERIOR ARCHITECTURAL DETAILS	
	STRUCTURAL	
S0.1	TYPICAL NOTES	
S0.2	TYPICAL NOTES	
S0.3	TYPICAL CONCRETE DETAILS	
S0.4	TYPICAL MASONRY DETAILS	
S0.5	TYPICAL METAL DECK DETAILS	
S0.6	TYPICAL STEEL DETAILS	
S2.1	FOUNDATION AND FRAMING PLAN	
S3.1	WALL ELEVATIONS	
S4.1	WALL SECTIONS	
SX1.1	FOUNDATION DETAILS	
SX2.1	FRAMING DETAILS	
SX2.2	FRAMING DETAILS	
	PLUMBING	
P0.1	LEGEND AND NOTES	
P0.2	PLUMBING DETAILS	
P0.3	PLUMBING SITE PLAN	
P1	PLUMBING PLANS	

SHEET INDEX

	MECHANICAL	
M0.1	HVAC GENERAL NOTES, SCHEDULES, DETAILS	
M0.2	HVAC DETAILS	
M2.1	HVAC PLAN	
M2.2	ENERGY CALCULATIONS	
M2.3	ENERGY CALCULATIONS	
M2.4	CONTROLS	
	ELECTRICAL	
E001	SYMBOL LIST	
E002	FIXTURE SCHEDULE	
E003	MUSCO CONTROL SUMMARY	
E101	SITE ELECTRICAL PLAN	
E102	SITE ELECTRICAL PLAN	
E201	CONCESSION POWER + LIGHTING PLAN	
E202	CONCESSION ROOF PLAN	
E301	SINGLE LINE DIAGRAM + PANEL SCHEDULE	
E401	TITLE 24	
	FIRE ALARM	
FA-001	FIRE ALARM COVER SHEET	
FA-002	FIRE ALARM SITE PLAN	
FA-101	FIRE ALARM DEVICE PLACEMENT PLAN	
FA-201	FIRE ALARM RISER DIAGRAM	
FA-501	FIRE ALARM PANEL DETAIL	
FA-601	FIRE ALARM CALCULATIONS AND SCHEDULES	
FA-701	FIRE ALARM WIRING TYPICALS	
FA-702	FIRE ALARM WIRING TYPICALS	
	COMMUNICATIONS	
CM0.1	COMMUNICATIONS SITE PLAN	
CM0.2	COMMUNICATIONS DETAILS	
CM1	COMMUNICATIONS PLAN	
	POLE LIGHTING	
MT1	POLES S1, S2, S4 DRAWINGS	
MS1	POLE DETAIL	
MD1	ATTACHMENT DETAILS	
MD2	ATTACHMENT DETAILS	
MD3	ATTACHMENT DETAILS	
PL3.1	POLE S3 DRAWINGS	
PL3.2	POLE S3 ATTACHMENT DETAILS	
PL3.3	POLE S3 DETAILS	
	LANDSCAPE	
L1.0	PLANTING KEY PLAN	
L1.1	PLANTING PLAN	
L1.2	PLANTING PLAN	
L1.3	PLANTING PLAN	
L1.4	PLANTING PLAN	
L1.5	PLANTING PLAN	

SHEET INDEX

L1.6	PLANTING PLAN
L2.1	BOULDER PLAN
L2.2	BOULDER PLAN
L3	IRRIGATION PLAN
LX1.1	PLANTING SCHEDULE
LX2.1	PLANTING DETAILS
LX3.1	IRRIGATION DETAILS
LX3.2	IRRIGATION DETAILS

SHEET COUNT: 87

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
TITLE SHEET - GENERAL NOTES, SHEET INDEX

LICENSED ARCHITECT JIMMIE L. SANDERS 17644 RENEWAL 08-31-23 STATE OF CALIFORNIA

Document Date	10-14-22
Date Last Revised	
Project Number	22-091V
Sheet Number	T

PARKING RATIO	
SPACE TYPE	SPACES
TOTAL	1342
TOTAL ACC.	35
VAN ACC.	9

PARKING RATIO	
SPACE TYPE	SPACES
TOTAL	15
TOTAL ACC.	1
VAN ACC.	1

PARKING RATIO	
SPACE TYPE	SPACES
TOTAL	40
TOTAL ACC.	3
VAN ACC.	1

PARKING RATIO	
SPACE TYPE	SPACES
TOTAL	18
TOTAL ACC.	1
VAN ACC.	1

PARKING RATIO	
SPACE TYPE	SPACES
TOTAL	50
TOTAL ACC.	2
VAN ACC.	1

PARKING RATIO	
SPACE TYPE	SPACES
TOTAL	94
TOTAL ACC.	4
VAN ACC.	2
AIS 04-108533	

PARKING RATIO	
SPACE TYPE	SPACES
TOTAL	536
TOTAL ACC.	11
VAN ACC.	2

PARKING RATIO	
SPACE TYPE	SPACES
TOTAL	461
TOTAL ACC.	9
VAN ACC.	2

APPROVALS

BUILDING IDENTIFICATION:

NUMBER	DESCRIPTION	CONST TYPE	OCCUPANCY GROUP	FIRE SPRINKLERS	DSA APPL NO	CLOSED DSA COMPLIANT
10	ADMINISTRATION	III-B	B	N	A-21614	Y
100	COUNSELING / FINANCIAL AID	III-B	B	N	A-21614, 38564	Y, Y
200	SOCIAL SCIENCES / ENGLISH	III-B	A-3, B	N	A-21614, 04-118720	Y, OPEN
300	FINE ARTS	III-B	A-3, B	N	A-21614, 04-118720	Y, OPEN
400	ASSEMBLY CENTER / CLASSROOMS	III-B	B	N	A-21614	Y
500	RESTROOM / CONCESSION	II-B	B	N		
600	COLLEGE CENTER	III-B	A-2, B	N	A-21614, 24284, 38600	Y, Y, Y
700	GYMNASIUM	III-B	A-2, B	Y	A-21614, 26153, 27234, 28318	Y, Y, Y, Y
					30408, 33544, 35011, 100718, 104120	Y, Y, Y, Y, Y
800	BUSINESS	III-B	A-3, B	N	A-21614, 24284, 04-118720	Y, Y, OPEN
900	MEYER BUSINESS BUILDING	V-B	B	N	A-33412, 52343	Y, Y
1000	STUDENT AFFAIRS OFFICE	V-B	B	N	A-33412	Y
1100	AUTO TECHNOLOGY	II-B	S-1	N	A-2614	Y
1200	WELDING	II-B	H-3	N	A-33832	Y
1300	AUTO TECHNOLOGY / HUMANITIES	V-B	B	N	A-33832	Y
1400	TOOL STORAGE	V-B	B	N	UNKNOWN	
1500	LIBRARY MEDIA CENTER	V-A	A-3, B	Y	A-36444, 100260, 110551	Y, Y, Y
1600	TECHNOLOGY CENTER	V-B	B	N	A-38576	Y
1700	HORTIFORGE DEVELOPMENT CENTER	V-B	B	N	UNKNOWN	
1800	MAINTENANCE / WAREHOUSE	V-B	B	N	A-21614, A-304401	Y, Y
1900	BOOKSTORE	V-B	B	N	UNKNOWN	
2000	NOT USED	-	-	-	N/A	
2100	HEALTH SCIENCES / DISABLED STUDENT	V-B	A-3, B	N	A-41236	Y
2200	PRESCHOOL	III-B	E	N	A-54425	Y
2300	INFANT TODDLER CENTER	V-B	E	N	A-100748	Y
2400	HUMAN RESOURCES	V-B	B	N	NONE	
2500	MATH LAB CENTER	V-B	B	N	UNKNOWN	
2600	READING / WRITING / LANGUAGE LABORATORY	V-B	B	N	A-108104	Y
2700	SCIENCE	II-A	A-3, B	Y	A-108533	Y
2800	ART GALLERY	V-B	A-3	N	A-110775	Y
2900	DSPS	V-B	B	N	A-111394	Y
3100	CAREER TECHNICAL	II-B	B, H-3	Y	A-112064	Y
3200	CAREER TECHNICAL	II-B	B	Y	A-112064	Y
T100-T600	RELOCATABLE CLASSROOMS	V-B	B	N	A-110413	Y
A	INFORMATION BOOTH "A"	V	B	N	N/A	
B	INFORMATION BOOTH "B"	V	B	N	N/A	
C	SHOWERS / TOILETS	V-B	B	N	UNKNOWN	
D	POOLS AND GRANDSTANDS	V-B	A-5	N	A-36433	Y
E	CARPENTER SHOP	V-B	B	N	UNKNOWN	
F	NOT USED	-	-	-	N/A	
G	SHADE STRUCTURE	II-B	B	N	A-110551	Y
H	SHADE STRUCTURE	II-B	B	N	A-110551	Y
J	SHADE STRUCTURE	II-B	B	N	A-110551	Y
K	NOT USED	-	-	-	N/A	
L	SHADE STRUCTURE	II-B	B	N	A-110551	Y
M	SHADE STRUCTURE	II-B	B	N	A-110551	Y
N	SHADE STRUCTURE	II-B	B	N	A-110551	Y
P	SHADE STRUCTURE	II-B	A-3	N	A-111243	Y
Q	SHADE STRUCTURE	II-B	A-3	N	A-111243	Y
R	SHADE STRUCTURE	II-B	A-3	N	A-54425	Y
S	SHADE STRUCTURE	II-B	A-3	N	A-101106	Y

KEYNOTES:

1. DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT. THE P.O.T. 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 P.O.T. WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE P.O.T. 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 P.O.T. 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 P.O.T. 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.
2. PROPOSED ACCESSIBLE PARKING - UPDATE PER 9 ABV3
3. PROPOSED ACCESSIBLE PARKING - UPDATE PER 9 ABV3
4. PROPOSED ACCESSIBLE CURB RAMP - UPDATE PER 7 ABV3
5. PROPOSED ACCESSIBLE DRINKING FOUNTAIN ISLAND 10 ABV3
6. EXISTING TOW-AWAY SIGN - DSA# 04-118720
7. PROPOSED STUDENT BIKE RACKS - SEE SPECIFICATIONS
8. PROPOSED STAFF BIKES LOCKERS - SEE SPECIFICATIONS

LEGEND:

<----<--- EXISTING ACCESSIBLE PATH OF TRAVEL - DSA #04-111262

<----<--- PROPOSED ACCESSIBLE PATH OF TRAVEL

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

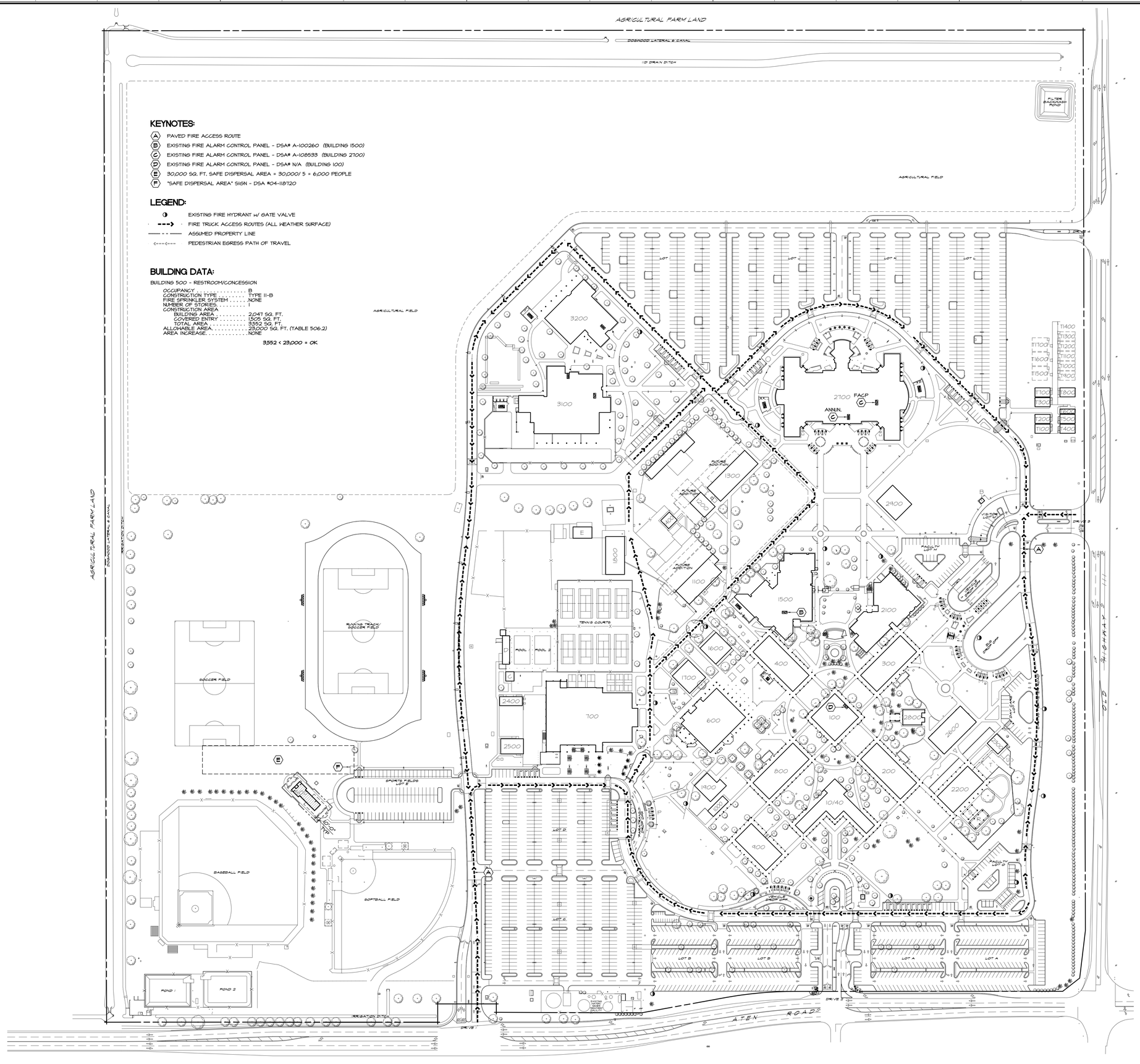
Sheet Title
ACCESSIBILITY SITE PLAN

LICENSED ARCHITECT
JIMMIE SANDERS
No. 17644
RENEWAL DATE
STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	AS1

ACCESSIBILITY SITE PLAN

SCALE: 1" = 100'-0" A



KEYNOTES:

- (A) PAVED FIRE ACCESS ROUTE
- (B) EXISTING FIRE ALARM CONTROL PANEL - DSA# A-100260 (BUILDING 1500)
- (C) EXISTING FIRE ALARM CONTROL PANEL - DSA# A-108533 (BUILDING 2700)
- (D) EXISTING FIRE ALARM CONTROL PANEL - DSA# N/A (BUILDING 100)
- (E) 30,000 SQ. FT. SAFE DISPERSAL AREA = 30,000/ 5 = 6,000 PEOPLE
- (F) "SAFE DISPERSAL AREA" SIGN - DSA #04-118720

LEGEND:

- EXISTING FIRE HYDRANT w/ GATE VALVE
- FIRE TRUCK ACCESS ROUTES (ALL WEATHER SURFACE)
- ASSUMED PROPERTY LINE
- PEDESTRIAN EGRESS PATH OF TRAVEL

BUILDING DATA:

BUILDING 500 - RESTROOM/CONCESSION

OCCUPANCY . . . . . B
CONSTRUCTION TYPE . . . . . TYPE II-B
FIRE SPRINKLER SYSTEM . . . . . NONE
NUMBER OF STORIES. I
CONSTRUCTION AREA
BUILDING AREA . . . . . 2,041 SQ. FT.
COVERED ENTRY . . . . . 1,505 SQ. FT.
TOTAL AREA . . . . . 3552 SQ. FT.
ALLOWABLE AREA. . . . . 28,000 SQ. FT. (TABLE 506.2)
AREA INCREASE. . . . . NONE

3552 < 28,000 = OK

APPROVALS

BUILDING IDENTIFICATION:

NUMBER	DESCRIPTION	CONST TYPE	OCCUPANCY GROUP	FIRE SPRINKLERS	DSA APPL NO	CLOSED DSA COMPLIANT
10	ADMINISTRATION	III-B	B	N	A-21614	Y
100	COUNSELING / FINANCIAL AID	III-B	B	N	A-21614, 38564	Y, Y
200	SOCIAL SCIENCES / ENGLISH	III-B	A-3, B	N	A-21614, 04-118720	Y, OPEN
300	FINE ARTS	III-B	A-3, B	N	A-21614, 04-118720	Y, OPEN
400	ASSEMBLY CENTER / CLASSROOMS	III-B	B	N	A-21614	Y
500	RESTROOM/CONCESSION	II-B	B	N		
600	COLLEGE CENTER	III-B	A-2, B	N	A-21614, 24284, 38600	Y, Y, Y
700	GYMNASIUM	III-B	A-2, B	Y	A-21614, 26153, 27234, 28318	Y, Y, Y, Y
					30408, 33544, 35011, 100718, 104120	Y, Y, Y, Y, Y
800	BUSINESS	III-B	A-3, B	N	A-21614, 24284, 04-118720	Y, Y, OPEN
900	MEYER BUSINESS BUILDING	V-B	B	N	A-33412, 52343	Y, Y
1000	STUDENT AFFAIRS OFFICE	V-B	B	N	A-33412	Y
1100	AUTO TECHNOLOGY	II-B	S-1	N	A-21614	Y
1200	WELDING	II-B	H-3	N	A-33832	Y
1300	AUTO TECHNOLOGY / HUMANITIES	V-B	B	N	A-33832	Y
1400	TOOL STORAGE	V-B	B	N	UNKNOWN	
1500	LIBRARY MEDIA CENTER	V-A	A-3, B	Y	A-36444, 100260, 110551	Y, Y, Y
1600	TECHNOLOGY CENTER	V-B	B	N	A-38576	Y
1700	HORTFORCE DEVELOPMENT CENTER	V-B	B	N	UNKNOWN	
1800	MAINTENANCE / WAREHOUSE	V-B	B	N	A-21614, A-304041	Y, Y
1900	BOOKSTORE	V-B	B	N	UNKNOWN	
2000	NOT USED	-	-	-	N/A	
2100	HEALTH SCIENCES / DISABLED STUDENT	V-B	A-3, B	N	A-41236	Y
2200	PRESCHOOL	III-B	E	N	A-54425	Y
2300	INFANT TODDLER CENTER	V-B	E	N	A-100748	Y
2400	HUMAN RESOURCES	V-B	B	N	NONE	
2500	MATH LAB CENTER	V-B	B	N	UNKNOWN	
2600	READING / WRITING / LANGUAGE LABORATORY	V-B	B	N	A-108104	Y
2700	SCIENCE	II-A	A-3, B	Y	A-108533	Y
2800	ART GALLERY	V-B	A-3	Y	A-110775	Y
2900	DSPS	V-B	B	N	A-111394	Y
3100	CAREER TECHNICAL	II-B	B, H-3	Y	A-112064	Y
3200	CAREER TECHNICAL	II-B	B	Y	A-112064	Y
T00-T600	RELOCATABLE CLASSROOMS	V-B	B	N	A-110413	Y
A	INFORMATION BOOTH "A"	V	B	N	N/A	
B	INFORMATION BOOTH "B"	V	B	N	N/A	
C	SHOWERS / TOILETS	V-B	B	N	UNKNOWN	
D	POOLS AND GRANDSTANDS	V-B	A-5	N	A-38433	Y
E	CARPENTER SHOP	V-B	B	N	UNKNOWN	
F	NOT USED	-	-	-	N/A	
G	SHADE STRUCTURE	II-B	B	N	A-110551	Y
H	SHADE STRUCTURE	II-B	B	N	A-110551	Y
J	SHADE STRUCTURE	II-B	B	N	A-110551	Y
K	NOT USED	-	-	-	N/A	
L	SHADE STRUCTURE	II-B	B	N	A-110551	Y
M	SHADE STRUCTURE	II-B	B	N	A-110551	Y
N	SHADE STRUCTURE	II-B	B	N	A-110551	Y
P	SHADE STRUCTURE	II-B	A-3	N	A-111243	Y
Q	SHADE STRUCTURE	II-B	A-3	N	A-111243	Y
R	SHADE STRUCTURE	II-B	A-3	N	A-54425	Y
S	SHADE STRUCTURE	II-B	A-3	N	A-101106	Y

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

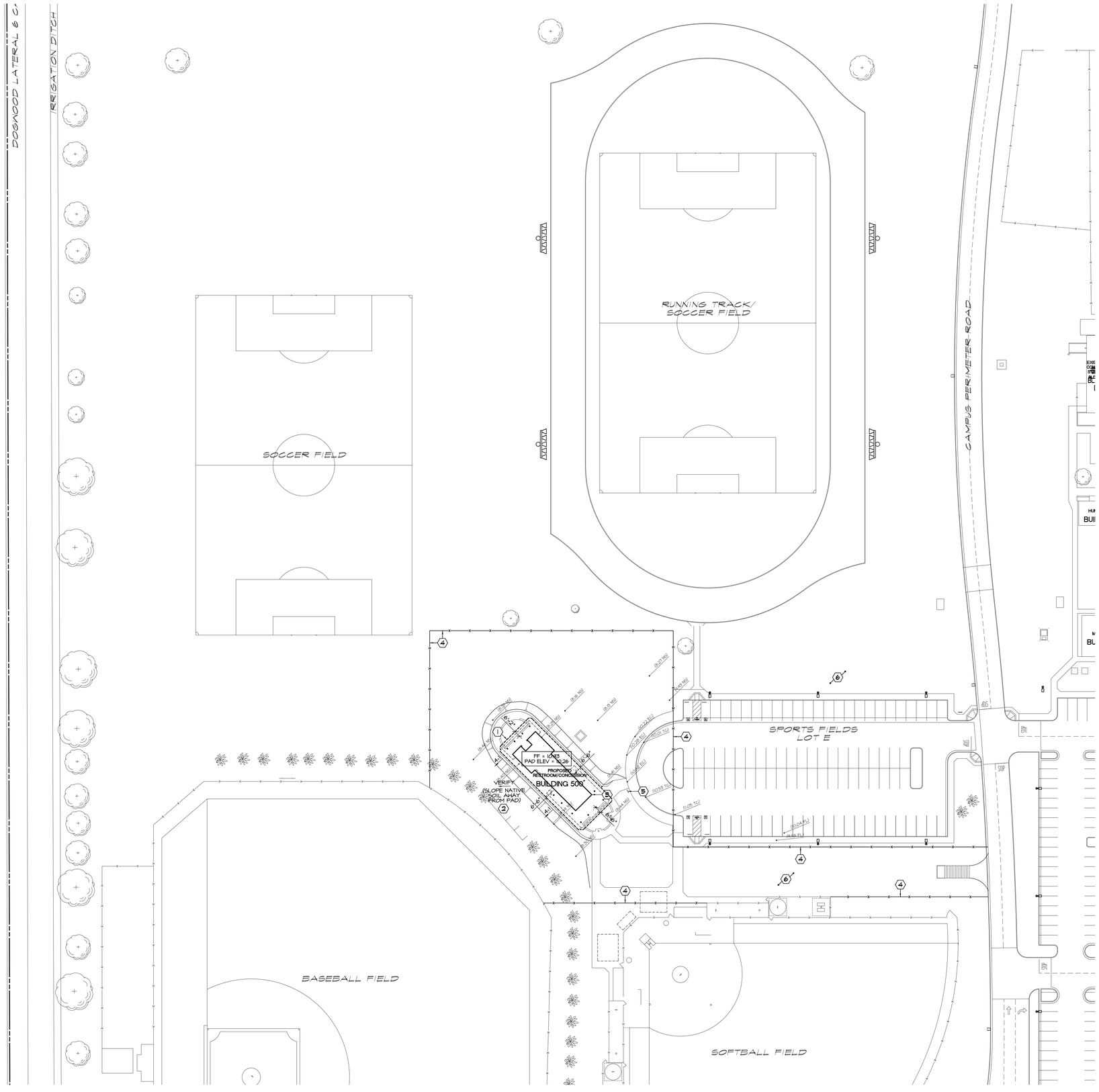
Sheet Title
FIRE ACCESS SITE PLAN

LICENSED ARCHITECT JIMMIE L. SANDERS 17644 RENEWAL 08/31/23 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	AS2

FIRE ACCESS SITE PLAN

SCALE: 1" = 100'-0" A



ROUGH GRADING PLAN

SCALE: 1" = 40'-0" | A

APPROVALS

KEYNOTES:

1. LIMITS OF ENGINEERED BUILDING PAD (A/AS#2)
2. PLACE NATIVE SOIL EXCAVATED FOR GRANULAR PAD SLOPED TO EXISTING NATIVE SOIL
3. PROPOSED BUILDING FLOOR PLAN - SEE DIMENSIONAL FLOOR PLAN FOR DIMENSIONS FOR LAYOUT OF ENGINEERED PAD
4. CONSTRUCTION FENCING - SEE SPECIFICATIONS
5. RELOCATE PROJECT IDENTITY SIGN. COORDINATE W/ DISTRICT REPRESENTATIVE
6. PROTECT IRRIGATION VALVES AND BOXES

LEGEND:

9.93	BENCH MARK: CLASSROOM BUILDING I FINISH FLOOR ELEVATION 9.93
(98.40)	AERIAL SURVEY SPOT ELEVATION
98.50 EXISTING	EXISTING ELEVATION (SITE CONCRETE UNO)
98.80	PROPOSED ELEVATION (SITE CONCRETE U.N.O.)
R	RADIUS - NOTED IN DECIMAL FEET
	FIRE HYDRANT
	POWER POLE
NS	NATURAL SOIL
TC	TOP OF CURB
FL	FLOW LINE
AC	ASPHALT PAVING
FF	FINISH FLOOR

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB AND FACE OF STUD/CMU (UNO).
2. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY DRAINAGE OF SITE. CONTRACTOR SHALL NOTIFY ARCHITECT, PRIOR TO CONSTRUCTION, ANY SITE PAVING WHICH WILL NOT PROPERLY DRAIN.
3. ALL CONTROL JOINTS TO BE SAW CUT.
4. ALL NATIVE SOIL REMOVED FOR CONSTRUCTION OF PARKING AREAS/ROAD SHALL REMAIN ON SITE. CONTRACTOR SHALL USE NATIVE SOIL FOR FINISH GRADING.
5. MAXIMUM CROSS SLOPE AT ALL ACCESSIBLE PATHS OF TRAVEL IS 2%. NOTE: ALL NEW PATHS SHALL BE ACCESSIBLE.
6. SEE STRIPING PLAN FOR ALL NEW SIGNAGE
7. CROS-SECTIONS ON AS#2
8. HYDROSEED CONSTRUCTION AREAS

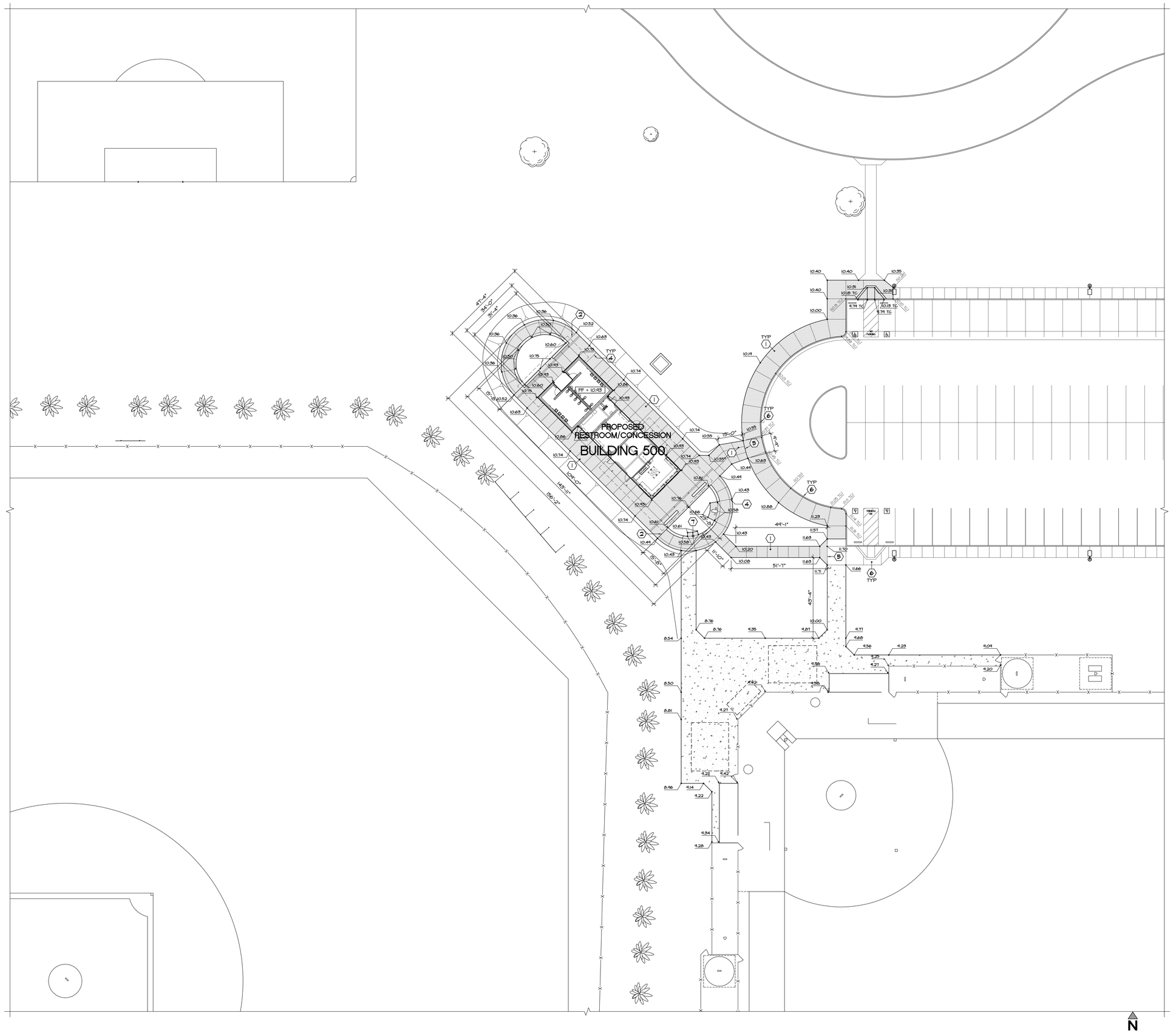
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
ROUGH GRADING PLAN

LICENSED ARCHITECT JIMMIE D. SANDERS No. 17644 RENEWAL DATE 8-31-23 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	AS4



HARDSCAPE PLAN

SCALE: 1" = 20'-0"

A

APPROVALS

KEYNOTES:

1. 6" THICK CONCRETE WALK (1/AS X3)
2. EXPANSION JOINT (5/AS X3) (6/AS X3)
3. CONSTRUCTION JOINT
4. CONTROL JOINT (7/AS X3)
5. NEW TO EXISTING CONCRETE - MATCH EXISTING ELEVATION (8/AS X3)
6. EXISTING CONCRETE - PROTECT
7. PROVIDE "CONCORD AMERICAN FLAGPOLE" IRG SENTRY II #IRG4008I-ACL FLAGPOLE w/ TRC-1860-CLR TRUCK, BAL-0812-ACL BALL, COLI-F08C-CLR CAST COLLAR, AND COMPLETE HALYARD ASSEMBLY FOR 10' X 15' FLAG (16/AS X3)

LEGEND:

- 86.30 — BENCH MARK: BUILDING #100, ADMINISTRATION FINISH FLOOR ELEVATION 22.56
- (86.40) — EXISTING NATURAL SOIL ELEVATION (UNO)
- 86.50 TC / 86.00 TC — EXISTING ELEVATION (SITE CONCRETE UNO)
- 38.80 — PROPOSED ELEVATION (SITE CONCRETE UNO)
- .02 — DIRECTION OF SLOPE w/ SLOPE NOTED
- R — RADIUS - NOTED IN DECIMAL FEET
- GB — GRADE BREAK
- FIRE HYDRANT
- POWER POLE
- MANHOLE
- X — EXISTING CHAIN LINK FENCE
- NS — NATURAL SOIL
- TC — TOP OF CURB
- FL — FLOW LINE
- AC — ASPHALT PAVING
- FF — FINISH FLOOR

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB AND FACE OF STUD/CMU (U.N.O.).
2. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY DRAINAGE OF SITE. CONTRACTOR SHALL NOTIFY ARCHITECT, PRIOR TO CONSTRUCTION, ANY SITE CONCRETE WHICH WILL NOT PROPERLY DRAIN.
3. ALL CONTROL JOINTS TO BE SAW CUT.
4. ALL NATIVE SOIL REMOVED FOR CONSTRUCTION HARDSCAPE SHALL REMAIN ON SITE. CONTRACTOR SHALL USE NATIVE SOIL FOR FINISH GRADING.
5. MAXIMUM CROSS SLOPE AT ALL ACCESSIBLE PATHS OF TRAVEL IS 2%.
6. PROVIDE 1'-0" MIN. TOP SOIL AT ALL PLANTING AREAS.
7. PROVIDE TOP SOIL SLOPED AWAY FROM SITE CONCRETE AT 4:1 MAX. SLOPE, TYP. FOR ENTIRE PROJECT

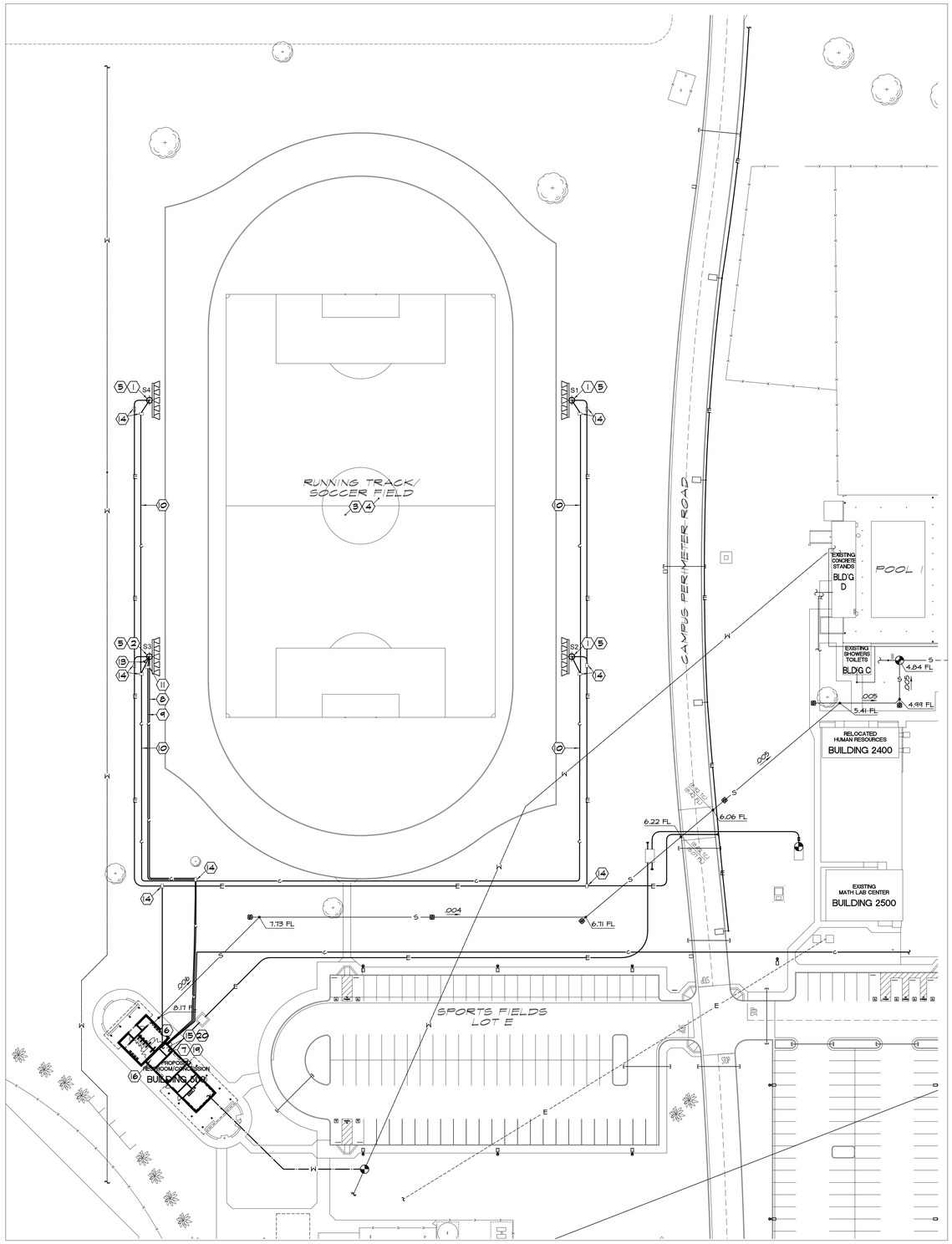
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
HARDSCAPE PLAN

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-17644
RENEWAL 08.31.23
STATE OF CALIFORNIA

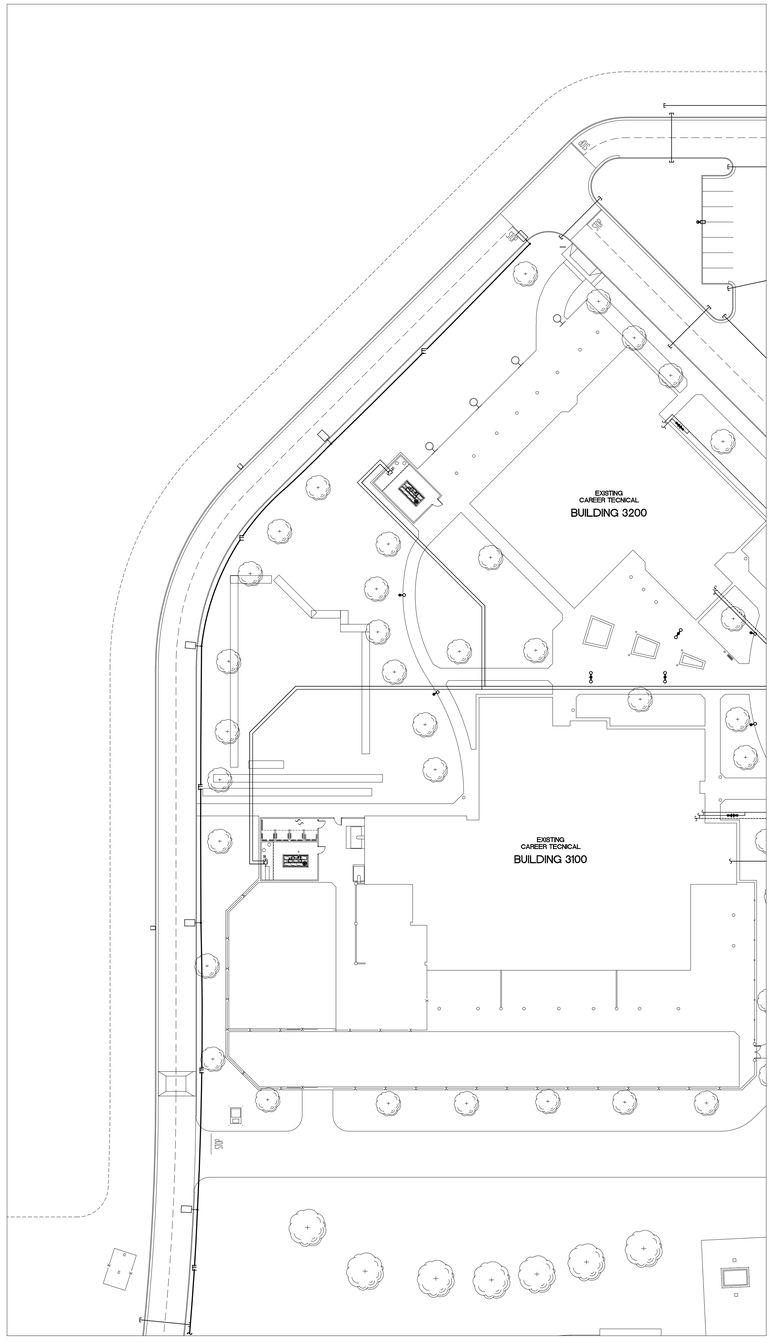
Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	AS5



SITE UTILITIES PLAN - SOUTH

SCALE: 1" = 40'-0"

A



SITE UTILITIES PLAN - NORTH

SCALE: 1" = 40'-0"

B

APPROVALS

KEYNOTES:

1. PROVIDE MUSCO SPORT FIELD LIGHT STANDARD
2. PROVIDE MUSCO SPORTS FILED LIGHT STANDARD FOR BORDERLINK ANTENNA
3. EXISTING PLAYFIELD - NO WORK
4. AREA TO BE LIGHTED BY SPORTS FIELD LIGHTS
5. PROVIDE CAMERA MOUNT FOR FUTURE VIDEO SURVEILLANCE CAMERAS MOUNTED AT 30 FEET ABOVE GROUND LEVEL. TOTAL (2) AT EACH POLE
6. PROVIDE 1" CONDUIT FROM LBU TO GPS UNIT MOUNTED ON EXTERIOR WALL, ADJACENT TO LBU. FIELD VERIFY EXACT LOCATION OF GPS UNIT WITH ICOE TECHNICIAN
7. IDF ROOM, LBU UNIT LOCATION, PROVIDE A 100 AMP CIRCUIT, SEE ELECTRICAL DRAWINGS
8. PROVIDE (2) 3" CONDUITS FOR POWER FROM IDF TO BASE OF POLE
9. PROVIDE (2) 2" CONDUITS FOR FIBER JUMPERS FROM AAU (ANTENNA) TO LBU AT IDF
10. PROVIDE (2) 2" FROM COMMUNICATIONS VAULT TO LIGHT STANDARD FOR FUTURE VIDEO SURVEILLANCE CAMERAS
11. PROVIDE A NEW COMMUNICATIONS PULL BOX, JENSEN 2436 WITH HEAVY DUTY COVER
12. PROVIDE AND INSTALL A 24"x24"x6" PULLBOX
13. PROVIDE (3) 2" CONDUIT STUB OUTS AT BASE OF POLE FOR FUTURE CELL EQUIPMENT
14. PROVIDE AND INSTALL AN ELECTRICAL PULL BOX, SEE ELECTRICAL DRAWINGS
15. PROVIDE A 1.5 TON MINI SPLIT HVAC UNIT, C.U. CARRIER MN-38MAGB18R-3 OUTDOOR AND A E.V. CARRIER MN-40MAGI18B - 3 INDOOR, SEE ELECTRICAL DRAWINGS
16. LOCATION FOR MUSCO LIGHTING CONTROL CABINET
17. NOT USED
18. PROVIDE AND RUN SINGLE-MODE FIBER LINE THROUGH EXISTING CONDUIT AND COMMUNICATIONS VAULTS
19. PROVIDE A SINGLE-MODE 052 FIBER RATED LINE FOR OUTSIDE USE THAT WILL RUN FROM THE IDF/LBU UNIT AT BUILDING 500 TO THE MDF AT BUILDING ##
20. PROVIDE A CONDENSATE LINE FROM THE MINI SPLIT CONDENSATE UNIT TO THE NEAREST SINK

LEGEND:

— — S — —	EXISTING SEWER LINE
------ W ------	EXISTING WATER LINE
------ E ------	EXISTING ELECTRICAL LINE
------ C ------	EXISTING COMMUNICATIONS LINE
------ SD ------	EXISTING STORM DRAIN LINE
------ F ------	EXISTING FIRE WATER LINE
——— S ———	NEW SEWER LINE - SEE PLUMBING DRAWINGS
——— W ———	NEW WATER LINE - SEE PLUMBING DRAWINGS
——— E ———	NEW ELECTRICAL LINE - SEE ELECTRICAL DRAWINGS
——— C ———	NEW COMMUNICATIONS LINE
	FIRE HYDRANT
	MANHOLE
	POWER POLE
	LIGHT STANDARD

NOTES:

1. CONTRACTOR SHALL REPAIR OR REPLACE ANY LINE BROKEN OR DAMAGED DURING COURSE OF PLACEMENT OF NEW LINES, CONSTRUCTION OF TRENCHING, OR HEAVY EQUIPMENT ON SITE AT NO COST TO OWNER.
2. PRIOR TO ANY EXCAVATION THE SITE SHALL BE VISITED BY A "DIG ALERT" COMPANY FOR THE PURPOSE OF LOCATING ALL UNDERGROUND UTILITY LINES.
3. CAP ALL STUBBED OUT CONDUIT FOR FUTURE.
4. PROVIDE PULL STRING FOR ALL CONDUIT.
5. ALL UTILITY LINES ARE EXISTING UNLESS NOTED OTHERWISE - PROTECT.
6. SAW CUT EXISTING SITE CONCRETE TO NEAREST CONTROL JOINT FOR PROPOSED UTILITIES. REPLACEMENT CONCRETE TO BE FLUSH PER 6/AS1.2 SIM.
5. PROVIDE TRENCHING PER 14/AS1.2 15/AS1.2

WORK BY OTHERS (ICOE):

1. PROVIDE FIBER FROM MDF TO POLE MOUNTED EQUIPMENT
2. PROVIDE DC CONDUCTORS FROM BBU TO POLE MOUNTED RRU'S
3. PROVIDE GPS UNIT ON EXTERIOR WALL ADJACENT TO BBU/MDF LOCATION. PROVIDE CABLING FROM GPS UNIT TO BBU
4. PROVIDE POLE MOUNTED ANTENNAS AND RRU'S
5. PROVIDE BBU AT AT SHOW LOCATION WITH AN ENCLOSURE

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title

IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title

SITE UTILITIES PLAN

LICENSED ARCHITECT JIMMIE SANDERS No. 17644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	AS6

NOTES:

1. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
2. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
3. WATER USED FOR DUST CONTROL TO BE NON-POTABLE IRRIGATION WATER.
4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISION SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF A SOLID WASTE.
6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
9. THE FOLLOWING BMP'S AS OUTLINED IN, BUT NOT LIMITED TO, THE CALIFORNIA STORMWATER QUALITY ASSOCIATION, CALIFORNIA STORMWATER BEST MANAGEMENT PRACTICE HANDBOOK-CONSTRUCTION, JANUARY 2003, OR THE LATEST REVISED EDITION, MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY COUNTY INSPECTORS):

EROSION CONTROL
- EC-1 SCHEDULING; MATERIAL DELIVERY AND STORAGE
- EC-2 PRESERVATION OF EXISTING VEGETATION

SEDIMENT CONTROL
- SC-10 STORM DRAIN INLET PROTECTION

WIND EROSION CONTROL
- WE-1 WIND EROSION CONTROL

TRACKING CONTROL
- TC-1 STABILIZED CONSTRUCTION ENTRANCE/ EXIT

NON-STORMWATER MANAGEMENT CONTROL
- NS-1 WATER CONSERVATION PRACTICES
- NS-8 VEHICLE AND EQUIPMENT CLEANING
- NS-9 VEHICLE AND EQUIPMENT FUELING

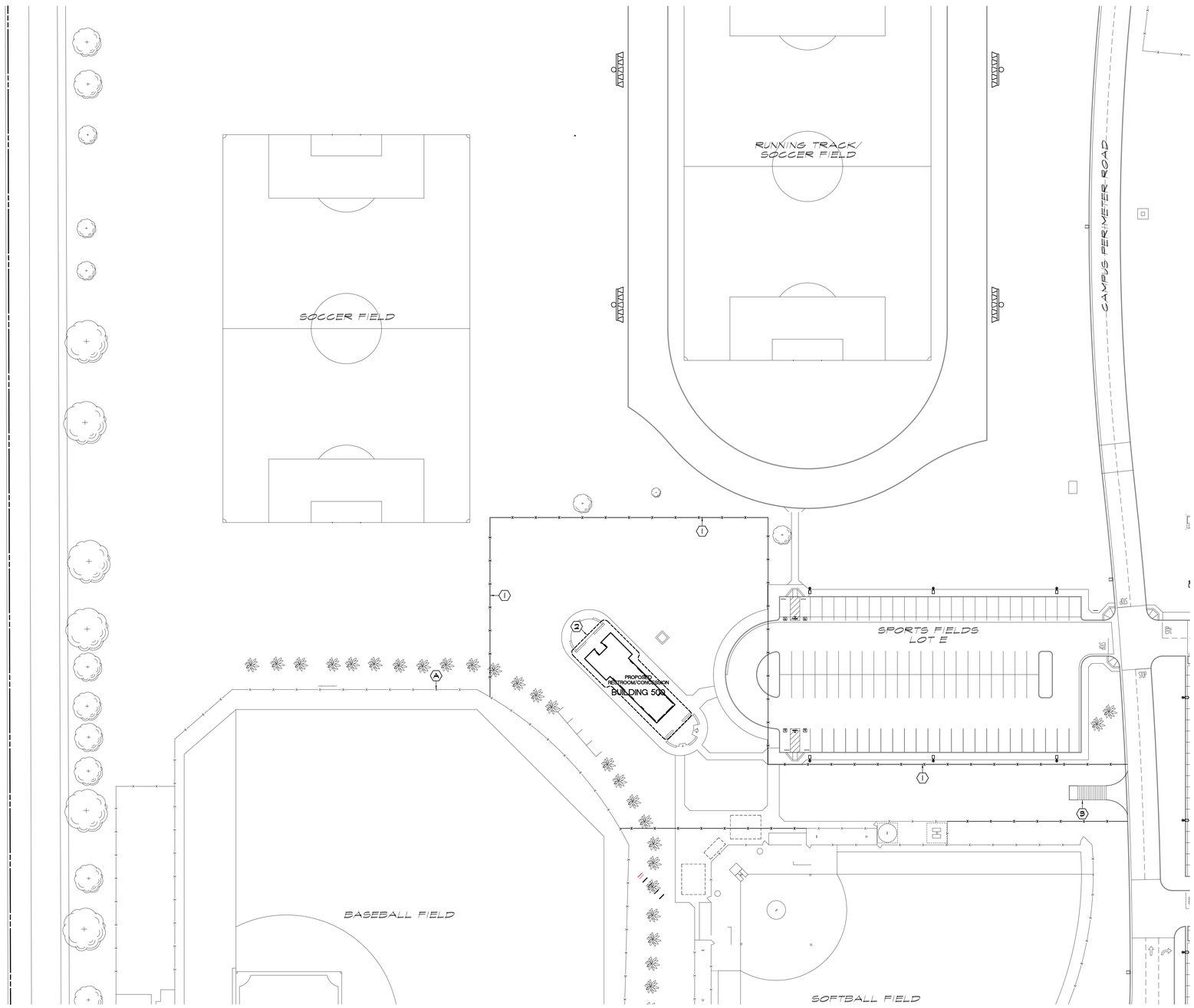
WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL
- WM-1 MATERIAL DELIVERY AND STORAGE
- WM-2 MATERIAL USE
- WM-3 STOCKPILE MANAGEMENT

KEYNOTES:

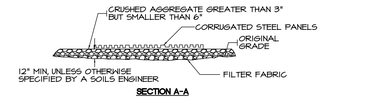
1. CONSTRUCTION FENCING BY CONTACTOR
2. LIMIT OF EXCAVATION FOR BUILDING PAD
3. PROVIDE STABILIZED CONSTRUCTION SITE EXIT (B / AS7)
A. EXISTING CHAIN LINK FENCE

LEGEND:

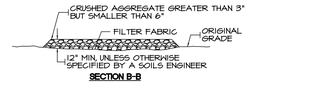
BM 30	BENCH MARK: NGS DESIGNATION V1229, PID DB0130 N32 58 56.54974, W115 31 42.59320 (NGS ELEVATION ADJUSTED +200)
(88.40) 0 450.00 FLOOR	EXISTING NATURAL SOIL ELEVATION (UNO) / EXISTING ELEVATION (SITE CONCRETE UNO)
	FIRE HYDRANT
	POWER POLE
NS	NATURAL SOIL
TC	TOP OF CURB
FL	FLOW LINE
AC	ASPHALT PAVING
FF	FINISH FLOOR



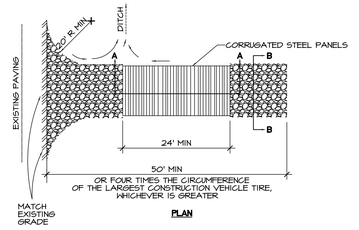
APPROVALS



SECTION A-A



SECTION B-B



PLAN

STABILIZED ENTRANCE/EXIT

SCALE: NTS | B

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

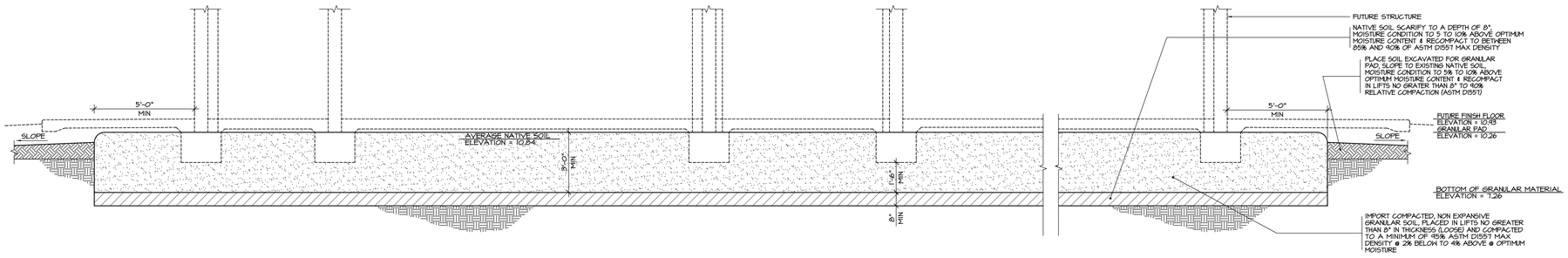
Sheet Title
EROSION AND SEDIMENTATION CONTROL PLAN

LICENSED ARCHITECT JIMMIE D. SANDERS No. 17644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

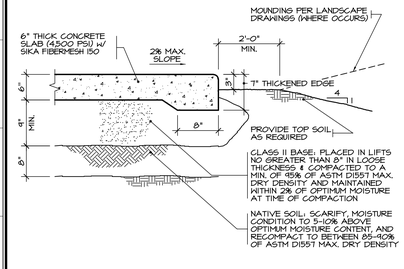
Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	AS7

EROSION AND SEDIMENTATION CONTROL PLAN — SCALE: 1" = 40'-0" | A

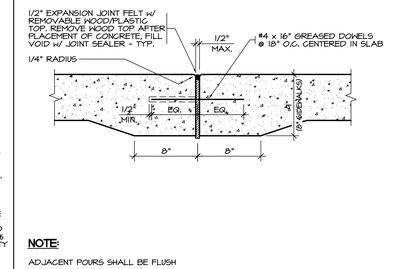
APPROVALS



PAD SECTION AT BUILDING 500 — SCALE: 3/8" = 1'-0" — A

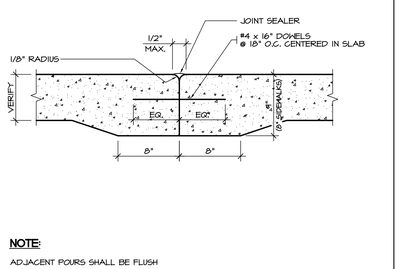


SITE CONCRETE SECTION — EXEMPTION C2 — SCALE: 3/8" = 1'-0" — 1



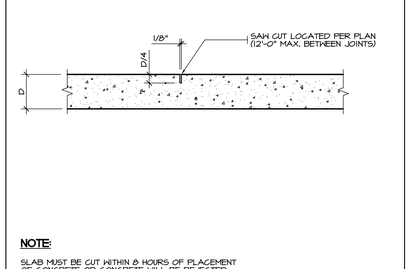
NOTE:
ADJACENT POURS SHALL BE FLUSH

EXPANSION JOINT — EXEMPTION C2, C4 — SCALE: 1 1/2" = 1'-0" — 5



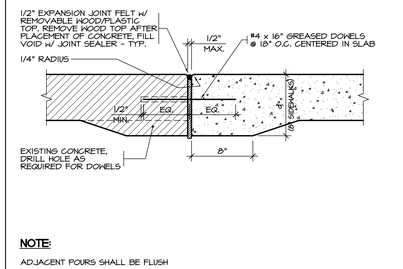
NOTE:
ADJACENT POURS SHALL BE FLUSH

CONSTRUCTION JOINT — EXEMPTION C2, C4 — SCALE: 1 1/2" = 1'-0" — 6



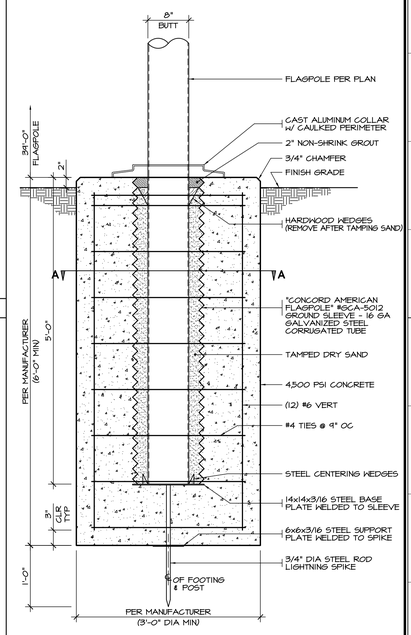
NOTE:
SLAB MUST BE CUT WITHIN 8 HOURS OF PLACEMENT OF CONCRETE OR CONCRETE WILL BE REJECTED

CONTROL JOINT, SAW CUT — EXEMPTION C2 — SCALE: 1 1/2" = 1'-0" — 7



NOTE:
ADJACENT POURS SHALL BE FLUSH

NEW TO EXISTING CONCRETE — EXEMPTION C2, C4 — SCALE: 1 1/2" = 1'-0" — 8



UNPAVED AREA

TYPICAL HDPE TRENCH DETAIL — SCALE: N.T.S. — 14

PAVED AREA

TYPICAL PVC TRENCH DETAIL — SCALE: N.T.S. — 15

UNPAVED AREA

PAVED AREA

SECTION A-A

GROUND SET FLAGPOLE — SCALE: 1" = 1'-0" — 16

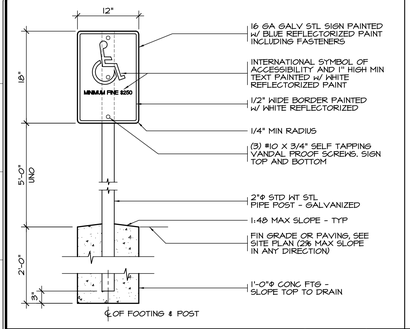
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
TYPICAL SITE DETAILS

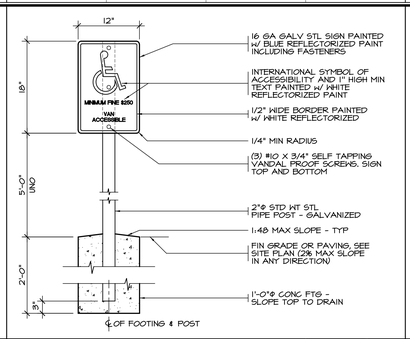
LICENSED ARCHITECT JIMMIE L. SANDERS C-7644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	ASX2



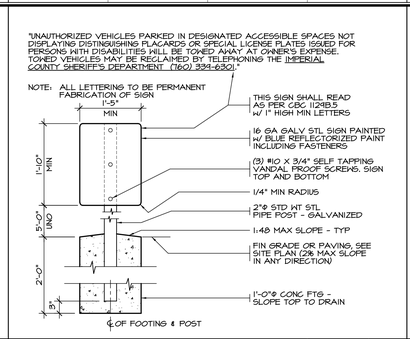
STANDARD PARKING SIGN

SCALE: 1" = 1'-0" | 1



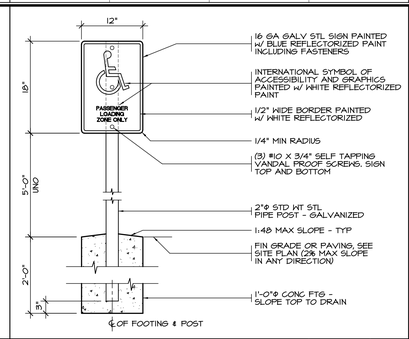
VAN PARKING SIGN

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



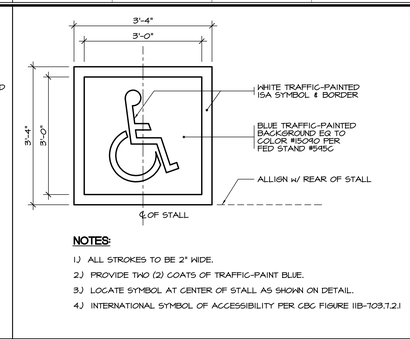
TOW AWAY SIGN

SCALE: 1" = 1'-0" | 3



ACCESSIBLE LOADING ZONE

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



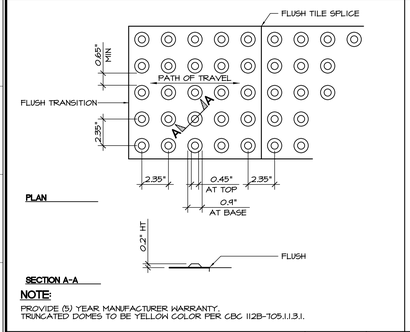
INTL SYMBOL OF ACCESSIBILITY

SCALE: 3/4" = 1'-0" | 5

NOTES:

1. ALL STROKES TO BE 2" WIDE.
2. PROVIDE TWO (2) COATS OF TRAFFIC-PAINT BLUE.
3. LOCATE SYMBOL AT CENTER OF STALL AS SHOWN ON DETAIL.
4. INTERNATIONAL SYMBOL OF ACCESSIBILITY PER CBC FIGURE 11B-703.7.2.1

APPROVALS

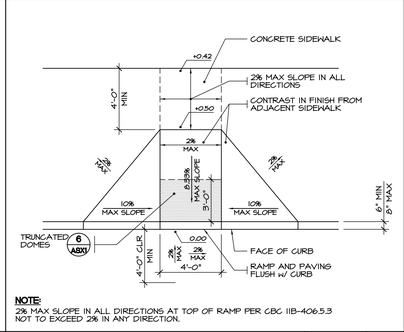


NOTE:

PROVIDE (5) YEAR MANUFACTURER WARRANTY.
TRUNCATED DOMES TO BE YELLOW COLOR PER CBC 11B-705.1.1.3.1.

TRUNCATED DOMES

SCALE: 1/4" = 1'-0" | 6

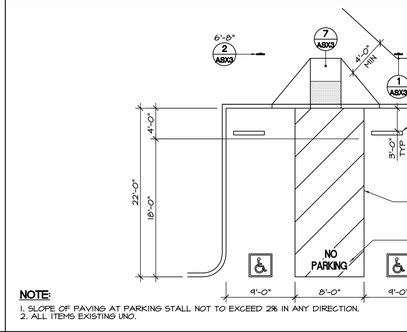


NOTE:

2% MAX SLOPE IN ALL DIRECTIONS AT TOP OF RAMP PER CBC 11B-406.5.3
NOT TO EXCEED 2% IN ANY DIRECTION.

ACCESSIBLE CURB RAMP

SCALE: 1/4" = 1'-0" | 7

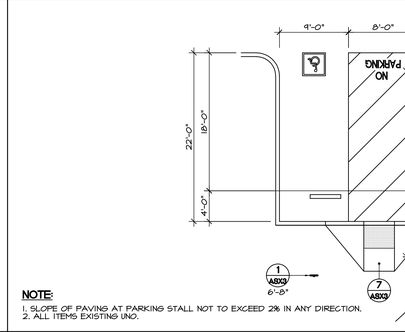


NOTE:

1. SLOPE OF PAVING AT PARKING STALL NOT TO EXCEED 2% IN ANY DIRECTION.
2. ALL ITEMS EXISTING UNO.

ACCESSIBLE PARKING DETAIL

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

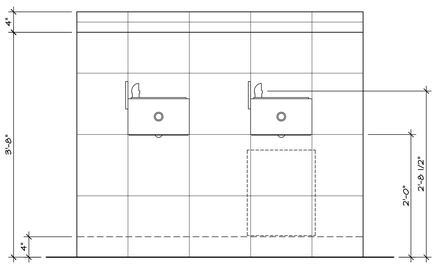


NOTE:

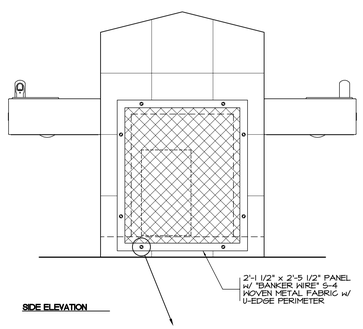
1. SLOPE OF PAVING AT PARKING STALL NOT TO EXCEED 2% IN ANY DIRECTION.
2. ALL ITEMS EXISTING UNO.

ACCESSIBLE PARKING DETAIL

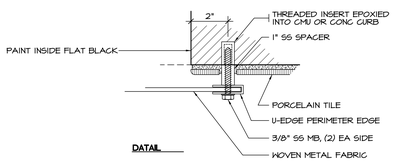
SCALE: 1/8" = 1'-0" | 9



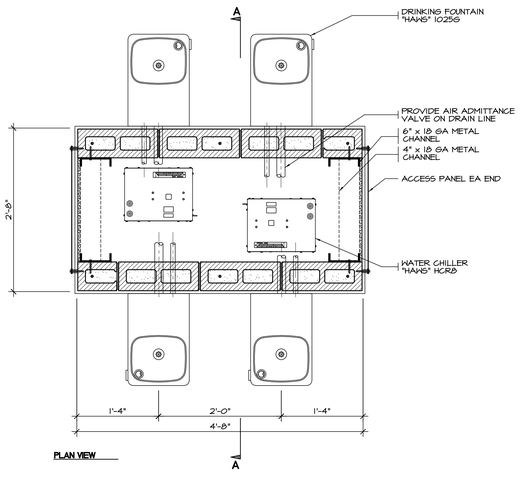
FRONT/BACK ELEVATION



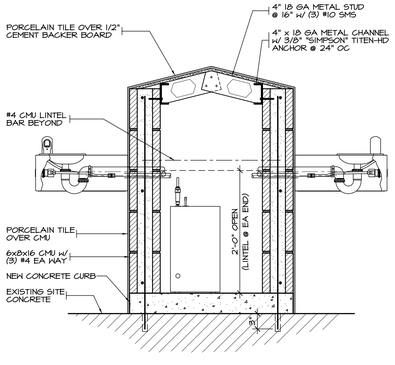
SIDE ELEVATION



DATAIL



PLAN VIEW



SECTION A-A

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
SITE ACCESSIBILITY DETAILS

LICENSED ARCHITECT
JIMMIE SANDERS
No. C-17644
RENEWAL 08/31/23
STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	ASX3

EXEMPTION W7 | SCALE: 1" = 1'-0" | 10

EQUIPMENT:

#	EQUIPMENT DESCRIPTION
• 1	FIRE EXTINGUISHER
2	REFRIGERATOR/ FREEZER COMBO
3	STAINLESS STEEL CART
4	STEEL STATIONARY SHELVING

• ITEM OCCURS THIS BUILDING

LEGEND:

- DOOR NUMBER - SEE DOOR SCHEDULE
- 30" x 48" CLEAR FLOOR SPACE (2% MAX SLOPE IN ALL DIRECTIONS)
- 60" DIAMETER CLEAR FLOOR SPACE (2% MAX SLOPE IN ALL DIRECTIONS)
- 60" x 54" CLEAR SPACE AT PULL SIDE OF INTERIOR DOOR (2% MAX SLOPE IN ALL DIRECTIONS)
- 48 x 48" CLEAR SPACE AT PUSH SIDE OF DOOR (2% MAX SLOPE IN ALL DIRECTIONS)
- 8 — GRID TAG
- 4 — WINDOW NUMBER - SEE WINDOW SCHEDULE
- 12 — EQUIPMENT NUMBER - SEE EQUIPMENT SCHEDULE
- PH — PANIC HARDWARE

KEYNOTES:

1. LINE OF COVERED WALK/ENTRY ABOVE
2. LINE OF COILED DOOR
3. STAINLESS STEEL SINK / COUNTER - SEE INTERIOR ELEVATIONS
4. PLUMBING FIXTURE - SEE PLUMBING DRAWINGS
5. ELECTRICAL EQUIPMENT - SEE ELECTRICAL DRAWINGS
6. MOP SERVICE BASIN W/ STAINLESS STEEL WALL GUARD
7. COMMUNICATIONS EQUIPMENT - SEE COMMUNICATIONS DRAWINGS
8. ROOF ACCESS SHIP'S LADDER AND HATCH - SEE SPECIFICATIONS
9. STAINLESS STEEL CORNER / WALL CAP / END WALL GUARD — 10 AX5.1 / 11 AX5.1
10. ACCESSIBLE STAINLESS STEEL WORK STATION
11. CONTROL PANEL - BBU UNIT (MUSCO) 24X12

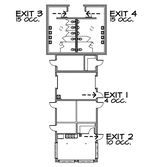
FURRING TYPES:

- A — 4" STEEL STUD (4005162-43) W/ 2" GAP TO WALL
- B — 4" STEEL STUD (4005162-43) W/ 2" GAP TO WALL AND 6" HIGH CONCRETE CURB

WALL TYPES

- 8" CMU WALL
- 4" STEEL STUD (4005162-43)
- 4" STEEL STUD (4005162-43) W/ 6" HIGH CONCRETE CURB
- 12" WALL W/ (2) 4" STEEL STUD (4005162-43) W/ 6" CONCRETE CURB
- 6" STEEL STUD (6005162-43) W/ 6" HIGH CONCRETE CURB

APPROVALS



EXIT WIDTH:

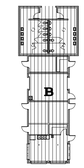
EXIT #	1	2	3	4
OCCUPANT LOAD	4	10	5	8
MIN EXIT WIDTH (A)	.32"	.32"	.32"	.32"
WIDTH PROVIDED	35.75"	35.75"	35.75"	35.75"

(A) 0.2 INCHES PER PERSON FOR DOORS.

N

EXISTING PLAN

SCALE: 1/32" = 1'-0" | C



BUILDING DATA:

BUILDING 500 - RESTROOM/CONCESSION

OCCUPANCY . . . . . B
CONSTRUCTION TYPE . . . . . TYPE II-B
FIRE SPRINKLER SYSTEM . . . . . NONE
NUMBER OF STORIES 1
CONSTRUCTION AREA
BUILDING AREA . . . . . 2,047 SQ FT
COVERED ENTRY . . . . . 1,505 SQ FT
TOTAL AREA . . . . . 3,552 SQ FT

ALLOWABLE AREA . . . . . 23,000 SQ FT (TABLE 506.2)
AREA INCREASE . . . . . NONE

3,552 ≤ 23,000 = OK

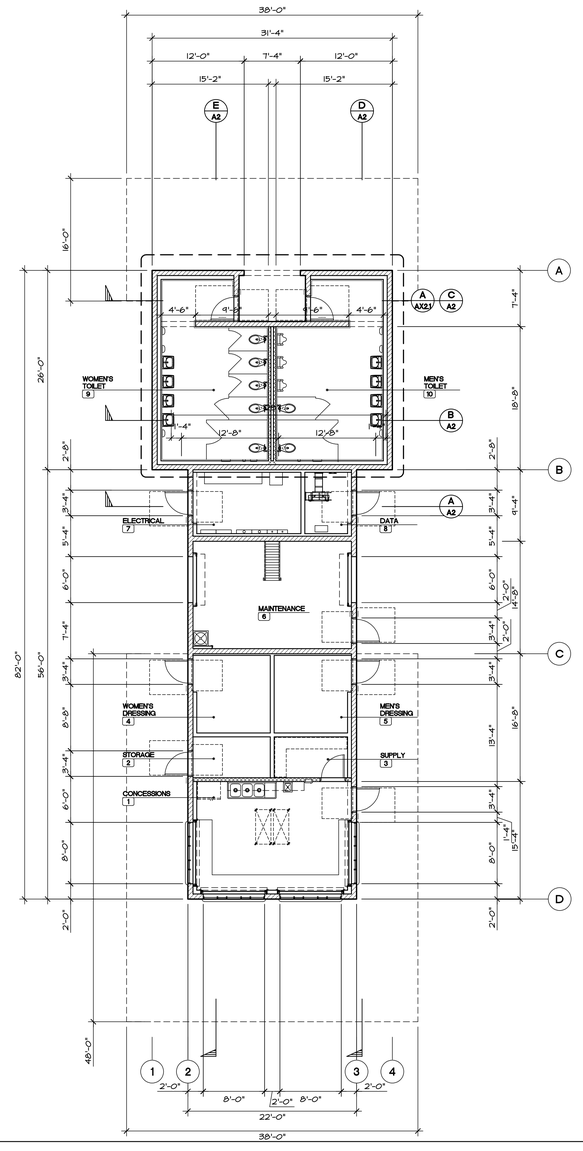
N

OCCUPANCY PLAN

SCALE: 1/32" = 1'-0" | D

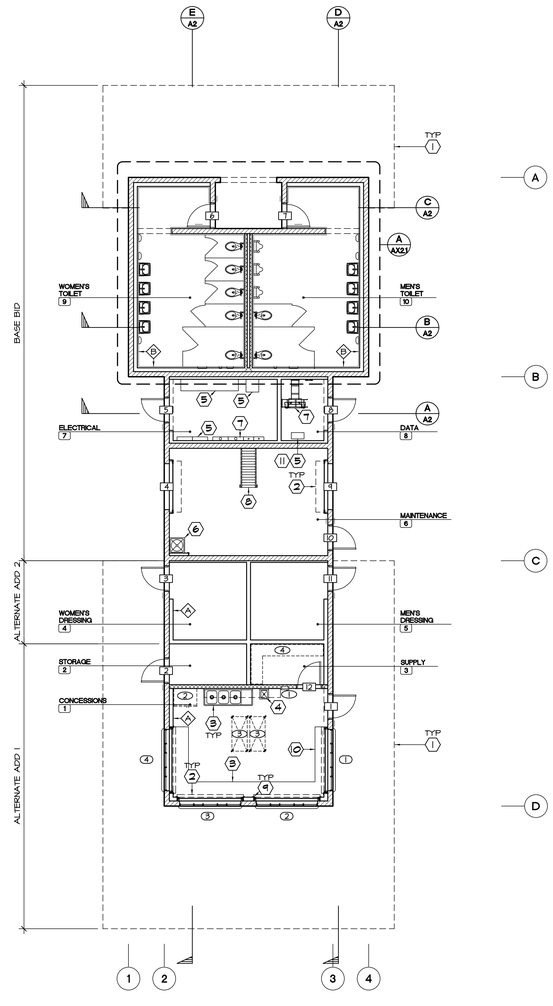
NOTES:

1. FOR ELECTRICAL ROOM FIXED EQUIPMENT ANCHORAGE, SEE 1 AX5.1 / 2 AX5.1 / 12 AX5.1
2. FOR TYPICAL STEEL STUDWALL PANEL, SEE 1 AX5.2
3. FOR TYPICAL NON-BEARING WALL, SEE 10 AX5.2
4. FOR TYPICAL FURRING AT CMU OPENING, SEE 21 AX5.2
5. FOR TOILET PARTITION SUPPORT AND BACKING, SEE 7 AX5.2 / 20 AX5.2



N

DIMENSIONAL FLOOR PLAN | SCALE: 1/8" = 1'-0" | A



N

ARCHITECTURAL FLOOR PLAN | SCALE: 1/8" = 1'-0" | B

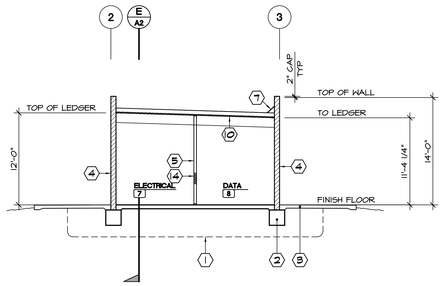
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

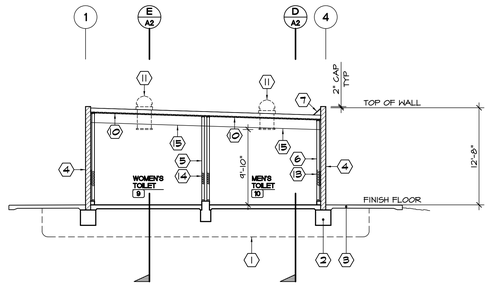
Sheet Title
FLOOR PLAN - DIMENSIONAL AND ARCHITECTURAL

LICENSED ARCHITECT JIMMIE SANDERS No. 17644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

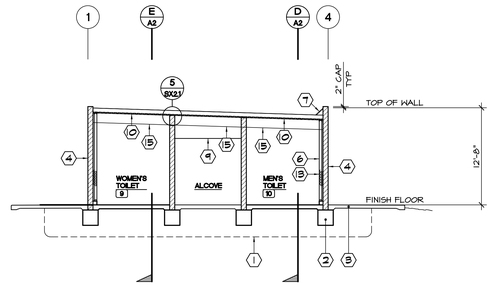
Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	A1



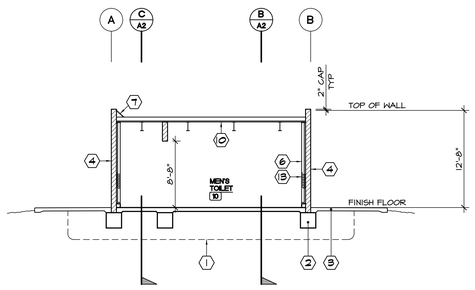
SECTION — SCALE: 1/8" = 1'-0" — A



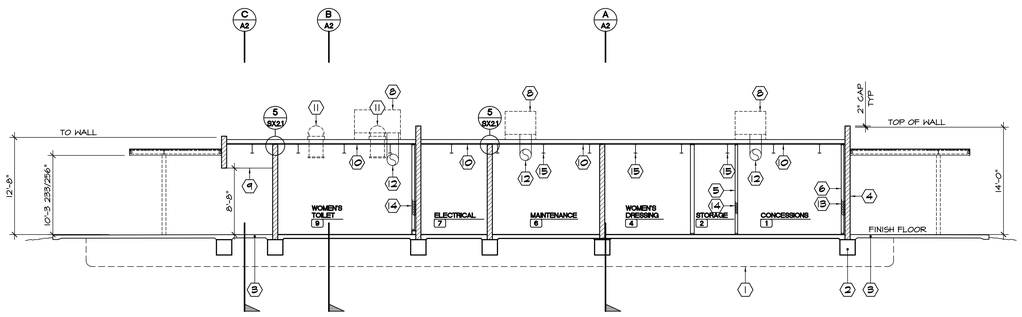
SECTION — SCALE: 1/8" = 1'-0" — B



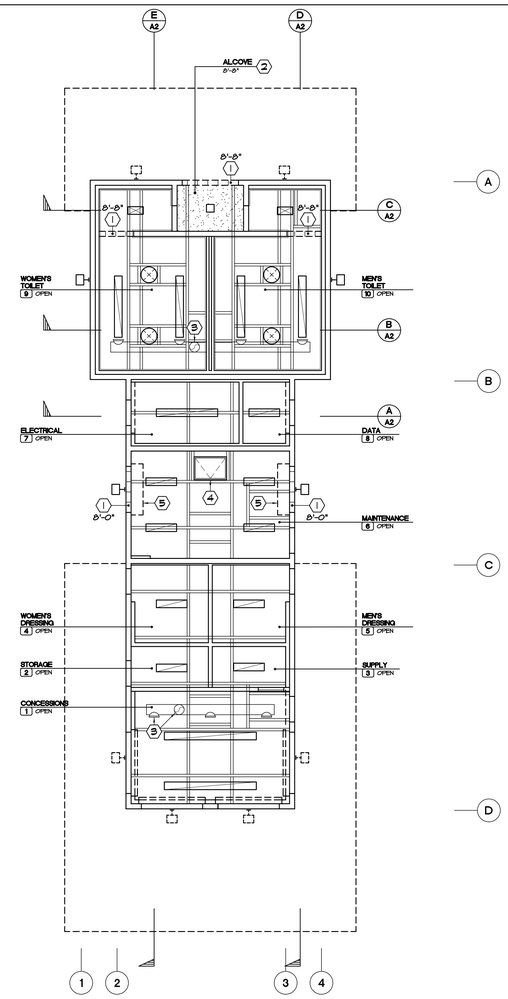
SECTION — SCALE: 1/8" = 1'-0" — C



SECTION — SCALE: 1/8" = 1'-0" — D



SECTION — SCALE: 1/8" = 1'-0" — E



N

REFLECTED CEILING PLAN — SCALE: 1/8" = 1'-0" — F

APPROVALS

SECTION KEYNOTES:

1. ENGINEERED BUILDING PAD - SEE STRUCTURAL AND ARCHITECTURAL SITE DRAWINGS (A A3X2)
2. CONCRETE FOUNDATION - SEE STRUCTURAL DRAWINGS
3. SITE CONCRETE - SEE ARCHITECTURAL SITE DRAWINGS
4. MASONRY WALL PER PLAN
5. STUD WALL PER PLAN
6. WALL FURRING PER PLAN
7. CRICKET - SEE ROOF PLAN
8. MECHANICAL EQUIPMENT - SEE MECHANICAL DRAWINGS
9. PLASTER FINISH - SEE EXTERIOR ELEVATIONS OR REFLECTED CEILING PLAN
10. CEILING LINE - SEE REFLECTED CEILING LINE
11. TUBULAR SKYLIGHT - SEE WINDOW SCHEDULE
12. HVAC DUCT - SEE MECHANICAL DRAWINGS
13. BATT INSULATION (R-19 @ 6", R-11 @ 4") @ EXTERIOR WALL FURRINGS
14. SOUND ATTENUATION BATT INSULATION @ FRAMED INTERIOR WALLS
15. ROOF FRAMING - SEE STRUCTURAL DRAWINGS

NOTES:

1. FOR TYPICAL STUDWALLS SEE (1 AX5.2)
2. FOR CEILING JOIST FRAMING SEE (12 AX5.2) (13 AX5.2) FOR PLASTER LATH SEE (7 AX5.1)
3. FOR FINISH SCHEDULE SEE SHEET (sht AX11)
3. FOR WALL FURRING ATTACHMENT SEE (19 AX5.2)
4. FOR EQUIPMENT SCHEDULE SEE SHEET (sht AX11)
5. FLAME SPREAD RATING FOR WALL INSULATION NOT TO EXCEED 25 AND SMOKE DEVELOPED INDEX NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
6. ALL FURRINGS ON EXTERIOR WALLS TO HAVE BATT INSULATION (R-19 @ 6", R-11 @ 4")
7. ALL FRAMED INTERIOR WALLS TO HAVE SOUND ATTENUATION BATT INSULATION.

REFLECTED CEILING KEYNOTES:

1. CMU LINTEL TO MATCH WALL
2. ACRYLIC STUCCO OVER PLASTER
3. EXPOSED GALVANIZED SPIRAL DUCTWORK - PAINT ACCENT COLOR, SEE MECHANICAL DRAWINGS
4. ROOF ACCESS HATCH (10 AX5.1)
5. LINE OF COILED DOOR ENCLOSURE BELOW CEILING

LEGEND:

- PENDANT FLUORESCENT LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
- LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
- WALL MOUNT LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
- TUBULAR SKYLIGHT DIFFUSER - SEE SPECIFICATIONS

NOTES:

1. FOR SUPPORT OF PENDANT LIGHT FIXTURES SEE (19 AX5.1) PER DSA IR 16-9 2019 CBC.

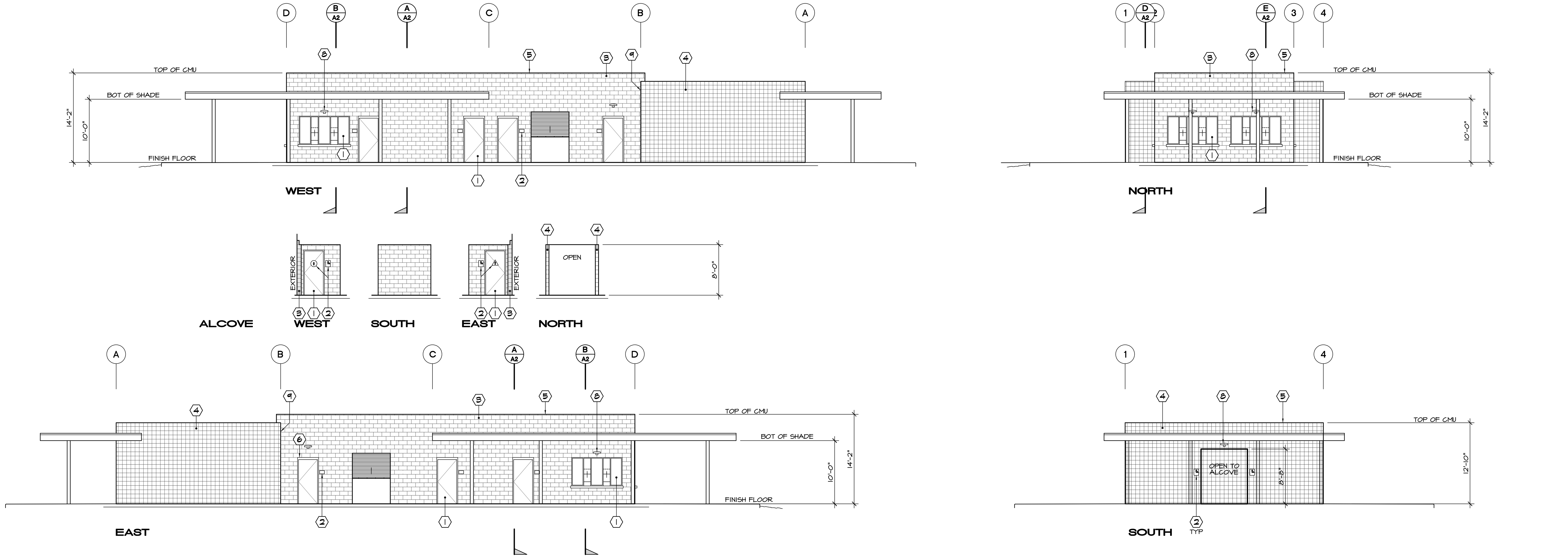
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
ARCHITECTURAL SECTIONS, REFLECTED CEILING PLAN

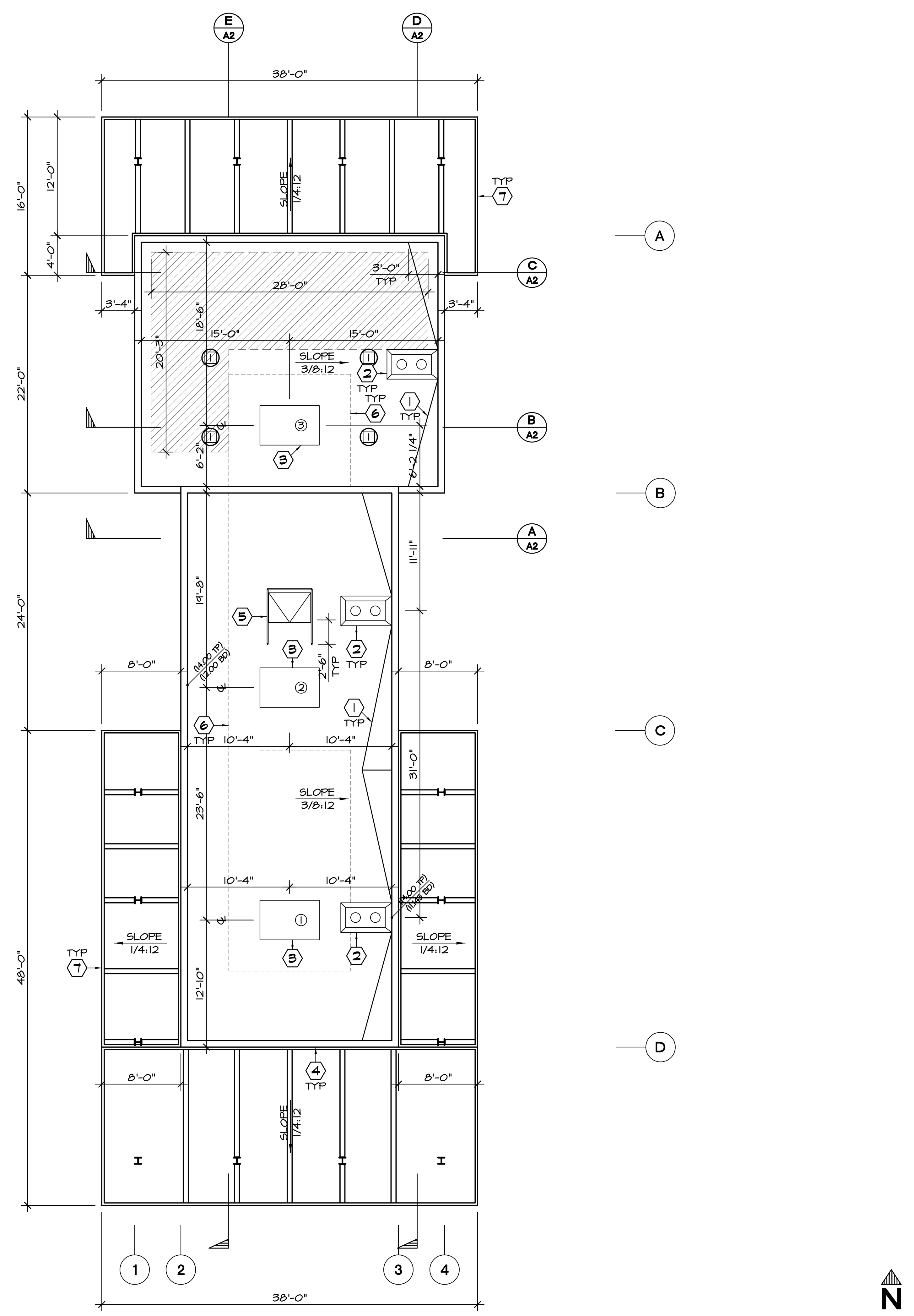
LICENSED ARCHITECT — JIMMIE D. SANDERS — No. 17644 — RENEWAL DATE 08-31-23 — STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	A2



EXTERIOR ELEVATIONS

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



ROOF PLAN

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

APPROVALS

KEYNOTES:

1. DOOR / WINDOW PER PLAN
2. SIGNAGE PER PLAN
3. CONCRETE MASONRY - RCP PRECISION BLOCK "OTAY RANCH BROWN"
4. CONCRETE MASONRY - RCP PRECISION BLOCK "BUFF"
5. CONCRETE MASONRY WALL CAP - TO MATCH WALL
6. GI DRIP EDGE ABOVE DOOR - PAINT TO MATCH DOOR
7. ROOF / STORM DRAIN DOWN SPOUT NOZZLE - SEE PLUMBING DRAWINGS
8. LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
9. MASONRY VERTICAL CONTROL JOINT AT PILASTER - SEE STRUCTURAL DRAWINGS

ROOF KEYNOTES:

1. CRICKET W/ 1/2:12 MIN SLOPE
2. ROOF / OVERFLOW DRAIN (1/AX6.1) - SEE PLUMBING DRAWINGS
3. MECHANICAL EQUIPMENT - SEE MECHANICAL DRAWINGS AND (1/SX2.2)
4. 2" CMU WALL CAP - TO MATCH WALL
5. ROOF ACCESS HATCH W/ INTEGRATED FALL PROTECTION RAILING (10/AX5.1)
6. PROVIDE PVC ROOF WALKPADS
7. OVERHANG CANOPY

NOTES:

1. ALL ROOFS TO BE CLASS A (UNO) W/ MODIFIED BITUMINOUS MEMBRANE.
2. CONTRACTOR RESPONSIBLE TO VERIFY EXACT PLACEMENT OF ROOF MOUNTED MECHANICAL EQUIPMENT TO AVOID CONFLICTS WITH ELECTRICAL ITEMS, PLUMBING LINES, OR OTHER MECHANICAL EQUIPMENT.
3. ALL ROOFING OVER INSULATED ROOF SHALL BE PER (11/AX6.1)
4. ROOF TRUSS EQUIPMENT DEAD LOADS: MECHANICAL LOADS

① HVAC PACKAGE UNIT	HP-1	626 lb
② HVAC PACKAGE UNIT	HP-2	330 lb
③ HVAC PACKAGE UNIT	HP-3	620 lb
(1) 21" TUBULAR SKYLIGHT (WINDOW NUMBER NOTED) (24)		30 lb

5. SEE SHEET (sht/AX1.1) FOR WINDOW SCHEDULE
6. FOR ALL ROOF MOUNTED EQUIPMENT FLASHING, SEE (17/AX6.1)
7. FOR TYPICAL SUSPENDED METAL FRAMING TOP, SEE (17/AX5.2)

LEGEND:

SOLAR READY ROOF ZONE

ROOF AREA = 2,140 SF x 15% = 321 SF REQUIRED

NO OBSTRUCTIONS, INCLUDING VENTS OR ROOF MOUNTED EQUIPMENT, SHALL BE LOCATED IN THE SOLAR ZONE. SPACE FOR INVERTER AND METERING EQUIPMENT SHALL BE PROVIDE IN SECOND FLOOR ELECTRICAL ROOM 2B7, PROVIDE CONDUIT FROM ABOVE CEILING UNDER EA ZONE TO ELECTRICAL ROOM.

(XXX TP) (XXX BD) — TP: TOP OF PARAPET, TD: BOTTOM OF DECK

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

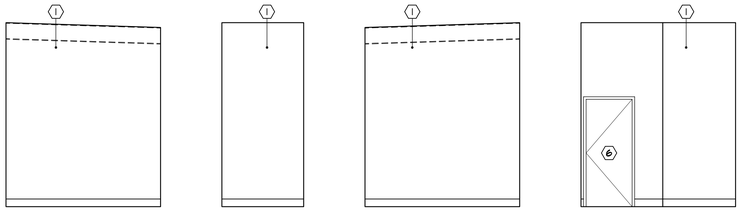
Sheet Title
EXTERIOR ELEVATIONS, ROOF PLAN

LICENSED ARCHITECT JIMMIE A. SANDERS C-7644 RENEWAL DATE 7-31-23 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	A3

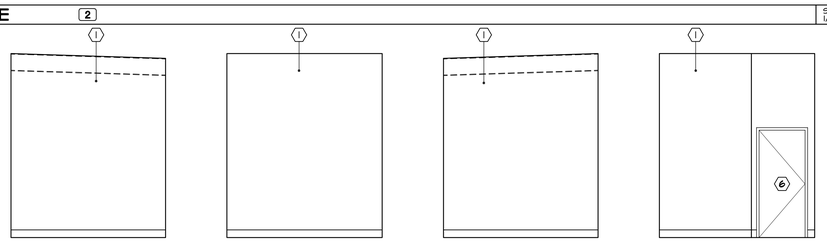
CONCESSIONS 1

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



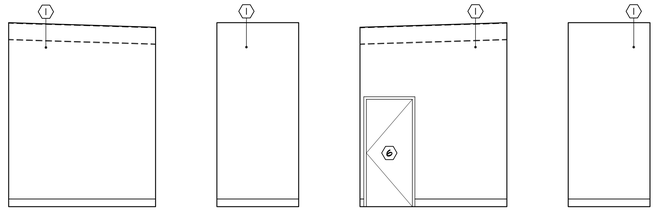
STORAGE 2

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



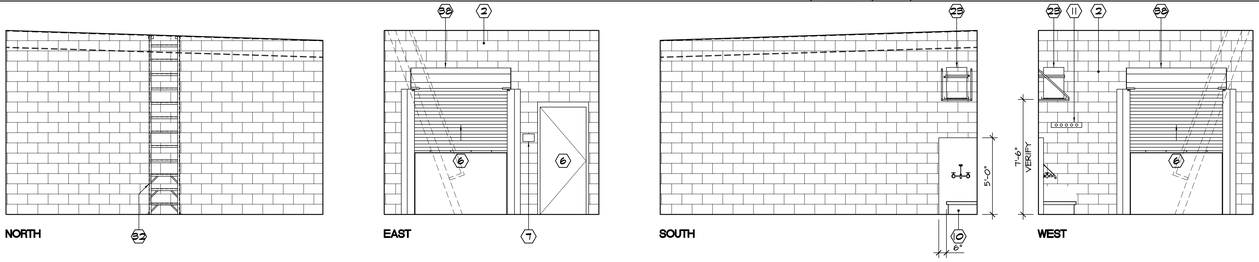
SUPPLY 3

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



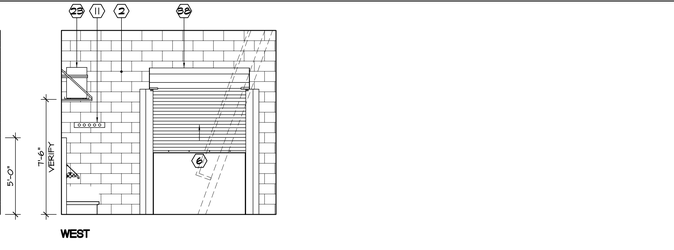
WOMEN'S DRESSING 4

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



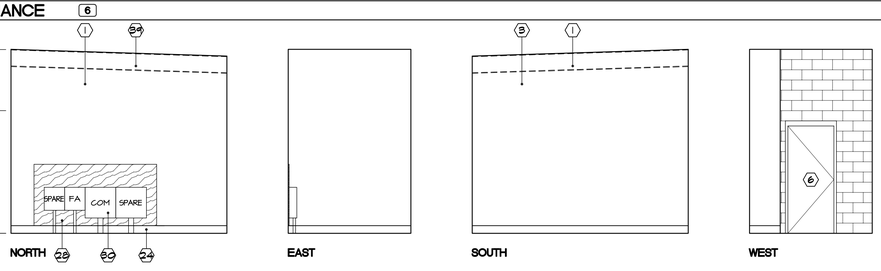
MEN'S DRESSING 5

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



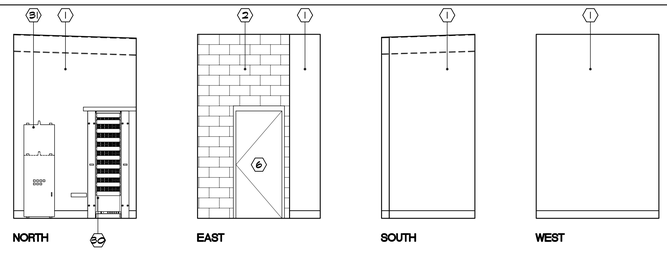
MAINTENANCE 6

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



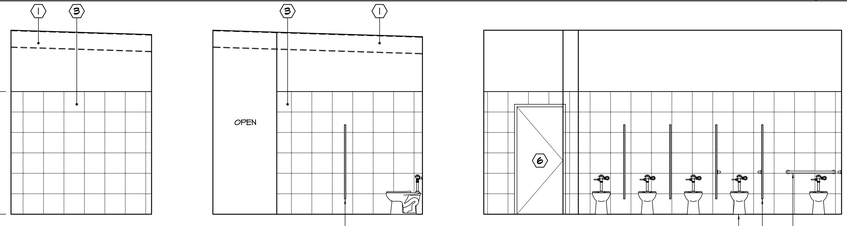
DATA 8

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



ELECTRICAL 7

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



WOMEN'S TOILET 9

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

APPROVALS

KEYNOTES:

1. GYPSUM BOARD - TEXTURE, PAINT
2. SMOOTH FACE CONCRETE MASONRY
3. CERAMIC TILE (13 / AX5.1)
4. 6" RUBBER BASE TYPICAL, 4" @ CABINET TOE KICK
5. CERAMIC TILE BASE
6. DOOR / WINDOW PER PLAN
7. SIGNAGE - SEE SIGNAGE PLAN
8. ACCESSIBLE STAINLESS STEEL WORK STATION
9. ACCESSIBLE STAINLESS STEEL SINK - PER PLUMBING DRAWINGS
10. MOP SERVICE BASIN w/ STAINLESS STEEL WALL GUARD - SEE PLUMBING DRAWINGS
11. BROOM / MOP RACK - VERIFY MOUNTING HEIGHT - SEE SPECIFICATIONS
12. ACCESSIBLE WATER CLOSET - PER PLUMBING DRAWINGS
13. ACCESSIBLE URINAL - PER PLUMBING DRAWINGS
14. ACCESSIBLE LAVATORY - PER PLUMBING DRAWINGS
15. GRAB BARS - FOR ANCHORAGE SEE (E / AX5.1)
16. MIRROR w/ STAINLESS STEEL FRAME - SEE SPECIFICATIONS (9 / AX5.1)
17. SOAP DISPENSER - SEE SPECIFICATIONS
18. SEMI-RECESSED TOILET PAPER HOLDER - SEE SPECIFICATIONS
19. TYP HEAVY DUTY TOILET PARTITION, HEAD RAIL BRACES - FOR ANCHORAGE SEE (20 / AX5.2)
20. HAND DRYER (MAX 4" PROJECTION) - SEE SPECIFICATIONS
21. RECESSED FEMININE NAPKIN DISPOSAL - SEE SPECIFICATIONS
22. RECESSED TOILET SEAT COVER DISPENSER - SEE SPECIFICATIONS
23. WATER HEATER ON SHELF - SEE PLUMBING DRAWINGS
24. 6" CONCRETE CURB - FINISH CONCRETE SMOOTH
25. HVAC DUCTWORK - SEE MECHANICAL DRAWINGS
26. TUBULAR SKYLIGHT PER PLAN
27. 12"Ø WALL CLOCK - SEE SPECIFICATIONS
28. 4' x 8' x 3/4" PLYWOOD, PAINT
29. ELECTRICAL PANELS - SEE ELECTRICAL DRAWINGS
30. COMMUNICATIONS EQUIPMENT - SEE COMMUNICATIONS DRAWINGS
31. CONTROL PANEL - BBU UNIT (MUSCO)
32. ALUMINUM ROOF ACCESS SHIP'S LADDER - SEE SPECIFICATIONS (10 / AX5.1)
33. STAINLESS STEEL CORNER / WALL CAP / END WALL GUARD
34. STAINLESS STEEL SHELVES - SEE SPECIFICATIONS
35. STAINLESS STEEL COUNTER - SEE SPECIFICATIONS
36. NOT USED
37. STAINLESS STEEL SINK - SEE SPECIFICATIONS
38. COILING DOOR / WINDOW HOUSING
39. ROOF FRAMING - PAINT

NOTES:

1. FOR ALL EQUIPMENT ITEMS (8) - SEE EQUIPMENT SCHEDULE.
2. FOR ACCESSIBLE FIXTURE MOUNTING HEIGHTS SEE SHEET (B / AX5.1) (K / AX5.1)
3. WALL AND CEILING FINISHES SHALL MEET CLASS C, FLAME SPREAD RATING NOT TO EXCEED 200 AND SMOKE DENSITY NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH CBC CHAPTER 8.
4. REFRIGERATOR / FREEZER COMBO REQUIRED TO BE "SIDE BY SIDE" OR OVER-UNDER w/ 50% OF FREEZER SPACE BELOW 54", DOOR OF REFRIGERATOR SPACE AND CONTROLS BELOW 54" AND SHALL BE SELF-DEFROSTING.
5. FOR EQUIPMENT ANCHORAGE SEE (12 / AX5.1)

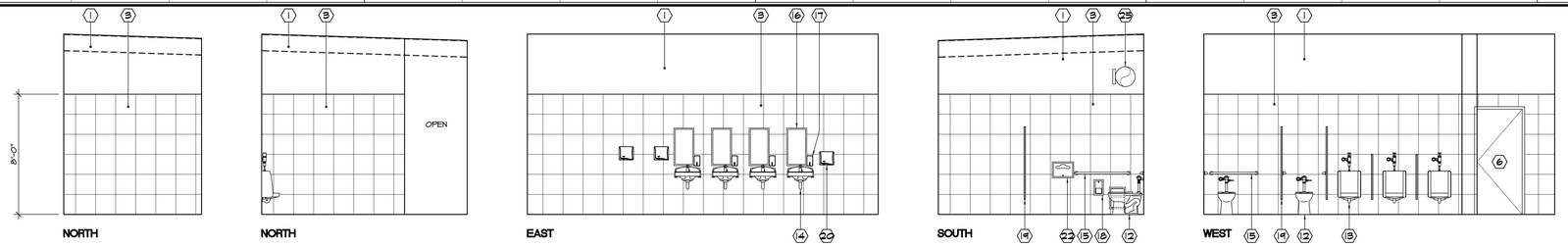
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
CONCESSION/RESTROOM BUILDING

Sheet Title
INTERIOR ELEVATIONS

LICENSED ARCHITECT JIMMIE SANDERS No. 17644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	A4.1



MEN'S TOILET (10)

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

APPROVALS

KEYNOTES:

1. GYPSUM BOARD - TEXTURE, PAINT
2. SMOOTH FACE CONCRETE MASONRY
3. CERAMIC TILE (13 / AX5.1)
4. 6" RUBBER BASE TYPICAL, 4" @ CABINET TOE KICK
5. CERAMIC TILE BASE
6. DOOR / WINDOW PER PLAN
7. SIGNAGE - SEE SIGNAGE PLAN
8. ACCESSIBLE STAINLESS STEEL WORK STATION
9. ACCESSIBLE STAINLESS STEEL SINK - PER PLUMBING DRAWINGS
10. MOP SERVICE BASIN w/ STAINLESS STEEL WALL GUARD - SEE PLUMBING DRAWINGS
11. BROOM / MOP RACK - VERIFY MOUNTING HEIGHT - SEE SPECIFICATIONS
12. ACCESSIBLE WATER CLOSET - PER PLUMBING DRAWINGS
13. ACCESSIBLE URINAL - PER PLUMBING DRAWINGS
14. ACCESSIBLE LAVATORY - PER PLUMBING DRAWINGS
15. GRAB BARS - FOR ANCHORAGE SEE (E / AX5.1)
16. MIRROR w/ STAINLESS STEEL FRAME - SEE SPECIFICATIONS (9 / AX5.1)
17. SOAP DISPENSER - SEE SPECIFICATIONS
18. SEMI-RECESSED TOILET PAPER HOLDER - SEE SPECIFICATIONS
19. TYP HEAVY DUTY TOILET PARTITION, HEAD RAIL BRACES - FOR ANCHORAGE SEE (20 / AX5.1)
20. HAND DRYER (MAX 4" PROJECTION) - SEE SPECIFICATIONS
21. RECESSED FEMININE NAPKIN DISPOSAL - SEE SPECIFICATIONS
22. RECESSED TOILET SEAT COVER DISPENSER - SEE SPECIFICATIONS
23. WATER HEATER ON SHELF - SEE PLUMBING DRAWINGS
24. 6" CONCRETE CURB - FINISH CONCRETE SMOOTH
25. HVAC DUCTWORK - SEE MECHANICAL DRAWINGS
26. TUBULAR SKYLIGHT PER PLAN
27. 12"Ø WALL CLOCK - SEE SPECIFICATIONS
28. 4' x 8' x 3/4" PLYWOOD, PAINT
29. ELECTRICAL PANELS - SEE ELECTRICAL DRAWINGS
30. COMMUNICATIONS EQUIPMENT - SEE COMMUNICATIONS DRAWINGS
31. CONTROL PANEL - BBU UNIT (MUSCO)
32. ROOF ACCESS LADDER - SEE SPECIFICATIONS
33. STAINLESS STEEL CORNER / WALL CAP / END WALL GUARD
34. STAINLESS STEEL SHELVES - SEE SPECIFICATIONS
35. STAINLESS STEEL COUNTER - SEE SPECIFICATIONS
36. NOT USED
37. STAINLESS STEEL SINK - SEE SPECIFICATIONS
38. COILING DOOR / WINDOW HOUSING
39. ROOF FRAMING - PAINT

NOTES:

1. FOR ALL EQUIPMENT ITEMS (E) - SEE EQUIPMENT SCHEDULE
2. FOR ACCESSIBLE FIXTURE MOUNTING HEIGHTS SEE SHEET (B / AX5.1) (K / AX5.1)
3. WALL AND CEILING FINISHES SHALL MEET CLASS C, FLAME SPREAD RATING NOT TO EXCEED 200 AND SMOKE DENSITY NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH CBC CHAPTER 8.
4. REFRIGERATOR / FREEZER COMBO REQUIRED TO BE "SIDE BY SIDE" OR OVER-UNDER w/ 50% OF FREEZER SPACE BELOW 54", 100% OF REFRIGERATOR SPACE AND CONTROLS BELOW 54" AND SHALL BE SELF-DEFROSTING.
5. FOR EQUIPMENT ANCHORAGE SEE (12 / AX5.1)

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
CONCESSION/RESTROOM BUILDING

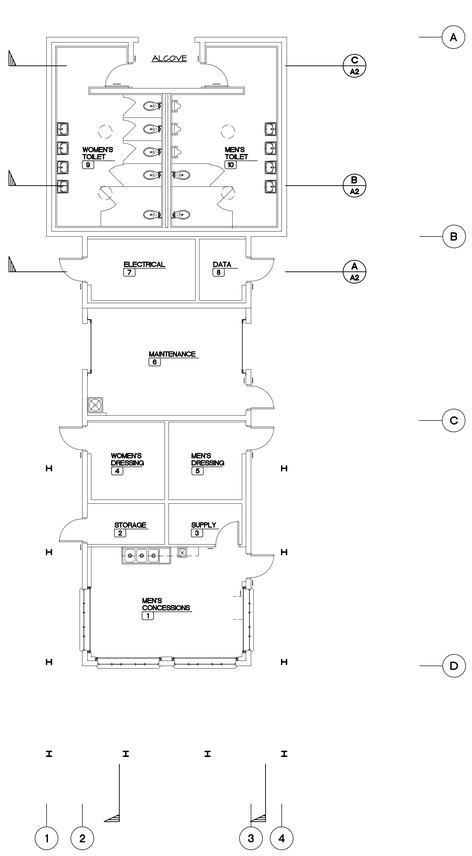
Sheet Title
INTERIOR ELEVATIONS

LICENSED ARCHITECT JIMMIE D. SANDERS No. 7644 RENEWAL 08/31/23 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	A4.2

NOTES:

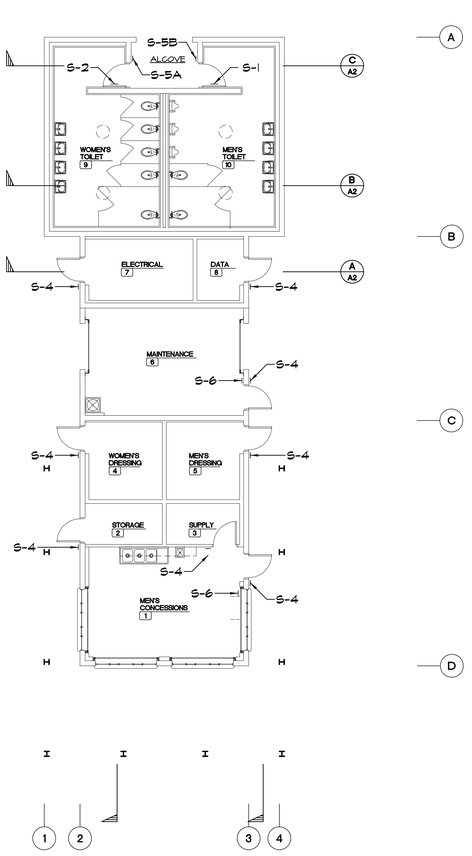
1. ALL FLOORS TO BE SEALED CONCRETE.



FLOORING PLAN — SCALE: 1/8" = 1'-0" — A

NOTES:

1. FOR SIGN TYPES SEE A AX3.1



SIGNAGE PLAN — SCALE: 1/8" = 1'-0" — B

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
FLOORING AND SIGNAGE PLANS

LICENSED ARCHITECT
JIMMIE L. SANDERS
No. C-7644
RENEWAL 08-31-23
STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	A5

ROOM FINISH SCHEDULE

BUILDING	RM NO	NAME	FLOOR	BASE		WALLS				WAINSCOT		CEILING		CABINETRY		REMARKS
				HT	MATERIAL	NORTH	EAST	SOUTH	WEST	HT	MATERIAL	HT	MATERIAL	HT	MATERIAL	
BUILDING	1	CONCESSIONS	SEALED CONCRETE	6"	RUBBER/SEAL CONCRETE	GYP BD, PAINT/CERAMIC TILE	GYP BD, PAINT	GYP BD, PAINT	GYP BD, PAINT	N/A	N/A	OPEN	N/A	N/A	STAINLESS STEEL	
	2	STORAGE	SEALED CONCRETE	6"	RUBBER/SEAL CONCRETE	GYP BD, PAINT	GYP BD, PAINT	GYP BD, PAINT	MASONRY	N/A	N/A	OPEN	N/A	N/A	N/A	
	3	SUPPLY	SEALED CONCRETE	6"	RUBBER/SEAL CONCRETE	GYP BD, PAINT	GYP BD, PAINT	GYP BD, PAINT	GYP BD, PAINT	N/A	N/A	OPEN	N/A	N/A	STAINLESS STEEL	
	4	WOMEN'S DRESSING	SEALED CONCRETE	6"	RUBBER/SEAL CONCRETE	GYP BD, PAINT	GYP BD, PAINT	GYP BD, PAINT	GYP BD, MASONRY	N/A	N/A	OPEN	N/A	N/A	N/A	
	5	MEN'S DRESSING	SEALED CONCRETE	6"	RUBBER/SEAL CONCRETE	GYP BD, PAINT	GYP BD, MASONRY	GYP BD, PAINT	GYP BD, PAINT	N/A	N/A	OPEN	N/A	N/A	N/A	
	6	MAINTENANCE	SEALED CONCRETE	6"	RUBBER/SEAL CONCRETE	MASONRY	MASONRY	GYP BD, MASONRY	MASONRY	N/A	N/A	OPEN	N/A	N/A	N/A	
	7	ELECTRICAL	SEALED CONCRETE	6"	RUBBER/SEAL CONCRETE	GYP BD, PAINT	GYP BD, PAINT	GYP BD, PAINT	GYP BD, PAINT	N/A	N/A	OPEN	N/A	N/A	N/A	
	8	DATA	SEALED CONCRETE	6"	RUBBER/SEAL CONCRETE	GYP BD, PAINT	GYP BD, MASONRY	GYP BD, PAINT	GYP BD, PAINT	N/A	N/A	OPEN	N/A	N/A	N/A	
	9	WOMEN'S TOILET	SEALED CONCRETE	N/A	N/A	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	N/A	N/A	OPEN	N/A	N/A	N/A	
	10	MEN'S TOILET	SEALED CONCRETE	N/A	N/A	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	N/A	N/A	OPEN	N/A	N/A	N/A	

DOOR SCHEDULE

BUILDING	NO	TYPE	DOOR				FRAME	HARDWARE HEADING	SECURITY LOCK REQUIRED	FIRE RATING	GLAZING		FRAME DETAILS - SHEET AX14 UNO				REMARKS
			SIZE	THICKNESS	CORE	MATERIAL					TYPE	LOW-E / TINT	JAMB	SILL	HEAD	MULLION	
BUILDING	1	S-1	3'-0" x 7'-0"	1 3/4"-16 GA	POLYURETHANE	STEEL	MTL-16 GA	1	N	NR	N/A	N/A	1	14	1	N/A	
	2	S-1	3'-0" x 7'-0"	1 3/4"-16 GA	POLYURETHANE	STEEL	MTL-16 GA	1	N	NR	N/A	N/A	1	14	1	N/A	
	3	S-1	3'-0" x 7'-0"	1 3/4"-16 GA	POLYURETHANE	STEEL	MTL-16 GA	1	N	NR	N/A	N/A	1	14	1	N/A	
	4	R-2	6'-0" x 8'-0"	18 GA	N/A	STEEL	STEEL	N/A	N	NR	N/A	N/A	23	N/A	23	N/A	MOTORIZED COILING DOOR, CONTROLS 48" MAX AFF
	5	S-1	3'-0" x 7'-0"	1 3/4"-16 GA	POLYURETHANE	STEEL	MTL-16 GA	2	N	NR	N/A	N/A	1	14	1	N/A	
	6	S-1	3'-0" x 7'-0"	1 3/4"-16 GA	POLYURETHANE	STEEL	MTL-16 GA	1	N	NR	N/A	N/A	1	14	1	N/A	
	7	S-1	3'-0" x 7'-0"	1 3/4"-16 GA	POLYURETHANE	STEEL	MTL-16 GA	2	N	NR	N/A	N/A	1	14	1	N/A	
	8	S-1	3'-0" x 7'-0"	1 3/4"-16 GA	POLYURETHANE	STEEL	MTL-16 GA	1	N	NR	N/A	N/A	1	14	1	N/A	
	9	R-2	6'-0" x 8'-0"	18 GA	N/A	STEEL	STEEL	N/A	N	NR	N/A	N/A	23	N/A	23	N/A	MOTORIZED COILING DOOR, CONTROLS 48" MAX AFF
	10	S-1	3'-0" x 7'-0"	1 3/4"-16 GA	POLYURETHANE	STEEL	MTL-16 GA	1	N	NR	N/A	N/A	1	14	1	N/A	
	11	S-1	3'-0" x 7'-0"	1 3/4"-16 GA	POLYURETHANE	STEEL	MTL-16 GA	1	N	NR	N/A	N/A	1	14	1	N/A	
	12	S-2	3'-0" x 7'-0"	1 3/4"-16 GA	POLYURETHANE	STEEL	MTL-16 GA	3	N	NR	N/A	N/A	3	14	3	N/A	

WINDOW SCHEDULE

BUILDING	NO.	TYPE	WINDOW			FRAME	TYPE	FIRE RATING	FRAME DETAILS - SHEET AX14 UNO				REMARKS
			SIZE	TYPE	LOW-E/ TINT				JAMB	SILL	HEAD	MULLION	
BLDG	1	B & C	8'-0" x 4'-6"	1/4" LAMINATED	SOLARBAN 70XL/BRZ	ALUMINUM	FIXED/SLIDE	NR	7, 22, 23	7, 22, 23	7, 22, 23	13 (SIM)	MOTORIZED COILING SHUTTER, CONTROLS 48" MAX AFF
	2	B & C	8'-0" x 4'-6"	1/4" LAMINATED	SOLARBAN 70XL/BRZ	ALUMINUM	FIXED/SLIDE	NR	7, 22, 23	7, 22, 23	7, 22, 23	13 (SIM)	MOTORIZED COILING SHUTTER, CONTROLS 48" MAX AFF
	3	B & C	8'-0" x 4'-6"	1/4" LAMINATED	SOLARBAN 70XL/BRZ	ALUMINUM	FIXED/SLIDE	NR	7, 22, 23	7, 22, 23	7, 22, 23	13 (SIM)	MOTORIZED COILING SHUTTER, CONTROLS 48" MAX AFF
	4	B & C	8'-0" x 4'-6"	1/4" LAMINATED	SOLARBAN 70XL/BRZ	ALUMINUM	FIXED/SLIDE	NR	7, 22, 23	7, 22, 23	7, 22, 23	13 (SIM)	MOTORIZED COILING SHUTTER, CONTROLS 48" MAX AFF
	5-8	F	21" DIA	INSULATED	SOLARBAN 70XL/BRZ	MTL-16 GA	FIXED	NR	N/A	N/A	N/A	N/A	SEE DETAIL 16/AX1.4

EQUIPMENT SCHEDULE:

ITEM	DESCRIPTION	QTY	SIZE			ELECTRICAL						PLUMBING AND MECHANICAL											CLASSIFICATION (SEE NOTES)	ANCHORAGE DETAIL	REMARKS
			WIDTH	DEPTH	HEIGHT	VOLTS	PHASE	KW	HP	AMPS	CONNECTION	WATER		DRAIN	GAS						AIR	EXH			
												COLD	HOT												
1	FIRE EXTINGUISHER	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	M/AX3.1	4" MAX PROJECTION FROM WALL FINISH (INCLUDING HANDLE)
2	REFRIGERATOR / FREEZER COMBO	1	-	-	-	120	1	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	O		
3	STAINLESS STEEL CART	2	54"	24"	36"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C		
4	STEEL STATIONARY SHELVING	3	VARIES	18"	72"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	17/AX5.1	SIZE TO FIT PER PLAN

APPROVALS

ROOM FINISH SCHEDULE NOTES:

1. ALL OUTSIDE GYP-BRD CORNERS @ WALLS AND SOFFITS SHALL BE FINISHED WITH "BULLNOSE" PAPER FACED METAL CORNER BEAD.
2. GYPSUM BOARD FINISH AT WALLS AND CEILINGS TEXTURED "LIGHT SKIP TROWEL". PROVIDE SAMPLE FOR APPROVAL.
3. ALL INTERIOR FINISHES SHALL COMPLY W/ CBC CHAPTER 8, CFC CHAPTER 8, AND CCR TITLE 19, 3.08 AND 3.21.
4. SLIP RESISTANT TILE: SLIP RESISTANT TILE SHALL HAVE SUFFICIENT ABRASIVES ADDED SUCH THAT THE STATIC COEFFICIENT OF FRICTION WET OR DRY, SHALL BE NOT LESS THAN 0.6 FOR WALKING SURFACES AND 0.8 FOR RAMPS WHEN TESTED IN ACCORDANCE W/ ASTM DESIGNATION: C 1028.
5. ALL ONE HOUR RATED CEILINGS AND WALLS SHALL BE AS PER C.B.C. TABLE 720.1, 14-1.3.
6. ALL INTERIOR FINISHES SHALL BE OF MAX FLAME SPREAD CLASS II W/ AN INDEX OF 26-75.
7. SEE SHEET (AH / AX1.4) FOR FLOORING TRANSITION DETAIL

DOOR SCHEDULE NOTES:

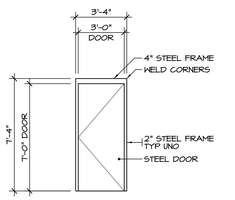
1. FOR DOOR TYPES SEE (A / AX1) (B / AX1)
2. SEE (A / AX3.1) (F / AX3.1) FOR SIGNAGE.
3. ALL DOOR THRESHOLD SHALL COMPLY W/ (14 / AX1.4)
4. FOR LIGHTED EXIT SIGNS SEE ELECTRICAL DRAWINGS.
5. TACTILE SIGNAGE AT EXIT DOORS MUST READ "EXIT" AND "EXIT ROUTE" AT DOORS LEADING TO EXIT DOORS.
6. MINIMUM FRAME LAP AT GLAZING IS 1/4" AND MINIMUM GLASS EDGE CLEARANCE IS 1/8"
7. EACH GLAZING LIGHT SHALL BEAR THE MANUFACTURE'S LABEL DESIGNATING THE TYPE AND THICKNESS OF GLASS. WHEN APPROVED BY THE ENFORCING AGENCY, LABELS MAY BE OMITTED FROM OTHER THAN SAFETY GLAZING MATERIALS, PROVIDED AN AFFIDAVIT IS FURNISHED BY THE GLAZING CONTRACTOR CERTIFYING THAT EACH LIGHT IS GLAZED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS.
8. EACH LIGHT OF SAFETY GLAZING MATERIAL SHALL BE IDENTIFIED BY A PERMANENT LABEL THAT SPECIFIES THE LABELER, WHETHER THE MANUFACTURE OR INSTALLER, AND STATE THAT SAFETY GLAZING MATERIAL HAS BEEN UTILIZED IN SUCH INSTALLATION AND SHALL SPECIFY THAT THE LABEL SHALL NOT BE REMOVED. THE IDENTIFICATION SHALL BE ETCHED OR CERAMIC FIRED ON THE GLASS AND READABLE FROM THE INSIDE OF THE BLD'G AFTER INSTALLATION.
9. GLAZING AT EXTERIOR DOOR SHALL BE MOUNTED ON EXTERIOR SIDE OF JAMBS.
10. MAXIMUM EFFORT TO OPERATE DOOR SHALL NOT EXCEED 5lbs. (22 N) PER (CBC 1008.1.2).
11. ALL EXIT DOORS SHALL OPERABLE FROM INSIDE W/O ANY SPECIAL KNOWLEDGE, EFFORT OR TOOLS
12. FOR HARDWARE HEADINGS SEE SPECIFICATIONS.

WINDOW SCHEDULE NOTES:

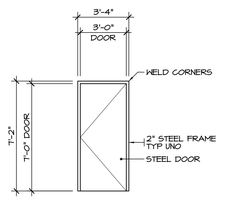
1. FOR WINDOW TYPES SEE (C / AX1)
2. MINIMUM FRAME LAP AT GLAZING IS 1/4" AND MINIMUM GLASS EDGE CLEARANCE IS 1/8"
3. EACH GLAZING LIGHT SHALL BEAR THE MANUFACTURE'S LABEL DESIGNATING THE TYPE AND THICKNESS OF GLASS. WHEN APPROVED BY THE ENFORCING AGENCY, LABELS MAY BE OMITTED FROM OTHER THAN SAFETY GLAZING MATERIALS, PROVIDED AN AFFIDAVIT IS FURNISHED BY THE GLAZING CONTRACTOR CERTIFYING THAT EACH LIGHT IS GLAZED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS.
4. EACH LIGHT OF SAFETY GLAZING MATERIAL SHALL BE IDENTIFIED BY A PERMANENT LABEL THAT SPECIFIES THE LABELER, WHETHER THE MANUFACTURE OR INSTALLER, AND STATE THAT SAFETY GLAZING MATERIAL HAS BEEN UTILIZED IN SUCH INSTALLATION AND SHALL SPECIFY THAT THE LABEL SHALL NOT BE REMOVED. THE IDENTIFICATION SHALL BE ETCHED OR CERAMIC FIRED ON THE GLASS AND READABLE FROM THE INSIDE OF THE BLD'G AFTER INSTALLATION.
5. GLAZING AT EXTERIOR WINDOW SHALL BE MOUNTED ON EXTERIOR SIDE OF JAMBS.
6. SKYLIGHTS SHALL BE INSTALLED IN ACCORDANCE W/ 2019 CBC SECTION 2610 AND 2405.
7. ALL FIRE RESISTIVE ASSEMBLIES FOR PROTECTION OF OPENINGS SHALL COMPLY WITH THE PROVISIONS OF CBC SECTION 716.

EQUIPMENT SCHEDULE NOTES:

1. EQUIPMENT CLASSIFICATIONS:
   B - OWNER FURNISHED, CONTRACTOR INSTALLED
   C - CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
   O - OWNER FURNISHED, OWNER INSTALLED
   R - OTHER
2. ITEMS NOT IN CONTRACT ARE NOT PART OF DSA APPROVAL.

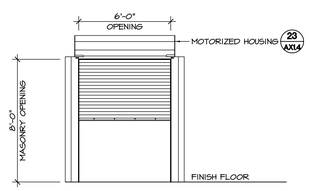


TYPE 'S-1' DOOR



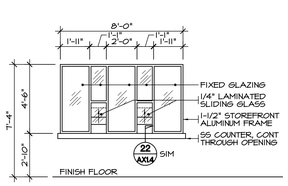
TYPE 'S-2' DOOR

STEEL FRAME DOOR TYPES — SCALE: 1/4" = 1'-0" — A

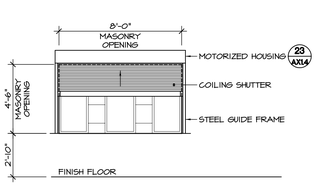


TYPE 'R-2' DOOR

ROLLING DOOR TYPES — SCALE: 1/4" = 1'-0" — B



TYPE 'B' WINDOW (EXTERIOR VIEW)



TYPE 'C' WINDOW (INTERIOR VIEW)

WINDOW TYPES — SCALE: 1/4" = 1'-0" — C

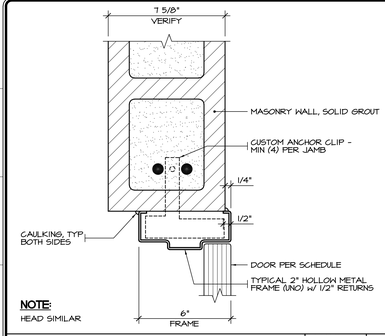
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
ROOM FINISH, DOOR SCHEDULES
WINDOW, EQUIPMENT SCHEDULES

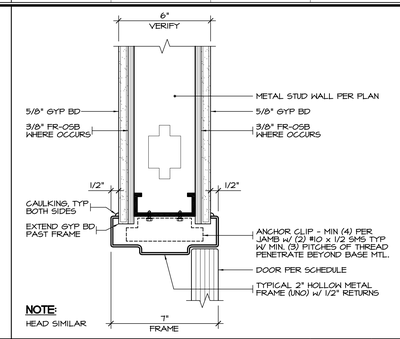
LICENSED ARCHITECT JIMMIE D. SANDERS 17644 RENEWAL DATE 8-31-23 STATE OF CALIFORNIA

Document Date	Project Number
03-01-22	22-091V
Date Last Revised	Sheet Number
	AX1.1



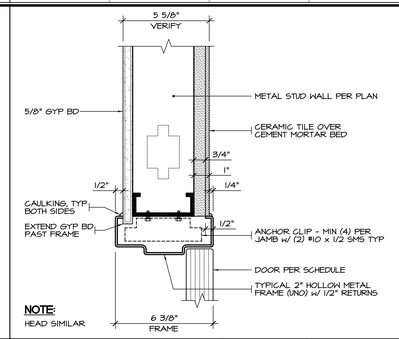
MASONRY DOOR JAMB

SCALE: 3" = 1'-0" | 1



INTERIOR METAL STUD

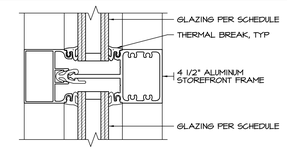
SCALE: 3" = 1'-0" | 3



INTERIOR METAL STUD w/ TILE JAMB

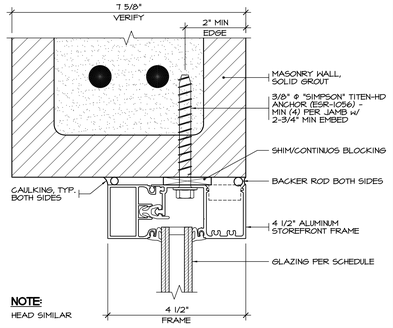
SCALE: 3" = 1'-0" | 4

APPROVALS



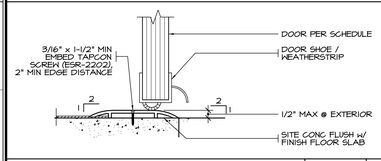
GLAZING

SCALE: 6" = 1'-0" | 13



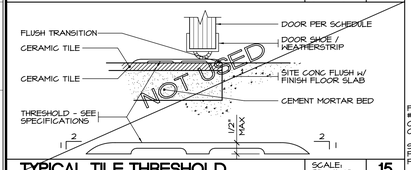
MASONRY WINDOW JAMB

SCALE: 6" = 1'-0" | 7



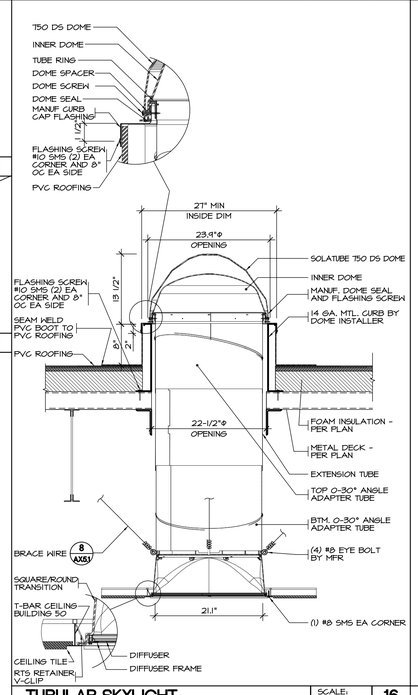
TYPICAL THRESHOLD

SCALE: 3" = 1'-0" | 14



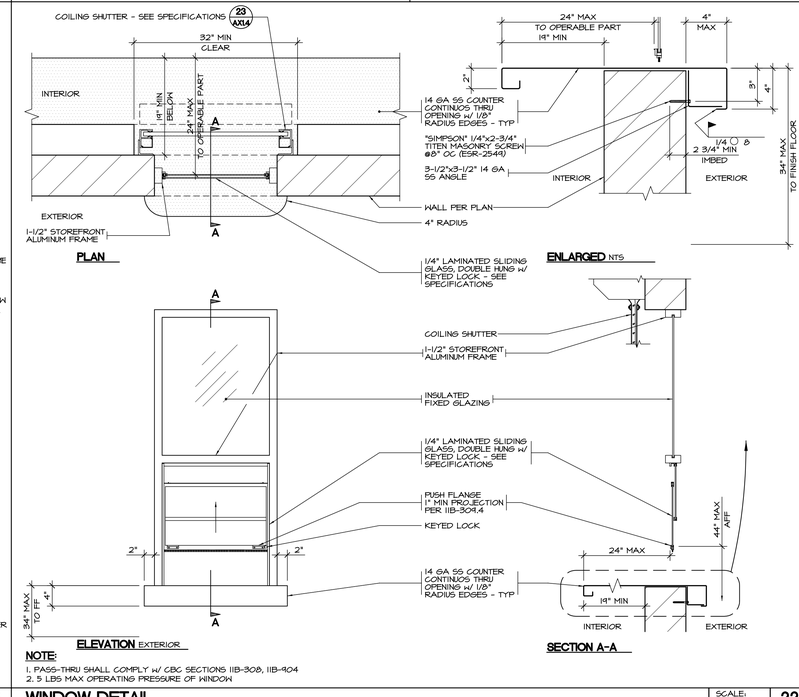
TYPICAL TILE THRESHOLD

SCALE: 3" = 1'-0" | 15



TUBULAR SKYLIGHT

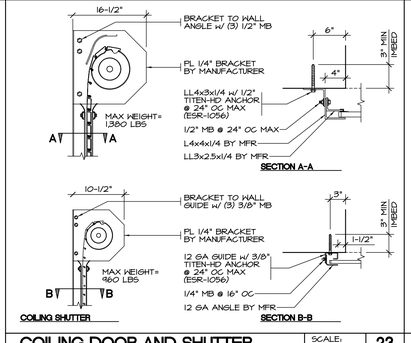
SCALE: NONE | 16



WINDOW DETAIL

SCALE: 1" = 1'-0" | 22

NOTE:
1. PASS-THRU SHALL COMPLY W/ CBC SECTIONS 11B-308, 11B-904
2. 5 LBS MAX OPERATING PRESSURE OF WINDOW



COILING DOOR AND SHUTTER

SCALE: NTS | 23

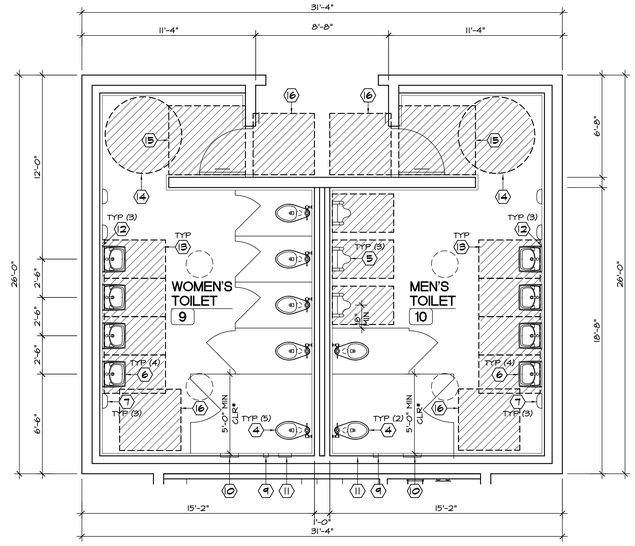
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
DOOR AND WINDOW DETAILS

LICENSED ARCHITECT
JIMMIE G. SANDERS
No. C-17644
RENEWAL 08.31.23
STATE OF CALIFORNIA

Document Date	Project Number
03-01-22	22-09IV
Date Last Revised	Sheet Number
	AX1.4



WOMEN'S TOILET / MEN'S TOILET 9 10

AGE RANGE: ADULT | SCALE: 1/4" = 1'-0" | A

APPROVALS

KEYNOTES:

1. 42" MIN GRAB BAR
2. 36" MIN GRAB BAR — PROVIDE BACKING (B/AX3.1 E/AX3.1)
3. RECESSED TOWEL DISPENSER / WASTE RECEPTACLE
4. ACCESSIBLE TOILET
5. ACCESSIBLE URINAL
6. ACCESSIBLE LAVATORY
7. HAND DRYER (4" MAX PROJECTION) - SEE INTERIOR ELEVATIONS
8. FLOOR DRAIN, 2% MAX SLOPE TO DRAIN, 1/4" MAX OPENINGS - SEE PLUMBING DRAWINGS
9. RECESSED TISSUE DISPENSER
10. RECESSED TOILET SEAT COVER DISPENSER
11. RECESSED FEMININE NAPKIN DISPOSAL
12. MIRROR - SEE INTERIOR ELEVATIONS
13. 30" x 48" CLEAR FLOOR SPACE
14. 60" DIAMETER CLEAR FLOOR SPACE
15. 60" x 54" CLEAR FLOOR SPACE (2% MAX SLOPE IN ALL DIRECTIONS)
16. 48" x 48" CLEAR FLOOR SPACE (2% MAX SLOPE IN ALL DIRECTIONS)

NOTES:

1. SEE (B/AX3.1) FOR ALL FIXTURE MOUNTING HEIGHTS.
2. FOR WALL TYPES AND FURRING SEE ARCHITECTURAL FLOOR PLANS.
3. DIMENSION WITH * INDICATES CLEAR TO FACE OF FINISH.
4. SEE (G/A4.1 A/A4.2) FOR INTERIOR ELEVATIONS.

ALTERNATE DIMENSIONS:

	ADULT			AGES 9-12	2016 CBC REFERENCE
TOILET OFFSET	17"-18"			15"-18"	T 11B-604.9, 5 11B-604.2
TOILET SEAT HEIGHT	17"-19"			15"-17"	T 11B-604.9, 5 11B-604.4
TOP OF GRAB BAR GRIPPING SURFACE	33"-36"			25"-27"	T 11B-604.9, 5 11B-604.2
T.P. DISPENSER OUTLET (AFF TO CTR OF OUTLET)	19" MIN			17"-19"	T 11B-604.9, 5 11B-604.7
FURTHEST TP DISPENSER IN FRONT OF WC	7"-9" TO CENTERLINE			7"-9" TO CENTERLINE	5 11B-604.7
LAVA/SINK RIM HT	34" MAX			31" MAX	5 11B-606.2, 5 11B-606.3
LAVA/SINK KNEE CLEARANCE	27" MIN (28" AT APRON FOR LAVATORY)			24" MIN	5 11B-606.2, F 11B-306.3
URINAL HEIGHT	17" MAX			17" MAX	5 11B-605.2
URINAL PROJECTION	13-1/2" MIN			13-1/2" MIN	5 11B-605.2
URINAL FLUSH CONTROL HEIGHT	44" MAX			44" MAX	5 11B-605.4
HIGH DF SPOUT HT	36"-43"			36"-43"	5 11B-602.7
LOW DF: APPROACH, KNEE HT, AND SPOUT LOCATION FROM FRONT EDGE OF THE UNIT, INCLUDING BUMPERS	FRONT APPROACH PER 11B-306 36" MAX. AFF & 9" MAX FROM FRONT EDGE OF UNIT			PARALLEL APPROACH IS PERMITTED IF SPOUT IS 30" MAX AFF & 3-1/2" MAX FROM FRONT EDGE OF UNIT	5 11B-602.2 EXCEPTION 5 11B-602.4, 5 11B-602.5
DF OPERABLE PARTS	6" MAX FROM FRONT EDGE OF UNIT			6" MAX FROM FRONT EDGE OF UNIT	5 11B-602.3
CANTILEVER DF PROJECTION	18"-19"			18"-19"	5 11B-602.5
TOE CLEARANCE AT TOILET PARTITION	9" MIN			12" MIN	5 11B-604.8.1.4
SHELF HEIGHT	40"-48"			40"-48"	5 11B-604.8.3
ACCESSORIES	40" MAX			40" MAX	5 11B-603.5
MIRROR HEIGHT (BOTTOM OF EDGE OF REFLECTING SURFACE	40" MAX (ABOVE LAV NOR COUNTER) TOP 35" MAX (NOT ABOVE LAV NOR COUNTERTOP			40" MAX (ABOVE LAV NOR COUNTER) TOP 35" MAX (NOT ABOVE LAV NOR COUNTERTOP	5 11B-603.3
MIRROR HT (BOTTOM EDGE OF REFLECTING SURFACE) IN DRESSING, FITTING & LOCKER RMS	20" MAX			20" MAX	5 11B-803.6

NOTE: ALL HEIGHT DIMENSIONS ARE AFF (OF AFG FOR EXTERIOR). ALL HORIZONTAL DIMENSIONS ARE TO FACE-OF-FINISH

RESTROOMS:

ROOM NUMBER	ROOM NAME	AGES	COMMENTS
9	WOMEN'S TOILET	ADULT	
10	MEN'S TOILET	ADULT	

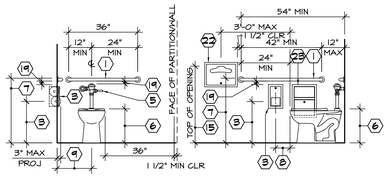
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

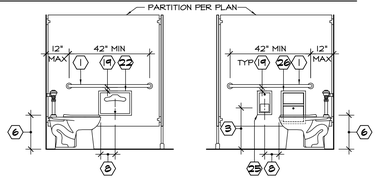
Sheet Title
ENLARGED FLOOR PLANS

LICENSED ARCHITECT — JIMMIE D. SANDERS — No. 17644 — RENEWAL DATE 8-31-23 — STATE OF CALIFORNIA

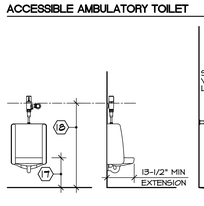
Document Date: 03-01-22
Date Last Revised:
Project Number: 22-09IV
Sheet Number: AX2.1



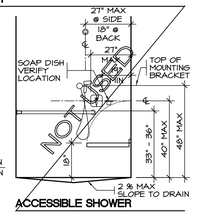
ACCESSIBLE TOILET



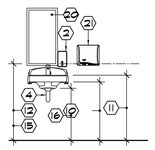
ACCESSIBLE AMBULATORY TOILET



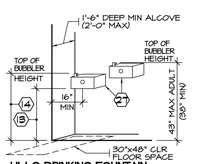
ACCESSIBLE URINAL



ACCESSIBLE SHOWER



ACCESSIBLE LAVATORY / MIRROR



HI-LO DRINKING FOUNTAIN

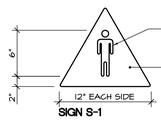
KEYNOTES:

1. GRAB BAR (E/AX3.1)
2. SOAP DISPENSER
3. RECESSED TISSUE DISPENSER (CONTRACTOR TO PROVIDE RECESS) 3" MAX PROJECTION FROM WALL (J/AX3.1)
4. INSULATE TRAP AND SUPPLY WATER PIPING, NO SHARP OR ABRASIVE EDGES
5. HANDLE ON WIDE SIDE OF TOILET STALL
6. - 15"-17" (AGES 4-12 TOILET SEAT)
   - 17"-19" (ADULT TOILET SEAT)
7. - 18-27" (AGES 3-12 GRAB BAR)
   - 33"-36" (ADULT GRAB BAR)
8. - 1" MIN - 9" MAX
9. - 15"-18" (AGES 4-12 TOILET)
   - 17"-18" (ADULT TOILET)
10. - 26" MIN (AGES 6-12 LAVATORY)
    - 24" MIN (ADULT LAVATORY)
11. - 31" MAX (AGES 6-12 LAVATORY)
    - 34" MAX (ADULT LAVATORY)
12. (TO BOTTOM OF REFLECTIVE SURFACE)
    35" MAX AT MIRROR NOT ABOVE A LAVATORY NOR A COUNTERTOP
    - 37" MAX (AGES 6-12 MIRROR)
    - 40" MAX (ADULT MIRROR)
13. DRINKING FOUNTAIN KNEE SPACE
    - 27" MIN (AGES 5-ADULT)
14. - 36" MAX (AGES 6-12 BUBBLER)
    - 36" MAX (ADULT BUBBLER)
15. - 31" MAX (AGES 6-12 DISPENSER)
    - 40" MAX (ADULT DISPENSER)
16. - 24" MIN (AGES 6-12 LAVATORY)
    - 27" MIN (ADULT LAVATORY)
17. - 17" MAX AT URINALS
18. - 44" MAX AT URINALS
19. 1-1/2" MIN CLR TO THE TANGENT POINT OF GRAB BAR
20. 16" x 30" MIRROR W/ 5S FRAME
21. HAND DRYER - 4" MAX PROJECTION
22. TOILET SEAT COVER DISPENSER
23. SEMI-RECESSED FEMININE NAPKIN DISPOSAL - SAME HEIGHT AS TOILET SEAT, 3" MAX PROJECTION, AND 14" MIN AFF TO BOTTOM OF OPENING
24. RECESSED TOWEL DISPENSER / WASTE RECEPTACLE
25. TISSUE DISPENSER - SURFACE MOUNTED
26. FEMININE NAPKIN DISPOSAL - SURFACE MOUNTED
27. HI-LO DRINKING FOUNTAIN NOTES:
    1. CONTROLS TO BE LOCATED WITHIN 6" OF FRONT OF DRINKING FOUNTAIN
    2. SPOUT IS LOCATED WITHIN 5" OF FRONT OF DRINKING FOUNTAIN & 15" MIN FROM FACE OF WALL
    3. ANGLE OF WATER STREAM SHALL BE MEASURED HORIZONTALLY RELATIVE TO THE FRONT FACE OF THE UNIT
    4. IF THE SPOUT IS LESS THAN 3" FROM FRONT OF THE DF THE ANGLE OF WATER STREAM SHALL BE 30° MAX
    5. IF THE SPOUT IS BETWEEN 3"-5", ANGLE OF STREAM SHALL BE 15° MAX
    6. SPOUT TO PROVIDE 4" MIN HIGH FLOW OF WATER
    7. CONTROLS TO BE OPERATED WITH 5LB MAX FORCE PER CBC 11B-309.4
    8. DRINKING FOUNTAINS TO BE 18" MIN - 19" MAX IN DEPTH

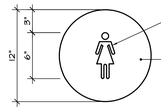
NOTE:

ALL TRAPS AND ALL SUPPLY WATER PIPING, WHETHER LOCATED AT LAVATORIES OR AT SINKS SET IN COUNTERS, TO BE INSULATED. NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.

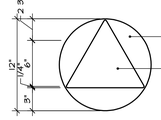
FIXTURE MOUNTING HEIGHTS | SCALE: 3/8" = 1'-0" | B



SIGN S-1



SIGN S-2



SIGN S-3

NOTES:

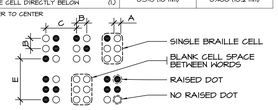
1. CHARACTER TYPE:
   CHARACTERS ON TACTILE SIGNS SHALL BE RAISED 1/32 INCH (0.794 MM) MINIMUM AND SHALL BE SANS SERIF UPPERCASE CHARACTERS ACCOMPANIED BY CONTRACTED (GRADE 2) BRAILLE (SEE NOTE 5 BELOW). (CBC 11B-703.2)
2. CHARACTER SIZE:
   RAISED CHARACTERS SHALL BE A MINIMUM OF 5/8 INCH (15.9 MM) AND A MAXIMUM OF 2 INCHES (51 MM) HIGH. (CBC 11B-703.2.5)
3. FINISH AND CONTRAST:
   CONTRAST BETWEEN CHARACTERS, SYMBOLS AND THEIR BACKGROUND MUST BE 70% MINIMUM AND HAVE A NON-GLARE FINISH. (CBC 11B-703.5.1)
4. PROPORTIONS:
   CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60% MIN AND 110% MAX OF THE HEIGHT OF THE UPPERCASE LETTER "I". (CBC 11B-703.2.4) STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 15% MAX OF THE HEIGHT OF THE CHARACTER. (CBC 11B-703.2.6)
5. BRAILLE:
   BRAILLE SHALL BE CONTRACTED (GRADE 2) AND SHALL COMPLY WITH SECTIONS 11B-703.3 AND 11B-703.4.

   DIMENSIONS AND CAPITALIZATION: BRAILLE DOTS SHALL HAVE ROUNDED SHAPE AND SHALL COMPLY WITH TABLE 11B-703.3.1 THE INDICATION OF AN UPPERCASE LETTER OR LETTERS SHALL ONLY BE USED BEFORE THE FIRST WORD OF SENTENCES, PROPER NOUNS AND NAMES, INDIVIDUAL LETTERS OF THE ALPHABET, INITIALS, AND ACRONYMS.

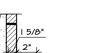
   POSITION: BRAILLE SHALL BE POSITIONED BELOW THE CORRESPONDING TEXT IN A HORIZONTAL ALIGNMENT FLUSH LEFT OR CENTERED. IF TEXT IS MULTI-LINED, BRAILLE SHALL BE PLACED BELOW THE ENTIRE TEXT. BRAILLE SHALL BE SEPARATED 3/8 INCH (9.5 mm) MINIMUM AND 1/2 INCH (12.7 mm) MAXIMUM FROM ANY OTHER TACTILE CHARACTERS AND 3/8 INCH (9.5 mm) MINIMUM FROM RAISED BORDERS AND DECORATIVE ELEMENTS.

KEYNOTE	MEASUREMENT RANGE	MINIMUM IN INCHES	MINIMUM IN INCHES
A	DOT BASE DIAMETER	0.059 (1.5 mm)	0.063 (1.6 mm)
B	DISTANCE BETWEEN TWO DOTS IN THE SAME CELL	0.100 (2.5 mm)	N/A
C	DISTANCE BETWEEN CORRESPONDING DOTS IN ADJACENT CELLS (1.)	0.300 (7.6 mm)	N/A
D	DOT HEIGHT	0.025 (0.6 mm)	0.037 (0.9 mm)
E	DISTANCE BETWEEN CORRESPONDING DOTS FROM ONE CELL DIRECTLY BELOW (1.)	0.395 (10 mm)	0.400 (10.2 mm)

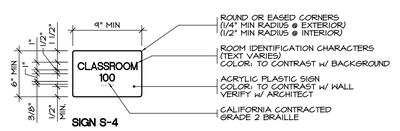
(1.) MEASURED CENTER TO CENTER



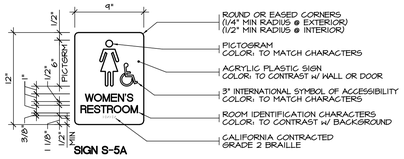
6. MOUNTING LOCATIONS:
   FOR ALL MOUNTING LOCATIONS SEE DETAIL (F/AX3.1)
7. ALL INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) PROPORTIONS SHALL MATCH CBC FIGURE 11B-703.7.2.1.
8. EDGES AND VERTICES ON GEOMETRIC SYMBOLS:
   EDGES SHALL BE EASED OR ROUNDED AT 1/16 INCH MIN, OR CHAMFERED AT 1/8 INCH MAX. VERTICES SHALL BE RADIUSED BETWEEN 1/8 INCH MIN AND 1/4 INCH MAX (CBC 11B-703.7.2.6.4) AND SHALL COMPLY WITH CBC FIGURE 11B-703.7.2.6.4.



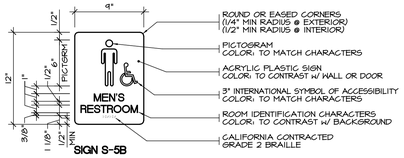
ACCESSIBILITY SIGNAGE | SCALE: | A



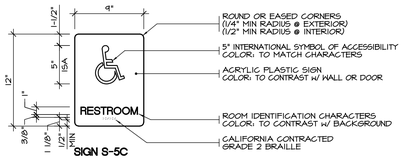
SIGN S-4



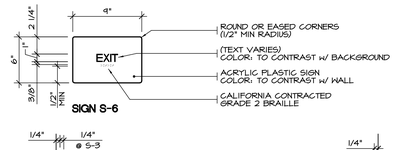
SIGN S-5A



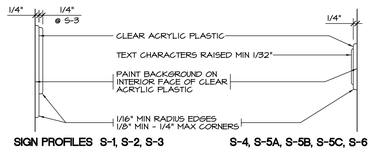
SIGN S-5B



SIGN S-5C



SIGN S-6

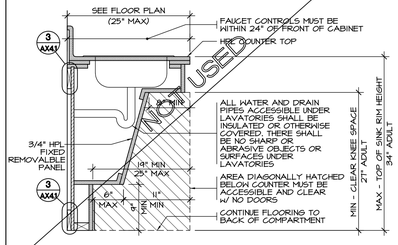


SIGN PROFILES S-1, S-2, S-3 S-4, S-5A, S-5B, S-5C, S-6

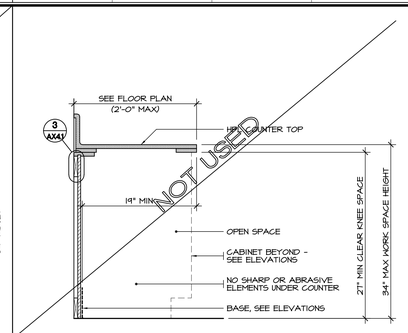
SCALE: | A

NOTE:

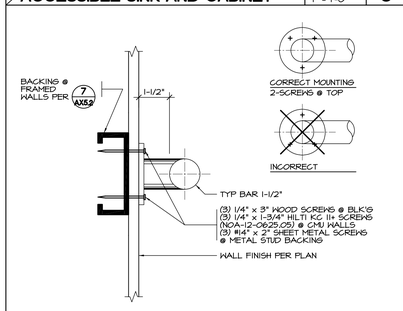
1. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO MORE THAN 5 lbs. LEVER OPERATED PUSH TYPE AND ELECTRONICALLY CONTROLLED MECHANISMS ARE ACCEPTABLE. SELF CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.



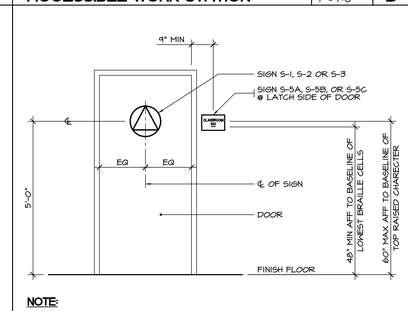
ACCESSIBLE SINK AND CABINET | SCALE: 1" = 1'-0" | C



ACCESSIBLE WORK STATION | SCALE: 1" = 1'-0" | D



GRAB BAR DETAIL | SCALE: 3/4" = 1'-0" | E



NOTE:

PROVIDE MECHANICAL MOUNTING WITH VANDAL RESISTANT FASTENERS. COMPLY WITH ARTICLES 430.B AA.30 OF THE ADAAG.

SIGN LOCATIONS / MOUNTING | SCALE: 1/2" = 1'-0" | F

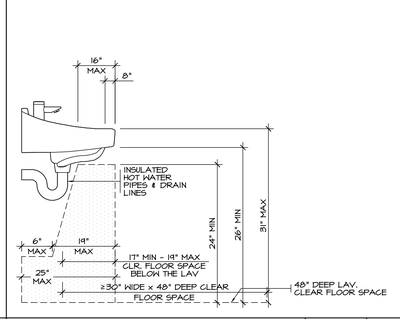
NOTES:

(X) - 19" MIN (ADULT)

RECESSED TISSUE DISPENSER | SCALE: NTS | J

SEMI-RECESSED FIRE EXTINGUISHER | SCALE: | M

ACCESSIBLE LAVATORY | SCALE: 1" = 1'-0" | N



SCALE: | H

SCALE: | K

APPROVALS

SCALE: | G

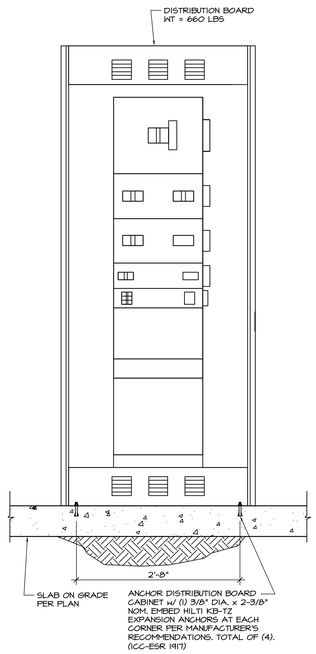
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
ACCESS COMPLIANCE DETAILS

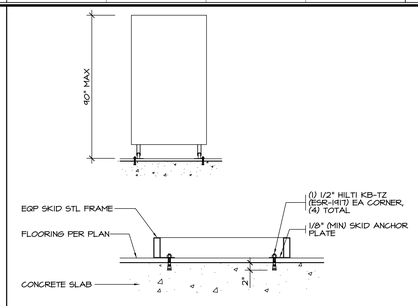
LICENSED ARCHITECT JIMMIE D. SANDERS No. 7644 RENEWAL 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	AX3.1



DISTRIBUTION BOARD ANCHORAGE

SCALE: NTS | 1



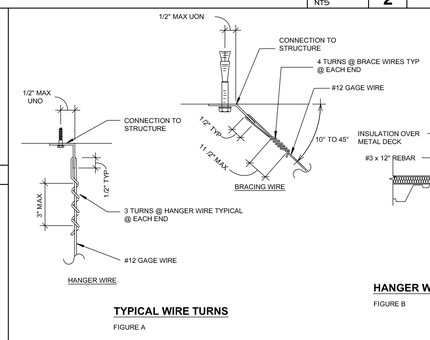
FLOOR MOUNTED EQUIPMENT ANCHORAGE

SCALE: NTS | 2

3 | 4 | 5

APPROVALS

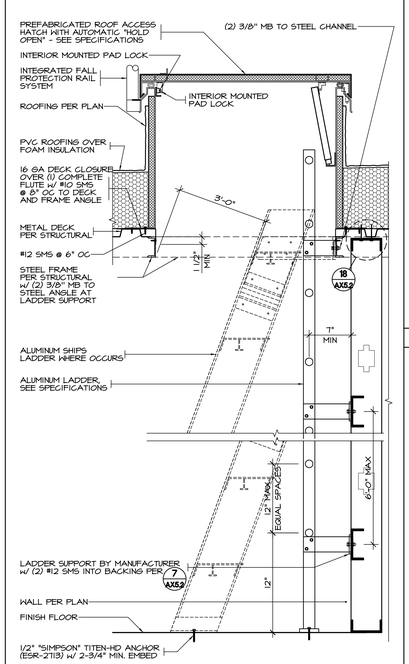
6 | 7



HANGER AND BRACING WIRE CONNECTIONS

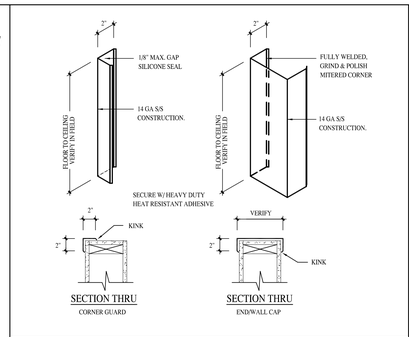
SCALE: NTS | 8

9



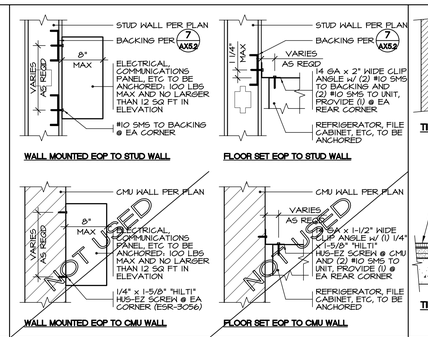
ROOF ACCESS HATCH / LADDER

EXEMPTION: CI | SCALE: 1 1/2" = 1'-0" | 10



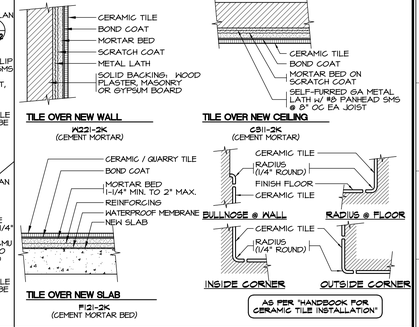
CORNER GUARD/END CAP/WALL CAP

SCALE: NTS | 11



EQUIPMENT ANCHORAGE

SCALE: NTS | 12



TYPICAL TILE

SCALE: 3" = 1'-0" | 13

INTERIOR CONCRETE CURB

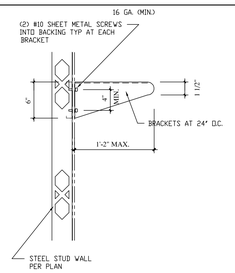
SCALE: 1 1/2" = 1'-0" | 14

SS SINK SECTION

SCALE: NTS | 15

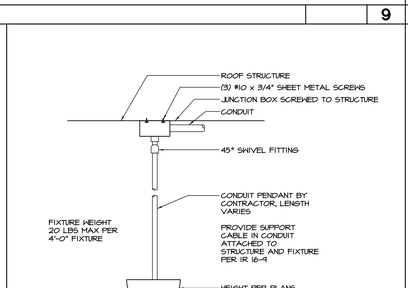
FOOT DETAILS

SCALE: NTS | 16



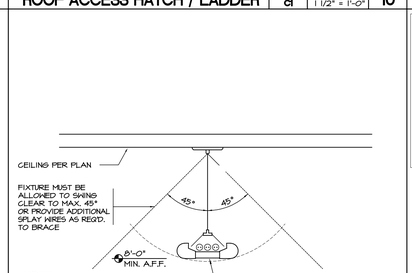
SS WALL SHELF

SCALE: NTS | 17



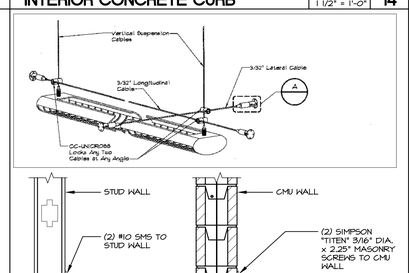
MOUNTING DETAIL

SCALE: NTS | 18



PENDANT LIGHT FIXTURE SWING

SCALE: NTS | 19



FIXTURE SEISMIC BRACING

SCALE: NTS | 20

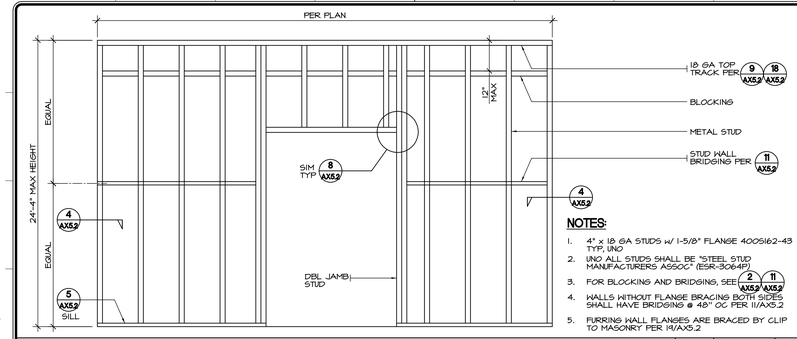
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
INTERIOR ARCHITECTURAL DETAILS

LICENSED ARCHITECT JIMMIE D. SANDERS No. C-17644 RENEWAL 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	AX5.1

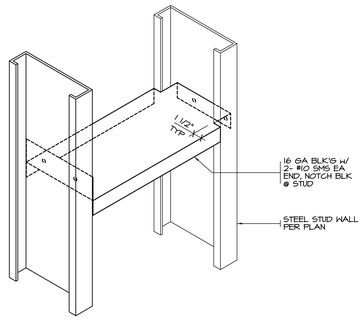


NOTES:

1. 4" x 18 GA STUDS w/ 1-5/8" FLANGE 4005162-43 TYP, UNO
2. UNO ALL STUDS SHALL BE "STEEL STUD MANUFACTURERS ASSOC" (ESR-3064P)
3. FOR BLOCKING AND BRIDGING, SEE 2 AX5.2 11 AX5.2
4. WALLS WITHOUT FLANGE BRACING BOTH SIDES SHALL HAVE BRIDGING @ 48" OC PER 11/AX5.2
5. FURRING WALL FLANGES ARE BRACED BY CLIP TO MASONRY PER 19/AX5.2

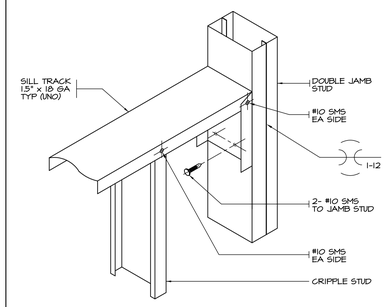
TYPICAL STEEL STUDWALL PANEL

EXEMPTION: C1 | SCALE: 1/2" = 1'-0" | 1



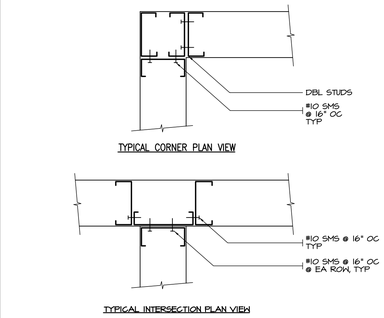
TYPICAL BLOCKING

SCALE: NTS | 2



TYPICAL SILL TO JAMB STUD CONN.

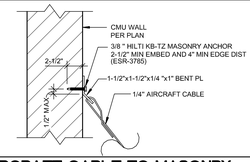
SCALE: NTS | 3



TYP CORNER CONNECTION

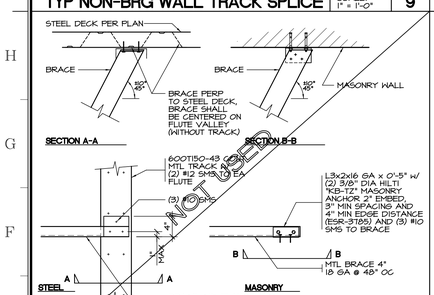
SCALE: 1 1/2" = 1'-0" | 4

APPROVALS



AIRCRAFT CABLE TO MASONRY

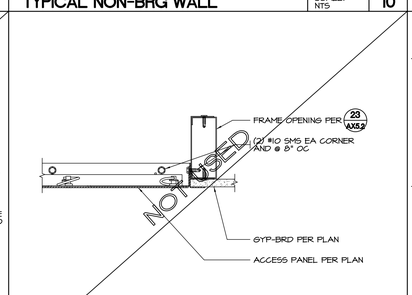
SCALE: NTS | 25



NOTE:
FOR BOTTOM TRACK CONNECTION AT CURBS SEE STRUCTURAL SHEET S1.1

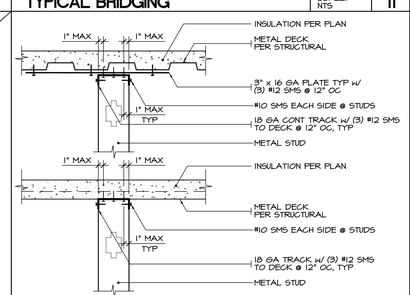
TYPICAL BOTTOM TRACK CONNECTION

SCALE: NTS | 5



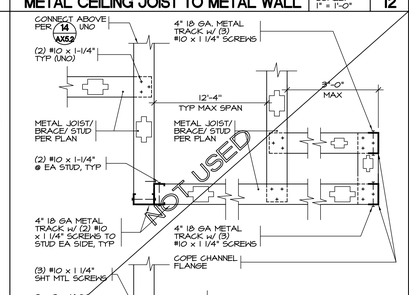
TYP BOTTOM TRACK SPLICE

SCALE: 1" = 1'-0" | 6



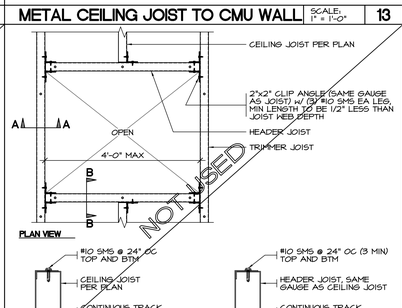
TYPICAL BACKING

SCALE: NTS | 7



TYP NON-BRG WALL HEADER

EXEMPTION: W3 | SCALE: 1" = 1'-0" | 8



NONBEARING HEADER SCHEDULE

OPENING	HEADER SIZE	HEADER CONNECTOR	REMARK
0 ≥ 6'-0"	2- 400S162-43	4- #10 FLAT HEAD SMS ES	
6'-0" ≥ 8'-0"	2- 600S162-43	6- #10 FLAT HEAD SMS ES	
8'-0" ≥ 10'-0"	2- 600S162-54	8- #10 FLAT HEAD SMS ES	16GA DBL JAMB STUDS
10'-0" ≥ 12'-0"	2- 800S162-54	10- #10 FLAT HEAD SMS ES	600S162-54 SILL TRACK, 16GA DBL JAMB STUDS
> 12'-0"	2- 800S162-54	10- #10 FLAT HEAD SMS ES	600S162-54 SILL TRACK, 12GA DBL JAMB STUDS

TYP NON-BRG WALL TRACK SPLICE

SCALE: 1" = 1'-0" | 9

TYPICAL NON-BRG WALL ON SLAB

TYPICAL NON-BRG WALL

SCALE: NTS | 10

NOTE:
CONNECTORS CAN BE ORIENTED AS SHOWN OR ROTATED 180 DEGREES.

TYPICAL BRIDGING

SCALE: NTS | 11

METAL CEILING JOIST TO METAL WALL

SCALE: 1" = 1'-0" | 12

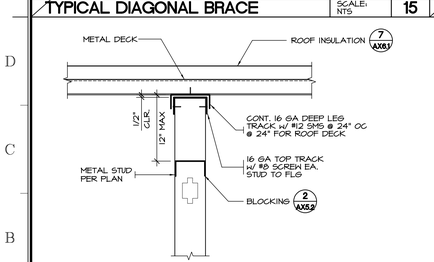
METAL CEILING JOIST TO CMU WALL

SCALE: 1" = 1'-0" | 13

NOTE:
1. MAXIMUM SPAN w/ MID-SPAN SUPPORT = 9'-0"

CEILING JOIST MID-SPAN SUPPORT

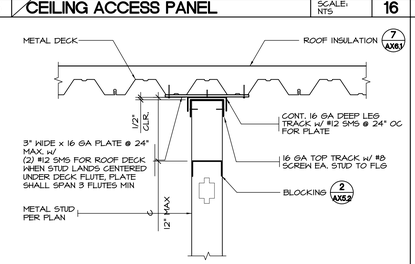
SCALE: 1" = 1'-0" | 14



NOTE:
1. BRACES PARALLEL TO DECK SPAN - TRACK NOT REQ WHEN BRACE ENDS PERPENDICULAR TO DECK SPAN.
2. ALL BRACES 400S162-43 @ 48" OC UNO.

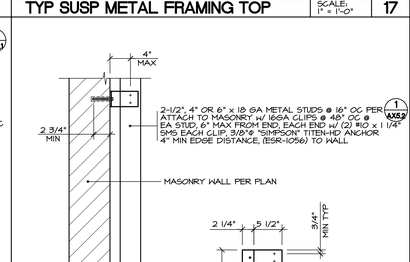
TYPICAL DIAGONAL BRACE

SCALE: NTS | 15



CEILING ACCESS PANEL

SCALE: NTS | 16

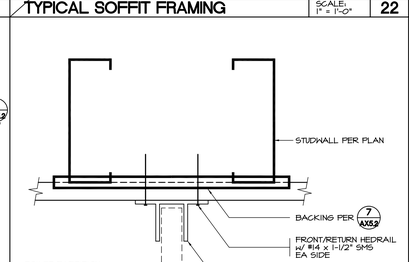


ROOF

NOTE:
1. CUT AND BEND STUD WEB 4" FOR ATTACHMENT TO DECK @ BACK BRACE STUDS

TYP SUSP METAL FRAMING TOP

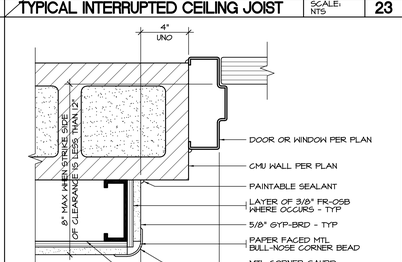
SCALE: 1" = 1'-0" | 17



NOTE:
1. 1/2" GYP BD CEILING FINISH

TYPICAL SOFFIT FRAMING

SCALE: 1" = 1'-0" | 22



TYPICAL INTERRUPTED CEILING JOIST

SCALE: NTS | 23

NOT USED

SCALE: NTS | 24

NOTE:
1. WHEN CENTERED ON DECK FLUTE, PLATE SHALL SPAN 3 DECK FLUTES MINIMUM.

TYP INTERIOR METAL STUD WALL TOP CONNECTION

SCALE: 3" = 1'-0" | 18

METAL WALL FURRING

SCALE: 1" = 1'-0" | 19

METAL WALL FURRING

SCALE: 1" = 1'-0" | 19

TOILET PARTITION SUPPORT

SCALE: 3/4" = 1'-0" | 20

FURRING AT CMU OPENING

SCALE: 3" = 1'-0" | 21

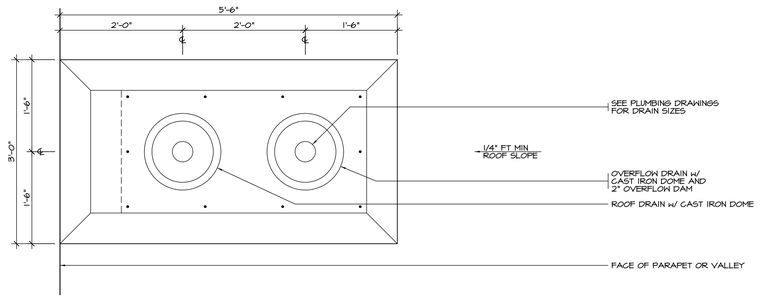
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

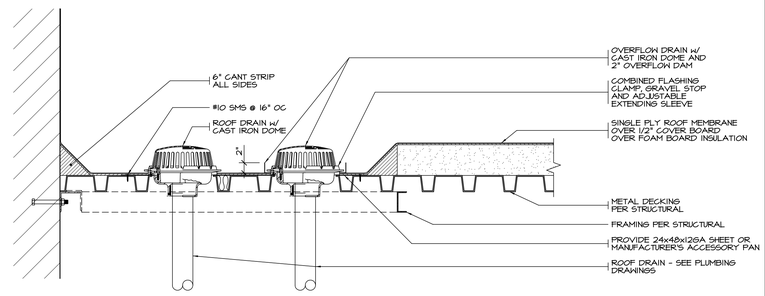
Sheet Title
NON-BEARING METAL FRAMING

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-17644
RENEWAL 08/31/23
STATE OF CALIFORNIA

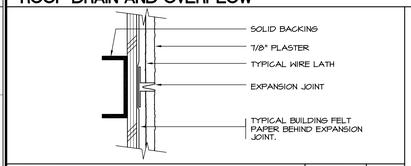
Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	AX5.2



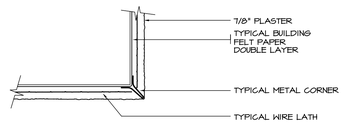
ROOF DRAIN AND OVERFLOW — SCALE: NTS — 1



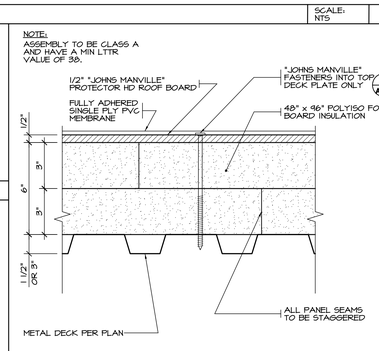
ROOF DRAIN AND OVERFLOW — SCALE: NTS — 1



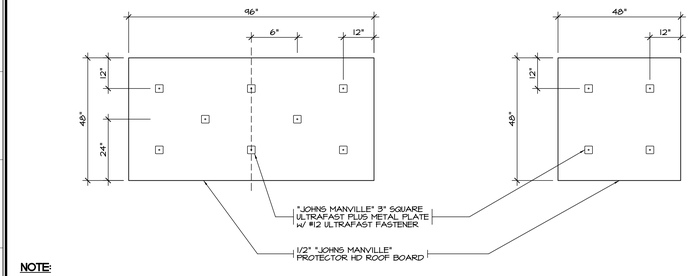
PLASTER EXPANSION JOINT — SCALE: 3"= 1'-0" — 9



PLASTER CORNER — SCALE: 3"= 1'-0" — 10



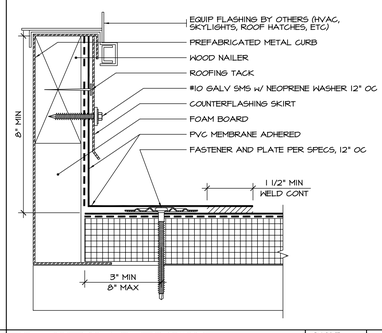
ROOFING ASSEMBLY - INSULATED — SCALE: 3"= 1'-0" — 11



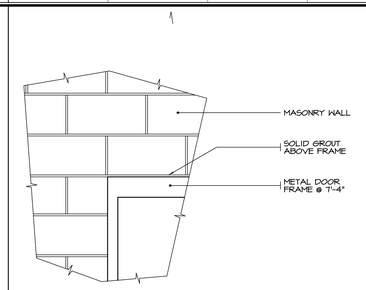
NOTE:

1. (8) FASTENERS PER BOARD (1 PER 4 SQ FT).
2. WIND 90, INT FIRE CLASS 1, EXT FIRE CLASS A (FM 4450/4470, UL 790).

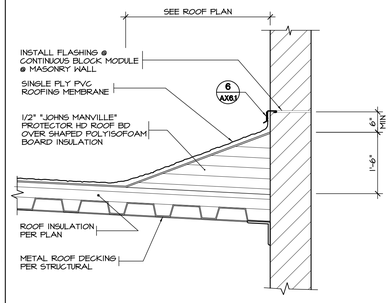
COVER BOARD FASTENER PATTERN — SCALE: NTS — 16



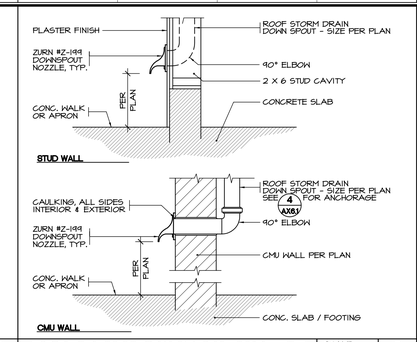
METAL CURB FLASHING — SCALE: NTS — 17



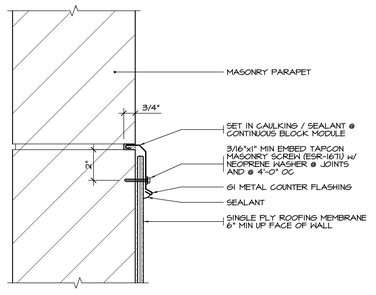
MASONRY ELEVATION AT DOOR — SCALE: 1" = 1'-0" — 2



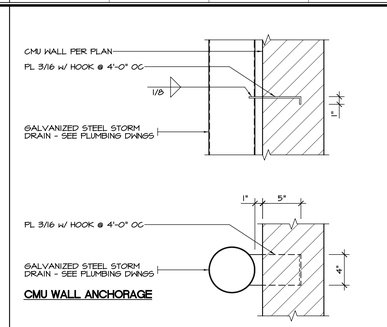
CRICKET AT HIGH ROOF — SCALE: 1 1/2" = 1'-0" — 5



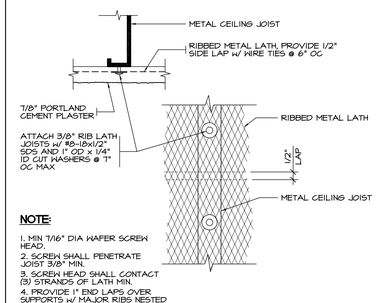
ROOF DRAIN DOWNSPOUT NOZZLE — SCALE: 3/4" = 1'-0" — 3



FLASHING - PVC TO CMU WALL — SCALE: 3"= 1'-0" — 6



STORM DRAIN ANCHORAGE — SCALE: 1 1/2" = 1'-0" — 4



PLASTER LATH AT CEILING — SCALE: 3" = 1'-0" — 7

APPROVALS

8 | 12 | 13 | 14 | 15

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
EXTERIOR ARCHITECTURAL DETAILS

LICENSED ARCHITECT — JIMMIE D. SANDERS — No. 17644 — RENEWAL 08/31/23 — STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	AX6.1

DESIGN BASIS:

CODE: 2019 C.B.C. (CALIFORNIA BUILDING CODE, CCR, TITLE 24, PART 2) BASED ON 2018 IBC

GRAVITY LOADS:

1. ROOF LIVE LOAD 20 P.S.F. (REDUCIBLE)

WIND LOADS:
BASIC WIND SPEED (3-SECOND GUST) Vult = 98 MPH, Vasd = 76 MPH
WIND EXPOSURE C
ENCLOSURE CLASSIFICATION: ENCLOSED BUILDING
INTERNAL PRESSURE COEFF.: GCpi = +/- 0.18

ULTIMATE WIND PRESSURES Qh[(GCp)-(GCpi)]:

Kzt=1.0
Kd=0.85
Kh=0.90
Ke=1.0
Qh=18.8 PSF

COMPONENTS AND CLADDING (ASCE 7-16. CHAPTER 30, PART 1):
WALLS: 30.3-1
ROOF (GABLE, <7 deg): FIGURE 30.3-2A

COMPONENTS AND CLADDING, COVERED WORK AREA (ASCE 7-16, SECTION 30.11):
ROOF: FIGURE 30.11-1A

SEISMIC DESIGN CRITERIA:

SEISMIC IMPORTANCE FACTOR, Ie	1.0
SEISMIC RISK CATEGORY	ii
MAPPED SPECTRAL RESPONSE ACCELERATION, Ss	2.209
MAPPED SPECTRAL RESPONSE ACCELERATION, S1	0.786
SITE CLASS	D
DESIGN SPECTRAL RESPONSE ACCELERATION, Sds	1.767
DESIGN SPECTRAL RESPONSE ACCELERATION, Sd1	0.891
SEISMIC DESIGN CATEGORY	E

TA = 0.145 SECONDS
TS = 0.504 SECONDS

CONCESSION STAND

BASIC SEISMIC-FORCE-RESISTING SYSTEM	SPECIAL REINFORCED MASONRY SHEARWALLS
RESPONSE MODIFICATION FACTOR, R	5.0
DESIGN BASE SHEAR (V=Cs x W):	Cs = 0.353

GENERAL NOTES:

1. THE PROJECT SPECIFICATIONS ARE A PART OF THE CONTRACT DOCUMENTS.
2. THE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS BY: SANDERS, INC. ARCHITECTURE / ENGINEERING
3. THE CONTRACTOR SHALL REVIEW EXISTING CONDITIONS ON THE SITE DURING THE BIDDING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK AND THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES PRIOR TO PROCEEDING.
4. UNLESS OTHERWISE SHOWN OR NOTED, ALL PHASES OF WORK ARE TO CONFORM TO THE MINIMUM STANDARDS OF THE 2019 CALIFORNIA BUILDING CODE (2019 EDITION C.B.C.), AND ANY A.S.T.M. SPECIFICATIONS WHICH THESE STANDARDS ARE BASED. WHERE CONFLICT BETWEEN BUILDING CODES AND SPECIFICATIONS OCCURS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.
5. ALL A.S.T.M. DESIGNATIONS REFERRED TO ON THESE DRAWINGS SHALL BE THE LATEST ADOPTED OR REVISED SPECIFICATION, AS OF THE DATE OF THESE DRAWINGS.
6. ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS. DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
7. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
8. THE STRUCTURAL DRAWINGS SHOW ONLY THE BASIC STRUCTURAL REQUIREMENTS. REFER TO CIVIL, ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL
   A. SIZE AND LOCATION OF ALL OPENINGS.
   B. SIZE AND LOCATION OF ALL NONBEARING PARTITIONS.
   C. SIZE AND LOCATION OF ALL CONCRETE CURBS, WALKS, ROOF AND FLOOR DRAINS, SLOPES, DEPRESSED SLAB AREAS, ETC.
   D. FLOOR, ROOF AND WALL FINISHES.
   E. DIMENSION NOT SHOWN ON STRUCTURAL DRAWINGS.
   F. EQUIPMENT ANCHORAGE
9. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE INDICATED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT LIFE AND THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING AND SHORING OF LOADS DUE TO CONSTRUCTION, EQUIPMENT, WIND, EARTHQUAKE, ETC. CONTRACTOR AT HIS OWN EXPENSE, SHALL ENGAGE PROPERLY QUALIFIED PERSONS TO DETERMINE WHERE AND HOW TEMPORARY PRECAUTIONARY MEASURES SHALL BE USED AND INSPECT SAME IN FIELD. CONTRACTOR SHALL CONFORM TO ALL SAFETY ORDINANCES, RULES AND CODES. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE SAFETY ITEMS.
10. SATISFACTORY EXECUTION OF CONSTRUCTION IS DEPENDENT UPON CONFORMANCE WITH THE INTENT OF THESE DRAWINGS. STRUCTURAL ENGINEER OF RECORD OR HIS REPRESENTATIVE SHALL OBSERVE THE CONSTRUCTION AND STATE THAT THE STRUCTURE HAS BEEN BUILT IN GENERAL CONFORMANCE WITH THE INTENT OF THESE DRAWINGS.
11. THIS FIRM DOES NOT PRACTICE OR CONSULT IN THE FIELD OF SAFETY ENGINEERING. WE DO NOT DIRECT THE CONTRACTOR'S OPERATIONS AND WE CANNOT BE RESPONSIBLE FOR THE SAFETY OF PERSONNEL OTHER THAN OUR OWN ON THE SITE. THE SAFETY OF OTHERS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHOULD NOTIFY THE OWNER IF HE CONSIDERS ANY OF THE RECOMMENDED ACTIONS PRESENTED HEREIN TO BE UNSAFE.
12. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED DESIGN LIVE LOAD FOR EACH PARTICULAR LEVEL. WHEN WEIGHT OF MATERIALS OR EQUIPMENT MAY EXCEED DESIGN LOAD, STRUCTURAL SYSTEMS SHALL BE SHORED.
13. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK. THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
14. NO PIPES OR DUCTS SHALL BE PLACED IN SLABS OR WALLS UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE ENGINEER.

REINFORCING STEEL:

1. ALL REINFORCING STEEL SHALL BE PLACED IN CONFORMANCE WITH THE C.B.C., AND THE "MANUAL OF STANDARD PRACTICE" BY THE C.R.S.I. OR AS MODIFIED BY THE CONSTRUCTION DOCUMENTS.
2. REINFORCING BARS SHALL CONFORM TO A.S.T.M. A-615, GRADE 60. REINFORCING BARS THAT ARE TO BE WELDED SHALL CONFORM TO A.S.T.M. A-706, GRADE 60.
3. WELDING OF REINFORCEMENT SHALL BE DONE WITH LOW HYDROGEN ELECTRODES AND SHALL CONFORM TO STRUCTURAL WELDING CODE REINFORCING STEEL, – ANSI/AWS D1.4 OF THE AMERICAN WELDING SOCIETY MINIMUM TENSILE STRENGTH OF WELD METAL SHALL BE 80 K.S.I. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS. QUALIFICATION TESTS MUST BE PERFORMED PER AWS, WPS'S SUBMITTED PRIOR TO REBAR WELDING.
4. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
5. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE LAPPED WITH THE SAME GRADE, SIZE, SPACING AND NUMBERS AS THE VERTICAL REINFORCEMENT, RESPECTIVELY.
6. REINFORCING SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS.
7. SLAB ON GRADE REINFORCING SHALL BE POSITIONED AT MID-DEPTH
8. PROVIDE #3 SPACER TIES AT 2'-6" ON CENTER IN ALL BEAMS AND FOOTINGS TO SECURE REINFORCING BARS IN PLACE, U.N.O.

CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 318-14 AND ACI 301 (LATEST EDITION), EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS CONTAINED HEREIN OR SHOWN ON THE DRAWINGS.
2. ALL CONCRETE SHALL BE 150 P.C.F. HARDROCK, MIXED PER A.S.T.M. C-94, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 P.S.I. AT 28 DAYS. FREQUENCY OF CONCRETE SAMPLING SHALL CONFORM TO C.B.C. 1905A.1.15 AND ACI 318, 26.12.
3. THE MAXIMUM SIZE AGGREGATE IN FOUNDATION WORK SHALL BE 1 INCH. THE MAXIMUM SIZE AGGREGATE IN SLABS ON GRADE, WALLS, AND ALL OTHER CONCRETE SHALL BE 3/4 INCH.
4. CEMENT SHALL CONFORM TO A.S.T.M.. C-150, TYPE V, LOW ALKALI. MIN. OF 6.25 SACKS PER CUBIC YARD OF CONCRETE. MAX. WATER/CEMENT RATIO = 0.45. AGGREGATES FOR NORMAL WEIGHT SHALL CONFORM TO A.S.T.M. C-33.
5. ADMIXTURES AND COLORS (EXCEPT AS NOTED HEREIN) SHALL NOT BE USED UNLESS SUBSTANTIATING DATA IS SUBMITTED TO AND ACCEPTED BY THE ENGINEER AND ARCHITECT OF RECORD.
6. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY. THE MIX DESIGNS SHALL CONFORM TO C.B.C. SEC. 1903A, 1904A, AND ACI 318, SECTIONS 4.8, 19.3, AND 26.4. UNLESS NOTED OTHERWISE.
7. PROVIDE 2- #5 x 4'-0" LONG DIAGONAL BARS AT CORNERS OF WALL, FLOOR, AND ROOF OPENINGS AND INSIDE CORNERS OF FLOORS.
8. READY MIXED CONCRETE SHALL CONFORM TO (A.S.T.M. C-94)
9. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 304 (LATEST EDITION). CLEAN AND ROUGHEN TO 1/4" AMPLITUDE ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.
10. DRYPACK (F'c = 5,000 PSI MIN.) UNDER BASEPLATES, SILL PLATES AND WHERE OTHERWISE NOTED ON DRAWINGS SHALL CONSIST OF 1 PART PORTLAND CEMENT AND 2 1/2 PARTS OF FINE AGGREGATE CONFORMING TO A.S.T.M. C-33 WITH ENOUGH WATER TO FORM A BALL WHEN SQUEEZED IN THE HAND. THE SPACE BETWEEN TWO SURFACES REQUIRING DRYPACK SHALL BE PACKED WITH THE DRYPACK MATERIAL BY TAMPING OR RAMMING WITH A BAR OR ROD UNTIL VOIDS ARE COMPLETELY FILLED.
11. ALL EXPOSED CONCRETE SHALL HAVE A SMOOTH FORM FINISH USING B-B PLYFORM, CLASS I, EXT-A.P.A. PLYWOOD.
12. ALL INTERIOR SLABS SHALL HAVE A TROWELED FINISH EXCEPT AS NOTED ON THE DRAWINGS AND ALL SITE CONCRETE SHALL HAVE A MEDIUM BROOM FINISH UNO.
13. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
14. IF THE CONTRACTOR DESIRES TO MAKE ANY CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THESE DRAWINGS, HE SHALL SUBMIT DETAILS OF CHANGES TO THE ENGINEER OF RECORD FOR REVIEW BEFORE STARTING WORK.
15. NO BRICK OR POROUS MATERIAL SHALL BE USED TO SUPPORT FOUNDATION STEEL OFF THE GROUND
16. PROVIDE 3/4 INCH CHAMFER ON ALL EXPOSED CONCRETE CORNERS, U.N.O.
17. SLEEVE PLUMBING OPENINGS IN SLABS OR WALLS BEFORE PLACING CONCRETE AND BEND REINFORCING AROUND SLEEVES.
18. ALL REINFORCING BARS SHALL BE PROVIDED WITH THE FOLLOWING CONCRETE MINIMUM COVER:

FOOTINGS AND SLABS CAST AGAINST EARTH OR LANDSCAPE WATER (TO 18" ABOVE GRADE)	3"
EXPOSED TO EARTH OR WEATHER	2"
BEAMS AND GIRDERS	1 1/2"
WALLS	1 1/2"
COLUMN TIES	1 1/2"
SLABS (#11 AND SMALLER)	3/4"

19. CONCRETE CURING: TYPICALLY REQUIRED FOR 10 DAYS WITH ADHERENCE TO THE RECOMMENDATIONS OF ACI 308.
20. FUSION WELDING IS NOT PERMITTED UNLESS APPROVED BY THE ENGINEER OF RECORD AND DSA.

MASONRY:

1. MASONRY UNITS SHALL BE MEDIUM WEIGHT WITH A COMPRESSIVE STRENGTH OF 2,000 P.S.I., IN ACCORDANCE WITH A.S.T.M. SPECIFICATION C-90, USE OPEN END UNITS AT ALL OPEN ENDED BLOCKS. TEST MASONRY UNITS, MORTAR, AND GROUT PER UNIT STRENGTH METHOD AND DSA FORM 103. (C.B.C. 1705A.4 AND 2105A.3)
2. THE ASSEMBLED MASONRY SHALL HAVE A COMPRESSIVE STRENGTH OF F'm=2,000 P.S.I.
3. ALL VERTICAL CELLS SHALL BE GROUTED SOLID IN LIFTS NOT EXCEEDING 4'-0" IN HEIGHT.
4. VERTICAL BARS IN MASONRY UNITS SHALL BE TIED OR OTHERWISE FIXED IN POSITION AT INTERVALS OF NOT LESS THAN 4'-0" AND AT TOP AND BOTTOM.
5. PROVIDE INSPECTION AND CLEANOUT HOLES AT BASE OF VERTICAL CELL GROUT LIFTS WHICH ARE MORE THAN 2'-0" IN HEIGHT. FOR LOW LIFT GROUTING CLEANOUTS ARE NOT REQUIRED. FOR HIGH LIFT GROUTING PROVIDE CLEANOUTS.
6. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR OF GROUT 1 1/2" BELOW THE TOP OF THE UPPERMOST MASONRY UNITS.
7. MORTAR SHALL BE ASTM C270 TYPE S PER CALIFORNIA BUILDING CODE SECTION 2103A.2 WITH A 28 DAYS COMPRESSIVE STRENGTH OF 2,000 P.S.I.
8. REINFORCEMENT WELDING SHALL COMPLY WITH A.W.S. D1.4. NO FIELD WELDING OF REINFORCING BARS, U.N.O.
9. OPEN END MASONRY UNITS SHALL BE USED OR AT ENDS OF WALLS USE STANDARD (CLOSED END) BLOCK.
10. GROUT SHALL CONFORM TO SECTION 2103A.3. A MIXTURE OF CEMENT, SAND, PEA GRAVEL AND WATER WHICH WILL COMPLETELY FILL ALL VOIDS IN THE WALL AND DEVELOP A 28 DAY COMPRESSIVE STRENGTH OF 2,000 P.S.I. ADMIXTURE PER TMS 602 SECTION 2.2C COARSE GROUT PER CBC 2103A.3.1 AND ASTM C476
11. CEMENT SHALL CONFORM TO A.S.T.M. C-150, TYPE I OR II, LOW ALKALI.
12. ALL VERTICAL WALL REINFORCEMENT SHALL BE DOWELED TO THE FOUNDATION WITH THE SAME SIZE AND NUMBER OF BARS AS SHOWN IN THE WALLS.
14. PROVIDE ONE INCH MINIMUM GROUT COVER ON ALL BOLTS AND PLATES.
15. HORIZONTAL REINFORCING SHALL BE PLACED IN BOND BEAM UNITS.
16. NO PIPES OR DUCTS SHALL BE PLACED IN MASONRY WALLS UNLESS SPECIFICALLY NOTED OR DETAILED.
17. GROUTING SHALL BE DONE IN A CONTINUOUS POUR IN LIFTS NOT EXCEEDING 4'-0" FOR HIGH LIFT GROUTING. LIFTS SHALL NOT EXCEED ONE MASONRY UNIT IN HEIGHT FOR LOW-LIFT GROUTING. FOLLOW REQUIREMENTS OF 2104A.1.3.1.2.3 AND DSA IR 21-2.13 FOR HIGH LIFT GROUTING.
18 FOR ALLOWABLE ELECTRICAL CONDUIT IN MASONRY, SEE DETAIL (11/S04)
19 DESIGN AND CONSTRUCTION OF CONCRETE MASONRY STRUCTURES SHALL BE DONE IN ACCORDANCE WITH TMS 402-16 AND TMS 602-16.

STEEL:

1. FABRICATION AND ERECTION TO CONFORM TO A.I.S.C. LATEST ADOPTED EDITION "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND AND BRIDGES" EXCEPT AS OTHERWISE SHOWN OR SPECIFIED.
2. QUALIFIED AND CERTIFIED WELDERS SHALL BE USED FOR ALL WELDING. WELDING TO BE PERFORMED IN THE SHOP OF BOTH I.A.S. AND A.I.S.C. CERTIFIED FABRICATOR. ALL WELDING TO CONFORM TO THE LATEST ADOPTED EDITION OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE A.W.S. D1.1. SPECIAL INSPECTION IN SHOP IS REQUIRED.
3. MATERIALS:

STRUCTURAL STEEL SHAPES (INCLUDE W, T, CHANNEL AND ANGLE STEEL SHAPES)	A.S.T.M. A-572, GRADE 50
STRUCTURAL STEEL PLATES	A.S.T.M. A-36
STRUCTURAL STEEL PIPES	A.S.T.M. A-53 TYPE E OR S, GRADE B
WELDING ELECTRODES	A.W.S. A-5.1 OR A-5.5 (E70-XX)
ANCHOR BOLTS	A.S.T.M. F-1554 GR. 36
TYPICAL STEEL CONNECTION BOLTS	A.S.T.M. A-325X
MISCELLANEOUS BOLTS	A.S.T.M. A-307 GRADE A
GALVANIZING	A.S.T.M. A-123
RUST-INHIBITING PRIMER	TT-P-645
STEEL TUBING	A.S.T.M. A-500, GRADE B (Fy = 46 K.S.I.)

4. HOT-DIPPED GALVANIZE AFTER FABRICATION ALL STRUCTURAL STEEL (ASTM A-123 AND A-385) AND CONNECTORS (ASTM A-153) EXPOSED TO WEATHER. TOUCH UP DAMAGED GALVANIZING WITH GALVALLOY AFTER ERECTION IS COMPLETE. (ASTM A-780)
5. CONNECTED MEMBERS SHALL BEAR ONLY UPON UNTHREADED PORTIONS OF BOLTS.
6. BURNING OF HOLES IS NOT ALLOWED.
7. THE STRUCTURAL STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
8. BOLT HOLES SHALL BE 1/16" LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED. UNLESS NOTED OTHERWISE.
9. STRUCTURAL STEEL SHALL BE DELIVERED TO THE JOB SITE FREE OF EXCESSIVE RUST, MILL SCALE, GREASE, ETC.
10. OPENINGS SHALL NOT BE PLACED IN STEEL MEMBERS UNLESS SPECIFICALLY DETAILED.

WELDING

1. ALL WELDING SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE AMERICAN WELDING SOCIETY CODE D1.1. (LATEST ADOPTED EDITION.)
2. ALL WELDING SHALL BE DONE BY AWS CERTIFIED WELDERS.
3. ALL ELECTRODES FILLER MATERIAL SHALL BE A MINIMUM OF E70.
4. WELDING OF REINFORCING BARS TO BE IN ACCORDANCE WITH A.W.S. D1.4. REINFORCING STEEL TO BE WELDED SHALL HAVE A CARBON EQUIVALENT (CE) OF 0.75.
5. WELDING OF SHEET METAL SHALL BE IN ACCORDANCE WITH A.W.S. D1.3
6. SPECIAL INSPECTION IS REQUIRED FOR ALL WELDING. REFER TO DSA FORM 103.
7. ALL SHOP AND FIELD WELDING OF MOMENT CONNECTIONS OR MOMENT RESISTING FRAMES, AND ALL COLUMN SPLICE WELDS, SHALL BE TESTED AS PER C.B.C. REFER TO DSA FORM 103.

METAL DECKING

1. ALL ROOF METAL DECKING AND ACCESSORIES SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO A.S.T.M. A 1063 OR 653 GRADE A OR HIGHER SPECIFICATIONS.
2. DECKS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A 653 COMMERCIAL COATING CLASS G-60 OR G-90. EXTERIOR DECK SHALL BE G-90, INTERIOR G-60
3. CUTTING AND FRAMING OF OPENINGS FOR OTHER TRADES SHALL BE THE RESPONSIBILITY OF THE TRADES INVOLVED. HOLES THAT ARE LOCATED AND DIMENSIONED ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE DECK ERECTOR.
4. ALL DECK SHALL BE "VERCO" (IAPMO ER-0217) OR APPROVED EQUAL, AND THE TYPES AND GAUGES SHALL BE AS INDICATED ON THE PLANS.
5. DECK SHALL HAVE A MINIMUM OF 2" BEARING AT SUPPORTS.
6. WELDING OF ROOF DECKING SHALL BE CONTINUOUSLY INSPECTED BY AN APPROVED INSPECTOR.

COLD-FORMED METAL FRAMING:

1. COLD-FORMED STEEL CONSTRUCTION SHALL CONFORM TO THE "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI), AISI S100-16.
2. COLD-FORMED METAL FRAMED SHALL BE GALVANIZED TO G60 MINIMUM AND CONFORM TO ASTM A-653 PER AISI S200-12. MINIMUM 50,000 PSI YIELD POINT FOR 16 GAUGE AND HEAVIER AND MINIMUM 33,000 PSI YIELD POINT FOR 18 GAUGE AND LIGHTER.
3. DIMENSIONS, PROPERTIES, AND TYPES NOTED ARE BASED ON THE STEEL STUD MANUFACTURERS ASSOCIATION, ESR-3064P.
4. SHEET METAL FASTENERS: SHEET METAL SCREWS "SMS" SHALL BE "GRABBER" BRAND SELF-DRILLING/SELF-TAPPING SCREWS AND SHALL BE INSTALLED IN ACCORDANCE WITH ESR-1271.
5. MINIMUM SPACING AND EDGE DISTANCE OF SCREWS SHALL BE 3/4" FOR ALL SCREWS U.N.O.
6. ALL SHEET METAL SCREWS SHALL PROTRUDE THROUGH JOINED MATERIAL NOT LESS THAN (3) EXPOSED THREADS NOR LESS THAN 1/4".
7. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SIZE AND GAUGE OF COLD-FORMED METAL FRAMING.
8. ATTACH EACH STUD TO TRACK W/ (1) #10 SMS EA FLANGE, U.N.O. ON THE DRAWINGS.
9. ADD BRIDGING AT 48" O.C. TO ALL STUDS, U.N.O., SEE ARCHITECTURAL DRAWINGS.
10. ALL WELDING SHALL BE IN CONFORMANCE WITH AWS D1.3, "STRUCTURAL WELDING CODE -- SHEET STEEL". QUALIFICATION OF WELDERS SHALL BE IN ACCORDANCE WITH AWS D1.1, CHAPTER 4, PART C, "PERFORMANCE QUALIFICATION". USE 70KSI ELECTRODES.

FOUNDATION:

1. REMOVE EXISTING SOIL TO A MINIMUM OF 3' BELOW FINISHED PAD ELEVATION (AT LEAST 18" BELOW THE LOWEST PAD OR CONTINUOUS FOOTING, TO A DISTANCE OF 5' BEYOND THE BUILDING OR STRUCTURE AND AT LEAST 1' BEYOND SIDEWALKS LOCATED NEXT TO THE BUILDING. REPLACE WITH IMPORTED, COMPACTED NON EXPANSIVE SOIL WITH EXPANSION INDEX LESS THAN 5. WITH A MAXIMUM ROCK SIZE OF 3 INCHES, AND 5% TO 20% PASSING THE NO. 200 SIEVE AND A MINIMUM SAND EQUIVALENT OF 25. SEE ARCHITECTURAL SITE DRAWINGS. FOR ADDITIONAL SPECIFICATIONS, SEE GEOTECHNICAL REPORT REFERENCED IN THESE NOTES.
2. ALLOWABLE SOIL PRESSURE:

FOOTING TYPE	STATIC BEARING PRESSURE
SPREAD FOOTING	2,000 P.S.F.
GRADE BEAMS	2,000 P.S.F.
PASSIVE SOIL RESISTANCE	300 P.S.F.

   COEF. OF FRICTION (SOIL-TO CONCRETE) = 0.35
3. FOR ALL DIMENSIONS, CURBS, SLAB DEPRESSIONS, STEPS, FLOOR DRAINS, FLOOR SINKS, TRENCHES, UNDERFLOOR DUCTS AND CONDUITS SEE ARCHITECTURAL, MECHANICAL, REFRIGERATION, AIR CONDITIONING, PLUMBING, ELECTRICAL, AND FOOD SERVICE DRAWINGS, TRENCH BACKFILL AS PER SOILS REPORT REQUIREMENTS.
4. ALL WALLS RETAINING EARTH SHALL DRAIN TO DAYLIGHT OR OTHER DRAINAGE.
5. ALL ABANDONED FOOTINGS, UTILITIES, ETC., THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
6. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICES IN AREAS TO BE EXCAVATED BEFORE BEGINNING EXCAVATION. EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING. DAMAGES CAUSED AS A RESULT OF FAILING TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR SHALL PROVIDE FOR THE DESIGN, APPROVALS, PERMITS, INSTALLATION AND MONITORING OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN TEMPORARY EXCAVATIONS.
8. ALL PLANTERS IN CLOSE PROXIMITY TO THE STRUCTURE SHALL HAVE ADEQUATE DRAINAGE OF SURFACE WATER TO PREVENT SATURATION OF SOIL UNDER FOUNDATION.
9. GEOTECH REPORT BY LANDMARK CONSULTANT, INC
   GEOTECHNICAL REPORT – JANUARY 2021 – LCI REPORT No. LE20206

PAD FOOTING SCHEDULE

3'-0" SQU. X 2'-0" THK. WITH (4) #5 E.W. T AND B

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
TYPICAL NOTES

LICENSED ARCHITECT JIMMIE D. SANDERS No. C-7644 RENEWAL 08/31/23 STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	SO.1

EXPANSION AND ADHESIVE ANCHORS:

*CONCRETE ADHESIVE ANCHORS SHALL BE BY "HILTI" HIT HY-200 ADHESIVE ANCHOR SYSTEMS OR APPROVED EQUAL (ESR-3187). MASONRY ADHESIVE ANCHORS SHALL BE "HILTI" HIT HY-270 (ESR-4143).

1. CONCRETE EXPANSION ANCHORS SHALL BE BY "HILTI" KB-TZ2 (ESR-4266) OR AN APPROVED*EQUAL. ALL ANCHORS AND FASTENERS SHALL HAVE DESIGN LOADS IN NORMAL WEIGHT OR LIGHTWEIGHT CONCRETE. MASONRY EXPANSION ANCHORS SHALL BE BY "HILTI" KWIKBOLT-3 (ESR-1385) OR AN APPROVED EQUAL. ANCHORS SHALL BE PROOF LOAD TESTED BY APPLYING A TEST LOAD AS FOLLOWS: (SEE ITEM 6 FOR TESTING FREQUENCY)

FOR ANCHORS IN NORMAL WEIGHT CONCRETE (f'c=4,500 psi)

ANCHOR DIAMETER (IN.)	EXPANSION (KB-TZ2)		ADHESIVE (HIT HY-200)		
	EMB.	TORQUE (FT-LB)	EMB.	LOAD (LB)	TORQUE (FT-LB)
3/8	2 1/2"	30	3 1/2"	2600	–
1/2	3 1/2"	50	4 1/4"	4200	–
5/8	4"	40	5	6200	–
3/4	4 3/4"	110	6 5/8"	10000	–

NOTE:
EDGE DISTANCE SHALL BE EQUAL TO OR GREATER THAN CRITICAL EDGE DISTANCE IN ICC REPORT

FOR ANCHORS IN FULLY GROUTED CMU (f'm=2,000 psi) SPECIAL INSPECTION REQUIRED

ANCHOR DIAMETER (IN.)	EXPANSION (KB-3)		ADHESIVE (HIT HY270)		
	EMB.	TORQUE (FT/LB)	EMB.	LOAD (LB)	TORQUE (FT/LB)
1/4	2"	4	–	–	–
3/8	2 1/2"	15	3 1/2"	1984	–
1/2	3 1/2"	25	4 1/4"	3093	–
5/8	4"	65	5	4033	–
3/4	4 3/8"	120	6 5/8"	5030	–

NOTE:
MINIMUM EDGE DISTANCE FROM EDGE OF WALL = 4in.

USE THE FOLLOWING SPECIAL INSPECTION TORQUE VALUES FOR SCREW ANCHORS:

ANCHOR TYPE / DIAMETER (IN.)	EMBED.	ICC REPORT	BASE MATERIAL	TORQUE (FT-LB)
1/4" DIA. HILTI "KH EZ"	1-5/8"	ESR-3056	CMU	21
3/8" DIA. HILTI "KH EZ"	3 1/4"	ESR-3056	CMU	22
3/8" DIA. SIMPSON "TITEN HD"	2 3/4"	ESR-2713	CONCRETE	50

2. "APPROVED EQUAL" SUBSTITUTIONS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO INSTALLATION. CCD APPROVED BY THE "DIVISION OF THE STATE ARCHITECT" WILL BE REQUIRED FOR ANY SUBSTITUTIONS.

3. THE TESTING OF EXPANSION AND ADHESIVE ANCHORS IN HARDENED CONCRETE SHALL CONFORM TO CBC SECTION 1910A.5

4. EXPANSION AND ADHESIVE ANCHOR INSTALLATION SHALL BE INSPECTED BY A SPECIAL INSPECTOR SPECIFICALLY APPROVED BY DSA FOR THAT PURPOSE.

5. EXPANSION AND ADHESIVE ANCHOR TESTING SHALL BE DONE IN THE PRESENCE OF THE PROJECT INSPECTOR AND SHOULD OCCUR 24 HOURS MINIMUM AFTER INSTALLATION OF THE SUBJECT ANCHORS.

6. TEST QUANTITY OF EXPANSION AND ADHESIVE ANCHORS AS NOTED BELOW

APPLICATION:	QUANTITY:
STRUCTURAL	100% OF BOLTS
SILL PLATE	10% OF BOLTS
NON-STRUCTURAL (EQUIPMENT ANCHORAGE, ETC.)	50% OF BOLTS

7. THE TEST LOADS SHALL BE APPLIED BY DIRECT PULL WITH A HYDRAULIC JACK, OR A CALIBRATED TORQUE WRENCH. SEE TABLES ABOVE FOR TEST LOADS.

8. THE FOLLOWING CRITERIA SHALL APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:

HYDRAULIC RAM METHOD:
THE ANCHOR SHALL HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD APPLIED FOR A MINIMUM OF (15) SECONDS. FOR WEDGE AND SLEEVE TYPE ANCHORS, A PRACTICAL WAY TO DETERMINE OBSERVABLE MOMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE.

TORQUE WRENCH METHOD:
THE APPLICABLE TEST LOAD MUST BE REACHED WITHIN ONE-HALF (1/2) TURN OF THE NUT.

9. IF ANY ANCHOR FAILS TESTING, TEST ALL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE PASS, THEN RESUME INITIAL TESTING FREQUENCY.

SPECIFICATIONS FOR AUTOMATIC END WELDED STUDS:

MATERIAL:

1. AUTOMATIC END WELDED STUDS SHALL BE NELSON GRANULAR FLUXFILLED SHEAR CONNECTOR OR ANCHOR STUDS (OR APPROVED EQUAL)

2. STUDS SHALL BE MANUFACTURED OF ASTM A29 GRADES 1010 THRU 1020 COLD ROLLED STEEL.

INSTALLATION:

1. THE STUDS SHALL BE AUTOMATICALLY END WELDED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS IN SUCH A MANNER AS TO PROVIDE COMPLETE FUSION BETWEEN THE END OF THE STUD AND THE PLATE. THERE SHOULD BE NO POROSITY OR EVIDENCE OF LACK OF FUSION BETWEEN THE WELDED END OF THE STUD AND THE PLATE. THE STUD SHALL DECREASE IN LENGTH DURING WELDING APPROXIMATELY 1/8" FOR 5/8" AND UNDER, AND 3/16" FOR OVER 5/8" DIAMETER. WELDING SHALL BE DONE ONLY BY QUALIFIED WELDERS APPROVED BY THE WELDING INSPECTOR.

INSPECTION AND TEST:

1. INSPECTION, IN ACCORDANCE WITH CBC SECTION 2213A.2 OF ALL THE SHOP AND FIELD WELDING OPERATIONS FOR THE AUTOMATIC END WELDED STUDS SHALL BE MADE BY QUALIFIED WELDING INSPECTOR (APPROVED BY THE DIVISION OF THE STATE ARCHITECT). THE TYPE AND CAPACITY OF THE WELDING EQUIPMENT SHALL BE CHECKED AND APPROVED BY A WELDING INSPECTOR.

2. AT THE BEGINNING OF EACH DAY'S WORK, A MINIMUM OF TWO TEST STUD WELDS SHALL BE MADE WITH THE EQUIPMENT TO BE USED TO METAL WHICH IS THE SAME AS THE ACTUAL WORK PIECE. THE TEST STUDS SHALL BE SUBJECTED TO A 90% BEND TEST BY STRIKING THEM WITH A HEAVY HAMMER. AFTER THE ABOVE TEST, THE WELD SECTION SHALL NOT EXHIBIT ANY TEARING OUT OR CRACKING.

3. TESTING OF END-WELDED STUDS SHALL BE IN ACCORDANCE WITH CBC SECTION 2213A.2.

STRUCTURAL OBSERVATION:

1. PER 2019 CALIFORNIA ADMINISTRATIVE CODE, SECTION 4-333. A LICENSED ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, OR HIS DESIGNATED ENGINEER OR ARCHITECT MUST MAKE SITE VISITS TO OBSERVE GENERAL COMPLIANCE WITH THE APPROVED STRUCTURAL PLANS, SPECIFICATIONS AND CONSTRUCTION CHANGE DOCUMENTS (CCD). THE ENGINEER OR ARCHITECT SHALL SUBMIT A FINAL VERIFIED REPORT FORM DSA-6A/E TO DSA.

ABBREVIATIONS

&	AND	KIPS	KILOPOUNDS (1,000 POUNDS)
@	AT	K.O.	KNOCK OUT
℄	CENTER LINE	LB.	POUND
℞	PLATE, PROPERTY LINE	L.B.	LAG BOLT
A.B.	ANCHOR BOLT	L.F.	LINEAR FOOT
ADJ.	ADJACENT	LG	LONG
A.F.F.	ABOVE FINISH FLOOR	L.L.	LIVE LOAD
ARCH'L	ARCHITECTURAL	L.L.H.	LONG LEG HORIZONTAL
BD	BOARD	L.L.V.	LONG LEG VERTICAL
BLD'G	BUILDING	L.S.	LAG SCREW
BLK	BLOCK	LT.	LIGHT
BLK'G	BLOCKING	MAS	MASONRY
BLW	BELOW	MAT.	MATERIAL
BM	BEAM	MAX.	MAXIMUM
B.N.	BOUNDARY NAIL	M.B.	MACHINE BOLT
BOT.	BOTTOM	MECH'L	MECHANICAL
BRG	BEARING	MEZZ.	MEZZANINE
B.S.	BOTH SIDE	MIN.	MINIMUM
BTWN	BETWEEN	M.H.	MANHOLE
C.B.	CARRIAGE BOLT	MANUF.	MANUFACTURER
C.F.	CUBIC FOOT	MTL.	METAL
CHAM	CHAMFER	N.S.	NEAR SIDE
C.I.	CAST-IRON	N.I.C.	NOT IN CONTRACT
C.I.P.	CAST-IN-PLACE	NOM.	NOMINAL
C.J.	CONTROL JOINT	N.T.S.	NOT TO SCALE
CLG	CEILING	O.C.	ON CENTER
CLK.	CAULK	O.D.	OUTSIDE DIAMETER
CLK'G	CAULKING	O.H.	OPPOSITE HAND
CLR.	CLEAR	OPN'G	OPENING
C.M.U.	CONCRETE MASONRY UNIT	OPP	OPPOSITE
CNTR	CENTER	O.W.J.	OPEN WEB JOIST
COL.	COLUMN	P.C.	PRECAST
CONC	CONCRETE	PERP.	PERPENDICULAR
CONN	CONNECTION	PLYWD	PLYWOOD
CONT	CONTINUOUS	PNL	PANEL
CNTRSINK	COUNTERSINK	PREFAB	PREFABRICATED
d	PENNY	P.S.F.	POUNDS PER SQUARE FOOT
DBL	DOUBLE	P.S.I.	POUNDS PER SQUARE INCHES
DEP	DEPRESSED	PT	POINT
DET	DETAIL	P.T.	PRESSURE TREATED
D.F.	DOUGLAS FIR	P.V.C.	POLYVINYL CHLORIDE
D.F.L.	DOUGLAS FIR/LARCH	RAD	RADIUS
DIA.	DIAMETER	R.D.	ROOF DRAIN
DMG	DIAGONAL	REF.	REFERENCE
DIM.	DIMENSION	REINF.	REINFORCED / REINFORCING
D.L.	DEAD LOAD	REQ'D	REQUIRED
DN	DOWN	REV	REVISION
DIV	DIVISION	RF	ROOF
DR	DOOR	RFTR	RAFTER
DWG	DRAWING	R.H.	ROOF HATCH
DWL	DOWEL	RM	ROOM
EA	EACH	R.O.	ROUGH OPENING
E.F.	EACH FACE	R.S.	ROUGH SAWN
EL.	ELEVATION	SCHED.	SCHEDULE
ELEV.	ELEVATION / ELEVATOR	SECT.	SECTION
E.N.	EDGE NAIL	S.F.	SQUARE FOOT
EQ.	EQUAL	SHT.	SHEET
EQUIP	EQUIPMENT	SHT'G	SHEETING
E.S.	EACH SIDE	SIM.	SIMILAR
E.W.	EACH WAY	S.M.S.	SHEET METAL SCREW
EXIST'G	EXISTING	SPEC.	SPECIFICATION
EXP	EXPANSION	SQ.	SQUARE
EXT	EXTERIOR	S.S.	STAINLESS STEEL
F.D.	FLOOR DRAIN	STAGG.	STAGGERED
FDN	FOUNDATION	STD.	STANDARD
F.F.	FINISH FLOOR	STIFF.	STIFFENER
FIN.	FINISH	STL.	STEEL
FLR.	FLOOR	STRUCT'L	STRUCTURAL
F.N.	FIELD NAIL	S.T.S.	SELF TAPPING SCREW
F.O. ———	FACE OF ———	SYM	SYMMETRICAL
FRM'G	FRAMING	SYS	SYSTEM
F.S.	FAR SIDE	T & B	TOP AND BOTTOM
FT	FEET / FOOT	T & G	TONGUE AND GROOVE
FTG	FOOTING	TEMP	TEMPORARY
GA	GAUGE	THK	THICK
GALV	GALVANIZED	THKN'D	THICKENED
G.I.	GALVANIZED IRON	THRU	THROUGH
GLB	GLU-LAMINATED BEAM	T.L.	TOTAL LOAD
GRD	GRADE	T.O. ———	TOP OF ———
GYP	GYPSUM	T.S.G.	TAPERED STEEL GIRDER
H.D.	HOLDOWN	TYP.	TYPICAL
HDR	HEADER	U.N.O.	UNLESS NOTED OTHERWISE
HGR	HANGER	VERT.	VERTICAL
HORIZ.	HORIZONTAL	W/	WITH
HRD	HARD	W/O	WITHOUT
H.S.B.	HIGH STRENGTH BOLT	WD	WOOD
HT.	HEIGHT	WIN	WINDOW
HVAC	HEATING, VENTILATION, & AIR CONDITIONING	W.P.	WATERPROOF / WORK POINT
IN.	INCH	W.P.J.	WEAKENED PLANE JOINT
INSP.	INSPECTION / INSPECTOR	WT.	WEIGHT
INT.	INTERIOR	W.W.F.	WELDED WIRE FABRIC
JST	JOIST	W.W.M.	WELDED WIRE MESH
JT	JOINT		

GENERAL SPECIAL INSPECTION NOTES:

1. THE SPECIAL INSPECTOR MUST SUBMIT A COMPLETED FORM 5-SI TO THE AOR FOR APPROVAL BY DSA. THE PROJECT INSPECTOR MUST SUBMIT A COMPLETED FORM 5-PI TO THE AOR AND SEOR FOR APPROVAL NY DSA PRIOR TO START OF CONSTRUCTION.

2. THE CONSTRUCTION MATERIALS TESTING LABORATORY MUST BE APPROVED BY DSA FOR TESTING OF MATERIALS, SYSTEMS, COMPONENTS AND EQUIPMENT. THE TESTING LAB SHALL HAVE DSA LEA ACCEPTANCE.

3. VERIFIED REPORTS SHALL BE MADE ON FORM DSA-6 NY PROJECT INSPECTORS AND SUBCONTRACTORS, FORM DSA-292 FOR SPECIAL INSPECTORS, AND FORM DSA-6A/E BY ARCHITECTS AND ENGINEERS. VERIFIED REPORTS SHALL BE MADE PER THE REQUIREMENTS OF SECTION 4-336 OF THE 2019 CALIFORNIA ADMINISTRATIVE CODE, CCR, TITTLE 35, PART1.

4. THE SPECIAL INSPECTIONS ON PLANS ARE IN ADDITION TO AND NOT A SUBSTITUTE FOR THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY A DSA PROJECT INSPECTOR.

5. WHERE MATERIALS OR ASSEMBLIES ARE REQUIRED BY THE BUILDING CODE TO BE LABELED, SUCH MATERIALS AND ASSEMBLIES SHALL BE LABELED BY AN AGENCY APPROVED BY DSA, IN ACCORDANCE WITH CBC SECTION 1703A. PRODUCTS AND MATERIALS TO BE LABELED SHALL BE TESTED, INSPECTED AND LABELED IN ACCORDANCE WITH THE PROCEDURES SET FORTH IN CBC SECTIONS 1703A.5.1 THROUGH 1703A.5.4. IDENTIFY ON PLANS THE NAME AND ADDRESS OF THE TESTING / INSPECTION AGENT.

6. CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO DSA PRIOR TO CONSTRUCTION OF LATERAL FORCE RESISTING SYSTEM PER CBC 1704A.4.

ITEMS REQUIRING SPECIAL INSPECTION:

1. REFER TO PROJECT FORM DSA-103 FOR SPECIFIC REQUIREMENTS FOR TESTS AND SPECIAL INSPECTIONS.

APPROVALS

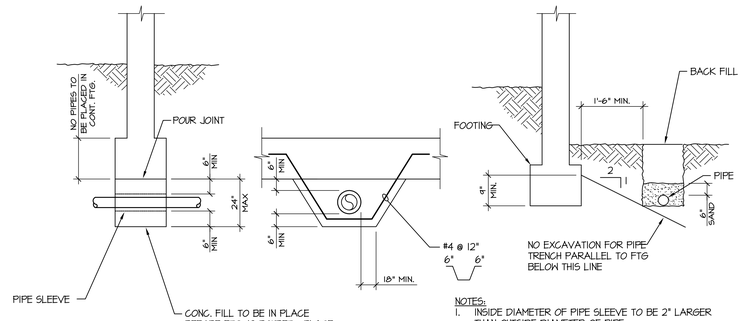
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
TYPICAL NOTES

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. 7644
RENEWAL 08-31-23
STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	S0.2

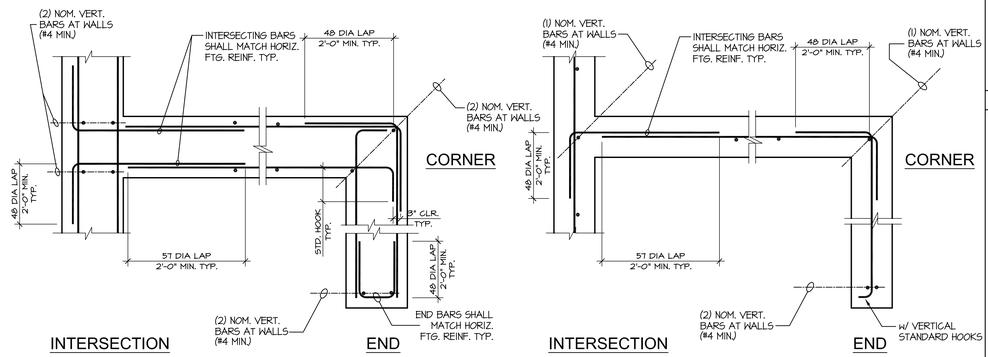


NOTES:

1. INSIDE DIAMETER OF PIPE SLEEVE TO BE 2" LARGER THAN OUTSIDE DIAMETER OF PIPE
2. SLEEVES SHALL BE NON-CORROSIVE, FILL VOID W/ APPROVED SEALANT AT EA END.
3. HOLES AND #3 HOLE REBAR SHALL BE PLACED AWAY FROM CMU EDGES A MIN. OF 2 HOLE DIAMETERS CLEAR DISTANCE AWAY FROM EDGE.

TYPICAL PIPE THRU FOOTING

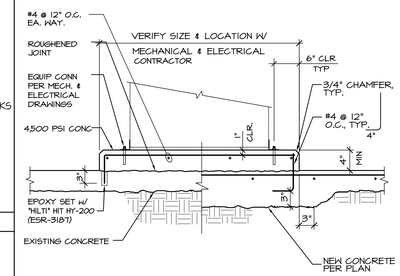
SCALE: N.T.S. | 1



TYPICAL CONCRETE FOOTING AND WALL REBAR - PLAN VIEW

SCALE: N.T.S. | 2

APPROVALS



NOTES:

1. CONTRACTOR SHALL POUR PADS SEPARATELY FROM FLOOR SLAB AT PADS ON STRUCTURAL FLOOR.
2. EQUIPMENT ANCHORAGE EMBEDMENTS ARE UNIQUE TO EACH PIECE OF EQUIPMENT, AND ARE NOT SHOWN IN DETAIL ABOVE.

TYPICAL PAD ON SLAB

SCALE: N.T.S. | 3

NOTES:

1. STEP FOOTING WHERE SHOWN ON PLANS, AND AS REQUIRED TO MAINTAIN MINIMUM FOOTING DEPTH BELOW GRADE, AND AS REQUIRED TO ACCOMMODATE PIPES PER TYP. PIPE TRENCH DETAILS
2. NOT USED

TYPICAL STEPPED FOOTING

SCALE: N.T.S. | 4

NOTES:

1. FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE ARCHITECT (STRUCTURAL ENGINEER) SUBJECT TO THE APPROVAL OF DIVISION OF THE STATE ARCHITECT. IN SUCH CASE THE MINIMUM FORMWORK SHOWN ABOVE IS MANDATORY TO INSURE CLEAN EXCAVATIONS IMMEDIATELY PRIOR TO THE PLACING OF CONCRETE.
2. FORMWORK ARE NOT PERMITTED WITHIN FOOTING SECTION, UNLESS FULLY FORMED.
3. STAKES ARE NOT PERMITTED WITHIN FOOTING SECTION.

TYPICAL MIN. FORMWORK

SCALE: N.T.S. | 5

TYPICAL SLAB JOINTS

SCALE: N.T.S. | 6

TYPICAL OPENING IN SLAB ON GRADE

SCALE: N.T.S. | 7

TYPICAL BUILDING SLAB ON GRADE

SCALE: NTS | 8

NOTES:

1. SEE 14 S0.4 FOR ADD'L SLAB DEPRESSION DETAILS
2. WHERE CURB OCCURS, SEE 15 S0.4

TYPICAL DEPRESSED SLAB

SCALE: N.T.S. | 9

AB @ FACE OF WALL MIN WALL THICKNESS	BOLT	MINIMUM EMBEDMENT	MAX PROJECTION
6"	1/2"	4"	4"
8"	5/8"	4 1/2"	4"
12"	3/4"	5"	4"
	7/8"	6"	5"
	1"	7"	5"
	1-1/8"	8"	6"
	1-1/4"	9"	6"

NOTES:

1. WHERE BOLTS ARE LOCATED AT TOP OF COLUMN OR AT FOOTING ADDITIONAL 2" EMBEDMENT SHALL BE PROVIDED.
2. THIS DETAIL REPRESENTS MINIMUM REQUIREMENTS. VERIFY CONDITIONS WITH PLANS AND OTHER PROJECT SPECIFIC DETAILS.

TYPICAL CONCRETE AB EMBEDMENT

SCALE: N.T.S. | 10

GRADE BEAM DETAIL

SCALE: N.T.S. | 11

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

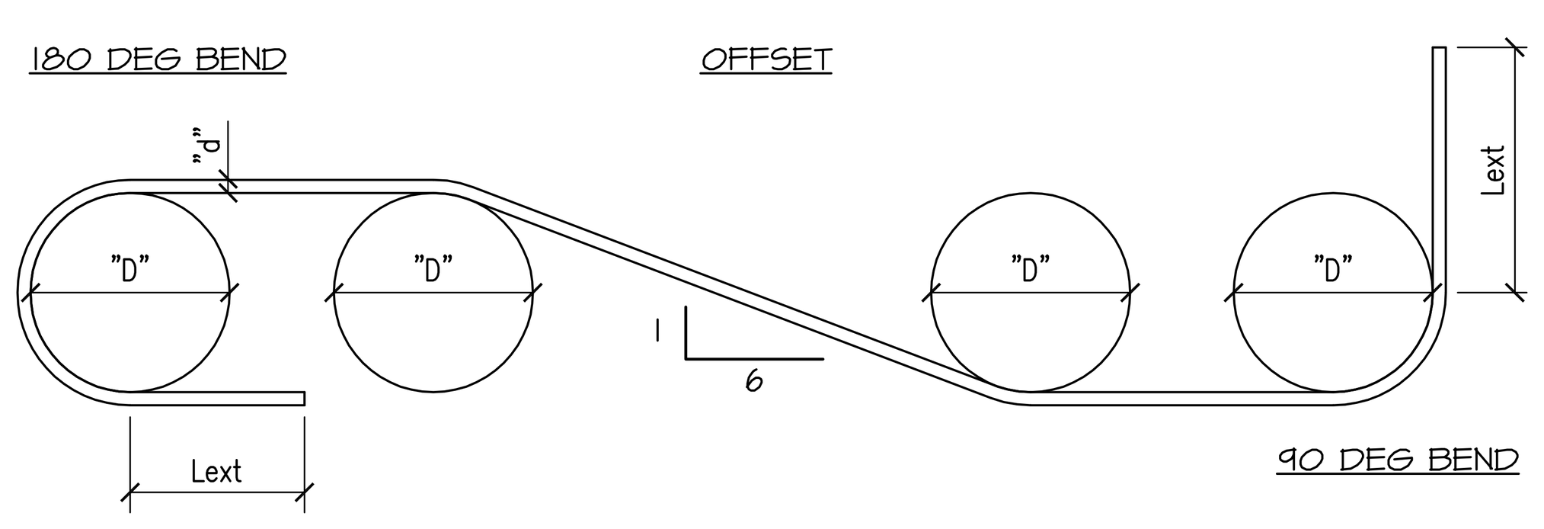
Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

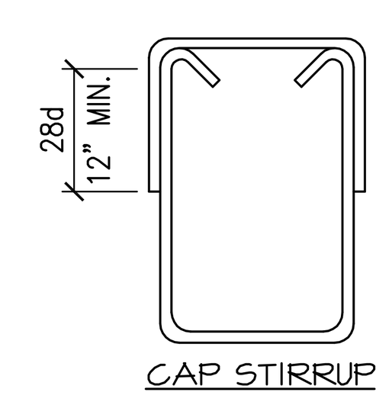
Sheet Title
TYPICAL CONCRETE DETAILS

LICENSED ARCHITECT JIMMIE LEE SANDERS No. C-17644 RENEWAL DATE 8-31-23 STATE OF CALIFORNIA

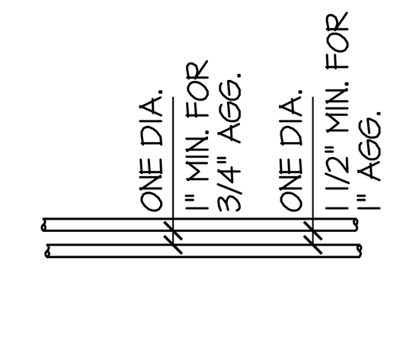
Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	S0.3

TYPICAL CONCRETE REINFORCING BAR BENDS





NOTE:
CAP STIRRUPS MAY BE USED WHENEVER 135° CLOSED STIRRUPS ARE SHOWN IN GRADE BEAM ONLY



CAP STIRRUP
BAR CLEARANCE

Table 25.3.1—Standard hook geometry for development of deformed bars in tension

Type of standard hook	Bar size	Minimum inside bend diameter, in.	Straight extension[1] Lext, in.	Type of standard hook
90-degree hook	No. 3 through No. 8	6db	12db	Ldh, 90°, POINT AT WHICH BAR IS DEVELOPED, DIAMETER, D, Lext
	No. 9 through No. 11	8db		
	No. 14 and No. 18	10db		
180-degree hook	No. 3 through No. 8	6db	Greater of 4db and 2.5 in.	POINT AT WHICH BAR IS DEVELOPED, Ldh, DIAMETER, D, 180°, Lext
	No. 9 through No. 11	8db		
	No. 14 and No. 18	10db		

Table 25.3.2—Minimum inside bend diameters and standard hook geometry for stirrups, ties, and hoops

Type of standard hook	Bar size	Minimum inside bend diameter, in.	Straight extension[1] Lext, in.	Type of standard hook
90-degree hook	No. 3 through No. 5	4db	Greater of 6db and 3 in.	Ldh, 90°, POINT AT WHICH BAR IS DEVELOPED, DIAMETER, D, Lext
	No. 6 through No. 8	6db	12db	
135-degree hook	No. 3 through No. 5	4db	Greater of 6db and 3 in.	Ldh, 135°, POINT AT WHICH BAR IS DEVELOPED, DIAMETER, D, Lext
	No. 6 through No. 8	6db		
180-degree hook	No. 3 through No. 5	4db	Greater of 4db and 2.5 in.	POINT AT WHICH BAR IS DEVELOPED, Ldh, DIAMETER, D, 180°, Lext
	No. 6 through No. 8	6db		

[1]A standard hook for deformed bars in tension includes the specific inside bend diameter and straight extension length. It shall be permitted to use a longer straight extension at the end of a hook. A longer extension shall not be considered to increase the anchorage capacity of the hook.

NOTE: ALL BENDS SHALL BE MADE COLD.

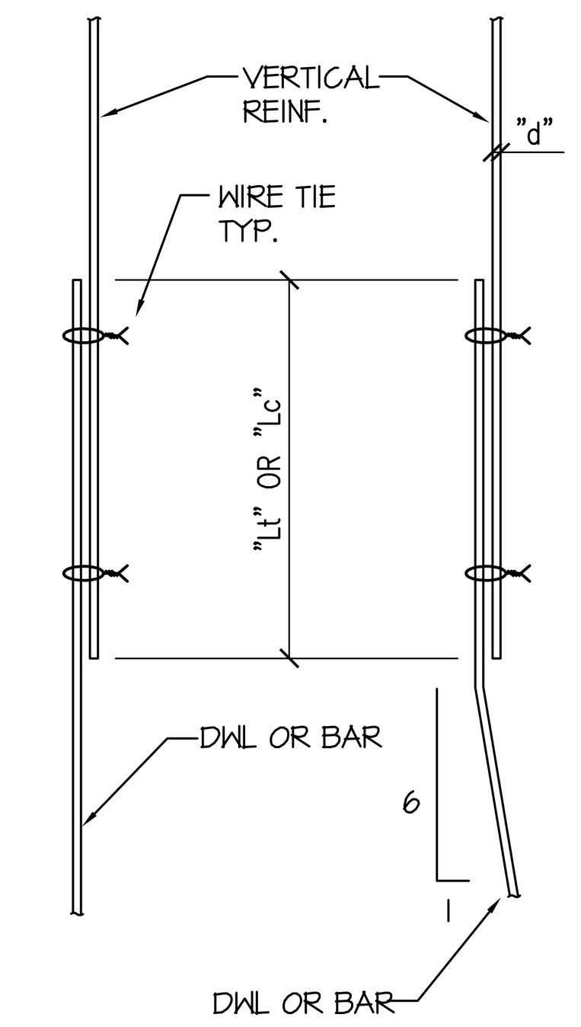
TYPICAL CONCRETE REINFORCING BAR BENDS | SCALE: NTS | 1

VERTICAL REINFORCING LAP SPLICE

CMU								
Fs	BAR SIZE							
	#3	#4	#5	#6	#7	#8	#9	#10
	LAP SPLICES, INCHES							
32,000	27	36	45	54	63	72	81	90

CONCRETE		
BAR SIZE	TENSION LAP "Lt" (IN.) F'c=4,500 P.S.I.	COMPRESSION LAP "Lc" (IN.)
#3	25	12
#4	33	15
#5	41	19
#6	49	23
#7	69	27
#8	81	30
#9	91	34
#10	103	39
#11	114	43

F'y = 60 K.S.I.

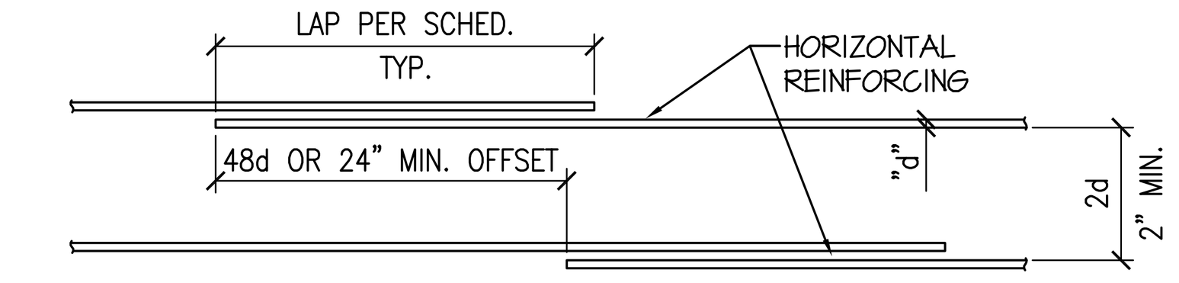


NOTES:

1. ALL VERTICAL REINFORCING FOR COLUMN, PIERS AND WALLS SHALL BE DOWELED AS SHOWN, UNLESS NOTED OTHERWISE.
2. DOWELS SHALL BE THE SAME GRADE, SIZE, QUANTITY AND/OR SPACING AS VERTICAL REINFORCING.
3. WHEN "Lc" OR "Lt" IS NOT SPECIFIED ON DRAWING, USE TENSION LAP "Lt"
4. CONCRETE MASONRY UNITS LAP 72d MIN. HORIZ & VERTICAL REINFORCING.

VERTICAL REINFORCING LAP SPLICE | SCALE: NTS | 2

HORIZONTAL REINFORCING LAP SPLICE



CONCRETE: TOP BARS									CONCRETE: NON-TOP BARS (LESS THAN 12" OF FRESH CONC. CAST BELOW)								
CONC. F'c P.S.I.	BAR SIZE								CONC. F'c P.S.I.	BAR SIZE							
	#3	#4	#5	#6	#7	#8	#9	#10		#3	#4	#5	#6	#7	#8	#9	#10
	TENSION LAP SPLICES, INCHES									TENSION LAP SPLICES, INCHES							
4,500	25	33	41	49	69	81	91	103	4,500	20	26	32	38	53	63	70	80

HARDROCK CONCRETE
F'y = 60,000 P.S.I. (CLASS "B")

CMU								
Fs	BAR SIZE							
	#3	#4	#5	#6	#7	#8	#9	#10
	LAP SPLICES, INCHES							
32,000	27	36	45	54	63	72	81	90

NOTES:

1. SPLICE LENGTH SHALL BE DETERMINED FROM THE SIZE OF THE SMALLER BAR SPLICED.
2. N/A
3. CONCRETE MASONRY UNITS LAP PER CBC 2107A.3 VERTICAL REINFORCING. IN NO CASE SHALL THE LENGTH OF THE LAPPED SPLICE BE LESS THAN 40 BAR DIAMETERS.

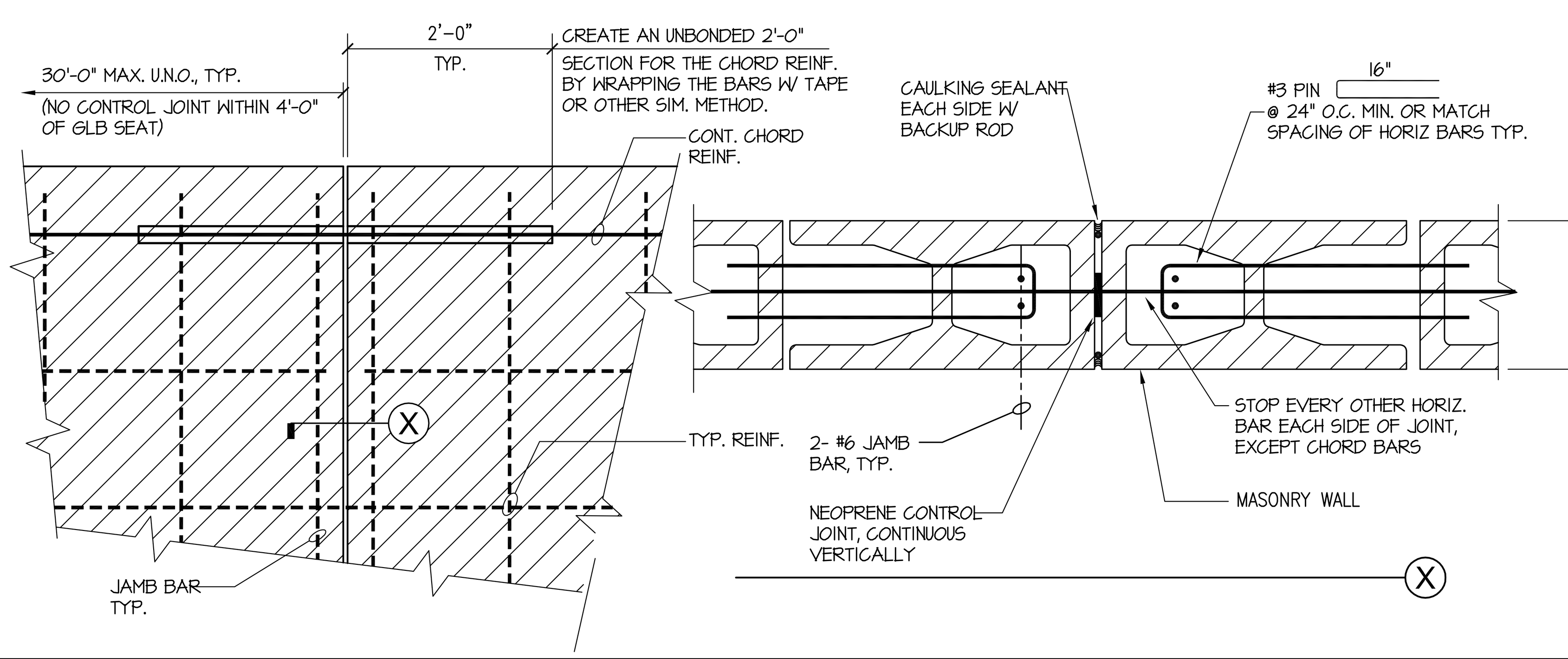
HORIZONTAL REINFORCING LAP SPLICE | SCALE: NTS | 3

APPROVALS

DETAIL NOT USED

DETAIL NOT USED | SCALE: NTS | 9

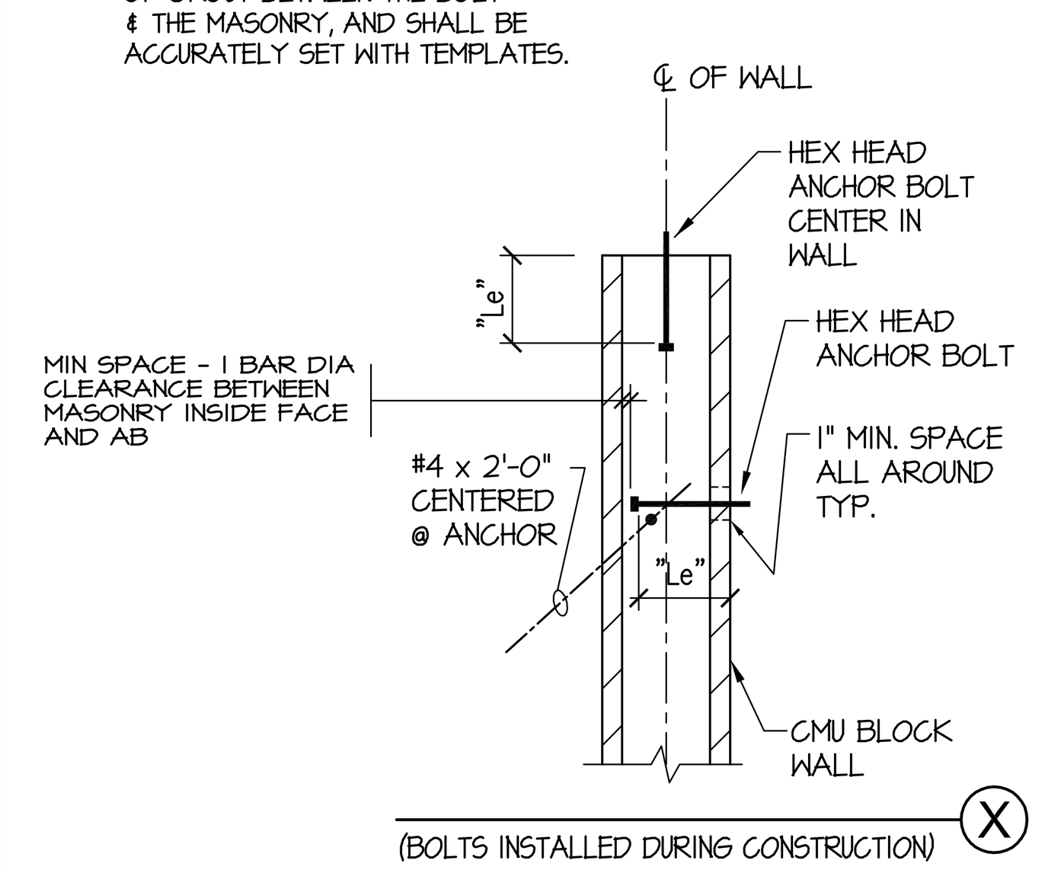
TYPICAL VERTICAL CONTROL JOINT



TYPICAL VERTICAL CONTROL JOINT | SCALE: NTS | 4

TYP MASONRY ANCHOR EMBEDMENT

NOTE:
ALL BOLTS SHALL BE GROUTED IN PLACE WITH AT LEAST 1 INCH OF GROUT BETWEEN THE BOLT & THE MASONRY, AND SHALL BE ACCURATELY SET WITH TEMPLATES.

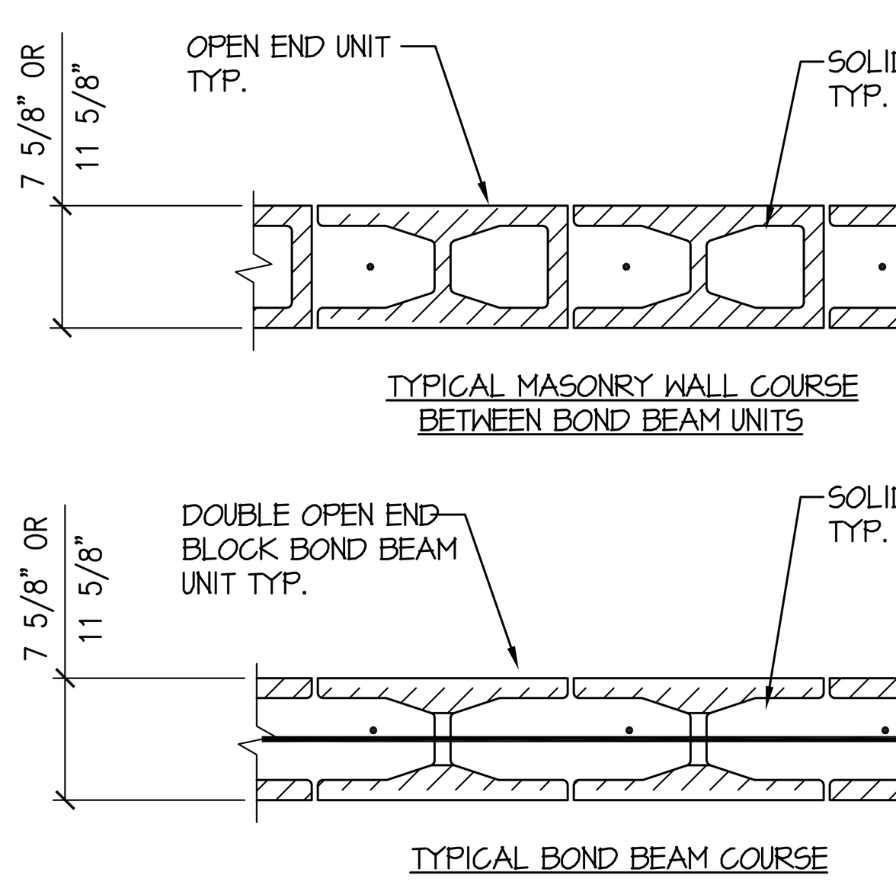


MINIMUM EMBEDMENT	
ANCHOR SIZE	"Le"
1/2"Φ	5.5"
5/8"Φ	5.5"
3/4"Φ	5"
7/8"Φ	5"

NOTE:
FOR ANCHOR BOLT SEE 10/S0.3

TYP MASONRY ANCHOR EMBEDMENT | SCALE: NTS | 5

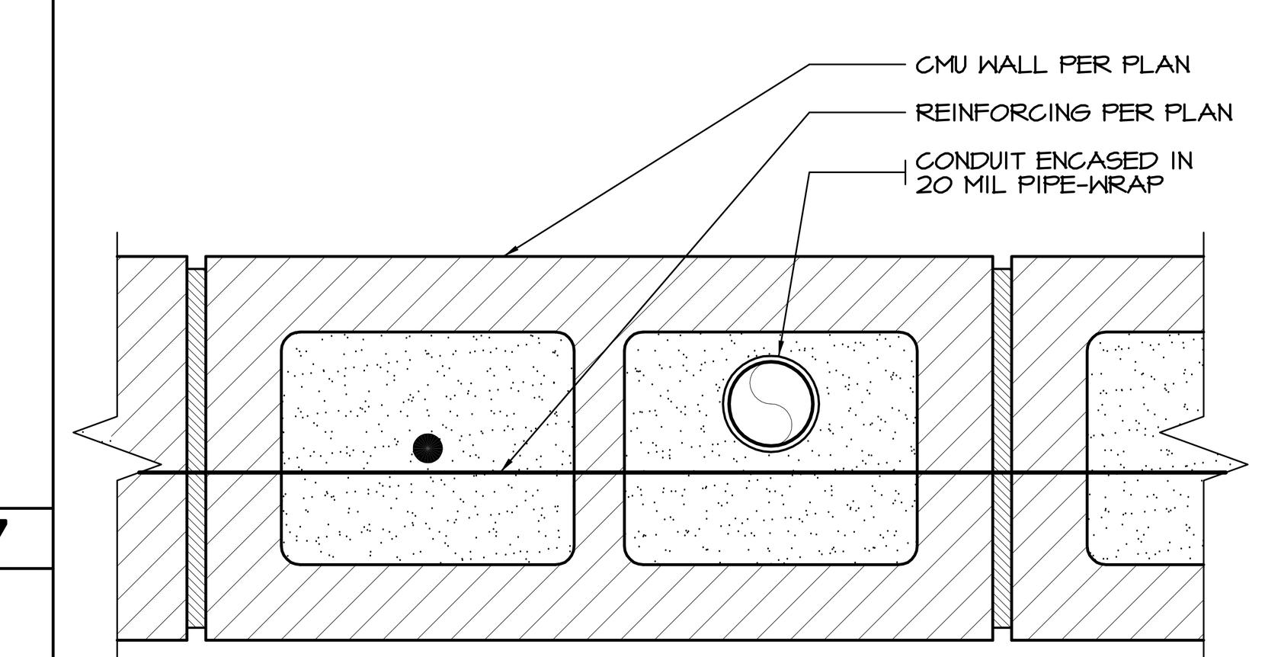
TYPICAL MASONRY COURSING



NOTE:
SINGLE CURTAIN OF REINFORCING AT 8" CMU.
DOUBLE CURTAIN OF REINFORCING AT 12" CMU

TYPICAL MASONRY COURSING | SCALE: NTS | 7

CONDUIT IN CMU WALL

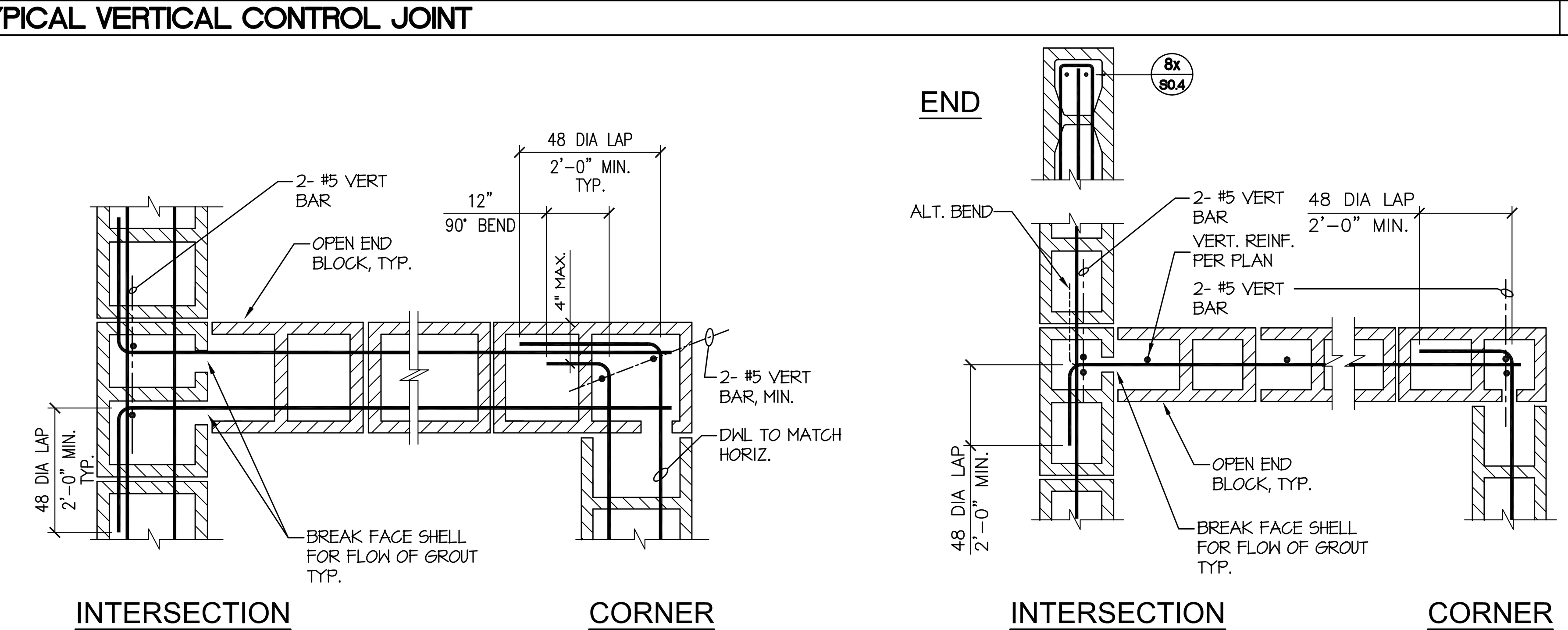


NOTES:

1. 1-3/4" DIA MAX CONDUIT.
2. CONDUIT MUST NOT INTERFERE w/ HORIZONTAL REINFORCING.
3. CONDUIT NOT PERMITTED IN SAME CELL AS ANY VERTICAL REBAR.
4. CONDUITS, PIPES AND SLEEVES IN MASONRY SHALL BE NO CLOSER THAN (3) DIAMETERS ON CENTER.
5. HORIZONTAL CONDUIT NOT ALLOWED.

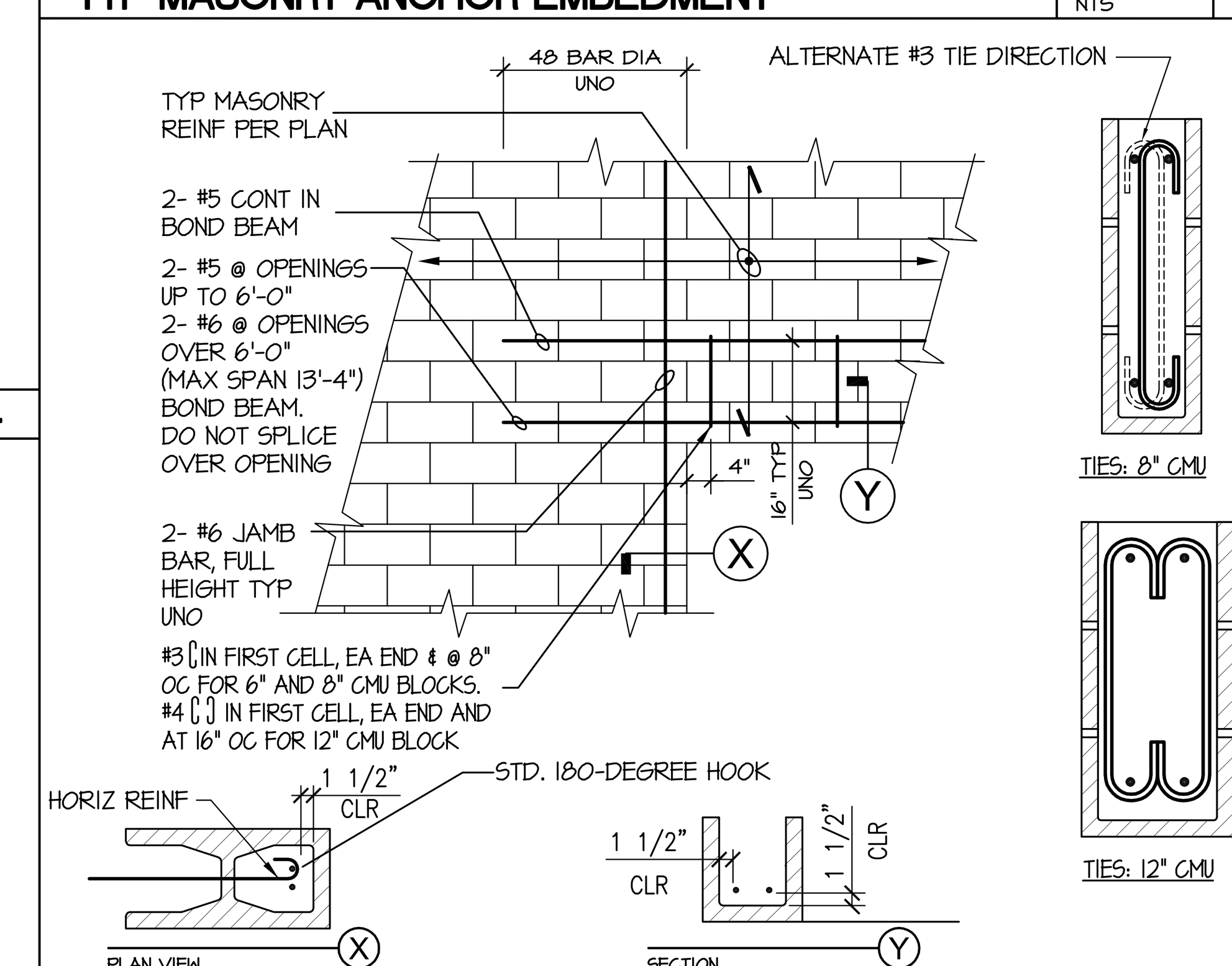
CONDUIT IN CMU WALL | SCALE: 3" = 1'-0" | 11

TYPICAL MASONRY WALL REBAR - PLAN VIEW



TYPICAL MASONRY WALL REBAR - PLAN VIEW | SCALE: | 6

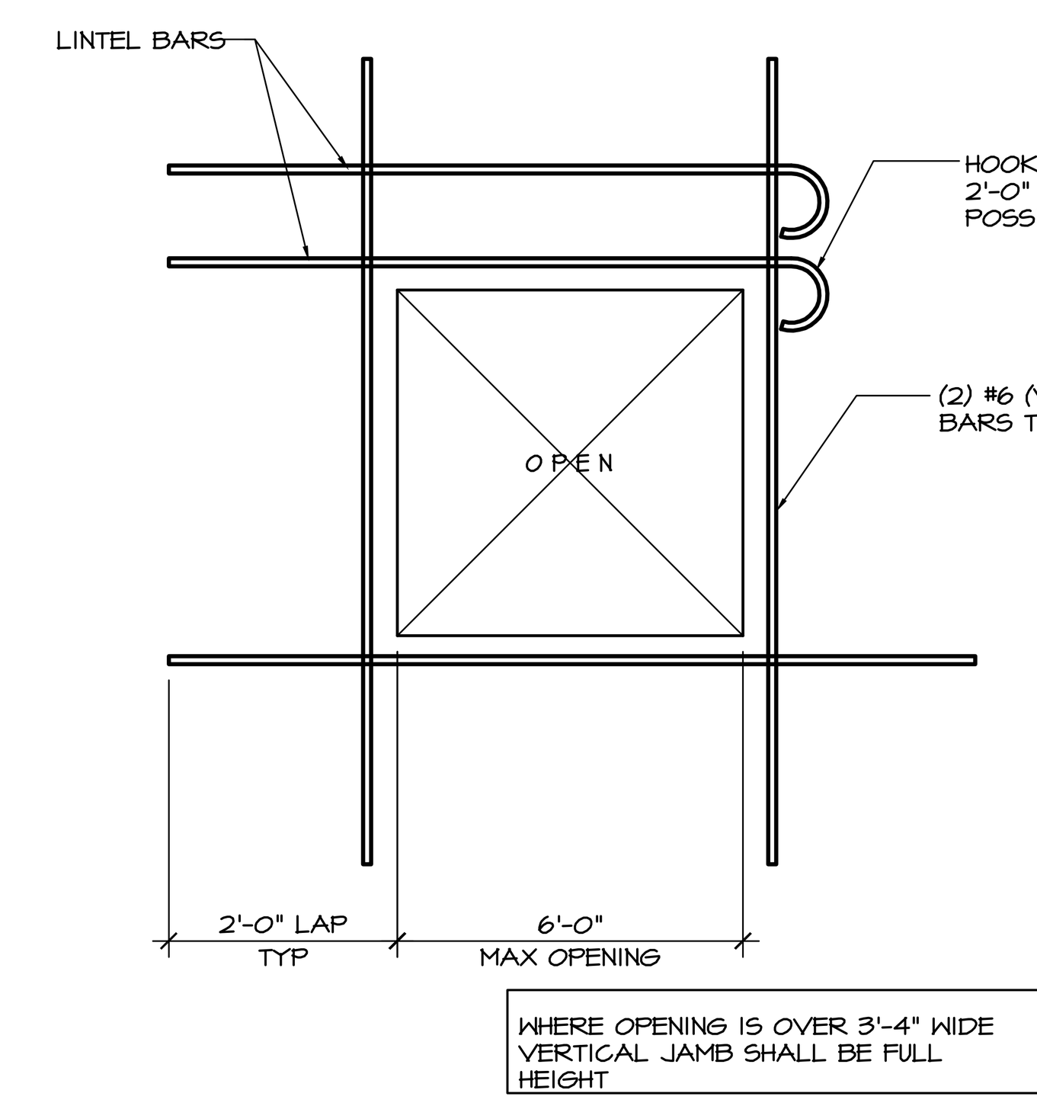
TYPICAL MASONRY LINTEL



NOTE: AT LINTELS AT WALL INTERSECTIONS, HOOK ENDS OF LINTEL REINF INTO WALL INTERSECTIONS, SEE 6/S0.4

TYPICAL MASONRY LINTEL | SCALE: NTS | 8

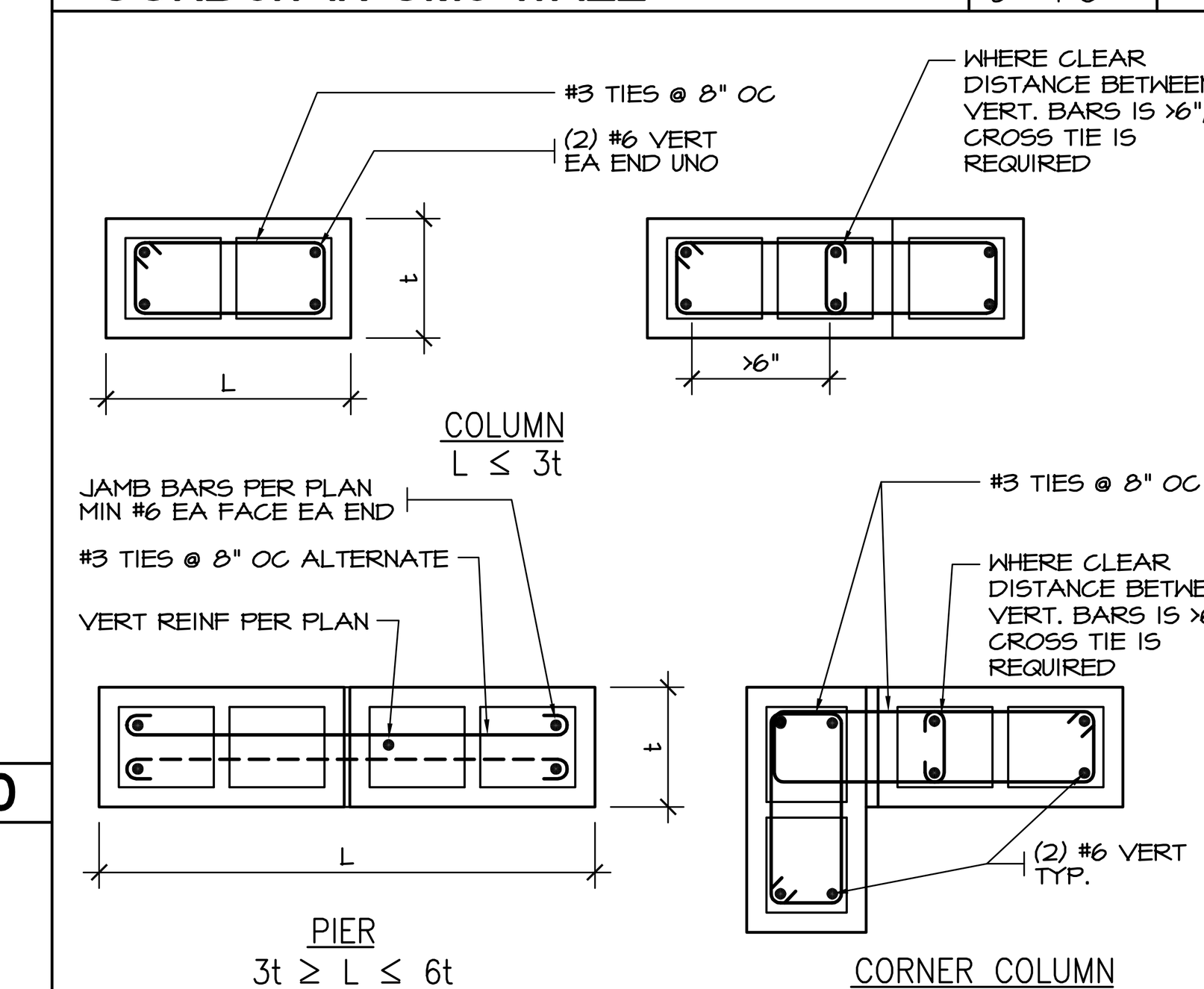
TYPICAL CMU JAMB AT OPNG



WHERE OPENING IS OVER 3'-4" WIDE VERTICAL JAMB SHALL BE FULL HEIGHT

TYPICAL CMU JAMB AT OPNG | SCALE: NTS | 10

CMU WALL PIERS AND COLUMNS



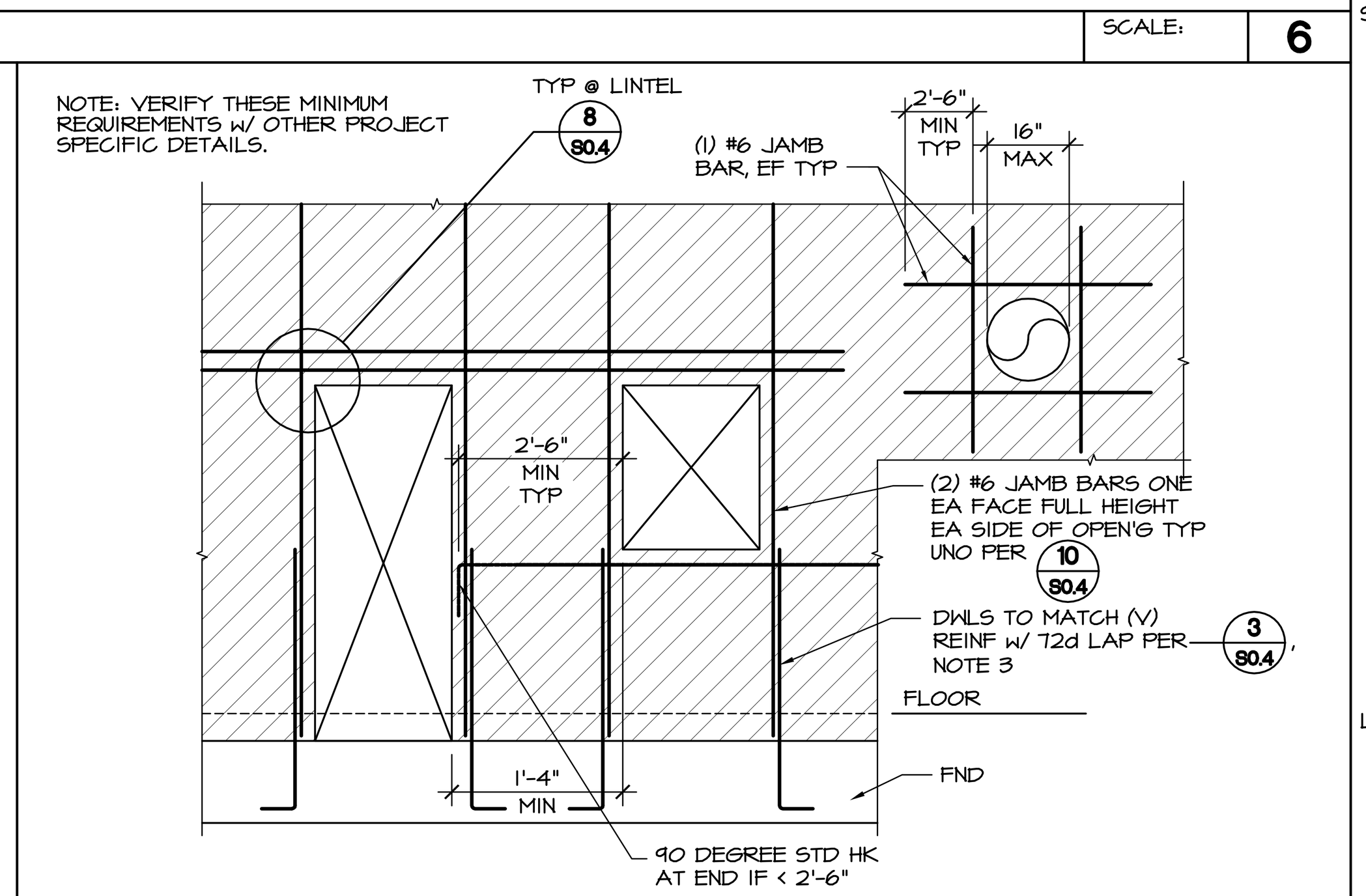
CMU WALL PIERS AND COLUMNS | SCALE: NTS | 16

DETAIL NOT USED

DETAIL NOT USED | SCALE: NTS | 12

TYP REINFORCEMENT AROUND CMU WALL OPENING'S

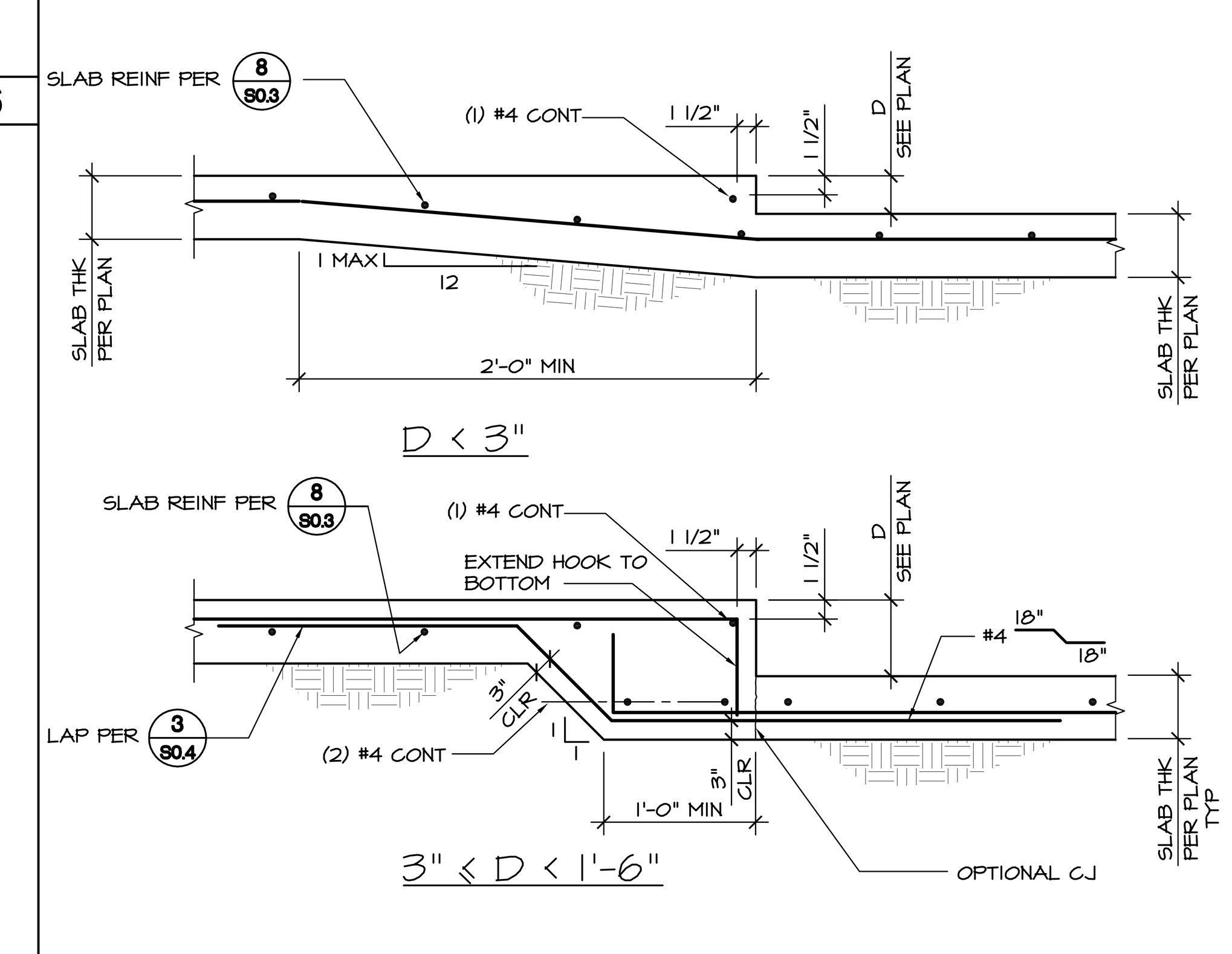
NOTE: VERIFY THESE MINIMUM REQUIREMENTS W/ OTHER PROJECT SPECIFIC DETAILS.



NOTE: ALL HORIZONTAL BARS AT WALL ENDS SHALL TERMINATE AROUND VERTICAL BARS W/ 90° OR 180° STD HOOK.

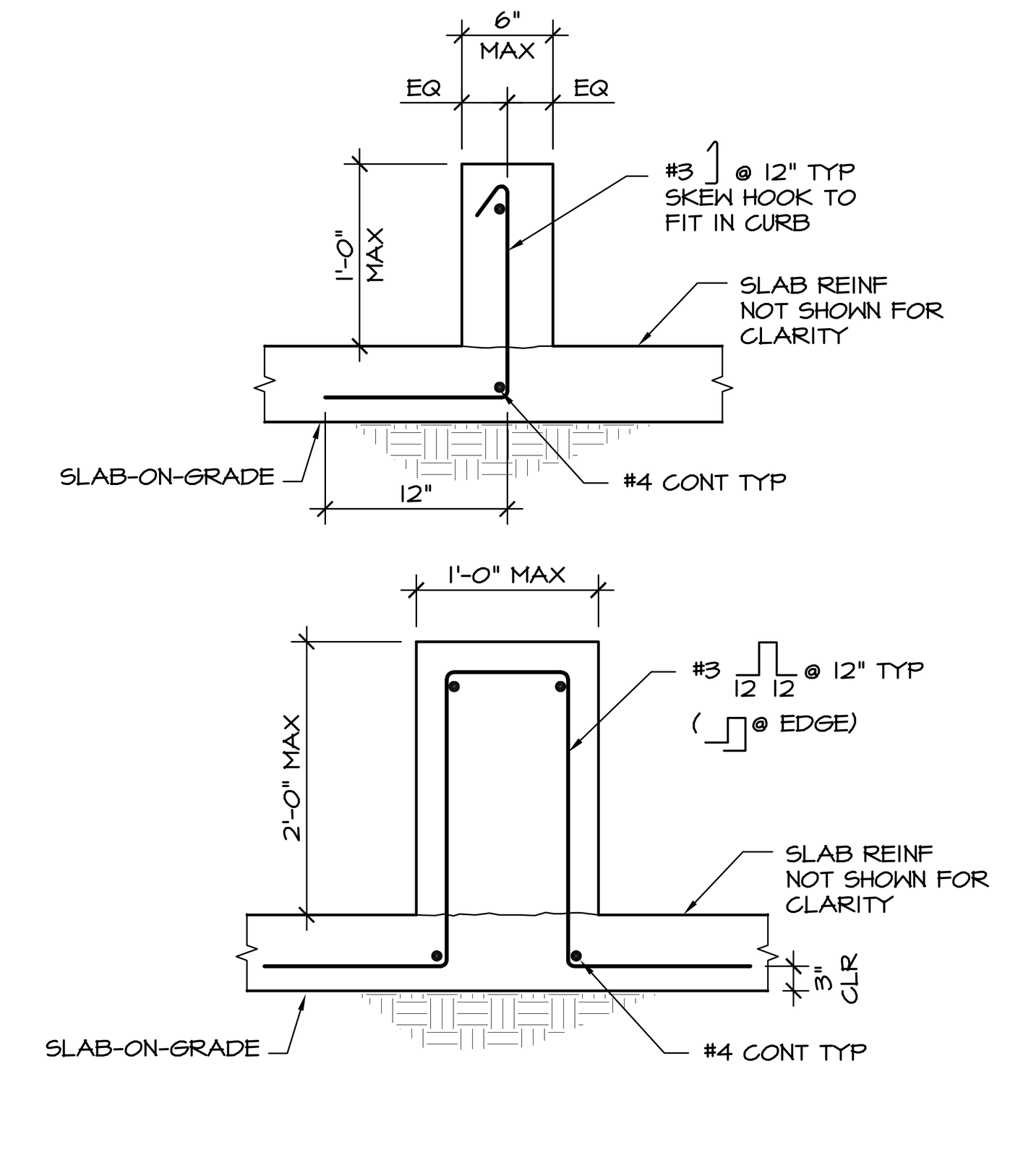
TYP REINFORCEMENT AROUND CMU WALL OPENING'S | SCALE: NTS | 13

TYPICAL DEPRESSION DETAIL



TYPICAL DEPRESSION DETAIL | SCALE: NTS | 14

TYPICAL CURB DETAIL



TYPICAL CURB DETAIL | SCALE: NTS | 15

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440
FAX 760 353 5442

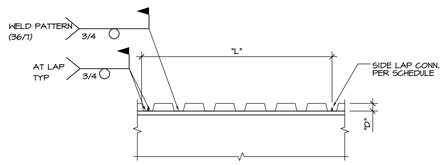
Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
TYPICAL MASONRY DETAILS

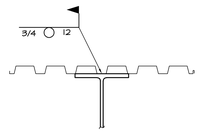
LICENSED ARCHITECT
JIMMIE A. SANDERS
C-17644
RENEWAL DATE
7-31-23
STATE OF CALIFORNIA

[illegible]

Document Date: 04-01-22
Date Last Revised:
Project Number: 22-091V
Sheet Number: S0.4



TYP. DECK ATTACHMENT TO PERPENDICULAR SUPPORTS



TYP. DECK ATTACHMENT TO PARALLEL SUPPORTS

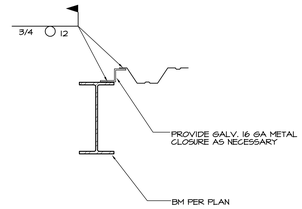
NOTES:

1. DECK SHALL BE PLACED OVER A MIN OF (3) SPAN LENGTHS WHERE POSSIBLE
2. TOP SEAM WELD; CLINCH FIRST TO GET CONTACT OF LIPS BEFORE WELDING, I 1/2" LONG WELD MUST ENGAGE TOP OF INNER LEG
3. ALL DECKING SHALL BE GALV
4. ALL PERPENDICULAR DECK PENETRATIONS GREATER THAN 8" SHALL BE REINF PER (5/80.5)
5. SEE (2/80.5) (3/80.5) (6/80.5) FOR ADD'L REQUIREMENTS
6. ALL DECK SHALL BE "VERCO" (IAPMO ER-0217) OR APPROVED EQUAL, AND THE TYPES AND GAUGES SHALL BE AS INDICATED ON THE PLANS.

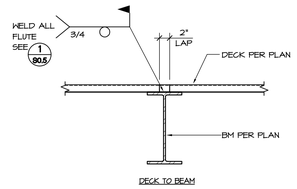
DECK PROPERTIES

DEPTH "D"	LENGTH "L"	GAUGE	WEIGHT (PSF)	I (IN^4)/FT	+S (IN^3)/FT	-S (IN^3)/FT	SIDE LAP CONNECTION	REMARKS
1 1/2"	36"	20	2.3	0.219	0.230	0.231	TSH @ 12"	VERCO HSB-36

TYPICAL ROOF DECK PROPERTIES AND WELDS — SCALE: NTS — 1



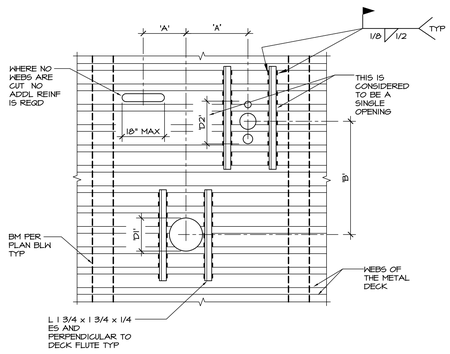
ROOF DECK LAP — SCALE: NTS — 2



DECK TO BEAM

ROOF DECK LAP — SCALE: NTS — 3

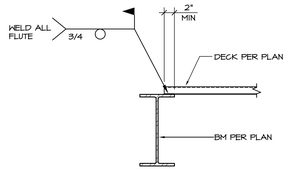
DETAIL NOT USED — SCALE: NTS — 4



NOTES:

1. PLACE ANGLES ON TOP OF DECK.
2. NOT USED
3. ANGLES MUST EXTEND (3) WEBS PAST THE OPENING.
4. WHERE DIM 'A' IS GREATER THAN 41'D', 41'D2' OR 32" WHICHEVER IS LARGER, THEN THERE IS NO RESTRICTION ON DIM 'B'
5. WHERE DIM 'B' IS GREATER THAN 41'D', 41'D2' OR 32" WHICHEVER IS LARGER, THEN THERE IS NO RESTRICTION ON DIM 'A'
6. WHERE DIM 'A' AND 'B' ARE LESS THAN 41'D', 41'D2' OR 32" WHICHEVER IS LARGER, THE OPENING GROUP WILL BE CONSIDERED AS A SINGLE HOLE, AND MUST BE REINFORCED AS REQUIRED FOR THE LARGER OPENING.

TYP. SMALL OPENING IN W/ HOLES CUTTING NO MORE THAN (3) ADJ. WEBS - 'B' TYPE DECK — SCALE: NTS — 5

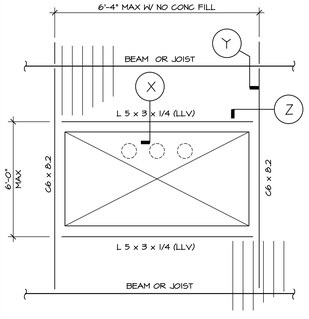


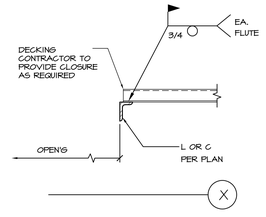
ROOF DECK WELDING — SCALE: NTS — 6

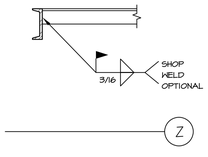
DETAIL NOT USED — SCALE: NTS — 7

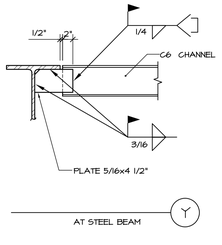
NOTES:

1. FRAME OPENING IN DECK AS SHOWN WHERE SLEEVE OR GROUP OF SLEEVES CUTS MORE THAN ONE DECK FLUTE WITHIN 18" WIDTH.
2. LOCATE OPENINGS IN METAL DECK, LARGER THAN 24" ONLY AS SHOWN ON THE STRUCTURAL PLANS. ALL OPENINGS SHALL BE SEPARATED 48" CLR MIN
3. WELD DECK PER (1/80.5)

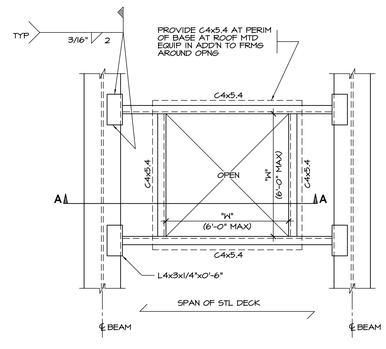




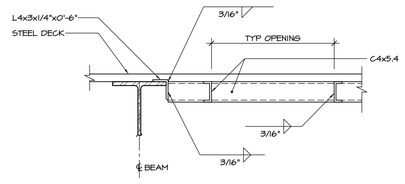




TYPICAL LARGE METAL DECK OPENINGS — SCALE: NTS — 8



PLAN VIEW

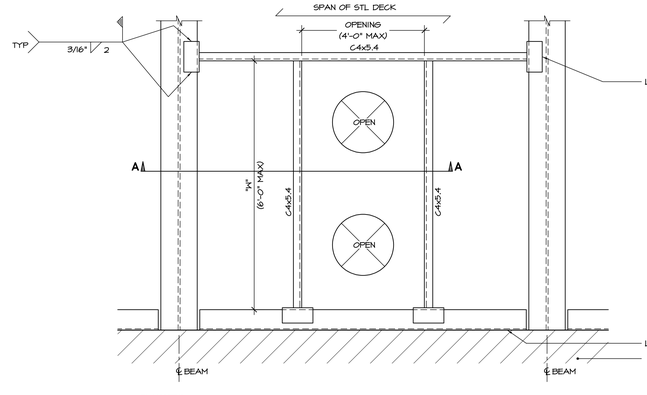


SECTION A-A

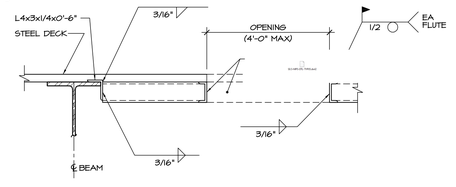
NOTES:

1. AT OPENINGS 12" AND SMALLER, PROVIDE 12 GA x 2" SHEET WELDED TO DECK. EXTEND SHEET 6" BEYOND EDGES OF DECK OPENING, ALL SIDES.
2. OPENINGS INCLUDE ROOF DRAIN RECEPTORS, PIPES, CONDUITS, SLEEVES, DUCTS, ETC. WHERE CLUSTERS OF THESE ITEMS IN ONE LOCATION MAY EXCEED 12, PROVIDE A FRAMED OPENING.
3. REINFORCEMENT AROUND OPENINGS THAT WILL BE SUPPORTED BY PREFABRICATED JOISTS OR GIRDERS SHALL BE REVIEWED AND UPDATED AS NEEDED.

LARGER HOLES, RECTANGULAR OR SQUARE — SCALE: NTS — 9



PLAN VIEW



SECTION A-A

NOTE:

1. REINFORCEMENT AROUND OPENINGS THAT WILL BE SUPPORTED BY PREFABRICATED JOISTS OR GIRDERS SHALL BE REVIEWED AND UPDATED AS NEEDED.

TYPICAL METAL DECK DETAILS — SCALE: NTS — 10

For Plan Check Only

December 31,2022

APPROVALS

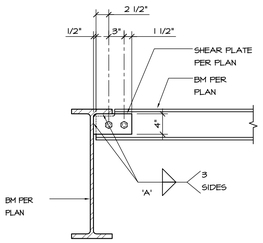
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
TYPICAL METAL DECK DETAILS

LICENSED ARCHITECT JIMMIE L. SANDERS No. 7644 RENEWAL DATE STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	S0.5



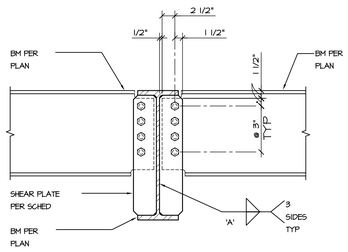
BEAM TO BEAM
W6/C6 OR SMALLER

STEEL BEAM CONNECTION SCHEDULE

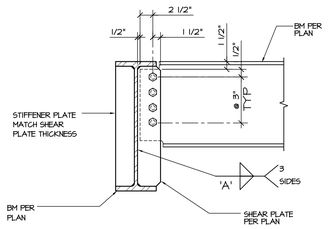
STEEL BEAM DEPTH	SHEAR PLATE THICKNESS	BOLTS			WELD 'A'	REMARKS
		NUMBER	DIAMETER	TYPE		
W 6/C6	1/4"	2	3/4"	A325N	1/4"	
W 8/C8	1/4"	2	3/4"	A325N	1/4"	
W 10x	1/4"	2	3/4"	A325N	1/4"	
W 12x	1/4"	3	7/8"	A325N	1/4"	
W 14x	3/8"	3	7/8"	A325N	1/4"	
W 16x	3/8"	4	7/8"	A325N	5/16"	
W 18x	3/8"	5	7/8"	A325N	5/16"	
W 21x	3/8"	6	7/8"	A325N	5/16"	
W 24x	3/8"	7	7/8"	A325N	5/16"	
W 27x	3/8"	8	7/8"	A325N	3/8"	
W 30x	1/2"	9	7/8"	A325N	3/8"	
W 33x	1/2"	10	7/8"	A325N	3/8"	
W 36x	1/2"	10	1"	A325N	7/16"	

NOTES:

1. SLOTTED HOLES ARE NOT PERMITTED, UON.
2. SPECIAL INSPECTION IS REQUIRED FOR HIGH STRENGTH BOLTS (A-325)

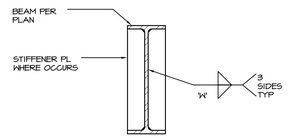


BEAM TO BEAM (TWO SIDE)
FULL HEIGHT



BEAM TO BEAM (ONE SIDE)
FULL HEIGHT

TYPICAL STEEL BEAM CONNECTION AND SCHEDULE | SCALE: N.T.S. | 1



STIFFENER PLATE SCHEDULE

STIFFENER PLATE THICKNESS	WELD 'W'	REMARKS
3/16"	3/16"	
1/4"	3/16"	
5/16"	3/16"	
3/8"	3/16"	
1/2"	1/4"	

TYPICAL STIFFNER PL CONN | SCALE: N.T.S. | 2

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
TYPICAL STEEL DETAILS

LICENSED ARCHITECT JIMMIE R. SANDERS No. 17644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

Document Date 04-01-22
Date Last Revised
Project Number 22-091V
Sheet Number S0.6

COLUMN FOOTING SCHEDULE

MARK	DIMENSION	DEPTH	REINFORCING TRANSVERSE			REINFORCING LENGTHWISE			REF. DETAIL
			NO.	SIZE	SPACING	NO.	SIZE	SPACING	
F1	3'-0" x 3'-0"	2'-0"	4 T&B	#5	EQUAL	4 T&B	#5	EQUAL	10/S1.1

KEYNOTES:

1. SLAB CONTROL JOINT OR CONSTRUCTION JOINT (6/S0.3)

WALL TYPES

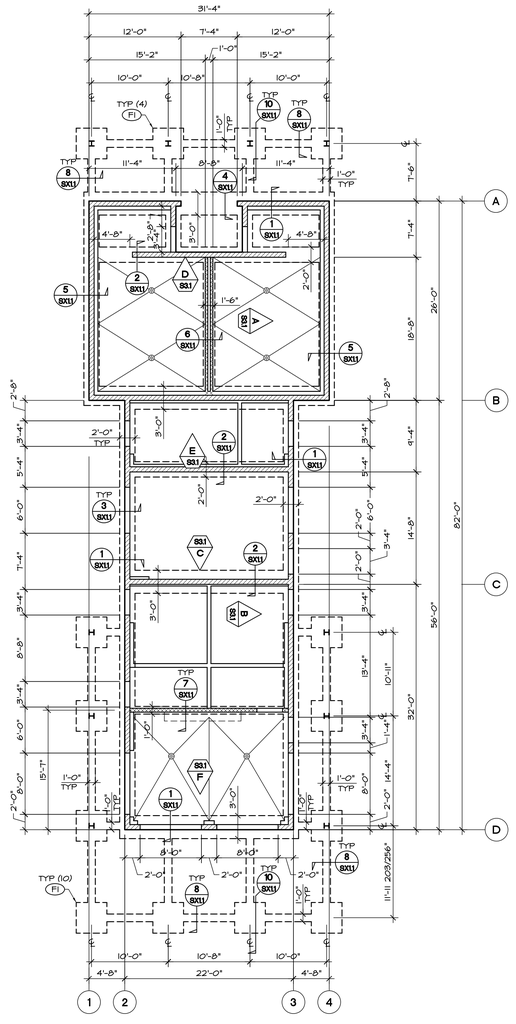
- 8" CMU WALL
- STUD WALL PER ARCHITECTURAL WITH 6" HIGH CONCRETE CURB
- STUD WALL PER ARCHITECTURAL

LEGEND:

- CMU WALL ELEVATION W/ SHEET REFERENCED
- FOOTING PER PLAN
- FLOOR DRAIN - SEE PLUMBING DRAWINGS 2% MAX SLOPE TO DRAIN
- F1 PAD FOOTING PER SCHEDULE

NOTES:

1. MIN FOOTING FORMWORK - SEE DETAIL (5/S0.3)
2. VERIFY ALL DIMENSIONS W/ DIMENSIONAL FLOOR PLAN.
3. CONTRACTOR SHALL USE MACHINE VIBRATOR WHEN PLACING CONCRETE IN FOOTINGS AND CURBS.
4. NO WOOD OR STEEL STAKES SHALL BE PERMITTED IN FOOTINGS.
5. DIMENSIONS ARE SYMMETRICAL UNO.
6. NEW SLAB ON GRADE TO BE 5" THICK CONCRETE SLAB W/ #4 BAR @ 16" OC EACH WAY OVER 2" OF SAND AND 10 MIL VAPOR BARRIER. (8/S0.3)



FOUNDATION PLAN — SCALE: 1/8" = 1'-0" — A

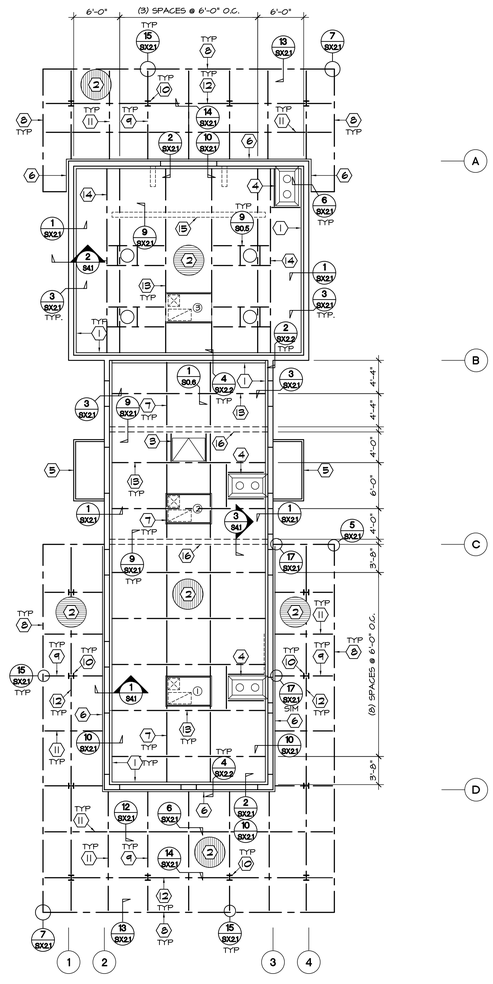
KEYNOTES:

1. L4x4x1/4 STEEL ANGLE LEDGER
2. STEEL DECK - 1-1/2" NSB-36 (1/S0.5)
3. ROOF ACCESS HATCH PER PLAN (9/S0.5)
4. ROOF DRAIN - SEE ROOF PLAN FOR EXACT LOCATION (9/S0.5)
5. DOOR / WINDOW EYEBROW (2/SX2.2)
6. C12 x 20.7 CHANNEL LEDGER
7. C6X8.2
8. C12x20.7 CHANNEL
9. (2) C12x20.7 CHANNELS
10. W8x35 STEEL COLUMN
11. C6x13 CHANNEL
12. C10x15.3 CHANNEL
13. W14x38
14. MC8x18.7 DRAG BLOCKING, TYP. AT LINES 2 AND 3 (LAID FLAT)
15. NON BEARING CMU WALL BELOW
16. BEARING CMU WALL BELOW

NOTES:

1. SEE SITE PLAN FOR BUILDING ORIENTATION.
2. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
3. SEE (1/SX2.2) FOR ROOF MOUNTED HVAC EQUIPMENT.
4. ROOF EQUIPMENT DEAD LOADS:
   MECHANICAL LOADS

(1) HVAC PACKAGE UNIT	HP-1	626 lb
(2) HVAC PACKAGE UNIT	HP-2	330 lb
(3) HVAC PACKAGE UNIT	HP-3	620 lb
(11) 21" TUBULAR SKYLIGHT (WINDOW NUMBER NOTED)		30 lb



FRAMING PLAN — SCALE: 1/8" = 1'-0" — B

For Plan Check Only

REGISTERED PROFESSIONAL ENGINEER — CURTIS K. SANDERS — No. S 4226 — STRUCTURAL — STATE OF CALIFORNIA

APPROVALS

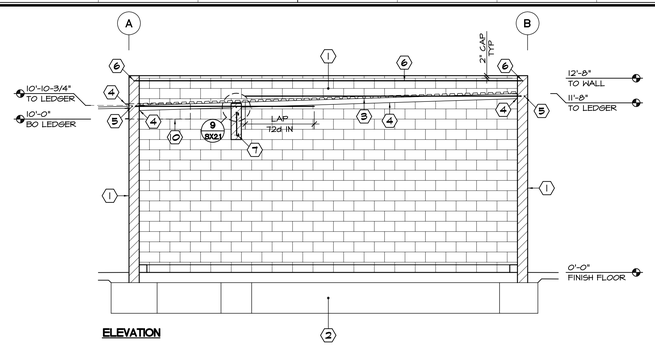
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

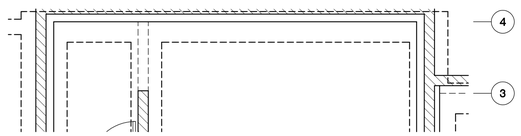
Sheet Title
FOUNDATION AND FRAMING PLAN

LICENSED ARCHITECT — JIMMIE SANDERS — No. 17644 — RENEWAL DATE 08-31-23 — STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	S2.1



ELEVATION



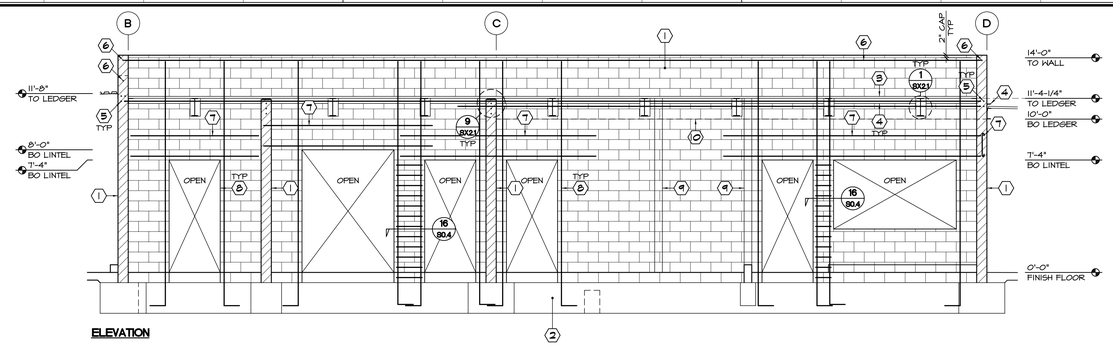
PLAN

A
S3.1

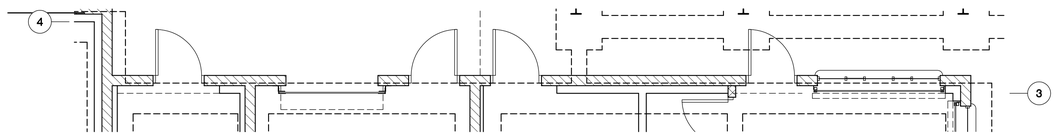
N

WALL ELEVATION

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



ELEVATION



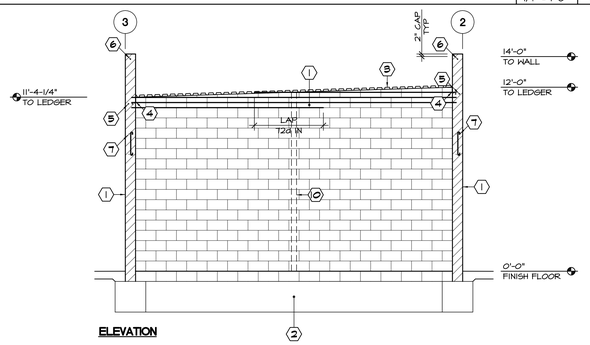
PLAN

B
S3.1

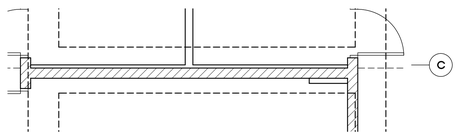
N

WALL ELEVATION

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



ELEVATION



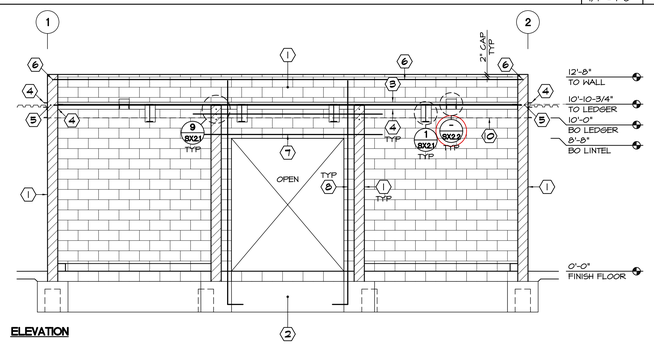
PLAN

C
S3.1

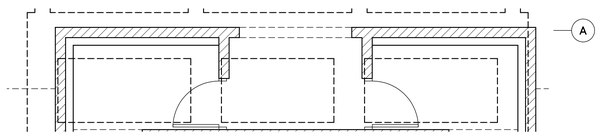
N

WALL ELEVATION

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



ELEVATION

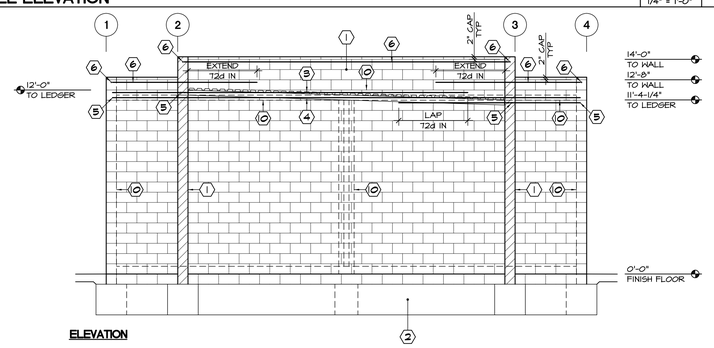


D
S3.1

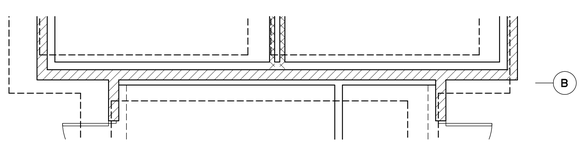
N

WALL ELEVATION

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



ELEVATION



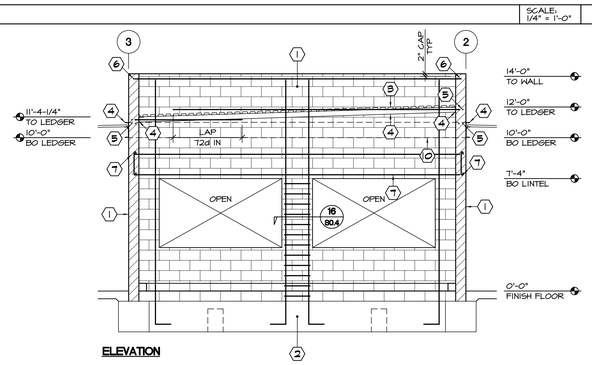
PLAN

E
S3.1

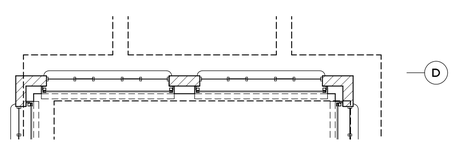
N

WALL ELEVATION

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



ELEVATION



PLAN

F
S3.1

N

WALL ELEVATION

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

For Plan Check Only

APPROVALS

KEYNOTES:

1. CMU WALL PER PLAN
2. CONCRETE FOUNDATION PER PLAN
3. METAL ROOF DECK PER PLAN
4. JOIST / LEDGER PER PLAN
5. DOUBLE DIAPHRAGM CHORD BARS PER DETAILS
6. PARAPET TOP BAR - (1) #5 CONT
7. LINTEL BARS 8 S0.4 / 8 S0.4 / 13 S0.4
8. JAMB BARS - (2) #6
9. STUD WALL PER PLAN
10. FRAMING / WALL BEYOND

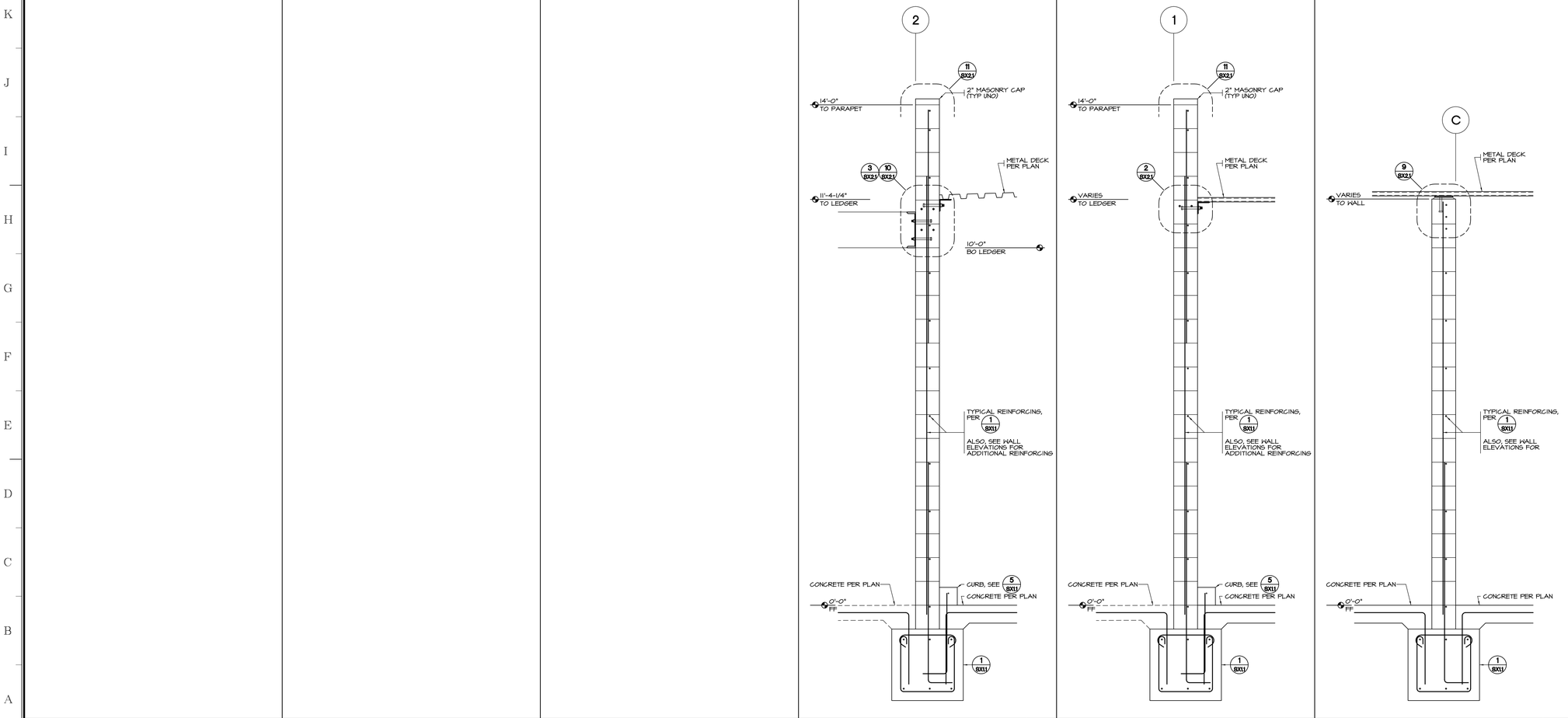
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
WALL ELEVATIONS

LICENSED ARCHITECT — JIMMIE D. SANDERS — No. C-17644 — RENEWAL DATE 11-30-23 — STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	S3.1



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

WALL SECTION SCALE: 3/4" = 1'-0" 2

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

REGISTERED PROFESSIONAL ENGINEER JOYCE K. JOHNSON No. S 4226 STRUCTURAL STATE OF CALIFORNIA

For Plan Check Only

APPROVALS

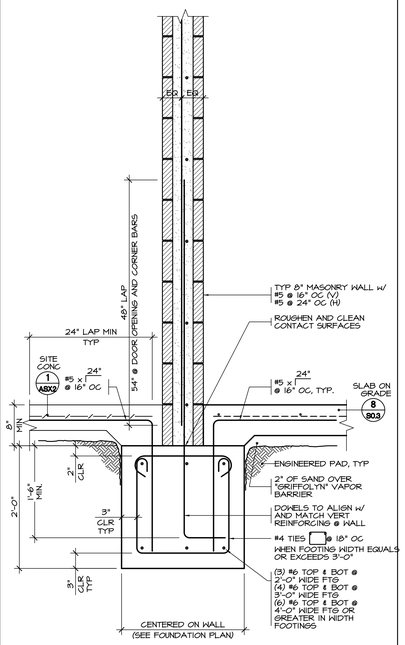
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

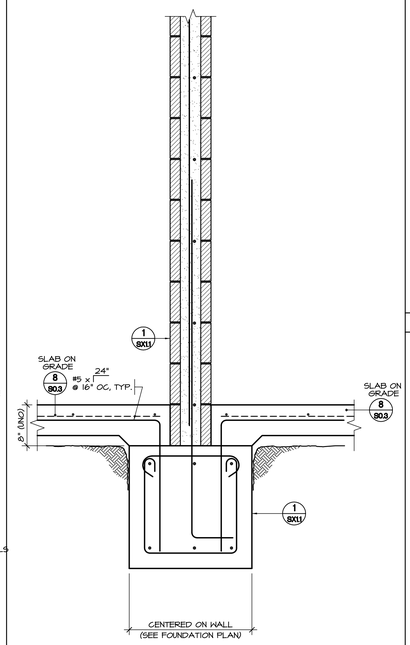
Sheet Title
WALL SECTIONS

LICENSED ARCHITECT JIMMIE L. SANDERS No. C-17644 RENEWAL 08/31/23 STATE OF CALIFORNIA

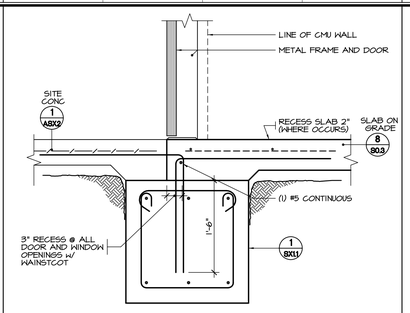
Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	S4.1



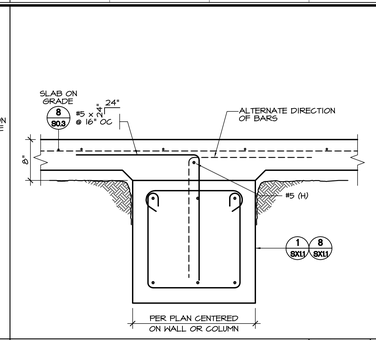
EXTERIOR CMU WALL AND FOOTING — SCALE: 1" = 1'-0" — 1



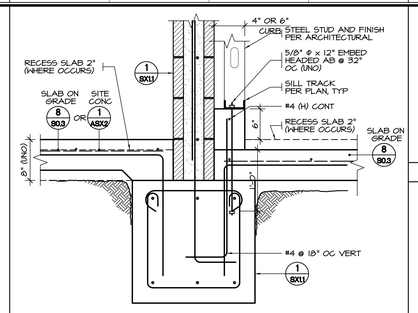
INTERIOR CMU WALL AND FOOTING — SCALE: 1" = 1'-0" — 2



FOOTING AT DOOR/WINDOW — SCALE: 1" = 1'-0" — 3

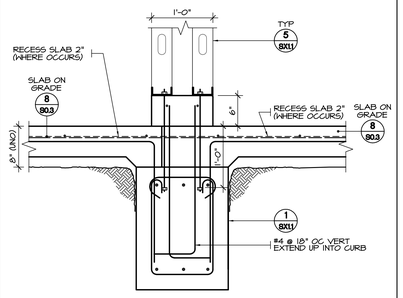


GRADE BEAM — SCALE: 1" = 1'-0" — 4

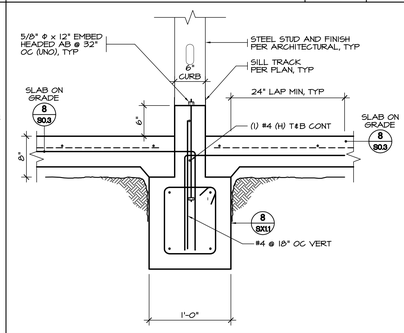


CURB FOOTING — SCALE: 1" = 1'-0" — 5

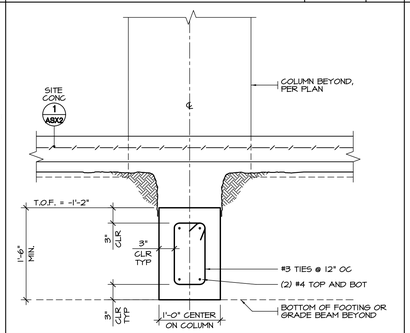
APPROVALS



CURB FOOTING — SCALE: 1" = 1'-0" — 6



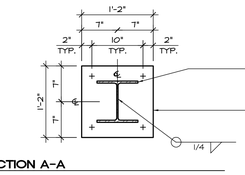
NON-BEARING CURB — SCALE: 1" = 1'-0" — 7



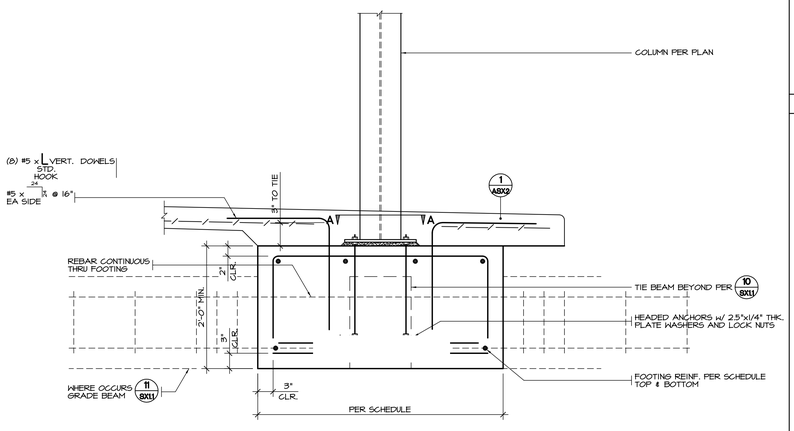
TIE FOOTING WALKWAY — SCALE: 1" = 1'-0" — 8

NOT USED

SCALE: 1" = 1'-0" — 9



SECTION A-A



STEEL COLUMN FOOTING — SCALE: 1" = 1'-0" — 10

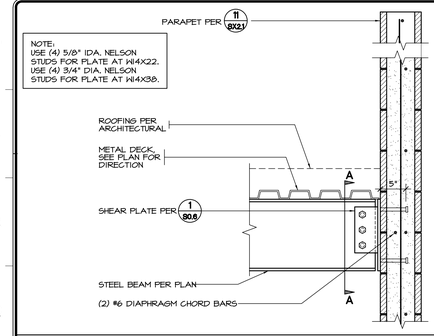
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
FOUNDATION DETAILS

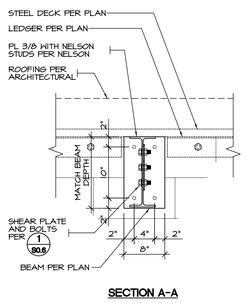
LICENSED ARCHITECT — JIMMIE SANDERS — No. 17644 — RENEWAL DATE: 08-31-23 — STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	SX1.1

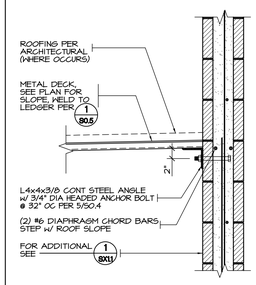


W BEAM-TO-CMU WALL CONN. DETAIL

SCALE: 1" = 1'-0" | 1

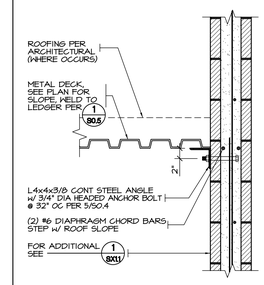


SECTION A-A



LEDGER TO CMU WALL

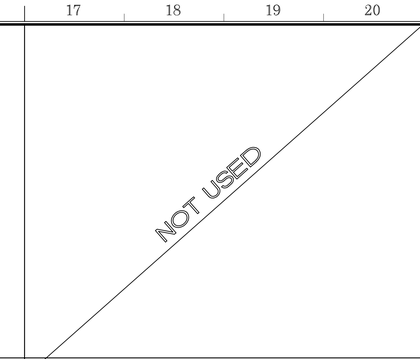
SCALE: 1" = 1'-0" | 2

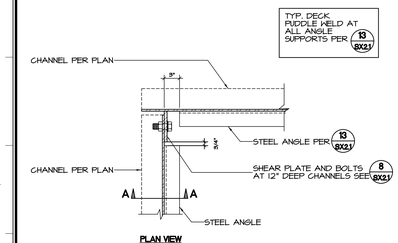


LEDGER TO CMU WALL

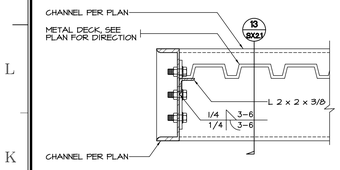
SCALE: 1" = 1'-0" | 3

NOT USED





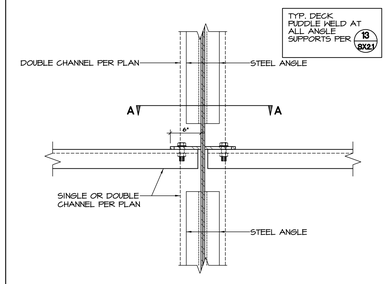
PLAN VIEW



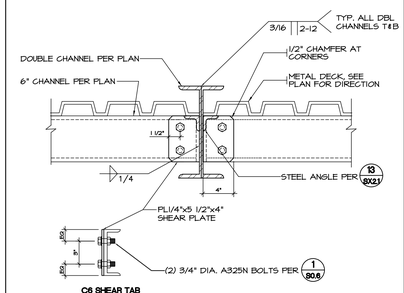
SECTION A-A

CHANNEL TO CHANNEL - PARALLEL

SCALE: 1 1/2" = 1'-0" | 5



PLAN VIEW

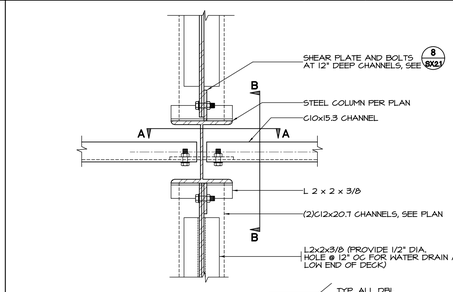


C6 SHEAR TAB

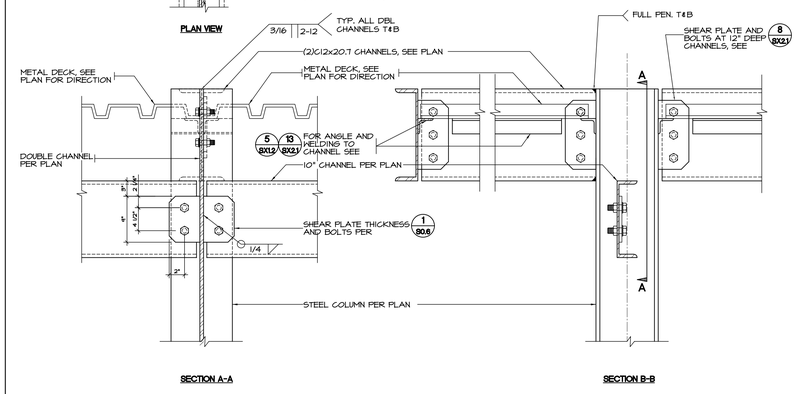
SECTION A-A

DOUBLE CHANNEL - PERPENDICULAR

SCALE: 1 1/2" = 1'-0" | 6



PLAN VIEW

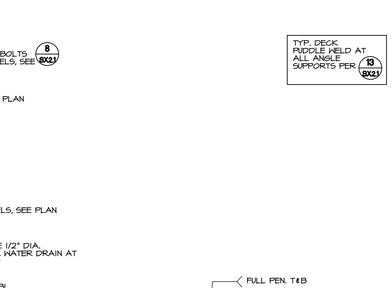


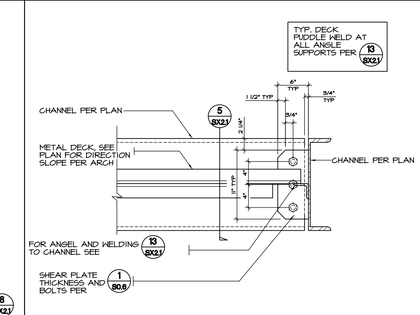
SECTION A-A

SECTION B-B

CHANNEL TO COLUMN

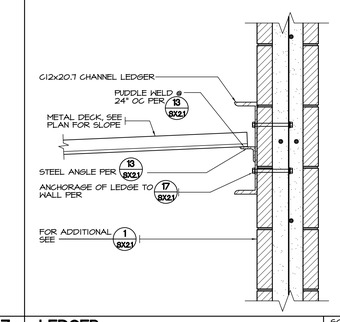
SCALE: 1" = 1'-0" | 7





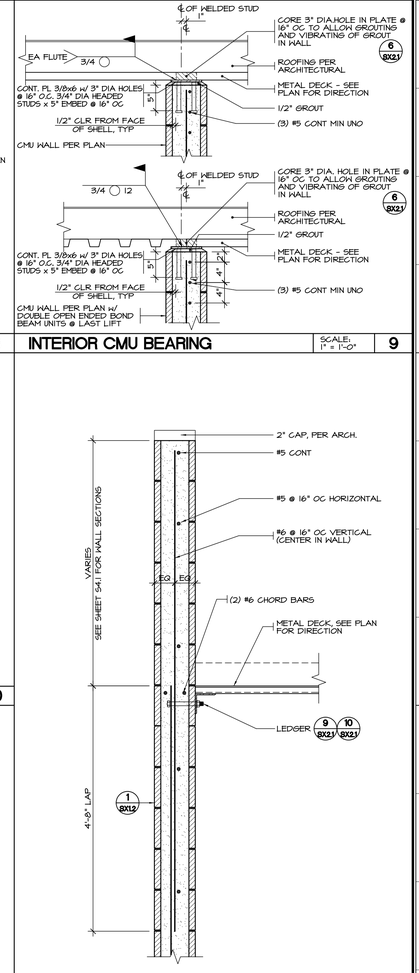
CHANNEL TO CHANNEL - PERP.

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



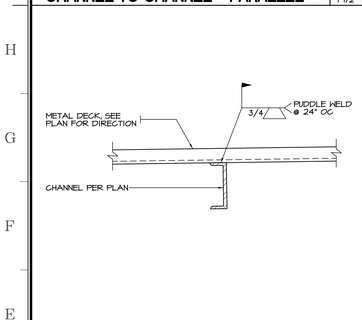
LEDGER

SCALE: 1 1/2" = 1'-0" | 10



INTERIOR CMU BEARING

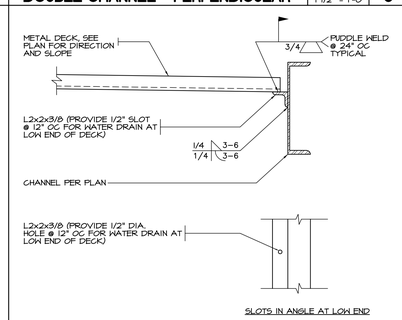
SCALE: 1" = 1'-0" | 9



SLOTS IN ANGLE AT LOW END

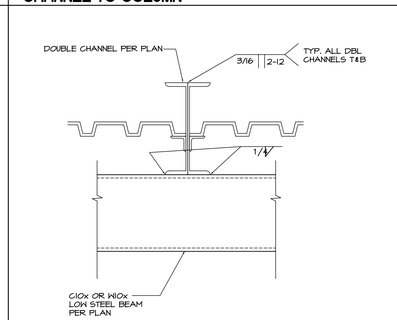
MID SPAN CHANNEL

SCALE: 1" = 1'-0" | 12

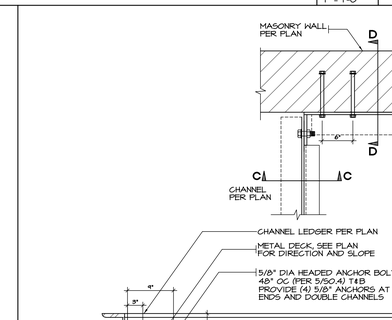


METAL DECK TO CHANNEL

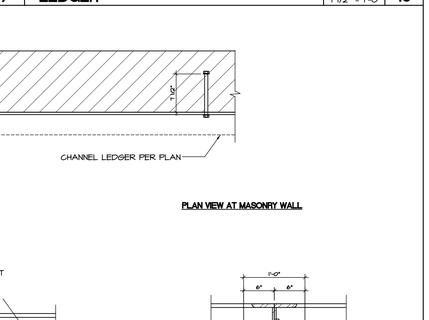
SCALE: 1" = 1'-0" | 13



SCALE: 1" = 1'-0" | 14



SECTION C-C



SECTION D-D

FRAMING SUPPORT AT MASONRY WALL

SCALE: 1 1/2" = 1'-0" | 17

TYPICAL PARAPET

SCALE: 1" = 1'-0" | 11

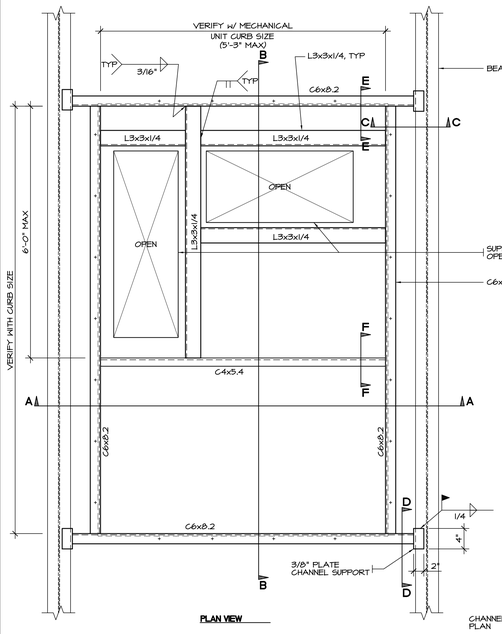
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

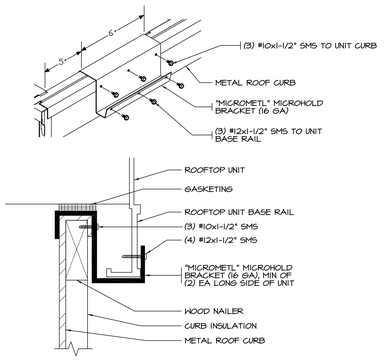
Sheet Title
FRAMING DETAILS

LICENSED ARCHITECT JIMMIE D. SANDERS No. C-17644 RENEWAL 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-091V
Date Last Revised	Sheet Number
	SX2.1

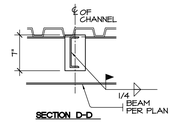


PLAN VIEW

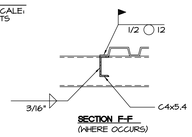


A/C UNIT ANCHORAGE

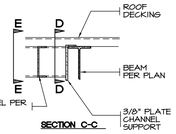
SCALE: NTS



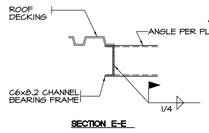
SECTION D-D



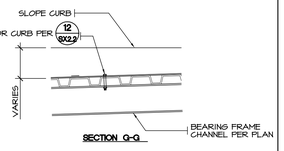
SECTION F-F
(WHERE OCCURS)



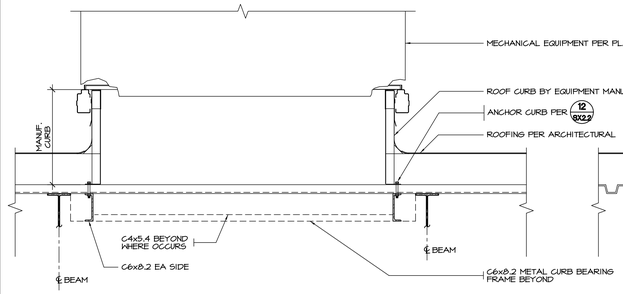
SECTION C-C



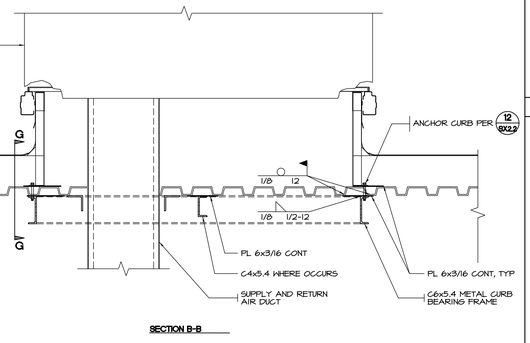
SECTION E-E



SECTION G-G



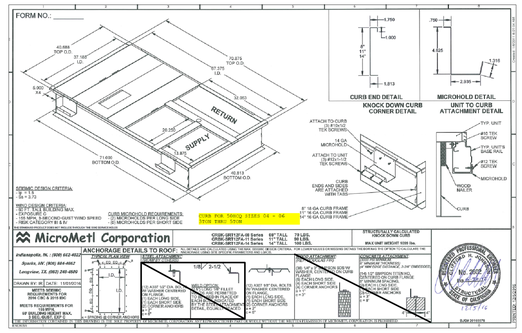
SECTION A-A



SECTION B-B

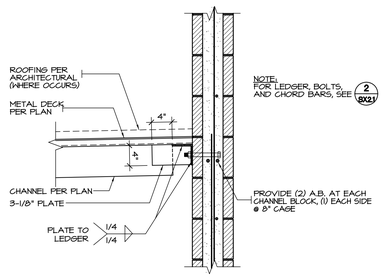
HVAC ROOF MOUNTING DETAIL

SCALE: 1" = 1'-0" | 1



MICROMETL HVAC CURB DETAIL

SCALE: N.T.S. | 12



WALL BRACING DETAIL

SCALE: 1" = 1'-0" | 13

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
FRAMING DETAILS

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-17644
RENEWAL DATE
08-31-23
STATE OF CALIFORNIA

Document Date: 04-01-22
Date Last Revised:
Project Number: 22-091V
Sheet Number: SX2.2

PIPE SCHEDULE

SERVICE	LOCATION	TYPE 'K' COPPER	TYPE 'L' COPPER	TYPE 'M' COPPER	DWV COPPER	MCMB CAST IRON	ABS DWV	SCH 40 PVC	SCH 80 PVC	SCH 40 ASTM A53 BLACK STEEL	SCH 40 ASTM A53 GALV STEEL	CAST BRASS CPVC SCH 40	SCH 40 TRUBORE YOU YPRO PE (CSA), SDR 11/13.5	FITTINGS	NOTES
WATER	ABV GRADE	●												WROT COPPER SOLDER	1-4
	BEL GRADE						●							SOLVENT CEMENT PVC	4
WASTE & VENT	ABV GRADE				●									Z BAND NO - HUB COUPLINGS	4
	BEL GRADE					●								SOLVENT CEMENT - ABS	4-5
RAINWATER	ABV GRADE				●									Z BAND NO - HUB COUPLINGS	4
	BEL GRADE					●								SOLVENT CEMENT - ABS	4-5
FUEL GAS	ABV GR-INT													MALLEABLE THREADED	
	ABV GR-EXT								●					MALLEABLE THREADED GALV	
	BEL GRADE												●	HEAT FUSION	
AC COND DRAIN	INTERIOR		●											WROT COPPER SOLDER	6-7
	EXTERIOR		●											WROT COPPER SOLDER	7
INDIRECT DRAIN	INTERIOR		●											WROT COPPER SOLDER	6-7
	EXTERIOR		●											WROT COPPER SOLDER	7
VACUUM	INTERIOR	●												WROT COPPER SOLDER	2
ACID WASTE & VENT	ABV GRADE											●		SOLVENT CEMENT - CPVC	
	BEL GRADE											●		SOLVENT CEMENT - CPVC	4,5
LAB PURE WATER	ABV GRADE												●	ENPURE SOCKET FUSION - POLYPRO	

NOTES:

1. INSULATE HOT WATER W/ 1" FIBERGLASS PIPE INSULATION W/ ASJ & FITTING COVERS.
2. LEAD FREE SOLDER.
3. PIPING BELOW FLOOR TO BE SOFT TEMPER W/ NO JOINTS BELOW FLOOR.
4. WRAP SLAB PENETRATIONS.
5. SLOPE PIPING @ 1/4" (2%) PER FOOT; OBTAIN BUILDING OFFICIAL PERMISSION FOR 1/8" (1%) SLOPE.
6. INSULATE W/ 3/8" WALL FOAMED PLASTIC PIPE INSULATION.
7. SLOPE PIPING @ 1/8" (1%) PER FOOT MIN.

WATER USE SCHEDULE

	FIXTURE TYPE	MAX FLOW RATE	
		BASELINE	PROPOSED DESIGN
IMPERIAL HIGH SCHOOL MULTIPURPOUS CTE CONCESSION STAND	WATER CLOSET	1.28 GPF	1.28 GPF
	URINAL	0.5 GPF	0.25 FPF
	SHOWER HEAD, SINGLE	2.0 GPM	N/A
	SHOWER HEAD, MULTIPLE	2.0 GPM	N/A
	LAVATORY FAUCET	0.5 GPM	0.5 GPM
	KITCHEN FAUCET	1.8 GPM	1.5 GPM
	WASH FOUNTAIN	1.8 GPM/20 (RIM SPACE)	N/A
	METERING FAUCET	0.20 GPC	0.20 GPC
	METERING FAUCET FOR WASH FOUNTAIN	0.20 GPM/20 (RIM SPACE)	N/A

NOTES:

1. PLUMBING FIXUTRES SHALL MEET THE MAXIMUM FLOW RATE VALUES PER 2016 CBC CHAPTER 5 DIVISION 3.
2. LAVATORY FAUCETS IN PUBLIC RESTROOMS SHALL BE THE SELF-CLOSING TYPE.

WATER DATA

THE WATER METER AND PIPING MAINS ARE EXISTING IN THIS BUILDING NEW WATER PIPING SHALL BE SIZED PER THE PLAN OR THESE SCHEDULES WHICHEVER IS GREATER IF NOT SPECIFICALLY NOTED IN NO CASE SHALL THE VELOCITY EXCEED 7 F.P.S FOR COLD WATER AND 5 F.P.S THRU HH PIPING

PIPE CAPACITY SCHEDULE - CW

SIZE	GPM	F.T. FIXT. UNITS	F.V FIXT. UNITS
1/2"	3	4	0
3/4"	7	9	1.5
1"	15	21	5
1 1/4"	25	40	8.5
1 1/2"	38	80	25
2"	70	225	110

PIPE CAPACITY SCHEDULE - HW

SIZE	GPM	F.T. FIXT. UNITS	F.V FIXT. UNITS
1/2"	3	4	--
3/4"	7	9	--
1"	13	18	--
1 1/4"	19	28	--

PIPE SIZING CHART

SIZE	GPM		VELOCITY		FIXTURE UNITS FLUSH TANK	
	H.W	C.W	H.W	C.W	H.W	C.W
1/2"	3.5	3.5	4.8	4.8	5.0	5.0
3/4"	7.0	9.0	5.0	6.0	10.0	12.0
1"	14.0	17.0	5.0	6.0	20.0	24.0
1-1/4"	20.0	27.0	5.0	6.0	30.0	45.0
1-1/2"	28.0	38.0	5.0	6.0	50.0	80.0
2"	45.0	70.0	N/A	6.0	105.0	225.0
2-1/2"	N/A	105.0	N/A	6.0	N/A	405.0
3"	N/A	160.0	N/A	7.0	N/A	644.0

WATER FIXTURE UNIT SUMMARY

QTY.	FIXTURE	F.U./FIXT	TOTAL
7	W.C.(FV)	8.0	56.0
8	LAV	1.0	8.0
3	URINAL	5.0	15.0
1	O.F.	1.0	1.0
1	MOP SINK	3.0	3.0
1	3 COMPARTMENT SINK	4.0	4.0
1	HAND SINKS	2.0	2.0
1	HOSE BIB	2.5/1.0	3.5
			92.5 FTFU = 65 GPM

COMMERCIAL WATER FIXTURE FLOW RATES

FIXTURE TYPE	MAXIMUM FLOW RATE
LAVATORY, PUBLIC (METERING)	0.20 GALLON PER CYCLE
LAVATORY, PUBLIC (NON-METERING)	0.5 GPM @ 60 PSI
WASH FOUNTAIN (METERING)	0.20 [RIM SPACE(IN.)/20GPM @60PSI]
WASH FOUNTAIN (NON-METERING)	1.8 [RIM SPACE(IN.)/20GPM @60PSI]
SHOWERHEAD (INCLUDING HANDHELD)	2.0 GPM @ 60 PSI
KITCHEN FAUCET	1.8 GPM @ 60 PSI
URINAL	0.125 GALLON PER FLUSH
WATER CLOSET	1.28 GALLON PER FLUSH

NOTES:

1. PLUMBING FIXTURE AND FITTING SHALL COMPLY WITH ALL THE REQUIREMENTS IN SECTION 5.303 IN THE 2013 CALIFORNIA GREEN BUILDING CODE
2. EACH SELF CLOSING LAVATORY FAUCET SHALL NOT EXCEED A WATER FLOW OF 0.20 GALLONS/CYCLE
3. EACH SHOWERHEAD SHALL NOT EXCEED A WATER FLOW 2.0 GPM
4. URINALS TO BE 0.125 G.P.F. MAX.
5. WATER CLOSETS SHALL BE 1.28 G.P.F MAX.
6. EACH KITCHEN FAUCET SHALL NOT EXCEED A WATER FLOW OF 1.8 GPM
7. WHEN A SHOWER IS SERVED BY MORE THEN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL THE SHOWERHEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 2.0 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ALLOW ONLY ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME (CAL GREEN SECTION. 5.303.3.3.2)

LEGEND:

ABBR	SYMBOL	DESCRIPTION
CW		COLD WATER PIPING
HW		HOT WATER PIPING
HWR		HOT WATER RETURN PIPING
G	—G—	NATURAL GAS PIPING
V		SANITARY VENT PIPING
S or W		WASTE/SEWER PIPING BELOW GRADE
S or W		SOIL or WASTE ABOVE GRADE
CD	—CD—	CONDENSATE DRAIN PIPING
D	—D—	INDIRECT DRAIN PIPING
SD	—SD—	STORM DRAIN PIPING
OD	—OD—	OVERFLOW STORM DRAIN PIPING
FS		FLOOR SINK
FD		FLOOR DRAIN
RD / OD		ROOF DRAIN / OVER FLOW DRAIN
WCO		WALL CLEAN-OUT w/ ACCESS PANEL
FCO		FLOOR CLEAN-OUT
COTG		CLEAN-OUT TO GRADE
P & TRV		PRESS & TEMP RELIEF VALVE
SOV		SHUT OFF (BALL) VALVE (IN RISER)
SOV		SHUT OFF (BALL) VALVE (IN-LINE)
CV		CHECK VALVE
STR		STRAINER
BFP		RED PRESSURE BACKFLOW PREVENTER
		UNION
		CAP
HB		HOSE BIBB
POC		POINT OF CONNECTION
VTR		VENT THRU ROOF
U/G		UNDER GROUND
B/F		BELOW FLOOR
A/C		ABOVE CEILING
UTR		UP THROUGH ROOF
WC		WATER COLUMN (GAS)
YB		YARD BOX
WHA		WATER HAMMER ARRESTOR
AP		ACCESS PANEL
UNO		UNLESS NOTED OTHERWISE
GW	—GW—	GREASE WASTE
AW	—AW—	ACID WASTE
AV	—AV—	ACID VENT

GENERAL NOTES:

1. THESE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION OF THE PLUMBING WORK TO BE ACCOMPLISHED AND AS SUCH ARE NOT INTENDED TO SHOW ALL REQUIRED OFFSETS OF PIPING. THE PLUMBING CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT SO AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, AND MAINTAIN HEADROOM AND PASSAGEWAYS.
2. ALL LOCATIONS, POINTS-OF-CONNECTION, INVERTS, SIZES, AND AVAILABILITY OF ALL EXISTING UTILITIES SHALL BE VERIFIED BY THE PLUMBING CONTRACTOR PRIOR TO THE COMMENCEMENT OF THE INSTALLATION.
3. THE PLUMBING CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF OTHER TRADES PRIOR TO COMMENCEMENT OF THE PLUMBING INSTALLATION.
4. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL APPLICABLE CODES. INCLUDING TITLE 24 CCR.
5. WHERE PLUMBING PENETRATES AREA SEPARATION WALL SURFACES, THE SECTION PASSING THROUGH THE WALL SURFACE AND CONNECTED TO THE ATTACHED FIXTURE SHALL BE ONLY OF METAL.
6. FOR MINIMUM PLUMBING FIXTURE CLEARANCES AND ELEVATIONS SEE ARCHITECTURAL DRAWINGS.
7. WATER HEATER/BOILER WILL COMPLY WITH SECTION 608.3, 2016 C.P.C. FOR THERMAL EXPANSION REQUIREMENTS AND WITH SECTION 510.5, 2016 C.P.C. FOR SEISMIC RESTRAINT REQUIREMENTS.
8. STATE HEALTH AND SAFETY CODE SECTION 17921.9 BANS THE USE OF CHLORINATED POLYVINYL CHLORIDE (CPVC) FOR INTERIOR WATER-SUPPLY PIPING.
9. FLAME SPREAD / SMOKE SPREAD FOR ALL PIPE INSULATION SHALL BE 25/50 MAX.

TITLE 24 NOTES:

1. PIPING SHALL BE INSULATED CONSISTENT WITH THE REQUIREMENTS OF CALIFORNIA ADMINISTRATIVE CODE, T24, SECTIONS 118, 123, & 124 E.E.S.
2. PLUMBING EQUIPMENT REQUIRING CERTIFICATION, AS IDENTIFIED IN THE CALIFORNIA ADMINISTRATIVE CODE, TITLE 24, SECTIONS 111-113, 115 & 120-124 E.E.S., SHALL BE CERTIFIED BY THE MANUFACTURER TO COMPLY WITH THE C.E.C.'S APPLIANCE EFFICIENCY STANDARDS. CERTIFICATES OF COMPLIANCE SHALL BE PROVIDED AS PART OF THE EQUIPMENT SUBMITTALS.
3. SERVICE WATER HEATING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF T24 CALIFORNIA ADMINISTRATIVE CODE.

ENERGY AND WATER CONSERVATION NOTES:

1. FIXTURE MAX FLOW RATES SHALL BE PER WATER USE SCHEDULE.
2. LAVATORY FAUCETS IN PUBLIC RESTROOMS SHALL BE THE SELF-CLOSING TYPE.
3. PROVIDE VACUUM BREAKERS AT HOSE BIBBS.

DESIGN CRITERIA:

MEP COMPONENT ANCHORAGE NOTE

1. 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 OF DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A1.18 THROUGH 1616A1.26 AND ASCE 7-10 CHAPTER 13, 26 & 30.
   A. ALL PERMANENT EQUIPMENT AND COMPONENTS.
   B. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
   C. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.
2. THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT THE ATTACHMENT 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 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.
3. FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY 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:

1. PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.7, 13.6.8 AND 2016 CBC, SECTIONS 1616A1.24, 1616A1.25 AND 1616A1.26.
2. THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

   MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEM (E).

   MP☐MD☐PP☐E☐ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

   MP☐MD☐PP☒E☐ - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # 0045-13

   MP☐MD☐PP☐E☐ - OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION (2004), INCLUDING ANY ADDENDA. FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL _____ AND CONNECTION LEVEL _____ FOR THE PROJECT AND CONDITIONS.

PLASTIC PIPE IN PLUMBING SYSTEMS:

1. APPROPRIATE PLASTIC PIPE MAY BE USED FOR VENT PIPING IN BUILDINGS. IT MAY BE USED FOR WASTE LINES IN PORTABLE BUILDINGS ONLY. IT MAY BE USED FOR DRAINS CARRYING ACID WASTE LABORATORIES. IT SHALL NOT BE USED FOR WATER DISTRIBUTION LINES WITHIN A DISTANCE OF 5 FEET OUTSIDE OF BUILDINGS.
2. PLASTIC PIPE OF THE APPROPRIATE CLASS MAY BE USED UNDERGROUND OUTSIDE OF BUILDINGS FOR CARRYING GAS AND DRAINAGE WASTE.
3. PLASTIC CONDUIT AND INSULATION MAY BE USED WHERE PERMITTED IN TITLE 24.
4. FLAME SPREAD RATING FOR WALL INSULATION NOT TO EXCEED 25 AND SMOKE DEVELOPED INDEX NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.

PLUMBING KITCHEN NOTES:

- INSTALLATION OF SOIL OR DRAIN PIPING IN FOOD HANDLING ESTABLISHMENTS SHALL COMPLY WITH SECTION 317.0 2016 C.P.C.
  - OPENINGS THROUGH FLOORS OVER FOOD HANDLING AREAS SHALL BE SEALED WATER TIGHT TO THE FLOOR CONSTRUCTION
  - FLOOR DRAINS OVER FOOD HANDLING AREAS SHALL BE EQUIPPED WITH INTEGRAL, SEE RAISE PANS
  - SOIL OR DRAIN PIPES SHALL BE OF APPROVED MATERIAL LISTED IN 1401.0 & 701.1 CLEANOUTS SHALL EXTEND THROUGH THE FLOOR ABOVE
  - PIPING SUBJECT TO OPERATION OF TEMPERATURES THAT WILL FORM CONDENSATION SHALL BE THERMALLY INSULATED
  - WHERE PIPES ARE INSTALLED IN CEILING ABOVE FOOD HANDLING AREAS THE CEILING SHALL BE OF THE REMOVABLE TYPE, OR SHALL BE PROVIDED WITH ACCESS PANELS IN ORDER TO FORM A READY ACCESS FOR INSPECTION OF PIPING
- PLUMBING CONTRACTOR SHALL ROUGH-IN AND MAKE FINAL CONNECTIONS TO KITCHEN EQUIPMENT, SEE FOOD SERVICE DRAWINGS
- COORDINATE EXACT REQUIREMENTS WITH KITCHEN EQUIPMENT CONTRACTOR PRIOR TO CONSTRUCTION, SEE FOOD SERVICE DRAWINGS
- COORDINATE AND VERIFY EXACT LOCATION OF ALL FLOOR DRAINS AND FLOOR SINKS WITH KITCHEN EQUIPMENT CONTRACTOR, SEE FOOD SERVICE DRAWINGS
- COORDINATE AND VERIFY EXACT LOCATION OF ALL FLOOR DRAINS AND FLOOR SINKS WITH KITCHEN EQUIPMENT CONTRACTOR, SEE FOOD SERVICE DRAWINGS
- PROVIDE PRESS REGULATING VALVE FOR DISHWASHER WATER CONNECTION PER MFG REQUIREMENTS
- VERIFY THE TYPE OF GRATES FOR FLOOR SINKS WITH KITCHEN EQUIPMENT CONTRACTOR GRATES SHALL BE REMOVABLE, SEE FOOD SERVICE DRAWINGS
- ALL DIRECT CONNECT WATER CONNECTIONS TO APPLIANCES SHALL BE INDIVIDUALLY POINT-OF-USE PROTECTED AGAINST BACKFLOW, CARBONATORS, FILLER HOSES, PRE-RINSE FAUCETS, RO, COMBI-OVENS, WATER SYSTEMS AND COUNTERTOP EQUIPMENT WITH WATER CONNECTIONS SHALL BE PROTECTED BY REDUCED PRESSURE BACKFLOW PREVENTERS WITH MACHINES, COFFEE MAKERS, AND SIMILAR EQUIPMENT WITH DIRECT CONNECTIONS TO POTABLE WATER SHALL BE PROTECTED BY A DOUBLE CHECK VALVE TYPE BACKFLOW PREVENTER
- PROVIDE WATTS 1/2" #009 REDUCED PRESSURE BACKFLOW PREVENTER FOR POINT OF USE PROTECTION FOR WATER FILTERS WITH DRAIN TO FLOOR SINK
- PLUMBING CONTRACTOR IS TO INSTALL & PROVIDE POINT OF USE FILTRATION AS REQUIRED AND SPECIFIED ON SEE FOOD SERVICE DRAWINGS
- PROVIDE ALL INDIRECT WASTE PIPING PER KITCHEN EQUIPMENT DRAWING, INSULATE REFRIGERATED DRAINS
- SEE PLUMBING NOTES ON KITCHEN EQUIPMENT DRAWINGS
- HOT WATER TO KITCHEN EQUIPMENT SHALL BE 140 DEG
- PROVIDE THERMOSTATIC MIXING VALVE TO REDUCE 140 DEG WATER TO 110 DEG TO TOILET ROOM LAVATORIES & KITCHEN HAND SINKS
- THE KITCHEN EQUIPMENT CONTRACTOR SHALL PROVIDE AN AUTOMATIC SOLENOID VALVE IN THE GAS LINE TO THE KITCHEN EQUIPMENT UNDER THE KITCHEN HOOD WITH AN ACCESS PANEL IF NOT EXPOSED. IT SHALL BE INSTALLED BY THE PLUMBING CONTRACTOR
- ALL DISH, PAN, AND WARE WASHERS MUST DRAIN TO A 3" TRAPPED FLOOR SINK WITH A CPC AIR GAP. FLOOR SINK TO BE MINIMUM 12"x12"x10" DEEP

PLUMBING FIXTURE SCHEDULE:

P-1 WATER CLOSET, FLOOR MOUNTED, ACCESSIBLE
TOILET - ZURN #5665, ELONGATED, "ECOVANTAGE" 1.28 GPF
VALVE - ZURN #Z6000AV-WET-CPM SENSOR OPERATED (BATTERY)
SEAT - OLSONITE #95 OFLC

P-2 URINAL, WALL HUNG, ACCESSIBLE
URINAL - ZURN #5755-U, 0.125 GPF
VALVE - ZURN #ZER6003AV-ULF-CPM SENSOR OPERATED (BATTERY)
SUPPORT - ZURN #Z-1222 CARRIER

P-3 LAVATORY, WALL HUNG (COLD ONLY)
BASIN - ZURN #Z5344 20" X 18" SINGLE HOLE
FAUCET - ZURN #Z86100-XL METERING FAUCET, 0.25 GPC @105EC/80PSI
STRAINER - ZURN #Z28149 GRID DRAIN
SUPPORT - WALL PLATE PER SPECIFICATIONS w/ (4) 3/8" ANCHORS MIN (OR ZURN #Z1231-E2R CARRIER)

P-4 LAVATORY, WALL HUNG (HOT AND COLD WATER)
BASIN - ZURN #Z5344 20" X 18" SINGLE HOLE
FAUCET - ZURN #Z86100-XL METERING FAUCET, 0.25 GPC @105EC/80PSI
STRAINER - ZURN #Z28149 GRID DRAIN
SUPPORT - WALL PLATE PER SPECIFICATIONS w/ (4) 3/8" ANCHORS MIN (OR ZURN #Z1231-E2R CARRIER)
ACCESSORY - ZURN #Z6887OXLT THERMOSTATIC MIXING VALVE

P-8 MOP BASIN
BASIN - FIAT #2424MSB, 3" OUTLET
FAUCET - FIAT #350-AA w/ VACUUM BREAKER
STRAINER - FIAT w/ BASIN
ACCESSORY - #832-AA HOSE AND BRACKET; BUMPER GUARDS

P-9 FLOOR DRAIN
DRAIN - ZURN #Z-415 w/ 1/4" MAX STRAINER OPENINGS IN ALL DIRECTIONS
ACCESSORY - TRAP PRIMER INLET

P-11 FLOOR SINK
SINK - ZURN #Z-1901, 12" X 12" X 10" DEEP w/ FLANGE AND COLLAR
ACCESSORIES - SEDIMENT BUCKET @ KITCHEN AND LABORATORY, TRAP PRIMER WHERE REQUIRED, 1/2 OR 1/4 GRATE AS SHOWN ON KITHGEN EQUIPMENT PLANS, 6" OR 8" DEEP WHERE NOTED

P-12 ROOF/OVERFLOW ROOF DRAINS (MAIN ROOF)
DRAINS - ZURN #Z-100-C (ROOF), Z-100-H2 (OVERFLOW)
ACCESSORIES - CAST IRON DOME (NO PLASTIC), UNDERDECK CLAMP
FLASHING - 4 LB LEAD, 8" ALL AROUND DRAIN BODY
DOWNSPOUT NOZZLE - ZURN #Z -149

P-13 ROOF/OVERFLOW ROOF DRAINS (COVERED WALKS)
DRAIN - ZURN #Z-100-90-C (ROOF) & #Z-100-H2 (OVERFLOW)
ACCESSORIES - CAST IRON DOME, UNDERDECK CLAMP
FLASHING - 4 LB LEAD, 8" ALL AROUND DRAIN BODY
DOWNSPOUT NOZZLE - ZURN #Z-149

P-16 WATER HEATER, ELECTRIC, STORAGE TYPE
HEATER - ES50-18
STORAGE CAPACITY - 50 GALLONS
RECOVERY - 14 GPH @ 80 DEGREE F RISE
ELECTRICAL - 3 KH ELEMENTS @ 6KE EACH - 208 VOLT, 1 PHASE
ACCESSORIES: VICTAULIC DIELECTRIC WATERWAYS @ HOT & COLD CONNECTIONS TO HEATER, P & TRV w/ FILL SIZE DRAIN, AMTROL #ST-5 EXPANSION TANK; HN 4 GN BALL TYPE S.O.V.'S
OPERATING WEIGHT (FULL) - 684 LBS

P-17 CIRCULATING PUMP, HOT WATER
PUMP - GRUNDFOS #UP26-96BF
CAPACITY - 10 GPM @15' TDH
ELEC - 1/25 HP @ 120-1-60
CONTROL - GRUNDFOS TIMER/T-STAT

P-18 HOSE BIBB w/ VACUUM BREAKER
BIBB - ACORN #612
FINISH - ROUGH CHROME

P-22 CONCESSIONS SINK, 3-COMPARTMENT
SINK - INTEGRAL w/ STAINLESS STEEL COUNTERTOP
FAUCET - TH(X)2) CHICASO #445-L3 BACKSPLASH MOUNT
DISPOSER - ONE(1) INSINKERATOR #444, 3/4 H.P. 120-1-60
STRAINER - TH(X)2) STAINLESS STEEL, CRUMB CUP TYPE
MISC - COORDINATE BACKSPLASH DRILLING REQUIREMENTS w/ COUNTERTOP FABRICATOR

P-23 CONCESSIONS HAND SINK, WALL MOUNTED
SINK - ELKAY 9SP #EHS-14X SINGLE COMPARTMENT 18 GA STAINLESS STEEL 5" DEEP
FAUCET - SPLASH MOUNTED SWIVEL GOOSENECK w/ 4" WRIST ACTION HANDLES
ACCESSORIES - P-TRAP COVER

P-24 DRINKING FOUNTAIN, STANDARD/ACCESSIBLE (11 P02)
FOUNTAIN - (2) HAWS #1104, 18 GA FABRICATED STAINLESS STEEL
WATER BOTTLE FILLER - HAWS #1420
SUPPORT - WALL HANGER w/ MIN (4) 3/8" x 1" ANCHOR
MOUNTING HEIGHT - AS SHOWN ON ARCHITECTURAL DRAWINGS
CHILLER - HAWS #HCRP
CAPACITY - 8 GPH AT 50 DEGREES F w/ 80 DEGREE F INLET
ELECTRICAL (CHILLER) - 5A @ 115-1-60
ELECTRICAL (BOTTLE FILLER) - 0.14A @ 115-1-60

DESIGNED PROFESSIONAL ENGINEER — VICTOR NEUMAN — Victor Neuman — 23110 — Exp. 9/30/2022 — MECHANICAL — STATE OF CALIFORNIA

APPROVALS

DIVISION 15
CONSULTING SERVICES, INC.
11180 Turquoise Circle
Dewey, Arizona 86327
(928) 772-8448
FAX (928) 772-8942
Division15@cableone.net

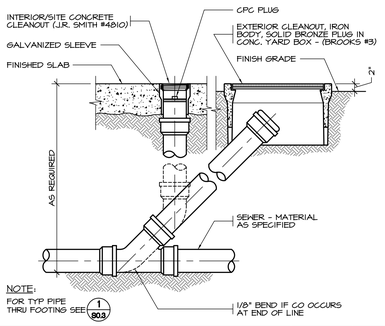
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTRROM/CONCESSION BUILDING

Sheet Title
LEGEND AND NOTES

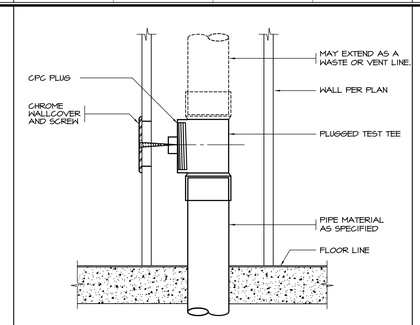
LICENSED ARCHITECT — JIMMIE D. SANDERS — No. C-17644 — RENEWAL DATE 08-31-23 — STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	P0.1



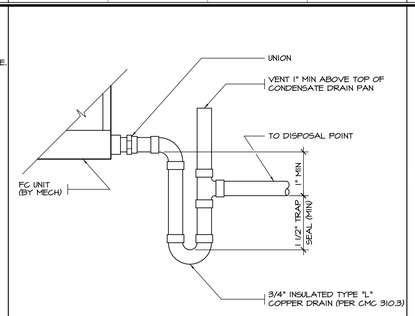
CLEANOUT TO GRADE

SCALE: NTS | 1



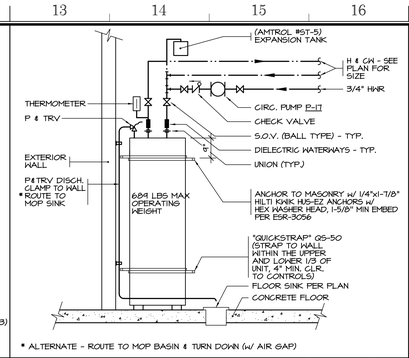
WALL CLEANOUT

SCALE: NTS | 2



CONDENSATE DRAIN TRAP

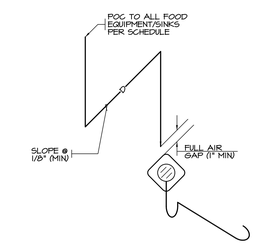
SCALE: NTS | 3



* ALTERNATE - ROUTE TO MOP BASIN & TURN DOWN (w/ AIR GAP)

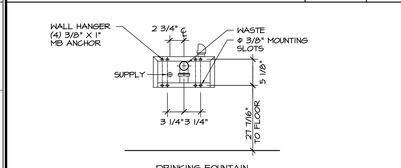
WATER HEATER PIPING DIAGRAM

SCALE: NTS | 5



INDIRECT DRAIN DETAIL

SCALE: NTS | 8



DRINKING FOUNTAIN MOUNTING DETAILS

SCALE: NTS | 11

REGISTERED PROFESSIONAL ENGINEER
VICTOR NEUMAN
No. 23110
Exp. 9/30/2022
MECHANICAL
STATE OF CALIFORNIA

APPROVALS

DIVISION 15
CONSULTING SERVICES, INC.
11180 Turquoise Circle
Dewey, Arizona 86327
(928) 772-8448
FAX (928) 772-8942
Division15@cableone.net

NOTES:

1. OSHPD PRE-APPROVAL OPM-0043-13 APPLICABLE DETAILS:

   PIPING
   SHEETS A13.0, A14.0

   HANGER ATTACHMENT
   SHEETS M3.10, M3.11, M3.13, M3.14, M3.15, M5.10, MT.10, MT.11, M10.12

   SEISMIC ATTACHMENT
   SHEETS A15.2, A15.4, A18.0, A18.1, A19.0, C2.10, N3.11, N3.12, N3.15, N5.10, N6.11
   P1.10, X1.0 - X9.0.9

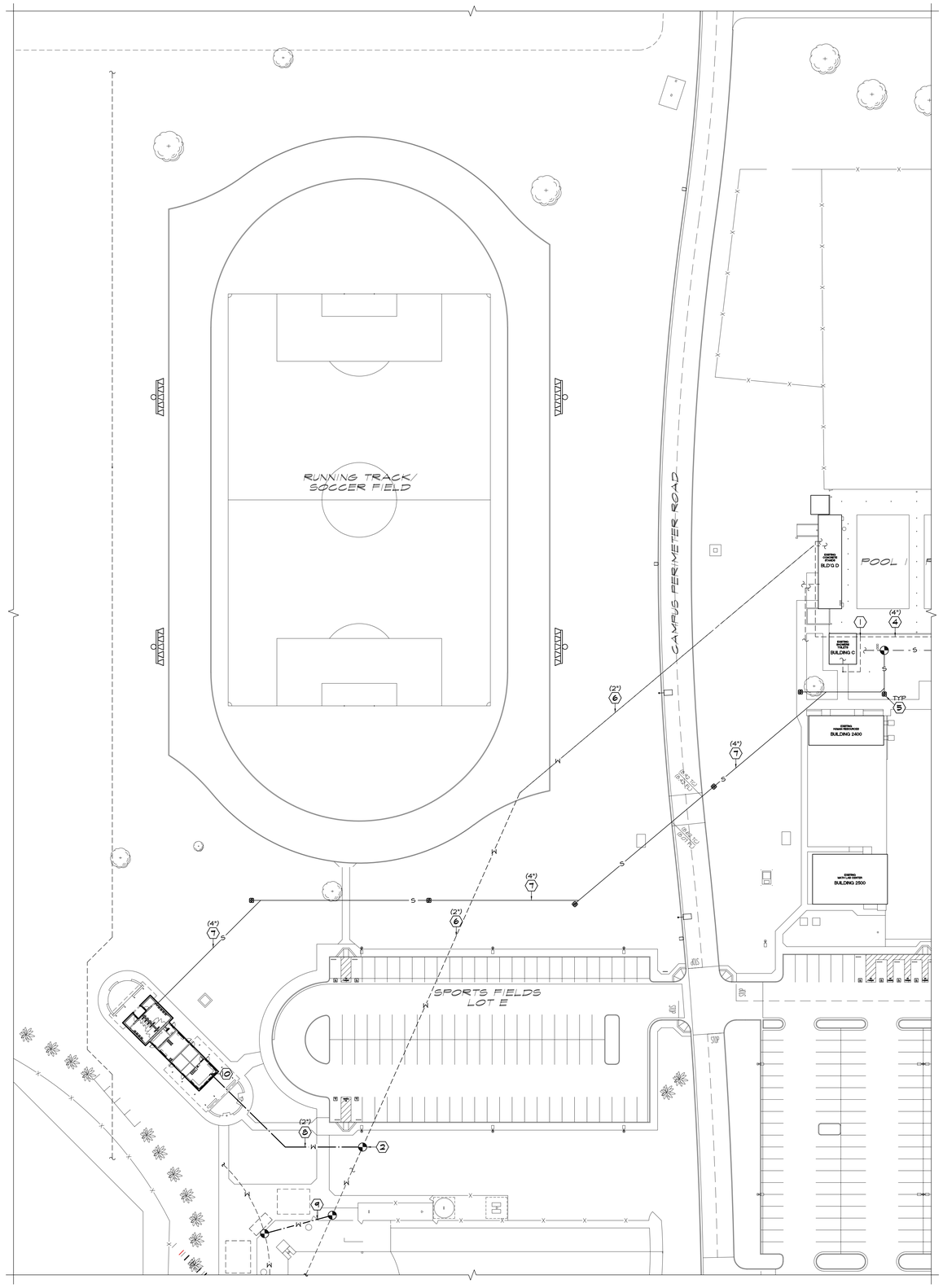
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/ CONCESSION BUILDING

Sheet Title
PLUMBING DETAILS

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-7644
RENEWAL 08/31/21
STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	P0.2



PLUMBING SITE PLAN

SCALE: 1" = 40'-0"

A

APPROVALS

DIVISION 15
CONSULTING SERVICES, INC.
11180 Turquoise Circle
Dewey, Arizona 86327
(928) 772-8448
FAX (928) 772-8942
Division15@cableone.net

KEYNOTES:

1. POINT OF CONNECTION TO EXISTING SEWER SYSTEM, (FIELD VERIFY EXACT LOCATION & DEPTH)
2. POINT-OF-CONNECTION FOR DOMESTIC WATER SERVICE - PROVIDE 2" LINE W/ SERVICE SADDLE - INSTALL PER CITY OF IMPERIAL
3. NOT USED
4. SEWER - SIZE NOTED - SEE FLOOR PLANS FOR CONTINUATION
5. CLEAN OUT TO GRADE ON SEWER LINE - 100'-0" OC MAX SPACING
6. CW U/G - SIZE NOTED
7. NEW SEWER - SIZE NOTED, SEE PLUMBING FLOOR PLANS FOR CONTINUATION
8. NEW CWUG - SIZE NOTED, SEE PLUMBING FLOOR PLANS FOR CONTINUATION
9. INTERCONNECT 2" WATER LINE TO LOOP AREA
10. VERTICAL BACKFLOW PREVENTER INSIDE BUILDING FOR DOMESTIC WATER

GENERAL NOTES:

1. INSTALL WATER AND SEWER PIPING IN COMMON TRENCH PER 2019 CPC, SECTION 609.2. — 14/ABX2
2. SITE SEWER TO BE SLOPED AT 1% MINIMUM.
3. PROVIDE CONCRETE YARD BOX WITH IDENTIFICATION LID AT ALL CO'S IN LANDSCAPED AREAS. PROVIDE J.R. SMITH #4810 BRONZE ACCESS HOUSING AT ALL CO'S LOCATED IN SITE CONCRETE PER — 1/P0.2
4. PIPING / TRENCHING AT BUILDING FOUNDATIONS TYPICAL PER 1/803
5. ALL WATER LINES SHALL HAVE 24" MINIMUM COVER.
6. COORDINATE LOCATION OF ALL U/G PIPING NEAR MECHANICAL EQUIPMENT AND ENCLOSURES W/ U/G/ MECHANICAL PIPING - SEE MECHANICAL DRAWINGS

REGISTERED PROFESSIONAL ENGINEER
VICTOR NEUMAN
No. 23110
Exp. 9/30/2022
MECHANICAL
STATE OF CALIFORNIA

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
PLUMBING SITE PLAN

LICENSED ARCHITECT
JIMMIE L. SANDERS
No. C-7644
RENEWAL 08/31/23
STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	P0.3

WASTE AND VENT KEYNOTES:

1. S OR H UG (SIZE NOTED) - SEE PLUMBING SITE PLAN FOR CONTINUATION
2. S OR H BF - SLOPE 1/4" PER FT MIN - SIZE NOTED
3. 3" (UNO) VENT THROUGH ROOF - MAINTAIN MIN 10'-0" CLEAR TO HVAC UNIT OSA INTAKE
4. FLOOR SINK WITH INDIRECT WASTE FROM P-22 (3 COMP SINK)
5. 2" WASTE TO DRINKING FOUNTAIN
6. 2" VENT FROM B/G &UP THROUGH ROOF
7. PROVIDE URINALS WITH A WALL CLEANOUT ABOVE THE FIXTURE

NOTES:

1. FOR ALL PENETRATIONS THRU MASONRY - SLEEVE THRU WALL & SEAL ANNULAR SPACE W/ U.L. LISTED FIRESTOP SEALANT PER ARCHITECTURAL DRAWINGS
2. PROVIDE FIRESTOP SEALANT PER ARCHITECTURAL DRAWINGS FOR ALL THRU PENETRATIONS OF FIRE RATED STUD WALLS
3. ALL SEWER AND WASTE PIPING SHALL SLOPE @ 1/4" PER FOOT MIN.
4. PROVIDE PROTECTION FOR ALL PENETRATIONS INTO NON-COMBUSTIBLE COMPARTMENTS ABOVE CEILINGS PER C/A9.1

HOT AND COLD WATER KEYNOTES:

1. CW (SIZE NOTED) - SEE PLUMBING SITE PLAN FOR CONTINUATION
2. SOV (BALL TYPE) IN YARD BOX WITH COVER MARKED "WATER"
3. CW UP IN WALL W/ SOV AND AP AT +48" AFF - SIZE NOTED
4. TRAP PRIMER W/ AP - ROUTE 1/2" SOFT COPPER CW B/F TO FLOOR DRAIN INLET (NO JOINTS B/F)
5. CW IN WALL/FURRING - SIZE NOTED
6. CW BELOW CEILING - SIZE NOTED
7. CW UP TO BELOW CEILING - SIZE NOTED
8. INSULATED HW BELOW CEILING - SIZE NOTED
9. CW HEADER IN WALL - SIZE NOTED
10. 1 1/4" CW - (TYP @ WATER CLOSETS AND URINALS)
11. 1/2" CW - (TYP @ LAVATORIES)
12. 3/4" CW & HW - (TYP @ MOP BASINS AND SINKS) - UNLESS NOTED OTHERWISE
13. 1" CW AND -/-" HWR TO WATER HEATER AND 1" HW FROM WATER HEATER TO ABOVE CEILING PROVIDE 3" CW AND HW TO MOP SINK
14. 3/4" CW TO HOSE BIBB
15. 2" CW DOWN IN WALL WITH S.D.V. WHA AND ACCESS PANEL
16. 3/4" CW UP IN WALL TO HOSE BIBB ABOVE ROOF - SEE PLUMBING ROOF PLAN FOR CONTINUATION
17. 1/2" CW UP TO P-14 CHILLER ON ROOF - 1/2" INSULATED CW FROM CHILLER TO (3) P-14

NOTES:

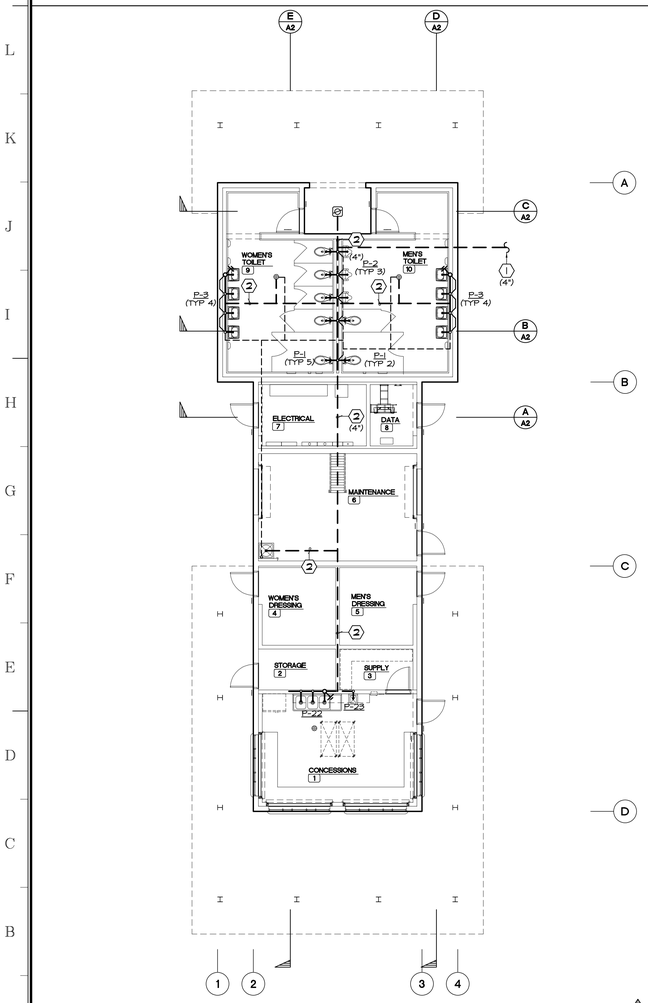
1. FOR ALL PENETRATIONS THRU MASONRY - SLEEVE THRU WALL & SEAL ANNULAR SPACE W/ NON-HARDENING SEALANT PER ARCHITECTURAL DRAWINGS.
2. PROVIDE FIRESTOP SEALANT PER ARCHITECTURAL DRAWINGS FOR ALL THRU PENETRATIONS OF FIRE RATED STUD WALLS

PLUMBING ROOF PLAN KEYNOTES:

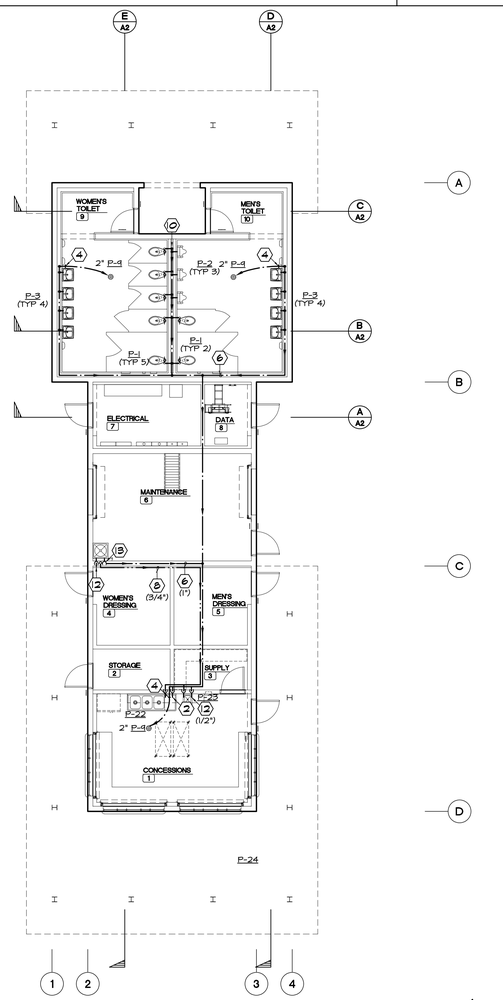
1. MECHANICAL UNIT ON ROOF PER MECHANICAL DRAWINGS
2. PROVIDE 3/4" TRAPPED & VENTED CD CONNECTION TO MECHANICAL UNIT (3/P0.2)
3. ROUTE 3/4" CD DOWN THRU ROOF FLASHING - SEAL SPACE BETWEEN PIPE & FLASHING W/ NON-HARDENING WATERPROOF SEALANT
4. 3/4" (UNO) CD IN TRUSS/JOIST SPACE
5. CD DOWN IN WALL - DISCHARGE TO SINK TRAP OR MOP BASIN W/ AIR GAP
6. ROOF DRAIN DOWN IN WALL FURRING - DISCHARGE TO EXTERIOR GRADE
7. OVERFLOW DRAIN STRAIGHT THROUGH WALL
8. 3/4" CW UP FROM BELOW ROOF TO P-18 ABOVE ROOF - SEE HOT AND COLD WATER PLAN FOR CONTINUATION

NOTES:

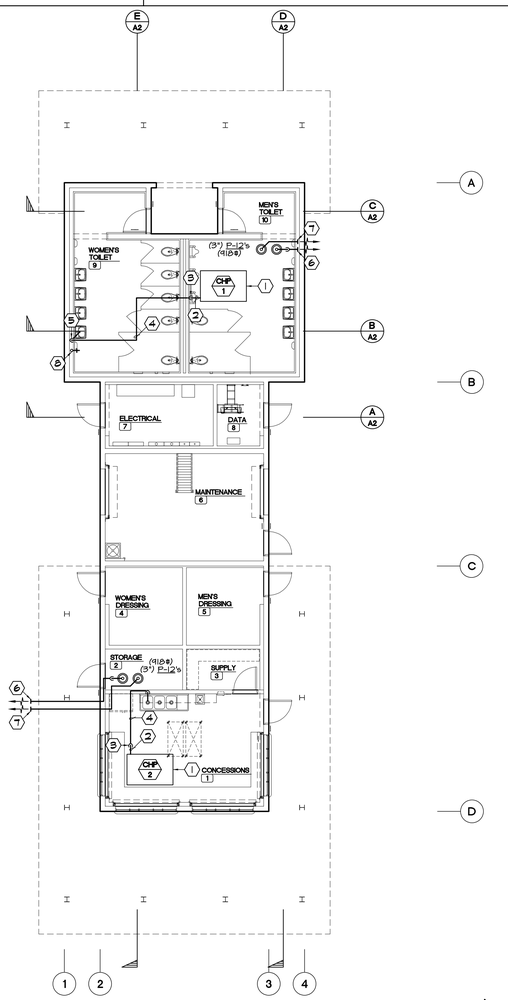
1. FOR ALL PENETRATIONS THRU MASONRY - SLEEVE THRU WALL & SEAL ANNULAR SPACE W/ NON-HARDENING SEALANT PER ARCHITECTURAL DRAWINGS.
2. ALL CONDENSATE DRAINS SHALL BE INSULATED AND SLOPE @ 1/8" PER FOOT MIN.
3. ALL ROOF/OVERFLOW DRAINS SHALL SLOPE @ 1/8" PER FOOT MIN.



WASTE AND VENT | SCALE: 1/8" = 1'-0" | A



HOT AND COLD WATER | SCALE: 1/8" = 1'-0" | B



PLUMBING ROOF PLAN | SCALE: 1/8" = 1'-0" | C

DESIGNED PROFESSIONAL ENGINEER VICTOR NEUMAN Victor Neuman No. 23110 Exp. 9/30/2022 MECHANICAL STATE OF CALIFORNIA

APPROVALS

DIVISION 15
CONSULTING SERVICES, INC.
11180 Turquoise Circle
Dewey, Arizona 86327
(928) 772-8448
FAX (928) 772-8942
Division15@cableone.net

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/ CONCESSION BUILDING

Sheet Title
PLUMBING PLANS

LICENSED ARCHITECT JIMMIE D. SANDERS No. C-17644 RENEWAL 08/31/2021 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-09IV
Date Last Revised	Sheet Number
	P1

EXHAUST FAN

MARK	LOCATION	SERVES	FAN MOTOR HP	FAN MOTOR WATTS	CFM	EXT SP (IN WG)	RPM	SONES	ELECTRICAL V/PH/HZ	OPER WEIGHT (LBS)	MANUFACTURER / MODEL NO	NOTES
EF 1A	ROOF	WOMEN'S TOILET	1/4	N/A	350	0.125	900	3.8	120-1-60	58	GREENHECK GB-081-4	1-3
EF 1B	ROOF	MEN'S TOILET	1/4	N/A	350	0.125	900	3.8	120-1-60	58	GREENHECK GB-081-4	1-3
EF 2	CEILING	MAINTENANCE	N/A	48	220	0.125	N/A	2.4	120-1-60	24	GREENHECK SPA 200	4

EXHAUST FAN NOTES:

1. PROVIDE BACKDRAFT DAMPER (BDD); BIRD SCREEN. DISC SWITCH MOUNTED.
2. PROVIDE MANUFACTURER'S SOUND ABSORBING ROOF CURB.
3. CONTROL FOR CONTINUOUS OPERATION WHEN HP-1 SUPPLY FAN IS OPERATING (BY ELEC CONTRACTOR).
4. CONTROL WITH WALL SWITCH (BY ELEC CONTRACTOR).

PACKAGE ROOFTOP HP

MARK	MANUFACTURER / MODEL NO	NOM TONS	CFM	EXTERNAL S P (IN W G)	ELECTRICAL MIN CKT AMPS	ELECTRICAL MOCP	ELECTRICAL V/PH/HZ	EVAP FAN BHP	COOLING (MBH) TOT	COOLING (MBH) SENS	SEER	HEAT CAP (MPH)	COP OR (HSPF)	OPER WEIGHT (LBS)	CURB WEIGHT (LBS)	NOTES
HP 1	YORK #XN048C00	4	1,600	1.5	11.3	15	460/3/60	1.12	40.0	37.1	14.0	44	3.2	626	91	1-9
HP 2	YORK # PHE4A2424	2	800	0.5	18.6	25	208/1/60	0.5	23.8	18.0	14.0	24.6	8.0	330	65	1-3, 5-7, 9
HP 3	YORK # XN036C00	3	1,200	1.2	9.6	15	460/3/60	1.0	31.8	26.9	14.0	36	3.35	620	91	1-9

PACKAGE ROOFTOP HP UNIT NOTES:

1. PROVIDE "STERIL-AIRE" UV-C LAMP (NO SUBSTITUTIONS).
2. PROVIDE UNIT W/AN R-G-Y-W-C. ETC TERMINAL STRIP CONNECTION FOR DDC
3. 2" MERV 8 T.A. FILTERS.
4. DRY-BULB ECONOMIZER
5. PROVIDE PRO-VENT SEISMIC 14" HIGH ROOF CURB (LEVEL). (1/AX2.2)
6. LOW AMBIENT OPERATION.
7. NOT USED
8. HIGH STATIC OPTION BELT DRIVE.
9. SEE PLANS FOR ALL OSA CFM.

MINI-SPLIT AC SYSTEM

UNIT NO.	FAN DATA CFM	E.S.P (IN. WG.)	BTUH	ELECTRICAL DATA VOL.TS/PH	ELECTRICAL DATA MCA/MOCP	OPER WEIGHT (LBS)	MANUFACTURER + MODEL NO.	NOTES
MS 1 (OUTDOOR)	-	-	36,000	208/1	26.0/30	170	-	5
MS 1 (INDOOR)	583	0.1"	18,000	208/1	0.12 FLA	25.4	SAMSUNG #AR18B5FC	1-4, 6

NOTES:

1. WALL MOUNTED. (HIGH)
2. WALL MOUNTED T-STAT
3. CONDENSATE PUP ACCESSORY. (FC MOUNTED)
4. POWERED FROM OUTDOOR UNIT.
5. MOUNT ON OUTDOOR ROOF PLATFORM ON 1" THICK NEOPRENE WAFFLE PADS W/ NEOPRENE BUSHINGS.
6. 2 - REQUIRED

HVAC LEGEND

ABBR.	SYMBOL	DESCRIPTION
A/C		ABOVE CEILING
U.T.R.		UP THROUGH ROOF
S.A.		SUPPLY DUCT. SECTION
R.A.		RETURN DUCT. SECTION
E.A.		EXHAUST DUCT. SECTION
		FLEXIBLE DUCT
S.A./R.A.		SINGLE LINE DUCT WORK
M.V.D.		MANUAL VOLUME DAMPER
C.D.		CEILING DIFFUSER - SUPPLY
R.A.G.		RETURN AIR GRILLE - CEILING
E.G. E.R.		EXHAUST REGISTER - CEILING
F.C.		FLEX CONNECTION
D.L.	D/L	DOOR LOUVER
U.C.	U/C	UNDER-CUT DOOR
STAT	T	THERMOSTAT - SEE 11/M0.3
C.D.	C.D.	CONDENSATE DRAIN (BY PLUMBING)
SENSOR	S	ROOM TEMPERATURE SENSOR
F.S.D.	FSD	FIRE/ SMOKE DAMPER
M.O.D.		MOTOR OPERATED DAMPER
HWS/R	HWS/R	HEATING HOT WATER SUPPLY/RETURN
CHWS/R	CHWS/R	CHILLED WATER SUPPLY/RETURN
U.O.N.		UNLESS OTHERWISE NOTED
		FIRE RATED WALL - SEE ARCH

DESIGN CRITERIA:

MEP COMPONENT ANCHORAGE NOTE:

1. 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 OF DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26 & 30.
   A. ALL PERMANENT EQUIPMENT AND COMPONENTS.
   B. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
   C. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.
2. THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT THE ATTACHMENT 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 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.
3. FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY 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:

1. PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.7, 13.6.8 AND 2016 CBC, SECTIONS 1616A.1.24, 1616A.1.25 AND 1616A.1.26.
2. THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACINGS AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

   MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEM (E).

   MP☐ MD☐ PP☐ E☐ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

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

   MP☐ MD☐ PP☐ E☐ - OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION (2009), INCLUDING ANY ADDENDA. FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL ____ AND CONNECTION LEVEL ____ FOR THE PROJECT AND CONDITIONS.

ENERGY CONSERVATION NOTES:

1. ALL PIPING AND DUCTWORK SHALL BE INSULATED CONSISTENT WITH THE REQUIREMENTS OF SECTIONS 118, 123, 124 E.E.S. AND TABLE 6-4 OF THE C.M.C.
2. ALL HVAC SYSTEMS SHALL MEET THE CONTROL REQUIREMENTS PER SECTION 112 & 122 E.E.S.
3. ALL HVAC EQUIPMENT AND APPLIANCES SHALL MEET THE REQUIREMENTS OF SECTION 111-113, 115, 120-124 E.E.S.

GENERAL HVAC NOTES:

1. THESE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION OF WORK TO BE ACCOMPLISHED AND AS SUCH ARE NOT INTENDED TO SHOW ALL REQUIRED OFFSETS OF PIPING AND DUCT WORK. THE MECHANICAL CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT SO AS TO CONFORM TO THE STRUCTURE. AVOID OBSTRUCTIONS AND MAINTAIN HEADROOM AND PASSAGEWAYS.
2. EQUIPMENT INDICATED ON THESE DRAWINGS IS SHOWN IN APPROXIMATE LOCATIONS. THE MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND EQUIPMENT LOCATIONS.
3. THE MECHANICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES PRIOR TO INSTALLATION.
4. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL APPLICABLE CODES INCLUDING TITLE 24 CCR
5. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LINE AND LOW VOLTAGE CONDUIT, LINE VOLTAGE WIRING, OVERLOAD PROTECTION, DISCONNECTS (EXCEPT ROOF EXHAUST FANS AS NOTED), STARTERS, FINAL CONNECTIONS TO EQUIPMENT. LOW VOLTAGE WIRING BY MECHANICAL CONTRACTOR.
6. GENERAL CONTRACTOR SHALL PROVIDE ALL CUTTING, PATCHING, FURRING, BRACING OF STRUCTURE, ROOF OPENINGS WITH CANTS, FLASHING, ROOFING.
7. MECHANICAL CONTRACTOR TO FURNISH AND INSTALL FIRE AND SMOKE DAMPERS AT ALL DUCT PENETRATIONS OF FIRE RATED SURFACES. FIRE DAMPERS INCLUDING SLEEVES AND INSTALLATION PROCEDURES SHALL BE APPROVED BY D.S.A. PRIOR TO INSTALLATION.
8. SUSPENSION AND RESTRAINT OF DUCTING SHALL MEET THE PROVISIONS OF SEISMIC RESTRAINT MANUAL:
   SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS LATEST EDITION PUBLISHED BY SMACNA: OSHPD #ROO10
9. AIR FILTERS SHALL BE A STATE FIRE MARSHALL APPROVED & LISTED TYPE. PRE FORMED FILTERS HAVING A COMBUSTIBLE FRAMING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS IN ALL OCCUPANCIES SHALL BE CLASS 2 OR BETTER (AS SHOWN THE STATE FIRE MARSHALL LISTING). AIR FILTERS SHALL BE ACCESSIBLE FOR CLEANING OR REPLACEMENT.
10. FLAME SPREAD / SMOKE RATINGS FOR ALL DUCT MATERIALS SHALL BE 25/50 MAX.
11. FOR ALL THROUGH-PENETRATION FIRESTOP DETAILS SEE SHEET (aht AX2.2)

REGISTERED PROFESSIONAL ENGINEER VICTOR NEUMAN 23110 Exp. 9/30/2022 MECHANICAL STATE OF CALIFORNIA

APPROVALS

DIVISION 15
CONSULTING SERVICES, INC.
11180 Turquoise Circle
Dewey, Arizona 86327
(928) 772-8448
FAX (928) 772-8942
Division15@cableone.net

AIR DISTRIBUTION SCHEDULE:

ALL ITEMS SHALL BE TITUS MODEL #S UNLESS OTHERWISE NOTED OR EQUIVALENT BY PRICE. ALL METAL CONSTRUCTION WITH STANDARD FINISH.

MARK	DESCRIPTION
A	#355RL, STEEL, SIDEWALL, DOUBLE DEFLECTION, S.A. GRILLE WITH O.B.D.
B	#350RL, 35° DEFLECTION, STEEL RETURN GRILLE WITH O.B.D.
C	#350RL, 35° DEFLECTION, STEEL CEILING EXHAUST GRILLE

EQUIPMENT SCHEDULE NOTES:

NOTES:
1. BOTTOM OF ALL EQUIPMENT ROOF CURBS SHALL MATCH SLOPE OF ROOF, TYP.
2. "UV-C" GERMICIDAL LAMPS SHALL BE FACTORY INSTALLED AND WIRED. LAMPS SHALL BE "STERIL-AIRE" (NO SUBSTITUTIONS).
3. ALL HVAC UNITS AND SINGLE SPACES OVER 2,000 CFM SHALL BE PROVIDED WITH DUCT SMOKE DETECTORS. SEE FIRE ALARM DRAWINGS.

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
HVAC GENERAL NOTES, SCHEDULES

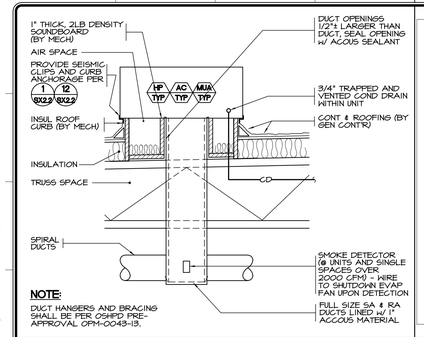
LICENSED ARCHITECT JAMES R. SANDERS No. C-27644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	M0.1

SCHEDULES

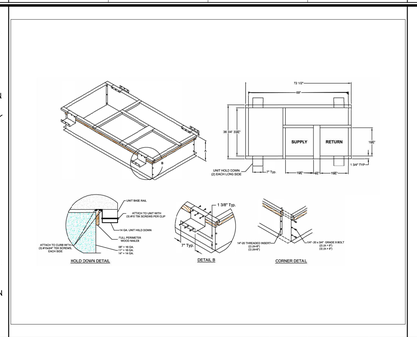
SCALE: N.T.S.

A



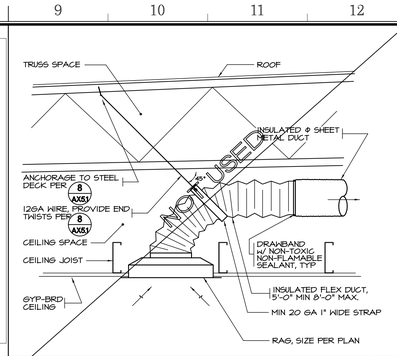
HEAT PUMP / ERV COMBINATION

SCALE: N.T.S. | 1



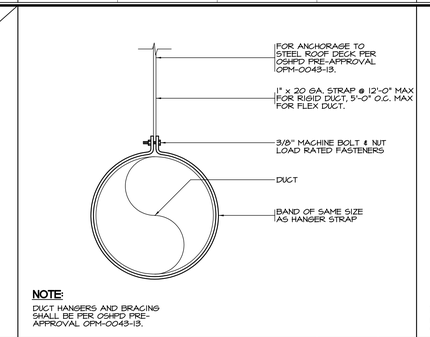
HEAT PUMP CURB

EXEMPTION: W4 | SCALE: N.T.S. | 2



R.A.G. DETAIL (GYP-BRD CEILING)

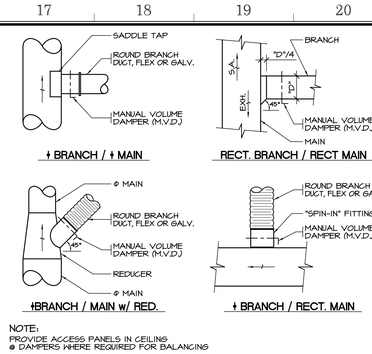
SCALE: N.T.S. | 3



NOTE:
DUCT HANGERS AND BRACING SHALL BE PER OSHPD PRE-APPROVAL OPM-0043-13.

DUCT HANGER

SCALE: N.T.S. | 4



ϕ BRANCH / ϕ MAIN

RECT. BRANCH / RECT MAIN

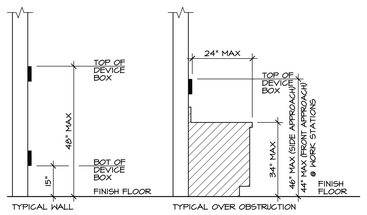
ϕBRANCH / MAIN w/ RED.

ϕ BRANCH / RECT. MAIN

NOTE:
PROVIDE ACCESS PANELS IN CEILING
@ DAMPERS WHERE REQUIRED FOR BALANCING

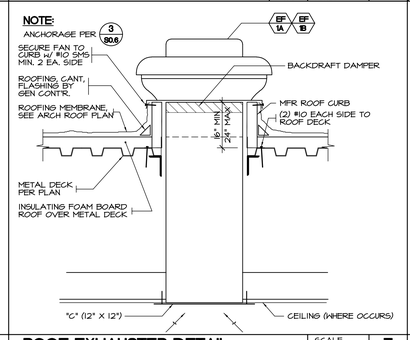
TYPICAL DUCT DETAILS

SCALE: N.T.S. | 5



TYPICAL MOUNTING HEIGHTS

SCALE: N.T.S. | 6



ROOF EXHAUSTER DETAIL

SCALE: N.T.S. | 7

APPROVALS

DIVISION 15
CONSULTING SERVICES, INC.
11180 Turquoise Circle
Dewey, Arizona 86327
(928) 772-8448
FAX (928) 772-8942
Division15@cableone.net

NOTES:

1. OSHPD PRE-APPROVAL OPM-0043-13 APPLICABLE DETAILS:

   DUCTWORK
   SHEETS A4.0, A5.0

   HANGER ATTACHMENT
   SHEETS M3.10, M3.11, M3.13, M3.14, M3.15, M5.10, M7.10, M7.11, M10.12

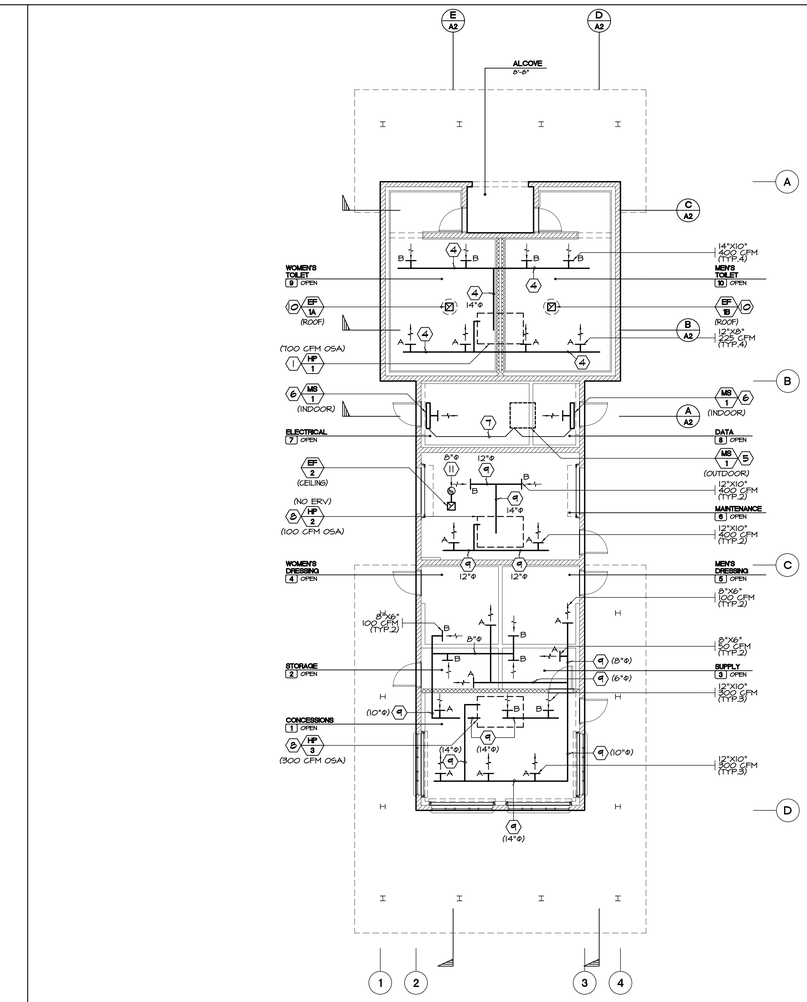
   SEISMIC ATTACHMENT
   SHEETS N3.11, N3.12, N3.15, N5.10, N6.11, P1.10, X1.0 - X9.0.9

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/ CONCENSSION BUIDLING

Sheet Title
HVAC DETAILS

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	M0.2



HVAC PLAN

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

A

APPROVALS

REGISTERED PROFESSIONAL ENGINEER VICTOR NEUMAN No. 23110 Exp. 9/30/2022 MECHANICAL STATE OF CALIFORNIA

DIVISION 15
CONSULTING SERVICES, INC.
11180 Turquoise Circle
Dewey, Arizona 86327
(928) 772-8448
FAX (928) 772-8942
Division15@cableone.net

KEYNOTES:

1. ROOFTOP HEAT PUMP UNIT ON ROOF WITH FULL SIZE S.A AND R.A DUCT DROPS. (LINED 1" ACOUSTIC)
2. NOT USED
3. NOT USED
4. 12" AND NBT-ADD FOR 1" ACOUSTIC LINER
5. MS-1 OUTDOOR UNIT ON ROOF PLATFORM.
6. INDOOR FAN-COIL UNIT-MOUNT ON WALL ABOVE DOOR. SEE PLUMBING DRAWING'S. FOR CONDENSATE DRAINS.
7. ROUTE RS AND L REFRIGERANT PIPING FROM OUTDOOR UNIT TO INDOOR UNITS IN CEILING SPACE.
8. ROOFTOP STANDARD CURB MOUNTED HEAT PUMP UNIT ON ROOF WITH LINED FULL SIZED S.A. AND R.A. DUCK DROPS
9. EXPOSED GALV SPIRAL DUCT LINED 1" ACOUSTIC SIZES NOTED ARE NET-ADD FOR LINER
10. 12" X 12" EXH DUCT DOWN TO CEILING GRILLE (MARK "C")
11. EXHAUST DUCT UTR W/ T-TOP - SIZE NOTED

NOTES:

1. SEE SHEET sht M0.2 FOR TYPICAL DUCT DETAILS.
2. SEE SHEET sht M0.1 FOR TYPICAL COMPONENT ANCHORAGE AND BRACING NOTES. HANGERS AND BRACING SHALL BE PER OSHPD PRE-APPROVAL OPM-0043-13.
3. UNIT LOCATIONS ARE APPROXIMATE SEE ARCHITECTURAL SHEET sht A3 FOR EXACT MECH. EQUIPMENT LOCATIONS.
4. PROVIDE SMOKE DETECTOR(S) WIRED TO SHUT DOWN A.C. UNIT INDOOR AIR FANS UPON DETECTION - TYPICAL ON ALL UNITS.
5. NOT USED.
6. FLAME SPREAD RATING NOT FOR WALL INSULATION NOT TO EXCEED 25 AND SMOKE DEVELOPED INDEX NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
HVAC PLAN

LICENSED ARCHITECT JIMMIE D. SANDERS No. C-17644 RENEWAL 08/31/23 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-09IV
Date Last Revised	Sheet Number
	M2.1

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 1 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

A. GENERAL INFORMATION

1	Project Location (city)	Imperial	8	Standards Version	Compliance2019
2	CA Zip Code	92251	9	Compliance Software (version)	EnergyPro 8.3
3	Climate Zone	15	10	Weather File	IMPERIAL_747185_CZ2010.epw
4	Total Conditioned Floor Area in Scope	1,694 ft²	11	Building Orientation (deg)	(N) 45 deg
5	Total Unconditioned Floor Area	0 ft²	12	Permitted Scope of Work	NewEnvelopeAndMechanical
6	Total # of Stories (Habitable Above Grade)	1	13	Building Type(s)	Nonresidential
7	Total # of dwelling units	0	14	Gas Type	NaturalGas

B. PROJECT SUMMARY

Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.

Building Components Complying via Performance					Building Components Complying Prescriptively
Envelope (see Table G)	☒ Performance ☐ Not Included	Covered Process: Commercial Kitchens	☐ Performance ☒ Not Included	*The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).*	
Mechanical (see Table H)	☒ Performance ☐ Not Included	Covered Process: Computer Rooms	☒ Performance ☐ Not Included	Indoor Lighting (Unconditioned)§140.6	*NRCC-LTI-E*
				Outdoor Lighting §140.7	*NRCC-LTO-E*
Domestic Hot Water (see Table I)	☒ Performance ☐ Not Included	Covered Process: Laboratory Exhaust	☐ Performance ☒ Not Included	Sign Lighting §140.8	*NRCC -LTS-E*
				Mandatory Measures	
Lighting (Indoor Conditioned, see Table K)	☐ Performance			*Electrical power systems, commissioning, solar ready, elevator and escalator requirements are mandatory and should on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)*	
	☒ Not Included			Electrical Power Distribution §110.11	*NRCC-ELC-E*
Solar Thermal Water Heating (see Table I)	☐ Performance			Commissioning §120.8	*NRCC-CXR-E*
	☒ Not Included			Solar Ready §110.10	*NRCC-SRA-E*

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 2 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ ft² -yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	39.00	6.61	32.39
Space Cooling	474.71	382.21	92.50
Indoor Fans	424.42	399.79	24.63
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	9.34	94.49	-85.15
Indoor Lighting	99.20	99.20	--
ENERGY STANDARDS COMPLIANCE TOTAL	**1,046.67**	**982.30**	**64.37 (6.1%)**

[1] *Notes: The number in parenthesis following the Compliance Margin in column 4. represents the Percent Better than Standard.*

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS[1]

☐ This project is pursuing CalGreen Tier 1 ☐ This project is pursuing CalGreen Tier 2

Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[2]
Receptacle	406.29	406.29	--
Process	187.18	187.18	--
Other Ltg	--	--	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	**1,640.14**	**1,575.77**	**64.4 (3.9%)**

[1] *Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.*

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 3 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

C3. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	--	0.5	-0.5	31.6	--	31.6
Space Cooling	22.8	19.5	3.3	--	--	--
Indoor Fans	25.3	24.3	1.0	--	--	--
Heat Rejection	--	--	--	--	--	--
Pumps & Misc.	--	--	--	--	--	--
Domestic Hot Water	0.0	5.8	-5.8	8.5	--	8.5
Indoor Lighting	5.7	5.7	0.0	--	--	--
Compliance Total	**53.8**	**55.8**	**-2.0**	**40.1**	**0.0**	**40.1**
Receptacle	24.4	24.4	0.0	1.0	1.0	0.0
Process	11.4	11.4	0.0	--	--	--
Other Ltg	--	--	--	--	--	--
Process Motors	--	--	--	--	--	--
TOTAL	**89.6**	**91.6**	**-2.0**	**41.1**	**1.0**	**40.1**

D. EXCEPTIONAL CONDITIONS

This project includes partial performance compliance scope options. The building must show compliance with all other applicable compliance scope options (performance or prescriptively) before occupying.

This project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required.

E. HERS VERIFICATION

This Section Does Not Apply

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 4 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

1 Opaque Surfaces & Orientation	2 Total Gross Surface Area (ft²)	3 Total Fenestration Area (ft²)	4 Window to Wall Ratio (%)
North-Facing[1]	1,368 ft²	35 ft²	02.6%
East-Facing[2]	900 ft²	35 ft²	03.9%
South-Facing[3]	316 ft²	70 ft²	22.2%
West-Facing[4]	94 ft²	0 ft²	00.0%
Total	**2,678 ft²**	**140 ft²**	**05.2%**
Roof	1,694 ft²	12 ft²	00.7%

Notes:
[1] *North-Facing is oriented to within 45 degrees of true north, including 45°00'00" east of north (NE), but excluding 45°00'00" west of north (NW).*
[2] *East-Facing is oriented to within 45 degrees of true east, including 45°00'00" south of east (SE), but excluding 45°00'00" north of east (NE).*
[3] *South-Facing is oriented to within 45 degrees of true south, including 45°00'00" west of south (SW), but excluding 45°00'00" east of south (SE).*
[4] *West-Facing is oriented to within 45 degrees of true west, including 45°00'00" north of due west (NW), but excluding 45°00'00" south of west (SW).*

G3. OPAQUE SURFACE ASSEMBLY SUMMARY

1 Surface Name	2 Surface Type	3 Area (ft²)	4 Framing Type	5 Cavity R-Value	6 Continuous R-Value	7 Units	8 U-Factor	9 Description of Assembly Layers	10 Status[1]
8 CMU Wall9	ExteriorWall	2678	NA	0	NA	U-Factor	0.379	Concrete - Part Grouted and Empty - 125 lb/ft3 - 8 in.	N
R-38 Roof Attic13	Roof	1694	Wood	38	NA	U-Factor	0.033	Asphalt shingles - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Wood framed roof, 24in. OC, 3.5in., R-38 Gypsum Board - 1/2 in.	N
Slab On Grade16	UndergroundFloor	1694	NA	0	NA	F-Factor	0.73	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0	N

[1] *Status: N - New, A – Altered, E – Existing*

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 5 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

G4. OPAQUE DOOR SUMMARY

1 Assembly Name	2 Overall U-factor	3 Status[1]
Hollow Metal Door11	0.700	N
Roll Up Metal Door38	1.000	N

G5. FENESTRATION ASSEMBLY SUMMARY

1 Fenestration Assembly Name / Tag or I.D.	2 Fenestration Type / Product Type / Frame Type	3 Certification Method[1]	4 Assembly Method	5 Area ft²	6 Overall U-factor	7 Overall SHGC	8 Overall VT	9 Status[2]
Solatube	Skylight FixedWindow NonMetalFraming	Default Performance	Manufactured	12	0.84	0.67	1.00	N
Double Metal Tinted	VerticalFenestration FixedWindow MetalFraming	Default Performance	SiteBuilt	105	0.71	0.60	0.77	N
Single Metal	VerticalFenestration OperableWindow MetalFraming	Default Performance	Manufactured	35	1.28	0.80	0.67	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. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.*
[2] *Status: N - New, A – Altered, E – Existing*

H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.)

1 Equipment Name	2 Equipment Type	3 Qty	4 Heating: Total Heating Output (kBtu/h)	5 Heating: Supp Heat Output (kBtuh)	6 Heating: Efficiency Unit	7 Heating: Efficiency	8 Cooling: Total Cooling Output (kBtu/h)	9 Cooling: Efficiency Unit	10 Cooling: Efficiency	11 Economizer Type (if present)	12 Status[1]
Zone 1 Restrooms	SZHP (Packaged3Phase)	1	45	0	HSPF	8.00	40	SEER/EER	14.00/11.80	NoEconomizer	N

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 6 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.)

1 Equipment Name	2 Equipment Type	3 Qty	4 Heating: Total Heating Output (kBtu/h)	5 Heating: Supp Heat Output (kBtuh)	6 Heating: Efficiency Unit	7 Heating: Efficiency	8 Cooling: Total Cooling Output (kBtu/h)	9 Cooling: Efficiency Unit	10 Cooling: Efficiency	11 Economizer Type (if present)	12 Status[1]
Zone 2 Data	SZHP (CRAC)	2	21	0	HSPF	11.00	18	SEER/EER	13.00/11.50	NoEconomizer	N
Zone 3 Maintenance	SZHP (Packaged3Phase)	1	25	0	HSPF	8.00	25	SEER/EER	14.00/11.60	NoEconomizer	N
Zone 4 Concessions/Dressi	SZHP (Packaged3Phase)	1	36	0	HSPF	8.00	32	SEER/EER	14.00/11.80	NoEconomizer	N

Status: N - New, A – Altered, E – Existing

H2. FAN SYSTEMS SUMMARY

1 Name or Item Tag	2 Qty	3 Design OA: CFM	4 Supply Fan: CFM	5 Supply Fan: Modeling Method	6 Supply Fan: Power	7 Supply Fan: Power Units	8 Supply Fan: Control	9 Return Fan: CFM	10 Return Fan: Modeling Method	11 Return Fan: Power	12 Return Fan: Power Units	13 Return Fan: Control	14 Status[1]
Zone 1 Restrooms	1	0	1600	BrakeHorsePower	0.750	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
Zone 2 Data	2	12	583	BrakeHorsePower	0.500	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
Zone 3 Maintenance	1	0	800	BrakeHorsePower	0.750	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
Zone 4 Concessions/Dressi	1	93	1200	BrakeHorsePower	0.750	bhp	ConstantVolume	NA	NA	NA	NA	NA	N

Status: N - New, A – Altered, E – Existing

H3. EXHAUST FAN SUMMARY

1 System ID	2 Zone Name	3 Qty	4 CFM	5 Motor BHP	6 Power Per Flow (W/cfm)	7 Total Static Pressure (in. H_2O)	8 Status[1]
Zone 1 Restrooms3	1-Zone 1 Restrooms	1	660	0.060	0.079	0.37	N
Zone 2 Data22	2-Zone 2 Data	1	660	0.060	0.079	0.37	N

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 7 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

H3. EXHAUST FAN SUMMARY

1 System ID	2 Zone Name	3 Qty	4 CFM	5 Motor BHP	6 Power Per Flow (W/cfm)	7 Total Static Pressure (in. H_2O)	8 Status[1]
Zone 3 Maintenance31	3-Zone 3 Maintenance	1	660	0.060	0.079	0.37	N
Zone 4 Concessions/Dressi42	4-Zone 4 Concessions/Dressi	1	660	0.060	0.079	0.37	N

[1] *Status: N - New, A – Altered, E – Existing*

H4. Wet System Equipment(boilers,chillers,cooling towers,etc.)

This Section Does Not Apply

H5. PUMPS

This Section Does Not Apply

H6. SYSTEM SPECIAL FEATURES

1 System Name	2 Equipment Type	3 Window Interlocks per §140.4(n)	4 Other Special Features and Controls
Zone 4 Concessions/Dressi	SZHP	No	NA
IVC Restroom/Concessions1 - SHW	Service Hot Water, Primary Only	NA	Fixed Temperature Control

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E

H7. NONRESIDENTIAL VENTILATION

1 Zone Name	2 Mechanical Ventilation: Ventilation Function	3 # of people	4 Supply OA CFM	5 Exhaust CFM	6 Conditioned Area (sf)	7 DCV or Occupant Sensor Controls, or Both
1-Zone 1 Restrooms	Exhaust - Toilets, public	3.10	0	660	620	NA
2-Zone 2 Data	Misc - All others	0.25	25	660	166	NA
3-Zone 3 Maintenance	Exhaust - Auto repair rooms	1.45	0	660	290	NA
4-Zone 4 Concessions/Dressi	Food Service - Kitchen (cooking)	1.54	93	660	618	NA

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 8 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

H8. HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION

This Section Does Not Apply

H9. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

1 System ID	2 Zone Name	3 System Type	4 Qty	5 Rated Capacity (kBtuh): Heating	6 Rated Capacity (kBtuh): Cooling	7 Airflow (cfm): Design	8 Airflow (cfm): Min.	9 Airflow (cfm): Min. Ratio	10 Fan: Power	11 Fan: Power Units	12 Fan: Cycles	13 Fan: VSD
1-Zone 1 Restrooms-Trm	1-Zone 1 Restrooms	Uncontrolled	1	NA	NA	1600	NA	0.00	0.750	bhp	NA	☐
2-Zone 2 Data-Trm	2-Zone 2 Data	Uncontrolled	2	NA	NA	1166	NA	0.00	0.500	bhp	NA	☐
3-Zone 3 Maintenance-Trm	3-Zone 3 Maintenance	Uncontrolled	1	NA	NA	800	NA	0.00	0.750	bhp	NA	☐
4-Zone 4 Concessions/Dressi-Trm	4-Zone 4 Concessions/Dressi	Uncontrolled	1	NA	NA	1200	NA	0.00	0.750	bhp	NA	☐

H10. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

H11. HEAT RECOVERY SUMMARY

This Section Does Not Apply

I1. WATER HEATER EQUIPMENT SUMMARY

1 Name	2 Heater Element Type	3 Tank Type	4 Qty	5 Tank Vol (gal)	6 Rated Input	7 Rated Input Unit	8 Efficiency	9 Efficiency Unit	10 Tank Insulation R-value (Int/Ext)	11 Standby Loss Fraction	12 1st Hour Rating or Flow Rate (gal)	13 Heat Pump Type	14 Tank Location or Ambient Condition
RHEEM ES50-182	Electricity	Storage	1	50.00	18.0	kW	0.99	Thrml. Eff.	NA	0.070	0	NA	NA

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 9 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

J3: COMPUTER ROOMS

1 Computer Room System Name	2 Cooling Capacity (tons)	3 Economizer Type	4 Fan Power (watts)
Zone 2 Data	1.5	None	0.44

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 10 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Building Component	Form/Title
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings
Plumbing	NRCI-PLB-01-E - Must be submitted for all buildings

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 11 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit:https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	Form/Title
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration
Mechanical	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	NRCA-MCH-03-A Constant Volume Single Zone HVAC
	NRCA-MCH-11-A Automatic Demand Shed Controls
	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 12 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.cibd19x		

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Nicholas Harinton	Signature: Nicholas T. Harinton
Company: NTH Mechanical LLC	
Address: 13389 Greenleaf Ln	Signature Date: 2022-06-01
City/State/Zip: Grand Haven, MI 49417	CEA/ HERS Certification Identification (if applicable): 9F30-5ABB-66C4-7653-F1C9-4CFA-CA99-A574-865F-AE0E-B290-D689-4FA7-593A-F0B1-8B86
Phone: 616-368-8522	

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 Envelope Designer Name: Jimmy Sanders	Signature:	
Company: Sanders, Inc Architecture & Engineering		
Address: 1102 Industry Way	Date Signed: 06/01/2022	
City/State/Zip: El Centro CA 92243		
Phone: 760-353-5440	Title:	License #:
Responsible Lighting Designer Name:	Signature: NOT IN SCOPE	
Company:		
Address:	Date Signed:	
City/State/Zip:		
Phone:	Title:	License #:
Responsible Mechanical Designer Name: Victor Neuman #23110	Signature: Victor Neuman	
Company: Division 15 Consulting Services, Inc		
Address: 11180 E Turquoise Circle	Date Signed: 06/01/2022	
City/State/Zip: Dewey AZ 86327		

REGISTERED PROFESSIONAL ENGINEER VICTOR NEUMAN 23110 Exp. 9/30/2022 MECHANICAL STATE OF CALIFORNIA

APPROVALS

DIVISION 15
CONSULTING SERVICES, INC.
11180 Turquoise Circle
Dewey, Arizona 86327
(928) 772-8448
FAX (928) 772-8442
Division15@cableone.net

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
ENERGY CALCULATIONS

LICENSED ARCHITECT JIMMIE D. SANDERS No. C-17644 RENEW: 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	M2.2

Project Name:	IVC Restroom/Concessions Building	NRCC-PRF-01-E	Page 13 of 13
Project Address:	Imperial Valley College Campus Imperial 92251	Calculation Date/Time:	10:43, Wed, Jun 01, 2022
Input File Name:	Restroom-Concessions Title-24.ribd1fx		

Phone: 928-772-8448	Title:	License #:

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-06-01 07:44:31

REGISTERED PROFESSIONAL ENGINEER VICTOR NEUMAN No. 23110 Exp. 9/30/2022 MECHANICAL STATE OF CALIFORNIA

APPROVALS

DIVISION 15
CONSULTING SERVICES, INC.
11180 Turquoise Circle
Dewey, Arizona 86327
(928) 772-8448
FAX (928) 772-8942
Division15@cableone.net

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

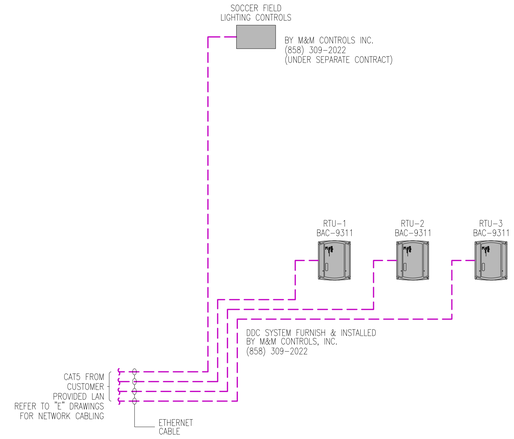
Sheet Title
ENERGY CALCULATIONS

LICENSED ARCHITECT JIMMIE D. SANDERS No. 7644 RENEW 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	M2.3

NOTES:
1. DDC CONTROLS BY M&M CONTROLS, INC.. PH: (858) 309-2022
2. DDC CONTROLS INTEGRATED WITH EXISTING FINSTACK OWN BY M&M CONTROLS INC.. PH: (858) 309-2022

NOTES (2)



CONCESSIONS BLDG - NETWORK RISER SCHEMATIC (1)

SYSTEM ENABLE:
1. PER FINSTACK OPERATOR WORKSTATION SCHEDULING COMMANDS VIA THE KMC DDC SCHEDULE OCCUPIED TIME START, THE DDC SYSTEM SHALL ENABLE THE AHU FAN TO START AND THE LG OUTDOOR UNIT & COIL KITS TO "RUN".
2. UPON THE DDC SYSTEM SCHEDULED UNOCCUPIED SCHEDULE, THE AHU FAN SHALL BE COMMANDED "OFF".

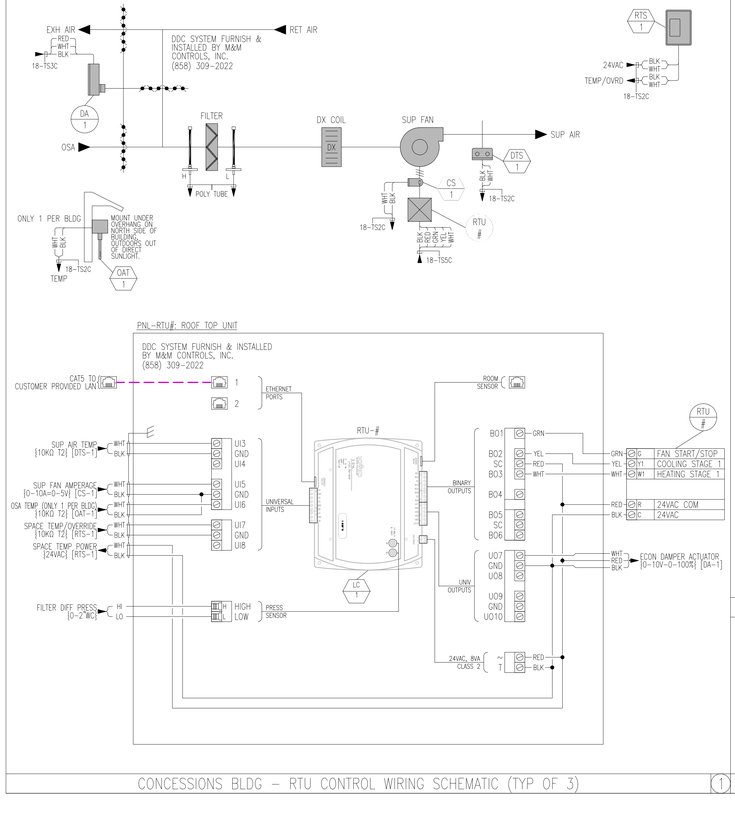
RTU FAN CONTROL:
1. THE RTU FAN SHALL START WHEN IT IS SCHEDULED FROM THE SYSTEM SCHEDULE.

ROOM TEMPERATURE CONTROL:
1. IF THE SPACE TEMPERATURE RISES ABOVE THE SPACE TEMPERATURE COOLING SETPOINT, COOLING WILL STAGE TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.
2. IF THE SPACE TEMPERATURE FALLS BELOW THE SPACE TEMPERATURE HEATING SETPOINT, HEATING WILL STAGE TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.
3. COOLING AND HEATING SHALL NOT OPERATE SIMULTANEOUSLY.

SEQUENCE OF OPERATIONS (3)

NOTES:
1. KMC CONTROLLER TO BE MOUNTED INSIDE THE RTU UNIT.
2. BAPI STAT 24VAC INPUT REQUIRES A SEPARATE SHIELDED WIRE WITH GROUND LANDED AT THE CONTROL PANEL ONLY (NOT AT THE SENSOR).
3. OSA TEMP TO RTU CONTROLLER (ONLY 1 PER BUILDING)
4. KMC DDC CONTROLS BY M&M CONTROLS INC. (858) 309-2022)

NOTES (2)



CONCESSIONS BLDG - RTU CONTROL WIRING SCHEMATIC (TYP OF 3) (1)

NOTES (2)

M&M CONTROLS
C.S.L.B. 796
S.F.S.T.E. 2048
S.F.P.E. 3

JOB NAME: IMPERIAL VALLEY COLLEGE CONCESSIONS BLDG
JOB ADDRESS: 380 EAST ATEN ROAD IMPERIAL, CA 92251

REV	DESCRIPTION	DATE
1	REVISION A - PRELIMINARY	10/13/22

DATE: 10/13/22
DRAWN BY: FTD
SHEET TITLE: CONCESSIONS BLDG - RTU CONTROL WIRING SCHEMATIC (TYP OF 3)
DWG NUMBER: C-02.01

LICENSED PROFESSIONAL ENGINEER
VICTOR NEUMAN
No. 23410
Exp. 9/30/2022
MECHANICAL
STATE OF CALIFORNIA

APPROVALS

DIVISION 15
CONSULTING SERVICES, INC.
11180 Turquoise Circle
Dewey, Arizona 86327
(928) 772-8448
FAX (928) 772-6942
Division15@cableone.net

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/ CONCENSSION BUIDLING

Sheet Title
CONTROLS

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-7644
RENEWAL 08/31/23
STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	M2.4

LIGHTING/SWITCHING SYMBOLS

- LIGHTING CONTROL PANEL, SEE CONTROL DETAIL AND SCHEDULES FOR MORE INFORMATION.
- PUSH BUTTON LOW VOLTAGE OVERRIDE CONTROL SWITCH
- ZONE CONTROLLED (UPPER CASE LETTER DENOTES ZONE CONTROLLED)
- A a — SWITCH LEG CONTROLLED (LOWER CASE LETTER DENOTES SWITCH LEG CONTROLLED)
- S$20 — SWITCH, SINGLE POLE 20A, MTD. 48" AFF TO TOP. DESIGNATION TO CONTROL LIGHTING IN CIRCUIT LEGS. DEVICE: WHITE COVERPLATE: WHITE
  - 2- DOUBLE POLE
  - 3- THREE WAY
  - 4- FOUR WAY
  - PL - PILOT LIGHT
  - K - KEYED SWITCH
  - T - MANUAL MOTOR STARTER WITH THERMAL OVERLOADS
  - D - LOAD RATED DIMMER
  - PB - PUSHBUTTON
- WALL MOUNTED MOTION CONTROLLED LIGHTING SWITCH WITH INTEGRAL BI-LEVEL SWITCHING. DEVICE - WHITE MTD. 48" AFF TO TOP.
- WALL MOUNTED MOTION SENSOR/MANUAL SWITCH-RAISE/LOWER/ON/OFF DEVICE - WHITE MTD. 48" AFF TO TOP.
- CEILING MOUNTED ULTRASONIC MOTION SENSOR. DEVICE: WHITE
- WALL MOUNTED DUAL-TECHNOLOGY MOTION SENSOR. DEVICE: WHITE
- 1-100-A — FIXTURE CALLOUT:
  - TYPE (SEE LIGHT FIXTURE SCHEDULE)
  - WATTAGE
  - QUANTITY
- R — RELAY
- TC — TIME CLOCK
- P — MOTION SENSOR POWER PACK
- EPO — EMERGENCY POWER OFF PUSHBUTTON, MOUNTED AT +48" U.O.N.
- P — PHOTOCELL

TEL/DATA SYMBOLS

- DATA OUTLET WITH TRIM RING, PULLSTRING TO ACCESSIBLE CEILING SPACE. +18" A.F.F. TO CENTER.
- TELEPHONE OUTLET WITH TRIM RING, PULLSTRING TO ACCESSIBLE CEILING SPACE. +18" A.F.F. TO CENTER.
- TELECOMMUNICATIONS OUTLET WITH TRIM RING, PULLSTRING TO ACCESSIBLE CEILING SPACE +18" A.F.F. TO CENTER.
- TELECOMMUNICATION OUTLET FLUSH FLOOR MOUNTED ON FIRE RATED POKE-THRU.
- SPEAKER BACK BOX LOCATION
- INTERCOM J-BOX LOCATION
- EM — ELECTROMAGNETIC DOOR HOLDER
- IC — INTERCOM LOCATION
- CR — CARD READER
- ES — ELECTRIC DOOR STRIKE
- 3/4" FIRE RATED PLYWOOD BACKBOARD WITH #6AWG GROUND TO BUILDING SYSTEM GROUND.
- CABLE TRAY PER PLANS. COORDINATE ROUTING WITH OTHER DISIPLINES.

GENERAL NOTES

1. ALL ELECTRICAL DEVICES AND UTILIZATION EQUIPMENT SHALL BE LISTED BY AN APPROVED TESTING AGENCY
2. ALL WORK TO COMPLY WITH THE LATEST EDITION OF THE CALIFORNIA ELECTRICAL CODE.
3. USE COPPER CONDUCTORS ONLY.
4. THERMOSTATS, SWITCHES AND/OR RECEPTACLES INSTALLED IN RESTROOMS OR OTHER AREAS EQUIPPED FOR THE DISABLED, SHALL BE LOCATED AT NOT TO EXCEED 48" TO CENTER OF DEVICE FROM THE FLOOR.
5. CONTRACTOR IS TO VERIFY MOUNTING HEIGHTS OF ALL DEVICES PRIOR TO MOUNTING
6. VERIFY ROUTING OF ANY SURFACE MOUNTED CONDUITS PRIOR TO INSTALLATION
7. REVIEW ALL PLANS BY OTHER TRADES AND PROVIDE ADDITIONAL WORK AS REQUIRED NOT OUTLINED IN THESE DOCUMENTS
8. COORDINATE ALL DIMMING FLUORESCENT BALLASTS WITH DIMMING SYSTEM, PROVIDE WIRE COUNT AS REQUIRED. USE ADVANCE MARK X BALLASTS.
9. ELECTRICAL CONTRACTOR SHALL PROVIDE MULTI-POLE CIRCUIT BREAKERS WITH COMMON TRIP OR U.L. LISTED HANDLE TIES FOR ALL MULTI-POLE CIRCUITS WITH SHARED NEUTRAL

POWER SYMBOLS

- J — JUNCTION BOX
- WH — WALL MOUNTED JUNCTION BOX.
- DUPLEX RECEPTACLE MTD 18" AFF TO CENTER COVERPLATE COLOR: WHITE

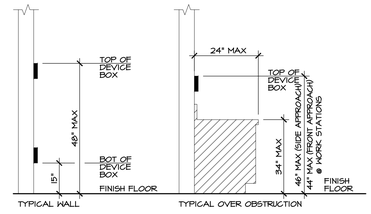
DEVICE TYPE		DEVICE COLOR
STANDARD		WHITE
IG	ISOLATED GROUND	ORANGE
D	DEDICATED 20A RATED	GRAY
UPS	15A OR 20A UPS	GRAY
EM	EMERGENCY	RED
T	TAMPER RESISTANT	WHITE
USB	USB PORT	WHITE

- GFI DUPLEX RECEPTACLE MTD 18" AFF TO CENTER COVERPLATE COLOR: WHITE
- WP — GFI DUPLEX WEATHERPROOF RECEPTACLE MTD 18" AFF TO CENTER, USE "IN USE" TYPE COVER PLATES
- DOUBLE DUPLEX RECEPTACLE MTD 18" AFF TO CENTER, SCHEDULE AS NOTED ABOVE.
- SPLIT WIRED 15A 1/2 HOT, 1/2 SWITCHED OUTLET COLOR: WHITE
- DUPLEX RECEPTACLE CONTROLLED BY OCCUPANCY SENSOR, MTD 18" AFF TO CENTER, SCHEDULE AS NOTED ABOVE.
- DOUBLE DUPLEX RECEPTACLE WITH ONE DUPLEX CONTROLLED BY OCCUPANCY SENSOR, MTD 18" AFF TO CENTER, SCHEDULE AS NOTED ABOVE.
- 208V/1Ø RECEPTACLE, NEMA CONFIGURATION AS NOTED.
- 208V/3Ø RECEPTACLE, NEMA CONFIGURATION AS NOTED.
- FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE.
- FLOOR BOX WITH DOUBLE DUPLEX RECEPTACLE AND SINGLE GANG TEL/DATA RECEPTACLE.
- FLOOR BOX WITH DUPLEX RECEPTACLE AND SINGLE GANG TEL/DATA RECEPTACLE.
- SPECIALTY FLOOR BOX PER PLANS MULTIPLE GANG BOX, SEE SPECS.
- P — PEDESTAL MOUNTED DOUBLE DUPLEX RECEPTACLE MANUF: HUBBELL SA8688 W/STAINLESS STEEL COVERPLATES
- P — PEDESTAL MOUNTED DUPLEX RECEPTACLE MANUF: HUBBELL#SA8688 W/STAINLESS STEEL COVERPLATES
- WP — WEATHERPROOF GFI WORK OUTLET. PROVIDE CAST BOX W/STAINLESS STEEL WP COVER.
- EXTERNALLY OPERATED FUSED DISCONNECT SWITCH. PROVIDE PER NEMA RATING REQUIRED.
- COMBINATION FVNR MAGNETIC MOTOR STARTER AND DISCONNECT RATING AND POLES AS INDICATED. PROVIDE WITH OVERLOAD PER HORSEPOWER REQUIREMENTS, CPT, H.O.A. WITH PILOT LIGHTS, PROVIDE WITH (1) EACH N.O. AND N.C. AUX CONTACTS.
- FVNR MAGNETIC STARTER WITH OVERLOAD PER HORSEPOWER REQUIREMENTS, CPT, H.O.A. WITH PILOT LIGHTS, PROVIDE WITH (1) EACH N.O. AND N.C. AUX CONTACTS.
- MOTOR PROVIDED BY OTHERS.
- FLUSH MOUNTED PANELBOARD
- SURFACE MOUNTED PANELBOARD
- SURFACE MOUNTED LIGHTING CONTROL PANEL, U.O.N.
- FLUSH MOUNTED LIGHTING DIMMING PANEL, U.O.N.
- FIRE RATED DOUBLE DUPLEX POKE THROUGH
- FIRE RATED SYSTEMS FURNITURE FEED POKE THROUGH
- CLOCK HANGER OUTLET ONLY, MOUNTED AT +__" U.O.N.
- TELEVISION SYSTEM OUTLET WITH JACK, WALL MOUNTED AT +12" U.O.N.
- MULTI-OUTLET ASSEMBLY, LENGTH AS INDICATED ON PLANS.
- FLEXIBLE CONDUIT
- WIRING OR CONDUIT CONCEALED IN WALL OR CEILING
- WIRING OR CONDUIT EXPOSED
- WIRING OR CONDUIT CONCEALED UNDERGROUND OR IN FLOOR
- RACEWAY OR WIREWAY ASSEMBLY DOWN
- RACEWAY OR WIREWAY ASSEMBLY UP
- HOMERUN TO PANEL, CIRCUITS AS INDICATED.
- UNDERGROUND HOMERUN TO PANEL, CIRCUITS AS INDICATED.
- CONCEALED EMT CONDUIT WITH THHN WIRE 2#12 AWG 3/4" C. MINIMUM
- CONCEALED EMT CONDUIT WITH THHN WIRE 3#12 AWG 3/4" MINIMUM. CHEVRONS INDICATE #10 CONDUCTORS
- FUSED SWITCH, SEE SINGLE LINE DIAGRAM FOR MORE INFORMATION.
- CIRCUIT BREAKER, SEE SINGLE LINE DIAGRAM FOR MORE INFORMATION.
- TRANSFORMER, SEE SINGLE LINE DIAGRAM FOR MORE INFORMATION.
- CURRENT TRANSFORMER
- AUTOMATIC TRANSFER SWITCH
- GROUNDING ELECTRODE
- SD — SMOKE DETECTOR

ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AIC	AMPERES INTERRUPTING CAPACITY
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AF	AMP FRAME/AMP FUSE
AL	ALUMINUM
ARCH	ARCHITECT OR ARCHITECTURAL
AS	AMP SWITCH
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BKBD	BACKBOARD
C	CONDUIT WITH WIRE
CATV	CABLE TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
CB	CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
C.O.	CONDUIT ONLY WITH NYLON PULL CORD
CONTR	CONTRACTOR
CU	COPPER
CT	CURRENT TRANSFORMER
CW	COLD WATER
D	DEDICATED OUTLET
DC	DIRECT CURRENT
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DWGS	DRAWINGS
EA	EACH
EB	90-MINUTE BATTERY CONNECTED TO UNIT
EC	ELECTRICAL CONTRACTOR
EG	EMERGENCY GENERATOR CONNECTION
EF	EXHAUST FAN
ELECT	ELECTRICAL
ELEV	ELEVATION/ELEVATOR
EMT	ELECTRO-METALLIC TUBING
EXIST	EXISTING
FA	FIRE ALARM
FC	FOOT CANDLE
FIXT	FIXTURE
FLUOR	FLUORESCENT
FT.	FEET OR FOOT
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GFR	GROUND FAULT RELAY
GND	GROUND
H	HORIZONTAL
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HR	HOUR
HT	HEIGHT
HZ	HERTZ
IG	ISOLATED GROUND BUS OR WIRE
IMC	INTERMEDIATE METAL CONDUIT
INCAND	INCANDESCENT
J-BOX	JUNCTION BOX
KVA	KILO-VOLTAMPERE
KW	KILO-WATT
KWH	KILOWATT-HOUR
LF	LINEAL FEET
LTG	LIGHTING
LV	LOW VOLTAGE
MANUF	MANUFACTURER
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MIN	MINIMUM
MH	METAL HALIDE
MLO	MAIN LUGS ONLY
MTG	MOUNTING
MV	MERCURY VAPOR
N	NEUTRAL
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
P	PEDESTAL MOUNT
PB	PULL BOX
PC	PHOTOCELL CONTROL
PCTC	PHOTOCELL/TIMECLOCK CONTROL
PH	PHASE
PIV	POST INDICATING VALVE
PL	PILOT LIGHT
PVC	POLYVINYL CHLORIDE
PWR	POWER
PP	POWER POLE
QR	FIXTURE WITH QUARTZ RESTRIKE
QTY	QUANTITY
RECEPT	RECEPTACLE
REF	REFRIGERATOR
RGS	RIGID GALVANIZED STEEL
SD	SMOKE DETECTOR
SPEC	SPECIFICATION
SQ FT	SQUARE FEET OR SQUARE FOOT
SW	SWITCH
SWBD	SWITCHBOARD
TEMP	TEMPERATURE OR TEMPORARY
TV	TELEVISION
TEL, TELE	TELEPHONE
TC	TIME CLOCK
TRANSF	TRANSFORMER
TYP	TYPICAL
USPS	UNDERGROUND PULL SECTION
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT-AMPERE
WH	WATER HEATER
WP	WEATHER PROOF
XFMR	TRANSFORMER

TYPICAL MOUNTING HEIGHTS NO SCALE



NOTE

FORWARD OR FRONT APPROACH FOR DEVICES MOUNTED ABOVE COUNTER ASSUMES THAT DIRECTLY BELOW THE DEVICE THE COUNTER HAS A 30" MINIMUM WIDTH X 27" MINIMUM HIGH X 19" MINIMUM DEEP CLEAR OPENING. CBC SECTIONS 11B-306 & 11B-309.

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. The following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2019 CBC, Sections 1617A.1.18 through 1617A.1.26 and ASCE 7-16. Chapter 13, 26, and 30.

1. All permanent equipment and components.
2. Temporary, movable or mobile equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110220 volt receptacles having a flexible cable.
3. Temporary, movable or mobile equipment which heavier than 400 pounds or has a center mass located 4 feet or more above the adjacent floor or roof level that directly support the component is required to be restrained in a manner approved by DSA

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

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

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

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-16 Section 13.3 as defined in ASCE 7-16 Section 13.6.5, 13.6.6, 13.6.7, 13.6.8, and 2019 CBC, Sections 1617A.1.24, 1617A.1.25, and 1617A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., OSHPD OPM for 2013 CBC or later), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP),Electrical Distribution Systems (E) shall comply with applicable OSHPD preapproved OPM# 0043-13.

MP☐MD☐PP☐ E☐ OPTION 1: Detailed on the approved drawings with project specific notes and details

MP☐MD☐PP☐ E☒ OPTION 2: Shall comply with the applicable OSHPD Pre-Approval (OPM#) #__0043-13__

APPROVALS

GERALD L. BREEN — No. E015697 — Exp. 06-30-24 — REGISTERED PROFESSIONAL ENGINEER — ELECTRICAL — STATE OF CALIFORNIA

KRUSE & ASSOCIATES — LIGHTING AND ELECTRICAL DESIGN
10055 MISSION CENTRE DR. SUITE 200 — SAN DIEGO, CA 92121
P. 858.678.9776 — WWW.KRUSEASSOC.NET

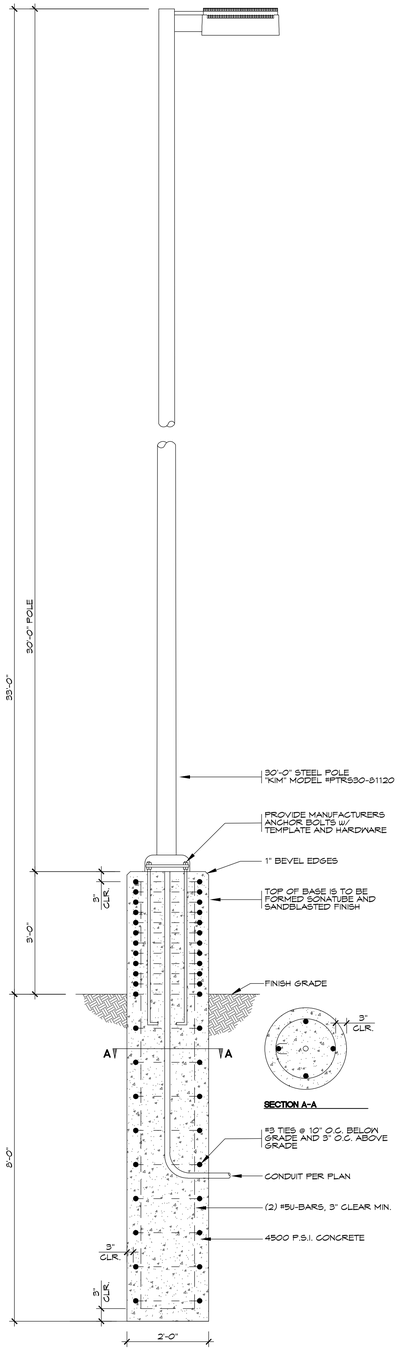
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
SYMBOLS LIST

LICENSED ARCHITECT — JIMMIE D. SANDERS — No. C-17644 — RENEWAL DATE 2-28-23 — STATE OF CALIFORNIA

Document Date	Project Number
06-01-22	22-091V
Date Last Revised	Sheet Number
10-13-22	E001



FIXTURE "G" DETAIL

NO SCALE

A
E002

LIGHT FIXTURE SCHEDULE

FIXTURE TYPE	FIXTURE SYMBOL	MANUFACTURER	CATALOG NUMBER	WATTS	VOLTS	MTG	LAMP TYPE	BUG	REMARKS
A		KENALL	MS11FL-PP-20L35K-120-4500	20	120	CS	20W LED	-	
B		KENALL	MS11EL-PP-20L35K-120-4500	20	120	WS	20W LED	-	
C		KENALL	MLHA5-24-R-LG-PP-1-25L35K-DCC-1-120-4500	25	120	PN	25W LED	-	(1)
D	12'-0"	KENALL	MLHA85-B48/MA8/E48-R-LG-PP-1-135L35K-DCC-1-120-4500	135	120	PN	135W LED	-	(1)
E	8'-0"	KENALL	MLHA8-96-R-LG-PP-1-90L35K-DCC-1-120-4500	90	120	PN	90W LED	-	(1)
F	4'-0"	KENALL	MLHA8-48-R-LG-PP-1-45L35K-DCC-1-120-4500	45	120	PN	25W LED	-	(1)
G		KIM	1A-ETA2-81L-700-4K8-2-UNV-PTRS-88120-A/PS-P	178	277	P	178W LED	-	
H		HUBBELL	WGH3-277-4000	90	277	WS	90W LED	-	

MOUNTING TYPES:

WS-WALL SURFACE, WR-WALL RECESSED, CS-CEILING SURFACE, CR-CEILING RECESSED, CH-CHAIN, PN-PENDANT, U-UNIVERSAL, G-GROUND, P-POLE, UC-UNDER CABINET, T-TRACK, CB-CABLE, TR-TRELLIS, C-COVE

NOTES:

(1) CONTRACTOR IS TO PROVIDE PENDANTS AS REQUIRED

FIXTURE TYPE "A"

FIXTURE TYPE "B"

FIXTURE TYPE "C"

FIXTURE TYPE "D"

FIXTURE TYPE "E"

FIXTURE TYPE "F"

FIXTURE TYPE "G"

FIXTURE TYPE "H"

APPROVALS

REGISTERED PROFESSIONAL ENGINEER
GERALD L. ROTEN
No. E011569
Exp. 06-30-24
ELECTRICAL
STATE OF CALIFORNIA

KRUSE & ASSOCIATES
LIGHTING AND ELECTRICAL DESIGN
10255 PARKWAY CENTRE DR. POWAY, CA. 92064
P. 858.679.9776 WWW.KRUSEPOWAY.NET

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
FIXTURE SCHEDULE AND PICTURES

LICENSED ARCHITECT
JAMES A. SANDERS
No. C-17644
RENEWAL DATE
08-31-23
STATE OF CALIFORNIA

Document Date	Project Number
06-01-22	22-091V
Date Last Revised	Sheet Number
10-13-22	E002

Control System Summary

Project Specific Notes:

Project Information

Project #:	123173
Project Name:	Imperial Valley College Soccer/Track
Date:	06/02/22
Project Engineer:	Hunter Sabers
Sales Representative:	Karin Anderson
Control System Type:	Control-Link™ Control and Monitoring System
Communication Type:	PowerLine-ST
Scan:	123173G
Document ID:	123173P1V8-0602110614
Distribution Panel Location or ID:	All Fields
Total # of Distribution Panel Locations for Project:	1
Design Voltage/Hertz/Phase:	480/60/3
Control Voltage:	120

Equipment Listing

DESCRIPTION	APPROXIMATE SIZE
1.Control and Monitoring Cabinet	24 X 72

	QTY	SIZE (AMPS)
Total Contactors:	8	30 AMP
Total Off/On/Auto Switches:	2	

Materials Checklist

Contractor/Customer Supplied:

- ❑ A dedicated control circuit must be supplied per distribution panel location
  - — If the control voltage is NOT available, a control transformer is required
- ❑ Electrical distribution panel to provide overcurrent protection for circuits
  - — HID rated or D-curve circuit breaker sized per full load amps on Circuit Summary by Zone Chart
- ❑ Wiring
  - — See chart on page 2 for wiring requirements
  - — Equipment grounding conductor and splices must be insulated (per circuit)
  - — Lightning ground protection (per pole), if not Musco supplied
- ❑ Electrical conduit wireway system
  - — Entrance hubs rated NEMA 4, must be die-cast zinc, PVC, or copper-free die-cast aluminum
- ❑ Mounting hardware for cabinets
- ❑ Breaker lock-on device to prevent unauthorized power interruption to control power and powerline connection (if present)
- ❑ Anti-corrosion compound to apply to ends of wire, if necessary

Call Control-Link Central™ operations center at 877/347-3319 to schedule activation of the control system upon completion of the installation.

Note: Activation may take up to 1 1/2 hours.

IMPORTANT NOTES

1. Please confirm that the design voltage listed above is accurate for this facility. Design voltage/phase is defined as the voltage/phase being connected and utilized at each lighting pole's electrical components enclosure disconnect. Inaccurate design voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
2. In a 3 phase design, all 3 phases are to be run to each pole. When a 3 phase design is used Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each pole. When a pole has multiple circuits, one contactor is required for each circuit. All contactors are 100% rated for the published continuous load. All contactors are 3 pole.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. A single control circuit must be supplied per control system.
6. Size overcurrent devices using the full load amps column of the Circuit Summary By Zone chart- Minimum power factor is 0.9.

NOTE: Refer to Installation Instructions for more details on equipment information and the installation requirements.

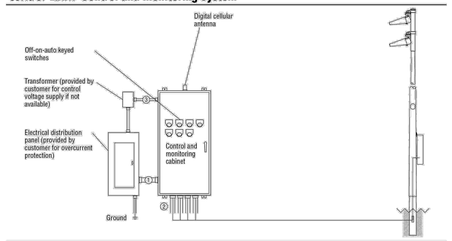
T:\123\123173P1V8-0602110614.pdf

Form: T-5030-1

Control System Summary

Imperial Valley College Soccer/Track / 123173 - 123173G
All Fields - Page 2 of 4

Control•Link® Control and Monitoring System



Conduit ID	Description	# of Wires	Wire (AWG)	Conduit (in)	Max. Wire Length (ft)	MUSCO Supplied	Notes
1	Line power to contactors, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
2	Load power to lighting circuits, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
3	Control power (dedicated, 20A)	3	12	*C	N/A	No	C,E

* Notes:

A. See voltage and phasing per the notes on cover page.
B. Calculate per load and voltage drop.
C. All conduit diameters should be per code unless otherwise specified to allow for connector size.
D. Equipment grounding conductor and any splices must be insulated.
E. Refer to control and monitoring system installation instructions for more details on equipment information and the installation requirements.

IMPORTANT: Control wires (3) must be in separate conduit from line and load power wires (1, 2).

760-100-001_B

T:\123\123173P1V8-0602110614.pdf

Control System Summary

Imperial Valley College Soccer/Track / 123173 - 123173G
All Fields - Page 3 of 4

SWITCHING SCHEDULE

Field/Zone Description	Zones
Soccer	1
Area	2

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 1960.0
	SEALED: 208.0

CIRCUIT SUMMARY BY ZONE

POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	# OF DRIVERS	*FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
S1	Soccer	13	13	**28.8**	30	C1	1
S2	Soccer	13	13	**28.8**	30	C2	1
S3	Soccer	13	13	**28.8**	30	C3	1
S4	Soccer	13	13	**28.8**	30	C4	1
S1	Area	2	1	**1.7**	30	C5	2
S2	Area	2	1	**1.7**	30	C6	2
S3	Area	2	1	**1.7**	30	C7	2
S4	Area	2	1	**1.7**	30	C8	2

*Full Load Amps based on amps per driver.

T:\123\123173P1V8-0602110614.pdf

Control System Summary

Imperial Valley College Soccer/Track / 123173 - 123173G
All Fields - Page 4 of 4

PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
1	1	C1	Pole S1	28.84		
1	1	C2	Pole S2	28.84		
1	1	C3	Pole S3	28.84		
1	1	C4	Pole S4	28.84		
1	1	C5	Pole S1	1.73		
1	1	C6	Pole S2	1.73		
1	1	C7	Pole S3	1.73		
1	1	C8	Pole S4	1.73		

ZONE SCHEDULE

ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION	
			POLE ID	CONTACTOR ID
Zone 1	1	Soccer	S1 S2 S3 S4	C1 C2 C3 C4
Zone 2	2	Area	S1 S2 S3 S4	C5 C6 C7 C8

T:\123\123173P1V8-0602110614.pdf

APPROVALS

REGISTERED PROFESSIONAL ENGINEER
GERALD L. KRUSE
No. E011569
Exp. 06-30-24
ELECTRICAL
STATE OF CALIFORNIA

KRUSE & ASSOCIATES
LIGHTING AND ELECTRICAL DESIGN
10055 PARKWAY CENTRE DR. POWAY, CA 92064
P: 858.679.9776 WWW.KRUSEPOWAY.COM

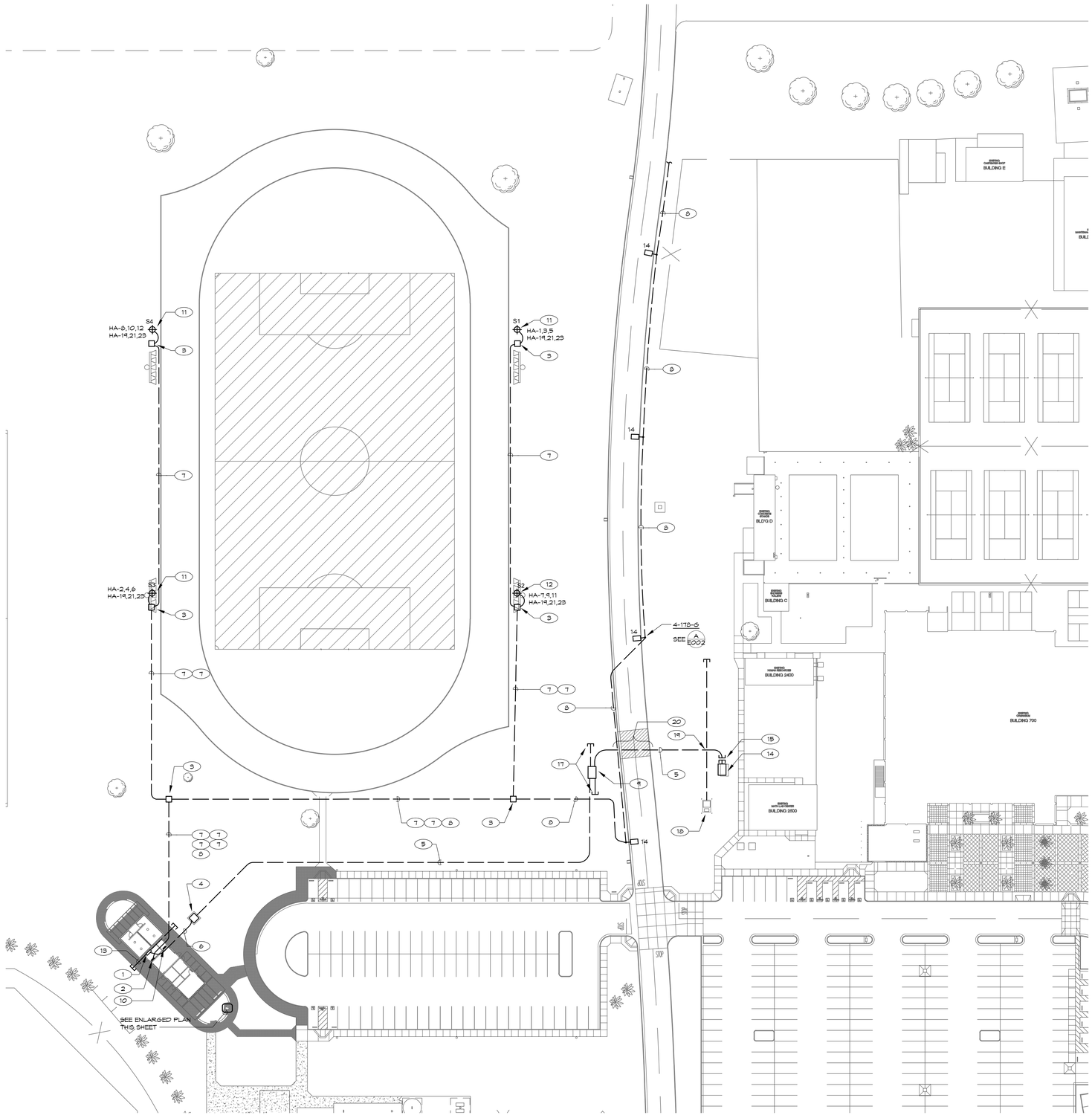
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
MUSCO CONTROL SUMMARY

LICENSED ARCHITECT
JAMES D. SANDERS
No. C-17644
RENEWAL DATE
07-31-23
STATE OF CALIFORNIA

Document Date	Project Number
06-01-22	22-091V
Date Last Revised	
10-13-22	
	Sheet Number
	E003



Chiller Enclosure Electrical (A/E101)
3/4"=1'-0"

NOTES

1. MAIN SWITCHBOARD "MS"
2. MUSCO CONTROL PANEL
3. FLUSH GRADE CONCRETE PULLBOX, SEE SPECIFICATIONS
4. IID TRANSFORMER, CONTRACTOR IS TO PROVIDE CONCRETE PAD AND GROUNDING, PER IID STANDARDS
5. (2) 5" PVCC. C.O. (PRIMARY), CONCRETE ENCASE PER IID STANDARDS
6. (2) 4" PVC. C.O. (SECONDARY), CONCRETE ENCASE PER IID STANDARDS
7. 2" PVC. C, 3#2 CU, 2#10, 1#4 CU GND
8. 1 1/2" PVC. C., 2#4 CU, 1#8 CU GND
9. NEW HANDHOLE PER IID
10. LBU UNIT
11. PROVIDE MUSCO SPORT FIELD LIGHT STANDARD
12. PROVIDE MUSCO SPORTS FIELD LIGHT STANDARD FOR BORDERLINK ANTENNA
13. PROVIDE FUTURE CONDUIT STUB OUTS, SEE DETAIL A/E201 FOR MORE INFORMATION
14. EXISTING IID SECTOR
15. EXISTING CONDUIT STUBOUTS
16. PROVIDE NEW IID SECTOR PER IID STANDARDS
17. PROVIDE (2) 5" STUB OUTS TO NORTH & SOUTH
18. EXISTING IID SWITCH, PROTECT
19. PROVIDE PRIMARY IID CONDUIT UNDER EXISTING PRIMARY IID CONDUIT & CONDUCTORS
20. PROVIDE PRIMARY IID CONDUIT & CONDUCTORS UNDER EXISTING ROAD/SITE IMPROVEMENTS. TRENCH, PATCH AS REQUIRED

APPROVALS

REGISTERED PROFESSIONAL ENGINEER — GERALD L. KRUSE — No. E011569 — Exp. 06-30-24 — ELECTRICAL — STATE OF CALIFORNIA

SITE ELECTRICAL PLAN — SCALE: 1" = 40'-0"

N

KRUSE & ASSOCIATES — LIGHTING AND ELECTRICAL DESIGN
10055 MIRAMAR CENTRE DR. SUITE 200, SAN DIEGO, CA 92126
T 858.676.9776 WWW.KRUSEASSOC.NET

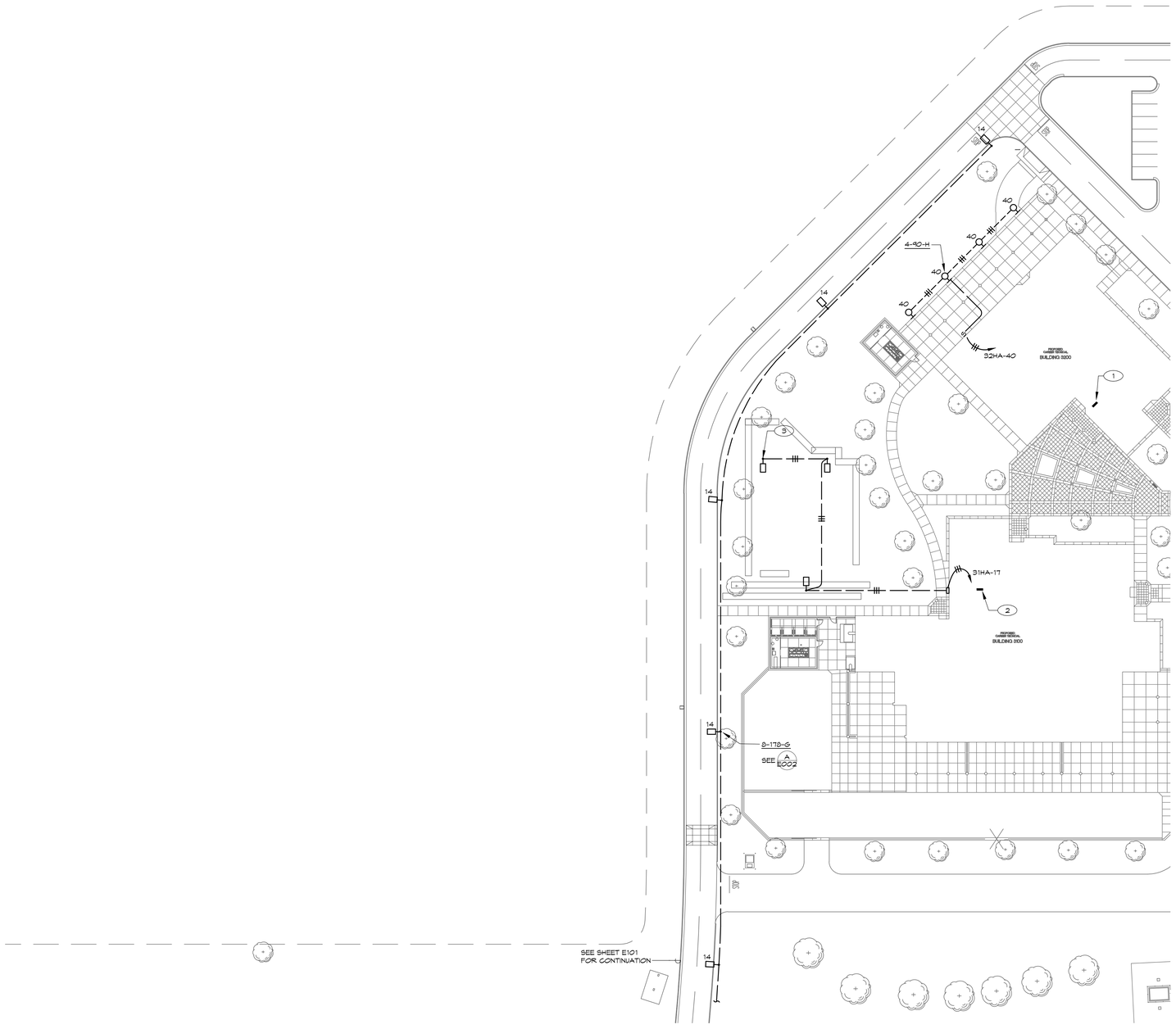
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
SITE ELECTRICAL PLAN

LICENSED ARCHITECT — JAMES R. SANDERS — No. 17644 — RENEWAL DATE 8-31-23 — STATE OF CALIFORNIA

Document Date	Project Number
06-01-22	22-09IV
Date Last Revised: 10-13-22	Sheet Number: E101



APPROVALS

NOTES

1. EXISTING PANEL "32HA"
2. EXISTING PANEL "31HA"
3. PROVIDE LOW VOLTAGE OVERRIDE SWITCH AND WEATHERPROOF BOX AND CONNECT TO THE EXISTING LIGHTING PANEL. PROVIDE POLE WITH OPENING MADE BY MANUFACTURER TO ACCOMMODATE THE SWITCH BOX

REGISTERED PROFESSIONAL ENGINEER
GERALD L. KRUSE
No. E011569
Exp. 06-30-24
ELECTRICAL
STATE OF CALIFORNIA

KRUSE & ASSOCIATES
LIGHTING AND ELECTRICAL DESIGN
10055 MIRAMAR CENTRIC DR. POWAY, CA. 92064
P. 858.676.9776 WWW.KRUSEATOC.NET

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
SITE ELECTRICAL PLAN

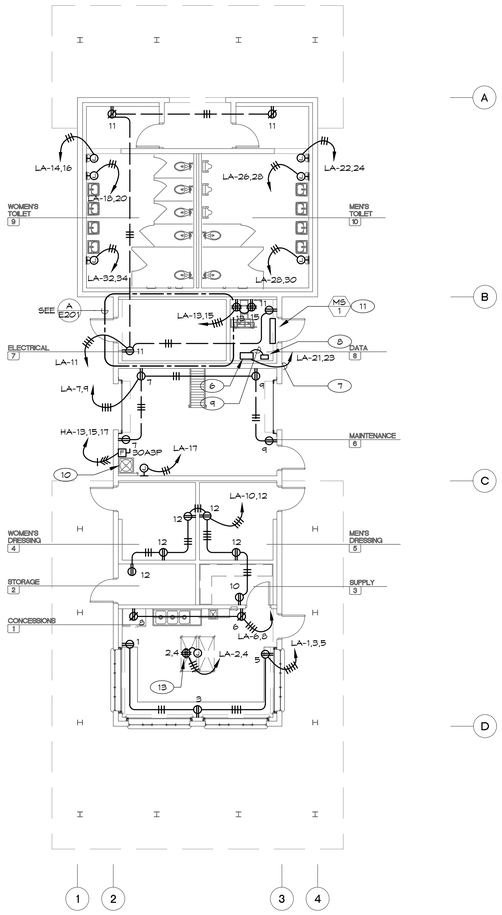
LICENSED ARCHITECT
JIMMIE R. SANDERS
No. C-17644
RENEWAL DATE
08-31-23
STATE OF CALIFORNIA

Document Date	Project Number
06-01-22	22-091V
Date Last Revised	Sheet Number
10-13-22	E102

N

SITE ELECTRICAL PLAN

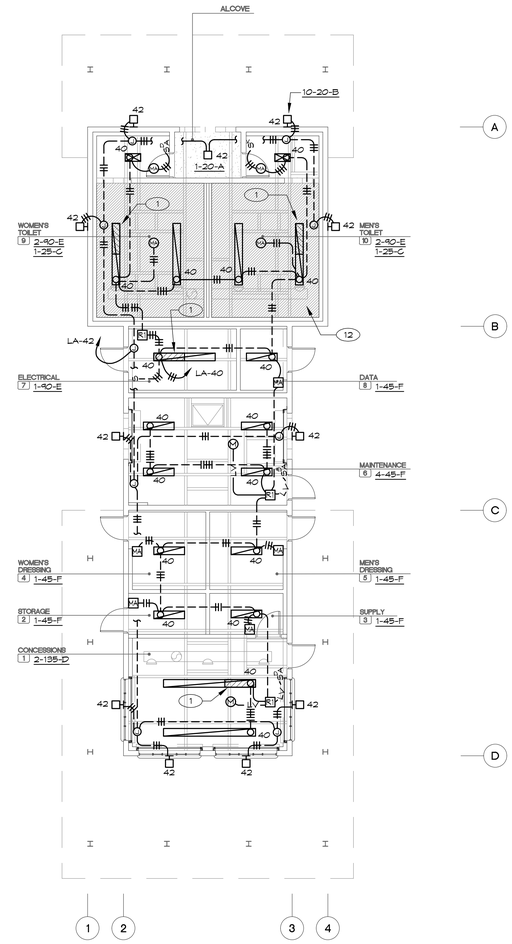
SCALE:
1" = 40'-0"



CONCESSION POWER PLAN

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

N



CONCESSION LIGHTING PLAN

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

N

LIGHTING NOTE

VERIFY MOUNTING HEIGHT OF ALL FIXTURES WITH ARCHITECT

WATTSTOPPER CONTROL DEVICES

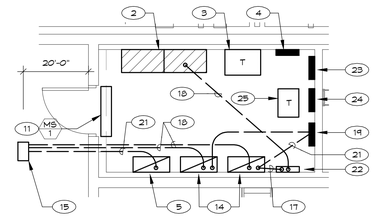
SYMBOL	DESIGNATION
R1	LOAD CONTROLLER #LMRC-111
C	CEILING MOUNT OCCUPANCY SENSOR #LMDC-100
W	WALL MOUNTED MOTION SENSOR #PW100
S/A	DIMMING SWITCH #LMDM-101
TC	TIME CLOCK #LMZC-301
C	CEILING MOUNT OCCUPANCY SENSOR #DT-355

REGISTERED PROFESSIONAL ENGINEER
GERALD L. SANDERS
No. E011569
Exp. 06-30-24
ELECTRICAL
STATE OF CALIFORNIA

APPROVALS

NOTES

1. THIS FIXTURE IS TO BE PROVIDED WITH AN EMERGENCY BATTERY PACK. PROVIDE CONSTANT HOT CHARGING WIRE
2. MAIN SWITCHBOARD "MS", 277/480V, 3Φ
3. 75 KVA 480V//120/208V, 3Φ, 4W DRY TYPE TRANSFORMER
4. PANEL "LA"
5. MUSCO CONTROL PANEL
6. LBU UNIT PROVIDED BY OTHERS
7. 1 1/2" C, 3#2 CU, 1#4 CU GND
8. GPS UNIT PROVIDED BY OTHERS
9. 1" C.O.
10. WATER HEATER, 22A, 480V, 3Φ
11. FED FROM ROOF TOP UNIT
12. SHADING INDICATES SKYLIT AREA, TYPICAL
13. RECEPTACLE DROP FROM CEILING, VERIFY MOUNTING HEIGHT. PROVIDE STRAIN RELIEF
14. FUTURE MUSCO CONTROL PANEL
15. 36" x 60" x 24" DEEP PULLBOX
16. (5) 2" PVC. C.O.
17. (5) 1 1/2" PVC. C.O.
18. 4" PVC. C.O.
19. PANEL "HA"
20. (6) 1 1/2" PVC. C.O. (SPARE)
21. (6) 4" PVC. C.O. (SPARE)
22. FUTURE PANEL "HB"
23. PANEL "MH"
24. PANEL "ML"
25. 165 KVA 480V//120/208V, 3Φ, 4W, DRY TYPE TRANSFORMER ABOVE PANEL



ELECTRIC ROOM DETAIL

1/4"=1'-0"

A E201

KRUSE & ASSOCIATES
LIGHTING AND ELECTRICAL DESIGN
10055 MIRAMAR CENTRIC DR. SAN DIEGO, CA 92126
P. 858.679.9776 WWW.KRUSEATOC.NET

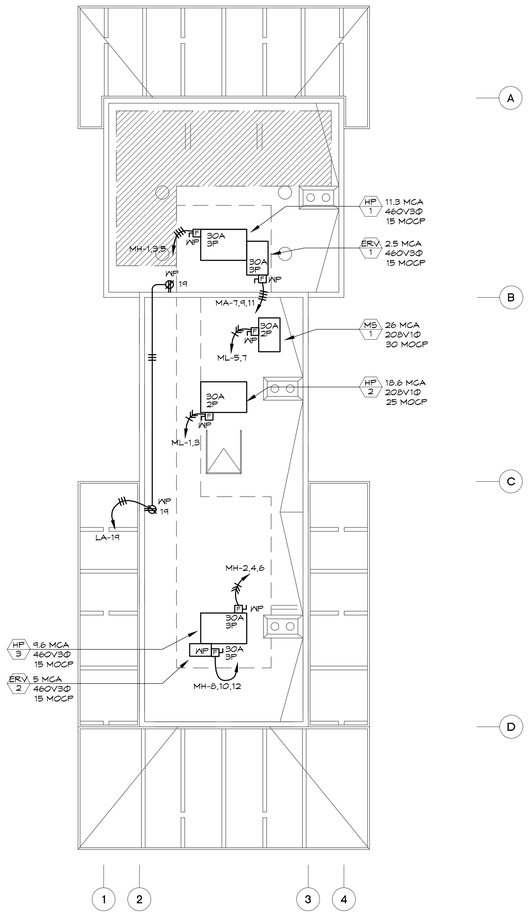
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
CONCESSION POWER + LIGHTING PLAN

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-17644
RENEWAL DATE
12-31-23
STATE OF CALIFORNIA

Document Date	Project Number
06-01-22	22-0911V
Date Last Revised	Sheet Number
10-13-22	E201



VOLTAGE 277/480 | AIC 14,000 | PANEL "HA" | MOUNTING SURFACE | MAINS LUGS ONLY
PHASE 3 | LOCATION ELECTRIC ROOM | BUSSING 400A
WIRE 4 | FEEDER SEE SINGLE LINE | FEED

LOCATION	WATTAGE ΦA	ΦB	ΦC	LTG	REC	MS	BKR	CR	Φ	CR	BKR	MS	REC	LTG	WATTAGE ΦA	ΦB	ΦC	LOCATION
POLE "S1"	7875					1	40	1	A	2	40	1			7875			POLE "S3"
- - -		7875				-		3	B	4		-				7875		- - -
- - -			7875			-	3	5	C	6	3	-					7875	- - -
POLE "S2"	7875					1	40	7	A	8	40	1			7875			POLE "S4"
- - -		7875				-		9	B	10		-				7875		- - -
- - -			7875			-	3	11	C	12	3	-					7875	- - -
WATER HEATER	6000					1	40	13	A	14	20			9	1602			ROADWAY *
- - -		6000				-		15	B	16	O					-		SPACE ONLY
- - -			6000			-	3	17	C	18	O						-	SPACE ONLY
AREA LTG	1884			6		1	15	19	A	20	O				-			SPACE ONLY
- - -		1884		-		-		21	B	22	O					-		SPACE ONLY
- - -			1884	-		-	3	23	C	24	O						-	SPACE ONLY
SPACE ONLY	-						O	25	A	26	O				-			SPACE ONLY
SPACE ONLY		-					O	27	B	28	O					-		SPACE ONLY
SPACE ONLY			-				O	29	C	30	O						-	SPACE ONLY
SPACE ONLY	-						O	31	A	32	O				-			SPACE ONLY
SPACE ONLY		-					O	33	B	34	O					-		SPACE ONLY
SPACE ONLY			-				O	35	C	36	O						-	SPACE ONLY
SPACE ONLY	-						O	37	A	38	O				-			SPACE ONLY
SPACE ONLY		-					O	39	B	40	O					-		SPACE ONLY
SPACE ONLY			-				O	41	C	42	O						-	SPACE ONLY
SUBTOTAL	23840	23840	23840												17550	15456	15456	
TOTAL	ΦA 41398							ΦB 38796							ΦC 38796			
TOTAL LOAD	120990							WATTS AT 277/480			V.,3Φ, 4W=		145.5	A.				
HIGH PHASE	41398							WATTS AT 277			V.,1Φ, 4W=		149.5	A.				DATE 6/24/2022

* = ROUTE CIRCUIT THROUGH 20A1P TIME CLOCK

VOLTAGE 120/208 | AIC 10,000 | PANEL "LA" | MOUNTING SURFACE | MAINS 225A 3P
PHASE 3 | LOCATION ELECTRIC ROOM | BUSSING 225A
WIRE 4 | FEEDER SEE SINGLE LINE | FEED

LOCATION	WATTAGE ΦA	ΦB	ΦC	LTG	REC	MS	BKR	CR	Φ	CR	BKR	MS	REC	LTG	WATTAGE ΦA	ΦB	ΦC	LOCATION
CONCESSIONS	1500				1		20	1	A	2	20		1		1500			CONCESSIONS
CONCESSIONS		1500			1		20	3	B	4	20		1			1500		CONCESSIONS
CONCESSIONS			1500		1		20	5	C	6	20		1				1000	CONCESSIONS
MAINTENANCE	1000				2		20	7	A	8	20		1		1000			CONCESSIONS
MAINTENANCE		1000			2		20	9	B	10	20		1			1000		SUPPLY
MISC. RECEPTACLE			720		4		20	11	C	12	20		5				900	DRESSING, STORAGE
DATA	1000				1		20	13	A	14	20	1			1500			HAND DRYER
DATA		1000			1		20	15	B	16	2	-				1500		- - -
WH CONTROL			250			1	15	17	C	18	20	1					1500	HAND DRYER
ROOF RECEPTACLE	360				2		15	19	A	20	2	-			1500			- - -
LBU		7800					100	21	B	22	20	1				1500		HAND DRYER
- - -			7800				2	23	C	24	2	-					1500	- - -
CHILLER	700				1		15	25	A	26	20	1			1500			HAND DRYER
CHILLER		700			1		15	27	B	28	2	-				1500		- - -
SPACE ONLY			-				O	29	C	30	20	1					1500	HAND DRYER
SPACE ONLY	-						O	31	A	32	2	-			1500			- - -
SPACE ONLY		-					O	33	B	34	20	1				1500		HAND DRYER
SPACE ONLY			-				O	35	C	36	2	-					1500	- - -
SPACE ONLY	-						O	37	A	38	20				500			MUSCO CONTROL PNL
SPACE ONLY		-					O	39	B	40	20					-		LIGHTING
SPACE ONLY			-				O	41	C	42	20						-	EXT. LIGHTING
SUBTOTAL	4560	12000	10270												9000	8500	7900	
TOTAL	ΦA 13560							ΦB 20500							ΦC 18170			
TOTAL LOAD	52230							WATTS AT 120/208			V.,3Φ, 4W=		145.0	A.				
HIGH PHASE	20500							WATTS AT 120			V.,1Φ, 4W=		170.8	A.				DATE 5/31/2022

* = ROUTE CIRCUIT THROUGH 20A1P TIME CLOCK

VOLTAGE 277/480 | AIC 14,000 | PANEL "31HA" (EXISTING) | MOUNTING SURFACE | MAINS LUGS ONLY
PHASE 3 | LOCATION ELECTRICAL 14 | BUSSING 225A
WIRE 4 | FEEDER 2"G, 4#3/0 CU | FEED BOTTOM

LOCATION	WATTAGE ΦA	ΦB	ΦC	LTG	REC	MS	BKR	CR	Φ	CR	BKR	MS	REC	LTG	WATTAGE ΦA	ΦB	ΦC	LOCATION
LIGHTING	2552			16			20	1	A	2	15	3			1914			FC-1.9A, FC-1.9, ERV-1.2
LIGHTING		2408		18			20	3	B	4		-				1914		- - -
LIGHTING			3090	17			20	5	C	6	3	-					1914	- - -
LIGHTING	2408			16			20	7	A	8	15	2			1448			ERV-1.1, FC-1.1
LIGHTING		2341		31			20	9	B	10		-				1448		- - -
LIGHTING			2429	37			20	11	C	12	3	-					1448	- - -
EXTERIOR LIGHTING	2352			14			20	13	A	14	15	1			2343			AC-1.1
EXTERIOR LIGHTING		2352		14			20	15	B	16		-				2343		- - -
* EXTERIOR LIGHTING			270				20	17	C	18	3	-					2343	- - -
ERV-1.1	1028					1	15	19	A	20	15	1			531			FC-1.10
- - -		1028				-		21	B	22		-				531		- - -
- - -			1028			-	3	23	C	24	3	-					531	- - -
FC-1.15	310					1	15	25	A	26	15	2			1338			ERV-1.1, FC-1.6
- - -		310				-		27	B	28		-				1338		- - -
- - -			310			-	3	29	C	30	3	-					1338	- - -
ERV-1.1, FC-1.6	1449					1	15	31	A	32	15	2			1449			ERV-1.2, FC-1.3
- - -		1449				-		33	B	34		-				1449		- - -
- - -			1449			-	3	35	C	36	3	-					1449	- - -
AC-1.2	4720					1	30	37	A	38	15	1			310			FC-1.4
- -		4720				-		39	B	40		-				310		- - -
- - -			4720			-	3	41	C	42	3	-					310	- - -
SUBTOTAL	14819	14658	13246												9384	9384	9384	
TOTAL	ΦA 24203							ΦB 24042							ΦC 22680			
TOTAL LOAD	70925							WATTS AT 277/480			V.,3Φ, 4W=		85.3	A.				
HIGH PHASE	24203							WATTS AT 277			V.,1Φ, 4W=		87.4	A.				DATE 10/13/2022

* = PROVIDE NEW BREAKER AND CONNECT NEW LOAD
○ = EXISTING

VOLTAGE 277/480 | AIC 14,000 | PANEL "32HA" (EXISTING) | MOUNTING SURFACE | MAINS LUGS ONLY
PHASE 3 | LOCATION ELECTRICAL 22 | BUSSING 225A
WIRE 4 | FEEDER 2"G, 4#3/0 CU | FEED BOTTOM

LOCATION	WATTAGE ΦA	ΦB	ΦC	LTG	REC	MS	BKR	CR	Φ	CR	BKR	MS	REC	LTG	WATTAGE ΦA	ΦB	ΦC	LOCATION
LIGHTING	2604			14			20	1	A	2	15	2			1338			ERV-2.1, FC-2.7
LIGHTING		2625		13			20	3	B	4		-				1338		- - -
LIGHTING			4157	27			20	5	C	6	3	-					1338	- - -
LIGHTING	2281			8			20	7	A	8	15	1			421			FC-2.6
EXTERIOR LIGHTING		3604		24			20	9	B	10		-				421		- - -
LIGHTING			2108	18			20	11	C	12	3	-					421	- - -
LIGHTING	3643			27			20	13	A	14	20	1			2371			AC-1
SPACE ONLY							O	15	B	16		-				2371		- - -
SPACE ONLY			-				O	17	C	18	3	-					2371	- - -
ERV-2.2, FC-2.2	1803					2	15	19	A	20	15	2			1338			ERV-2.1, FC-2.8
- - -		1803				-		21	B	22		-				1338		- - -
- - -			1803			-	3	23	C	24	3	-					1338	- - -
ERV-2.1, FC-2.4	1338					2	15	25	A	26	15	2			1338			ERV-2.1, FC-2.5
- - -		1338				-		27	B	28		-				1338		- - -
- - -			1338			-	3	29	C	30	3	-					1338	- - -
ERV-2.1, FC-2.3	1338					1	20	31	A	32	15	2			1649			ERV-2.2, FC-2.3, 2.4
- - -		1338				-		33	B	34		-				1649		- - -
- - -			1338			-	3	35	C	36	3	-					1649	- - -
SPACE ONLY	-						O	37	A	38	O				-			SPACE ONLY
SPACE ONLY		-					O	39	B	40	20					164		EXTERIOR *
SPACE ONLY			-				O	41	C	42	O						-	SPACE ONLY
SUBTOTAL	13007	10708	10744												8455	8619	8455	
TOTAL	ΦA 21462							ΦB 19327							ΦC 19199			
TOTAL LOAD	59988							WATTS AT 277/480			V.,3Φ, 4W=		72.2	A.				
HIGH PHASE	21462							WATTS AT 277			V.,1Φ, 4W=		77.5	A.				DATE 5/31/2022

* = ROUTE THIS CIRCUIT THROUGH EXISTING TITLE 24 CONTROL PANEL, PROVIDE NEW BREAKER
○ = EXISTING

VOLTAGE 277/480 | AIC 10,000 | PANEL "MH" | MOUNTING SURFACE | MAINS LUGS ONLY
PHASE 3 | LOCATION ELECTRIC ROOM | BUSSING 100A
WIRE 4 | FEEDER SEE SINGLE LINE | FEED BOTTOM

LOCATION	WATTAGE ΦA	ΦB	ΦC	LTG	REC	MS	BKR	CR	Φ	CR	BKR	MS	REC	LTG	WATTAGE ΦA	ΦB	ΦC	LOCATION
HP-1	2504					1	15	1	A	2	15	1			2127			HP-3
- - -		2504				-		3	B	4		-				2127		- - -
- - -			2504			-	3	5	C	6	3	-					2127	- - -
ERV-1	554					1	15	7	A	8	15	1			1108			ERV-2
- - -		554				-		9	B	10		-				1108		- - -
- - -			554			-	3	11	C	12	3	-					1108	- - -
TRANSFORMER	3710					1	30	13	A	14	O				-			SPACE ONLY
- - -		1547				-		15	B	16	O					-		SPACE ONLY
- - -			2163			-	3	17	C	18	O						-	SPACE ONLY
SPACE ONLY	-						O	19	A	20	O				-			SPACE ONLY
SPACE ONLY		-					O	21	B	22	O					-		SPACE ONLY
SPACE ONLY			-				O	23	C	24	O						-	SPACE ONLY
SUBTOTAL	6768	4605	5221												3235	3235	3235	
TOTAL	ΦA 10003							ΦB 7840							ΦC 8456			
TOTAL LOAD	26299							WATTS AT 277/480			V.,3Φ, 4W=		31.6	A.				
HIGH PHASE	10003							WATTS AT 277			V.,1Φ, 4W=		36.1	A.				DATE 5/31/2022

VOLTAGE 120/208 | AIC 10,000 | PANEL "ML" | MOUNTING SURFACE | MAINS 50A 3P
PHASE 3 | LOCATION ELECTRIC ROOM | BUSSING 100A
WIRE 4 | FEEDER SEE SINGLE LINE | FEED TOP

LOCATION	WATTAGE ΦA	ΦB	ΦC	LTG	REC	MS	BKR	CR	Φ	CR	BKR	MS	REC	LTG	WATTAGE ΦA	ΦB	ΦC	LOCATION
HP-2	1547					1	25	1	A	2	O				-			SPACE ONLY
- - -		1547				-	2	3	B	4	O					-		SPACE ONLY
MS-1			2163			1	30	5	C	6	O						-	SPACE ONLY
- - -	2163					-	2	7	A	8	O				-			SPACE ONLY
SPACE ONLY		-					O	9	B	10	O					-		SPACE ONLY
SPACE ONLY			-				O	11	C	12	O						-	SPACE ONLY
SUBTOTAL	3710	1547	2163												0	0	0	
TOTAL	ΦA 3710							ΦB 1547							ΦC 2163			
TOTAL LOAD	7420							WATTS AT 120/208			V.,3Φ, 4W=		20.6	A.				
HIGH PHASE	3710							WATTS AT 120			V.,1Φ, 4W=		30.9	A.				DATE 5/24/2022

APPROVALS

REGISTERED PROFESSIONAL ENGINEER — GERALD L. BREEN — No. EE115697 — Exp. 08-30-24 — ELECTRICAL — STATE OF CALIFORNIA

KRUSE & ASSOCIATES — MECHANICAL & ELECTRICAL — LIGHTING AND ELECTRICAL DESIGN
10255 RAMONA CENTRE DR. | ROWN, CA 92064
P. 858.578.9776 | WWW.KRUSEPROJECTS.NET

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

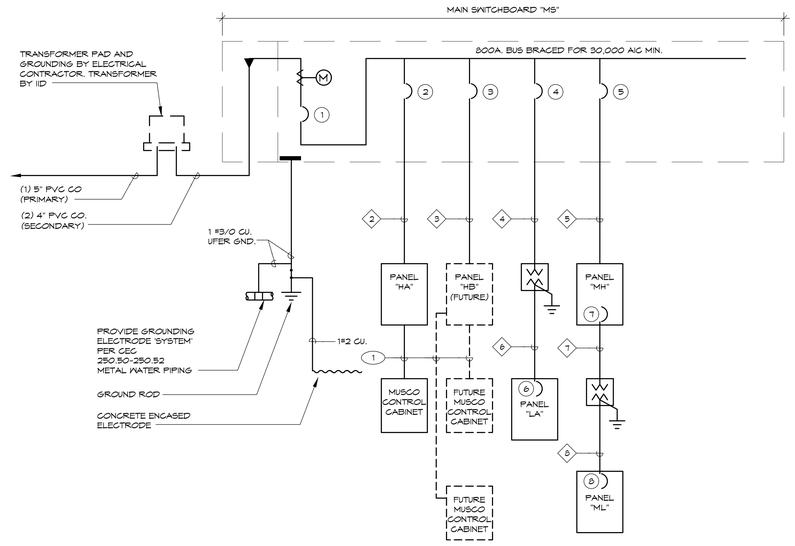
Sheet Title
CONCESSION ROOF PLAN

LICENSED ARCHITECT — JIMMIE L. SANDERS — No. C-17644 — RENEWAL DATE 08-31-23 — STATE OF CALIFORNIA

Document Date	Project Number
06-01-22	22-09IV
Date Last Revised	Sheet Number
10-13-22	E202

N

CONCESSION ROOF PLAN — SCALE: 1/8" = 1'-0"



POWER SINGLE LINE DIAGRAM

NO SCALE

NOTES

(1) SEE SITE PLAN AND BUILDING PLAN FOR CONDUITS

LOAD RECAP

PANEL "HA"	115338 VA
PANEL "HB"	100000 VA
PANEL "LA"	50830 VA
PANEL "MH"	26299 VA
TOTAL	292467 VA = 352 A @ 277/480, 3Φ

DEVICE NUMBER	C.B. OR S.W. SIZE	FUSE SIZE	FUSE TYPE	FEEDER NUMBER	CONDUITS & CONDUCTORS							
					CONDUIT TYPE	CONDUIT SIZE	CNDCTR. QUANTITY	CNDCTR. SIZE	CNDCTR. TYPE	GND. CU.	LENGTH	0/0 V.D.
(1)	600A 3P	-	-	(1)	-	-	-	-	-	-	-	-
(2)	300A 3P	-	-	(2)	PVC	4"	4	350 MCM	CU	2	-	-
(3)	100A 3P	-	-	(3)	PVC	1 1/2"	-	-	-	-	-	-
(4)	100A 3P	-	-	(4)	PVC	1 1/2"	3	2	CU	8	-	-
(5)	100A 3P	-	-	(5)	PVC	1 1/2"	4	2	CU	8	-	-
(6)	225A 3P	-	-	(6)	PVC	2"	4	4/0	CU	2	-	-
(7)	30A 3P	-	-	(7)	EMT	1"	3	10	CU	12	-	-
(8)	50A 3P	-	-	(8)	EMT	1 1/2"	4	4	CU	8	-	-

SINGLE LINE DIAGRAM NOTES

1. VERTICAL BUS MAY BE TAPERED TO NOT LESS THAN 1/3 THE AMPACITY RATING OF THE MAIN HORIZONTAL BUS.
2. HORIZONAL AND VERTICAL BUS SHALL BE FULL LENGTH, AND BE RATED NO LESS THAN THE NOTED AIC RATED VALUE.
3. CONTRACTOR SHALL SUBMIT SWITCHBOARD SHOP DRAWINGS TO THE SERVING UTILITY FOR APPROVAL PRIOR TO FABRICATION. SWITCHBOARD SHALL COMPLY WITH IID REQUIREMENTS.
4. ALL CONDUCTORS FEEDING PANELBOARDS SHALL BE COPPER TYPE 'THWN' WITH EMT OR PVC CONDUIT. BRANCH CIRCUIT AND FEEDER CABLES IN ALL SIZES SHALL HAVE THHN, THWN OR THWN INSULATION WITH EMT CONDUIT. AC CABLE IS NOT ALLOWED TO BE INSTALLED. A EQUIPMENT GROUND CONDUCTOR SHALL BE IN ALL FLEXIBLE CONDUITS. 'XHHW' TO BE USED AT ALL EXTERIOR LOCATION PANEL FEEDERS.
5. ALL EQUIPMENT SHOWN IS NEW UNLESS NOTED OTHERWISE.
6. EACH TRANSFORMER SHALL USE THE NEAREST ELECTRODE AS THE SECONDARY GROUNDING SYSTEM. (I.E. BUILDING STEEL, COLD WATER PIPE.)
7. ALL TERMINATION LUGS OF PANELS AND SWITCHBOARDS TO BE RATED TO ACCEPT 75 DEGREE CONDUCTORS.
8. ALL MAIN SERVICE CIRCUIT BREAKERS SHALL BE 100% RATED.
9. FOR ALL PANELBOARDS SUPPLYING FIRE ALARM EQUIPMENT, PROVIDE LOCKABLE COVER, INDENTIFIED CIRCUIT BREAKER (RED), AND A BREAKER 'LOCK-OFF' DEVICE.
10. PULL SECTION TAPS ARE TO BE FACTORY INSTALLED, FIELD INSTALLED PER FACTORY SPECIFICATIONS OR TO BE CERTIFIED BY A NRTL CERTIFIED THIRD PARTY TESTING LABORATORY.

APPROVALS

REGISTERED PROFESSIONAL ENGINEER — GERALD L. KRUSE — No. E011569 — Exp. 06-30-24 — ELECTRICAL — STATE OF CALIFORNIA

KRUSE & ASSOCIATES — LIGHTING AND ELECTRICAL DESIGN
10255 IRVINE CENTRE DR. IRVINE, CA. 92604
T. 858.576.9776 WWW.KRUSEASSOC.NET

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
SINGLE LINE DIAGRAM + PANEL SCHE.

LICENSED ARCHITECT — JAMES A. SANDERS — No. C-17644 — RENEWAL DATE 8-31-23 — STATE OF CALIFORNIA

Document Date	Project Number
06-01-22	22-091V
Date Last Revised	Sheet Number
10-13-22	E301

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 1 of 6)
Project Address: **Date Prepared:** 10/13/2022

A. GENERAL INFORMATION

01	Project Location (city)	Imperial	04	Total Conditioned Floor Area (ft²)	1,989
02	Climate Zone	15	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

► Classroom

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 or §141.0(b)2 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Complete Building Method	1989	Complete Building Method	0
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	1989		0	

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.4(b).	Allowed Lighting Power per §140.6(b) (Watts)					Adjusted Lighting Power per §140.6(a) (Watts)					Compliance Results
	01	02	03	04	05	06	07	08			09
	Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Additional §140.6(c)2(+)	Tailored §140.6(c)3 (+)	Total Allowed (Watts)	Total Designed (Watts)	Adjustments: HVAC Lighting Control Credits §140.6(a)2 (-)	Total Adjusted (Watts) *Includes Adjustments			05 must be >= 08 §140.6
	(See Table I)	(See Table I)	(See Table J)	(See Table K)		(See Table F)	(See Table F)				
Conditioned	1,293				= 1,293	≥ 1,175	- 0	= 1175			COMPLIES
Unconditioned					=	≥		=			

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:01

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 2 of 6)
Project Address: **Date Prepared:** 10/13/2022

C. COMPLIANCE RESULTS

Controls Compliance (See Table H for Details)	COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)	

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unedittable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all permanent designed lighting and all portable lighting in offices.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[4]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3	Design Watts	Field Inspector: Pass	Field Inspector: Fail
C	25w LED	No	No	25	Mfr. Spec	2	No	50	☐	☐
D	135w LED	No	No	135	Mfr. Spec	2	No	270	☐	☐
E	90w LED	No	No	90	Mfr. Spec	5	No	450	☐	☐
F	45w LED	No	No	45	Mfr. Spec	9	No	405	☐	☐
					Total Designed Watts: CONDITIONED SPACES			1,175		

[1] *FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4iB is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*
[2] *Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:01

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 3 of 6)
Project Address: **Date Prepared:** 10/13/2022

H. INDOOR LIGHTING CONTROLS (Not Including PAFs)

*This table includes lighting controls for conditioned and unconditioned spaces. When a control having a * is shown, the notes section of this table provides more detail on how compliance is achieved. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Building Level Controls

01	02	03	
Mandatory Demand Response §130.1(b)1	Shut-off controls §130.1(c)	Field Inspector: Pass	Field Inspector: Fail
Not Required <= 10,000 SF	Whole Building Other	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12		
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Sky lit Daylighting §130.1(d)	Secondary Daylighting §140.6(a)3	Interlocked Systems §140.6(a)1	Field Inspector		
									Pass	Fail
Entire	School	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐	

*"NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.*
Ex: Conference 1: Primary/Skylight Daylighting; Exempt because less than 120 watts of general lighting; EXCEPTION 1 to §130.1(d)2

	Plan Sheet Showing Daylit Zones:

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per §140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment: Area Category	PAF
Whole Building	School	0.65	1,989	1,292.9	No	No
		TOTALS	1,989	1,292.9	See Tables L or P for detail	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:01

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 4 of 6)
Project Address: **Date Prepared:** 10/13/2022

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:01

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 5 of 6)
Project Address: **Date Prepared:** 10/13/2022

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector: Pass	Field Inspector: Fail
NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
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.	☐	☐

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified	Field Inspector: Pass	Field Inspector: Fail
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐	☐	
NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐	☐	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:01

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 6 of 6)
Project Address: **Date Prepared:** 10/13/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Keith Kruse	Documentation Author Signature: Keith W. Kruse
Company:	Signature Date: 2022-10-13
Address: 12255 Parkway Centre Dr.	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Poway CA 92064	Phone: (858) 676-9776

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: Gerry Green	Responsible Designer Signature:
Company: Kruse & Associates	Date Signed: 2022-10-13
Address: 12255 Parkway Centre Dr.	License: 1015691
City/State/Zip: Poway CA 92064	Phone: (858) 676-9776

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:01

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 1 of 7)
Project Address: **Date Prepared:** 10/13/2022

A. GENERAL INFORMATION

01	Project Location (city)	Imperial	04	Total Illuminated Hardscape Area (ft²)	170464
02	Climate Zone	15			
03	Outdoor Lighting Zone per Title 24 Part 1 §10-114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	1-E: Very Low - Undeveloped Parkland	☐	2-J: Moderate - Rural Areas	☐	2-E: High - Must be reviewed by CA Energy Commission for Approval
☐	2-I: Low - Developed Parkland	☒	2-J: Moderately High - Urban Areas		

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)2L for alterations.

My Project Consists of:	
01	02
☒ New Lighting System	Must Comply with Allowances from §140.7
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ○ Yes ○ No
03	04 / 05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered / Calculation Method
○ < 10% ○ >= 10% and < 50% ○ >= 50%	

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.
[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.*

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:02

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 2 of 7)
Project Address: **Date Prepared:** 10/13/2022

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) §140.7 or §141.0(b)2L

01		02		03		04		05		06		07		08		09
General Hardscape Allowance §140.7(c)1 (See Table I)	+	Per Application §140.7(c)2 (See Table J)	+	Sales Frontage §140.7(c)3 (See Table K)	+	Ornamental §140.7(c)2 (See Table L)	+	Per Specific Area §140.7(c)4 (See Table M)	OR	Existing Power Allowance §141.0(b)2L (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)		**07 must be >= 08**
5,481.85	+	---	+	---	+	---	+	---	OR	---	=	5,481.85	≥	2,716		COMPLIES

Cutoff Compliance (See Table G for Details):	N/A
Controls Compliance (See Table H for Details):	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unedittable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:02

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 3 of 7)
Project Address: **Date Prepared:** 10/13/2022

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1,3]	How is Wattage determined	Total number luminaires[2]	Luminaire Status[3]	Excluded per §140.7(a)	Design Watts	Cutoff Req. > 6,200 initial lumen output §130.2(b)[4]	Field Inspector: Pass	Field Inspector: Fail
A	20w LED	☐ Linear	20	Mfr. Spec	1	New	☐	20	NA; < 6200 lumens	☐	☐
B	20w LED	☐ Linear	20	Mfr. Spec	10	New	☐	200	NA; < 6200 lumens	☐	☐
G	178w LED	☐ Linear	178	Mfr. Spec	12	New	☐	2,136	NA; < 6200 lumens	☐	☐
H	90w LED	☐ Linear	90	Mfr. Spec	4	New	☐	360	NA; < 6200 lumens	☐	☐
							Total Design Watts:	2716			

*" NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.*
EX: Luminaire is lighting a statue; EXCEPTION 2 to §130.2(b)

[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c)*
[2] *For linear luminaires, wattage should be indicated as W/ft instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*
[3] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*
[4] *Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by §130.2(b)*

G. CUTOFF REQUIREMENTS (BUG)

This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:02

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 4 of 7)
Project Address: **Date Prepared:** 10/13/2022

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
*When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Mandatory Controls

01	02	03	04	05	
Area Description	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Field Inspector: Pass	Field Inspector: Fail
Entire	Astronomical Timer	Yes	Yes	☐	☐

*" NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.*
EX: Not permitted by health & safety to be turned off; EXCEPTION 1 to §130.2(c)

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:02

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 5 of 7)
Project Address: **Date Prepared:** 10/13/2022

I. LIGHTING POWER ALLOWANCE (per §140.7)

This table includes areas using allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lose it" Allowances are per Table 140.7-B indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.

	01					
	☒ General Hardscape Allowance Table I (below)	"Use it or lose it" Allowance (select all that apply) (select all that apply): ☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (L2 0, 1 & 4)
Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (L2 2 & 3)

02	03	04	05	06	07	08	9	10
Area Description	Surface Type	Area Wattage Allowance (AWA): Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Area Wattage Allowance (AWA): Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	Total General AWA + LWA (Watts)
Hardscape	Asphalt	170464	0.025	4261.6	3481	0.2	870.2	5132
					Initial Wattage Allowance for Entire Site (Watts):			350
					Total General Hardscape Allowance (Watts):			5482

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:02

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 6 of 7)
Project Address: **Date Prepared:** 10/13/2022

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector: Pass	Field Inspector: Fail
NRCI-LTO-01-E – Must be submitted for all buildings	☐	☐
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.	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified	Field Inspector: Pass	Field Inspector: Fail
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	☐	☐	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:02

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: Imperial Valley College - Restroom & Concession Building **Report Page:** (Page 7 of 7)
Project Address: **Date Prepared:** 10/13/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Keith Kruse	Documentation Author Signature: Keith W. Kruse
Company:	Signature Date: 2022-10-13
Address: 12255 Parkway Centre Dr.	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Poway CA 92064	Phone: (858) 676-9776

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: Gerry Green	Responsible Designer Signature:
Company: Kruse & Associates	Date Signed: 2022-10-13
Address: 12255 Parkway Centre Dr.	License: 1015691
City/State/Zip: Poway CA 92064	Phone: (858) 676-9776

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-10-13 16:09:02

REGISTERED PROFESSIONAL ENGINEER
GERALD L. ROSEN
No. E013569
Exp. 06-30-24
ELECTRICAL
STATE OF CALIFORNIA

APPROVALS

KRUSE & ASSOCIATES
ENERGY & LIGHTING
LIGHTING AND ELECTRICAL DESIGN
12055 PARKWAY CENTRE DR. POWAY, CA 92064
P. 858.676.9776 WWW.KRUSEATOC.NET

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
TITLE 24

LICENSED ARCHITECT
JAMES D. SANDERS
No. C-17644
RENEWAL DATE
08-31-23
STATE OF CALIFORNIA

Document Date	Project Number
06-01-22	22-091V
Date Last Revised	**Sheet Number**
10-13-22	E401

Johnson Controls

IMPERIAL VALLEY COLLEGE
SPORT FIELD RESTROOM AND CONCESSION
FIRE ALARM SYSTEM

APPROVALS

DRAWING INDEX

Sheet List Table

Sheet Number	Sheet Title
FA-001	FIRE ALARM COVER SHEET
FA-002	FIRE ALARM SITE PLAN
FA-101	FIRE ALARM DEVICE PLACEMENT PLAN
FA-201	FIRE ALARM RISER DIAGRAM
FA-501	FIRE ALARM PANEL DETAIL
FA-601	FIRE ALARM CALCULATIONS AND SCHEDULES
FA-701	FIRE ALARM WIRING TYPICALS
FA-702	FIRE ALARM WIRING TYPICALS

LEGENDS

FIRE ALARM SYMBOL LEGEND

	QTY	SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE	CSFM #
			PANELS					
A	E	FACP NODE-2	4100ES FIRE ALARM CONTROL PANEL, 120 VAC	SIMPLEX	4100-9111	SIMPLEX CABINET	N/A	7165-0026:0251
B	1	FACP NODE-3	4100ES ES PS MASTER CONTROLLER - ENGLISH	SIMPLEX	4100-9701	SIMPLEX CABINET	N/A	7165-0026:0251
			INITIATING DEVICES					
C	31	S	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" SQ. 1-1/2" D WITH 4098-9832 ADAPTER PLATE	M	7272-0026:0218 7300-0026:0217
D	1	F	ADDRESSABLE NO GRIP SINGLE ACTION MANUAL PULL STATION	SIMPLEX	4099-9021	4" SQ. 2-1/8" D W/ SINGLE GANG COVER	M	7150-0026:0224
			MODULES AND RELAYS					
E	3	KRM	8 AMP RELAY IAM	SIMPLEX	4090-9010	4" SQ. 2-1/8" D W/ DBL. GANG COVER	M R	7300-0026:0311
			ADAPTER PLATE FOR 4-11/16" SQ. BOX	SIMPLEX	4090-9813			
			TRIM PLATE FOR SURFACE MOUNTING	SIMPLEX	4090-9802			
			NOTIFICATION APPLIANCES ** TAP ALL SPEAKERS AT 70.7 VOLTS **					
F	1	# WP	ADDRESSABLE WEATHERPROOF STROBE ,WALL MOUNT, RED, CLEAR LENS, FIRE	SIMPLEX	49VO-WRFO	49WPBB-AVVOWR	A	7125-0026:0371
G	6	#W S #	ADDRESSABLE MULTI-CANDELA SPEAKER/STROBE ,WALL MOUNT, APPLIANCE ONLY, CLEAR LENS	SIMPLEX	49SV-APPLW	4" SQ. 2-1/8" D	A S	7125-0026:0384
			MOUNTING PLATE, RED	SIMPLEX	49MP-SVWR			
			APPLIANCE COVER, RED, FIRE LETTERING	SIMPLEX	49SVC-WRFIRE			
H	4	#W S WP	ADDRESSABLE WEATHERPROOF SPEAKER ,WALL MOUNT, APPLIANCE ONLY	SIMPLEX	49SO-APPLW-O	49WPBB-SOWR	A S	7320-0026:0501
			MOUNTING PLATE, RED	SIMPLEX	49MP-SOWR			
			APPLIANCE COVER, RED, FIRE LETTERING	SIMPLEX	49SOC-WRFIRE-O			
			MISCELLANEOUS DEVICES					
I	4	SS	OVERVOLTAGE SUPPRESSOR - IDNET OR POWER	SIMPLEX	2081-9044			7300-0026:0171
J	1	SS	120 VAC HARD WIRED SURGE PROTECTIVE DEVICE	DITEK	DTK-120HW	DEVICE BOX		7300-2105:0102
K	1	DOC	FIRE ALARM DOCUMENT STORAGE CABINET, RED	SPACE AGE	SSU00685	WALL MOUNT		

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: PPLR	PPLP	THHN	TFFN	OUTDOOR *	C.I.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE; 3 twists/ft. MINIMUM	X	X				
M	IDNET	UTP SOLID	18 AWG	60µF MAX TOTAL LINE CAPACITANCE	X	X				
Nb	RS-485 COMMUNICATION - OUTDOOR	STP SOLID	18 AWG	DIRECT BURIAL/UNDERGROUND IN CONDUIT/AERIAL**	X	X			X	
R	RELAY	2 COND. SOLID	14 AWG		X	X	X	X		
S	AUDIO - SPEAKER	UTP SOLID	18 AWG	30pf/ft. MAX CAPACITANCE RECOMMENDED	X	X				
Sd	DIGITAL AUDIO RISER	UTP SOLID	18 AWG	.02µF MAX TOTAL LINE CAPACITANCE	X	X				

CONDUIT SIZE	MAX CONDUCTOR AREA	CONDUIT SIZE	MAX CONDUCTOR AREA
		1-1/4"	0.598 SQ INCH*
3/4"	0.213 SQ INCH*	1-1/2"	0.814 SQ INCH*
1"	0.346 SQ INCH*	2"	1.342 SQ INCH*

* 40% CONDUIT FILL PER N.E.C. STP = SHIELDED TWISTED PAIR

ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS AND MODEL NUMBERS ARE AVAILABLE UPON REQUEST.

APPLICABLE CODES & STANDARDS

JURISDICTIONS WITHIN THE STATE MAY HAVE AMENDMENTS TO THE STATE ADOPTED CODE. CHECK WITH THE LOCAL JURISDICTION AUTHORITY FOR MORE DETAILS.

California Building Code, 2019 Edition, Title 24, Part 2

California Fire Code, 2019 Edition, Title 24, Part 9

California Electric Code, 2019 Edition, Title 24, Part 3

California Elevator Safety Construction Code, 2019 Edition

NFPA 72, 2016 Edition with California Amendments

ABBREVIATIONS:
CSFM = CALIFORNIA STATE FIRE MARSHAL

OCCUPANCY TYPE(S):
E EDUCATIONAL GROUP

SPRINKLER PROTECTION:
BUILDING IS NOT SPRINKLERED

JOHNSON CONTROLS CONTACTS

Sales Representative
J. MARK WALKER
J.MARK.WALKER@JCI.COM
PHONE: 858-633-9100

Drawings Prepared By
LEONARDO MUÑOZ
JMUNOZ76@JCI.COM
PHONE:

Drawings Reviewed By
DAVID SLABOSZ
DAVID.SLABOSZ@JCI.COM
PHONE:858-633-9100

SCOPE OF WORK

MODIFY EXISTING FIRE ALARM SYSTEM: PROVIDE NEW FACP NODE-3, AND NEW DEVICES, AS SHOWN ON FA-101.
CONNECT TO EXISTING BUILDING 700.

ALL NEW WIRING TO BE CLASS B.

THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DISCONNECTED OR TAKEN OUT OF SERVICE WITHOUT WRITTEN PERMISSION FROM THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER THE TIMING OF ANY EXISTING FIRE ALARM SYSTEM DEMOLITION WORK.

PROJECT DIRECTORY

Site
IMPERIAL VALLEY COLLEGE
380 EAST ATEN RD
IMPERIAL, CA 92251
PHONE: (760) 352-8320

Johnson Controls District - 480
3568 RUFFIN ROAD SOUTH
SAN DIEGO, CA 92123
PHONE: 858-633-9100
FAX: 858-633-9101
SERVICE: 858-633-9100

Engineer Of Record

Installer
JOHNSON CONTROLS FIRE PROTECTION
3568 RUFFIN RD
SAN DIEGO, CA 92123
PHONE: (858) 633-9100
FAX: (858) 633-9101

Owner

DESIGN STATEMENT

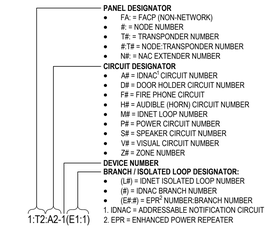
THIS PROJECT'S DESIGN IS PREPARED BY:
JOHNSON CONTROLS FIRE PROTECTION

ARCHITECTURAL PLANS DATED:	4/1/2022 PARTIAL SET
MECHANICAL PLANS DATED:	N/A
ELECTRICAL PLANS DATED:	N/A
SPECIFICATIONS DATED:	N/A
ADDENDUM DATED:	N/A

ABBREVIATIONS LEGEND

AC= ABOVE CEILING
AFF= ABOVE FINISHED FLOOR
AHJ= AUTHORITY HAVING JURISDICTION
ALM= ALARM
ANN= ANNUNCIATOR
BMS= BUILDING MANAGEMENT SYSTEM
C= CEILING MOUNTED
CD= CANDELA RATING
DET= DETECTOR
DGP= DATA GATHERING PANEL
E= EXISTING TO REMAIN
EOL= END OF LINE
EPO= EMERGENCY POWER OFF
ER= ELEVATOR RECALL
FAA= FIRE ALARM ANNUNCIATOR
FACP= FIRE ALARM CONTROL PANEL
FATC= FIRE ALARM TERMINAL CABINET
FBO= FURNISHED BY OTHERS
FCC= FIRE COMMAND CENTER
FSD= FIRE SMOKE DAMPER
FTR= FIRE ALARM TRANSPONDER
H= HIGH HUMIDITY
HT= HEIGHT
HVAC= HEATING VENTILATION & AIR CONDITIONING
IMS= INFORMATION MANAGEMENT SYSTEM
MAX= MAXIMUM
MIN= MINIMUM
NA= NOT APPLICABLE
NAC= NOTIFICATION APPLIANCE CIRCUIT
NDU= NETWORK DISPLAY UNIT
CEC= CALIFORNIA ELECTRIC CODE
NFPA= NATIONAL FIRE PROTECTION ASSOCIATION
NIC= NOT IN CONTRACT
NPU= NETWORK PROCESSING UNIT
NTS= NOT TO SCALE
PAP= PRE-ACTION PANEL
RC= EXISTING TO REMOVE AND COVER
RD= EXISTING DEVICE TO BE RELOCATED
RL= RELOCATED DEVICE
RR= REMOVE EXISTING & REPLACE WITH NEW
SCC= STATUS COMMAND CENTER
SLC= SIGNALING LINE CIRCUIT
SMK= SMOKE
SUPV= SUPERVISORY
TAC= TRUEALERT ADDRESSABLE CONTROLLER
TOS= TOP OF SHAFT
TRBL= TROUBLE
TS= TAMPER SWITCH
TYP= TYPICAL
UON= UNLESS OTHERWISE NOTED
VCC= VOICE COMMAND CENTER
VT= VALVE TAMPER
W= WATTAGE
W= WITH
W/O= WITHOUT
WF= WATERFLOW
WG= WIRE GUARD
WP= WEATHERPROOF
XP= EXPLOSION PROOF

DEVICE TAG LEGEND



PANEL DESIGNATOR
- FA: = FACP (NON-NETWORK)
- #: = NODE NUMBER
- T#: = TRANSPONDER NUMBER
- #:T# = NODE:TRANSPONDER NUMBER
- N#: = NAC EXTENDER NUMBER

CIRCUIT DESIGNATOR
- A# = IDNAC[1] CIRCUIT NUMBER
- D# = DOOR HOLDER CIRCUIT NUMBER
- F# = FIRE PHONE CIRCUIT
- H# = AUDIBLE (HORN) CIRCUIT NUMBER
- M# = IDNET LOOP NUMBER
- P# = POWER CIRCUIT NUMBER
- S# = SPEAKER CIRCUIT NUMBER
- V# = VISUAL CIRCUIT NUMBER
- Z# = ZONE NUMBER

DEVICE NUMBER

BRANCH / ISOLATED LOOP DESIGNATOR:
- (LR) = IDNET ISOLATED LOOP NUMBER
- (#) = IDNAC BRANCH NUMBER
- (E#:#) = EPR[2] NUMBER:BRANCH NUMBER

1. IDNAC = ADDRESSABLE NOTIFICATION CIRCUIT
2. EPR = ENHANCED POWER REPEATER

SYSTEM SEQUENCE OF OPERATIONS

SYSTEM INPUTS	SYSTEM OUTPUTS: ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE APPROPRIATE LOCATION INDICATOR	ACTUATE ALL AUDIBLE EVACUATION SIGNALS	ACTUATE ALL VISIBLE EVACUATION SIGNALS	(UNUSED)	DISPLAY CHANGE OF STATUS	TRANSMIT ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	ACTUATE EMERGENCY COMMUNICATIONS (SPEAKERS / STROBES)	(UNUSED)	(UNUSED)	(UNUSED)	(UNUSED)	(UNUSED)	(UNUSED)	FAN SHUTDOWN
	CTRL UNIT ANNUNCIATION							NOTIFICATION								FIRE SAFETY CONTROL						
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1 SMOKE SENSOR/DETECTOR	X	X					X	X	X		X	X										X
2 MANUAL PULL STATION	X	X					X	X	X		X	X										
3 HEAT SENSOR/DETECTOR	X	X					X	X	X		X	X										
4 ACTIVATION OF EMERGENCY COMMUNICATIONS MESSAGE															X							
5 FIRE ALARM AC POWER FAILURE					X	X					X			X								
6 FIRE ALARM SYSTEM LOW BATTERY					X	X					X			X								
7 OPEN CIRCUIT OR GROUND FAULT					X	X					X			X								
8 CLASS B NOTIFICATION CIRCUIT (NAC) - SHORT					X	X					X			X								

GENERAL NOTES

1. THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. EXACT ROUTING OF CONDUITS IS TO BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDITIONS. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
2. SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT JOHNSON CONTROLS IN A TIMELY MANNER SO AS NOT TO IMPAIR THE CONSTRUCTION SCHEDULE.
3. CONTRACTOR IS RESPONSIBLE FOR MAKING AND OBTAINING APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY AUTHORIZED CHANGE. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
4. A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE USED FOR INSTALLATION.
5. THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER, AND SHALL HAVE A RED MARKING, LOCK-ON PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
6. UPDATE THE AS-BUILT DRAWING SET DAILY WITH JOB PROGRESS. RETURN THE AS-BUILT DRAWING SET TO JOHNSON CONTROLS NO LATER THAN 7 DAYS AFTER FINAL TEST.
7. THE CONTRACTOR WILL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT AND WORKMANLIKE MANNER.
8. DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED JOHNSON CONTROLS TECHNICAL REPRESENTATIVE.
9. ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DUST. ANY FALSE ALARMS DUE TO DIRT CONTAMINATED HEADS SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER.
10. THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES ANY TIME THAT WORK IS NOT ACTIVELY BEING PERFORMED.
11. INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. POWER LIMITED AND NON-POWER LIMITED FIELD WIRING MUST BE INSTALLED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPLICABLE ELECTRICAL CODES. REFER TO 'APPLICABLE CODES & STANDARDS' FOR SPECIFIC CODE REFERENCES.
12. ALL WIRING SHALL BE INSTALLED ACCORDING TO APPLICABLE ELECTRICAL CODES.
13. FIRE ALARM CIRCUITS SHALL BE IDENTIFIED IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES. MARK ALL FIRE ALARM WIRES IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODE SECTIONS FOR POWER LIMITED AND NON-POWER LIMITED WIRE.
14. FIRE ALARM CABLE INSTALLED IN DUCTS, PLENUM, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP.
15. FIRE ALARM CABLE INSTALLED IN THE VERTICAL RUNS AND PENETRATING MORE THAN ONE FLOOR OR CABLES INSTALLED IN VERTICAL RUNS IN SHAFTS SHALL BE TYPE FPLR.
16. FIRE ALARM CABLE INSTALLED IN UNDERGROUND CONDUIT OR OTHER WET LOCATIONS SHALL BE UL LISTED FOR WET LOCATIONS.
17. FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOORS SHALL BE INSTALLED IN ACCORDANCE APPLICABLE ELECTRICAL CODES. WHERE APPLICABLE.
18. ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
19. ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE.
20. ONLY SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT.
21. 120VAC IS NOT PERMITTED IN THE SAME CONDUIT WITH LOW VOLTAGE WIRING.
22. MAINTAIN MAXIMUM CONDUIT FILL RATIO AS PER APPLICABLE ELECTRICAL CODES REQUIREMENTS.
23. EXISTING CONDUITS MAY BE USED BY THE INSTALLATION CONTRACTOR AS DEEMED NECESSARY; HOWEVER, ANY EXISTING CONDUIT WILL BE USED ONLY IF CONDUITS MEET CURRENT STANDARDS AND CODES. JOHNSON CONTROLS MAKES NO STATEMENTS WRITTEN OR VERBAL AS TO THE CONDITION OF EXISTING CONDUITS.

DSA PROJECT SUBMITTAL GUIDELINE 2

1) APPLICABLE STANDARD NFPA 72, as adopted and amended in CBC Chapter 35
2) INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATION, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM, HAS BEEN APPROVED BY DSA.
3) UPON COMPLETION OF SYSTEM INSTALLATION, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
4) A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
5) ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
6) DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND /OR TESTING.
7) ALL PENETRATIONS THROUGH RATED ASSEMBLIES REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7. UL OR OTHER APPROVED LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE PROJECT SPECIFICATIONS WITHIN THE FIRE ALARM SECTION.
8) WALL MOUNTED VISIBLE NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM FROM FINISHED FLOOR.
9) WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THEN 6" TO A HORIZONTAL STRUCTURE.
10) AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (dBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR FIVE dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIABLE SPACE WITHIN THE BUILDING.
11) AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
12) THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
13) VISIBLE DEVICES SHOULD NOT EXCEED TWO FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN ONE FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELLA. VISIBLE DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
14) UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATER TIGHT FITTINGS AND WIRE TO BE APPROVED FOR WET LOCATIONS.
15) ALL FIRE ALARM WIRING SHALL BE FPLOR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE TYPE THHN OR THWN.
16) PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. ALL BOXES TO BE SIZED PER CEC.
17) SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1' FROM FIRE SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM, DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
18) ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANOR AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
19) FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
20) A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL." CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXTENDERS.
21) THE INSTALLING CONTRACTOR SHALL PROVIDE A COMPLETED "SYSTEM RECORD OF COMPLETION" PER NFPA 72, FIGURE 17.8.2.
22) FIRE ALARM CONTROL PANELS AND REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48" ABOVE THE FINISHED FLOOR.
23) MICROPHONES ASSOCIATED WITH EMERGENCY VOICE ALARM COMMUNICATION SYSTEMS (EVAC) SHALL BE ACCESSIBLE FOR USE, INSTALLED IN COMPLIANCE WITH CBC SECTIONS 11B-305 AND 11B-308.
24) THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
25) SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
26) OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.

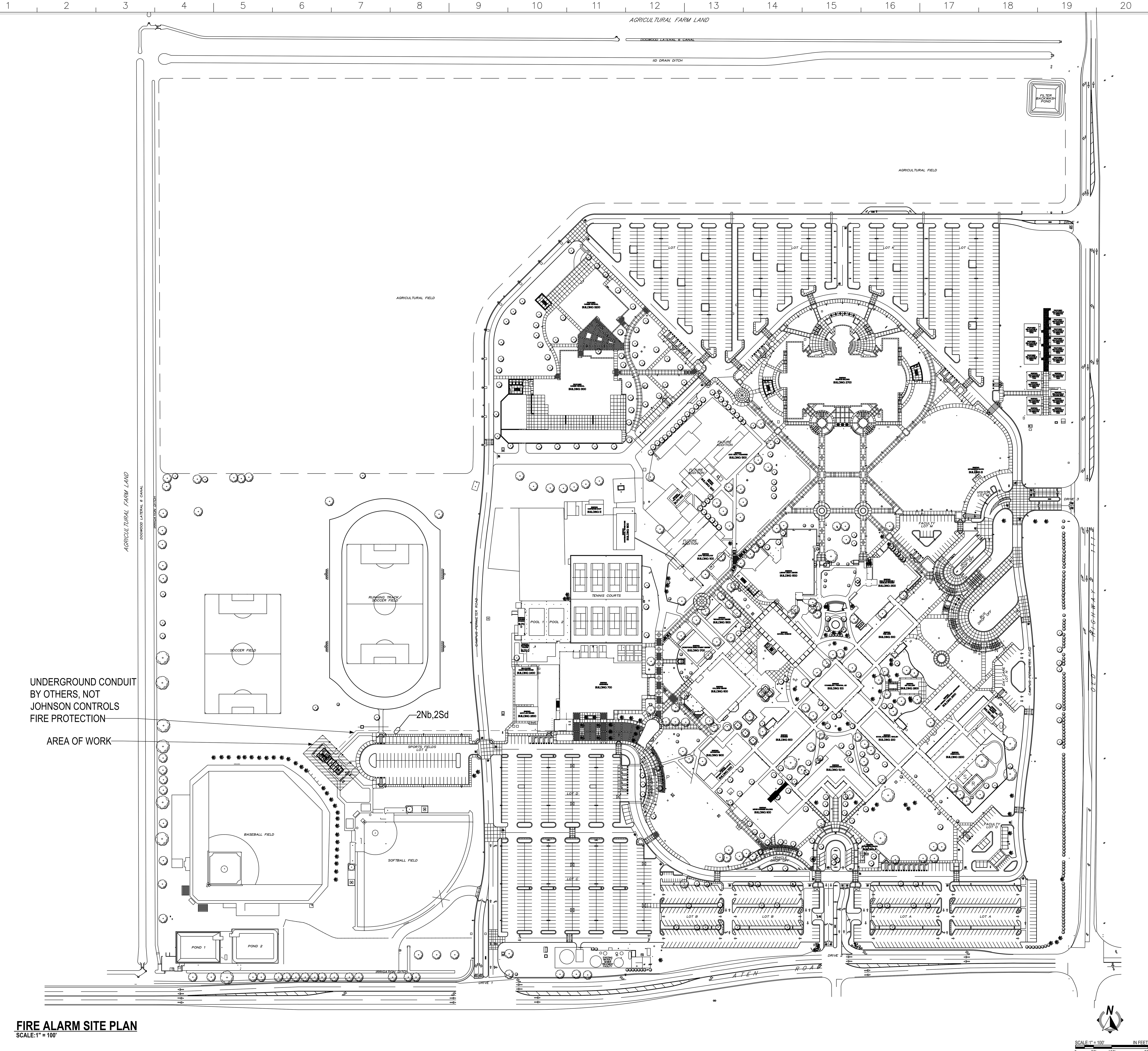
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
FIRE ALARM COVER SHEET

LICENSED ARCHITECT
JIMMIE L. SANDERS
No. C-17644
RENEWAL DATE
08-31-23
STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	FA-001



FIRE ALARM SITE PLAN
SCALE:1" = 100'

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440
FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

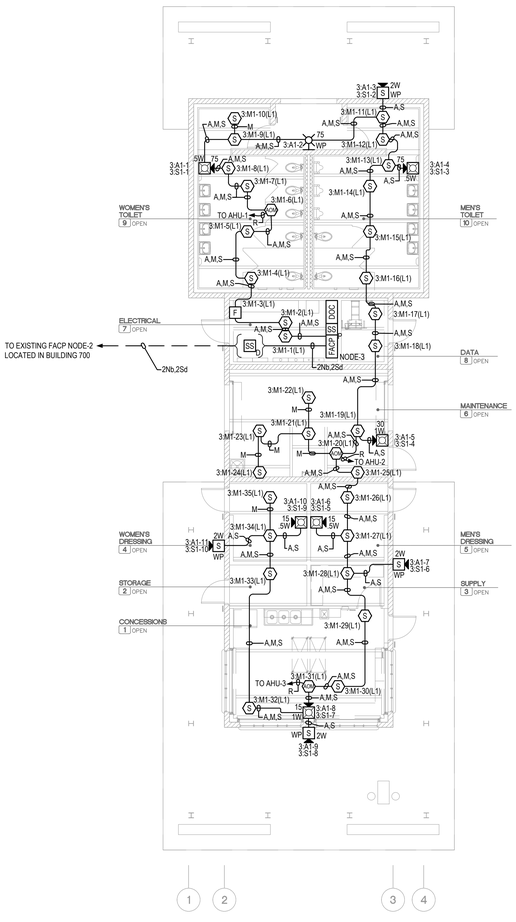
Sheet Title
FIRE ALARM SITE PLAN

LICENSED ARCHITECT
JIMMIE A. SANDERS
No. C-17644
RENEWAL DATE
7-31-23
STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	FA-002

GENERAL NOTES:

1. ALL CEILINGS ARE ASSUMED TO BE 11'-9" WITH 14" BEAMS AS SHOWN ON FLOOR PLANS UNLESS NOTED OTHERWISE.
2. TAP ALL SPEAKERS AT 0.5W UNLESS NOTED OTHERWISE.
3. SET ALL SPEAKER VOLTAGE JUMPERS TO THE 70.7V SETTING.
4. THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON. DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES.



WALL TYPES

- 8" CMU WALL
- 4" STEEL STUD (400S162-43)
- 4" STEEL STUD (400S162-43) w/ 6" HIGH CONCRETE CURB
- 12" WALL w/ (2) 4" STEEL STUD (400S162-43) w/ 6" CONCRETE CURB
- 6" STEEL STUD (600S162-43) w/ 6" HIGH CONCRETE CURB

FIRE ALARM DEVICE PLACEMENT PLAN

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

SCALE:1/8" = 1'-0" 0 4' 8' 16' IN FEET

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
FIRE ALARM DEVICE PLACEMENT PLAN

LICENSED ARCHITECT JIMMIE W. SANDERS No. C-17644 RENEWAL DATE 11-30-23 STATE OF CALIFORNIA

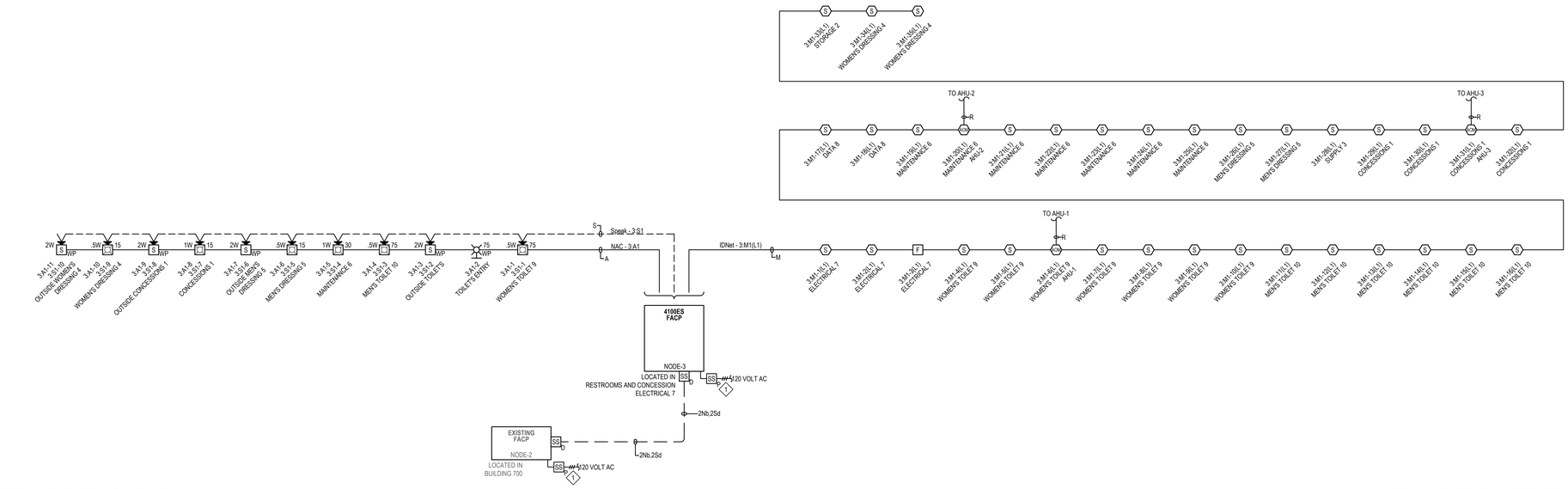
Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	FA-101

RISER NOTES:

1. RISER IS A DIAGRAMMATICAL REPRESENTATION OF THE SYSTEM ARCHITECTURE IN BUILDING CROSS SECTION. IT IS NOT INTENDED TO REPRESENT ACTUAL WIRE RUNS, PANEL CONFIGURATIONS OR PENETRATIONS. REFER TO FLOOR PLANS AND PANEL DETAILS FOR CIRCUIT ROUTING AND CONFIGURATION INFORMATION.
2. ALL WIRING SHALL COMPLY WITH APPLICABLE ELECTRICAL CODES. REFER TO 'APPLICABLE CODES & STANDARDS' ON SHEET FA-001 FOR SPECIFIC CODE REFERENCES.

KEYED NOTES:

1 120VAC PRIMARY POWER SOURCE SHALL BE A MECHANICALLY PROTECTED BRANCH CIRCUIT. THE CIRCUIT DISCONNECTING MEANS SHALL HAVE A RED MARKING, AND BE IDENTIFIED AS "FIRE ALARM CIRCUIT"



FIRE ALARM RISER DIAGRAM

SCALE:N.T.S.

APPROVALS

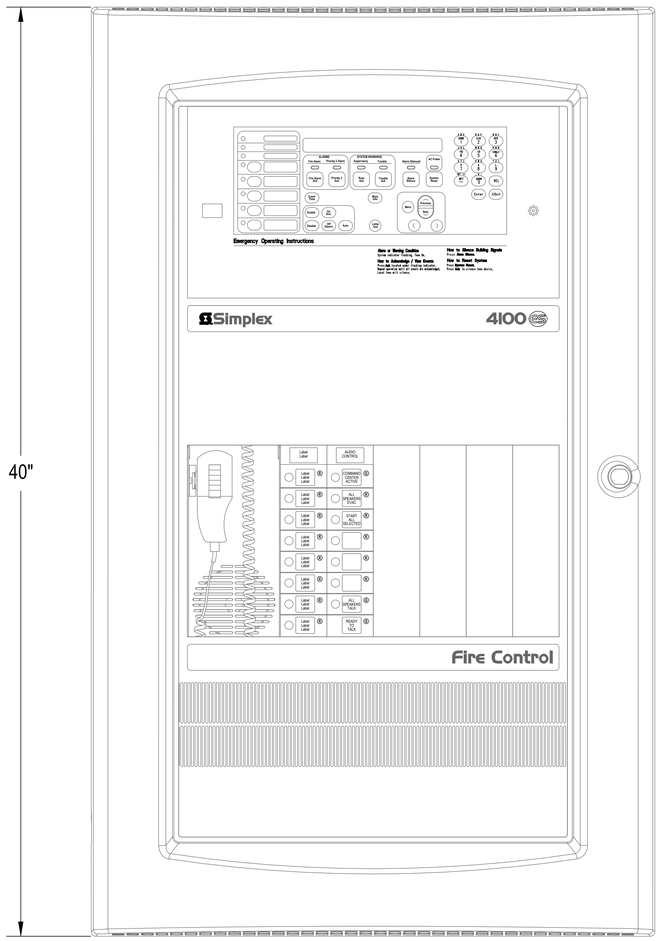
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

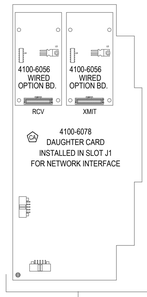
Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

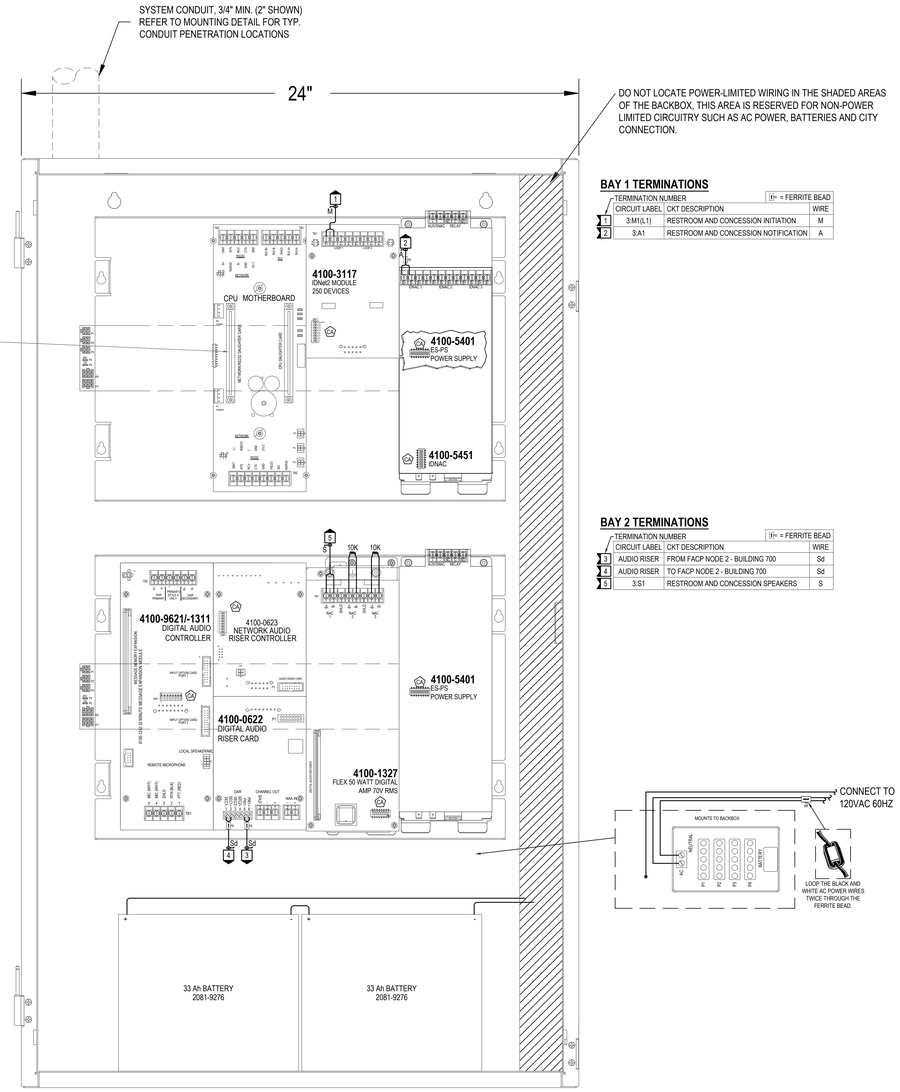
Sheet Title
FIRE ALARM RISER DIAGRAM

LICENSED ARCHITECT JIMMIE L. SANDERS No. 17644 RENEWAL 08/31/23 STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	FA-201







BAY 1 TERMINATIONS

TERMINATION NUMBER		⏚ = FERRITE BEAD
CIRCUIT LABEL	CKT DESCRIPTION	WIRE
3.M1(L1)	RESTROOM AND CONCESSION INITIATION	M
3.A1	RESTROOM AND CONCESSION NOTIFICATION	A

BAY 2 TERMINATIONS

TERMINATION NUMBER		⏚ = FERRITE BEAD
CIRCUIT LABEL	CKT DESCRIPTION	WIRE
AUDIO RISER	FROM FACP NODE 2 - BUILDING 700	Sd
AUDIO RISER	TO FACP NODE 2 - BUILDING 700	Sd
3.S1	RESTROOM AND CONCESSION SPEAKERS	S

NOTE: MECHANICALLY PROTECTED BRANCH CIRCUIT (LOCK ON DEVICE). THE CIRCUIT DISCONNECTING MEANS SHALL HAVE A RED MARKING, AND BE IDENTIFIED AS "FIRE ALARM CIRCUIT". INSTALL 120 VAC SURGE PROTECTOR AS SHOWN ON FA-701 DETAIL "J".

FIRE ALARM CONTROL PANEL

CABINET #1 - RESTROOM AND CONCESSION
ELECTRICAL 7

SCALE: NTS

FIRE ALARM PANEL DETAIL

SCALE:N.T.S.

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
FIRE ALARM PANEL DETAIL

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-17644
RENEW 8-31-23
STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	FA-501

IVC RESTROOM CONCESSION BUILDING FACP NODE-3 4100es FACP

Module	Qty	Description		Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment							
4100-9701	1	ES PS Master Controller - English	*	0.2770	0.2770	0.3210	0.3210
4100-0644	2	120 VAC PDM HARNESS		0.0000	0.0000	0.0000	0.0000
4100-0634	1	POWER DISTRIBUTION MODULE 120V		0.0000	0.0000	0.0000	0.0000
4100-5401	1	ES Power Supply Only		0.0680	0.0680	0.0770	0.0770
4100-5451	1	IDNAC Card		0.1240	0.1240	0.2300	0.2300
4100-1327	1	DIGITAL FLEX 50W AMP W/3 NACS - 70V		0.0850	0.0850	2.2700	2.2700
4100-9621	1	BASIC AUDIO WITH MICROPHONE - DIGITAL		0.0875	0.0875	0.3630	0.3630
4100-1242	1	MESSAGE EXPANSION BOARD - 32 MINUTES		0.0020	0.0020	0.0170	0.0170
4100-1255	1	3-8 CHANNEL AUDIO OPERATOR INTERFACE		0.0000	0.0000	0.0240	0.0240
4100-1280	1	8 SWITCH, 8 RED LED MODULE		0.0000	0.0000	0.0240	0.0240
4100-6078	1	NETWORK IF CARD, MODULAR		0.0460	0.0460	0.0460	0.0460
4100-6056	2	NETWORK MEDIA CARD WIRED		0.0550	0.1100	0.0550	0.1100
4100-1288	1	64/64 LED/SWITCH CONTROLLER		0.0200	0.0200	0.2120	0.2120
4100-1279	4	2" BLANK DISPLAY MODULE		0.0000	0.0000	0.0000	0.0000
4100-0623	1	NETWORK AUDIO RISER MODULE		0.0350	0.0350	0.0350	0.0350
4100-0622	1	DIGITAL AUDIO RISER MODULE		0.0700	0.0700	0.0700	0.0700
		Panel Totals			0.9245		3.7990
IDNet Addressable Devices (SLC)							
4090-9010	3	8 AMP RELAY IAM	*				
4098-9714	31	TRUEALARM PHOTO SMOKE SENSOR					
4098-9792	31	TRUEALARM SENSOR BASE	*				
4099-9021	1	ADDRESSABLE SINGLE ACTION NO GRIP PULL STATION	*				
IDNac Notification Appliances			**Setting**				
49SO-APPLW-O	4	S/O WEATHERPROOF APPLIANCE ONLY, WALL MOUNT		0.0008	0.0032	0.0090	0.0360
49SV-APPLW	3	S/V APPLIANCE ONLY, WALL MT	15	0.0008	0.0024	0.0470	0.1410
49SV-APPLW	1	S/V APPLIANCE ONLY, WALL MT	30	0.0008	0.0008	0.0570	0.0570
49SV-APPLW	2	S/V APPLIANCE ONLY, WALL MT	75	0.0008	0.0016	0.1000	0.2000
49VO-WRFO	1	VO, WALL MT, RED, FIRE LABEL, WEATHERPROOF	75	0.0008	0.0008	0.1600	0.1600
		Total IDNac Device Current:			0.0088		0.5940
		IDNac Current Boost for 29vdc Regulated Output **					0.3386
		Peripheral Totals			0.0000		0.9326
		Address Totals	35 Addresses		0.0280		0.0350
		System Totals*:		Standby	0.9613	Alarm	4.7666

Constant current draw of .8mA standby and 1mA alarm per address used. Devices requiring additional current are accounted for in the section labeled "Miscellaneous Peripheral Devices Requiring Additional System Power".

* Device Address current draw included below (See Additional Current Draws):

2. Backup Amplifier assumes Main Amplifier alarm current on failure.

Battery Set #1 (Cabinet/Charger #1)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
ESPS-1				0.7803		2.0460
ESPS-2				0.1530		2.3470
			Sub Total	**0.9333**		**4.3930**
Additional Current Draws:						
IDNac Current Boost for 29vdc Regulated Output **						0.3386
RUI Connected Peripheral Devices	0	x 0.0035		= 0.0000	x 0.0035	= 0.0000
MAPNET/IDNet Device Address Communication Current	35	x 0.000800		= 0.0280	x 0.001000	= 0.0350
			Sub Total	**0.9613**		**4.7666**
Spare addressable point capacity	**0%**	0	x 0.0008	= 0.0000	x 0.001	= 0.0000
			Total	**0.9613**		**4.7666**
Standby Time =	**24**	Hrs	x 0.9613	= 23.0712	Standby Ah	
Alarm Time =	**15**	Min	0.25 x 4.7666	= 1.1917	Alarm Ah	
				24.2629		
Additional Spare Battery Capacity =	**0%**			+ 0.0000		
				24.2629		
Battery Discharge Factor =	**20%**			+ 4.8526		
Minimum Battery Required	**2081-9276 33AH (2x)**			**29.1154**		
Battery Supplied	**2081-9276 33AH (2x)**					

* System Totals represent total system current requirements. Those currents may be distributed between multiple battery sets or power supplies as shown above.

** IDNac Current Boost formula: ((29.5 * IDNac Alarm Current) / .92) / 20.4 = Adjusted Current
DC-DC Converter Output = 29.5vdc. Terminal Output is 29vdc due to 0.5vdc internal loss.
Converter Worst Case efficiency is 92%, 20.4vdc represents battery output in 85% depleted state

IVC RESTROOM CONCESSION BUILDING FACP NODE-3 4100es FACP Speaker Db Loss Calculations

*Circuit Voltage = 70vrms [Et]

SPEAKER CIRCUIT DESCRIPTION	Amp #	Plan Circuit Number	Speaker Tap .25 Watt	Speaker Tap .5 Watt	Speaker Tap 1. Watt	Speaker Tap 2. Watt	Speaker Tap 4. Watt	Total Spkrs per Circuit	Total Watts [P]	Wire Gauge	Est. Ckt. Length [D] in Feet	Wire Res. Per Foot [Rw]	Circuit Resistance [Rl=2D*Rw]	Speaker Current [I=P/Et]	Speaker Resistance [Rs=Et/I]	Voltage At End [Es=(Et*Rs) /(Rs+Rl)]	Watts At End [Pe=(Es) ^2/Rs]	MAXIMUM -3 dB DROP: Actual dB Loss [dB=Log10 (Pe/P)*10]	MAXIMUM -3 dB DROP: Max Allowable Ckt. Length [ML=(0.414*Rs) /(2*Rw)]
RESTROOM AND CONCESSION	Amp-1	3:S1		4	2	4		10	12. Watts	18ga	450	0.0071	6.428	0.171	408.333	68.915	11.631	-.14 db	11834 Ft.
SPARE	Amp-1	3:S2							. Watts	18ga		0.0071	0.000	0.000	0.000	0.000	0.000	. db	0 Ft.
SPARE	Amp-1	3:S3							. Watts	18ga		0.0071	0.000	0.000	0.000	0.000	0.000	. db	0 Ft.

IDNET CHANNEL 3:M1

ADDRESSES IN USE: 35 (14%) | SPARE ADDRESSES: 215 (86%)

Address	Device Type	Point Type	Location Description		SWITCH SETTINGS 1	2	3	4	5	6	7	8	
3:M1-1	PHOTO	SMOKE	ELECTRICAL 7	3:M1-1	X								ON
3:M1-2	PHOTO	SMOKE	ELECTRICAL 7	3:M1-2		X							ON
3:M1-3	ADRPUL	PULL	ELECTRICAL 7	3:M1-3	X	X							ON
3:M1-4	PHOTO	SMOKE	WOMEN'S TOILET 9	3:M1-4			X						ON
3:M1-5	PHOTO	SMOKE	WOMEN'S TOILET 9	3:M1-5	X		X						ON
3:M1-6	RIAM	RELAY	WOMEN'S TOILET 9 AHU-1	3:M1-6	X	X							ON
3:M1-7	PHOTO	SMOKE	WOMEN'S TOILET 9	3:M1-7	X	X							ON
3:M1-8	PHOTO	SMOKE	WOMEN'S TOILET 9	3:M1-8				X					ON
3:M1-9	PHOTO	SMOKE	WOMEN'S TOILET 9	3:M1-9	X			X					ON
3:M1-10	PHOTO	SMOKE	WOMEN'S TOILET 9	3:M1-10		X		X					ON
3:M1-11	PHOTO	SMOKE	MEN'S TOILET 10	3:M1-11	X	X		X					ON
3:M1-12	PHOTO	SMOKE	MEN'S TOILET 10	3:M1-12			X	X					ON
3:M1-13	PHOTO	SMOKE	MEN'S TOILET 10	3:M1-13	X		X	X					ON
3:M1-14	PHOTO	SMOKE	MEN'S TOILET 10	3:M1-14		X	X	X					ON
3:M1-15	PHOTO	SMOKE	MEN'S TOILET 10	3:M1-15	X	X	X	X					ON
3:M1-16	PHOTO	SMOKE	MEN'S TOILET 10	3:M1-16					X				ON
3:M1-17	PHOTO	SMOKE	DATA 8	3:M1-17	X				X				ON
3:M1-18	PHOTO	SMOKE	DATA 8	3:M1-18		X			X				ON
3:M1-19	PHOTO	SMOKE	MAINTENANCE 6	3:M1-19	X		X		X				ON
3:M1-20	RIAM	RELAY	MAINTENANCE 6 AHU-2	3:M1-20				X		X			ON
3:M1-21	PHOTO	SMOKE	MAINTENANCE 6	3:M1-21	X		X		X				ON
3:M1-22	PHOTO	SMOKE	MAINTENANCE 6	3:M1-22		X	X		X				ON
3:M1-23	PHOTO	SMOKE	MAINTENANCE 6	3:M1-23	X	X	X		X				ON
3:M1-24	PHOTO	SMOKE	MAINTENANCE 6	3:M1-24				X	X				ON
3:M1-25	PHOTO	SMOKE	MAINTENANCE 6	3:M1-25	X			X	X				ON
3:M1-26	PHOTO	SMOKE	MEN'S DRESSING 5	3:M1-26		X		X	X				ON
3:M1-27	PHOTO	SMOKE	MEN'S DRESSING 5	3:M1-27	X	X		X	X				ON
3:M1-28	PHOTO	SMOKE	SUPPLY 3	3:M1-28			X	X	X				ON
3:M1-29	PHOTO	SMOKE	CONCESSIONS 1	3:M1-29	X		X	X	X				ON
3:M1-30	PHOTO	SMOKE	CONCESSIONS 1	3:M1-30		X	X	X	X				ON
3:M1-31	RIAM	RELAY	CONCESSIONS 1 AHU-3	3:M1-31	X	X	X	X	X				ON
3:M1-32	PHOTO	SMOKE	CONCESSIONS 1	3:M1-32						X			ON
3:M1-33	PHOTO	SMOKE	STORAGE 2	3:M1-33	X					X			ON
3:M1-34	PHOTO	SMOKE	WOMEN'S DRESSING 4	3:M1-34		X				X			ON
3:M1-35	PHOTO	SMOKE	WOMEN'S DRESSING 4	3:M1-35	X	X				X			ON
3:M1-36			SPARE THRU 3:M1-125	3:M1-36			X			X			ON
3:M1-125			SPARE	3:M1-125	X		X	X	X	X	X		ON

NOTE: THE LABELS SHOWN ABOVE WILL BE USED FOR PROGRAMMING PURPOSES.
THE LABELS ARE BASED UPON INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS.
ANY CHANGES TO THESE LABELS MUST BE NOTED ON THE SUBMITTAL REVIEW, PRIOR TO PROGRAMMING.
POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

IVC RESTROOM CONCESSION BUILDING FACP NODE-3 - IDNAC-1 CIRCUIT SUMMARY & VOLTAGE DROP

Circuit	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
3:A1	RESTROOM AND CONCESSION	0.594A	1.67%	11	346	80%	92%
3:A2	SPARE	0.000A	0.00%	0	0	100%	100%
3:A3	SPARE	0.000A	0.00%	0	0	100%	100%

3:A1 — Notification SLC Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23 vdc
Allowable % Drop: 20.7%

Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga

Wire Res. Per Ft. 0.002822 @ 50° Celsius
Wire Res. Per Ft. 0.002822 @ 50° Celsius

Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Class B Calculations: Current at Device	Voltage Drop	Voltage at Device	% Vdrop / Wire Length
1	3:A1-1	PANEL	49	49SV-APPLW	75cd	0.1000	0.594	0.164	28.836	Branch 1: 1.67%
1	3:A1-2	3:A1-1	27	49VO-WRFO	75cd	0.1600	0.494	0.075	28.760	Length: 346
1	3:A1-3	3:A1-2	26	49SO-APPLW-O		0.0090	0.334	0.049	28.711	
1	3:A1-4	3:A1-3	24	49SV-APPLW	75cd	0.1000	0.325	0.044	28.667	
1	3:A1-5	3:A1-4	49	49SV-APPLW	30cd	0.0570	0.225	0.062	28.605	
1	3:A1-6	3:A1-5	29	49SV-APPLW	15cd	0.0470	0.168	0.027	28.578	
1	3:A1-7	3:A1-6	26	49SO-APPLW-O		0.0090	0.121	0.018	28.560	
1	3:A1-8	3:A1-7	41	49SV-APPLW	15cd	0.0470	0.112	0.026	28.534	
1	3:A1-9	3:A1-8	13	49SO-APPLW-O		0.0090	0.065	0.005	28.529	
1	3:A1-10	3:A1-9	38	49SV-APPLW	15cd	0.0470	0.056	0.012	28.517	
1	3:A1-11	3:A1-10	24	49SO-APPLW-O		0.0090	0.009	0.001	28.516	
						0.0000	0.000	0.000	0.000	

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

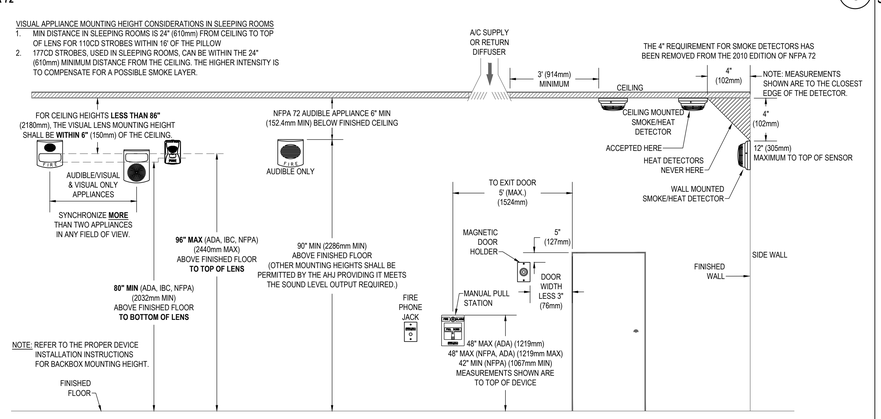
Sheet Title
FIRE ALARM CALCULATIONS AND SCHEDULES

LICENSED ARCHITECT — JIMMIE M. SANDERS — No. 17644 — RENEWAL 08/31/23 — STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	FA-601

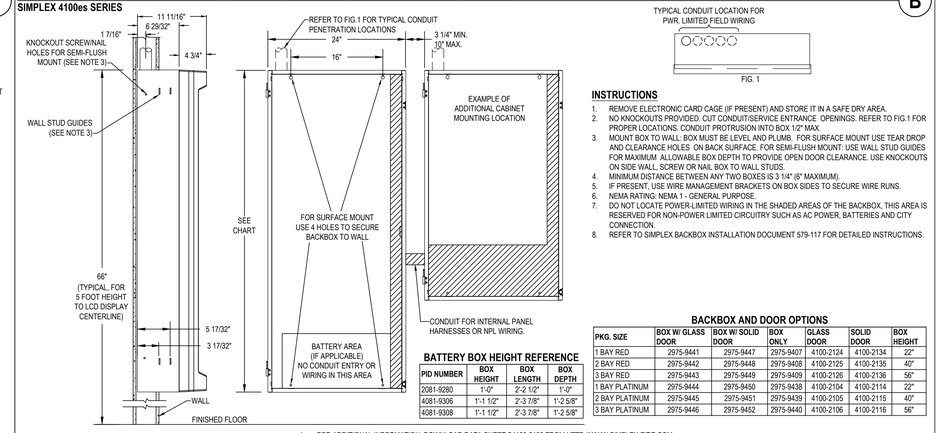
DEVICE MOUNTING HEIGHT REFERENCE

PER NFPA 72 — 1



FIRE ALARM CONTROL PANEL BACKBOX INSTALLATION

SIMPLEX 4100es SERIES — B



TYPICAL CONDUIT LOCATION FOR PWR. LIMITED FIELD WIRING

FIG. 1

INSTRUCTIONS

1. REMOVE ELECTRONIC CARD CAGE (IF PRESENT) AND STORE IT IN A SAFE DRY AREA.
2. NO KNOCKOUTS PROVIDED. CUT CONDUIT/SERVICE ENTRANCE OPENINGS. REFER TO FIG.1 FOR PROPER LOCATIONS. CONDUIT PROTRUSION INTO BOX 1/2" MAX.
3. MOUNT BOX TO WALL: BOX MUST BE LEVEL AND PLUMB. FOR SURFACE MOUNT USE TEAR DROP AND CLEARANCE HOLES ON BACK SURFACE. FOR SEMI-FLUSH MOUNT: USE WALL STUD GUIDES FOR MAXIMUM ALLOWABLE BOX DEPTH TO PROVIDE OPEN DOOR CLEARANCE. USE KNOCKOUTS ON SIDE WALL, SCREW OR NAIL BOX TO WALL STUDS.
4. MINIMUM DISTANCE BETWEEN ANY TWO BOXES IS 3 1/4" (6" MAXIMUM).
5. IF PRESENT, USE WIRE MANAGEMENT BRACKETS ON BOX SIDES TO SECURE WIRE RUNS.
6. NEMA RATING: NEMA 1 - GENERAL PURPOSE.
7. DO NOT LOCATE POWER-LIMITED WIRING IN THE SHADED AREAS OF THE BACKBOX, THIS AREA IS RESERVED FOR NON-POWER LIMITED CIRCUITRY SUCH AS AC POWER, BATTERIES AND CITY CONNECTION.
8. REFER TO SIMPLEX BACKBOX INSTALLATION DOCUMENT 579-117 FOR DETAILED INSTRUCTIONS.

BATTERY BOX HEIGHT REFERENCE

PID NUMBER	BOX HEIGHT	BOX LENGTH	BOX DEPTH
2081-9280	1'-0"	2'-2 1/2"	1'-0"
4081-9306	1'-1 1/2"	2'-3 7/8"	1'-2 5/8"
4081-9308	1'-1 1/2"	2'-3 7/8"	1'-2 5/8"

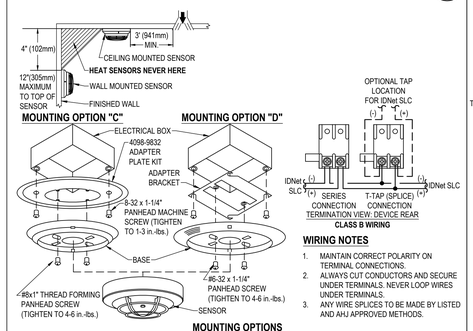
BACKBOX AND DOOR OPTIONS

PKG. SIZE	BOX W/ GLASS DOOR	BOX W/ SOLID DOOR	BOX ONLY	GLASS DOOR	SOLID DOOR	BOX HEIGHT
1 BAY RED	2975-9441	2975-9447	2975-9407	4100-2124	4100-2134	22"
2 BAY RED	2975-9442	2975-9448	2975-9408	4100-2125	4100-2135	40"
3 BAY RED	2975-9443	2975-9449	2975-9409	4100-2126	4100-2136	56"
1 BAY PLATINUM	2975-9444	2975-9450	2975-9438	4100-2104	4100-2114	22"
2 BAY PLATINUM	2975-9445	2975-9451	2975-9439	4100-2105	4100-2115	40"
3 BAY PLATINUM	2975-9446	2975-9452	2975-9440	4100-2106	4100-2116	56"

1. FOR ADDITIONAL INFORMATION, DOWNLOAD DATA SHEET S4100-0100 FROM HTTP://WWW.SIMPLEX-FIRE.COM

STANDARD SENSOR BASE

SIMPLEX 4098-9792 — C



TERMINATION VIEW: DEVICE REAR
CLASS B WIRING

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

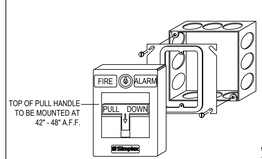
MOUNTING OPTIONS

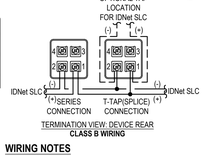
OPTION [1]	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 2-1/8" (54mm) DEEP - FLUSH MOUNT	BY OTHERS
B	4" (102mm) OCTAGONAL BOX, 1-1/2" (38mm) DEEP, MINIMUM - FLUSH MOUNT	BY OTHERS
C	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN) W/ SIMPLEX 4098-9832 ADAPTER KIT	BOX BY OTHERS, 4098-9832 ORDERED SEPARATELY
D	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN) W/ SINGLE GANG COVER PLATE 3/4" (19mm) EXTENSION	BY OTHERS

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4098-0019 FROM HTTP://WWW.SIMPLEX-FIRE.COM

ADDRESSABLE PULL STATIONS

SIMPLEX 4099 SERIES — D

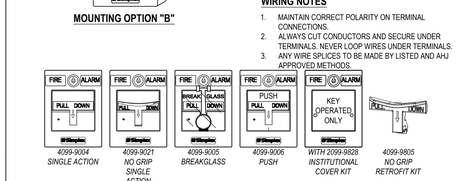




TERMINATION VIEW: DEVICE REAR
CLASS B WIRING

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.



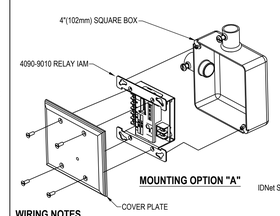
MOUNTING OPTIONS

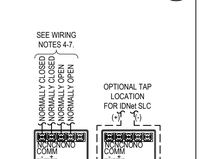
OPTION [1]	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 2-1/2" (64mm) DEEP	BY OTHERS
B	4" (102mm) SQUARE BOX, 2-1/8" DEEP (MIN) W/ SINGLE GANG COVER PLATE 3/4" (19mm) EXTENSION	BY OTHERS
C	SIMPLEX 2975-9022 - 5H x 3-7/8"W x 2-3/16"D (127mm x 98mm x 56mm)	ORDERED SEPARATELY
D	SIMPLEX 2975-9178 - 5-3/4"H x 3-7/8"W x 2-3/16"D (132mm x 102mm x 56mm)	ORDERED SEPARATELY

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4099-0005 FROM HTTP://WWW.SIMPLEX-FIRE.COM

ADDRESSABLE OUTPUT MODULE (AOM)

SIMPLEX 4090-9010 8A RELAY IAM — E





CLASS B WIRING

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.
4. CONTRACTOR WIRING TO RELAY CONTACTS IS UNSUPERVISED. USE #14 AWG WIRE TO LOCAL CODE.
5. RELAY CONTACTS RATED 8A, 30VDC (3.5A FOR INDUCTIVE LOAD). RELAY CONTACTS RATED 8A 250VAC (NON POWER LIMITED). FOR POWER LIMITED OPERATION. POWER MUST BE PROVIDED FROM FACP OR POWER-LIMITED POWER SUPPLY LISTED FOR FIRE PROTECTIVE SIGNALING USE.
6. WHEN CONNECTED TO A NON-POWER LIMITED SOURCE, THE WIRING MUST MAINTAIN A MINIMUM 1/4 INCH SEPARATION FROM IDNet WIRING.
7. WHEN USED WITH NON POWER-LIMITED SOURCE, THE "POWER LIMITED WIRING" INDICATION ON THE DEVICE LABEL MUST BE OBLITERATED.

MOUNTING OPTIONS

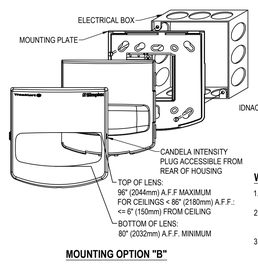
OPTION [1]	DESCRIPTION	NOTE
A	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH DOUBLE GANG COVER PLATE	BY OTHERS
B	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH SIMPLEX 4090-9801 TRIM PLATE FOR SEMI-FLUSH MOUNTED BOX	BOX BY OTHERS, PLATES ORDERED SEPARATELY
C	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH SIMPLEX 4090-9802 TRIM PLATE FOR SURFACE MOUNTED BOX	BOX BY OTHERS, PLATES ORDERED SEPARATELY

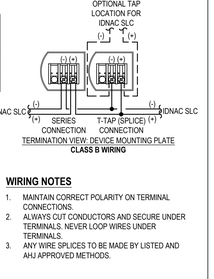
1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S4090-0015 FROM HTTP://WWW.SIMPLEX-FIRE.COM

TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49VO SERIES WALL MOUNTED VISUAL ONLY — F

IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 7/16" MAX.





CLASS B WIRING

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

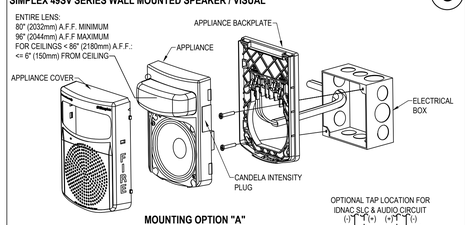
MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	SINGLE GANG OR DOUBLE GANG BOX, 1-1/2" (38mm) DEEP (MIN)	BY OTHERS
B	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN)	BY OTHERS
C	SIMPLEX 2975-9145, 7-7/8"H x 5-1/8"W x 2-3/4"D (127mm x 98mm x 56mm) REQUIRES 4905-9931 PLATE	ORDERED SEPARATELY

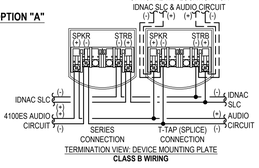
1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49VO-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49SV SERIES WALL MOUNTED SPEAKER / VISUAL — G



IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 7/16" MAX.



CLASS B WIRING

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

MOUNTING OPTIONS

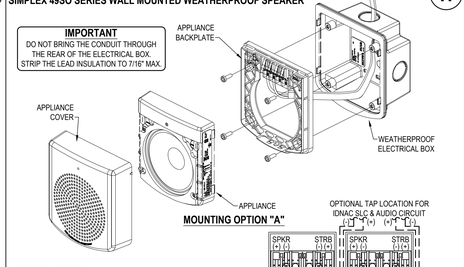
OPTION [1]	DESCRIPTION	NOTE
A	4" (102mm) SQUARE BOX, 2-1/8" (54mm) DEEP (MIN)	BY OTHERS

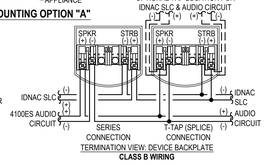
1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49SVW-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49SO SERIES WALL MOUNTED WEATHERPROOF SPEAKER — H

IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 7/16" MAX.





CLASS B WIRING

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

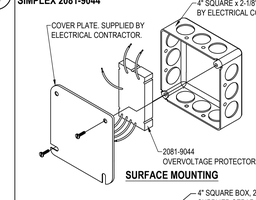
MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	WEATHERPROOF BOX, 2-1/8" (54mm) DEEP (MIN)	SIMPLEX 49WPBB-SOWRW

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49SOW-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

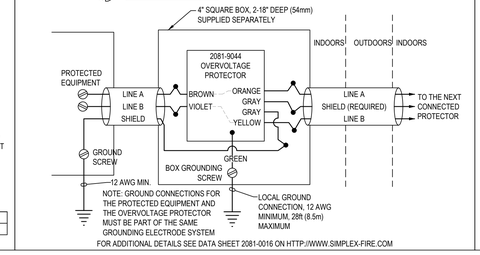
OVERVOLTAGE PROTECTOR

SIMPLEX 2081-9044 — I



WIRING NOTES

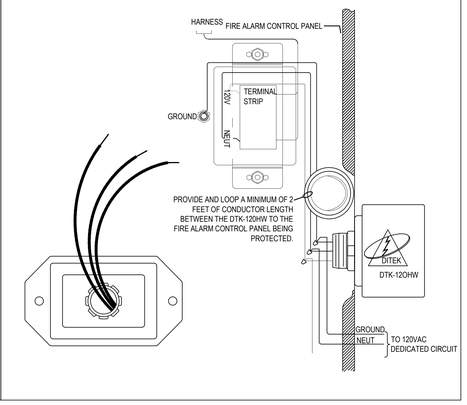
1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ALL LINES WHICH RUN EXTERNAL TO THE BUILDING MUST BE PROPERLY GROUNDED, TWISTED AND SHIELDED PAIRS.



FOR ADDITIONAL DETAILS SEE DATA SHEET 2081-0016 ON HTTP://WWW.SIMPLEX-FIRE.COM

PARALLEL CONNECTED SURGE PROTECTOR

DITEK DTK-120HW — J



APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
FIRE ALARM WIRING TYPICALS

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-17644
RENEWAL 08/31/23
STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	FA-701

END OF LINE RESISTOR CODES (2)

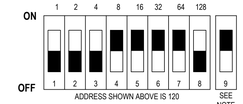
NOTE: REFER TO PANEL/MODULE AND DEVICE INSTALLATION INSTRUCTIONS FOR PROPER TERMINATIONS.

MODEL	REF. NUMBER	Ω	BAND NUMBER 3	2	3	4	5	WATTS	CIRCUIT TYPE	FIRE ALARM PANEL/MODULE
4081-9001	733-892	2.2K	RED	RED	RED	GLD	N/A	1/2	ANNUNCIATOR (4300)	4004, 4010 (TROUBLE)
4081-9002	733-893	3.3K	ORG	ORG	RED	GLD	N/A	1	N.O. INITIATING PULL, SMOKE, HEAT, WATERFLOW, TAMPER, ETC. 24 PT. I/O SWITCH SUPV.	4004*, 4004R, 4005*, 4006, 4100, 4120, 4100U, ZAMs 4605-7401, 4100 SERIES
4081-9003	733-896	4.7K	YEL	VT	RED	GLD	N/A	1/2	CURRENT LIMITED N.O. INIT., NOTIFICATION (DACT)	4090 IDNET IAM (EOLR) 2080-9024
4081-9004	733-886	6.8K	BLU	GRY	RED	GLD	N/A	1/2	N/O INITIATING PULL, SMOKE, HEAT, W.FLOW, TAMPER, ETC	4004, 4005, 4090-9001 IDNET IAM, 2190-9173 MAPNET II 2 PT I/O
4081-9005	733-984	1.8K	BRN	GRY	RED	GLD	N/A	1/2	CURRENT LIMITED N.O. INITIATING (INLINE)	4-20MA ZAM (TROUBLE) 4090-9001 IDNET IAM
4081-9006	733-890	560	GRN	BLU	BRN	GLD	N/A	1	N.C. INITIATING (EOLR)	4005*, 4090-9001 IDNET IAM 4100, 4100U
4081-9007	733-891	1.2K	BRN	RED	RED	GLD	N/A	1	N.C. INITIATING (EOLR)	4005
4081-9008	733-894	10K	BRN	BLK	ORG	GLD	N/A	1/2	NOTIFICATION	4004, 4005, 4006, 4008, 4009, 4010, 4100, 4100U
4081-9009	733-912	20	RED	BLK	BLK	GLD	N/A	1	TO MR-101 RELAY COIL	4005 8 POINT I/O
4081-9010	733-973	1K	BRN	BLK	RED	GLD	N/A	1	N.C. INIT. (ACROSS CONTACTS)	4005*, 4090-9001 IDNET IAM
									24 PT. I/O (ACROSS CONTACTS	4605-7401, 4100 SERIES
									CURRENT LIMITED N.O. INIT. (IN SERIES WITH CONTACT)	4090-9001 IDNET IAM
4081-9011	733-974	100	BRN	BLK	BRN	GLD	N/A	1/2	ANNUNCIATOR (N2)	4006, 4008, 4010
4081-9012	733-985	22K	RED	RED	ORG	GLD	N/A	1/2	SPEAKER CIRCUIT	4003
4081-9013	734-086	4.99K	YEL	WHT	WHT	BRN	BRN	1/2		
4081-9014	734-092	2.4K	RED	YEL	RED	GLD	N/A	1/2	N.C. INITIATING (SECURITY MONITORING EOLR)	4090-9001 IDNET IAM
4081-9015	734-093	1.5K	BRN	GRN	RED	GLD	N/A	1/2	CURRENT LIMITED N.O. INIT. (SECURITY MONITORING EOLR)	4090-9001 IDNET IAM
4081-9016	734-149	150K	BRN	GRN	YEL	GLD	N/A	1/2		
4081-9017	734-171	3.9K	ORG	WHT	RED	GLD	N/A	1		
4081-9018	734-168	10K	BRN	BLK	ORG	GLD	N/A	1	70VRMS CONSTANT SUPV. NAC	4100-1260
	378-090	8.2K	GRY	RED	RED	GLD	N/A	1/2	SECURITY MONITORING (EOLR)	4100, 4100U
	378-046	5.6K	GRN	BLU	RED	GLD	N/A	1/2	N.O. SECURITY MON. (SERIES)	4100, 4100U
	378-069	12K	BRN	RED	ORG	GLD	N/A	1/2	N.C. SECURITY MON. (SHUNT)	4100, 4100U

* USE WITH RETROFIT OR HIGH CURRENT MODULE

DIP SWITCH SETTINGS - INITIATING (3)

SIMPLEX IDNet



ADDRESS SHOWN ABOVE IS 120

DO NOT USE ADDRESS 0 FOR AN IDNET ADDRESS

DIP SWITCHES 5 THRU 8

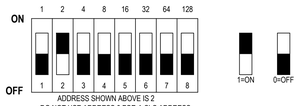
DIP SWITCHES 1 THRU 4

00	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
1	17	33	49	65	81	97	113	129	145	161	177	193	209	225	241
2	18	34	50	66	82	98	114	130	146	162	178	194	210	226	242
3	19	35	51	67	83	99	115	131	147	163	179	195	211	227	243
4	20	36	52	68	84	100	116	132	148	164	180	196	212	228	244
5	21	37	53	69	85	101	117	133	149	165	181	197	213	229	245
6	22	38	54	70	86	102	118	134	150	166	182	198	214	230	246
7	23	39	55	71	87	103	119	135	151	167	183	199	215	231	247
8	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248
9	25	41	57	73	89	105	121	137	153	169	185	201	217	233	249
10	26	42	58	74	90	106	122	138	154	170	186	202	218	234	250
11	27	43	59	75	91	107	123	139	155	171	187	203	219	235	**NC53**
12	28	44	60	76	92	108	124	140	156	172	188	204	220	236	**NC54**
13	29	45	61	77	93	109	125	141	157	173	189	205	221	237	**NC55**
14	30	46	62	78	94	110	126	142	158	174	190	206	222	238	**NC56**
15	31	47	63	79	95	111	127	143	159	175	191	207	223	239	**NC57**

NOTE:
THE 4098-9771, -9794, -9795, -9798 SOUNDER BASES HAVE A 9-POSITION DIP SWITCH. THE FIRST EIGHT DIP SWITCHES SET THE SOUNDER BASE ADDRESS. DIP SWITCH POSITION 9 IS SET TO OFF OR ON DEPENDING UPON THE SOUNDER BASE POWER SOURCE. WHEN THE SOUNDER BASE IS CONNECTED TO A 24 VDC POWER SOURCE, DIP SWITCH POSITION 9 IS SET TO "OFF" AND THE 24 VDC POWER IS SUPERVISED BY THE SOUNDER BASE. WHEN THE SOUNDER BASE IS POWERED BY THE PANEL'S NOTIFICATION APPLIANCE CIRCUIT (NAC), DIP SWITCH POSITION 9 IS SET TO "ON" AND THE POWER IS SUPERVISED BY THE NAC AND NOT THE SOUNDER BASE. THE 4098-9770 AND -9797 BASES HAVE THE SAME LAYOUT, BUT DOESN'T OFFER SOUNDER FUNCTIONALITY. THEY USE AN 8-WAY DIP SWITCH ONLY.

DIP SWITCH SETTINGS - NOTIFICATION (4)

SIMPLEX TRUEALERT ES / IDNAC



ADDRESS SHOWN ABOVE IS 2

DO NOT USE ADDRESS 0 FOR A SLC ADDRESS

DIP SWITCHES 5 THRU 8

DIP SWITCHES 1 THRU 4

00	16	32	48	64	80	96	112
1	17	33	49	65	81	97	113
2	18	34	50	66	82	98	114
3	19	35	51	67	83	99	115
4	20	36	52	68	84	100	116
5	21	37	53	69	85	101	117
6	22	38	54	70	86	102	118
7	23	39	55	71	87	103	119
8	24	40	56	72	88	104	120
9	25	41	57	73	89	105	121
10	26	42	58	74	90	106	122
11	27	43	59	75	91	107	123
12	28	44	60	76	92	108	124
13	29	45	61	77	93	109	125
14	30	46	62	78	94	110	126
15	31	47	63	79	95	111	127

APPROVALS

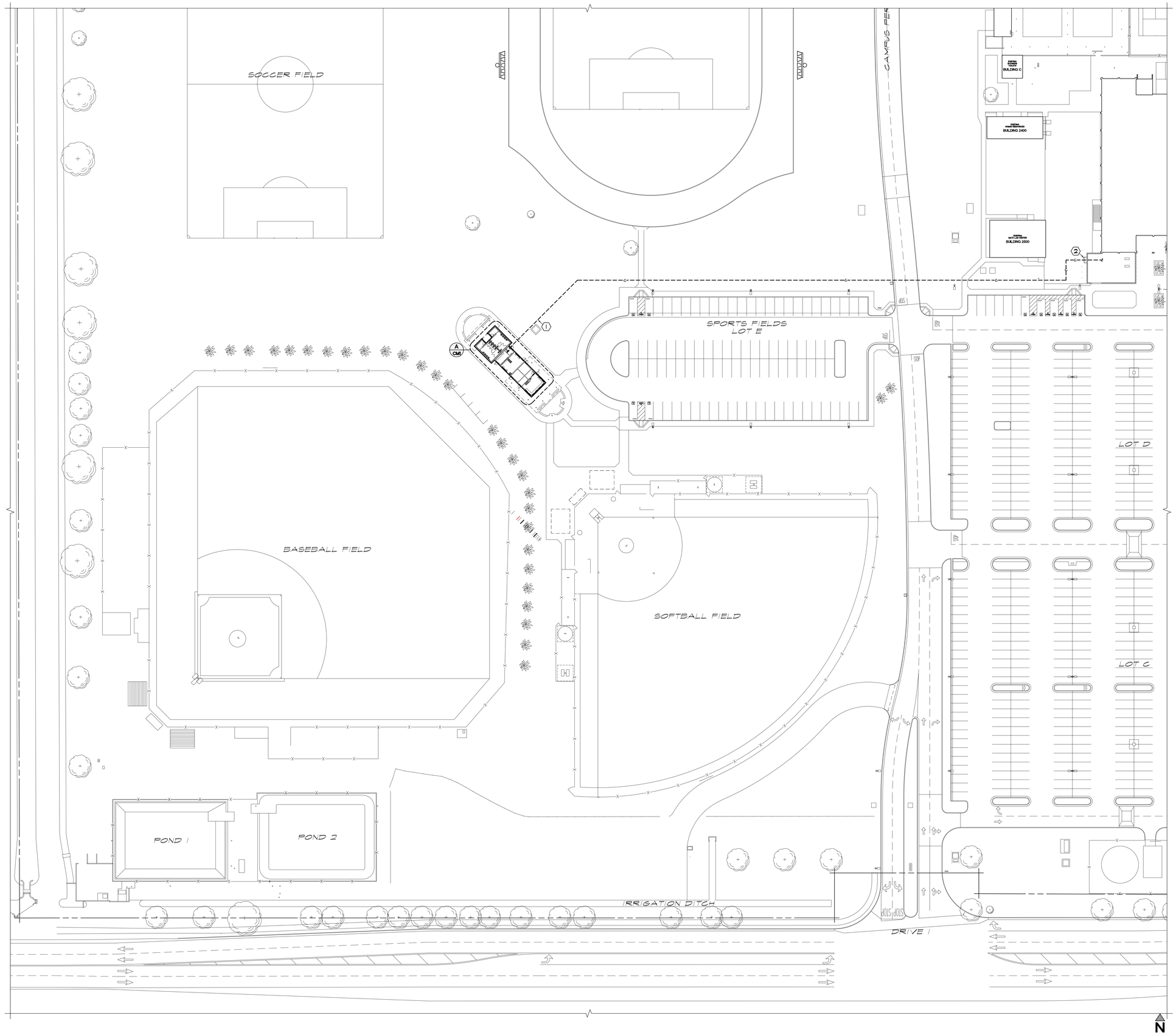
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
FIRE ALARM WIRING TYPICALS

LICENSED ARCHITECT JIMMIE D. SANDERS No. 17644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
04-01-22	22-09IV
Date Last Revised	Sheet Number
	FA-702



APPROVALS

KEYNOTES:

1. PROVIDE (2) 2" PVC CONDUIT
2. EXISTING IDF

LEGEND:

----C---- COMMUNICATIONS CONDUIT BY ELECTRICAL

NOTES:

1. NO SPLICES SHALL BE ALLOWED IN COMMUNICATION VAULTS.
2. CAP ALL STUBBED OUT CONDUIT FOR FUTURE.
3. CONDUIT AND PULL BOXES FOR FIRE ALARM SYSTEM SHALL BE SEPARATE FROM CLOCK & BELL / INTERCOM.
4. PROVIDE PULL STRING FOR ALL CONDUIT.

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

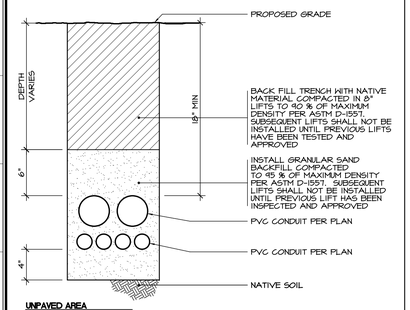
Sheet Title
COMMUNICATIONS SITE PLAN

LICENSED ARCHITECT JIMMIE R. SANDERS No. 7644 RENEWAL DATE 8-31-23 STATE OF CALIFORNIA

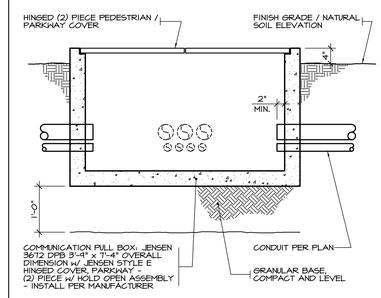
Document Date	Project Number
10-14-22	16-391M
Date Last Revised	Sheet Number
	CM0.1

COMMUNICATIONS SITE PLAN

SCALE: 1" = 40'-0" A



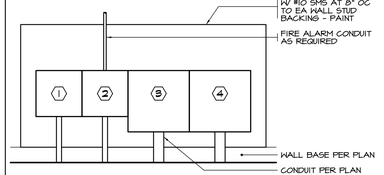
TYPICAL TRENCH DETAIL — SCALE: 1 1/2" = 1'-0" — 1



VAULT DETAIL — SCALE: NTS — 2

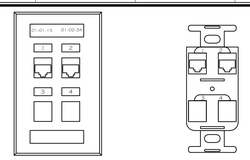
KEYNOTES / LEGEND:

1. SPARE CONDUIT / JUNCTION BOX
2. CONDUIT / JUNCTION BOX FOR FIRE ALARM
3. CONDUIT / JUNCTION BOX FOR BACKBONE CABLING
4. SPARE CONDUIT / JUNCTION BOX



NOTE:
LABEL ALL JUNCTION BOXES, ANCHORAGE PER 8/AX5.2

J-BOX MOUNTING DIAGRAM — SCALE: NTS — 3



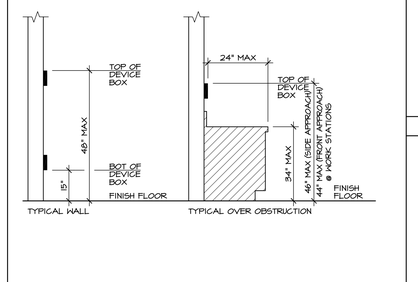
COMMSCOPE, UNIPRISE, 4 PORT, FLUSH MOUNT, STANDARD FACEPLATE - WHITE P/N UNF-MFM-4P-WH

COMMSCOPE UNIPRISE CATEGORY 6, RJ45, INFORMATION OUTLET - WHITE P/N UNJ600-WH

COMMSCOPE, UNIPRISE, DUST COVERS- WHITE P/N UNDC-WH

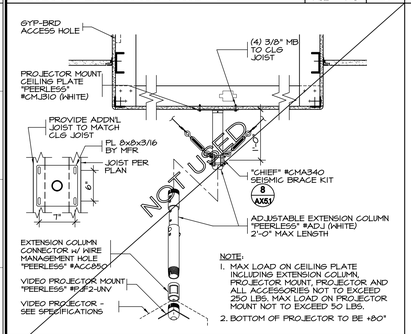
COMMSCOPE, UNIPRISE, 4 PORT, 106 SERIES, ELECTRICAL FACEPLATE - WHITE, FOR FLOOR BOXES P/N UNF-FR106-4P-WH-NH

FACEPLATE LAYOUT — SCALE: NTS — 4

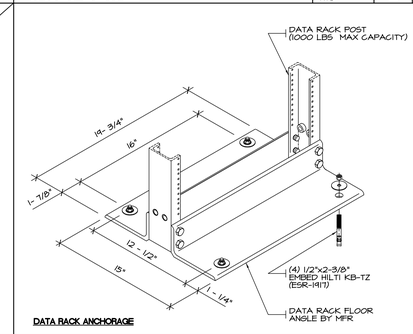


TYPICAL MOUNTING HEIGHTS — SCALE: NTS — 5

APPROVALS

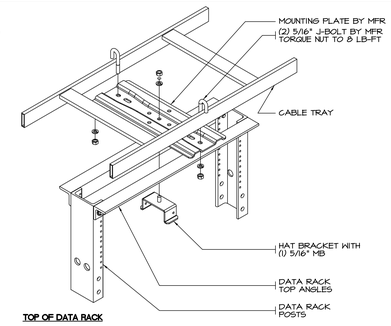


VIDEO PROJECTOR CEILING MOUNT — SCALE: NTS — 6

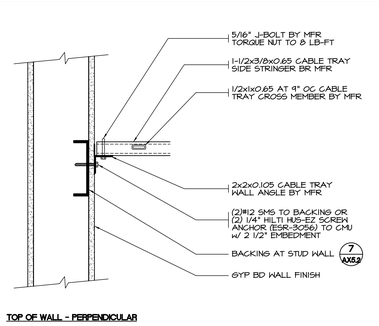


DATA RACK ANCHORAGE

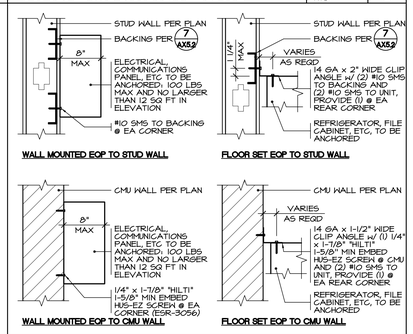
EQUIPMENT RACK ANCHORAGE — SCALE: NTS — 7



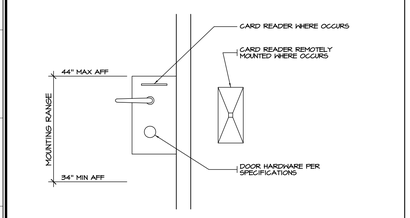
TOP OF DATA RACK



TOP OF WALL - PERPENDICULAR



EQUIPMENT ANCHORAGE — SCALE: NTS — 8



NOTE:
ALL OPERABLE PARTS OF ALL DOOR HARDWARE SHALL BE MOUNTED WITHIN MOUNTING RANGE PER CBC 11B-404.2.1

CARD READER MOUNTING HEIGHTS — SCALE: NTS — 9

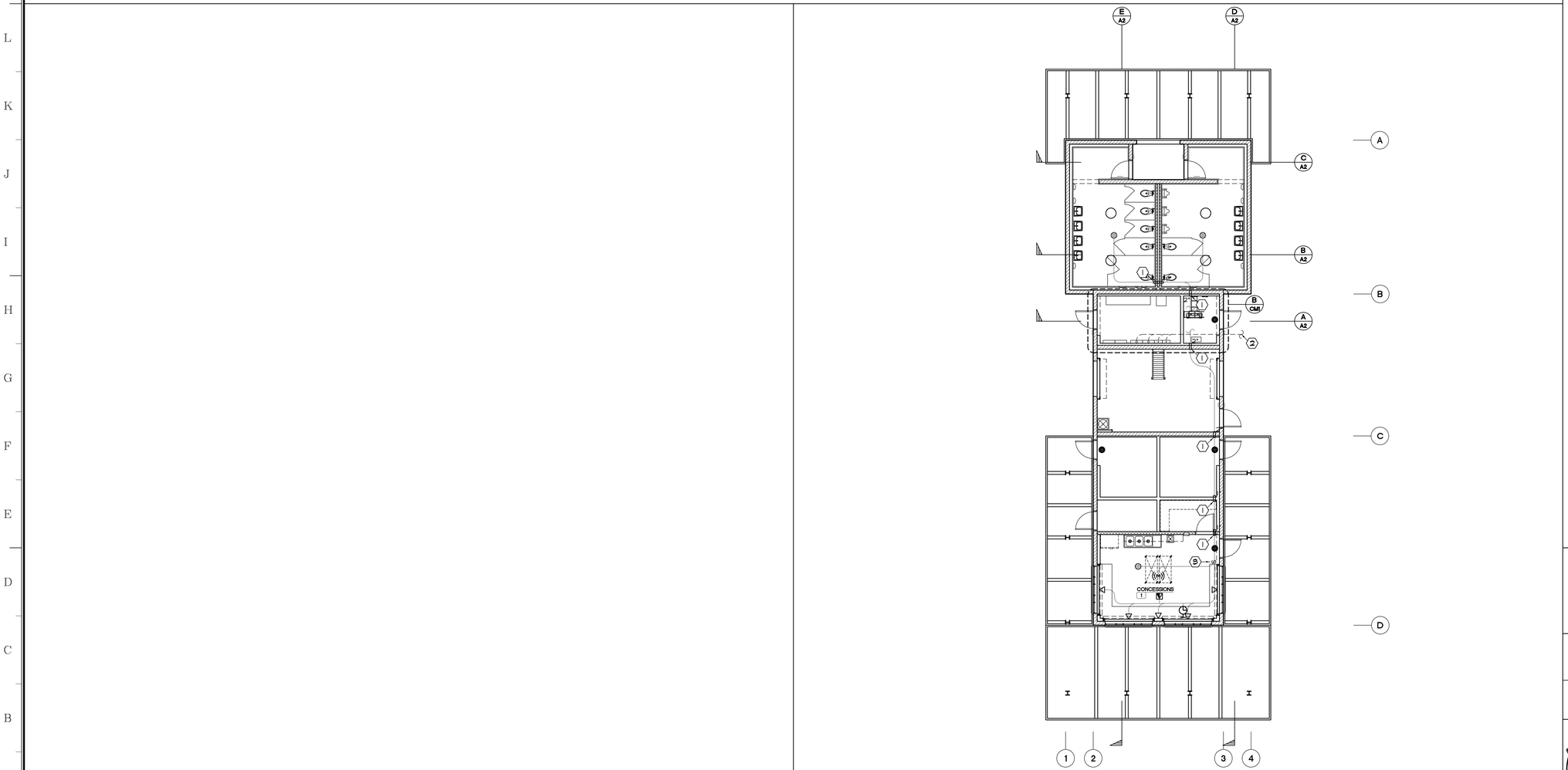
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

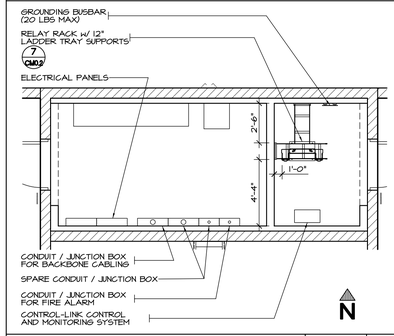
Sheet Title
COMMUNICATIONS DETAILS

LICENSED ARCHITECT — JIMMIE D. SANDERS — No. 7644 — RENEWAL 08/31/23 — STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	16-391M
Date Last Revised	Sheet Number
	CM0.2



APPROVALS



ELECTRICAL 3 | SCALE: 1/4" = 1'-0" | B

KEYNOTES:

1. PVC WALL SLEEVE ABOVE CEILING - SIZE NOTED
2. CONDUIT FOR BACKBONE CABLING - SEE SHEET CM0.1
3. COILING COUNTER SHUTTER CONTROLS - 48" MAX TO TOP

LEGEND:

- SINGLE WALL PORT @ +48" - CAT 6 TELEPHONE / INTERCOM
- DUAL WALL PORT - CAT 6 DATA
- DUAL CEILING PORT - CAT 6 DATA
- SINGLE PORT WIRELESS ACCESS ABOVE CEILING - CAT 6 DATA (VERIFY LOCATIONS)
- SLEEVE THRU WALL FOR STRUCTURED CABLING - SIZE NOTED
- -US- STRUCTURED CABLING CONDUIT UNDERGROUND
- CEILING MOUNTED SPEAKER - SEE SPECIFICATIONS
- 12" WALL CLOCK (110 VOLT SYSTEM) - SEE SPECIFICATIONS
- WIRELESS ACCESS POINT, CEILING MOUNT - CAT6A DATA (WEATHERPROOF WHERE NOTED)
- DOOR WITH ACCESS CONTROL 9 / CM0.2
- CONDUIT FOR FUTURE DOOR LOCK CARD READER

NOTES:

1. LABEL ALL PORTS ON FACE PLATES.
2. ALL CONDUIT BY ELECTRICAL CONTRACTOR.
3. FILL ALL VOID SPACE OF WALL SLEEVES AND EACH END OF CONDUIT ABOVE HARD LIDS WITH SOUND ATTENUATION BATT INSULATION.
4. ALL PBX SYSTEMS / PATCH PANELS TO BE INSTALLED IN RACK SYSTEM.
5. FOR ALL THROUGH-PENETRATION FIRESTOP DETAILS SEE SHEET
6. FOR TYPICAL MOUNTING HEIGHTS SEE 5 / CM0.2
7. FOR ALL INTERIOR ELEVATIONS SEE SHEETS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
COMMUNICATIONS PLAN

LICENSED ARCHITECT JIMMIE D. SANDERS No. 17644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	16-391M
Date Last Revised	Sheet Number
	CM1

COMMUNICATIONS PLAN | SCALE: 1/8" = 1'-0" | A

GENERAL NOTES:

APPLICABLE BUILDING CODE

All construction and workmanship shall conform to the 2019 California Building Code, California Code of Regulations – Title 24, Parts 1 & 2.

This pole and foundation standard has been designed for lateral loads on the completed structure as follows:

Wind Design Data:
- Vult = 98 MPH (Exposure C); Vasd = 76 MPH (Exposure C)
- Risk Category = II
- See Pole Foundation Schedule for maximum pole wind forces.

Seismic Design Data:
- Ie = 1.0
- Risk Category = II (Self Supporting Poles)
- Ss = 2.209
- S1 = 0.786
- Site Class = D – DEFAULT
- Sms = 1.767
- Sm1 = 0.891
- Seismic Design Category = D
- Basic Seismic-Force-Resisting System = Non-Building Structure, not similar to buildings
- Cs = 0.419 (STRENGTH LEVEL)
- R = 1.5
- Ω = 1.5
- Analysis Procedure = Equivalent Lateral Force Procedure
- See Pole Foundation Schedule for maximum pole seismic forces.

GENERAL CONSTRUCTION

These notes shall be used in conjunction with the plans and any discrepancies shall be brought to the attention of the Registered Design Professional (RDP) in Responsible Charge.

Contractor must check all dimensions, clearances and job conditions before starting work. The RDP in Responsible Charge shall be notified immediately of any discrepancies or possible deficiencies.

The drawings and specifications represent the finished structure. All bracing, temporary supports, shoring, etc., is the sole responsibility of the Contractor. Observation visits to the job site by the RDP in Responsible Charge do not include inspection of construction procedures. The Contractor is solely responsible for all construction methods and for safety conditions at the worksite. These visits by RDP in Responsible Charge shall not be construed as continuous and detailed inspections.

Design, material, equipment, and products other than those described below or indicated on the drawings may be considered for use, provided prior approval is obtained from the School District, the RDP in Responsible Charge, and DSA.

All changes to the approved plans after a contract for construction has been awarded, affecting structural, access or life-safety portions of the project, shall be made by means of construction change documents (CCD) approved by DSA, as required by Section 4–338, Part 1, Title 24, CCR. All CCD shall be prepared and signed by the RDP in general Responsible Charge.

Substitutions shall be considered as a CCD and shall be approved by DSA prior to fabrication or use.

A Class 1 or Class 2 Project Inspector employed by the School District (Owner) and approved by DSA shall provide continuous inspection of the work, the duties of the Inspector are defined in Section 4–342, Part 1, Title 24, CCR.

All Tests And Inspections shall be performed by an independent lab employed by the School District and approved by DSA.

Reference pole location on the Architectural, Structural, and/or Electrical drawings for actual pole placement and site location. Pole shall be located 5'–0" min. from adjacent structures below 50'–0" A.G.L., unless noted otherwise.

LIGHT POLE FOUNDATIONS

Reference chapter 18A, sections 1806A, 1807A, and 1810A of the 2019 edition of the California Building Code. assume class 5 soils.

Assumed allowable end bearing soil pressure: 1,500 psf (table 1806A.2) or 250 psf skin friction (section 1810A.3.3.1.4)

Assumed allowable lateral passive soil bearing pressure: 200 psf/ft for isolated poles not adversely affected by a 0.5 inch motion at the ground surface (section 1806A.3.4).

Assumed design soil parameters are as noted. Actual allowable soil design parameters at level or sloping conditions (if any) must be verified by a geotechnical engineer.

The Contractor must familiarize himself with the complete geotechnical report, and borings and contact the above firm to understand the soil conditions and the possibility of ground water pumping and excavation stabilization or bracing during the foundation installation and placement of concrete.

Soil formations that will require special design considerations or excavation procedures may exist. Pole foundations may need to be reanalyzed according to the soil conditions that exist.

If any discrepancies or inconsistencies arise, notify the RDP in Responsible Charge of such descrepancies.

All piers and concrete must bear on and against firm undisturbed soil as determined by the Geotechnical Engineer.

Place plywood collar around perimeter at the top of foundation excavation to prevent soil from entering pier.

All excavations must be free of loose soil, and debris prior to foundation installation and placement of concrete. Casing or drilling slurry may be required if caving occurs. Review and approval of the Geotechnical Engineer and DSA is required.

All excavations must be free of water or concrete shall be placed by the Tremie Method in accordance with ACI standard 336. Concrete placed by the Tremie Method shall have a minimum ultimate strength of 1,000 PSI greater than required under "Concrete Cast–in–Place" and a maximum slump of 8".

CONCRETE (CAST–IN–PLACE)

Concrete pier foundations with steel reinforcement shall attain a minimum ultimate compressive strength at 28 day test of 4,500 psi. Batch plant inspection not required.

All concrete shall attain a minimum strength of 2,500 psi prior to steel pole erection.

Use Type V Portland cement or as directed by the Geotechnical Engineer. 0.45 max. water to cement ratio by weight.

Portland Cement ASTM C–150.

Aggregate ASTM C–33. 1" maximum aggregate size. ⅜" max agg. size not permitted at reinforced piers.

Mix in conformance with ASTM C–94, ACI 318 SECTIONS 19.2 and 26.4.

Place concrete immediately after completion of excavation and inspection by the Geotechnical Engineer and the DSA Inspector. Under no circumstances shall piers be allowed to remain open for more than 12 hours without the approval of the Geotechnical Engineer. Excavations shall be covered and protected until filled with concrete.

Concrete shall be placed in one continuous operation (no construction joint) with special equipment to assure a maximum freefall of 5 ft and to prevent concrete from striking the sides of the excavation. Freefall of concrete is unacceptable through water or drilling slurry.

Vibrate concrete full depth, except for concrete with slump greater than 6", then vibrate only upper 10'–0". Concrete placed under water shall have a slump of 6"–8".

STEEL POLE

Steel pole sections conform to the California Code of Regulations T.24, Part 2, Chapter 22A.

All steel conforms to referenced ASTM specifications. (See Pole Data Table for each pole type).

All weldment conforms with AWS D1.1–15 specification for GMAW fillet utilizing E70S–X filler metal or SAW fillet utilizing F7XX–EXXX or F8XX–EXXX filler metal.
GMAW procedure conforms to AWS A5.18.
SAW procedure conforms to AWS A5.23.

Longitudinal seam welds for pole sections shall have 60% minimum penetration; Except longitudinal seam welds on the female section of telescopic field splices shall be full penetration groove welds for a length equal to the minimum splice length plus 6 inches. See drawing number MD1 for seam weld details.

Pole sections hot dipped galvanized to ASTM A123 latest standards.

All miscellaneous structural steel items conform to AISC 360–16.

Steel pole sections shall be assembled in the field by attaching two 1.5 ton "come alongs" to jacking ears, using full effort on each simultaneously, to ensure minimum overlaps as indicated on the "MS" sheet(s) and detail G/MD1.

PRECAST BASE

The precast concrete base conforms to California Code of Regulations, T.24, part 2, Chapter 19A and to Building Code Requirements for Reinforced Concrete, ACI 318–14.

See detail "A" on "MS" sheet(s) for material strengths and specifications.

TESTING AND INSPECTION

Testing and inspection in accordance with Title 24, Part 1 & Part 2 & project DSA 103 form.

EXCAVATIONS & FOUNDATIONS:
Inspection of cast–in–place deep foundations – 1705A.8 & Table 1705A.8

CONCRETE MATERIALS: 1903A.1
Portland cement – 1910A.1
Concrete aggregates – 1903A.5
Reinforcing bars – 1910A.2 & DSA IR 17–10
Prestressing steel and anchorages – 1910A.3

CONCRETE QUALITY:
Proportions of concrete – Reference ACI 318 Section 26.4.3.1 Through 26.4.4.1,
Strength tests of concrete – 1905A.1.15 and ACI 318 Section 26.12 & 26.5.3.2.

CONCRETE INSPECTION: 1705A.3 & Table 1705A.3
Job site – Reference ACI 318 Section 26.5.1,26.5.2.1(a) & (b),26.6.1.2(d), 26.11.1.1(a).
Batch Plant Inspection Not Required – 1705A.3.3.2
Prestressed concrete – 1704A.2.5, 1705A.3.4

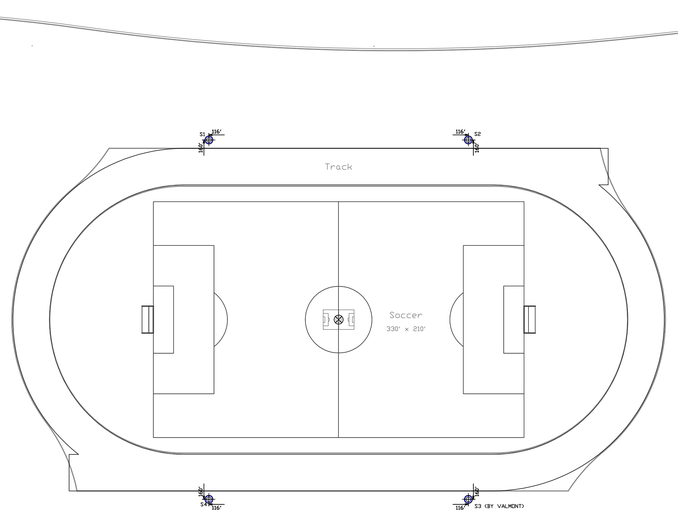
STEEL MATERIALS:
Structural steel – 2202A.1 & 2205A.1
Cold formed steel – 2210A.1
Identification – 2202A.1
High strength bolt identification – table 1705A.2.1 & DSA IR 17–9

STEEL QUALITY:
Tests of structural steel & cold formed steel – 2202A.1
Tests of high strength bolts, nuts, & washers – 2213A.1 & DSA IR 17–8

STRUCTURAL STEEL INSPECTIONS: Table 1705A.2.1
Shop fabrication inspection – 1704A2.5
Welding – 1705A.2.5, DSA IR 17–3 and AWS D1.1.
High strength bolt installation – Table 1705A.2.1 & DSA IR 17–9
(including Skidmore–Wilhelm bolt tension pre–installation verification testing)
(NOTE: ALL WELDING SHALL BE CONTINUOUSLY INSPECTED BY AN AWS CWI CERTIFIED INSPECTOR APPROVED BY DSA)

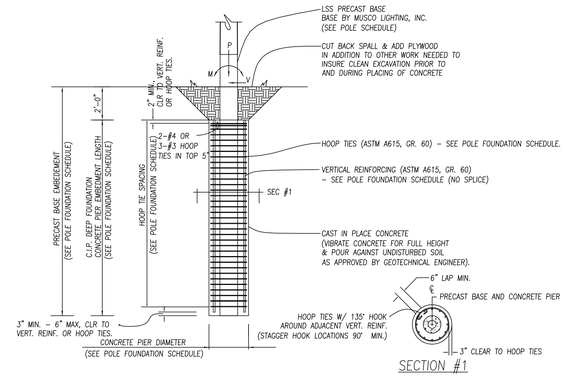
These plans are for construction approval. An application number and approval of these drawings by the Division of The State Architect of California must be secured to build from these plans.

INDEX OF SHEETS



POLE ORIENTATION PLAN
N.T.S.

NOTE: THIS PLAN IS A PICTORAL REPRESENTATION OF THE SITE LAYOUT. REFERENCE APPROPRIATE ARCHITECTURAL SITE PLAN FOR ALL NECESSARY INFORMATION.



SECTION #1

A REINFORCED FOUNDATION DETAIL
N.T.S. DSA–A2–CASFND_A

POLE FOUNDATION SCHEDULE

POLE TYPE–# OF FIXTURES (MAX) (LSS=LIGHT STRUCTURE)	MARK (SEE POLE ORIENTATION PLAN)	WIND OR SEISMIC (SEISMIC FORCE INCLUDES OVERSTRENGTH FACTOR=1.5)	ASD LEVEL FORCES (MAX)			C.I.P. DEEP FOUNDATION				PRECAST BASE
			MOMENT (M) FT–LBS*	SHEAR (V) LBS	VERTICAL (P) LBS**	DIAMETER INCHES	EMBEDMENT FEET (SEE NOTE BELOW)	VERTICAL REINFORCING (ASTM A615, GR 60)	HOOP TIE SIZE & SPACING (ASTM A615, GR 60)	EMBEDMENT FEET
LSS90B–15	S1, S2, S4	SEISMIC	225,400	3,303	7,505	42"	16'–0"	12–#7	#4 @ 5½" O.C. TOP 10'–6" & #4 @ 10½" O.C. BELOW	18'–0"
		WIND	185,400	2,859	4,841					

*Moment (M) computed below grade at Shear (V) = 0.
**Vertical (P) load includes steel pole, light fixtures, and attachments. Vertical (P) load for wind is the dressed pole weight for erection purposes. Vertical (P) load for seismic also includes weight of precast base above groundline. Reference Detail "A" on MS Sheet(s) for precast base weight.
Note:
Final Embedment to be determined in the field by the Geotechnical Engineer of Record

Imperial Valley College Track
FIELD LIGHTING
Imperial, CA

CONSULTANT
KNA STRUCTURAL ENGINEERS
9701 Wilshire Blvd. Suite 1000 Beverly Hills, CA 90212
Tel: (949) 463-3200 • Fax: (949) 463-3201
www.knastructural.com
KNA JOB NO.: 443.053

musco Lighting
CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
800/825–6020

DRAWING TITLE: NOTES, FOUNDATION DETAIL
SCALE: SEE PLAN
REVISIONS
REFERENCE:

PROJECT NO. 123173
DATE: 06/28/2022
DRAWN BY: H.Sabers
DRAWING NO. 1 OF 5 MT1

APPROVALS

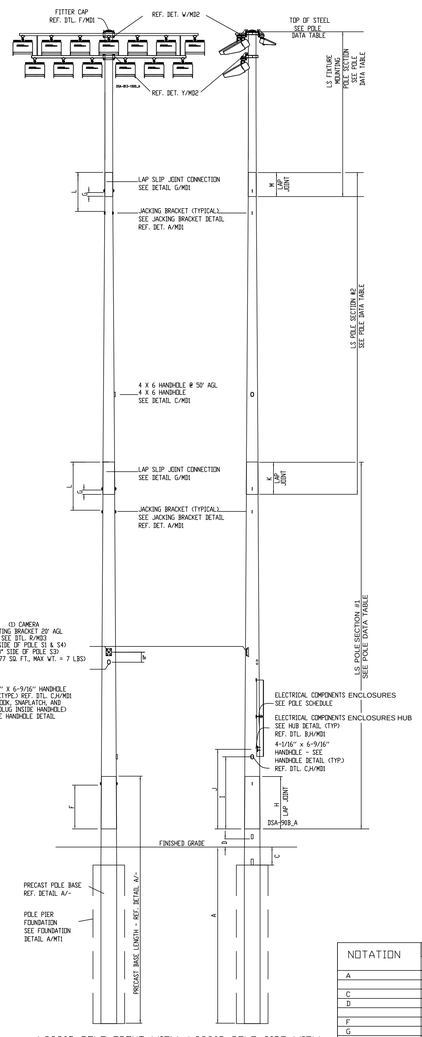
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION

Sheet Title
POLES S1, S2, S4 DRAWINGS

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-17644
RENEWAL DATE
8-31-23
STATE OF CALIFORNIA

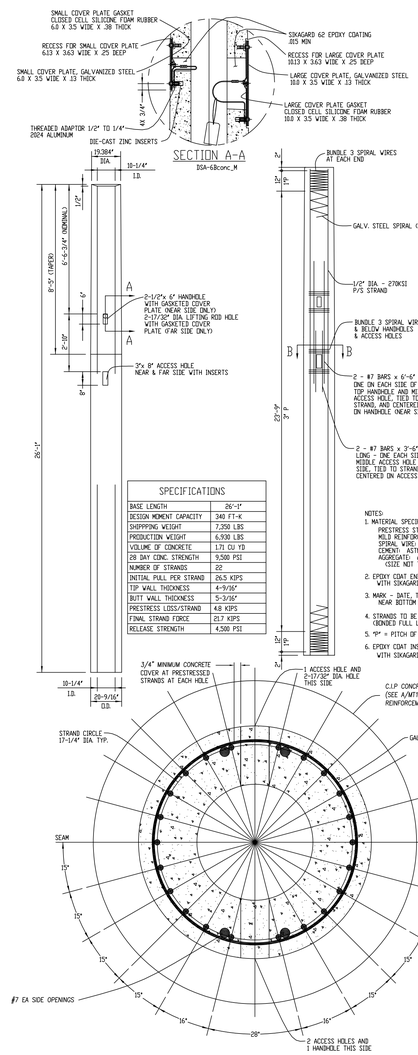
Document Date 08-19-22
Date Last Revised
Project Number 22-091V
Sheet Number MT1



LSS90B POLE FRONT VIEW
N.T.S.

LSS90B POLE SIDE VIEW
N.T.S. DSA-90BBASE_A

NOTATION	DIMENSION LSS90B
A	18'-0"
C	2'-0" NOM.
D	1'-0" NOM.
F	4'-10" NOM.
G	1'-6"
H	6'-5 7/8" NOM. 5'-3 3/4" MIN.
I	8'-1 1/2" NOM.
J	9'-3 1/2" NOM.
K	4'-7 7/8" NOM. 3'-1 3/8" MIN.
L	5'-6 1/2" NOM.
M	3'-3 1/4" NOM. 2'-4" MIN.

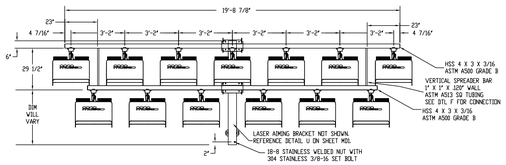


SPECIFICATIONS	
BASE LENGTH	26'-1"
DESIGN MOMENT CAPACITY	340 FT-K
SHIPPING WEIGHT	7,350 LBS
PRODUCTION WEIGHT	6,930 LBS
VOLUME OF CONCRETE	1.71 CU YD
28 DAY CONC. STRENGTH	9,500 PSI
NUMBER OF STRANDS	22
INITIAL PULL PER STRAND	26.5 KIPS
TIP WALL THICKNESS	4-9/16"
BUTT WALL THICKNESS	5-3/16"
PRESTRESS LOSS/STRAND	4.8 KIPS
FINAL STRAND FORCE	21.7 KIPS
RELEASE STRENGTH	4,500 PSI

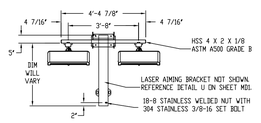
NOTES:
1. MATERIAL SPECIFICATIONS
PRESTRESS STRAND: ASTM A416 GR 270 (LOW RELAXATION)
MILD REINFORCING: ASTM A615 GR 60
SPIRAL WIRE: ASTM A1064 Fy=70 KSI
CEMENT: ASTM C150, TYPE II
AGGREGATE: ASTM C33
(SIZE NOT TO EXCEED 3/4")
2. EPOXY COAT ENDS OF BASE. (T AND B)
WITH SIKAGARD 62
3. MARK - DATE, TYPE & "BOTTOM"
NEAR BOTTOM OF BASE.
4. STRANDS TO BE PRETENSIONED -
DEBONDED FULL LENGTH)
5. "F" = PITCH OF SPIRALS
6. EPOXY COAT INSIDE SURFACES AT EACH HOLE
WITH SIKAGARD 62 .015 MIN.

PLAN SECTION B-B

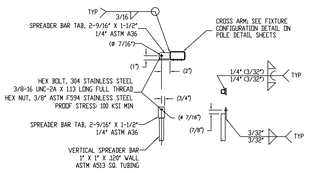
A TYPE 6B PRECAST BASE DETAIL
N.T.S. DSA-68conc_M



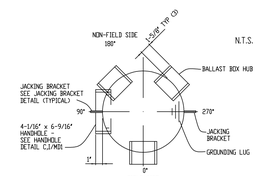
B 13 FIXTURE CONFIGURATION
N.T.S. DSA-B13C-1500_A



C 2 FIXTURE CONFIGURATION
N.T.S. DSA-B2C-WEDGE4_A



F BOLT ON SPREADER BAR DETAIL
SCALE: N.T.S. DSA-SpreaderBarBoltOn-LED_A



POLE ORIENTATION
N.T.S.

TOP/MIDDLE/BOTTOM
POLE SECTION

1. CONTAINS COMBINED EPA OF LIGHT FIXTURES, CROSS ARM AND MISCELLANEOUS FIXTURE MOUNTING APPARATUS.

FIXTURE WEIGHT 103 LBS. THIS INCLUDES THE WEIGHT OF FIXTURE, CROSS ARM & MISC. MOUNTING APPARATUS. ELECTRICAL BALLAST BOX WEIGHT 20 LBS PER FIXTURE SERVICED.

POLE SCHEDULE

SITE LOCATION	POLE MARK	REFERENCE LOCATION	POLE TYPE	FIXTURE CONFIGURATION	TOTAL EPA[1]	BALLAST BOX REQUIREMENTS
SEE SITE PLAN (BY OTHERS)	S1, S3, S4	SEE POLE ORIENTATION PLAN	LSS90B	13 - SEE DETAIL B/M01	45.6	SEE DETAIL SL/M01
	S1, S3, S4	SEE POLE ORIENTATION PLAN	LSS90B	2 - SEE DETAIL C/M01	4.9	SEE DETAIL D/M01

DSA-POLESCHE_C

POLE DATA TABLE

POLE TYPE	PIECE MARK	MAX NUMBER OF X-ARMS	POLE SECTION	TOP O.D. (INCHES)	BTM. O.D. (INCHES)	OVERALL LENGTH	STRAIGHT LENGTH	TAPER LENGTH	THICKNESS (INCHES)	TOP OF STEEL NOMINAL	ASTM REFERENCE
LSS90B	MP-1BTT-1	3	FIXTURE MOUNTING	9.462"	12.000"	18'-1 1/2"	-----	18'-1 1/2"	.179	87'-5 7/8"	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-5BTTDSA-S		#2	11.183"	15.965"	34'-1 7/8"	-----	34'-1 7/8"	.179	-----	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-7BTTDSA-D		#1	14.954"	20.770"	41'-6 1/2"	-----	41'-6 1/2"	.239	-----	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-6BDSA		PRECAST BASE	FOR PRECAST MEMBER PROPERTIES SEE PRECAST BASE DETAIL A/-							

DSA-90BBT_A

DSA-96_A

Imperial Valley College Track
FIELD LIGHTING
Imperial, CA

APPROVALS

CONSULTANT
KNA STRUCTURAL ENGINEERS
9711 Mason Boulevard, Irvine, CA 92618
Tel: 949.305.3333 Fax: 949.305.3335
www.KNAStructural.com
KNA JOB NO.: 463.053

MUSCO lighting
CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
800/825-6020

DRAWING TITLE: POLE DETAIL
SCALE: SEE PLAN
REVISIONS
REFERENCES

PROJECT NO. 123173

DATE: 06/23/2022

DRAWN BY: H.Sabers

DRAWING NO. 2 OF 5 MS1

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION

Sheet Title
POLE DETAIL

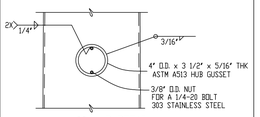
LICENSED ARCHITECT
JIMMIE R. SANDERS
No. C-17644
RENEWAL DATE
08-31-23
STATE OF CALIFORNIA

Document Date 08-19-22
Date Last Revised

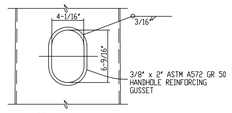
Project Number 22-09IV

Sheet Number MS1

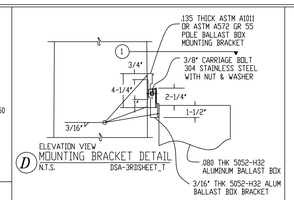
A JACKING BRACKET DETAIL
N.T.S. DSA-3RDSHEET_T



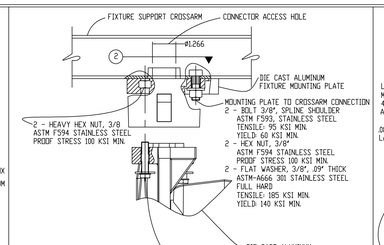
B HUB DETAIL
N.T.S. DSA-3RDSHEET_T



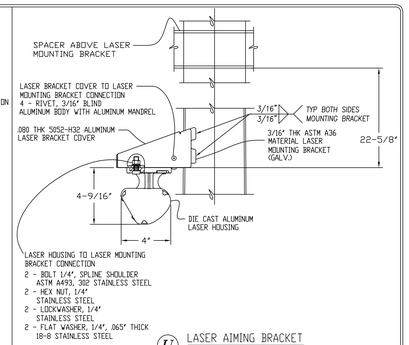
C HANDHOLE SLEEVE DETAIL
N.T.S. DSA-3RDSHEET_T



D MOUNTING BRACKET DETAIL
N.T.S. DSA-3RDSHEET_T

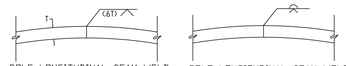


E LUMINAIRE ATTACHMENT DETAIL
N.T.S. DSA-3RDSHEET_T



U LASER AIMING BRACKET
N.T.S. DSA-3RDSHEET_T

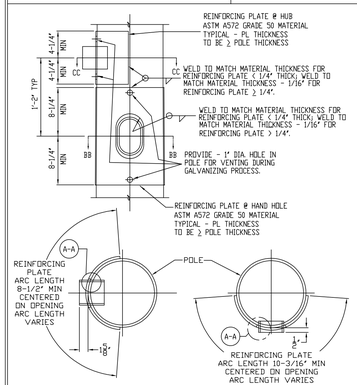
G SLIP JOINT CONNECTION DETAIL
N.T.S. DSA-LAP



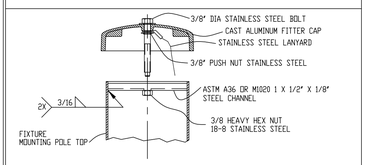
POLE LONGITUDINAL SEAM WELD
DETAIL TYPICAL CONDITION *
N.T.S. DSA-3RDSHEET_T

POLE LONGITUDINAL SEAM WELD DETAIL
AT LAP SPLICES (FEMALE END) *
N.T.S. DSA-3RDSHEET_T

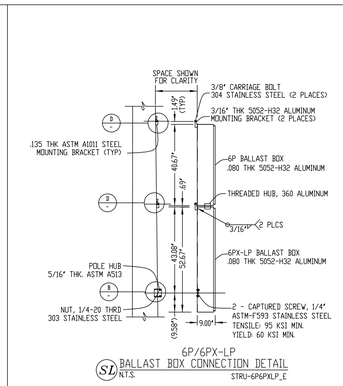
* NOTE- 100% PENETRATION SEAM WELDS MAY BE PROVIDED FULL LENGTH OF POLE SHAFTS PROVIDED WPS'S ARE QUALIFIED BY TEST.



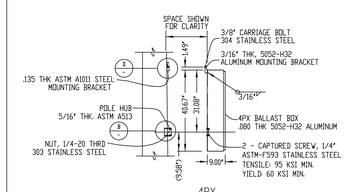
H HANDHOLE/HUB REINFORCING GUSSET
N.T.S.



F FITTER CAP DETAIL
N.T.S. DSA-3RDSHEET_T



SL BALLAST BOX CONNECTION DETAIL
N.T.S. STRU-6P6PXLP_E



O BALLAST BOX CONNECTION DETAIL
N.T.S. STRU-4PX_E

Imperial Valley College Track
FIELD LIGHTING
Imperial, CA

REGISTERED PROFESSIONAL ENGINEER JAMES R. SANDERS No. E-17644 EXP. 6-30-23 STATE OF CALIFORNIA
CONSULTANT
KNA STRUCTURAL ENGINEERS
9931 RUSSELL AVENUE
TEMPLE CITY, CA 91780
TEL (909) 463-2020 FAX (909) 463-2301
KNA JOB NO.: 463-053

MUSCO Lighting
CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
800/825-6020

DRAWING TITLE: ATTACHMENT DETAILS
SCALE: SEE PLAN
REVISIONS:
REFERENCE:

PROJECT NO. 123173

DATE: 06/23/2022

DRAWN BY: H.Sabers

DRAWING NO. MD1
3 OF 5

STRU-MD1

APPROVALS

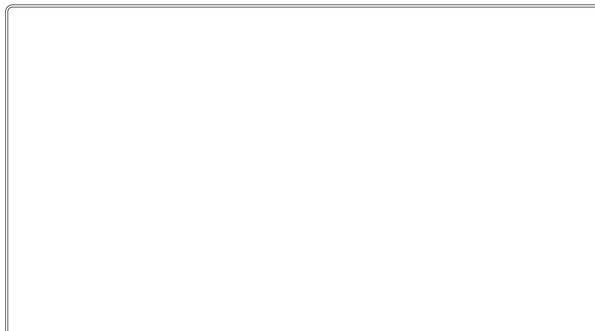
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

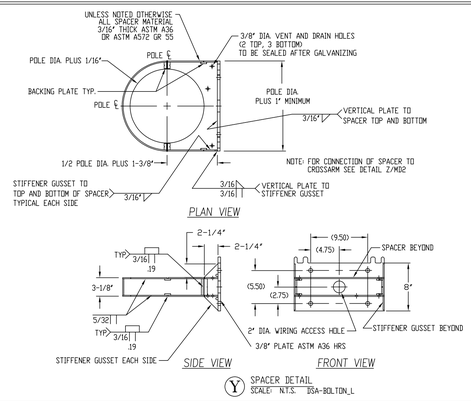
Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION

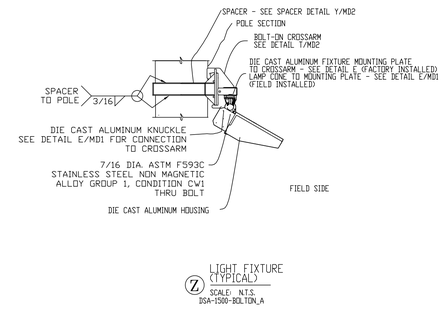
Sheet Title
ATTACHMENT DETAILS

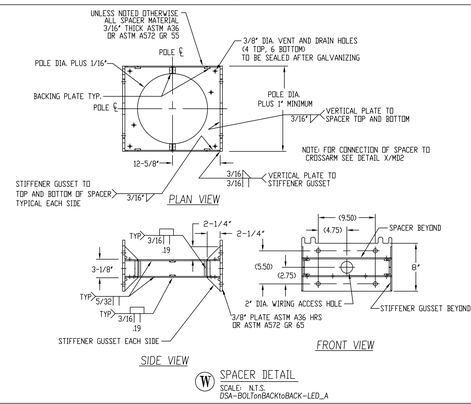
LICENSED ARCHITECT JAMES R. SANDERS No. C-17644 RENEWAL DATE 8-31-23 STATE OF CALIFORNIA

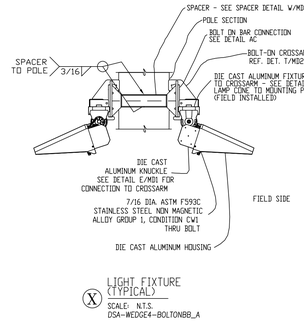
Document Date 08-19-22
Date Last Revised
Project Number 22-091V
Sheet Number MD1











Imperial Valley College Track
FIELD LIGHTING
Imperial, CA

APPROVALS

CONSULTANT
KNA STRUCTURAL ENGINEERS
9721 Waterman Road, Suite 250
Elk Grove, CA 95624
TEL (916) 462-3301 FAX (916) 462-3301
KNA JOB NO.: 463.093

MUSCO Lighting
CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
800/825-6020

DRAWING TITLE: ATTACHMENT DETAILS
SCALE: SEE PLAN
REVISIONS:
REFERENCE:

PROJECT NO. 123173
DATE: 06/23/2022
DRAWN BY: H.Sabers
DRAWING NO. MD2
4 OF 5

STRUCMD2

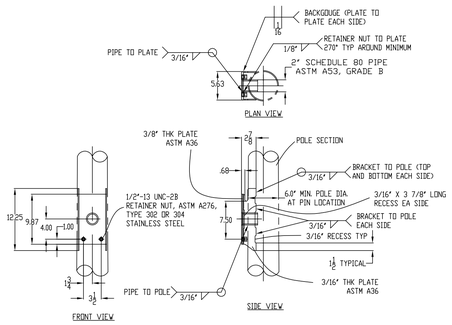
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION

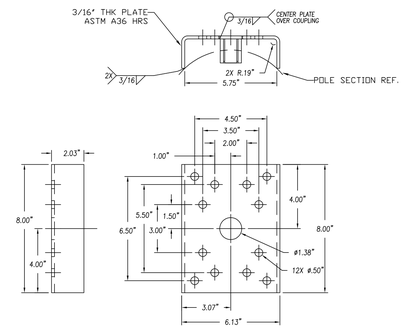
Sheet Title
ATTACHMENT DETAILS

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-17644
RENEWAL DATE
8-31-23
STATE OF CALIFORNIA

Document Date: 08-19-22
Date Last Revised:
Project Number: 22-09IV
Sheet Number: MD2



A BRACKET DETAIL
N.T.S. DSA-Brk-Dtl-L_A



R 1P CAMERA CHANNEL
N.T.S.

STRU-MD3

Imperial Valley College Track
FIELD LIGHTING
Imperial, CA

CONSULTANT
KNA STRUCTURAL ENGINEERS
9931 Business Center Drive, Suite 1
Tel: (949) 463-3200 • Fax: (949) 463-3201
KNA JOB NO.: 463.053

MUSCO Lighting
CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
800/825-6020

DRAWING TITLE: ATTACHMENT DETAILS
SCALE: SEE PLAN
REVISIONS:
REFERENCE:

PROJECT NO. 123173
DATE: 06/23/2022
DRAWN BY: H.Sabers
DRAWING NO. MD3
5 OF 5

APPROVALS

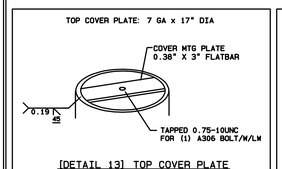
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION

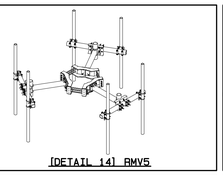
Sheet Title
ATTACHMENT DETAILS

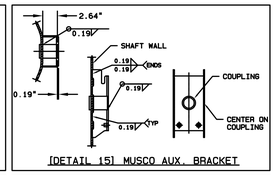
LICENSED ARCHITECT
JAMES R. SANDERS
No. C-7644
RENEWAL 8-31-23
STATE OF CALIFORNIA

Document Date: 08-19-22
Date Last Revised:
Project Number: 22-091V
Sheet Number: MD3

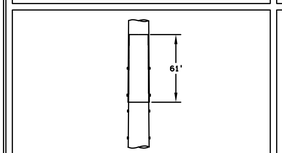


[DETAIL 13] TOP COVER PLATE

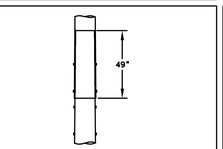

[DETAIL 14] RMV5



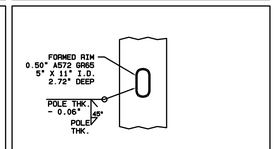
[DETAIL 15] MUSCO AUX. BRACKET



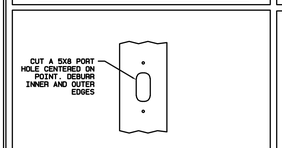
[DETAIL 10] POLE SHAFT SLIP-JOINT



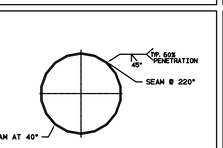
[DETAIL 11] POLE SHAFT SLIP-JOINT



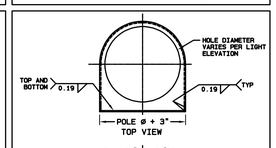
[DETAIL 12] 6X12 RIM



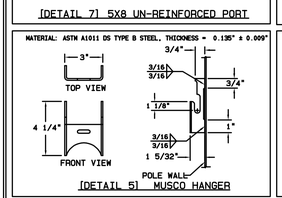
[DETAIL 7] 5X8 UN-REINFORCED PORT



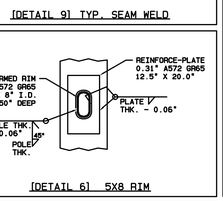
[DETAIL 9] TYP. SEAM WELD



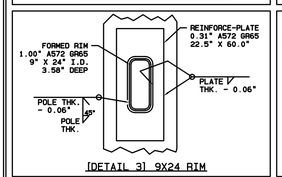
[DETAIL 8] MUSCO LIGHT MOUNT



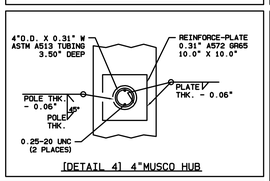
[DETAIL 5] MUSCO HANGER



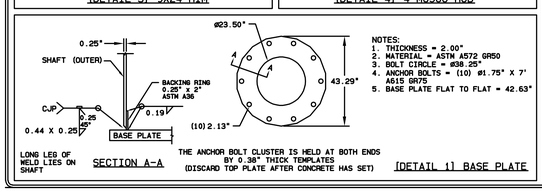
[DETAIL 6] 5X8 RIM



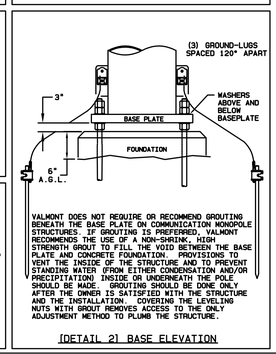
[DETAIL 3] 9X24 RIM



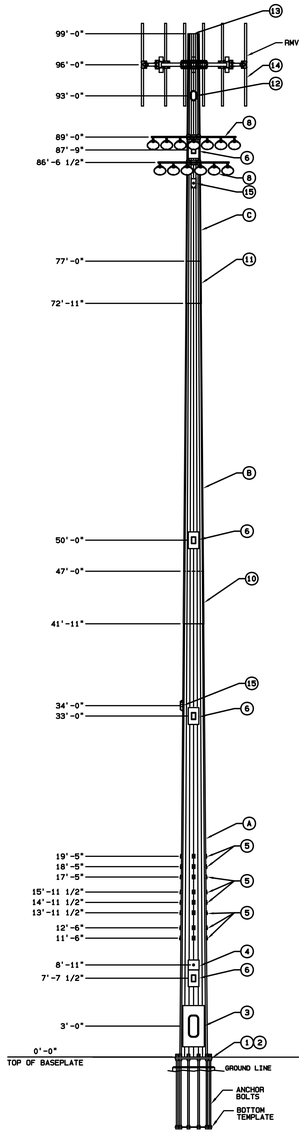
[DETAIL 4] 4"MUSCO HUB



[DETAIL 1] BASE PLATE



[DETAIL 2] BASE ELEVATION



99'-0" MONOPOLE ELEV. (NO SCALE)
ALL ELEVATIONS REFER TO TOP OF BASE PLATE UNLESS NOTED.
TOTAL POLE HT IS 100'-0" AGL.
APPURTENANCES, MOUNTING BRACKETS, & HAND HOLES ARE SHOWN FOR CLARITY AND MAY NOT VISUALLY REPRESENT EXACT SCALE OR LOCATION.

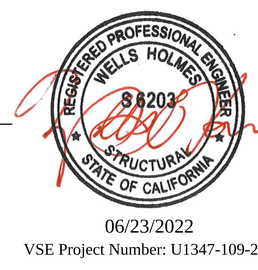
SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
A	47'- 0.00"	32.00"	22.62"	0.250"	A572 65 KSI
B	35'- 1.00"	24.01"	17.01"	0.188"	A572 65 KSI
C	26'- 1.00"	18.20"	13.00"	0.188"	A572 65 KSI

NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	SECTION A VALMONT S-22 0.250" THK (A572 GR65)	3,416	3,416
1	SECTION B VALMONT S-22 0.188" THK (A572 GR65)	1,435	1,435
1	SECTION C VALMONT S-22 0.188" THK (A572 GR65)	808	808
1	BOTTOM CAGE PLATE	78	78
10	1.75" ANCHOR BOLT, LENGTH=7.00' A615 GR75	78	779
1	BASE PLATE VALMONT S-56 2.000" THK (A572 GR50)	552	552
1	TOP CAGE PLATE (REMOVE BEFORE SETTING POLE)	102	102
3	GROUNDING LUG	2	6
	GALVANIZING	183	183
1	HAND HOLE HVY (9" x 24")	66	66
1	HAND HOLE (5" x 8") @ 270°	15	15
1	HAND HOLE (5" x 8") @ 270°	15	15
1	HAND HOLE (5" x 8") @ 180°	15	15
1	HAND HOLE (5" x 8") @ 270°	15	15
3	HAND HOLE STD (6" x 12")	22	66
1	POLE CAP	11	11

NOTES:
1. FACTORED BASE REACTIONS
   MOMENT = 7,943 IN-KIPS
   SHEAR = 10,326 #
   VERTICAL = 10,860 #
2. GALVANIZED PER ASTM A-123.
3. DESIGN CRITERIA: TIA-222-H
4. THIS STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING LOADING:
   EXPOSURE CATEGORY = C
   TOPOGRAPHY CATEGORY = 1
   RISK CATEGORY = III
   SITE ELEVATION = -61 FT
   EARTHQUAKE SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS SS = 2.23
   EARTHQUAKE SPECTRAL RESPONSE ACCELERATION AT ONE SECOND S1 = 0.80
   EARTHQUAKE SITE CLASS = E
   WIND LOAD CASES ARE BASED ON 3 SECOND GUST AND 1700 YEAR MRI
   A. CASE 1: WIND = 116 MPH WIND SPEED
   B. CASE 2: WIND = 60 MPH WIND SPEED
   C. CASE 3: SEISMIC
   D. CASE 4: SEISMIC
   E. EQUIPMENT

DESCRIPTION	ABP MTG HT. (FT)	ABP CENTROID HT. (FT)	WITHOUT ICE EPA (FT**2)	WITHOUT ICE WT (LBS)	WITH ICE EPA (FT**2)	WITH ICE WT (LBS)
1-RMV5-296	96.00	96.00	3.65	679	3.65	679
7-SPORTS LIGHTS	89.00	89.00	22.40	280	22.40	280
1-CR7	89.00	89.00	6.10	176	6.10	176
6-SPORTS LIGHTS	86.54	86.54	19.20	240	19.20	240
1-CR6	86.54	86.54	5.13	150	5.13	150
2-2P LED-400	89.00	89.00	20.00	200	20.00	200
2-2P TRUNNION SPEAKERS	34.00	34.00	20.00	200	20.00	200
2-BALLAST BOX 6PX	18.00	18.00	14.20	100	14.20	100
2-BALLAST BOX 6PX	16.00	16.00	14.20	100	14.20	100
1-BALLAST BOX 4PX	12.50	12.50	5.50	50	5.50	50
1-1/2" X 4' LIGHTNING ROD LIGH	99.00	101.00	0.20	14	0.20	14
6-HUAWEI ADU4518A6V06 UNKNOWN	96.00	96.00	23.91	332	23.91	332
6-HUAWEI RRU3256 AMPS	96.00	96.00	6.17	258	6.17	258

5. FEEDLINES ARE PLACED INTERIOR TO THE POLE SHAFT (UNLESS NOTED OTHERWISE)
6. TOTAL POLE HEIGHT IS 100 FT AGL
7. ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE (APPROX. 1 FT AGL)
8. 18 SIDED SHAFT
9. (4) 4" & (2) 2" CONDUIT ROUTED THROUGH FOUNDATION AND BASE PLATE.
10. ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN STRUCTURES OF ALL TYPES. BECAUSE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES, VIBRATIONS ARE GENERALLY UNPREDICTABLE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. THE VALMONT WARRANTY SPECIFICALLY EXCLUDES FATIGUE FAILURE OR SIMILAR PHENOMENA RESULTING FROM INDUCED VIBRATION, HARMONIC OSCILLATION OR RESONANCE ASSOCIATED WITH MOVEMENT OF AIR CURRENTS AROUND THE PRODUCT.



06/23/2022
VSE Project Number: U1347-109-221

NOTE:
THIS IS NOT AN
INSTALLATION DRAWING

VECTOR ENGINEERS
651 W. GALENA PARK BLVD. STE. 101
DRAPER, UTAH 84020
PHONE (801) 990-1775
WWW.VECTORSE.COM

valmont MICROFLECT
2575 25TH STREET SO. SALEM, OR 97302
MAIN (503)363-2657 FAX (503)585-3844

musco SPORT-LIGHTING, LLC
100 FIRST AVENUE WEST
OSKALOOSA, IOWA 52577
(641)673-0411

99'-0" POLE, AGL LIGHTING/CELLULAR
MONOPOLE
MUSCO
IMPERIAL, CA

DRAWING TITLE	REVISIONS	#	DATE
99'-0" POLE, AGL LIGHTING/CELLULAR MONOPOLE	UPDATED DETAIL 1	KRC	06/23/2022

PROJECT NO: 546009-P1
DATE: 06/14/2022
DRAWN BY: KRC
DRAWING NO: PL3.1
SHEET: 1 of 2

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION

Sheet Title
POLE S3 DRAWINGS

LICENSED ARCHITECT
JIMMIE W. SANDERS
No. C-17644
RENEWAL DATE
8-31-23
STATE OF CALIFORNIA

Document Date	Project Number
08-19-22	22-09IV
Date Last Revised	Sheet Number
	PL3.1

FOUNDATION NOTES:

FOUNDATION DESIGN IS BASED ON THE FOLLOWING GEOTECHNICAL REPORT:
LANDMARK CONSULTANTS, INC.
REPORT: LE22111
DATE: JUNE 17, 2022

1. ALL CONCRETE SHALL USE TYPE V PORTLAND CEMENT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS. CONCRETE SHALL HAVE A MINIMUM OF 6% ENTRAINED AIR (WHERE FROST DEPTH > 0"). CONCRETE SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.45. CONCRETE SHALL HAVE A SLUMP OF 5" (±1") UNLESS OTHERWISE SPECIFIED IN THE GEOTECHNICAL REPORT. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318-14. FOUNDATION INSTALLATION SHALL BE IN ACCORDANCE WITH ACI 336, "STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF DRILLED PIERS," LATEST EDITION.
2. REINFORCING STEEL SHALL CONFORM WITH THE REQUIREMENTS OF ASTM A-615, GRADE 60. ALL REINFORCING DETAILS SHALL CONFORM TO "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315, LATEST EDITION, UNLESS DETAILED OTHERWISE ON THIS DRAWING.
3. INSTALLATION OF FOUNDATION MUST BE OBSERVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER FIRM. GEOTECHNICAL ENGINEER TO PROVIDE A NOTICE OF INSPECTION FOR THE BUILDING INSPECTOR FOR REVIEW AND RECORD PURPOSES.
4. CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT FOR INFORMATION REGARDING INSTALLATION METHOD, REQUIRED INSTALLATION EQUIPMENT, AND ALL OTHER REQUIREMENTS RELATED TO THE INSTALLATION OF THE PIER.
5. MONOPOLE MAY BE ERECTED 3-DAYS AFTER FOUNDATION IS INSTALLED AND ONCE CONCRETE STRENGTH IS AT LEAST 4500 PSI.

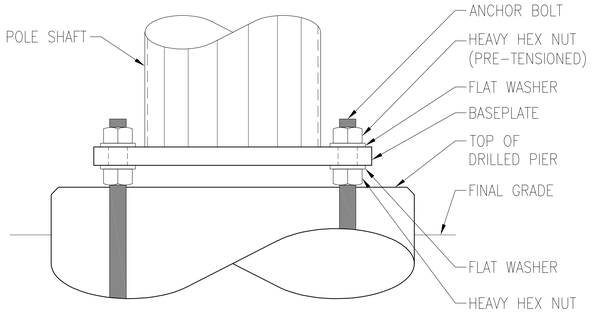
SPECIAL INSPECTIONS:

1. STEEL FABRICATION SHALL BE DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION.
2. NO FIELD WELDING SHALL BE PERMITTED
3. THE FOLLOWING SPECIAL INSPECTIONS SHALL BE REQUIRED PER CHAPTER 17A OF THE BUILDING CODE:

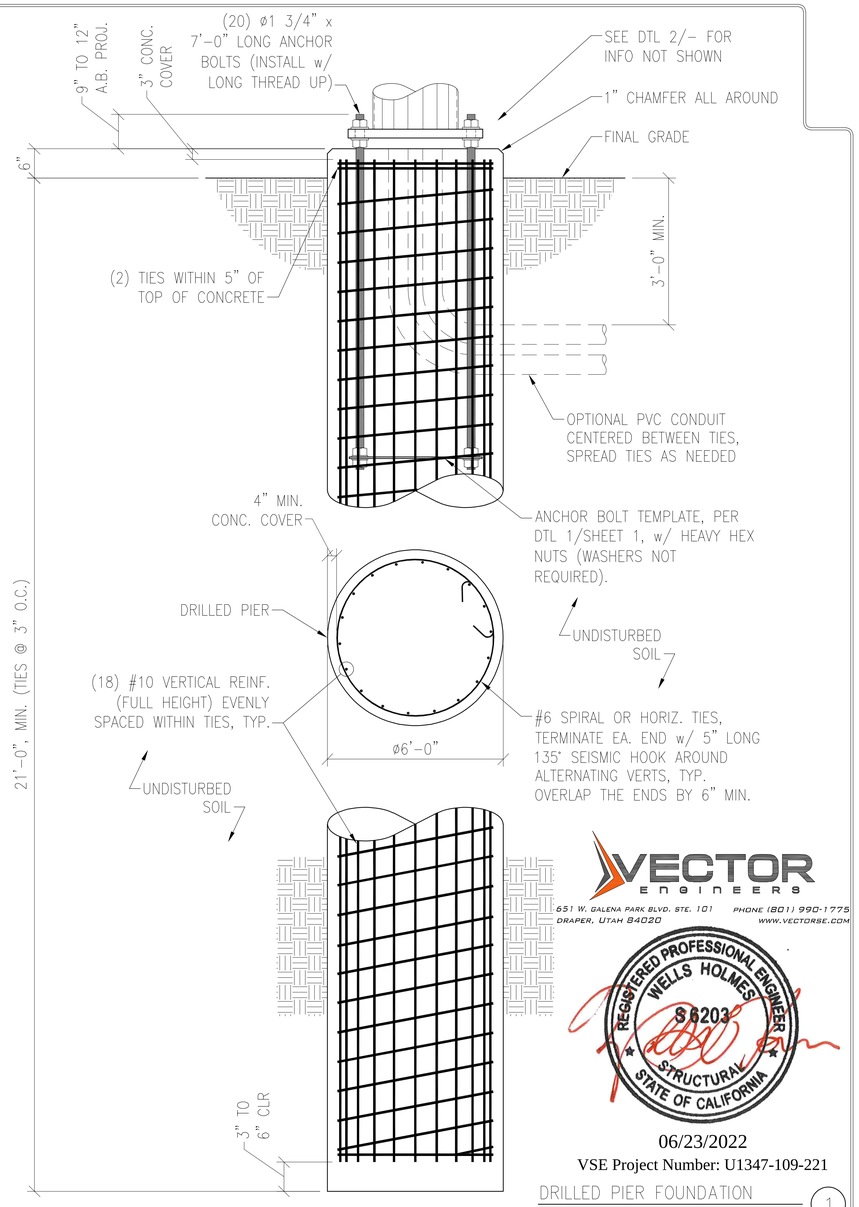
- CONTINUOUS SPECIAL INSPECTION OF DRILLING OPERATIONS FOR PIER FOUNDATIONS
- CONTINUOUS SPECIAL INSPECTION TO VERIFY LOCATION, PLUMBNESS, DIAMETER, AND LENGTH OF PIER FOUNDATIONS
- PERIODIC SPECIAL INSPECTION OF PLACEMENT OF REINFORCING STEEL
- CONTINUOUS SPECIAL INSPECTION OF ANCHOR BOLTS PRIOR TO AND DURING CONCRETE PLACEMENT
- CONTINUOUS SPECIAL INSPECTION OF CONCRETE PLACEMENT

STRUCTURAL OBSERVATION:

A DSA 6 VERIFIED REPORT IS REQUIRED-S.E.O.R. IS RESPONSIBLE FOR:
- OBSERVATION OF REBAR CAGE PRIOR TO CONCRETE PLACEMENT
- OBSERVATION OF INSTALLED MONOPOLE UPON COMPLETION OF CONSTRUCTION



N.T.S. (2)



DRILLED PIER FOUNDATION

N.T.S. (1)

VECTOR ENGINEERS
651 W. GALENA PARK BLVD. STE. 101
DRAPER, UTAH 84020
PHONE (801) 990-1775
WWW.VECTORSE.COM

REGISTERED PROFESSIONAL ENGINEER
WELLS HOLMES
S 6203
STRUCTURAL
STATE OF CALIFORNIA

06/23/2022

VSE Project Number: U1347-109-221

valmont MICROFLECT
2575 25TH STREET SE, SALEM, OR 97302
MAIN: (503)363-9267 FAX: (503)316-2940

musco SPORT-LIGHTING, LLC.
ONE MUSCO PARK ROAD
OSKALOOSA, IOWA 52577
641-673-0411

99'-0" POLE, AGL LIGHTING/CELLULAR
MONOPOLE
MUSCO
IMPERIAL, CA

DRAWING TITLE: 99'-0" POLE, AGL LIGHTING/CELLULAR MONOPOLE
REVISIONS: UPDATED FOUNDATION VSE-CTF 6/23/22
REFERENCE:

PROJECT NO. 546009-P1
DATE: 06/23/2022
DRAWN BY: VSE-CTF
DRAWING NO. PL3.2
SHEET: 2 of 2

APPROVALS

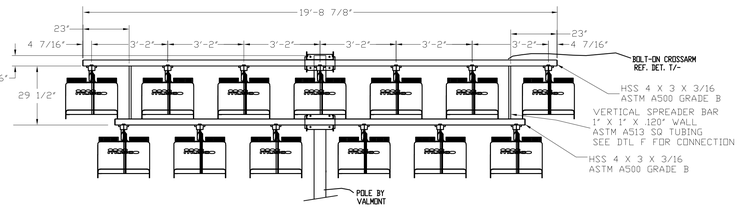
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION

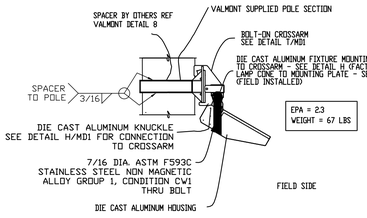
Sheet Title
POLE S3 ATTACHMENT DETAILS

LICENSED ARCHITECT
JAMES A. SANDERS
No. C-17644
RENEWAL DATE
7-31-23
STATE OF CALIFORNIA

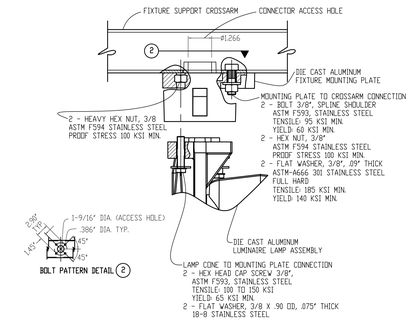
Document Date 08-19-22
Date Last Revised
Project Number 22-091V
Sheet Number PL3.2



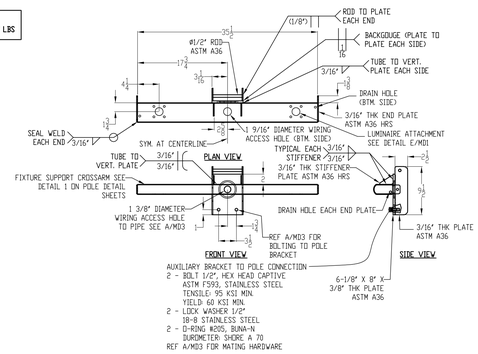
I 13 FIXTURE CONFIGURATION
N.T.S.



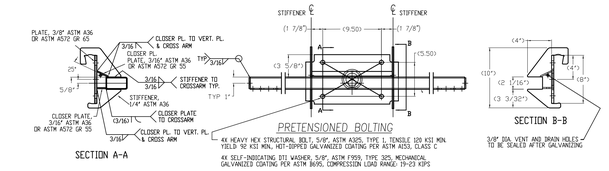
Z LIGHT FIXTURE (TYPICAL)
SCALE: N.T.S.
DSA-1500-BOLTON_A

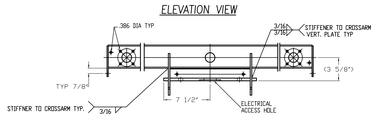


H LUMINAIRE ATTACHMENT DETAIL
N.T.S. DSA-3RDSHEET_T

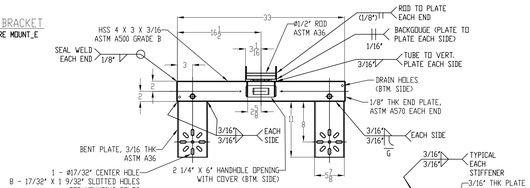


C 2P AUXILIARY MOUNTING BRACKET
N.T.S. DSA-2P FIXTURE MOUNT_E

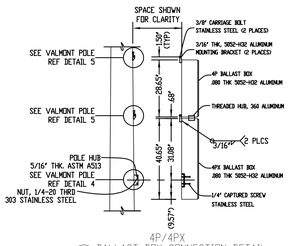




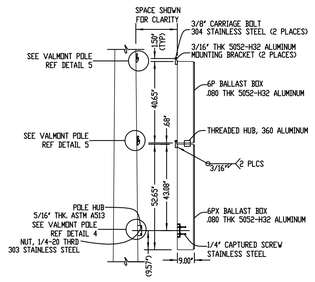
T BOLT ON CROSSARM DETAIL
SCALE: N.T.S. DSA-BOLTonBAR-LED_A_1



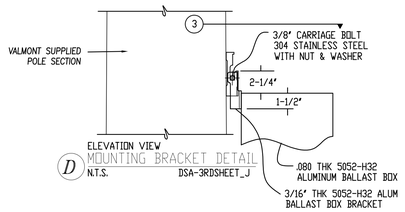
Q 2P TRUNNION MOUNT
N.T.S. DSA-2P TRUNNION_D



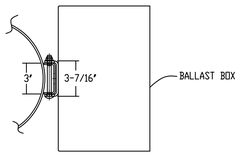
S BALLAST BOX CONNECTION DETAIL
4P/4PX
N.T.S.



U BALLAST BOX CONNECTION DETAIL
6P/6PX
N.T.S.



D MOUNTING BRACKET DETAIL
N.T.S. DSA-3RDSHEET_J



DSA-3RDSHEET_E

APPROVALS

KNA STRUCTURAL ENGINEERS
1851 HEADING AVENUE, SUITE 150
SAN DIEGO, CA 92101
TEL (619) 462-2000 FAX (949) 553-3924
CONSULTANT
No. 4561 Exp. 9-30-23
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
CIVIL

musco SPORT LIGHTING, LLC
ONE MUSCO PARK
DES MOINES, IOWA 50317
641-673-0411

IMPERIAL VALLEY COLLEGE
FIELD LIGHTING/CELL POLE
IMPERIAL, CA

DRAWING TITLE: POLE DETAILS
REVISIONS:
REFERENCE:

PROJECT NO: 218553
DATE: 6/20/22
DRAWN BY: AMULLEN
DRAWING NO: 1 OF 1 PL3.3

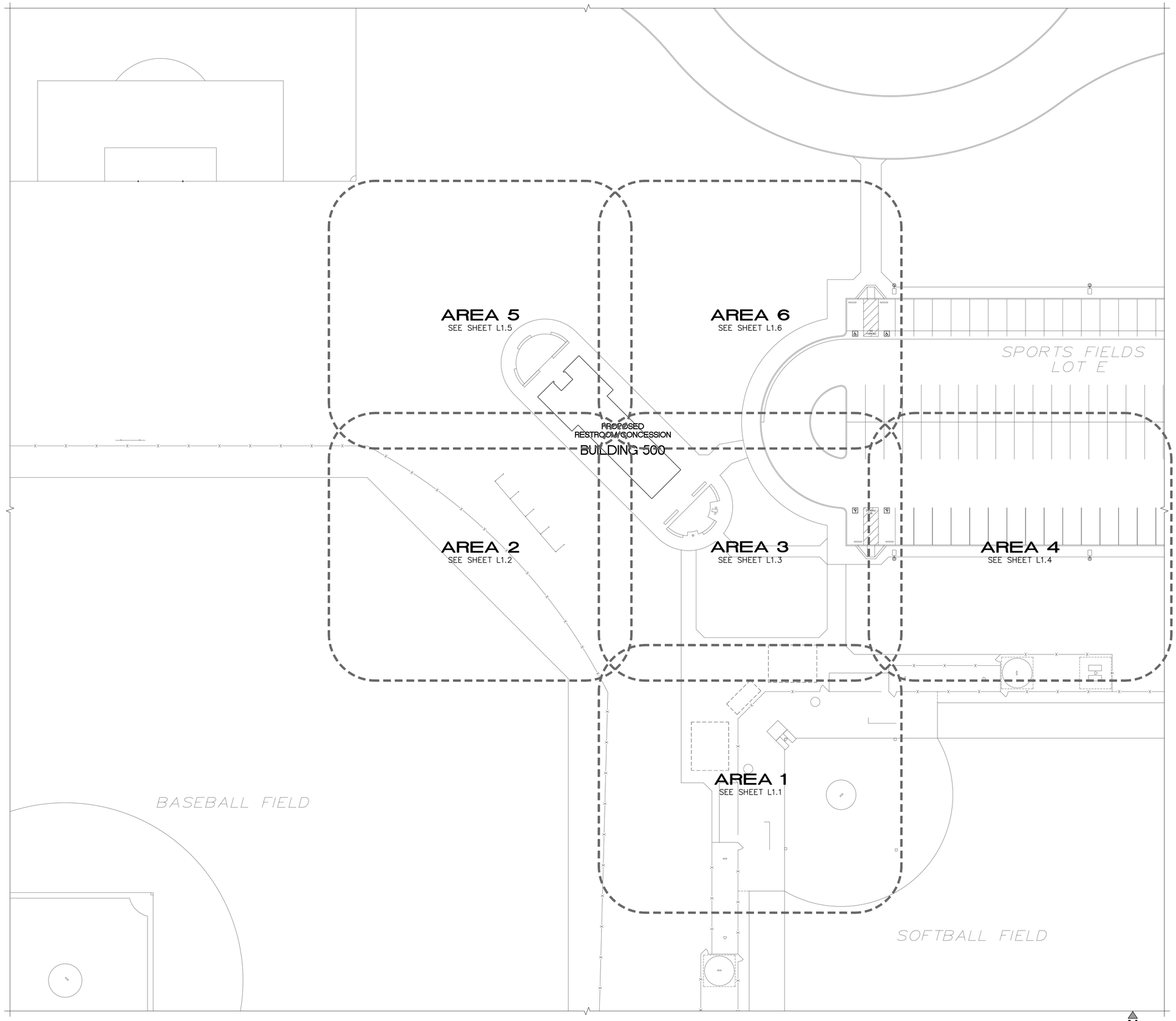
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION

Sheet Title
POLE S3 DETAILS

LICENSED ARCHITECT JAMES R. SANDERS No. C-17644 RENEWAL DATE 8-31-23 STATE OF CALIFORNIA

Document Date	Project Number
08-19-22	22-09IV
Date Last Revised	Sheet Number
	PL3.3



APPROVALS

NOTES:

1. FOR MOUNDING / BOULDER LOCATIONS SEE L2 MOUNDING / BOULDER PLAN
2. SEE SHEET LX2 FOR TYPICAL PLANTING DETAILS
3. SEE SHEET LX3 FOR TYPICAL IRRIGATION DETAILS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
PLANTING KEY PLAN

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. 17644
RENEWAL 08/31/23
1ST STATE OF CALIFORNIA

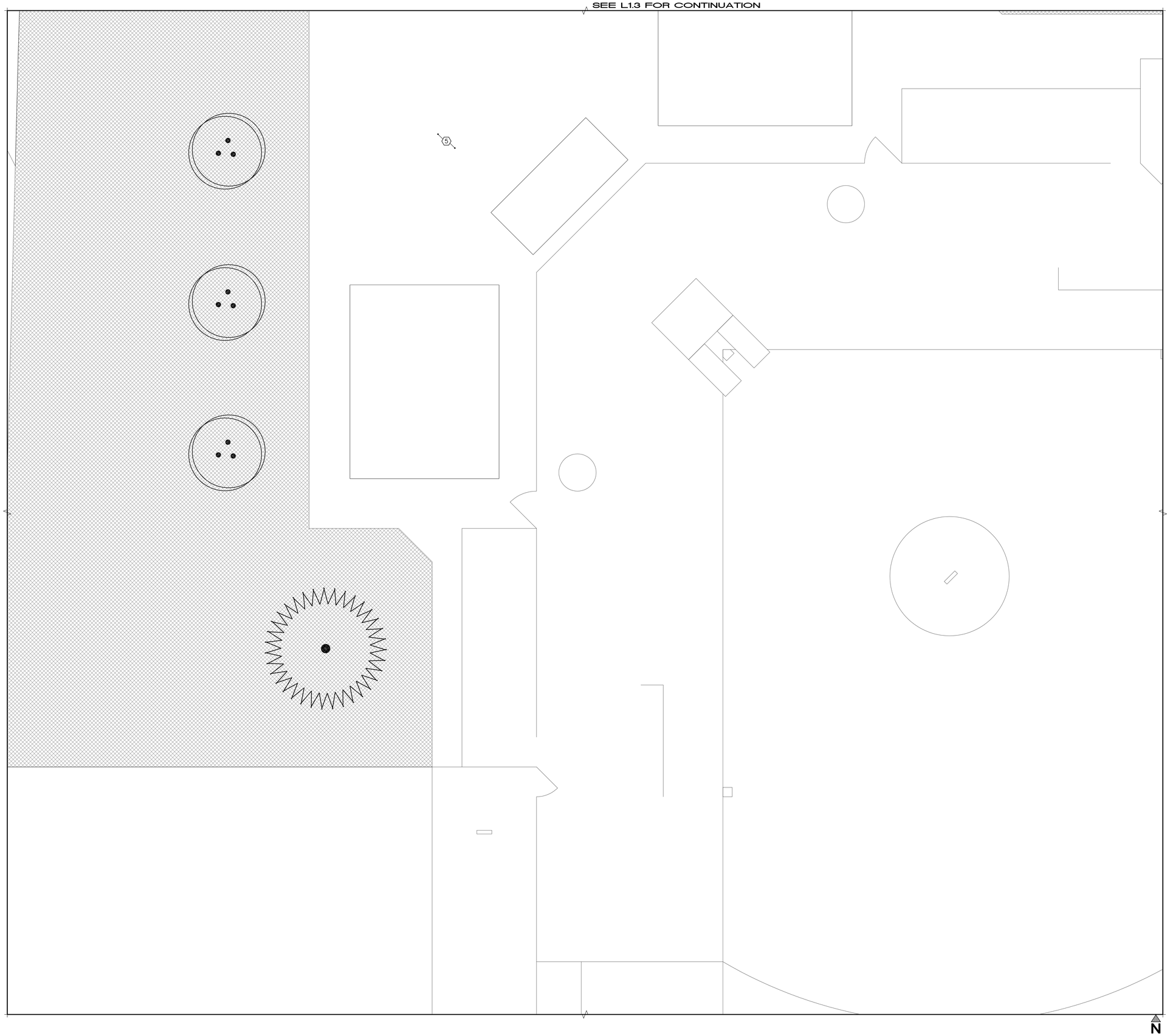
Document Date	Project Number
09-23-22	22-09IV
Date Last Revised	Sheet Number
	L1.0

PLANTING KEY PLAN

SCALE: 1" = 20'-0"

A

SEE L1.3 FOR CONTINUATION



PLANTING PLAN - ENLARGED

SCALE: 1" = 10'-0" | A

KEYNOTES:

1. RAISED LANDSCAPE MOUND PER (K / LX2.1)
2. BOULDERS: "DESERT SAND" SMOOTH PER (L / LX2.1), SEE BOULDER PLAN
3. CONCRETE BENCH
4. EXTENT OF HYDROSEEDING
5. BACKFLOW PREVENTOR BY OTHER BID PACKAGE
6. EXISTING SCORE BOARD – PROTECT

LEGEND:

GRASS
PROVIDE HYDROSEED GRASS.
FINISH 3" BELOW SIDEWALK OR MOW CURB

XEROSCAPE
PROVIDE DECOMPOSED GRANITE.
DECOMPOSED GRANITE (DG) – "DESERT GOLD", 4" THICK
MOISTURE CONDITION: COMPACT TO 95% MAX DENSITY

AFRICAN SUMAC
RHUS LANCEA

AFRICAN SUMAC (MULTI-TRUNK)
RHUS LANCEA

BOXWOOD BEAUTY SHRUB
CARISSA MACROCARPA

CAJEPUT TREE
CARISSA MACROCARPA

CASCALOTE
CAESALPINIA CACALACO SMOOTHIE (THORNLESS HYBRID)

DEER GRASS
MUHLENBERGIA RIGENS

GREEN CLOUD TEXAS RANGER
LEUCOPHYLLUM FRUTENSCENS

INDIAN ROSEWOOD
DALBERGIA SISSOO

SILVER MOUND LANTANA
LANTANA CAMARA "SILVER MOUND"

OLIVE TREE - FRUITLESS
OLEA EUROPAEA 'MOTHER' WILSONII

RED YUCCA
HESPERALOE PARVIFLORA

WILLOW ACACIA
ACACIA SALICINA

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
PLANTING PLAN

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-7644
RENEWAL 7-31-23
STATE OF CALIFORNIA

Document Date: 09-23-22
Date Last Revised:
Project Number: 22-09IV
Sheet Number: **L1.1**

SEE L1.5 FOR CONTINUATION

SEE L1.3 FOR CONTINUATION

N

PLANTING PLAN - ENLARGED

SCALE: 1" = 10'-0" | A

KEYNOTES:

1. RAISED LANDSCAPE MOUND PER (K / LX2)
2. BOULDERS: "DESERT SAND" SMOOTH PER (L / LX2), SEE BOULDER PLAN
3. CONCRETE BENCH
4. EXTENT OF HYDROSEEDING
5. BACKFLOW PREVENTOR BY OTHER BID PACKAGE
6. EXISTING SCORE BOARD – PROTECT

LEGEND:

GRASS
PROVIDE HYDROSEED GRASS.
FINISH 3" BELOW SIDEWALK OR MOW CURB

XEROSCAPE
PROVIDE DECOMPOSED GRANITE.
DECOMPOSED GRANITE (DG) – "DESERT GOLD", 4" THICK
MOISTURE CONDITION: COMPACT TO 95% MAX DENSITY

AFRICAN SUMAC
RHUS LANCEA

AFRICAN SUMAC (MULTI-TRUNK)
RHUS LANCEA

BOXWOOD BEAUTY SHRUB
CARISSA MACROCARPA

CAJEPUT TREE
CARISSA MACROCARPA

CASCALOTE
CAESALPINIA CACALACO SMOOTHIE (THORNLESS HYBRID)

DEER GRASS
MUHLENBERGIA RIGENS

GREEN CLOUD TEXAS RANGER
LEUCOPHYLLUM FRUTENSCENS

INDIAN ROSEWOOD
DALBERGIA SISSOO

SILVER MOUND LANTANA
LANTANA CAMARA "SILVER MOUND"

OLIVE TREE - FRUITLESS
OLEA EUROPAEA "MOTHER" WILSONII

RED YUCCA
HESPERALOE PARVIFLORA

WILLOW ACACIA
ACACIA SALICINA

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
PLANTING PLAN

LICENSED ARCHITECT JIMMIE D. SANDERS No. C-17644 RENEWAL DATE 07-31-23 STATE OF CALIFORNIA

Document Date	Project Number
09-23-22	22-09IV
Date Last Revised	Sheet Number
	L1.2

SEE L1.6 FOR CONTINUATION

SEE L1.2 FOR CONTINUATION

SEE L1.4 FOR CONTINUATION

SEE L1.1 FOR CONTINUATION

NO PARKING

TYP 3

N

KEYNOTES:

1. RAISED LANDSCAPE MOUND PER (K / LX21)
2. BOULDERS: "DESERT SAND" SMOOTH PER (L / LX21), SEE BOULDER PLAN
3. CONCRETE BENCH
4. EXTENT OF HYDROSEEDING
5. BACKFLOW PREVENTOR BY OTHER BID PACKAGE
6. EXISTING SCORE BOARD – PROTECT

LEGEND:

GRASS
PROVIDE HYDROSEED GRASS.
FINISH 3" BELOW SIDEWALK OR MOW CURB

XEROSCAPE
PROVIDE DECOMPOSED GRANITE.
DECOMPOSED GRANITE (DG) – "DESERT GOLD", 4" THICK
MOISTURE CONDITION: COMPACT TO 95% MAX DENSITY

AFRICAN SUMAC
RHUS LANCEA

AFRICAN SUMAC (MULTI-TRUNK)
RHUS LANCEA

BOXWOOD BEAUTY SHRUB
CARISSA MACROCARPA

CAJEPUT TREE
CARISSA MACROCARPA

CASCALOTE
CAESALPINIA CACALACO SMOOTHIE (THORNLESS HYBRID)

DEER GRASS
MUHLENBERGIA RIGENS

GREEN CLOUD TEXAS RANGER
LEUCOPHYLLUM FRUTENSCENS

INDIAN ROSEWOOD
DALBERGIA SISSOO

SILVER MOUND LANTANA
LANTANA CAMARA "SILVER MOUND"

OLIVE TREE - FRUITLESS
OLEA EUROPAEA "MOTHER" WILSONII

RED YUCCA
HESPERALOE PARVIFLORA

WILLOW ACACIA
ACACIA SALICINA

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

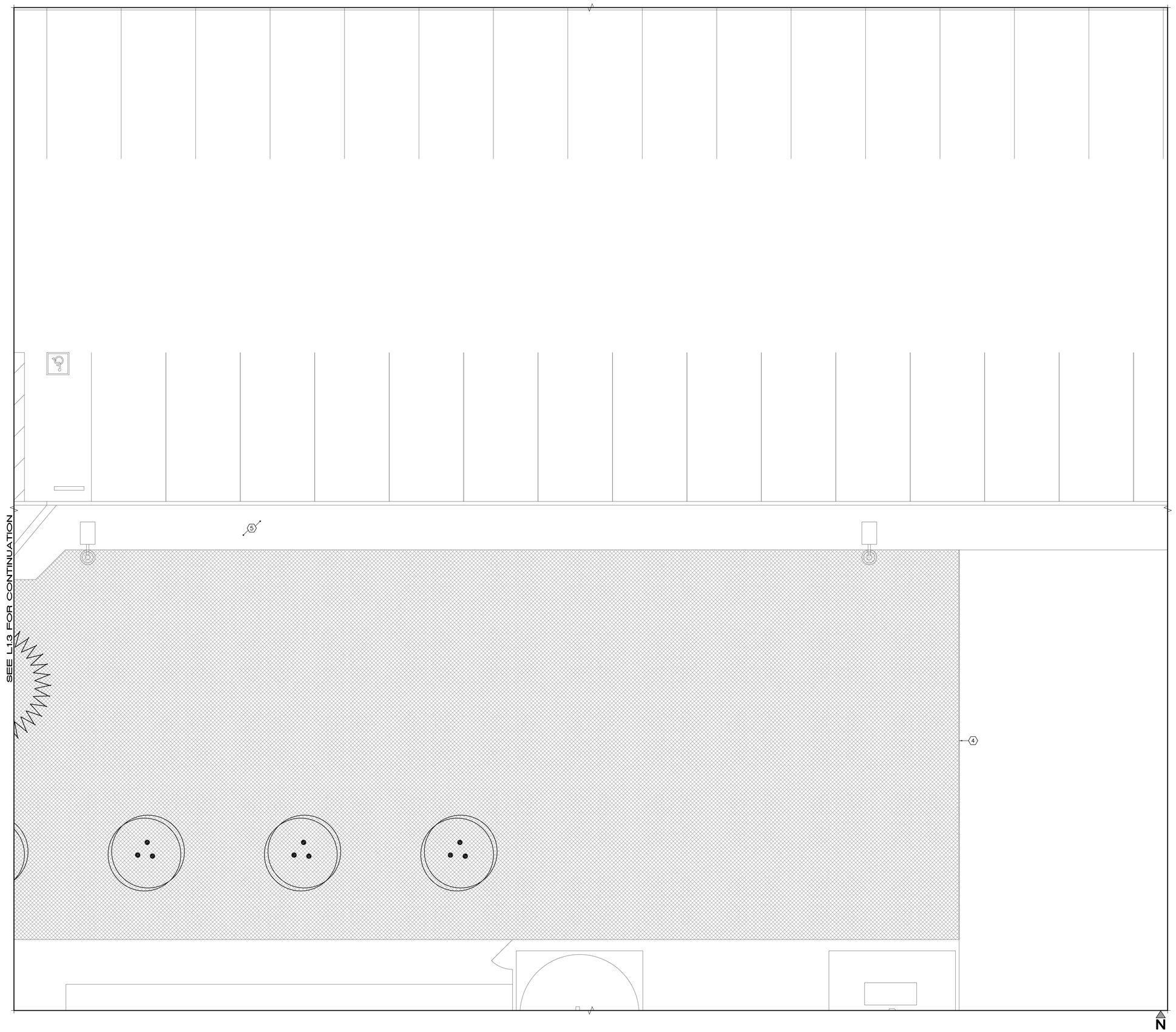
Sheet Title
PLANTING PLAN

LICENSED ARCHITECT JIMMIE L. SANDERS C-17644 RENEWAL DATE 7-31-23 STATE OF CALIFORNIA

Document Date	Project Number
09-23-22	22-09IV
Date Last Revised	Sheet Number
	L1.3

PLANTING PLAN - ENLARGED

SCALE: 1" = 10'-0" | A



PLANTING PLAN - ENLARGED

SCALE: 1" = 10'-0"

A

KEYNOTES:

1. RAISED LANDSCAPE MOUND PER (K / LV2.1)
2. BOULDERS: "DESERT SAND" SMOOTH PER (L / LV2.1), SEE BOULDER PLAN
3. CONCRETE BENCH
4. EXTENT OF HYDROSEEDING
5. BACKFLOW PREVENTOR BY OTHER BID PACKAGE
6. EXISTING SCORE BOARD – PROTECT

LEGEND:

GRASS
PROVIDE HYDROSEED GRASS. FINISH 3" BELOW SIDEWALK OR MOW CURB

XEROSCAPE
PROVIDE DECOMPOSED GRANITE. DECOMPOSED GRANITE (DG) – "DESERT GOLD", 4" THICK
MOISTURE CONDITION: COMPACT TO 95% MAX DENSITY

AFRICAN SUMAC
RHUS LANCEA

AFRICAN SUMAC (MULTI-TRUNK)
RHUS LANCEA

BOXWOOD BEAUTY SHRUB
CARISSA MACROCARPA

CAJEPUT TREE
CARISSA MACROCARPA

CASCALOTE
CAESALPINIA CACALACO SMOOTHIE (THORNLESS HYBRID)

DEER GRASS
MUHLENBERGIA RIGENS

GREEN CLOUD TEXAS RANGER
LEUCOPHYLLUM FRUTENSCENS

INDIAN ROSEWOOD
DALBERGIA SISSOO

SILVER MOUND LANTANA
LANTANA CAMARA "SILVER MOUND"

OLIVE TREE - FRUITLESS
OLEA EUROPAEA 'MOTHER' WILSONII

RED YUCCA
HESPERALOE PARVIFLORA

WILLOW ACACIA
ACACIA SALICINA

APPROVALS

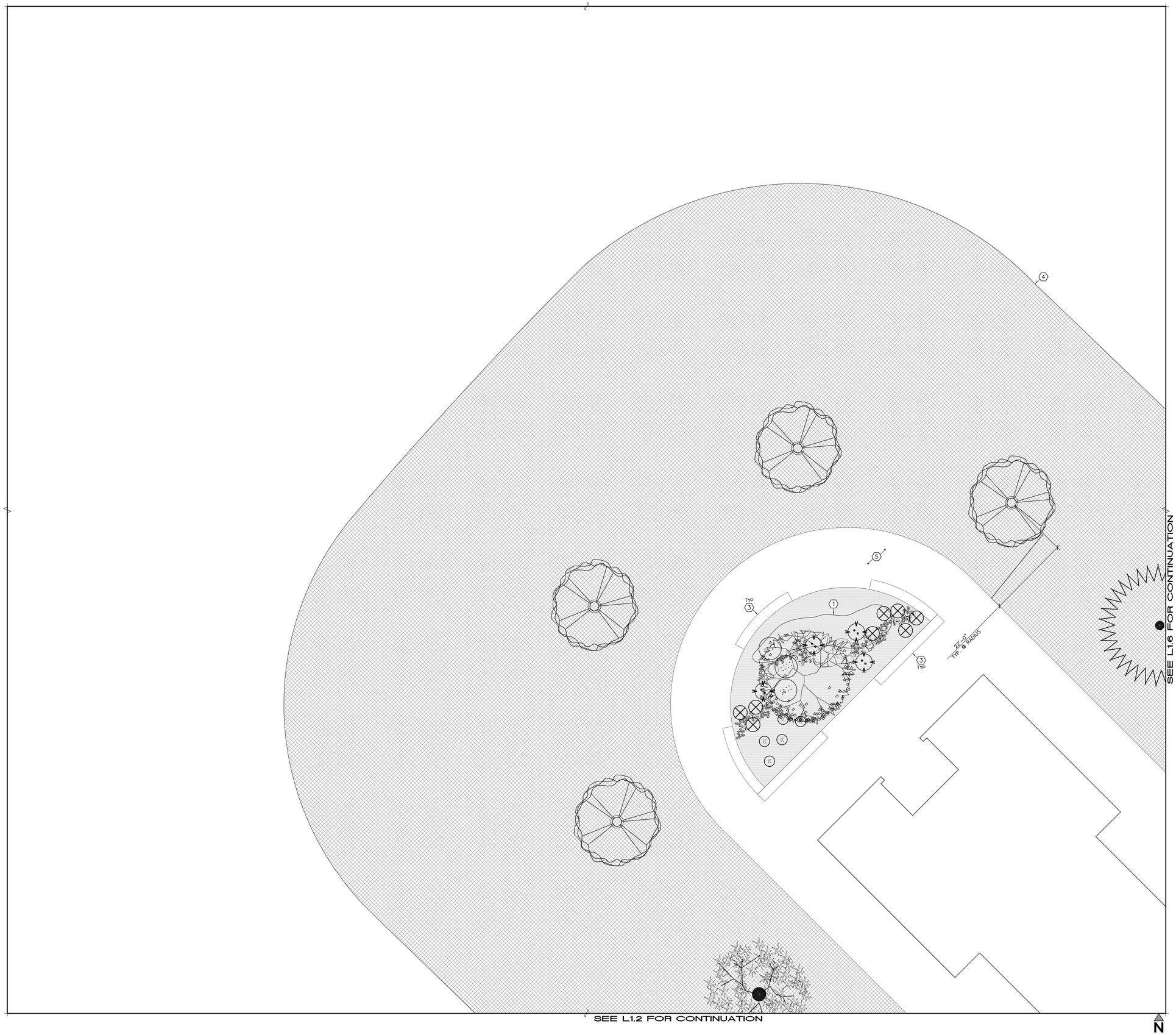
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
PLANTING PLAN

LICENSED ARCHITECT — JIMMIE E. SANDERS — No. C-17647 — RENEWAL 08.31.23 — STATE OF CALIFORNIA

Document Date	Project Number
09-23-22	22-09IV
Date Last Revised	Sheet Number
	L1.4



KEYNOTES:

1. RAISED LANDSCAPE MOUND PER K/LX2.1
2. BOULDERS: "DESERT SAND" SMOOTH PER L/LX2.1, SEE BOULDER PLAN
3. CONCRETE BENCH
4. EXTENT OF HYDROSEEDING
5. BACKFLOW PREVENTOR BY OTHER BID PACKAGE
6. EXISTING SCORE BOARD – PROTECT

LEGEND:

GRASS
PROVIDE HYDROSEED GRASS.
FINISH 3" BELOW SIDEWALK OR MOW CURB

XEROSCAPE
PROVIDE DECOMPOSED GRANITE.
DECOMPOSED GRANITE (DG) – "DESERT GOLD", 4" THICK
MOISTURE CONDITION: COMPACT TO 95% MAX DENSITY

AFRICAN SUMAC
RHUS LANCEA

AFRICAN SUMAC (MULTI-TRUNK)
RHUS LANCEA

BOXWOOD BEAUTY SHRUB
CARISSA MACROCARPA

CAJEPUT TREE
CARISSA MACROCARPA

CASCALOTE
CAESALPINIA CACALACO SMOOTHIE (THORNLESS HYBRID)

DEER GRASS
MUHLENBERGIA RIGENS

GREEN CLOUD TEXAS RANGER
LEUCOPHYLLUM FRUTENSCENS

INDIAN ROSEWOOD
DALBERGIA SISSOO

SILVER MOUND LANTANA
LANTANA CAMARA "SILVER MOUND"

OLIVE TREE – FRUITLESS
OLEA EUROPAEA 'MOTHER' WILSONII

RED YUCCA
HESPERALOE PARVIFLORA

WILLOW ACACIA
ACACIA SALICINA

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

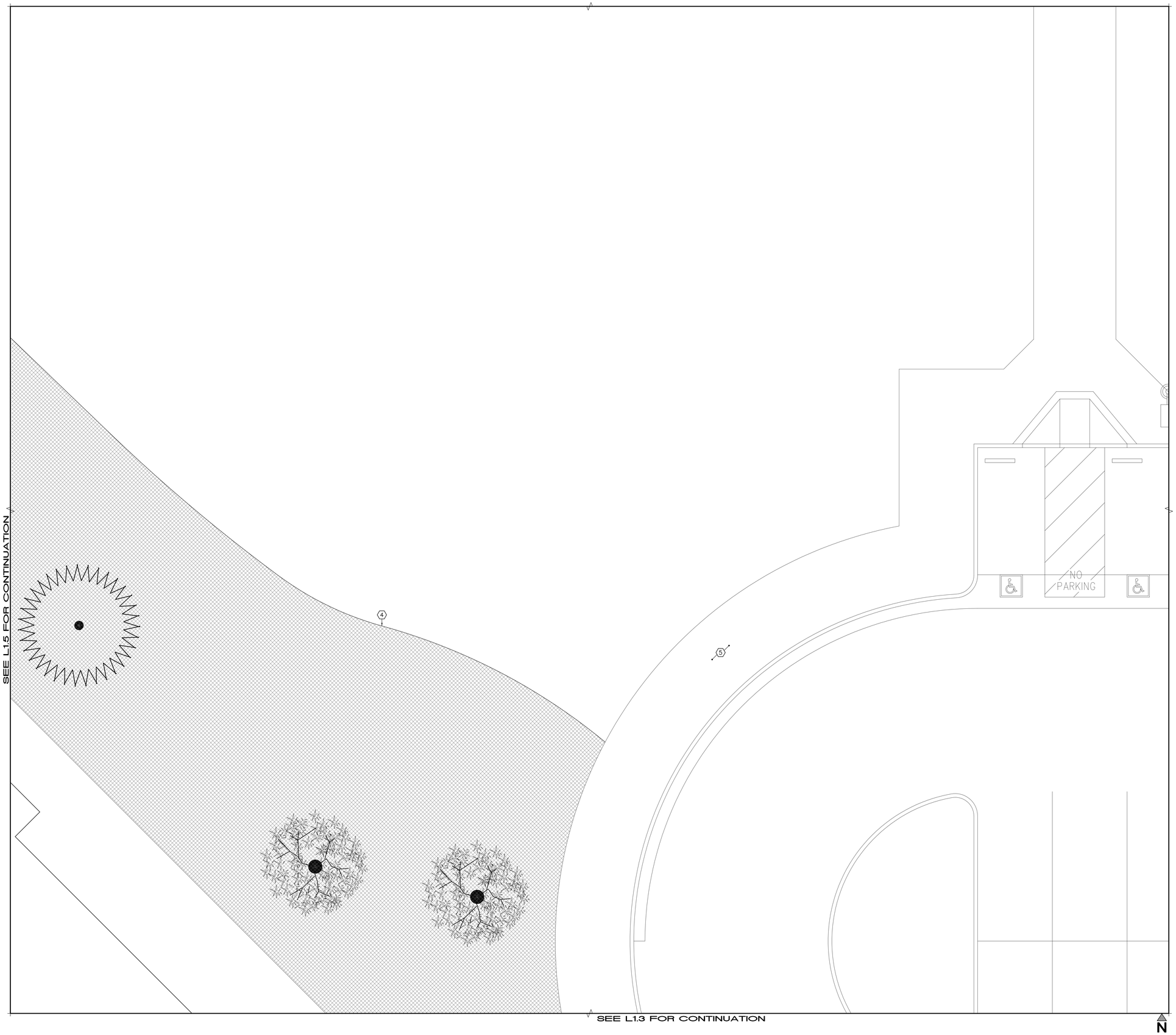
Sheet Title
PLANTING PLAN

LICENSED ARCHITECT
JIMMIE L. SANDERS
No. C-17647
RENEWAL 08-31-23
STATE OF CALIFORNIA

Document Date	Project Number
09-23-22	22-09IV
Date Last Revised	Sheet Number
	L1.5

PLANTING PLAN – ENLARGED

SCALE: 1" = 10'-0" | A



PLANTING PLAN - ENLARGED

SCALE: 1" = 10'-0"

A

KEYNOTES:

1. RAISED LANDSCAPE MOUND PER (K / LV2.1)
2. BOULDERS: "DESERT SAND" SMOOTH PER (L / LV2.1), SEE BOULDER PLAN
3. CONCRETE BENCH
4. EXTENT OF HYDROSEEDING
5. BACKFLOW PREVENTOR BY OTHER BID PACKAGE
6. EXISTING SCORE BOARD – PROTECT

LEGEND:

GRASS
PROVIDE HYDROSEED GRASS.
FINISH 3" BELOW SIDEWALK OR MOW CURB

XEROSCAPE
PROVIDE DECOMPOSED GRANITE.
DECOMPOSED GRANITE (DG) – "DESERT GOLD", 4" THICK
MOISTURE CONDITION: COMPACT TO 95% MAX DENSITY

AFRICAN SUMAC
RHUS LANCEA

AFRICAN SUMAC (MULTI-TRUNK)
RHUS LANCEA

BOXWOOD BEAUTY SHRUB
CARISSA MACROCARPA

CAJEPUT TREE
CARISSA MACROCARPA

CASCALOTE
CAESALPINIA CACALACO SMOOTHIE (THORNLESS HYBRID)

DEER GRASS
MUHLENBERGIA RIGENS

GREEN CLOUD TEXAS RANGER
LEUCOPHYLLUM FRUTENSCENS

INDIAN ROSEWOOD
DALBERGIA SISSOO

SILVER MOUND LANTANA
LANTANA CAMARA "SILVER MOUND"

OLIVE TREE - FRUITLESS
OLEA EUROPAEA "MOTHER" WILSONII

RED YUCCA
HESPERALOE PARVIFLORA

WILLOW ACACIA
ACACIA SALICINA

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

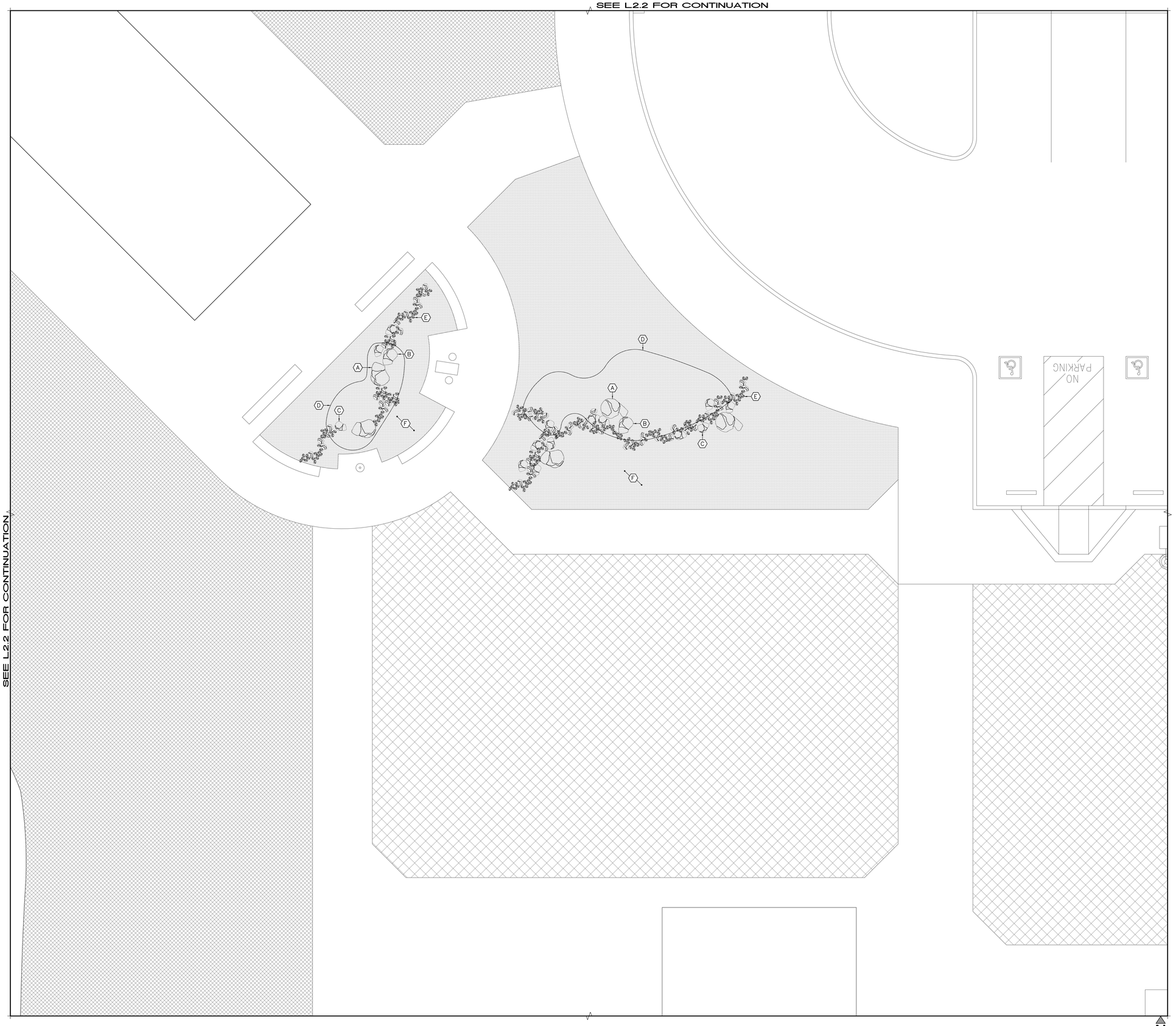
Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
PLANTING PLAN

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-7647
RENEWAL 08-31-23
STATE OF CALIFORNIA

Document Date	Project Number
09-23-22	22-09IV
Date Last Revised	Sheet Number
	L1.6

SEE L2.2 FOR CONTINUATION



SEE L2.2 FOR CONTINUATION

KEYNOTES:

- (A) LARGE SMOOTH, ROUND WATER WASH BOULDER 5' x 7' x 5' APPROXIMATE SIZE 2,500 LBS. (L/LX2)
- (B) MEDIUM SMOOTH, ROUND WATER WASH BOULDER 4' x 6' x 4' APPROXIMATE SIZE 1,100 LBS. (L/LX2)
- (C) SMALL SMOOTH ROUND WATER WASH BOULDER 3' x 4' x 3' APPROXIMATE SIZE 700 LBS. (L/LX2)
- (D) ROLLING ROUNDED LANDSCAPE MOUND (K/LX2)
- (E) 8" – 12" DECOMPOSED CRUSHED ROCK GRANITE, 12" – 18"
- (F) DECOMPOSED GRANITE PLANTER (M/LX2)

LEGEND:

GRASS
PROVIDE HYDROSEED GRASS, FINISH 3" BELOW SIDEWALK OR MOW CURB

XEROSCAPE – COLOR
PROVIDE DECOMPOSED GRANITE
DECOMPOSED GRANITE (DG) – "DESERT GOLD" 4" THICK

BOULDER PLAN – ENLARGED

SCALE: 1" = 10'-0" | A

APPROVALS

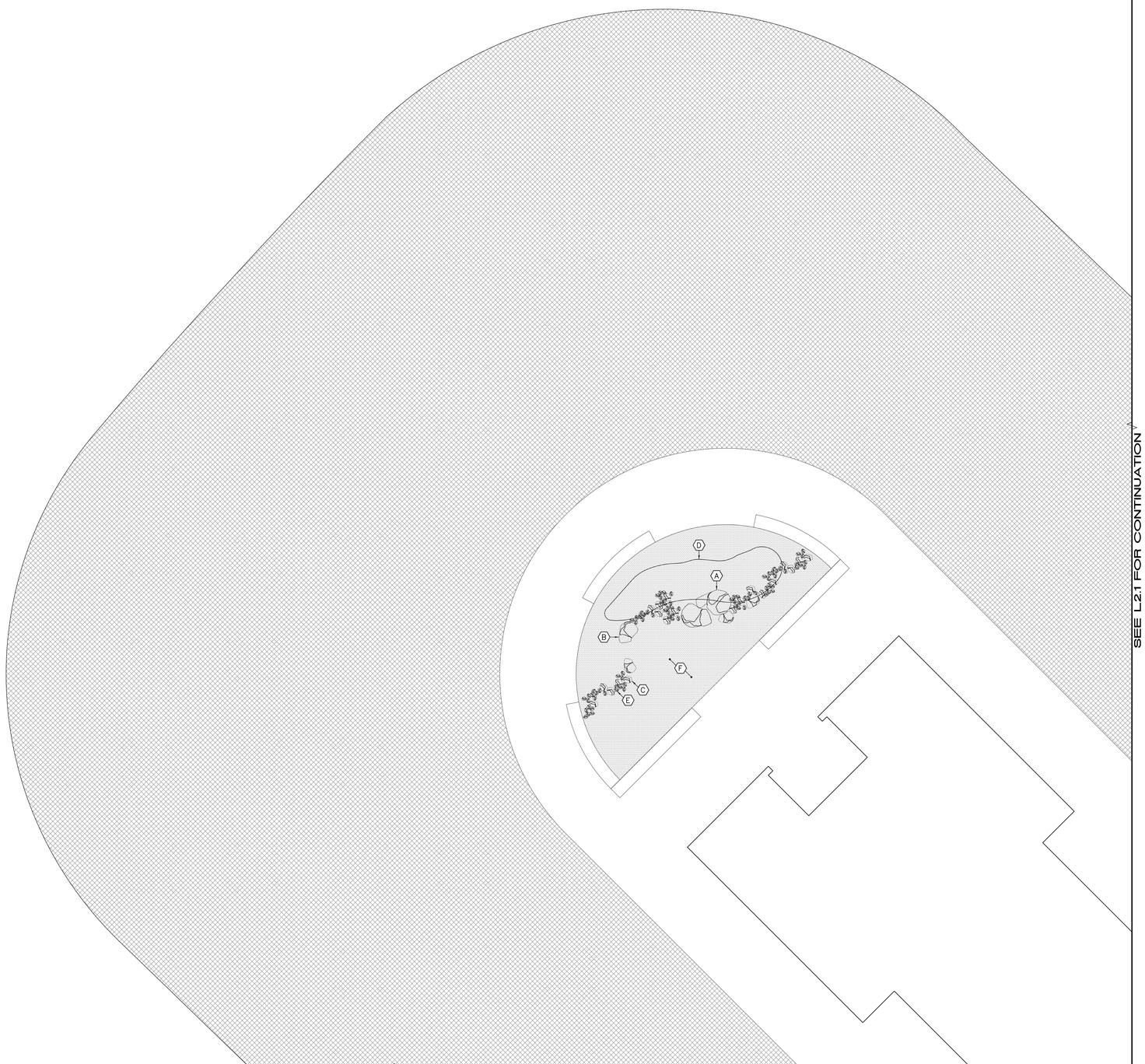
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
BOULDER PLAN

LICENSED ARCHITECT JIMMIE D. SANDERS No. 7644 RENEWAL DATE 7-31-23 STATE OF CALIFORNIA

Document Date	Project Number
09-23-22	22-09IV
Date Last Revised	Sheet Number
	L2.1



SEE L2.1 FOR CONTINUATION

SEE L2.1 FOR CONTINUATION

N

BOULDER PLAN - ENLARGED

SCALE: 1" = 10'-0" | A

KEYNOTES:

- (A) LARGE SMOOTH, ROUND WATER WASH BOULDER 5' x 7' x 5' APPROXIMATE SIZE 2,500 LBS. (L/LX2)
- (B) MEDIUM SMOOTH, ROUND WATER WASH BOULDER 4' x 6' x 4' APPROXIMATE SIZE 1,100 LBS. (L/LX2)
- (C) SMALL SMOOTH ROUND WATER WASH BOULDER 3' x 4' x 3' APPROXIMATE SIZE 700 LBS. (L/LX2)
- (D) ROLLING ROUNDED LANDSCAPE MOUND (K/LX2)
- (E) 8" – 12" DECOMPOSED CRUSHED ROCK GRANITE, 12" – 18"
- (F) DECOMPOSED GRANITE PLANTER (M/LX2)

LEGEND:

GRASS
PROVIDE HYDROSEED GRASS, FINISH 3" BELOW SIDEWALK OR MOW CURB

XEROSCAPE - COLOR
PROVIDE DECOMPOSED GRANITE
DECOMPOSED GRANITE (DG) – "DESERT GOLD" 4" THICK

APPROVALS

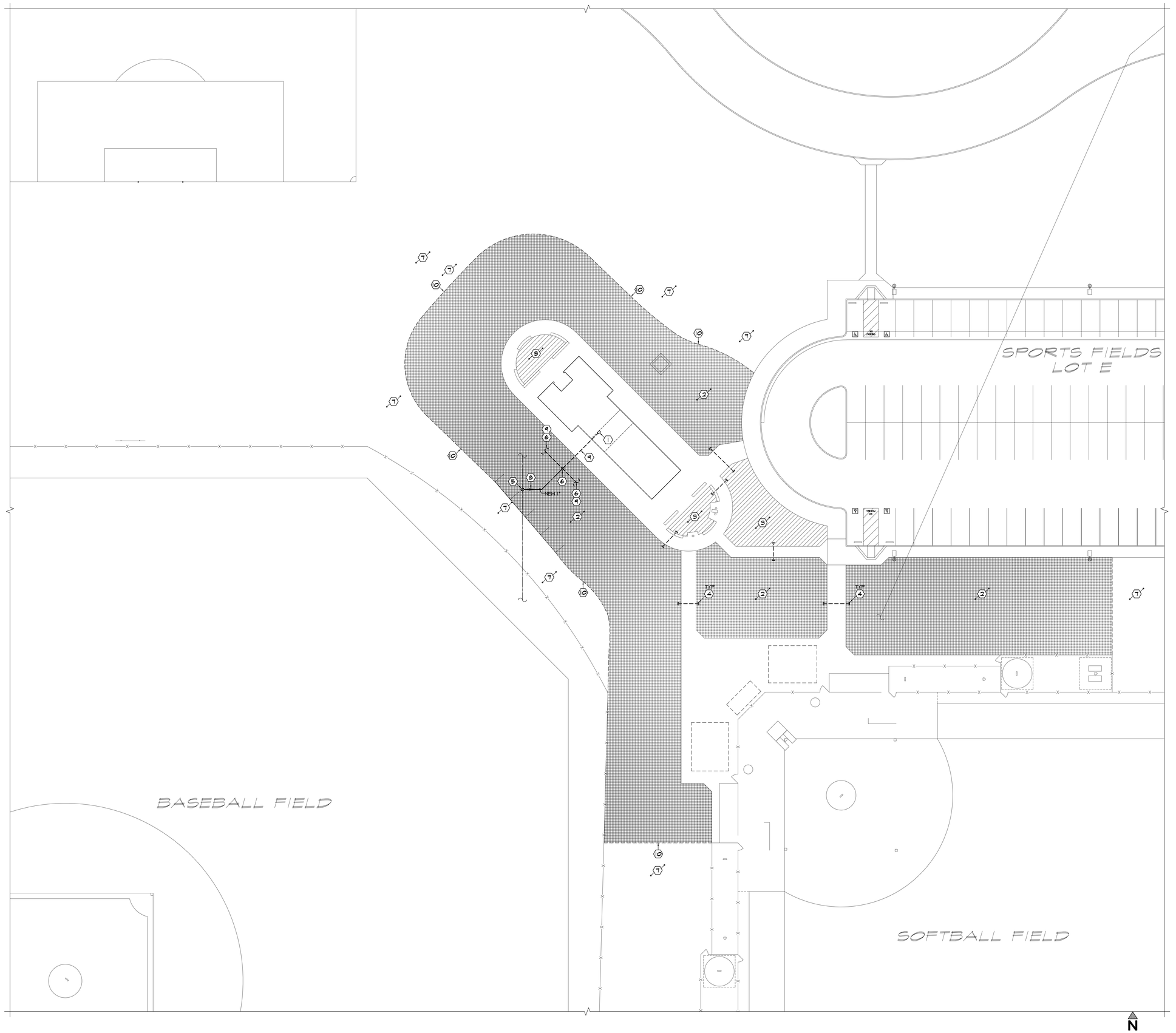
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
BOULDER PLAN

LICENSED ARCHITECT JIMMIE L. SANDERS No. C-17644 RENEWAL DATE 07-31-23 STATE OF CALIFORNIA

Document Date	Project Number
09-23-22	22-09IV
Date Last Revised	Sheet Number
	L2.2



APPROVALS

KEYNOTES:

1. NEW IRRIGATION CONTROLLER - PROVIDE POWER, VERIFY EXACT LOCATION
2. PROVIDE FULLY FUNCTIONAL HEAVY-DUTY COMMERCIAL GRADE "POP-UP" SPRAY HEAD IRRIGATION SYSTEM AS MANUFACTURED BY HUNTER IRRIGATION - SEE SPECIFICATIONS
3. PROVIDE FULLY FUNCTIONAL HEAVY-DUTY COMMERCIAL GRADE DRIP IRRIGATION SYSTEM AS MANUFACTURED BY HUNTER IRRIGATION PRODUCTS - SEE SPECIFICATIONS
4. 2" PVC SLEEVE TO ALL PLANTING AREAS - VERIFY EXACT LOCATIONS
5. IRRIGATION WATER POINT OF CONNECTION
6. NEW IRRIGATION VALVE BOX, VERIFY NUMBER OF IRRIGATION ZONES REQUIRED
7. PATCH AND EXTEND EXISTING IRRIGATION SYSTEM AS REQUIRED
8. NEW IRRIGATION BACKFLOW PREVENTOR
9. LOW VOLTAGE CONTROL LINES TO VALVES
10. EXTENT OF WORK

LEGEND:

- HYDROSEED
- XEROSCAPE
- EXISTING 2" WATER MAIN - PROTECT
- NEW WATER IRRIGATION LINE - SIZE NOTED

NOTES:

1. CONTRACTOR SHALL REPAIR OR REPLACE ANY LINE BROKEN OR DAMAGED DURING COURSE OF PLACEMENT OF NEW LINES, CONSTRUCTION OF TRENCHING, OR HEAVY EQUIPMENT ON SITE AT NO COST TO OWNER.
2. CAP ALL STUBBED OUT CONDUIT FOR FUTURE.

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

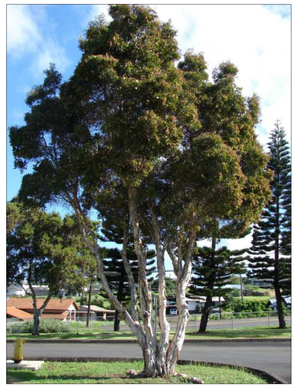
Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
IRRIGATION PLAN

LICENSED ARCHITECT JIMMIE SANDERS No. 17644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	L3.0

IRRIGATION PLAN — SCALE: 1" = 20'-0" — A



AFRICAN SUMAC
RHUS LANCEA
A
24" BOX

AFRICAN SUMAC (MULTI-TRUNK)
RHUS LANCEA
B
24" BOX

BOXWOOD BEAUTY SHRUB
CARISSA MACROCARPA
C
15 gal.

CAJEPUT TREE
CARISSA MACROCARPA
D
24" BOX

CASCALOTE
CAESALPINIA CACALACO
E
15 gal.

DEER GRASS
MUHLENBERGIA RIGENS
F
15 gal.

GREEN CLOUD TEXAS RANGER
LEUCOPHYLLUM FRUTESCENS
G
5 gal.

INDIAN ROSEWOOD TREE
DALBERGIA SISSOO
H
24" BOX

SILVER MOUND LANTANA
LANTANA CAMARA "SILVER MOUND"
J
15 gal.

OLIVE TREE - FRUITLESS
OLEA EUROPAEA 'MOTHER' NELSONII
MULTI-TRUNK
K
24" BOX

RED YUCCA
HESPERALOE PARVIFLORA
L
15 gal.

WILLOW ACACIA
ACACIA SALICINA
M
24" BOX

APPROVALS

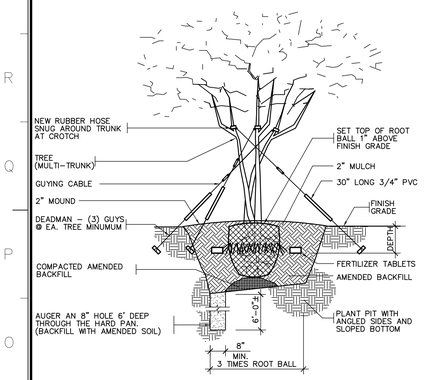
Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title
PLANTING SCHEDULE

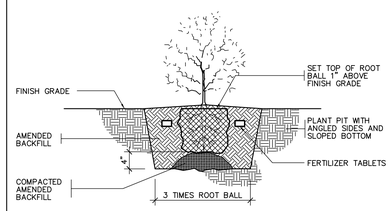
LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-17644
RENEWAL 08/31/23
STATE OF CALIFORNIA

Document Date	Project Number
10-14-22	22-091V
Date Last Revised	Sheet Number
	LX1.1



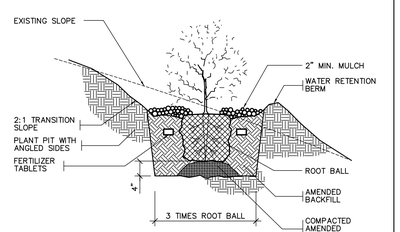
TREE GUYING AND PLANTING

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



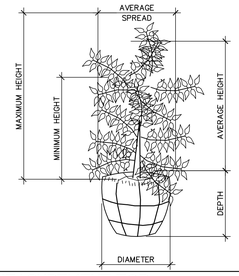
SHRUB PLANTING

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



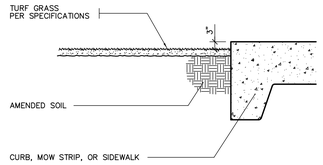
SLOPE PLANTING

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



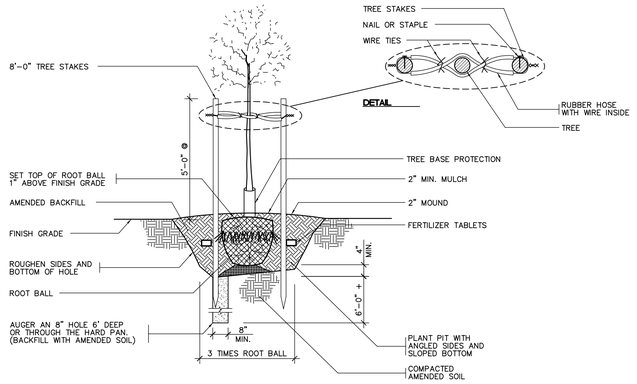
TYP. MEASUREMENT FOR PROSTRATE TYPE PLANTS

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



SOD INSTALLATION

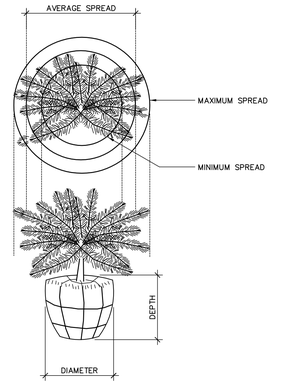
SCALE: 1" = 1'-0" | J



TREE PLANTING AND STAKING

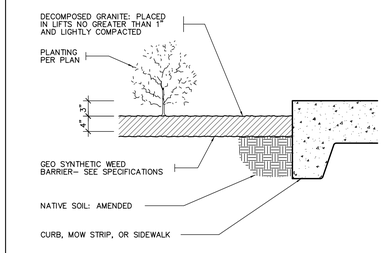
SCALE: 1/2" = 1'-0" | D

APPROVALS



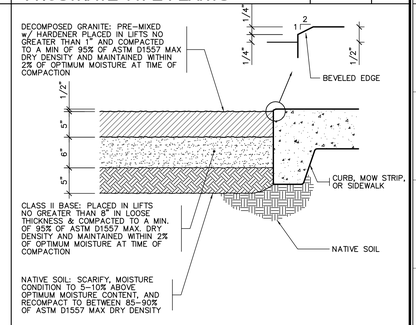
TYP. MEASUREMENT FOR PROSTRATE TYPE PLANTS

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



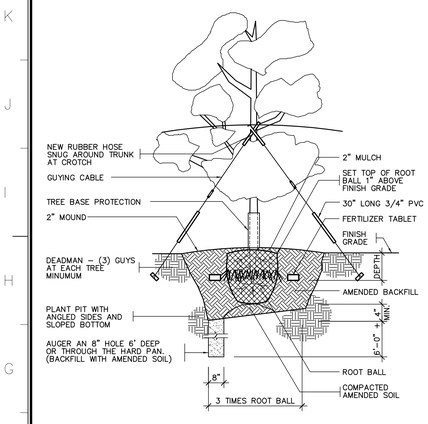
DECOMPOSED GRANITE PLANTER

SCALE: 1" = 1'-0" | M



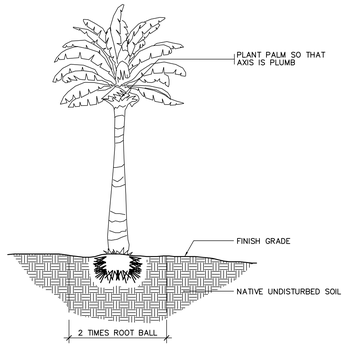
DECOMPOSED GRANITE PAVING

SCALE: 1" = 1'-0" | N



EVERGREEN / LARGE TREE GUYING

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



NOTES:

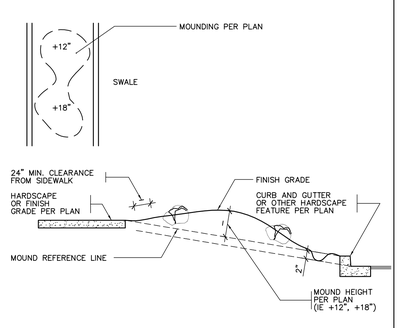
TAMP AND WATER–SETTLE WHILE PLANTING

TOP OF ROOT BALL NOT TO BE LOWER THAN FINISH GRADE

APPLY 1" THICK LAYER OF DECOMPOSED GRANITE ON TOP OF ROOT BALL

PALM TREE INSTALLATION

SCALE: N.T.S. | H



NOTES:

MOUNDS ARE PER DIAGRAM

MOUND SHAPES DO NOT REPRESENT ACTUAL CONTOURS

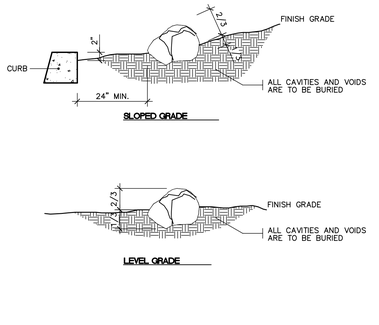
GRADE TO ACTUAL SITE CONDITIONS

GIVE PRIORITY TO DRAINAGE OF PLANTED AREAS

2" FROM TOP OF CURB OR AS NOTED ON PLAN

LANDSCAPE MOUND

SCALE: N.T.S. | K



NOTES:

1. ALL BOULDERS TO BE BURIED A MINIMUM 1/3 NOT TO EXCEED 12" FROM TOP.
2. ALL BOULDERS TO BE A MINIMUM 24" FROM CURB/HARDSCAPE UNLESS NOTED ON PLAN.
3. BOULDER IN CLUSTERS TO BE SET AT VARIOUS HEIGHTS.
4. CARE SHOULD BE TAKEN DURING PLACEMENT TO AVOID UNNATURAL SCARRING OF EXPOSED SURFACE.

BOULDER INSTALLATION

SCALE: N.T.S. | L

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title

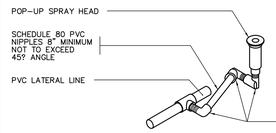
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title

PLANTING DETAILS

LICENSED ARCHITECT
JIMMIE D. SANDERS
No. C-17644
RENEWAL DATE
12-31-23
STATE OF CALIFORNIA

Document Date	Project Number
09-23-22	22-09IV
Date Last Revised	Sheet Number
	LX2.1



NOTES:

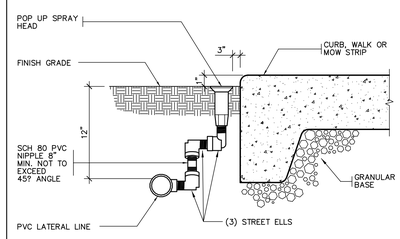
DO NOT INSTALL HEAD CLOSER THAN 12" AWAY FROM BUILDING.

DO NOT INSTALL HEADS USING SIDE INLETS.

TOP OF HEAD FLUSH WITH FINISH GRADE.

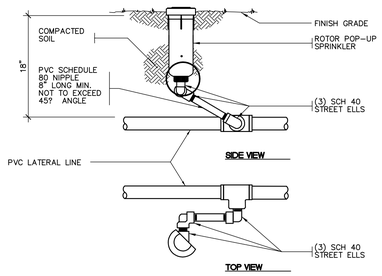
SPRAY HEAD ASSEMBLY

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



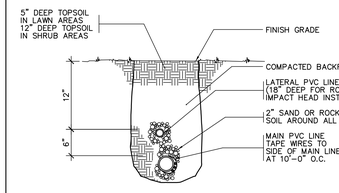
SPRAY HEAD NEXT TO CURB OR WALK

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



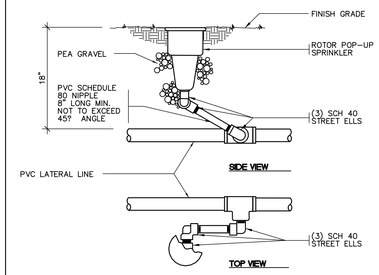
ROTOR POP-UP HEAD

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



TRENCH SECTION

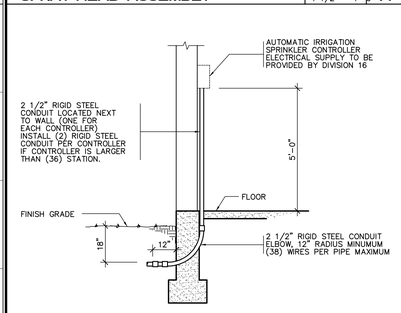
SCALE: 1" = 1'-0" **D**



IMPACT SPRAY POP-UP HEAD

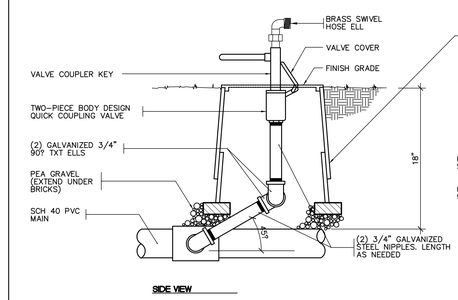
SCALE: 1 1/2" = 1'-0" **E**

APPROVALS



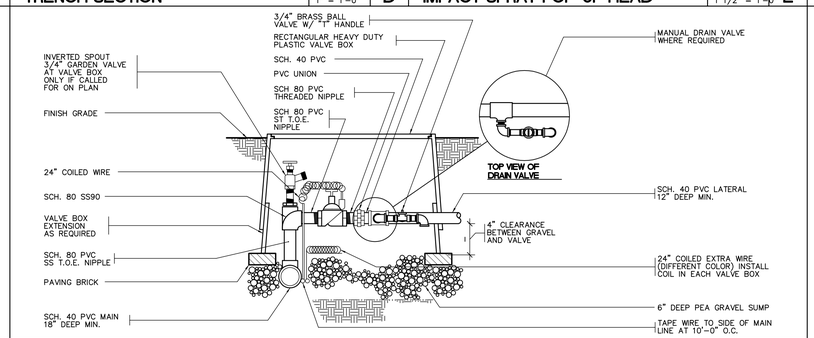
IRRIGATION CONTROLLER

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



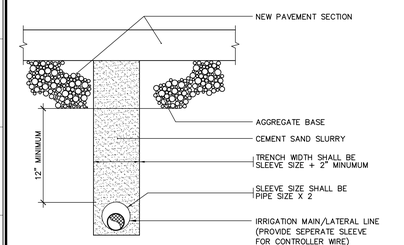
QUICK COUPLING VALVE

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



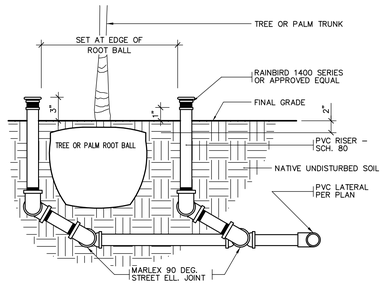
AUTOMATIC VALVE WITH DRAIN

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



MISC. PIPE TRENCH DETAIL NEW PAVEMENT AREAS

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



NOTES:

SET BUBBLER MINIMUM 12" AWAY FROM ROOT BALL

SET PALM / TREE ON NATIVE UNDISTURBED SOIL

PROVIDE MINIMUM 2" DEPTH OF CLEAN BACKFILL UNDER IRRIGATION PIPES

TREE PIT PER PLANTING DETAILS

PALM / TREE IRRIGATION

SCALE: N.T.S. **K**

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title

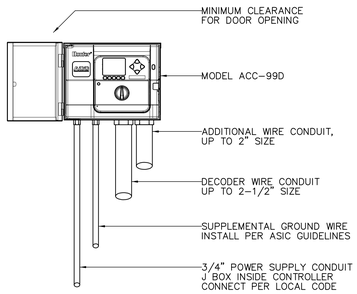
IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title

IRRIGATION DETAILS - SPRAY

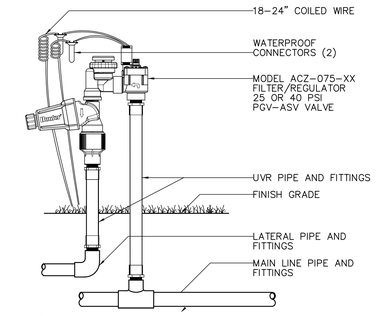
LICENSED ARCHITECT JIMMIE SANDERS No. 17644 RENEWAL DATE 08-31-23 STATE OF CALIFORNIA

Document Date	Project Number
09-23-22	22-09IV
Date Last Revised	Sheet Number
	LX3.1



ACC METAL WALL CONTROLLER

SCALE: NST | A

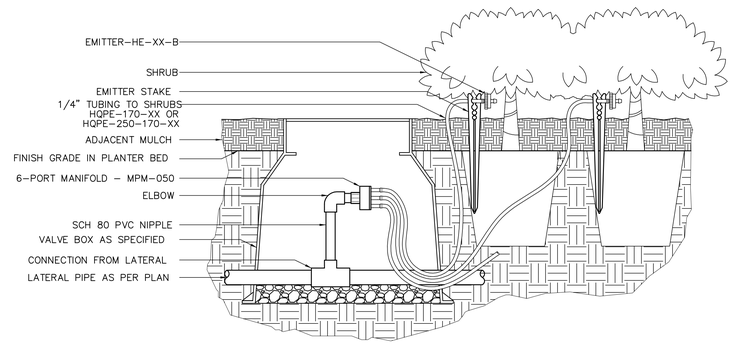


NOTE:

ANTI-SIPHON VALVES SHOULD BE INSTALLED 6-12" ABOVE THE HIGHEST SPRINKLER HEAD WITHIN THE ZONE, OR, ACCORDING TO LOCAL CODE

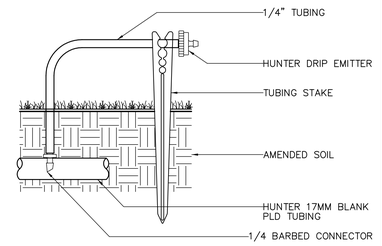
DRIP ZONE KIT

SCALE: N.T.S. | B



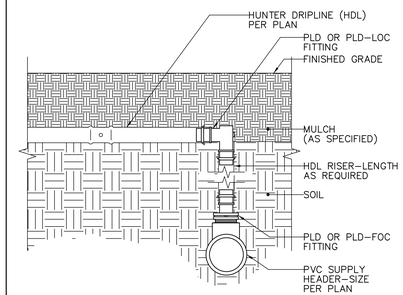
MULTI- PORT MANIFOLD TO EMITTERS IN VALVE BOX

SCALE: N.T.S. | C



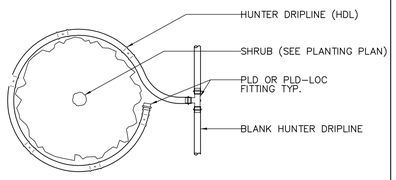
EMITTER ON STAKE

SCALE: NTS | D



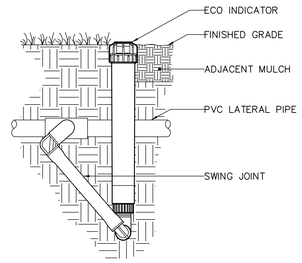
CONNECTION W/ DRIPLINE-ELBOW

SCALE: N.T.S. | E



DRIPLINE-SHRUB RING

SCALE: N.T.S. | F

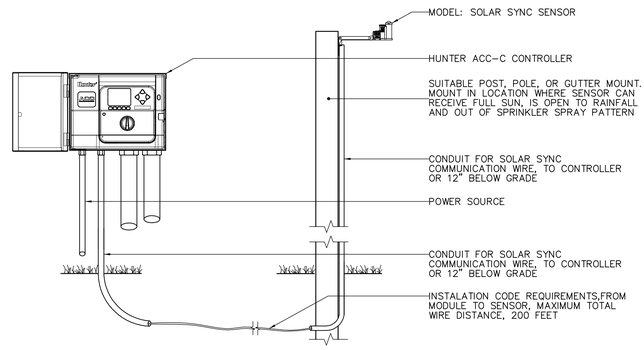


NOTE:

ECO-INDICATOR TO BE INSTALLED AT OPTIMAL FURTHEST POINT FROM CONTROL ZONE KIT IN CLEAR VIEW WHEN POPPED UP

ECO INDICATOR - SWING JOINT

SCALE: N.T.S. | G



SOLAR SYNC SYSTEM

SCALE: NTS | H

APPROVALS

Sanders, INC.
Architecture/Engineering
1102 INDUSTRY WAY, SUITE A
EL CENTRO, CA 92243
760 353 5440 FAX 760 353 5442

Project Title

IMPERIAL VALLEY COLLEGE
RESTROOM/CONCESSION BUILDING

Sheet Title

IRRIGATION DETAILS - DRIP

LICENSED ARCHITECT
JIMMIE T. SANDERS
No. C-17647
RENEWAL DATE
7-31-23
STATE OF CALIFORNIA

Document Date: 09-23-22
Date Last Revised:
Project Number: 22-09IV
Sheet Number: LX3.2