(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DOUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 HIGHLAND KNOLLS DR, BAKERSFIELD, CA 93306

FOR

BAKERSFIELD CITY SCHOOL DISTRICT

GENERAL NOTES

1. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY PORTION OF WORK BE DISCOVERED (IN THE IMMEDIATE AREA OF THE SCOPE OF WORK) WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISH WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CONSTRUCTION CHANGE DIRECTIVE, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRE WORK SHALL BE SUBMITTED TO AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(c) PART 1,TITLE 24, CCR)
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO CONVEY AN OVERALL DESCRIPTION OF THE PROJECT IN SUFFICIENT DETAIL FOR ITS COMPLETE CONSTRUCTION. SOME CONDITIONS, WHICH ARE COMMONLY ENCOUNTERED IN CONSTRUCTION OF THIS TYPE AND/OR CONDITIONS WHICH RELATE TO SPECIFIC PRODUCTS OR PROCESSES, MAY NOT BE SPECIFICALLY DETAILED IN THESE PLANS. ALL CONDITIONS NOT SPECIFICALLY DETAILED SHALL BE CONSTRUCTED COMPLETELY PER THE CURRENT STANDARDS OF THE APPROPRIATE INDUSTRY AND ANY APPLICABLE MANUFACTURER'S RECOMMENDATIONS.
3. THE DRAWINGS, IDEAS, DESIGNS, AND ARRANGEMENTS REPRESENTED HEREBY ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT AND NO PART THERE OF SHALL BE COPIED OR DISCLOSED TO OTHERS OR USED IN CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THESE DOCUMENTS HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT. VISUAL CONTACT WITH THESE DRAWINGS CONSTITUTES CONCLUSIVE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.
4. WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVERSCALED DIMENSIONS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THE ARCHITECT MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IMMEDIATELY. DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THE DRAWINGS SHALL CAUSE NOTIFICATION OF THE ARCHITECT PRIOR TO MAKING ANY CHANGES IN THE WORK.
6. MISPLACEMENT, ADDITION, OR OMISSION OF ANY WORD, LETTER, FIGURE, PUNCTUATION MARK, ETC, SHALL IN NO WAY CHANGE OR ALTER THE TRUE INTENT,SPIRIT, OR MEANING OF THE DRAWINGS.
7. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS (SIGNED/STAMPED BY THE ARCHITECT/ENGINEER OF RECORD) SHALL BE SUBMITTED TO DSA BY ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT (CCD) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT AS REQUIRED BY SECTION 4-338 (C) PART 1 TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS (CCR).
8. A DSA CERTIFIED CLASS 2 REQUIRED & RBIP PROJECT INSPECTOR EMPLOYED BY THE DISTRICT OWNER AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT, SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE PROJECT INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24 OF THE CCR. GROUND TEST AND FIRE ALARM TESTS SHALL BE WITNESSED BY THE PROJECT INSPECTOR.
9. ALL REVISIONS TO THE APPROVED PLANS, NO MATTER HOW MINOR, MUST BE APPROVED BY BOTH THE CITY PLANNING DEPARTMENT AND BUILDING INSPECTION DEPARTMENT, AS WELL AS THE ARCHITECT AND THE OWNER.
10. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS FOR ACCURACY AND CONFIRMING THAT WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH CONSTRUCTION. IF THERE ARE ANY QUESTIONS REGARDING THESE OR OTHER COORDINATION QUESTIONS, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ARCHITECT BEFORE PROCCEEDING WITH WORK OR RELATED WORK IN QUESTION.
11. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL COORDINATE THE LAYOUT AND EXACT LOCATION OF ALL PARTITIONS, DOORS, PLUMBING, MECHANICAL, ELECTRICAL AND FIRE PROTECTION EQUIPMENT IN THE FIELD BEFORE PROCEEDING WITH CONSTRUCTION.
12. THE GENERAL CONTRACTOR SHALL FURR ALL COLUMNS TO THEIR MINIMUM POSSIBLE DIMENSIONS, U.N.O.
13. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE PROJECT AND SHALL BE RESPONSIBLE FOR DISIPLINE OF ALL WORKERS ON THE PROJECT.
14. ALL DECORATIVE MATERIALS AND TRIM SHALL COMPLY WITH CALIFORNIA BUILDING CODE, SECTION 806.1
15. JOINTS AND OTHER OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHER STRIPPED OR OTHERWISE SEALED TO LIMIT INFILTRATION AND EXFILTRATION PER CEC 110.7
16. CUTTING, BORING, SAWCUTTING, OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT AND STRUCTURAL ENGINEER WITH THE APPROVAL OF THE DSA REPRESENTATIVE.
17. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCATION ORDINANCES.
18. "TYPICAL" MEANS IDENTICAL FOR ALL SAME CONDITIONS UNLESS OTHERWISE NOTED. "SIMILAR" MEANS COMPARABLE CHARACTERISTICS FOR THE CONDITIONS NOTED. VERIFY DIMENSIONS AND ORIENTATION ON PLAN WITH THE ARCHITECT.
19. ALL WORK SHALL CONFORM TO 2022 EDITION TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
20. ALL MATERIALS AND WORK SHOWN SHALL BE CONSIDERED A PART OF THE SCOPE OF WORK FOR THIS PROJECT UNLESS INDICATED AS EXISTING (E)
21. ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING MATERIALS INSTALLATION TO COMPLY WITH APPLICABLE CODES, STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS.
22. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
23. THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.
24. LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).
25. MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.
26. ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S AGENT.
27. A LISTING OF CERTIFIED ATT CAN BE FOUND AT: HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE.
28. THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/ INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.
29. PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.
30. FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THEIS CODE AND THE APPLICABLE PROVISIONS OF CHAPTER 33 OF CFC.

FIRE PROTECTION

1. NEW BUILDINGS SHALL BE PROVIDED WITH EMERGENCY RESPONDER RADIO COVERAGE IN ACCORDANCE WITH CALIFORNIA FIRE CODE SECTION 510. THE PROJECT ARCHITECT (AOR) SHALL CONTACT THE LOCAL FIRE DEPARTMENT AND/OR EMERGENCY COMMUNICATIONS AUTHORITY TO OBTAIN DESIGN, EQUIPMENT SPECIFICATIONS, TESTING AND ACCEPTANCE CRITERIA. PLANS AND REQUESTED DOCUMENTATION SHALL BE SUBMITTED TO THE LOCAL AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL. UPON COMPLETION, COPIES OF THE APPROVED PLANS, EQUIPMENT DATA SHEETS, TESTING AND ACCEPTANCE DOCUMENTATION SHALL BE PROVIDED TO THE SCHOOL DISTRICT.
2. PROVIDE ONE 4A 10 B.C. RATED EXTINGUISHER FOR EACH 6,000 SQUARE FEET OR PORTION THEREOF ON EACH FLOOR - TRAVEL DISTANCE SHALL NOT EXCEED 75 FEET.

SCOPE OF WORK

BUILDINGS
DESIGN, MANUFACTURING, AND INSTALLATION OF (1) 135'X32' PERMANENT MODULAR CLASSROOM BUILDING.

SITE WORK
SITE IMPROVEMENTS FOR RELOCATABLE BUILDING INCLUD CHAIN LINK FENCING, ETC. ELECTRICAL SYSTEM (POWER, DATA, FIRE ALARM INCLUDEE VOICE-EVAC).

CODE REQUIREMENTS

ALL DRAWINGS AND CONSTRUCTION SHALL CONFORM TO THE FOLLOWING CODES:
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

2022 TITLE 24 CCR, PART 1 - 2022 BUILDING STANDARDS ADMINISTRATIVE CODE
2022 TITLE 24 CCR, PART 2 - 2022 CALIFORNIA BUILDING CODE, VOL. 1 & 2 (CBC) *(2021 IBC, AS AMENDED BY CA)*
2022 TITLE 24 CCR, PART 3 - 2022 CALIFORNIA ELECTRICAL CODE (CEC) *(2020 NEC (NFPA), AS AMENDED BY CA)*
2022 TITLE 24 CCR, PART 4 - 2022 CALIFORNIA MECHANICAL CODE (CMC) *(2021 IAPMO UMC, AS AMENDED BY CA)*
2022 TITLE 24 CCR, PART 5 - 2022 CALIFORNIA PLUMBING CODE (CPC) *(2020 IAPMO UPC, AS AMENDED BY CA)*
2022 TITLE 24 CCR, PART 6 - 2022 CALIFORNIA ENERGY CODE
2022 TITLE 24 CCR, PART 9 - 2022 CALIFORNIA FIRE CODE (CFC) *(2021 IFC, AS AMENDED BY CA)*
2022 TITLE 24 CCR, PART 10 - 2022 CALIFORNIA EXISTING BUILDING CODE (IEBC) *(2021 INTERNATIONAL EXISTING BUILDING CODE, AS AMENDED BY CA)*
2022 TITLE 24 CCR, PART 11 - 2022 GREEN BUILDING STANDARDS CODE (CALGREEN CODE)
2022 TITLE 24 CCR, PART 12 - 2022 CALIFORNIA REFERENCED STANDARDS

PARTIAL LIST OF APPLICABLE STANDARDS
2022 NFPA 72, FIRE ALARM CODE (CA AMENDED)
NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT CONSTRUCTION IN CONFLICT WITH THE REQUIREMENTS OF ANY CODE, LAW, ORDINANCE, OR REGULATION. THE FOLLOWING AGENCIES SHALL HAVE JURISDICTION OVER THE PROGRESS OF THE WORK:

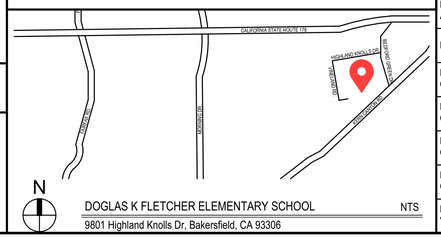
CAL/OSHA	DIVISION OF THE STATE ARCHITECT
REGULATORY SERVICES:	COUNTY OF KERN:
STRUCTURAL SAFETY SECTION	FIRE DEPARTMENT
FIRE & LIFE SAFETY SECTION	PUBLIC WORKS DEPARTMENT
ACCESS COMPLIANCE SECTION	

ACCESSIBILITY STANDARDS

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

1. HAND ACTIVATED DOOR OPENING HARDWARE SHALL BE CENTERED BETWEEN 34 INCHES AND 44 INCHES ABOVE FLOOR. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, BY PANIC BARS, PUSH-PULL ACTIVATION BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP AND TURN OPENING HARDWARE. LOCKED EXIT DOORS SHALL OPERATE AS ABOVE IN EGRESS DIRECTION.
2. MAXIMUM EFFORT TO OPERATE SHALL NOT EXCEED 5 POUNDS FOR EXTERIOR DOORS AND 5 POUNDS FOR INTERIOR DOORS. SUCH PULL OR PUSH EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS WHEN FIRE DOORS ARE REQUIRED. THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED NOT TO EXCEED 15 POUNDS.
3. CONSTRUCTION: THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAMES ARE USED, A 10" HIGH SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
4. FOR HINGED DOORS, THE OPENING WIDTH SHALL BE MEASURED WITH THE DOOR POSITIONED AT AN ANGLE OF 90 DEGREES FROM ITS CLOSED POSITION. AT LEAST ONE OF A PAIR OF DOORS SHALL MEET THIS OPENING WIDTH REQUIREMENT.
5. IN ADDITION TO ALL LOCAL CODES, ACCESSIBILITY REQUIREMENTS SHALL COMPLY WITH THE CALIFORNIA BUILDING CODE, TITLE 24, AS WELL AS FEDERAL A.D.A., (AMERICANS WITH DISABILITIES ACT).

VICINITY MAP



DOGLAS K FLETCHER ELEMENTARY SCHOOL — NTS
9801 Highland Knolls Dr, Bakersfield, CA 93306

PROJECT INFORMATION

(1) PERMANENT MODULAR TK CLASSROOM BUILDING

CONSTRUCTION TYPE:	TYPE VB
OCCUPANCY GROUP:	GROUP E - LOAD FACTOR 20 NET
OCCUPANCY LOAD PER CLASSROOM:	960SF/20 SF/PERSON = 48 PERSONS
BASIC ALLOWABLE AREA:	
(2022 CBC TABLE 506.2):	9,500 SF
ACTUAL STORIES / HEIGHT:	1 / 15 FT
TOTAL SQUARE FOOTAGE:	5,670SF
ALLOWABLE STORIES / HEIGHT:	
(2022 CBC TABLE 504.3)	1 / 40 FT

FLOOD ZONE
FIRM#: 06029 C1825E EFF. 9/26/2008
FEMA FLOOD ZONE DESIGNATION: ZONE X
COORDINATES: 35.391,-118.894

NAME	VALUE	CBC REFERENCE
S_S	0.933	SECTION 1613.2.1
S_1	0.333	SECTION 1613.2.3 (2)
S_{MS}	1.051	SECTION 1613.2.3
SM_1	0.655	SECTION 1613.2.3
S_{DS}	0.701	SECTION 1613.2.4
S_{D1}	0.437	SECTION 1613.2.4

RISK CATEGORY: II
SITE CLASS: D - DEFAULT
WIND SPEED - 94 MPH

PROJECT DIRECTORY

ARCHITECT
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MANUEL MALDONADO JR.

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ELECTRICAL
JMPE ELECTRICAL ENGINEERING
627 Olive St, Santa Barbra,CA 93101
PHONE: (805) 569-9216

BUILDING INFORMATION

BUILDING	APP#	D.S.A.CERT.	OCC.	BLDG AREA
BUILDING "A" MULTI-USE	03-112027	CLOSED CERT. [1]	A-2	36,813 SF
BUILDING "B" ADMINISTRATION	03-112027	CLOSED CERT. [1]	B	7,655 SF
BUILDING "C" CLASSROOMS	03-112027	CLOSED CERT. [1]	E	8,802 SF
BUILDING "D" CLASSROOMS	03-112027	CLOSED CERT. [1]	E	8,802 SF
BUILDING "E" CLASSROOMS	03-112027	CLOSED CERT. [1]	E	8,802 SF
BUILDING "F" CLASSROOMS	03-112027	CLOSED CERT. [1]	E	8,802 SF
BUILDING "G" CLASSROOMS	03-112027	CLOSED CERT. [1]	E	9,702 SF
BUILDING "H" CLASSROOMS	03-112027	CLOSED CERT. [1]	E	3,374 SF
BUILDING "K" RESTROOM	03-112027	CLOSED CERT. [1]	U	991 SF
BUILDING "L" ADMINISTRATION	03-112027	CLOSED CERT. [1]	B	4,676 SF
BUILDING "M"	03-112027	CLOSED CERT. [1]	E	6,555 SF
BUILDING "N" CLASSROOMS	03-112027	CLOSED CERT. [1]	E	17,382 SF
BUILDING "P" CLASSROOMS	03-112027	CLOSED CERT. [1]	E	13,092 SF
BUILDING "R1" CLASSROOMS	03-115270	CLOSED CERT. [1]	E	2,400 SF
BUILDING "R2" CLASSROOMS	03-115270	CLOSED CERT. [1]	E	2,400 SF
PROPOSED BUILDING "MODULAR BUILD."	03-	PROPOSED	E	4,320 SF

ARCHITECT'S STATEMENT

STATEMENT OF GENERAL CONFORMANCE

FOR ARCHITECTS / ENGINEERS WHO UTILIZE PLANS, INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS

[X] THE DRAWING PAGE OF SPECIFICATIONS/CALCULATIONS, OR THE ATTACHED LIST OF DRAWINGS HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OF CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

1. DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND
2. COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT
3. THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTIONS 17302 AND 81138 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-344" OF TITLE 24, PART 1. (TITLE 24, PART 1, SECTION 4-317 [b])

[X] THE DRAWINGS OR SHEETS LISTED ON THE SHEET INDEX SHEET

REFER TO SHEET INDEX FOR A LIST OF "DRAWINGS PREPARED BY OTHERS" INCLUDING ALL DRAWINGS AND / OR CALCULATIONS PREPARED BY:

DRAWINGS BY: SKC COMPANY
135'X32' MANUFACTURED MODULAR CLASSROOM BUILDINGS

THE STATEMENT NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTION 17302 AND 81138 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-341 AND 4-344 PART 1. (TITLE 24, PART 1, SECTION 4-317(b))

I CERTIFY THAT THIS DRAWING OR PAGE (CHECK BOTH BOXES):

[X] IS IN GENERAL CONFORMANCE WITH THE PROJECT DESIGN INTENT, AND
[X] HAS BEEN COORDINATED WITH THE PROJECT PLANS AND SPECIFICATIONS.

ARCHITECTS SIGNATURE

ARCHITECTS OR ENGINEER DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE

MANUEL MALDONADO JR.
PRINT NAME

C-36294 — LICENSE NUMBER
DECEMBER 31, 2025 — EXPIRATION DATE

SHEET INDEX

TOTAL SHEETS: 105

GENERAL INFORMATION

G-001	GENERAL INFORMATION DSA PORTABLES
G-002	CODE ANALYSIS
G-003	FIRE ACCESS SITE PLAN

CIVIL DRAWINGS

C-1	CIVIL DRAWINGS
C-2	CIVIL DRAWINGS
C-3	CIVIL DRAWINGS
C-4	CIVIL DRAWINGS
C-5	CIVIL DRAWINGS
C-6	CIVIL DRAWINGS
C-7	CIVIL DRAWINGS

ARCHITECTURAL DRAWINGS

A-112	SITE PLAN: ACCESSIBILITY
A-113	SITE PLAN: ENLARGED
A-501	DETAILS

ELECTRICAL DRAWINGS

E001	GENERAL NOTES AND SYMBOLS
E002	T24 SHEETS AND FIXTURE SCHEDULE
E003	ELECTRICAL DETAILS
E004	FIRE ALARM NOTES
E005	FIRE ALARM DETAILS AND CALCULATIONS
E006	FIRE ALARM RISER DIAGRAM
E112	ELECTRICAL SITE PLAN
E113	GROUNDING SITE PLAN
E114	DATA/COMM SITE PLAN
E115	FIRE ALARM FLOOR PLAN
E300	ELECTRICAL SPECIFICATIONS
E400	FIRE ALARM SPECIFICATIONS

SHEET INDEX CONT.

DRAWINGS BY: SKC COMPANY

A0.0	TITLE SHEET
A0.1	SPECIFICATIONS AND NOTES
A0.2	CONSTRUCTION MATERIALS AND SPECIFICATIONS
A0.3	FINISH SCHEDULES
A0.4	A0.4 SIGNAGE SPECIFICATIONS AND ACCESSIBILITY
A0.6	CAL GREEN REQUIREMENTS
A0.7	STC CONSTRUCTION DETAILS
A0.8c	SAMPLE DSA 103 CONC FOUNDATION WITH GEO TECH REPORT
A0.9a	CAL GREEN MANDATORY MEASURES
A0.9b	CAL GREEN MANDATORY MEASURES
A0.9c	CAL GREEN MANDATORY MEASURES
A0.10	CONSTRUCTION WASTE MANAGEMENT FORMS
A1.3	FLOOR PLAN
A1.4	FLOORING LAYOUT AND TRANSITION DETAILS
A1.5	ENLARGED FLOOR PLANS
A2.0a	REFLECTED CEILING DETAILS
A2.0b	REFLECTED CEILING DSA NOTES
A2.3	REFLECTED CEILING PLAN
A3.0a	ROOF DETAILS
A3.0b	ROOF DETAILS TPO
A3.6	ROOF PLAN
A3.8SR	SOLAR READY GENERAL NOTE
A3.9SR	SOLAR READY PV ROOF PLAN
A3.10SR	SOLAR READY EQUIPMENT ELEVATION
A3.11SR	SOLAR READY ELECTRICAL DIAGRAM
A3.12S	SOLAR CUT SHEETS
A3.13SR	SOLAR READY SIGNAGE DETAIL
A3.14SR	SOLAR CUT SHEETS
A4.3	INTERIOR ELEVATIONS
A5.6	EXTERIOR ELECATIONS
A8.0	ARCHITECTURAL DETAILS WOOD STUDS
A8.1	ARCHITECTURAL DETAILS
A9.0	FIRE RATED ASSEMBLIES
A9.1	FIRE RATED DETAILS
A10.0	RESTROOM ACCESSORIES SCHEDULE & DETAILS
A10.1	RESTROOM ACCESSIBILITY DETAILS
A11.0	SOLATUBE OPTION AT TPO ROOF
A12.0	ACCESSORY PLAN
A13.0	ARCHITECTURAL BUILDING SECTIONS MONO SLOPE
A20.1	DETERIORATION PROTECTION FOR BELOW GRADE CONDITION (STUCCO SIDING)
A30.0	AWNING DETAILS
F3.0	FLUSH TO GRADE CONCRETE FOUNDATION DETAILS
F3.1	FLUSH TO GRADE CONCRETE FOUNDATION PLAN
F4.0	GENERAL CONCRETE DETAILS
S0.0a	STRUCTURAL NOTES AND SPECIFICATIONS
S0.0b	STRUCTURAL NOTES AND SPECIFICATIONS
S0.2	STRUCTURAL BUILDING SECTIONS CONCRETE FLOOR
S0.3	TYPICAL STRUCTURAL DETAILS
S1.0	FLOOR FRAMING DETAILS PLYWOOD & CONCTETE
S1.2	FLOOR FRAMING PLAN CONCRETE
S2.0	ROOF FRAMING DETAILS
S2.1	ROOF TRUSS AND DETAILS
S2.2	ROOF FRAMING PLAN PLYWOOD SHEATHING DIAPHRAGM
S3.0	WALL FRAMING DETAIL WOOD STUDS
S3.1	WALL FRAMING ELEVATION
S3.2	WALL FRAMING ELEVATIONS
S4.0	ALLOWABLE BEAM AND HEADER PENETRATIONS
M0.0	MECHANICAL SCHEDULES AND NOTES
M0.1	MECHANICAL DETAILS
M1.3	MECHANICAL PLAN
M3.0	TITLE 24 REPORT
M3.1	TITLE 24 REPORT
M3.2	TITLE 24 REPORT
M3.3	TITLE 24 REPORT
M3.4	TITLE 24 REPORT
E0.0	ELECTRICAL LEGENDS & DETAILS
E3.0SR	SOLAR READY ELECTRICAL ROOF PLAN
E3.1SR	ELECTRICAL LIGHTING PLAN
E4.3DL	DAYLIT ZONE FLOOR PLAN
E6.0	ELECTRICAL LIGHTING CONTROL AND SEQUENCE OF OPERATION
E7.0	TITLE 24 REPORT & CEC FORMS
E7.1	TITLE 24 REPORT & CEC FORMS
E7.2	TITLE 24 REPORT & CEC FORMS
E8.0	SITE-SPECIFIC PHOTOVOLTAIC AND BATTERY STORAGE CAPACITY TABLES
P0.0	PLUMBING SCHEDULE AND DETAILS
P1.0	PLUMBING PLAN
P2.0	TITLE 24 REPORT
FP 1	COVERSHEET DETAILS SITE PLAN
FP 2	FIRE SPRINKLER PIPING PLAN
FP 3	SITE PLAN

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

ordiz melby architects
a professional corporation
5500 Ming Avenue, Suite 280 o: (661) 832-5258
Bakersfield, CA 93309 f: (661) 832-4291
www.ordizmelby.com

LICENSED ARCHITECT — MANUEL MALDONADO JR. — C-36294 — DECEMBER 31, 2025 — STATE OF CALIFORNIA

DANNY E. ORDIZ, AIA ARCHITECT C-14728
JEANNIE S. BERTOLACCINI, AIA ARCHITECT C-35596
MANUEL MALDONADO JR., AIA ARCHITECT C-36294
JAMES R. VARNER, AIA ARCHITECT C-19963
ROBERT TROST, AIA ARCHITECT C-14762
JOSEPH E. ZASOSKI, AIA ARCHITECT C-36742

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DOUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER:
2307

A#: 03-124330
PTN: 63321-422

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

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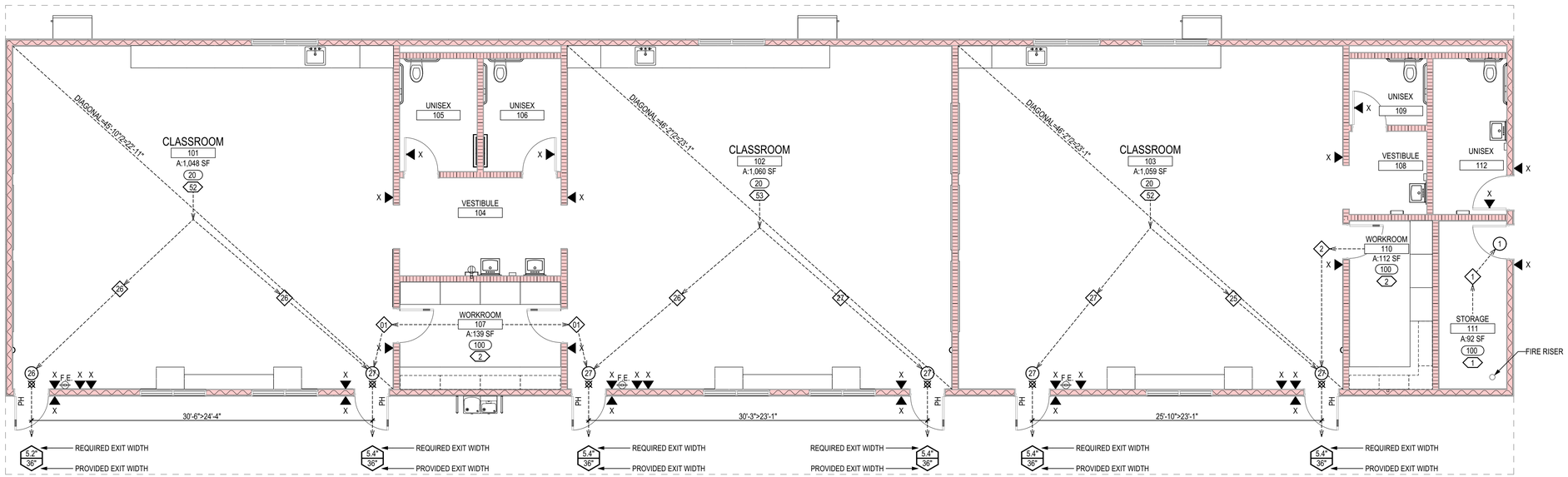
CODE ANALYSIS

ALLOWABLE AREA:	9,500 SF
ACTUAL AREA:	5,670 SF
ALLOWABLE BUILDING HEIGHT:	40'-0"
ACTUAL BUILDING HEIGHT:	15'-0"
OCCUPANCY GROUP:	GROUP 'E'
CONSTRUCTION TYPE:	TYPE VB
SPRINKLERED:	YES

EGRESS LEGEND

- OFFICE / 100 — ROOM NAME / ROOM NUMBER
- A: 200 SF — SQUARE FOOTAGE
- (100) / 2 — OCCUPANT LOAD FACTOR / OCCUPANT LOAD
- XX — SUB-TOTAL OCCUPANT LOAD
- XXX — OCCUPANT LOAD AT EXIT
- X.X / XX" — REQUIRED EXIT WIDTH / PROVIDED EXIT WIDTH
- X' — PATH OF EGRESS TRAVEL; X' = COMMON PATH OF TRAVEL DISTANCE
- PH — PANIC HARDWARE
- X — SIGNAGE SYMBOL, REFER TO MODULAR BUILDING DRAWINGS
- EXIT LIGHT - SEE ELECTRICAL 'LED FIXTURE SCHEDULE'
- FIRE EXTINGUISHER

EGRESS WIDTH PER OCCUPANT SERVED (2022 C.B.C SECTION 1005.1) WITH OUT SPRINKLER SYSTEM = 0.20"



A1 CODE ANALYSIS - FLOOR PLAN

SCALE: 3/16" = 1'-0"

PLOT TIME: 3:53 PM
PLOT DATE: 6/5/2025
PATHNAME: K:\Jobs 2301- 2350\2023\2307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

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LICENSED ARCHITECT — MANUEL MALDONADO JR. — C-36294 — DECEMBER 31, 2025 — RENEWAL DATE — STATE OF CALIFORNIA

DANNY E. ORDIZ, AIA — ARCHITECT C-14728
JEANINE S. BERTOLACCINI, AIA — ARCHITECT C-35596
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SHEET TITLE

CODE ANALYSIS

SHEET IDENTIFICATION NUMBER

G-002

SHEETS IN SET 105

A1 FIRE ACCESS SITE PLAN

SCALE: 1" =100'

PLOT TIME: 3:53 PM
PLOT DATE: 6/5/2025
PATHNAME: K:\Jobs 2301- 2350\2023\2307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DSA 810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

Division of the State Architect (DSA) documents referenced within this publication are available on the DSA Forms or DSA Publications webpages.

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4 through 7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

The Project Information and Fire & Life Safety Information sections are to be completed for all projects and imaged onto the fire access site plan. When an alternate design/means is proposed, all sections on pages 1 and 2 are to be completed and imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy *PL 09-01: Fire Flow for Buildings*.

PROJECT INFORMATION	
School District/Owner:	Bakersfield City School District
Project Name/School:	Fletcher Elementary School
Project Address:	9801 Highland Knolls Dr., Bakersfield, CA 93306

FIRE & LIFE SAFETY INFORMATION				
1.	Has a fire hydrant flow test been performed within the past 12 months? *(If yes, provide a copy of the test data.)*	Yes ☑		No ☐
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes ☑		No ☐
3.	Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? *(If yes, indicate FHSZ classification below.)*	Yes ☐		No ☑
	Refer to the following website for FHSZ locations: http://egis.fire.ca.gov/FHSZ/	Moderate ☐	High ☐	Very High ☐
	Wildland Interface Area (WIFA) *(If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)*			WIFA ☐

CONDITION MEANS AND METHODS RESOLUTION		ALTERNATE ACCEPTED			
		Yes	No	N/A	N/R
4.	Emergency vehicle access roadways do not meet CFC requirements.				
4a.	**Acceptable Alternate:** Emergency vehicle and personnel access as proposed by the project architect is acceptable for providing fire suppression and protection of life and property.	✓			
5.	**Fire Hydrants:** Number and spacing does not meet CFC requirements.			✓	
5a.	**Acceptable Alternate:** Number of fire hydrants and spacing as proposed by the project architect is acceptable for fire suppression and protection of life and property.				
6.	**Fire Hydrants:** Water flow and pressure are less than CFC minimum.			✓	
6a.	**Acceptable Alternate:** The available flow and pressure is acceptable for providing fire suppression and protection of life and property.				
7.	Location of fire department connection(s) serving fire sprinkler systems or standpipe systems does not meet CFC requirements.				✓
7a.	**Acceptable Alternate:** The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property.				

School District Acceptance of Acceptable Design Alternates

By signing this form, the school district acknowledges and accepts the proposed design as an alternative to California Building Code (CBC) and California Fire Code (CFC) minimum requirements, as indicated by one or more of the conditions indicated at items 4a, 5a, 6a or 7a, for providing fire and life safety protection of life and property.

Accepted by: Jason Sitton Title: Director - Main., Ops., & Facil.

Signature: Date: 6/4/2025

LOCAL FIRE AUTHORITY (LFA) INFORMATION			
LFA Agency Name:	Kern County Fire Department		
LFA Review Official:	Janet Huffaker		
Title:	Assistant Fire Marshal	Work Phone:	(661) 330-0156
Work Email:	jhuffaker@kerncountyfire.org		

LFA Reviewer's Signature: janet Huffaker Date: 6/11/25

Hydrant Flow Test Report

Test Date 9/8/2023 **Test Time** 5:57am

Location
Fletcher Elementary School
9801 Highland Knolls Drive

Tested by
Dan Perez
Herschel Moore
Angel Hinojos

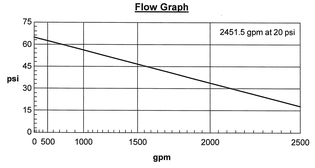
Notes
Flow hydrant is located in front of the school. Read hydrant is located on the southeast corner of Highland Knolls Drive & Vineland Rd.

Read Hydrant
65 psi **static pressure**
35 psi **residual pressure**
720 ft **hydrant elevation**

Flow Hydrant(s)

Outlet	Elev	Size	C	Pitot Pressure	Flow
#1	707	4	.9	21	1969 gpm

Flow Graph



Created with the free hydrant flow test program from www.igneusinc.com

SITE LEGEND

TYPE	DESCRIPTION
	PROPOSED BUILDING
	EXISTING BUILDINGS (SEE BUILDING LEGEND FOR A#'S) NO WORK IN THIS AREA
F.H.	(E) FIRE HYDRANT
	EMERGENCY VEHICLE ACCESS (A#02-112027)
	PROPERTY LINE
	ASSUMED PROPERTY LINE
	WALKABLE FIRE HYDRANT PATH

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SHEET TITLE

FIRE ACCESS SITE PLAN

SHEET IDENTIFICATION NUMBER

G-003

SHEETS IN SET 105

UTILITY COMPANIES

1. ELECTRICITY: PACIFIC GAS & ELECTRIC COMPANY
   4101 WIBLE ROAD
   BAKERSFIELD CA, 93313
   1-661-837-7273

2. GAS: PACIFIC GAS & ELECTRIC COMPANY
   4101 WIBLE ROAD
   BAKERSFIELD CA, 93313
   1-661-837-7273

3. SEWER/WATER: CITY OF BAKERSFIELD
   1000 BUENA VISTA ROAD
   BAKERSFIELD CA, 93311
   1-661-326-3715

4. TELEPHONE/CABLE: SPECTRUM

CONCRETE NOTES:

1. TOP OF CURB TO BE TROWELED AND HAVE A LIGHT BRUSHED FINISH. GUTTER TO BE TROWELED AND HAVE A LIGHT BRUSHED FINISH.
2. ½" TO ⅝" FELT EXPANSION JOINT TO BE PLACED AT CURVE RETURNS AND DEEP SCORE JOINTS PLACED AT A MAXIMUM OF 10 FEET.
3. SAND SHALL BE CLEAN RIVER SAND FREE FROM ORGANICS, DIRT AND/OR DEBRIS.
4. AGGREGATE BASE CONFORM TO SECTION 26, CLASS II PER STATE STANDARD SPECIFICATIONS.
5. FOR CONTINUOUS MACHINE CURB & GUTTER, THE #3 TIES @ 36" O.C. MAY BE DELETED IF THE CONCRETE MIX INCLUDES A MINIMUM OF 1 LB PER YARD OF CONCRETE NYLON PROCON-F FIBER.
6. WEAKENED PLANE JOINTS SHALL BE IN SIDEWALK AND CURB & GUTTER @ 10' ON CENTER MAXIMUM.
7. EXPANSION JOINTS SHALL BE INSTALLED IN SIDEWALK AT 40' O.C. MAXIMUM.
8. EXPANSION JOINTS SHALL BE INSTALLED IN SIDEWALK AND CURB & GUTTER CURB RETURNS.
9. CONCRETE SHALL BE 5 SACK CEMENT MIX AND TEST TO A MINIMUM OF 3200 PSI IN 28 DAYS.
10. ASPHALTIC CONCRETE AND EARTHWORK SHALL CONFORM TO SECTION 39 AND 19 OF THE STATE STANDARD SPECIFICATION LATEST EDITION.
11. THE STRUCTURAL SECTION AS SHOWN SHALL HAVE A MINIMUM SUBSOL R-VALUE OF 50. FOR R VALUES LESS THAN 50, THE STRUCTURAL SECTION SHALL BE DESIGNED TN ACCORDANCE TO STANDARD ST-1 AND ST-2 WITH A TRAFFIC INDEX = 4
12. CONCRETE VALLEY GUTTER SHALL HAVE WEAKENED PLANE JOINT @ 15' O.C, TOOL EDGES OF JOINT.
13. PROVIDE EXPANSION JOINT IN CONCRETE GUTTER @ 90' O.C, TOOL EDGES OF JOINT.
14. RECLAIMED AGGREGATE BASE - THICKNESS OF RECLAIMED AGGREGATE BASE STATE STANDARD SPECIFICATIONS.
15. REBAR SHALL CONFORM TO ASTM A615 AND BE GRADE 40 FOR REBAR #3 AND #4.
16. DOWEL INTO EXISTING CONCRETE - 18" #3 REBAR DOWEL SET IN EPOXY WITH 6" EMBEDMENT 18" O.C. (MATCH SLAB BAR SPACING) USE SIMPSON SET XP EPOXY ADHESIVE (ESR-2508) PER MANUFACTURERS INSTRUCTIONS. IOR TO WITNESS INSTALLATION OF EPOXY DOWELS TYP.

GRADING NOTES:

1. GRADING SHALL CONFORM TO STANDARDS, SPECIFICATIONS, AND REQUIREMENTS OF THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE APPENDIX J GRADING, AS ADOPTED BY THE LOCAL GOVERNING AGENCY AND STANDARDS PERTAINING THEREOF AND TO THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEERING INVESTIGATION (022-23118) DATED SEPTEMBER 22, 2023.

KRAZAN & ASSOCIATES, INC
GEOTECHNICAL ENGINEERING DIVISION
2205 COY AVENUE
BAKERSFIELD, CA 93307
661-837-9200

ALL GRADING WORK SHALL BE SUPERVISED AS ENGINEERED GRADING IN ACCORDANCE WITH APPENDIX J OF CALIFORNIA BUILDING CODE.

2. THE CONTRACTOR SHALL REMOVE AND OR RELOCATE ALL OBSTRUCTIONS WITHIN THE STREET RIGHT-OF-WAY AS DIRECTED BY THE LOCAL GOVERNING ROADS DEPARTMENT.

3. ALL EXISTING IMPROVEMENTS THAT ARE REMOVED, DAMAGED, OR UNDERCUT SHALL BE REPAIRED OR REPLACED AS DIRECTED BY CITY ENGINEER OF APPLICABLE AGENCY.

4. ALL CUT SLOPES SHALL BE NO STEEPER THAN (2) TWO HORIZONTAL TO (1) ONE VERTICAL.

5. ALL FILL SLOPES SHALL BE NO STEEPER THAN (2) TWO HORIZONTAL TO (1) ONE VERTICAL.

5A. BERMS OR DRAINAGE DEVICES ARE REQUIRED AT TOP OF ALL FILL SLOPES.

5B. DIVERTER TERRACES (SWALES) WITH THREE (3) FEET MINIMUM WIDTH AND ONE (1) FOOT DEPTH ARE REQUIRED AT TOP OF CUT AND FILL SLOPES WHEN EXISTING TERRAIN SLOPES TOWARD TOP OF CUT.

5C. FILL AREAS SLOPING STEEPER THAN FIVE TO ONE (5:1) SHALL BE KEYED AND BENCHED TO SUPPORT FILL.

5D. ALL FILL SLOPES SHALL NOT CUT WITHIN TWELVE (12) FEET HORIZONTALLY OF THE TOP OF EXISTING AND/OR PLANNED SLOPES.

5E. ALL SLOPES IN EXCESS OF THREE (3) FEET MINIMUM WIDTH AND ONE (1) FOOT MINIMUM DEPTH ARE REQUIRED AT TOP OF CUT SLOPES WHEN EXISTING TERRAIN SLOPES TOWARD TOP OF CUT.

6. ALL VEGETABLE MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND THE SURFACE SHALL BE PLOWED SCARIFIED TO A DEPTH OF AT LEAST TWELVE INCHES (12"), AND UNTIL THE SURFACE IS FREE FROM RUTS, HUMMOCKS OR OTHER UNEVEN FEATURES WHICH WOULD TEND TO PREVENT UNIFORM COMPACTION BY THE EQUIPMENT TO BE USED.

7. FILL MATERIALS: MATERIALS FOR FILL SHALL CONSIST OF MATERIAL SELECTED BY THE SOILS ENGINEER FROM SOURCES IDENTIFIED IN LABORATORY REPORTS WHICH HAVE PREVIOUSLY BEEN ACCEPTED BY GOVERNING AGENCY. THE MATERIAL USED SHALL BE FREE FROM VEGETABLE MATTER AND OTHER DELETERIOUS SUBSTANCES AND SHALL NOT CONTAIN ROCKS OR LUMPS HAVING A DIAMETER OF OR MORE THAN SIX INCHES (6"). LOCAL ENGINEERING, BUILDING, AND OR SURVEYING DEPARTMENT SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF THE PLACEMENT OF ANY FILL MATERIAL.

8. AMOUNT OF COMPACTION: AFTER EACH LAYER (LIFT) HAS BEEN PLACED, MIXED AND SPREAD EVENLY, IT SHALL BE THOROUGHLY COMPACTED TO THE SPECIFIED DENSITY. THE SPECIFIED DENSITY WILL BE STATED AS A PERCENTAGE OF THE MAXIMUM DENSITY ATTAINABLE USING CURRENT ASTM DENSITY TEST NO. D 1557 THE SPECIFIED DENSITY TYPICALLY WILL BE NINETY PERCENT (90%) OF THE MAXIMUM FOR MOST COHESIVE, NON-EXPANSIVE SOILS, HOWEVER IT WILL BE ESTABLISHED AS APPROPRIATE FOR THE MATERIALS AND ENVIRONMENT DEFINED. FILL COMPACTION SHALL CONFORM TO U.B.C. STANDARDS AND LOCAL GRADING STANDARDS.

9. DEPTH AND MIXING OF FILL LAYERS: THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THAT STIPULATED IN THE SOILS REPORT SPECIFICATIONS. EACH LAYER SHALL BE THOROUGHLY BLADE MIXED DURING THE SPREADING TO INSURE UNIFORMITY OF MATERIALS IN EACH LAYER. COMPACTED LAYER THICKNESS NORMALLY WILL BE SIX (6"), HOWEVER, IT MAY BE SPECIFIED OTHERWISE IF COMPACTION EQUIPMENT OF DEMONSTRATED CAPABILITY WILL BE USED. THE SOILS ENGINEER AND THE INSPECTORS SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE PLACING OF ANY FILL MATERIAL.

10. COMPACTING AREA TO BE FILLED: AFTER THE FOUNDATION FOR THE FILL HAS BEEN CLEARED AND PLOWED OR SCARIFIED, IT SHALL BE DISKED OR BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS, BROUGHT TO THE PROPER MOISTURE CONTENT, AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY (90%) OF MAXIMUM DENSITY AS DETERMINED BY APPROVED METHOD PER APPENDIX J OF THE CURRENT CALIFORNIA BUILDING CODE AND CERTIFIED BY TESTS AND REPORT FROM SOILS ENGINEER, IN ACCORDANCE WITH CURRENT ASTM DENSITY TEST NO. D 1557, OR TO SUCH OTHER DENSITY AS MAY BE DETERMINED APPROPRIATE FOR THE MATERIALS AND CONDITIONS AND ACCEPTABLE TO THE ENGINEER AND OR INSPECTORS.

11. ROCK: WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE ACCEPTABLE SHALL BE SIX INCHES (6"). NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE CAREFULLY FILLED WITH SMALL STONES OR EARTH, PROPERLY COMPACTED. NO LARGE ROCKS WILL BE PERMITTED WITHIN TWELVE INCHES (12"), OF THE FINISHED GRADE.

12. MOISTURE CONTENT: THE FILL MATERIAL SHALL BE COMPACTED AT THE APPROPRIATE MOISTURE CONTENT SPECIFIED FOR THE SOILS BEING USED, AS IDENTIFIED IN LABORATORY AND SOILS REPORT. MOISTURE CONTENT TOLERANCES SHOULD BE CLEARLY DEFINED FOR PLACEMENT OF EACH MATERIAL PROPOSED FOR USE IN A FILL. APPROPRIATE MOISTURE CONTENT IS DEFINED TYPICALLY, AS OPTIMUM MOISTURE CONTENT, HOWEVER FOR EXPANSIVE SOILS IT MAY BE GREATER THAN OPTIMUM MOISTURE CONTENT, AND OTHER MOISTURE CONTENTS MAY BE NECESSARY TO PRODUCE THE DESIRED RESULTS WITH SPECIFIC SOILS.

13. DENSITY TESTS: FIELD DENSITY TEST SHALL BE MADE BY THE SOILS ENGINEER OF THE COMPACTION OF EACH LAYER OF FILL. DENSITY TEST SHALL BE TAKEN IN THE COMPACTED MATERIAL BELOW THE DISTURBED SURFACE. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OF PORTION SHALL BE REWORKED UNTIL THE REQUIRED DENSITY HAS BEEN OBTAINED. SUFFICIENT DENSITY TESTS SHALL BE MADE TO SUPPORT THE SOILS ENGINEER'S CERTIFICATION OF EACH FILL LAYER.

14. REPRESENTATIVES OF THE SOILS ENGINEER WILL OBSERVE THE WORK IN PROGRESS, MAKE TESTS OF THE SOIL, AND REVIEW THE EXCAVATIONS AND TRENCHES. THE CIVIL ENGINEER WILL OBSERVE GRADING OPERATIONS TO FACILITATE SUBSTANTIAL COMPLIANCE WITH THE PLANS. SPECIFICATIONS AND CODES WITHIN HIS PURVIEW. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND TECHNIQUES, SEQUENCES AND PROCEDURES. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS ON THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. INTERMITTENT VISITS BY THE SOILS ENGINEER OR THE CIVIL ENGINEER DO NOT INCLUDE REVIEW OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.

15. GRADING WORK SHALL BE DONE IN A MANNER TO PREVENT STORM DAMAGE TO PUBLIC OR PRIVATE PROPERTY OF OTHERS BY FLOODING, EROSION, DEPOSITION, DEBRIS, OR ANY OTHER DAMAGE RESULTING FROM THE GRADING WORK.

16. SURFACE DRAINAGE ON DIRT SHALL HAVE A MINIMUM SLOPE OF 2% PERCENT AWAY FROM ALL STRUCTURES FOR A MINIMUM DISTANCE OF 5 FEET.

16A. SURFACE DRAINAGE TO BE ONE (1%) MINIMUM TO APPROVED DRAINAGE FACILITY, EXCEPT AS WAIVED BY BUILDING OFFICIAL.

17. THE CIVIL ENGINEER, GEOTECHNICAL ENGINEER, BUILDING OFFICIAL AND ANY GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE PROJECT SHALL BE NOTIFIED BY THE CONTRACTOR OF THE OWNER A MINIMUM OF 48 HOURS PRIOR TO THE TIME THAT GRADING IS TO COMMENCE AND THE CONTRACTOR OR THE OWNER SHALL MAKE ALL NECESSARY ARRANGEMENTS FOR THEIR INSPECTIONS.

18. THE SOILS ENGINEER SHALL BE NOTIFIED SUFFICIENTLY IN ADVANCE TO PERMIT EXAMINATION OF SUBGRADE AND TESTING OF FILL AND FINAL GRADES. THE SOILS ENGINEER SHALL BE NOTIFIED OF ANY CONDITION THAT MAY EFFECT THE PROJECT.

19. THE CONTRACTOR SHALL OBTAIN ANY PERMITS NECESSARY FOR ANY CONSTRUCTION WITHIN STREET RIGHT-OF-WAY FROM THE LOCAL GOVERNING AGENCY.

20. AN OSHA PERMIT IS REQUIRED WHEN WORKERS MUST ENTER TRENCHES OR EXCAVATIONS FIVE (5) FEET OR DEEPER.

21. THE DESIGN ENGINEER SHALL EXERCISE SUFFICIENT SUPERVISORIAL CONTROL DURING GRADING AND CONSTRUCTION TO INSURE COMPLIANCE WITH THE PLANS, SPECIFICATIONS, AND CODE WITHIN HIS PURVIEW.

22. AN ENCROACHMENT PERMIT SHALL BE OBTAINED FROM THE GOVERNING PUBLIC WORKS DEPARTMENT PRIOR TO WORKING WITHIN THE STREET RIGHT-OF-WAY.

23. IMPROVEMENTS IN THE STREET RIGHT-OF WAY MADE IN REFERENCE TO APPROVED STREET PLANS.

24. CONTRACTOR IS RESPONSIBLE FOR THE GRADING OF LOT PAD AREAS TO WITHIN .01' AT OR BELOW THE DESIGN ELEVATION.

25. ALL AREAS IN THE SITE ON WHICH STRUCTURES ARE TO BE PLACED MUST BE COMPACTED TO 90% RELATIVE DENSITY, FOR A MINIMUM DISTANCE OF (5) FEET IN ALL DIRECTIONS FROM THE FOUNDATION OF THE STRUCTURE.

26. COMPACTION IN PROPOSED PAVEMENT AREAS SHOULD BE THE SAME AS FOR THE BUILDING PADS, AND SHALL EXTEND TO A MINIMUM DISTANCE OF (2) FEET BEYOND THE OUTSIDE EDGE OF PAVEMENTS.

27. DURING GRADING, REASONABLE SEARCHING SHOULD BE PERFORMED FOR CANCELED SUBSURFACE OBSTRUCTIONS. ALL ABANDONED SUBSURFACE OBSTRUCTIONS SHOULD BE REMOVED. IF THE TERMINUS OF ANY ABANDONED PIPING IS OUTSIDE THE PROJECT LIMITS, THE PIPING SHOULD BE REMOVED WITHIN THE PROJECT AND PROPERLY CAPPED AT THE PROJECT BOUNDARY.

28. DUST CONTROL: SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA CONSTRUCTION GENERAL PERMIT (SWRCB ORDER NO. 2009-0009-DWQ AS AMENDED BY ORDER 2010-0014-DWQ AND ORDER 2012-0006-DWQ.) AND IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PREVENT A DUST NUISANCE ORIGINATING FROM THE SITE OF WORK AS A RESULT OF HIS OPERATIONS DURING THE EFFECTIVE PERIOD OF THIS CONTRACT. PREVENTATIVE MEASURES TO BE TAKEN BY THE CONTRACTOR SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING;

A. WATER SHALL BE APPLIED TO ALL UNPAVED AREAS AS REQUIRED TO PREVENT THE SURFACE FROM BECOMING DRY ENOUGH TO PERMIT DUST FORMATION.

B. PAVED SURFACES OVER WHICH VEHICULAR TRAFFIC IS PERMITTED TO TRAVEL SHALL BE KEPT FREE OF DIRT.

29. CONTRACTOR TO COORDINATE WITH INSPECTOR AND DEVELOPER, THE LOCATION OF THE BORROW OR SPOILS PRIOR TO CONSTRUCTION.

30. THE LOCATION OF EXISTING UTILITIES AND UNDERGROUND PIPELINES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND PIPELINES BEFORE COMMENCING WORK, CONTRACTOR ASSUMES ALL LIABILITY FOR ANY AND ALL UNDERGROUND UTILITIES AND PIPELINES.

31. CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (USA) AND THE LOCAL PUBLIC WORKS DEPARTMENT AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION TO MARK THE LOCATIONS OF EXISTING UTILITY LINES. PHONE: USA 811

32. AN OPEN STREET PERMIT SHALL BE OBTAINED FROM THE CITY OF BAKERSFIELD PUBLIC WORKS DEPARTMENT FOR ANY WORK PERFORMED WITHIN EXISTING, ACCEPTED STREET RIGHT-OF-WAY. UNLESS SECURED BY AN IMPROVEMENT AGREEMENT, APPROVED INSURANCE AND SECURITY BASED N AN APPROVED ENGINEER'S ESTIMATE FOR THE WORK PERFORMED WITHIN THE RIGHT-OF-WAY SHALL BE POSTED PRIOR TO ISSUANCE OF THE PERMIT.

33. ANY WORK CONNECTION TO EXISTING PUBLIC FACILITIES FROM PRIVATE PROPERTY WILL REQUIRE AN ENGINEERS ESTIMATE FOR THE WORK IN EXISTING PUBLIC RIGHT-OF-WAY TO ESTABLISH THE NECESSARY DEPOSIT.

34. 24 HOUR NOTICE: PRIOR TO THE START OF ANY PHASE OF CONSTRUCTION, THE CITY INSPECTOR SHALL BE GIVEN AT LEAST 24 HOURS NOTICE. THE CITY MAY BE NOTIFIED AT (661) 720-2223.

35. COMPACTION TEST SHALL BE THE RESPONSIBILITY OF THE DEVELOPER /SUBDIVIDER/CONTRACTOR. THE NUMBER AND LOCATIONS OF REQUIRED TESTS SHALL BE DETERMINED BY THE CITY ENGINEER.

36. LANDSCAPE AREAS ARE TO BE DESIGNED AND GRADED TO MINIMIZE EXCESS LANDSCAPE DRAINAGE ACROSS THE SIDEWALK FOR THOSE AREAS OVER 2% MAXIMUM SLOPE RATIO FROM BACK OF SIDEWALK TO FACE OF WALL OR STRUCTURE SHALL BE 4:1, EXCEPT FOR THE TWO FEET BEHIND THE SIDEWALK WHERE THE MAXIMUM SLOPE SHALL BE 2% ALTERNATIVELY, THE CITY ENGINEER MAP APPROVE CURBING BEHIND THE SIDEWALK OR OTHER METHOD TO PREVENT EROSION ONTO THE SIDEWALK.

37. FACES OF ALL CUT AND FILL SLOPES SHALL SHALL BE PLANTED WITH GROUND COVER INDIGENOUS TO THE AREA AND MAINTAINED AGAINST EROSION.

38. ANY PUBLIC FACILITIES IN STREET RIGHT-OF-WAY WITHIN THE PROPERTY FRONTAGE WHICH ARE SUBSTANDARD OR DAMAGED WILL REQUIRE RECONSTRUCTION OR REPAIRS AS DETERMINED BY THE CITY ENGINEER.

LEGAL DESCRIPTION

APN#: 533-012-40

BENCHMARK

FINISHED FLOOR OF RESTROOM BUILDING PER APPROVED GRADING PLAN PREPARED BY McINTOSH & ASSOCIATES DATED 12-4-13.

LOCAL BENCHMARK

SET NAIL ON TOP OF CURB ON HIGHLAND KNOLLS DRIVE - SEE TOPOGRAPHIC SURVEY PREPARED BY PORTER & ASSOCIATES, INC DATED 9-5-23.

ELEVATION = 698.63'

NPDES - STORMWATER

DISTURBED AREA (10,355 SQ.FT.) 0.23 ACRES

IF THE PROJECT IS SUBJECT TO THE PROVISIONS OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), A "NOTICE OF INTENT" (NOI) TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY (SWRCB ORDER NO. 2009-009 DWQ AS AMENDED BY ORDER 2010-0014-DWQ AND ORDER 2012-006-DWQ) MUST BE FILED WITH STATE WATER RESOURCES CONTROL BOARD IN SACRAMENTO BEFORE THE BEGINNING OF ANY CONSTRUCTION ACTIVITY. COMPLIANCE WITH THE GENERAL PERMIT REQUIRES THAT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) BE PREPARED, CONTINUOUSLY CARRIED OUT, AND ALWAYS BE AVAILABLE FOR PUBLIC INSPECTION DURING NORMAL CONSTRUCTION HOURS.

CALIFORNIA WATER CODE - NPDES PERMIT ACTIVITY
CALIFORNIA BUILDING STANDARDS CODE

WITH RESPECT TO THE STORMWATER AND NPDES REQUIREMENTS PER THE ABOVE REFERENCED CODES, REGULATIONS AND STANDARDS:
1. CONSTRUCTION ACTIVITY WILL NOT RESULT IN THE DISTURBANCE OF ONE ACRE OR MORE OF TOTAL LAND AREA
2. CONSTRUCTION ACTIVITY 'OIL & GAS' WILL NOT RESULT IN THE DISCHARGE TO A WATER OF THE STATE OF STORMWATER CONTAINING CONTAMINANTS AND/OR SEDIMENTS THAT WILL CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS.
3. CONSTRUCTION ACTIVITY WILL COMPLY WITH CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN) REQUIREMENTS.

PER 2019 CALGREEN BUILDING STANDARDS CODE 5.106.1, NON-RESIDENTIAL NEWLY CONSTRUCTED PROJECTS WHICH DISTURB LESS THAN ONE ACRE OF LAND SHALL PREVENT THE LOSS OF SOIL OF POLLUTION OF STORM WATER RUNOFF FROM THE CONSTRUCTION ACTIVITIES THROUGH LOCAL ORDINANCE REQUIREMENTS AND/OR BEST MANAGEMENT PRACTICE (BMP).
BMP'S THAT SHOULD BE CONSIDERED FOR IMPLEMENTATION AS APPROPRIATE FOR EACH PROJECT INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
KERN COUNTY PUBLIC WORKS - BEST MANAGEMENT PRACTICES AVAILABLE FOR DOWNLOAD WWW.KERNPUBLICWORKS.COM.

BMP-1 GENERAL NOTES
BMP-A CATCH BASIN/INLET PROTECTION
BMP-B EQUIPMENT MAINTENANCE AREAS
BMP-C STABALIZED CONSTRUCTION ENTRANCE/EXIT
BMP C-1 STABALIZED CONSTRUCTION ENTRANCE/EXIT
BMP C-2 STABALIZED CONSTRUCTION ENTRANCE/EXIT
BMP-D EROSION CONTROL
BMP-E MATERIAL STORAGE
BMP-F CONCRETE WASTE MANAGEMENT
BMP-G VEHICLE/EQUIPMENT FUELING
BMP-I FIBER ROLL

DUST CONTROL

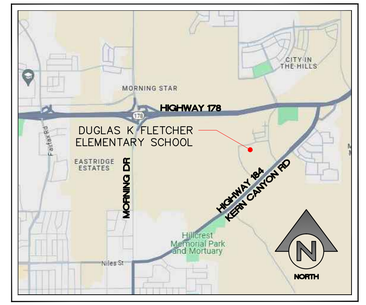
1. PORTABLE WATER WILL BE APPLIED TO DISTURBED SOIL AREAS OF THE PROJECT SITE TO CONTROL DUST AND MAINTAIN OPTIMUM MOISTURE LEVELS FOR COMPACTION. THE WATER WILL BE APPLIED USING WATER TRUCKS. AS SHOWN ON THE PROJECT SCHEDULE, PROJECT SOILS WILL BE DISTURBED AND EXPOSED FROM APPROXIMATELY MAY 1 THROUGH SEPTEMBER 15. WATER APPLICATIONS WILL BE CONCENTRATED DURING THE LATE SUMMER AND EARLY FALL MONTHS. THE TOTAL WATER TO BE APPLIED IS EXPECTED TO BE BETWEEN 110,000 AND 180,000 FT.

2. BMP WE-1, WIND EROSION CONTROL, AND BMP NS-1, WATER CONSERVATION PRACTICES, WILL BE IMPLEMENTED TO PROVIDE DUST CONTROL AND PREVENT DISCHARGES FROM DUST CONTROL ACTIVITIES AND WATER SUPPLY EQUIPMENT. WATER APPLICATION RATES WILL BE MINIMIZED AS NECESSARY TO PREVENT RUNOFF AND PONDING AND WATER EQUIPMENT LEAKS WILL BE REPAIRED IMMEDIATELY.

* MOST DUST CONTROL MEASURES REQUIRE FREQUENT, OFTEN DAILY, OR MULTIPLE TIMES PER DAY ATTENTION.

3. DURING WINDY CONDITIONS (FORECAST OR ACTUAL WIND CONDITIONS APPROXIMATELY 25 MPH OR GREATER), DUST CONTROL WILL BE APPLIED TO DISTURBED AREAS, INCLUDING HAUL ROADS, TO ADEQUATELY CONTROL WIND EROSION.

4. BMP WM-3, STOCKPILE MANAGEMENT, USING SILT FECES AND PLASTIC COVERS WILL BE IMPLEMENTED TO PREVENT WIND DISPERSAL OF SEDIMENT FROM STOCKPILES.



VICINITY MAP

SHEET INDEX

1 OF 7	GD-1	(C-1)	COVER SHEET / NOTES
2 OF 7	GD-2	(C-2)	GRADING AND DRAINAGE PLAN
3 OF 7	GD-3	(C-3)	GRADING AND DRAINAGE PLAN / DETAILS
4 OF 7	U-1	(C-4)	COVER SHEET / SEWER AND WATER NOTES / UTILITY PLAN
5 OF 7	U-2	(C-5)	UTILITY PLAN
6 OF 7	U-3	(C-6)	FIREWATER NOTES / DETAILS
7 OF 7	U-4	(C-7)	DETAILS

EARTHWORKS

GROSS FILL 860 CUBIC YARDS
GROSS CUT 1000 CUBIC YARDS

TOTAL DISTURBANCE SURFACE AREA = 10,355± SF (0.23 ACRES)

(IMPORT LOCATION TO BE DETERMINED BY CONTRACTOR AND SOILS ENGINEER. CONTRACTOR SHALL PROVIDE SUFFICIENT ADVANCE NOTICE PRIOR TO IMPORT OPERATION TO ALLOW TESTING AND EVALUATION OF PROPOSED IMPORT MATERIALS)

QUANTITIES ARE FOR GRADING PERMIT ONLY. THE ENGINEER MAKES NO WARRANTY OF THE ANTICIPATED SHRINKAGE FACTOR. THE CONTRACTOR SHALL NOT USE THESE QUANTITIES TO BASE HIS BID ON. IMPORT MATERIAL MUST BE FROM APPROVED LOCATION VERIFIED BY SOILS ENGINEER.

PRIVATE ENGINEER'S NOTICE TO CONTRACTOR:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THESE PLANS WAS OBTAINED BY TOPOGRAPHIC SURVEY OF THE SURFACE, AND SEARCH OF THE AVAILABLE RECORDS IF AVAILABLE. UTILITIES SHOWN ON THESE PLANS ARE TO THE BEST OF OUR KNOWLEDGE. AFINAR, INC IS NOT RESPONSIBLE FOR ANY UNDERGROUND UTILITIES OR STRUCTURES NOT SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO LOCATE ALL UTILITIES AND TO PROTECT THE UTILITY LINES SHOWN AND NOT SHOWN ON THESE DRAWINGS. IF UTILITIES ARE FOUND THAT ARE NOT SHOWN ON THESE PLANS, CONTACT OWNER, ARCHITECT AND ENGINEER FOR DIRECTION. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES AT START OF PROJECT TO VERIFY THE SIZE, DEPTH AND LOCATION. ANY DISCREPANCY BETWEEN THE PLANS AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.

ALL UTILITIES IN EFFECTED WORK AREA WILL BE POTHOLED AT CONTRACTORS EXPENSE PRIOR TO EXCAVATION. OWNER, ARCHITECT, AND ENGINEER WILL BE NOTIFIED 48 HOURS PRIOR TO POTHOLE WORK. ALL EXPOSED UTILITIES WILL BE INSPECTED AND MEASURED BY SURVEYOR PRIOR TO BACKFILL.

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITION DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR ALSO AGREES TO DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

ENGINEER'S STATEMENT

THESE PLANS AND SPECIFICATIONS WERE PREPARED BY ME OR UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH LOCAL ORDINANCES, STANDARDS AND INCLUDE ALL IMPROVEMENT REQUIREMENTS OF THE ADVISORY AGENCY OR OTHER REVIEW BOARD.

ANY ERRORS, OMISSIONS OR DEVIATIONS FROM THOSE ORDINANCES OR STANDARDS ENCOUNTERED DURING CONSTRUCTION SHALL BE CORRECTED AND SUCH CORRECTIONS REFLECTED ON THE PLANS AND SUBMITTED TO THE ENGINEER.

Bernard O Salgado 7/18/25
BERNARD ORTIZ SALGADO, R.C.E. 71320 DATE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

ordiz melby architects
a professional corporation
5500 Ming Avenue, Suite 280 o: (661) 832-5258
Bakersfield, CA 93309 f: (661) 832-4291
www.ordizmelby.com

DANNY E. ORDIZ, AIA ARCHITECT C-14728
JEANINE S. BERTOLACCINI, AIA ARCHITECT C-35596
MANUEL MALDONADO JR., AIA ARCHITECT C-36294
JAMES R. VARNER, AIA ARCHITECT C-19963
ROBERT TROST, AIA ARCHITECT C-14762
JOSEPH E. ZASOSKI, AIA ARCHITECT C-36742

LICENSED ARCHITECT
MANUEL MALDONADO JR.
C-36294
DECEMBER 31, 2026
RENEWAL DATE
STATE OF CALIFORNIA

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER: 2307
A#: 03-######
PTN: ###-###

CAD DRAWING FILE: 2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY: ASI

CHECKED BY: MM

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

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SHEET TITLE

CIVIL DRAWINGS

SHEET IDENTIFICATION NUMBER

C-1

NO DEMOLITION SHOWN ON THESE PLANS. SEE ARCHITECTURAL FOR DEMOLITION REQUIREMENTS.

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214 BERNARD STREET
BAKERSFIELD, CA 93305
P(661)716-7443 F(661)716-7443
www.afinar.net

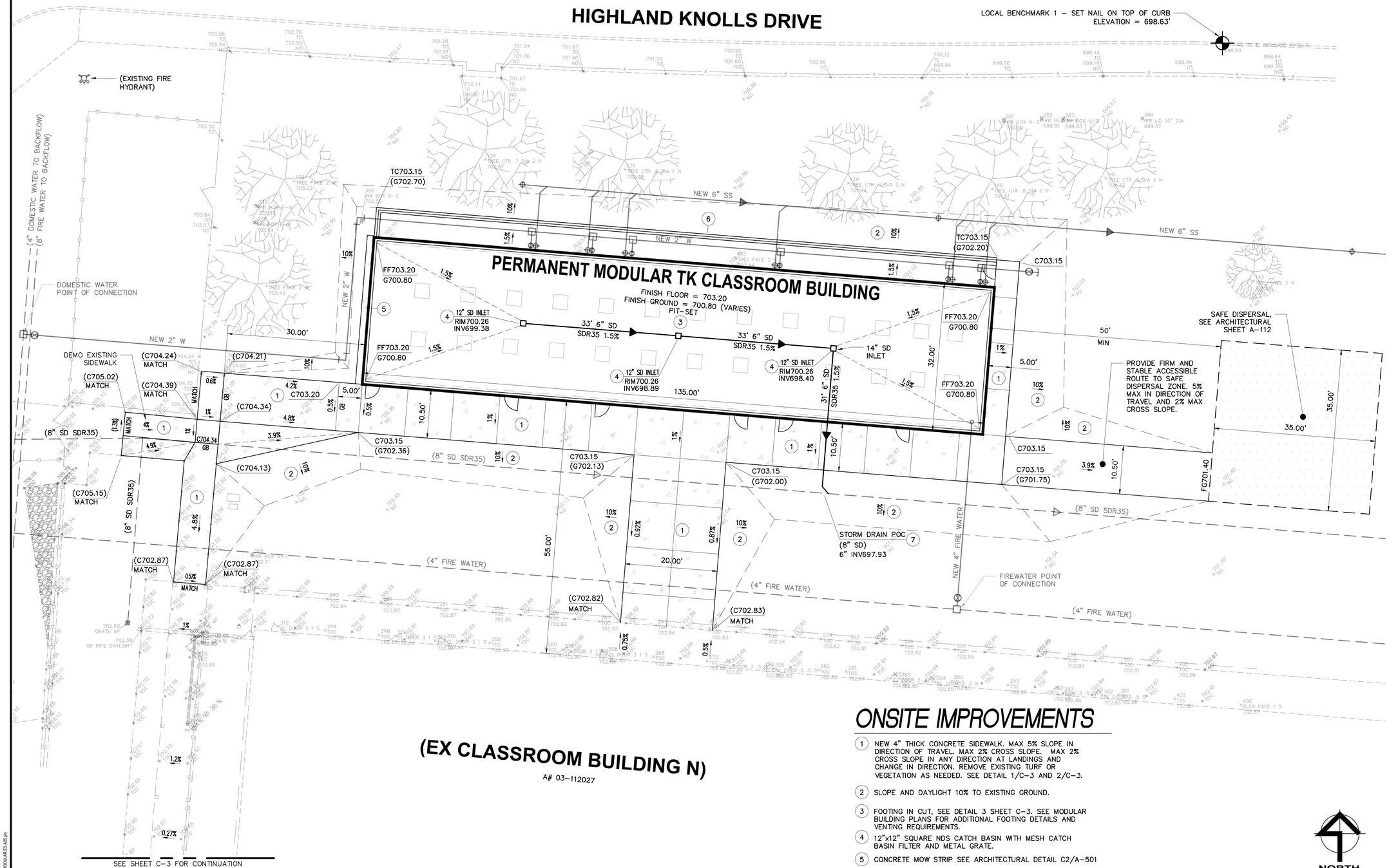
REGISTERED PROFESSIONAL ENGINEER BERNARD ORTIZ SALGADO No. 71320 Exp. 12-31-25 CIVIL STATE OF CALIFORNIA

THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECTION

Bernard O Salgado 7/18/25
BERNARD O. SALGADO, PE DATE

DATE:	BY:	REVISION
8-7-24	BOS	DSA V1 RESPOINSE
4-18-25	BOS	DSA V3 RESPOINSE

DUGLAS K FLETCHER ELEMENTARY SCHOOL
BAKER



GRADING AND DRAINAGE PLAN

NO DEMOLITION SHOWN ON THESE PLANS. SEE ARCHITECTURAL FOR DEMOLITION REQUIREMENTS.

ONSITE IMPROVEMENTS

1. NEW 4" THICK CONCRETE SIDEWALK. MAX 5% SLOPE IN DIRECTION OF TRAVEL. MAX 2% CROSS SLOPE. MAX 2% CROSS SLOPE IN ANY DIRECTION AT LANDINGS AND CHANGE IN DIRECTION. REMOVE EXISTING TURF OR VEGETATION AS NEEDED. SEE DETAIL 1/C–3 AND 2/C–3.
2. SLOPE AND DAYLIGHT 10% TO EXISTING GROUND.
3. FOOTING IN CUT, SEE DETAIL 3 SHEET C–3. SEE MODULAR BUILDING PLANS FOR ADDITIONAL FOOTING DETAILS AND VENTING REQUIREMENTS.
4. 12"x12" SQUARE NDS CATCH BASIN WITH MESH CATCH BASIN FILTER AND METAL GRATE.
5. CONCRETE MOW STRIP SEE ARCHITECTURAL DETAIL C2/A–501
6. FENCE AND MOW STRIP SEE ARCHITECTURAL DETAIL A3/A–501
7. STORM DRAIN POINT OF CONNECTION, TIE INTO EXISTING 8" STORM DRAIN. POTHOLE AND VERIFY SIZE DEPTH AND LOCATION AT START OF PROJECT.

NORTH
0 10 20
5 15
SCALE: 1"=10'

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BERNARD O. SALGADO, PE DATE 4/18/25

DATE:	BY:	REVISION
8–7–24	BOS	DSA V1 RESPOINSE
4–18–25	BOS	DSA V3 RESPOINSE

DUGLAS K FLETCHER ELEMENTARY SCHOOL
BAKERSFIELD CITY SCHOOL DISTRICT
PERMANENT MODULAR TK CLASSROOM BUILDING
9801 HIGHLAND KNOLLS DRIVE, BAKERSFIELD CA 93306
GRADING AND DRAINAGE PLAN
GRADING AND DRAINAGE PLAN

DATE: 4–19–2024
DRAWN BY: AFINAR
SCALE: AS NOTED
JOB#: 2024–11

GD-2
2 OF 7

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LICENSED ARCHITECT MANUEL MALDONADO JR. C-36294 DECEMBER 31, 2026 RENEWAL DATE STATE OF CALIFORNIA

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9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER: 2307
A#: 03-######
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CAD DRAWING FILE: 2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln
DRAWN BY: ASI
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CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

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CIVIL DRAWINGS

SHEET IDENTIFICATION NUMBER
C-2

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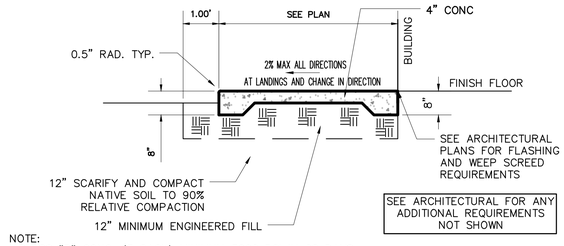
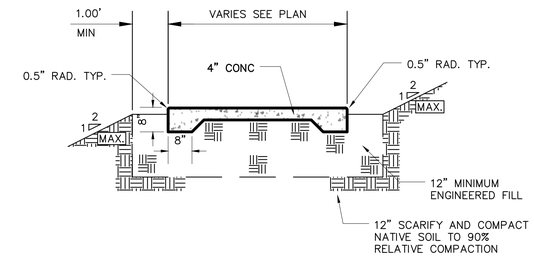


NOTE:
–CLASS "B" CONC. (5 SACK) MINIMUM 3200 PSI IN 28 DAYS
–INSTALL 1/2" EXPANSION JOINT @ 30'
–WEAKEND PLANE JOINTS @ 5' O.C.
–JOINTS IN ADJACENT SIDEWALKS SHALL MATCH
–DOWEL TO EXISTING CONC, DRILL 9/16" ROUND, 8" DEEP HOLE INTO EXISTING CONC, DRY SET 16" LONG #4 REBAR, MIN 24" O.C. NO EPOXY, NO INSPECTION.
–REBAR SHALL CONFORM TO ASTM A615 AND SHALL BE GRADE 40 FOR #3 AND GRADE 60 FOR #4 REBAR AND LARGER

TYPICAL SIDEWALK — 1

"ONSITE DETAILS" SCALE: 1"=2'



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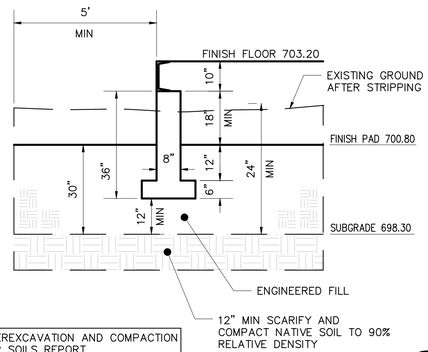
TYPICAL SIDEWALK — 2

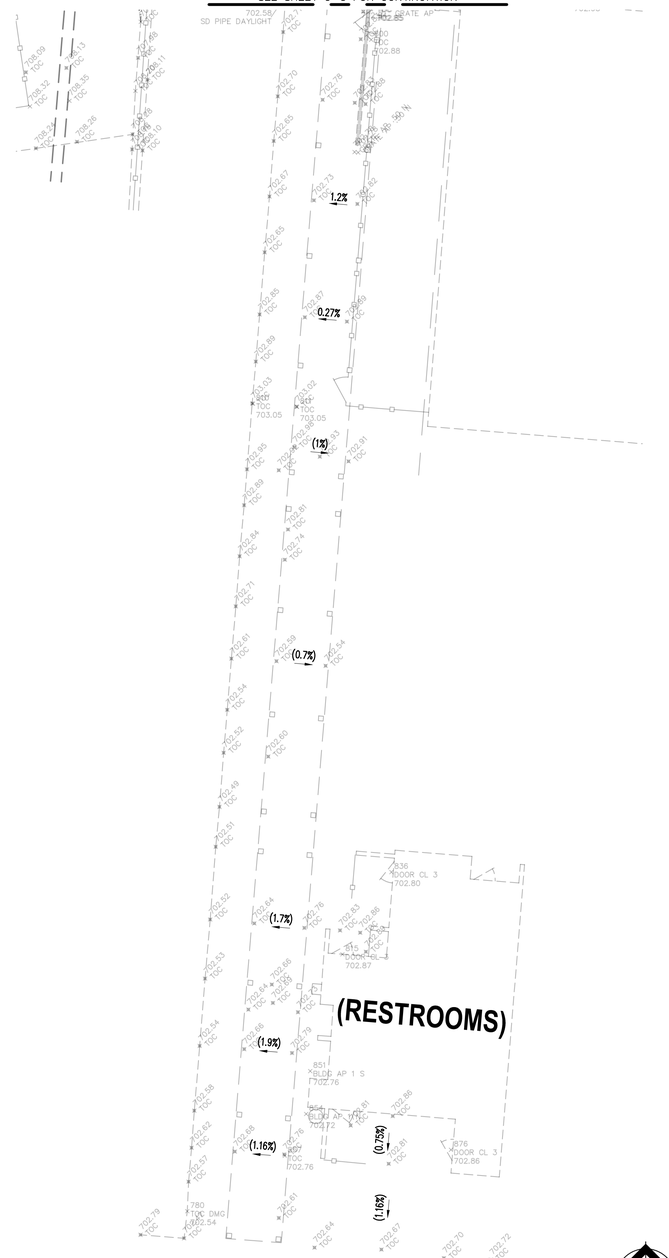
"ONSITE DETAILS" SCALE: 1"=2'



FOOTING IN CUT — 3

"ONSITE DETAILS" SCALE: 1"=2'

SEE SHEET C–3 FOR CONTINUATION



NORTH
0 5 10 15 20
SCALE: 1"=10'

GRADING AND DRAINAGE PLAN

NO DEMOLITION SHOWN ON THESE PLANS. SEE ARCHITECTURAL FOR DEMOLITION REQUIREMENTS.

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Bernard O Salgado 4/18/25

BERNARD O. SALGADO, PE DATE

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4-18-25	BOS	DSA V3 RESPOINSE

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BAKERSFIELD CITY SCHOOL DISTRICT
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GRADING AND DRAINAGE PLAN
GRADING AND DRAINAGE PLAN / DETAILS

DATE: 4-19-2024
DRAWN BY: AFINAR
SCALE: AS NOTED
JOB#: 2024-11

GD-3
3 OF 7

PLOT TIME: 1:51 PM
PLOT DATE: 2025-04-18
PATHNAME: K:\Jobs 2301- 2350\2023\2307\drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

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JAMES R. VARNER, AIA ARCHITECT C-19963
ROBERT TROST, AIA ARCHITECT C-14762
JOSEPH E. ZASOSKI, AIA ARCHITECT C-36742

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSIELD CITY SCHOOL DISTRICT
1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER: 2307
A#: 03-######
PTN: ###-###
CAD DRAWING FILE: 2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln
DRAWN BY: ASI
CHECKED BY: MM

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

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SHEET TITLE
CIVIL DRAWINGS

SHEET IDENTIFICATION NUMBER
C-3

SEWER IMPROVEMENTS

(S1) NEW SEWER POINT OF CONNECTION, TIE INTO EXISTING SEWER MANHOLE. POTHOLE AND FIELD VERIFY EXACT SIZE, DEPTH AND TIE-IN LOCATION AT START OF PROJECT.

(S2) SEWER MANHOLE WITH COVER TO GRADE PER CITY OF BAKERSFIELD STANDARDS SW-2, SW-2A AND SW-6 SHEET C-7.

(S3) 6" PVC SDR-35 GREEN GASKETED SEWER MIN 0.5% SLOPE

(S4) 3" PVC SDR-35 GREEN GASKETED SEWER LATERAL MIN 1% SLOPE WITH CLEAN OUT TO GRADE WITH COVER AT BUILDING SEE DETAIL 1 SHEET C-7.

(S5) 6" SEWER CLEANOUT TO GRADE SEE DETAIL 1 SHEET C-7. SPACE CLEANOUTS EVERY 100' MAX.

DOMESTIC WATER IMPROVEMENTS

(W1) NEW 4" WATER LINE, TIE INTO EXISTING 4" WATERLINE, USE 4"x4" TAPPING SLEEVE WITH 4" FLxMJ GATE VALVE IN BOX. POTHOLE AND VERIFY EXACT TIE IN SIZE, DEPTH AND LOCATION AT START OF PROJECT.

(W2) NEW 4" PVC (C900) BLUE GASKETED WATER LINE MIN 30" COVER.

(W3) NEW PVC FITTINGS-PUSH ON WITH THRUST BLOCKS PER CITY OF BAKERSFIELD - WATER RESOURCES DEPARTMENT STANDARDS W-2 SHEET C-6.

(W4) NEW 1-1/2" POLYETHYLENE (SCHEDULE-40) WATER LINE MIN 30" COVER.

(W5) NEW 1-1/2" HARD COPPER SERVICE RISER, INSULATE ALL LINES ABOVE GROUND AND CAGE - ALSO SEE ARCHITECTURAL/MODULAR BUILDING PLANS.

(W6) NEW 4" GATE VALVE MJxFL W/ BLIND FLANGE FOR FUTURE.

(W7) 4"x1-1/2" BRONZE DOUBLE STRAP CLAMP WITH METER STOP IN BOX. SEE DETAIL 2 SHEET C-7.

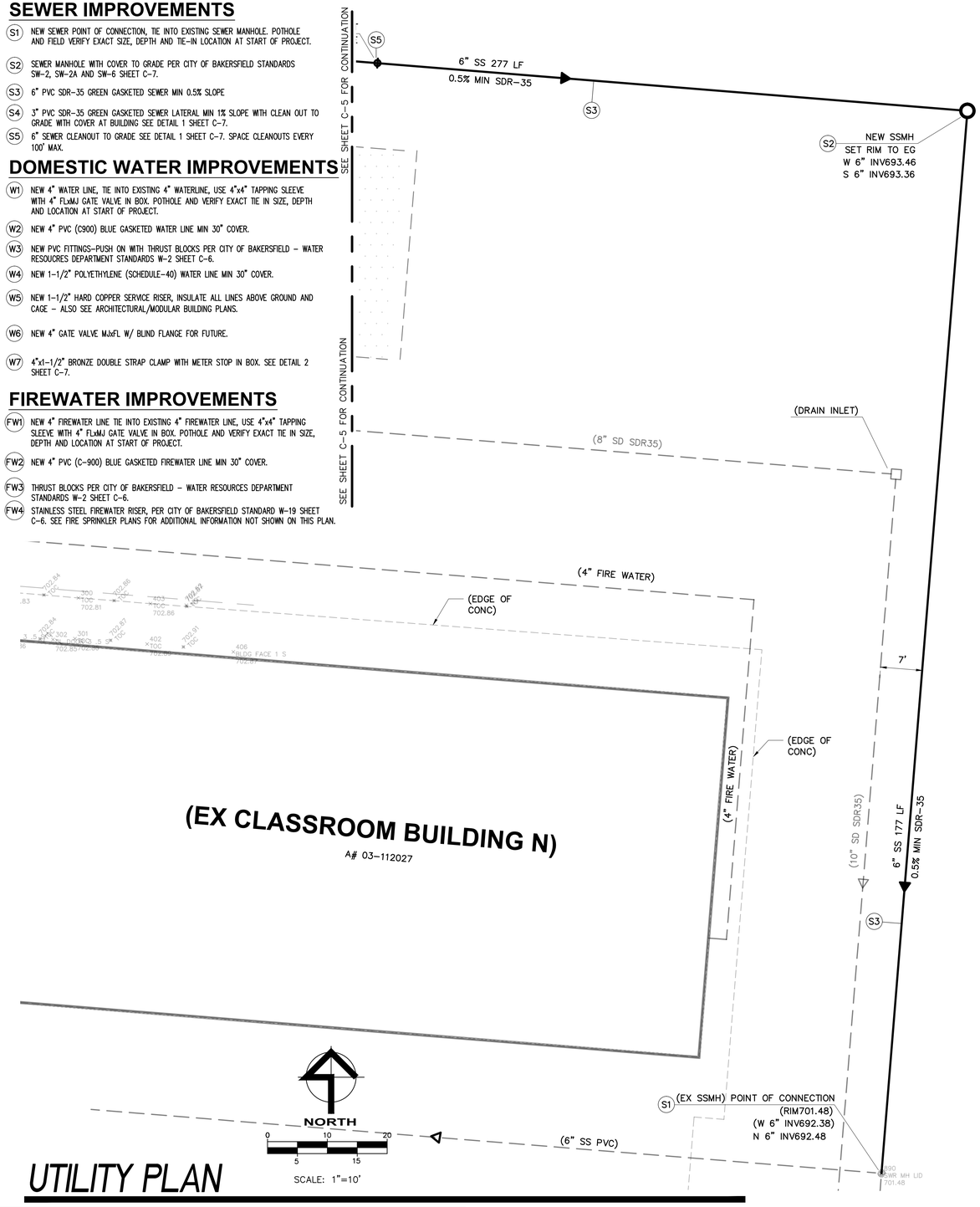
FIREWATER IMPROVEMENTS

(FW1) NEW 4" FIREWATER LINE TIE INTO EXISTING 4" FIREWATER LINE, USE 4"x4" TAPPING SLEEVE WITH 4" FLxMJ GATE VALVE IN BOX. POTHOLE AND VERIFY EXACT TIE IN SIZE, DEPTH AND LOCATION AT START OF PROJECT.

(FW2) NEW 4" PVC (C-900) BLUE GASKETED FIREWATER LINE MIN 30" COVER.

(FW3) THRUST BLOCKS PER CITY OF BAKERSFIELD - WATER RESOURCES DEPARTMENT STANDARDS W-2 SHEET C-6.

(FW4) STAINLESS STEEL FIREWATER RISER, PER CITY OF BAKERSFIELD STANDARD W-19 SHEET C-6. SEE FIRE SPRINKLER PLANS FOR ADDITIONAL INFORMATION NOT SHOWN ON THIS PLAN.



UTILITY PLAN

NO DEMOLITION SHOWN ON THESE PLANS. SEE ARCHITECTURAL FOR DEMOLITION REQUIREMENTS.

GENERAL NOTES FOR SEWER

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF BAKERSFIELD STANDARDS AND SPECIFICATIONS.
2. SEWER SHALL BE SDR 35 PVC GREEN GASKETED PIPE.
3. FINAL TESTING FOR PIPELINE LEAKAGE SHALL BE MADE IN THE PRESENCE OF THE CITY INSPECTOR AFTER BACKFILL HAS BEEN INSPECTED AND APPROVED.
4. ALL TRENCH BACKFILL SHALL BE COMPACTED TO 90% RELATIVE COMPACTION.
5. THE CONTRACTOR SHALL NOTIFY THE CITY OF BAKERSFIELD 48 HOURS PRIOR TO STARTING ANY WORK.
6. IT SHALL BE THE SEWER CONTRACTOR'S RESPONSIBILITY TO SET MANHOLE COVERS TO FINISH GRADE IN ACCORDANCE WITH THE CITY OF BAKERSFIELD STANDARDS.
7. ALL ELEVATIONS SHOWN TO BE EXISTING WERE TAKEN FROM TOPOGRAPHIC SURVEY AND GRADING/UTILITY PLANS FOR SCHOOL SITE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR THE RIGHT-OF-WAY IN ACCORDANCE WITH THE PROVISIONS OF LAW AS IT AFFECTS EACH UTILITY INCLUDING IRRIGATION LINES AND APPURTENANCES AT NO COST TO THE CITY.
9. THE CONTRACTOR SHALL AT NO EXPENSE TO THE CITY PROVIDE ALL NECESSARY SAMPLES AND TESTS REQUIRED BY THE CITY TO ASSURE THAT THE QUALITY OF MATERIALS AND WORKMANSHIP ARE IN ACCORDANCE WITH THESE PLANS AND SAID SPECIFICATIONS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK AND SHALL MAINTAIN ALL FACILITIES COMPLETED AND UNCOMPLETED, UNTIL ACCEPTED BY THE CITY.
11. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND NOTIFY UTILITY COMPANIES 48 HOURS IN ADVANCE OF THE BEGINNING OF CONSTRUCTION.
12. CHISEL "S" ON TOP OF CURB AT EVERY SERVICE LATERAL.
13. UNDERGROUND SERVICE ALERT (USA) SHALL BE NOTIFIED AT LEAST 2 WORKING DAYS BEFORE CONSTRUCTION. TELEPHONE 811.
14. PRIOR TO THE START OF ANY PHASE OF CONSTRUCTION REQUIRING CITY INSPECTION, THE CITY SHALL BE GIVEN AT LEAST 24 HOURS NOTICE.
15. PRIOR TO THE START OF ANY PHASE OF CONSTRUCTION NOT REQUIRING CITY INSPECTION, THE PROJECT ENGINEER SHALL BE GIVEN AT LEAST 24 HOURS NOTICE. (661)716-7443.
16. INSTALL #10 SOLID COATED COPPER DETECTOR WIRE ON ALL PVC PIPE.
17. EXISTING UNDERGROUND STRUCTURES: THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS, OR STRUCTURE SHOWN ON THESE PLANS WERE BASED ON SURFACE EVIDENCE AND AVAILABLE RECORDS. CONTRACTOR SHALL VERIFY ACTUAL LOCATIONS PRIOR TO CONSTRUCTION.

GENERAL NOTES FOR DOMESTIC WATER

1. ALL CONSTRUCTION AND MATERIAL SHALL CONFORM TO THE CITY OF DELANO AS CALLED ON PLANS FOR WATER SYSTEM CONSTRUCTION.
2. DISTANCES SHOWN ARE FROM INTERSECTION TO INTERSECTION OR ANGLE POINT AND ARE APPROXIMATE. THE CONTRACTOR SHOULD VERIFY ALL DISTANCES PRIOR TO ORDERING MATERIALS OR INSTALLATION.
3. NOT USED.
4. INSTALL #10 SOLID COATED COPPER DETECTOR WIRE ON ALL PVC PIPE.
5. GATE VALVES SHALL BE INSTALLED WITH CONCRETE ENCASEMENTS WITH LID LABELED "WATER".
6. ALL 1-1/2" AND 2" DOMESTIC SERVICE LATERALS SHALL BE OF AN APPROVED MATERIAL PER CITY OF BAKERSFIELD STANDARDS.
7. AN ADEQUATE WATER SOURCE FOR FIRE PROTECTION, AS DETERMINED BY FIRE CHIEF, SHALL BE ESTABLISHED AND MAINTAINED PRIOR TO DELIVERY OF COMBUSTIBLE BUILDING MATERIALS, EXCEPT FOR FOUNDATION FRAMING MATERIALS.

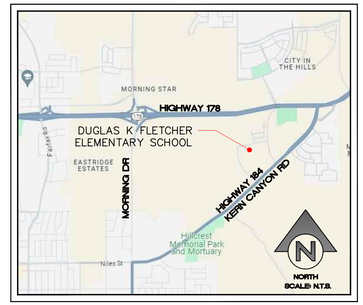
UTILITY COMPANIES

1. ELECTRICITY: PACIFIC GAS & ELECTRIC COMPANY
   4101 WIBLE ROAD
   BAKERSFIELD CA, 93313
   1-661-837-7273
2. GAS: PACIFIC GAS & ELECTRIC COMPANY
   4101 WIBLE ROAD
   BAKERSFIELD CA, 93313
   1-661-837-7273
3. SEWER/WATER: CITY OF BAKERSFIELD
   1000 BUENA VISTA ROAD
   BAKERSFIELD CA, 93311
   1-661-326-3715
4. TELEPHONE/CABLE: SPECTRUM

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THESE PLANS WAS OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. AFINAR, INC IS NOT RESPONSIBLE FOR ANY UNDERGROUND UTILITIES NOT SHOWN ON THIS PLAN. UTILITY POINT OF CONNECTIONS SHALL BE POTHOLED TO VERIFY EXACT, SIZE, DEPTH AND LOCATION PRIOR TO START OF PROJECT.

SEE ARCHITECTURAL/MODULAR BUILDING PLANS FOR COMPLETE DIMENSIONS FOR BUILDING FOORPTINT.

SEE ARCHITECTURAL/MODULAR BUILDING PLANS FOR ADDITIONAL UTILITY INFORMATION NOT SHOWN ON THIS PLAN.



VICINITY MAP

SHEET INDEX

1 OF 7	GD-1	(C-1)	COVER SHEET / NOTES
2 OF 7	GD-2	(C-2)	GRADING AND DRAINAGE PLAN
3 OF 7	GD-3	(C-3)	GRADING AND DRAINAGE PLAN / DETAILS
4 OF 7	U-1	(C-4)	COVER SHEET / SEWER AND WATER NOTES / UTILITY PLAN
5 OF 7	U-2	(C-5)	UTILITY PLAN
6 OF 7	U-3	(C-6)	FIREWATER NOTES / DETAILS
7 OF 7	U-4	(C-7)	DETAILS

UTILITY PLAN LEGEND

PROPOSED LINE	300.00	PROPOSED	45" ELBOW
EXISTING	(300.00)	EXISTING	90" ELBOW
CLEANOUT TO GRADE	PO	PUSH ON	
WM WATER METER	MJ	MECHANICAL JOINT	
EXISTING FIRE HYDRANT ASSEMBLY	FL	FLANGED JOINT	
PROPOSED FIRE HYDRANT ASSEMBLY	TG	TOP OF GRATE	
EXISTING SEWER MANHOLE	FW	FIRE WATER LINE	
PROPOSED SEWER MANHOLE	W	DOMESTIC WATER LINE	
G GAS SERVICE TO BLDG. FIELD VERIFY EXACT STUB OUT LOCATION WITH GAS COMPANY	SD	STORM DRAIN	
	SS	SANITARY SEWER	
	EG	EXISTING GROUND	
	INV	PIPE INVERT	
		RW GATE VALVE	
		TEE	
E ELECTRICAL, CABLE, PHONE SERVICE LOCATION VERIFY EXACT STUB OUT LOCATION WITH ELECTRIC COMPANY, JOINT TRENCH WITH CABLE, PHONE, GAS		TAPPING TEE	
		11 1/2" ELBOW	
		22 1/2" ELBOW	

PRIVATE ENGINEER'S NOTICE TO CONTRACTOR:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THESE PLANS WAS OBTAINED BY TOPOGRAPHIC SURVEY OF THE SURFACE, AND SEARCH OF THE AVAILABLE RECORDS IF AVAILABLE. UTILITIES SHOWN ON THESE PLANS ARE TO THE BEST OF OUR KNOWLEDGE. AFINAR, INC IS NOT RESPONSIBLE FOR ANY UNDERGROUND UTILITIES OR STRUCTURES NOT SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO LOCATE ALL UTILITIES AND TO PROTECT THE UTILITY LINES SHOWN AND NOT SHOWN ON THESE DRAWINGS. IF UTILITIES ARE FOUND THAT ARE NOT SHOWN ON THESE PLANS, CONTACT OWNER, ARCHITECT AND ENGINEER FOR DIRECTION. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES AT START OF PROJECT TO VERIFY THE SIZE, DEPTH AND LOCATION. ANY DISCREPANCY BETWEEN THE PLANS AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.

ALL UTILITIES IN EFFECTED WORK AREA WILL BE POTHOLED AT CONTRACTORS EXPENSE PRIOR TO EXCAVATION. OWNER, ARCHITECT, AND ENGINEER WILL BE NOTIFIED 48 HOURS PRIOR TO POTHOLE WORK. ALL EXPOSED UTILITIES WILL BE INSPECTED AND MEASURED BY SURVEYOR PRIOR TO BACKFILL.

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITION DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR ALSO AGREES TO DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

ENGINEER'S STATEMENT

THESE PLANS AND SPECIFICATIONS WERE PREPARED BY ME OR UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH LOCAL ORDINANCES, STANDARDS AND INCLUDE ALL IMPROVEMENT REQUIREMENTS OF THE ADVISORY AGENCY OR OTHER REVIEW BOARD.

ANY ERRORS, OMISSIONS OR DEVIATIONS FROM THOSE ORDINANCES OR STANDARDS ENCOUNTERED DURING CONSTRUCTION SHALL BE CORRECTED AND SUCH CORRECTIONS REFLECTED ON THE PLANS AND SUBMITTED TO THE ENGINEER.

Bernard O Salgado 4/18/25
BERNARD ORTIZ SALGADO, R.C.E. 71320 DATE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

ordiz melby architects
a professional corporation
5500 Ming Avenue, Suite 280 o: (661) 832-5258
Bakersfield, CA 93309 f: (661) 832-4292
www.ordizmelby.com

DANNY E. ORDIZ, AIA ARCHITECT C-14728
MANUEL MALDONADO JR., AIA ARCHITECT C-36294
ROBERT TROST, AIA ARCHITECT C-14762
JEANINE S. BERTOLACCINI, AIA ARCHITECT C-35596
JAMES R. VARNER, AIA ARCHITECT C-15963
JOSEPH E. ZASOSKI, AIA ARCHITECT C-36742

LICENSED ARCHITECT
MANUEL MALDONADO JR.
C-36294
RENEWAL DATE DECEMBER 31, 2026
STATE OF CALIFORNIA

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSFIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

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CIVIL DRAWINGS

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CONSULTING CIVIL ENGINEERS
Established 1997

214 BERNARD STREET
BAKERSFIELD, CA 93305
P:(661)716-7443 F:(661)716-7443
www.afinar.net

REGISTERED PROFESSIONAL ENGINEER
BERNARD ORTIZ SALGADO
No. 71320
Exp. 12-31-25
CIVIL
STATE OF CALIFORNIA

THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECTION

Bernard O Salgado 4/18/25
BERNARD O. SALGADO, PE DATE

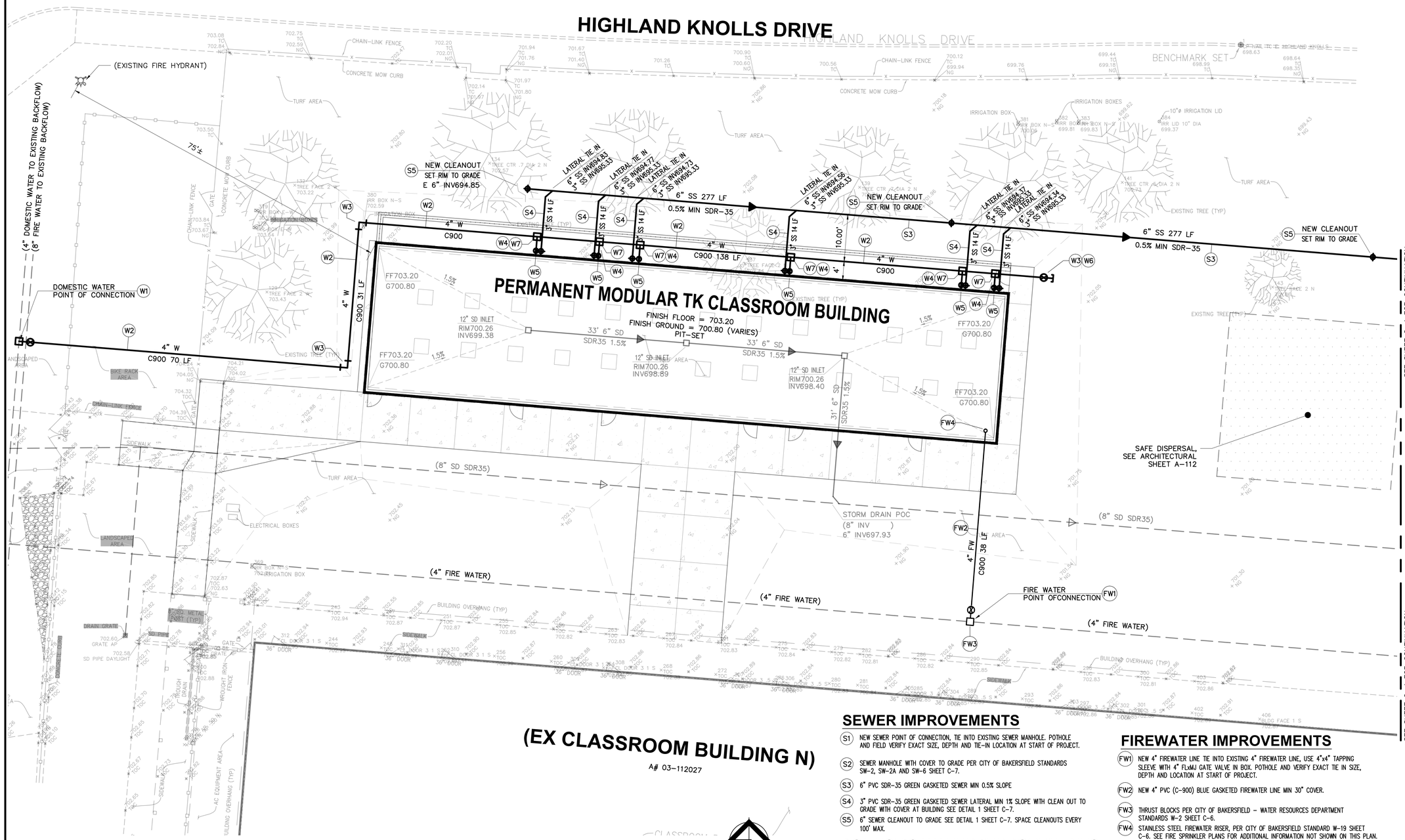
DATE:	BY:	REVISION
8-7-24	BOS	DSA V1 RESPOINSE
4-18-25	BOS	DSA V3 RESPOINSE

DUGLAS K FLETCHER ELEMENTARY SCHOOL
BAKERSFIELD CITY SCHOOL DISTRICT
PERMANENT MODULAR TK CLASSROOM BUILDING
9801 HIGHLAND KNOLLS DRIVE, BAKERSFIELD CA 93306
UTILITY PLAN
COVER SHEET / SEWER AND DOMESTIC WATER NOTES / UTILITY PLAN

DATE: 4-19-2024
DRAWN BY: AFINAR
SCALE: AS NOTED
JOB#: 2024-11

U-1
4 OF 7

PLOT TIME: 1:51 PM
PLOT DATE: 7/25/2024
PATH/NAME: K:\Jobs 23\1- 2350\2023\2307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln



(EX CLASSROOM BUILDING N)

A# 03-112027

NORTH

0 10 20

5 15

SCALE: 1"=10'

UTILITY PLAN

NO DEMOLITION SHOWN ON THESE PLANS. SEE ARCHITECTURAL FOR DEMOLITION REQUIREMENTS.

SEWER IMPROVEMENTS

- S1 NEW SEWER POINT OF CONNECTION, TIE INTO EXISTING SEWER MANHOLE. POTHOLE AND FIELD VERIFY EXACT SIZE, DEPTH AND TIE-IN LOCATION AT START OF PROJECT.
- S2 SEWER MANHOLE WITH COVER TO GRADE PER CITY OF BAKERSFIELD STANDARDS SW-2, SW-2A AND SW-6 SHEET C-7.
- S3 6" PVC SDR-35 GREEN GASKETED SEWER MIN 0.5% SLOPE
- S4 3" PVC SDR-35 GREEN GASKETED SEWER LATERAL MIN 1% SLOPE WITH CLEAN OUT TO GRADE WITH COVER AT BUILDING SEE DETAIL 1 SHEET C-7.
- S5 6" SEWER CLEANOUT TO GRADE SEE DETAIL 1 SHEET C-7. SPACE CLEANOUTS EVERY 100' MAX.

FIREWATER IMPROVEMENTS

- FW1 NEW 4" FIREWATER LINE TIE INTO EXISTING 4" FIREWATER LINE, USE 4"x4" TAPPING SLEEVE WITH 4" FLxMJ GATE VALVE IN BOX. POTHOLE AND VERIFY EXACT TIE IN SIZE, DEPTH AND LOCATION AT START OF PROJECT.
- FW2 NEW 4" PVC (C-900) BLUE GASKETED FIREWATER LINE MIN 30" COVER.
- FW3 THRUST BLOCKS PER CITY OF BAKERSFIELD – WATER RESOURCES DEPARTMENT STANDARDS W-2 SHEET C-6.
- FW4 STAINLESS STEEL FIREWATER RISER, PER CITY OF BAKERSFIELD STANDARD W-19 SHEET C-6. SEE FIRE SPRINKLER PLANS FOR ADDITIONAL INFORMATION NOT SHOWN ON THIS PLAN.

DOMESTIC WATER IMPROVEMENTS

- W1 NEW 4" WATER LINE, TIE INTO EXISTING 4" WATERLINE, USE 4"x4" TAPPING SLEEVE WITH 4" FLxMJ GATE VALVE IN BOX. POTHOLE AND VERIFY EXACT TIE IN SIZE, DEPTH AND LOCATION AT START OF PROJECT.
- W2 NEW 4" PVC (C900) BLUE GASKETED WATER LINE MIN 30" COVER.
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- W7 4"x1-1/2" BRONZE DOUBLE STRAP CLAMP WITH METER STOP IN BOX. SEE DETAIL 2 SHEET C-7.

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THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECTION

Bernard O Salgado 4/18/25

BERNARD O. SALGADO, PE DATE

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BAKERSFIELD CITY SCHOOL DISTRICT
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5 OF 7

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PATHNAME: K:\Jobs-23\01-23\20232307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

ordiz melby architects
a professional corporation
5500 Ming Avenue, Suite 280 o: (661) 832-5258
Bakersfield, CA 93309 f: (661) 832-4292
www.ordizmelby.com

LICENSED ARCHITECT MANUEL MALDONADO JR. C-36294 DECEMBER 31, 2025 RENEWAL DATE STATE OF CALIFORNIA

DANNY E. ORDIZ, AIA ARCHITECT C-14728
JEANINE S. BERTOLACCINI, AIA ARCHITECT C-35596
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SHEET TITLE

CIVIL DRAWINGS

SHEET IDENTIFICATION NUMBER

C-5

GENERAL NOTES FOR FIREWATER

FIRE PREVENTION REGULATIONS:

1.) THE PRIVATE, UNDERGROUND FIRE LINES, WATER TANKS, FIRE PUMP, FIRE HYDRANTS AND COMMERCIAL SPRINKLER SYSTEM SHALL MEET THE REQUIREMENTS OF 2016 CALIFORNIA FIRE CODE, ALONG WITH;
–NFPA 13–STANDARDS FOR INSTALLATION OF FIRE SPRINKLERS
–NFPA 25–STANDARDS FOR INSPECTION, TESTING, AND MAINTENANCE OF WATER BASED FIRE PROTECTION SYSTEMS
–NFPA 24–STANDARDS FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAIN AND THEIR APPURTENANCES
–NFPA 13E– RECOMMENDED PRACTICE FOR FIRE DEPARTMENT OPERATIONS IN PROPERTIES PROTECTED BY SPRINKLER AND STANDPIPE SYSTEMS.

2.) NEW FIRE SPRINKLER SYSTEM FOR PROPOSED BUILDING IS NOT A PART OF THESE PLANS

3.) WATER SYSTEM TO BE CONSTRUCTED PER CITY OF BAKERSFIELD WATER RESOURCES DEPARTMENT STANDARDS AND SPECIFICATIONS FOR DOMESTIC WATER SYSTEMS (COBWRDSS), LATEST REVISION. COPIES OF SAID SPECIFICATIONS ARE AVAILABLE ON THE CITY OF BAKERSFIELD WEBSITE, WWW.BAKERSFIELDCITY.US.

4.) ALL CONSTRUCTION AND MATERIAL SHALL CONFORM TO THE COBWRDSS FOR WATER SYSTEM CONSTRUCTION.

5.) DISTANCES SHOWN ARE FROM INTERSECTION TO INTERSECTION OR ANGLE POINT AND ARE APPROXIMATE. THE CONTRACTOR SHOULD VERIFY ALL DISTANCES PRIOR TO ORDERING MATERIALS OR INSTALLATION.

6.) ALL EXISTING AND NEW FIRE HYDRANTS FOR THIS PROJECT ARE SHOWN, EXACT FIRE HYDRANT LOCATIONS TO BE VERIFIED BY BAKERSFIELD FIRE DEPARTMENT IN FIELD.

7.) INSTALL #10 SOLID COATED COPPER DETECTOR WIRE ON ALL PVC PIPE.

8.) GATE VALVES SHALL BE INSTALLED WITH VALVE BOX PER COBWRDSS W-12..

9.) AN ADEQUATE WATER SOURCE FOR FIRE PROTECTION, AS DETERMINED BY BAKERSFIELD FIRE DEPARTMENT, SHALL BE ESTABLISHED AND MAINTAINED PRIOR TO DELIVERY OF COMBUSTIBLE BUILDING MATERIALS, EXCEPT FOR FOUNDATION FRAMING MATERIALS.

10.) ALL LOCATIONS AND DEPTHS AT TIE–IN LOCATIONS TO BE FIELD VERIFIED.

11.) ALL FIRE SERVICES TO BUILDING TO BE C900, AWWA C151 OR APPROVED EQUAL.

12.) SEPARATION DISTANCES SPECIFIED SHALL BE MEASURED FROM THE NEAREST EDGE OF FACILITIES.

13.) THE "CALIFORNIA WATERWORKS STANDARDS" SETS FORTH THE MINIMUM SEPARATION REQUIREMENTS FOR WATER MAINS AND SEWER LINES. THESE STANDARDS ARE CONTAINED IN SECTION 61630, TITLE 20, CALIFORNIA ADMINISTRATIVE CODE.

14.) REFER TO THE COBWRDSS FOR WATER MAIN CONSTRUCTION REQUIREMENTS.

15.) ALL SYSTEMS WILL REQUIRE RETAINING GLANDS WITH MECHANICAL JOINTS.

16.) ALL EXCAVATIONS FOR WATER SYSTEM CONSTRUCTION SHALL BE BACKFILLED, COMPACTED, AND FINISHED IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE PERMIT. THE MINIMUM COMPACTION REQUIREMENTS OF ANY EXCAVATION ARE 90% RELATIVE COMPACTION FROM SUBGRADE TO THE BOTTOM OF EXCAVATION.

17.) ALL WATER MATERIALS SUCH AS TYPE, CLASS OF PIPING, MINIMUM DEPTH, AND FITTING TYPE SHALL CONFORM WITH THE COB STANDARDS.

MINIMUM REQUIREMENTS:

A. IT IS THE RESPONSIBILITY IF THE OWNER TO PROPERLY MAINTAIN THE FIRE PROTECTION SYSTEM IN AN OPERABLE CONDITION AT ALL TIMES.

B. THE FIRE PROTECTION CONTRACTOR WILL PROVIDE THE OWNER WITH THE NECESSARY INSTRUCTION MANUALS FOR THE UPKEEP OF THE SYSTEM, AS WELL AS A COPY OF NFPA 25.

C. ONLY NEW SPRINKLERS SHALL BE EMPLOYED IN THE INSTALLATIONS OF THE SPRINKLER SYSTEM.

D. THE SYSTEM SHALL ONLY EMPLOY THE USE OF APPROVED MATERIALS AND DEVICES.

E. FIRE PROTECTIONS PLANS SHALL BE APPROVED PRIOR TO THE INSTALLATION OF ANY PIPE. A SET OF APPROVED PLANS SHALL BE MAINTAINED AT ALL TIMES AT THE JOB SITE.

F. AN APPOINTMENT SHALL BE MADE A MINIMUM OF TWO WORKING DAYS IN ADVANCE, WITH THE APPROPRIATE FIRE PREVENTION DIVISION REGIONAL OFFICE FOR ALL INSPECTIONS AND TESTS.

G. ALL UNDERGROUND MAIN AND LEAD–IN CONNECTIONS SHALL BE FLUSHED, AS INDICATED IN NFPA 24 PRIOR TO CONNECTING TO THE OVERHEAD PIPING. THE FLUSHING SHALL CONTINUE UNTIL THE WATER IS CLEAR. FLUSHING SHALL BE PERFORMED AT THE TIME OF THE HYDROSTATIC TEST, AND SHALL BE WITNESSED BY A FIRE PREVENTION DIVISION INSPECTOR.

H. SYSTEM PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR TWO HOURS OR AT 50 PSI ABOVE THE MAXIMUM SYSTEM OPERATING PRESSURE, WHICHEVER IS GREATER.

I. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE ADDRESS SIDE OF THE BUILDING, FACE THE STREET, BE VISIBLE AND ACCESSIBLE, HAVE NST FEMALE INLETS, HAVE PROTECTIVE CAPS, AND AN ACCESSIBLE, APPROVED CHECK VALVE LOCATED IN THE MAIN LINE (AS CLOSE TO THE INLETS AS POSSIBLE).

J. ALL VALVES AND FIRE DEPARTMENT CONNECTIONS SHALL HAVE PERMANENTLY AFFIXED SIGNS, INDICATING THEIR FUNCTION.

K. A STOCK OF SPARE SPRINKLERS OF EACH STYLE, TYPE, AND TEMPERATURE RATING ALONG WITH A SPRINKLER WRENCH SHALL BE LOCATED AT THE MAIN RISER.

L. ANY PORTION OF A WET FIRE PROTECTION SYSTEM EXPOSED TO FREEZING TEMPERATURES SHALL BE ADEQUATELY PROTECTED. (HEAT TAPE IS NOT AN ACCEPTABLE METHOD OF PROTECTION).

M. WELDING SHALL BE PERFORMED PER NFPA 13 REQUIREMENTS.

N. AUTOMATIC SPRINKLER SYSTEMS SHALL BE SUPERVISED BY A LISTED/APPROVED CENTRAL, PROPRIETARY, OR REMOTE STATION, OR A LOCAL ALARM WHEN APPROVED BY THE CHIEF. WHICH WILL GIVE AN AUDIBLE SIGNAL AT A CONSTANTLY ATTENDED LOCATION WHEN THE NUMBER OF SPRINKLERS IS 100 OR MORE.

EXCEPTION: 20 OR MORE IN GROUP I, DIVISION 1.1 AND 1.2 OCCUPANCIES.

PIPELINE MATERIALS

2–04. DUCTILE IRON PIPE.

DUCTILE IRON PIPE SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C150/A21.50 FOR A MINIMUM 250 PSI (OR PROJECT REQUIREMENTS, WHICHEVER IS GREATER) RATED WORKING PRESSURE PLUS A 100 PSI MINIMUM SURGE ALLOWANCE; A 2 TO 1 FACTOR OF SAFETY.

DUCTILE IRON PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C151/A21.51. EACH PIPE SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE TEST OF AT LEAST 500 PSI AT THE POINT OF MANUFACTURE.

PIPE SHALL HAVE STANDARD ASPHALTIC PIPE COATING ON THE EXTERIOR AND A DOUBLE THICKNESS CEMENT MORTAR LINING ON THE INTERIOR IN ACCORDANCE WITH ANSI/AWWA C104/A21.4, OF LATEST REVISION.

MANUFACTURERS CERTIFICATES INDICATING THAT PIPE HAS BEEN DOUBLE LINED MUST BE SUBMITTED WITH EACH PIPE DELIVERY.

THE CLASS OR NOMINAL THICKNESS, NET WEIGHT WITHOUT LINING, AND NAME OF MANUFACTURER SHALL BE CLEARLY MARKED ON EACH LENGTH OF PIPE. ADDITIONALLY, THE LETTERS "DI" OR "DUCTILE" AND THE COUNTRY WHERE CAST SHALL BE CAST OR STAMPED ON PIPE.

A. JOINTS.
ALL PIPE SHALL BE FURNISHED WITH EITHER PUSH–ON TYPE JOINTS, SUCH AS "TYTON" OR "FASTITE", OR MECHANICAL JOINTS. JOINTS SHALL BE IN ACCORDANCE WITH ANSI/AWWA C111/A21.11, OF LATEST REVISION, AND BE FURNISHED COMPLETE WITH ALL NECESSARY ACCESSORIES.

PUSH ON RESTRAINT: WHEN RESTRAINING PUSH ON JOINTS ADJACENT TO RESTRAINED FITTINGS, A HARNESS RESTRAINT DEVICE SHALL BE USED. ALL HARNESSES SHALL HAVE A PRESSURE RATING EQUAL TO THAT OF THE PIPE ON WHICH IT IS USED THROUGH 14". HARNESS ASSEMBLIES, INCLUDING THE BOLTS, SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536–80. HARNESS SHALL BE MANUFACTURED BY EBBA IRON, INC. OR APPROVED EQUAL.

B. FITTINGS FOR DUCTILE IRON PIPE.
FITTINGS SHALL BE DUCTILE IRON. DUCTILE IRON FITTINGS SHALL CONFORM TO THE LATEST REVISIONS OF EITHER ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. FITTINGS SHALL HAVE A STANDARD ASPHALTIC COATING ON THE EXTERIOR AND A DOUBLE THICKNESS CEMENT MORTAR LINING ON THE INTERIOR IN ACCORDANCE WITH ANSI/AWWA C14/A21.11, OF LATEST REVISION.

ALL FITTINGS AND ACCESSORIES SHALL BE FURNISHED WITH MECHANICAL JOINTS IN ACCORDANCE WITH ANSI/AWW C111/A21.11, OF LATEST REVISION. RETAINING GLANDS WILL BE REQUIRED ON ALL M.J. FITTINGS. THE DESIGN OF ALL CONNECTIONS BETWEEN DUCTILE IRON PIPE AND OTHER TYPES OF PIPE SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL PRIOR TO ORDERING THE CONNECTION MATERIALS.

MECHANICAL RESTRAINED JOINTS: RESTRAINED JOINT FITTINGS SHALL BE PROVIDED AT ALL TEES, CROSSES, REDUCERS, BENDS, CAPS, PLUGS, AND VALVES SUCH THAT THE PIPE IS FULLY RESTRAINED IN ANY ONE GIVEN DIRECTION.

THESE SHALL MEET UNI–B–13 FOR PVC AND BE UL/FM APPROVED THROUGH 12" FOR BOTH DUCTILE IRON AND PVC. THE RESTRAINT MECHANISM SHALL CONSIST OF INDIVIDUALLY ACTIVATED GRIPPING SURFACES TO MAXIMIZE RESTRAINT CAPABILITY. TWST OFF NUTS, SIZED THE SAME AS THE TEE–HEAD BOLTS, SHALL BE USED TO INSURE PROPER ACTIVATING OF RESTRAINING DEVICES. THE GLAND SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536–80. THE RATAINER–GLAND SHALL HAVE A PRESSURE RATING EQUAL TO THAT OF THE PIPE ON WHICH IT IS USED THROUGH 14" WITH A MINIMUM SAFELY FACTOR OF 2:1. SEE STANDARD DRAWINGS W–18, W–19, W–20, 2–21, W–22, AND W–23. GLAND SHALL BE MEGALUG BY ABBA IRON, INC. OR APPROVED EQUAL.

C. INSTALLATION OF DUCTILE IRON PIPE AND FITTINGS.
ALL PIPE, FITTINGS, AND ACCESSORIES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE LATEST REVISION OF AWWA STANDARD C600. NEWLY INSTALLED DUCTILE IRON WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH THE LATEST REVISION OF AWWA STANDARD C651 PRIOR TO PLACING IN SERVICE.

D. CONNECTIONS.
ALL CONNECTIONS FOR FIREWATER SERVICE SHALL BE MADE DOUBLE STRAP SERVICE SADDLE, BRONZE OR MALLEABLE IRON WITH STAINLESS STEEL STRAPS USE APPROVED SADDLE FOR PVC PIPE.

E. SHORT PIPE LENGTHS.
SHORT LENGTHS OF PIPE NO LESS THAN ONE HALF THE LENGTH OF A STANDARD PIPE SECTION SHALL BE USED ONLY WHERE NECESSARY TO PERMIT THE DEFLECTIONS REQUIRED FOR ABRUPT CHANGES OF GRADE OR SHORT RADIUS CURVES. IF SHORT LENGTHS OF PIPE ARE REQUIRED TO NECESSITATE PLACING A VALVE OR FITTING ON STATION, THE SHORT LENGTH SHALL BE INSTALLED A MINIMUM OF ONE FULL PIPE LENGTH AWAY FROM SAID FITTING.

2–05. POLYVINYL CHLORIDE (PVC) PIPE.

POLYVINYL CHLORIDE (PVC) PIPE AND JOINTS SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA STANDARD C900 CL 150, LATEST REVISION, AND APPENDIX A OF SAID STANDARD. ALL PIPE SHALL HAVE A DIMENSION RATIO (DR) AS SHOWN ON THE APPROVED PLANS. IF THE DR IS NOT SPECIFIED, DR 18 SHALL BE INSTALLED.

PIPE MARKINGS SHALL BE IN ACCORDANCE WITH ANSI/AWWA STANDARD C900 INCLUDING THE SEAL (MARK) OF THE TESTING AGENCY WHICH VERIFIED THE SUITABILITY OF THE PIPE MATERIAL FOR POTABLE–WATER SERWCE. AN AFFIDAVIT OF COMPLIANCE TO SPECIFICATIONS SHALL BE PROVIDED FOR ALL DELIVERED MATERIALS.

A. FITTINGS FOR POLYVINYL CHLORIDE (PVC) PIPE.
FITTINGS SHALL BE DUCTILE IRON AND SHALL CONFORM TO THE LATEST REVISION OF EITHER ANSI/AWWA STANDARD C110/A21.10 OR ANSI/AWWA C153/A21.53 CLASS 350. FITTING SHALL BE CEMENT MORTAR LINED PER ANSI/AWWA STANDARD C104/A21.5

ALL FITTINGS AND ACCESSORIES SHALL BE FURNISHED WITH MECHANICAL JOINTS IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA STANDARD C111/A21.11. ALL FITTING JOINTS SHALL HAVE RESTRAINING DEVICES IN ACCORDANCE WITH THE LATEST REVISION OF UNI–BELL STANDARD UNI–B–13.

THE DESIGN OF ALL CONNECTIONS BETWEEN POLYVINYL CHLORIDE (PVC) PIPE AND OTHER TYPES OF PIPE SHALL BE SUBMITTED TO GOVERNING AGENCY FOR APPROVAL PRIOR TO ORDERING THE CONNECTION MATERIALS.

MECHANICAL RESTRAINED JOINTS: RESTRAINED JOINT FITTINGS SHALL BE PROVIDED AT ALL TEES, CROSSES, REDUCERS, BENDS, CAPS, PLUGS, AND VALVES SUCH THAT THE PIPE IS FULLY RESTRAINED IN ANY ONE GIVEN DIRECTION.
THESE SHALL MEET UNI–B–13 FOR PVC AND BE UL/FM APPROVED THROUGH 12" FOR BOTH DUCTILE IRON AND PVC. THE RESTRAINT MECHANISM SHALL CONSIST OF INDIVIDUALLY ACTIVATED GRIPPING SURFACES TO MAXIMIZE RESTRAINT CAPABILITY. TWST–OFF NUTS, SIZED THE SAME AS THE TEE–HEAD BOLTS, SHALL BE USED TO INSURE PROPER ACTIVATING OF RESTRAINING DEVICES. THE GLAND SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536–80. THE RETAINER–GLAND SHALL HAVE A PRESSURE RATING EQUAL TO THAT OF THE PIPE ON WHICH IT IS USED THROUGH 14" WITH A MINIMUM SAFETY FACTOR OF 2:1. SEE STANDARD DRAWINGS W–18, W–19, W–20, W–21, W–22, W–23. GLAND SHALL BE MEGALUG BY EBBA IRON, INC. OR APPROVED EQUAL.
B. CURVES AND BENDS.
CHANGES IN ALIGNMENT AND GRADE MAY BE MADE BY DEFLECTING THE PIPE UNITS AT JOINTS AS PROVIDED HEREIN AND PIPE UNITS SHORTER THAN STANDARD LENGTH MAY BE REQUIRED. PIPE JOINTS SHALL NOT BE DEFLECTED MORE THAN HALF OF THE MANUFACTURER'S RECOMMENDATION. PIPE WITH FACTORY INSTALLED COUPLINGS SHALL BE DEFLECTED NOT MORE THAN HALF THE ALLOWABLE DEFLECTION FOR FIELD INSTALLED COUPLINGS.

IF NECESSARY, ALTERNATE METHODS OF PROVIDING CURVES IN PIPELINES OTHER THAN SHOWN ON THE PLANS MAY BE SUBMITTED TO THE DISTRICT FOR APPROVAL.

WHERE NO RADIUS IS GIVEN AT MINOR POINTS OF INTERSECTION, THE DEFLECTION ANGLE SHALL BE ACCOMPLISHED BY MAKING THE DEFLECTION AT ONE OR MORE COUPLINGS AS REQUIRED.

SHORT LENGTHS OF PIPE NO LESS THAN ONE HALF THE LENGTH OF A STANDARD PIPE SECTION SHALL BE USED ONLY WHERE NECESSARY TO PERMIT THE DEFLECTIONS REQUIRED FOR ABRUPT CHANGES OF GRADE OR SHORT RADIUS CURVES. IF SHORT LENGTHS OF PIPE ARE REQUIRED TO NECESSITATE PLACING A VALVE OR FITTING ON STATION, THE SHORT LENGTH SHALL BE INSTALLED A MINIMUM OF ONE FULL PIPE LENGTH AWAY FROM SAID FITTING.

C. IDENTIFICATION WIRE.
IDENTIFICATION WIRE SHALL BE INSTALLED WITH ALL POLYVINYL CHLORIDE (PVC) PIPE. THE WIRE SHALL BE INSULATED 14 GAUGE COPPER. THE WIRE SHALL BE PLACED ON THE TOP OF THE PIPE ON THE CENTERLINE OF THE PIPE. THE WIRE SHALL BE FASTENED SECURELY AT EACH COLLAR OR FITTING WITH AN EIGHT (8) INCH LENGTH OF TWO (2) INCH WIDE DUCT TAPE OR OTHER APPROVED METHOD. ALL SPLICES TO BE ENCAPSULATED WITH RUBBER SEALING TAPE PER DUET INDUSTRIES OR APPROVED EQUAL AND SHALL BE IN HYDRANT PADS WHERE POSSIBLE. THE WIRE SHALL BE TESTED PRIOR TO ISSUANCE OF FIRE SYSTEM ACTIVATION LETTER TO ENSURE CONTINUITY. TESTING MUST BE WITNESSED BY CALIFORNIA WATER SERVICE INSPECTOR AND/OR CITY OF BAKERSFIELD WATER RESOURCES DEPARTMENT INSPECTOR.

D. CONNECTIONS.
ALL CONNECTIONS FOR FIREWATER SERVICE SHALL BE MADE WITH DOUBLE STRAP SERVICE SADDLE, BRONZE OR MALLEABLE IRON WITH STAINLESS STEEL STRAPS USE APPROVED SADDLE FOR PVC PIPE.

E. UNDERGROUND MARKING TAPE
. UNDERGROUND MARKING TAPE SHALL BE INSTALLED WITH ALL PVC PIPE. THE TAPE SHALL BE PLACED A MINIMUM OF ONE (1) FOOT ABOVE THE PIPE WITH THE LETTERING FACING UP. IT SHALL BE SIX (6) INCHES WIDE, BLUE IN COLOR, WITH THE FOLLOWING WORDING: "CAUTION – WATER LINE BURIED BELOW", STRETCHABLE, AND CONSTRUCTED OF SIX (6) PLY HIGH–DENSITY COPOLYMER. THE TAPE SHALL BE TERRA TAPE EXTRA STRETCH 540 OR APPROVED EQUAL MEETING THE REQUIREMENTS LISTED ABOVE. F. PUSH ON RESTRAINT: WHEN RESTRAINING PUSH ON JOINTS ADJACENT TO RESTRAINED FITTINGS, A HARNESS RESTRAINT DEVICE SHALL BE USED. ALL HARNESSES SHALL HAVE A PRESSURE RATING EQUAL TO THAT OF THE PIPE ON WHICH IT IS USED THROUGH 14". HARNESS ASSEMBLIES, INCLUDING THE BOLTS, SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536–80. HARNESS SHALL BE MANUFACTURED BY EBBA IRON, INC. OR APPROVED EQUAL.

VALVES, FIRE HYDRANTS, AND APPURTENANCES

3–01. GATE VALVES.

UNLESS OTHERWISE SPECIFIED, NO GATE VALVES LARGER THAN TEN (10) INCHES SHALL BE USED.

ALL GATE VALVES MUST EQUAL OR EXCEED THE REQUIREMENTS OF THE LATEST REVISION OF AWWA C500 OR AWWA C509, STANDARDS FOR GATE VALVES AND RESILIENT–SEATED GATE VALVES, AND SHALL FURTHER BE MUELLER, STOCKHAM, CLOW, KENNEDY, A.P. SMITH, AMERICAN, OR APPROVED EQUAL.

VALVES SUPPLIED SHALL BE RESILIENT SEATED, ALL BRONZE OF THE TYPE SPECIFIED DOUBLE DISC. PARALLEL SEAT OR RESILIENT WEDGE, WITH O–RING SEALS, NON–RISING STEMS, TWO (2) INCH OPERATION NUT, OPENING LEFT.

VALVES SPECIFIED "WITH HANDWHEELS" SHALL BE SUPPLIED WITH OPERATING HANDWHEELS INSTEAD OF TWO (2) INCH OPERATING NUT.

VALVE ENDS SHALL CONFORM TO AWWA STANDARD; FLANGED ENDS PER AWWA C110 AS REQUIRED FOR STEEL PIPE; OR MECHANICAL JOINTS AS REQUIRED FOR DUCTILE IRON AND POLYVINYL CHLORIDE (PVC) PIPE.

VALVES SHALL BE SUITABLE FOR BURIED SERVICE AND HORIZONTAL MOUNTING. VALVES SHALL BE ADEQUATELY ANCHORED FOR THRUST IN ACCORDANCE WITH THE REQUIREMENTS OF THESE SPECIFICATIONS AND AS SHOWN IN THE STANDARD DRAWING W–3 AND W–12.

A. GATES VALVES TWO AND ONE–HALF (2–1/2) INCHES AND SMALLER.
VALVES SHALL CONFORM TO FED. SPEC. WW–V–54, TYPE III, CLASS C, AND STYLE AS REQUIRED. VALVES SHALL BE SUPPLIED WITH OPERATING HANDWHEELS.

3–08. VALVE BOXES AND COVERS.

VALVE BOXES FOR BURIED VALVES SHALL BE INSTALLED WITH (12) INCH SCHEDULE 40 PVC PIPE RISERS.

CONCRETE METER BOXES SHALL BE FURNISHED AND INSTALLED AS SHOWN ON THE PLANS OR IN THE STANDARD DRAWINGS. METER BOXES SHALL BE AS MANUFACTURED BY CHRISTY CONCRETE PRODUCTS, OR APPROVED EQUAL.

CITY OF BAKERSFIELD WATER RESOURCES FIRE WATER NOTES

1. FIRE WATER SERVICES SHALL CONFORM TO THE LATEST N.F.P.A. CHAPTER 13 SPECIFICATIONS AND SHALL BE INSPECTED AND PRESSURE TESTED BY CITY OF BAKERSFIELD WATER RESOURCES DEPARTMENT INCLUDING ALL PIPING, THRUST BLOCKS, AND CONNECTIONS FROM THE CITY WATER MAIN TO THE BUILDING INCLUDING THE RISER.

2. AN INSPECTION REQUEST FORM SHALL BE SUBMITTED TO THE WATER RESOURCES OFFICE AND/OR CALIFORNIA WATER SERVICE AT LEAST TWO (2) FULL BUSINESS DAYS BEFORE AND PERMANENT CONSTRUCTION. REQUEST FORMS AVAILABLE ON THE WATER RESOURCES WEB PAGE AND CALIFORNIA WATER SERVICE WEB PAGE.

3. ALL ANGLE POINTS SHALL HAVE CONCRETE THRUST BLOCKS AS PER CITY OF BAKERSFIELD WATER RESOURCES STANDARDS AND SECIFICATIONS FOR DOMESTIC WATER SYSTEMS.

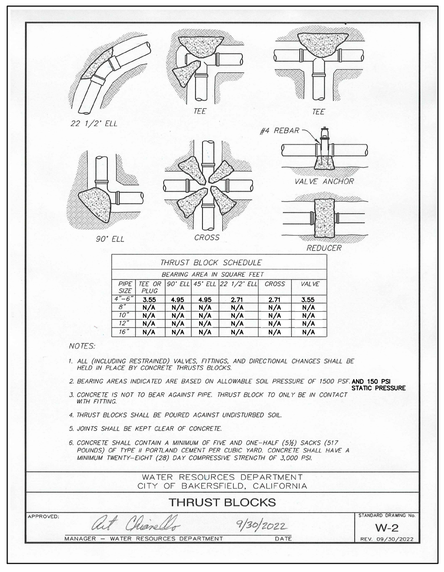
4. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE ADDRESS SIDE OF THE STRUCTURE AND SHALL BE A MAXIMUM DISTANCE OF 10 FEET FROM FLOW LINE OF CURB AND GUTTER AND A MAXIMUM DISTANCE OF 100 FEET FROM A PUBLIC FIRE HYDRANT. FIRE HYDRANT SHALL HAVE MINIMUM CLEARANCE OF 40 FEET FROM ANY STRUCTURE.

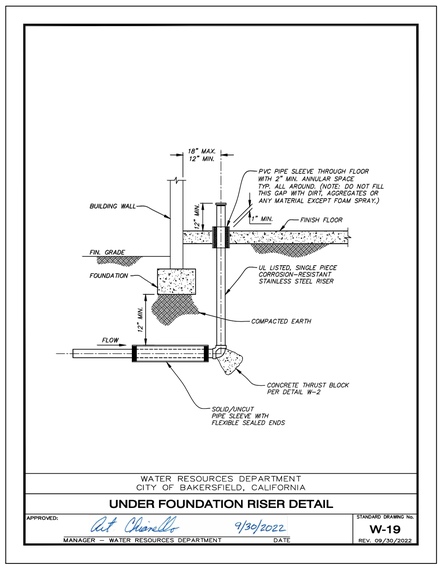
5. FIRE SERVICE SHALL NOT PASS THROUGH ANY FOOTINGS.

6. ANY FLOOR OR WALL PENETRATIONS SHALL BE SLEEVED WITH A ONE PIECE PIPE TO PROVIDE A MINIMUM ANNULAR CLEARANCE OF 2" AND FLEXIBLE MATERIALS SHALL BE PROVIDED WITHIN THE ANNULAR SPACE.

7. RISERS CONSTRUCTED WITHIN A BUILDING FOOTPRINT SHALL BE STAINLESS STEEL ONE PIECE UNIT AND SHALL MAINTAIN A ONE FOOT MINIMUM CLEARANCE (18" MAX) FROM ALL WALLS. RISERS SHALL TERMINATE 12" MINIMUM ABOVE FINISH FLOOR.

8. FIRE SERVICE SHALL BE TESTED BY CONTRACTOR AND DOCUMENTED BY THE WATER RESOURCES DEPARTMENT AND/OR CALIFORNIA WATER SERVICE TO PASS A 200 PSI, 2HR TEST.





NO DEMOLITION SHOWN ON THESE PLANS. SEE ARCHITECTURAL FOR DEMOLITION REQUIREMENTS.

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THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECTION

Bernard O Salgado 4/18/25
BERNARD O. SALGADO, PE DATE

DATE:	BY:	REVISION
8–7–24	BOS	DSA V1 RESPOINSE
4–18–25	BOS	DSA V3 RESPOINSE

DUGLAS K FLETCHER ELEMENTARY SCHOOL
BAKERSFIELD CITY SCHOOL DISTRICT
PERMANENT MODULAR TK CLASSROOM BUILDING
9801 HIGHLAND KNOLLS DRIVE, BAKERSFIELD CA 93306
UTILITY PLAN
FIREWATER NOTES / DETAILS

DATE: 4–19–2024
DRAWN BY: AFINAR
SCALE: AS NOTED
JOB#: 2024–11

U-3
6 OF 7

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
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DATE: 06/05/2025

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LICENSED ARCHITECT MANUEL MALDONADO JR. C-35294 RENEWAL DATE DECEMBER 31, 2026 STATE OF CALIFORNIA

DANNY E. ORDIZ, AIA ARCHITECT C-14728
JEANINE S. BERTOLACCINI, AIA ARCHITECT C-35596
MANUEL MALDONADO JR., AIA ARCHITECT C-35294
JAMES R. VARNER, AIA ARCHITECT C-15963
ROBERT TROST, AIA ARCHITECT C-14762
JOSEPH E. ZASOSKI, AIA ARCHITECT C-36742

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BCSD

BAKERSIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER: 2307
A#: 03-######
PTN: ###-###

CAD DRAWING FILE: 2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY: ASI

CHECKED BY: MM

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

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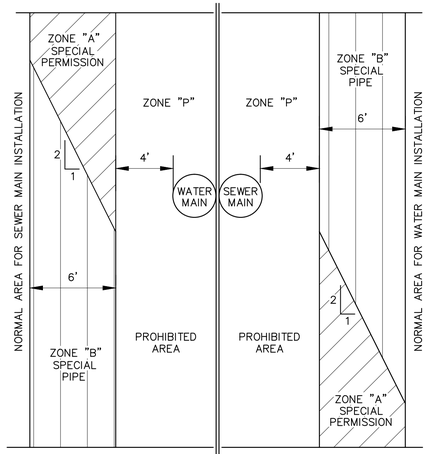


NOTES:

1. ZONES IDENTICAL ON EITHER SIDE OF CENTER LINES.
2. ZONES "P" IS A PROHIBITED ZONE, NO VARIANCES OR SPECIAL CASES, SECTION 64630(e)(2) CALIFORNIA ADMINISTRATIVE CODE, TITLE 22.

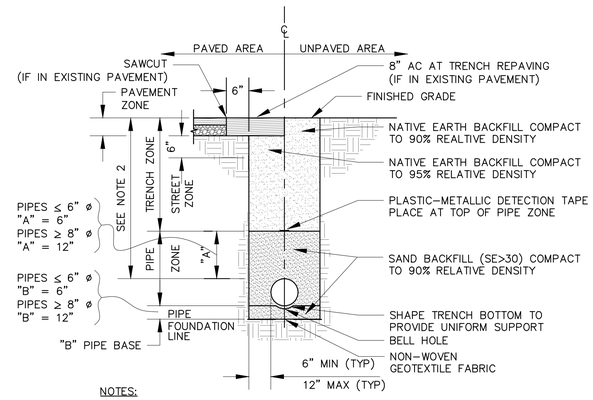
PARALLEL LINES

NOTES:

1. ZONE "P" IS A PROHIBITED ZONE, NO VARIANCES OR SPECIAL CASES, SECTION 64630(e)(2) CALIFORNIA ADMINISTRATIVE CODE TITLE 22.
2. ZONE "X" REQUIRES STATE WAIVER
2. THE ABOVE CONSTRUCTION CRITERIA APPLIES TO SEWER MAINS AND SERVICE LATERALS THAT CROSS ABOVE A PRESSUTE WATER MAIN BUT NOT TO THOSE THAT CROSS BELOW A PRESSURE WATER MAIN.

ADDITIONAL REQUIREMENTS

CASE 1 NEW SEWER MAIN BEING INSTALLED	
ZONE	SPECIAL CONSTRUCTION REQUIRED FOR SEWER
A	SEWER LINES PARALLEL TO WATER MAINS SHALL NOT BE PERMITTED IN THIS ZONE WITHOUT APPROVAL FROM THE DIVISION OF DRINKING WATER AND WATER SUPPLIER.
B	A SEWER LINE PLACED PARALLEL TO A WATER LINE SHALL BE CONSTRUCTED OF: 1. HDPE PIPE WITH FUSED JOINTS
X	REQUIRES A WAIVER FROM THE DIVISION OF DRINKING WATER PURSUANT TO CCR, TITLE 22 SECTION 64551.100. NOTE: APPLIES TO MAIN ONLY. SUPPLY LINES AND HOUSE LATERALS ARE NOT SUBJECT TO WAIVER REQUIREMENTS.
CASE 2 NEW WATER MAIN BEING INSTALLED	
ZONE	SPECIAL COSNTRUCTION REQUIRED FOR WATER
A	NO WATER MAINS PARALLEL TO SEWERS SHALL BE CONSTRUCTED WITHOUT APPOVAL FROM THE DIVISION OF DRINKING WATER AND WATER SUPPLIER.
B	IF THE SEWER PARALLELING THE WATER MAIN DOES NOT MEET THE CASE 1, ZONE B REQUIREMENTS, THE WATER MAIN SHALL BE CONSTRUCTED OF: 1. DUTILE IRON PIPE 2. CLASS 200 PVC PIPE
X	REQUIRES A WAIVER FROM THE DIVISION OF DRINKING WATER PURSUANT TO CCR, TITLE 22, SECTION 64551.100. NOTE: APPLIES TO MAIN ONLY. SUPPLY LINES AND HOUSE LATERALS ARE NOT SUBJECT TO WAIVER REQUIREMENTS.
D	IF THE SEWER CROSSING THE WATER MAIN IS NOT HDPE WITH FUSED JOINTS, THEN THE WATER MAIN SHALL HAVE NO JOINTS WITHIN 8 FEET FROM EITHER SIDE OF THE SEWER AND SHALL BE CONSTRUCTED OF: 1. DUCTILE IRON PIPE 2. CLASS 200 PVC PIPE

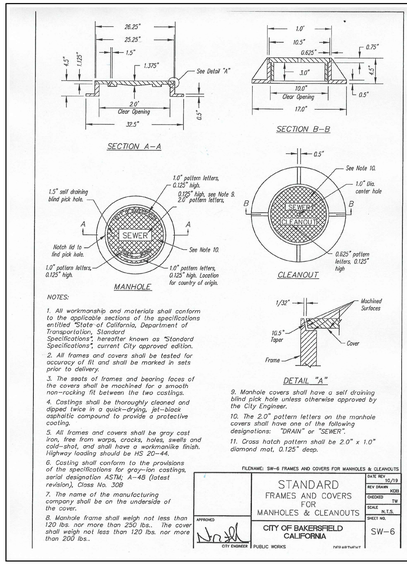


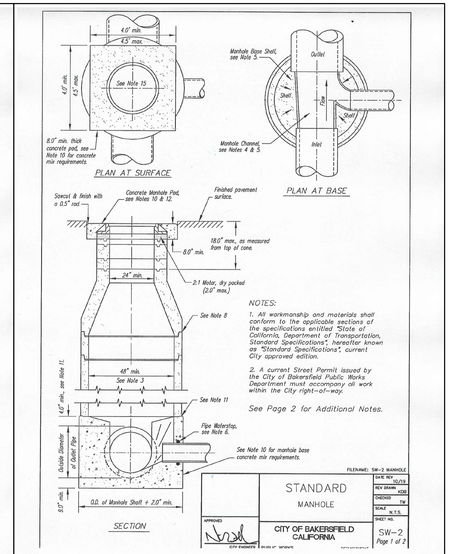
NOTES:

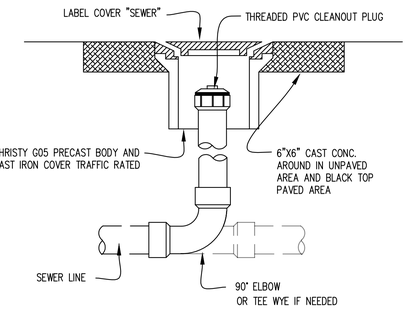
1. TRENCH WALL SHOWN VERTICAL FOR CLARITY, EXCAVATE PER OSHA REQUIREMENTS.
2. DEPTH OF BURIAL REQUIREMENS FOR PIPES AND CONDUIT;
   A. MINIMUM COVER OVER WATER MAIN = 30"
   B. WHERE GAS MAINS AND GAS SERVICE LATERALS CROSS OVER WATER MAINS, MAINTAIN 30" MIN. COVER OVER GAS LINE (24" MIN. COVER OVER GAS SERVICE LATERAL 2" DIA. AND SMALLER) AND 8" MIN VERTICAL CLEARANCE BETWEEN GAS LINE AND WATER MAIN.
3. CONTRACTOR SHALL COMPLY WITH CALIFORNIA ADMINISTRATIVE CODE TITLE 22 FOR WATER AND SEWER MAIN CONSTRUCTION REQUIREMENTS AND CLEARANCES AT CROSSINGS AND WHERE THEY ARE CONSTRUCTED PARALLEL WITH EACH OTHER.
4. CONTRACTOR SHALL THOROUGHLY DEWATER TRENCHES AND STABILIZE FOUNDATION PRIOR TO INSTALLING PIPE.
5. PIPE INSTALLATION SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
6. ALL TRENCH BACKFILL SHALL BE COMPACTED MECHANICALLY. NO JETTING OR PONDING WILL BE ALLOWED.

TYPICAL ONSITE TRENCH DETAIL 3

"ONSITE DETAILS" SCALE: NTS

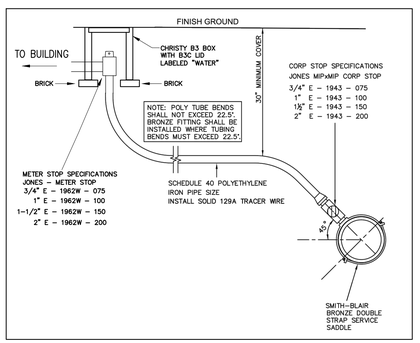






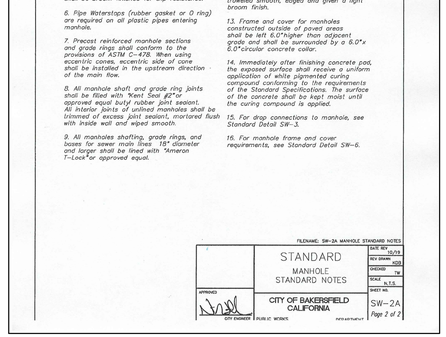
CLEANOUT DETAIL 1

"ONSITE DETAILS" SCALE: NTS



3/4" TO 2' WATER SERVICE 2

"ONSITE DETAILS" SCALE: NTS



NO DEMOLITION SHOWN ON THESE PLANS. SEE ARCHITECTURAL FOR DEMOLITION REQUIREMENTS.

811 Know what's below. Call before you dig.

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REGISTERED PROFESSIONAL ENGINEER
BERNARD ORTIZ SALGADO
No. 71320
Exp. 12–31–25
CIVIL
STATE OF CALIFORNIA

THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECTION

Bernard O Salgado 4/18/25

BERNARD O. SALGADO, PE DATE

DATE:	BY:	REVISION
8–7–24	BOS	DSA V1 RESPOINSE
4–18–25	BOS	DSA V3 RESPOINSE

DUGLAS K FLETCHER ELEMENTARY SCHOOL
BAKERSFIELD CITY SCHOOL DISTRICT
PERMANENT MODULAR TK CLASSROOM BUILDING
9801 HIGHLAND KNOLLS DRIVE, BAKERSFIELD CA 93306
UTILITY PLAN DETAILS

DATE: 4–19–2024
DRAWN BY: AFINAR
SCALE: AS NOTED
JOB#: 2024–11

U-4
7 OF 7

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC: A
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DATE: 06/05/2025

ordiz melby architects
a professional corporation
5500 Ming Avenue, Suite 280 o:(661)832-5258
Bakersfield, CA 93309 f:(661)832-4292
www.ordizmelby.com

LICENSED ARCHITECT
MANUEL MALDONADO JR.
C-36294
DECEMBER 31, 2025
RENEWAL DATE
STATE OF CALIFORNIA

DANNY E. ORDIZ, AIA
ARCHITECT C-14728
JEANINE S. BERTOLACCINI, AIA
ARCHITECT C-35596
MANUEL MALDONADO JR., AIA
ARCHITECT C-36294
JAMES R. VARNER, AIA
ARCHITECT C-19963
ROBERT TROST, AIA
ARCHITECT C-14762
JOSEPH E. ZASOSKI, AIA
ARCHITECT C-36742

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER:
2307

A#: 03-#######
PTN: ###-###

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

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CIVIL DRAWINGS

SHEET IDENTIFICATION NUMBER

C-7

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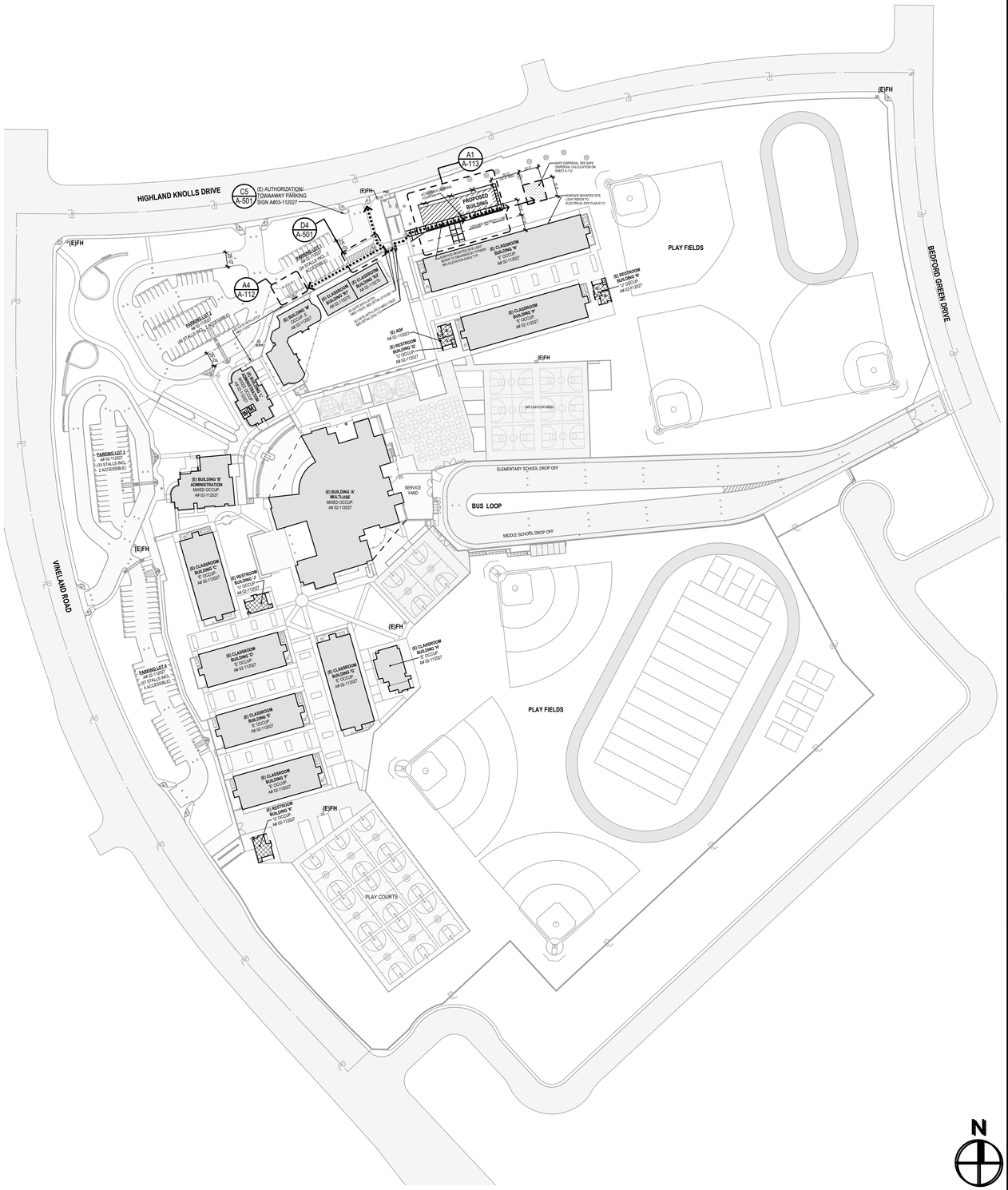
PLOT DATE: 4/19/2024
PATHNAME: K:\Jobs\2301-2500\2023207\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln



A1 SITE PLAN

SCALE: 1" =100'

SITE LEGEND

TYPE	DESCRIPTION
→	SAFE DISPERSAL PATH
ADF	(E) ACCESSIBLE DRINKING FOUNTAINS - SEE PLAN FOR APPLICATION
DF	(E) DRINKING FOUNTAIN
B	(E) STUDENT BOYS TOILET
G	(E) STUDENT GIRLS TOILET
F.H.	(E) FIRE HYDRANT

SITE LEGEND

TYPE	DESCRIPTION
	PROPOSED RELOCATABLE CLASSROOM BUILDING
	EXISTING BUILDINGS (NO WORK IN THIS AREA) U.N.O.
	EXISTING TOILETS (ACCESSIBLE AS NOTED)
	(E) TRUNCATED DOMES
	(E) PROPERTY LINE
	ASSUMED PROPERTY LINE
→	PATH OF TRAVEL (P.O.T) AS INDICATED IS A COMMON BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL. P.O.T. IS A MINIMUM OF 48" WIDE. THE SURFACE SHALL BE FIRM, STABLE, AND SLIP RESISTANT. PASSING SPACES (11B-405.5.3) AT LEAST 60" X 60" SHALL BE LOCATED NOT MORE THAN 200' APART. PARTS OF P.O.T. WITH CONTINUOUS GRADIENTS SHALL HAVE 60" LEVEL AREAS AT INTERVALS OF 400' MAXIMUM (11B-403.7) SLOPE SHALL NOT EXCEED 2% CROSS-SLOPE AND 5% RUNNING SLOPE IN THE DIRECTION OF TRAVEL (11B-401.1) SLOPES GREATER THAN 5% TO A MAXIMUM OF 8.33% SHALL BE CONSIDERED AS A RAMP (11B-405). THERE SHALL BE NO DROP-OFF OVER 4" ALONG THE EDGE OF WALK OR LANDING. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS AND OBJECTS PROTRUDING GREATER THAN 4" FROM A WALL, BETWEEN 27" TO 80" ABOVE FINISHED GRADE. ARCHITECT SHALL VERIFY THAT NO BARRIERS EXIST IN THE PATH OF TRAVEL. **DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:** THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORTRATED INTO THESE CONSTRUCION DOCUMENTS. ANY NON COMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FIND OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS. DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT

REQUIRED ACCESSIBLE PARKING

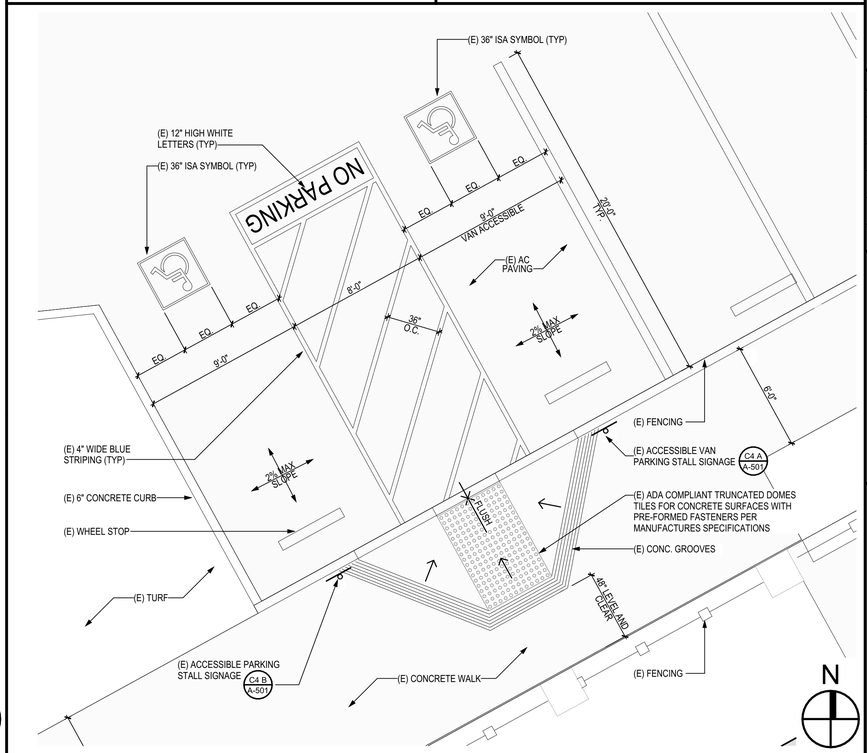
SECTION 1129B TABLE 11B-6	REGULAR PARKING PROVIDED	ACCESS. PARKING REQ. / PROVIDED	VAN ACCESS. PARKING REQ. / PROVIDED	TOTAL PARKING PROVIDED
LOT #1	22	1	1	24
LOT #2	46	1	1	48
LOT #3	31	1	1	33
LOT #4	55	2	2	57

SAFE DISPERSAL CALCULATION

SAFE DISPERSAL AREA CALCULATION PER CBC 1027.6
NEW MODULAR CLASSROOM BUILDING @
FLETCHER ELEMENTARY SCHOOL

161 OCC x 5 S.F. = 805 S.F. AREA REQUIRED
35'x35' = 1,225 S.F. AREA PROVIDED
1,255 S.F. PROVIDED > 805 S.F. REQUIRED

AREA OF SAFE DISPERSAL REQUIRED @ FOR GROUP 'E' BUILDINGS, THE AREA OF SAFE DISPERSAL SHALL BE LOCATED ON THE SAME LOT AT LEAST 50'-0" AWAY FROM ANY BUILDING.



A4 (E) ACCESSIBLE PARKING STALL

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

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Bakersfield, CA 93309 f: (661) 832-4291
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LICENSED ARCHITECT
MANUEL MALDONADO JR.
C-36294
DECEMBER 31, 2025
RENEWAL DATE
STATE OF CALIFORNIA

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(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DOUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BCSD

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER:
2307

A#: 03-124330
PTN: 63321-422

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

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SITE PLAN: ACCESSIBILITY

SHEET IDENTIFICATION NUMBER

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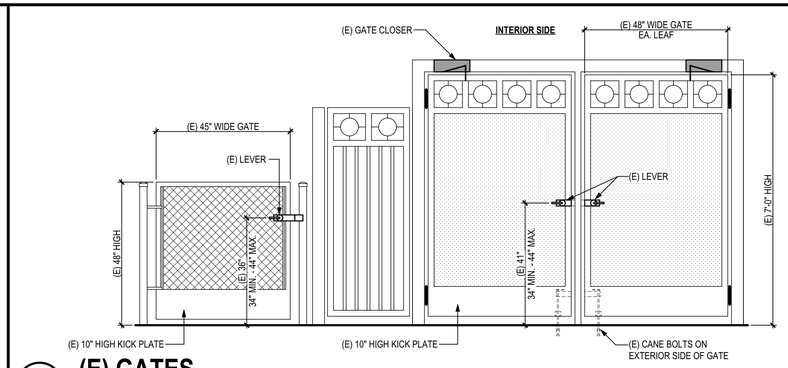
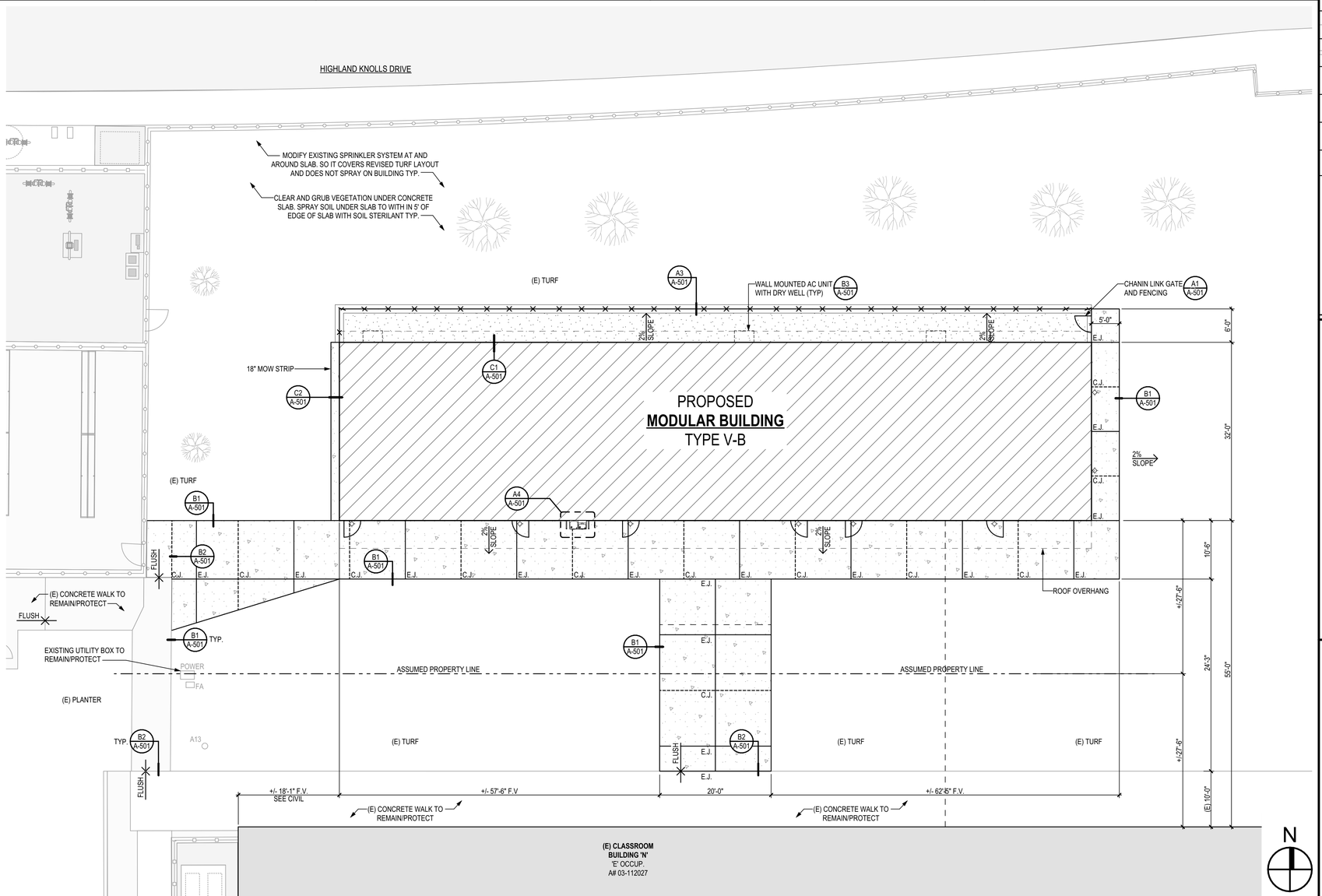
SHEETS IN SET 105

PLOT TIME: 3:53 PM
PLOT DATE: 6/5/2025
PATHNAME: K:\Jobs 2301 - 2350\2023\2307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln



D3 (E) GATES

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



A1 SITE PLAN ENLARGED

SCALE: 1" = 10'

SITE LEGEND

TYPE	DESCRIPTION
	NEW CONCRETE - 4" REINFORCED CONCRETE FLATWORK. REFER TO CIVIL DRAWINGS
	PROPOSED BUILDING
	EXISTING BUILDINGS (SEE BUILDING LEGEND FOR A#'S) NO WORK IN THIS AREA
	EXISTING ACCESSIBLE RESTROOMS (SEE BUILDING LEGEND FOR A#'S) NO WORK IN THIS AREA
	3" DECOMPOSED GRANITE AT 90% COMPACTION.
	(E) TREE
	(E) TREE TO BE REMOVE
	PROPERTY LINE
	ASSUMED PROPERTY LINE
	CHAINLINK FENCE
	(E) CHAINLINK FENCE
	(E) WROUGHT IRON FENCE
E.J.	EXPANSION JOINT B2/A-501
C.J.	CONTROL JOINT B2/A-501
	SURFACE MOUNTED SITE LIGHT. REFER TO DRAWINGS BY OTHERS SKC A5.6 TYP.

SITE PLAN NOTES

1. CLEAR AND GRUB VEGETATION UNDER CONCRETE SLAB AND CONCRETE WALKS. SPRAY SOIL UNDER SLAB AND CONCRETE WALKS TO WITHIN 5'-0" OF EDGE OF SLAB WITH SOIL STERILANT, TYP.

2. MODIFY EXISTING SPRINKLER SYSTEM AT AND AROUND SLAB AND CONCRETE WALKS. SO IT COVERS REVISED TURF LAYOUT AND DOES NOT SPRAY ON BUILDING, TYP.

3. TREES WILL HAVE TO BE REMOVED ALONG WITH ROOTS.

4. ANY EXISTING IRRIGATION MAINLINES OR LATERAL LINES WITHIN THE AREA TO BE IMPROVED SHALL BE CAPPED AND REMOVED OR ABANDONED, WHILE ENSURING THAT EXISTING IRRIGATION BEYOND THE SCOPE OF WORK CONTINUES TO FUNCTION PROPERLY.

5. REMOVE ANY EXISTING IRRIGATION VALVES, EQUIPMENT, VALVE BOXES AND HEADS, AND RETURN THEM TO AUTHORIZED DISTRICT REPRESENTATIVE.

IDENTIFICATION STAMP
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APP: 03-124330 INC:
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DATE: 06/05/2025

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A#: 03-124330
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CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

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SITE PLAN: ENLARGED

SHEET IDENTIFICATION NUMBER

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SHEETS IN SET 105

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PLOT DATE: 6/5/2025
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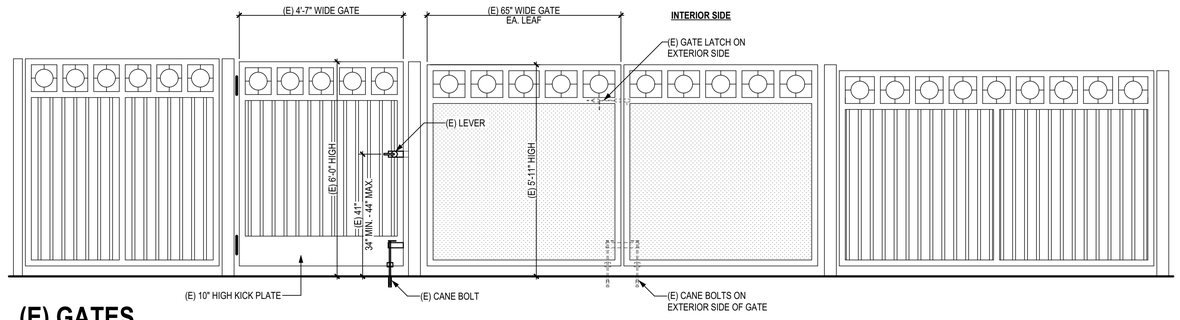
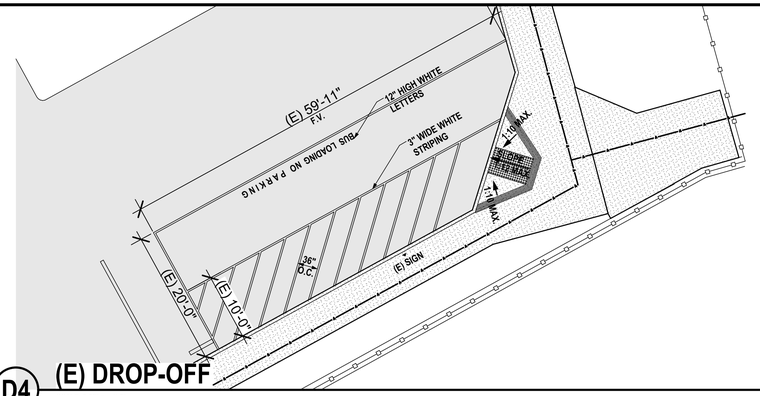


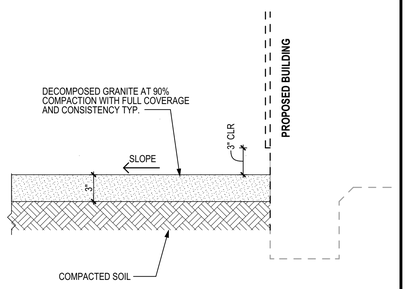
D1 (E) GATES

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



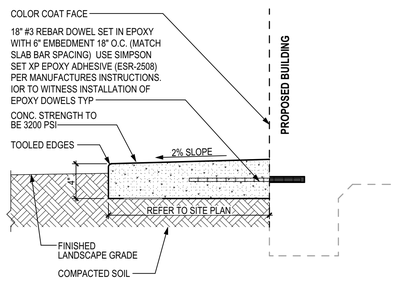
D4 (E) DROP-OFF

SCALE: 3/32" = 1'-0"



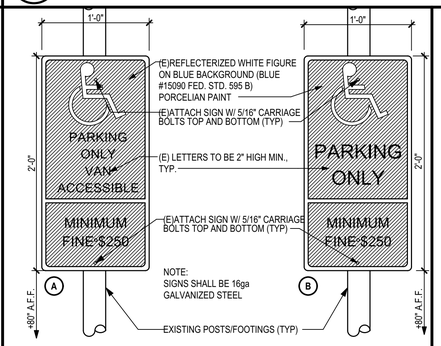
C1 D.G. SECTION

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



C2 MOW STRIP

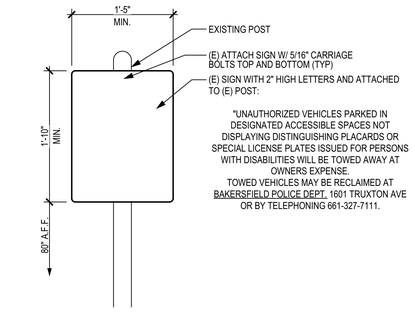
SCALE: 1 1/2"= 1'-0"



C4 (E) ACCESSIBILITY SIGNS

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

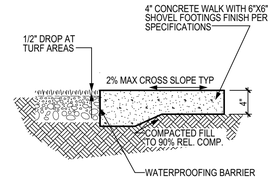
(FOR REFERENCE ONLY)



C5 (E) AUTHORIZATION SIGN

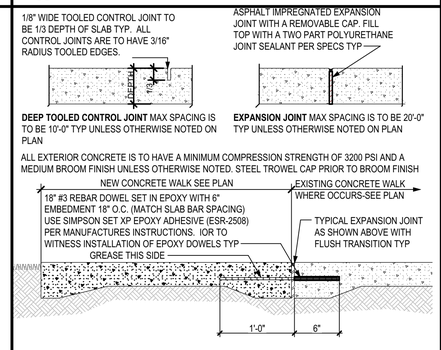
SCALE: 1/2" = 1'-0"

(FOR REFERENCE ONLY)



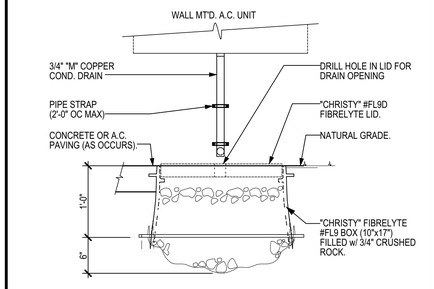
B1 TURF TO CONCRETE

SCALE: 1" = 1'-0"



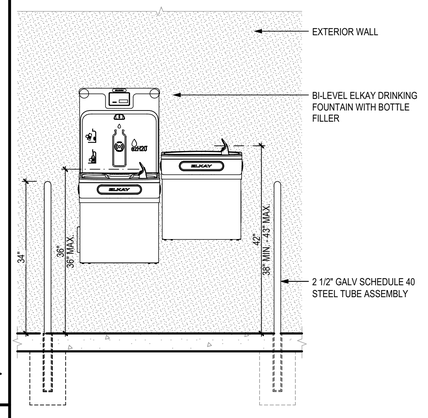
B2 CONC. WALK

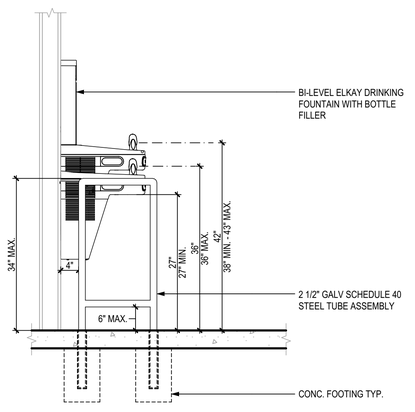
SCALE: 1" = 1'-0"

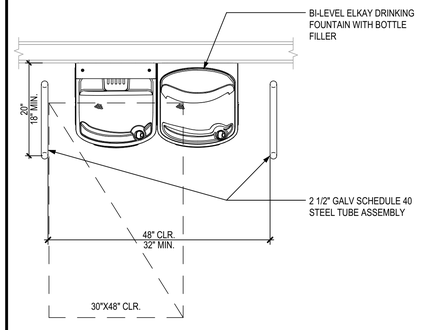


B3 SITE DRYWELL

SCALE: 1" = 1'-0"



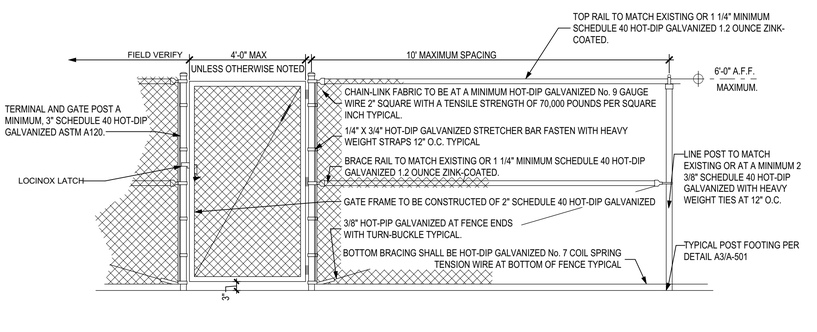




PER A03-123220

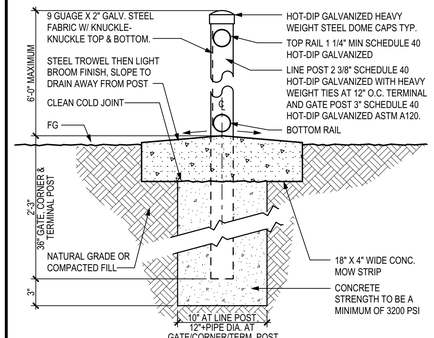
A4 ACCESSIBLE D.F.

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



A1 CHAINLINK FENCE W/ MAINTENANCE GATE

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



A3 C.L. FENCE/MOW STRIP

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

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

ordiz melby architects
a professional corporation
6500 Ming Avenue, Suite 280 o: (661) 832-5258
Bakersfield, CA 93309 f: (661) 832-4291
www.ordizmelby.com

LICENSED ARCHITECT
MANUEL MALDONADO JR.
C-36294
DECEMBER 31, 2025
RENEWAL DATE
STATE OF CALIFORNIA

DANNY E. ORDIZ, AIA ARCHITECT C-14728
JEANINE S. BERTOLACCINI, AIA ARCHITECT C-35596
MANUEL MALDONADO JR., AIA ARCHITECT C-36294
JAMES R. VARNER, AIA ARCHITECT C-19963
ROBERT TROST, AIA ARCHITECT C-14762
JOSEPH E. ZASOSKI, AIA ARCHITECT C-36742

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DOUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BCSD

BAKERSFIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER:
2307

A#: 03-124330
PTN: 63321-422

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

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SHEET TITLE

DETAILS

SHEET IDENTIFICATION NUMBER

A-501

SHEETS IN SET 105

PLOT TIME: 3:53 PM
PLOT DATE: 6/5/2025
PATHNAME: K:\Jobs 2301-2350\2023\2307\Drawings\05-CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

APPLICABLE CODE REQUIREMENTS

PERFORMANCE OF THE WORK OF THIS CONTRACT SHALL CONFORM TO THE REQUIREMENTS OF APPLICABLE GOVERNING CODES AND ORDINANCES INCLUDING THE FOLLOWING:

2022	BUILDING STANDARDS ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24, C.C.R.
2022	CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R. (2020 IBC, VOLUMES 1-3 WITH CALIFORNIA AMENDMENTS)
2022	CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R. (2020 N.E.C. WITH CALIFORNIA AMENDMENTS)
2022	CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R (2020 U.M.C. WITH CALIFORNIA AMENDMENTS)
2022	CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R. (2020 U.P.C. WITH CALIFORNIA AMENDMENTS)
2022	CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.
2022	CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 C.C.R. (2012 I.F.C. WITH CALIFORNIA AMENDMENTS)
2022	CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 C.C.R.
2022	CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGreen), PART 11, TITLE 24 C.C.R.
2022	CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 C.C.R. TITLE 19 C.C.R. PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
NFPA 13	AUTOMATIC SPRINKLER SYSTEM ----------2022 EDITION
NFPA 14	STANDPIPE SYSTEM ----------2019 EDITION
NFPA 17A	WET CHEMICAL SYSTEM ----------2021 EDITION
NFPA 24	PRIVATE SERVICE MAINS ----------2019 EDITION
NFPA 72	NATIONAL FIRE ALARM CODE ----------2022 EDITION (NOTE SEE UL STANDARDS 1971 FOR ("VISUAL DEVICES")

APPLICABLE CODE: 2022 CBC

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 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 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 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

1. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
2. 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 STRUCTURE 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.

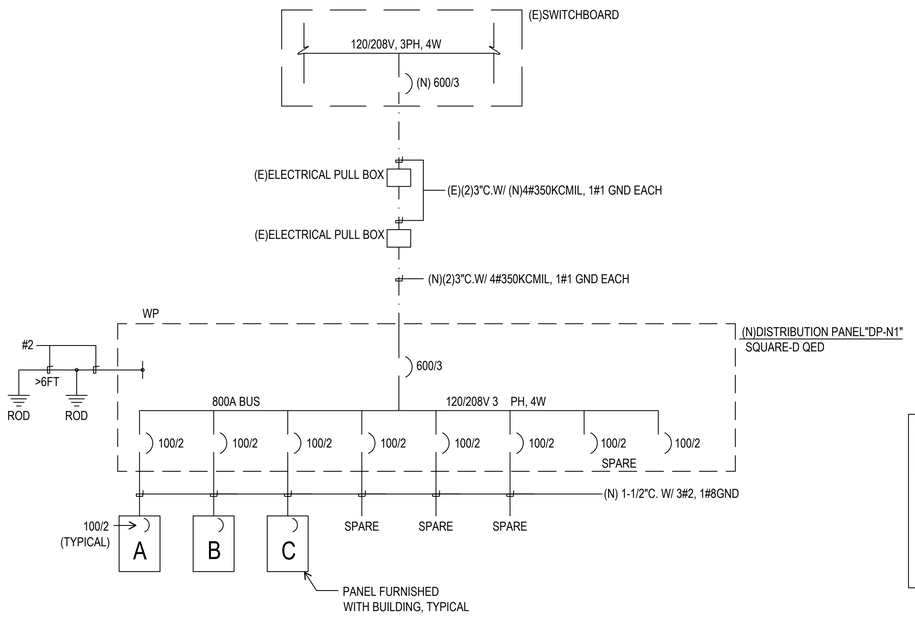
PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 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., HCAI 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.

ELECTRICAL DISTRIBUTION SYSTEMS (E):

DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.



SINGLE LINE DIAGRAM

SCALE: NONE

A

EXISTING ELECTRICAL SERVICES HAS BEEN INVESTIGATED AND FOUND TO HAVE ADEQUATE CAPACITY FOR THE PROPOSED LOAD ADDITION SHOWN ON THESE PLANS.
SITE INSPECTOR IS TO WITNESS AND VERIFY GROUNDING TESTS

REGISTERED PROFESSIONAL ENGINEER DANIEL MALONEY JR. EE 23614 EXP. 06/30/2025 ELECTRICAL STATE OF CALIFORNIA

GENERAL NOTES

1. VISIT JOB SITE AND VERIFY EXISTING CONDITIONS PRIOR TO BID.
2. THE ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE 2022 CALIFORNIA ELECTRICAL CODE AND ALL APPLICABLE LOCAL ORDINANCES. WHERE PLANS CALL FOR A HIGHER STANDARD THAN APPLICABLE CODES, THE PLANS SHALL GOVERN.
3. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT FIELD CONDITIONS.
4. ALL ELECTRICAL EQUIPMENT, APPLIANCES AND LIGHTING FIXTURES SHALL BE LISTED BY A RECOGNIZED TEST LAB AND BEAR THAT LABEL OF APPROVAL.
5. CONTRACTOR SHALL FURNISH, INSTALL AND CONNECT ALL MATERIAL AND EQUIPMENT FOR THIS WORK UNLESS OTHERWISE NOTED.
6. FURNISH DISCONNECT SWITCHES AT REMOTE MOTORS.
7. ALL SPACES AS INDICATED ON PANELS OR SWITCHBOARDS SHALL BE COMPLETE WITH HARDWARE AND BUSSING FOR FUTURE BREAKER OR SWITCH.
8. CHECK ARCHITECTURAL PLANS FOR DOOR SWINGS BEFORE INSTALLING SWITCH OUTLETS.
9. GROUNDING AND BONDING SHALL BE PER CODE PLUS ANY ADDITIONAL PROVISIONS SPECIFIED OR SHOWN ON DRAWINGS.
10. ALL CONDUIT RUNS SHALL CONTAIN A CODE SIZED GREEN GROUND WIRE.
11. THESE PLANS ARE NOT COMPLETE UNTIL APPROVED BY THE AUTHORITY HAVING JURISDICTION.
12. ALL CONDUCTORS SHALL BE IN CONDUIT.
13. ALL CONDUCTORS SHALL BE COPPER WITH TYPE THHN/THWN INSULATION.

ACCESSIBILITY NOTES

Installation of switches, outlets and controls to reflect the accessibility requirements of the 2022 CBC Chapters 11A and 11B for Accessibility.

1. CBC 11B-308.1.1 Electrical controls and switches intended to be used by the occupant of a room or area shall be located within the allowable reach ranges. Low reach shall be measured from the bottom of the outlet box and high reach is measured to the top of the outlet box.

2. CBC 11B-308.1.2 Electrical receptacle outlets on branch circuits of 30 amperes or less and communication system receptacles shall be located in the allowable reach range. Low reach shall be measured from the bottom of the outlet box and high reach is measured to the top of the outlet box.

3. CBC 11B-308.2.1 High forward reach that is unobstructed shall be 48 inches maximum and the low forward reach shall be 15 inches minimum above finish floor or ground.

4. CBC 11B-308.2 Forward Reach Obstructed - Electrical receptacle outlets shall be located no more than 44 inches measured from the top of the receptacle outlet box when the obstruction is over 20″ and does not exceed 25″. When the depth is less than 20″ height can be increased to 48″. (desk counters)

5. CBC 11B-308.3 Side Reach Obstructed - Electrical receptacle outlets shall be located no more than 46 inches measured from the top of the receptacle outlet box when the obstruction is over 10″ and does not exceed 24″. When the depth is less than 10″ height can be increased to 48″.

6.Overhang light fixtures or wall fixtures projecting more than 4″ from the wall surface shall be a minimum of 80″ above the walking surface.

SYMBOLS

	CONDUIT EXISTING
	CONDUIT CONCEALED IN WALL OR CEILING
	CONDUIT CONCEALED UNDER FLOOR OR BELOW GRADE
	CONDUIT STUBBED OUT AND CAPPED
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
	HATCH MARKS INDICATE NO. OF #12 WIRES IN CODE SIZED CONDUIT (3) MAX. IN 1/2" C., (5) MAX. IN 3/4" C., (8) MAX. IN 1"C., NO MARKS = 2#12
A-3	HOME RUN: LETTER INDICATES PANEL, NUMBER(S) INDICATES CIRCUIT(S).
	SAWCUT
	GROUND CONNECTION
	DISTRIBUTION SWITCHBOARD OR PANEL
	PANEL, BRANCH CIRCUIT TYPE, SURFACE AND FLUSH
	SIGNAL TERMINAL CABINET, SURFACE & FLUSH
	LINEAR SURFACE FIXTURE
2 a	OUTLET DATA: BAR INDICATES WALL MOUNT, LETTER INDICATES SWITCH CONTROL, NO. INDICATES CIRCUIT.
	SURFACE FIXTURE ON FLUSH OUTLET.
	RECESSED FIXTURE WITH JUNCTION BOX FOR THRU WIRING
	EXIT LIGHT WITH ARROWS AS SHOWN ON PLANS, WALL AND CEILING MOUNT.
	LOW LEVEL EXIT SIGN, +6" AFF, +4" FROM DOOR JAMB
A 100	LIGHT FIXTURE DESIGNATION. LETTER INDICATES TYPE, NO. INDICATES WATTAGE. SEE FIXTURE SCHEDULE.
FC 1	MECHANICAL EQUIPMENT DESIGNATION. SEE MECHANICAL DRAWINGS.
	SPECIAL RECEPTACLE - SEE PLAN
M	METER
	FLUSH FLOOR RECEPTACLE
	RECEPTACLE, DUPLEX, 15A, 125V, NEMA 5-15R +18" U.N.O.
	DUPLEX RECEPTACLE MTD. ABOVE BACKSPLASH
	DUPLEX RECEPTACLE W/LOWER HALF SWITCHED
GFI	GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
	CEILING RECEPTACLE
	RECEPTACLE, DUPLEX, 20A, 125V, NEMA 5-20R +18" U.N.O.
J	JUNCTION BOX 4" SQUARE, 1-1/2" DEEP U.N.O.
T	THERMOSTAT F.B.O. +48"
2	MOTOR, NO. INDICATES HORSEPOWER
	CLOCK OUTLET +7'-6" U.N.O.
	DISCONNECT SWITCH, NON-FUSED
F	DISCONNECT SWITCH FUSED HORSEPOWER RATED OR SIZED AS NOTED
	COMBINATION MAGNETIC STARTER WITH DISCONNECT SWITCH AND FUSES
	MAGNETIC MOTOR STARTER W/OVERLOADS IN EACH PHASE
D	DIMMER W/INTEGRAL "ON-OFF" SW.
	PUSHBUTTON
PC	PHOTOCELL
SD	SMOKE DETECTOR
	TELEPHONE/COMPUTER/DATA OUTLET, TWO GANG BOX W/1 GANG COVERPLATE & GROMMETED OPENING +18" U.N.O.
	CABLE TV OUTLET +18" U.N.O.
M	MOTION SENSOR
$	EXISTING SWITCH
S	SINGLE POLE SWITCH
^{2}	DOUBLE POLE SWITCH
^{3}	THREE WAY SWITCH
^{P}	SWITCH W/PILOT LT.
	QUIET TOGGLE TYPE RATED AT 20A, 120/277V A.C. +42" U.N.O.
^{M}	MANUAL MOTOR STARTER
FACP	FIRE ALARM CONTROL PANEL
GFI	GROUND FAULT CIRCUIT INTERRUPTING
LST	LABOR SAVING TANDEM
MLO	MAIN LUGS ONLY
w/	WITH
C.O.	CONDUIT ONLY
W.P.	WEATHERPROOF
F.B.O.	FURNISHED BY OTHERS, INSTALL & CONNECT
U.N.O.	UNLESS NOTED OTHERWISE
N.E.C.	NATIONAL ELECTRICAL CODE
N.I.C.	NOT IN CONTRACT
(E)	EXISTING
(N)	NEW
(R)	REMOVE
(RL)	RELOCATE
S/M	SURFACE MOUNT
U/G	UNDERGROUND
CWP	COLD WATER PIPE
AFF	ABOVE FINISHED FLOOR
HACR	HEATING AND AIR CONDITIONING RATED CIRCUIT (EXPOSED)
N.L.	NIGHT LIGHT

NOTE: NOT ALL SYMBOLS SHOWN ARE USED ON THIS PROJECT

JMPE
ELECTRICAL ENGINEERING
LIGHTING DESIGN
CA REGISTRATION NO E13083
5500 MING AVENUE,
SUITE 251
BAKERSFIELD, CA 93309
(661) 831-7851
FAX (661) 831-7813
email : maloney@jmpe.net
www.jmpe.net
23614

REGISTERED PROFESSIONAL ENGINEER DANIEL MALONEY JR. EE 23614 EXP. 06/30/2025 ELECTRICAL STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

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Bakersfield, CA 93309 f. (661) 832-4291
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LICENSED ARCHITECT MANUEL MALDONADO JR. C-36294 DECEMBER 31, 2025 RENEWAL DATE STATE OF CALIFORNIA

DANNY E. ORDIZ, AIA ARCHITECT C-14728
JEANINE S. BERTOLACCINI, AIA ARCHITECT C-35596
MANUEL MALDONADO JR., AIA ARCHITECT C-36294
JAMES R. VARNER, AIA ARCHITECT C-19963
ROBERT TROST, AIA ARCHITECT C-14762
JOSEPH E. ZASOSKI, AIA ARCHITECT C-36742

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DOUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER:
2307

A#: 03-######
PTN: ###-###

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

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SHEET TITLE

GENERAL NOTES AND SYMBOLS

SHEET IDENTIFICATION NUMBER

E001

SHEETS IN SET 6

PLOT TIME: 1:51 PM
PLOT DATE: 2/26/2024
PLOTTED BY: ASI
XCHG: J:\2021-2300\2023\2307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: DOUGLAS K FLETCHER ELEMENTARY SCHOOL	Report Page:	(Page 1 of 7)
Project Address:	Date Prepared:	2024-08-15T13:11:06-04:00

This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2L for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(a) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	BAKERSFIELD	04	Total Illuminated Hardscape Area (ft²)	2957
02	Climate Zone	13			
03	Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Urban Clusters	☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval		
☐	LZ-1: Low - Rural Areas	☒ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				
● School or Classroom					

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 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02		
☒	New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6	
☐	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.*

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: DOUGLAS K FLETCHER ELEMENTARY SCHOOL	Report Page:	(Page 2 of 7)
	Date Prepared:	2024-08-15T13:11:06-04:00

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. 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 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv											Compliance Results			
01		02		03		04		05		06	07		08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)	OR	Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)	= **Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
430.5	+	---	+	---	+	---	+	---	OR	---	= 430.5	≥	54	COMPLIES
Shielding 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 uneditable 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.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: DOUGLAS K FLETCHER ELEMENTARY SCHOOL	Report Page:	(Page 3 of 7)
	Date Prepared:	2024-08-15T13:11:06-04:00

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 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). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output: 130.2(b) / 160.5(c)[4]	Field Inspector	
										Pass	Fail
A	LED WALL PACK W/ PHOTOCELL	☐ Linear	54	Mfr. Spec	1	New	☐	54	NA: < 6200 lumens	☐	☐
							Total Design Watts:	54			

* 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) / 160.5(b)*
[2] *For linear luminaires, wattage should be indicated as W/lf 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 shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)*

G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: DOUGLAS K FLETCHER ELEMENTARY SCHOOL	Report Page:	(Page 4 of 7)
	Date Prepared:	2024-08-15T13:11:06-04:00

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.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail
WALKWAY: "A"	Astronomical Timer	Provided	NA: Facade, etc. <24 ft	☐	☐

[1] *FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.*
[2] *Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.*
[3] *Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.*

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: DOUGLAS K FLETCHER ELEMENTARY SCHOOL	Report Page:	(Page 5 of 7)
	Date Prepared:	2024-08-15T13:11:06-04:00

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. 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.
Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

	01				
		"Use it or lose it" Allowance (select all that apply) (select all that apply)			
☒ General Hardscape Allowance Table I (below)	☐ 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 for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
WALKWAY	2957	0.021	62.1	592	0.2	118.4	180.5
Initial Wattage Allowance for Entire Site (Watts):							250
Instances of Initial Wattage Allowance (LZ 0 only)[1]							
Total General Hardscape Allowance (Watts):							430.5

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.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: DOUGLAS K FLETCHER ELEMENTARY SCHOOL	Report Page:	(Page 6 of 7)
	Date Prepared:	2024-08-15T13:11:06-04:00

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

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 has 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

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection has 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
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	WALKWAY: "A"

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: DOUGLAS K FLETCHER ELEMENTARY SCHOOL	Report Page:	(Page 7 of 7)
Project Address:	Date Prepared:	2024-08-15T13:11:06-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: John Maloney	Documentation Author Signature:
Company: JMPE	Signature Date: 08-15-2024
Address: 627 OLIVE STREET	CEA/ HERS Certification Identification (if applicable): E013083 / 06-25
City/State/Zip: SANTA BARBARA, CA 93101	Phone: (805)569-9216

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: JOHN MALONEY	Responsible Designer Signature:
Company: JMPE	Date Signed: 08-15-2024
Address: 627 OLIVE STREET	License: E013083 / 06-25
City/State/Zip: SANTA BARBARA, CA 93101	Phone: (805)569-9216

LED FIXTURE SCHEDULE

TYPE	MANUFACTURER AND CATALOG NUMBER	LED MODULE			DRIVER	OPTIC/LENS	REMARKS
		TYPE	COLOR TEMP	WATTS			
A 54	LITHONIA TWX2 LED ALD 30K MVOLT PE DDBXD		3000K	54	0-10V	PRISMATIC	WALL PACK W/ PHOTOCELL

JMPE
ELECTRICAL ENGINEERING
LIGHTING DESIGN
CA REGISTRATION NO E13083
5500 MING AVENUE,
SUITE 251
BAKERSFIELD, CA 93309
(661) 831-7851
FAX (661) 831-7813
email : maloney@jmpe.net
www.jmpe.net
23614

PROFESSIONAL ENGINEER — JOHN MALONEY — No. E013083 — EXP. 06/30/2024 — ELECTRICAL — STATE OF CALIFORNIA

PLOT TIME: 1:51 PM
PLOT DATE: 8/28/2024
FILE NAME: X:\JMPE\2021 - 2300\2023\2307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

ordiz melby architects
a professional corporation
5500 Ming Avenue, Suite 280
Bakersfield, CA 93309
www.ordizmelby.com
t. (661) 832-5258
f. (661) 832-4291

LICENSED ARCHITECT — MANUEL MALDONADO JR. — C-36294 — DECEMBER 31, 2025 — RENEWAL DATE — STATE OF CALIFORNIA

DANNY E. ORDIZ, AIA ARCHITECT C-14728
JEANINE S. BERTOLACCINI, AIA ARCHITECT C-35596
MANUEL MALDONADO JR., AIA ARCHITECT C-36294
JAMES R. VARNER, AIA ARCHITECT C-10963
ROBERT TROST, AIA ARCHITECT C-14762
JOSEPH E. ZASOSKI, AIA ARCHITECT C-36742

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DOUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BCSD

BAKERSIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER:
2307

A#: 03-######
PTN: ###-###

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

THE DRAWINGS, IDEAS, AND DESIGNS REPRESENTED ON THIS SHEET ARE THE PROPERTY OF THE ARCHITECT.

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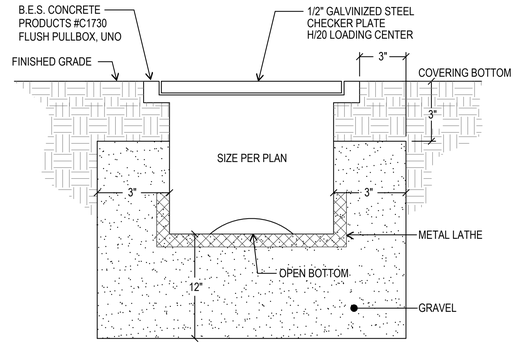
SHEET TITLE

T24 SHEETS AND FIXTURE SCHEDULE

SHEET IDENTIFICATION NUMBER

E002

SHEETS IN SET 6

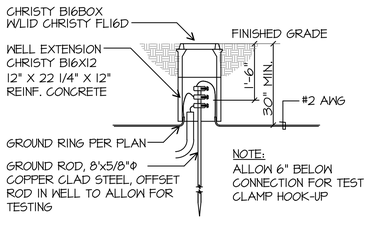


FLUSH PULLBOX DETAIL (A)

SCALE: NONE

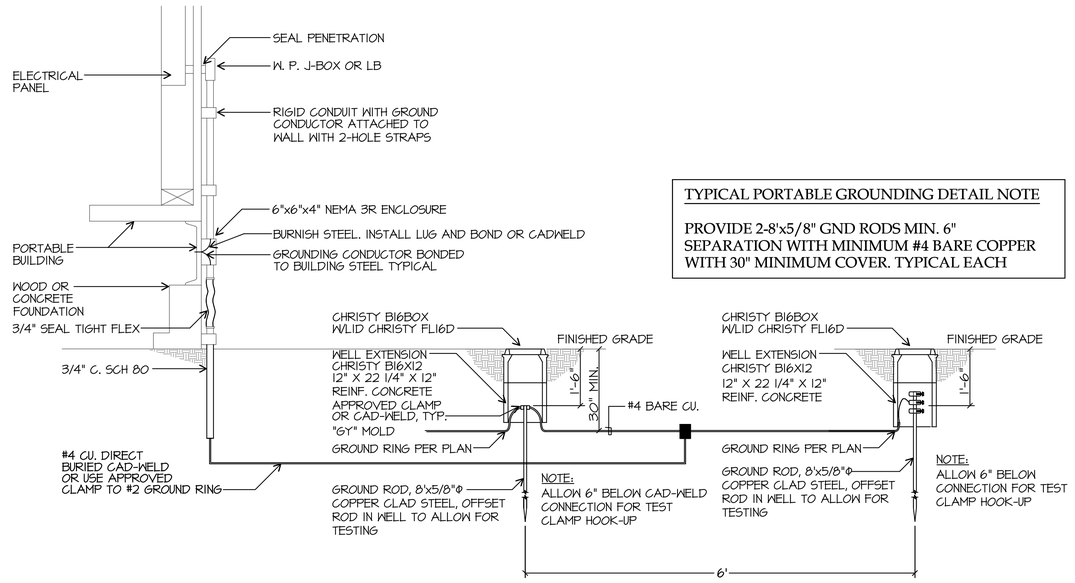
TRENCH DETAIL (B)

SCALE: NONE



GROUND ROD DETAIL (D)

SCALE: NONE



TYPICAL PORTABLE GROUNDING DETAIL NOTE

PROVIDE 2-8'x5/8" GND RODS MIN. 6" SEPARATION WITH MINIMUM #4 BARE COPPER WITH 30" MINIMUM COVER. TYPICAL EACH

TYPICAL RELOCATABLE CLASSROOM GROUNDING (C)

SCALE: NONE

JMPE
ELECTRICAL ENGINEERING
LIGHTING DESIGN
CA REGISTRATION NO E13083
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www.jmpe.net

23614

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. MALONEY
No. E013083
EXP. 06/30/2026
ELECTRICAL
STATE OF CALIFORNIA

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FOR:

BAKERSIELD CITY SCHOOL DISTRICT

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MARK	DATE	DESCRIPTION

JOB NUMBER:
2307

A#: 03-######
PTN: ###-###

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

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SHEET TITLE

ELECTRICAL DETAILS

SHEET IDENTIFICATION NUMBER

E003

SHEETS IN SET 6

PLOT TIME: 1:51 PM
PLOT DATE: 6/26/2025
FILENAME: K:\CAD FILES\2307- 2306\2023\2307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

FIRE LIFE SAFETY NOTES

1 CBC 3401.12 - BUILDING AND PARTS OF THEREOF SHALL BE MAINTAINED IN A SAFE AND SANITARY CONDITION. DEVICES OR SAFEGUARDS WHICH ARE REQUIRED BY THIS CODE SHALL BE MAINTAINED IN CONFORMANCE WITH THE CODE EDITION UNDER WHICH INSTALLED. THE OWNER OR THE OWNERS DESIGNATED AGENT SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF BUILDING.

2 CFC 503.1; TITLE 19 DIVISION 1 §3.05 MAINTAIN FIRE ACCESS ROUTE(5). PUBLIC STREET ACCESS - PROVIDE SIGN(5) 'NO PARKING FIRE LANE WITH CALIFORNIA VEHICLE CODE 22500.1' AND DETAIL. (OR INCLUDE NOTE - EXISTING NO PARKING FIRE LANE SIGN TO BE FIELD VERIFIED BY IOR)

3 CFC 503.1 - MAINTAIN / PROVIDE KEY BOXES FOR FIRE DEPARTMENT ACCESS, AS APPROPRIATE.

4 CFC 701.2 - WHERE ANY COMPONENTS IN THIS CHAPTER ARE NOT MAINTAINED AND DO NOT FUNCTION AS INTENDED OR DO NOT HAVE THE FIRE RESISTANCE REQUIRED BY THE CODE UNDER WHICH THE BUILDING WAS CONSTRUCTED, REMODELED OR ALTERED, SUCH COMPONENT(S) OR PORTIONS THEREOF SHALL BE DEEMED AN UNSAFE CONDITION, IN ACCORDANCE WITH SECTION 110.1.1. COMPONENTS OR PORTIONS THEREOF DETERMINED TO BE UNSAFE SHALL BE REPAIRED OR REPLACED TO CONFORM TO THAT CODE UNDER WHICH THE BUILDING WAS CONSTRUCTED, REMODELED, ALTERED OR THIS CHAPTER, AS DEEMED APPROPRIATE BY THE FIRE CODE OFFICIAL.

5 CFC 703.1 AND TITLE 19 DIVISION 1 §1.14 - THE REQUIRED FIRE-RESISTANCE RATING OF FIRE-RESISTANCE CONSTRUCTION (INCLUDING WALLS, FIRESTOPS, SHAFT ENCLOSURES, PARTITIONS, SMOKE-BARRIERS, FLOORS, FIRE-RESISTIVE COATINGS AND SPRAYED FIRE-RESISTANT MATERIALS APPLIED TO STRUCTURAL MEMBERS AND FIRE-RESISTANT JOINTS SYSTEMS) SHALL BE MAINTAINED. SUCH ELEMENTS SHALL BE VISUALLY INSPECTED BY THE OWNER AND PROPERLY REPAIRED, RESTORED OR REPLACED WHEN DAMAGED, ALTERED, BREACHED OR PENETRATED. OPENINGS THROUGH FIRE-RESTANCE-RATED ASSEMBLIES SHALL BE PROTECTED BY SELF- OR AUTOMATIC-CLOSING DOORS OF APPROVED CONSTRUCTION MEETING THE FIRE PROTECTION REQUIRMENTS FOR THE ASSEMBLY.

6 CFC 703.2 - OPENING PROTECTIVE SHALL BE MAINTAINED IN AN OPERATIVE CONDITION IN ACCORDANCE WITH NFPA 80. FIRE DOORS AND SMOKE BARRIER DOORS SHALL NOT BE BLOCKED OR OBSTRUCTED OR OTHERWISE BE MADE INOPERABLE. FUSIBLE LINKS SHALL BE REPLACED PROMPTLY WHENEVER FUSED OR DAMAGED. FIRE ASSEMBLIES SHALL NOT BE MODIFIED.

7 CFC 901.4; 907.8.5 AND TITLE 19 DIVISION 1 1.14 - INSTALLATION FIRE PROTECTION SYSTEM SHALL BE MAINTAINED IN ACCORDANCE WITH ORIGINAL INSTALLATION STANDARDS FOR THAT SYSTEM. REQUIRED SYSTEMS SHALL BE EXTENDED, ALTERED OR AUGMENTED AS NECESSARY TO MAINTAIN AND CONTINUE PROTECTION WHENEVER THE BUILDING IS ALTERED, REMODELED OR ADDED TO. ALTERATIONS TO FIRE PROTECTION SYSTEM SHALL BE DONE IN ACCORDANCE WITH APPLICABLE STANDARDS.

8 TITLE 19 DIVISION 1 §1.14 - EVERY FIRE ALARM SYSTEM OR DEVICE, SPRINKLER SYSTEM, FIRE EXTINGUISHER, FIRE HOSE, FIRE-RESISTIVE ASSEMBLY OR ANY OTHER FIRE SAFETY ASSEMBLY, DEVICE MATERIAL OR EQUIPMENT INSTALLED AND RETAINED IN SERVICE IN ANY BUILDING OR STRUCTURE SUBJECT TO CALIFORNIA CODE OF REGULATIONS, TITLE 19 DIVISION 1 REGULATIONS SHALL BE MAINTAINED IN AN OPERABLE CONDITION AT ALL TIMES IN ACCORDANCE WITH CALIFORNIA CODE OF REGULATIONS TITLE 19 DIVISION 1 REGULATIONS AND WITH THEIR INTENDED USE.

9 TITLE 19 DIVISION 1 §3.24 - UPON DISRUPTION OF DIMINISHMENT OF THE FIRE PROTECTIVE QUALITIES OF SUCH EQUIPMENT, MATERIAL OR SYSTEMS IMMEDIATE ACTION SHALL BE INSTITUTED TO EFFECT A REESTABLISHMENT OF SUCH EQUIPMENT MATERIAL OR SYSTEMS TO THEIR ORIGINAL NORMAL OPERATIONAL CONDITION.

10 CFC 901.5.1 - IT SHALL BE UNLAWFUL TO OCCUPY ANY PORTION OF A BUILDING OR STRUCTURE UNTIL THE REQUIRED FIRE DETECTION, ALARM SYSTEM HAS BEEN TESTED AND APPROVED.

11 CFC 901.5.1 - IT SHALL BE UNLAWFUL TO OCCUPY ANY PORTION OF A BUILDING OR STRUCTURE UNTIL THE REQUIRED FIRE DETECTION, ALARM SYSTEM HAS BEEN TESTED AND APPROVED.

12 FIRE ALARM SCOPE REQUIRES DSA APPROVED DRAWINGS FOR REFERENCE OF AREAS IN SCOPE INCLUDE COMPLIANT FIRE ALARM COMPONENTS (SMOKE-HEAT-AUDIBLE-VISUAL-MANUAL). (STATEMENT OF COMPLIANCE PER CFC 901.2.1; 901.6.2.1 & TITLE 19 DIVISION 1§ 904.1(b) 904.2(c) RECORD AS-BUILT DRAWINGS AND TEST REPORTS.) ROOMS / AREAS IN SCOPE TO INCLUDE EXISTING FIRE ALARM COMPONENTS.

13 CFC 1030.1 - THE MEANS OF EGRESS FOR BUILDING OR PORTIONS THEREOF SHALL BE MAINTAINED IN ACCORDANCE WITH THIS SECTION.

14 CFC 1030.4 - EXIT SIGNS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH SECTION 1011.

15 CFC CHAPTER 11, PROVISIONS APPLICABLE TO EXISTING BUILDING.

16 CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION APPLICABLE PROVISIONS TO BE REPLICATED VERBATIM - SAMPLE SECTIONS - 3304 PRECAUTIONS AGAINST FIRE: 3304.2 WASTE DISPOSAL; 3304.5 FIRE WATCH; 3304.6 CUTTING AND WELDING; 3305 FLAMMABLE AND COMBUSTIBLE LIQUIDS; 3308 OWNERS RESPONSIBILITY; 3310 ACCESS FOR FIREFIGHTING; 3311 MEANS OF EGRESS; 3315 FIRE EXTINGUISHERS.

FIRE ALARM SYSTEM REQUIREMENTS

1) APPLICABLE STANDARD 2022 NFPA 72
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 THE INSTALLATION OF THE SYSTEMS, 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 LAB TESTING CRITERIA. APPROVED TYPE OF MATERIALS SHALL BE IDENTFIED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION.
8) WALL MOUNTED VISUAL NOTIFICATION DEVICES SHALL HAVE THEIR ENTIRE LENS TO BE BETWEEN 80" AND 90"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 TO BE AT LEAST 15 DBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL BUT NOT LESS THAN 75 DBA AT 10 FEET OR MORE THAN 110 DBA AT THE MINIM HEARING DISTANCE . SOUND LEVEL SHALL BE MAINTAIND FOR DURATION OF AT LEAST 60 SECTIONS 5 DBA MUST BE MAINTAINED.
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) VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELLA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
14) UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVAL FOR WET LOCATIONS.
15) ALL FIRE ALARM WIRING SHALL BE FLP OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE 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. THERE MUST BE AT LEAST 6' OF LEAD WIRE FROM THE BOX TO THE DEVICE. 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 DOCUMETS.
19) FIRE ALARM PANEL, REMOTES, AND COMPONENETS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED THE WEIGHT OF 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 RECORD OF COMPLETION PER NFPA 72, REQUIREMENTS.
22) CONTROL PANELS, REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48" 23) THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.3.
24) SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
25) OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.
26) A DSA CLASS 2 INSPECTOR SHALL BE HIRED BY THE DISTRICT AND APPROVED BY DSA TO INSPECT THIS PROJECT.

FIRE WATCH, FIRE MARSHAL REQUIREMENTS:

REQUIREMENTS FOR DISABLING THE FIRE ALARM SYSTEM;

1. AS REQUIRED BY THE **2022 CALIFORNIA FIRE CODE**, STANDBY PERSONNEL OR SYSTEMS TEMPORARILY "OUT OF SERVICE". THE LOCAL FIRE MARSHAL IS AUTHORIZED TO REQUIRE THE CONTRACTOR TO PROVIDE STANDBY PERSONNEL AS SET FORTH IN THESE SECTIONS, UNTIL THE SYSTEM IS RESTORED TO OPERATION.

2. SUCH INDIVIDUAL SHALL BE SUBJECT TO THE LOCAL FIRE MARSHAL'S ORDER AT ALL TIMES WHEN SO EMPLOYED AND SHALL REMAIN ON DUTY DURING THE TIME SUCH PLACES ARE OPEN TO THE PUBLIC OR WHEN SUCH PUBLIC ACTIVITY IS BEING CONDUCTED. FIRE WATCH PERSONNEL SHALL BE PROVIDED WITH AT LEAST ONE APPROVED MEANS FOR NOTIFICATION OF THE FIRE DEPARTMENT.

3. SUCH INDIVIDUALS SHALL KEEP A DILIGENT WATCH FOR FIRES AND BE ABLE TO TAKE PROMPT AND APPROPRIATE ACTION IN THE EVENT OF A FIRE. SUCH INDIVIDUALS SHALL NOT BE REQUIRED OR PERMITTED, WHILE ON DUTY, TO PERFORM ANY OTHER DUTIES THAN THESE HEREIN SPECIFIED.

SCOPE OF FIRE ALARM WORK

THIS IS AN ADDITION TO AN EXISTING, FULLY-AUTOMATIC, ADDRESSABLE FIRE ALARM & EMERGENCY VOICE AND COMMUNICATION SYSTEM

VOLTAGE DROP CALCULATIONS

Circuit Description	15cd V/s	30cd V/s	75cd V/s	110cd V/s	15cd A/V	30cd A/V	75cd A/V	110cd A/V	Horn	WP Horn	Sync	Total	Distance	V drop	% drop
Current Each Device	0.038	0.068	0.09	0.118	0.066	0.094	0.158	0.13	0.02	0.018	0.025	in Amps	in feet	in volts	in %
N/AN1					4	2	7		0	2		1.594	220	1.16	4.83

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JOSEPH E. ZASOSKI, AIA ARCHITECT C-36742

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APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

LICENSED ARCHITECT
MANUEL MALDONADO JR.
C-36294
DECEMBER 31, 2025
RENEWAL DATE
STATE OF CALIFORNIA

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DOUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER:
2307

A#: 03-######
PTN: ###-###

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

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23614

REGISTERED PROFESSIONAL ENGINEER
MALONEY
No. E011084
EXP. May 30, 2025
ELECTRICAL
STATE OF CALIFORNIA

SHEET TITLE

FIRE ALARM NOTES

SHEET IDENTIFICATION NUMBER

E004

SHEETS IN SET 6

PLOT TIME 1:51 PM
PLOT DATE 2/26/25
PLOTTED BY Adam Sisk
XREFs: A-SHEET.DWT - 2307(2023)\2307D-energy\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

FIRE ALARM SYMBOL LIST MATRIX

	SYMBOL	DEVICE	MFR & CAT#	REMARKS	CSFM LISTING
(E)	■	MAIN FIRE ALARM PANEL	HOCHIKI FN-4127 (A#02-112027)	EXISTING (LOCATED IN BUILDING E)	7165-0410:0159
(E)	DVC	DIGITAL VOICE COMMAND MAIN BOARD	HOCHIKI FNV-DP / MP (A#02-112027)	EXISTING (LOCATED IN BUILDING E)	6911-0410:0175
(E)	DPM	ADDRESSABLE DISTRIBUTED POWER MODULE	HOCHIKI FN-642-ULADA (A#02-112027)		7315-0410:0166
(N)	SD	SMOKE DETECTOR	HOCHIKI ALN-V	PROVIDE BASE HSB-NSA-6 ON 4"SQ. DEEP BOX	7272-0410:0204
(N)	HD	HEAT DETECTOR (IN ATTIC SPACE)	HOCHIKI ATJ-EA	PROVIDE BASE HSB-NSA-6 ON 4"SQ. DEEP BOX	7270-0410:0203
(N)	AV	SPEAKER STROBE WALL MOUNT	HOCHIKI HSS PK 24 WLPR	PROVIDE 4"SQ. DEEP BOX	7320-0410:0195
(N)	AV	SPEAKER STROBE CEILING MOUNT	HOCHIKI HSSPKCLPR	PROVIDE 4"SQ. DEEP BOX	7320-0410:0194
(N)	S WP	EXTERIOR SPEAKER WALL MOUNT	SYSTEM SENSOR SPRK	PROVIDE MWBB BACKBOX	7320-1653:0201
(N)		E.O.L.	END OF LINE RESISTOR		
(N)	———	FLP CABLE	WESTPENN 975		7161-0859:0101
(N)	———	FLP CABLE	WESTPENN 998		7161-0859:0101
(N)	———	FLP CABLE	WESTPENN AQ294		7161-0859:0101
(N)	———	FLP CABLE	WESTPENN AQC294		7161-0859:0101

EXISTING FACP BATTERY CALCULATION MFACP, HOCHIKI #4127

EQUIPMENT DESCRIPTION		QUANTITY EXISTING	QUANTITY NEW	SUPERVISORY CURRENT (AMPERES) EACH	SUPERVISORY CURRENT (AMPERES) SUB-TOTAL	ALARM CURRENT (AMPERES) EACH	ALARM CURRENT (AMPERES) SUB-TOTAL
FIRE ALARM PANEL		1	0	0.25	0.25	0.25	0.25
DIGITAL ALARM COMMUNICATOR		1	0	0.052	0.052	0.087	0.087
DAA		1	0	0.35	0.35	1.9	1.9
PULL STATION		1	0	0.0003	0.0003	0.0005	0.0005
SMOKE DETECTOR		382	21	0.00039	0.15717	0.00039	0.15717
HEAT DETECTOR		383	21	0.00035	0.1414	0.00035	0.1414
VISUALS	15cd	18	7			0.066	1.65
VISUALS	30cd	4	2			0.077	0.462
VISUALS	75cd	17	1			0.158	2.844
SUB TOTAL AMPERES				0.95087 AMPS		7.49207 AMPS	
				x 24 HOURS		X 0.25 HOURS	
SUB TOTAL AMPERE-HOURS				22.92068 A.H.		1.873018 A.H.	
TOTAL REQUIRED AMPERE-HOURS FOR DISTRIBUTED POWER MODULE						24.6939 A.H.	
BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR						x 1.2	
TOTAL MINIMUM AMPERE HOURS REQUIRED						29.63268 A.H.	
PROVIDED BATTERY CAPACITY						55.00 A.H.	

EXISTING VOICE PANEL BATTERY CALCULATION – EVAX-100

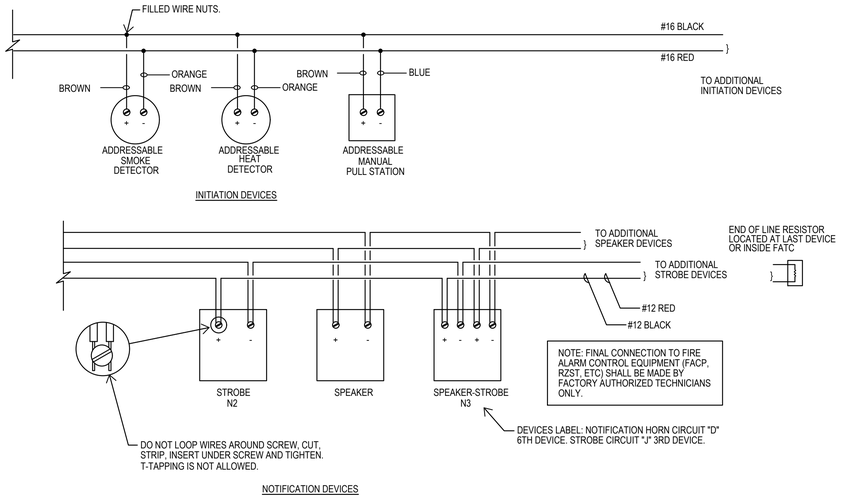
EQUIPMENT DESCRIPTION		QUANTITY EXISTING	QUANTITY NEW	SUPERVISORY CURRENT (AMPERES) EACH	SUPERVISORY CURRENT (AMPERES) SUB-TOTAL	ALARM CURRENT (AMPERES) EACH	ALARM CURRENT (AMPERES) SUB-TOTAL
DVC		1	0	0.44	0.44	0.44	0.44
DAA 5025		1	0	0.35	0.35	1.9	1.9
					0		0
1/2 Watt Speaker		35	4	0	0	0.017	0.663
1 Watt Speaker		45	3	0	0	0.068	3.264
2 Watt Speaker		26	0		0	0.132	3.432
			0		0	0	0
VISUALS	75 cd	0	0		0	0.158	0
VISUALS	30 cd	0	0	0	0	0.094	0
VISUALS	15 cd	0	3	0	0	0.066	0.198
		0	0		0	0	0
					0		0
		0	0	0	0	0	0
SUB TOTAL AMPERES				0.79 AMPS		9.897 AMPS	
				x 24 HOURS		X 0.25 HOURS	
SUB TOTAL AMPERE-HOURS				18.96 A.H.		2.47425 A.H.	
TOTAL REQUIRED AMPERE-HOURS FOR DISTRIBUTED POWER MODULE						21.43425 A.H.	
BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR						x 1.2	
TOTAL MINIMUM AMPERE HOURS REQUIRED						25.7211 A.H.	
PROVIDED BATTERY CAPACITY						26.00 A.H.	

EXISTING FIRE ALARM BATTERY CALCULATION-DISTRIBUTED POWER MODULE FN-642-ULADA
DPM-N A#03-112027

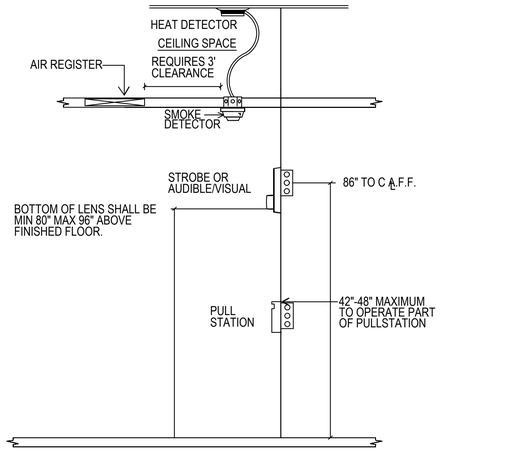
EQUIPMENT DESCRIPTION		QUANTITY EXISTING	QUANTITY NEW	SUPERVISORY CURRENT (AMPERES) EACH	SUPERVISORY CURRENT (AMPERES) SUB-TOTAL	ALARM CURRENT (AMPERES) EACH	ALARM CURRENT (AMPERES) SUB-TOTAL
DISTRIBUTED POWER MODULE		1	0	0.09	0.09	0.175	0.175
SOM-A							
AUDIBLE/VISUALS	15 cd	2	7	0	0	0.041	0.369
AUDIBLE/VISUALS	15/75 cd	0	0	0	0	0.094	0
AUDIBLE/VISUALS	30 cd	5	2	0	0	0.083	0.441
AUDIBLE/VISUALS	75 cd	15	1	0	0	0.109	1.744
AudIBLE/VISUALS	95 cd	0	0	0	0	0.14	0
SUB TOTAL AMPERES				0.09 AMPS		2.729 AMPS	
				x 24 HOURS		X 0.25 HOURS	
SUB TOTAL AMPERE-HOURS				2.16 A.H.		0.68225 A.H.	
TOTAL REQUIRED AMPERE-HOURS FOR DISTRIBUTED POWER MODULE						2.84225 A.H.	
BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR						x 1.2	
TOTAL MINIMUM AMPERE HOURS REQUIRED						3.4107 A.H.	
PROVIDED BATTERY CAPACITY						7.00 A.H.	

FIRE ALARM SEQUENCE OF OPERATION

INPUT & OUTPUT MATRIX / SYSTEM OUTPUTS		SYSTEM INPUTS: AREA SMOKE DETECTOR	AREA HEAT DETECTOR	FIRE ALARM SYSTEM AC POWER FAILURE	FIRE ALARM SYSTEM LOW BATTERY	OPEN CIRCUIT	GROUND FAULT	NOTIFICATION APPLIANCE CIRCUIT SHORT
Control Unit Annunciation	ACTUATE COMMON ALARM SIGNAL INDICATOR (RED LED)	●	●					
	ACTUATE AUDIBLE ALARM SIGNAL (PIEZO BUZZER)	●	●					
	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR (AMBER LED)							
	ACTUATE AUDIBLE SUPERVISORY SIGNAL (PIEZO BUZZER)							
	ACTUATE COMMON TROUBLE SIGNAL INDICATOR (AMBER LED)			●	●	●	●	●
	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL (PIEZO BUZZER)			●	●	●	●	●
Notification	ACTUATE EVACUATION SIGNAL THROUGHOUT THE BUILDING SPEAKERS & SPEAKER/STROBES	●	●					
	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION	●	●					
	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION							
	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION			●	●	●	●	●
Supplementary								



FIRE ALARM DEVICES
TYPICAL MOUNTING DETAIL (A)



FIRE ALARM MOUNTING DETAIL (B)

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REGISTERED PROFESSIONAL ENGINEER MANUEL MALDONADO JR. No. E013083 EXP. 06/30/2027 ELECTRICAL STATE OF CALIFORNIA

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APP: 03-124330 INC:
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DATE: 06/05/2025

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LICENSED ARCHITECT MANUEL MALDONADO JR. C-36294 DECEMBER 31, 2025 RENEWAL DATE STATE OF CALIFORNIA

DANNY E. ORDIZ, AIA ARCHITECT C-14728
JEANINE S. BERTOLACCINI, AIA ARCHITECT C-35596
MANUEL MALDONADO JR., AIA ARCHITECT C-36294
JAMES R. VARNER, AIA ARCHITECT C-10963
ROBERT TROST, AIA ARCHITECT C-14762
JOSEPH E. ZASOSKI, AIA ARCHITECT C-36742

(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DOUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER:
2307

A#: 03-######
PTN: ###-###

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

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SHEET TITLE

FIRE ALARM DETAILS AND CALCULATIONS

SHEET IDENTIFICATION NUMBER

E005

SHEETS IN SET 6

PLOT TIME: 1:51 PM
PLOT DATE: 2/24/2025
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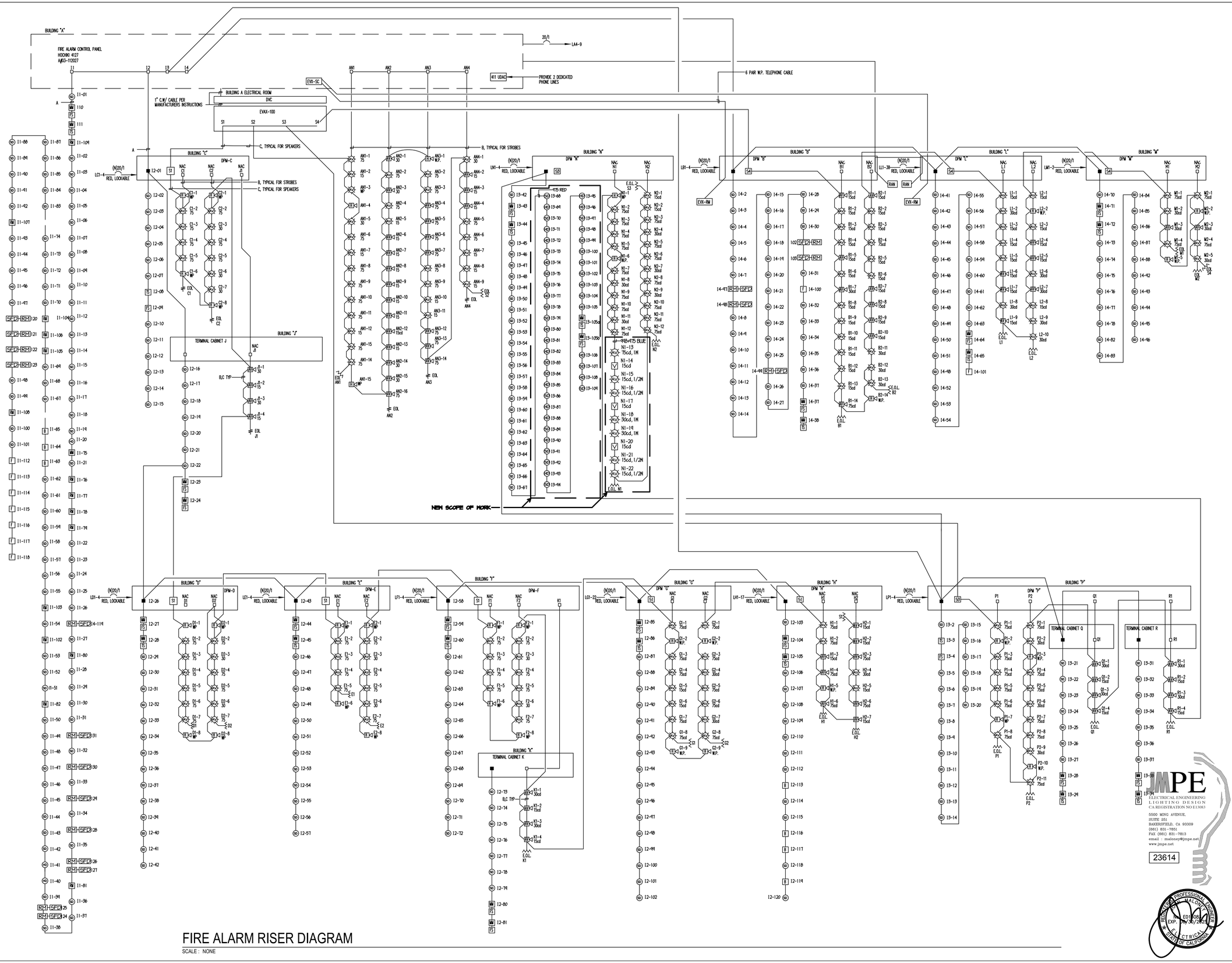

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PLOT DATE: 6/25/2025
PLOTTED BY: Kyle Zahn
XCHG# 2307-2307023307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

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LICENSED ARCHITECT
MANUEL MALDONADO JR.
C-36294
DECEMBER 31, 2026
RENEWAL DATE
STATE OF CALIFORNIA

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SCOPE OF PROFESSIONAL ENGINEER
MICHAEL MALONEY
No. E013083
EXP. 06/30/2027
ELECTRICAL
STATE OF CALIFORNIA

SHEET TITLE

FIRE ALARM RISER DIAGRAM

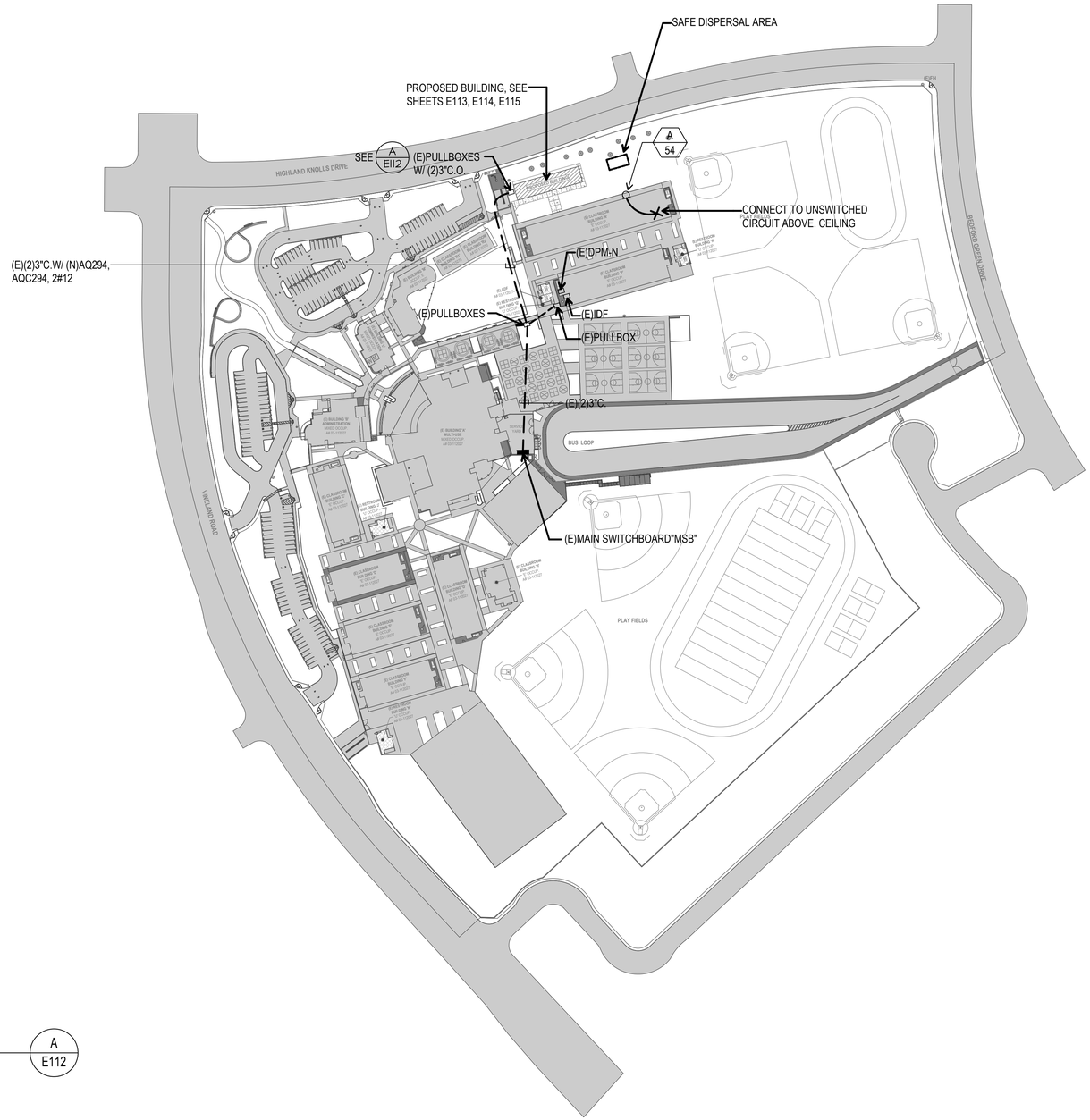
SHEET IDENTIFICATION NUMBER

E006

SHEETS IN SET 6

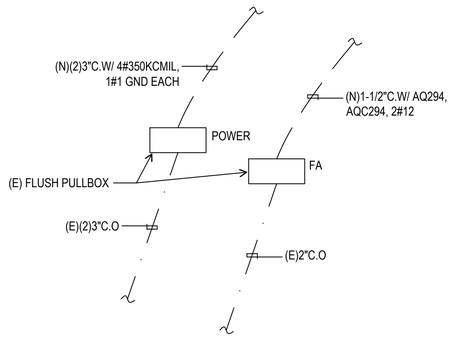
EXSITING LIGHTING CONDITIONS HAVE BEEN INVESTIGATED AND FOUND TO HAVE ILLUMINATION LEVELS GREATER THAN OR EQUAL TO 1 FOOTCANDLE (11 LUX) ALONG THE PATH OF EGRESS TO AND AT THE AREA OF SAFE DISPERSAL.

EDWARD J. JALONEN — No. E21903 — EXP. 06/30/2025 — ELECTRICAL — STATE OF CALIFORNIA — PROFESSIONAL ENGINEER



ELECTRICAL SITE PLAN

SCALE : 1/64"-1'-0"



EXISTING PULLBOXES

SCALE : NONE

A E112

PLOT TIME: 1:51 PM
PLOT DATE: 2/26/2024
PLOT BY/NAME: K:\Old_JOB_2\2600\2632307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

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DATE: 06/05/2025

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LICENSED ARCHITECT — MANUEL MALDONADO JR. — C-36294 — DECEMBER 31, 2025 — RENEWAL DATE — STATE OF CALIFORNIA

DANNY E. ORDIZ, AIA ARCHITECT C-14728
JEANINE S. BERTOLACCINI, AIA ARCHITECT C-35596
MANUEL MALDONADO JR., AIA ARCHITECT C-36294
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ASI

CHECKED BY:
MM

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EDWARD J. JALONEN — No. E21903 — EXP. 06/30/2025 — ELECTRICAL — STATE OF CALIFORNIA — PROFESSIONAL ENGINEER

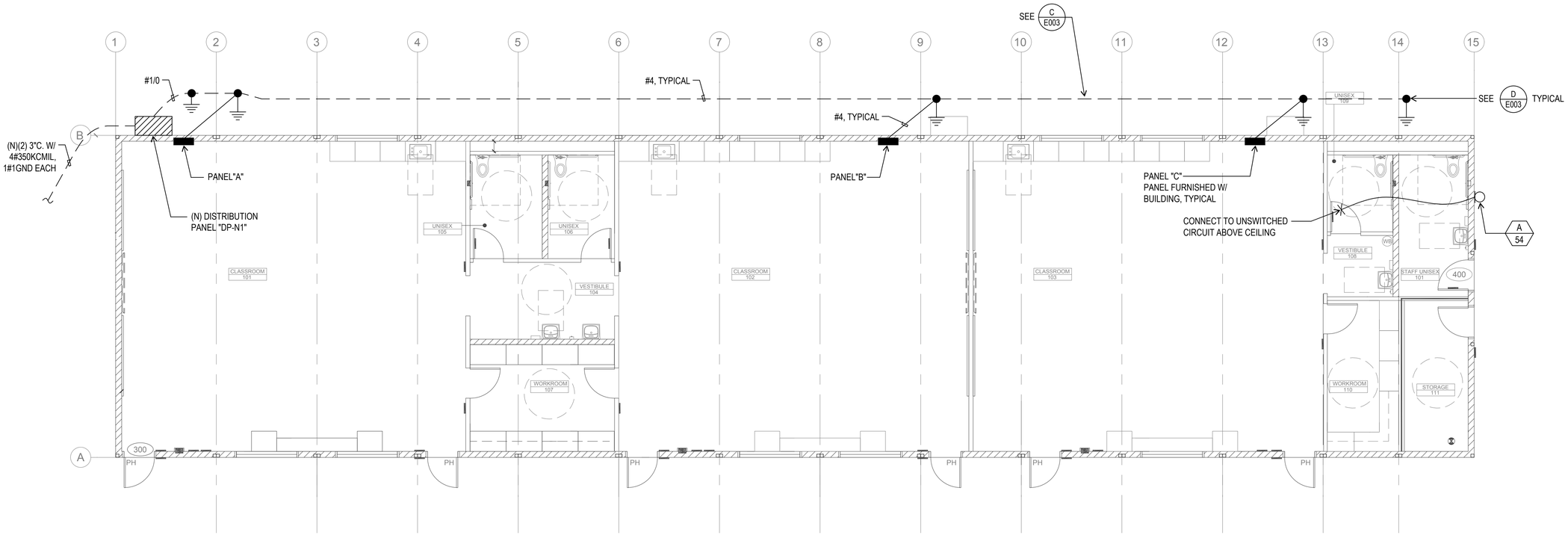
SHEET TITLE

ELECTRICAL SITE PLAN

SHEET IDENTIFICATION NUMBER

E112

SHEETS IN SET 6



ENLARGED GROUNDING SITE PLAN

SCALE : 1"-1'-0"

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LICENSED ARCHITECT
MANUEL MALDONADO JR.
C-36294
DECEMBER 31, 2025
REGISTERED DATE
STATE OF CALIFORNIA

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DRAWN BY:
ASI

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REGISTERED PROFESSIONAL ENGINEER
JOHN MALONEY
No. E013083
EXP. 06/30/2025
ELECTRICAL
STATE OF CALIFORNIA

SHEET TITLE

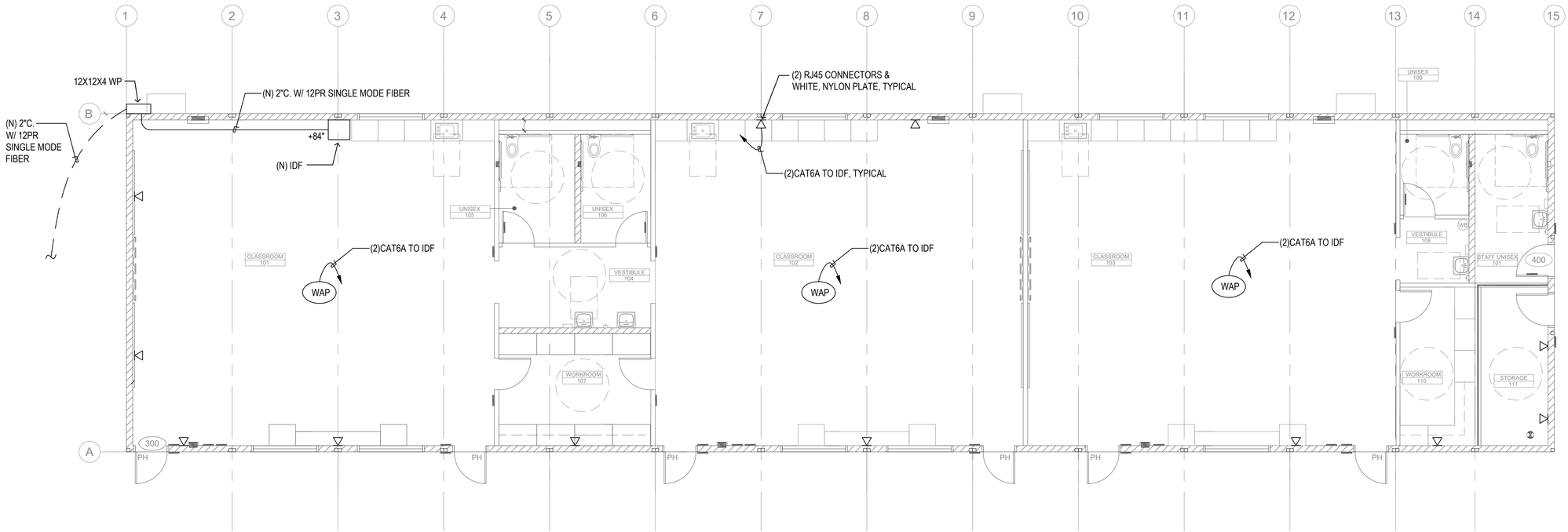
GROUNDING SITE PLAN

SHEET IDENTIFICATION NUMBER

E113

SHEETS IN SET 6

PLOT TIME: 1:51 PM
PLOT DATE: 2/26/2024
PATHNAME: K:\Jobs 2301 - 2350\2023\2307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln



DATA/COMM SITE PLAN

SCALE : 1"-1'-0"

PLOT TIME: 1:51 PM
PLOT DATE: 6/05/24
PLOTTED BY: Kevin John - 230320233307Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

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DECEMBER 31, 2025
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JOB NUMBER:
2307

A#: 03-######
PTN: ###-###

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

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ASI

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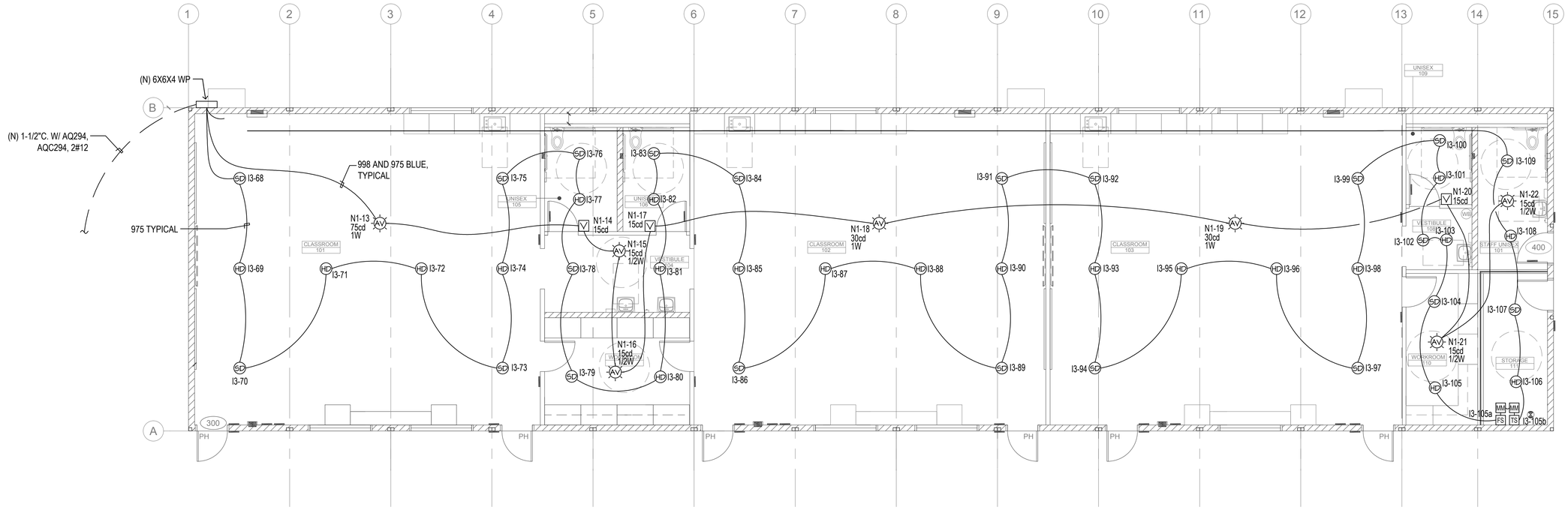
SHEET TITLE

DATA/COMM SITE PLAN

SHEET IDENTIFICATION NUMBER

E114

SHEETS IN SET 6



FIRE ALARM FLOOR PLAN

SCALE : 3/16"-1'-0"

IDENTIFICATION STAMP
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REVIEWED FOR
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DATE: 06/05/2025

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(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DOUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

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2307

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FIRE ALARM FLOOR PLAN

SHEET IDENTIFICATION NUMBER

E115

SHEETS IN SET 6

PLOT TIME: 1:51 PM
PLOT DATE: 2/26/2024
PATHNAME: K:\Jobs 2001-2500\2023\2307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

SECTION 26 00 00 - ELECTRICAL

PART 1 _ GENERAL

1.1 IDENTIFICATION OF EQUIPMENT

A. DISTRIBUTION PANELBOARDS: IDENTIFICATION SHALL BE WITH 1" X 4" LAMINATED, WHITE ON BLACK, MICARTA NAMEPLATES ON EACH MAJOR COMPONENT, EACH WITH NAME AND/OR NUMBER OF UNIT AND OTHER PERTINENT DATA AS REQUIRED. EMERGENCY POWER DISTRIBUTION PANELS SHALL BE IDENTIFIED WITH WHITE ON RED MICARTA NAMEPLATES. LETTERS SHALL BE NO LESS THAN 3/8" HIGH.

B. CIRCUIT BREAKERS SHALL BE IDENTIFIED BY NUMBER AND NAME WITH 3/4" X 1-1/2" LAMINATED MICARTA NAMEPLATES WITH 3/16" HIGH LETTERS MOUNTED ADJACENT TO CIRCUIT BREAKER OR SWITCH.

C. MISCELLANEOUS EQUIPMENT (ELECTRICAL), SUCH AS INDIVIDUALLY MOUNTED SAFETY SWITCHES, STARTERS, STEP-DOWN TRANSFORMERS, PULL BOXES, JUNCTION BOXES, ETC., SHALL BE IDENTIFIED AS REQUIRED BY THE USE OF SUCH EQUIPMENT WITH P-TOUCH LABELS AS REQUIRED.

1.2 ARC FLASH LABELING

A. ALL PANELS, CIRCUIT BREAKER ENCLOSURES, SWITCHBOARDS AND MOTOR CONTROL CENTERS SHALL BE LABELED WITH ARC FLASH WARNING STICKERS.

B THESE LABELS SHALL CONTAIN THE FOLLOWING:

1. ARC FLASH BOUNDARY
2. MINIMUM ARC RATING
3. PERSONAL PROTECTIVE EQUIPMENT LEVEL, PPE
4. SHOCK HAZARD LEVEL
5. FAULT CURRENT

1.3 MOUNTING

A. PROVIDE MATERIALS AND ACCESSORIES NECESSARY TO PROPERLY MOUNT AND SECURE EQUIPMENT FURNISHED AND/OR INSTALLED UNDER THE ELECTRICAL WORK. THIS INCLUDES BUT IS NOT LIMITED TO SUCH ITEMS AS CONDUIT, OUTLETS, JUNCTION BOXES, SWITCHES, RELAYS, DISCONNECT SWITCHES, LIGHTING FIXTURES, CABINETS, AND TRANSFORMERS.

PART 2 _ PRODUCTS AND EXECUTION

2.1 CONDUIT

A. RIGID STEEL CONDUIT:

1. RIGID STEEL CONDUIT SHALL HAVE ZINC COATED EXTERIOR, ZINC OR ENAMEL INTERIOR, STANDARD WEIGHT, ZINC COATED COUPLINGS, LOCKNUTS AND BUSHINGS AND SHALL BEAR THE U.L. LABEL. RIGID CONDUIT SHALL NOT BE INSTALLED UNDERGROUND.
2. USE RIGID CONDUIT ONLY FOR EXPOSED EXTERIOR CONDUIT RUNS, WHEREVER SUBJECT TO PHYSICAL DAMAGE, OR WHERE SPECIFICALLY CALLED FOR ON THE DRAWINGS OR REQUIRED BY A SERVING UTILITY.
3. INTERMEDIATE METALLIC CONDUIT (I.M.C.) MAY BE USED IN LIEU OF RIGID STEEL CONDUIT.
4. USE LIQUID_TIGHT FLEXIBLE CONDUIT IN LIEU OF FLEXIBLE CONDUIT FOR WET, DAMP, OR OUTDOOR AREAS OR WHERE WEATHERPROOF FLEXIBLE CONDUIT IS CALLED FOR ON THE DRAWINGS OR BY CODE.

B. PLASTIC CONDUIT:

1. PLASTIC CONDUIT SHALL BE RIGID POLYVINYL CHLORIDE (PVC) UNDERWRITER'S APPROVAL, SCHEDULE 40. CONNECTIONS AND FITTINGS SHALL BE "OUTSIDE" TYPE ASSEMBLED IN ACCORDANCE WITH THE RECOMMENDED METHODS OF THE MANUFACTURER.
2. UNDERGROUND PVC CONDUIT SHALL BE BURIED A MINIMUM OF 24 INCHES BELOW GRADE. WHERE MORE THAN TWO CONDUITS ARE INSTALLED ADJACENTLY UNDERGROUND, USE FACTORY MADE CONDUIT SPACERS.
3. PVC CONDUIT SHALL BE USED FOR UNDERGROUND CONDUIT RUNS IN LIEU OF WRAPPED RIGID CONDUIT EXCEPT AS NOTED OTHERWISE ON THE DRAWINGS OR REQUIRED BY THE SERVING UTILITY.
4. PROVIDE A CODE SIZE GROUND CONDUCTOR IN EACH CONDUIT.
5. ONLY BRAIDED POLYETHYLENE OR SIMILAR PULL ROPE SHALL BE USED.

C. INSTALLATION OF CONDUIT:

1. UNDERGROUND CONDUIT.

a. KEEP INTERIOR OF CONDUIT CLEAN AND CLEAR. CLEAN UNDERGROUND CONDUITS BY PULLING A MANDREL THROUGH CONDUIT RUN FOLLOWED WITH A SWAB BEFORE PULLING WIRE.

b. REROUTE CONDUIT FROM LOCATIONS SHOWN ON THE DRAWINGS WHERE IT IS NECESSARY TO CLEAR OBSTRUCTIONS.

c. PROVIDE JUNCTION OR PULL BOXES WHERE REQUIRED FOR PULLING CONDUCTORS DUE TO EXCESSIVE NUMBER OF BENDS OR LENGTH OF CONDUIT RUNS.

d. BURY UNDERGROUND CONDUIT, EXCEPT THOSE UNDER BUILDINGS, A MINIMUM OF 24 INCHES BELOW FINISHED GRADE. CONDUITS UNDER ROADWAYS SHALL BE A MINIMUM OF 36 INCHES BELOW FINISHED GRADE. CONDUIT RUNS 3/4 INCH AND SMALLER IN SLABS SHALL BE LOCATED ABOVE VAPOR BARRIERS. BURY CONDUIT RUNS LARGER THAN 3/4 INCH TO A MINIMUM DEPTH OF 12 INCHES BELOW FLOOR SLABS.

e. STANDARD FACTORY ELLS SHALL NOT BE USED IN UNDERGROUND SERVICE CONDUITS OR OTHER LONG UNDERGROUND RUNS. FIELD BENDS SHALL NOT BE FLATTENED OR KINKED AND SHALL NOT MATERIALLY REDUCE THE INTERNAL DIAMETER OF THE CONDUIT. BENDS IN LONG UNDERGROUND RUNS SHALL BE MADE IN LONG SWEEPING BENDS. DO NOT BEND AT COUPLINGS. APPROVED CONDUIT BENDING METHODS SHALL BE USED.

f. ALL CONDUIT RUNS SHALL HAVE A CODE SIZE INSULATED GROUNDING CONDUCTOR.

g. PROPERLY SEPARATE TWO OR MORE CONDUITS INSTALLED UNDERGROUND IN A COMMON CONCRETE ENVELOPE WITH APPROVED FACTORY MADE CONDUIT SPACERS.

h. LOCATE CONDUIT STUB_OUTS DIMENSIONALLY FROM BUILDING OR CURB LINES ON RECORD DRAWINGS.

i. PULL WIRES SHALL BE INSTALLED IN EMPTY CONDUITS INCLUDING TELEPHONE CONDUITS AND STUB_OUTS, NO. 12 AWG, TYPE "THWN" INSULATED COPPER WIRE OR 1/8-INCH POLYETHYLENE ROPE SHALL BE USED.

2. EXPOSED/CONCEALED CONDUIT:

a. PROVIDE SECURE MOUNTING FACILITIES FOR CONDUITS. WIRE OR PLUMBERS TAPE SHALL NOT BE USED FOR HANGING CONDUIT. STRAP SHALL BE FACTORY MADE OF THE ONE HOLE MALLEABLE IRON OR TWO HOLE GALVANIZED CLAMP TYPE.

b. PROVIDE EXPANSION COUPLINGS WHEREVER CONDUITS CROSS EXPANSION JOINTS.

c. RUN CONDUIT AT RIGHT ANGLES OR PARALLEL TO STRUCTURAL MEMBERS, WALLS, FLOORS AND CEILINGS. WHERE SEVERAL CONDUITS ARE RUN TOGETHER OR SUSPENDED, THEY SHALL BE HUNG ON UNISTRUT TRAPEZES WITH MINIMUM 3/8-INCH ROD HANGERS.

d. CUT ENDS OF CONDUIT SQUARE AND REAM TO REMOVE BURRS OR SHARP EDGES. TERMINATE CONDUITS PROPERLY WITH BUSHINGS, LOCKNUTS, ETC. TERMINATE ONE (1) INCH AND LARGER CONDUITS WITH INSULATED BUSHINGS.

e. RENDER CONDUITS PROJECTING THROUGH THE ROOFING WATERTIGHT BY PROPER FLASHINGS. SECURELY FASTEN A SHEET METAL CAP AND TIGHTEN BANK OR STORM COLLAR TO THE CONDUITS. EXTEND FLASHING A MINIMUM OF SIX (6) INCHES IN ALL DIRECTIONS. COORDINATE AND INSTALL ROOF FLASHING FOR CONDUITS TO THE SATISFACTION OF THE PROJECT MANAGER.

f. ALL CONDUIT RUNS SHALL HAVE A CODE SIZE INSULATED GROUNDING CONDUCTOR.

g. PULL WIRES SHALL BE INSTALLED IN EMPTY CONDUITS INCLUDING TELEPHONE CONDUITS AND STUB_OUTS, NO. 12 AWG, TYPE "THWN" INSULATED COPPER WIRE OR 1/8-INCH POLYETHYLENE ROPE SHALL BE USED.

h. FLEXIBLE CONDUIT CONNECTIONS SHALL COMPLY WITH NEC SECTION 350-22.

2.2 WIRE AND CABLE

A. 600 VOLT CONDUCTORS:

1. CONDUCTORS SHALL BE COPPER AND DELIVERED TO THE SITE IN THEIR ORIGINAL, UNBROKEN PACKAGES PLAINLY MARKED OR TAGGED WITH U.L. LABEL, SIZE, KIND, INSULATION, NAME OF MANUFACTURER AND TRADE NAME OF THE WIRE.
2. TYPE "THWN", 600 VOLT INSULATION FOR DAMP OR WET LOCATIONS OR ON BOILERS AND FURNACES AND THEIR CONTROLS.
3. TYPE "THHN" 600 VOLT INSULATION SHALL BE USED IN OTHER LOCATIONS UNLESS NOTED.
4. MINIMUM SIZE CONDUCTOR SHALL BE #12.
5. CONDUCTORS SHALL BE STRANDED.
6. GROUND CONDUCTORS SHALL BE BARE COPPER OR HAVE GREEN INSULATION.

B. INSTALLATION:

1. CONDUCTORS SHALL BE CONTINUOUS BETWEEN OUTLETS OR JUNCTION BOXES AND NO SPLICES SHALL BE MADE EXCEPT IN OUTLET BOXES, PULL BOXES, PANELBOARD GUTTERS OR HANDHOLES.
2. JOINTS, SPLICES AND TAPS NO. L0 OR SMALLER (INCLUDING FIXTURE PIGTAILS) SHALL BE CONNECTED WITH "FLOATING SPRING" TYPE CONNECTORS. NO. 8 AND LARGER SHALL BE CONNECTED WITH SOLDERLESS CONNECTORS OF 100% ELECTROLYTIC COPPER. SPLIT_BOLT CONNECTORS ARE NOT ACCEPTABLE.
3. TIGHTEN PRESSURE TYPE LUGS ON PANELS AND EQUIPMENT, AND THEN RETIGHTEN 24 HOURS OR MORE LATER AFTER ENERGIZING. PROVIDE WRITTEN REPORT OF TORQUE VALUES ON LUGS.
4. OIL OR GREASE SHALL NOT BE USED WHEN PULLING CONDUCTORS. USE U.L. APPROVED CABLE LUBRICATION ONLY.
5. LACE OR TRAIN CONDUCTORS NEATLY IN PANELS, CABINETS AND EQUIPMENT. USE PLASTIC WIRE TIES TO ROUTE CONDUCTORS AT EDGE OF ENCLOSURE AWAY FROM OVERCURRENT DEVICES.
6. BRANCH CIRCUITS SHALL BE COLOR CODED IN COMPLIANCE WITH SECTION 210_5 OF THE CALIFORNIA ELECTRICAL CODE. COLORED TAPE IS NOT ACCEPTABLE.
7. ALL WIRING, BOTH LINE AND LOW VOLTAGE, SHALL BE INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED.

END OF SECTION 26 00 00

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ELECTRICAL SPECIFICATIONS

SHEET IDENTIFICATION NUMBER

E300

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PLOT TIME: 1:51 PM
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FILENAME: K:\JMPE\2307- 2306\2023\2307\Drawings\05 CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

SECTION 28 31 11 - FIRE DETECTION AND ALARM SYSTEM

PART 1 - GENERAL

1.1 BASIC SYSTEM FUNCTIONAL OPERATION

A. WHEN A FIRE ALARM CONDITION IS DETECTED AND REPORTED BY ONE OF THE SYSTEM INITIATING DEVICES, THE FOLLOWING FUNCTIONS SHALL IMMEDIATELY OCCUR:

1. THE SYSTEM ALARM LED ON THE SYSTEM DISPLAY SHALL FLASH.
2. A LOCAL PIEZO ELECTRIC SIGNAL IN THE CONTROL PANEL SHALL SOUND.
3. A BACKLIT LCD DISPLAY SHALL INDICATE ALL INFORMATION ASSOCIATED WITH THE FIRE ALARM CONDITION, INCLUDING THE TYPE OF ALARM POINT AND ITS LOCATION WITHIN THE PROTECTED PREMISES.
4. PRINTING AND HISTORY STORAGE EQUIPMENT SHALL LOG THE INFORMATION ASSOCIATED EACH NEW FIRE ALARM CONTROL PANEL CONDITION, ALONG WITH TIME AND DATE OF OCCURRENCE.
5. ALL SYSTEM OUTPUT PROGRAMS ASSIGNED VIA CONTROL-BY-EVENT INTERLOCK PROGRAMMING TO BE ACTIVATED BY THE PARTICULAR POINT IN ALARM SHALL BE EXECUTED, AND THE ASSOCIATED SYSTEM OUTPUTS (NOTIFICATION APPLIANCES AND/OR RELAYS) SHALL BE ACTIVATED.

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIAL, GENERAL

A. ALL EQUIPMENT AND COMPONENTS SHALL BE NEW, HOCHIKI CURRENT MODELS, THE MATERIALS, APPLIANCES, EQUIPMENT AND DEVICES SHALL BE TESTED AND LISTED BY A NATIONALLY RECOGNIZED APPROVALS AGENCY FOR USE AS PART OF A PROTECTIVE SIGNALING SYSTEM, MEETING THE NATIONAL FIRE ALARM CODE.

B. ALL EQUIPMENT AND COMPONENTS SHALL BE INSTALLED IN STRICT COMPLIANCE WITH NOTIFIERS' RECOMMENDATIONS. CONSULT THE MANUFACTURER'S INSTALLATION MANUALS FOR ALL WIRING DIAGRAMS, SCHEMATICS, PHYSICAL EQUIPMENT SIZES, ETC., BEFORE BEGINNING SYSTEM INSTALLATION.

C. ALL EQUIPMENT SHALL BE ATTACHED TO WALLS AND CEILING/FLOOR ASSEMBLIES AND SHALL BE HELD FIRMLY IN PLACE (E.G., DETECTORS SHALL NOT BE SUPPORTED SOLELY BY SUSPENDED CEILINGS). FASTENERS AND SUPPORTS SHALL BE ADEQUATE TO SUPPORT THE REQUIRED LOAD.

D. 2.2 MAIN FIRE ALARM CONTROL PANEL

E. MAIN FACP SHALL BE A HOCHIKI LATITUDE AND SHALL CONTAIN A MICROPROCESSOR BASED CENTRAL PROCESSING UNIT (CPU) AND POWER SUPPLY IN AN ECONOMICAL SPACE SAVING SINGLE BOARD DESIGN. THE CPU SHALL COMMUNICATE WITH AND CONTROL THE FOLLOWING TYPES OF EQUIPMENT USED TO MAKE UP THE SYSTEM: INTELLIGENT ADDRESSABLE SMOKE AND THERMAL (HEAT) DETECTORS, ADDRESSABLE MODULES, PRINTER, ANNUNCIATORS, AND OTHER SYSTEM CONTROLLED DEVICES.

F. OPERATOR CONTROL:

1. ACKNOWLEDGE SWITCH:
   a. ACTIVATION OF THE CONTROL PANEL ACKNOWLEDGE SWITCH IN RESPONSE TO NEW ALARMS AND/OR TROUBLES SHALL SILENCE THE LOCAL PANEL PIEZO ELECTRIC SIGNAL AND CHANGE THE ALARM AND TROUBLE LEDS FROM FLASHING MODE TO STEADY-ON MODE. IF MULTIPLE ALARM OR TROUBLE CONDITIONS EXIST, DEPRESSION OF THIS SWITCH SHALL ADVANCE THE LCD DISPLAY TO THE NEXT ALARM OR TROUBLE CONDITION.
   b. DEPRESSION OF THE ACKNOWLEDGE SWITCH SHALL ALSO SILENCE ALL REMOTE ANNUNCIATOR PIEZO SOUNDERS.
2. ALARM SILENCE SWITCH: ACTIVATION OF THE ALARM SILENCE SWITCH SHALL CAUSE ALL PROGRAMMED ALARM NOTIFICATION APPLIANCES AND RELAYS TO RETURN TO THE NORMAL CONDITION AFTER AN ALARM CONDITION. THE SELECTION OF NOTIFICATION CIRCUITS AND RELAYS THAT ARE SILENCEABLE BY THIS SWITCH SHALL BE FULLY FIELD PROGRAMMABLE WITHIN THE CONFINES OF ALL APPLICABLE STANDARDS. THE FACP SOFTWARE SHALL INCLUDE SILENCE INHIBIT AND AUTO-SILENCE TIMERS.
3. ALARM ACTIVATE (DRILL) SWITCH: THE ALARM ACTIVATE SWITCH SHALL ACTIVATE ALL NOTIFICATION APPLIANCE CIRCUITS. THE DRILL FUNCTION SHALL LATCH UNTIL THE PANEL IS SILENCED OR RESET.
4. SYSTEM RESET SWITCH: ACTIVATION OF THE SYSTEM RESET SWITCH SHALL CAUSE ALL ELECTRONICALLY-LATCHED INITIATING DEVICES, APPLIANCES OR SOFTWARE ZONES, AS WELL AS ALL ASSOCIATED OUTPUT DEVICES AND CIRCUITS, TO RETURN TO THEIR NORMAL CONDITION.
5. LAMP TEST: THE LAMP TEST SWITCH SHALL ACTIVATE ALL LOCAL SYSTEM LEDS, LIGHT EACH SEGMENT OF THE LIQUID CRYSTAL DISPLAY AND DISPLAY THE PANEL SOFTWARE REVISION FOR SERVICE PERSONAL.

C. SYSTEM CAPACITY AND GENERAL OPERATION

1. THE CONTROL PANEL OR EACH NETWORK NODE SHALL PROVIDE, OR BE CAPABLE OF EXPANSION TO 636 INTELLIGENT/ADDRESSABLE DEVICES.
2. THE CONTROL PANEL OR EACH NETWORK NODE SHALL INCLUDE FORM-C ALARM, TROUBLE, SUPERVISORY, AND SECURITY RELAYS RATED AT A MINIMUM OF 2.0 AMPS @ 30 VDC.
3. IT SHALL ALSO INCLUDE FOUR CLASS B (NFPA STYLE Y) OR CLASS A (NFPA STYLE Z) PROGRAMMABLE NOTIFICATION APPLIANCE CIRCUITS.
4. THE NOTIFICATION APPLIANCE CIRCUITS SHALL BE PROGRAMMABLE TO SYNCRONIZE WITH SYSTEM SENSOR, GENTEX AND WHEELOCK NOTIFICATION APPLIANCES.
5. THE SYSTEM SHALL INCLUDE A FULL FEATURED OPERATOR INTERFACE CONTROL AND ANNUNCIATION PANEL THAT SHALL INCLUDE A BACKLIT LIQUID CRYSTAL DISPLAY (LCD), INDIVIDUAL COLOR CODED SYSTEM STATUS LEDS, AND AN ALPHANUMERIC KEYPAD WITH EASY TOUCH RUBBER KEYS FOR THE FIELD PROGRAMMING AND CONTROL OF THE FIRE ALARM SYSTEM.
6. THE SYSTEM SHALL BE PROGRAMMABLE, CONFIGURABLE, AND EXPANDABLE IN THE FIELD WITHOUT THE NEED FOR SPECIAL TOOLS, PROM PROGRAMMERS OR PC BASED PROGRAMMERS. IT SHALL NOT REQUIRE REPLACEMENT OF MEMORY ICS TO FACILITATE PROGRAMMING CHANGES.
7. THE SYSTEM SHALL ALLOW THE PROGRAMMING OF ANY INPUT TO ACTIVATE ANY OUTPUT OR GROUP OF OUTPUTS. SYSTEMS THAT HAVE LIMITED PROGRAMMING (SUCH AS GENERAL ALARM), HAVE COMPLICATED PROGRAMMING (SUCH AS A DIODE MATRIX), OR REQUIRE A LAPTOP PERSONAL COMPUTER ARE NOT CONSIDERED SUITABLE SUBSTITUTES.

   THE FACP SHALL SUPPORT UP TO 20 LOGIC EQUATIONS, INCLUDING "AND," "OR," AND "NOT," OR TIME DELAY EQUATIONS TO BE USED FOR ADVANCED PROGRAMMING. LOGIC EQUATIONS SHALL REQUIRE THE USE OF A PC WITH A SOFTWARE UTILITY DESIGNED FOR PROGRAMMING.
8. THE FACP OR EACH NETWORK NODE SHALL PROVIDE THE FOLLOWING FEATURES:
   a. DRIFT COMPENSATION TO EXTEND DETECTOR ACCURACY OVER LIFE. DRIFT COMPENSATION SHALL ALSO INCLUDE A SMOOTHING FEATURE, ALLOWING TRANSIENT NOISE SIGNALS TO BE FILTERED OUT.
   b. DETECTOR SENSITIVITY TEST, MEETING REQUIREMENTS OF NFPA 1-2018, CHAPTER 7.
   c. MAINTENANCE ALERT, WITH TWO LEVELS (MAINTENANCE ALERT/MAINTENANCE URGENT), TO WARN OF EXCESSIVE SMOKE DETECTOR DIRT OR DUST ACCUMULATION.
   d. NINE SENSITIVITY LEVELS FOR ALARM, SELECTED BY DETECTOR. THE ALARM LEVEL RANGE SHALL BE .5 TO 2.35 PERCENT PER FOOT FOR PHOTOELECTRIC DETECTORS AND 0.5 TO 2.5 PERCENT PER FOOT FOR IONIZATION DETECTORS. THE SYSTEM SHALL ALSO SUPPORT SENSITIVE ADVANCED DETECTION LASER DETECTORS WITH AN ALARM LEVEL RANGE OF .03 PERCENT PER FOOT TO 1.0 PERCENT PER FOOT. THE SYSTEM SHALL ALSO INCLUDE UP TO NINE LEVELS OF PREALARM, SELECTED BY DETECTOR, TO INDICATE IMPENDING ALARMS TO MAINTENANCE PERSONNEL.
   e. THE ABILITY TO DISPLAY OR PRINT SYSTEM REPORTS.
   f. ALARM VERIFICATION, WITH COUNTERS AND A TROUBLE INDICATION TO ALERT MAINTENANCE PERSONNEL WHEN A DETECTOR ENTERS VERIFICATION 20 TIMES.
   g. PAS PRESIGNAL, MEETING NFPA 1-2018 REQUIREMENTS.
   h. RAPID MANUAL STATION REPORTING (UNDER 3 SECONDS) AND SHALL MEET NFPA 72 CHAPTER 1 REQUIREMENTS FOR ACTIVATION OF NOTIFICATION CIRCUITS WITHIN 10 SECONDS OF INITIATING DEVICE ACTIVATION.
   i. PERIODIC DETECTOR TEST, CONDUCTED AUTOMATICALLY BY THE SOFTWARE.
   j. SELF OPTIMIZING PRE-ALARM FOR ADVANCED FIRE WARNING, WHICH ALLOWS EACH DETECTOR TO LEARN ITS PARTICULAR ENVIRONMENT AND SET ITS PREALARM LEVEL TO JUST ABOVE NORMAL PEAKS.
   k. CROSS ZONING WITH THE CAPABILITY OF COUNTING: TWO DETECTORS IN ALARM, TWO SOFTWARE ZONES IN ALARM, OR ONE SMOKE DETECTOR AND ONE THERMAL DETECTOR.
   l. WALK TEST, WITH A CHECK FOR TWO DETECTORS SET TO SAME ADDRESS.
   m. CONTROL-BY-TIME FOR NON-FIRE OPERATIONS, WITH HOLIDAY SCHEDULES.
   n. DAY/NIGHT AUTOMATIC ADJUSTMENT OF DETECTOR SENSITIVITY.
   o. DEVICE BLINK CONTROL FOR SLEEPING AREAS.

F. SIGNALING LINE CIRCUITS (SLC):

1. EACH FACP OR FACP NETWORK NODE SHALL SUPPORT UP TO TWO SLCS. EACH SLC INTERFACE SHALL PROVIDE POWER TO AND COMMUNICATE WITH UP TO 159 INTELLIGENT DETECTORS (IONIZATION, PHOTOELECTRIC OR THERMAL) AND 159 INTELLIGENT MODULES (MONITOR OR CONTROL) FOR A LOOP CAPACITY OF 318 DEVICES. THE ADDITION OF THE OPTIONAL SECOND LOOP SHALL DOUBLE THE DEVICE CAPACITY, SUPPORTING A TOTAL OF 636 DEVICES. EACH SLC SHALL BE CAPABLE OF NFPA 1-2018 STYLE 4, STYLE 6, OR STYLE 7 (CLASS A OR B) WIRING.
2. CPU SHALL RECEIVE ANALOG INFORMATION FROM ALL INTELLIGENT DETECTORS TO BE PROCESSED TO DETERMINE WHETHER NORMAL, ALARM, PREALARM, OR TROUBLE CONDITIONS EXIST FOR EACH DETECTOR. THE SOFTWARE SHALL AUTOMATICALLY MAINTAIN THE DETECTOR'S DESIRED SENSITIVITY LEVEL BY ADJUSTING FOR THE EFFECTS OF ENVIRONMENTAL FACTORS, INCLUDING THE ACCUMULATION OF DUST IN EACH DETECTOR. THE ANALOG INFORMATION SHALL ALSO BE USED FOR AUTOMATIC DETECTOR TESTING AND FOR THE AUTOMATIC DETERMINATION OF DETECTOR MAINTENANCE REQUIREMENTS.

I. POWER SUPPLY:

1. A HIGH TECH OFF-LINE SWITCHING POWER SUPPLY SHALL BE AVAILABLE FOR THE FIRE ALARM CONTROL PANEL OR NETWORK NODE AND PROVIDE 6.0 AMPS OF AVAILABLE POWER FOR THE CONTROL PANEL AND PERIPHERAL DEVICES.
2. PROVISIONS WILL BE MADE TO ALLOW THE AUDIO-VISUAL POWER TO BE INCREASED AS REQUIRED BY ADDING MODULAR EXPANSION AUDIO-VISUAL POWER SUPPLIES.
3. POSITIVE-TEMPERATURE-COEFFICIENT (PTC) THERMISTORS, CIRCUIT BREAKERS, OR OTHER OVER-CURRENT PROTECTION SHALL BE PROVIDED ON ALL POWER OUTPUTS. THE POWER SUPPLY SHALL PROVIDE AN INTEGRAL BATTERY CHARGER FOR USE WITH BATTERIES UP TO 55 AH OR MAY BE USED WITH AN EXTERNAL BATTERY AND CHARGER SYSTEM. BATTERY ARRANGEMENT MAY BE CONFIGURED IN THE FIELD.
4. THE POWER SUPPLY SHALL CONTINUOUSLY MONITOR ALL FIELD WIRES FOR EARTH GROUND CONDITIONS, AND SHALL HAVE THE FOLLOWING LED INDICATORS:

   GROUND FAULT LED
   AC POWER FAIL LED
   NAC ON LED (4)
5. THE MAIN POWER SUPPLY SHALL OPERATE ON 120 VAC, 60 HZ, AND SHALL PROVIDE ALL NECESSARY POWER FOR THE FACP.
6. THE MAIN POWER SUPPLY SHALL PROVIDE A BATTERY CHARGER USING DUAL-RATE CHARGING TECHNIQUES FOR FAST BATTERY RECHARGE AND BE CAPABLE OF CHARGING BATTERIES UP TO 200 AH.
7. ALL CIRCUITS SHALL BE POWER-LIMITED, PER UL864 REQUIREMENTS.

2.3 SYSTEM COMPONENTS

A. STROBE LIGHTS SHALL MEET THE REQUIREMENTS OF THE ADA, UL STANDARD 1971, BE FULLY SYNCHRONIZED, AND SHALL MEET THE FOLLOWING CRITERIA:

1. THE MAXIMUM PULSE DURATION SHALL BE 2/10 OF ONE SECOND
2. STROBE INTENSITY SHALL MEET THE REQUIREMENTS OF UL 1971.
3. THE FLASH RATE SHALL MEET THE REQUIREMENTS OF UL 1971.

2.4 SYSTEM COMPONENTS - ADDRESSABLE DEVICES

A. ADDRESSABLE DEVICES - GENERAL:

1. ADDRESSABLE DEVICES SHALL USE SIMPLE TO INSTALL AND MAINTAIN DECADE, DECIMAL ADDRESS SWITCHES. DEVICES SHALL BE CAPABLE OF BEING SET TO AN ADDRESS IN A RANGE OF 001 TO 159.
2. ADDRESSABLE DEVICES, WHICH USE A BINARY-CODED ADDRESS SETTING METHOD, SUCH AS A DIP-SWITCH, ARE NOT AN ALLOWABLE SUBSTITUTE.
3. DETECTORS SHALL BE INTELLIGENT (ANALOG) AND ADDRESSABLE, AND SHALL CONNECT WITH TWO WIRES TO THE FIRE ALARM CONTROL PANEL SIGNALING LINE CIRCUITS.
4. ADDRESSABLE SMOKE AND THERMAL DETECTORS SHALL PROVIDE DUAL ALARM AND POWER/POLLING LEDS. BOTH LEDS SHALL FLASH GREEN UNDER NORMAL CONDITIONS, INDICATING THAT THE DETECTOR IS OPERATIONAL AND IN REGULAR COMMUNICATION WITH THE CONTROL PANEL, AND BOTH LEDS SHALL BE PLACED INTO STEADY RED ILLUMINATION BY THE CONTROL PANEL, INDICATING THAT AN ALARM CONDITION HAS BEEN DETECTED. IF REQUIRED, THE LED FLASH SHALL HAVE THE ABILITY TO BE REMOVED FROM THE SYSTEM PROGRAM. AN OUTPUT CONNECTION SHALL ALSO BE PROVIDED IN THE BASE TO CONNECT AN EXTERNAL REMOTE ALARM LED.
5. THE FIRE ALARM CONTROL PANEL SHALL PERMIT DETECTOR SENSITIVITY ADJUSTMENT THROUGH FIELD PROGRAMMING OF THE SYSTEM. THE PANEL ON A TIME-OF-DAY BASIS SHALL AUTOMATICALLY ADJUST SENSITIVITY.
6. USING SOFTWARE IN THE FACP, DETECTORS SHALL AUTOMATICALLY COMPENSATE FOR DUST ACCUMULATION AND OTHER SLOW ENVIRONMENTAL CHANGES THAT MAY AFFECT THEIR PERFORMANCE. THE DETECTORS SHALL BE LISTED BY UL AS MEETING THE CALIBRATED SENSITIVITY TEST REQUIREMENTS OF NFPA 1-2018, CHAPTER 7.
7. THE DETECTORS SHALL BE CEILING-MOUNT AND SHALL INCLUDE A SEPARATE TWIST-LOCK BASE WITH TAMPER PROOF FEATURE. BASES SHALL INCLUDE A SOUNDER BASE WITH A BUILT-IN (LOCAL) SOUNDER RATED AT 85 DBA MINIMUM, A RELAY BASE AND AN ISOLATOR BASE DESIGNED FOR STYLE 7 APPLICATIONS.
8. THE DETECTORS SHALL PROVIDE A TEST MEANS WHEREBY THEY WILL SIMULATE AN ALARM CONDITION AND REPORT THAT CONDITION TO THE CONTROL PANEL. SUCH A TEST MAY BE INITIATED AT THE DETECTOR ITSELF (BY ACTIVATING A MAGNETIC SWITCH) OR INITIATED REMOTELY ON COMMAND FROM THE CONTROL PANEL.
9. DETECTORS SHALL ALSO STORE AN INTERNAL IDENTIFYING TYPE CODE THAT THE CONTROL PANEL SHALL USE TO IDENTIFY THE TYPE OF DEVICE (ION, PHOTO, THERMAL).
10. DETECTORS WILL OPERATE IN AN ANALOG FASHION, WHERE THE DETECTOR SIMPLY MEASURES ITS DESIGNED ENVIRONMENT VARIABLE AND TRANSMITS AN ANALOG VALUE TO THE FACP BASED ON REAL-TIME MEASURED VALUES. THE FACP SOFTWARE, NOT THE DETECTOR, SHALL MAKE THE ALARM/NORMAL DECISION, THEREBY ALLOWING THE SENSITIVITY OF EACH DETECTOR TO BE SET IN THE FACP PROGRAM AND ALLOWING THE SYSTEM OPERATOR TO VIEW THE CURRENT ANALOG VALUE OF EACH DETECTOR.
11. ADDRESSABLE DEVICES SHALL STORE AN INTERNAL IDENTIFYING CODE THAT THE CONTROL PANEL SHALL USE TO IDENTIFY THE TYPE OF DEVICE.
12. A MAGNETIC TEST SWITCH SHALL BE PROVIDED TO TEST DETECTORS AND MODULES. DETECTORS SHALL REPORT AN INDICATION OF AN ANALOG VALUE REACHING 100% OF THE ALARM THRESHOLD.
13. ADDRESSABLE MODULES SHALL MOUNT IN A 4-INCH SQUARE (101.6 MM SQUARE), 2-1/8 INCH (54 MM) DEEP ELECTRICAL BOX. AN OPTIONAL SURFACE MOUNT LEXAN ENCLOSURE SHALL BE AVAILABLE.

B. ADDRESSABLE MANUAL FIRE ALARM BOX (MANUAL STATION):

1. ADDRESSABLE MANUAL FIRE ALARM BOXES SHALL, ON COMMAND FROM THE CONTROL PANEL, SEND DATA TO THE PANEL REPRESENTING THE STATE OF THE MANUAL SWITCH AND THE ADDRESSABLE COMMUNICATION MODULE STATUS. THEY SHALL USE A KEY OPERATED TEST-RESET LOCK, AND SHALL BE DESIGNED SO THAT AFTER ACTUAL EMERGENCY OPERATION, THEY CANNOT BE RESTORED TO NORMAL USE EXCEPT BY THE USE OF A KEY.
2. ALL OPERATED STATIONS SHALL HAVE A POSITIVE, VISUAL INDICATION OF OPERATION AND UTILIZE A KEY TYPE RESET.
3. MANUAL FIRE ALARM BOXES SHALL BE CONSTRUCTED OF LEXAN WITH CLEARLY VISIBLE OPERATING INSTRUCTIONS PROVIDED ON THE COVER. THE WORD FIRE SHALL APPEAR ON THE FRONT OF THE STATIONS IN RAISED LETTERS, 1.75 INCHES (44 MM) OR LARGER.

C. INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR: THE DETECTORS SHALL USE THE PHOTOELECTRIC (LIGHT-SCATTERING) PRINCIPAL TO MEASURE SMOKE DENSITY AND SHALL, ON COMMAND FROM THE CONTROL PANEL, SEND DATA TO THE PANEL REPRESENTING THE ANALOG LEVEL OF SMOKE DENSITY.

D. INTELLIGENT LASER PHOTO SMOKE DETECTOR:

1. THE INTELLIGENT LASER PHOTO SMOKE DETECTOR SHALL BE A SPOT TYPE DETECTOR THAT INCORPORATES AN EXTREMELY BRIGHT LASER DIODE AND AN INTEGRAL LENS THAT FOCUSES THE LIGHT BEAM TO A VERY SMALL VOLUME NEAR A RECEIVING PHOTO SENSOR. THE SCATTERING OF SMOKE PARTICLES SHALL ACTIVATE THE PHOTO SENSOR.
2. THE LASER DETECTOR SHALL HAVE CONDUCTIVE PLASTIC SO THAT DUST ACCUMULATION IS REDUCED SIGNIFICANTLY.
3. THE INTELLIGENT LASER PHOTO DETECTOR SHALL HAVE NINE SENSITIVITY LEVELS AND BE SENSITIVE TO A MINIMUM OBSCURATION OF 0.03 PERCENT PER FOOT.
4. THE LASER DETECTOR SHALL NOT REQUIRE EXPENSIVE CONDUIT, SPECIAL FITTINGS OR PVC PIPE.
5. THE INTELLIGENT LASER PHOTO DETECTOR SHALL SUPPORT STANDARD, RELAY, ISOLATOR AND SOUNDER DETECTOR BASES.
6. THE LASER PHOTO DETECTOR SHALL NOT REQUIRE OTHER CLEANING REQUIREMENTS THAN THOSE LISTED IN NFPA 72. REPLACEMENT, REFURBISHMENT OR SPECIALIZED CLEANING OF THE DETECTOR HEAD SHALL NOT BE REQUIRED.
7. THE LASER PHOTO DETECTOR SHALL INCLUDE TWO BICOLOR LEDS THAT FLASH GREEN IN NORMAL OPERATION AND TURN ON STEADY RED IN ALARM.

E. INTELLIGENT IONIZATION SMOKE DETECTOR: THE DETECTORS SHALL USE THE DUAL-CHAMBER IONIZATION PRINCIPAL TO MEASURE PRODUCTS OF COMBUSTION AND SHALL, ON COMMAND FROM THE CONTROL PANEL, SEND DATA TO THE PANEL REPRESENTING THE ANALOG LEVEL OF PRODUCTS OF COMBUSTION.

F. INTELLIGENT THERMAL DETECTORS: THERMAL DETECTORS SHALL BE INTELLIGENT ADDRESSABLE DEVICES RATED AT 135 DEGREES FAHRENHEIT (58 DEGREES CELSIUS) AND HAVE A RATE-OF-RISE ELEMENT RATED AT 15 DEGREES F (9.4 DEGREES C) PER MINUTE. IT SHALL CONNECT VIA TWO WIRES TO THE FIRE ALARM CONTROL PANEL SIGNALING LINE CIRCUIT.

2.5 BATTERIES

A. THE BATTERY SHALL HAVE SUFFICIENT CAPACITY TO POWER THE FIRE ALARM SYSTEM FOR NOT LESS THAN TWENTY-FOUR HOURS PLUS 5 MINUTES OF ALARM UPON A NORMAL AC POWER FAILURE.

B. THE BATTERIES ARE TO BE COMPLETELY MAINTENANCE FREE. NO LIQUIDS ARE REQUIRED. FLUID LEVEL CHECKS FOR REFILLING, SPILLS, AND LEAKAGE SHALL NOT BE REQUIRED.

C. IF NECESSARY TO MEET STANDBY REQUIREMENTS, EXTERNAL BATTERY AND CHARGER SYSTEMS MAY BE USED.

2.6 SPEAKERS

GENERAL:
WHEELOCK ADVANCE OUTDOOR SPEAKERS AND SPEAKER STROBES SHALL MOUNT TO A WEATHERPROOF BACK BOX. A UNIVERSAL MOUNTING PLATE SHALL BE USED FOR MOUNTING CEILING AND WALL PRODUCTS. THE NOTIFICATION APPLIANCE CIRCUIT AND AMPLIFIER WIRING SHALL TERMINATE AT THE UNIVERSAL MOUNTING PLATE. ALSO, SPECTRALERT ADVANCE SPEAKER STROBES, WHEN USED WITH THE SYNCCIRCUIT™ MODULE ACCESSORY, SHALL BE POWERED FROM A NON-CODED NOTIFICATION APPLIANCE CIRCUIT OUTPUT AND SHALL OPERATE ON A NOMINAL 12 OR 24 VOLTS. WHEN USED WITH THE SYNCCIRCUIT™ MODULE, 12-VOLT-RATED NOTIFICATION APPLIANCE CIRCUIT OUTPUTS SHALL OPERATE BETWEEN 8.5 AND 17.5 VOLTS; 24-VOLT-RATED NOTIFICATION APPLIANCE CIRCUIT OUTPUTS SHALL OPERATE BETWEEN 16.5 AND 33 VOLTS. OUTDOOR SPECTRALERT ADVANCE PRODUCTS SHALL OPERATE BETWEEN -40°F AND 151°F FROM A REGULATED DC, OR FULL-WAVE RECTIFIED, UNFILTERED POWER SUPPLY.

SPEAKER:
SPEAKER SHALL BE A WHEELOCK ET-1010 _____ DUAL-VOLTAGE TRANSFORMER SPEAKER CAPABLE OF OPERATING AT 25.0 OR 70.7 NOMINAL VRMS. SPEAKER SHALL BE LISTED TO UNDERWRITERS LABORATORIES STANDARD S4048 FOR OUTDOOR FIRE PROTECTIVE SIGNALING SYSTEMS. SPEAKER SHALL HAVE A FREQUENCY RANGE OF 400 TO 4,000 HZ AND SHALL HAVE AN OPERATING TEMPERATURE FROM -40°F AND 150.8°F. SPEAKER SHALL HAVE POWER TAPS AND WATTAGE SETTINGS THAT ARE SELECTED BY ROTARY SWITCHES. THE SPEAKER MUST BE INSTALLED WITH ITS WEATHERPROOF BACK BOX IN ORDER TO REMAIN OUTDOOR APPROVED PER UL LISTING S4048. THE SPEAKER SHALL BE SUITABLE FOR USE IN AIR HANDLING SPACES AND WET ENVIRONMENTS.

SPEAKER STROBE COMBINATION:
THE SPEAKER STROBE SHALL BE A HOCHIKI HSS _____ LISTED TO UL 1638 AND UL 1480 AND BE APPROVED FOR FIRE PROTECTIVE SIGNALING SYSTEMS. SPEAKER SHALL BE CAPABLE OF OPERATING AT 25.0 OR 70.0 NOMINAL VRMS AND SHALL HAVE A FREQUENCY RANGE OF 400 TO 4,000 HZ. SPEAKER SHALL HAVE POWER TAPS THAT ARE SELECTED BY ROTARY SWITCH. THE STROBE SHALL CONSIST OF A XENON FLASH TUBE WITH ASSOCIATED LENS/REFLECTOR SYSTEM AND OPERATE ON EITHER 12 OR 24 VOLTS. THE STROBE SHALL ALSO FEATURE SELECTABLE CANDELA OUTPUT, PROVIDING OPTIONS FOR 15 OR 15/75 CANDELA WHEN OPERATING ON 12 VOLTS AND 15, 15/75, 30, 75, 110, 115, 135, 150, 177 OR 185 CANDELA WHEN OPERATING ON 24 VOLTS. THE STROBE SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT REQUIREMENT FOR VISIBLE SIGNALING APPLIANCES, FLASHING AT 1 HZ OVER THE STROBE'S ENTIRE OPERATING VOLTAGE RANGE. THE SPEAKER STROBE MUST BE INSTALLED WITH ITS WEATHERPROOF BACK BOX IN ORDER TO REMAIN OUTDOOR APPROVED PER UL. THE SPEAKER STROBE SHALL BE SUITABLE FOR USE IN WET ENVIRONMENTS.

END OF SECTION 28 31 11

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL P. MALONEY
No. E013083
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ELECTRICAL
STATE OF CALIFORNIA

PLOT TIME: 1:51 PM
PLOT DATE: 4/26/2024
FILENAME: K:\JMPE\2021 - 2300\2023\2307\Drawings\SS CD\2307 (3) TK FLETCHER PIT SET MODULAR ES A26.dwg

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

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DECEMBER 31, 2025
RENEWAL DATE
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(1) PERMANENT MODULAR TK CLASSROOM BUILDING AT DOUGLAS K FLETCHER ELEMENTARY SCHOOL

9801 Highland Knolls Dr, Bakersfield, CA 93306

FOR:

BAKERSFIELD CITY SCHOOL DISTRICT

1300 BAKER ST, BAKERSFIELD, CA 93305

MARK	DATE	DESCRIPTION

JOB NUMBER:
2307

A#: 03-######
PTN: ###-###

CAD DRAWING FILE:
2307 (3) TK FLETCHER PIT SET MODULAR ES A26.pln

DRAWN BY:
ASI

CHECKED BY:
MM

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

THE DRAWINGS, IDEAS, AND DESIGNS REPRESENTED ON THIS SHEET ARE THE PROPERTY OF THE ARCHITECT.

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ORDIZ-MELBY ARCHITECTS
A PROFESSIONAL CORPORATION

SHEET TITLE

FIRE ALARM SPECIFICATIONS

SHEET IDENTIFICATION NUMBER

E400

SHEETS IN SET 6

SCOPE OF WORK

1. THE MANUFACTURER (OR PORTABLE/MODULAR PROVIDER) SHALL PROVIDE ALL LABOR AND MATERIALS PER PLAN UNLESS STATED OTHERWISE IN WRITTEN EXECUTED CONTRACT BETWEEN THE DISTRICT (OR OWNER). REFER TO THE GENERAL SPECIFICATIONS ON SHEET A0.1
2. CHANGES TO PLAN OR SCOPE OF WORK - NO ADDITIONAL WORK OR RE-WORK SHALL BE COMMENCED BY THE MANUFACTURER UNLESS STATED OTHERWISE IN WRITTEN EXECUTED CONTRACT BETWEEN THE DISTRICT (OR OWNER). HERE-SAY, TEXT MESSAGES, EMAILS AND SOCIAL MEDIA ARE NOT CONSIDERED WORK AUTHORIZATION, REFER TO THE GENERAL SPECIFICATION SHEET ON SHEET A0.1 FOR ADDITIONAL INFORMATION
3. THE DESIGN AND SCOPE OF WORK OF THE INCOMING SITE INFRASTRUCTURE TO THE PORTABLE/MODULAR BUILDING SUCH AS POWER, WASTE, WATER, COMMUNICATION, AND FIRE ALARM ARE BY DISTRICT (OWNER). REFER TO THE GENERAL SPECIFICATION SHEET ON SHEET A0.1 FOR ADDITIONAL INFORMATION REGARDING WORK NOT INCLUDED
4. MANUFACTURE OF A NEW 135'X32' 14 MODULE CLASSROOM BUILDING

OPERATIONS & MAINTENANCE

BUILDING MANUFACTURER SHALL LEAVE FOR THE BUILDING OWNER AT OCCUPANCY OPERATING INFORMATION FOR ALL APPLICABLE MECHANICAL AND ELECTRICAL FEATURES, MATERIALS, COMPONENTS AND DEVICES INSTALLED IN THE BUILDING RELATED TO EFFICIENT ENERGY USE. IN ADDITION, THE BUILDING MANUFACTURER SHALL LEAVE MAINTENANCE INFORMATION FOR ALL FEATURES, MATERIALS, COMPONENTS, AND MANUFACTURED DEVICES THAT REQUIRE ROUTINE MAINTENANCE FOR EFFICIENT OPERATION OF MECHANICAL EQUIPMENT AND LIGHTING SYSTEM

NOTES

A DSA CERTIFIED PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER), AND APPROVED BY THE THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-333 AND 4-342, PART 1, TITLE 24, CCR. CLASS R.B.I.P. FOR IN-PLANT INSPECTIONS.

SITE SPECIFIC:
COMPLY WITH CFC CHAPTERS 5 & 7, CBC CHAPTERS 3, 5, 7,11B & 14

NOTE: "THIS BUILDING IS NOT APPROVED FOR CHAPTER 7A WILDLAND URBAN AREAS", THIS REVIEW IS PART OF THE SITE SPECIFIC PROJECT, THE APPROVAL OF THE PC DOES NOT INCLUDE THE SITE.

CAL GREEN NOTES

THIS BUILDING WILL NOT BE PLACED IN ANY OF THE FOLLOWING LOCATIONS. ALL OTHER OPTIONS ARE EXEMPT FROM EXCEPTION ON SECTION 5.507.4:

1. WITHIN THE 65 CNEL NOISE CONTOUR OF AN AIRPORT
2. WITHIN THE 65 CNEL OR LDN NOISE CONTOUR OF A FREEWAY, EXPRESSWAY, RAILROAD OR INDUSTRIAL SOURCE GUIDE WAY
3. WHERE EXPOSED TO NOISE LEVEL OF 65 DB LEQ-1-HR DURING ANY HOUR OF OPERATIONS

BUILDING CODES AND STANDARDS

2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24, CCR
2022 CALIFORNIA BUILDING CODE (CBC) VOLUMES 1 & 2, PART 2, TITLE 24, CCR
2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24, CCR
2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, CCR
2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, CCR)
2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24, CCR
2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, CCR
2022 CALIFORNIA EXISTING BUILDING STANDARDS CODE (CEBC), PART 10, TITLE 24
2022 CALIFORNIA GREEN BUILDING STANDARD CODE (CALGREEN), PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS

APPLICABLE STANDARDS

FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO 2022 CBC CHAPTER 35 AND CFC CHAPTER 80.

FIRE LIFE SAFETY

ALLOWABLE USES: THIS BUILDING IS NOT APPROVED FOR 'A' OCCUPANCY

AUTOMATIC FIRE SPRINKLER SYSTEM: ☐ NOT REQUIRED / REQUIRED ☒

(WHEN APPLICABLE) AUTOMATIC FIRE SPRINKLER SYSTEMS ARE PERMITTED TO BE HYDRAULICALLY CALCULATED, PER NFPA 13, TO MEET THE WATER SUPPLY AVAILABLE AT EACH SITE. PLANS FOR SUCH SYSTEMS MAY BE SUBMITTED AS A PLAN REVIEW SUBMITTAL, AND MAY NOT BE REVIEWED UTILIZING THE "OVER THE COUNTER" PROCESS. A COMPLETE AUTOMATIC FIRE SPRINKLER SYSTEM SUBMITTAL PACKAGE MUST BE PROVIDED AT THE TIME OF THE PLAN REVIEW SUBMITTAL.

THE ARCHITECT OF RECORD (DESIGNER) OR THE DIVISION OF THE STATE ARCHITECT WILL DETERMINE THE USE OF A FIRE SUPPRESSION SYSTEM UNLESS REQUIRED OTHERWISE BY THE TYPE OF CONSTRUCTION LISTED ON THE BUILDING DATA.

ALL GROUP 'E' OCCUPANCY BUILDING GREATER THAN 12,000 SF SHALL BE FIRE SPRINKLED PER CBC SECTION 903.2.3(1)

EXTERIOR PROJECTIONS ARE TO BE FIRE PROTECTED UNLESS PROJECTIONS COMPLY WITH CBC SECTION 705.2

MIN SETBACK FROM ASSUMED LOT LINE = 10'-0". LESS THAN 10'-0" SEE CBC TABLE 705.5

EXTERIOR WALL OPENINGS TO COMPLY WITH CBC TABLE 705.8

IN ROOMS OR AREAS WITH SPECIAL HAZARDS SUCH AS LABORATORIES, VOCATIONAL SHOPS AND OTHER SUCH AREAS WHERE HAZARDOUS MATERIALS IN EXEMPT AMOUNTS ARE USED OR STORED SHALL BE FIRE SPRINKLED PER CBC SECTION 903.2.3(4)

PERMANENT PORTABLE BUILDINGS: A PORTABLE BUILDING THAT IS USED TO SERVE OR HOUSE STUDENTS AND IS CERTIFIED, AS A PERMANENT PORTABLE BUILDING ON A NEW PUBLIC SCHOOL CAMPUS BY THE PUBLIC SCHOOL ADMINISTRATION SHALL COMPLY WITH THE REQUIREMENTS OF CBC SECTION 903.2.3

CONCRETE FOUNDATION

THE CONCRETE BELOW GRADE FOUNDATION (AMM) OPTION IN THIS PC USES A DSA-APPROVED ALTERNATE MEANS OF COMPLIANCE FOR FOUNDATION DURABILITY REQUIREMENTS OF CBC SECTIONS 1402.2 AND 1403.2 FOR PROVIDING A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE AND CONTINUOUS WATER-RESISTANT BARRIER ON WALLS DOWN TO THE FOUNDATION, AND CBC SECTION 2304.12.1.2 FOR PROTECTION AGAINST DECAY AND TERMITES.

ENERGY

1. THIS BUILDING IS APPROVED FOR THE 2022 CALIFORNIA ENERGY CODE IN CALIFORNIA CLIMATE ZONE 13 USING EXTERIOR WOOD STUD FRAMING FOR WALL MOUNT SINGLE ZONE PACKAGED UNIT
2. ACCEPTANCE TEST SHALL BE COMPLETED ON NEWLY INSTALLED OR REPLACEMENT OF LIGHTING CONTROLS, MECHANICAL SYSTEMS, FENESTRATION, AND PROCESS EQUIPMENT BEFORE PROJECT COMPLETION PER THE CALIFORNIA ENERGY CODE SECTION 10-103. ACCEPTANCE TEST MUST BE PERFORMED BY A CERTIFIED ACCEPTANCE TEST TECHNICIAN (ATT). THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES CORRECTED UNTIL THE INSTALLATION OF THE SPECIFIED SYSTEMS CONFORMS AND PASS THE REQUIRED ACCEPTANCE CRITERIA. COMPLETED NRCA FORMS SHALL BE SUBMITTED TO THE PROJECT INSPECTOR AND DISTRICT

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2022 CBC
MANUFACTURED MODULAR CLASSROOM BUILDINGS
RISK CATEGORY II
135'X32' DOUBLES FLETCHER ELEMENTARY CLASSROOM BUILDING
SERIAL NUMBERS: 24-128-A/B/C/D/E/F/G/H/I/J/K/L/M/N

FLOOD HAZARD NOTE CONTINUED:
PER DSA PR 14-01 FOR PROJECTS NOT LOCATED IN A FLOODPLAIN, PROVIDE SUPPORTING FLOOD HAZARD MAP, OR VERIFICATION FROM THE LOCAL AUTHORITY HAVING JURISDICTION IN WHICH THE PROJECT RESIDES, THAT THE PROJECT IS NOT IN A FLOODPLAIN. BY SITE ARCHITECT

DRAWING SYMBOLS & LEGEND

- ✱ 2"x4" WOOD STUD
- ✱ 2"x6" WOOD STUD
- ✱ 2"x8" WOOD STUD
- 1 HR RATED (DARK LINE THROUGH SYMBOL)
- ✱ STC 40 REQUIRED WHEN USED FOR INTERIOR WALLS SEPARATING TENANTS OR PUBLIC SPACES. SEE INTERIOR WALL SCHEDULE ON SHEET A0.2
- INDICATES DOOR TYPE
- INDICATES WINDOW TYPE
- KEY NOTE SYMBOL
- INDICATES INTERIOR ELEVATION ORIENTATION
- INDICATES DETAIL #
- INDICATES SHEET #
- INDICATES DETAIL #
- INDICATES SHEET #
- INDICATES EXTERIOR ELEVATION #
- INDICATES SHEET #
- 5'-0" CLEAR FLOOR SPACE FOR WHEELCHAIR ACCESSIBLE MANEUVERING WITH 12" MIN. ENCROACHMENT
- 48"x30" CLEAR FLOOR SPACE FOR WHEELCHAIR ACCESS TO FIXTURE
- INDICATES ROOM NAME
- INDICATES ROOM NUMBER
- 60"x60" CLEAR FLOOR SPACE FOR WHEELCHAIR ENTRY ACCESS.
- WHEELCHAIR ACCESSIBLE CLEAR FLOOR SPACE AT ACCESSIBLE WATER CLOSET
- 60"x59" AT FLOOR MOUNTED WATER CLOSET 60"x56" AT WALL MOUNTED WATER CLOSET
- GRID LINE NUMBER OR LETTER
- INDICATES CUT SECTION DETAIL#
- INDICATES SHEET #

SHEET INDEX

SHEET NO.	ARCHITECTURAL	SHEET NO.	STRUCTURAL
A0.0	TITLE SHEET	S0.0a	STRUCTURAL NOTES AND SPECIFICATIONS
A0.1	SPECIFICATIONS AND NOTES	S0.0b	STRUCTURAL NOTES AND SPECIFICATIONS
A0.2	CONSTRUCTION MATERIALS AND SPECIFICATIONS		
A0.3	FINISH SCHEDULE	S0.2	STRUCTURAL BUILDING SECTIONS - CONCRETE FLOOR
A0.4	SIGNAGE SPECIFICATIONS AND DETAILS	S0.3	TYPICAL STRUCTURAL DETAILS
		S1.0	FLOOR FRAMING DETAILS - PLYWOOD & CONCRETE
A0.6	CAL GREEN REQUIREMENTS		
A0.7	STC CONSTRUCTION DETAILS (INTERIOR WALLS)	S1.2	FLOOR FRAMING PLAN - CONCRETE
		S2.0	ROOF FRAMING DETAILS
		S2.1	ROOF TRUSS AND DETAILS
A0.8c	SAMPLE DSA 103 FORM CONCRETE FOUNDATION WITH GEO-TECH REPORT	S2.2	ROOF FRAMING PLAN PLYWOOD SHEATHING DIAPHRAGM
A0.9a	CAL GREEN MANDATORY MEASURES	S3.0	WALL FRAMING DETAILS - WOOD STUD
A0.9b	CAL GREEN MANDATORY MEASURES	S3.1	WALL FRAMING ELEVATIONS
A0.9c	CAL GREEN MANDATORY MEASURES	S3.2	WALL FRAMING ELEVATIONS
A0.10	CONSTRUCTION WASTE MANAGEMENT FORMS	S4.0	ALLOWABLE BEAM AND HEADER PENETRATION
A1.3	FLOOR PLAN		MECHANICAL
A1.4	FLOORING LAYOUT AND TRANSITION DETAILS	M0.0	MECHANICAL SCHEDULES AND NOTES
A1.5	ENLARGED FLOOR PLANS	M0.1	MECHANICAL DETAILS
A2.0a	REFLECTED CEILING DETAILS	M1.3	MECHANICAL PLAN
A2.0b	REFLECTED CEILING DSA NOTES	M3.0	TITLE 24 REPORT
		M3.1	TITLE 24 REPORT
A2.3	REFLECTED CEILING PLAN	M3.2	TITLE 24 REPORT
A3.0a	ROOF MANUFACTURER REPORTS	M3.3	TITLE 24 REPORT
A3.0b	ROOF DETAILS	M3.4	TITLE 24 REPORT
A3.6	ROOF PLAN MONO & DUAL SLOPE-TPO		
A3.8SR	SOLAR READY GENERAL NOTES		ELECTRICAL
A3.9SR	SOLAR READY PV ROOF PLAN	E0.0	ELECTRICAL DETAILS
A3.10SR	SOLAR READY EQUIPMENT ELEVATION	E3.0SR	SOLAR READY ELECTRICAL ROOF PLAN
A3.11SR	SOLAR READY ELECTRICAL DIAGRAM	E3.1SR	ELECTRICAL PLAN
A3.12SR	SOLAR CUT SHEETS	E4.3DL	SKYLIT & SIDELIT DAYLIT ZONE FLOOR PLAN
A3.13SR	SOLAR READY SIGNAGE DETAIL		
A3.14SR	SOLAR CUT SHEETS	E6.0	ELECTRICAL LIGHTING CONTROL AND SEQUENCE OF OPERATION
		E7.0	TITLE 24 REPORT
A4.3	INTERIOR ELEVATIONS	E7.1	TITLE 24 REPORT
A5.6	EXTERIOR ELEVATIONS	E7.2	TITLE 24 REPORT
A8.0	ARCHITECTURAL DETAILS WOOD STUD OPTION	E8.0	SITE-SPECIFIC PHOTOVOLTAIC AND BATTERY STORAGE CAPACITY TABLES
A8.1	ARCHITECTURAL DETAILS		
A9.0	FIRE RATED ASSEMBLIES		
A9.1	FIRE RATED DETAILS		PLUMBING
		P0.0	PLUMBING SCHEDULE AND DETAILS
A10.0	RESTROOM ACCESSORIES SCHEDULE & DETAILS	P1.0	PLUMBING PLAN
A10.1	RESTROOM ACCESSIBILITY DETAILS	P2.0	TITLE 24 REPORT
A11.0	SOLATUBE OPTION AT TPO ROOF		
A12.0	ACCESSORY PLAN		
			FIRE SPRINKLER
A13.0	ARCHITECTURAL BUILDING SECTIONS - DUAL SLOPE	FP-1	COVER SHEET DETAILS SITE PLAN
A20.1	DETERIORATION PROTECTION FOR BELOW GRADE CONDITION (STUCCO SIDING)	FP-2	FIRE SPRINKLER PIPING PLAN
		FP-3	SITE PLAN
A30.0	AWNING DETAILS		
	FOUNDATION		
F3.0	FLUSH TO GRADE CONCRETE FOUNDATION DETAILS		
F3.1	FLUSH TO GRADE CONCRETE FOUNDATION PLAN		
F4.0	GENERAL CONCRETE DETAILS		
			RAMP, LANDING AND STAIR (NOT PART OF THIS BUILDING)
			TOTAL SHEET COUNT: 80

DESIGN PARAMETERS

FLOOR LIVE LOAD: 50+15 PSF

ROOF LIVE LOAD: 20 PSF

FLOOD HAZARD AREA: NO. SEE ADDITIONAL NOTE ON THIS SHEET.

WIND DESIGN: (ASCE 7-16)
Kzt=1.0
WIND SPEED=94 MPH, RISK CATEGORY = II, EXPOSURE="C"
INTERNAL PRESSURE COEFFICIENT = ±0.18
COMPONENTS & CLADDING DESIGN BY PROJECT ENGINEER OF RECORD

DESIGN ROOF DEAD LOAD: 15 PSF (BEAMS AND TRUSSES) INCLUDES 1.5 PSF FOR ROOF MOUNTED SOLAR PANELS

DESIGN FLOOR DEAD LOAD:
PLYWOOD FLOOR - 8 PSF (+15 W/ PARTITIONS),
CONCRETE DECK - 31 PSF (+15 W/ PARTITIONS)

EARTHQUAKE DESIGN DATA:
1. I=1.0, RISK CATEGORY=II
2. Ss=0.932
   S1=0.333
3. SITE CLASS=D-DEFAULT
   Fa=1.1 & Fv=1.7
4. S_{DS}=0.701, S_{D1}=0.437
5. SEISMIC DESIGN CATEGORY=D
6. LIGHT MODULAR STEEL MOMENT FRAME PER CBC SECTION 2212A
7. DESIGN BASE SHEAR=45.6#
8. Cs=0.214
9. R=3.5, Ω_0=3.0
10. EQUIVALENT LATERAL FORCE PROCEDURE
11. NO VERTICAL OR HORIZONTAL IRREGULARITIES
12. GROUND MOTION HAZARD ANALYSIS IS NOT REQUIRED PER ASCE 7-16, SUPPLEMENT 3, 11.4.8
    EXCEPTION #2. VALUE OF Cs HAS BEEN DETERMINED BY EQN. 12.8-2 FOR A VALUE OF T<1.5 Ts

GEOHAZARD REPORTS: THE DESIGN ARCHITECT IN GENERAL RESPONSIBLE CHARGE MUST DETERMINE IF A GEOHAZARD REPORT IS REQUIRED PER DSA IR A-4. IF REQUIRED, THE AOR SHALL VERIFY THAT THE GEOHAZARD REPORT IDENTIFIES NO SITE RELATED GEOLOGIC HAZARDS WHICH WOULD PRECLUDE THE USE OF THE PROPOSED PC DESIGN AT THE SITE, INCLUDING BUT NOT LIMITED TO LIQUEFACTION POTENTIAL, LANDSLIDE, FLOODING, EARTHQUAKE FAULT, ETC.

NOTES:
1. SITE CLASS A, B, C, AND D TO BE SUBSTANTIATED BY GEOTECHNICAL REPORT, SITE CLASS D- DEFAULT TO BE USED IN ABSENCE OF GEOTECHNICAL REPORT.
2. UNLESS A SITE SPECIFIC GROUND MOTION HAZARD ANALYSIS IS PERFORMED, THE Sm1, VALUE DETERMINED BY EQ. 11.4.-2 SHALL BE INCREASED BY 50%. * THE RESULTING VALUE OF THE PARAMETER Sd1 DETERMINED BY EQ. 11.4-4SHALL BE USED FOR ALL APPLICATIONS OF Sd1.

SEISMIC DESIGN FOR SITE SPECIFIC PROJECTS

SELECT ONE

☐ DESIGN BASED ON SITE CLASS D DEFAULT
NO GEOTECHNICAL INVESTIGATION REQUIRED
Ss = _____ Fa = 1.2

☐ DESIGN BASED ON SITE CLASS DETERMINED PER CHAPTER 20 OF ASCE 7-16
NO GEOTECHNICAL INVESTIGATION REQUIRED
SITE CLASS: ☐ C ☐ D ☐ E
Ss = _____ Fa = _____ PER ASCE 7-16 SUPPL 3 TABLE 11.4-1

☒ DESIGN BASED ON SITE CLASS GROUND MOTION HAZARD ANALYSIS PER CHAPTER 21 OF ASCE 7-16
SHORT-PERIOD DESIGN SPECTRAL RESPONSE PARAMETER, S_{DS}, SHALL BE AS SPECIFIED IN GEOTECHNICAL INVESTIGATION
CGS APPROVAL REQUIRED
NOT ELIGIBLE FOR OTC REVIEW
SITE CLASS: ☐ C ☒ D ☐ E
Ss = 0.932 Fa = 1.127

S_{DS} = 2/3 x Fa x Ss= 0.701 ≤ 1.904
☒ SITE CLASS: C OR D: 0.7xS_{DS}* = 0.7x 0.701 = 0.491 ≤ 1.904
☐ SITE CLASS: E: S_{DS} = 0.701 ≤ 1.904

Cs = 0.381 USED IN DESIGN
SEISMIC DESIGN CATEGORY: ☒ D ☐ E
ASCE 7-16 12.8.1.3 HAS NOT BEEN USED IN CALCULATION OF Sds

BUILDING DATA

TYPE OF CONSTRUCTION: V-B
BUILDING AREAS: 135'x32'=4,320 SF**
OCCUPANCY: E
NO. OF STORIES: 1
** GREATER THAN 4000 SQFT REQ. GEOHAZARD REPORT
ALLOWABLE AREA: 9,500 SF
MODULES: 10'x32' & 7'-6"x32'

STRUCTURAL DATA

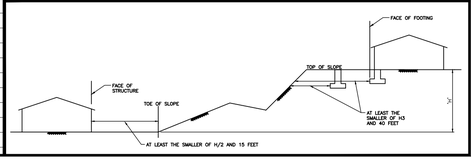
STRUCTURAL DESIGN: ORDINARY MOMENT FRAME WITH CLEAR SPAN TRUSS
FOUNDATION: ☒ FLUSH TO GRADE CONCRETE > 2160 SF: 50+15 PSF

SEISMIC SEPARATION: 4 1/2" MIN FROM OTHER EXISTING OR FUTURE BUILDINGS MEASURED FROM ITS FARTHEST PROJECTION

THIS BLDG IS DESIGNED STRUCTURALLY TO SUPPORT THE WEIGHT OF A FIRE SPRINKLER SYSTEM

ALLOWABLE SOIL BEARING: CONCRETE FOUNDATION: SEE SHEET F3.1

MIN SET BACK FROM SLOPE



STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
TITLE SHEET

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858)-679-1974
RYAN Z. ORION
No. S6427
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA
PROFESSIONAL ENGINEER

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS
1 -
2 -
3 -
4 -
5 -

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER
A0.0

5/2/2025 12:10:28 PM

GENERAL SPECIFICATIONS

A. THE REQUIREMENTS OF THE GENERAL CONDITIONS APPLY TO THE SEVERAL TRADE SECTIONS WITH THE SAME FORCE AS THOUGH FULLY REPEATED IN EACH SECTION.
B. NAME BRANDS ARE INDICATED TO ESTABLISH A STANDARD OF QUALITY. ITEMS OF EQUAL OR BETTER QUALITY MAY BE SUBSTITUTED FOR THE LISTED BRAND NAMED PRODUCTS.
C. ALL WORK SHALL CONFORM TO 2022 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
D. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISIONS OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-33B, PART 1, TITLE 24, CCR
E. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
F. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TEST AND INSPECTIONS FOR THE PROJECT.
G. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR)
H. "FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION SHALL COMPLY WITH CBC CHAPTER 33 AND CFC CHAPTER 33."

1. MATERIALS AND WORKMANSHIP:
A. ALL WORK SHALL BE SKILLED AND QUALIFIED FOR THE WORK WHICH THEY PERFORM. ALL MATERIALS USED, UNLESS OTHERWISE SPECIFIED, SHALL BE NEW AND OF THE TYPES AND GRADES SPECIFIED.
B. WORKMANSHIP SHALL BE EQUAL OR BETTER IN QUALITY TO THAT REQUIRED BY THE CONSTRUCTION TRADES FOR A FINISHED PRODUCT.
C. THE CONTRACTOR SHALL CERTIFY THAT NO ASBESTOS CONTAINING BUILDING MATERIALS WHICH EXCEED STATE AND FEDERAL MANDATED SAFE ASBESTOS LEVELS HAVE BEEN USED IN THE CONSTRUCTION OF RELOCATABLE FACILITIES.
D. TESTING: TESTS OF MATERIALS SHALL BE BY A PERSON OR TESTING LABORATORY SELECTED BY THE OWNER WITH THE APPROVAL OF DSA AND ARCHITECT. THE OWNER SHALL BE RESPONSIBLE FOR THE COST OF ALL REQUIRED TESTING AND INSPECTIONS, EXCEPT FOR THE RETESTING REQUIRED BY THE FAILURE OF ANY MATERIAL TO PASS.
E. ERECTION AT THE SITE: THE BUILDING SHALL BE TRANSPORTED, ERECTED AND SET ON FOUNDATION AS REQUIRED BY A LICENSED TRANSPORT. ALL REQUIRED FINISH WORK SHALL BE COMPLETED BY SKILLED LABOR OF THE MANUFACTURER/CONTRACTOR, BUT WILL NOT INCLUDE UTILITIES SERVICE CONNECTION.
F. SITE WORK: THE SCHOOL DISTRICT SHALL PROVIDE ACCESS TO THE SITE FOR THE INSTALLATION OF THE BUILDING. REMOVAL OF TREES, SHRUBS, FENCING, SPRINKLERS, ETC. NECESSARY FOR THE MOVE-IN OF BUILDINGS SHALL BE THE RESPONSIBILITY OF THE SCHOOL DISTRICT. THE OWNER, UNLESS OTHERWISE SHOWN ON THE APPROVED PLANS, WILL PROVIDE SITE(S) SATISFACTORY TO THE ARCHITECT OR ENGINEER FOR THE INSTALLATION OF THE RELOCATABLE BUILDING(S) THAT ARE LEVEL AND HAVE STABLE SOIL CONDITIONS WITH ADEQUATE SITE DRAINAGE, EXCEPT IF DESIGNATED IN THE CONTRACT DOCUMENTS AS THE RESPONSIBILITY OF THE MANUFACTURER/CONTRACTOR. IF ADDITIONAL GRADING AND/OR LEVELING IS NECESSARY FOR PROPER INSTALLATION OF MODULAR UNITS, THE ADDITIONAL CHARGE WILL BE THE RESPONSIBILITY OF THE OWNER.
G. UTILITIES: THE OWNER WILL BE RESPONSIBLE FOR ANY AND ALL UTILITY, FIRE ALARM OR SPECIAL ELECTRICAL SIGNAL SYSTEM CONNECTIONS EXCEPT IF DESIGNATED IN THE CONTRACT DOCUMENTS AS THE RESPONSIBILITY OF THE MANUFACTURER/CONTRACTOR.

2. SCOPE OF WORK:
A. THE WORK CONSISTS OF MANUFACTURING OFF-SITE IN A PLANT, AND INSTALLING ON-SITE, MODULAR RELOCATABLE BUILDING AS DEFINED HEREIN AND SHOWN AND DETAILED ON DRAWINGS.
B. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND SERVICES TO PREPARE THE BUILDING ELEMENTS, TRANSPORT THEM FROM THE PLANT TO THE SITE AND TO COMPLETE THE ASSEMBLY AT THE SITE.
C. THE CONDITION OF THE SITE SHALL BE THE RESPONSIBILITY OF THE SCHOOL DISTRICT.
D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING DURING CONSTRUCTION AND SHALL PROVIDE ADEQUATE SHORING AND BRACING DURING CONSTRUCTION. CONTRACTOR SHALL COMPLY WITH APPLICABLE SAFETY REGULATIONS

ASSEMBLY
A. IN A LOCATION AS DETERMINED BY THE SCHOOL DISTRICT, THE CONTRACTOR SHALL PLACE CONCRETE LEVELING STRIPS OR OTHER SUITABLE SUPPORTS AS DETAILED ON THE DRAWINGS.
B. THE ELEMENTS SHALL BE BROUGHT TO THE SITE ON WHEEL ASSEMBLY AND TRANSFERRED TO THE PREPARED SITE. GREAT CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ELEMENTS BY RACKING OR BUMPING.
C. CONNECTION OF THE ELEMENTS TOGETHER SHALL BE DONE ACCORDING TO INSTRUCTIONS ON THE DRAWINGS. FLASHING, TRIM AND OTHER LOOSE ITEMS SHALL BE INSTALLED PER DETAILS ON THE DRAWINGS.

INSPECTION
ALL REQUIREMENTS OF TITLE 19 AND 24 OF THE STATE OF CALIFORNIA CODE OF REGULATIONS (CCR) RELATING TO INSPECTIONS AND VERIFIED REPORTS SHALL BE COMPLIED WITH AND SHALL INCLUDE:
A. GENERAL RESPONSIBLE IN CHARGE OF FIELD ADMINISTRATION IS BY THE ARCHITECT OF RECORD.
B. INSPECTION OF IN-PLANT WORK DURING THE COURSE OF CONSTRUCTION BY AN INSPECTOR APPROVED BY THE DIVISION OF THE STATE ARCHITECT AND THE DISTRICT'S ARCHITECT OR OWNER. THE INSPECTOR SHALL BE RESPONSIBLE TO INSPECT THE GENERAL CONSTRUCTION, WELDING, FIRE PROOFING, MECHANICAL AND ELECTRICAL WORK. COST OF THESE INSPECTIONS SHALL BE BY THE SCHOOL DISTRICT OR OWNER.
C. ON SITE INSPECTION OF THE BUILDING SHALL BE PERFORMED BY AN INSPECTOR APPROVED BY THE DIVISION OF THE STATE ARCHITECT AND RETAINED BY THE SCHOOL DISTRICT OR OWNER.
D. OTHER SPECIAL TESTS OR INSPECTIONS, SUCH AS CONCRETE AND CONCRETE REINFORCEMENT PLACEMENT, MAY BE REQUIRED BY THE DIVISION OF THE STATE ARCHITECT.

3. WORK NOT INCLUDED:
A. ALL ON-SITE OR OFF-SITE UTILITIES AND THE CONNECTION OF THEM TO THE BUILDING UNLESS INDICATED ON THE DRAWINGS.
B. ALL LEVELING, GRADING OR OTHER SITE PREPARATION EXCEPT CONCRETE OR WOOD LEVELING STRIPS, WHERE REQUIRED, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
C. FIRE ALARM COMPONENTS ONLY, PROGRAM BELL, CLOCK, PUBLIC ADDRESS SYSTEM, INTERCOM SYSTEM, TV SYSTEM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

GENERAL DESIGN REQUIREMENTS:

THE CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE OWNER AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.

REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND OTHER INFORMATION NOT SPECIFICALLY SHOWN ON STRUCTURAL DRAWINGS.

DIMENSIONS AND ELEVATIONS SHOWN ARE APPROXIMATE AND ARE PROVIDED AS AN AID IN INTERPRETING THE DRAWINGS ONLY. DIMENSIONS AND ELEVATIONS MUST BE VERIFIED WITH ARCHITECTURAL DRAWINGS. IN THE EVENT OF CONFLICT, DIMENSIONS AND ELEVATIONS SHOWN ON ARCHITECTURAL DRAWINGS SHALL GOVERN. DRAWING SCALES GIVEN ARE APPROXIMATE - DO NOT SCALE PLANS OR DETAILS.

WHERE THESE GENERAL NOTES AND TYPICAL DETAILS ARE IN CONFLICT WITH THE SPECIFICATIONS, THESE GENERAL NOTES AND TYPICAL DETAILS SHALL GOVERN.

TYPICAL DETAILS SHALL APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

DETAILS NOT SPECIFICALLY SHOWN SHALL BE SIMILAR TO DETAILS FOR SIMILAR CONSTRUCTION SHOWN ON THESE DRAWINGS.

NO STRUCTURAL MEMBERS SHALL BE CUT, NOTCHED OR OTHERWISE PENETRATED UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER IN ADVANCE OR SHOWN ON THESE DRAWINGS.

EACH MODULE SHALL BE PERMANENTLY IDENTIFIED WITH (2) METAL IDENTIFICATION TAGS 3"x1 1/2" MINIMUM SIZE. MECHANICALLY FASTEN ONE TAG VISIBLE FROM THE EXTERIOR AND THE OTHER TO THE INTERIOR FRAME ABOVE THE CEILING AT THE END OF THE MODULE. THE TAG SHALL HAVE THE FOLLOWING INFORMATION:

A. DSA APPLICATION NUMBER
B. BASIC WIND SPEED, EXPOSURE.
C. DESIGN ROOF LIVE LOAD
D. DESIGN FLOOR LIVE LOAD
E. BUILDER'S NAME
F. PLANT INSPECTOR/ID MARK
G. SERIAL NUMBER

STRUCTURAL FRAME - REFER TO STRUCTURAL DATA ON SHEET A0.0 FOR STRUCTURAL DESIGN TYPE. THE DESIGN STRUCTURE SHALL WITHSTAND VERTICAL AND HORIZONTAL LOADS AND COMPLY WITH REQUIREMENTS OF THE DIVISION OF THE STATE ARCHITECT. THE NECESSARY PROVISIONS ARE INCORPORATED IN THE STRUCTURE TO PERMIT THE RELOCATION OF THE STRUCTURAL FRAME IN SECTIONS NOT EXCEEDING 12 FEET IN WIDTH.

EACH MODULE SHALL BE CAPABLE OF RESISTING ALL VERTICAL AND LATERAL LOADS DURING TRANSPORTATION AND RELOCATION. (NORMAL INDUSTRY PRACTICE FOR BRACING MODULES DURING TRANSPORTATION IS ACCEPTABLE). WHEN MODULES ARE ASSEMBLED, JOINTS SHALL BE SEALED WITH REMOVABLE CLOSING STRIPS OR OTHER METHOD TO PRESENT A FINISHED APPEARANCE AND BE PERMANENTLY WATERPROOF.

EACH MODULE SHALL BE SUFFICIENTLY RIGID TO BE JACKED UP AT THE FRONT AND BACK CORNERS FOR RELOCATION WITHOUT DAMAGE OR THE MODULE SHALL HAVE LIFT LUGS AT FRONT AND BACK LOCATED AS REQUIRED SO THAT THE MODULE MAY BE JACKED UP FOR RELOCATION IN ONE PIECE WITHOUT ADDITIONAL SUPPORTS OF ANY TYPE. EVIDENCE OF EXCESSIVE BOWING DURING THE INSTALLATION OF THE MODULES WHICH, IN THE OPINION OF THE AGENCY ARCHITECT OR STRUCTURAL ENGINEER, CAUSES EXCESSIVE WORKING AT ANY JOINT OR COMPROMISES THE STRUCTURAL INTEGRITY OF THE MODULE, SHALL BE SUFFICIENT REASON FOR REJECTION OF THE MODULE.

PROVIDE OPENINGS, CURBS, FRAMING AND/OR SUPPORTS FOR ITEMS INDICATED ON ARCHITECTURAL, MECHANICAL, ELECTRICAL OR OTHER DRAWINGS INCLUDED IN CONSTRUCTION DOCUMENTS.

FRAMING - ROOF, WALLS AND FLOOR: FRAMING MEMBERS SHALL BE OF THE GRADE AND SIZE CALLED FOR ON THE STRUCTURAL PLANS.

ROOF OVERHANG - ALL OVERHANGS SHALL PRESENT A PLEASING AND FINISHED APPEARANCE. SOFFIT MATERIAL, WHEN USED, SHALL BE 3/8" MIN EXTERIOR SIDING. PLYWOOD SOFFIT MATERIAL SHALL BE APPLIED WITH EXPOSED GRAIN RUNNING PARALLEL TO THE LENGTH OF THE BUILDING. SOFFIT SHALL BE NEATLY AND CLOSELY FITTED AND TRIMMED TO COVER GAPS. ALL ENCLOSED SOFFIT AREAS SHALL BE VENTILATED PER THE CBC

FLOOR - THE FLOOR SHALL BE STEEL FRAMED WITH A DESIGN LIVE LOAD OF 50 LBS PER SQUARE FOOT UNLESS OTHERWISE NOTED ON THE DRAWINGS. THIS DOES NOT APPLY TO A SLAB ON GRADE CONDITION.

FIRE EXTINGUISHER - UL 2A:10BC, PRESSURE TYPE, +48" TO EXTINGUISHER HANDLE. +48" TO FIRE EXTINGUISHER HANDLE WHEN PROVIDED.

BUILDING INSULATION - SHALL COMPLY WITH CALIFORNIA QUALITY STANDARDS FOR INSULATING MATERIAL. FLAME SPREAD - MAX 25, SMOKE DEVELOP - MAX 450

BUILDING VENTILATION - PER SECTION 1202.4.1.1 OPENINGS FOR UNDER-FLOOR VENTILATION SHALL NOT BE LESS THAN 1 SQUARE FOOT (0.67m²) FOR EACH 150 SF OF CRAWL SPACE. THEY SHALL BE COVERED WITH CORROSION-RESISTANT WIRE MESH WITH MESH OPENINGS NOT LESS THAN 1/4 INCH (6.4 mm) NOR MORE THAN 1/2 INCH IN ANY DIRECTION.

WHEN MODULE IS RELOCATED - DO NOT REINSTALL NAILS OR SCREWS IN EXISTING HOLES.

ELECTRICAL

1. SCOPE OF WORK:
CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND SERVICES FOR ELECTRICAL INSTALLATION COMPLETE WITH ASSOCIATED EQUIPMENT AND FIXTURES IN OPERATING CONDITION READY FOR USE. THE WORK INCLUDES: LIGHT AND POWER SYSTEMS, LIGHTING FIXTURES COMPLETE WITH LAMPS, CONNECTIONS AND DISCONNECTS TO A/C EQUIPMENT.

2. MATERIALS:
ALL NEW COMPLYING WITH REQUIREMENTS OF CBC AND CEC
A. ELECTRIC METALLIC TUBING: COUPLINGS AND FLEX CONDUIT GALVANIZED OR SHERARDIZED.
B. PANEL BOARDS: FLUSH MOUNTED WITH HINGED DOORS AND INDEXED CARD HOLDERS.
C. CONDUCTORS: COPPER, INSULATED FOR 600 VOLTS, TYPE THHN FOR SIZES #12 TO #6, TYPE THW FOR LARGER SIZES. MINIMUM SIZE- #12.
D. RECEPTACLE: GENERAL ELECTRIC 5242-2 OR EQUAL, +15" AFF MIN TO BTM OF BOX.
E. CLOCK RECEPTACLE: EAGLE OR EQUAL.
F. SWITCHES: GENERAL ELECTRIC 5901-2 OR EQUAL, +48" AFF MAX TO TOP OF BOX.
G. 2'x4' LED DROP IN LIGHT FIXTURE ,55 WATTS, WEIGHT 27 LBS, UNO ON SHEET E0.0
H. ALL ELECTRICAL WIRING 110V AND GREATER SHALL BE IN CONDUIT SYSTEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF CEC MINIMUM SIZE CONDUIT IS 1/2" MIN
I. ACCEPTABLE CONDUIT: RIGID ELECTRICAL METALLIC TUBING (EMT); GALVANIZED THIN WALL FLEXIBLE (INTERIOR); GALVANIZED STEEL FLEXIBLE (EXTERIOR); GALVANIZED STEEL WITH FACTORY APPLIED PVC
J. ALL CONDUITS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND SHALL BE SECURED IN CONFORMANCE WITH CEC FIELD BENDS SHALL BE AVOIDED WHEREVER POSSIBLE. WHERE BENDS MUST BE MADE, USE AN APPROPRIATE "HICKEY" OR BENDING MACHINE. REAM AND DEBUR ALL CONDUIT PRIOR TO INSTALLATION AND TERMINATE IN APPROPRIATE BUSHINGS OR CONNECTORS, JACKET. WIRING SHALL BE #12 MIN COPPER TYPE TW, THW, THWN AS APPLICABLE. CONDUIT FILL SHALL NOT EXCEED REQUIREMENTS OF CEC A SEPARATE GROUNDING CONDUCTOR SHALL BE PULLED THROUGHOUT THE ENTIRE SYSTEM. CARE SHALL BE TAKEN TO AVOID DAMAGE TO WIRE OR INSULATION DURING PULLING. POWDERED SOAPSTONE OR A PULLING COMPOUND SUCH AS "YELLOW 77" LUBRICANT MAY BE USED IF NECESSARY.

3. WORKMANSHIP
MATERIAL AND EQUIPMENT INSTALLED IN A SECURE, NEAT, WORKMANLIKE MANNER IN ACCORDANCE WITH CODE REQUIREMENTS, PANEL BOARD CARDS FILLED OUT. CONDUIT AND CABLE INSTALLED IN WALL AND CEILING SPACES. WORK PIERCING WATERPROOFED AREAS FLASHED AND SEALED TO A WATERTIGHT CONDITION.

GROUNDING OF BUILDING COMPONENTS

1. THE OWNER, UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS, SHALL BE THE RESPONSIBLE FOR PROVIDING THE NECESSARY GROUNDING OF THE BUILDING ELECTRICAL SYSTEM PER CEC TABLE 250 AND DSA IR E-1.

2. THE PROJECT INSPECTOR SHALL WITNESS AND VERIFY THE GROUNDING TESTS.

PAINTING

1. SCOPE OF WORK
CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND SERVICES TO PAINT BUILDINGS. ALL EXPOSED SURFACES OF BUILDING AND RAMP SHALL BE PAINTED EXCEPT ALUMINUM WINDOW FRAMES AND THRESHOLDS. REFERENCE SHEET A0.6 FOR VOC LIMITS

2. MATERIALS
A. EXTERIOR WOOD- VISTA BRAND 4100 PRIMER, 6000 FINISH (0R EQUAL)
B. INTERIOR TRIM- VISTA BRAND 7000 FINISH (OR EQUAL)
C. METAL- VISTA BRAND 7000 FINISH (OR EQUAL)

3. WORKMANSHIP
A. EXTERIOR- WOOD SIDING, TRIM AND SKIRTING- APPLY TWO COATS OF EXTERIOR FLAT ACRYLIC PAINT SPRAYED ON.
B. INTERIOR TRIM- TRIM NOT PRE COATED SHALL BE PAINTED WITH TWO COATS OF SEMI GLOSS LATEX OVER PRIMER.
C. METAL- ALL METAL SURFACES SHALL BE PAINTED WITH TWO COATS OF ALKYD FINISH COAT OVER SHOP COAT.
D. RAMP- ONE COAT OF NONSKID SURFACING.

MECHANICAL SECTION

1. SCOPE OF WORK:
CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND SERVICES TO INSTALL THE AIR CONDITION SYSTEM AS SHOWN ON THE DRAWINGS INCLUDING A/C UNITS AND ACCESSORIES, REMOTE THERMOSTAT, GRILLS AND POWER WIRING COMPLETE TO LOAD CENTER. CONTRACTOR SHALL INSTRUCT OWNER'S OPERATORS ON OPERATION AND MAINTENANCE OF A/C SYSTEM.

2. WORKMANSHIP:
UNITS SHALL BE INSTALLED COMPLETE AND OPERATING WITH ALL ACCESSORIES IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.

3. EQUIPMENT: SEE A/C INFORMATION SCHEDULE FOR SIZE AND TYPE
A. FACTORY MADE AIR DUCTS. FACTORY MADE AIR DUCTS SHALL BE APPROVED FOR THE USE INTENDED OR SHALL CONFORM TO THE REQUIREMENTS OF CMC. EACH PORTION OF A FACTORY MADE AIR DUCT SYSTEM SHALL BE IDENTIFIED BY THE MANUFACTURER WITH A LABEL OR OTHER SUITABLE IDENTIFICATION INDICATING COMPLIANCE WITH CMC AND SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THEIR LISTING.
B. INSULATION APPLIED TO THE EXTERIOR SURFACE OF DUCTS LOCATED IN BUILDINGS SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE DENSITY OF NOT MORE THAN 50 WHEN TESTED AS A COMPOSITE INSTALLATION INCLUDING INSULATION, FACING MATERIALS, TAPES AND ADHESIVES AS NORMALLY APPLIED, SECTION 720, 2022 CBC
C. MATERIAL EXPOSED WITHIN DUCTS OR PLENUMS SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT RATING OF NOT MORE THAN 50.
D. AIR FILTERS. AIR FILTERS SHALL COMPLY WITH THE STANDARD FILTER UNITS & TEST PERFORMANCE THAT IS REFERENCED IN CHAPTER 17, AS CLASS I OR II, CMC
E. PIPE AND TUBING. INSULATION AND COVERING ON PIPE AND TUBING SHALL HAVE A FLAME SPREAD-RATING NOT TO EXCEED 25 AND A SMOKE DENSITY NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH CBC SECTION 720.7

CARPENTRY

1. SCOPE OF WORK
CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND SERVICES TO INSTALL CARPENTRY

2. MATERIALS
LUMBER GRADE MARKED IN ACCORDANCE WITH "STANDARD GRADING AND DRESSING RULES NO. 17" OF WEST COAST LUMBER INSPECTION BUREAU OR "WESTERN LUMBING FOR GRADING RULES 2015 EDITION" OF WESTERN WOOD PRODUCTS ASSOCIATION. PLYWOOD GRADE MARKED IN ACCORDANCE WITH "PRODUCT STANDARD PS 1-09 FOR STRUCTURAL PLYWOOD" OF AMERICAN PLYWOOD ASSOCIATION, COMPLYING WITH CURRENT CBC REFERENCE STANDARDS
A. HEADERS: HEM FIR STUD GRADE OR BETTER
B. PLATES: HEM FIR STUD GRADE OR BETTER.
C. BLOCKING: HEM FIR STUD GRADE OR BETTER.
D. TREATED LUMBER: SILLS AND LUMBER IN CONTACT WITH CONCRETE, MASONRY, ASPHALT OR EARTH-HEMLOCK FIR PRESSURE TREATED WITH PRESERVATIVE AS SPECIFIED IN 2303.1.9 OF CBC AWPA STANDARD U1 AND M4; 2X GRADE MEMBERS CUT ENDS DIPPED IN PRESERVATIVE (CUPONAL).
E. PLYWOOD ROOF DECKING: APA RATED, 7/16" MIN C-D EXPOSURE 1, 24/16 SPAN RATING, PS 1-09
F. PLYWOOD FLOOR DECKING: 1 1/8" A.P.A. RATED STURD-1-FLOOR OR EQUAL. PS 1-09 T&G EDGES, 48" SPAN RATING
G. EXTERIOR SIDING/SHEATHING: APA TYPE 303, EXTERIOR, MDO 8" OC, SIDING. SHEATHING 1/2" CDX.
H. STUDS AND POSTS: HEM FIR STUD GRADE
I. FASTENERS: ALL NAILS SHALL BE CORROSION RESISTANT PER CBC SECTION 2304.10.1.1 & 2304.10.5
J. BUILDING TRIM: 1x RESAWN SELECT HF OR MASONITE
K. DOOR/WINDOW TRIM: 1x4 RESAWN HF

3. WORKMANSHIP
A. FRAMING: SECURELY NAILED, BRIDGED AND BLOCKED TO FORM RIGID STRUCTURE. WORK CUT, FITTED AND ASSEMBLED LEVEL, PLUMB AND TRUE TO LINE. TRIM IN AS LONG LENGTHS AS POSSIBLE WITH ALL STANDING TRIM IN ONE PIECE. TRIM SEALED AT ALL EDGES.
B. NAILING: IN ACCORDANCE WITH CBC TABLE 2304.10.1. NAILS SHALL BE CORROSION RESISTANT BOX NAILS PER 2304.10.1.1 AND 2304.10.5.
C. EXTERIOR WALLS: FACTORY FABRICATED. CAULKING PROVIDED BETWEEN PERIMETER OF WALLS AND STRUCTURAL MEMBERS PROVIDING WEATHERPROOF AND WATERTIGHT SEAL. NECESSARY CLOSURES, SEALS, FLASHING PLACED AT TOP AND BASE SUPPORT OF PANELS AND AROUND OPENINGS
D. MACHINE APPLIED NAILING: SHALL HAVE PRIOR DEMONSTRATION AND APPROVAL BY DSA FIELD INSPECTOR AND THE ARCHITECT. THE APPROVAL IS SUBJECT TO CONTINUES SATISFACTORY PERFORMANCE. PLYWOOD SHALL HAVE A MINIMUM THICKNESS OF 3/8". IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY
E. TRIM SEALED AT ALL EDGES. SEALANT PAINTED TO MATCH TRIM OR SIDING
F. RETIGHTEN ALL BOLTS BEFORE CLOSING IN
G. THE DESIGN MOISTURE CONTENT OF LUMBER IS 19% OR LESS BEFORE FABRICATION, OTHER REVISION THRU CHANGE ORDER WILL BE REQUIRED

SEALANT & WEATHER RESISTANT

1. SCOPE OF WORK:
CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND SERVICES TO SEAL THE BUILDINGS.

2. MATERIALS:
A. "VULKEM" SEALANT, POLYURETHANE, MANUFACTURED BY MAMECO INTERNATIONAL OR APPROVED EQUAL, TO BE USED AT ALL STANDING SEAM ROOFING DETAILS.
SEALANT APPLIED TO DRY CLEAN SURFACES. WHEREVER INDICATED ON DETAILS AND AS NEEDED TO MAKE BUILDING WATERTIGHT, IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS, REFER TO SHEET A0.6 FOR VOC LIMITS

MOISTURE BARRIER:
ALL WEATHER-EXPOSED SURFACES SHALL HAVE A WEATHER-RESISTIVE BARRIER TO PROTECT THE INTERIOR WALL COVERING. SUCH BARRIER SHALL BE EQUAL TO THAT PROVIDED FOR IN THE CBC 1404.2 & 2510.6. BARRIER SHALL BE FREE FROM HOLES AND BREAKS OTHER THAN THOSE CREATED BY FASTENERS AND CONSTRUCTION SYSTEM DUE TO ATTACHING OF THE BUILDING PAPER.

ZBAR:
ALL HORIZONTAL JOINTS IN SIDING SHALL BE PROTECTED BY GALVANIZED "Z BAR- 3/4 x 5/8 x 3/4" FLASHING.
FLASHING NEED NOT BE USED WHERE SKIRTING MEETS THE UNDERSIDE OF AN EXPOSED METAL FRAME AND THE SKIRTING IS RECESSED SUFFICIENTLY TO PROTECT THE TOP EDGE OF PLYWOOD. APPLY SEALANT TO SEAM FOR WEATHER-RESISTANCE.

SHEET METAL

1. SCOPE OF WORK:
CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND SERVICES TO INSTALL INDICATED SHEET METAL.

2. MATERIALS:
A. SHEET METAL- STEEL SHEETS HOT DIP GALVANIZED WITH 1.25 OZ PER SQUARE FOOT ZINC COATING CONFORMING TO ASTM A123. MINIMUM 26 GA
B. SOLDER- OF STANDARD BRAND, GRADE A OF EQUAL PARTS LEAD AND TIN ASTM B32.
C. FLUX- ZINC SATURATED MURATIC ACID.

3. WORKMANSHIP:
SHEET METAL ACCURATELY FORMED TO DIMENSIONS AND SHAPES DETAILED WITH TRUE STRAIGHT LINES, CORNERS AND ANGLES. FLASHING INSTALLED IN LONGEST LENGTHS POSSIBLE. EXTERIOR WORK FORMED, FABRICATED AND INSTALLED SO THAT IT ADEQUATELY PROVIDES FOR EXPANSION AND CONTRACTION IN THE COMPLETED WORK AND FINISHES WATER AND WEATHER TIGHT.

STRUCTURAL AND MISC STEEL

1. SCOPE OF WORK:
CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND AS SPECIFIED AND INDICATED ON THE DRAWINGS, AND SERVICES REQUIRED FOR STRUCTURAL AND MISCELLANEOUS STEEL

2. MATERIALS:
REFER TO SHEET S0.0 FOR STRUCTURAL STEEL AND COLD FORMED STRUCTURAL STEEL INFORMATION

3. WORKMANSHIP
A. NAILS, BOLTS, SCREWS, NUTS, ETC. EXTERIOR WORK SHALL BE CADMIUM PLATED OR GALVANIZED.
B. HANDRAILS FOR STAIRS AND RAMPS: SEE RAMP OR STAIR SHEETS
C. SHOP PAINT:
1. EXPOSED STEEL COATED WITH ONE COAT SHOP COAT
2. NON-EXPOSED STEEL COATED WITH ONE COAT SHOP COAT
3. ALL SURFACES THOROUGHLY CLEANED BY EFFECTIVE MEANS PRIOR TO APPLICATION OF SHOPS COAT
D. TESTS: PROVIDE MILL CERTIFICATES OR TEST ALL MEMBERS. WELDS SHALL BE INSPECTED AND/OR TESTED PER SECTION 1705A.2.5
E. PERFORM SPECIAL INSPECTION FOR INTUMESCENT FIRE RETARDANT COATINGS PER SECTION 1705A.14

ACOUSTICAL CONTROL

REFER TO SHEET A0.6 FOR ACOUSTICAL CONTROL INFORMATION

ABBREVIATIONS

AC: Air Conditioning, Alternating Current
ADA: Americans with Disabilities Act of 1992
AFF: Above Finished Floor
AFG: Above Finish Grade
AIA: American Institute of Architects
ALT: Alternate
AMP: Ampere
APPROX: Approximate
ARCH: Architect, Architectural
ASCE: American Society of Civil Engineers
ASME: American Society of Mechanical Engineers
ASTM: American Society for Testing and Materials

BLDG: Building
BLK: Block
BLKG: Blocking
BOT: Bottom
BTU: British Thermal Units
BTUH: British Thermal Units per Hour

C/C: Center to Center
CI: Cast Iron
CIR: Circle, Circular, Circuit
CJ: Control Joint
CL: Centerline
CLR: Clear
CO: Cleanout
CONC: Concrete
CONN: Connection
CONST: Construction
CONT: Continuous

DF: Douglas Fir
DIA: Diameter
DIM: Dimension
DISP: Dispenser
DL: Dead Load
DWG: Drawing

(E): Existing
EA: Each
ELEC: Electrical
ELEV: Elevation
EN: End Nail
EPDM: Ethylene Propylene Diene Monomer
EQ: Equal
EXT: Exterior

FE: Fire Extinguisher
FF: Finished Floor
FG: Finished Grade
FLR: Floor
FOF: Face of Finish
FT: Foot
FTG: Footing

GA: Gauge
GAL: Gallon
GALV: Galvanized
GFCI: Ground Fault Circuit Interrupted
GFI: Ground Fault Interrupted
GI: Galvanized Iron
GND: Ground

HDR: Header
HF: Hem Fir
HR: Hour
HT: Height
HVAC: Heating, Ventilating & Air Conditioning

ID: Inside Diameter
IN: Inch
INFO: Information
INT: Interior

J-BOX: Junction Box
JT: Joint

KW: Kilowatt

LB: Pound (weight)
LL: Live Load

MAX: Maximum
MECH: Mechanical
MFG: Manufacturer
MIN: Minimum
MISC: Miscellaneous
MT: Mount, Mounted

(N): New
NEC: National Electrical Code
NTS: Not To Scale

O/O: Outside to Outside
OC: On Center
OD: Outside Diameter
OPP: Opposite

PC: Pre-Checked
PH: Phase
PSF: Pounds per square foot
PSI: Pounds per square inch
PT: Pressure Treaded
PVC: Polyvinyl Chloride

QTY: Quantity

RCP: Reflected Ceiling Plan
REBAR: Reinforcing Bar
RECEPT: Receptacle
REF: Refrigerator
REQ: Required
REV: Revise
RF: Roof
RH: Right Hand
RO: Rough Opening

SF: Square Foot
SIM: Similar
SPEC: Specification
SS: Stainless Steel
STD: Standard
STRUCT: Structural

T&G: Tongue & Groove
TEMP: Temporary
THRU: Through
TN: Toe Nail
TPO: Thermo Plastic Olefin
TSTAT: Thermostat
TYP: Typical

UL: Underwriters' Laboratories
UNO: Unless Noted Otherwise

V: Volt
VTR: Vent Through Roof

WD: Wood
WP: Waterproof, Weatherproof
WT: Weight

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 GC LIC # 992118
DEALER # DL1279666 SBE CERTIFIED

ALL DESIGNS INDICATED ON THESE P

ROOFING:

24 GAUGE METAL ROOFING:
AEP - SPAN LOCK- HP: UNPENETRATED INTERLOCKING ROOF PANELS MECHANICALLY CRIMPED AT TOP TO INSURE AGAINST WATER INFILTRATION, STANDING SEAM OR RIBBED TYPE. THE ROOFING SYSTEM SHALL BE FIRE RETARDANT PER CBC STANDARDS. TEST RESULTS TO SUPPORT CLASS 'A' RATING, SHOWING THE ROOF SYSTEM WILL WITHSTAND THE UPLIFT OF A 110 MPH WIND.

EXTERIOR:

LATH/FURRING AND PLASTER (STUCCO):
CBC SECTION 2507 & 2510:

PAPER (WATER-RESISTIVE BARRIER) PER SECTION 1404.2 & 2510.6: A MINIMUM OF TWO LAYER OF NO.15 ASPHALT FELT, COMPLYING WITH ASTM D 226 FOR TYPE 1 FELT OR OTHER APPROVED MATERIAL, SHALL BE ATTACHED TO STUDS OR SHEATING, WITH FLASHING AS DESCRIBED IN SECTION 1405.3, IN SUCH A MANNER AS TO PROVIDE A CONTINUOUS WATER-RESISTIVE BARRIER BEHIND THE EXTERIOR WALL VENEER.

SELF-FURRING LATH (VERTICAL APPLICATION): USE SELF-FURRING LATH CONFORMING TO 1/4" OFFSET REQUIREMENTS OF ASTM C 933 SECTION 5.12. INSTALL SELF-FURRING LATH PER DSA IR 25-4 AND ASTM C 1063.

RIB LATH (HORIZONTAL APPLICATION): USE 3/8" RIB LATH PER ASTM C 847. PROVIDE MIN. 1/2" SIDE LAP WITH WIRE TIES AT 6" O.C. PROVIDE 1" END LAPS OVER SUPPORTS WITH MAJOR RIBS NESTED.

CEMENT: INSTALL AND COMPLY WITH SECTIONS 2510, 2512, AND ASTM C 926.

WINDOWS:
HORIZONTAL SLIDING, 50% VENTING, ANODIZED ALUMINUM FRAME. PERFORMANCE RATED PER AAMA GS101-88 FOR COMMERCIAL USE AND MEDIUM EXPOSURE, NAIL-ON FIN FASTENED DIRECTLY TO FRAMING AND BEHIND SIDING MATERIAL. REMOVABLE SCREEN AT VENT SASHES. LAMINATED OR TEMPERED GLAZING TO BE NOTED ON FLOOR PLAN. DUAL GLAZED WINDOWS TO HAVE MINIMUM 1/4" AIR SPACE AND 1/8" GLASS (SEE WINDOW SCHEDULE FOR SIZES)

INTERIOR:

INTERIOR WALL COVERINGS:
APPLIED OVER MINIMUM 1/2" GYPSUM BOARD, OR MINIMUM 3/8" ORIENTED STRAND BOARD. EXPOSED SURFACES FIRE RATED PER ASTM E-84, FLAME SPREAD MAXIMUM 200, SMOKE DEVELOPED MAXIMUM 450. (PROVIDE FIRE BLOCKING WHEN 3/8" OSB IS USED AS BACKING MATERIAL)

VINYL TACKBOARD:
VINYL WALL COVERING TO BE CLASS III DOMTAR GYPSUM OR EQUAL, LAMINATED ONTO 1/2" INDUSTRIAL INSULATION BOARD, 4'-0"x9'-0", LONG EDGES BEVELED. FLAME SPREAD = 65 SMOKE DENSITY = 175

FRP:
FIBERGLASS REINFORCED PLASTIC PANELS, 4'-0"x8'-0", WITH COLOR MATCHED PVC MOLDINGS OVER 1/2 GYPSUM. FLAME SPREAD = 25 AND SMOKE DEVELOPMENT = 450, CLASS A PER ASTM E-84

MARKER BOARDS:
1/2" PARTICLE BOARD SUBSTRATE, FULL WIDTH MAP RAIL W/ CORK INSERT AND SIX MAP HOOKS, EXTRUDED ALUMINUM MOLDING WITH FLAG HOLDER. CHALK TRAY MAY NOT PROJECT MORE THAN 4".

CEILING:

SUSPENDED T-BAR SYSTEM:
PERFORMANCE RATED ASTM C-635 HEAVY DUTY FLAME SPREAD MAX 0-25, SMOKE DEVELOP MAX 450.

ACOUSTIC LAY-IN CEILING PANELS:
LIGHT REFLECTIVE LR-1, FIRE RATED CLASS-A PER ASTM E-84. VINYL FACED FIBERGLASS, 5/8" THICK, ARMSTRONG OR EQUIV. CLASS A: FLAME SPREAD 25 (UL LABELED) PER ASTM E-1264. SMOKE DEVELOP MAX 450

FLOORING:

CARPET:
PROVIDE GLUE-DOWN OR FIRM CUSHION, PAD OR BACKING OR NO CUSHION PAD; AND HAVE A LEVEL LOOP, TEXTURED LOOP, LEVEL-CUT PILE OR LEVEL-CUT/UNCUT PILE TEXTURE. THE MAXIMUM PILE HEIGHT SHALL BE 1/2" PER SECTION 11B-302.2. EXPOSED EDGES OR CARPET SHALL BE FASTENED TO FLOOR SURFACES AND HAVE TRIM ALONG THE ENTIRE LENGTH OF THE EXPOSED EDGE. CARPET EDGE TRIM SHALL COMPLY WITH SECTION 11B-303. MINIMUM CRITICAL RADIANT FLUX SHALL NOTEXCEED 0.45 WATTS PER SQUARE CENTIMETER.

SEE CARPET CONT ON THIS SHEET FOR CALGREEN REQUIREMENTS

TOP SET BASE:
BURKE MOLDED RUBBER 1/8" THICK, 4" HEIGHT, COVE STYLE #502-P, OR EQ

CERAMIC TILE FLOORING:
CERAMIC TILE FLOORING SHALL HAVE A COEFFICIENT OF FRICTION OF AT LEAST 0.6 PER ASTM C-1028.

DOORS:

FINISH HARDWARE:
HAND-ACTIVATED DOOR OPENING HARDWARE, HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS (22.2n) MAXIMUM AND DOES NOT REQUIRE MORE THAN 5 POUNDS MAXIMUM FORCE TO OPERATE SECTION 11B-309.4.

HARDWARE:
MOUNTING HEIGHT OF LATCHING HARDWARE SHALL BE 34" TO 44" AFF PER CBC SECTION 11B-404.2.7. 11B-404.2.9 DOOR AND GATE OPENING FORCE. THE FORCE FOR PUSHING OR PULLING OPEN A DOOR OR GATE SHALL BE AS FOLLOWS:

1. INTERIOR HINGED DOORS AND GATES: 5 POUNDS (22.2 N) MAXIMUM
2. SLIDING OR FOLDING DOORS: 5 POUNDS (22.2 N) MAXIMUM
3. REQUIRED FIRE DOORS: THE MINIMUM OPENING FORCE ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY NOT TO EXCEED 15 POUNDS (66.7 N)
4. EXTERIOR HINGED DOORS: 5 POUNDS (22.2 N) MAXIMUM

DOOR CLOSERS AND GATE CLOSERS:
DOOR CLOSERS AND GATE CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MINIMUM PER CBC SECTION 11B-404.2.8.1

THRESHOLD:
THRESHOLD SHALL COMPLY WITH CBC SECTIONS 11B-404.2.5 AND 1010.1.7

FLOOR STOPS:
FLOOR STOPS SHALL NOT BE LOCATED IN THE PATH OF TRAVEL AND 4" MAXIMUM FROM WALLS. POLICY 99-08.

EXIT DEVICES:
PANIC HARDWARE SHALL COMPLY WITH CBC STANDARDS AND SHALL BE MOUNTED 36" TO 44" ABOVE FINISHED FLOOR SURFACE. THE UNLATCHING FORCE SHALL NOT EXCEED 5# APPLIED IN THE DIRECTION OF TRAVEL. PANIC HARDWARE SHALL COMPLY WITH CBC SECTION 1010.1.10. PANIC HARDWARE IS REQUIRED TO BE INSTALLED WHEN THE CONFIGURATION OF ANY ROOM PROVIDES AN OCCUPANT LOAD OF 50 OR GREATER, CBC 1010.1.10.

HARDWARE MUST ALSO COMPLY WITH SFM STANDARD 12-10-3, SECTION 12-10-302:
1. CROSS BAR FOR EXIT DEVICES SHALL EXTEND ACROSS NOT LESS THAN HALF OF THE DOOR OR GATE WIDTH.
2. ENDS OF CROSS BARS HALL BE CURVED, GUARDED OR OTHERWISE DESIGNED TO PREVENT CATCHING ON CLOTHING DURING EGRESS

HOLLOW METAL DOORS AND FRAMES:
DOORS-TYPE L FULL FLUSH INSULATED, MANUFACTURED BY 'STEELCRAFT' OR APPROVED EQUAL (UNO)FRAMES-18 GA COLD ROLLED 2" FACES (UNO).
SEE SHEET A0.3 FOR DOOR AND FRAME INFORMATION. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS & SERVICES TO INSTALL HOLLOW METAL DOORS AND FRAMES (UNO)

GENERAL FINISHES:

FINISHES:
ALL FINISHES SHALL COMPLY WITH CBC CHAPTERS 7 & 8, CFC AND TITLE 19 CCR.

FIRE PROTECTION:

FIRE EXTINGUISHER CABINETS:
FIRE EXTINGUISHER CABINETS MUST COMPLY WITH CBC SECTIONS 906, 3309 AND TITLE 19

CASEWORK:

HANDLES:
PROVIDE U SHAPED WIRE PULLS OR EQUALLY ACCESSIBLE PULL HARDWARE AT ALL ACCESSIBLE CASEWORK PER 11B-404.2.7

CARPET CONT:

5.504.4.4 CARPET SYSTEMS. ALL CARPET INSTALLED IN THE BUILDING SHALL MEET AT LEAST ON OF THE FOLLOWING TESTING AND PRODUCT REQUIREMENTS:

1. CARPET AND RUG INSTITUTE GREEN LABEL PLUS PROGRAM;
2. COMPLIANT WITH THE VOC-EMISSION LIMITS AND TESTING REQUIREMENTS SPECIFIED IN THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH SAFETY STANDARD METHOD FOR THE TEST AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSION FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS, VERSION 1.1, FEBRUARY 2010 (ALSO KNOWN AS CDPH STANDARD METHOD V1.1 OR SPECIFICATION 01350);
3. NSF/ANSI 140 AT THE GOLD LEVEL OR HIGHER;
4. SCIENTIFIC CERTIFICATIONS SYSTEMS SUSTAINABLE CHOICE OR;
5. COMPLIANT WITH THE COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS CALIFORNIA (CA-CHPS) CRITERIA INTERPRETATION FOR EQ 7.0 AND EQ 7.1 (FORMERLY EQ 2.2) DATED JULY 2012 AND LISTED IN THE CHPS HIGH PERFORMANCE PRODUCT DATABASE

THERMAL:

INSULATION:
INSULATION MATERIALS, INCLUDING FACINGS, SUCH AS VAPOR RETARDERS AND VAPOR-PERMEABLE MEMBRANES INSTALLED WITHIN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, CRAWL SPACES AND ATTICS SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 25 WITH AN ACCOMPANYING SMOKE-DEVELOPED INDEX NOT TO EXCEED 450 WHERE TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723

OPTION LIST - KEYNOTES

GENERAL	☒	ALL CASES	A0.0, A0.1, A0.2, A0.3, A0.4, A0.6, A0.7, A0.9 & A0.10
DSA 103 SAMPLES	☐	SAMPLE DSA 103 WOOD FOUNDATION OR BUILDING STOCKPILE PROJECTS	A0.8a
	☐	SAMPLE DSA 103 CONC FOUNDATION WITH NO GEO-TECH REPORT	A0.8b
	☐	SAMPLE DSA 103 CONC FOUNDATION WITH GEO-TECH REPORT	A0.8c
FLOOR PLANS OPTIONS LARGER THAN 40'X32'	☐	EXPANDABLE FLOOR PLANS 50'X32' - 100'X32'	A0.5a
	☐	EXPANDABLE FLOOR PLANS 110'X32' - 130'X32'	A0.5b
	☐	EXPANDABLE FLOOR PLANS 130'X32' - 150'X32'	A0.5C
	☐	DAYLIT ZONE FLOOR PLANS 50'-100'X32'	E4.1DL
	☐	DAYLIT ZONE FLOOR PLANS 110'-130'X32'	E4.2DL
	☐	DAYLIT ZONE FLOOR PLANS 140'-150'X32'	E4.3DL
INTERIOR WALL OPTION	☐	STC CONSTRUCTION DETAILS (INTERIOR WALLS)	A0.7
FLOOR PLANS	☐	FLOOR PLAN 20'x32'	A1.1
	☐	FLOOR PLAN 30'x32'	A1.2
	☐	FLOOR PLAN 40'x32'	A1.3
REFLECTED CEILING PLANS	☒	REFLECTED CEILING DETAILS & DSA NOTES - ALL CASES	A2.0a & A2.0b
	☐	REFLECTED CEILING PLAN 20'x32'	A2.1
	☐	REFLECTED CEILING PLAN 30'x32'	A2.2
	☐	REFLECTED CEILING PLAN 40'x32'	A2.3
ROOF PLANS - TPO	☐	ROOF DETAILS - TPO	A3.5
	☐	ROOF PLAN MONO & DUAL SLOPE - TPO	A3.6
SOLAR READY ROOF OPTION	☐	SOLAR READY ROOF PLANS 20'x32', 30'x32' & 40'x32'	A3.7SR
	☐	SOLAR READY ROOF PLANS 50'x32', 60'x32', & 70'x32'	A3.8SR
	☐	SOLAR READY ROOF PLANS 80'x32' & 90'x32'	A3.9SR
	☐	SOLAR READY ROOF PLANS 100'x32' & 110'x32'	A3.10SR
	☐	SOLAR READY ROOF PLANS 120'x32' & 130'x32'	A3.11SR
	☐	SOLAR READY ROOF PLANS 140'x32'	A3.12SR
	☐	SOLAR READY ROOF PLANS 150'x32'	A3.13SR
	☐	ELECTRICAL PLAN 20'x32' (WALL MOUNTED HVAC) SOLAR READY	E1.0SR
	☐	ELECTRICAL PLAN 20'x32' (ROOF MOUNTED HVAC) SOLAR READY	E1.1SR
	☐	ELECTRICAL PLAN 30'x32' (WALL MOUNTED HVAC) SOLAR READY	E2.0SR
	☐	ELECTRICAL PLAN 30'x32' (ROOF MOUNTED HVAC) SOLAR READY	E2.1SR
	☐	ELECTRICAL PLAN 40'x32' (WALL MOUNTED HVAC) SOLAR READY	E3.0SR
	☐	ELECTRICAL PLAN 40'x32' (ROOF MOUNTED HVAC) SOLAR READY	E3.1SR
INTERIOR ELEVATIONS	☐	INTERIOR ELEVATIONS 20'x32'	A4.1
	☐	INTERIOR ELEVATIONS 30'x32'	A4.2
	☐	INTERIOR ELEVATIONS 40'x32'	A4.3
EXTERIOR ELEVATIONS WOOD SIDING	☐	EXTERIOR ELEVATIONS 20'x32'-WOOD SIDING	A5.1
	☐	EXTERIOR ELEVATIONS 30'x32'-WOOD SIDING	A5.2
	☐	EXTERIOR ELEVATIONS 40'x32'-WOOD SIDING	A5.3
EXTERIOR ELEVATIONS STUCCO SIDING	☐	EXTERIOR ELEVATIONS 20'x32'-STUCCO OPTION	A5.4
	☐	EXTERIOR ELEVATIONS 30'x32'-STUCCO OPTION	A5.5
	☐	EXTERIOR ELEVATIONS 40'x32'-STUCCO OPTION	A5.6
WOOD STUD OPTION	☐	ARCHITECTURAL DETAILS WOOD STUD OPTION	A8.0
	☐	WALL FRAMING DETAILS-WOOD STUD	S3.0
ARCHITECTURAL DETAILS	☒	ALL CASES	A8.1 & A8.2
FIRE RATING OPTION	☐	FIRE RATED ASSEMBLIES	A9.0
	☐	FIRE RATED DETAILS	A9.1
SOLATUBE OPTION	☐	SOLATUBE OPTION AT TPO ROOF	A11.0
	☐	SOLABTUBE WIRING AND DAYLIGHT HARVESTING	E5.0
RESTROOM OPTIONS	☐	RESTROOM ACCESSORIES SCHEDULE & DETAILS	A10.0
	☐	RESTROOM ACCESSIBILITY DETAILS	A10.1
	☐	20'x32' RESTROOM OPTION & ACCESSORY PLAN	A12.0
	☐	30'x32' RESTROOM OPTION & ACCESSORY PLAN	A12.1
	☐	40'x32' RESTROOM OPTION & ACCESSORY PLAN	A12.2
	☐	PLUMBING SCHEDULE AND DETAILS	P0.0
	☐	PLUMBING PLAN 20'x32'	P1.0
	☐	PLUMBING PLAN 30'x32'	P2.0
	☐	PLUMBING PLAN 40'x32'	P3.0
FOUNDATION OPTION WOOD PAD	☐	WOOD PAD FOUNDATION PLAN-PLYWOOD FLOOR-20'x32'	F1.1
	☐	WOOD PAD FOUNDATION PLAN-PLYWOOD FLOOR-30'x32'	F1.2
	☐	WOOD PAD FOUNDATION PLAN-PLYWOOD FLOOR-40'x32'	F1.3
	☐	WOOD PAD FOUNDATION DETAILS	F1.8
FOUNDATION OPTION CONCRETE	☐	ABOVE GRADE CONCRETE FOUNDATION DETAILS	F2.0
	☐	ABOVE GRADE CONCRETE FOUNDATION PLAN	F2.1
	☐	FLUSH TO GRADE CONCRETE FOUNDATION DETAILS	F3.0
	☐	FLUSH TO GRADE CONCRETE FOUNDATION PLAN	F3.1
	☐	GENERAL DETAILS	F4.0
OVER 2160 SF BELOW GRADE REQUIREMENTS	☐	DETERIORATION PROTECTION FOR BELOW GRADE CONDITION (WOOD SIDING)	A20.0
	☐	DETERIORATION PROTECTION FOR BELOW GRADE CONDITION (STUCCO SIDING)	A20.1
STRUCTURAL	☒	ALL CASES	S0.0a, S0.0b, S0.3, S1.0, S2.0, S3.2 & S4.0
PLYWOOD FLOOR OPTION	☐	STRUCTURAL BUILDING SECTIONS PLYWOOD FLOOR	S0.1
	☐	FLOOR FRAMING PLAN-PLYWOOD	S1.1
CONCRETE FLOOR OPTION	☐	STRUCTURAL BUILDING SECTIONS CONCRETE FLOOR	S0.2
	☐	FLOOR FRAMING PLAN-CONCRETE	S1.2
ROOF STRUCTURAL	☐	ROOF FRAMING DETAILS	S2.0
	☐	ROOF TRUSS AND DETAILS	S2.1
	☐	ROOF FRAMING PLAN - PLYWOOD SHEATHING DIAPHRAGM	S2.2
WALL FRAMING	☐	WALL FRAMING DETAILS - WOOD STUD	S3.0
	☐	WALL FRAMING ELEVATIONS	S3.2
ALLOWABLE PENETRATION	☐	ALLOWABLE BEAM AND HEADER PENETRATION	S4.0
MECHANICAL	☒	ALL CASES	M0.0, M0.1, M3.0,M3.1, M3.2, M3.3, M3.4, M3.5, M3.6, & M3.7
MECHANICAL PLANS WALL MOUNT OPTION	☐	MECHANICAL PLAN WALL MOUNT 20'x32'	M1.1
	☐	MECHANICAL PLAN WALL MOUNT 30'x32'	M1.2
	☐	MECHANICAL PLAN WALL MOUNT 40'x32'	M1.3
MECHANICAL PLANS ROOF MOUNT OPTION	☐	MECHANICAL PLAN ROOF MOUNT 20'x32'	M2.1
	☐	MECHANICAL ROOF PLAN 20'x32'	M2.2
	☐	MECHANICAL PLAN ROOF MOUNT 30'x32'	M2.3
	☐	MECHANICAL ROOF PLAN 30'x32'	M2.4
	☐	MECHANICAL PLAN ROOF MOUNT 40'x32'	M2.5
	☐	MECHANICAL ROOF PLAN 40'x32'	M2.6
ELECTRICAL	☒	ALL CASES	E0.0 & E6.0
ELECTRICAL PLANS WALL MOUNT OPTION	☐	ELECTRICAL PLAN 20'x32' (WALL MOUNTED HVAC)	E1.0
	☐	ELECTRICAL PLAN 30'x32' (WALL MOUNTED HVAC)	E2.0
	☐	ELECTRICAL PLAN 40'x32' (WALL MOUNTED HVAC)	E3.0
ELECTRICAL PLANS ROOF MOUNT OPTION	☐	ELECTRICAL PLAN 20'x32' (ROOF MOUNTED HVAC)	E1.1
	☐	ELECTRICAL PLAN 30'x32' (ROOF MOUNTED HVAC)	E2.1
	☐	ELECTRICAL PLAN 40'x32' (ROOF MOUNTED HVAC)	E3.1

FLOOR FRAMING: (CHECK ONE)
FLOOR LIVE LOAD: SEE COVER SHEET
FLOOR BEAM SIZE: SEE STRUCTURAL
JOIST TYPE: SEE STRUCTURAL SHEETS
JOIST SPACING: SEE STRUCTURAL SHEETS
* INSULATION: R-19 UNFACED FIBERGLASS BATT
BOTTOM ENCLOSURE:
FLOOR DECK: LIGHTWEIGHT CONCRETE ☒
REFERENCE: FLOOR FRAMING SHEETS
MISC:

ROOF FRAMING: (CHECK ONE)
ROOF LIVE LOAD: SEE COVER SHEET
ROOF SLOPE: DUAL SLOPE ☐ MONO SLOPE ☒
JOIST SIZE & GRADE: SEE STRUCTURAL SHEETS
* INSULATION: R-30 UNFACED AT ATTIC SIDE
FINISH ROOFING: 24 GA METAL ROOF ☒
ROOF SHEATHING: 5/8" CDX PLYWOOD
FRONT OVERHANG: NO ☐ YES ☒
REAR OVERHANG: NO ☐ YES ☒
OVERHANG MEMBER: ANGLE ☐ C-CHANNEL ☒
SOFFITS: OPEN SOFFITS ☐ CLOSED SOFFITS ☒
DRAINAGE SYSTEM: 18 GA GUTTERS & 24 DOWNSPOUTS
REFERENCE: ROOF FRAMING SHEETS
NOTE: SOFFIT FINISH TO MATCH WALL FINISH ☒

EXTERIOR WALLS WOOD STUD OPTION:
WIND LOAD: SEE COVER SHEET
STUD SIZE: 2"x6" UNO BY WALL LEGEND ON COVER SHEET/FLR PLAN
SPACING: SEE CHART ON WALL FRAMING ELEVATIONS
GRADE: SEE CHART ON WALL FRAMING ELEVATIONS
INSULATION: R-19 UNFACED FIBERGLASS BATT
FIRE RESISTIVE CONSTRUCTION: NO ☐ YES ☒ (SEE FIRE RATED DETAIL SHEETS)
REFERENCE: WALL FRAMING ELEVATIONS
MISC: ALL EXTERIOR WALLS SHALL HAVE MIN R-19 UNFACED FIBERGLASS BATT UNO ON PROJECT SPECIFIC ENERGY REPORT

NON-BEARING INTERIOR WALLS: (CHECK ONE)
STUD SIZE 2"x4" UNO BY WALL LEGEND ON COVER SHEET/FLR PLAN
SPACING: 16" OC
GRADE: HEMLOCK FIR MIN
PARTITION HEIGHT: TO RAFTERS ☒ BELOW RAFTERS ☐
INSULATION: R-13 UNFACED ☒ R-19 UNFACED ☐
FIRE RESISTIVE CONSTRUCTION: NO ☐ YES ☒ (SEE FIRE RATED DETAIL SHEETS)
REFERENCE: WALL FRAMING DETAILS
NOTES: INTERIOR WALLS SEPARATING TENANT SPACE OR PUBLIC AREAS
REQUIRE A SOUND OF STC 40 PER ENERGY CODE SECTION 5.507.4.3.
SEE DETAILS #A,B/A0.7

PLUMBING: (CHECK ONE)
ABS SCHEDULE 40 WASTE ☐ PVC SCHEDULE 40 DWV PIPE ☒
CAST IRON WASTE ☒
REFERENCE: PLUMBING SHEETS
NOTES: ALL PLUMBING WASTE VENTS SHALL BE 10'-0" MINIMUM AWAY FROM ANY FRESH INTAKE EQUIPMENT

NOTE: ALL SANITARY WASTE LINES AND VENT PIPING BELOW GRADE SHALL BE NO HUB CAST IRON WITH ELASTOMERIC COUPLING SECURED WITH STAINLESS STEEL BANDS. ALL SANITARY WASTE AND VENT LINES ABOVE GROUND SHALL BE SCHEDULE 40 PVC.

SITE CONDITIONS: (CHECK ONE)
FOUNDATION TYPE:
CONC BELOW GRADE (70' THRU 150'X32') SEE NOTE BELOW ☒

THIS PC (OR BLDG) DESIGN USES AN ALTERNATE MEANS OF COMPLIANCE FOR FOUNDATION DURABILITY REQUIREMENTS PER CBC SECTIONS 1402.2 AND 1403.2 FOR PROVIDING A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE AND CONTINUOUS WATER-RESISTIVE BARRIER ON WALLS DOWN TOP TOP OF FOUNDATION WALL, AND CBC SECTION 2304.12.1.2 FOR PROTECTION AGAINST DECAY AND TERMITES ALONG ADJACENT EXTERIOR GRADE, AS WELL AS PROTECTION AGAINST STEEL DETERIORATION PER CBC 2203A. THIS ONLY APPLIES TO BELOW-GRADE FOUNDATIONS 2160 SF AND OVER. REFER TO SHEET A20.0 & A20.1 FOR DETAILS

REFERENCE: FOUNDATION SHEETS
RAMP & LANDING: NO ☒ YES ☐ (SEE RAMP/LANDING PC PLAN)
RAMP & LANDING SURFACE FINISH: SEE RAMP AND LANDING SHEETS

AC UNIT TYPE: (CHECK ONE)
WALL MOUNT ☒ ROOF MOUNT ☐
ROOF MOUNT CONDENSATE LINE: COPPER ☐ PVC ☐
NOTES: INSULATE CONDENSATE LINES PER CMC 1106.9

EXTERIOR WALL FINISH: (CHECK ONE)
STUCCO ON-SITE. SEE SHEET A20.1 ☒
REFERENCE: ARCHITECTURAL DETAIL SHEETS
NOTES: SEE NOTE ON COVER SHEET REGARDING FOUNDATION DURABILITY FOR BUILDINGS 2160 SF AND OVER

* = COORDINATE WITH SHEET M5.0 FOR WORST CASE SCENARIO CHART WHEN WORST CASE MATERIALS ARE USED OR PROJECT SPECIFIC ENERGY REPORT ON SHEETS M3.0, M3.1, M3.2 AND M3.3

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 GC LIC # 992118
DEALER # DL1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
CONSTRUCTION MATERIALS AND SPECIFICATIONS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

BRIAN J. ORION
No. 5437
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS
1 -
2 -
3 -
4 -
5 -

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER
A0.2

5/16/2025 4:03:47 PM

DOOR SCHEDULE

#	DOOR TYPE	DOOR WIDTH	DOOR HEIGHT	DOOR THK	HARDWARE GROUP	DOOR MATERIAL	DOOR GAUGE	DOOR FRAME	FINISH	FRAME GAUGE	GLAZING	FIRE RATING	SECURITY HARDWARE	DOOR TYPE	REMARKS
100	A	3'-0"	7'-0"	1-3/4"	2	SCL	-	WF	PAINTED SEMI-GLOSS	16	-	-	NO	MANUFACTURED	-
200	E	3'-0"	7'-0"	1-3/4"	3	SCL	-	WF	PAINTED SEMI-GLOSS	16	YES	-	NO	MANUFACTURED	VIEW LIGHT SEE GLAZING SIZE BELOW
300	E	3'-0"	7'-0"	1-3/4"	1	STL	18	WF	PAINTED SEMI-GLOSS	16	YES	-	YES	MANUFACTURED	VIEW LIGHT SEE GLAZING SIZE BELOW
400	B	3'-0"	7'-0"	1-3/4"	4	STL	18	WF	PAINTED SEMI-GLOSS	16	-	-	YES	MANUFACTURED	-
500	A	3'-0"	7'-0"	1-3/4"	5	STL	18	WF		16	-	-	YES	MANUFACTURED	-

NOTES:
1. ALL EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF SPECIAL TOOLS, KNOWLEDGE OR EFFORT

HARDWARE GROUP (EXT ENTRY) 1

QTY.	ITEM	DESCRIPTION
1	LOCK SET *	'YALE': 5CA-7150 X AU546F LEVER 626
1	KEYING	'YALE' "IC" RIM CYLINDER(W TEMP CORE) PERMANENT IC CORE ONLY - 626
3	HINGES	'HAGER': BB1191 4.5"x4.5" NRP 26D
1	CLOSER	'NORTON': P7500-H - 689 (5 LB OPERATING PUSH/PULL PRESSURE)
1	THRESHOLD	'PEMKO': 272A MS /LA - AL
1	DOOR SWEEP	'PEMKO': 315CN - AL
1	WEATHER-STRIP	'PEMKO': 290AS - AL JAMB SEALS QTY: 2 'PEMKO': 2891AS - AL HEAD SEAL QTY: 1
1	KICK PLATE	'IVES': 8400 10"X2" LDW - 630
1	DOOR STOP	'IVES': FS18S SECURITY FLOOR STOP blk(LOCATED 4" FROM WALL)

HARDWARE GROUP (INT RESTROOM PASSAGE) 2

QTY.	ITEM	DESCRIPTION
1	LOCK SET	'YALE': AU5401LN 626
3	HINGES	'HAGER': BB1279 4.5"x4.5" US26D
3	SILENCER	'IVES': SR64 -GRY
1	KICK PLATE	'IVES': 8400 10" X 2" LDW - 630
1	WALL STOP	'IVES': WS401CCV 626

HARDWARE GROUP (INT WORK ROOM) 3

QTY.	ITEM	DESCRIPTION
1	LOCK SET	'YALE': AU5401LN - 626 PERMANENT IC CORE ONLY
3	HINGES	'HAGER': BB1279 4.5"x4.5" US26D
3	SILENCER	'IVES': SR64 -GRY
1	KICK PLATE	'IVES': 8400 10" X 2" LDW - 630
1	WALL STOP	'IVES': WS401CCV 626
1	DOME STOP	'IVES': FS438 435 436 437 AS REQ. 626

HARDWARE GROUP (EXT RESTROOM) 4

QTY.	ITEM	DESCRIPTION
1	LOCK SET	'YALE': 5CA-7150 X AU546F LEVER 626
1	KEYING	'YALE' "IC" RIM CYLINDER(W TEMP CORE) PERMANENT IC CORE ONLY - 626
1	ELECTRONIC LOCK	'SCHLAGE ELECTRONICS' CO-200-CYY-40-PRK-RHO-YALE- 626
1	MOP PLATE	'IVES' 8400 4" X 1" LDW - 630
3	HINGES	'HAGER': BB1279 4.5"x4.5" 26D
1	CLOSER	'NORTON': P7500 - 689 (5 LB OPERATING PUSH/PULL PRESSURE)
1	THRESHOLD	'PEMKO': 272A MS /LA - AL
1	DOOR SWEEP	'PEMKO': 315CN - AL
1	JAMB SEALS	'PEMKO': 290AS HEAD AND JAMB SET AL
1	KICK PLATE	'IVES': 8400 10"X2" LDW - 630
1	WALL STOP	'IVES': WS401CCV 626
25	PROXIMITY KEY FOB	'SCHLAGE': 7610 - AL

HARDWARE GROUP (EXT STORAGE) 5

QTY.	ITEM	DESCRIPTION
1	LOCK SET	'YALE': AU5405LN - 626 PERMANENT IC CORE ONLY
3	HINGES	'HAGER': BB1279 4.5"x4.5" US26D
3	SILENCER	'IVES': SR64 -GRY
1	KICK PLATE	'IVES': 8400 10" X 2" LDW - 630
1	WALL STOP	'IVES': WS401CCV - 626
1	JAMB SEALS	'PEMKO': 290AS HEAD AND JAMB SET AL
1	DOOR SWEEP	'PEMKO': 315CN - AL
1	THRESHOLD	'PEMKO': 272A MS/LA - AL

DOOR MATERIAL LEGEND
STL: STEEL DOOR-HOLLOW CORE
SCW: SOLID CORE WOOD
SCL: SOLID CORE WOOD LEGACY
HCW: HOLLOW CORE WOOD
SF: STORE FRONT

DOOR FRAME LEGEND
WF: WELDED FRAMING-HOLLOW METAL
TM: TIMELY METAL
KD: KNOCK DOWN-HOLLOW METAL
SF: STORE FRONT

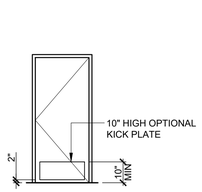
*PANIC HARDWARE NOTE
CYLINDER DOGGING REQUIRED AT K-12 SCHOOLS ONLY.

NOTE:
2022 CBC 1010.2.8 -1010.2.8 LOCKING ARRANGEMENTS IN EDUCATIONAL OCCUPANCIES IN GROUP E OCCUPANCIES, GROUP B EDUCATIONAL OCCUPANCIES AND GROUP I-4 OCCUPANCIES, EGRESS DOORS FROM CLASSROOMS, OFFICES AND OTHER OCCUPIED ROOMS WITH LOCKING ARRANGEMENTS DESIGNED TO KEEP INTRUDERS FROM ENTERING THE ROOM SHALL COMPLY WITH ALL OF THE FOLLOWING CONDITIONS:

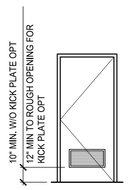
1. THE DOOR SHALL BE CAPABLE OF BEING UNLOCKED FROM OUTSIDE THE ROOM WITH A KEY OR OTHER APPROVED MEANS.
2. THE DOOR SHALL BE OPENABLE FROM WITHIN THE ROOM IN ACCORDANCE WITH SECTION 1010.2.
3. MODIFICATIONS SHALL NOT BE MADE TO LISTED PANIC HARDWARE, FIRE DOOR HARDWARE OR DOOR CLOSERS.
4. MODIFICATIONS TO FIRE DOOR ASSEMBLIES SHALL BE IN ACCORDANCE WITH NFPA 80.

REMOTE LOCKING OR UNLOCKING OF DOORS FROM AN APPROVED LOCATION SHALL BE PERMITTED IN ADDITION TO THE UNLOCKING OPERATION IN ITEM 1.

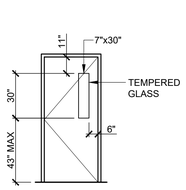
EXT METAL DOOR NOTES:
1. NON INSULATED SORS AHALL HAVEA U FACTOR NOT TO EXCEED 0.70 MAX
2. INSULATED DOOR SHALL HAVE A U-FACTOR NOT TO EXCEED 0.50 MAX



DOOR TYPE A



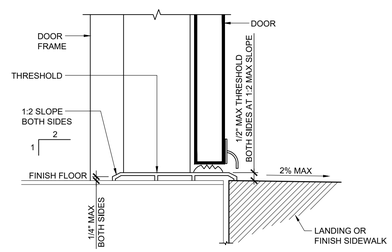
DOOR TYPE B



DOOR TYPE E

STANDARD DOOR TYPE

OPTIONAL DOOR TYPES



ACCESSIBLE THRESHOLD
SCALE: 3" = 1'-0"

1

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE	WALLS ELEV. 1	WALLS ELEV. 2	WALLS ELEV. 3	WALLS ELEV. 4	CEILING FINISH	HEIGHT CEILING	REMARKS
101	CLASSROOM	CPT/LVT	4TB	VT	VT	VT	VT	AT	8'-6"	5'X5' WALK OFF MAT ENTRY
102	CLASSROOM	CPT/LVT	4TB	VT	VT	VT	VT	AT	8'-6"	5'X5' WALK OFF MAT AT ENTRY
103	CLASSROOM	CPT/LVT	4TB	VT	VT	VT	VT	AT	8'-6"	5'X5' WALK OFF MAT AT ENTRY
104	VESTIBULE	CT	CT	CT	CT	CT	CT	HL	8'-6"	CEILING PAINTED - SEMI GLOSS
105	UNISEX RESTROOM	CT	CT	CT	CT	CT	CT	HL	8'-0"	CEILING PAINTED - SEMI GLOSS
106	UNISEX RESTROOM	CT	CT	CT	CT	CT	CT	HL	8'-0"	CEILING PAINTED - SEMI GLOSS
107	WORKROOM	CPT	4TB	VT	VT	VT	VT	HL	8'-6"	CEILING PAINTED - EGGSHELL FINISH
108	VESTIBULE	CT	CT	CT	CT	CT	CT	HL	8'-6"	CEILING PAINTED - SEMI GLOSS
109	UNISEX RESTROOM	CT	CT	CT	CT	CT	CT	HL	8'-0"	CEILING PAINTED - SEMI GLOSS
110	WORKROOM	CPT	4TB	VT	VT	VT	VT	HL	8'-6"	CEILING PAINTED - EGGSHELL FINISH
111	STORAGE	SEALED CONC.	4TB	VT	VT	VT	VT	HL	8'-6"	CEILING PAINTED - EGGSHELL FINISH
112	STAFF RESTROOM	CT	CT	CT	CT	CT	CT	HL	8'-0"	CEILING PAINTED - SEMI GLOSS

NOTES:
1. FINISHES BY OWNER SHALL COMPLY WITH SPECIFICATION ON SHEET A0.2
2. ALL FINISHES SHALL COMPLY WITH CBC, CFC & TITLE 19

FLOOR FINISH LEGEND
CPT: CARPET FLOORING
SV: SHEET VINYL FLOORING
VCT: VINYL COMPOSITION TILE
4TB: 4" TOP SET BASE
6TB: 6" TOP SET BASE
6SC: 6" SELF COVE BASE
BO: BY OWNER
CT: CERAMIC TILE

WALL FINISH LEGEND: (CHECK BOX WHERE APPLICABLE)
VT: 1/2" VINYL TACK BOARD OVER: 1/2" GYP BOARD
NOTE: USE TYPE 'X' GYP BOARD WHERE CALL FOR. USE MOISTURE RESISTANT GYP BOARD BEHIND CLASSR00M SINKS

FRP: 1/8" FIBERBOARD REINFORCED PANELS OVER: 1/2" MOISTURE RESISTANT GYP BOARD

NOTE: USE TYPE 'X' GYP BOARD WHERE CALL FOR. USE MOISTURE RESISTANT GYP BOARD BEHIND CLASSROOM SINKS AND/OR WET AREAS

CEILING FINISH LEGEND: (CHECK BOX WHERE APPLICABLE)
AT: ACOUSTICAL TILE IN HEAVY DUTY T-BAR GRID

HL: 1/2" GYP BOARD TAPE/TEXTURED/PAINTED

WINDOW FRAME LEGEND
AL: ALUMINUM
HM: HOLLOW METAL
V: VINYL

WINDOW FINISHES
CA: CLEAR ANODIZED
BA: BRONZE ANODIZED
PNT: PAINTED
MF: MANUFACTURER FINISH

GLAZING TYPES
1: 46% TEMPERED GRAYLITE
2: 14% TEMPERED GRAYLITE
3: CLEAR TEMPERED
4: DUAL PANE
5: SINGLE PANE

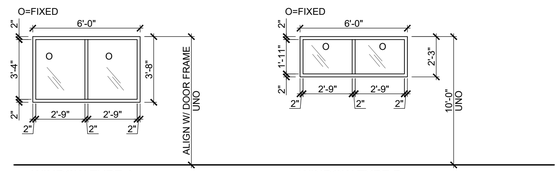
GLAZING NOTE
1. GLAZING U-FACTOR SHALL NOT EXCEED 0.79 MAX
2. SHGC SHALL BE 0.59 MAX
3. VISIBLE TRANSMITTANCE SHALL NOT EXCEED 0.67 MAX

STC RATING EXTERIOR WINDOWS
☐ MIN STC 40 RATING

WINDOW SCHEDULE

*	WINDOW WIDTH	WINDOW HEIGHT	WINDOW FRAME	WINDOW FINISH	WINDOW GLAZING	FIRE RATING	WINDOW TYPE	REMARKS
A	6'-0"	3'-8"	HM	PNT	1&4	-	MANUFACTURED	FIXED
B	6'-0"	2'-3"	HM	PNT	1&4	-	MANUFACTURED	FIXED

NOTE:
1. OPERATION OF WINDOW AND HARDWARE SHALL NOT REQUIRE MORE THAN 5 LBS MAX FORCE
2. ALL GLAZE SHALL BE LABELED PER CBC CHAPTER 24 FOR IDENTIFICATION OF GLASS AND SAFETY GLAZING
3. WHEN FIRE RATING FOR OPENINGS ARE APPLICABLE, THEY SHALL COMPLY WITH CBC SECTION 716
4. TEMPORARY NFRC LABELS STAY ON THE FENESTRATION PRODUCTS UNTIL THE INSPECTOR HAS VERIFIED THAT THE INSTALLED U-FACTOR, SHGC, AND VT MATCH THE WINDOW SCHEDULE



WINDOW TYPE A

WINDOW TYPE B

STANDARD WINDOW TYPE

OPTIONAL SOLATUBE CEILING LENS SCHEDULE

LENS PREFIX	LENS WIDTH	LENS LENGTH	LENS STYLE	LENS GLAZING	LENS TYPE	REMARKS
L2	23.8"	23.8"	PRISMATIC	1	MANUFACTURED	SEE SHEET A11.0
L5	23.8"	23.8"	WIDE	2	MANUFACTURED	SEE SHEET A11.0
L6	23.8"	23.8"	SUPERWIDE	2	MANUFACTURED	SEE SHEET A11.0
L7	23.8"	23.8"	NARROW	2	MANUFACTURED	SEE SHEET A11.0

GLAZING NOTE
1. VISIBLE TRANSMITTANCE SHALL BE GREATER THAN 90% AT 0.1 INCH THICK
2. VISIBLE TRANSMITTANCE SHALL BE GREATER THAN 90% AT 0.022 INCH THICK

2

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 GC LIC # 992118
DEALER # DL1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

FINISH SCHEDULES

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

RYAN J. ORION — PROFESSIONAL ENGINEER — STRUCTURAL — STATE OF CALIFORNIA
EXP 12/31/25

SIGNED: 4-29-25

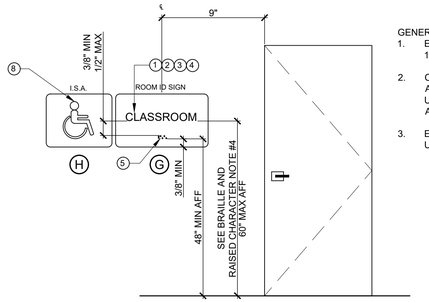
FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS
1 -
2 -
3 -
4 -
5 -

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

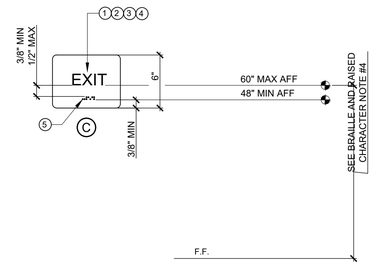
SHEET NUMBER
A0.3

5/2/2025 12:10:25 PM



GENERAL NOTES:

1. EXIT SIGNAGE PER CBC SECTION 11B-703.2 & 11B-703.3
2. CLASSROOM SIGNAGE IS FURNISHED AND INSTALLED BY DISTRICT ON-SITE UNO. ARCHITECT TO SPECIFY DESIGN AND SIZE
3. EXIT TACTILE SIGN BY MANUFACTURER UNO



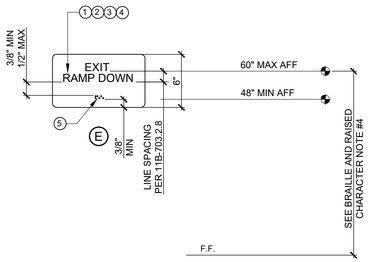
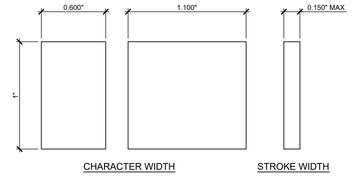


TABLE 11B-703.5.5 VISUAL CHARACTER HEIGHT

HEIGHT TO FINISH FLOOR OR GROUND FROM BASELINE OF CHARACTER	HORIZONTAL VIEWING DISTANCE	MINIMUM CHARACTER HEIGHT
40 inches (1016 mm) to less than or equal to 70 inches (1778 mm)	less than 72 inches (1829 mm)	5/8 inch (15.9 mm)
	72 inches (1829 mm) and greater	5/8 inch (15.9 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 72 inches (1829 mm)
Greater than 70 inches (1778 mm) to less than or equal to 120 inches (3048 mm)	less than 180 inches (4572 mm)	2 inches (51 mm)
	180 inches (4572 mm) and greater	2 inches (51 mm) , plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 180 inches (4572 mm)
Greater than 120 inches (3048 mm)	less than 21 feet (6401 mm)	3 inches (76 mm)
	21 feet (6401 mm) and greater	3 inches (76 mm) , plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 21 feet (6401 mm)



TACTILE CHARACTER PROPORTIONS COMPLIANCE

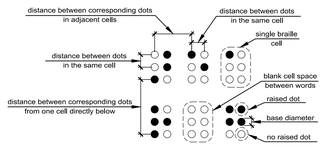


FIGURE *11B-703.3.1* BRAILLE MEASUREMENT

TABLE 11B-703.3.1 BRAILLE DIMENSIONS

MEASUREMENT RANGE	MINIMUM IN INCHES MAXIMUM IN INCHES
DOT BASE DIAMETER	0.059 (1.5 MM) TO 0.063 (1.6 MM)
DISTANCE BETWEEN TWO DOTS IN THE SAME CELL[1]	0.100 (2.5 MM)
DISTANCE BETWEEN CORRESPONDING DOTS IN THE SAME CELL[1]	0.300 (7.6 MM)
DOT HEIGHTS	0.025 (0.6 MM) TO 0.037 (0.9 MM)
DISTANCE BETWEEN CORRESPONDING DOTS FROM ONE CELL DIRECTLY BELOW[1]	0.395 (10 MM) TO 0.400 (10.2 MM)

1. MEASURED CENTER TO CENTER

BRAILLE AND RAISED CHARACTERS

1. RAISED CHARACTERS: CBC SECTION 11B-703.2, RAISED CHARACTERS SHALL COMPLY WITH SECTION 11B-703.2 AND SHALL BE DUPLICATED IN BRAILLE COMPLYING WITH SECTION 11B-703.3. RAISED CHARACTERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 11B-703.4

   CHARACTER DEPTH: CBC SECTION 11B-703.2.1, RAISED CHARACTERS SHALL BE 1/32" MINIMUM ABOVE THEIR BACKGROUND

   CHARACTER CASE: CBC SECTION 11B-703.2.2, CHARACTERS SHALL BE UPPERCASE

   CHARACTER STYLE: CBC SECTION 11B-703.2.3, CHARACTER SHALL BE SANS SERIF. CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS

2. RAISED CHARACTER HEIGHT: CBC SECTION 11B-703.2.5, CHARACTER HEIGHT MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8" MINIMUM AND 2" MAXIMUM BASED ON THE HEIGHT OF THE UPPERCASE LETTER "I"

3. FINISH AND CONTRAST: CBC SECTION 11B-703.5.1, CHARACTERS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND WITH EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND

4. RAISED CHARACTER PROPORTIONS: CBC SECTION 11B-703.2.4, CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER LETTER "I". STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 15 PERCENT MAXIMUM OF THE HEIGHT OF THE CHARACTER

   MOUNTING HEIGHT: CBC SECTION 11B-703.4.1, TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48" MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST BRAILLE CELLS AND 60" MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS

   RAISED CHARACTER SPACING: CBC SECTION 11B-703.2.7, CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT RAISED CHARACTERS WITHIN A MESSAGE, EXCLUDING WORD SPACES. WHERE CHARACTERS HAVE RECTANGULAR CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE $\frac{1}{8}$ INCH (3.2 MM) MINIMUM AND CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE $\frac{1}{16}$ INCH (1.6 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM AT THE BASE OF THE CROSS SECTIONS, AND $\frac{1}{8}$ INCH (3.2 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM AT THE TOP OF THE CROSS SECTIONS. CHARACTERS SHALL BE SEPARATED FROM RAISED BORDERS AND DECORATIVE ELEMENTS $\frac{3}{8}$ INCH (9.5 MM) MINIMUM

   RAISED LINE SPACING: CBC SECTIONS 11B-703.2.8, SPACING BETWEEN THE BASELINE OF SEPARATE LINES OF RAISED CHARACTERS WITHIN A MESSAGE SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE RAISED CHARACTER HEIGHT

5. BRAILLE: CBC SECTION 11B-703.3, BRAILLE SHALL BE CONTRACTED (GRADE 2) AND SHALL COMPLY WITH SECTIONS 11B-703.3 AND 11B-703.4

   BRAILLE DIMENSIONS AND CAPITALIZATION: CBC SECTION 11B-703.3.1, BRAILLE DOTS SHALL HAVE A DOMED OR 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

   BRAILLE POSITION: CBC SECTION 11B-703.3.2, BRAILLE SHALL BE POSITIONED BELOW THE CORRESPONDING TEXT IN A HORIZONTAL FORMAT, FLUSH LEFT OR CENTERED. IF TEXT IS MULTI-LINED, BRAILLE SHALL BE PLACED BELOW THE ENTIRE TEXT. BRAILLE SHALL BE SEPARATED 3/8" MINIMUM AND 1/2" MAXIMUM FROM ANY OTHER TACTILE CHARACTERS AND 3/8" MINIMUM FROM RAISED BORDERS AND DECORATIVE ELEMENTS

PICTOGRAMS AND SYMBOLS (WALL ROOM I.D. SIGN)

7. PICTOGRAM FIELD: CBC SECTION 11B-703.6.1, PICTOGRAMS SHALL HAVE A FIELD HEIGHT OF 6 INCHES MINIMUM. CHARACTERS AND BRAILLE SHALL NOT BE LOCATED IN THE PICTOGRAM FIELD

   FINISH AND CONTRAST: CBC SECTION 11B-703.6.2, PICTOGRAMS AND THEIR FIELD SHALL HAVE A NON-GLARE FINISH. PICTOGRAMS SHALL CONTRAST WITH THEIR FIELD WITH EITHER A LIGHT PICTOGRAM ON A DARK FIELD OR A DARK PICTOGRAM ON A LIGHT FIELD

   TEXT DESCRIPTION: CBC SECTION 11B-703.6.3, PICTOGRAMS SHALL HAVE TEXT DESCRIPTORS LOCATED DIRECTLY BELOW THE PICTOGRAM FIELD. TEXT DESCRIPTION SHALL COMPLY WITH SECTION 11B-703.2, 11B-703.3, AND 11B-703.4

8. INTERNATIONAL SYMBOL OF ACCESSIBILITY: CBC SECTION 11B-703.7.2.1, THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL COMPLY WITH FIGURE 11B-703.7.2.1. THE SYMBOL SHALL CONSIST OF A WHITE FIGURE ON A BLUE BACKGROUND. THE BLUE SHALL BE COLOR NO. 15090 FEDERAL STANDARD 595C

   FINISH AND CONTRAST: SYMBOLS OF ACCESSIBILITY AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. SYMBOLS OR ACCESSIBILITY SHALL CONTRAST WITH THEIR BACKGROUND WITH EITHER A LIGHT SYMBOL ON A DARK BACKGROUND OR A DARK SYMBOL ON A LIGHT BACKGROUND

VISUAL CHARACTERS

9. CHARACTER PROPORTIONS: CBC SECTION 11B-703.5.4, CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER LETTER "I".

10. HEIGHT FROM FINISH FLOOR OR GROUND: CBC SECTION 11B-703.5.6, VISUAL CHARACTERS SHALL BE 40 INCHES ABOVE THE FINISH FLOOR OR GROUND

11. NOT USED

12. 11B-703.5 REQUIREMENTS FOR VISUAL CHARACTERS

    CBC SECTION 11B-703.5.2. VISUAL CHARACTERS SHALL BE UPPERCASE OR LOWERCASE OR A COMBINATION OF BOTH.

    CBC SECTION 11B-703.5.3. VISUAL CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS.

    CBC SECTION 11B-703.5.4. PROPORTIONS FOR VISUAL CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60 % MINIMUM AND 110 % MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I".

    CBC TABLE 11B-703.5.5. MINIMUM CHARACTER HEIGHT SHALL COMPLY WITH TABLE 11B-703.5.5. VIEWING DISTANCE SHALL BE MEASURED AS THE HORIZONTAL DISTANCE BETWEEN THE CHARACTER AND AN OBSTRUCTION PREVENTING FURTHER APPROACH TOWARDS THE SIGN. CHARACTER HEIGHT SHALL BE BASED ON THE UPPERCASE LETTER "I".

    CBC SECTION 11B-703.5.6. VISUAL CHARACTERS SHALL BE 40" MINIMUM ABOVE FINISH FLOOR OR GROUND.

    CBC SECTION 11B-703.5.7. STROKE THICKNESS SHALL BE 10% MINIMUM AND 20% MAXIMUM OF THE HEIGHT OF THE CHARACTER.

    CBC SECTION 11B-703.5.8. CHARACTER SPACING BETWEEN INDIVIDUAL ADJACENT CHARACTERS SHALL BE 10% MIN. AND 35% MAX. OF CHARACTER HEIGHT.

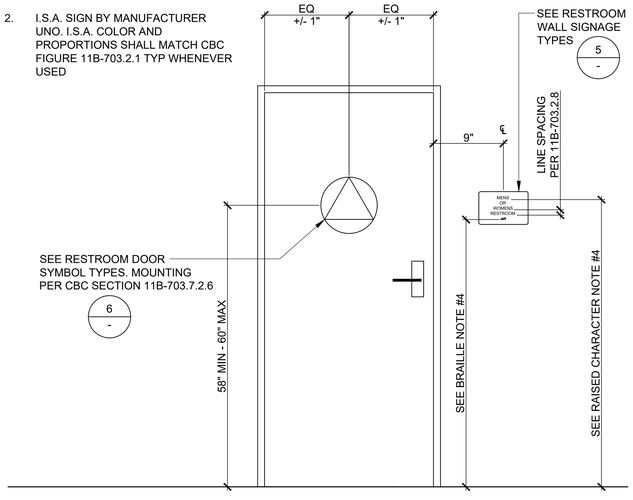
    CBC SECTION 11B-703.5.9. LINE SPACING BETWEEN THE BASELINES OF SEPARATE LINES OF CHARACTERS WITHIN A MESSAGE SHALL BE 135% MIN. AND 170% MAX. OF THE CHARACTER HEIGHT.

TYPICAL SIGNAGE

1

GENERAL NOTES:

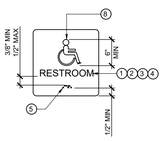
1. REST ROOM SIGNAGE PER CBC SECTION 11B-703.6 REST ROOM WALL AND DOOR SIGNAGE BY MANUFACTURER UNO
2. I.S.A. SIGN BY MANUFACTURER UNO. I.S.A. COLOR AND PROPORTIONS SHALL MATCH CBC FIGURE 11B-703.2.1 TYP WHENEVER USED



RESTROOM SIGNAGE DETAILS

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

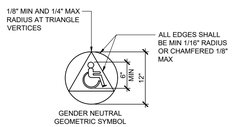
7



RESTROOM WALL SIGNAGE

SCALE: 1" = 1'-0"

5

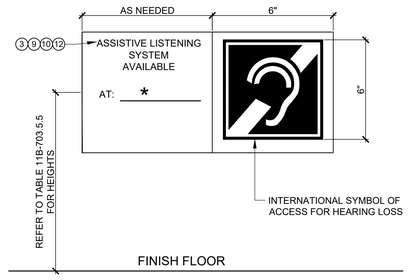


1/4" THICK TRIANGLE SUPERIMPOSED OVER 1/4" THICK CIRCLE. TRIANGLE MUST CONTRAST IN COLOR FROM THE CIRCLE & CIRCLE SHALL CONTRAST WITH THE DOOR CBC SECTION 11B-703.7.2.6.3

RESTROOM DOOR SYMBOLS

SCALE: 1" = 1'-0"

6



NOTES:

1. SIGN MATERIAL TO BE 1/8" THICK ES PLASTIC. MOUNT WITH VANDAL RESISTANT FASTENERS
2. CBC SECTION 11B-703.7.2.4, ASSISTIVE LISTENING SYSTEMS SHALL BE IDENTIFIED BY THE INTERNATIONAL SYMBOL OF ACCESS FOR HEARING LOSS COMPLYING WITH FIGURE 11B-703.7.2.4
3. PROVIDE ONE SIGN WHERE INDICATED ON PLANS
4. SIGN SHALL BE DISPLAYED EITHER AS A NEGATIVE OR POSITIVE IMAGE WITHIN A SQUARE THAT IS A MINIMUM OF 6 INCHES ON EACH SIDE. THE SYMBOL MAY BE SHOWN IN BLACK AND WHITE OR IN COLOR. WHEN COLOR IS USED, IT SHALL BE FEDERAL BLUE (COLOR NO. 15090 FEDERAL STANDARD 595C) ON WHITE OR WHITE ON FEDERAL BLUE. THERE SHALL BE AT LEAST A 70 PERCENT COLOR CONTRAST BETWEEN THE BACKGROUND OF THE SIGN FROM THE SURFACE THAT IT IS MOUNTED ON
5. SIGN PROVIDED BY DISTRICT UNO

* SITE SPECIFIC INFORMATION PROVIDED BY ARCHITECT (TO BE INCLUDED AS PERMANENT PART OF SIGN)

ASSISTIVE LISTENING SIGN

SCALE: NTS

4

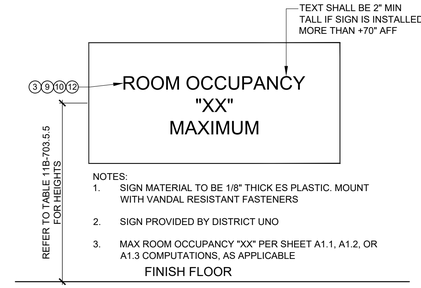
NEXTMOD, INC
18966 SEATON AVE., PERRIS, CA 92570
PHONE (909) 740-3120, FAX (909) 726-9470

DSA A#: _____ MFG DATE: _____
CBC YEAR: _____ EXPOSURE CATEGORY: _____
FLOOR LIVE LOAD: _____ SEISMIC DESIGN PARAMETER: _____
ROOF LIVE LOAD: _____ DESIGN CLIMATE ZONE: _____
ROOF SNOW LOAD: _____ SERIAL #: _____
WIND LOAD: _____

BUILDING ID TAG

SCALE: NTS

2



NOTES:

1. SIGN MATERIAL TO BE 1/8" THICK ES PLASTIC. MOUNT WITH VANDAL RESISTANT FASTENERS
2. SIGN PROVIDED BY DISTRICT UNO
3. MAX ROOM OCCUPANCY "XX" PER SHEET A1.1, A1.2, OR A1.3 COMPUTATIONS, AS APPLICABLE

OCCUPANCY SIGN

SCALE: NTS

3

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

ALL DESIGNS INDICATED ON THESE PLANS/DRAWINGS ARE PROPERTY OF SKC, INC AND ARE FOR THE USE BY SKC IN THE SPECIFIED JOB ONLY. THEY SHALL NOT BE USED AND/OR DUPLICATED OR TRANSMITTED IN ANY FORM, FOR ANY PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF SKC, INC. ANY UNAUTHORIZED USE OF THESE PLANS SHALL SUBJECT THE OWNER OF SAID PROPERTY TO LIQUIDATED DAMAGES OF $75,000.00. THESE PLANS ARE PROTECTED UNDER THE PROVISIONS OF THE 1976 COPYRIGHT ACT COPYRIGHT SKC, © ALL RIGHTS RESERVED.

DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

SIGNAGE SPECIFICATIONS AND ACCESSIBILITY

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Orion Structural Engineering, Inc.
41305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1	-
2	-
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PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A0.4

5/2/2025 12:10:27 PM

ARCHITECTURAL COATINGS VOC LIMITS

COATING CATEGORY	CURRENT VOC LIMIT	CAL GREEN CODE REFERENCE
FLAT COATINGS	50	TABLE 5.504.4.3
NONFLAT COATINGS	100	TABLE 5.504.4.3
NONFLAT HIGH GLOSS COATINGS	150	TABLE 5.504.4.3
SPECIALTY COATINGS		
ALUMINUM ROOF COATINGS	400	TABLE 5.504.4.3
BASEMENT SPECIALTY COATINGS	400	TABLE 5.504.4.3
BITUMINOUS ROOF COATINGS	50	TABLE 5.504.4.3
BITUMINOUS ROOF PRIMERS	350	TABLE 5.504.4.3
BOND BREAKERS	350	TABLE 5.504.4.3
CONCRETE CURING COMPOUNDS	350	TABLE 5.504.4.3
CONCRETE/MASONRY SEALERS	100	TABLE 5.504.4.3
DRIVEWAY SEALERS	50	TABLE 5.504.4.3
DRY FOG COATINGS	150	TABLE 5.504.4.3
FAUX FINISHING COATINGS	350	TABLE 5.504.4.3
FIRE RESISTIVE COATINGS	350	TABLE 5.504.4.3
FLOOR COATINGS	100	TABLE 5.504.4.3
FORM RELEASE COMPOUNDS	250	TABLE 5.504.4.3
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500	TABLE 5.504.4.3
HIGH TEMPERATURE COATINGS	420	TABLE 5.504.4.3
INDUSTRIAL MAINTENANCE COATING	250	TABLE 5.504.4.3
LOW SOLIDS COATINGS	120	TABLE 5.504.4.3
MAGSENITE CEMENT COATINGS	450	TABLE 5.504.4.3
MASTIC TEXTURE COATINGS	100	TABLE 5.504.4.3
METALLIC PIGMENTED COATINGS	500	TABLE 5.504.4.3
MULTICOLOR COATINGS	250	TABLE 5.504.4.3
PRETREATMENT WASH PRIMERS	420	TABLE 5.504.4.3
PRIMERS, SEALERS AND UNDERCOATS	100	TABLE 5.504.4.3
REACTIVE PENETRATING SEALERS	350	TABLE 5.504.4.3
RECYCLED COATINGS	250	TABLE 5.504.4.3
ROOF COATINGS	50	TABLE 5.504.4.3
RUST PREVENTATIVE COATINGS	250	TABLE 5.504.4.3
SHELLACS CLEAR OPAQUE	 730 550	TABLE 5.504.4.3
SPECIALTY PRIMERS, SEALERS AND UNDERCOATS	100	TABLE 5.504.4.3
STAINS	250	TABLE 5.504.4.3
STONE CONSOLIDANTS	450	TABLE 5.504.4.3
SWIMMING POOL COATINGS	340	TABLE 5.504.4.3
TRAFFIC MARKING COATINGS	100	TABLE 5.504.4.3
TUB AND TILE REFINISH COATINGS	420	TABLE 5.504.4.3
WATERPROOFING MEMBRANE	250	TABLE 5.504.4.3
WOOD COATINGS	275	TABLE 5.504.4.3
WOOD PRESERVATIVES	350	TABLE 5.504.4.3
ZINC RICH PRIMERS	340	TABLE 5.504.4.3

ADHESIVES VOC LIMITS

ADHESIVES (ARCHITECTURAL APPLICATIONS)	CURRENT VOC LIMIT	CAL GREEN CODE REFERENCE
INDOOR CARPET ADHESIVES	50	TABLE 5.504.4.1
CARPET PAD ADHESIVES	50	TABLE 5.504.4.1
OUTDOOR CARPET ADHESIVES	150	TABLE 5.504.4.1
WOOD FLOORING ADHESIVES	100	TABLE 5.504.4.1
RUBBER FLOORING ADHESIVES	60	TABLE 5.504.4.1
SUBFLOOR FLOOR ADHESIVES	50	TABLE 5.504.4.1
CERAMIC TILE ADHESIVES	65	TABLE 5.504.4.1
VCT AND ASPHALT TILE ADHESIVES	50	TABLE 5.504.4.1
DRYWALL AND PANEL ADHESIVES	50	TABLE 5.504.4.1
COVE BASE ADHESIVES	50	TABLE 5.504.4.1
STRUCTURAL GLAZING ADHESIVES	100	TABLE 5.504.4.1
SINGLE PLY ROOF MEMBRANE ADHESIVES	250	TABLE 5.504.4.1
OTHER ADHESIVES NOT SPECIFICALLY LISTED	50	TABLE 5.504.4.1
SPECIALTY APPLICATIONS		
PVC WELDING	510	TABLE 5.504.4.1
CPVC WELDING	490	TABLE 5.504.4.1
ABS WELDING	325	TABLE 5.504.4.1
PLASTIC CEMENT WELDING	250	TABLE 5.504.4.1
ADHESIVE PRIMER FOR PLASTIC	550	TABLE 5.504.4.1
CONTACT ADHESIVE	80	TABLE 5.504.4.1
SPECIAL PURPOSE CONTACT ADHESIVE	250	TABLE 5.504.4.1
STRUCTURAL WOOD MEMBER ADHESIVE	140	TABLE 5.504.4.1
TOP AND TRIM ADHESIVE	250	TABLE 5.504.4.1
SUBSTRATE SPECIFIC APPLICATIONS		
METAL TO METAL	30	TABLE 5.504.4.1
PLASTIC FOAMS	50	TABLE 5.504.4.1
POROUS MATERIALS (EXCEPT WOOD)	50	TABLE 5.504.4.1
WOOD	30	TABLE 5.504.4.1
FIBERGLASS	80	TABLE 5.504.4.1

SEALANT VOC LIMITS

SEALANTS	CURRENT VOC LIMIT	CAL GREEN CODE REFERENCE
ARCHITECTURAL	250	TABLE 5.504.4.2
MARINE DECK	760	TABLE 5.504.4.2
NONMEMBRANE ROOF	300	TABLE 5.504.4.2
ROADWAY	250	TABLE 5.504.4.2
SINGLE PLY ROOF MEMBRANE	450	TABLE 5.504.4.2
OTHER	420	TABLE 5.504.4.2
SEALANT PRIMERS		
ARCHITECTURAL NONPOROUS POROUS	 250 775	TABLE 5.504.4.2
MODIFIED BITUMINOUS	500	TABLE 5.504.4.2
MARINE DECK	760	TABLE 5.504.4.2
OTHER	750	TABLE 5.504.4.2

FORMALDEHYDE VOC LIMITS

PRODUCTS	CURRENT LIMITS	CAL GREEN CODE REFERENCE
HARDWOOD PLYWOOD VENEER CORE	0.05	TABLE 5.504.4.5
HARDWOOD PLYWOOD COMPOSITE CORE	0.05	TABLE 5.504.4.5
PARTICLEBOARD	0.09	TABLE 5.504.4.5
MEDIUM DENSITY FIBERBOARD	0.11	TABLE 5.504.4.5
THIN MEDIUM DENSITY FIBERBOARD	0.13	TABLE 5.504.4.5

LOUDNESS COMPARISON CHART

COMMON OUTDOOR ACTIVITIES	NOISE LEVEL	COMMON INDOOR ACTIVITIES
JET FLY OVER AT 1,000 FT	110	ROCK BAND
CAS LAWN MOWER AT 3 FT	100	
	90	FOOD BLENDER AT 3 FT
DIESEL TRUCK AT 50 FT AT 50 MPH	80	GARBAGE DISPOSAL AT 3 FT
NOISY URBAN AREA, DAYTIME		
GAS LAWN MOWER AT 100 FT	70	VACUUM CLEANER AT 10 FT
COMMERCIAL AREA		NORMAL SPEECH AT 3 FT
HEAVY TRAFFIC AT 300 FT	60	LARGE BUSINESS OFFICE
QUIET URBAN, DAYTIME	50	DISHWASHER NEXT ROOM
QUIET URBAN, NIGHT TIME	40	THEATRE
QUIET SUBURBAN, NIGHT TIME		LARGE CONFERENCE ROOM BACKGROUND
QUIET RURAL, NIGHT TIME	30	LIBRARY
		BEDROOM AT NIGHT
		CONCERT HALL, BACKGROUND
	20	BROADCAST / RECORDING STUDIO
	10	
LOWEST THRESHOLD OF HUMAN HEARING	0	LOWEST THRESHOLD OF HUMAN HEARING

GENERAL NOTES

1. ALL MECHANICAL EQUIPMENT WHICH REQUIRES A FILTER SHALL NOT BE OPERATED WITHOUT A FILTER IN PLACE
2. ALL FILTERS SHALL HAVE A MERV RATING OF 13 OR GREATER MINIMUM 2" DEPTH PER ENERGY CODE SECTION 120.1(C)1
3. PER SECTION 5.404.3 COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION SHALL BE PERFORMED AT THE END OF EACH WORK DAY AND DURING SHIPMENT OF RELOCATABLE BUILDING. ALL EXPOSED DUCTWORK AND EQUIPMENT SHALL BE COVERED
4. WHEN REQUIRED, EXTERIOR WINDOWS SHALL COMPLY WITH SECTION 5.404.4.1 FOR EXTERIOR NOISE TRANSMISSION. MIN STC 40 RATING. SEE SHEET A0.3 FOR REFERENCE.
5. PER SECTION 5.504.4.6 FOR 80% OF FLOOR AREA RECEIVING RESILIENT FLOORING, INSTALLED RESILIENT FLOORING SHALL MEET AT LEAST ONE OF THE FOLLOWING CONDITIONS:
   1. CERTIFIED UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOORSCORE PROGRAM.
   2. COMPLIANT WITH THE VOC-EMISSION LIMITS AND TESTING REQUIREMENTS SPECIFIED IN THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S 2010 STANDARD METHOD FOR THE TESTING AND EVALUATION CHAMBERS, VERSION 1.1, FEBRUARY 2010.
   3. COMPLIANT WITH THE COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS CALIFORNIA (CA-CHPS) CRITERIA INTERPRETATAION FOR EQ 7.0 AND EQ 7.1 (FORMERLY EQ 2.2) DATED JULY 2012 AND LISTED IN THE CHPS HIGH PERFORMANCE PRODUCT DATABASE.
   4. PRODUCTS CERTIFIED UNDER UL GREENGUARD GOLD (FORMERLY THE GREENGUARD CHILDREN'S AND SCHOOLS PROGRAM)
6. PER SECTION 5.504.4.4.6.1 DOCUMENTATION SHALL BE PROVIDED VERIFYING THAT THE RESILIENT FLOORING MATERIALS MEET THE POLLUTANT EMISSION LIMITS

ACOUSTICAL CONTROL

WHEN THE PC (OR BLDG) IS SITE ADAPTED, THE BUILDING AND SITE FEATURES NEED TO COMPLY WITH THE CALGREEN CODE SECTION 5.507.4 FOR THE SPECIFIC SITE LOCATION, AND WHEN THE NEW PC (OR BLDG) IS PLACED ADJACENT TO ANOTHER EXISTING PC BUILDING (WITH ZERO SEPARATION), THE ADJOINING WALL SECTION FOR INTERIOR SOUND TRANSMISSION MUST MEET THE MINIMUM REQUIREMENT OF A STC RATING OF 40 PER SECTION 5.507.4.3

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #IMF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

CALGREEN REQUIREMENTS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 675-1974

REGISTERED PROFESSIONAL ENGINEER
RYAN F. ORION
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-675-1974

REVISIONS

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PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A0.6

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NOTE:
THESE INFORMATION IS ONLY USE FOR SOUND

3

NOTE:
THESE INFORMATION IS ONLY USE FOR SOUND

NOTE:
THESE INFORMATION IS ONLY USE FOR SOUND

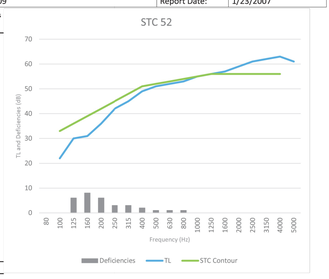
QuietRock® by PABCO Gypsum

Summary Assembly and Acoustic Data Report
PGD-02-00-040

Acoustic Data

Test Site:	Riverbank Acoustical Laboratories 1512 S. Batavia Ave., Geneva, IL 60134	Test Number:	RAL TL07-022
Assembly Type:	Wall	Test Date:	1/23/2007
Method:	ASTM E90-09	Report Date:	1/23/2007

Frequency (Hz)	TL (dB)	Deficiencies (dB)
80		
100	22	
125	30	6
160	31	8
200	36	6
250	42	3
315	45	3
400	49	2
500	51	1
630	52	1
800	53	1
1000	55	
1250	56	
1600	57	
2000	59	
2500	61	
3150	62	
4000	63	
5000	61	
Total Deficiencies		31



Assembly Mass

Building Element	Mass lb (kg)	Surface Weight PSF (kg/m2)
1/2" QuietRock® 510	156.0 (70.5)	2.20 (10.50)
2"x4" wood studs spaced 24" oc	61.0 (28.0)	0.80 (4.20)
3-1/2" glass fiber insulation	18.0 (8.2)	0.20 (1.20)
1/2" QuietRock® 510	156.0 (70.5)	2.20 (10.50)
Total	391.0 (177.2)	5.40 (26.40)

Test Methods

Test methods follow the published standards listed below. All values derived for single-direction transmission loss measurements.

ASTM E90-09: Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
ASTM E413-16: Classification for Rating Sound Isolation

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QuietRock® by PABCO Gypsum

Summary Assembly and Acoustic Data Report
PGD-02-00-040

Design Details	Description	Acoustical	Fire
PGD-02-00-040	1-5/8" type S or W drywall screws 16" o.c. One layer 1/2" QuietRock® 510 gypsum panel applied vertically. 2 x 4 wood studs 24" o.c. 3-1/2" glass fiber insulation in stud space. One layer 1/2" QuietRock® 510 gypsum panel applied vertically. 1-5/8" type S or W drywall screws 16" o.c.	STC 52 RAL-TL-07-022	Non-Rated
4-1/2" Thick, 5.4 lb/ft², Load Bearing.	Vertical joints staggered on opposite sides.		

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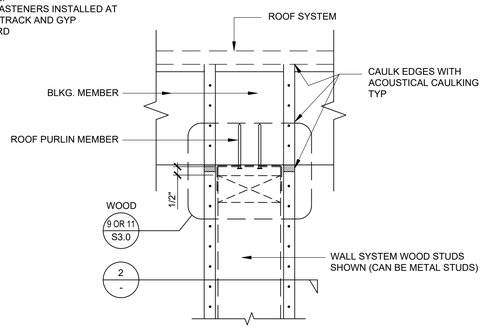
WOOD STUD INTERIOR WALL ASSEMBLY STC 52 (1/2" GYPSUM BOARD)

SCALE: NTS

2

NOTE:
NO FASTENERS INSTALLED AT SLIP TRACK AND GYP BOARD

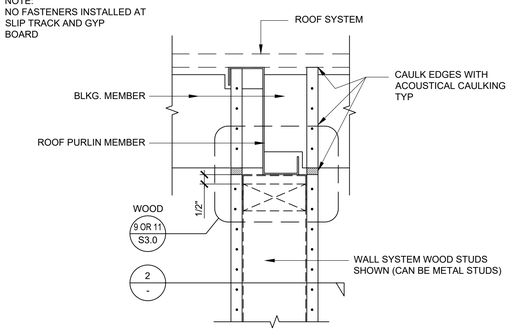


INTERIOR SOUND WALL

SCALE: 3" = 1'-0"

B

NOTE:
NO FASTENERS INSTALLED AT SLIP TRACK AND GYP BOARD



INTERIOR SOUND WALL

SCALE: 3" = 1'-0"

A

1

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

STC CONSTRUCTION DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 675-1974

RYAN J. ORR
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
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REVISIONS

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PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

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DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

General

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The Specialty at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE

Continuous – Indicates that a continuous special inspection is required

Periodic – Indicates that a periodic special inspection is required

Test – Indicates that a test is required

2. PERFORMED BY

GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.

LOR (Laboratory of Record) – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CBC Section 4-335.

PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.

SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

Geotechnical Reports: Project has a geotechnical report, or CDs indicate soils special inspection is required by GE

	S1. GENERAL			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify that: -Site has been prepared properly prior to placement of controlled fill and/or excavation for foundations. -Foundation excavations are extended to proper depth and have reached proper material. -Materials below footings are adequate to achieve the design bearing capacity.	**Periodic**	**GE***	* By geotechnical engineer or his or her qualified representative. (See Appendix (end of this form) form for exemptions.)

	S2. SOIL COMPACTION AND FILL:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Perform classification and testing of fill materials.	**Test**	**LOR***	* Under the supervision of the geotechnical engineer.
☑	**b.** Verify use of proper materials, densities and thicknesses during placement and compaction during placement of fill.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative. (Refer to specific items identified in the Appendix (end of this form) form for exemptions where soils testing may be conducted under the supervision of a geotechnical engineer or LOR's engineering manager. In such cases, the LOR's form DSA 291 shall satisfy the soil SI and test reports requirements for the exempt items.)
☑	**c.** Compaction testing.	**Test**	**LOR***	* Under the supervision of the geotechnical engineer. (Refer to specific items identified in the Appendix (end of this form) for exemptions where soils testing may be conducted under the supervision of a geotechnical engineer or LOR's engineering manager. In such cases, the LOR's form DSA 291 shall satisfy the soil test reporting requirements for the exempt items.)

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	S3. DRIVEN DEEP FOUNDATIONS (PILES):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify pile materials, sizes and lengths comply with the requirements.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**b.** Perform load tests/quantities of test piles and conduct additional load tests as required.	**Test**	**LOR***	* Under the supervision of the geotechnical engineer.
☐	**c.** Inspect driving operations and maintain complete and accurate records for each pile.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**d.** Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**e.** Steel piles.	Provide tests and inspections per STEEL section below.		
☐	**f.** Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
☐	**g.** For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Note**
☐	**a.** Inspect drilling operations and maintain complete and accurate records for each pier.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative. (See Appendix (end of this form) for exemptions.)

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	S5. OTHER SOILS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Soil Improvements	**Test**	**GE***	Submit a construction observation report documenting final soil improvements construction observation and the results of the compaction testing and analysis to CGS (California Geological Survey) for soil acceptance * By geotechnical engineer or his or her qualified representative.
☐	**b.** Inspection of Soil Improvements	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**c.**			

	S5. RETAINING WALLS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Placement, compaction and inspection of backfill.	**Continuous**	**GE***	**1705A.6.1.** * By geotechnical engineer or his or her qualified representative. (See section 52 above).
☐	**b.** Placement of soil reinforcement and/or drainage devices.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**c.** Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
☐	**d.** Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
☐	**e.** Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	S6. OTHER SOILS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Soil Improvements	**Test**	**GE***	Submit a construction observation report documenting final soil improvements construction observation and the results of the compaction testing and analysis to CGS (California Geological Survey) for soil acceptance * By geotechnical engineer or his or her qualified representative.
☐	**b.** Inspection of Soil Improvements	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**c.**			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	C1. CAST-IN-PLACE CONCRETE			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify use of required design mix.	**Continuous**	**SI**	**Table 1705A.3 Item 5, 1910A.1.**
☑	**b.** Identify, sample, and test reinforcing steel.	**Test**	**LOR**	**1910A.2;** ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
☑	**c.** During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	**Test**	**LOR**	**Table 1705A.3 Item 6;** ACI 318-19 Sections 26.5.6 & 26.12.
☑	**d.** Test concrete (f'c).	**Test**	**LOR**	**1905A.1.17;** ACI 318-19 Section 26.12.
☑	**e.** Batch plant inspection: **Continuous**	**See Notes**	**SI**	Default of '**Continuous**' per **1705A.3.1**. If approved by DSA, batch plant inspection may be reduced to '**Periodic**' subject to requirements in Section **1705A.3.1.**1, or not required per **1705A.3.3.2.** See IR 17-13. (See Appendix (end of this form) for exemptions.)
☐	**f.** Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A/a(d) & (e) and/or S/A/b(g) & (h) below.		

	C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Sample and test prestressing tendons and anchorages.	**Test**	**LOR**	**1705A.3.4, 1910A.3**
☐	**b.** Inspect placement of prestressing tendons.	**Periodic**	**SI**	**1705A.3.4, Table 1705A.3 Items 1 & 9.**

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**c.** Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	**Periodic**	**SI**	**Table 1705A.3 Item 13.** Special inspector to verify specified concrete strength test prior to stressing.
☐	**d.** Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	**Continuous**	**SI**	**1705A.3.4, Table 1705A.3 Item 9;** ACI 318-19 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect fabrication of precast concrete members.	**Continuous**	**SI**	ACI 318-19 Sections 26.13, and PCI MNL-116-and -130.
☐	**b.** Inspect erection of precast concrete members.	**Periodic**	**SI***	**Table 1705A.3 Item 10.** * May be performed by the project inspector specifically approved by DSA.
☐	**c.** For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (SCC or IOD) in structures assigned to Seismic Design Category C or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	**Continuous**	**SI**	Table 1705A.3; ACI 318-19 Section 26.13.3.3; ACI 550.5
☐	**d.** Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	**Periodic**	**SI**	Table 1705A.3; ACI 318-19 Section 26.13.3.3; ACI 550.5

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	C4. SHOTCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect shotcrete placement for proper application techniques.	**Continuous**	**SI**	**1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3.** See ACI 506.2-13 Section 5.4, ACI 506R-16.
☐	**b.** Sample and test shotcrete (f'c).	**Test**	**LOR**	**1908A.2, 1705A.3.9**

	C5. POST-INSTALLED ANCHORS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect installation of post-installed anchors	**See Notes**	**SI***	**1617A.1.19, Table 1705A.1 Item 4a (Continuous) & 4b (Periodic). 1705A.3.8** (See Appendix (end of this form) for exemptions). ACI 318-19 Section 26.13.* May be performed by the project inspector when specifically approved by DSA.
☐	**b.** Test post-installed anchors.	**Test**	**LOR**	**1910A.5.** (See Appendix (end of this form) for exemptions.)

	C6. OTHER CONCRETE:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.**			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	S1/E1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify identification of all materials and: - Mill certificates indicate material properties that comply with requirements. -Material sizes, types and grades comply with requirements.	**Periodic**	*	**Table 1705A.2.1 Item 3a–3c.** 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A1.8 &5, AISI S220-20 Sections A4 & A6.* By special inspector or qualified technician when performed off-site.
☑	**b.** Test unidentified materials	**Test**	**LOR**	**2202A.1.**
☑	**c.** Examine seam welds of steel shapes	**Periodic**	**SI**	DSA IR 17-3.
☑	**d.** Verify and document steel fabrication per DSA-approved construction documents.	**Periodic**	**SI**	Not applicable to cold-formed steel light-frame construction, except for trusses (**1705A.2.4**).
☑	**e.** Buckling-restrained braces.	**Test**	**LOR**	Testing and special inspections in accordance with IR 22-4.

	S/A2. HIGH-STRENGTH BOLTS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	**Periodic**	**SI**	**Table 1705A.2.1 Items 1a & 1b, 2202A.1;** AISC 360-16 Section A3.3, J3.1, and N5.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8; DSA IR 17-9.
☐	**b.** Test high-strength bolts, nuts and washers.	**Test**	**LOR**	**Table 1705A.2.1 Item 1c, 2213A.1.** RCSC 2014 Section 7.2; DSA IR 17-6.
☐	**c.** Bearing-type ("snug tight") connections.	**Periodic**	**SI**	**Table 1705A.2.1 Item 2a. 1705A.2.6, 2204A.2;** AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9.
☐	**d.** Pretensioned and slip-critical connections.	*	**SI**	**Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2;** AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. *"Continuous" or "Periodic" depends on the tightening method used.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	S/A3. WELDING:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Inspect groove welds, multi-pass fillet welds, single-pass fillet welds > 5/16", plug and slot welds.	**Continuous**	**SI**	**Table 1705A.2.1 Items 5a.1–4;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☑	**b.** Inspect single-pass fillet welds ≤ 5/16", performed in the flat or horizontal position.	**Periodic**	**SI**	**Table 1705A.2.1 Item 5a.5;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☑	**c.** Verify end-welded studs (ASTM A-108) installation; AWS D1.1; DSA IR 17-3.	**Periodic**	**SI**	**Table 1705A.2.1 Item 5a.6;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☑	**d.** Verify welder and welding operator certification documents and identification stamps	**Periodic**	**SI**	**1705A.2.5;** AWS D1.3; DSA IR 17-3.
☑	**e.** Verify welding sequence, welding procedures, welding techniques, and joint details.	**Periodic**	**SI**	**1705A.2.4;** AWS D1.3; DSA IR 17-3.
☑	**f.** Verify materials, procedures, and welders qualified to perform welding on deck material.	**Periodic**	**SI**	**1705A.2.5;** AWS D1.3; DSA IR 17-3.
☑	**g.** Verify that welding complies with all welding requirements not listed above.	**Periodic**	**SI**	**1705A.2.1;** AWS D1.1, D1.3, D1.4, D1.8; DSA IR 17-3.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	S/A3. WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	**Continuous**	**SI**	**Table 1705A.2.1 Items 5a.1–4;** AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
☐	**b.** Inspect single-pass fillet welds ≤ 5/16".	**Periodic**	**SI**	**Table 1705A.2.1 Item 5a.5;** AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
☐	**c.** Inspect end-welded studs (ASTM A-108) installation (including bend test).	**Periodic**	**SI**	**2213A.2;** AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
☐	**d.** Inspect floor and roof deck welds.	**Periodic**	**SI**	**1705A.2.2, Table 1705A.2.1 Item 5a.6;** AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
☐	**e.** Inspect welding of structural cold-formed steel.	**Periodic**	**SI***	**1705A.2.5; AWS D1.3; DSA IR 17-3.** The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
☐	**f.** Inspect welding of stairs and railing systems.	**Periodic**	**SI***	**1705A.2.1;** AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
☐	**g.** Verification of reinforcing steel weldability.	**Periodic**	**SI**	**1705A.3.1;** AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
☐	**h.** Inspect welding of reinforcing steel.	**Continuous**	**SI**	**Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8;** AWS D1.4; DSA IR 17-3.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Ultrasonic	**Test**	**LOR**	**1705A.2.1, 1705A.2.3;** AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
☑	**b.** Magnetic Particle	**Test**	**LOR**	**1705A.2.1, 1705A.2.3;** AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
☐	**c.**	**Test**	**LOR**	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	**Continuous**	**SI**	**1705A.2.3, Table 1705A.2.3;** AISC D1.1; DSA IR 22-3 for steel joists only. **1705A.2.4;** AWS D1.3 for cold-formed steel trusses.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	**Periodic**	**SI**	**1705A.15, 1705A.15.1, 1705A.15.2, 1705A.15.3, 1705A.15.4, 1705A.15.5, 1705A.15.6.**
☐	**b.** Test density.	**Test**	**LOR**	**1705A.15.1, 1705A.15.5, ASTM E605**
☐	**c.** Bond strength adhesion/cohesion.	**Test**	**LOR**	**1705A.15.1, 1705A.15.6, ASTM E736**

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Anchor Bolts and Anchor Rods	**Test**	**LOR**	Identify, sample and test anchor bolts and anchor rods **not** meeting exemptions identified in Section 1 of IR 17-11.
☐	**b.** Threaded rod not used for foundation anchorage.	**Test**	**LOR**	Identify, sample and test threaded rods **not** meeting exemptions identified in Section 1 of IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	**Periodic**	**SI**	Table 1705A.13.7
☐	**b.** Fabricated storage rack elements.	**Periodic**	**SI**	1704A.2.5; Table 1705A.13.7

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	S/A11. Other Steel			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.**			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

Exempt items given in DSA IR A-23 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. **Items marked as exempt shall be identified on the approved construction documents.** The project inspector shall verify all construction complies with the approved construction documents.

	SOILS:
☐	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
☐	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/encompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill with depth not exceeding 12".

	CONCRETE/MASONRY:
☐	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
☐	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
☐	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
☐	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 04-122995
DSA File Number: PC-116
School Name: 20 thru 150x32
Increment Number:
School District: SKC Company
Date Created: 2023-12-14 10:44:06

	CONCRETE/MASONRY:
☐	5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

	WELDING:
☐	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' spanning an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
☐	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds shall not be ground flush.
☐	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no greater than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
☐	4. Manufactured support frames and curbs using hot rolled or cold formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
☐	5. Manufactured components (e.g., Telco, B-Line, Micro-Strut, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for S

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)

Y	N/A	RESPON. PARTY

CHAPTER 3
GREEN BUILDING
SECTION 301 GENERAL

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

301.3 NONRESIDENTIAL ADDITIONS AND ALTERATIONS. [BSC-CG] The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of $200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings [N] or to additions and/or alterations [A]. When the code section applies to both, no banner will be used.

301.3.1 Nonresidential additions and alterations that cause updates to plumbing fixtures only:

Note: On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have its noncompliant plumbing fixtures replaced with appropriate water-conserving plumbing fixtures under specific circumstances. See Civil Code Section 1101.1 *et seq.* for definitions, types of commercial real property affected, effective dates, circumstances necessitating replacement of noncompliant plumbing fixtures, and duties and responsibilities for ensuring compliance.

301.3.2 Waste Diversion. The requirements of Section 5.408 shall be required for additions and alterations whenever a permit is required for work.

301.4 PUBLIC SCHOOLS AND COMMUNITY COLLEGES. (see GBSC)
301.5 HEALTH FACILITIES. (see GBSC)

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

SECTION 303 PHASED PROJECTS

303.1 PHASED PROJECTS. For shell buildings and others constructed for future tenant improvements, only those code measures relevant to the building components and systems considered to be new construction (or newly constructed) shall apply.

303.1.1 Initial Tenant improvements. The provisions of this code shall apply only to the initial tenant improvements to a project. Subsequent tenant improvements shall comply with the scoping provisions in Section 301.3 non-residential additions and alterations.

ABBREVIATION DEFINITIONS:

HCD	Department of Housing and Community Development
BSC	California Building Standards Commission
DSA-SS	Division of the State Architect, Structural Safety
OSHPD	Office of Statewide Health Planning and Development
LR	Low Rise
HR	High Rise
AA	Additions and Alterations
N	New

CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES

DIVISION 5.1 PLANNING AND DESIGN

SECTION 5.101 GENERAL

5.101.1 SCOPE
The provisions of this chapter outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.

SECTION 5.102 DEFINITIONS

5.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

CUTOFF LUMINAIRES. Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 25 (2.5 percent) at an angle of 90 degrees above nadir, and 100 (10 percent) at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.

LOW-EMITTING AND FUEL EFFICIENT VEHICLES.
Eligible vehicles are limited to the following:

1. Zero emission vehicle (ZEV), enhanced advanced technology PZEV (enhanced AT ZEV) or transitional zero emission vehicles (TZEV) regulated under CCR, Title 13, Section 1962.
2. High-efficiency vehicles, regulated by U.S. EPA, bearing a fuel economy and greenhouse gas rating od 9 oe 10 as regulated under 40 CFR Section 600 Subpart D.

NEIGHBORHOOD ELECTRIC VEHICLE (NEV). A motor vehicle that meets the definition of "low-speed vehicle" either in Section 385.5 of the Vehicle Code or in 49CFR571.500 (as it existed on July 1, 2000), and is certified to zero-emission vehicle standards.

TENANT-OCCUPANTS. Building occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors.

VANPOOL VEHICLE. Eligible vehicles are limited to any motor vehicle, other than a motortruck or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purpose of ridesharing.

Note: Source: Vehicle Code, Division 1, Section 668

ZEV. Any vehicle certified to zero-emission standards.

SECTION 5.106 SITE DEVELOPMENT

5.106.1 STORM WATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE OF LAND. Newly constructed projects and additions which disturb less than one acre of land, and are not part of a larger common plan of development or sale, shall prevent the pollution of storm water runoff from the construction activities through one or more of the following measures:

5.106.1.1 Local ordinance. Comply with a lawfully enacted storm water management and/or erosion control ordinance.

5.106.1.2 Best Management Practices (BMPs). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.

1. Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
   a. Scheduling construction activity during dry weather, when possible.
   b. Preservation of natural features, vegetation, soil, and buffers around surface waters.
   c. Drainage swales or lined ditches to control stormwater flow.
   d. Mulching or hydroseeding to stabilize disturbed soils.
   e. Erosion control to protect slopes.
   f. Protection of storm drain inlets (gravel bags or catch basin inserts).
   g. Perimeter sediment control (perimeter silt fence, fiber rolls).
   h. Sediment trap or sediment basin to retain sediment on site.
   i. Stabilized construction exits.
   j. Wind erosion control.
   k. Other soil loss BMPs acceptable to the enforcing agency.
2. Good housekeeping BMPs to manage construction equipment, materials, non-stormwater discharges and wastes that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
   a. Dewatering activities.
   b. Material handling and waste management.
   c. Building materials stockpile management.
   d. Management of washout areas (concrete, paints, stucco, etc.).
   e. Control of vehicle/equipment fueling to contractor's staging area.
   f. Vehicle and equipment cleaning performed off site.
   g. Spill prevention and control.
   h. Other housekeeping BMPs acceptable to the enforcing agency.

5.106.2 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB ONE OR MORE ACRES OF LAND. Comply with all lawfully enacted stormwater discharge regulations for projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan of development sale.

Note: Projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of the larger common plan of development or sale must comply with the post-construction requirements detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board or the Lahontan Regional Water Quality Control Board (for projects in the Lake Tahoe Hydrologic Unit).

The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff (pre-project hydrology) with the installation of postconstruction stormwater management measures. The NPDES permits emphasize runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration through nonstructural controls, such as Low Impact Development (LID) practices, and conversation design measures. Stormwater volume that cannot be addressed using nonstructural practices is required to be captured in structural practices and be approved by the enforcing agency.

Refer to the current applicable permits on the State Water Resources Control Board website at: www.waterboards.ca.gov/constructionstormwater. Consideration to the stormwater runoff management measures should be given during the initial design process for appropriate integration into site development.

5.106.4 BICYCLE PARKING. For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State Architect pursuant to Section 105, comply with Section 5.106.4.2

5.106.4.1 Bicycle parking. [BSC-CG] Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the applicable local ordinance, whichever is stricter.

5.106.4.1.1 Short-term bicycle parking. If the new project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.
Exception: Additions or alterations which add nine or less visitor vehicular parking spaces.

5.106.4.1.2 Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

5.106.4.1.3 For additions or alterations that add 10 or more tenant-occupant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant vehicular parking spaces being added, with a minimum of one bicycle parking facility.

5.106.4.1.4 For new shell buildings in phased projects provide secure bicycle parking for 5 percent of the anticipated tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

5.106.4.1.5 Acceptable bicycle parking facility for Sections 5.106.4.1.2, 5.106.4.1.3, and 5.106.4.1.4 shall be convenient from the street and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

Note: Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.

5.106.4.2 Bicycle parking. [DSA-SS] For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2

5.106.4.2.1 Student bicycle parking. Provide permanently anchored bicycle racks conveniently accessed with a minimum of four two-bike capacity racks per new building.
5.106.4.2.2 Staff bicycle parking. Provide permanent, secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building. Acceptable bicycle parking facilities shall be convenient from the street or staff parking area and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

5.106.5.3 Electric vehicle (EV) charging. [N] Construction to provide electric vehicle infrastructure and facilitate electric vehicle charging shall comply with Section 5.106.5.3.1 and shall be provided in accordance with regulations in the California Building Code and the California Electrical Code.

Exceptions:
1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
   a. Where there is no local utility power supply
   b. Where the local utility is unable to supply adequate power.
   c. Where there is evidence suitable to the local enforcement agency substantiating the local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.
2. Parking spaces accessible only by automated mechanical car parking systems are not required to comply with this code section

5.106.5.3.1 EV capable spaces.
[N] EV capable spaces shall be provided in accordance with Table 5.106.5.3.1 and the following requirements:
1. Raceways complying with the California Electrical Code and no less that 1-inch (25 mm) diameter shall be provided and shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the EV capable and into a suitable listed cabinet, box,enclosure or equivalent. A common raceway may be used to serve multiple EV charging spaces.
2. A service panel or subpanel (s) shall be provided with panel space and electrical load capacity for a dedicated 208/240 volt, 40-ampere minimum branch circuit for each EV capable space, with delivery of 30-ampere minimum to an installed EVSE at each EVCS.
3. The electrical system and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each EV capable space.
4. The service panel or subpanel circuit directory shall identify the reserved overcurrent protective devices space(s) as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE."

Note: A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by an enforcement agency. See vehicle Code Section 22511.2 for further details.

TABLE 5.106.5.3.1

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CAPABLE SPACES	NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE)[2]
0-9	0	0
10-25	2	0
26-50	8	2
51-75	13	3
76-100	17	4
101-150	25	6
151-200	35	9
201 AND OVER	20% of total[1]	25% of EV capable spaces[1]

1. Where there is insufficient electrical supply.
2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count towards the total number of required EV capable spaces shown in column 2.

5.106.5.3.2 Electric vehicle charging stations (EVCS)
EV capable spaces shall be provided with EVSE to create EVCS in the number indicated in Table 5.106.5.3.1. The EVCS required by Table 5.106.5.3.1 may be provided with EVSE in any combination of Level 2 and Direct Current Fast Charging (DCFC), except that at least one Level 2 EVSE shall be provided.

One EV charger with multiple connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 5.106.5.3.1 for each EV capable space is accumulatively supplied to the EV charger.

The installation of each DCFC EVSE shall be permitted to reduce the minimum number of required EV capable spaces without EVSE by five and reduce proportionally the required electrical load capacity to the service panel or subpanel.

5.106.5.3.3 Use of automatic load management systems (ALMS).
ALMS shall be permitted for EVCS. When ALMS is installed, the required electrical load capacity specified in Section
5.106.5.3.1 for each EVCS may be reduced when serviced by an EVSE controlled by an ALMS. Each EVSE controlled by an ALMS shall deliver a minimum 30 amperes to an EV when charging one vehicle and shall deliver a minimum 3.3 kW while simultaneously charging multiple EVs.

5.106.5.3.4 Accessible EVCS.
When EVSE is installed, accessible EVSC shall be provided in accordance with the *California Building Code*, Chapter 11B, Section 11B-228.3.
Note: For EVCS signs, refer to Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

5.106.5.4 Electric Vehicle (EV) charging: medium-duty and heavy-duty. [N]
Construction shall comply with section 5.106.5.4.1 to facilitate future installation of electric vehicle supply equipment (EVSE). Construction for warehouses, grocery stores and retail stores with planned off-street loading spaces shall also comply with Section 5.106.5.4.1 for future installation of medium- and heavy-duty EVSE.
Exceptions:
1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
   a. Where there is no local utility power supply.
   b. Where the local utility is unable to supply adequate power.
   c. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

When EVSE(s) is/are installed, it shall be in accordance with the *California Building Code*, the *California Electrical Code* and as follows:

5.106.5.4.1 Electric vehicle charging readiness requirements for warehouse, grocery stores and retail stores with planned off-street loading spaces.
[N] In order to avoid future demolition when adding EV charging supply and distribution equipment, spare raceways(s) or busway(s) and adequate capacity for transformers(s), service panels(s) or subpanel(s) shall be installed at the time of construction in accordance with the California Electrical Code. Construction plans and specifications shall include but are not limited to, the following:
1. The transformer, main service equipment and subpanel shall meet the minimum power requirement in Table 5.106.5.4.1 to accommodate the dedicated branch circuits for the future installation of EVSE.
2. The construction documents shall indicate on or more location(s) convenient to the planned offstreet loading space(s) reserved for medium-and heavy-duty ZEV charging cabinets and charging dispensers, and a pathway reserved for routing of conduit from the termination of the raceway(s) or busway(s) to the charging cabinet(s) and dispenser(s) as shown in Table 5.106.5.4.1
3. Raceway(s) or busway(s) originating at a main service panel or a subpanel(s) serving the area where potential future medium-and heavy-duty EVSE will be located and shall terminate in close proximity to the potential future location of the charging equipments for medium- and heavy-duty vehicles.
4. The raceway(s) or busway(s) shall be sufficient size to carry the minimum additional system load to the future location of the charging for medium- and heavy-duty ZEVs as shown in Table 5.106.5.4.1.

TABLE 5.106.5.4.1 RACEWAY CONDUIT AND PANEL POWER REQUIREMENTS FOR MEDIUM- AND HEAVY-DUTY EVSE [N]

BUILDING TYPE	BUILDING SIZE (SQ. FT.)	NUMBER OF OFF-STREET LOADING SPACES	ADDITIONAL CAPACITY REQUIRED (KVA) FOR RACEWAY & BUSWAY AND TRANSFORMER & PANEL
Grocery	10,000 to 90,000	1 or 2	200
		3 or Greater	400
	Greater than 90,000	1 or Greater	400
Retail	10,000 to 135,000	1 or 2	200
		3 or Greater	400
	Greater than 135,000	1 or Greater	400
Warehouse	20,000 to 256,000	1 or 2	200
		3 or Greater	400
	Greater than 256,000	1 or Greater	400

5.106.8 LIGHT POLLUTION REDUCTION. [N]. I Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and
2. Backlight (B) ratings as defined in IES TM-15-11 (shown in Table A-1 in Chapter 8);
3. Uplight and Glare ratings as defined in California Energy Code (shown in Tables 130.2-A and 130.2-B in Chapter 8) and
4. Allowable BUG ratings not exceeding those shown in Table 5.106.8, [N] or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

Exceptions: [N]

1. Luminaires that qualify as exceptions in Sections 130.2 (b) and 140.7 of the California Energy Code.
2. Emergency lighting.
3. Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6.
4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction.
5. Luminaires with less than 6,200 initial luminaire lumens.

TABLE 5.106.8 [N] MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS [1,2]

ALLOWABLE RATING	LIGHTING ZONE LZ0	LIGHTING ZONE LZ1	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING ZONE LZ4
MAXIMUM ALLOWABLE BACKLIGHT RATING [3]					
Luminaire greater than 2 mounting heights (MH) from property line	N/A	No Limit	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1-2 MH from property line	N/A	B2	B3	B4	B4
Luminaire back hemisphere is 0.5-1 MH from property line	N/A	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	N/A	B0	B0	B1	B2
MAXIMUM ALLOWABLE UPLIGHT RATING (U)					
For area lighting [3]	N/A	U0	U0	U0	U0
For all other outdoor lighting,including decorative luminaires	N/A	U1	U2	U3	UR
MAXIMUM ALLOWABLE GLARE RATING [4] (G)					
MAXIMUM ALLOWABLE GLARE RATING [4] (G)	N/A	G1	G2	G3	G4
MAXIMUM ALLOWABLE GLARE RATING [4] (G)	N/A	G0	G1	G1	G2
MAXIMUM ALLOWABLE GLARE RATING [4] (G)	N/A	G0	G0	G1	G1
MAXIMUM ALLOWABLE GLARE RATING [4] (G)	N/A	G0	G0	G0	G1

1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the *California Energy Code* and Chapter 10 of the *California Administrative Code*.

2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.

3. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaries located in these areas shall meet *U*-value limits for "all other outdoor lighting"

5.106.8.1 Facing- Backlight
Luminaires within 2MH of a property line shall be oriented so that the nearest property line is behind the fixture, and shall comply with the backlight rating specified in Table 5.106.8 based on the lighting zone and distance to the nearest point of that property line.
Exception: Corners. If two property lines (or two segments of the same property line) have equidistant point to the luminaire, then the luminaire may be oriented so that the intersection of the two lines (the corner) is directly behind the luminaire. The luminaire shall still use the distance to the nearest points(s) on the property lines to determine the required backlight rating.

5.106.8.2 Facing-Glare.
For luminaires covered by 5.106.8.1, if a property line also exists within or extends into the front hemisphere within 2MH of the luminaire then the luminaire shall comply with the more stringent glare rating specified in Table 5.106.8 based on the lighting zone and distance to the nearest point on the nearest property line within the front hemisphere.

Note: [N]
1.See also *California Building Code*, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.
2.Refer to Chapter 8 (Compliance Forms, Worksheets and Reference Material) for IES TM-15-11 Table A-1, *California Energy Code* Tables 130.2-A and 130.2-B.
3. Refer to the *California Building Code* for requirements for additions and alterations.

5.106.10 GRADING AND PAVING. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

1. Swales.
2. Water collection and disposal systems.
3. French drains.
4. Water retention gardens.
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.
Exception: Additions and alterations not altering the drainage path.

5.106.12 SHADE TREES [DSA-SS]. Shade Trees shall be planted to comply with Sections 5.106.12.1, 5.106.12.2, and 5.106.12.3. Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation necessary to establish and maintain tree health shall comply with Section 5.304.6.

5.106.12.1 Surface parking areas. Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 50 percent of the parking area within 15 years.

Exceptions: Surface parking area covered by solar photovoltaic shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5 shall be permitted in whole or in part in lieu of shade tree planting.

5.106.12.2 Landscape areas. Shade tress plantings, minimum #10 container size or equal shall be installed to provide shade of 20% of the landscape area within 15 years.

Exceptions: Playfields for organized sport activity are not included in the total area calculation.

5.106.12.3. Hardscape areas. Shade tree plantings, minimum #10 container size or equal shall be installed to provide shade over 20 percent of the hardscape area within 15 years.

Exceptions:
1. Walks, hardscape areas covered by solar photovoltaic shade structures or shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5 shall be permitted in whole or in part in lieu of shade tree planting.
2. Designated and marked play areas of organized sport activity are not included in the total area calculation.

DIVISION 5.2 ENERGY EFFICIENCY

SECTION 5.201 GENERAL

5.201.1 Scope [BSC-CG]. ***California Energy Code [DSA-SS].*** For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION

SECTION 5.301 GENERAL

5.301.1 Scope. The provisions of this chapter shall establish the means of conserving water use indoors, outdoors and in wastewater conveyance.

SECTION 5.302 DEFINITIONS

5.302.1 Definitions. The following terms are defined in Chapter 2 *(and are included here for reference)*

EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) [DSA-SS]. An adjustment factor when applied to reference evapotranspiration that adjusts for plant factors and irrigation efficiency, which ae two major influences on the amount of water that needs to be applied to the landscape.

FOOTPRINT AREA [DSA-SS]. The total area of the furthest exterior wall of the structure projected to natural grade, not including exterior areas such as stairs, covered walkways, patios and decks.

METERING FAUCET. A self-closing faucet that dispenses a specific volume of water for each actuation cycle. The volume or cycle duration can be fixed or adjustable.

GRAYWATER. Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry tubs, but does not include waste water from kitchen sinks or dishwashers.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). [HCD] The California model ordinance (California Code of Regulations, Title 23, Division 2, Chapter 2.7), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

POTABLE WATER. Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the California Plumbing Code, Part 5.

POTABLE WATER. [HCD] Water that is satisfactory for drinking, culinary, and domestic purposes, and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority Having Jurisdiction.

RECYCLED WATER. Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur [Water Code Section 13050 (n)]. Simply put, recycled water is water treated to remove waste matter attaining a quality that is suitable to use the water again.

SUBMETER. [HCD 1] A secondary device beyond a meter that measures water consumption of an individual rental unit within a multiunit residential structure or mixed-use residential and commercial structure. (See Civic Code Section 1954.202 (g) and Water code Section 517 for additional details.)

WATER BUDGET. Is the estimated total landscape irrigation water use which shall not exceed the maximum applied water allowance calculated in accordance with the Department of Water Resources Model Efficient Landscape Ordinance (MWELO).

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
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SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

CAL GREEN MANDATORY MEASURES

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA. 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER BRIAN J. ORION CIVIL STATE OF CALIFORNIA
EXP 12/31/25

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A0.9a

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2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
NONRESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2023)

Y	N/A	RESPON. PARTY

SECTION 5.303 INDOOR WATER USE

5.303.1 METERS. Separate submeters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.

5.303.1.1 Buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows:

1. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.
2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:
   a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).
   b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).
   c. Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW).

5.303.1.2 Excess consumption. A separate submeter or metering device shall be provided for any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day.

5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

5.303.3.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

5.303.3.2 Urinals.
5.303.3.2.1 Wall-mounted Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush.

5.303.3.2.2 Floor-mounted Urinals. The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.

5.303.3.3 Showerheads. [BSC-CG]
5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

5.303.3.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 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.
Note: A hand-held shower shall be considered a showerhead.

5.303.3.4 Faucets and fountains.

5.303.3.4.1 Nonresidential Lavatory faucets. Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.

5.303.3.4.2 Kitchen faucets. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than1.8 gallons per minute/20 [rim space (inches) at 60 psi].

5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle.

5.303.3.4.5 Metering faucets for wash fountains. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per minute/20 [rim space (inches) at 60 psi].

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

5.303.3.4.6 Pre-rinse spray value
When installed, shall meet the requirements in the *California Code of Regulations*, Title 20 (Appliance Efficiency Regulations), Section 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607 (d)(7), and shall be equipped with an integral automatic shutoff.

FOR REFERENCE ONLY: The following table and code section have been reprinted from the *California Code of Regulations*, Title 20 (Appliance Efficiency Regulations), Section 1605.1 (h)(4) and Section 1605.3 (h)(4)(A).

TABLE H-2

STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY VALUES MANUFACTURED ON OR AFTER JANUARY 28, 2019

PRODUCT CLASS [spray force in ounce force (ozf)]	MAXIMUM FLOW RATE (gpm)
Product Class 1 (≤ 5.0 ozf)	1.00
Product Class 2 (> 5.0 ozf and ≤ 8.0 ozf)	1.20
Product Class 3 (> 8.0 ozf)	1.28

5.303.4 COMMERCIAL KITCHEN EQUIPMENT.

5.303.4.1 Food Waste Disposers. Disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water.
Note: This code section does not affect local jurisdiction authority to prohibit or require disposer installation.

5.303.5 AREAS OF ADDITION OR ALTERATION. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alteration to the building.

5.303.6 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code* and in Chapter 6 of this code.

SECTION 5.304 OUTDOOR WATER USE

5.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

Notes:
1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code of Regulations, Title 23, Chapter 2.7, Division 2.
2. MWELO and supporting documents, including a water budget calculator, are available at: https://www.water.ca.gov/.

5.304.6 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. For public schools and community colleges, landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, *California Code of Regulations*, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35.

Exception: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the prescriptive measures contained in Appendix D of the MWELO.

5.304.6.1 Newly constructed landscapes. New construction projects with an aggregate landscape area equal to or greater than 500 square feet.

5.304.6.2 Rehabilitated landscapes. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet.

DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

SECTION 5.401 GENERAL

5.401.1 SCOPE. The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, and building commissioning or testing and adjusting.

SECTION 5.402 DEFINITIONS

5.402.1 DEFINITIONS. The following terms are defined in Chapter 2 *(and are included here for reference)*

ADJUST. To regulate fluid flow rate and air patterns at the terminal equipment, such as to reduce fan speed or adjust a damper.

BALANCE. To proportion flows within the distribution system, including sub-mains, branches and terminals, according to design quantities.

BUILDING COMMISSIONING. A systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to meet the owner's project requirements.

ORGANIC WASTE. Food waste, green waste, landscape and pruning wste, nonhazardous wood waste, and food soiled paper waste that is mixed in with food waste.

TEST. A procedure to determine quantitative performance of a system or equipment

SECTION 5.407 WATER RESISTANCE AND MOISTURE MANAGEMENT

5.407.1 WEATHER PROTECTION. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1402.2 (Weather Protection), manufacturer's installation instructions or local ordinance, whichever is more stringent.

5.407.2 MOISTURE CONTROL. Employ moisture control measures by the following methods.

5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent spray on structures.

5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings as follows:

5.407.2.2.1 Exterior door protection. Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:

1. An installed awning at least 4 feet in depth.
2. The door is protected by a roof overhang at least 4 feet in depth.
3. The door is recessed at least 4 feet.
4. Other methods which provide equivalent protection.

5.407.2.2.2 Flashing. Install flashings integrated with a drainage plane.

SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

5.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan that:

1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.
2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
3. Identifies diversion facilities where construction and demolition waste material collected will be taken.
4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

5.408.1.2 Waste Management Company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section.

Note: The owner or contractor shall make the determination if the construction and demolition waste material will be diverted by a waste management company.

Exceptions to Sections 5.408.1.1 and 5.408.1.2:

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.
3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets.

5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65% minimum requirement as approved by the enforcing agency.

5.408.1.4 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 5.408.1.1, through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

Notes:

1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

5.408.2 UNIVERSAL WASTE. [A] Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents.

Note: Refer to the Universal Waste Rule link at: http://www.dtsc.ca.gov/universalwaste/

5.408.3 EXCAVATED SOIL AND LAND CLEARING DEBRIS. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.

Exception: Reuse, either on or off-site, of vegetation or soil contaminated by disease or pest infestation.

Notes:

1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material.
2. For a map of know pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture. (www.cdfa.ca.gov)

SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS

5.410.1 RECYCLING BY OCCUPANTS. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code 42649.82 (a)(2)(A) et seq. shall also be exempt from the organic waste portion of this section.

5.410.1.1 Additions. All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30% or more in floor area, shall provide recycling areas on site.

Exception: Additions within a tenant space resulting in less than a 30% increase in the tenant space floor area.

5.410.1.2 Sample ordinance. Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the *Public Resources Code*. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act).

Note: A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.

5.410.2 COMMISSIONING. [N] New buildings 10,000 square feet and over. For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience in projects of comparable size and complexity. For I-occupancies that are not regulated by OSHPD or for I-occupancies and L-occupancies that are not regulated y the California Energy Code Section 100.0 Scope, all requirements in Sections 5.410.2 through 5.410.2.6 shall apply.

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting systems and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements

Commissioning requirements shall include:

1. Owner's or Owner representative's project requirements.
2. Basis of design.
3. Commissioning measures shown in the construction documents.
4. Commissioning plan.
5. Functional performance testing.
6. Documentation and training.
7. Commissioning report.

Exceptions:

1. Unconditioned warehouses of any size.
2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses.
3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1.
4. Open parking garages of any size, or open parking garage areas, of any size, within a structure.

Note: For the purposes of this section, unconditioned shall mean a building, area, or room which does not provide heating and or air conditioning.

Informational Notes:

1. IAS AC 476 is an accreditation criteria for organizations providing training and/or certification of commissioning personnel. AC 476 is available to the Authority Having Jurisdiction as a reference for qualifications of commissioning personnel. AC 476 des not certify individuals to conduct functional performance tests or to adjust and balance systems.
2. Functional performance testing for heating, ventilation, air conditioning systems and lighting controls must be performed in compliance with the *California Energy Code*.

5.410.2.1 Owner's or Owner Representative's Project Requirements (OPR). [N] The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. This documentation shall include the following:
1. Environmental and sustainability goals.
2. Building sustainable goals.
3. Indoor environmental quality requirements.
4. Project program, including facility functions and hours of operation, and need for after hours operation.
5. Equipment and systems expectations.
6. Building occupant and operation and maintenance (O&M) personnel expectations.

5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project. The Basis of Design document shall cover the following systems:

1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse system.

5.410.2.3 Commissioning plan. [N] Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. The commissioning plan shall include the following:
1. General project information.
2. Commissioning goals.
3. Systems to be commissioned. Plans to test systems and components shall include:
   a. An explanation of the original design intent.
   b. Equipment and systems to be tested, including the extent of tests.
   c. Functions to be tested.
   d. Conditions under which the test shall be performed.
   e. Measurable criteria for acceptable performance.
4. Commissioning team information.
5. Commissioning process activities, schedules and responsibilities. Plans for the completion of commissioning shall be included.

5.410.2.4 Functional performance testing. [N] Functional performance tests shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.

5.410.2.5 Documentation and training. [N] A Systems Manual and Systems Operations Training are required, including Occupational Safety and Health Act (OSHA) requirements in *California Code of Regulations* (CCR), Title 8, Section 5142, and other related regulations.

5.410.2.5.1 Systems manual. [N] Documentation of the operational aspects of the building shall be completed within the systems manual and delivered to the building owner or representative. The systems manual shall include the following:
1. Site information, including facility description, history and current requirements.
2. Site contact information.
3. Basic operations and maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log.
4. Major systems.
5. Site equipment inventory and maintenance notes.
6. A copy of verifications required by the enforcing agency or this code.
7. Other resources and documentation, if applicable.

5.410.2.5.2 Systems operations training. [N] A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and documented in the commissioning report and shall include the following:
1. System/equipment overview (what it is, what it does and with what other systems and/or equipment it interfaces).
2. Review and demonstration of servicing/preventive maintenance.
3. Review of the information in the Systems Manual.
4. Review of the record drawings on the system/equipment.

5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.

5.410.4 TESTING AND ADJUSTING. New buildings less than 10,000 square feet. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.

5.410.4.2 (Reserved)

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting system and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements and Sections 120.5, 120.6, 130.4, and 140.9(b)3 for additional testing requirements of specific systems.

5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include at a minimum, as applicable to the project:

1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse systems.

5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system.

5.410.4.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards, the National Environmental Balancing Bureau Procedural Standards; Associated Air Balance Council National Standards or as approved by the enforcing agency.

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.

5.410.4.5 Operation and maintenance (O & M) manual. Provide the building owner or representative with detailed operating and maintenance instructions and copies of guaranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.

5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.

DIVISION 5.5 ENVIRONMENTAL QUALITY

SECTION 5.501 GENERAL

5.501.1 SCOPE. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating, and/or harmful to the comfort and well-being of a building's installers, occupants and neighbors.

SECTION 5.502 DEFINITIONS

5.502.1 DEFINITIONS. The following terms are defined in Chapter 2 *(and are included here for reference)*

ARTERIAL HIGHWAY. A general term denoting a highway primarily for through traffic usually on a continuous route.

A-WEIGHTED SOUND LEVEL (dBA). The sound pressure level in decibels as measured on a sound level meter using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting adjustments have been made.

1 BTU/HOUR. British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A ton of refrigeration is 12,000 Btu, the amount of heat required to melt a ton (2,000 pounds) of ice at 32^{0} Fahrenheit.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A metric similar to the day-night average sound level (Ldn), except that a 5 decibel adjustment is added to the equivalent continuous sound exposure level for evening hours (7pm to 10pm) in addition to the 10 dB nighttime adjustment used in the Ldn.

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, timber, prefabricated wood I–joists or finger–jointed lumber, all as specified in California Code of Regulations (CCR), Title 17, Section 93120.1(a).

Note: See CCR, Title 17, Section 93120.1.

DAY-NIGHT AVERAGE SOUND LEVEL (Ldn). The A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10p.m. to 7 a.m.).

DECIBEL (db). A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the *California Electrical Code*, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

ELECTRIC VEHICLE CHARGING STATION(S) (EVCS). One or more spaces intended for charging electric vehicles.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

ENERGY EQUIVALENT (NOISE) LEVEL (Leq). The level of a steady noise which would have the same energy as the fluctuating noise level integrated over the time of period of interest.

EXPRESSWAY. An arterial highway for through traffic which may have partial control of access, but which may or may not be divided or have grade separations at intersections.

FREEWAY. A divided arterial highway with full control of access and with grade separations at intersections.

GLOBAL WARMING POTENTIAL (GWP). The radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of carbon dioxide over a given period of time. Carbon dioxide is the reference compound with a GWP of one.

GLOBAL WARMING POTENTIAL VALUE (GWP VALUE). A 100-year GWP value published by the Intergovernmental Panel on Climate Change (IPCC) in either its Second Assessment Report (SAR) (IPCC, 1995), or its Fourth Assessment A-3 Report (AR4) (IPCC, 2007). The SAR GWP values are found in column "SAR (100-yr)" of Table 2.14.; the AR4 GWP values are found in column "100 yr" of Table 2.14.

HIGH-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that is: (a) a chlorofluorocarbon, a hdrochlorofluorocarbon, a hydrofluorocarbon, a perfluorocarbon, or any compound or blend of compounds, with a GWP value equal to or greater than 150, or (B) any ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).

LONG RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.5 times the pipe diameter.

LOW-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that: (A) has a GWP value less than 150, and (B) is not an ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).

MERV. Filter minimum efficiency reporting value, based on ASHRAE 52.2–1999.

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base ROGReactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundreths of a gram (g O^{3}/g ROC).

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).

PSIG. Pounds per square inch, guage.

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

SCHRADER ACCESS VALVES. Access fittings with a valve core installed.

SHORT RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.0 times the pipe diameter.

SUPERMARKET. For the purposes of Section 5.508.2, a supermarket is any retail food facility with 8,000 square feet or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units.

VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a)

Note: Where specific regulations are cited from different agencies such as SCAQMD, ARB, etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.

SECTION 5.503 FIREPLACES

5.503.1 FIREPLACES. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.

5.503.1.1 Woodstoves. Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits.

SECTION 5.504 POLLUTANT CONTROL

5.504.1 TEMPORARY VENTILATION. The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.

5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site until final startup of the heating, cooling and ventilation equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

CAL GREEN MANDATORY MEASURES

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974
REGISTERED PROFESSIONAL ENGINEER RYAN P. ORION 24557 EXP 12/31/26 STRUCTURAL STATE OF CALIFORNIA
FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

SIGNED: 4-29-25

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A0.9b

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
NONRESIDENTIAL MANDATORY MEASURES, SHEET 3 (January 2023)

5.504.4 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.5.

5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.

2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with Section 94507.

TABLE 5.504.4.1 - ADHESIVE VOC LIMIT[1,2]

Less Water and Less Exempt Compounds in Grams per Liter

ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVES	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT SPECIFICALLY LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, www.arb.ca.gov/DRDB/SC/CURHTML/R1168.PDF

TABLE 5.504.4.2 - SEALANT VOC LIMIT

Less Water and Less Exempt Compounds in Grams per Liter

SEALANTS	CURRENT VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NONPOROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

NOTE: FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THESE TABLES, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do nor meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

5.504.4.3.1 Aerosol Paints and coatings. Aerosol paints and coatings shall meet the PWMIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.

TABLE 5.504.4.3 - CONT.

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	CURRENT VOC LIMIT
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH-TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS:	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification
2. Field verification of on-site product containers

5.504.4.4 Carpet Systems.
All carpet installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." Version 1.2, January 2017 (Emission testing method for California Specifications 01350).

See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the California Department of Public Health,"Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers,"Version 1.2, January 2017 (Emission testing method for California Specifications 01350).

See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.

5.504.4.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.). Those materials not exempted under the ATCM must meet the specified emission limits, as shown in Table 5.504.4.5.

5.504.4.5.3 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

1. Product certifications and specifications.
2. Chain of custody certifications.
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards.
5. Other methods acceptable to the enforcing agency.

TABLE 5.504.4.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIFORNIA CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16 INCHES (8 MM).

5.504.4.6 Resilient flooring systems. Where resilient flooring is installed, at least 80 percent of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health,"Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specifications 01350)

See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.

5.504.4.7 Thermal insulation
Comply with the requirements of the California Department of Public Health, "Standard Method of the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, "Version 1.2, January 2017 (Emission testing method for California Specification 01350).
See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

5.504.4.7.1 Verification of compliance.
Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.

5.504.4.8 Acoustical ceiling and wall panels.
Comply with the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, " Version 1.2, January 2017 (Emission testing method for California Specification 01350).
See California Department of Public Health's website for certification programs and testing labs.

5.504.4.8.1 Verification of compliance. Documentation shall be provided verifying that acoustical finish materials meet the pollutant emission limits.

5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

Exceptions: Existing mechanical equipment.

5.504.5.3.1 Labeling. Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.

5.504.7 ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL. Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.

SECTION 5.505 INDOOR MOISTURE CONTROL

5.505.1 INDOOR MOISTURE CONTROL. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1202 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures, see Section 5.407.2 of this code.

SECTION 5.506 INDOOR AIR QUALITY

5.506.1 OUTSIDE AIR DELIVERY. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements For Ventilation) of the *California Energy Code*, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.

5.506.2 CARBON DIOXIDE (CO_2) MONITORING. For buildings or additions equipped with demand control ventilation, CO_2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).

5.506.3 Carbon dioxide (CO2) monitoring in classrooms.
(DSA-SS) Each public K-12 school classroom, as listed in Table 120.1-A of the *California Energy Code*, shall be equipped with a carbon dioxide monitor or sensor that meets the following requirements:

1. The monitor or sensor shall be permanently affixed in a tamper-proof manner in each classroom between 3 and 6 feet (914 mm and 1829 mm) above the floor and at least 5 feet (1524 mm) away from door and operable windows.
2. When the monitor or sensor is not integral to an Energy Management Control System (EMCS), the monitor or sensor shall display the carbon dioxide readings on the device. When the sensor is integral to an EMCS, the carbon dioxide readings shall be available to and regularly monitored by facility personnel.
3. A monitor shall provide notification though a visual indicator on the monitor when the carbon dioxide levels in the classroom have exceeded 1,100ppm. A sensor integral to an EMCS shall provide notification to facility personnel through a visual and/or audible indicator when the carbon dioxide levels in the classroom have exceeded 1,100ppm.
4. The monitor or sensor shall measure carbon dioxide levels at minimum 15- minute intervals and shall maintain a record of previous carbon dioxide measurements of not less than 30 days duration.
5. The monitor or sensor used to measure carbon dioxide levels shall have the capacity to measure carbon dioxide levels with a range of 400ppm to 2000ppm or greater.
6. The monitor or sensor shall be certified by the manufacturer to be accurate within 75ppm at 1,000ppm carbon dioxide concentration and shall be certified by the manufacturer to require calibration no more frequently than once every 5 years.

SECTION 5.507 ENVIRONMENTAL COMFORT

5.507.4 ACOUSTICAL CONTROL. Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E 90 and ASTM E 413, or Outdoor-Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.

Exception: Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

Exception: [DSA-SS] For public schools and community colleges, the requirements of this section and all subsections apply only to new construction.

5.507.4.1 Exterior noise transmission, prescriptive method. Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport.

   Exceptions:

   1. L_{dn} or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.
   2. L_{dn} or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.

2. Within the 65 CNEL or L_{dn} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan.

5.507.4.1.1. Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L_{eq} - 1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

5.507.4.2 Performance Method. For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation.

5.507.4.2.1 Site Features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.

5.507.4.2.2 Documentation of Compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

Note: Examples of assemblies and their various STC ratings may be found at the California Office of Noise Control: www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf.

SECTION 5.508 OUTDOOR AIR QUALITY

5.508.1 Ozone depletion and greenhouse gas reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

5.508.1.1 Chlorofluorocarbons (CFCs). Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.

5.508.1.2 Halons. Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.

5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.

Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO_2), and potentially other refrigerants.

5.508.2.1 Refrigerant piping. Piping compliant with the California Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than 1/4 inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.

5.508.2.1.1 Threaded pipe. Threaded connections are permitted at the compressor rack.

5.508.2.1.2 Copper pipe. Copper tubing with an OD less than 1/4 inch may be used in systems with a refrigerant charge of 5 pounds or less.

5.508.2.1.2.1 Anchorage. One-fouth-inch OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 mils.

5.508.2.1.3 Flared tubing connections. Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil.

Exception: Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations.

5.508.2.1.4 Elbows. Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.

5.508.2.2 Valves. Valves Valves and fittings shall comply with the *California Mechanical Code* and as follows.

5.508.2.2.1 Pressure relief valves. For vessels containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet of the pressure relief valve.

5.508.2.2.1.1 Pressure detection. A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.

5.508.2.2.2 Access valves. Only Schrader access valves with a brass or steel body are permitted for use.

5.508.2.2.2.1 Valve caps. For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.

5.508.2.2.2.2 Seal caps. If designed for it, the cap shall have a neoprene O-ring in place.

5.508.2.2.2.2.1 Chain tethers. Chain tethers to fit ovr the stem are required for valves designed to have seal caps.

Exception: Valves with seal caps that are not removed from the valve during stem operation.

5.508.2.3 Refrigerated service cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, such as stainless steel; or be coated to prevent corrosion from these substances.

5.508.2.3.1 Coil coating. Consideration shall be given to the heat transfer efficiency of coil coating to maximize energy efficiency.

5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device tha indicates the level of refrigerant in the receiver.

5.508.2.5 Pressure testing. The system shall be pressure tested during installation prior to evacuation and charging.

5.508.2.5.1 Minimum pressure. The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300 psig minimum.

5.508.2.5.2 Leaks. Check the system for leaks, repair any leaks, and retest for pressure using the same gauge.

5.508.2.5.3 Allowable pressure change. The system shall stand, unaltered, for 24 hours with no more than a +/- one pound pressure change from 300 psig, measured with the same gauge.

5.508.2.6 Evacuation. The system shall be evacuated after pressure testing and prior to charging.

5.508.2.6.1 First vacuum. Pull a system vacuum down to at least 1000 microns (+/- 50 microns), and hold for 30 minutes.

5.508.2.6.2 Second vacuum. Pull a second system vacuum to a minimum of 500 microns and hold for 30 minutes.

5.508.2.6.3 Third vacuum. Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person who is trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

1. State certified apprenticeship programs.
2. Public utility training programs.
3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
4. Programs sponsored by manufacturing organizations.
5. Other programs acceptable to the enforcing agency.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

1. Certification by a national or regional green building program or standard publisher.
2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
3. Successful completion of a third party apprentice training program in the appropriate trade.
4. Other programs acceptable to the enforcing agency.

Notes:

1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

[BSC-CG] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS

703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # CL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
CAL GREEN MANDATORY MEASURES

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974
RYAN J. ORION
EXP 12/31/26
PROFESSIONAL ENGINEER
STRUCTURAL
STATE OF CALIFORNIA
SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1 -
2 -
3 -
4 -
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PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER
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Construction Waste Management (CWM) Plan

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

Project Name: _____
Job #: _____
Project Manager: _____
Waste Hauling Company: _____
Contact Name: _____

All Subcontractors shall comply with the project's Construction Waste Management Plan.
All Subcontractor foremen shall sign the CWM Plan Acknowledgment Sheet.

Subcontractors who fail to comply with the Waste Management Plan will be subject to backcharges or withholding of payment, as deemed appropriate. For instance, Subcontractors who contaminate debris boxes that have been designated for a single material type will be subject to backcharge or withheld payment, as deemed appropriate.

1. The project's overall rate of waste diversion will be ___65%.
2. This project shall generate the least amount of waste possible by planning and ordering carefully, following all proper storage and handling procedures to reduce broken and damaged materials and reusing materials whenever possible. The majority of the waste that is generated on this jobsite will be diverted from the landfill and recycled for other use.
3. Spreadsheet 1, enclosed, identifies the waste materials that will be generated on this project, the diversion strategy for each waste type and the anticipated diversion rate.
4. Waste prevention and recycling activities will be discussed at the beginning of weekly subcontractor meetings. As each new subcontractor comes on-site, the WMP Coordinator will present him/her with a copy of the CWM Plan and provide a tour of the jobsite to identify materials to be salvaged and the procedures for handling jobsite debris. All Subcontractor foremen will acknowledge in writing that they have read and will abide by the CWM Plan. Subcontractor Acknowledgment Sheet enclosed. The CWM Plan will be posted at the jobsite trailer.
5. Salvage: Excess materials that cannot be used in the project, nor returned to the vendor, will be offered to site workers, the owner or donated to charity if feasible.
6. [HAULING COMPANY] will provide a commingled drop box at the jobsite for most of the construction waste. These commingled drop boxes will be taken to [Sorting Facility Name and Location]. The average diversion rate for commingled waste will be ___%. As site conditions permit, additional drop boxes will be used for particular phases of construction (e.g., concrete and wood waste) to ensure the highest waste diversion rate possible.
7. In the event that the waste diversion rate achievable via the strategy described in (6) above, is projected to be lower than what is required, then a strategy of source-separated waste diversion and/or waste stream reduction will be implemented. Source separated waste refers to jobsite waste that is not commingled but is instead allocated to a debris box designated for a single material type, such as clean wood or metal.

   Notes:

   1. Waste stream reduction refers to efforts taken by the builder to reduce the amount of waste generated by the project to below four (4) pounds per square foot of building area.
   2. When using waste stream reduction measures, the gross weight of the product is subtracted from a base weight of four (4) pounds per square foot of building area. This reduction is considered additional diversion and can be used in the waste reduction percentage calculations.
8. [HAULING COMPANY] will track and calculate the quantity (in tons) of all waste leaving the project and calculate the waste diversion rate for the project. [HAULING COMPANY] will provide Project Manager with an updated monthly report on gross weight hauled and the waste diversion rate being achieved on the project. [HAULING COMPANY'S] monthly report will track separately the gross weights and diversion rates for commingled debris and for each source-separated waste stream leaving the project. In the event that [HAULING COMPANY] does not service any or all of the debris boxes on the project, the [HAULING COMPANY] will work with the responsible parties to track the material type and weight (in tons) in such debris boxes in order to determine waste diversion rates for these materials.
9. In the event that Subcontractors furnish their own debris boxes as part of their scope of work, such Subcontractors shall not be excluded from complying with the CWM Plan and will provide [HAULING COMPANY] weight and waste diversion data for their debris boxes.
10. In the event that site use constraints (such as limited space) restrict the number of debris boxes that can be used for collection of designated waste the project Superintendent will, as deemed appropriate, allocate specific areas onsite where individual material types are to be consolidated. These collection points are not to be contaminated with non-designated waste types.
11. Debris from jobsite office and meeting rooms will be collected by [DISPOSAL SERVICE COMPANY]. [DISPOSAL SERVICE COMPANY] will, at a minimum, recycle office paper, plastic, metal and cardboard.

Construction Waste Management (CWM) Worksheet

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

Project Name: _____

Job Number: _____

Project Manager: _____

Waste Hauling Company: _____

Construction Waste Management (CWM) Plan

WASTE MATERIAL TYPE	DIVERSION METHOD: COMMINGLED AND SORTED OFF SITE	DIVERSION METHOD: SOURCE SEPARATED ON SITE	PROJECTED DIVERSION RATE
Asphalt			
Concrete			
Shotcrete			
Metals			
Wood			
Rigid insulation			
Fiberglass insulation			
Acoustic ceiling tile			
Gypsum drywall			
Carpet/carpet pad			
Plastic pipe			
Plastic buckets			
Plastic			
Hardiplank siding and boards			
Glass			
Cardboard			
Pallets			
Job office trash, paper, glass & plastic bottles, cans, plastic			
Alkaline and rechargeable batteries, toner cartridges and electronic devices			
Other:			
Other:			
Other:			
Other:			

Construction Waste Management (CWM) Acknowledgment

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

Project Name: _____

Job Numbers: _____

Project Managers: _____

Waste Hauling Company: _____

CWM Plan Acknowledgment

The Foreman for each new Subcontractor that comes on site is to receive a copy of the Construction Waste Management Plan and complete this Acknowledgment Form.

I have read the Waste Management Plan for the project; I understand the goals of this plan and agree to follow the procedures described in this plan.

DATE	SUBCONTRACTOR COMPANY NAME	FOREMAN NAME	SIGNATURE

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #M# 1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:

SCHOOL/SITE NAME:

SHEET TITLE:

CONSTRUCTION WASTE MANAGEMENT FORMS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858)-679-1974

REGISTERED PROFESSIONAL ENGINEER
RYAN J. ORION
No. 34257
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A0.10

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GENERAL NOTES

1. SIGNAGE REQUIRED PER APPLICABLE CODES LISTED ON COVER SHEET PROVIDED AND INSTALLED BY DISTRICT ON SITE, SEE ACCESS SHEET
2. USE 18" MIN CLR WHEN THERE ARE NO ADJACENT ACCESSORIES TO THE LAVATORY OR ACCESSORIES MUST BE LESS THAN 3" PROJECTION SO IT DOES NOT ENCROACH INTO REQUIRED CLEAR SPACE
   USE 19" MIN CLR FOR ACCESSORIES UP TO 4" MAX PROJECTION SO IT DOES NOT ENCROACH INTO REQUIRED CLEAR SPACE
3. ALL DIMENSION ON THIS FLOOR PLAN ARE TO THE FACE OF FINISH UNO
4. DOORS AT FRONT ENTRY STALLS SHALL HAVE 32" MINIMUM CLEAR WIDTH WHEN THE DOOR IS OPEN 90°
5. DOORS AT SIDE ENTRY SHALL HAVE 34' MINIMUM CLEAR WIDTH WHEN THE DOOR IS OPEN 90°
6. TOILET ACCESSORIES REQUIRED TO BE ACCESSIBLE SHALL BE MOUNTED AT HEIGHTS ACCORDING TO CBC SECTION 11B-603.5
7. THE GRAB BAR CAN NOT PROJECT MORE THAN 3" INTO THE 48" MINIMUM CLEAR SPACE IN FRONT OF THE WATER CLOSET 11B-604.5
8. CONSIDER TOILET PAPER AND FEMININE NAPKIN DISPENSERS LOCATED ON THE GRAB BAR SIDE OF AN ACCESSIBLE TOILET ROOM OR STALL SHOULD NOT PROJECT MORE THAN THE GRAB BAR THE ACCESSORY SHALL NOT BE LOCATED CLOSER THAN 1-1/2" CLEAR OF THE TANGENT POINT OF THE GRAB BAR ACCESSORIES SURFACE MOUNTED ABOVE GRAB BAR WILL RESTRICT USABILITY
9. ACCESSIBLE PLUMBING FIXTURES SHALL COMPLY WITH ALL OF THE REQUIREMENTS OF CBC SECTION 11B-603, 11B-604 & 11B-605
10. FIXTURE CONTROLS SHALL COMPLY WITH CBC SECTION 11B-309
11. PH = PANIC HARDWARE REQUIREMENT WHERE OCCUPANTS LOADS EXCEEDS 49
12. ASSISTIVE LISTENING SYSTEM REQUIRED. SUPPLIED AND INSTALLED BY DISTRICT. NOT PART OF THIS PC

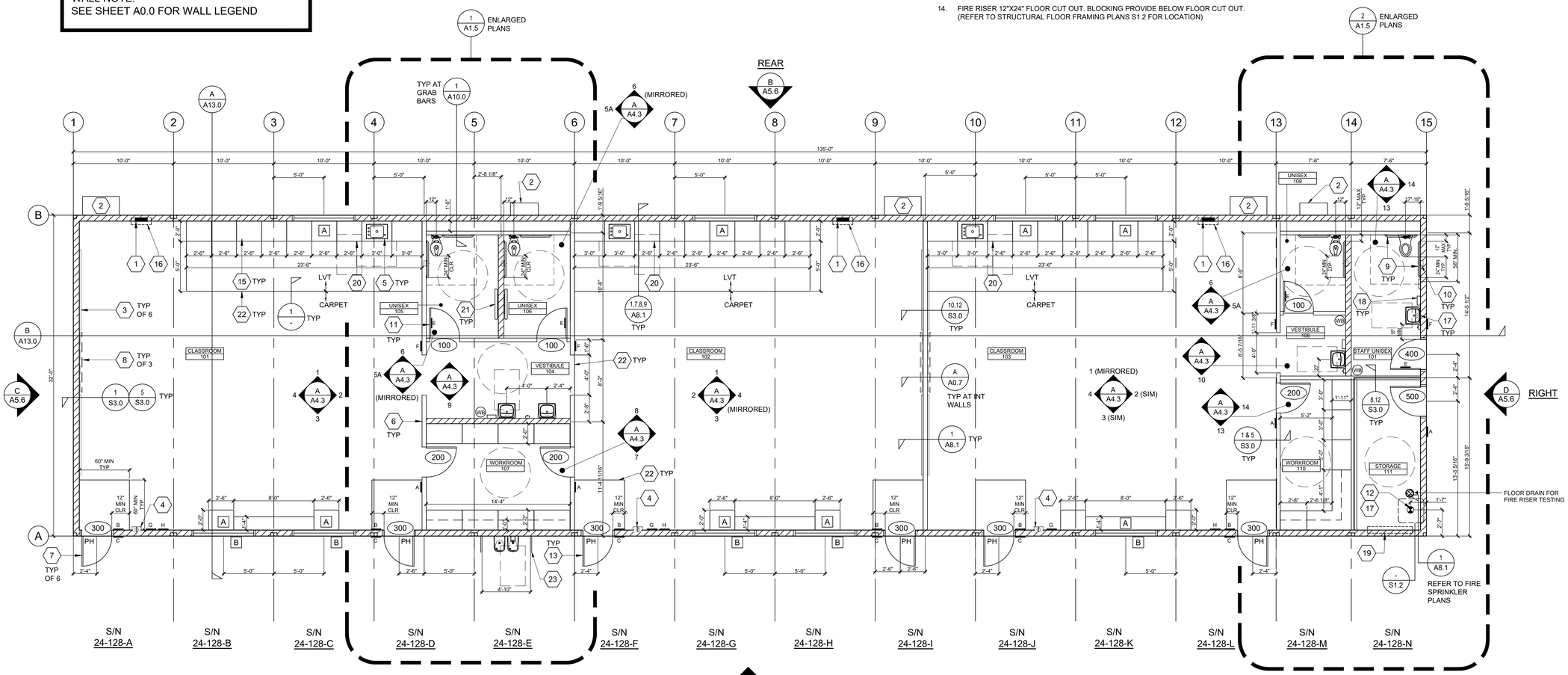
SIGNAGE LEGEND

A. = ID SIGN - #1G/A0.4
B. = EXIT TACTILE SIGN - #1C/A0.4
C. = ID SIGN WITH ISA IDENTIFICATION - #1H,G/A0.4
D. = NOT USED
E. = RESTROOM DOOR SIGN - #6 & 7/A0.4
F. = RESTROOM WALL SIGN - #5 & 7/A0.4
G. = OCCUPANT LOAD SIGN - #3/A0.4
H. = ASSITIVE LISTENING SYSTEM SIGNAGE - #4/A0.4

KEY NOTES

1. ELECTRICAL PANEL (SEE #10/A8.1 AND ELECTRICAL SHEETS)
2. HEAT PUMP UNIT (SEE MECHANICAL SHEETS)
3. 8'X4' MARKER BOARDS +30" AFF
4. 4.FIRE EXTINGUISHER-5 LB DRY CHEMICAL W/ 2-A:10-B:C UL RATING IN SIDE FULLY RECESSED CABINET, +48" AFF TO TOP OF HANDLE, 4" MAX PROJECTION. MODEL # 526-EL BY ELITE ARCHITECTURAL SERIES. SEE #4A/A8.1 FOR BLOCK-OUT
5. ACCESSIBLE SINK COUNTER (SEE SHEET A12.0)
6. INTERIOR WALL
7. PRIMARY ENTRANCES SHALL REQUIRE A MIN 48" OVERHANG OR AWNING OR RECESSED AREA OR OTHER APPROPRIATE METHOD INCLUDING A 60" X 60" MIN FLOOR AREA USING VCT OR SHEET VINYL WHEN USING CARPET FLOORING PER CALGREEN SECTION 5.407.2.2.1
8. PROMETHEAN BOARD MONITOR OFOI. SKC TO PROVIDE BLOCKING AND ELECTRICAL. PROVIDED BY SKC (SEE #1/A8.1)
9. GRAB BARS (SEE SHEET A10.0)
10. TOILET PAPER DISPENSER (SEE SHEET A10.0)
11. NEW INTERIOR DOOR (REFER TO FINISH SCHEDULE)
12. FIRE RISER. SKC TO PROVIDE BLOCKING FOR 4-WAY SWAY BRACING. (REFER TO FIRE SPRINKLER PLANS FOR LOCATION)
13. ADJUST DOORS TO 90° INHIBITOR
14. FIRE RISER 12"X24" FLOOR CUT OUT. BLOCKING PROVIDE BELOW FLOOR CUT OUT. (REFER TO STRUCTURAL FLOOR FRAMING PLANS S1.2 FOR LOCATION)
15. CASE WORK (REFR TO INTERIOR ELEVATIONS A4.3)
16. BLOCK-OUT CONCRETE FLOOR BELOW ELECTRICAL SITE ELECTRICIAN CONTRACTORS SHALL PROVIDE NUMBER OF SLEEVES. SKC TO POUR CONCRETE AFTER SLEEVES ARE INSTALLED (REFER TO STRUCTURAL FLOOR FRAMING PLANS S1.2 FOR LOCATION)
17. MIRROR (SEE SHEET A10.0)
18. PAPER TOWEL DISPENSER (SEE SHEET A10.0)
19. BLOCK-OUT CONCRETE FLOOR BELOW. LOW VOLTAGE CONTRACTORS SHALL PROVIDE NUMBER OF SLEEVES. SKC TO POUR CONCRETE AFTER SLEEVES ARE INSTALLED. (REFER TO STRUCTURAL FLOOR FRAMING PLANS S1.2 FOR LOCATION)
20. ACCESSIBLE SINK COUNTER WITH ACCESSIBLE WORKSPACE STATION FOR AGE GROUP 3-8.
21. FOLD DOWN CHANGING TABLE. PROVIDE BLOCKING SEE DETAIL 1/A8.1.
22. REFER TO SHEET A1.4 FOR FLOORING TRANSITIONS.
23. DRINKING FOUNDATION WING BARRIER RAILS. SHOWN FOR REFERENCE ONLY REFER TO ARCHITECT DRAWING DETAIL A4/A501.

WALL NOTE:
SEE SHEET A0.0 FOR WALL LEGEND



OCCUPANT LOAD FORMULA (CR 101)

BUILDING SQUARE FOOTAGE:	1,054 SQ FT
OCCUPANT NET PER TABLE 1004.1.1:	20
MAXIMUM OCCUPANTS:	53

OCCUPANT LOAD FORMULA (CR 102)

BUILDING SQUARE FOOTAGE:	1,072 SQ FT
OCCUPANT NET PER TABLE 1004.1.1:	20
MAXIMUM OCCUPANTS:	54

OCCUPANT LOAD FORMULA (CR 103)

BUILDING SQUARE FOOTAGE:	1,074 SQ FT
OCCUPANT NET PER TABLE 1004.1.1:	20
MAXIMUM OCCUPANTS:	54

OCCUPANT LOAD FORMULA (WORK RM 107)

BUILDING SQUARE FOOTAGE:	153 SQ FT
OCCUPANT NET PER TABLE 1004.1.1:	100
MAXIMUM OCCUPANTS:	1
OCCUPANT LOAD SIGN NOT REQUIRED	

OCCUPANT LOAD FORMULA (WORK RM 110)

BUILDING SQUARE FOOTAGE:	107 SQ FT
OCCUPANT NET PER TABLE 1004.1.1:	100
MAXIMUM OCCUPANTS:	1
OCCUPANT LOAD SIGN NOT REQUIRED	

OCCUPANT LOAD FORMULA (STORAGE RM 111)

BUILDING SQUARE FOOTAGE:	96 SQ FT
OCCUPANT NET PER TABLE 1004.1.1:	100
MAXIMUM OCCUPANTS:	1
OCCUPANT LOAD SIGN NOT REQUIRED	

FLOOR PLAN

SCALE: 3/16" = 1'-0"

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

KSC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # CL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

FLOOR PLAN

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO, CA. 92127
PHONE (858) 679-1974
EXP 6/30/26
STRUCTURAL ENGINEER
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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DATE:	00-00-00

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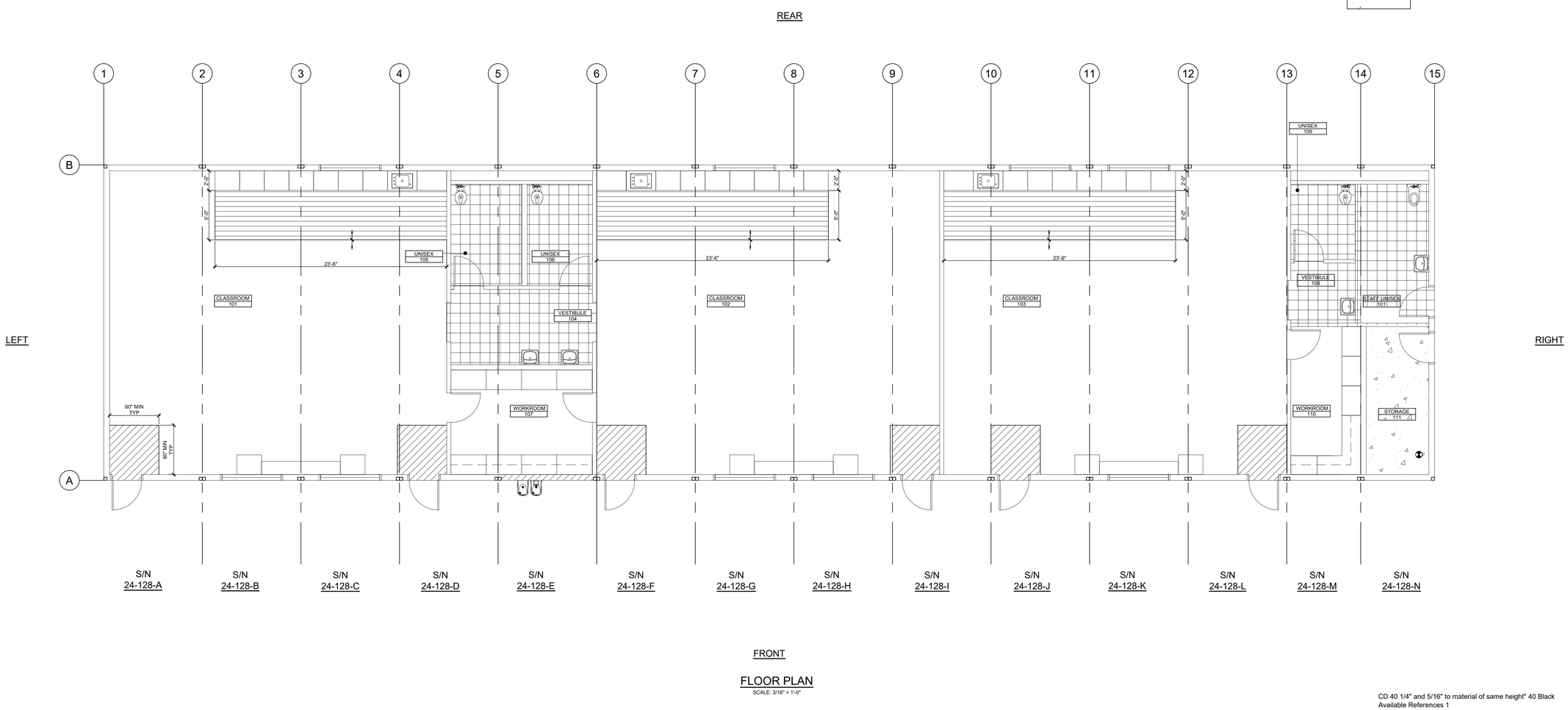
FLOORING LEGEND

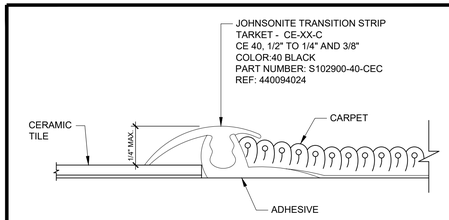
- WALK OFF MAT TILES
- CARPET TILE
- CERAMIC TILE
- LUXURY VINYL TILE
- SEALED CONCRETE



FLOOR PLAN

SCALE: 3/16" = 1'-0"

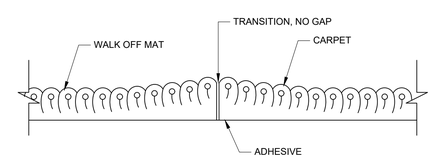
CD 40 1/4" and 5/16" to material of same height" 40 Black
Available References 1
Part Number S102900-40-CD
Ref 440083025



CERAMIC TILE TO CARPET TRANSITION

SCALE: N.T.S.

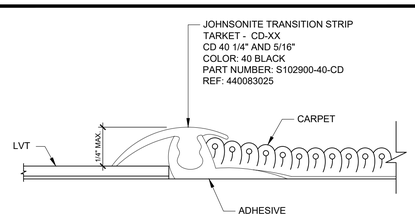
3



WALK OFF MAT TO CARPET TRANSITION

SCALE: N.T.S.

2



LVP TO CARPET TRANSITION

SCALE: N.T.S.

1

STATE AGENCY APPROVAL

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DATE: 06/05/2025

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

FLOORING LAYOUT AND TRANSITION DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER
RYAN J. OTER
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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DATE:	00-00-00

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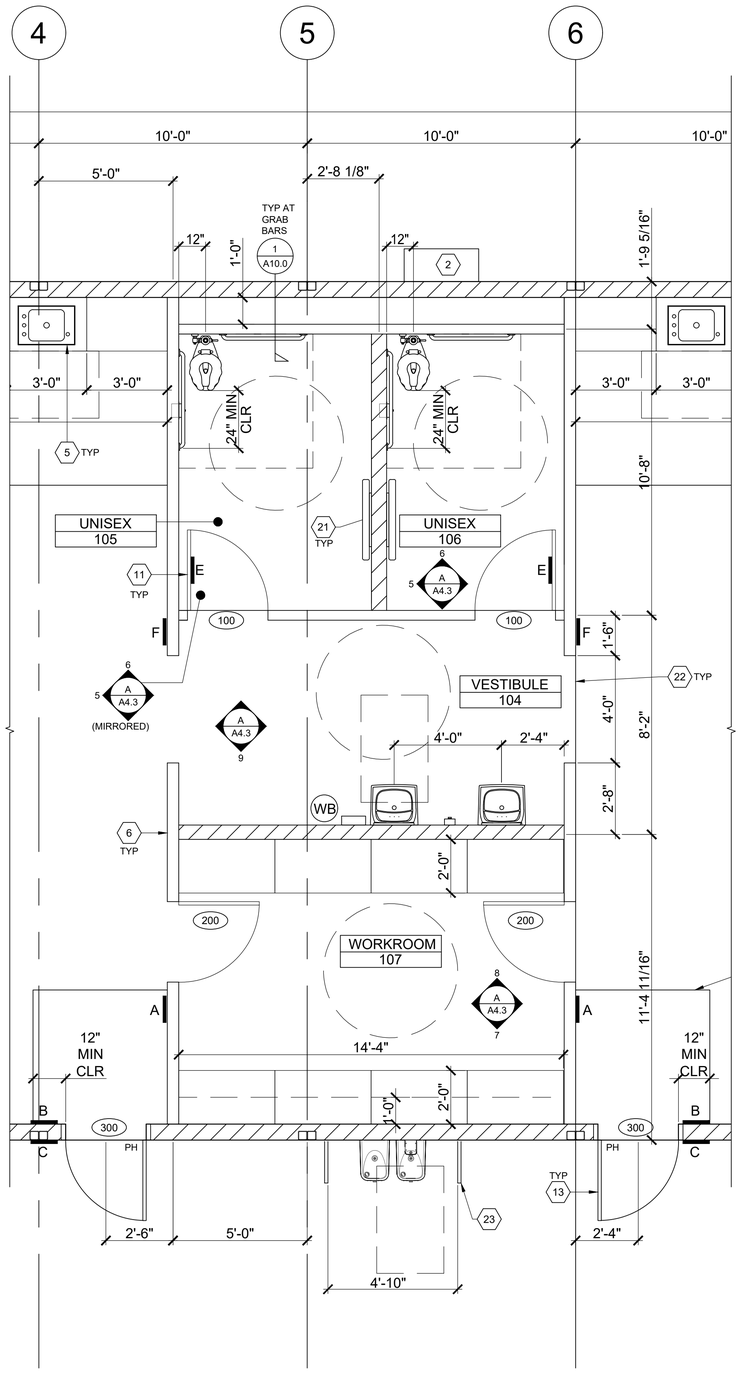


S/N
24-128-D

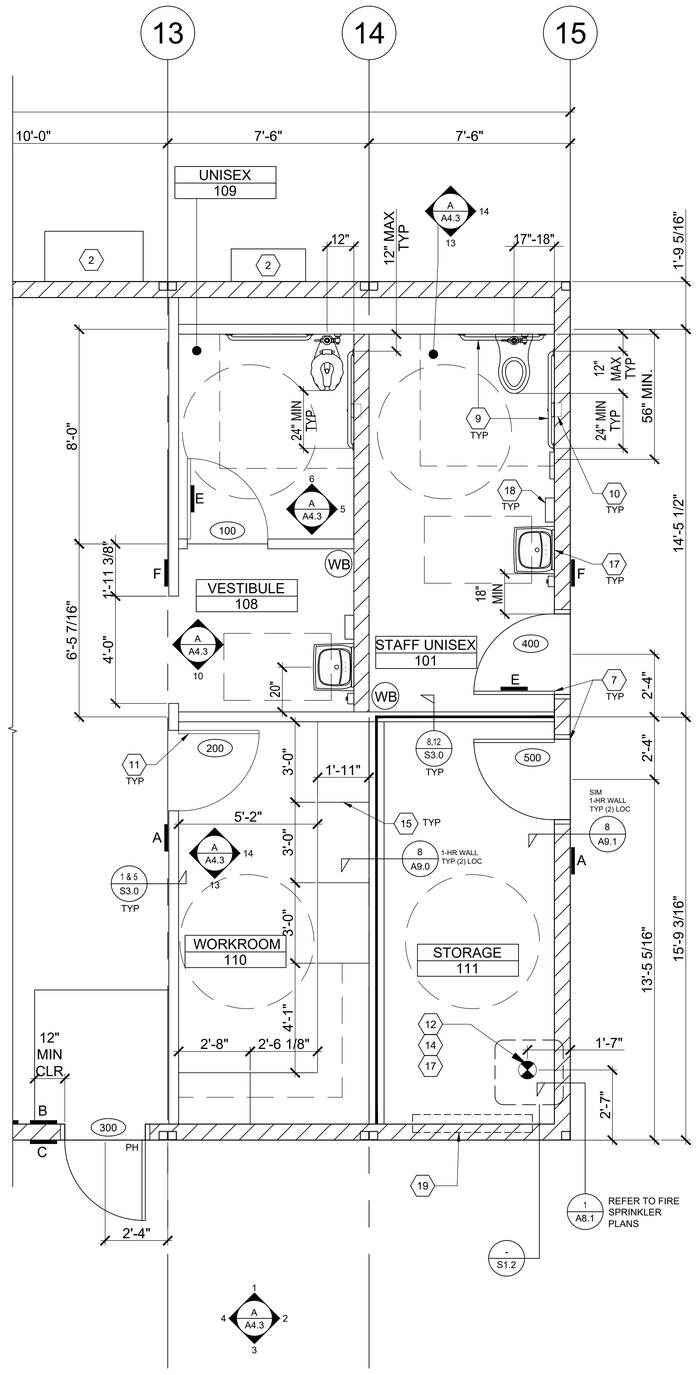
S/N
24-128-E

S/N
24-128-F

ENLARGED FLOOR PLAN 1

SCALE: 3/8" = 1'-0"

1



S/N
24-128-L

S/N
24-128-M

S/N
24-128-N

ENLARGED FLOOR PLAN 2

SCALE: 3/8" = 1'-0"

2

KEY NOTES

1. NOT USE
2. HEAT PUMP UNIT (SEE MECHANICAL SHEETS)
3. NOT USED
4. NOT USED
5. ACCESSIBLE SINK COUNTER (SEE SHEET A12.0)
6. INTERIOR WALL
7. PRIMARY ENTRANCES SHALL REQUIRE A MIN 48" OVERHANG OR AWNING OR RECESSED AREA OR OTHER APPROPRIATE METHOD INCLUDING A 60" X 60" MIN FLOOR AREA USING VCT OR SHEET VINYL WHEN USING CARPET FLOORING PER CALGREEN SECTION 5.407.2.2.1
8. NOT USED
9. GRAB BARS (SEE SHEET A10.0)
10. TOILET PAPER DISPENSER (SEE SHEET A10.0)
11. NEW INTERIOR DOOR (REFER TO FINISH SCHEDULE)
12. FIRE RISER. SKC TO PROVIDE BLOCKING FOR 4-WAY SWAY BRACING. (REFER TO FIRE SPRINKLER PLANS FOR LOCATION)
13. ADJUST DOORS TO 90° INHIBITOR
14. FIRE RISER 12"X24" FLOOR CUT OUT. BLOCKING PROVIDE BELOW FLOOR CUT OUT. (REFER TO STRUCTURAL FLOOR FRAMING PLANS S1.2 FOR LOCATION)
15. CASE WORK (REFR TO INTERIOR ELEVATIONS A4.3)
16. NOT USED
17. MIRROR (SEE SHEET A10.0)
18. PAPER TOWEL DISPENSER (SEE SHEET A10.0)
19. BLOCK-OUT CONCRETE FLOOR BELOW. LOW VOLTAGE CONTRACTORS SHALL PROVIDE NUMBER OF SLEEVES. SKC TO POUR CONCRETE AFTER SLEEVES ARE INSTALLED. (REFER TO STRUCTURAL FLOOR FRAMING PLANS S1.2 FOR LOCATION)
20. NOT USED
21. FOLD DOWN CHANGING TABLE. PROVIDE BLOCKING SEE DETAIL 1/A8.1.
22. REFER TO SHEET A1.4 FOR FLOORING TRANSITIONS.
23. DRINKING FOUNDATION WING BARRIER RAILS. SEE DETAIL 3/A8.1.

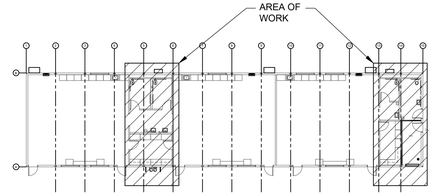
SIGNAGE LEGEND

A. = ID SIGN - #1G/A0.4
B. = EXIT TACTILE SIGN - #1C/A0.4
C. = ID SIGN WITH ISA IDENTIFICATION - #1H,G/A0.4
D. = NOT USED
E. = RESTROOM DOOR SIGN - #6 & 7/A0.4
F. = RESTROOM WALL SIGN - #5 & 7/A0.4
G. = OCCUPANT LOAD SIGN - #3/A0.4

GENERAL NOTES

1. REFER TO SHEET A12.0 ACCESSORY PLAN FOR RESTROOM DETAILS

WALL NOTE:
SEE SHEET A0.0 FOR WALL LEGEND



KEY PLAN

SCALE: N.T.S.

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

ENLARGED FLOOR PLANS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc
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RYAN J. ORION
No. S-6251
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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DATE:	00-00-00

SHEET NUMBER

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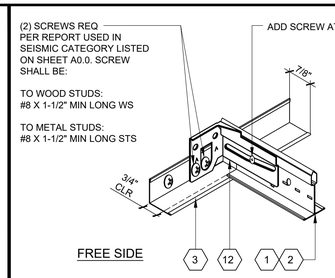
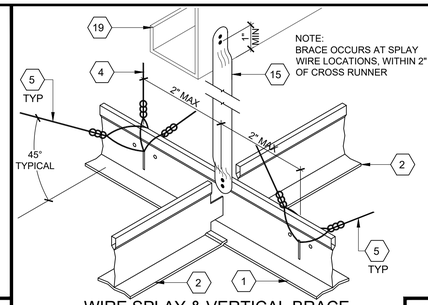
11



ARMSTRONG WALL ATTACHMENT SEISMIC CLIP

SCALE: NTS

6



WIRE SPLAY & VERTICAL BRACE

SCALE: NTS

1

KEY NOTES

1. MAIN RUNNER: 'ARMSTRONG' 7301 PRELUDE XL SERIES, HEAVY DUTY SPACE AT 4'-0" OC (UNO) WITH HANGER WIRES SPACED AT 4'-0" OC MAX (ICC REPORT #ESR-1308). ALT: 'DONN DXL-26 SIMPLICITEE XL SERIES, HEAVY DUTY (ICC REPORT #ESR-1222)
2. CROSS TEE: 'ARMSTRONG' PRELUDE XL SERIES #7340 AT 48" OR #7328 24" (ICC REPORT #ESR-1308). ALT: 'DONN DXL-216 SIMPLICITEE XL SERIES (ICC REPORT #ESR-1222)
3. WALL ANGLE: 'ARMSTRONG' 7800 WALL MOLDING. ALT: 'DONN' M20 WALL ANGLE. SECURE WALL ANGLE TO WALL WITH MIN #8 X 1-1/2" FH SDS AT 16" OC MAX TO STUD OR BLOCKING
4. TYPICAL HANGER WIRE: 12 GA STEEL WIRE ATTACHED TO STRUCTURE ABOVE AND TO GRID WITH (3) TIGHT TURNS WITHIN 1-1/2" SADDLE TIE (SEE DETAIL 4)
5. TYPICAL SPLAY WIRE: 12 GA STEEL WIRE ATTACHED TO STRUCTURE ABOVE AND TO GRID WITH (4) TIGHT TURNS WITHIN 1-1/2" (SEE DETAIL 1 & 5)
6. AT THE END OF RUNNERS, A HANGER WIRE SHALL BE ATTACHED WITHIN 8" OF ANY WALL OR SOFFIT OR 1/4 OF THE LENGTH OF THE END RUNNER, WHICHEVER IS LEAST, FOR THE PERIMETER OF THE CEILING
7. ALTERNATE HANGER WIRE: HANGER WIRE TO 3"x1/4" EYED SCREW AT TOP PLATE WITH (4) TIGHT TURNS WITHIN 1-1/2" (SEE GENERAL NOTE #1)
8. EYE SCREW 1/4"Ø x 2" LONG ZINC PLATED SELF-TAPPING, SELF DRILLING EYE LAG SCREW ATTACHED TO BEAM LIP
9. 1" X 1" X 2" LONG, 12 GA ANGLE BENT AT A 45° WITH 12 GA WIRE (4 TIGHT TURNS) ATTACH BENT ANGLE TO MEMBER WITH #10 STS
10. LIGHT FIXTURE ATTACHED TO GRID WITH (4) #8 SMS (2) AT EACH END OF FIXTURE AND (2) 12 GA SLACK SAFETY WIRES ATTACHED TO THE FIXTURE AT DIAGONAL CORNERS AND THE ROOF STRUCTURE ABOVE
11. ROOF TRUSS
12. 'ARMSTRONG' BERC-2 CLIP: BEAM ENDING RETAINING CLIP JOINS MAIN BEAM OR CROSS TEE TO WALL MOLDING AND WEB OF GRID (ICC REPORT #ESR-1308)
13. AT FREE SIDE, USE 6d NAIL @ 16" OC INTO WOOD BLOCK/STUD OR #8x2" SMS INTO METAL STUD BLOCK. AT FIXED SIDE, USE MIN #10 X 2" WS AT 16" OC INTO WOOD BLOCK/STUD OR MIN #10 X 2" SMS INTO METAL STUD BLOCK
14. CLOSE OFF CROSS TEE: INSERT ONE END OF CROSS TEE INTO MAIN RUNNER WITH BAYONET CUT OPPOSITE END TO FIT (IF LESS THAN 24") INSERT CROSS TEE ADAPTER CLIP AND SECURE TO CROSS TEE WITH (2) #8 TEK SCREWS AT EACH END
15. VERTICAL BRACE: 1/2" STEEL EMT AT SPLAY WIRE LOCATIONS (MAX LENGTH OF 3'-0") DRILL 1/8" HOLE THRU CONDUIT AT TOP & BOTTOM. ATTACH CONDUIT TO JOIST ABOVE OR TO BLOCKING WITH (2) #12 X 1" SDS SCREWS @ TOP & BOTTOM (SEE DETAIL 1)
16. 2x4 HF #2 MIN CEILING JOIST AT 16" OC ATTACH TO LEDGER WITH 'SIMPSON' U-24 JOIST HANGER AT EACH END OF SINGLE JOIST USE 'SIMPSON' U24-2 AT DOUBLE JOIST
17. 2x4 HF #2 MIN CONTINUOUS LEDGER ATTACH TO STUDS WITH (3) 16d NAILS @ 16" OC & (2) 16d NAILS EACH BLOCK
18. FIRE BLOCKING BETWEEN STUDS (BLOCKING SIZE TO MATCH STUD SIZE AND TYPE) AT CEILING HEIGHT
19. ROOF JOIST (SEE ROOF FRAMING SHEET)
20. 6" X 20 GA STRAP ATTACHED TO STUDS WITH (2) #10 STSMS PER STUD
21. GYP BOARD CEILING (SEE FINISH SCHEDULE) USE DRYWALL NAILS FOR WOOD STUDS OR # 8 STS FOR METAL STUDS SPACING TO BE 6" OC MAX EDGES AND 12" OC MAX FIELD
22. C-3 1/2" X 18 GA CEILING JOIST AT 16" OC. ATTACH TRACK TO JOIST WITH #8 STS AT EACH FLANGE OF TRACK
23. C-3 1/2" X 18 GA CONT TRACK. ATTACH TRACK TO WALL STUDS WITH (2) #10 STS AT EACH WALL STUD SPACING
24. NOT USED

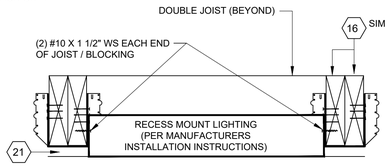
ICC REPORT #ESR-1308

A SINGLE 1/8" DIAMETER (3.175 MM) STEEL POP RIVET COMPLYING WITH INDUSTRIAL FASTENER INSTITUTE STANDARD IFI-114 MAY BE USED IN LIEU OF BERC-2 PERIMETER CLIPS TO SECURE THE MAIN RUNNERS AND CROSS RUNNERS TO THE WALL MOLDING ON TWO ADJACENT WALL (ATTACHED WALLS). THE CENTER OF THE RIVET MUST BE 0.25" (6.35 MM) FROM THE EDGE OF THE WALL ANGLE

17

NOTE: THIS DETAIL IS FOR THE RESTROOM OPTION ONLY

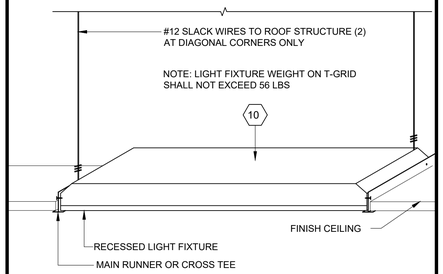
NOTE: THIS FIXTURE WEIGHT IS 27 LBS



RECESSED MOUNT LIGHT-WOOD STUD

SCALE: NTS

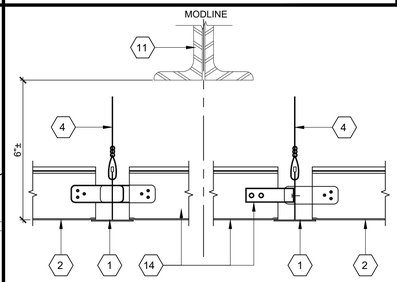
12



T-GRID LIGHT FIXTURE DETAIL

SCALE: NTS

7



CEILING GRID AT MODLINE

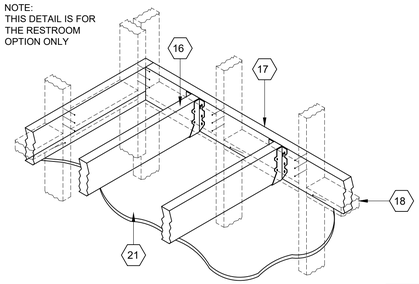
SCALE: NTS

2

18

13

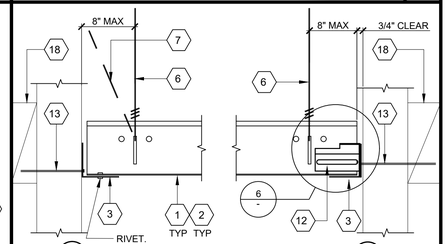
NOTE: THIS DETAIL IS FOR THE RESTROOM OPTION ONLY



GYPSUM CEILING-WOOD STUD

SCALE: NTS

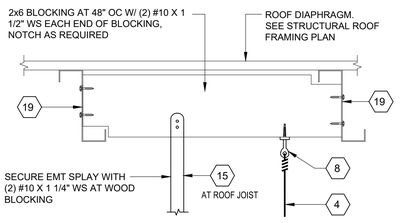
8



CEILING GRID AT WALL

SCALE: NTS

3



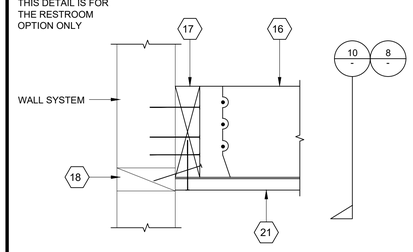
ALT ATTACHMENTS

SCALE: NTS

19

14

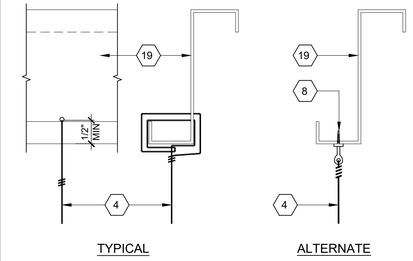
NOTE: THIS DETAIL IS FOR THE RESTROOM OPTION ONLY



GYPSUM CEILING-WOOD STUD & JOIST

SCALE: NTS

9



HANGER WIRE ATTACHMENT

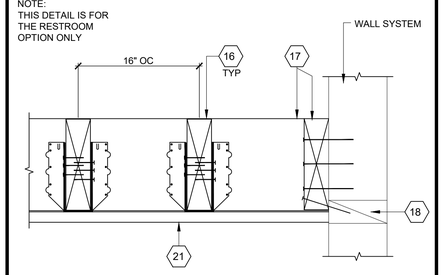
SCALE: NTS

4

20

15

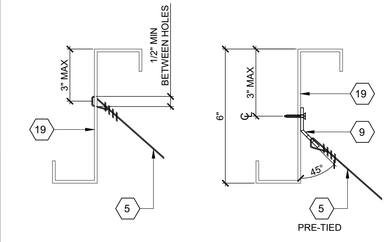
NOTE: THIS DETAIL IS FOR THE RESTROOM OPTION ONLY



GYPSUM CEILING SECTION-WOOD STUD

SCALE: NTS

10



SPLAY WIRE ATTACHMENT

SCALE: NTS

5

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
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GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

REFLECTED CEILING DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

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PHONE (858) 679-1974

RYAN J. ORION — REGISTERED PROFESSIONAL ENGINEER — STRUCTURAL — STATE OF CALIFORNIA
EXP 12/31/26

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

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1. CEILING SYSTEM GENERAL NOTES

1.01 Ceiling system components shall comply with ASTM C635 and Section 5.1 of ASTM E580.

1.02 The ceiling grid system shall be rated heavy duty as defined by ASTM C635.

1.03 Ceiling systems. The following ceiling system(s) is/are part of the scope of this project:

Manufacturer: ARMSTRONG *[DP to specify]*

Product Name: *[DP to specify]*

Evaluation Report Number: ICC REPORT ESR-1308 *[DP to specify]*

Main Runner Part, Model, or Catalog Number: 7301 *[DP to specify]*

Cross Runner Part, Model, or Catalog Number:XL 7340 *[DP to specify]*

1.04 Seismic Wall Clip:

Manufacturer's Model: BERC-2 *[DP to specify if used]*

1.05 Ceiling panels shall not support any luminaires, air terminals, or devices.

1.06 For acoustical tile panels of any material other than mineral or glass fiber, a ¾" clearance shall be provided between the panel and the wall on the sides of the ceiling free to slip. Clearance between ceiling grid runners and walls shall comply with the details on these drawings regardless of ceiling tile material.

2. MATERIALS

2.01 Ceiling wire shall be Class 1 zinc coated (galvanized) carbon steel conforming to ASTM A641. Wire shall be #12 gauge (0.106" diameter) with soft temper and minimum ultimate tensile strength = 70 ksi.

2.02 Galvanized sheet steel (including that used for metal stud compression struts) shall conform to ASTM A653, or other equivalent sheet steel listed in Section A3.1 of the North American Specification for the Design of Cold-Formed Steel Structural Members, (AISI S100). Material 43 mil (18 gauge) thick and lighter shall have minimum yield strength of 33 ksi. Material 54 mil (16 gauge) thick and heavier shall have a minimum yield strength of 50 ksi.

2.03 Electrical metallic tube (EMT) shall conform to ANSI C80.3/UL 797 carbon steel with G90 galvanizing. EMT shall have minimum yield strength of 30 ksi and minimum ultimate strength of 48 ksi.

3. ATTACHMENT OF HANGER AND BRACING WIRES

3.01 All ceiling hanger and bracing wires shall be separated at least 6 inches from all unbraced ducts, pipes, conduit, etc.

3.02 Hanger and bracing wires shall not attach to or bend around obstructions including but not limited to piping, ductwork, conduit, and equipment.

3.03 Hanger wires that are more than one (horizontal) in six (vertical) out of plumb shall have counter-sloping wires.

Detail Title:	REV: 09/21/2015	Detail No.
CEILING NOTES	REV: 03/2022	1.00
	REV: 11/2023	

3.04 Slack safety wires shall be considered hanger wires for installation and testing requirements.

3.05 Hanger and bracing wire anchorage to the structure shall be installed such that the direction of the anchorage aligns with the direction of the wire. Bracing wire ceiling clips shall be bent as shown in the details and rotated as required to align with the direction of the wire. Screws in wood shall be installed to align with the direction of the wire.

4. FASTENERS AND WELDING

4.01 Sheet metal screws shall comply with ASTM C1513 and ASME B18.6.3. Penetration of screws through joined material shall not be less than three exposed threads.

~~4.02 Expansion anchors shall be: *[DP to specify manufacturer, product, evaluation report number, and test load for each size specified per CBC 1910A.5.4.]*~~

~~4.03 Power-Actuated Fasteners shall be: *[DP to specify manufacturer, product, evaluation report number.]*~~

4.04 If not otherwise specified in the evaluation report, power-actuated fasteners installed in steel shall be installed so the entire pointed end of the fastener is driven through the steel member.

4.05 Power-actuated fasteners in concrete or masonry are not permitted for bracing wires.

4.06 Concrete reinforcement and prestressing tendons shall be located by non-destructive means prior to installing post-installed anchors.

4.07 Welding shall be in accordance with AWS D1.3 using E60XX series electrodes.

5. TESTING

5.01 All field testing shall be performed in the presence of the project inspector.

5.02 Post-installed anchors in concrete used to support hanger wires shall be tested at a frequency of 10 percent. Power-actuated fasteners in concrete shall be field tested for 200 pounds in tension. All other post-installed anchors in concrete shall be tested in accordance with CBC Section 1910A.5.

5.03 Post-installed anchors in concrete used to attach bracing wires shall be tested at a frequency of 50 percent and in accordance with CBC Section 1910A.5.

6. LUMINAIRES

6.01 All luminaires shall be positively attached to the ceiling suspension systems by mechanical means to resist a horizontal force equal to the weight of the luminaire. A minimum of two screws or approved fasteners are required at each luminaire per ASTM E580 Section 5.3.1.

6.02 Surface-mounted luminaires shall be attached to the main runner with at least two positive clamping devices. The clamping device shall completely surround the supporting ceiling runner and be made of steel with a minimum thickness of #14 gauge. Rotational spring catches are not permitted. A #12 gauge slack safety wire shall be connected from each clamping device to the structure above. Additional supports shall be provided when a luminaire is 8 feet or longer or exceeds 56 pounds. Maximum spacing between supports shall not exceed 8 feet.

Detail Title:	REV: 09/21/2015	Detail No.
CEILING NOTES	REV: 03/2022	1.00
	REV: 11/2023	

6.03 Luminaires weighing less than or equal to 10 pounds supported directly on the ceiling runners shall have a minimum of one #12 gauge slack safety wire connected from the fixture housing to the structure above.

6.04 Luminaires weighing greater than 10 pounds but less than or equal to 56 pounds supported directly on the ceiling runners shall have a minimum of two #12 gauge slack safety wires connected from the fixture housing at diagonal corners to the structure above.

Exception: All luminaires greater than two by four feet weighing less than 56 pounds shall have a #12 gauge slack safety wire at each corner.

6.05 All luminaires weighing greater than 56 pounds shall be independently supported from the structure above. See support details on these drawings for more information.

7. SERVICES WITHIN THE CEILING

7.01 All flexible sprinkler hose fitting mounting brackets, ceiling-mounted air terminals, or other services shall be positively attached to the ceiling suspension systems by mechanical means. Screws or other fasteners specified on the drawings are required. A minimum of two attachments are required at each component.

7.02 Ceiling-mounted services weighing less than or equal to 20 pounds shall have one #12 gauge slack safety wire attached from the terminal or service to the structure above.

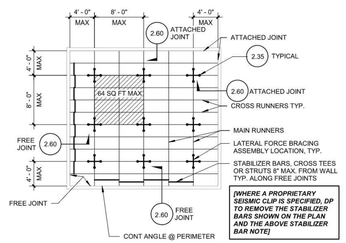
7.03 Ceiling-mounted services weighing more than 20 pounds but less than or equal to 56 pounds shall have two #12 gauge slack safety wires (at diagonal corners) connected from the terminal or service to the structure above.

7.04 Ceiling-mounted services weighing more than 56 pounds shall be independently supported from the structure above. See support details on these drawings for more information.

8. OTHER DEVICES WITHIN THE CEILING

8.01 All lightweight miscellaneous devices, such as strobe lights, occupancy sensors, speakers, exit signs, etc., shall be attached to the ceiling grid. Devices weighing more than 10 pounds shall have a #12 gauge slack safety wire anchored to the structure above. Devices weighing more than 20 pounds shall be independently supported from the structure above.

Detail Title:	REV: 09/21/2015	Detail No.
CEILING NOTES	REV: 03/2022	1.00
	REV: 11/2023	



[WHERE A PROPRIETARY SEISMIC CLIP IS SPECIFIED, DP TO REMOVE THE STABILIZER BARS SHOWN ON THE PLAN AND THE ABOVE STABILIZER BAR NOTE]

NOTE:
BRACING WIRES AND COMP. STRUT SHALL OCCUR AT EVERY 64 SQ. FT. MAX. IN ROOMS OVER 144 SQ. FT.

[WHERE BRACING ASSEMBLY SPACING CHANGES OVER THE HEIGHT OF THE BUILDING, DP SHALL INDICATE THE REQUIRED SPACING AT EACH LEVEL ON THE REFLECTED CEILING PLANS.]

Detail Title :	REV: 09/21/2015	Detail No.
TYP. CEILING PLAN FOR 8'-0"x8'-0" BRACE ASSEMBLY SPACING	REV: 03/2022	2.10

SECTION 1.2 OF DSA IR 25-2

INSTALLATION OF THE SUSPENSION SYSTEM SHALL COMPLY WITH ASTM C636 AND ASTM E580 SECTION 5.2.

1.2.1 HANGER WIRES SHALL BE PROVIDED ON A 4-FOOT BY 4-FOOT GRID SPACING AND SHALL BE ATTACHED TO MAIN RUNNERS. REFER TO APPENDIX A DETAIL 2.35 BELOW FOR A GRAPHICAL ILLUSTRATION. SPLICES IN HANGER WIRES SHALLDEVELOP 50 PERCENT OF THE WIRE ALLOWABLE LOAD. ONLY ONE SPLICE IS PERMITTED IN THE ENTIRE LENGTH OF A HANGER WIRE. REFER TO APPENDIX A DETAIL 6.10 BELOW FOR A GRAPHICAL ILLUSTRATION.

1.2.2 HANGER WIRES SHALL BE PROVIDED AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN 8-INCHES OF THE CEILING PERIMETER OR WITHIN ONE-FOURTH OF THE LENGTH OF THE END RUNNER, WHICHEVER IS LEAST. PERIMETER HANGER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END RUNNER IS 8-INCHES OR LESS. REFER TO APPENDIX A DETAIL 2.60 BELOW FOR A GRAPHICAL ILLUSTRATION.

1.2.3 CEILING GRID MEMBERS SHALL BE ATTACHED TO TWO ADJACENT WALLS (ATTACHED CONDITION) PER ASTM E580 SECTION 5.2.3 AND FIGURE 4. CEILING GRID MEMBERS SHALL BE AT LEAST 3/4-INCH CLEAR OF PERIMETER WALL ANGLES ON THE OTHER WALLS (FREE CONDITION) PER ASTM E580 SECTION 5.2.3 AND FIGURE 5. REFER TO APPENDIX A DETAIL 2.60 BELOW FOR A GRAPHICAL ILLUSTRATION.

1.2.4 IF A WALL OR MULTIPLE WALLS ARE SPECIFIED IN A PLAN CONFIGURATION THAT IS NOT ORTHOGONAL TO THE CEILING GRID SYSTEM, THE RUNNER TO WALL CONNECTIONS SHALL BE AS FOLLOWS. IF THE FOLLOWING PROVISIONS CANNOT BE MET, THEN A PROJECT-SPECIFIC LAYOUT OF MAIN AND CROSS RUNNERS AND THEIR CONNECTIONS SHALL BE DESIGNED AND SPECIFIED ON THE CONSTRUCTION DRAWINGS.

1.2.4.1 AT LEAST TWO ADJACENT PERIMETER WALLS SHALL BE CONNECTED TO THE CEILING GRID AS ATTACHED.

1.2.4.2 MAIN RUNNERS SHALL BE ORIENTED IN THE DIRECTION THAT FACILITATES AT LEAST ONE END BEING CONNECTED TO A "ATTACHED" WALL CONDITION.

1.2.4.3 ONE END OF EACH MAIN RUNNER SHOULD BE FREE AND CLEAR OF THE WALL AS REQUIRED BY SECTION 1.2.3 ABOVE.

1.2.4.4 OPPOSITE ENDS OF SOME CROSS RUNNER LINES MAY HAVE THE SAME WALL CONNECTION TYPE (i.e. ATTACHED-ATTACHED OR FREE-FREE). THIS IS PERMITTED WITH NON-ORTHOGONAL CONFIGURATIONS, BUT THE NUMBER OF CROSS RUNNER LINES WITH LIKE CONNECTIONS AT EACH END SHOULD BE MINIMIZED.

1.2.5 THE WIDTH OF THE PERIMETER SUPPORTING CLOSURE ANGLE SHALL NOT BE LESS THAN 2-INCHES EXCEPT AS ALLOWED BY SECTION 1.2.6 BELOW. CLOSURE ANGLE SHALL BE SCREWED OR OTHERWISE POSITIVELY ATTACHED TO THE WALL STUDS OR OTHER SUPPORTING STRUCTURE (E.G., BLOCKING).

1.2.6 THE USE OF ANGLES WITH WIDTHS LESS THAN 2-INCHES IN CONJUNCTION WITH QUALIFIED PROPRIETARY IR 25-2 (REVISED 11/03/23) PAGE 2 OF 70 DIVISION OF THE STATE ARCHITECT DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

1.2.6.1 PROPRIETARY PERIMETER CLIPS SHALL BE ATTACHED TO THE SUPPORTING CLOSURE ANGLE WITH A MINIMUM OF TWO SCREWS PER CLIP.

1.2.6.2 PROPRIETARY PERIMETER CLIPS SHALL BE INSTALLED AROUND THE ENTIRE CEILING PERIMETER EXCEPT THAT A STEEL POP RIVET MAY BE USED AT THE ATTACHED SIDES IN LIEU OF CLIPS WHEN PERMITTED BY THE EVALUATION REPORT.

1.2.6.3 THE PROPRIETARY PERIMETER CLIP SHALL BE QUALIFIED BY APPROVED TEST CRITERIA OF ASCE SECTION 13.5.6.2.2.A. THE QUALIFIED PROPRIETARY PERIMETER CLIP SHALL BE IN ACCORDANCE WITH SECTION 4 BELOW.

1.2.7 AT THE UNATTACHED WALLS (FREE CONDITION) OF THE CEILING PERIMETER AN INTERCONNECTION BETWEEN THE RUNNERS TO PREVENT LATERAL SPREADING PER ASTM E580 SECTION 5.2.4 SHALL BE PROVIDED. A METAL STABILIZER OR A #16-GAUGE WIRE WITH A POSITIVE MECHANICAL CONNECTION TO THE RUNNER MAY BE USED AND PLACED WITHIN 8-INCHES OF THE WALL. WHERE THE PERPENDICULAR DISTANCE FROM THE WALL TO THE FIRST PARALLEL RUNNER IS 8-INCHES OR LESS, THE STABILIZER OR #16-GAUGE WIRE IS NOT REQUIRED. REFER TO APPENDIX A DETAIL 2.60 BELOW FOR A GRAPHICAL ILLUSTRATION. THE USE OF PROPRIETARY PERIMETER CLIPS TO ELIMINATE THE NEED FOR STABILIZATION IS ACCEPTABLE IN ACCORDANCE WITH SECTION 4 BELOW.

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

REFLECTED CEILING DSA NOTES

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
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11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1 -
2 -
3 -
4 -
5 -

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

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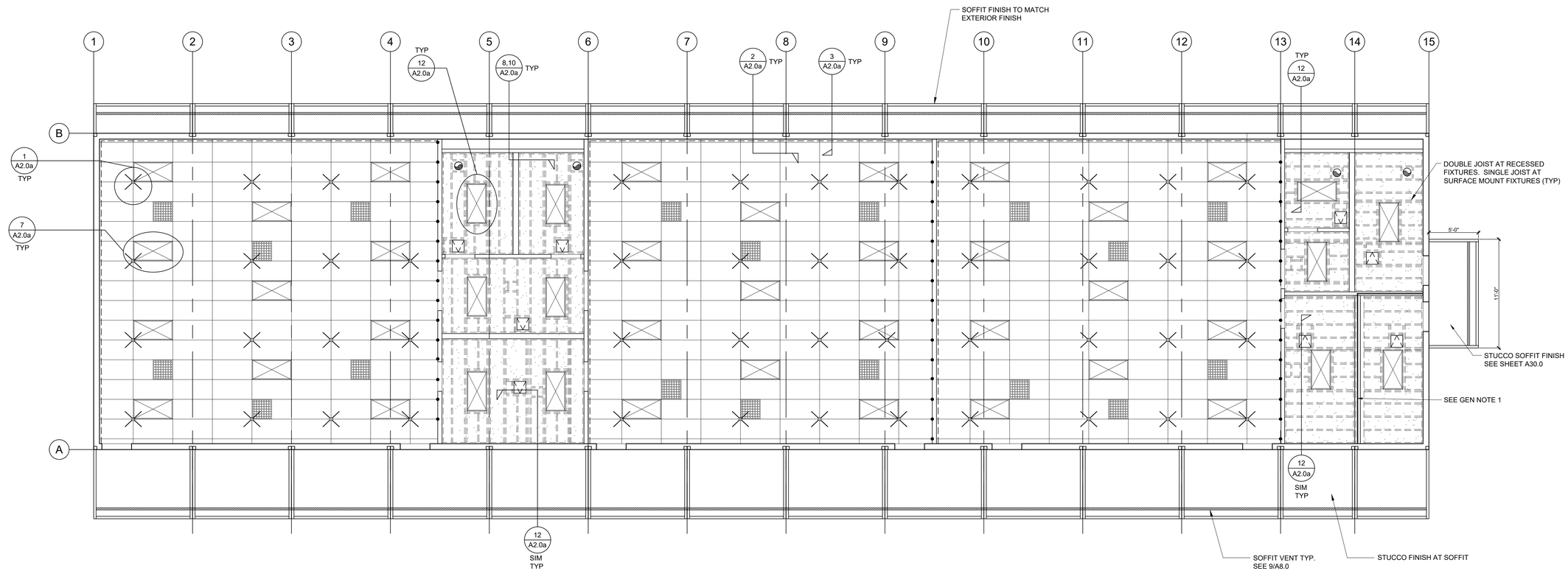
5/2/2025 12:23:20 PM

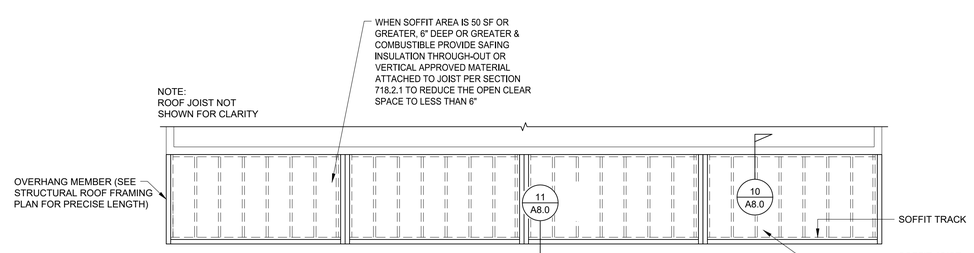
LEGEND

OR	SUPPLY AIR DIFFUSERS NOT SHOWN FOR CLARITY (SEE MECHANICAL PLAN)
A4 / A2	2'x4' FLUORESCENT DROP-IN FIXTURE (SEE ELECTRICAL PLAN)
	4-WAY SPLAY WIRE SYSTEM
	EXHAUST FAN (SEE ELECTRICAL PLAN)
48" / 24"	T-GRID CEILING
	INDICATES FREE SIDE. ALL OTHER SIDES SHALL BE FIXED (SEE SHEET 3/A2.0a)
	INDICATES MAIN RUNNER LOCATIONS
	STUCCO SOFFIT VENT. SEE #9/A8.0
	18" X 18" CEILING HATCH (LIMITED TO 325 SQ.IN.) PER IR 25-3 SECTION 1.3
	GYPSUM CEILING (MUD, TAPE & TEXTURE)
	CEILING JOIST FOR GYPSUM BOARD
	SOLATUBE



REFLECTED CEILING PLAN

SCALE: 3/16" = 1'-0"



OPTIONAL ENCLOSED SOFFIT OVERHANG FRAMING

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

GENERAL NOTES

1. INSTALL HORIZONTAL FIRE BLOCKING MATERIAL AT 10'-0" MAX OC PER SECTION 718.2.2 FIRE BLOCKING MATERIALS PER SECTION 718.2.1

FOR NOTES SEE SHEET A2.0b

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

REFLECTED CEILING PLAN

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858)-679-1974

REGISTERED PROFESSIONAL ENGINEER
RYAN T. OSBORN
No. 93437
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A2.3

5/2/2025 12:20:20 PM

EVALUATION REPORT

Number: 309

Originally Issued: 09/09/2014 Revised: 09/13/2022 Valid Through: 09/30/2024

ASC PROFILES LLC
2110 Enterprise Blvd,
West Sacramento, CA 95691
(800) 733-4955
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ASC Profiles Division:
AEP Span www.aepspan.com
ASC Building Products www.aschp.com

AEP SPAN AND ASC BUILDING PRODUCTS: SINGLE SKIN STEEL ROOF AND WALL PANELS WITH CONCEALED FASTENERS

CSI Section:
07 61 00 Sheet Metal Roofing
07 64 00 Sheet Metal Wall Cladding

1.0 RECOGNITION

ASC Profiles, LLC. AEP Span and ASC Building Products Single Skin Steel Roof and Wall Panels with Concealed Fasteners have been evaluated for use as exterior roof and wall covering panels. The structural and fire resistance properties of the panels have been evaluated in compliance with the following codes:

- 2021, 2018, 2015, and 2012 International Building Code® (IBC)
- 2021, 2018, 2015, and 2012 International Residential Code® (IRC)
- 2022, 2019 California Building Code (CBC) – see attached Supplement
- 2022, 2019 California Residential Code (CRC) – see attached Supplement

The roof panels comply with requirements for metal roof panels in Chapter 15 of the IBC, and Section R905 of the IRC. The wall panels comply with requirements for steel exterior wall coverings in Chapter 14 of the IBC, and Section R703 of the IRC.

2.0 LIMITATIONS

The AEP Span and ASC Building Products panels, clips, and fasteners described in this report are in compliance with, or are acceptable alternatives to, what is specified in those codes listed in Section 1.0 of this report subject to the following limitations:

2.1 Metal panels used in roof applications shall be applied to a solid or closely fitted deck, except where the roof covering is specifically designed to be applied to spaced support members. The panel installation tables within this report provide applicable substrate limitations.

2.2 Calculations demonstrating compliance with this report shall be submitted to the building official for approval. The calculations shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

2.3 The minimum allowable roof panel slopes shall conform to IBC Section 1507.4 or IRC Section R905.10, or as stated within this report.

2.4 Roof panel flashing requirements, when applicable, shall comply with IBC Section 1503.2 and 1503.3 or IRC Sections R903.2 and R903.3. Underlayment shall be installed in accordance with IBC Sections 1507.1 and 1507.4.5 or IRC Section R905.10.5 where applicable wind conditions occur.

2.5 Panels used on exterior walls shall be flashed in accordance with 2021 and 2018 IBC Section 1404.4, (2015 and 2012 IBC Section 1405.4) or IRC Section R905.4.6 and shall be over a water-resistant barrier complying and installed in accordance with 2021 and 2018 IBC Sections 1402.2, 1403.2, and 1404.2 (2015 and 2012 IBC Sections 1403.2, 1404.2, and 1405.2) or IRC Section R703.1, as applicable. Vapor retarders shall be installed, as applicable, in accordance with 2021 and 2018 IBC Section 1404.3 (2015 and 2012 IBC Section 1405.3).

2.6 For load combinations that include wind uplift, the nominal wind load shall be permitted to be multiplied by 0.67 provided the conditions in AISI S100, Appendix A Section lb.3.1a Conditions (a) through (g) are satisfied.

2.6.1 Compliance with Conditions (a) and (d) through (g) shall be satisfied by conformance to the wind load application tables within this report. Compliance with Conditions (b) and (c) shall be the responsibility of the structural design professional. Conditions (b) and (c) are listed here:

Condition (b): The wind load shall be calculated using ASCE/SEI 7 for components and cladding.

Condition (c): The area of the roof being evaluated is in Zone 2 (*edge zone*) or Zone 3 (corner zone), as defined in ASCE/SEI 37, i.e., the 0.67 factor does not apply to the field of the roof (*Zone 1*). The nominal wind load applied to Zone 2 or zone 3, after the 0.67 multiplier is applied, shall not be less than the nominal wind load applied to filed of the roof (*Zone 1*).

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, the resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.

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2.7 For modifications of panel installations, design of partial panels, panel penetrations, and other panel discontinuities shall consider effects on strength and stiffness and be the responsibility of the design professional in accordance with IBC Section 1604.4, using rational engineering mechanics or in accordance with the manufacturer's installation instructions as approved by the building official.

2.8 Product Performance

2.8.1 Fire Resistance: Roof assemblies complying with the requirements of IBC Section 1505.2 Exception 2, or IRC Section R902.1 Exception 2 are considered Class A roof assemblies. For other conditions, roof assemblies shall be listed as Class A, B, or C in accordance with ASTM E108 or UL 790 by an approved testing agency or shall be considered as non-classified roofing. ASC Profiles shall be contacted for information on specific listed assemblies.

2.8.2 Structural: The tables provided in this report specify the gross and effective section properties, inward (positive) uniform allowable loads, allowable reactions at supports, and outward (negative) uniform allowable loads for each of the panels described in Section 4.1 of this report. Use as a diaphragm or shear wall for resisting in-plane loads is beyond the scope of this report.

2.8.3 Wall Assembly Fire-Resistance: Wall panels are limited to installations where non-fire-resistance-rated construction is permitted by the IBC or IRC. Wall panels may be permitted in fire-resistance-rated wall assemblies based on successful testing in accordance with the requirements prescribed in IBC Section 703.

2.9 The AEP Span and ASC Building Products Single Skin Steel Roof and Wall Panels with Concealed Fasteners recognized in this report are produced by ASC Profiles, LLC in West Sacramento, California, Salem Oregon, and Tacoma, Washington.

3.0 PRODUCT USE

General design and installation shall be in accordance with the recognition in Section 1.0 of this report, this report, ASC Profile's product installation guides, and ASC Profile's *Concealed Fastener Steel Roof and Wall Panel Structural Design Guide*. Where conflicts occur, the more restrictive shall govern.

4.0 PRODUCT DESCRIPTION

4.1 Panels: The panels are available in the profiles as illustrated in the figures accompanying the tables in this report. All panels are provided with a painted finish. The panel profiles are available in various lengths and widths and thickness gauges as follows:

Products evaluated within this report:	Width(s) (inches):	Gauge No.(s):
Design Span® hp	12, 16, 17, 18	22 ga., 24 ga.
Flex Series: 1.2/12N-12 1.2/12O-12 1.2/12O-16 1.2/24O-12	12	20 ga, 22 ga, 24 ga
Flush Panel	12	20 ga, 22 ga, 24 ga, 26 ga
Perception Collection®: PC10-12, PC20-12, PC30-12, PC40-12, PC50-12	12	20 ga, 22 ga, 24 ga
Prestige Series	12	18 ga., 20 ga., 22 ga., 24 ga.
Select Seam®	12, 16	22 ga., 24 ga.
Skyline Roofing®	12, 16	26 ga.
Skyline Roofing® hp	16	24 ga.
Span-Lok hp	12, 16	22 ga., 24 ga.
SpanSeam	10, 16	22 ga., 24 ga.

Note: 1 inch = 25.4 mm

4.2 Base Material: All No. 18 and No. 20 gauge panels are manufactured from steel sheets with G90 galvanized coatings conforming to ASTM A653 SS Grade 40.

All No. 22 and No. 24 gauge panels are manufactured from steel sheets with A250 aluminum-zinc alloy coatings conforming to ASTM A792/SS Grade 50, or from steel sheets with G90 galvanized coatings conforming to ASTM A653 SS Grade 50.

All No. 26 gauge Skyline Roofing® panels are manufactured from steel sheet A250 aluminum-zinc alloy coatings conforming to ASTM A792 SS minimum Grade 33.

4.3 Clips: All panels within this report shall be installed with a concealed fastening system (not visible from the panel exterior). Panels shall be attached to supports with either fasteners, or clips and fasteners. All clips are formed from steel with either A250 aluminum-zinc alloy or G90 galvanized coatings conforming to ASTM A792 or ASTM A653 SS minimum Grade 33 respectively. Clips shall be supplied by ASC Profiles LLC. Clip types are identified in the panel installation tables within this report.

4.4 Fasteners: The fastener size and type requirements are identified in the panel installation tables within this report. All fasteners shall be zinc-plated with an added corrosion-resistant coating, or of a 300 series stainless steel construction. Self-tapping metal-to-metal fasteners shall comply with ASTM C1513. Fasteners installed into preservative- or fire-retardant-treated wood complying with the IBC shall be 300 series stainless steel or designed specifically for use with treated wood.

4.5 Substrates: ASC Profiles roof and wall panels may be installed over numerous substrates including, but not limited to, the following:

- Cold-formed steel in accordance with AISI S100
- Hot rolled steel in accordance with AISC 360
- Concrete in accordance with ACI 318
- Plywood and OSB in accordance with DOC PS-1 and DOC PS-2.
- Dimensional lumber in accordance with ANSI/AWS National Design Specification (NDS)®

The panel installation tables within this report provide applicable substrate limitations. For other support conditions, the structural calculations complying with the applicable code shall be submitted to the building official for approval.

5.0 IDENTIFICATION

A permanent label or a die-stamp label bearing the name and address of the manufacturers, the model number, and this evaluation report number (Evaluation Report ER-309) identifies the products listed in this report. The identification labels also include the IAPMO Uniform Evaluation Service Mark of Conformity, and either one of the following Marks of Conformity may be used:

IAPMO UES ER-309

6.0 SUBSTANTIATING DATA

Data submitted in conformance with IAPMO-UES Evaluation Criteria EC011, adopted January 2022. Test reports are from laboratories in compliance with ISO/IEC 17025.

7.0 REFERENCE CODE SECTIONS

The following reference code sections are for the 2021 IBC and 2021 IRC. Reference code section numbers in older editions that differ from the 2021 edition are noted in parenthesis.

7.1 International Building Code®:

7.1.1 Section 104.11 - Alternative materials, design and methods of construction and equipment.

7.1.2 Section 1402.2 - Weather protection. (2015 and 2012 IBC Section 1403.2)

7.1.3 Section 1404.2 - Weather protection. (2015 and 2012 IBC Section 1405.2)

7.1.4 Section 1404.11 - Metal veneers. (2015 and 2012 IBC Section 1405.11)

7.1.5 Section 1503 - WEATHER PROTECTION.

7.1.6 Section 1504.1 - Wind resistance of roofs.

7.1.7 Section 1506 - MATERIALS.

7.1.8 Section 1507.4 - Metal roof panels.

7.1.9 Section 2210.1- General (Cold-Formed Steel).

7.2 International Residential Code®:

7.2.1 Section R104.11-Alternative materials, design and methods of construction and equipment.

7.2.2 Section R703.1 - General (Exterior Covering).

7.2.3 Section R703.3 - Wall covering nominal thickness and attachments. (2012 IRC Section R703.4)

7.2.4 Section R803.1 - General (Weather Protection).

7.2.5 Section R904 - Materials.

7.2.6 Section R905.10 - Metal roof panels.

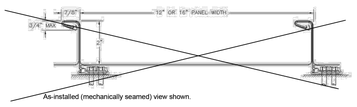
8.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on ASC Profiles, LLC. AEP Span and ASC Building Products Single Skin Steel Roof and Wall Panels with Concealed Fasteners to assess conformance to the codes listed in Section 1.0 of this report and serves as documentation of product certification. Products are manufactured at locations noted in Section 2.9 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

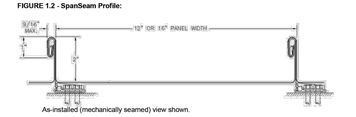
1.0 Span-lok hp & SpanSeam

FIGURE 1.1 - Span-lok hp Profile:



As-installed (mechanically seamed) view shown.

FIGURE 1.2 - SpanSeam Profile:

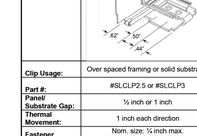
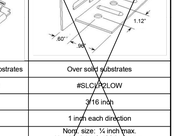


As-installed (mechanically seamed) view shown.

TABLE 1.1 - Span-lok hp & SpanSeam Profiles:

Panel Use:	Roof (primary use), wall, fascia
Substrates:	Over spaced supports or solid substrate
Available Gauges:	No. 22, 24
Minimum Slope:	1/4:12 (2.083 percent)
Load Combination Reduction Available (Ref. Section 5.6)	Yes
Mechanical Seaming:	90° Seam (Span-lok hp) 180° Seam (SpanSeam). Hand seam crimpers and powered seamers shall be from ASC Profiles, Developmental Industries Inc. www.diseamers.com, or Quality Roof Seamers www.qualityroofseamers.com
Uninstalled Panel View (Span-lok hp):	
Uninstalled Panel View (SpanSeam):	

TABLE 1.2 – Attachment

Clip Name:	Standard (Purlin) Clip	Low Profile Clip
Clip View:		
Clip Usage:	Over spaced framing or solid substrates	Over solid substrates
Part #:	#SLCLP2.5 or #SLCLP3	#SLCLP2LOW
Panel/ Substrate Gap:	½ inch or 1 inch	7/16 inch
Thermal Movement:	1 inch each direction	1 inch each direction
Fastener Limitations:	Nom. size: ¼ inch max. Head height: 3/8 inch max. Head dia.: ½ inch max.	Nom. size: ¼ inch max. Head height: 0.130-inch max. Head dia.: 5/8 inch max.
Recommended Fastener(s):	#12 or ¼ inch dia. hex washer head	#10 or #12 pancake head
Fastener Load Adjustments (due to eccentricity of fasteners relative to panel seam):	2 fasteners: 2.00 ΣM = 0 1.56P = .94R + .44R$_2$ 1 fastener: 1.66 (* - use mtg. hole closest to panel seam) ΣM = 0 1.56P = .94R	Per fastener: 1.625 ΣM = 0 1.56P = .96R
Associated Bearing Plate:	#SLBP	#BP3HOLE

Outward (negative) uniform load capacities (12" Span-lok hp / SpanSeam with low clip):

Table 1.12 applies

TABLE 1.7 - Section properties (16" Span-lok hp / SpanSeam):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties					
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F_y	F_u	A_g	I_g	y_b	S_p	S_n
	psf	in	ksi	ksi	in^2/ft	in^4/ft	in	in^3/ft	in^3/ft
24	1.36	0.0232	50	65	0.3976	0.1965	0.43	0.1250	0.4634
22	1.71	0.0294	50	65	0.5021	0.2460	0.42	0.1582	0.5806

Gauge	Area	Effective Section Properties							Uniform Load Only
		Positive				Negative			
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	
	A_e/ft	I_e+	y_b	S_e+		I_e-	y_b	S_e-	I_e = (I_e+ + I_e-)/2
	in^2	in^4/ft	in	in^3/ft		in^4/ft	in	in^3/ft	in^4/ft
24	0.1096	0.1615	0.39	0.1132		0.0765	1.15	0.0665	0.1165
22	0.1560	0.2303	0.41	0.1482		0.1063	1.12	0.0935	0.1683

TABLE 1.8 - Allowable reactions at supports (16" ~~Span-lok hp~~ / SpanSeam):

Gauge	Condition	Allowable (lbs/ft width)	Factored (lbs/ft width)
24	1- End	266	425
	2- Interior	397	636
22	1- End	401	642
	2- Interior	597	773

Reaction capacities based on a minimum 1.5" web bearing length

TABLE 1.9 - Inward (positive) uniform load capacities (16" Span-lok hp / SpanSeam panel):

16 in Span-Lok hp & SpanSeam

Gauge	Span	Condition	Positive (Inward) Uniform Load Capacity (lbs/ft^2) / Span (ft - in.)					
			2'- 0"	2'- 6"	3'- 0"	3'- 6"	4'- 0"	4'- 6"	5'- 0"
24	Single Span	ASD, WD	266	212	177	152	133	112	90
		LRFD, ϕM	425	340	283	243	213	177	143
		L/180	2038	1043	604	380	255	179	130
		L/60	>5k	3120	1811	1141	784	537	391
	Double Span	ASD, WD	159	127	106	91	78	62	51
		LRFD, ϕM	254	203	170	145	117	93	77
		L/180	4908	2513	1454	916	614	431	314
		L/60	>5k	>5k	4363	2748	1841	1293	942
	Triple Span	ASD, WD	181	144	120	103	90	76	63
		LRFD, ϕM	289	231	193	165	143	115	94
		L/180	3843	1959	1139	717	481	338	246
		L/60	>5k	>5k	3418	2151	1442	1013	738
22	Single Span	ASD, WD	401	321	267	229	185	154	126
		LRFD, ϕM	642	513	428	367	294	231	188
		L/180	3817	1940	1125	708	475	334	243
		L/60	>5k	>5k	4019	2526	1695	1191	867
	Double Span	ASD, WD	240	192	155	129	111	97	86
		LRFD, ϕM	384	307	248	207	177	155	138
		L/180	>5k	>5k	>5k	4222	2863	2011	1464
		L/60	>5k	>5k	>5k	>5k	4764	3347	2436
	Triple Span	ASD, WD	272	218	176	147	126	110	98
		LRFD, ϕM	435	348	281	234	201	176	156
		L/180	>5k	>5k	>5k	4938	3348	2352	1712
		L/60	>5k	>5k	>5k	>5k	4389	3084	2245

TABLE 1.11 - Outward (negative) uniform load capacities (16", No. 24 gauge Span-lok hp / SpanSeam with Standard Clip)

16" Span-lok hp & SpanSeam, 24ga, with Std. Clip

Substrate	Fastener		Attachment Spacing (ft-in.)							
	# per clip	Size	1'- 0"	1'- 6"	2'- 0"	2'- 6"	3'- 0"	3'- 6"	4'- 0"	4'- 6"	5'- 0"
			Maximum **Panel / Clip** Negative (Outward) Uniform Load Capacity (lbs/ft^2)								
			190	288	174	273	154	248	133	210	173	141	98
			Panel System Negative (Outward) Uniform Load Capacity (lbs/ft^2)								
			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
			WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR
Cold Formed Steel (Gr 50 min.)	≥12ga (.105")	2	#10	190	288	174	273	139	207	119	165	92	138	79	118	69	103	61	92	55	83
		2	#12	190	288	174	273	157	235	135	188	104	157	90	134	78	117	70	104	61	94
		2	1/4"	190	288	174	273	158	248	142	218	121	181	104	155	91	139	77	121	61	98
	14ga (.075")	2	#10	184	279	122	185	92	138	73	110	61	92	52	79	46	69	41	61	37	55
		2	#12	190	288	139	209	104	157	84	125	70	104	60	90	52	78	46	70	42	63
		2	1/4"	190	288	141	242	121	181	97	145	81	121	69	104	60	91	54	81	48	73
	16ga (.060")	2	#10	155	232	103	155	77	116	62	93	52	77	44	66	39	58	34	52	31	46
		2	#12	174	261	117	176	88	132	70	106	59	88	50	75	44	66	39	59	35	53
		2	1/4"	190	288	134	204	102	153	81	122	68	102	58	87	51	76	45	68	41	61
	18ga (.045")	2	#10	129	193	86	129	64	96	51	77	43	64	37	55	32	48	29	43	26	39
		2	#12	137	205	91	137	68	103	55	82	46	68	39	59	34	51	30	46	27	41
		2	1/4"	158	238	106	159	79	119	63	95	53	79	45	68	40	59	35	53	32	48
	20ga (.036")	2	#10	96	144	64	96	48	72	38	57	32	48	27	41	24	36	21	32	19	29
		2	#12	126	189	84	126	63	94	50	75	42	63	36	54	31	47	28	42	25	38
		2	1/4"	145	217	97	145	72	109	58	87	48	72	41	62	36	54	32	48	29	43
	22ga (.034")	2	#10	53	80	36	53	27	40	21	32	18	27	15	23	13	20	12	18	11	16
		2	#12	91	137	61	91	46	68	36	55	30	46	26	39	23	34	20	30	18	27
		2	1/4"	70	105	47	70	35	53	28	42	23	35	20	30	18	26	16	23	14	21
Cold Formed Steel (Gr 33 min.)	16ga (.060")	2	#10	83	125	56	83	42	63	33	50	28	42	24	36	21	31	19	28	17	25
		2	#12	95	142	63	95	47	71	38	57	32	47	27	41	24	36	21	32	19	28
		2	1/4"	110	165	73	110	55	82	44	66	37	55	31	47	27	41	24	37	22	33
	20ga (.036")	2	#10	53	80	36	53	27	40	21	32	18	27	15	23	13	20	12	18	11	16
		2	#12	73	110	49	73	37	55	29	44	24	37	21	31	18	27	16	24	15	22
		2	1/4"	85	127	56	85	42	63	34	51	28	42	24	36	21	32	18	28	17	25
	22ga (.034")	2	#10	53	80	36	53	27	40	21	32	18	27	15	23	13	20	12	18	11	16
		2	#12	73	110	49	73	37	55	29	44	24	37	21	31	18	27	16	24	15	22
		2	1/4"	85	127	56	85	42	63	34	51	28	42	24	36	21	32	18	28	17	25
Plywood & OSB	15/32" (& 1/2")	2	#10	95	143	64	95	48	72	38	57	32	48	27	41	24	36	21	32	19	28
		2	#12	108	163	72	108	54	81	43	65	36	54	31	47	27	40	24	36	22	32
		2	#14	118	180	79	107	59	80	47	64	39	53	34	46	30	40	26	36	24	32
	19/32" (& 5/8")	2	#10	156	221	104	156	78	117	62	94	52	78	45	67	39	59	35	52	31	47
		2	#12	177	239	118	160	89	120	71	96	59	80	51	68	44	60	39	53	35	48
		2	#14	190	264	130	176	98	132	78	106	65	88	56	75	49	66	43	58	39	53
	23/32" (& 3/4")	2	#10	190	288	174	273	154	248	133	210	173	141	98	138	79	118	69	103	61	92
		2	#12	190	288	174	273	157	235	135	188	104	157	90	134	78	117	70	104	61	94
		2	#14	190	288	174	273	158	248	142	218	121	181	104	155	91	139	77	121	61	98
Lumber (DFL)	1" min	2	#10	190	288	174	273	139	207	119	165	92	138	79	118	69	103	61	92	55	83
		2	#12	190	288	174	273	157	235	135	188	104	157	90	134	78	117	70	104	61	94
		2	#14	190	288	174	273	158	248	142	218	121	181	104	155	91	139	77	121	61	98

Specific Notes (Refer to the General Notes section for other applicable notes):
1. Table accounts for increased loads on fasteners due to the eccentricity of the fasteners relative to the panel seam. The Span-lok hp & SpanSeam panel summary chart at the front of this section provides for development of these fastener load adjustments.
2. Number of clip fasteners can be reduced to (1) if project load requirements can still be met. The tabulated panel system capacities shall be reduced by 40%. The fastener hole closest to the panel seam must be used. The Span-lok hp & SpanSeam panel summary chart at the front of this section provides for development of these fastener load adjustments.

TABLE 1.12 - Outward (negative) uniform load capacities (16" ~~Span-lok hp~~ / SpanSeam 24ga gauge ~~Span-lok hp~~ / SpanSeam with LOW CLIP)

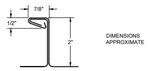
3C & 16" ~~Span-lok hp~~ & SpanSeam, 3C24ga, with Low Clip

Substrate	Fastener		Attachment Spacing (ft-in.)															
	# per clip	Size	1'- 0"		1'- 6"		2'- 0"		2'- 6"		3'- 0"		3'- 6"		4'- 0"		4'- 6"		5'- 0"	
			Maximum **Panel / Clip** Negative (Outward) Uniform Load Capacity (lbs/ft^2)															
			114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
			Panel System Negative (Outward) Uniform Load Capacity (lbs/ft^2)															
			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
			WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR	WD	ϕR
Cold Formed Steel (Gr 50 min.)	≥12ga (.105")	2	#10	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
		2	#12	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
	14ga (.075")	2	#10	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
		2	#12	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
	16ga (.060")	2	#10	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
		2	#12	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
	18ga (.045")	2	#10	114	182	99	148	74	111	59	89	49	74	42	64	37	56	33	49	28	44
		2	#12	114	182	99	158	84	126	67	101	56	84	48	72	42	63	35	56	28	45
	20ga (.036")	2	#10	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
		2	#12	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
	22ga (.034")	2	#10	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
		2	#12	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
Cold Formed Steel (Gr 33 min.)	16ga (.060")	2	#10	103	164	89	142	77	123	66	105	56	89	47	75	39	62	32	51	26	42
		2	#12	114	182	99	158	86	137	73	117	62	99	52	83	43	68	35	56	28	45
	18ga (.045")	2	#10	103	164	89	142	77	123	66	105	56	89	47	75	39	62	32	51	26

SPAN-LOK HP (UNSEAMED):

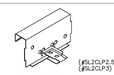
FLAT FINISH

SPAN-LOK HP (SEAMED):



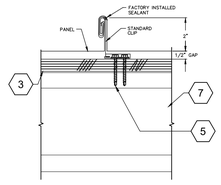
AEP SPAN | SPAN-LOK hp | PANEL INFORMATION | SL-LOW-01

REV. 12/03/20



STANDARD CLIP (SL2CLP2.5) (SL2CLP3)

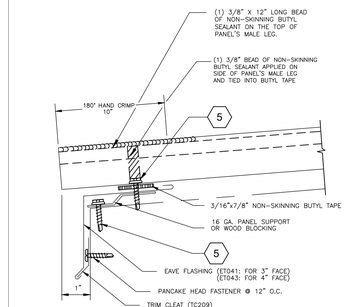
STANDARD CLIP
- RAISES PANEL 1/3" OR 1" ABOVE SUPPORTS
- USE WHEN INSTALLING PANELS OVER FIBERGLASS INSULATION WITHOUT THERMAL BLOCK SUPPORT
- FLOATING CLIP ALONG FOR THERMAL MOVEMENT
- 2 1/2" CLIP COMPRESSES A MAXIMUM 5" FIBERGLASS INSULATION.
- 3" CLIP COMPRESSES A MAXIMUM 5" FIBERGLASS INSULATION WITHOUT THERMAL BLOCK
- 3" CLIP COMPRESSES A MAXIMUM 6" FIBERGLASS INSULATION WITHOUT THERMAL BLOCK



SEAMED STD. CLIP

AEP SPAN | SPAN-LOK hp | CLIP INFORMATION | SL-LOW-02

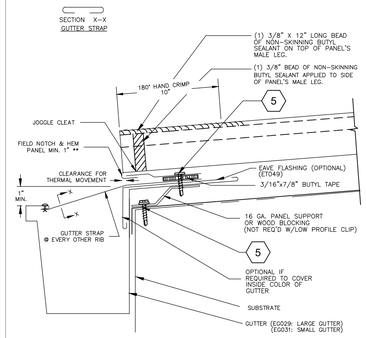
REV. 12/03/20



AEP SPAN | SPANSEAM | EAVE - FIXED | SL-LOW-04

REV. 11/13/19

SECTION X–X
GUTTER STRAP



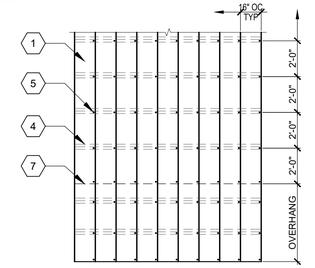
** ASK YOUR AEP SPAN REPRESENTATIVE ABOUT FACTORY NOTCHING.

AEP SPAN | SPANSEAM | EAVE WITH GUTTER - FLOATING | SL-LOW-05

REV. 11/13/19

KEY NOTES

1. SPAN-LOCK HP 24 GA METAL ROOF PANELS BY 'AEP-SPAN'. INSTALL PER MANUFACTURER INSTRUCTIONS, REFER TO SHEET A3.0A, & A3.0B FOR ADDITIONAL ROOF PANEL INFORMATION
3. PLYWOOD FOR ROOF DIAPHRAGM (SEE STRUCTURAL ROOF FRAMING PLANS)
4. JOIST (SEE STRUCTURAL ROOF FRAMING PLANS)
5. 16 GA HOLD DOWN CLIP SECURED TO STEEL ROOF JOIST WITH (2) MIN #12 X 1-1/2" FH OR MTH SDS PER CLIP. CLIP SPACING SHALL BE 24" OC MAX ALONG ROOF AND 24" OC MAX ALONG OVERHANGS. SCREWS TO PENETRATE THROUGH JOISTS W/ MIN 3 THREADS PASS STEEL. APPLY VULKEM AT ALL SCREW HEADS (TYP)
6. (4) #12 X 1-1/2" FH OR MTH SDS AT PANEL SEAMS REFER TO DETAIL SL-LOW-24.
7. ROOF BEAM/HEADER (SEE STRUCTURAL ROOF FRAMING PLANS)



TYPICAL ROOF FASTENING PLAN

SCALE: NTS

1

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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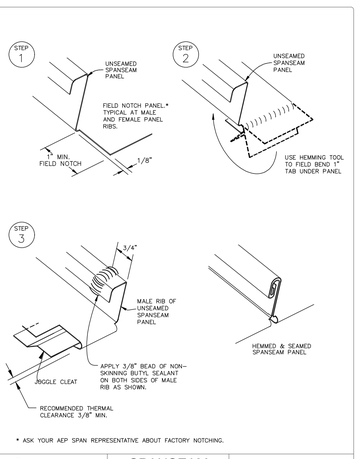
DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

ROOF DETAILS

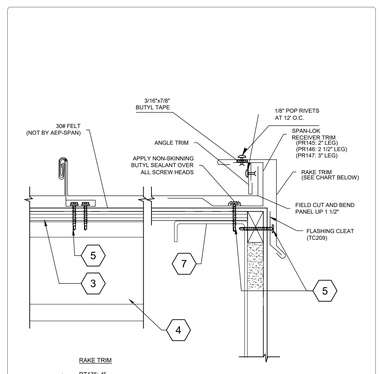
PROJECT SPECIFIC PROFESSIONAL OF RECORD



* ASK YOUR AEP SPAN REPRESENTATIVE ABOUT FACTORY NOTCHING.

AEP SPAN | SPANSEAM | EAVE HEM | SL-LOW-06

REV. 11/13/19



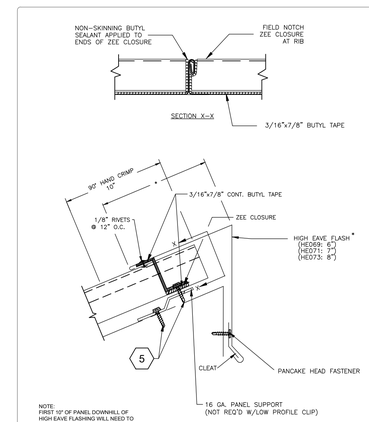
RAKE TRIM

RT175: 4"
RT181: 5 1/4"
RT183: 4 1/2
RT185: 5 1/2"
RT187: 4 3/4"
RT189: 5 3/4
RT191: 5"
RT193: 6"
RT195: 7"

NOTE:
FIELD CUT FIRST AND LAST PANELS TO EQUAL WIDTH.

AEP SPAN | SPANSEAM | RAKE | SL-LOW-08

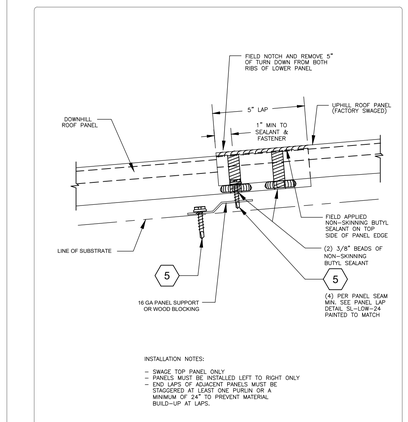
REV. 11/13/19



NOTE:
FIRST 10" OF PANEL DOWNHILL OF HIGH EAVE FLASHING WILL NEED TO BE 180° HAND CRIMPED TO GET SEAMER ON/OFF.

AEP SPAN | SPANSEAM | HIGH EAVE - FIXED | SL-LOW-15

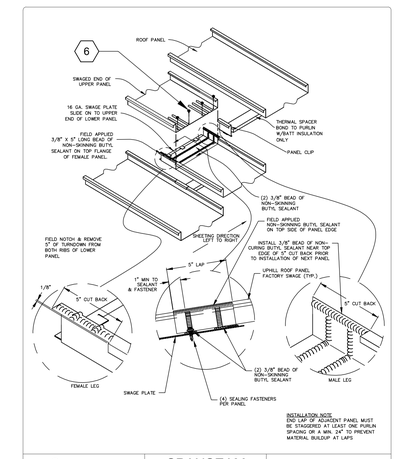
REV. 11/13/19



INSTALLATION NOTES:
- SWAGE TOP PANEL ONLY
- PANELS MUST BE INSTALLED LEFT TO RIGHT ONLY
- END LAPS OF ADJACENT PANELS MUST BE STAGGERED AT LEAST ONE PURLIN OR A MINIMUM OF 24" TO PREVENT MATERIAL BUILD–UP AT LAPS.

AEP SPAN | SPANSEAM | PANEL LAP - FIXED | SL-LOW-23

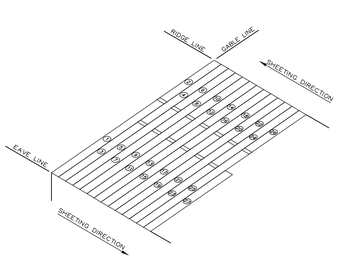
REV. 11/13/19



INSTALLATION NOTE
END LAP OF ADJACENT PANEL MUST BE STAGGERED AT LEAST ONE PURLIN SPACING OR A MIN. 24" TO PREVENT MATERIAL BUILDUP AT LAPS.

AEP SPAN | SPANSEAM | PANEL LAP | SL-LOW-24

REV. 11/13/19



SHEETING DIRECTION AND PANEL SEQUENCE

THE SHEETING SEQUENCE FOR THE SPANSEAM PANEL IS AS INDICATED ABOVE. PLEASE NOTE THE PLACEMENT OF THE PANELS BY THE CIRCLED NUMBERS. THE UPHILL PANEL AT AN ENDLAP WILL BE SWAGED ON THE LOWER END FOR NESTING PURPOSES. END–LAPS OF ADJACENT PANELS MUST BE STAGGERED AT LEAST ONE PURLIN SPACE, OR A MINIMUM 24", TO PREVENT MATERIAL BUILD–UP.

AEP SPAN | SPANSEAM | PANEL LAYOUT | SL-LOW-26

REV. 11/13/19

GABLE BUILDINGS WITHOUT PANEL ENDLAPS CAN BE SHEETED SIMULTANEOUSLY FROM EITHER END OF THE BUILDING. HOWEVER, IF THE BUILDING HAS PANEL ENDLAPS, THE ROOF MUST BE SHEETED LEFT TO RIGHT LOOKING UP THE SLOPE.

PANEL SEAMING

ROOF PERFORMANCE
THE ROOF PANELS MUST BE CORRECTLY SEAMED BEFORE THE ROOF SYSTEM CAN PROVIDE THE FULLY DESIGNED WIND LOAD AND WEATHER RESISTANCE CAPABILITY.

WHEN TO SEAM
WHENEVER POSSIBLE, THE INSTALLED ROOF PANELS SHOULD BE SEAMED BY THE FINISH OF EACH DAY'S WORK. IF HIGH WIND OR RAIN/SNOW CONDITIONS ARE IMMINENT, THE INSTALLED ROOF PANELS MUST BE SEAMED BEFORE SUCH CONDITIONS OCCUR.

SEAMER NOTES / SPECIFICATIONS
ALL AEP SPAN CUSTOMERS MUST WORK DIRECTLY WITH OI ROOF SEAMERS OR QUALITY ROOF SEAMERS FOR SEAMER RENTALS. THESE ARE THE ONLY AEP SPAN CERTIFIED SEAMER SUPPLIERS.

SEAMING CAPABILITIES:

TEMPORARY SEAMING
IT MAY NOT ALWAYS BE PRACTICAL OR FEASIBLE TO SEAM THE ROOF PANELS UNTIL AFTER THE ROOF PANEL INSTALLATION IS COMPLETE. SEAMED ROOF PANELS ARE DIFFICULT TO REPOSITION OR REPLACE. SEAMERS MAY NOT ALWAYS BE AVAILABLE DURING THE ENTIRE ROOF INSTALLATION. IN SUCH CASES, IT MAY BE ACCEPTABLE TO TEMPORARILY CRIMP (1/4" TO 1/2") THE ROOF PANELS TOGETHER, THEN LATER COMPLETE THE INSTALLATION WITH THE SEAMER.

IMPORTANT: TEMPORARY HAND CRIMPING MUST BE APPROVED BY THE PROJECT'S DESIGNER.

SPAN-LOK / SPANSEAM:

PRIOR TO SEAMING (SHOWN AT CLIP) — COMPLETED SEAM (SPAN-LOK) — COMPLETED SEAM (SPANSEAM)

SEAMER OPERATION – IMPORTANT NOTES
ALWAYS ATTACH SAFETY HOOK TO PREVENT SEAMER FROM FALLING OFF ROOF.

REMOVE ANY PROTECTIVE PLASTIC FILM FROM PANELS PRIOR TO SEAMING.

ALL CLIPS REQUIRE HAND CRIMPING PRIOR TO SEAMING TO ENSURE PROPER PANEL INSTALLATION AND TO REDUCE POTENTIAL FOR PANEL SCRATCHING. HAND CRIMP FIRST TO LAST PANEL ENDS BEFORE SETTING SEAMER IN PLACE.

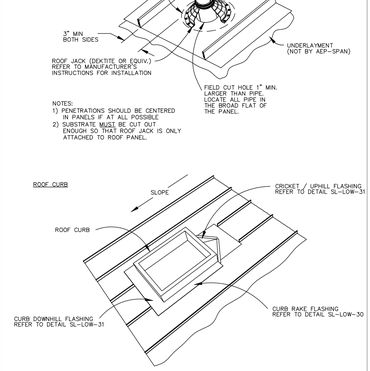
DO NOT RUN SEAMER PAST END OF PANELS; DOING SO INCREASES THE RISK FOR PERSONAL INJURY AND/OR PROPERTY DAMAGE. THIS IS ESPECIALLY TRUE AT EAVES, ON HIGH SLOPES, OR AT OTHER COMMON RISK AREAS.

DO NOT RUN SEAMER BEYOND UPPER END OF PANEL OR ONTO ANY PREVIOUSLY SEAMED AREA. NEVER RUN THE SEAMER WITHIN 6" OF THE PANEL END OR PREVIOUSLY SEAMED AREA; FINISH WITH A HAND CRIMPER.

MORE DETAILED SEAMING INSTRUCTIONS ARE AVAILABLE FROM THE SEAMER SUPPLIERS.

AEP SPAN | SPANSEAM | PANEL SEAMING | SL-LOW-27

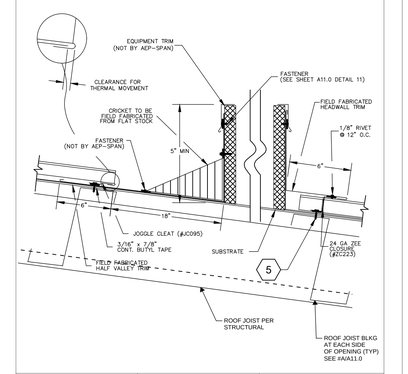
REV. 11/11/19



NOTES:
1) PENETRATIONS SHOULD BE CENTERED IN PANELS IF AT ALL POSSIBLE
2) SUBSTRATE MUST BE CUT OUT ENOUGH SO THAT ROOF JACK IS ONLY ATTACHED TO ROOF PANEL.

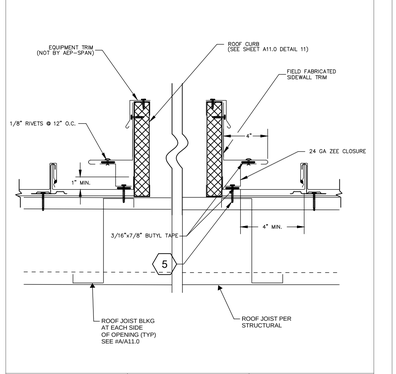
AEP SPAN | SPAN-LOK hp (W/ LOW CLIP) | ROOF PENETRATIONS | SL-LOW-29

REV. 12/03/20



AEP SPAN | SPANSEAM | ROOF CURB (UPHILL / DOWNHILL DETAIL) | SL-LOW-30

REV. 11/13/19



AEP SPAN | SPANSEAM | ROOF CURB (RAKE FLASHING) | SL-LOW-31

REV. 11/13/19

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE: (858) 679-1974
RYAN F. ORION
No. S-6855
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA
SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

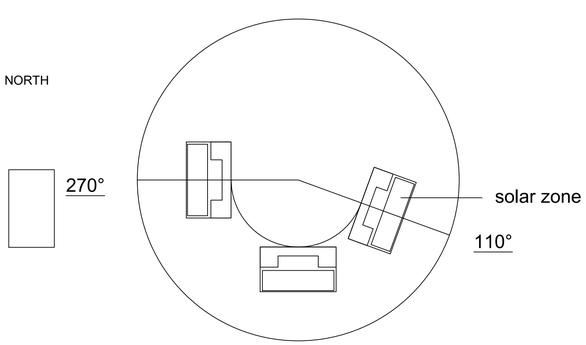
1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A3.0b

5/2/2025 1:00:07 PM



ROOF ORIENTATION DETAIL

NOTE: ROOF ORIENTATION OF THE SITE-ADAPTED PRE-CHECK (PC) DESIGN SHALL BE ORIENTED BETWEEN 110 DEGREES AND 270 DEGREES (AS SHOWN) IN ORDER TO MAINTAIN ALLOWABLE SOLAR ZONE PER 2022 ENERGY CODE SECTION 110.10

B

LEGEND

= SOLAR ZONE 15% MIN OF THE BUILDING'S TOTAL ROOF AREA. SEE DETAILS #B/- THIS SHEET. SOLAR ZONE CAN BE LOCATED ANYWHERE ON THE ROOF

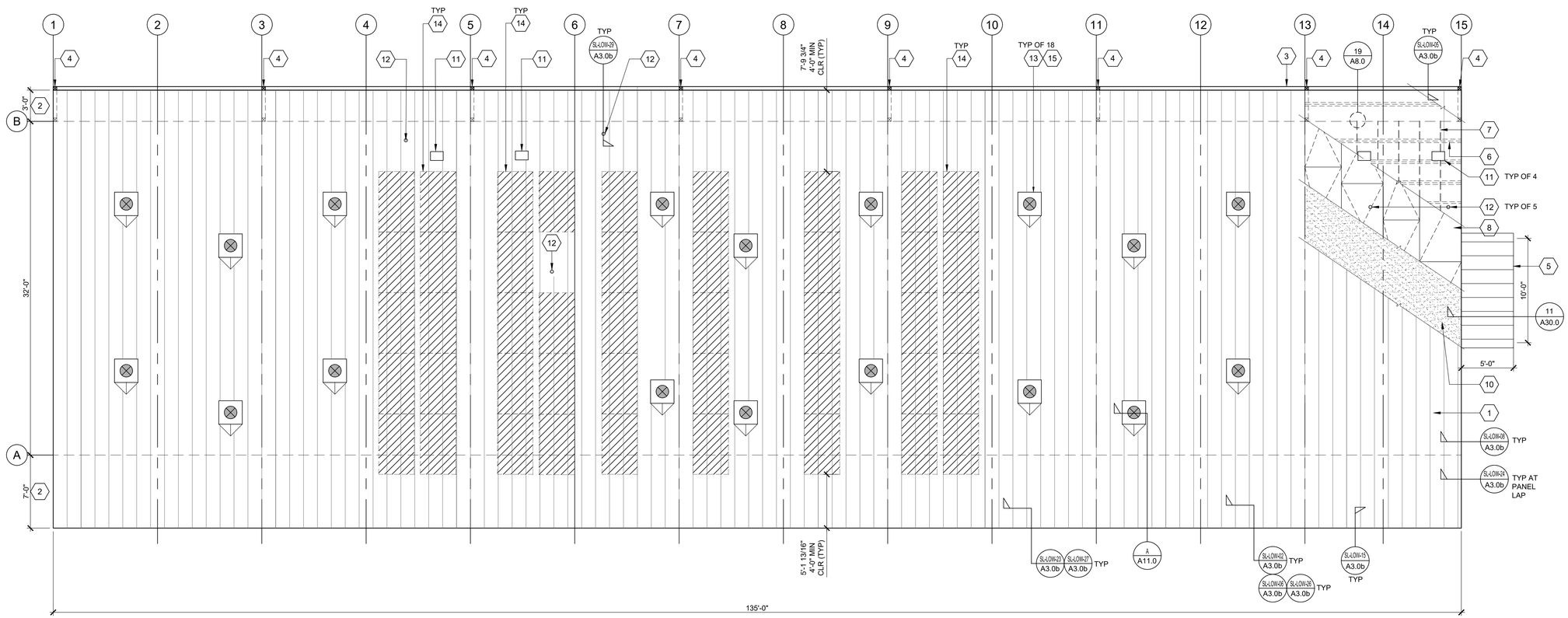
GENERAL NOTES

1. THE PURPOSE OF THE SOLAR READY ROOF PLANS IS TO LOCATE SOLAR READY ZONES. SEE ARCHITECTURAL ROOF PLANS FOR ALL OTHER ROOF PLAN INFORMATION
2. NO OBSTRUCTIONS, INCLUDING BUT NOT LIMITED TO, VENTS, CHIMNEYS, ARCHITECTURAL FEATURES AND ROOF MOUNTED EQUIPMENT, SHALL BE LOCATION IN THE SOLAR ZONE. COORDINATE WITH ARCHITECTURAL, PLUMBING, MECHANICAL & ELECTRICAL FOR PENETRATION/OBSTRUCTION LOCATIONS
3. ANY OBSTRUCTIONS, LOCATED ON THE ROOF OR ANY OTHER PART OF THE BUILDING THAT PROJECTS ABOVE A SOLAR ZONE SHALL BE LOCATED AT LEAST TWICE THE DISTANCE, MEASURED IN THE HORIZONTAL PLANE, OF THE HEIGHT DIFFERENCE BETWEEN THE HIGHEST POINT OF THE OBSTRUCTION AND THE HORIZONTAL PROJECTION OF THE NEAREST POINT OF THE SOLAR ZONE, MEASURED IN THE VERTICAL PLANE COORDINATE WITH ARCHITECTURAL, PLUMBING, MECHANICAL & ELECTRICAL FOR PENETRATION/OBSTRUCTION LOCATIONS
4. ANY ROOF OBSTRUCTION, LOCATED ON THE ROOF OR ANY OTHER PART OF THE BUILDING, THAT IS ORIENTATED NORTH OF ALL POINTS ON THE SOLAR ZONE
5. SEE SOLAR ORIENTATION NOTE ON DETAIL #B

KEY NOTES

1. SPAN-LOCK HP 24 GA METAL ROOF PANELS BY 'AEP-SPAN'. INSTALL PER MANUFACTURER INSTRUCTIONS. REFER TO SHEET A3.0A, & A3.0B FOR ADDITIONAL ROOF PANEL INFORMATION
2. OVERHANG MEMBER (SEE STRUCTURAL ROOF FRAMING PLAN FOR PRECISE LENGTH). PRIMARY BLDG ENTRANCES SHALL REQUIRE A 48" MIN DOOR PROTECTION. SEE FLOOR PLAN
3. GUTTER (SEE ROOF DETAILS SHEET FOR MORE INFORMATION)
4. DOWNSPOUT SEE DETAIL #17/A8.0
5. CANOPY OVER EXTERIOR DOOR SEE DETAIL 11/A30.0
6. JOIST (SEE STRUCTURAL ROOF FRAMING PLANS)
7. 16 GA WIRE ATTACHED TO ROOF JOISTS FOR INSULATION SUPPORT AT 24" 0C MAX
8. PLYWOOD FOR ROOF DIAPHRAGM (SEE STRUCTURAL ROOF FRAMING PLANS)
9. NOT USED
10. BUILDING PAPER
11. T-TOP VENT FOR RESTROOM EXHAUST
12. SANITARY VENT PIPE WITH PIPE BOOT. SEE PLUMBING SHEETS
13. SOLATUB, SEE SHEET A11.0
14. SOLAR READY AREA. REFER TO SHEETS A3.7SR - A3.14SR
15. CRICKET REFER TO ROOFING DETAIL SL LOW-31

REAR



FRONT

GENERAL NOTES

1. BUILDING HOUSING GROUP 'E' OCCUPANCIES SHALL HAVE ROOF COVERINGS AS SPECIFIED IN TABLE 1505.1 CBC, CLASS 'B' MIN, PER CBC 1505.1.2
3. SEE SHEET METAL AND FLASHING DETAILS SHEET A3.0b FOR MORE INFORMATION
4. PROVIDE DRAFTSTOPS AT ATTIC SPACES EXCEEDING 3,000 SF PER SECTION 718.4.3 (APPLIES TO BUILDINGS EQUIPPED WITH AN OPEN-WEB TRUSS SYSTEM ONLY). SEE #16/A8.1

ROOF PLAN - MONO SLOPE

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

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DISTRICT/CUSTOMER NAME:
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SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
ROOF PLAN

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

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REGISTERED PROFESSIONAL ENGINEER
BRIAN J. ORION
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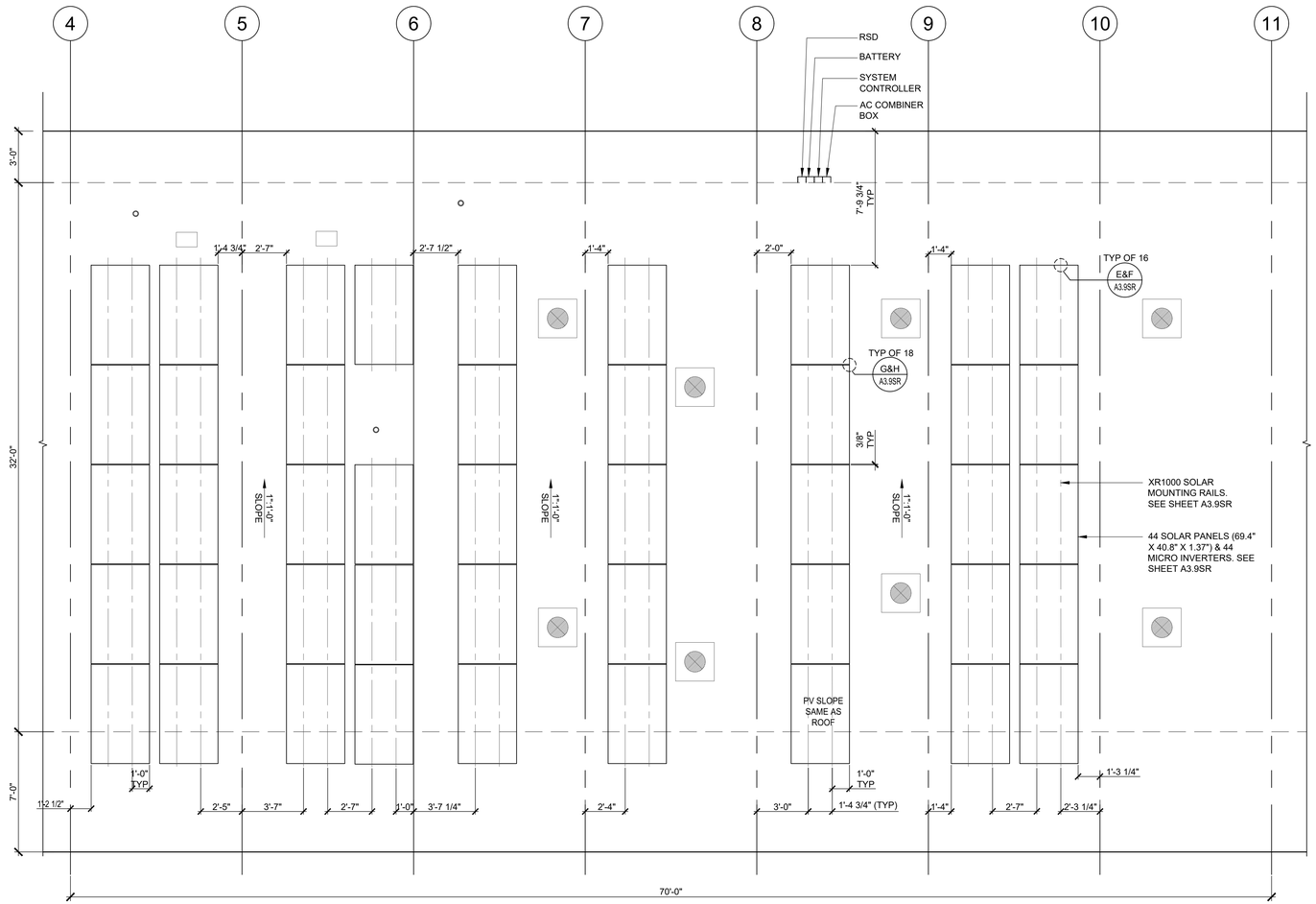
1

Scope of Work

Installation of a 4.81 kW Roof Mounted Solar PV System consisting of 13 Silfab Solar SIL-370 HC Panels, Strings of 44 panels, landing on 2 New solar breakers (20A) In Solar Combiner Box, IQ Controller 3 & 1- LFP Battery (5.0kWh)



SOLAR READY ROOF PLAN

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

NOTE:
PV SLOPE SAME AS ROOF (TYP)

IR 16-8 SECTION 5.1.3 FIELD TESTING REQUIRMENTS

5.1.3 Field Installation Quality Control Testing

All testing shall be performed by a DSA accepted Laboratory Evaluation Acceptance (LEA) laboratory approved by the Architect or Structural Engineer of Record (SEOR) for the project. The Project Inspector or designated Special Inspector shall observe the installation of all connecting devices to the metal roofing. The approved plans shall clearly indicate the testing requirements. The load rate shall be per ICC-ES AC428 Section 3.2.5. The solar field test report shall include the number of tests performed at each building in each wind zone, any failures during testing, and any noticeable deformation after testing and shall be distributed to the Project Inspector and all others indicated to receive such reports. The required testing shall be indicated on the form *DSA 103: List of Required Structural Tests and Special Inspections – 2022 CBC* for the project at the time of approval.

Any damage incurred to the existing roofing during testing shall be repaired at the direction of the design professional in responsible charge and approved by DSA.

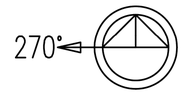
5.1.3.1 Field Testing On New or Supplemental Construction

Field tests described below are required to verify proper installation of the solar system connecting device to the metal roofing during the construction phase of the project. See Photograph #1 in Appendix B below for an illustration of the test.

5.1.3.1.1 After all the connecting devices have been installed, test a minimum of 20 consecutive devices to twice the maximum allowable stress design (ASD) wind uplift load tributary to the connecting device based on the wind pressure at areas of discontinuity such as roof edges and ridges. If there is no failure in 20 consecutive tests, test 10 percent of the remaining installed connecting devices.

5.1.3.1.2 If failure occurs before 20 consecutive successful tests are completed, then additional tests shall be performed until 20 consecutive successful tests are completed, then continue at a rate of 10 percent on the remaining installed devices.

3 AZIMUTH NORTH



5 NOTES

-ALL WORK SHALL COMPLY WITH THE 2022 EDITION TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR). A PROJECT INSPECTOR SHALL BE RETAINED BY THE OWNER AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT (DSA). THE INSPECTOR SHALL PROVIDE CONTIONUS INSPECTIONS OF THE WORK AS DESCRIBED IN TITLE 24, PART 1, CALIFORNIA CODE OF REGULATIONS. WORK SHALL NOT COMMENCE WITHOUT THE PRESENCE OF THE INSPECTOR. DUTIES OF THE INSPECTOR ARE DEINFED IN SECTION 4-342, PART 1, TITLE 24 CCR, CLASS 2

-MANUAL AC DISCONNECTS SHOULD REMAIN IN THE OFF POSITION AFTER FINAL BUILDING INSPECTION; SYSTEM IS NOT ALLOWED TO OPERATE UNTIL WRITTEN AUTHORIZATION IS PROVIDED BY

-ALL PV SYSTEM COMPONENTS SHALL BE LISTED BY A RECOGNIZED TESTING AGENCY

-WIRING MATERIALS SHALL BE SUITABLE FOR THE SUN EXPOSURE AND WET LOCATIONS

--REMOVAL OF INTERACTIVE INVERTER OR OTHER EQUIPMENT SHALL NOT DISCONNECT THE BUILDING CONNECTION BETWEEN THE GROUNDING ELECTRODE CONDUCTOR AND THE PV SOURCE AND/OR OUTPUT CIRCUIT GROUNDED CONDUCTOR

-ALL PV MODULES AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED FROM ANY PHYSICAL DAMAGE

-ALL FIELD-INSTALLED JUNCTION, PULL, AND OUTLET BOXES LOCATED BEHIND MODULES SHALL BE ACCESSIBLE DIRECTLY OR BY BY DISPLACEMENT OF A MODULE SECURED BY REMOVABLE FASTENERS

- SOLAR BREAKER TO BE LOCATED ON OPPOSITE END OF MAIN BREAKER.

- SOLAR ARRAY WILL NOT COVER ANY MECHANICAL OR PLUMBING VENTS.

THE DRAWINGS AND SPECIFICATIONS AND DESIGNS REPRESENTED HEREBY ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT, AND NO PART THEREOF SHALL BE USED OR REPRODUCED FOR ANY PURPOSE OTHER THAN THE SPECIFIED PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT

WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOBSITE AND REPORT ANY DISCREPANCIES TO ARCHITECT.

THE DRAWINGS AND SPECIFICATIONS INDICATE THE GENERAL SCOPE OF WORK AND REQUIRED TECHNICAL PERFORMANCE OF THE BUILDING SYSTEMS AND DO NOT NECESSARILY INDICATE OR DESCRIBE ALL THE WORK REQUIRED FOR FULL PERFORMANCE AND COMPLETION OF THE CONSTRUCTION CONTRACT. BASED ON THE SCOPE OF WORK INDICATED CONTRACTOR SHALL FURNISH ALL ITEMS REQUIRED FOR THE PROPER EXECUTION OF THE PROJECT.

STATE AGENCY APPROVAL

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APP: 03-124330 INC:
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DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

SOLAR READY GENERAL NOTES

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6 ROOF PLAN
Scale: N.T.S.

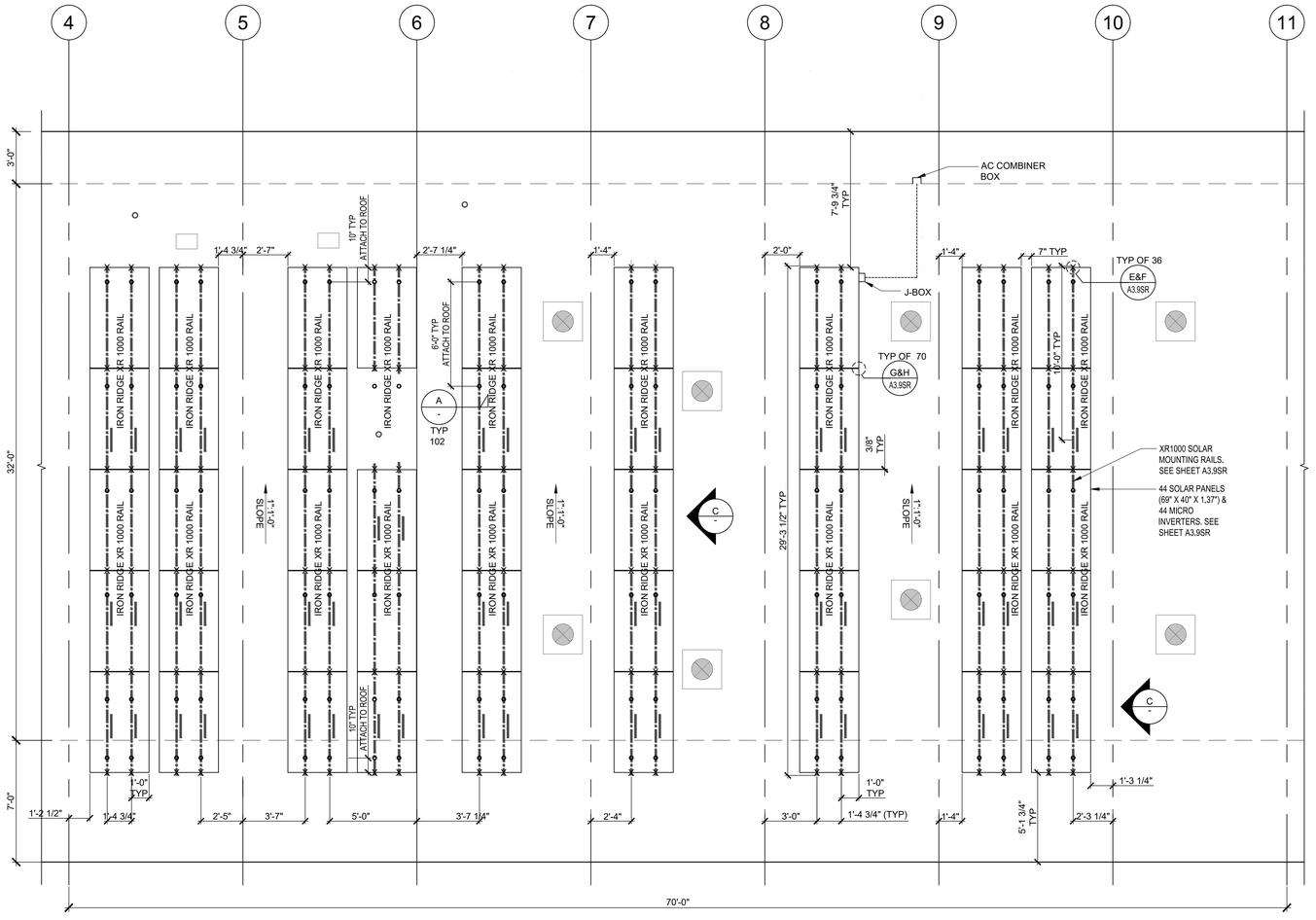
ARRAY AREA & ROOF AREA CALC'S		
ARRAY AREA (Sq Ft.)	ROOF AREA (Sq Ft.)	ROOF AREA (%.)
863 SQFT	5670 SQFT	15.2 %

The photovoltaic inverter will be listed as UL 1741 compliant. (CEC 690.4D).
All photovoltaic system conductors will be 90 degree C rated. (CEC 690.31B, , Table 310.15(B)(16), 310.15(B)(17).
All exterior conduit, fittings, and boxes shall be rain–tight and approved for use in wet locations. (CEC 314.15).
Any conductors exposed to sunlight shall be listed as sunlight–resistant. (CEC 300.6 C1, 310.10 D)
All metallic raceways and equipment shall be bonded and electrically continuous.(CEC 250.90, 250.96)
The photovoltaic arrays shall be provided with DC ground–fault protection. (CEC 690.5).
Grounding bushings are required around pre–punched concentric knockouts on the DC side of the system. (CEC 250.97)
Grounding electrode conductor will be continuous, except for splices or joints at bus bars within listed equipment. (CEC 250.64 C)

Note: All solar energy system appurtenances such as, but not limited to, electrical conduit, junction boxes water tanks, supports, and plumbing, shall be screened to the maximum extent possible without compromising the effectiveness of the solar collectors, and shall be painted a color similar to the color of the surface upon which it is mounted.

LEGEND
X FASTENER SEE DETAIL E OR F
0 ROOF SEAM ATTACHMENT SEE DETAIL A

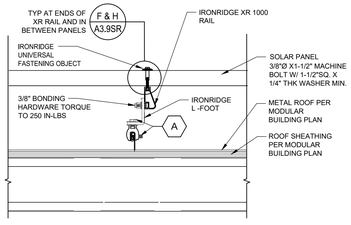
NOTE:
PV SLOPE SAME AS ROOF (TYP)



SOLAR READY PV ROOF PLAN
SCALE: 1/4" = 1'-0"

NOTE:
ALL POINTS OF CONNECTION WILL NEED TO MEET THE UL 61730 REQUIREMENTS

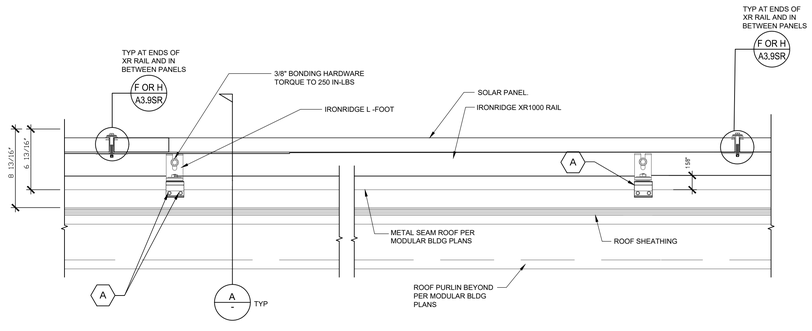
A = S-5-H CLAMP TO STANDING SEAM METAL ROOF BY S-5! CLAMP. TORQUE DOWN CLAMP TO SEAM WITH MIN 130 IN-LBS TO MAX 150 IN-LBS PER ICC REPORT #ESR-3869



ATTACHMENT PERPENDICULAR TO SEAM
SCALE: 1-1/2" = 1'-0"

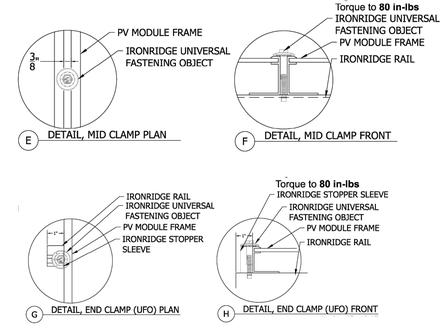
A

NOTE:
1. SOLAR PANEL IS ATTACHED TO METAL SEAM ROOF. SEE #A- ON THS SHEET
2. ALL POINTS OF CONNECTION WILL NEED TO MEET THE UL 61730 REQUIREMENTS



ATTACHMENT PARALLEL TO SEAM
SCALE: 1-1/2" = 1'-0"

C



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DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
SOLAR READY PV ROOF PLAN

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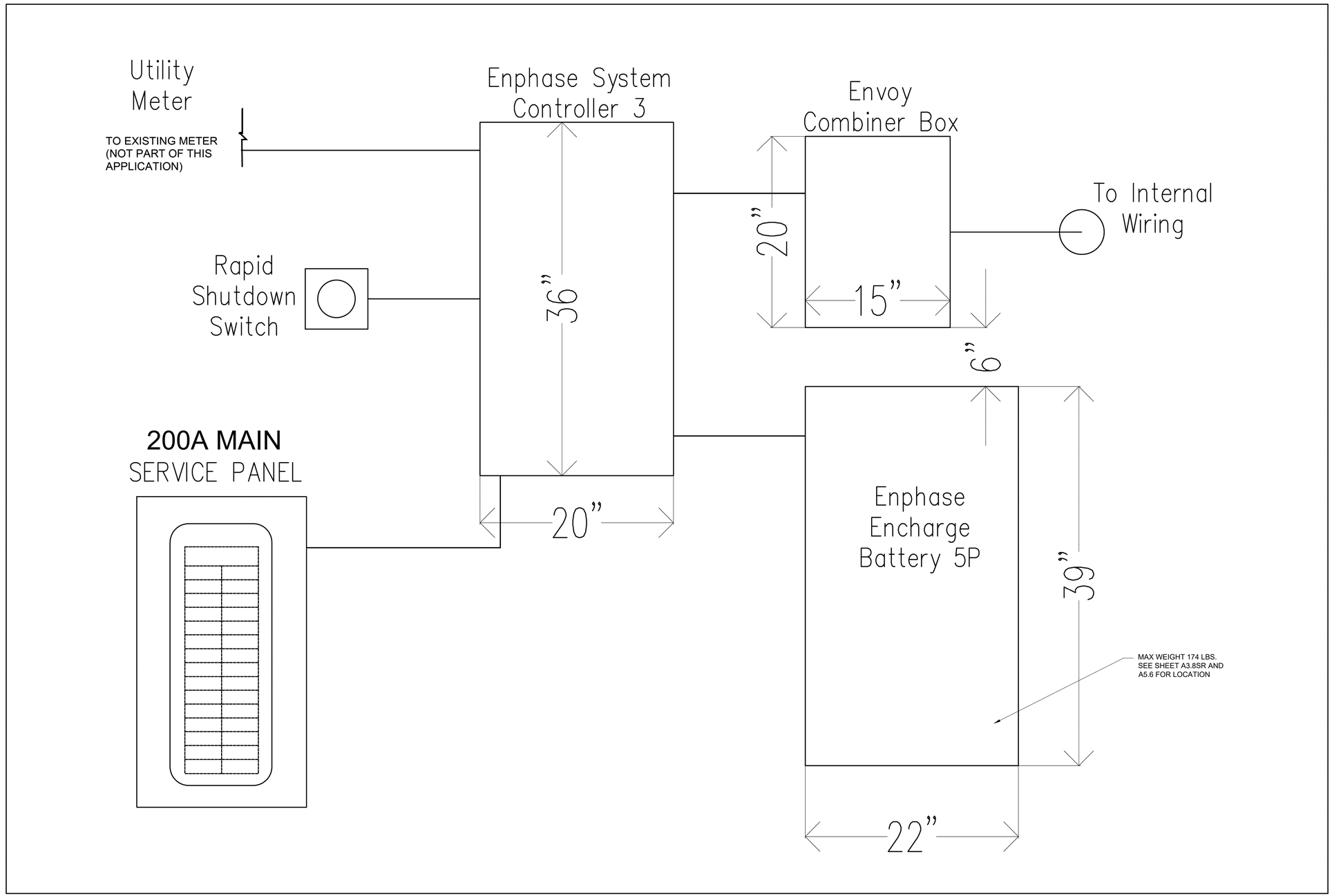
6.1 EQUIPMENT ELEVATION

Scale: NTS

Exterior Wall



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SOLAR READY EQUIPMENT ELEVATION

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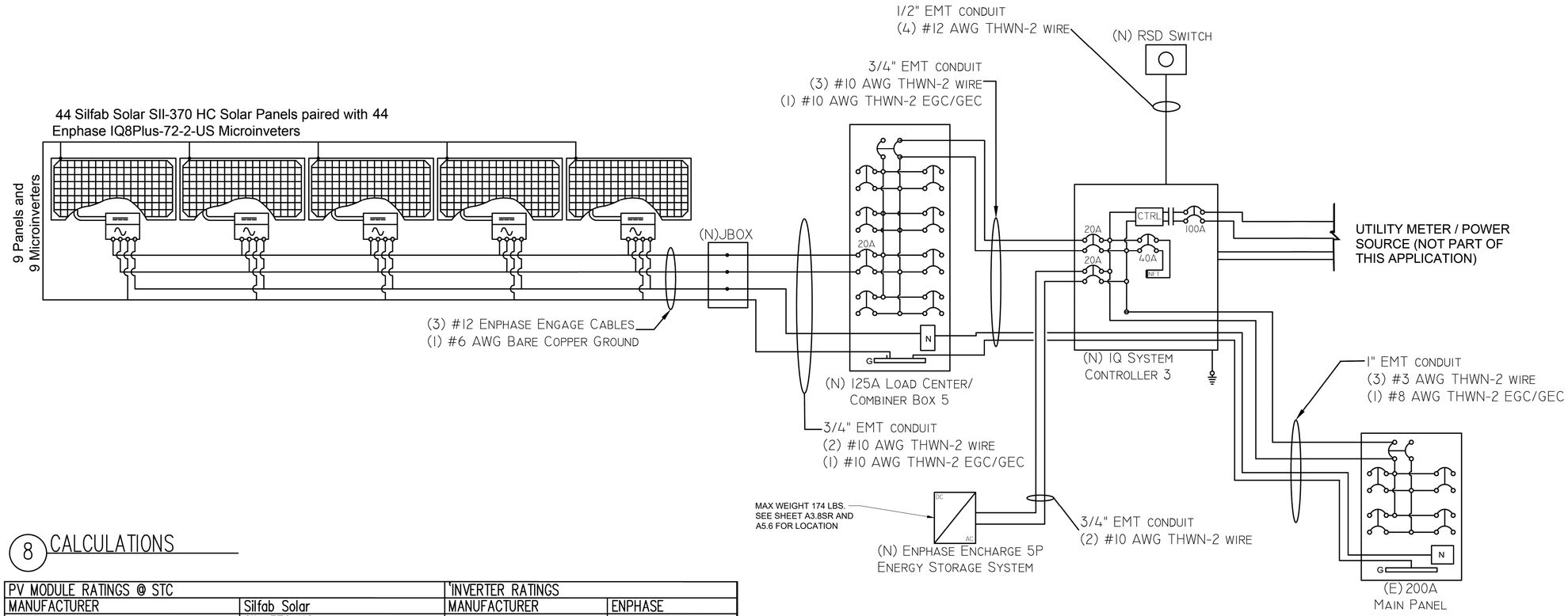
7 ELECTRICAL DIAGRAM



8 CALCULATIONS

PV MODULE RATINGS @ STC		'INVERTER RATINGS	
MANUFACTURER	Silfab Solar	MANUFACTURER	ENPHASE
MODEL	SIL-370 HC	MODEL	IQ8Plus-72-2-US
MAX POWER-POINT CURRENT (Imp)	10.60 A	CEC EFFICIENCY RATING	97%
MAX POWER-POINT VOLTAGE (Vmp)	34.95 V	MAX AC POWER	290 W
OPEN-CIRCUIT VOLTAGE (Voc)	41.75 V	NOMINAL AC VOLTAGE	240 V
SHORT CIRCUIT CURRENT (Isc)	11.25 A	MAX INPUT CURRENT	60A
MAX SERIES FUSE (OCPD)	60A	MAX AC CURRENT	1.21 A
MAXIMUM POWER (Pmax)	370 W	OCPD RATING	60A

INVERTER OUTPUT CIRCUIT CURRENT x NUMBER OF
INVERTERS IN STRING x NUMBER OF STRINGS x 1.25 CONT.

1.21 A x 44 x 1.25 = 53.24 A MIN. 60A Breaker

CONDUCTOR SCHEDULE & AMPACITY CALCULATIONS, CONDUCTOR SIZE DERATED FOR AMBIENT TEMPERATURE (SEE NOTE 1)					
SECTION	CONDUCTOR TYPE	CONT. CURRENT	CONT. CURRENT x 1.25	TYP. WIRE SIZE (SEE NOTE 2)	DERATED WIRE CAPACITY CALCULATIONS (SEE NOTE 2)
AC SOURCE WIRE	USE-2	10.89 A	53.24 A	6 AWG	35 A x 1.00 x 1.0 = 35 A
	BARE COPPER EQUIP. GROUND			6 AWG	SIZED AS PER CEC TABLE 250.122
AC WIRE	THWN-2	1.21 A	1.51 A	10 AWG	40 A x 1.00 = 40 A
	INSULATED EGC			10 AWG	SIZED AS PER CEC TABLE 250.122 / 250.66
Note 1: When available for location, the ashrae extreme annual mean temp and ashrae 2% design temp. are used for required low and high temperature calcutations.					
Note 2: Typical wire sizes provided include ambient temperature adjustment at 27°C, with a 22° roof temperature adder where applicable. additional derating used 0.8 for 4-6 conductors in a raceway.					

Solar breaker(s) is/are located at the opposite end of the buss bar from the main breaker. The sum of the breakers do NOT exceed the ampacity of the Buss bar.

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SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER
ELEMENTARY SCHOOL

SHEET TITLE:

SOLAR READY ELECTRICAL
DIAGRAM

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SIL-370 HC

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DIRECT FROM THE SOURCE.

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Designed to outperform.

Dependable, durable, high-performance solar panels engineered for North American homeowners.

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* Check certifies error and volume issuance to Wild Silfar Inc.

ELECTRICAL SPECIFICATIONS		STC	NOCT
Test Conditions		STC	NOCT
Module Power (Pmax)	Wp	370	276
Maximum power voltage (Vpmax)	V	34.95	32.48
Maximum power current (Ipmax)	A	10.59	8.50
Open circuit voltage (Voc)	V	42.72	39.58
Short circuit current (Isc)	A	11.26	9.07
Module efficiency	%	20.2%	19.9%
Maximum system voltage (VDC)	V	1000	
Series fuse rating	A	20	
Power Tolerance	Wp	5 to +10	

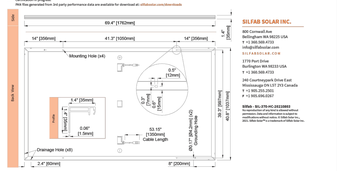
Measurement conditions: STC 1000 W/m² • AM 1.5 • Temperature 25 °C • NOCT 800 W/m² • AM 1.5 • Measurement uncertainty ± 3%
Each module is tested 100% during production to confirm that module electrical characteristics may vary by ±3% and power by 0 to +3%.

MECHANICAL PROPERTIES / COMPONENTS	METRIC	IMPERIAL
Module weight	19.5kg ±0.2kg	43lbs ±0.4lbs
Dimensions (H x L x D)	1782 mm x 1037 mm x 30 mm	69.4 in x 40.8 in x 1.37 in
Maximum surface load (wind/snow)*	5400 Pa rear load / 5400 Pa front load	112.8 lb/ft² rear load / 112.8 lb/ft² front load
Hail impact resistance	25 mm at 83 km/h	1 in at 51 mph
Cells	120 half cells - 9 busbars PERC 9 busbar - 5.0 x 8.5 (H)	120 half cells - 9 busbars PERC 9 busbar - 5.0 x 8.5 (H)
Glass	3.2 mm high transmittance, tempered, DSM antireflective coating	0.126 in high transmittance, tempered, DSM antireflective coating
Cables and connectors (refer to installation manual)	1000 mm (+) & (-) cables with Stäubli MC4-EVO2A connectors	39.4 in (+) & (-) cables with Stäubli MC4-EVO2A connectors
Backsheet	Multi-layer, superior hydrolysis and UV resistance, multi-layer dielectric film, fluorine-free PV backsheet	
Frame	Anodized Aluminum (Black)	
Bypass diodes	9 diodes 30SQ045T 45V max DC blocking voltage, 50A max forward rectified current	
Junction Box	UL 3730 Certified, IP67 or IP68 rated, 3 diodes	

TEMPERATURE RATINGS		WARRANTIES	
Temperature Coefficient Isc	+0.064 %/°C	Module product workmanship warranty	25 years**
Temperature Coefficient Voc	-0.29 %/°C	Linear power performance guarantee	30 years 1.5% 1st year ≤ 97.5% end 12th yr ≤ 91.5% end 20th yr ≤ 83.5% end 30th yr
Temperature Coefficient Pmax	-0.36 %/°C		
NOCT (± 2°C)	45 °C		
Operating temperature	-40/+85 °C		

CERTIFICATIONS		SHIPPING SPECS	
Product	IEC 61215 (2105), IEC 61730 (2105), IEC 61701 (2012) (Salt Mist Corrosion Certified, Ammonia Resistance), IEC 62716 (2013), IEC 62804 (2015), IEC 60068-2-68 (2015), IEC 61853-1 (2011), Salt Mist Corrosion Certified, UL Fire Rating: Type 1	Modules Per Pallet: 26	26 or 28 (California)
		Pallets Per Truck: 34	34 or 32 (California)
Factory	ISO9001:2015	Modules Per Truck: 884	884 or 832 (California)

⚠ Warning. Read the Safety and Installation Manual for mounting specifications and before handling, installing and operating modules.
* 12 year extendable to 25 years subject to registration and conditions outlined under "Warranty" at silfabsolar.com
** Lucrification in progress.
*** PAN files generated from 3rd party performance data are available for download at silfabsolar.com/downloads



SILFAB SOLAR INC.
800 Cornwall Ave
Bellingham WA 98225 USA
T +1 360.569.4733
info@silfabsolar.com

1779 Pont Drive
Burlington WA 98233 USA
T +1 360.569.4733

240 Courtneypark Drive East
Mississauga ON L5T 2Y3 Canada
T +1 905.255.2501

SIRAs - SIL-370-HC-20220803
Product conforms to the requirements of the relevant standards as detailed above. Detailed information is subject to regular review and is correct at the time of issue (see www.iecex.com for latest status).
IECEx SIRA Ex/PT Certificate Number: IECEx SIR 22.0031X

IRONRIDGE

28357 Industrial Blvd.
Hayward, CA 94545
1-800-227-9523
IronRidge.com

Attn: Sean McDonald, CEO, IronRidge Inc.
Date: November 16th, 2022

Re: Structural Certification and Span Tables for the IronRidge Flush Mount System

This letter addresses the structural performance and code compliance of IronRidge's Flush Mount System. The contents of the letter shall be read in its entirety before applying to any project design. The Flush Mount System is a proprietary rooftop mounting system used to support photovoltaic (PV) modules installed in portrait or landscape orientation and set parallel to the underlying roof surface. PV modules are supported by extruded aluminum XR Rails and secured to the rails with IronRidge mounting clamps. The XR Rails are side mounted to a selected roof attachment with 3/8" stainless steel bonding hardware and then attached directly to the roof structure or to a stanchion that is fastened to the underlying roof structure. Assembly details of a typical Flush Mount installation and its core components are shown in Exhibit EX-0015.

The IronRidge Flush Mount System is designed and certified to the structural requirements of the reference standards listed below, for the load conditions and configurations tabulated in the attached span tables.

- ASCE/SEI 7-16 Minimum Design Loads for Buildings and Other Structures (ASCE 7-16)
- 2021 International Building Code (IBC-2021)
- 2022 California Building Code (CBC-2022)
- 2020 Aluminum Design Manual (ADM-2020)
- Report SEAOC (Structural Engineer Association of California) PV2-2017 Wind Design for Solar Arrays

The tables included in this letter provide the maximum allowable spans of XR Rails in the Flush Mount System for the respective loads and configurations listed, covering wind exposure categories B, C, & D, roof zones provided in ASCE 7-16 for gable & hip roof profiles, and roof slopes of 8° to 45°. The tabulated spans are applicable when the following conditions are met:

1. Span is the distance between two adjacent roof attachment points (measured at the center of the attachment fastener).
2. Each module shall be supported by 2 rails (2 rail system) or 3 rails (3 rail system). Spans are calculated based on 2 rail systems, and conservatively deemed acceptable for 3 rail systems.
3. The underlying roof slope, measured between the roof surface and horizontal plane, is 8° to 45°.
4. The mean roof height, defined as the average of the roof eave height and the roof ridge height measured from grade, does not exceed 30 feet.
5. A clearance from the underside of the array to the roof surface of 2" minimum shall be provided and the height of the array, the distance from the module top surface to the roof surface (defined as h_c), shall not exceed 10".
6. Module length and area shall not exceed the maximum values listed on the respective span tables.
7. All Flush Mount components shall be installed in a professional workmanlike manner per IronRidge's *Flush Mount Installation Manual* and other applicable standards for the general roof construction practice.

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The parameters and adjustments allowed in the span tables are detailed as the following:

1. The Flush Mount System is designed as a Risk Category II structure as defined by ASCE 7-16 Table 1.5-1.
2. Wind speed shall conform to ASCE 7-16 Fig. 26.5-1B (for Risk Category II) and applicable state & local county/city amendments to the IBC. No special wind topographic features are included and both topographic coefficient (K_{zt}) and wind ground elevation factor (K_d) are taken as 1.0.
3. Snow load used in the span tables is the ground snow and shall conform to ASCE 7-16 Fig. 7.2-1 and applicable state & local county/city amendments to the IBC. If the local jurisdiction specified snow load is in the format of a flat roof snow, it shall first be converted to a ground snow following the local building code amendments before the application of the attached span tables. No special snow conditions are considered including unbalanced, drifting, sliding, retention, or ponding snow. No shed or multi-level roof is considered. The span tables do not apply to buildings which are intentionally kept below freezing, kept just above freezing, or unheated.
4. The span tables reflect the ASCE 7 prescribed earthquake loads with the maximum magnitudes being:
   (a) For ground snow no greater than 42psf: $S_s \leq 2.0g$ for Site Class A, B, C, & D.
   (b) For ground snow greater than 42psf: $S_s < 1.0g$ for Site Class A, B, C, & D.
   (c) For ground snow between 42 and 65psf: $S_s \leq 1.5g$ for Site Class A, B, C, & D.
5. Roof zones are defined by ASCE 7-16 Figure 30.3-2A to Figure 30.3-2I and are organized into three groups in which the zones share the same External Pressure Coefficients (GC_p). Roof zones comprising each group along with each roof zone's size and location are depicted in Figures 2 and 3 below each span table.
6. The maximum rail cantilever length, measured from the rail end to the nearest attachment point, shall be the lesser of the following two conditions: 40% of the allowable span provided for the respective load & configuration condition from the span tables, or 36".
7. Allowable span length in the charts may be multiplied by a factor of 1.08 if the rails are continuous over a minimum of three spans.
8. No splices are allowed in the rail cantilever. For each XR splice type install per the following requirements:
   a) XR Bonded Splice cannot be installed in the center 1/3 of interior spans, or the outer 2/3 of end spans.
   b) BOSS Splice can be installed at any location within a span.
9. Shaded cells of the span tables indicate conditions in which UFO Mid Clamp connection capacity is exceeded. If such conditions are encountered contact techsupport@ironridge.com.

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10. Systems using CAMO module clamps shall be installed with the following guidance:
    a) For single module installations (orphan modules) using modules with a length greater than 67.5", CAMO clamps shall not be installed in regions that experience ground snow loads of 70psf and greater. Such scenarios are shown by asterisks in the applicable span tables.
    b) CAMO will function within a module's design load ratings. Be sure the specific module being used with CAMO meets the dimensional requirements shown in the figure below and that the module selected is suitable for the environmental conditions of a particular project.

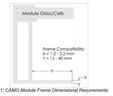

Figure 1: CAMO Module Frame Dimensional Requirements

Span values for *Exposed* and *Edge* module conditions, as defined below, are included in the attached span tables and shall be used when each condition exists. The maximum allowable span for *Exposed* or *Edge* modules shall be the lesser of the following two: (1) The span value for the *Exposed* or *Edge* module condition; (2) The span value determined by site wind speed and ground snow load. Additionally, irrespective of the lesser span, the shaded cells for the *Exposed* and *Edge* module conditions which reflect the UFO clamp usage limitation detailed in note 9 of page 2 shall apply to the respective condition.

1. Exposed Module conditions:

A module is defined as *Exposed* (per Section 29.4.4 of ASCE 7-16) if the distance from any of its free edges (an edge with no connectivity to other modules) to its facing roof edge (such as eave, ridge, rake, or hip) is greater than 0.5h (h is the local roof mounting height) AND if the distance from its free edge to any other adjacent array or panel is greater than 4 feet.

The allowable spans and cantilever shall only be applied to the portion of rail directly under *Exposed Modules*.

2. Edge Module conditions:

A module is defined as an *Edge Module* when its distance from any side of the module to its facing perimeter roof edge (such as eave, ridge, rake, or hip) is less than 2 times the height of the array ($2h_c$) where h_c is measured from the roof surface to the top surface of the module.

The allowable spans and cantilever shall only be applied to the portion of rail directly under *Edge Modules*. Additionally, if the roof edge is the eave or ridge, only the rail nearest to that roof edge shall be considered for this span adjustment.

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The span tables provided in this letter are certified based on the structural performance of IronRidge XR Rails only with no consideration of the structural adequacy of the chosen roof attachments, PV modules, or the underlying roof supporting members. It is the responsibility of the installer or system designer to verify the structural capacity and adequacy of the aforementioned system components in regards to the applied or measured loads of any chosen array configuration. This letter certifies the IronRidge products referenced within this document and provides no determination of the project specific conditions including site loads, building profile, & roof zones, which remain the responsibility of the installer or system designer.

Sincerely,

Gang Xuan, SE
Senior Structural Engineer

Digitally signed by Gang Xuan
Date: 2022.11.18 10:58:00 -08'00'

Tech Brief

IRONRIDGE

QuickMount® Lynx®

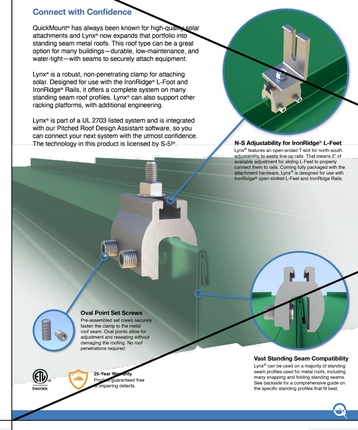
Metal Roof Attachment

Connect with Confidence

QuickMount® has always been known for high-quality solar attachments and Lynx® now expands that portfolio into standing seam metal roofs. This roof type can be a great option for many buildings—durable, low-maintenance, and water-tight—with seams to securely attach equipment.

Lynx® is a robust, non-penetrating clamp for attaching solar. Designed for use with the IronRidge® L-Foot and IronRidge® Rails, it offers a complete system on many standing seam roof profiles. Lynx® can also support other racking platforms, with additional engineering.

Lynx® is part of a UL 2703 listed system and is integrated with our Pitched Roof Design Assistant software, so you can connect your next system with the utmost confidence. The technology in this product is licensed by S-5!®.



N-S Adjustability for IronRidge® L-Feet
Lynx® features an open-ended T-slot for north-south adjustability to easily line up rails. That means 2" of total adjustment, allowing you to flash and secure your connect them to rails. Coming fully packaged with the attachment hardware, Lynx® is designed for use with IronRidge® open-slotted L-Feet and IronRidge Rails.

Oval Point Set Screws
Pre-assembled set crews securely fasten the clamp to the metal roof seam. Oval points allow for adjustment and reseating without damaging the roofing. No roof penetrations required.

Vast Standing Seam Compatibility
Lynx® can be used on a majority of standing seam roofs. Engineering has been performed on many snapping and folding standing seams. See backside for a comprehensive guide on the specific standing profiles that fit best.

25-Year Warranty
Protection against manufactured-free and lasting defects.

IRONRIDGE

Lynx® Metal Roof Compatibility

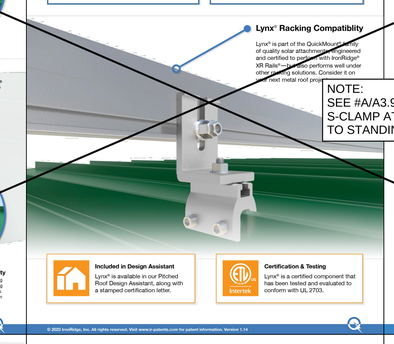
QuickMount® Lynx® can be used on standing seam roofs (folding and snapping styles) with a vertical seam height of at least 1.0" and a horizontal seam width maximum of 0.5". See the Flush Mount Installation Manual for installation details.

Folding Profiles

Snapping Profiles

Lynx® Racking Compatibility

Lynx® is part of the QuickMount® family of quality solar attachments engineered and certified to perform with IronRidge® XR Rails! Lynx® performs well under other racking solutions. Consider it on your next metal roof project.



Included in Design Assistant
Lynx® is available in our Pitched Roof Design Assistant, along with a stamped certification letter.

Certification & Testing
Lynx® is a certified component that has been tested and evaluated to conform with UL 2703.

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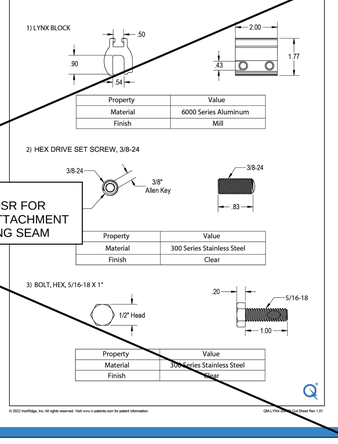
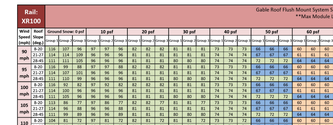
Cut Sheet



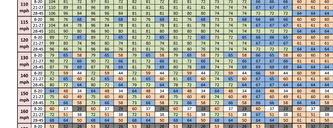
Property	Value
Material	6000 Series Aluminum
Finish	Mill

2) HEX DRIVE SET SCREW, 3/8-24



Property	Value
Material	300 Series Stainless Steel
Finish	Clear

3) BOLT, HEX, 5/16-18 X 1"



Property	Value
Material	300 Series Stainless Steel
Finish	Clear

NOTE:
SEE #A/A3.9SR FOR S-CLAMP ATTACHMENT TO STANDING SEAM

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Tech Brief

IRONRIDGE

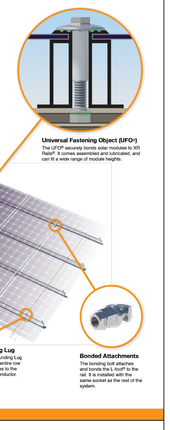
UFO® Family of Components

Simplified Grounding for Every Application

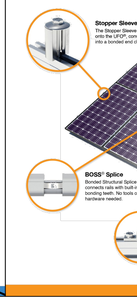
The UFO® family of components eliminates the need for separate grounding hardware by bonding solar modules directly to IronRidge® XR Rails®. All system types that feature the UFO® family—Flush Mount®, Tilt Mount® and Ground Mount®—are fully listed to the UL 2703 standard.

UFO® hardware forms secure electrical bonds with both the module and the rail, resulting in many parallel grounding paths throughout the system. This leads to safer and more reliable installations.

Only for installation and use with IronRidge products in accord with written instructions. See IronRidge.com/UFO

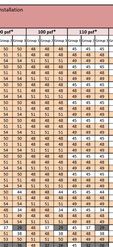


Universal Fastening Object (UFO®)
The UFO® securely bonds solar modules to XR Rails®. It comes assembled, pre-lubricated, and can fit a wide range of module heights.



Stopper Sleeve
The Stopper Sleeve wraps around the UFO, securing it into a bonded and clamp.

BOSS® Splice
Bonded Structural Splice connects rails with built-in bonding teeth. No tools or hardware needed.



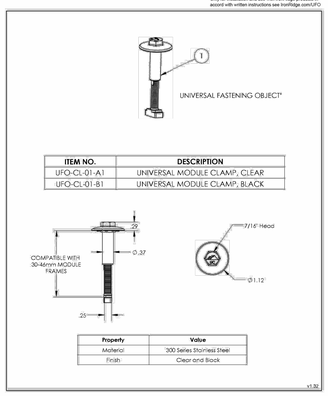
Grounding Lug
A single Grounding Lug connects an entire row of PV modules to the grounding conductor.

Bonded Attachments
The bonding bolt attaches and bonds the L-foot® to the rail. It is installed with the same socket as the rest of the system.

IRONRIDGE

Universal Fastening Object®

Only for installation and use with IronRidge products in accord with written instructions see IronRidge.com/UFO



ITEM NO.	DESCRIPTION
UFO-CL-01-A1	UNIVERSAL MODULE CLAMP, CLEAR
UFO-CL-01-B1	UNIVERSAL MODULE CLAMP, BLACK

Property	Value
Material	300 Series Stainless Steel
Finish	Clear and Black

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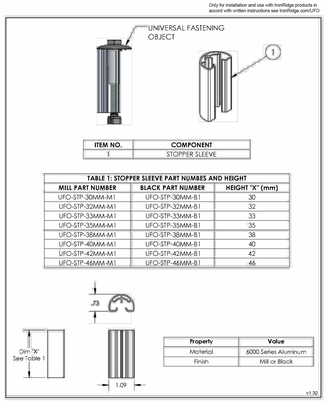
IRONRIDGE

Stopper Sleeve®

Only for installation and use with IronRidge products in accord with written instructions see IronRidge.com/UFO



ITEM NO.	COMPONENT
1	STOPPER SLEEVE

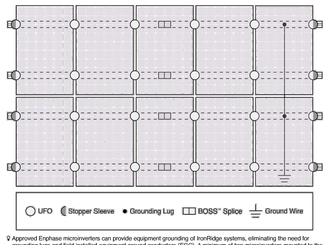
TABLE 1: STOPPER SLEEVE PART NUMBES AND HEIGHT

MILL PART NUMBER	BLACK PART NUMBER	HEIGHT "X" (mm)
UFO-STP-30MM-A1	UFO-STP-30MM-B1	30
UFO-STP-32MM-A1	UFO-STP-32MM-B1	32
UFO-STP-33MM-A1	UFO-STP-33MM-B1	33
UFO-STP-35MM-A1	UFO-STP-35MM-B1	35
UFO-STP-38MM-A1	UFO-STP-38MM-B1	38
UFO-STP-40MM-A1	UFO-STP-40MM-B1	40
UFO-STP-42MM-A1	UFO-STP-42MM-B1	42
UFO-STP-46MM-A1	UFO-STP-46MM-B1	46

Property	Value
Material	6000 Series Aluminum
Finish	Mill or Black

Tech Brief

System Diagram



▽ Approved Enphase microinverters can provide equipment grounding of IronRidge systems, eliminating the need for grounding lugs and field installed equipment ground conductors (EGC). A minimum of two microinverters mounted to the same rail and connected to the same Engage cable is required. Refer to installation manuals for additional details.

UL Certification

The IronRidge® Flush Mount®, Tilt Mount®, and Ground Mount Systems have been listed to UL 2703 by Intertek Group plc.

UL 2703 is the standard for evaluating solar mounting systems. It ensures these devices will maintain strong electrical and mechanical connections over an extended period of time in extreme outdoor environments.

Go to IronRidge.com/UFO

Cross-System Compatibility			
Feature	Flush Mount	Tilt Mount	Ground Mount
XR Rails®	✔	✔	XR100 & XR1000
UFO®/Stopper	✔	✔	✔
BOSS® Splice	✔	✔	N/A
Grounding Lugs	1 per Row	1 per Row	1 per Array
Microinverters & Power Optimizers	Compatible with most MLPE manufacturers. Refer to system installation manual.		
Fire Rating	Class A	Class A	N/A
Modules	Tested or Evaluated with over 400 Framed Modules Refer to installation manuals for a detailed list.		

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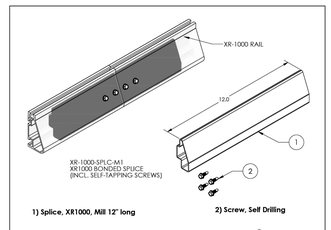
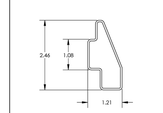
IRONRIDGE

XR1000 Bonded Splice

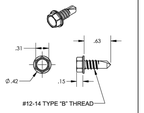


1) Splice, XR1000, Mill 12" long



Property	Value
Material	6000 Series Aluminum
Finish	Mill

2) Screw, Self Drilling



#12-14 TYPE "B" THREAD

Property	Value
Material	300 Series Stainless Steel
Finish	Clear

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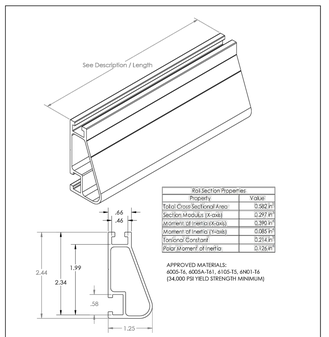
IRONRIDGE

XR100® Rail



Rail Section Properties	
Property	Value
Total Cross Sectional Area:	0.582 in²
Section Modulus (X-axis)	0.297 in³
Moment of Inertia (X-axis)	0.390 in⁴
Moment of Inertia (Y-axis)	0.085 in⁴
Torsional Constant	0.214 in⁴
Polar Moment of Inertia	0.126 in⁴

APPROVED MATERIALS:
6005-T5, 6005A-T61, 6105-T5, 6N01-T6
(34,000 PSI YIELD STRENGTH MINIMUM)

Clear Part Number	Black Part Number	Description / Length	Material	Weight
XR-100-132A	XR-100-132B	XR100, Rail 132" (11 Feet)	6000-Series Aluminum	7.30 lbs.
XR-100-168A	XR-100-168B	XR100, Rail 168" (14 Feet)		9.55 lbs.
XR-100-204A	XR-100-204B	XR100, Rail 204" (17 Feet)		11.60 lbs.

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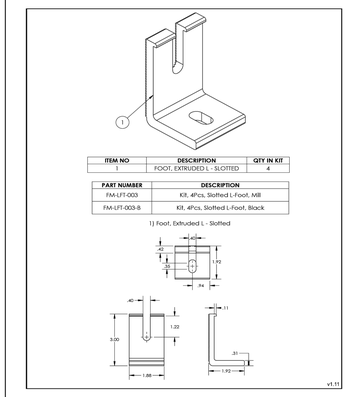
IRONRIDGE

L-Foot



ITEM NO	DESCRIPTION	QTY IN KIT
1	FOOT, EXTRUDED L - SLOTTED	4

PART NUMBER	DESCRIPTION
FM-LFT-003	Kit, 4Pcs, Slotted L-Foot, Mill
FM-LFT-003-B	Kit, 4Pcs, Slotted L-Foot, Black

1) Foot, Extruded L - Slotted

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Rail: XR100

Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation
Max Module Length: 86", Max Module SF: 24.5 SF
Exposure D

Wind Speed (mph)	Roof Slope	Ground Snow 0 psf		10 psf		20 psf		30 psf		40 psf		50 psf		60 psf		70 psf*		80 psf*		90 psf*		100 psf*		110 psf*		120 psf*		Exposed Mod.		Edge Mod.	
		Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.	Group	Cant.
90 mph	8-20	112	36	96	36	96	36	96	36	96	36	96	36	96	36	96	36	96	36	96	36	96	36	96	36	96	36	96	36	96	36
	21-27	114	114	109	96	96	96	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	110	89	83	83
	28-45	111	111	105	96	96	96	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	107	89	83	83
95 mph	8-20	108	99	88	88	88	88	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	96	75	82	82
	21-27	114	107	105	96	96	96	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	96	75	82	82
	28-45	111	110	99	96	96	96	81	81	81	81	80	80	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	96	75	82	82
100 mph	8-20	104	88	88	88	88	88	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	85	66	73	73
	21-27	114	100	96	96	96	96	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	85	66	73	73
	28-45	111	105	96	96	96	96	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	85	66	73	73
105 mph	8-20	101	80	80	80	80	80	80	80	80	80	80	80	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	76	59	67	67
	21-27	114	96	96	96	96	96	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	91	73	67	67
	28-45	111	96	96	96	96	96	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	91	73	67	67
110 mph	8-20	104	81	73	73	73	73	73	73	73	73	73	73	73	73	73	73	67	67	61	61	57	57	54	54	51	51	48	48	48	48	69	54	61	61
	21-27	114	88	88	88	88	88	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	83	66	61	61
	28-45	111	88	88	88	88	88	81	81	81	81	81	81	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	83	66	61	61
115 mph	8-20	98	76	68	68	68	68	68	68	68	68	68	68	68	68	68	68	67	67	61	61	57	57	54	54	51	51	48	48	48	48	64	50	56	56
	21-27	114	84	76	76	76	76	76	76	76	76	76	76	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	80	63	56	56
	28-45	111	84	76	76	76	76	76	76	76	76	76	76	74	74	74	74	67	67	61	61	57	57	54	54	51	51	48	48	48	48	80	63	56	56
120 mph	8-20	95	72	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	61	61	57	57	54	54	51	51	48	48	48	48	60	47	52	52
	21-27	114	80	72	72	72	72	72	72	72	72	72	72	72	72	72	72	67	67	61	61	57	57	54	54	51	51	48	48	48	48	76	59	52	52
	28-45	111	80	72	72	72	72	72	72	72	72	72	72	72	72	72	72	67	67	61	61	57	57	54	54	51	51	48	48	48	48	76	59	52	52
130 mph	8-20	92	68	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	57	57	54	54	51	51	48	48	48	48	56	44	48	48
	21-27	114	76	68	68	68	68	68	68	68	68	68	68	68	68	68	68	67	67	61	61	57	57	54	54	51	51	48	48	48	48	72	56	48	48
	28-45	111	76	68	68	68	68	68	68	68	68	68	68	68	68	68	68	67	67	61	61	57	57	54	54	51	51	48	48	48	48	72	56	48	48
140 mph	8-20	73	59	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	51	51	48	48	48	48	49	38	41	41
	21-27	114	66	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	53	53	50	50	47	47	45	45	42	42	42	42	63	49	41	41
	28-45	111	66	59	59	59	59	59	59	59	59	59	59	59	59	59	59

10 SIGNAGE DETAILS

FORMAT: WHITE LETTERING ON A RED BACKGROUND. (2) MINIMUM 3/8 INCHES LETTER HEIGHT. (3) ALL LETTERS SHALL BE CAPITALIZED. (4) ARIAL OR SIMILAR FONT, NON-BOLD. MATERIAL: REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (USE UL-969 AS STANDARD FOR WEATHER RATING). DURABLE ADHESIVE MATERIALS MEET THIS REQUIREMENT.

To be installed on the Main Service Panel

CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED

PHOTOVOLTAIC POWER SOURCE

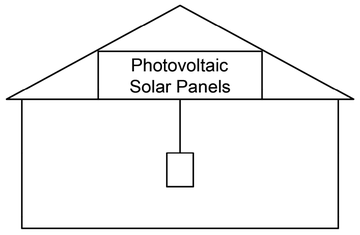
RATED AC OUTPUT CURRENT 10.89 A
NOM. OPERATING AC VOLTAGE 240 V

WARNING:

INVERTER OUTPUT CONNECTION DO NOT RELOCATE OVERCURRENT DEVICE

CAUTION:

DUAL POWER SOURCES
PRIMARY SOURCE IS UTILITY GRID
SECONDARY SOURCE IS PV SYSTEM



PHOTOVOLTAIC SOLAR SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN SYSTEM

TURN RAPID SHUTOFF SWITCH TO THE "OFF" POSITION TO SHUTDOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY.

RAPID SHUTDOWN SWITCH FOR SOLAR PHOTOVOLTAIC SYSTEM

Conduits and Raceways Label every 10'

WARNING: PHOTOVOLTAIC POWER SOURCE

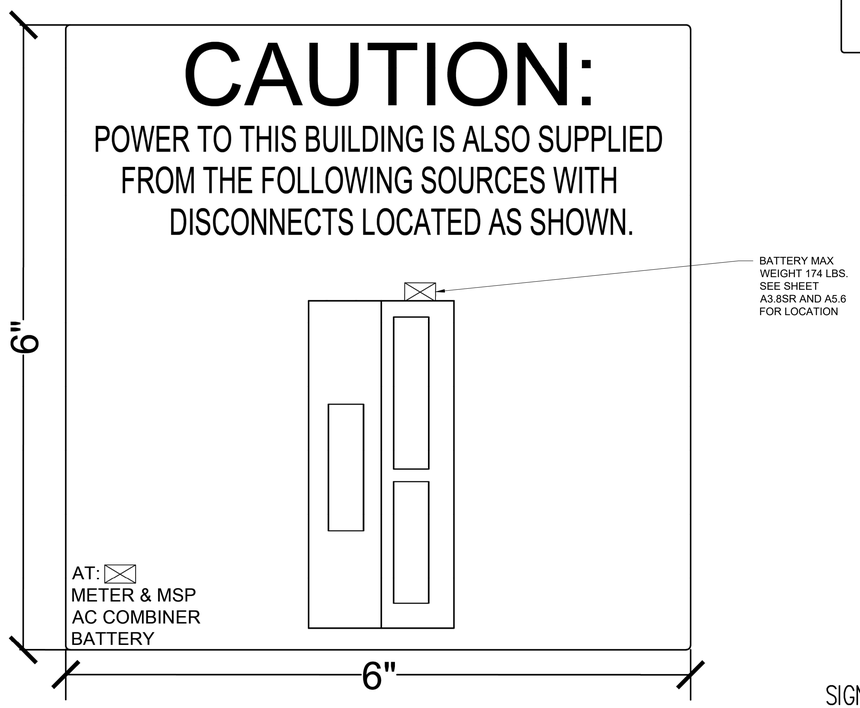
To be installed at COMBINER

WARNING
THE DISCONNECTION OF THE GROUNDED CONDUCTOR(S) MAY RESULT IN OVERVOLTAGE ON THE EQUIPMENT.

WARNING
ELECTRIC SHOCK HAZARD
TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.

DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

Facilities Placard – to be installed on face of Service Panel



To be installed at AC Disconnect and any load centers.

SOLAR AC DISCONNECT

PHOTOVOLTAIC AC DISCONNECT

RATED AC OUTPUT CURRENT 10.89 A
NOM. OPERATING AC VOLTAGE 240 V

BATTERY 1 OF 1 — MAX WEIGHT 174 LBS. SEE SHEET A3.8SR AND A5.6 FOR LOCATION

BATTERY ESSENTIAL LOADS PANEL

ENERGY STORAGE SYSTEM DISCONNECT

CAUTION

TRI POWER SOURCES
SECOND SOURCE IS AC BATTERY
THIRD SOURCE IS PV SYSTEM

All signage to be Permanent and Weather Resistant

SIGNAGE COMPLIES WITH 2022 CEC 690.13(B), 690.31(B)(1), 690.31(G)

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
SOLAR READY SIGNAGE DETAIL

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA. 92127
PHONE (858)-679-1974

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1 -
2 -
3 -
4 -
5 -

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A3.13SR

5/2/2025 12:23:21 PM

ENPHASE.

DATASHEET

IQ System Controller 3/3G

The Enphase IQ System Controller 3/3G connects the home to grid power, the IQ Battery system, and solar PV. It provides microgrid interconnect device (MID) functionality by automatically detecting and seamlessly transitioning the home energy system from grid power to backup power in the event of a grid failure. It controls the microgrid interconnection equipment into a single enclosure and it seamlessly grid-forms/unforms PV and storage installations by providing a consistent, pre-wired solution for residential applications.

IQ Series Microinverters
The high-powered smart grid-ready IQ Series Microinverters (IQ8 Series, IQ8, IQ7, and IQ8 Series) dramatically simplify the installation process

IQ Battery 5P
Fully integrated AC battery system. Includes six field-replaceable IQ8D-BAT microinverters

IQ Combiner 5/5C
Consolidates PV interconnection equipment into a single enclosure and streamlines IQ Series Microinverters and IQ Gateway installation by providing a consistent, pre-wired solution for residential applications

IQ Load Controller
Helps prioritize essential appliances during a grid outage to optimize energy consumption and prolong battery life

10-year limited warranty

LISTED

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[1] IQ System Controller 3 is not available for use as service equipment in Canada.

IQSC-3-DSH-0002I-3.0-EN-US-2023-08-08

Easy to install

- Connects to service entrance* or main load center
- Includes neutral-forming transformer
- Mounts on single stud with centered brackets
- Provides conduit entry from the bottom, left, or right
- Includes color-coded wires for ease of wiring the System Shutdown Switch
- Integrates hold-down functionality to eliminate the need for hold-down kits and special breakers

Flexible

- Can be used for Sunlight Backup, Battery Essentials Backup, or Full Energy Independence
- IQ System Controller 3 integrates with IQ Battery 5P
- IQ System Controller 3G integrates with select AC standby generators. See the Generator integration tech brief for a list of generators
- Provides a seamless transition to backup

Safe and reliable

- System Shutdown Switch can be used to disconnect PV, battery, and generator systems
- System Shutdown Switch acts as a rapid shutdown initiator of grid-forming IQ8 PV Microinverters for the safety of maintenance technicians/first responders
- 10-year limited warranty

ENPHASE.

DATA SHEET

IQ8 Series Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.

Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.

IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.

Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.

IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

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IQ8SE-DS-0001-01-EN-US-2022-03-17

Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) requirements

* Only when installed with IQ System Controller 2, meets UL 1741, IQ8H-208V operates only in grid-tied mode.
** IQ8 Series Microinverters supports split phase, 240V; IQ8H-208 supports split phase, 208V only.

IQ8SE-DS-0001-01-EN-US-2022-03-17

IQ8 Series Microinverters

INPUT DATA (DC)		IQ8-SE-2-US	IQ8PLUS-72-2-US	IQ8M-72-2-US	IQ8H-72-2-US	IQ8H-240-72-2-US	IQ8H-208-72-2-US*
Commonly used module pairings†	W	235 – 350	235 – 440	260 – 460	295 – 500	320 – 540+	295 – 500+
Module compatibility		60-cell/120 half-cell		60-cell/120 half-cell, 66-cell/132 half-cell and 72-cell/144 half-cell			
MPPT voltage range	V	27 – 37	29 – 45	33 – 45	36 – 45	36 – 45	36 – 45
Operating range	V	25 – 48			25 – 58		
Min/max start voltage	V	30 / 48			30 / 58		
Max input DC voltage	V	50			60		
Max DC current**[module Isc]	A	15					
Overvoltage class DC port		II					
DC port backfeed current	mA	0					
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit					

OUTPUT DATA (AC)		IQ8-SE-2-US	IQ8PLUS-72-2-US	IQ8M-72-2-US	IQ8H-72-2-US	IQ8H-240-72-2-US	IQ8H-208-72-2-US†
Peak output power	VA	245	300	330	366	384	366
Max continuous output power	VA	240	290	325	349	380	360
Nominal (L-L) voltage/range*	V	240 / 211 – 264					208 / 183 – 230
Max continuous output current	A	1.0	1.21	1.35	1.45	1.58	1.73
Nominal frequency	Hz	60					
Extended frequency range	Hz	50 – 68					
AC short circuit fault current over 3 cycles	Arms	2					4.4
Max units per 20 A (L-L) branch circuit*		16	13	11	11	10	9
Total harmonic distortion		<5%					
Overvoltage class AC port		III					
AC port backfeed current	mA	30					
Power factor setting		1.0					
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging					
Peak efficiency	%	97.5	97.6	97.6	97.6	97.6	97.4
CEC weighted efficiency	%	97	97	97	97.5	97	97
Night-time power consumption	mW	60					

ENVIRONMENTAL	
Ambient temperature range	-40°C to +60°C (-40°F to +140°F)
Relative humidity range	4% to 100% (condensing)
DC Connector type	MC4
Dimensions (HxWxD)	212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")
Weight	1.08 kg (2.38 lbs)
Cooling	Natural convection – no fans
Approved for wet locations	Yes
Pollution degree	PD3
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure
Environ. category / UV exposure rating	NEMA Type 6 / outdoor

COMPLIANCE	
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01
	This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.
	No enforced DC/AC ratio. See the compatibility calculator at https://link.enphase.com/module-compatibility
	Nominal voltage range can be extended beyond nominal if required by the utility.
	Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

(1) The IQ8H-208-72-2-US variant will be operating in grid-tied mode only and does not support backup functionality. (2) No enforced DC/AC ratio. See the compatibility calculator at https://link.enphase.com/module-compatibility (3) Maximum continuous input DC current is 10.64 (4) Nominal voltage range can be extended beyond nominal if required by the utility. (5) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

IQ8SE-DS-0001-01-EN-US-2022-03-17

IQ System Controller 3/3G

DATASHEET

MODEL NUMBER	DESCRIPTION
SC200D1P1240US01	IQ System Controller 3 streamlines the grid-independent capabilities of PV and storage installations. Integrates hold-down capability. Supports IQ Battery 5P units up to 40 kWH (without PCS*) and 80 kWh (with PCS*). Does not support generator integration.
SC200D1P1240US01	IQ System Controller 3G streamlines the grid-independent capabilities of PV and storage installations. Integrates hold-down capability. Supports IQ Battery 5P units up to 20 kWH (without PCS*) and 40 kWh (with PCS*). Supports generator integration

WHAT'S IN THE BOX	
IQ System Controller 3/3G	Includes neutral-forming transformer (NFT) and microgrid interconnect device (MID)
System Shutdown Switch	Includes pre-wired red, black, orange, and purple 12 AWG wire (SP200W-NA-02-850)
Wall-mounting bracket	Screws provided in the accessories kit for mounting
4-pole circuit breaker	Pre-installed Quad breaker (BRK-20A10A-4P-240V), 20 A 40 A, 10 kAIC, Eaton (BQC2204)*
Accessories kit	IQ System Controller 3/3G Readiness kit, including labels, CTRL headers, screws, filler plates, and Quick Install Guide (QIG) (SP200XX-LRKIT)

OPTIONAL ACCESSORIES AND REPLACEMENT PARTS	
CT-200-SPLIT	200 A split-core current transformers for metering (accuracy: ±2.5%)*
CT-200-CLAMP	200 A clamp-type current transformers for metering (accuracy: ±2.5%)*
Main or load circuit breakers (order separately, as needed)*	• BRK-100A-2P-240V: 2-pole, 100A, 22kAIC, CBE2100N or CBE2100 • BRK-125A-2P-240V: 2-pole, 125A, 22kAIC, CBE2125N • BRK-150A-2P-240V: 2-pole, 150A, 22kAIC, CBE2150N • BRK-175A-2P-240V: 2-pole, 175A, 25kAIC, CBE2175N • BRK-200A-2P-240V: 2-pole, 200A, 25kAIC, CBE2200N
Distributed energy resource (DER) circuit breakers (order separately, as needed)*	• BRK-20A-2P-240V-B: 2-pole, 20 A, 10 kAIC, BR220B/BR220 • BRK-30A-2P-240V-B: 2-pole, 30 A, 10 kAIC, BR230 • BRK-40A-2P-240V-B: 2-pole, 40 A, 10 kAIC, BR240/BR240 • BRK-60A-2P-240V: 2-pole, 60 A, 10 kAIC, BR260 • BRK-15A-2P-240V: 2-pole, 15 A, 10 kAIC, BR215B
EP200G-NHDL-R1	IQ System Controller 3/3G installation handle kit (order separately)
CTRL-SC3-NA-01	Control cable, 50ft (1 spool) (order separately)

ALTERNATE SUB-CIRCUIT BREAKERS	
GE/ABB	THQL2for (QO140/80/90 A)
Siemens	Q2xx (QO140/80/90 A)
Siemens (quad breaker)	Q240QDCT2 (20/40 A)

ELECTRICAL SPECIFICATIONS	
Maximum overcurrent protection device rating for PV combiner unit	80 A
Internal busbar rating	200 A
Neutral-forming transformer (NFT)	• Breaker rating (pre-installed): 40 A between L1 and Neutral, 40 A between L2 and Neutral • Continuous rated power: 3,600 VA • Maximum continuous utility-side current: 30 A @ 120 V • Peak unbalanced current: 80 A @ 120 V for two seconds

MECHANICAL DATA	
Dimensions (WxHxD)	50 cm x 91.6 cm x 24.8 cm (19.7 in x 36 in x 9.7 in)
Weight	35.4 kg (87 lbs)
Ambient temperature range	-40°C to 50°C (-40°F to 122°F)
Cooling	Natural convection and a heat shield
Enclosure environmental rating	Outdoor, NEMA type 3R, polycarbonate construction
Maximum altitude	2500 meters (8200 feet)

WIRE SIZES		
Connections (All lugs are rated to 90°C)	Main lugs and backup load lugs CTRL wires: bottom wiring lugs AC combiner lugs, IQ Battery lugs, and generator lugs	Cu/Al 6 AWG–300 kcmil Cu/Al 2 AWG–300 kcmil 14 AWG–2 AWG
Neutral and ground bars	Neutral (large lugs) Large holes (10-28 UNF) Small holes (10-32 UNF)	Cu/Al 6 AWG–300 kcmil 14 AWG–1/0 AWG 14 AWG–6 AWG

COMPLIANCE	
Compliance (under progress)	UL 1741, UL 1741 SA, IEEE 1547:2018 (UL 1741-SB, 3rd Ed.), UL 1741 PCS CRD, ULI 1998, UL 869A, UL 67, UL 916, CSA C22.2 No. 107.1, 47 CFR Part 15 Class B, ICES-003, ICC ES AC156. The IQ System Controller 3/3G is approved for use as service equipment in the United States

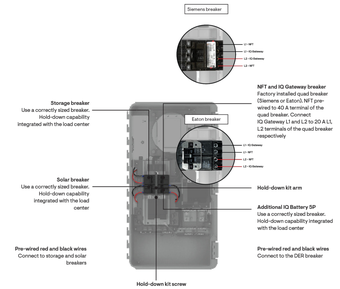
WARRANTY	
Limited warranty (restrictions apply)	Up to 10 years (EP200XX-NA-02-850 has a 5-year warranty)

COMPATIBILITY*	
Battery	IQ Battery 5P (QBATT10P-5P-1P-NA)
Microinverters	IQ8, IQ7, IQ8, and Ensemble Microinverters*
IQ Combiner	IQ Combiner 5/5C (X-IQ-AM1-240-5C, X-IQ-AM1-240-5)
Communications Kit 2	COMMS-KIT-02

(1) Sections from these standards were used during the safety evaluation and included in the UL 1741 listing. (2) For more details, refer to IQ System Controller 3/3G Quick Install Guide. (3) The IQ System Controller 3/3G supports operation with other variants of the whitelisted IEEE 1547:2018. * Enphase does not support mixing IQ8 Series Microinverters with other series or the same IQ Gateway.

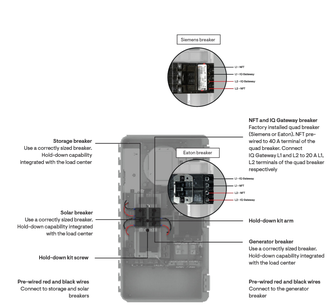
IQSC-3-DSH-0002I-3.0-EN-US-2023-08-08

Figure 1A: Installing DER breakers for IQ8 System without generator



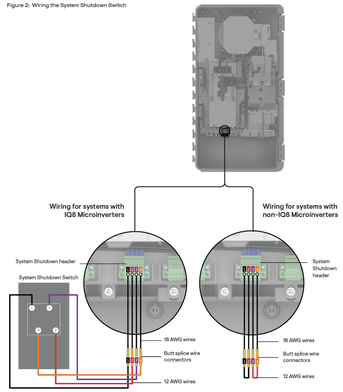
IQSC-3-DSH-0002I-3.0-EN-US-2023-08-08

Figure 1B: Installing DER breakers for IQ8 System with generator



IQSC-3-DSH-0002I-3.0-EN-US-2023-08-08

Figure 2: Wiring the System Shutdown Switch



IQSC-3-DSH-0002I-3.0-EN-US-2023-08-08

Revision history

REVISION	DATE	DESCRIPTION
DSH-00021-3.0	August 2023	Updated the section "Optional accessories and replacement parts"
DSH-00021-2.0	July 2023	Added new section "Alternative breakers for Eaton load centre"
DSH-00021-1.0	May 2023	Initial release

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IQSC-3-DSH-0002I-3.0-EN-US-2023-08-08

ENPHASE.

DATA SHEET | IQ

IQ Battery 5P

The IQ Battery 5P all-in-one AC-coupled system is powerful, reliable, simple, and safe. It has a total usable energy capacity of 5.0 kWh and includes six embedded IQ8D-BAT Microinverters with a 3.2 kVA continuous power rating.

Components of the Enphase Energy System

IQ Gateway and current transformers (CTs)
Provides complete control and insights into the Enphase Energy System. IQ Gateway is shipped with two CTs to enable production and consumption monitoring with an accuracy of ±1%.

IQ Microinverters
IQ Series Microinverters pack more power into less space than other rooftop solar systems and make rooftop solar more productive, reliable, smart, and safe.

Communications Kit 2 INT
The Enphase Communications Kit 2 INT enables wired communication between IQ Gateway Metered and IQ Battery 5P using Control cables.

IQ Battery 5P accessories
The IQ Battery 5P lifting handles are reusable and ease the installation process. The IQ Battery 5P pedestal enables floor mounting of the IQ Battery 5P.

Powerful

- Provides 3.2 kVA continuous power
- Includes six embedded IQ8D-BAT Microinverters

Reliable

- 15-year limited warranty
- Cools passively with no moving parts or fans
- Uses wired communication for fast and consistent connection
- Updates software and firmware remotely

Simple

- Fully integrated AC-coupled battery system
- Installs and commissions easily
- Supports Self-Consumption mode of operation
- Offers homeowners remote monitoring and control from the Enphase App
- Field replaceable components

Safe

- Meets UL 9540A, the highest industry standard for battery safety
- Uses lithium iron phosphate (LFP) chemistry for maximum safety and longevity

Grid compliance

- EREC G98, G99, and G100 Issue 2 And 2

15-year limited warranty

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IQB-5P-DSH-0098I-3.0-EN-INT-IE-2023-11-20

IQ Battery 5P

PRODUCT DETAILS	UNITS	IQBATTERY-5P-1P-INT
Name	-	IQ Battery 5P
Description	-	The IQ Battery 5P with integrated IQ8D-BAT Microinverters and battery management system (BMS) with battery controller
OUTPUT (@230 VAC)		
Rated (continuous) output apparent power*	kVA	3.2
Nominal voltage	VAC	230
Nominal voltage range	VAC	195–253
Nominal frequency	Hz	50
Nominal frequency range	Hz	47.5–52.5
Rated output current*	A	13.9
Power factor (adjustable)	-	0.8 leading … 0.8 lagging
Interconnection	-	Single-phase
AC round-trip efficiency*	%	90
Optimum operating temperature range	°C	0 to 30
Operating modes	-	Self-Consumption and Charge from the grid
BATTERY MODULE		
Usable capacity	kWh	5.0
DC round-trip efficiency	%	96
Nominal DC voltage	V	76.8
Ambient operating temperature (charging)	°C	-20 to 50 (non-condensing)
Ambient operating temperature (discharging)	°C	-20 to 55 (non-condensing)
Chemistry	-	Lithium iron phosphate (LFP)
MECHANICAL DATA		
Dimensions (H × W × D)	mm	980 × 550 × 188
Lifting weight	kg	66.3
Total installed weight	kg	78.9
IQ Battery enclosure	-	Outdoor-IP55
IQ8D-BAT Microinverter enclosure	-	Outdoor-IP67
Cooling	-	Natural convection
Altitude	m	<2500
Mounting	-	Wall-mount (included) or pedestal mount (sold separately)
COMMUNICATION INTERFACES		
Communication	-	Wired control communication
Monitoring	-	Enphase Installer Platform and Enphase App monitoring options; API integration
STANDARDS		
Grid compliance	-	G98, G98 NI, G99, G99 NI, G100-2
Safety	-	UN 38.3, EN 62040-1, IEC 62619:2022, EN IEC 62619-1 & 2, IEC/ EN 62116
EMC	-	EN 61000-3, EN 61000-6-1/3A1, EN 55011/CISPR 11:2015/A1:2019/A2:2021, IEC 61326-1, EN 50065-1, EN 50065-2-1
EC Declaration of Conformity*	-	Electro Magnetic Compatibility (EMC) Directive 2014/30/EU, Low Voltage Directive (LVD) 2014/35/EU, Restriction of Hazardous Substances (RoHS), 2011/65/EU, and Battery Directive 2006/66/EC
Product labelling	-	CE
LIMITED WARRANTY		
Limited warranty	-	>60% capacity, up to 15 years or 6000 cycles**

(1) Supported in grid-tied operation
(2) Limited by software
CE-AC to the battery is AC at 50% power rating at 20°C.
CE-Whichever occurs first. Restrictions apply. The full text of the warranty is available at https://enphase.com/en-ie/support/warranty

IQB-5P-DSH-0098I-3.0-EN-INT-IE-2023-11-20

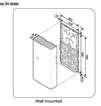
IQ Battery 5P

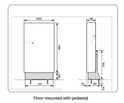
WHAT'S IN THE BOX	ORDER CODE: IQBATTERY-5P-1P-INT
IQ Battery 5P	Base battery unit of IQ Battery 5P with integrated six IQ8D-BAT Microinverters
IQ cover and conduit cover	IQ Battery 5P cover with two conduit covers for the left and right sides of the unit
Bottom mounting bracket and top protective shield	Bottom mounting bracket for mounting the battery on the wall and one top protective shield
M5 locking screws	Two M5 locking screws for securing the battery unit on the bottom mounting bracket
M4 grounding screws	Two M4 grounding screws for securing the top protective shield on the bottom mounting bracket
M5 ID cover grounding screws	Two M5 ID cover grounding screws for the EMI/EMC requirement
Cable ties	Six cable ties for securing field cables to the unit
Control (CTRL) connector	One pre-installed and one spare CTRL connector without resistor for CTRL wiring
Control (CTRL) connector with resistor	One pre-installed and one spare CTRL connector with resistor for CTRL wiring
Quick Install Guide (QIG)	QIG for IQ Battery unit installation instructions
Drill template	Two drill templates for marking drilling locations on the mounting surface

ACCESSORIES AND REPLACEMENT PART	
IQ8D-BAT-RMA	IQ8D-BAT Microinverter for field replacement
BOS-TSQ-INTDO-1-2-RMA	IQ Battery 5P Battery unit for field replacement
BOS-CA-0550-O	IQ Battery 5P cover for field replacement
BOS-PM-0550-O	IQ Battery 5P pedestal mount
BOS-CP-096-O	IQ Battery 5P conduit plates for field replacement. Includes one left-side and one right-side conduit plate
BOS-WB-0543-O	IQ Battery 5P wall bracket for field replacement. Includes one bottom mounting bracket and one top protective shield
IQBATTERY-HNDL-5	IQ Battery 5P lifting handles. Includes one left-side and one right-side lifting handle
BOS-AC78-080-O	IQ Battery 5P AC filter board for field replacement
BOS-BMS5I-0490-O	IQ Battery 5P BMS board for field replacement
BOS-CANBR-063-O	IQ Battery 5P control communication board for field replacement
BOS-BCS-0554-O, BOS-IUCS-0524-O	IQ Battery 5P control switch pre-installed on the wiring cover for field replacement

COMPATIBILITY	
IQ Battery	IQ Battery 5P
IQ Gateway	IQ Gateway Metered
Communications Kit	Communications Kit 2 INT
Solar inverters	IQ Series Microinverters, third-party PV string inverters

Dimensions in mm





Note for third-party products:
Any third-party manufacturer or importer of product(s) used to install or commission Enphase product(s) shall comply with the applicable EU Directive(s) and requirements in the European Economic Area (EEA). It is the responsibility of the installer to confirm that all such products are labeled correctly and have the required compliant supporting documentation.

Manufacturer:
Enphase Energy Inc., 47281 Bayside Pkwy, Fremont, CA, 94538, The United States of America, PH: +1 (707) 763-4784
Importer:
Enphase Energy BV, 82, Het Zuidervlas B5, 5259AK, 's-Hertogenbosch, The Netherlands, PH: +31 73 3039898
Assembled in China.

IQB-5P-DSH-0098I-3.0-EN-INT-IE-2023-11-20

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

PROJECT SPECIFIC PROFESSIONAL OF RECORD

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

SOLAR CUT SHEETS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE# 121
SAN DIEGO CA, 92127
PHONE (858)-679-1974

EXP 12/31/26

SIGNED: 4-29-25

FIRM:	Orion Structural Engineering, Inc.
ADDRESS:	11305 Rancho Bernardo Road Ste 121
CITY:	San Diego, CA
PHONE:	858-679-1974

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

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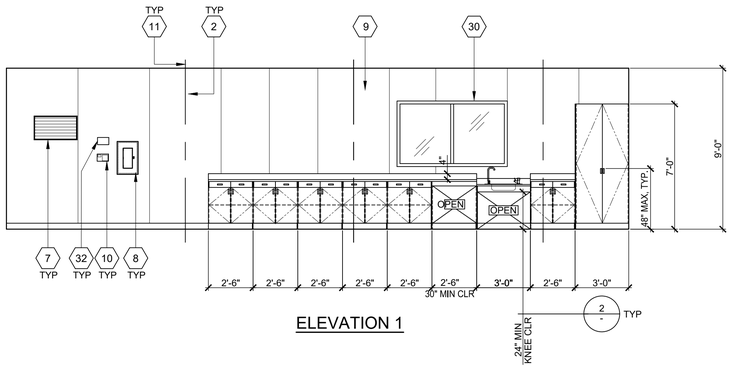

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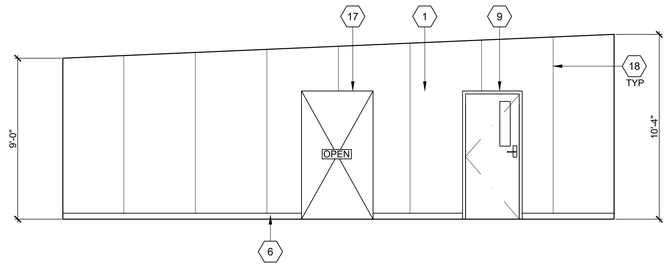

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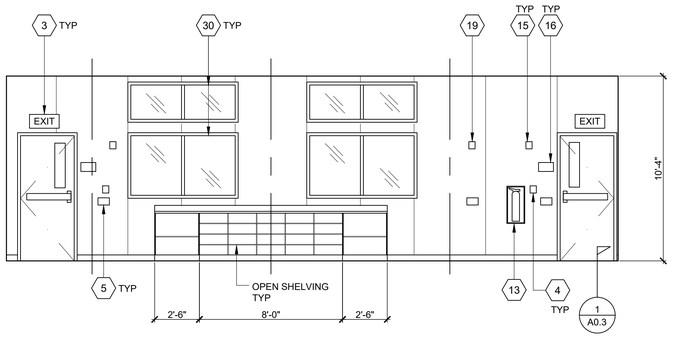

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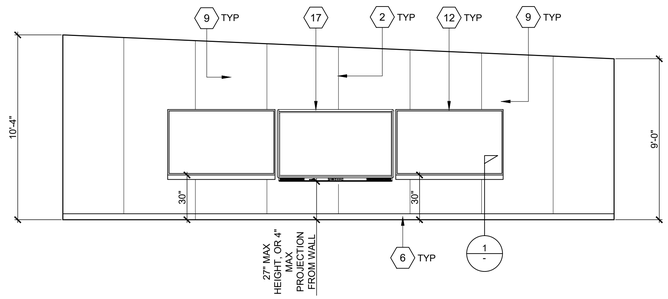

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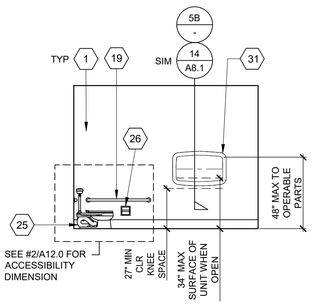

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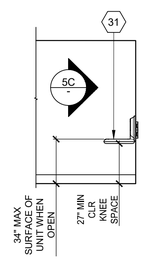

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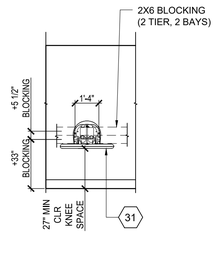

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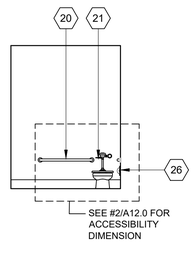

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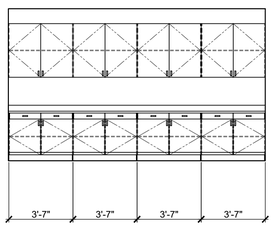

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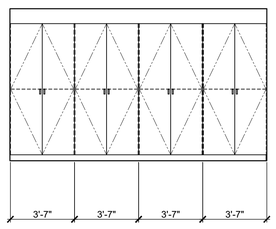

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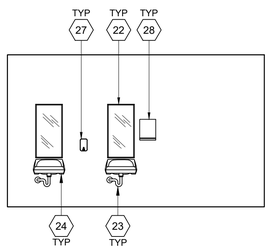

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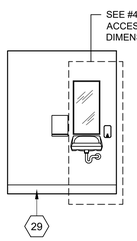

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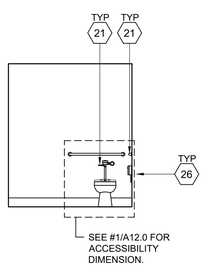

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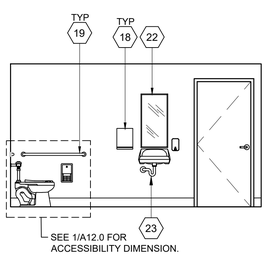

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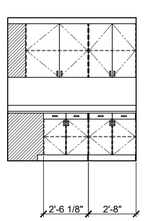

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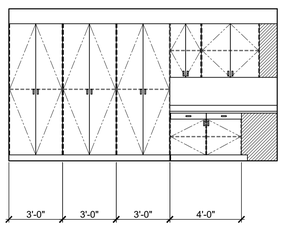


ELEVATION 14

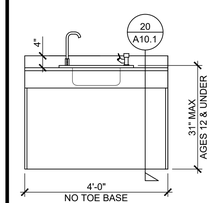
INTERIOR ELEVATIONS

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

A

KEY NOTES

1. TYPICAL INTERIOR FINISH
2. FULL SHEET CLOSURE AT MODULAR JOINT STANDARD.
3. LIGHTED EXIT SIGN (SEE ELECTRICAL PLAN)
4. FIRE ALARM PULL STATION (SEE ELECTRICAL PLAN)
5. OCCUPANCY SENSOR OR LIGHT SWITCH (SEE ELECTRICAL PLAN)
6. TOP SET BASE (SEE FINISH SCHEDULE)
7. RETURN AIR GRILL
8. ELECTRICAL PANEL +48" TO TOP OF HANDLE. (NOT INTENDED FOR ACCESSIBILITY REACH)
9. INTERIOR DOOR
10. THERMOSTAT SEE MECHANICAL PLAN
11. MODULAR JOINT
12. 8'-0" x 4'-0" MARKER BOARD ERASER RAIL PROJECT 4" MAX
13. FIRE EXTINGUISHER IN FULLY RECESSED CABINET PER #4A/A8.1
14. 12" DIA ELECTRIC CLOCK (SEE ELECTRICAL PLAN)
15. SPEAKER/STROBE (SEE ELECTRICAL PLAN)
16. TACTILE EXIT SIGNAGE (SEE SIGNAGE SHEET)
17. 86" PROMETHEAN ACTIVEPANEL 9 BOARD OFOI
18. INTERIOR FINISH SEAM
19. OCCUPANT LOAD SIGN (SEE SIGNAGE SHEET)
19. 42" GRAB BAR (SEE ACCESSORIES SCHEDULE AND DETAIL 1/A10.0)
20. 36" GRAB BAR (SEE ACCESSORIES SCHEDULE AND DETAIL 1/A10.0)
21. FLUSH VALVE HANDLE TO WIDE SIDE
22. MIRROR (SEE ACCESSORIES SCHEDULE SHEET A10.0)
23. LAVATORY P-TRAP (INSULATE FOR HOT WATER, SUPPLY & DRAIN) TYP
24. ACCESSIBLE LAVATORY (SEE PLUMBING SHEETS)
25. ACCESSIBLE STALL/WATER CLOSET (SEE PLUMBING SHEETS)
26. ACCESSIBLE TOILET PAPER DISPENSER (SEE ACCESSORIES SCHEDULE SHEET A10.0)
27. SOAP DISPENSER (SEE ACCESSORIES SCHEDULE SHEET A10.0)
28. PAPER TOWEL DISPENSER (SEE ACCESSORIES SCHEDULE SHEET A10.0)
29. CERAMIC TILE SELF-COVE BASE
30. WINDOW
31. FOLD DOWN CHANGING TABLE. (SEE ACCESSORY SCHEDULE ON SHEET A10.0)
32. CO2 SENSOR SEE MECHANICAL PLANS

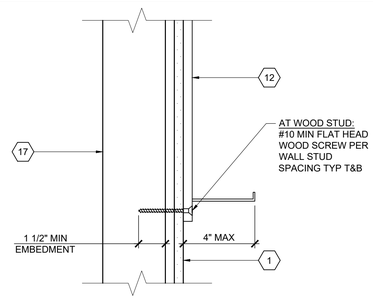


NOTE:
1. SEE SHEET A8.1 FOR CASEWORK BLOCKING & WALL/FLOOR ATTACHMENTS
2. SEE PLUMBING SCHEDULE ON SHT P0.0 FOR SINK DEPTH
3. SEE SHEET A1.3 FOR LOCATION

CLASSROOM SINK ELEVATION

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

2



SECTION AT MARKER BOARD

SCALE: 3" = 1'-0"

1

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #M# 1279666 DEALER # DL 1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

INTERIOR ELEVATIONS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858)-679-1974

RYAN J. ORION — No. 6427 — EXP 12/31/26 — STRUCTURAL — STATE OF CALIFORNIA — PROFESSIONAL ENGINEER

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A4.3

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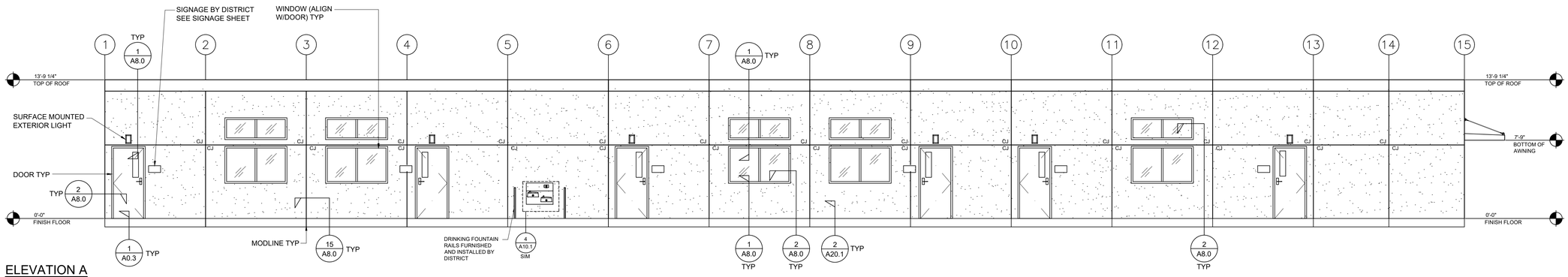
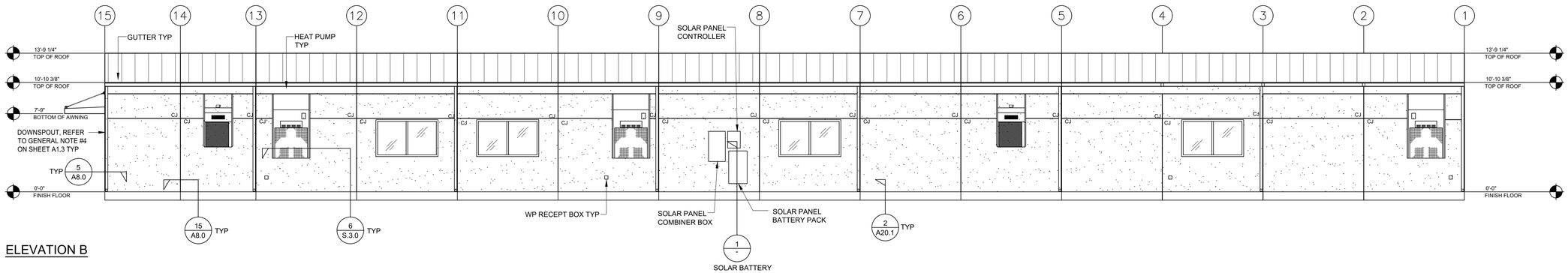
BUILDING IDENTIFICATION SIGN

1. PER CFC SECTION 505.1, A BUILDING IDENTIFICATION SIGN SHALL BE PLACED ON A NEW OR EXITING BUILDING. SIGN SHALL BE PLACED AND DESIGNED PER SECTION 505.1. SIGN SHALL BE PROVIDED BY OWNER OR DISTRICT

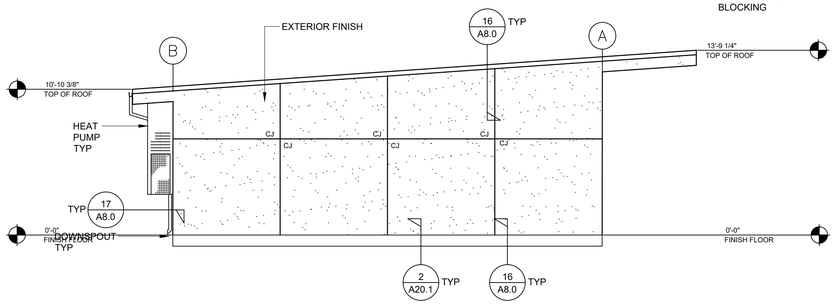
2. FOR MODULAR BUILDING IDENTIFICATION TAG, REFER TO SHEET A0.1 UNDER GENERAL DESIGN REQUIREMENTS & #2/A0.4



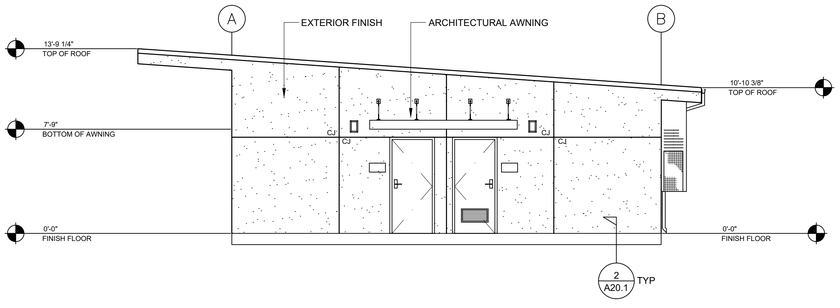
ELEVATION A



ELEVATION B



ELEVATION C

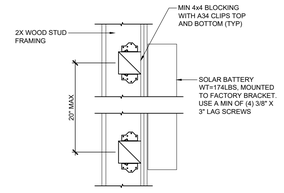


ELEVATION D

EXTERIOR ELEVATIONS (MONO SLOPE)

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

- SEE SHEET A8.0 FOR ARCHITECTURAL DETAILS



SECTION AT SOLAR BATERY BLOCKING

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

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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
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MANUFACTURER #MF1279666 DEALER # DL1279666
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
EXTERIOR ELEVATIONS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974
BRIAN J. ORION
No. S6257
EXP 12/31/26
STRUCTURAL ENGINEER
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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PROJECT NO.:	00-0000
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DATE:	00-00-00

SHEET NUMBER

A5.6

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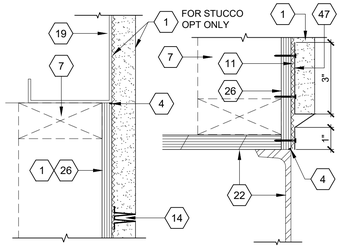
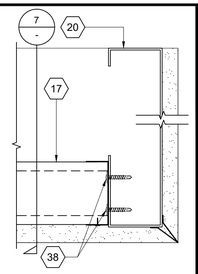


CHANNEL TO WOOD SEAMS (STUCCO)

SCALE: NTS

16

NOTE:
SEE GENERAL NOTES



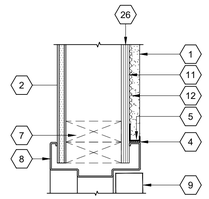
STUCCO APPLICATION

OVERHANG SOFFIT (CHANNEL)

SCALE: 3" = 1'-0"

11

6

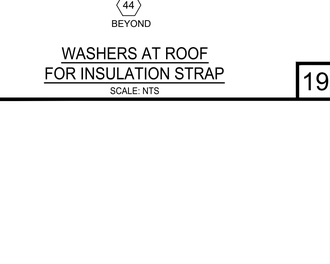


STUCCO APPLICATION

DOOR/WINDOW HEADER (HOLLOW METAL FRAME)

SCALE: 3" = 1'-0"

1

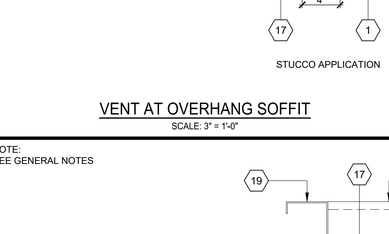


DOWNSPOUT

SCALE: NTS

17

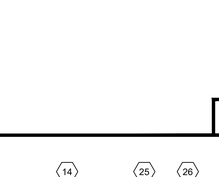
12



METAL LATH ATTACHMENT TO METAL STUDS (SOFFIT)

SCALE: 3" = 1'-0"

7



STUCCO APPLICATION

DOOR/WINDOW JAMB (HOLLOW METAL FRAME)

SCALE: 3" = 1'-0"

2

WASHERS AT ROOF
FOR INSULATION STRAP

SCALE: NTS

18

13

8

3

WASHERS AT ROOF
FOR INSULATION STRAP

SCALE: NTS

19

14

NOTE:
VENT CAN BE PLACED
ANYWHERE IN SOFFIT

STUCCO APPLICATION

VENT AT OVERHANG SOFFIT

SCALE: 3" = 1'-0"

9

4

20

STUCCO APPLICATION

COLUMN AT MODLINE

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

15

NOTE:
SEE GENERAL NOTES

STUCCO APPLICATION

OVERHANG SOFFIT

SCALE: NTS

10

END WALL

STUCCO APPLICATION

COLUMN AT CORNER

SCALE: 3" = 1'-0"

5

KEY NOTES

1. EXTERIOR FINISH (SEE CONSTRUCTION MATERIALS SCHEDULE)
2. INTERIOR FINISH (SEE FINISH SCHEDULE)
3. OPTIONAL TRIM - 5/4 ENGINEERED WOOD TRIM NAILED TO WALL @ 24" OC MAX (SEE NAILING SCHEDULE ON WALL FRAMING ELEVATION SHEET)
4. PAINTABLE SEALANT USE ALSO AT LOCATIONS THAT NEED A WATER TIGHT SEAL WHERE EXTERIOR BUILDING MATERIALS MEET
5. J-MOLD
6. COLUMN
7. WALL FRAMING - WOOD STUDS (SEE FRAMING SHEET)
8. DOOR/WINDOW FRAME
9. DOOR (SEE DOOR SCHEDULE)
10. WINDOW (SEE WINDOW SCHEDULE)
11. BUILDING PAPER
12. SELF FURRING METAL LATH
13. 26 GA GALVANIZED SEISMIC FLASHING
14. CONTROL JOINT. 7'-1" A.F.F. OR VERIFY HEIGHT.
15. 4"x10'-0" CONTINOUS VENT AT SUCCO APPLICATION LOCATED 10" FROM OVERHANG PERIMETER AT EACH 12'-0" WIDE MODULE OVERHANG (SEE RCP)
16. 4x BLOCK ATTACHED TO OVERHANG MEMBER WITH MIN #10 X 1-1/2" WS AT 24" OC
17. C-3.5" X 20 GA METAL STUDS @ 24" OC ATTACH STUD TO TRACK WITH #8 SMS AT EACH FLANGE
18. C-3.5" X 20 GA METAL TRACK TO ROOF HEADER WITH (2) #8 SMS AT 12" OC
19. ROOF HEADER/BEAM
20. OVERHANG MEMBER (STRUCTURAL ROOF FRAMING PLAN)
21. PLYWOOD FLOOR (SEE STRUCTURAL FLOOR FRAMING PLAN)
22. FLOOR SYSTEM (SEE STRUCTURAL FLOOR FRAMING PLAN)
23. #12 X 1" MIN SDS @ 24" OC
24. OPTIONAL MODLINE BATT STRIP. SECURE WITH FINISH NAILS AT 24" OC
25. 2X PLYWOOD SPACER
26. PLYWOOD SHEATHING (SEE WALL FRAMING ELEVATION SHEET)
27. ROOF FINISH (SEE SHEET A0.2)
28. ROOF INSULATION
29. PAINTED 8" WIDE LAP SIDING OR 10" WIDE 1/2" CDX PLYWOOD SECURED TO ONE SIDE WITH #12 X 1" MIN FH SDS @ 24" OC MAX
30. NOT USED
31. COMPOSITION FLASHING
32. NOT USED
33. NOT USED
34. NOT USED
35. NOT USED
36. ATTACH METAL TRACK TO BLOCK WITH (2) #10 WOOD SCREW @ 12" OC
37. 22 GA MIN FLASHING
38. (6) #10x2" RH TEK SCREWS EACH SIDE OF CURB TO ROOF DECK
39. 24 GA METAL STRAP, TOTAL OF (2) TOP AND BOTTOM AT 12" MIN FROM EACH END OF DOWNSPOUT WITH #8 SMS ON EACH SIDE
40. ROOF JOIST
41. STRAP FOR INSULATION
42. WELD WASHER - 1 3/8"Ø X 3/32" THICK WITH 9/16" HOLE, WELD TO UPPER CHANNEL FLANGE
43. ATTACH STRAP TO WALL WITH MIN #10 X 1-1/2" EXT WOOD SCREW FOR WOOD SIDING APPLICATION (MIN #10 X 1" SDS WHERE STEEL OCCURS), FOR STUCCO APPLICATIONS, PRE-DRILL HOLE, USE MIN #10 X 2-1/2" EXT WOOD SCREWS (MIN #10 X 2" SDS WHERE STEEL OCCURS)
44. ROOF STUB COLUMN
45. SEISMIC THRESHOLD. USE #10 STS SECURE TO ONE SIDE ONLY OR INSTALL PER SPECIFIC THRESHOLD MANUFACTURER REQUIREMENTS
46. NOT USED
47. STUCCO WEEP SCREED (BEHIND BLDG PAPER). INSTALL WITH #10 STS

GENERAL NOTES

1. NOT USED
2. (EXT WALL FINISH) 7/8" STUCCO FINISH OVER SELF-FURRING LATH OVER FELT PAPER OVER CD-X PLYWOOD SHEATING SEE SHEET A0.2 FOR FELT PAPER, SELF-FURRING LATH AND CEMENT ATTACHMENT SEE WALL FRAMING ELEVATION SHEET FOR CD-X PLYWOOD ATTACHMENT NOTE: USE #10 X 3/4" WAFERHEAD STSMS AT 6" EN & 12" FN
3. (SOFFIT FINISH) 7/8" STUCCO FINISH OVER 3/8" RIB LATH OVER FELT PAPER OVER CD-X PLYWOOD SHEATING SEE SHEET A0.2 FOR FELT PAPER, RIB LATH AND CEMENT ATTACHMENT SEE WALL FRAMING ELEVATION SHEET FOR CD-X PLYWOOD ATTACHMENT NOTE: USE #8-18 X 3/8" STS (MIN 7/16" HEAD DIA) WITH 1"Ø OD X 1/4" ID WASHERS AT 7" EN & 7" FN
4. SOFFIT NOTE: THE NET FREE VENTILATION AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE TO BE VENTILATED

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 GC LIC # 992118
DEALER # DL1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
ARCHITECTURAL DETAILS WOOD STUDS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER
RYAN P. ORR
No. 3337
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

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A8.0

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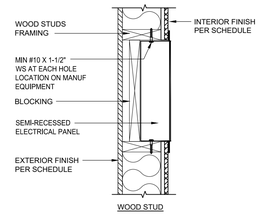
17

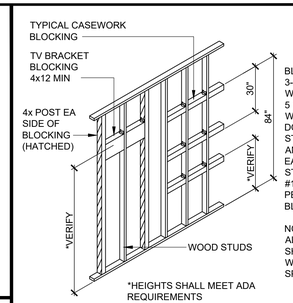
12

NOTE: EQUIPMENT CAVITY DETAIL IS SIM AT INTERIOR CONDITION



WOOD STUD

5



NOTE: TV BLOCKING MAX WT: 100#

BLOCKING: 3-1/2" MIN. DEPTH INTERIOR WALLS. 5 1/2" MIN DEPTH EXTERIOR WALLS. SHALL BE 4x OR DOUBLE 2x HF #2 BETWEEN STUDS WITH "SIMPSON" A34 ANCHORS TOP & BTM AT EACH END OF BLOCK TO STUD ATTACH CABINET W/ #14 SCREWS W/ 2" MIN PENETRATION INTO STUD OR BLOCKING @ 16" OC

NOTE: ALTERNATE ATTACHMENT SHALL BE DIRECTLY TO WOOD STUDS PER STUD SPACING

*HEIGHTS SHALL MEET ADA REQUIREMENTS

CASEWORK AND TV BLOCKING-WOOD

1

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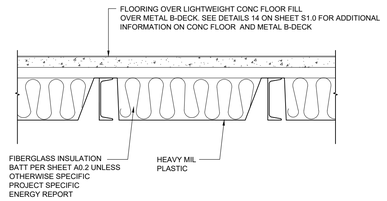


INSULATION AT FLOOR (CONC FLOOR)

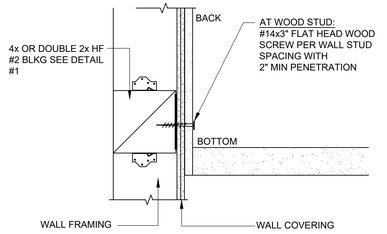
SCALE: 1 1/2" = 1'-0"

13

SEMI-RECESSED ELECT PANEL BLOCK-OUT

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

10



UPPPER CASEWORK TO WALL

6

2

KSC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
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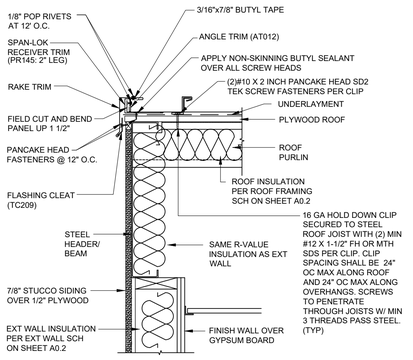
SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

ARCHITECTURAL DETAILS

21

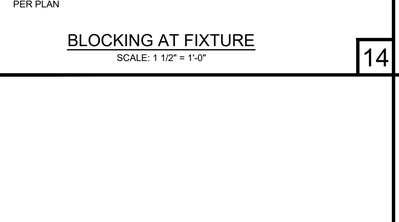


THERMAL ENVELOPE (STUCCO SIDING)

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

20

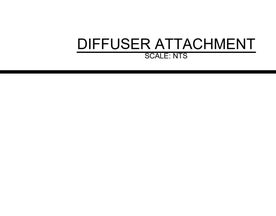
16



BLOCKING AT FIXTURE

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

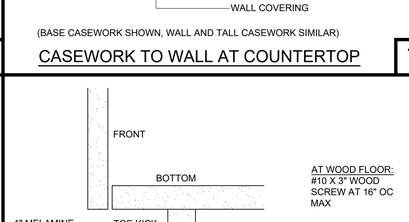
14



DIFFUSER ATTACHMENT

SCALE: NTS

11



(BASE CASEWORK SHOWN, WALL AND TALL CASEWORK SIMILAR)

CASEWORK TO WALL AT COUNTERTOP

7

3

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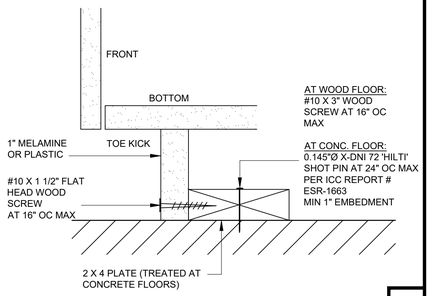
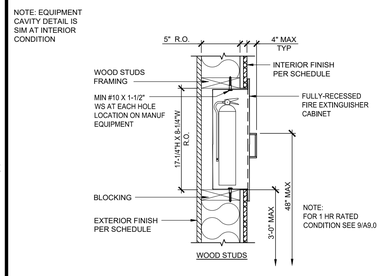
22



CASEWORK ATTACHMENT AT TOE KICK

8



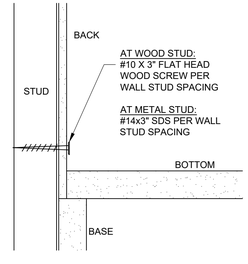
PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

RYAN Z. ORION
PROFESSIONAL ENGINEER
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

23



CASEWORK TO WALL BEHIND TOE KICK

9

FULLY RECESSED FIRE EXTINGUISHER CABINET

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

4A

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

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1

17

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6

KEY NOTES

1. CLASS "A" ROOFING
2. 2x RAFTERS
3. 2x BLOCKING
4. ROOF RAFTER ABOVE FIRE RATED WALL WHEN PARALLEL. 2x BLOCKING @ 24" OC WHEN FIRE RATED WALLS ARE PERPENDICULAR TO RAFTERS
5. MODLINE TRUSS
6. ROOF JOIST SEE ROOF FRAMING PLAN
7. EXTERIOR FINISH
8. INTERIOR FINISH
9. NOT USED
10. WALL SYSTEM WOOD STUDS SHOWN (CAN BE METAL STUDS)
11. EXTERIOR FINISH-SEE FINISH SCHEDULE
12. MIN 1/4" BEAD OF CAULK, 3M COMPANY CP 25WB+ CAULK OR FB-3000 WT SEALANT OR EQUAL. CAULK BEARING THE UL W-L-1001 CLASSIFICATION MARK
13. #10 SMS @ 32" OC MIN (3) PER STUD
14. HVAC UNIT
15. GALVANIZED METAL DUCTS
16. ELECTRICAL PANEL BOX OR FIRE RATED EXTINGUISHER CABINET:

A. FOR RECESSED ELECTRICAL PANEL OR NON-RATED TYPE FIRE EXTINGUISHER CABINETS, SEE DETAIL #9 OF THIS SHEET

B. FOR FIRE-RATED TYPE FIRE EXTINGUISHER CABINETS, USE 'JL INDUSTRIES' AMBASSADOR STEEL FX FIRE RATED EXTINGUISHER CABINETS OR EQUAL

17. 20 GA METAL STUDS

GENERAL NOTES

1. ALL FIRE RATED WALLS ARE REQUIRED TO BE LABLED ABOVE THE CEILING AT 30'-0" INTERVALS 15'-0" OF ENDS WITH 3" LETTERS AS TO THE TYPE OF WALL AND THEN THE WORDS, "PROTECT ALL OPENINGS", PER SECTION 703.7
2. VERIFY GYPSUM BOARD MANUFACTURER WITH THE APPROPRIATE UL 'TESTED' ASSEMBLY FOR ADEQUATE USE.
3. FOR FIRE-RATED WALL ASSEMBLIES, ALL DRYWALL JOINTS MUST BE MUDDED AND TAPED ALL SCREWS HOLES MUST BE MUDDED. THERE IS NO SUCH THING AS FIRE RATED MUD OR TAPE. TRADITIONAL MUD COMPOUND AND TAPE USED ON A FIRE-RATED WALL ARE PART OF A 'TESTED' ASSEMBLY
4. ALL PIPE PENETRATIONS THROUGH A FIRE-RATED WALL ASSEMBLY MUST ONLY BE APPLIED WITH A UL 'TESTED' FIRE CAULKING. IN NO WAY SHAPE OR FORM A DRYWALL MUD COMPOUND TO BE USED IN A PIPE PENETRATION THROUGH A FIRE-RATED WALL ASSEMBLY UNLESS OTHERWISE PROVIDED WITH A UL 'TESTED' ASSEMBLY
5. UNLESS UNLESS OTHERWISE PROVIDED WITH A UL 'TESTED' ASSEMBLY, AN APPROVED FIRE CAULKING SHALL ONLY BE USED ON PIPE PENETRATIONS. IN NO WAY SHAPE OR FORM THAT A FIRE CAULKING IS TO BE USED ON DRYWALL JOINTS OR SCREW HOLES
6. WHEN INSTALLING TYPE 'X' DRYWALL, VERIFY JOINT STAGGER WITH THE APPROPRIATE UL 'TESTED' ASSEMBLY

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8a

GA FILE NO WP 3614

GYPSUM WALLBOARD, WOOD STUDS

ONE LAYER 5/8" TYPE 'X' GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED PARALLEL OR AT RIGHT ANGLES TO EACH SIDE OF 2x4 WOOD STUDS 16" OC WITH 1 1/4" TYPE W DRYWALL SCREWS 12" OC

JOINTS STAGGERED 16" ON OPPOSITE SIDES (LOAD BEARING)

1-HOUR FIRE

THICKNESS: 4 3/4"
APPROX. WEIGHT: 7 PSF
FIRE TEST: SWRI 01-4511-619[1], 3-94

1 HOUR INTERIOR PARTITION-WOOD STUD

SCALE: NTS

8

(1) WALL ASSEMBLY - THE 1 OR 2 HOUR FIRE RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

(1A) STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 X 4 LUMBER SPACED 16" OC. STEEL STUDS TO BE MIN 3-1/2" WIDE AND SPACED 24" OC

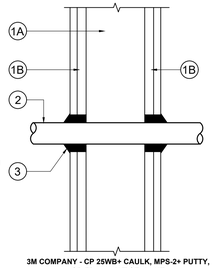
(1B) GYPSUM BOARD - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS AS REQUIRED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX DIAMETER OF OPENING IS 5"

(2) THROUGH - PENETRANTS - ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN TO MAX 1/8". PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OR METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:

A. COPPER TUBING - NOM 4" DIAMETER MAX TYPE 'M' MIN COPPER TUBING
B. COPPER PIPE - NOM 4" DIAMETER MAX REGULAR MIN COPPER PIPE
C. STEEL PIPE - NOM 4" DIAMETER MAX SCHEDULE 5 MIN STEEL PIPE
D. CONDUIT - NOM 4" DIAMETER MAX STEEL ELECTRICAL METALLIC TUBING OR RIGID STEEL CONDUIT
E. IRON PIPE - NOM 4" DIAMETER MAX CAST OR DUCTILE IRON PIPE

(3) FILL, VOID OR CAVITY MATERIALS - CAULK, SEALANT OR PUTTY - MIN 3-1/2" DIAMETER BEAD OF CAULK OR PUTTY APPLIED CONTINUOUSLY AROUND THE PENETRANT ON THE WALL SURFACES ON BOTH SIDES OF THE WALL

SYSTEM NO. W-L-1166

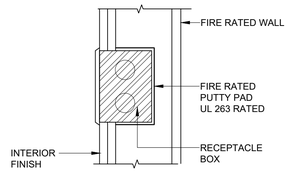


3M COMPANY - CP 25WB+ CAULK, MPS-2+ PUTTY, OR FB-3000 WT SEALANT

1 HOUR THROUGH PENETRATION DETAIL

SCALE: 3" = 1'-0"

16



FIRE RATED RECEPTACLE ENCLOSURE

15

14

12

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

FIRE RATED ASSEMBLIES

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER
RYAN F. ORION
No. 6537
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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2 -
3 -
4 -
5 -

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A9.0

30

FIRE RATED DETAILS (STUCCO)

4

3

FIRE RATED DETAILS (SIDING)

2

1

8

7

6

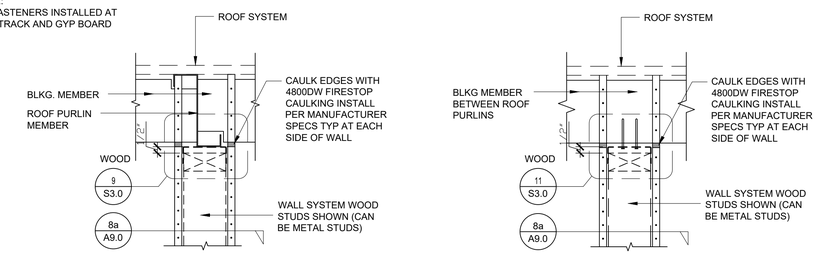
5

FIRE RATED DETAILS AT MODLINE

9

10

NOTE:
NO FASTENERS INSTALLED AT
SLIP TRACK AND GYP BOARD



1 HOUR INTERIOR PARTITION (TOP PLATE CONDITION)

SCALE: NTS

14

GENERAL NOTES

1. SEE GENERAL NOTES ON SHEET A9.0 FOR ALL FIRE RATING INFORMATION
2. REFER TO CBC SECTION 705.2 REGARDING OVERHANG LENGTH PROJECTIONS. OVERHANGS THAT PROJECT INTO THE FIRE SEPARATION DISTANCE SHALL COMPLY PER CBC SECTIONS 705.2.3.

   THE FOLLOWING EXCEPTIONS OF 705.2.3 ARE INCLUDED ON THIS PC:

   A. FIRE RETARDANT-TREATED WOOD. REFER TO STRUCTURAL ROOF FRAMING PLAN FOR OPTIONAL FIRE RETARDANT PLYWOOD ROOF OPTION
   B. THE OVERHANG FASCIA AND OUTRIGGER MEMBERS, ROOF JOIST, AND STEEL STUD SOFFIT JOIST ARE NON-COMBUSTIBLE MATERIALS
   C. THE STUCCO FINISH IS CONSIDERED NON-COMBUSTIBLE.

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FIRE RATED DETAILS

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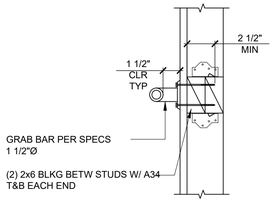
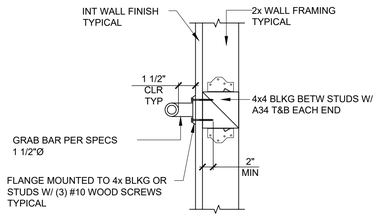


ALTERNATE: GRAB BAR
BLOCKING-WOOD



GRAB BAR
BLOCKING-WOOD

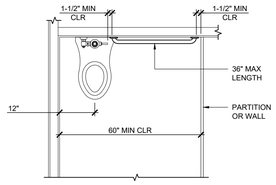
NOTE: GRAB BAR-ATTACHMENT
MUST MEET MIN 250# POINT LOAD

GRAB BAR ATTACHMENT DETAILS

1

2

NOTE:
TO ACHIEVE THE REAR GRAB BAR EXCEPTION AT AN ACCESSIBLE STALL OR ROOM WHERE THERE IS AT LEST 60 MIN CLEAR SPACE, THE ILLUSTRATION SHALL COMPLY. THE 36" MAX LENGTH GRAB BAR SHALL BE OFFSET AS SHOWN. THE TOILET MUST BE SET AT 12" MAX TO MEET THE 1-1/2" MIN CLEARANCE AT THE FLUSH VALVE AND THE ADJACENT WALL/PARTITION



REAR GRAB BAR OFFSET AT FLUSH VALVE
SCALE: 1/2" = 1'-0"

5

4

3

REAR GRAB BAR OFFSET TANK TYPE
SCALE: 1/2" = 1'-0"

8

7

GENERAL NOTES

REAR GRAB BAR EXCEPTION SECTION 11B-604.5:
1. WHERE ADMINISTRATIVE AUTHORITY REQUIRES FLUSH CONTROLS FOR FLUSH VALVES TO BE LOCATED IN A POSITION THAT CONFLICTS WITH THE LOCATION OF THE REAR GRAB BAR, THEN THE REAR GRAB BAR SHALL BE PERMITTED TO BE SPLIT OR SHIFTED TO THE OPEN SIDE OF THE TOILET AREA

RESTROOM ACCESSORIES

REF. NUMBER	MODEL AND DESCRIPTION (*** OPT RR ACCESSORY)	LOCATION/HEIGHT	CHECK BOX BY MANUF	CHECK BOX BY DISTRICT
A	MULTI-ROLL RECESSED TOILET PAPER DISPENSER AT ACCESSIBLE STALL, 'BOBRICK' B-3888 OR APPROVED EQUAL 3" MAX PROJECTION	ADULT: SEE 1/A12.0	X	
C	SINGLE ROLL TOILET PAPER DISPENSER SURFACE MOUNT, AT NON-ACCESSIBLE STALL 'BOBRICK' B-264 OR APPROVED EQUAL	COMBINED AGES: AGES 3 THROUGH 8 - 14" ABSOLUTE AFF	X	
D1	MIRROR (18" x 30") 'BOBRICK' B-290, ADULT QTY:1 APPROVED EQUAL	ADULT: SEE 4/A12.0		
D2	MIRROR (18" x 30") 'BOBRICK' B-1556, COMBINED AGES QTY:3 APPROVED EQUAL	AGES 3 THROUGH 8 SEE 3/A12.0	X	
E	GRAB BAR (REAR) 'BOBRICK' B-6806, 36" SS	ADULT: SEE 1/A12.0 COMBINED AGES: AGES 3 THROUGH 8 SEE 2/A12.0	X	
F	GRAB BAR (SIDE) 'BOBRICK' B-6806, 42" SS	ADULT: SEE 1/A12.0 COMBINED AGES: AGES 3 THROUGH 8 SEE 2/A12.0	X	
G	FOLD DOWN CHANGING WALL MOUNT. 'KOALA KARE' KB-300-01 OR APPROVED EQUAL	SEE ELEVATION 5/A4.3	X	
H	TOILET SEAT COVER DISPENSER SURFACE MOUNT. BOBRICK' B-221 OR APPROVED EQUAL	ADULT: SEE 1/A12.0	X	X
I	SOAP DISPENSER SURFACE MOUNT. BOBRICK' B-2111 OR APPROVED EQUAL	ADULT: SEE 4/A12.0 AGES 3 THROUGH 8 SEE 3/A12.0	X	
J1	PAPER TOWEL DISPENSER 'BOBRICK' B-262 ADULT QTY:1 OR APPROVED EQUAL, SURFACE MOUNT, 4" MAX PROJECTION	ADULT: SEE 4/A12.0 COMBINED AGES: AGES 3 THROUGH 8 SEE 3/A12.0		
J2	PAPER TOWEL DISPENSER 'BOBRICK' B-263 COMBINED AGES QTY:3 OR APPROVED EQUAL, SURFACE MOUNT, 4" MAX PROJECTION		X	
K	MOVABLE WASTE BIN 12"Ø MIN			X
L	FEMININE TOWEL DISPOSAL: 'BOBRICK' B-254 ADULT QTY:1 OR APPROVED EQUAL, SURFACE MOUNT, 4" MAX PROJECTION	ADULT: SEE 1/A12.0	X	
M	LAVATORY / SINK PROTECTION (FOR ACCESSIBLE SINKS): 'TRUEBRO' LAV GUARD 2 SERIES OR APPROVED EQUAL	SINGLE ANGLE STOP: USE MODEL #101-EZ IF TAILPIECE IS OFFSET INCLUDE MODEL #105-EZ WHEN USING INSTA-HOT INCLUDE MODEL #EX99-EZ	X	
N	LAVATORY / SINK PROTECTION (FOR ACCESSIBLE SINKS): 'TRUEBRO' LAV GUARD 2 SERIES OR APPROVED EQUAL	DOUBLE ANGLE STOPS: USE MODEL #102-EZ IF TAILPIECE IS OFFSET INCLUDE MODEL #105-EZ	X	
O	ROBE HOOK: 'BOBRICK' B-212 ADULT QTY:1 OR APPROVED EQUAL, SURFACE MOUNT, 4" MAX PROJECTION	ADULT: 38" TO 40" AFF MAX	X	
P	ELECTRIC HAND DRYER: 'WORLD DRYER CORPORATION' L-973 SLIMDRI ADULT QTY:2 OR APPROVED EQUAL, SURFACE MOUNT, 4" MAX PROJECTION	ADULT: BOTTOM OF DRYER - 32" AFF MAX	X	

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BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

RESTROOM ACCESSORIES SCHEDULE & DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
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ALAN J. DUBE
No. 5627
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

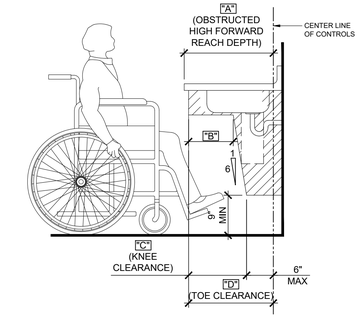
A10.0

5/16/2025 4:03:48 PM

16

11

6



DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"
17"	8"	11"	17"
18"	9"	12"	18"
19"	10"	13"	19"
20"	11"	14"	20"
21"	12"	15"	21"
22"	13"	16"	22"
23"	14"	17"	23"
24"	15"	18"	24"
25"	16"	19"	25"

NOTE:
1. SEE SINK DIAGRAM DIAGRAM AND CHART FOR CLEARANCE DIMENSIONS.
2. THE CLASS ROOM SINK ON DETAIL 20 SHOW A CENTER REAR DRAIN. DETAIL MAY CHANGE DEPENDING ON THE SINK, DRAIN LOCATION, AND FAUCET TYPE.
3. CLASSROOM SINK USED IN THIS PC IS INSTALLED IN THE CENTER OF THE SINK, OPPOSITE THE BUBBLER, SEE DETAIL 14. THE CENTER LINE OF THE CONTROLS ON THIS PC IS APPROXIMATLY 12".

SINK ACCESSIBILITY DIAGRAM AND CHART

SCALE: N.T.S.

2

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KSC COMPANY
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SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

RESTROOM ACCESSIBILITY DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

17

12

7

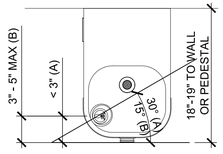
3

11B-602.6 WATER FLOW. THE SPOUT SHALL PROVIDE A FLOW OF WATER 4" HIGH MAX AND SHALL BE LOCATED 5" MAX FROM THE FRONT OF THE UNIT.

THE ANGLE OF THE WATER STREAM SHALL BE MEASURED HORIZONTALLY RELATIVE TO THE FRONT OF THE UNIT.

A. WHERE SPOUTS ARE LOCATED LESS THAN 3" OF THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 30 DEGREES MAX

B. WHERE SPOUTS ARE LOCATED BETWEEN 3" AND 5" MAX FROM THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 15 DEGREES MAX



DRINKING FOUNTAIN BUBBLER (TOP VIEW)

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

18

13

8

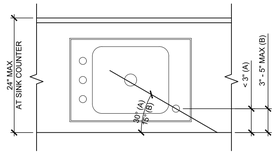
11B-602.6 WATER FLOW. THE SPOUT SHALL PROVIDE A FLOW OF WATER 4" HIGH MAX AND SHALL BE LOCATED 5" MAX FROM THE FRONT OF THE UNIT.

THE ANGLE OF THE WATER STREAM SHALL BE MEASURED HORIZONTALLY RELATIVE TO THE FRONT OF THE UNIT.

A. WHERE SPOUTS ARE LOCATED LESS THAN 3" OF THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 30 DEGREES MAX

B. WHERE SPOUTS ARE LOCATED BETWEEN 3" AND 5" MAX FROM THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 15 DEGREES MAX

C. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES BELOW COUNTER.



CLASSROOM SINK BUBBLER (TOP VIEW)

SCALE: 1" = 1'-0"

14

11B-602.6 WATER FLOW. THE SPOUT SHALL PROVIDE A FLOW OF WATER 4" HIGH MAX AND SHALL BE LOCATED 5" MAX FROM THE FRONT OF THE UNIT.

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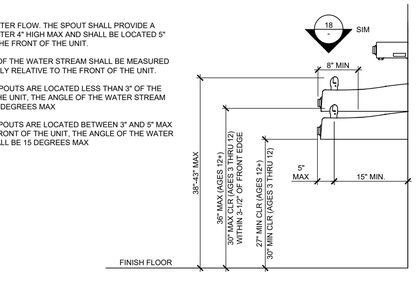
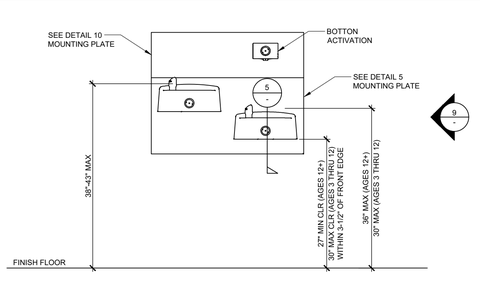


ACCESSIBLE HI-LOW DRINKING FOUNTAIN WITH BOTTLE FILLER

SCALE: 1" = 1'-0"

9



ACCESSIBLE HI-LOW DRINKING FOUNTAIN WITH BOTTLE FILLER

SCALE: 1" = 1'-0"

4

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER
RYAN T. OLSEN
No. 27237
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
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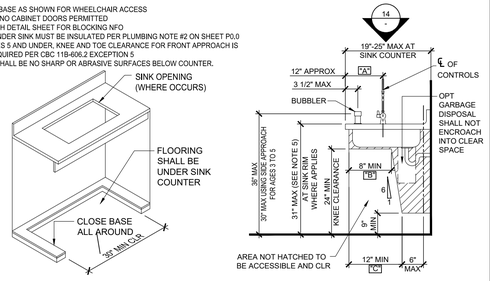
DATE:	00-00-00

SHEET NUMBER

A10.1

5/2/2025 12:16:47 PM

NOTES:
1. MODIFY BASE AS SHOWN FOR WHEELCHAIR ACCESS
2. 30" CLR. NO CABINET DOORS PERMITTED
3. SEE ARCH DETAIL SHEET FOR BLOCKING NFO
4. PIPES UNDER SINK MUST BE INSULATED PER PLUMBING NOTE #2 ON SHEET P0.0
5. FOR AGES 5 AND UNDER, KNEE AND TOE CLEARANCE FOR FRONT APPROACH IS NOT REQUIRED PER CBC 11B-606.2 EXCEPTION 5
6. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES BELOW COUNTER.



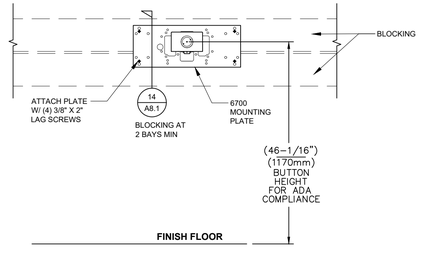
ACCESSIBLE SINK COUNTER AGES 3 THRU 12

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

20

15

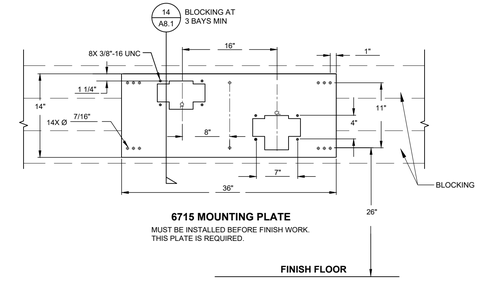
10



BOTTLE FILLER MOUNTING PLATE

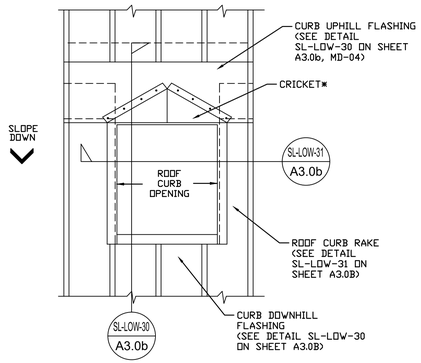
SCALE: 1" = 1'-0"

5



ACCESSIBLE HI-LOW DRINKING FOUNTAIN MOUNTING PLATE

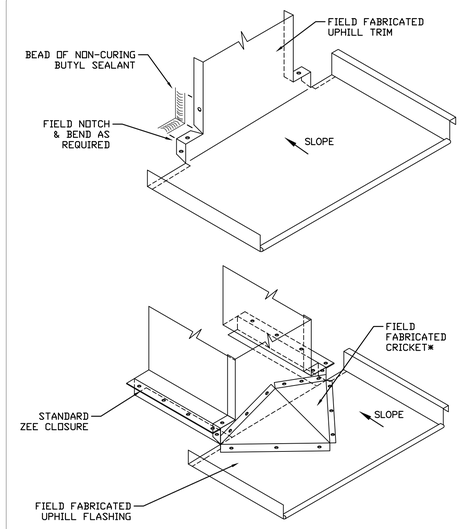
SCALE: 1" = 1'-0"



✖- CRICKETS REQUIRED ON CURBS WIDER THAN 30"

AEP SPAN	MISC. DETAILS	ROOF CURB - PLAN VIEW
		MD-01

REV. 8-6-20



✖- CRICKETS REQUIRED ON CURBS WIDER THAN 30"

AEP SPAN	MISC. DETAILS	ROOF CURB - UPHILL
		MD-04

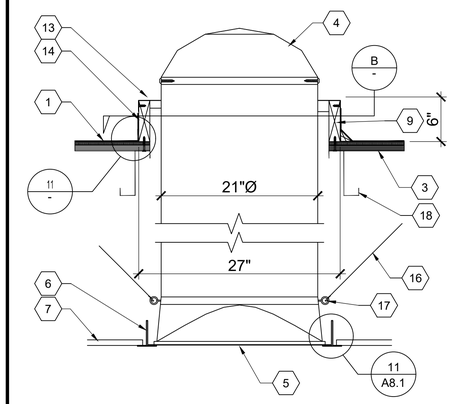
REV. 8-6-20

GENERAL NOTES

1. REFER TO OVERALL REFLECTIVE CEILING PLAN AND ARCHITECTURAL ROOF PLAN FOR INFORMATION
2. THE SOLATUBE DESIGN ON THIS BUILDING IS FOR SUSPENDED CEILING AND METAL SEAM ROOF WITH A MAX OPENING OF 24"X24". REFER TO SHEET A3.0b DETAILS SL-LOW-29, SL-LOW-30, & SL-LOW-31. REFER TO DETAIL MD-01 FOR CURB OPENING DETAILS.
3. COORDINATE WITH MECHANICAL DUCT DESIGN, PLUMBING ROOF VENTS, EXHAUST FAN, ETC WHEN THE MENTIONED ITEMS ARE APPLICABLE
4. COORDINATE WITH STRUCTURAL ROOF FRAMING PLAN FOR OPENING LOCATION

KEY NOTES

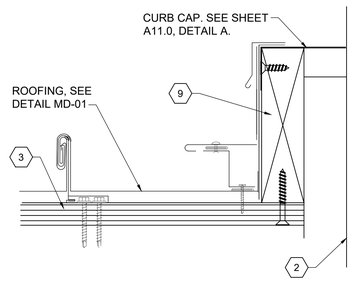
1. SPAN-SEAM HP 24 GA METAL ROOF PANELS BY 'AEP-SPAN'. SEE DETAIL MD-01. INSTALL PER MANUFACTURER INSTRUCTIONS. REFER TO SHEET A3.0A, & A3.0B FOR ADDITIONAL ROOF PANEL INFORMATION.
2. SOLATUBE EXTENSION TUBE. SEE SHEET A11.0 DETAIL A
3. PLYWOOD FOR ROOF DIAPHRAGM (SEE STRUCTURAL ROOF FRAMING PLANS)
4. SKYLIGHT: 'SOLATUBE' MODEL #750 DS-C WITH DAYLIGHT DIMMER. WEIGHT: 25 LBS MAX. SECURE DOME TO CURB CAP W/ (4) TOTAL #8 X 1 5/8" SCREWS. SEE INSTALLATION INSTRUCTIONS. REFER TO A3.6 ROOF PLAN FOR LOCATIONS.
5. SOLATUBE DIFFUSER. REFER TO REFLECTED CEILING PLAN A2.3 FOR LOCATIONS.
6. MAIN OR CROSS RUNNER TEE
7. CEILING TILE
8. PROVIDE CAULKING AROUND SKYLIGHT
9. 2X6 WOOD CURB. USE (4) #10 X 1 1/2" WOOD SCREWS EA SIDE OF CURB THROUGH ROOF DECK/ROOF JOIST/ROOF BLKG FROM BELOW
10. OPENING PER MANUFACTURER'S SPECIFICATIONS
11. ROOF JOIST (SEE STRUCTURAL ROOF FRAMING)
12. OPENING FOR SOLATUBE EXTENSION
13. SECURE CURB CAP TO SHEET METAL CURB W/#8 X 2" SCREWS PER MANUFACTURERS INSTRUCTIONS
14. SECURE SHEET METAL CURB FOR CURB CAP WITH MIN #10 X 2" FLAT HEAD EXTERIOR GRADE WOOD SCREWS MIN 3 PER SIDE
15. NOT USED
16. GALVANIZED A/C AIRCRAFT CABLE. ONE EA SIDE OF DIFFUSER INSTALL SIMILAR TO CEILING GRID SPLAY WIRES. SEE REFLECTED CEILING DETAIL (5 / A2.0a)
17. EYE SCREW. PROVIDED BY SOLATUBE MFG.
18. JOIST BLOCKING. SEE #6/S2.0 FOR CONN



SECTION AT SOLATUBE

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

A

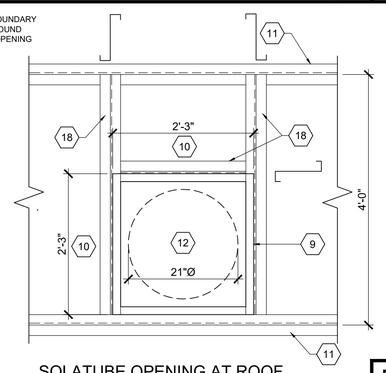


SOLATUBE CURB DETAIL

SCALE: 6" = 1'-0"

11

NOTE:
PROVIDE BOUNDARY
NAILING AROUND
SKYLIGHT OPENING



SOLATUBE OPENING AT ROOF

SCALE: 1" = 1'-0"

B

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

SOLATUBE OPTION AT TPO ROOF

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER
BRIAN J. ORION
No. 29425
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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PROJECT NO.:	00-0000
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DATE:	00-00-00

SHEET NUMBER

A11.0

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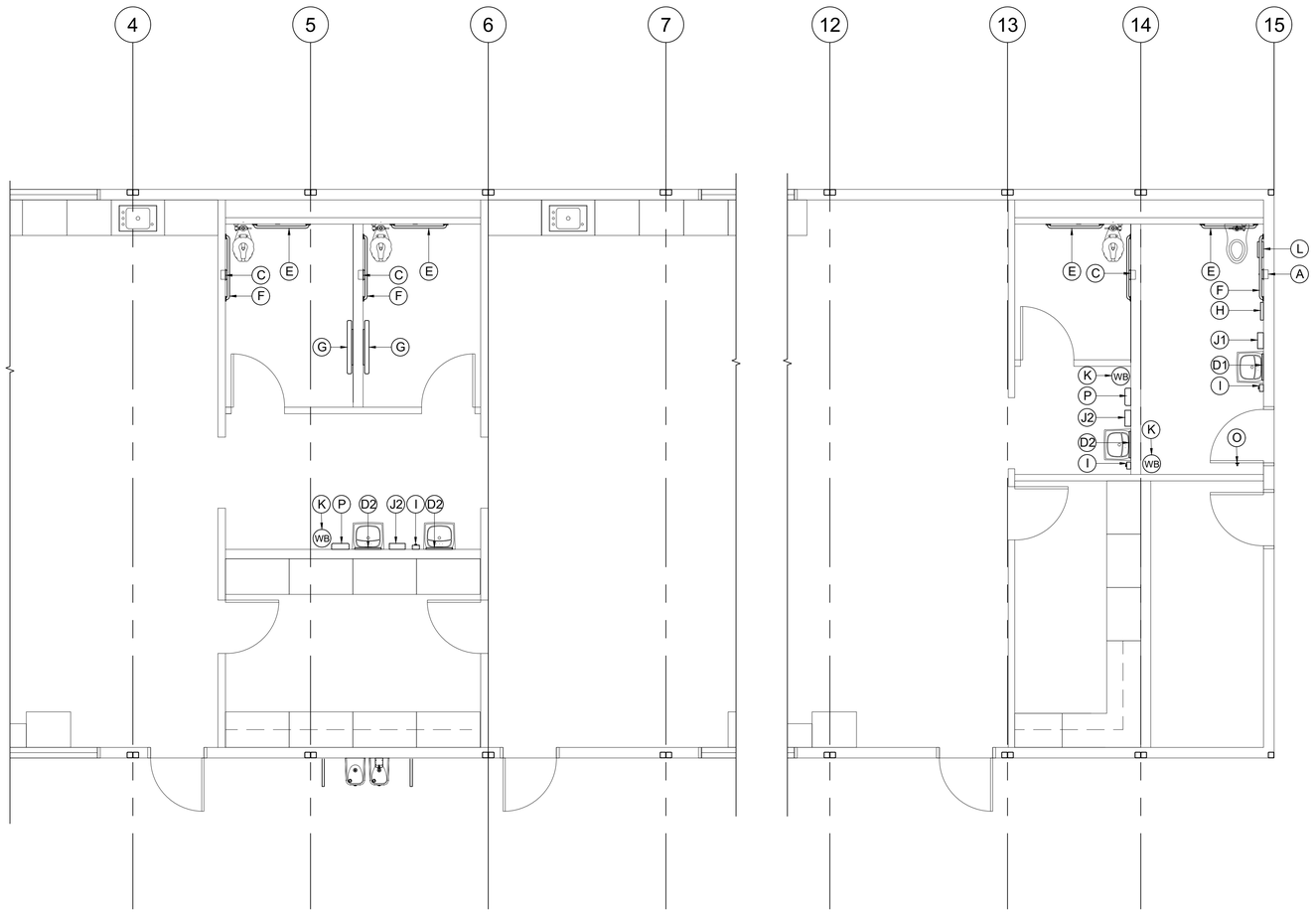
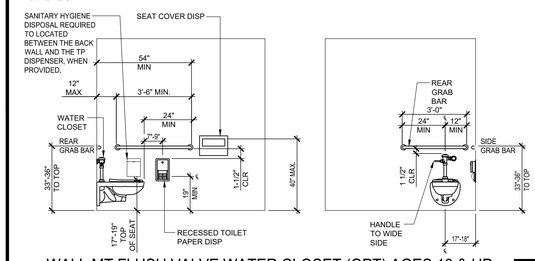


ACCESSORIES PLAN

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

NOTE:
REAR AND SIDE GRAB BARS TO BE MOUNTED SAME HEIGHT

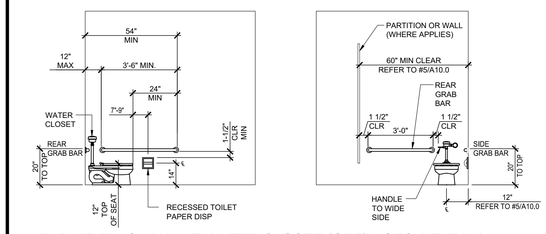


WALL MT FLUSH VALVE WATER CLOSET (OPT) AGES 13 & UP

SCALE: 3/8" = 1'-0"

1

NOTE:
REAR AND SIDE GRAB BARS TO BE MOUNTED SAME HEIGHT

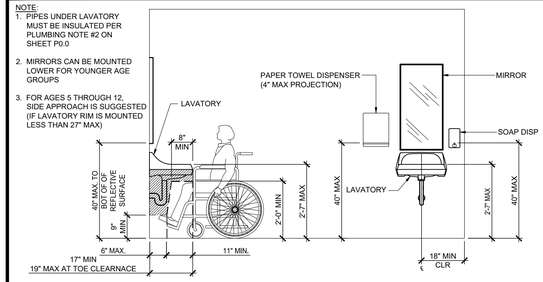


FLR MT FLUSH VALVE WATER CLOSET (OPT) AGES 3 THRU 8

SCALE: 3/8" = 1'-0"

2

NOTE:
1. PIPES UNDER LAVATORY MUST BE INSULATED PER PLUMBING NOTE #2 ON SHEET P0.0
2. MIRRORS CAN BE MOUNTED LOWER FOR YOUNGER AGE GROUPS
3. FOR AGES 5 THROUGH 12, SIDE APPROACH IS SUGGESTED (IF LAVATORY RIM IS MOUNTED LESS THAN 27" MAX)

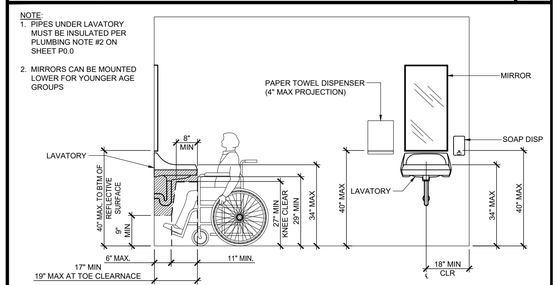


ACCESSIBLE LAVATORY SINK AGES 3 THROUGH 8

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

3

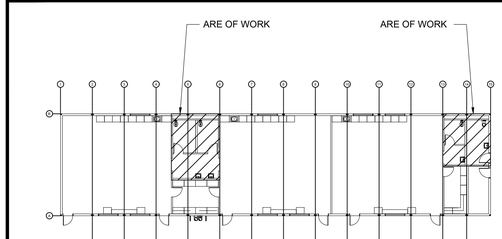
NOTE:
1. PIPES UNDER LAVATORY MUST BE INSULATED PER PLUMBING NOTE #2 ON SHEET P0.0
2. MIRRORS CAN BE MOUNTED LOWER FOR YOUNGER AGE GROUPS



ACCESSIBLE LAVATORY SINK ADULT AGES 13 & UP

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

4



KEY PLAN

SCALE: N.T.S.

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

ACCESSORY PLAN

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

BRIAN J. ORION
No. S6527
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRES 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A12.0

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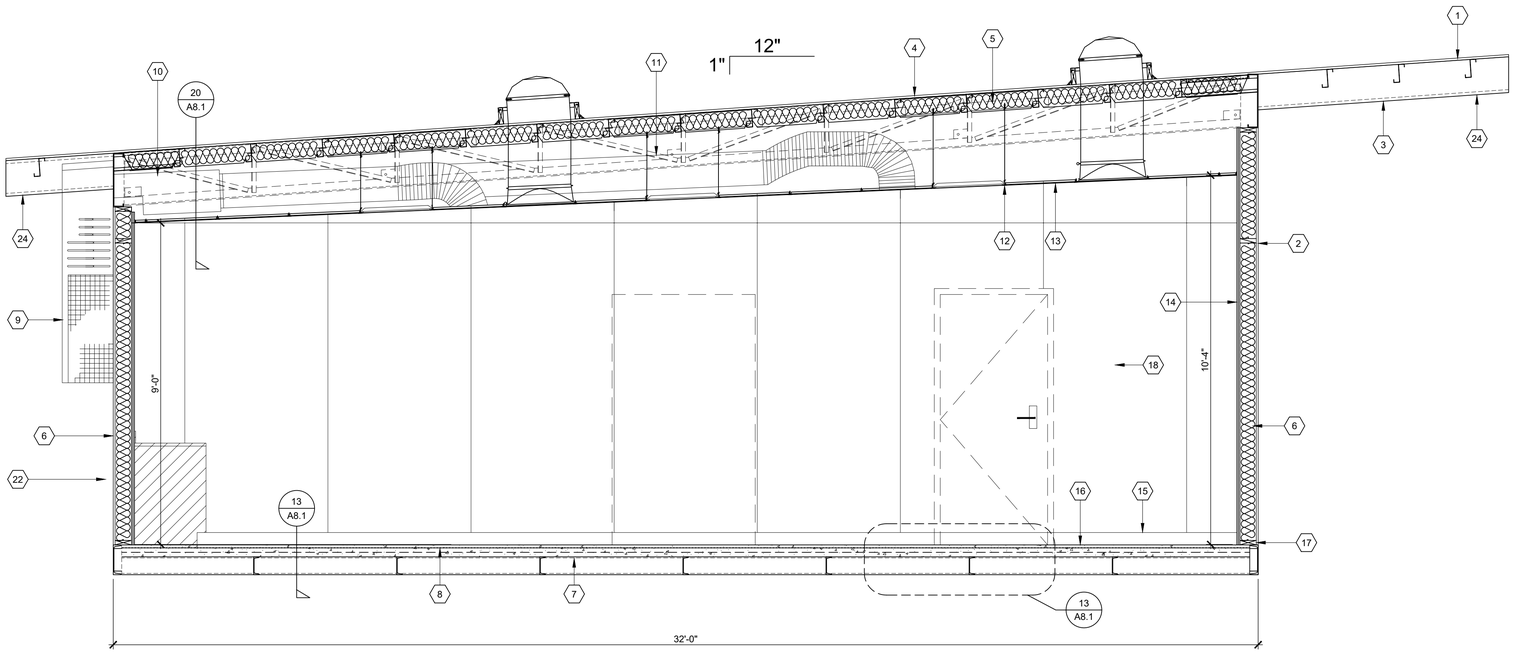

LONGITUDINAL SECTION

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

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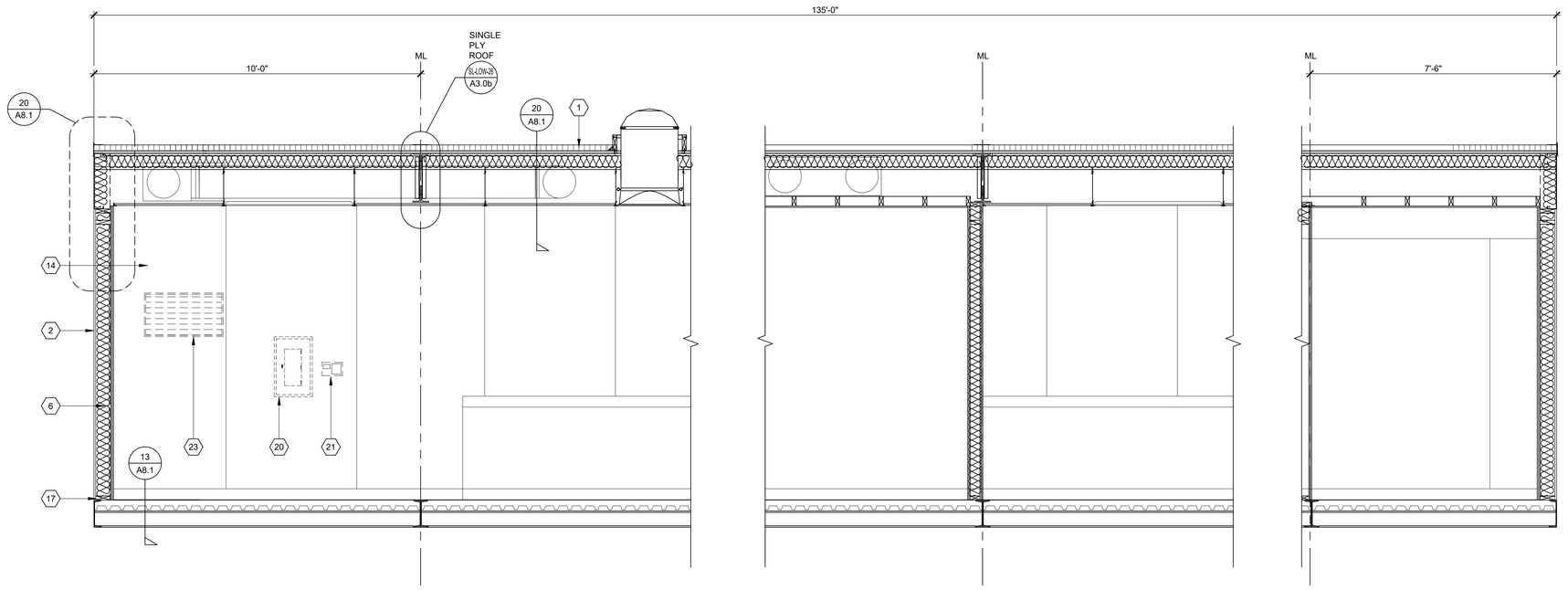

TRANSVERSE SECTION

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

B

KEY NOTES

1. 24 GA METAL ROOF PANELS BY 'AEP-SPAN'
2. 7/8" STUCCO OVER PLYWOOD AND BUILDING STEEL
3. ENCLOSED SOFFIT TO MATCH SAME FINISH AS BODY
4. SINGLE SLOPE ROOF SHOWN
5. ROOF INSULATION. SEE SHEET A0.2 FOR R-VALUE. SEE SHEET A0.1 UNDER BUILDING INSULATION FOR BURNING CHARACTERISTICS.
6. WALL INSULATION. SEE SHEET A0.2 FOR R-VALUE. SEE SHEET A0.1 UNDER BUILDING INSULATION FOR BURNING CHARACTERISTICS.
7. FLOOR INSULATION. SEE SHEET A0.2 FOR R-VALUE. SEE SHEET A0.1 UNDER BUILDING INSULATION FOR BURNING CHARACTERISTICS.
8. PLYWOOD FLOOR DIAPHRAGM STANDARD (OPTIONAL: 3-1/2" LIGHTWEIGHT CONCRETE FILL OVER METAL B-DECK)
9. WALL MOUNT HVAC STANDARD (OPTIONAL: ROOF MOUNT HVAC)
10. HVAC WALL PLENUM FOR SUPPLY AIR
11. HVAC DUCT PER MECHANICAL PLAN
12. SUSPENDED CEILING GRID PER SHEET A A2.0a & A2.0b
13. SQUARE EDGE DROP-IN CEILING TILES
14. VINYL TACKBOARD OVER DRYWALL STANDARD SEE SHEET A0.2 FOR BURNING CHARACTERISTICS.

    (OPTIONAL: MUD, TAPE, TEXTURE & PAINT OR FRP)
15. RUBBER BASE PER SHEET A0.3
16. FINISH FLOORING PER SHEET A0.3
17. WOOD STUD FRAMING STANDARD
18. MARKERBOARD WHERE APPLIES PER FLOOR PLAN
19. WINDOW WHERE APPLIES PER FLOOR PLAN
20. ELECTRICAL PANEL WHERE APPLIES PER FLOOR PLAN
21. THERMOSTAT WHERE APPLIES PER MECHANICAL PLANS
22. GUTTER AND DOWNSPOUTS
23. HVAC WALL MOUNT WALL RETURN GRILL WHERE APPLIES PER MECHANICAL PLANS
24. SOFFIT VENTS PER REFLECTED CEILING PLANS
25. 2X6 BLOCKING AT 48" OC WITH (2) #12 X 1-1/2" WS EACH END OF BLOCKING, NOTCH AS REQUIRED (SIM 8/S3.0)

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

ARCHITECTURAL
BUILDING SECTIONS
MONO SLOPE

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
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PHONE (858)-679-1974

REGISTERED PROFESSIONAL ENGINEER
RYAN T. ORION
No. S-6437
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1	-
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4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A13.0

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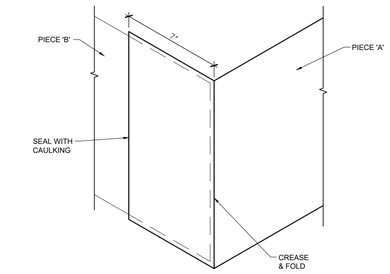
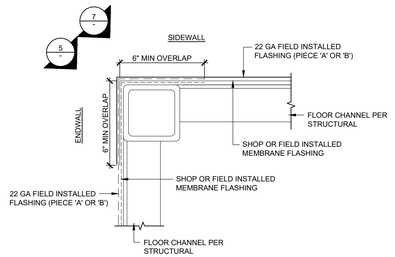


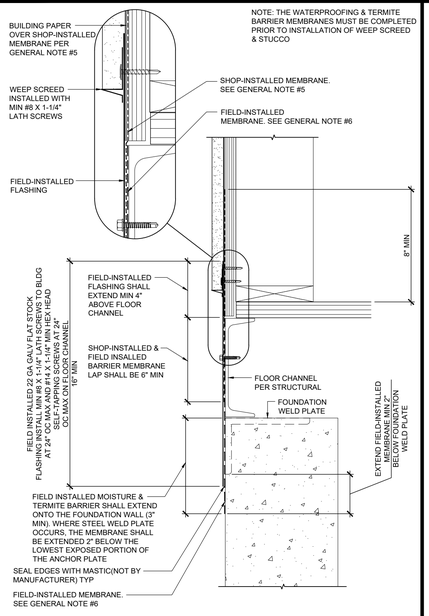
'Z' FLASHING AT CORNER (FLUSHED CONDITION) 7

SCALE: 3" = 1'-0"



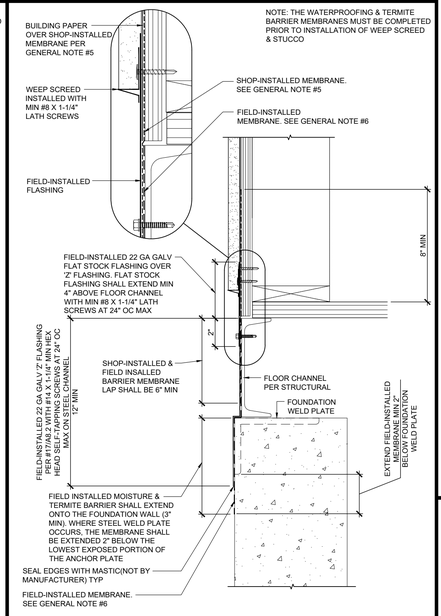
'Z' FLASHING (TOP VIEW) 3

SCALE: 3" = 1'-0"



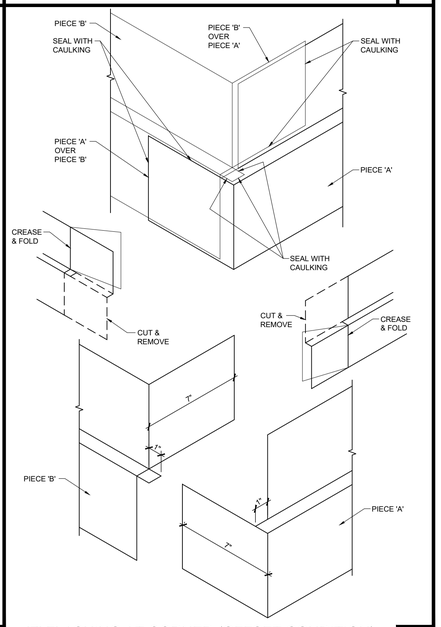
ENLARGE VIEW (FLUSHED CONDITION) 8

SCALE: 3" = 1'-0"



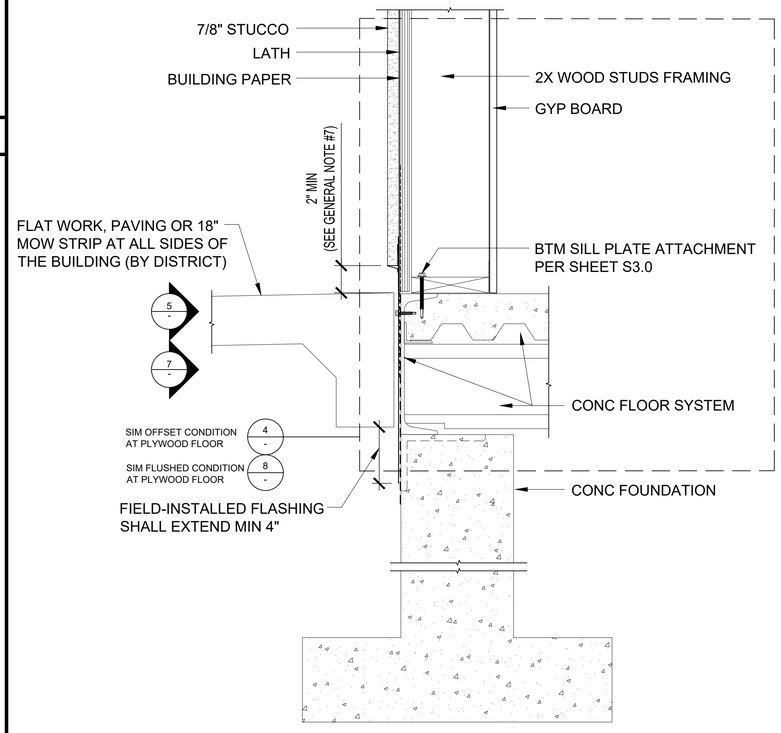
ENLARGE VIEW (OFFSET CONDITION) 4

SCALE: 3" = 1'-0"



'Z' FLASHING AT CORNER (OFFSET CONDITION) 5

SCALE: 3" = 1'-0"



SECTION AT BELOW GRADE & EXTERIOR WALL (CONCRETE FLOOR) 2

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

1

GENERAL NOTES

1. PER DSA IR PC-2 & PC-6, MODULAR OR RELOCATABLE BUILDING 2160 SF AND LARGER WITH A BELOW GRADE FOUNDATION SYSTEM SHALL CONFORM TO CBC 1402.2 AND 1403.2 AS A WEATHER-PROTECTIVE BARRIER ON WALLS DOWN TO THE TOP OF FOUNDATION WALL AND 2304.12.1.2 FOR PROTECTION AGAINST DECAY, TERMITE AND DETERIORATION. THIS ALSO INCLUDES CBC 2304.12.1.5 IF WOOD SIDING IS BEING UTILIZED FOR BELOW GRADE APPLICATIONS
2. MODULAR OR RELOCATABLE BUILDINGS LESS THAN 2160 SF WITH A BELOW GRADE FOUNDATION SYSTEM SHALL ABIDE BY THE REQUIREMENTS OF DSA IR 16-1
3. THIS PC UTILIZES THE MOMENT FRAME SYSTEM FOR RESISTING HORIZONTAL AND VERTICAL FORCES THEREFORE ADDITIONAL REQUIREMENTS MAY APPLY TO SUFFICE THE CONDITIONS
4. FOR WOOD SIDING EXTERIOR FINISHES, THE 'ROSEBURG' DURATEMP PRODUCT IS BEING UTILIZED AS A "SIDING" AND IS NOT PART OF THE MOMENT FRAME STRUCTURAL SYSTEM TO RESIST HORIZONTAL AND VERTICAL LOADS HOWEVER IT MUST MEET THE REQUIREMENTS SET FORTH ON GENERAL NOTE #1 FOR PROTECTION AGAINST DECAY, TERMITE AND DETERIORATION. REFER TO SHEET A0.2 FOR INFORMATION REGARDING THE DURATEMP APA REPORT NUMBER FOR WOOD STUD USE. OTHER WOOD SIDING PRODUCT SUCH AS 'LP' OR 'JAMES CAN BE PRESENTED TO DSA AS AN ALTERNATE MEANS
5. 18" WIDE FACTORY INSTALLED SELF-ADHERED MOISTURE AND TERMITE BARRIER INSTALLED 8" MIN ABOVE CHANNEL (INSTALLED HORIZONTALLY) BY POLYGUARD TERM FLASHING MOISTURE/TERMITE BARRIER WITH FOIL FACE UV BARRIER OVER POLYGUARD 650WB LIQUID ADHESIVE. SEAL EDGES OF BARRIER WITH POLYGUARD Detail Sealant PW. THE BOTTOM PORTION SHALL EXTEND DOWN THE CHANNEL 6" MIN
6. 12" WIDE FIELD INSTALLED SELF-ADHERED MOISTURE AND TERMITE BARRIER (INSTALLED HORIZONTALLY) BY POLYGUARD TERM WATER/TERMITE BARRIER FOR CONCRETE FOUNDATIONS. OVER POLYGUARD 650WB LIQUID ADHESIVE, SEAL EDGES OF BARRIER WITH POLYGUARD Detail Sealant PW
7. CBC 2304.12.1.5 WOOD SIDING - CLEARANCE BETWEEN WOOD SIDING AND EARTH ON THE EXTERIOR OF A BUILDING SHALL BE NOT LESS THAN 6 INCHES OR LESS THAN 2 INCHES VERTICAL FROM CONCRETE STEPS, PORCH SLABS, PATIO SLABS AND SIMILAR HORIZONTAL SURFACES EXPOSED TO THE WEATHER EXCEPT WHERE SIDING, SHEATHING AND WALL FRAMING ARE OF NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD

MEMBRANE INSTALLATION REQUIREMENTS

1. ALL SURFACES SHALL BE CLEAN (FREE OF DIRT, DUST, OIL AND OTHER DEBRIS) PRIOR TO APPLICATION OF THE ADHESIVE AND MEMBRANE
2. ALL SURFACE VOIDS GREATER THAN 1/8" IN WIDTH SHALL BE FILLED WITH SEALANT PRIOR TO INSTALLATION
3. APPLY LIQUID ADHESIVE TO ALL SURFACES WHICH WILL RECEIVE THE FLASHING BARRIER
4. CUT PIECES OF MEMBRANE TO LENGTH AS NEEDED AND APPLY TO SUBSTRATE ONCE THE LIQUID ADHESIVE HAS BECOME TACKY. IMMEDIATELY PRIOR TO MEMBRANE APPLICATION, THE INSTALLER SHALL VERIFY THAT THE ADHESIVE IS STILL TACKY TO THE TOUCH, IF NECESSARY A SECOND LAYER OF ADHESIVE SHALL BE PROVIDED
5. INSTALL MEMBRANE IN A HORIZONTAL ORIENETATION
6. WHERE A HORIZONTAL LAP OCCURS, THE JOINTS SHALL BE LAPPED 2-1/2 INCHES MINIMUM
7. AT BUILDING CORNERS THE MEMBRANE SHALL BE WRAPPED AROUND THE CORNER AND SHALL EXTEND NO LESS THAN 6" BEYOND THE CORNER PRIOR TO LAPPING ANOTHER SHEET
8. WHERE MODULE JOINT (MODLINE) OCCURS THE FACTORY INSTALLED MEMBRANE SHALL BE TERMINATED WITHIN 1" OF THE EDGE OF THE MODULE. A FIELD INSTALLED MEMBRANE PIECE SHALL BE APPLIED FOLLOWING THE INSTALLATION OF THE MODULES ON THE FOUNDATION. THE FIELD INSTALLED MEMBRANE PIECE SHALL LAP THE FACTORY INSTALLED MEMBRANE 3" MINIMUM AT EACH END
9. WHERE A VERTICAL LAP OCCURS THE UPPER MEMBRANE LAYER SHALL BE LAPPED OVER THE LOWER MEMBRANE LAYER 6" MINIMUM
10. THE MEMBRANE SHALL BE ROLLED FIRMLY INTO PLACE USING HAND ROLLER
11. APPLY MASTIC OR SEALANT TO TERMINATING EDGES AND AROUND PIPES OR OTHER PENETRATIONS
12. WHERE THE SURFACES ARE OFFSET MORE THAN 18" OUT-OF-PLANE PROVIDE SEALANT OR ANOTHER STABLE MATERIAL TO TRANSITION BETWEEN THE SURFACES
13. WHERE A HORIZONTAL LAP OCCURS IN THE GALVANIZED FLASHING THE JOINTS SHALL BE LAPPED 2-1/2" MINIMUM

REPAIR REQUIREMENTS

1. WHERE DAMAGE OCCURS, THE REPAIRS SHALL BE AS FOLLOWS:
A. WHERE THE DAAGE MEASURES LESS THAN 1/2" IN ANY DIRECTION THE PUNCTURE SHALL BE SEALED WITH MASTIC
B. WHERE THE DAMAGE MEASURES MORE THAN 1/2" BUT LESS THAN 2", IN ANY DIRECTION A PATCH SHALL BE INSTALLED OVER THE DAMAGE USING THE SAME MEMBRANE MATERIAL. THE PATCH SHALL OVERLAP 4" MINIMUM IN ALL DIRECTION
C. WHERE THE DAMAGE MEASURES MORE THAN 2" IN ANY DIRECTION, THE DAMAGED PORTION SHALL BE REMOVE AND A PIECE OF MENBRANE SHALL BE INSTALLED . THE PATCH SHALL OVERLAP 4" MINIMUM IN ALL DIRECTIONS

INSPECTION REQUIREMENTS

THE IN-PLANT INSPECTOR SHALL OBSERVE THE INSTALLATION OF FACTORY INSTALLED PORTION OF THE MEMBRANE FLASHING. THE ADHESIVE AND MEMBRANE SHALL BE INSTALLED IN ACCORDANCE WITH THESE INSTALLATION INSTRUCTIONS. ALL OVERLAPS SHALL BE AS INDICATED WITHIN THIS DRAWING PACKAGE. THE MEMBRANE SHALL BE CONTINUOUS UP THE WALL TO A MINIMUM HEIGHT ABOVE FINISH FLOOR AS INDICATED WITHIN THIS DRAWING PACKAGE

THE ON-SITE INSPECTOR SHALL OBSERVE THE INSTALLATION OF THE SITE INSTALLED PORTION OF THE MEMBRANE FLASHING. THE FACTORY INSTALLED MEMBRANE SHOULD BE INVESTIGATED TO DETERMINE IF ANY DAMAGE OCCURRED DURING MODULE SHIPLMENT/INSTALLTION PRIOR TO PROCEEDING WITH THE SITE INSTALLED MEMBRANE PLACEMENT. THE ADHESIVE AND MEMBRANE SHALL BE INSTALLED IN ACCORDANCE WITH THESE INSTALLATION INSTRUCTIONS. ALL OVERLAPS SHALL BE AS INDICATED WITHIN THIS DRAWING PACKAGE. THE MEMBRANE SHALL BE LAPPED ONTO THE FOUNDATION WALL AS INDICATED WITHIN THIS DRAWING PACKAGE. THE GALVANIZED FLASHING SHALL BE INSTALLED OVER THE MEMBRANE . THE GALVANIZED FLASHING SHALL BE CONTINUOUS AND SHALL CONTINUE BELOW THE BOTTOM OF THE FLATWORK OR MOW STRIP AS INDICATED WITHIN THIS DRAWING PACKAGE

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

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MANUFACTURER #MF1279666 DEALER # DL1279666
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
DETERIORATION PROTECTION FOR BELOW GRADE CONDITION (STUCCO SIDING)

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

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Structural Engineering, Inc.
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RYAN J. ORION
EXP 12/31/26
REGISTERED PROFESSIONAL ENGINEER
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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2	-
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5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

A20.1

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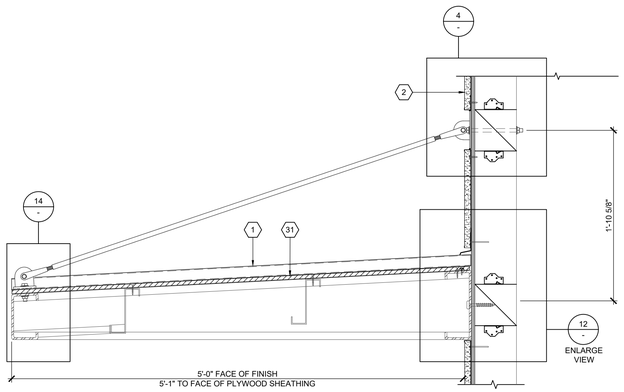
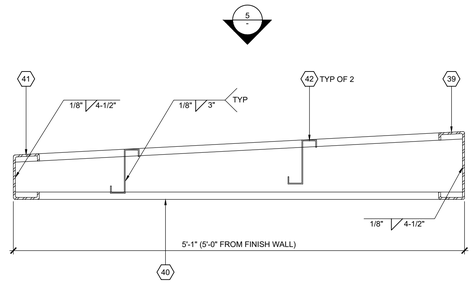


ARCHITECTURAL AWNING ATTACHMENT

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

11



ARCHITECTURAL AWNING ATTACHMENT

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

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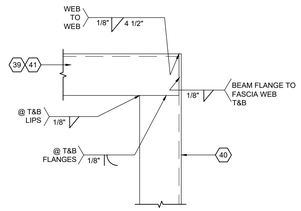


CANOPY CONNECTION AT CORNER

SCALE: 3" = 1'-0"

2

3A

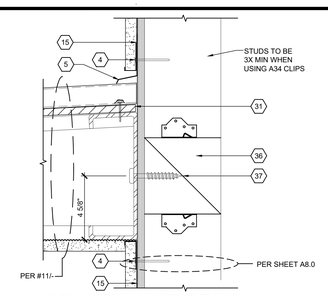
KEY NOTES

1. SPAN-SEAM HP 24 GA METAL ROOF PANELS BY 'AEP-SPAN' (TO MATCH BUILDING ROOF) INSTALLED OVER OPENING FRAMING WITH ROOF JOIST AT 24" OC MAX PER UES ICC-ES EVALUATION REPORT ESR #3869. MATCH COLOR PER ROOF BUILDING. INSTALL PER MANUFACTURER INSTRUCTIONS. REFER TO SHEET A3.0a & A3.0b FOR ADDITIONAL ROOF PANEL INFORMATION
2. 7/8" STUCCO OVER FURRING LATH. SEE SHEET A8.0 FOR INFORMATION
3. J-MOLD FOR STUCCO FINISH. SECURE TO STEEL WITH #10 X 1" FH SDS AT 24" OC MAX
4. J-MOLD FOR STUCCO FINISH. SECURE TO WOOD FRAMING WITH 8D GALV NAILS AT 24" OC MAX
5. NOT USED
6. 1-1/2"Ø SCH 40 PIPE WITH TURN-BUCKLE. SEE EXTERIOR ELEVATION SHEET A5.6 FOR QUANTITY
7. TURN-BUCKLE PLATE AT BEAM (TO BE PAINTED). SEE DETAIL #8/-
8. ROOF BEAM. (SEE STRUCTURAL ROOF FRAMING PLANS SHEET S2.2)
9. SEE STRUCTURAL SHEET S2.0
10. TURN-BUCKLE PLATE AT CANOPY FASCIA (TO BE PAINTED). SEE DETAIL #9/-
11. APA RATED SHEATHING, 3/8" PERFORMANCE CATEGORY, 24/0 SPAN RATING, EXPOSURE 1, CDX, STRUCTURAL1, PS 1-09. SQUARE EDGE. ATTACH TO STEEL FRAMING WITH MIN #10-16 X 1-1/2" FH SELF TAP SCREW @ 6" OC BOUNDARY AND 12" OC FIELD
12. PER SHEET A8.0
13. 5/8" MACHINE BOLT WITH NUT AND WASHER
14. CLEVIS AND PIN (TO BE PAINTED)
15. WEATHER BARRIER BUILDING PAPER PER SHEET A8.0
16. ROOF TRUSS PER SHEET S2.1
17. PLYWOOD PER SHEET S2.2
18. Z-6" X 2" X 1" X 14 GA ROOF JOIST BLKG
19. NOT USED
20. NOT USED
21. NOT USED
22. NOT USED
23. #10 X 1" MIN SDS WITH NEOPRENE WASHERS AT 24" OC MAX
24. NOT USED
25. NOT USED
26. NOT USED
27. NOT USED
28. NOT USED
29. NOT USED
30. NOT USED
31. NOT USED
31. 5/8" MIN CD-X EXPOSURE 1, STRUCTURAL1, 24/16 SPAN RATING, PS 1-09, APA RATED OR EQUAL, SQUARE EDGE. ATTACH TO STEEL FRAMING WITH MIN #10-16 X 1-1/2" SELF TAP SCREW, 0.145" MIN (BY BUILDEX, ICC REPORT #ESR-1976) @ 6" OC BOUNDARY AND 6" OC FIELD.
32. NOT USED
33. NOT USED
34. FULLY SEAL WITH VULKEM POLYURETHANE SEALANT OR EQUAL MEETING FEDERAL SPECIFICATIONS TT-S-00230C, TYPE II, CLASS A
35. NOT USED
36. 6 X 6 DF #2 BLOCKING SECURED TO EACH WALL BAY WITH A34 CLIPS TO TOP AND BTM
37. 1/2" X 3-1/2" GALV LAG SCREWS AT 16" OC MIN. DRILL 9/16"Ø HOLE AT WEB OF CHANNEL
38. NOT USED
39. C-9-3/16" X 3-1/2" X 1" X 14 GA FORMED CHANNEL WITH 3° DECLINE AT TOP FLANGE. SEE DETAIL #13 FOR PROFILE
40. C-6" TO 9-3/16" X 3-1/2" X 1" X 14 GA TAPERED FORMED CHANNEL. SEE DETAIL #6 FOR PROFILE
41. C-6" X 3-1/2" X 1" X 14 GA FORMED CHANNEL WITH 3° DEG INCLINE AT TOP FLANGE. SEE DETAIL #15 FOR PROFILE
42. Z-6" X 2" X 1" X 14 GA CANOPY ROOF JOIST AT MID SPAN. SEE SHEET S2.2 FOR SIMILAR PROFILE

GENERAL NOTES

1. SEE SHEET METAL AND FLASHING DETAILS SHEET A8.2 FOR MORE INFORMATION

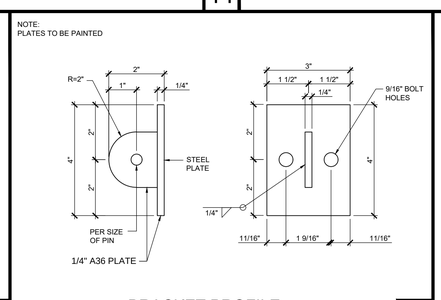
3B



CANOPY ATTACHMENT TO WALL

SCALE: 3"=1'-0"

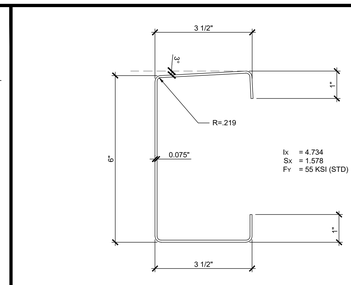
12



BRACKET PROFILE

SCALE: 6" = 1'-0"

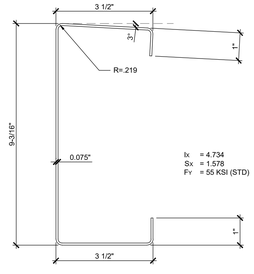
8



CANOPY FRONT FASICA PROFILE

SCALE: 6" = 1'-0"

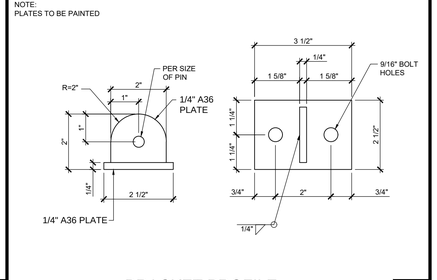
15



CANOPY REAR FASCIA PROFILE

SCALE: 6" = 1'-0"

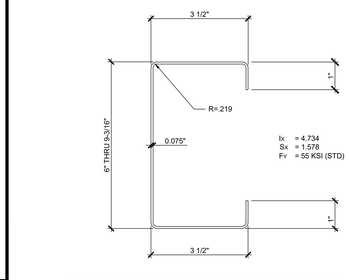
13



BRACKET PROFILE

SCALE: 6" = 1'-0"

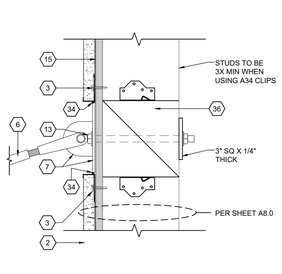
9



CANOPY TAPERED BEAM PROFILE

SCALE: 6" = 1'-0"

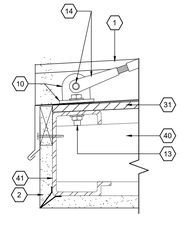
6



TURN-BUCKLE PLATE TO BEAM

SCALE: 3"=1'-0"

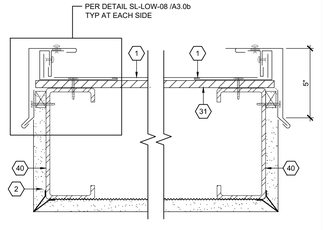
4



TURN-BUCKLE PLATE ATTACHMENT AT CANOPY

SCALE: 3"=1'-0"

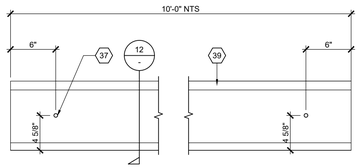
14



SECTION AT CANOPY

SCALE: 3"=1'-0"

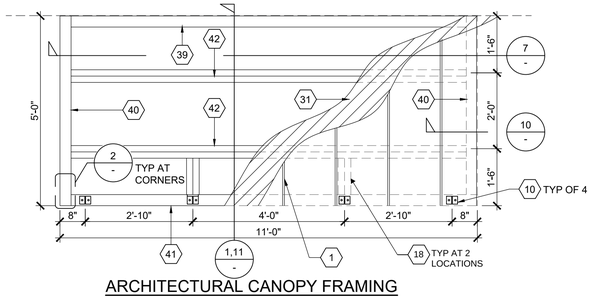
10



ARCHITECTURAL CANOPY ATTACHMENT

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

7



ARCHITECTURAL CANOPY FRAMING

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

5

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

KSC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
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MANUFACTURER #MF1279666 DEALER # DL1279666
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

AWNING DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

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PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER — RYAN T. ORION — No. 27537 — EXP 12/31/26 — STRUCTURAL — STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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3	-
4	-
5	-

PROJECT NO.:	00-0000
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SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

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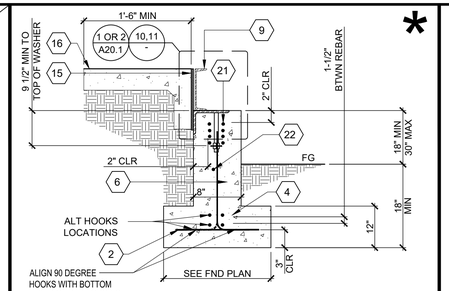
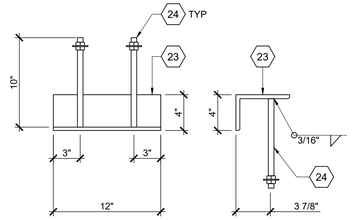


END WALL FOUND

SCALE: 1" = 1'-0"

14 | 9



ANCHOR PLATE AT CORNERS

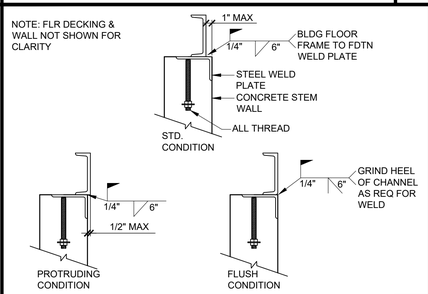
SCALE: 1 1/2" = 1'-0"

6 | 1

KEY NOTES

1. #5 REBAR
2. #4 REBAR @ 24" O.C.
3. REBAR CAGE - (4) #5 VERTICALS WITH #5 HORIZONTAL REBAR (90° BENDS AT EACH END) SPACED 12" OC MAX
4. REBAR - (3) #5 CONTINUOUS TOP AND BOTTOM, MIN. 1 1/2" APART
5. REBAR - (1) #5 CONTINUOUS TOP AND BOTTOM
6. REBAR - (1) #3 VERT @ 24" OC (CENTERED IN STEM WALL)
7. REBAR - (3) #5 CONTINUOUS AT BOTTOM
8. NOT USED
9. STEEL PERIMETER FRAME - END CHANNEL
10. STEEL PERIMETER FRAME - SIDE CHANNEL
11. REBAR - #4 TIES @ 8" OC
12. REBAR - (2) #4 TIES AT TOP 5", MIN. 1 1/2" APART.
13. REBAR - #5 EA WAY (SEE SCHEDULE ON FOUNDATION PLAN FOR AMOUNT)
14. REBAR - (4) #5 VERT
15. FELT EXPANSION JOINT (NOT BY BUILDING MANUFACTURER)
16. MOW STRIP/CONCRETE SIDEWALK (NOT BY BUILDING MANUFACTURER). REFER TO DSA IR 16-1 FOR DETAILING OF MOW STRIP
17. 22 GA GALVANIZED SHEET METAL FLASHING EXTEND 6" BELOW PERIMETER FRAME
18. ANCHOR PLATE PER DETAIL #6, F4.0.
19. NOT USED
20. NOT USED
21. REBAR - (4) #4 AT TOP STEMWALL AT EACH SIDE OF BOLT SPACED 1-1/2" CLR OF EACH REBARS
22. WHEN STEM WALL HEIGHT ABOVE FOOTING EXCEEDS 24", PROVIDE (1) ADDITIONAL #5 REBAR AT MID-HEIGHT OF STEM WALL
23. L-4" X 6" X 3/8" THICK STEEL EMBEDMENT PLATE
24. 5/8" MIN ALL THREAD (SEE SHEET S0.0 FOR ANCHOR BOLT MIN GRADE) WELDED TO STEEL PLATE AT ONE END AND DOUBLE NUT WITH 1/4" THICK WASHER AT THE OTHER END
25. (3) #3 HAIR PIN TIES GRADE 60 ANCHOR REINFORCING, MIN 24" LAP AT EACH HAIR PIN

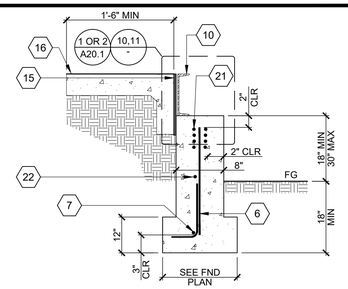
* = PROJECT IS LARGER THAN 2160 SF AND SET ON A BELOW GRADE FOUNDATION, IT MUST ABIDE BY THE DETERIORATION PROTECTION REQUIREMENTS AND DETAILS ON SHEET A20.1



ANCHOR PLATE CONNECTIONS

SCALE: NTS

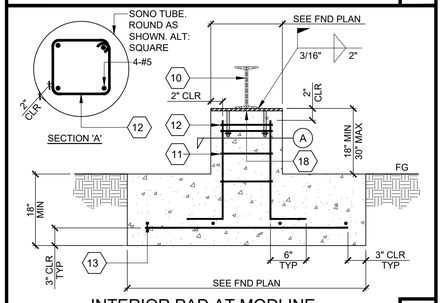
15 | 10



SIDE WALL FOUNDATION

SCALE: 1" = 1'-0"

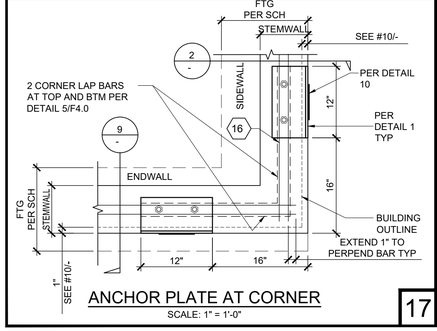
2 | *



INTERIOR PAD AT MODLINE

SCALE: 1" = 1'-0"

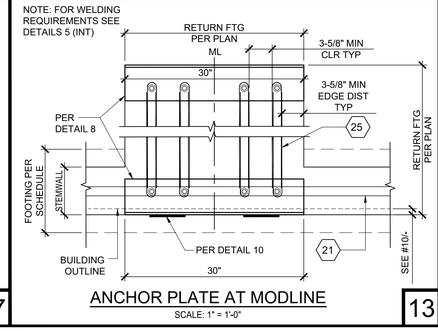
3 | 11



ANCHOR PLATE AT CORNER

SCALE: 1" = 1'-0"

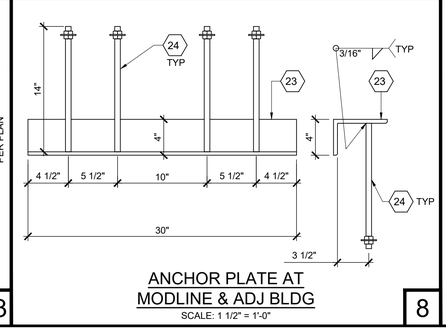
17



ANCHOR PLATE AT MODLINE

SCALE: 1" = 1'-0"

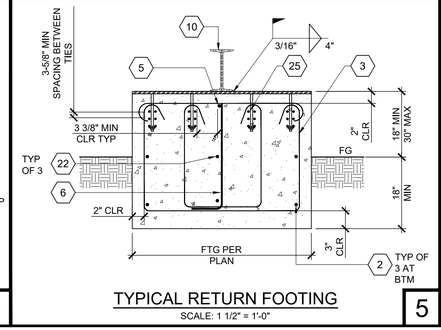
13



ANCHOR PLATE AT MODLINE & ADJ BLDG

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

8



TYPICAL RETURN FOOTING

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

5

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
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DATE: 06/05/2025

KSC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SEE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

FLUSH TO GRADE CONCRETE FOUNDATION DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER RYAN Z. ORION No. S6257 EXP 12/31/26 STRUCTURAL STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1	-
2	-
3	-
4	-
5	-

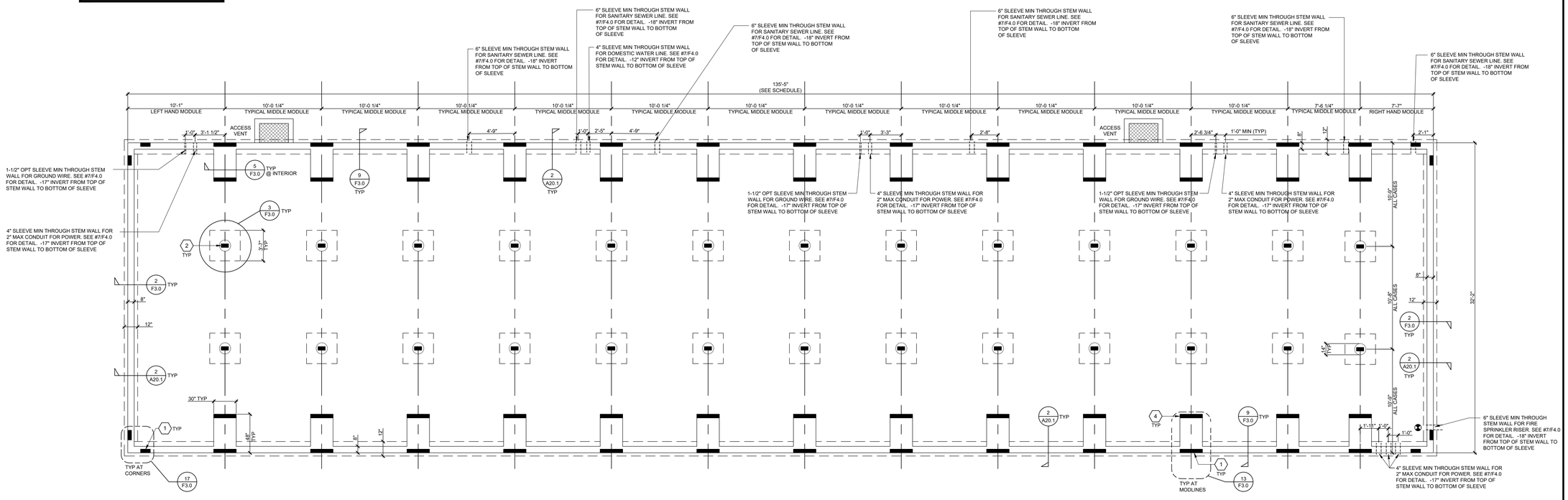
PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

F3.0

5/2/2025 12:15:14 PM

NOTE:
PROJECT IS LARGER THAN 2160 SF AND SET ON A BELOW GRADE FOUNDATION, IT MUST ABIDE BY THE DETERIORATION PROTECTION REQUIREMENTS AND DETAILS ON SHEET A20.1



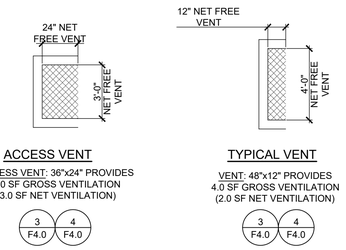
50+15 PSF FOUNDATION PLAN

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

KEY NOTES

1. ANCHOR PLATE AT CORNERS AND MODLINES
2. ANCHOR PLATE AT PIERS - SEE #6/F4.0
3. NOT USED
4. ANCHOR PLATES REQUIRED AT RETURN STEMWALL FOOTING AND/OR BLDG SEP STEMWALL FOOTING TYP

NOTE:
WHEN GRATES ARE FLUSHED WITH ADJACENT PEDESTRIAN PAVEMENT, AN ACCESSIBLE GRATE WILL BE REQUIRED. IF SITE PLACEMENT IS SUCH THAT THE VENT IS ADJACENT TO AN OPEN PAVED AREA OR PATHWAY INTERSECTION, 1/2" MAX OPENINGS IN BOTH DIRECTIONS WILL BE REQUIRED. IF ADJACENT PAVEMENT IS BI-DIRECTIONAL, OBLONG OPENINGS WITH 1/2" MAX PARALLEL TO DIRECTION OF TRAVEL MAY USED



ACCESS VENT

ACCESS VENT: 36"x24" PROVIDES 6.0 SF GROSS VENTILATION (3.0 SF NET VENTILATION)

TYPICAL VENT

VENT: 48"x12" PROVIDES 4.0 SF GROSS VENTILATION (2.0 SF NET VENTILATION)

TYPICAL VENT & ACCESS VENT DETAILS

GENERAL NOTES

1. THE LOCATION OF VENTS SHOWN HERE IS FOR REFERENCE ONLY AS THE LOCATIONS OF VENTS WILL VARY FROM JOB TO JOB.
   THE OPENINGS SHALL BE LOCATED AS CLOSE TO THE CORNER AS PRACTICAL AND SHALL PROVIDE CROSS VENTILATION. THE OPENINGS SHALL BE EQUALLY DISTRIBUTED ALONG THE LENGTH OF AT LEAST (2) OPPOSITE ENDS
2. UNDER FLOOR VENTILATION SHALL BE PROVIDED AT A NET AREA OF NOT LESS THAN 1 SQUARE FOOT FOR EACH 150 SQUARE FEET OF UNDER FLOOR AREA
3. PER SECTION 1203.4.2 EXCEPTION 2, THE TOTAL AREA OF VENTILATION OPENINGS IS PERMITTED TO BE REDUCED TO 1/1500 OF THE UNDER-FLOOR AREA WHERE THE GROUND SURFACE IS COVERED WITH A CLASS I VAPOR RETARDER MATERIAL AND THE REQUIRED OPENINGS ARE PLACED SO AS TO PROVIDE CROSS VENTILATION OF THE SPACE. THE INSTALLATION OF OPERABLE LOUVERS SHALL NOT BE PROHIBITED
4. TWO SETS OF ANCHOR BOLTS OR ANCHOR PLATES REQUIRED AT BUILDING CORNERS TYP ALL FLOOR LOAD CONDITIONS (CONCRETE AND PLYWOOD FLOORS)

SCHEDULES

☐ =REF LETTERS TO SCHEDULES BELOW TYP

NOTE:
THE SCHEDULE BELOW TAKES AN ACCOUNT OF (1) ACCESS VENT.
TO ACHIEVE THE MIN NUMBER OF VENTS, THE DESIGN PROFESSIONAL CAN USE DIFFERENT COMBINATION OF BOTH ACCESS VENTS AND TYPICAL VENTS TO MEET THE REQUIRED VENTILATION

REQUIRED VENTILATION		
BUILDING SIZE	VENTILATION REQUIRED	MIN # VENTS
135'x32'	28.8 SF	10
ACCESS VENT CAN BE USED IN PLACE OF A TYPICAL VENT AS NECESSARY		

VENTILATION FORMULA (135X32)

BUILDING SQUARE FOOTAGE: 135' X 32' = 4320 SF

REQUIRED VENTILATION: 1 SF / 150 SF (ALLOWED BY CODE)
4320 SF / 150 SF = 28.8 SF NET VENTILATION REQUIRED

NUMBER OF ACCESS VENTS TO BE USE: 2
TOTAL VENTILATION: (1) VENT X 6.0 = 12.0 SF X 50% SCREEN POROSITY = 6.0 SF

NUMBER OF TYP VENTS TO BE USE: 12
TOTAL VENTILATION: (12) TYP VENT X 4.0 = 4.0 SF X 50% SCREEN POROSITY = 24.0 SF

OVERALL VENTILATION:
6.0 X 24.0 = 29.0 SF

30.0 SF ≥ 28.8 SF VENTILATION REQUIREMENT = OK

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DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

FLUSH TO GRADE CONCRETE FOUNDATION PLAN

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER
ARVIN T. ORION
No. S-6437
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

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REVISIONS

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5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

F3.1

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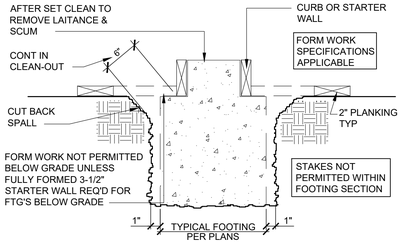
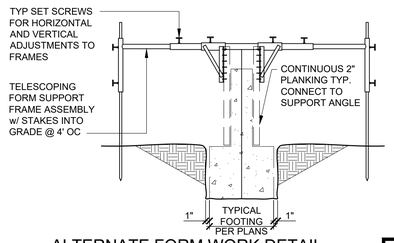


FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE ARCHITECT (STRUCTURAL ENGINEER) SUBJECT TO THE APPROVAL OF THE DIVISION OF THE STATE ARCHITECT. IN SUCH CASE THE MINIMUM FRAMEWORK SHOWN ON THE DRAWINGS IS MANDATORY TO INSURE CLEAN EXCAVATIONS IMMEDIATELY PRIOR TO AND DURING THE PLACING OF CONCRETE

MANDATORY MINIMUM FORM WORK

(UNLESS FULLY FORMED)

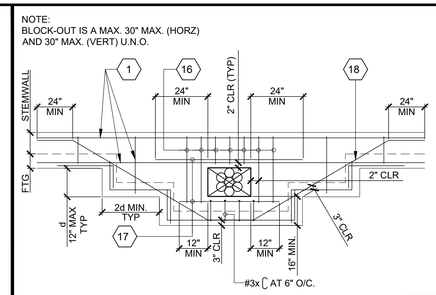
15



ALTERNATE FORM WORK DETAIL

SCALE: NTS

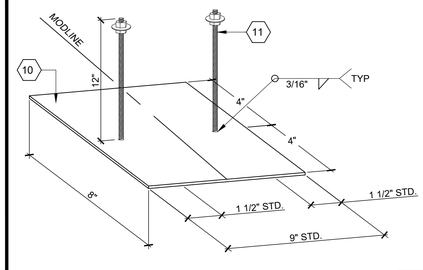
16



FOUNDATION BLOCK OUT

SCALE: NTS

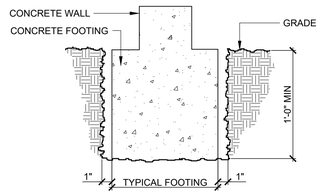
10



PAD FOOTING ANCHOR PLATE

SCALE: 1"=1'-0"

6



NON-FORMED FOOTINGS UNDER FOLLOWING CONDITIONS: (1) SOIL WILL STAND WITHOUT SLOUGHING (2) TRENCH ONE (1) INCH WIDER ON ALL SIDES. (3) PROVIDE POSITIVE PROTECTION OF TOP EDGES.

NON-FORMED FOOTING (OPTIONAL)

SCALE: NTS

1

KEY NOTES

1. REBARS PER SHEET F2.0 OR F3.0.
2. ONE ADDITIONAL REBAR AT OPENING. REBAR SIZE TO MATCH TOP AND BOTTOM REBARS ACCORDINGLY.
3. GRATE IN PATH OF TRAVEL (ADA) - STD WELDED STEEL 3/4" X 3/16" BEARING BARS. BAR SPACING @ 1/2" OC PERPENDICULAR TO ROUTE OF TRAVEL, ALL WALKWAYS. (BY CONCRETE CONTRACTOR); FOR STANDARD GRATE SEE GENERAL NOTE #8 BELOW.
4. FOUNDATION WALL AND FTG PER SHEET F2.0 OR F3.0.
5. REBAR - #5 CONTINUOUS @ MID HEIGHT
6. ANGLE FRAME: L-1 1/2" X 1 1/2" X 1/4"
7. #10 X 1 1/2" GALV. TEK SCREW AT 16" O.C. MAX.
8. 1/4"Ø x 3" IN ANCHOR BOLT. MIN OF 2.
9. STEEL PERIMETER CHANNEL
10. 1/4" STEEL EMBEDMENT PLATE.
11. 5/8" MIN ALL THREAD WELDED TO STEEL PLATE AT ONE END AND DOUBLE NUT WITH 1/4" THICK WASHER AT THE OTHER END.
12. 3/16" MIN SHIM PLATE, MAY BE A SINGLE PLATE OR COMBO OF MULTIPLE PLATES WITH MAX SHIM HEIGHT OF 1". GAPS UP TO 1/4" DO NOT REQUIRE A SHIM. USE AS REQUIRED
13. REBAR - (1) #3 AT 24" O.C. AT CENTER LINE OF WALL.
14. REBAR - #3 "L" AT 24" O.C. MAX. AT STEP DOWN LOCATION.
15. REBAR - #5 " " AT STEP DOWN LOCATION.
16. REBAR - #3 AT 6" O.C. AROUND BLOCK-OUT.
17. REBAR - (1) #5 TOP AND BOTTOM OF BLOCK-OUT.
18. REBAR - #5 " " AT STEP DOWN LOCATION. QTY TO MARCH TYPICAL FOOTING
19. REBAR - (1) #3 TOP AND BOTTOM
20. REBAR - (1) #3 AT CENTER OF WALL

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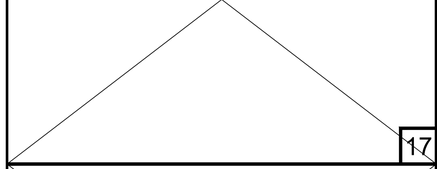
SHEET TITLE:

GENERAL CONCRETE DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD



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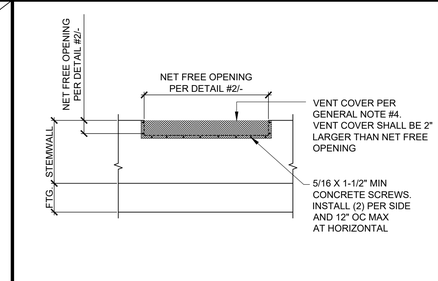
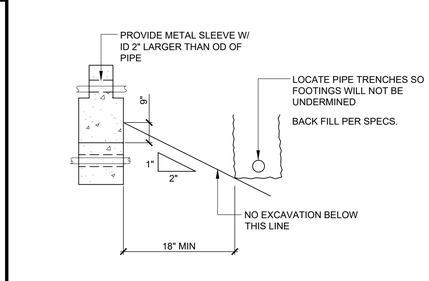


STEM WALL VENT COVER (ABOVE GRADE)

SCALE: NTS

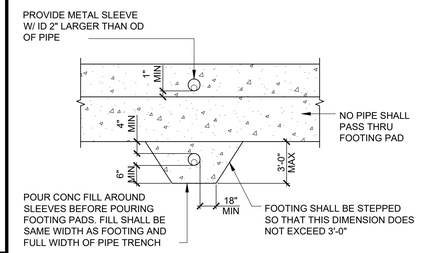
12



ADJ FTG TRENCH / PIPE PENETRATION

SCALE: NTS

7



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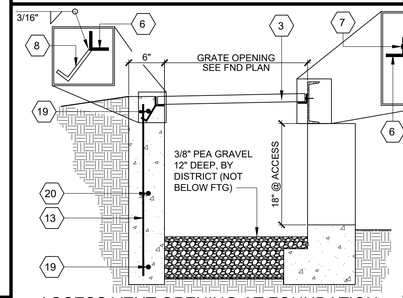
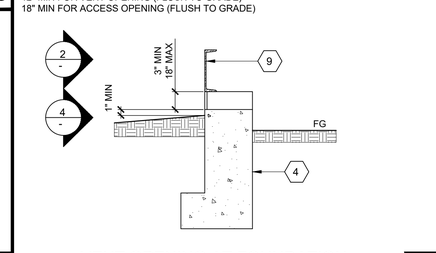


ACCESS VENT OPENING AT FOUNDATION

SCALE: 1"=1'-0"

3

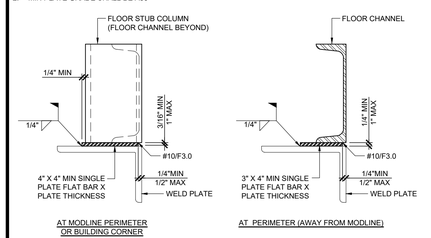


VENT OPENING AT FOUNDATION

SCALE: 1"=1'-0"

11

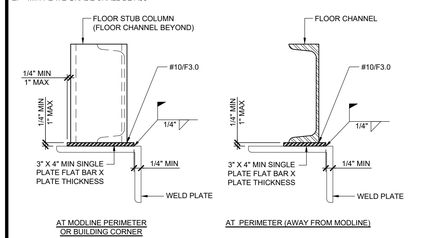
18



SINGLE PLATE SHIM

SCALE: 3" = 1'-0"

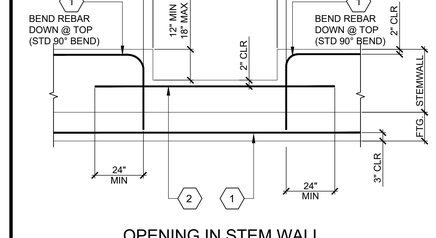
13



SINGLE PLATE SHIM

SCALE: 3" = 1'-0"

8



OPENING IN STEM WALL (FLUSH TO GRADE)

SCALE: NTS

4

GENERAL NOTES:

1. DESIGN SOIL BEARING PRESSURE VALUE FOR NON EXPANSIVE SOIL IS 2500 PSF FOR DEAD LOAD PLUS LIVE LOAD. FOUNDATION DETAILS SHOWN ARE BASED ON MINIMUM CODE REQUIREMENTS. FOUNDATION IS SUBJECT TO APPROVAL BY LOCAL ENFORCEMENT AGENCY DUE TO SPECIAL SOIL AND/OR SITE CONDITIONS PRESENT.
2. ALL FOOTINGS SHALL REST 18" IN BELOW NATURAL GRADE AND FINISHED GRADE OF THE FROST LINE. ALL FOOTINGS SHALL REST ON FIRM, UNDISTURBED SOIL. WHERE FROST LINE DEPTH MAY PRESENT A PROBLEM, CONTRACTOR SHALL CONSULT DSA FOR RECOMMENDATIONS AS TO REQUIRED DEPTH OF FOOTING. THE RESULTS OF SUCH INVESTIGATION SHALL BE INCLUDED IN THE APPROVED SET OF DRAWINGS.
3. WHERE TERMITE HAZARD EXISTS TREAT SOIL AT GROUND CONTACT POINTS, INSIDE AND OUTSIDE FOUNDATION.
4. UNDER FLOOR AREAS SHALL BE VENTILATED 1 SF FOR EACH 150 SF OF UNDER FLOOR AREA. OPENINGS SHALL BE COVERED WITH CORROSION RESISTANT WIRE MESH NOT LESS THAN 0.070 THICK WITH MESH OPENINGS OF 1/4" (REST OF REQUIREMENTS TO COMPLY WITH CBC, SECTION 1203.3)
5. CONTRACTOR SHALL VERIFY ALL REQUIREMENTS, MATERIAL SPECIFICATIONS, CONDITIONS AND DIMENSIONS SHOWN ON PLANS AGAINST ACTUAL JOB SITE, FLOOR PLAN AND MANUFACTURER'S REQUIREMENTS TO CHECK FOR ANY REQUIRED TOLERANCES FOR FOUNDATION LAYOUTS, SUCH AS, GAP AT MODLINES. NOTIFY ENGINEER OF THE FOLLOWING: ABNORMAL CONDITIONS, DEFICIENCIES, DISCREPANCIES, CLARIFICATION, MISUNDERSTANDINGS, TYPOS, MISTAKES, ITEMS MISSING FROM DRAWINGS, MISSING REFERENCE, DETAILS OR NOTES BEFORE PROCEEDING.
6. PROVIDE CRAWL SPACE DRAINAGE, FOR AND AROUND BUILDING AS NEEDED. (BY OWNER)
7. REQUIRED DIMENSIONS FOR FOUNDATION LAYOUT TO BE BASED ON SPECIFIC FLOOR PLAN.
8. GRATE: 1 3/16" BAR SPACING NET OPENING AT VENT TO BE 12"x48". NET OPENING AT ACCESS TO BE 24"x36"
9. DETAIL #11 VERTICAL REINFORCEMENTS NOT SHOWN FOR CLARITY
10. DO NOT LOCATE BLOCK OUT WITHIN 4'-0" OF SIDE WALL HOLD DOWN, FRAME COLUMN & COLUMN PAD FOOTING

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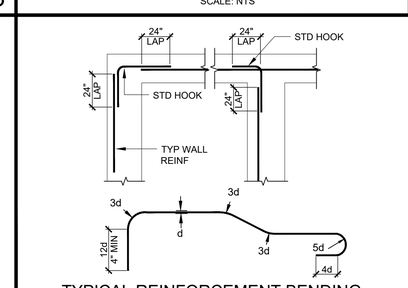

TYPICAL REINFORCEMENT BENDING DETAIL (#5 BAR OR SMALLER)

SCALE: NTS

5

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858)-679-1974

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc
ADDRESS: 11305 Rancho Bernardo Road Ste 121
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REVISIONS

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PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

F4.0

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GENERAL NOTES

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL COMPLY WITH THE 2022 EDITION OF THE CALIFORNIA BUILDING CODE, CCR TITLE 24, PART 2 (CBC) AND CCR TITLE 24, PART 1, CHAPTER 4, GROUP 1, LATEST REVISIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING DURING CONSTRUCTION AND SHALL PROVIDE ADEQUATE SHORING AND BRACING DURING CONSTRUCTION. CONTRACTOR SHALL COMPLY WITH APPLICABLE SAFETY REGULATIONS
3. DETAILS NOT SPECIFICALLY SHOWN SHALL BE CALLED TO THE ATTENTION OF THE MANUFACTURER OR DESIGN PROFESSIONAL AND DSA.
4. THE CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE OWNER AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
5. NO STRUCTURAL MEMBERS SHALL BE CUT, NOTCHED OR OTHERWISE PENETRATED UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER IN ADVANCE OR SHOWN ON THESE DRAWINGS
6. TYPICAL DETAILS SHALL APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
7. WHERE THESE GENERAL NOTES AND TYPICAL DETAILS ARE IN CONFLICT WITH THE CUSTOMER SPECIFICATIONS, THESE GENERAL NOTES AND TYPICAL DETAILS SHALL GOVERN.
8. PROVIDE OPENINGS, CURBS, FRAMING AND/OR SUPPORTS FOR ITEMS INDICATED ON ARCHITECTURAL, MECHANICAL, ELECTRICAL OR OTHER DRAWINGS INCLUDED IN CONSTRUCTION DOCUMENTS
9. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND OTHER INFORMATION NOT SPECIFICALLY SHOWN ON STRUCTURAL DRAWINGS
10. ALL ELEVATIONS ARE REFERENCED FROM TOP OF FINISHED FIRST FLOOR ELEVATION = 0'-0"
11. PROVIDE INSPECTIONS, TESTS AND REPORTS IN ACCORDANCE WITH CCR TITLE 24, PART 2 AND CCR TITLE 24, PART 1, CHAPTER 4, GROUP 1.
12. IN ADDITION TO CONTINUOUS PROJECT INSPECTION, THE FOLLOWING SPECIAL INSPECTIONS SHALL BE REQUIRED, AS A MINIMUM:
    A. INSPECTION OF ALL WELDING FOR STRUCTURAL STEEL, PER TITLE 24, PART 2, SECTION 1705A.2.
    B. INSPECTION FOR CONCRETE AND CONCRETE REINFORCEMENT PLACEMENT, PER TITLE 24, PART 2, SECTION 1705A.3
13. ALL REQUIRED INSPECTIONS AND TESTS ARE THE RESPONSIBILITY OF THE OWNER. ALL INSPECTORS SHALL PROVIDE REPORTS AS REQUIRED BY TITLE 24, PART 1, CHAPTER 4, GROUP 1
14. DIMENSIONS AND ELEVATIONS SHOWN ARE APPROXIMATE AND ARE PROVIDED AS AN AID IN INTERPRETING THE DRAWINGS ONLY. DIMENSIONS AND ELEVATIONS MUST BE VERIFIED WITH ARCHITECTURAL DRAWINGS. IN THE EVENT OF CONFLICT, DIMENSIONS AND ELEVATIONS SHOWN ON ARCHITECTURAL DRAWINGS SHALL GOVERN. DRAWING SCALES GIVEN ARE APPROXIMATE - DO NOT SCALE PLANS OR DETAILS
15. WHEN MODULE IS RELOCATED - DO NOT REINSTALL NAILS OR SCREWS IN EXISTING HOLES

CONCRETE:

1. CONCRETE SHALL DEVELOP A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS IN ACCORDANCE WITH ASTM C31 AND C39. TESTING SHALL BE IN ACCORDANCE WITH 2022 CBC (CCR TITLE 24, PART 2) SECTION 1905A.1.2 AND ACI 318-19 SECTION 5.6. SAMPLES FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NOT LESS THAN ONCE A DAY, OR NOT LESS THAN ONCE FOR EACH 50 CUBIC YARDS (38.3 m³) OF CONCRETE, OR NOT LESS THAN 2000 SQUARE FEET (186 m²) OF SURFACE AREA FOR SLABS OR WALLS. ADDITIONAL SAMPLES FOR SEVEN-DAY COMPRESSIVE STRENGTH TESTS SHALL BE TAKEN FOR EACH CLASS OF CONCRETE AT THE BEGINNING OF THE CONCRETE WORK OR WHENEVER THE MIX OR AGGREGATE IS CHANGED.
2. CONCRETE THAT WILL BE EXPOSED TO FREEZING AND THAWING, DEICING CHEMICALS OR OTHER EXPOSURE CONDITIONS SHALL COMPLY WITH SECTION 1904A.1, ACI 318-19 SECTION 4.4 &4.5
3. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 CBC (CCR TITLE 24, PART 2) AND ACI STANDARD 318-19, 2022 EDITION, OF THE AMERICAN CONCRETE INSTITUTE, UNLESS SHOWN OR NOTED OTHERWISE ON THESE DRAWINGS.
4. AGGREGATE SHALL CONFORM TO ASTM C33 FOR NORMAL CONCRETE WEIGHT AND C330 FOR LIGHT WEIGHT CONCRETE AND 2022 CBC SECTION 1903A.
5. CEMENT SHALL BE ASTM C150, TYPE I OR TYPE II (UNO BY GEO-TECHNICAL REPORT)
6. REINFORCING STEEL SHALL BE DEFORMED CONFORMING TO ASTM A615 GRADE 40 UNLESS OTHERWISE NOTED.
7. WELDED WIRE FABRIC REINFORCEMENT SHALL CONFORM TO ASTM A185.
8. WELDING OF REINFORCING STEEL SHALL BE PERFORMED ONLY WHERE INDICATED ON THE DRAWINGS AND SHALL BE IN COMPLIANCE WITH ALL REQUIREMENTS OF THE 2022 CBC AND THE REINFORCING STEEL WELDING CODE, AWS D1.4, LATEST REVISION, OF THE AMERICAN WELDING SOCIETY. PROVIDE WELDING PROCEDURE AND MILL TEST REPORTS FOR ALL REINFORCEMENT TO BE WELDED. REINFORCING WITH C.E. ABOVE .75 SHALL NOT BE WELDED. ARCHITECT SHALL APPROVE WELDING PROCEDURE, WELDER QUALIFICATIONS AND MILL TEST REPORTS PRIOR TO EXECUTION OF WELDING. PROVIDE INSPECTION PER SECTION 1705A.3 AND TABLE 1705A.2.1, TITLE 24, PART 2. REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706.
9. COVERAGE FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2022 CBC AND ACI STANDARD 318-19 UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
10. LAP SPLICES FOR REINFORCING BARS SHALL BE 72 BAR DIAMETERS UNLESS SHOWN OTHERWISE ON THE DRAWINGS. WIRE BARS TOGETHER AT LAPS OR SPLICES. STAGGER LAPS IN ADJACENT HORIZONTAL OR SLOPING REINFORCING BARS A MINIMUM OF THE REQUIRED SPLICE LENGTH. HOOKS AND BENDS SHALL BE ACI 318-19 SECTION 25.3, 25.4 & 25.5 UNLESS SHOWN OTHERWISE. WELDED WIRE FABRIC SHALL BE SPLICED BY LAPPING A MINIMUM OF 12 INCHES OR TWO CROSS WIRES, WHICHEVER IS GREATER.
11. CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ASTM C94 AND ACI STANDARD 304. ALSO COMPLY WITH REQUIREMENTS OF ACI 318-19 CHAPTER 19
12. ALL EMBEDDED ITEMS SHALL BE PLACED ACCURATELY AND SECURED PRIOR TO BEGINNING CONCRETE PLACEMENT.
13. CONSTRUCTION JOINTS SHALL BE LOCATED SO AS NOT TO IMPAIR THE STRENGTH OF THE STRUCTURE. CONSTRUCTION JOINTS SHALL COMPLY WITH ACI 318-19 CHAPTER 9. LOCATE CONSTRUCTION JOINTS AS SHOWN ON THE DRAWINGS OR APPROVED IN ADVANCE BY THE STRUCTURAL ENGINEER AND DSA.
14. PROVIDE SHOP DRAWINGS FOR ALL REINFORCING STEEL TO ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO BEGINNING ANY FABRICATION.
15. CONTRACTOR SHALL PREPARE AND SUBMIT CONCRETE MIX DESIGNS TO THE ARCHITECT FOR APPROVAL PRIOR TO PLACEMENT OF ANY CONCRETE. CONCRETE MIX DESIGNS SHALL BE PER 2022 CBC SECTION 1905A.1 AND ACI 318-19 SECTION 19.2, A REGISTERED CIVIL ENGINEER WITH EXPERIENCE IN CONCRETE MIX DESIGN SHALL SELECT THE RELATIVE AMOUNTS OF INGREDIENTS TO BE USED AS BASIC PROPORTIONS OF THE CONCRETE MIXES PROPOSED FOR USE UNDER THIS PROVISION AND TESTING SHALL BE PERFORMED IN A LABORATORY ACCEPTABLE TO THE ENFORCEMENT AGENCY. ALL GROUT SHALL BE NONMETALLIC NON-SHRINK HIGH STRENGTH GROUT BY MASTER BUILDERS OR EQUIVALENT AS APPROVED BY THE ARCHITECT. UTILIZE PRODUCTS RECOMMENDED BY THE MANUFACTURER FOR EACH APPLICATION AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
16. REINFORCING AND EMBEDMENT ITEMS SHALL BE FREE OF EXCESSIVE SCALE OR RUST, DIRT, GREASE, OIL OR ANY OTHER SUBSTANCE THAT WILL IMPAIR BOND WITH CONCRETE.
17. OWNER SHALL PROVIDE INSPECTIONS IN ACCORDANCE WITH CCR TITLE 24 FOR THE PLACEMENT OF CONCRETE AND CONCRETE REINFORCEMENT, FOR BOLTS INSTALLED IN CONCRETE AND FOR SAMPLING CONCRETE. OWNER'S INSPECTOR SHALL PROVIDE INSPECTION REPORTS TO THE ARCHITECT AND THE DIVISION OF THE STATE ARCHITECT.
18. ADDITIONALLY, PROVIDE TESTS AND INSPECTIONS IN ACCORDANCE WITH TITLE 24, PART 2, SECTION 1913A. A PLACING RECORD SHALL BE MAINTAINED FOR ALL CONCRETE PLACED IN THE STRUCTURE.
19. BATCH PLANT INSPECTION, CEMENT AND REINFORCING TESTS ARE NOT REQUIRED. FOR SINGLE-STORY LIGHT FRAMED BUILDINGS AND ISOLATED FOUNDATIONS SUPPORTING EQUIPMENT ONLY, WHERE THE SPECIFIED COMPRESSIVE STRENGTH Fc OF THE CONCRETE DELIVERED TO THE JOBSITE IS 3,500 PSI (24.13 MPa) AND WHERE THE Fc USED IN THE DESIGN IS NOT GREATER THAN 3,000 PSI (20.68 MPa). THE QUANTITIES OF CONCRETE MATERIALS SHALL BE CERTIFIED BY A LICENSED WEIGHMASTER AND THE QUALITY OF MATERIALS SHALL BE VERIFIED BY THE OWNER'S TESTING AGENCY:
    A. QUALIFIED TECHNICIAN OF THE TESTING LABORATORY SHALL CHECK THE FIRST BATCH AT THE START OF THE DAY.
    B. LICENSED WEIGHMASTER TO POSITIVELY IDENTIFY MATERIALS AS TO QUANTITY AND CERTIFY TO EACH LOAD BY A BATCH TICKET.
    C. BATCH TICKETS, INCLUDING ACTUAL MATERIAL QUANTITIES AND WEIGHTS SHALL ACCOMPANY THE LOAD AND SHALL BE TRANSMITTED TO THE INSPECTOR OF RECORD BY A TRUCK DRIVER WITH LOAD IDENTIFIED THERON. THE LOAD SHALL NOT BE PLACED WITHOUT A BATCH TICKET IDENTIFYING THE MIX. THE INSPECTOR WILL KEEP A DAILY RECORD OF PLACEMENTS, IDENTIFYING EACH TRUCK, ITS LOAD, TIME OF RECEIPT AND APPROXIMATE LOCATION OF DEPOSIT IN THE STRUCTURE AND WILL TRANSMIT A COPY OF THE DAILY RECORD TO THE ENFORCEMENT AGENCY.
    COMPLY WITH ALL REQUIREMENTS OF TITLE 24, PART 2, SECTIONS 1705A.3.3.
20. ALL CONCRETE WORK SHALL BE FORMED. CASTING OF FOUNDATION CONCRETE AGAINST SIDES OF FOOTING EXCAVATIONS SHALL NOT BE ALLOWED EXCEPT AS SPECIFICALLY APPROVED BY ARCHITECT, STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT.
21. MAX CONC SLUMP TO BE 4"±1"

CONCRETE FOUNDATION:

1. FOUNDATION BEARING SHALL BE AS APPROVED BY THE DIVISION OF THE STATE ARCHITECT AND THE OWNER'S ARCHITECT. IT IS THE SCHOOL DISTRICT'S RESPONSIBILITY TO PROVIDE ADEQUATE BEARING TO DEVELOP THE ALLOWABLE BEARING PRESSURE NOTED BELOW.
2. CONCRETE FOUNDATIONS ARE DESIGNED FOR A MAXIMUM DEAD PLUS LIVE LOAD ALLOWABLE SOIL BEARING PRESSURE OF 1500 PSF PER CCR TITLE 24, TABLE 1806A.2.
3. THE BOTTOM OF ALL FOOTINGS SHALL BE LEVEL. CHANGES IN FOOTING ELEVATIONS SHALL BE MADE UTILIZING THE TYPICAL FOOTING STEP DETAILS ON THESE DRAWINGS.
4. CENTER FOOTINGS UNDER WALLS OR COLUMNS UNLESS OTHERWISE INDICATED ON THESE DRAWINGS.
5. PROVIDE PROPER GRADING OF SITE SUCH THAT WATER DOES NOT POND OR OTHERWISE COLLECT UNDER THE BUILDING.
6. FOUNDATIONS ARE DESIGNED AS PERMANENT FOUNDATIONS IN ACCORDANCE WITH TITLE 24, CHAPTER 18A.
    A. ALL BUILDINGS, PERMANENT OR OTHER RELOCATABLE, ADJACENT TO THESE RELOCATABLE BUILDINGS MUST BE SEPARATED FROM THESE RELOCATABLE BUILDINGS. SEE COVER SHEET FOR MINIMUM SEPARATION REQUIRED

STRUCTURAL STEEL:

1. NOT USED
2. NOT USED
3. NOT USED
4. ALL WELDING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE (CBC) AND THE STRUCTURAL WELDING CODE - STEEL, AWS D1.1, 2018 EDITION OF THE AMERICAN WELDING SOCIETY. WELDING DONE BY SHIELDING ELECTRIC-ARC OR FLUX-CORED PROCESS COMPLYING WITH AWS.
5. FABRICATION AND ERECTION OF STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 15TH EDITION OF THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) (CBC CHAPTER 22A). ALSO COMPLY WITH REQUIREMENTS OF THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES. TEMPORARY BRACING IS REQUIRED AS NEEDED UNTIL ALL ELEMENTS SHOWN ON STRUCTURAL DRAWINGS ARE IN PLACE.
6. PRIME ALL STEEL SURFACES WITH AN APPROVED PRIMER, EXCEPT SURFACES TO BE EMBEDDED IN CONCRETE AND SURFACES TO RECEIVE FIELD WELDS. TOUCH-UP FIELD WELDS AND OTHER EXPOSED STEEL SURFACES AFTER ERECTION. ALTERNATE: PROVIDE GALVANIZED PER ASTM A-123.
7. PROVIDE TESTS AND INSPECTIONS IN ACCORDANCE WITH CCR TITLE 24, PART 2, SECTION 1705A.2. ALL STEEL SHALL BE PROPERLY IDENTIFIED PER SECTION 2203A.
8. WELDING SHOULD BE IN ACCORDANCE WITH CCR TITLE 24, PART 2, SECTION 1705A.2
9. ALL WELDS USED IN PRIMARY MEMBERS AND CONNECTIONS IN THE LATERAL FORCE-RESISTING SYSTEM SHALL BE MADE WITH A FILLER METAL THAT HAS A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 ft-lbs AT 0 DEGREES F, AS REQ. BY SEC. 2212A.2.3
10. QUALIFIED AND CERTIFIED WELDERS SHALL BE USED FOR ALL WELDING. ALL WELDING TO CONFORM TO THE 2018 EDITION OF THE AMERICAN WELDING SOCIETY STRUCTURAL WEDLING CODE AWS D1.1
11. MATERIALS:

ROLLED STRUCTURAL STEEL SHAPES	ASTM A992
ANGLES, MISC STEEL	ASTM A36
MISCELLANEOUS PLATES	ASTM A-572 GRADE 50
STRUCTURAL STEEL PIPES	ASTM A53 TYPE E OR S, GRADE B
WELDING ELECTRODES	AWS STRUCTURAL STEEL E70XX, REINFORCING STEEL E90XX
ANCHOR BOLTS	ASTM F-1554 GRADE 36
TYPICAL STEEL CONNECTION BOLTS	ASTM F-3125 GRADE A325
MISCELLANEOUS BOLTS	ASTM A-307
GALVANZING	ASTM A-123
RUSH-INHIBITING PRIMER	TT-P-645 ASTM
HSS STEEL COLUMNS	ASTM A-500 GRADE B (Fy = 46 KSI)

12. CONNECTED MEMBERS SHALL BEAR ONLY UPON UNTHREADED PORTIONS OF BOLTS
13. BURNING OF HOLES IS NOT ALLOWED
14. INSPECTION OF WELDING SHALL CONFORM TO CBC REQUIREMENTS (CHAPTER 17A)
15. THE STRUCTURAL STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION
16. BOLT HOLES SHALL BE 1/16" LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLTS USED, UNO

ACCEPTABLE FASTENERS / ICC REPORTS:

SHOT PIN THROUGH LIGHTWEIGHT CONCRETE: ICC REPORT #ESR-2269. ALTERNATE SHOT PIN #ESR-1752
SHOT PIN THROUGH LIGHT GAUGE STEEL: ICC REPORT #ESR-2961
WOOD/METAL JAMB STUDS TO STEEL COLUMN: ICC REPORT #ESR-2269

SELF-TAPPING SCREWS	SECT 3.2.12 ASTM C1513
SELF-DRILLING SCREWS	SECT 3.2.9 ASTM C1513
SELF-PIERCING SCREWS	SECT 3.2.9 ASTM C1513

REFERENCE ASTM C1513, STANDARD SPECIFICATION FOR TAPPING SCREWS FOR COLD-FORMED STEEL FRAMING CONNECTION

REFERENCE AISI S400-20/ S1-09 , NORTH AMERICAN STANDARD FOR SEISMIC DESIGN

FASTENERS MANUFACTURED WITH CARBON STEEL WIRE SHALL CONFORM TO ASTM A510

TESTING - THE OPERATOR, TOOL, AND FASTENER SHALL BE PRE-QUALIFIED BY THE PROJECT INSPECTOR. HE SHALL OBSERVE THE TESTING OF THE FIRST 10 FASTENER INSTALLATIONS. A TEST "PULL-OUT" LOAD OF NOT LESS THAN TWICE THE DESIGN LOAD SHALL BE APPLIED TO THE PIN IN SUCH A MANNER AS NOT TO RESIST THE SPALLING TENDENCY OF THE CONCRETE SURROUNDING THE PIN. THEREAFTER, RANDOM TEST UNDER THE PROJECT INSPECTOR'S SUPERVISION SHALL BE MADE OF APPROXIMATELY 1 IN 10 PINS. IF ANY PIN FAILS TESTING, TEST ALL PINS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE PASS, THEN RESUME THE INITIAL TESTING FREQUENCY.

MACHINE APPLIED NAILING:

USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. MACHINE NAILING WILL NOT BE APPROVED IN 5/16" PLYWWOD. IF NAILHEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY AND MACHINE NAILING SHALL BE DISCONTINUED.

COLD FORMED STRUCTURAL STEEL:

1. ALL LIGHT GAUGE METAL FRAMING SHALL BE THE TYPE, SIZE AND GAUGE AS SHOWN ON THE PLANS AND BE FABRICATED AND ERECTED IN ACCORDANCE WITH LATEST ADOPTED AISI SPECIFICATIONS
2. ALL GALVANIZED STUDS, TRACKS, AND OR JOISTS 12, 14, AND 16 GAUGE SHALL CONFORM TO ASTM A653, SS GRADE 50 (Fy = 50 KSI) AND ASTM A653, SS GRADE 33 (Fy = 33 KSI) FOR 18 AND 20 GAUGE UNO
3. CORROSION PROTECT PER TABLE A4-1 BELOW
4. GALVANIZED COATINGS MUST MEET ASTM A-525 SPECIFICATIONS
5. CARBON SHEET STEEL MUST MEET THE MINIMUM REQUIREMENTS OF ASTM A-1011 GRADE 55 KSI FOR 10, 12, 14, AND 16 GAUGE AND GRADE 33 KSI FOR 18 GAUGE AND LIGHT MEMBERS UON. CARBON SHEET STEEL PRODUCTS MUST BE THOROUGHLY COATED WITH A RUST INHIBITIVE PAINT.
6. ALL STRUCTURAL MEMBERS SHALL BE DESIGNED IN ACCORDANCE WITH AMERICAN IRON AND STEEL INSTITUTE (AISI) NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STRUCTURAL STEEL MEMBERS LATEST ADOPTED EDITION (AISI S100-16).
7. METAL STUDS AND OR JOIST:
    A. FOR METAL STUD WALLS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS, PROVIDE STAU NDARD PUNCHED STEEL MEMBERS OF THE GAUGES SHOWN ON THE DRAWINGS.
    B. USE ONLY ONE TYPE THROUGHOUT THE WORK, UNLESS OTHERWISE NOTED ON THE DRAWINGS OR SPECIFICALLY APPROVED IN ADVANCE BY THE ARCHITECT/ENGINEER
8. PROVIDE ALL ACCESSORIES INCLUDING, BUT NOT NECESSARILY LIMITED TO, TRACKS, CLIPS, WEB STIFFENERS, ANCHORS, FASTENING DEVICES, RESILIENT CLIPS AND OTHER ACCESSORIES REQUIRED FOR A COMPLETE AND PROPER INSTALLATION, AND AS RECOMMENDED BY THE MANUFACTURER FOR THE STEEL MEMBERS USED
9. FASTENINGS OF COMPONENTS SHALL BE WITH SELF-DRILLINGS SCREWS OR WELDING. SCREWS OR WELDS SHALL BE SUFFICIENT SIZE TO INSURE THE STRENGTH OF THE CONNECTION. ALL WELDS OF GALVANIZED STEEL SHALL BE TOUCHED UP WITH ZINC-RICH PAINT. ALL WELDS OF CARBON SHEET STEEL SHALL BE TOUCHED UP WITH PAINT
10. ALL METAL STUDS SHALL BE BY SSMA APPROVED SUPPLIED, ICC ERS-4205. ALTERNATE METAL STUDS MUST BE OF EQUAL OR GREATER SECTIONS PROPERTIES AND SHALL BE APPROVED BY THE ENGINEER
11. PROVIDE SHOP DRAWINGS INDICATING MEMBERS GAUGES, SHAPES, SIZES, SPACING, LOCATIONS AND CONNECTIONS
12. STUDS SHALL BE INSTALLED WITH THEIR BEARING ENDS POSITIONED FLUSH AGAINST THE INSIDE TRACK WEB.
13. FULL-HEIGHT DOUBLE STUDS SHALL BE PROVIDED AT THE ENDS OF PARTITIONS, AT ALL WALL OPENINGS, AND AT OTHER LOCATIONS SHOWN ON THE PLANS
14. BRIDGING SHALL BE COLD FORMED CHANNEL, MINIMUM 1-1/2" DEEP WITH 9/16" FLANGE SPACED AT 4'-0" ON CENTER MAXIMUM VERTICALLY. DOUBLE UP STUDS AT ALL DOOR JAMBS, WALL ENDS AND WALL CORNERS
15. SHEATHING SHALL BE ATTACHED TO BOTH FACES OF METAL STUDS THROUGHOUT THEIR LENGTH UNO
16. TRACK AT TOP AND BOTTOM OF STUD WALLS SHALL AT A MINIMUM MATCH THE STUD GRADE UNO
17. ALL SHEET METAL SCREWS SHALL BE THREAD FORMING OR THREAD CUTTING, WITH OR WITHOUT A SELF-DRILLING POINT PER AISI
18. ALL WELDING OR MATERIAL LESS THAN 0.18 INCHES IN THICKNESS SHALL BE MADE IN ACCORDANCE WITH THE AWS D1.3 WELDERS AND WELDING PROCEDURES AND SHALL BE QUALIFIED AS SPECIFIED IN AWS D1.3
19. TOUCH UP COLD GALVANIZING USING ZRC CHEMICAL PRODUCTS CO.M, ZRC COLD GALVANIZING COMPOUND OR EQUAL
20. SPLICES IN STUDS SHALL NOT BE PERMITTED

CORROSION PROTECTION:

1. STRUCTURAL MEMBERS UTILIZED IN COLD-FORMED STEEL FRAMED CONSTRUCTION SHALL HAVE A PROTECTIVE COATING AS SPECIFIED IN TABLE A4-1

TABLE A4-1
COATING DESIGNATIONS

COATING CLASSIFICATION	COATING DESIGNATOR	MINIMUM COATING REQUIREMENTS			
		ZINC COATED[a] OZ/FT² (G/M²)	ZINC IRON[b] OZ/FT² (G/M²)	55% AL-ZINC[c] OZ/FT² (G/M²)	ZINCE-5%[d] OZ/FT² (G/M²)
METALLIC COATED	CP 60	G60 [Z180]	A60 [F180]	AZ50 [AZM1850]	CF30 [ZGF90]
	CP 90	G90 [Z275]	NOT APPLICABLE	AZ50 [AZM1850]	CF45 [ZGF135]
PAINTED METALLIC	PM	THE METALLIC COATED SUBSTRATE SHALL MEET THE REQUIREMENTS OF METALLIC COATED. IN ADDITION, THE PAINT FILM SHALL HAVE A MINIMUM THICKNESS OF 0.5 MIL PER SIDE (PRIMER PLUS TOPCOAT) WITH A MINIMUM PRIMER THICKNESS OF 0.1 MIL PER SIDE			

[a] ZINC-COATED STEEL SHEET AS DESCRIBED IN ASTM A653/A653M
[b] ZINC-IRON ALLOY-COATED STEEL SHEET AS DESCRIBED IN ASTM A653/A653M
[c] 55% ALUMINUM-ZINCE ALLOY COATED STEEL SHEET AS DESCRIBED IN ASTM A792/A792M
[d] ZINCE-5% ALUMINUM ALLOY-COAED STEEL SHEET AS DESCRIBED IN ASTM A875/A875M
[e] IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A1003/A1003M

2. ADDITIONAL CORROSION PROTECTION SHALL NOT BE REQUIRED ON EDGES OF METALLIC-COATED STEEL FRAMING MEMBERS, SHOP OR FIELD CUT, PUNCHED OR DRILLED
3. UNLESS ADDITIONAL CORROSION PROTECTION IS PROVIDED, FRAMING MEMBERS SHALL BE LOCATED WITHIN THE BUILDING ENVELOPE AND SHIELDED FROM DIRECT CONTACT WITH MOISTURE FROM THE GROUND OR THE OUTDOOR CLIMATE

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
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DEALER # DL 1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

STRUCTURAL NOTES AND SPECIFICATIONS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO, CA. 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER — BRIAN J. ORION — No. 34237 — EXP 12/31/26 — STRUCTURAL — STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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DATE:	00-00-00

SHEET NUMBER

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GENERAL NOTES

STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) MIL THICKNESS FORMAT CONVERSION CHART		
GUAGE FORMAT	DESIGN THICKNESS	MILS
25	0.0188	18
22	0.0283	27
20	0.0346	33
18	0.0451	43
16	0.0566	54
14	0.0713	68
12	0.1017	97
10	0.1242	118

AMERICAN INSITUTE OF STEEL CONSTRUCTION (AISC) HOT ROLLED MEMBER FORMAT CONVERSION CHART	
ORDINARY FORMAT	AISC FORMAT
C-6" X 8.2 LB	C 6x8.2
C-8" X 11.5 LB	C 8x11.5
C-10" X 15.3 LB	C 10x15.3
L-1 1/2" X 1 1/2" X 3/16"	L 1-1/2x1-1/2x3/16
L-2" X 2" X 1/4"	L 2x2x1/4
L-4" X 3-1/2" X 3/8"	L 3x3-1/2x3/8
L-5" X 3" X 3/8"	L 5x3x3/8

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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SHEET TITLE:

STRUCTURAL NOTES AND SPECIFICATIONS

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Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
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SAN DIEGO CA. 92127
PHONE (858) 679-1974

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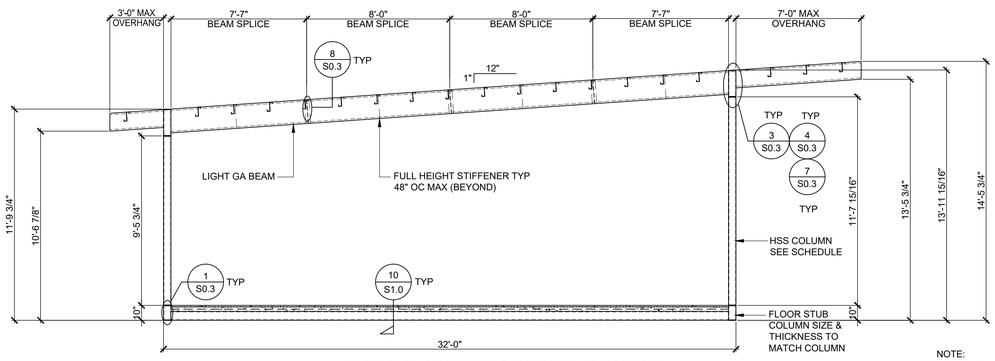
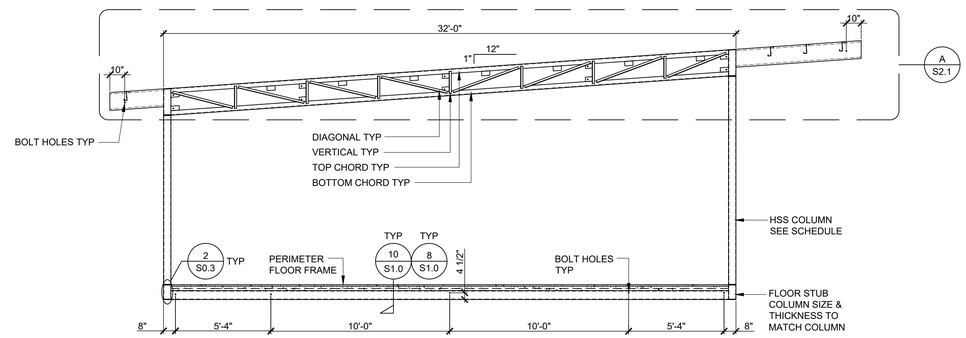


MONO SLOPE EXT SIDEWALL SECTION

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

NOTE:
FLOOR JOIST NOT SHOWN FOR CLARITY



MONO SLOPE INT MODLINE SECTION

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

NOTE:
FLOOR JOIST NOT SHOWN FOR CLARITY

HSS COLUMNS

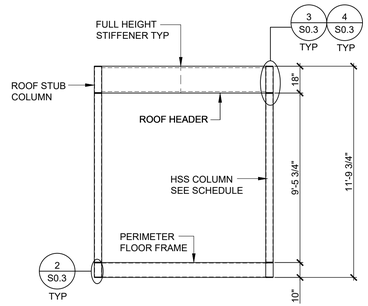
CORNER COLUMNS: 5"x5"x1/4"

MIDSPAN COLUMN @ SIDEWALL: N/A

REFERENCE: FRAME SECTION SHEETS

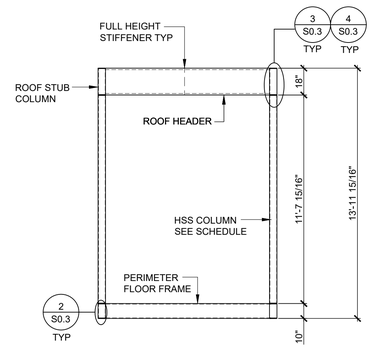
MISC: (NOTE: THE HSS COLUMN HEIGHT IS FROM TOP OF FLOOR BM TO BTM OF SIDEWALL BEAM/HEADER)

HSS COLUMN SCHEDULE



MONO SLOPE ENDWALL SECTION (LOW END)

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



MONO SLOPE ENDWALL SECTION (HIGH END)

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

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DISTRICT/CUSTOMER NAME:
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SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

STRUCTURAL
BUILDING SECTIONS
CONCRETE FLOOR

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974
REGISTERED PROFESSIONAL ENGINEER
RYAN T. ORION
No. S-6437
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
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CITY: San Diego, CA
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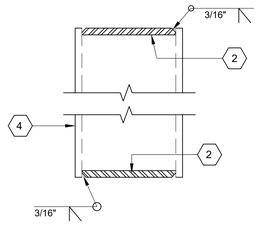
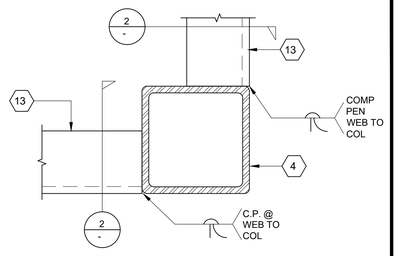


STD ROOF STUB COLUMN PROFILE

SCALE: NTS

11

6



CORNER COLUMN AT FLOOR

SCALE: 6" = 1'-0"

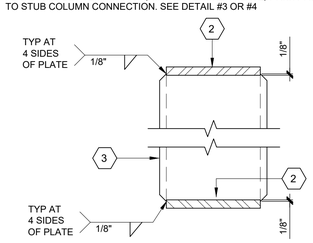
1

KEY NOTES

1. ROOF HEADER/BEAM (SEE STRUCTURAL ROOF FRAMING PLAN)
2. PLATE FITTED INSIDE COLUMN AND WELDED IN PLACE. THICKNESS OF PLATE TO MATCH THE THICKNESS OF THE COLUMN.
3. COLUMN (SEE DETAIL #12)
4. STUB COLUMN, SAME SIZE AND THICKNESS AS COLUMN SEE DETAIL #11 (FOR ROOF) AND DETAIL #13 (FLOOR)
5. TAPERED ROOF BEAM (SEE STRUCTURAL ROOF FRAMING PLAN)
6. 10 GA BACK-UP PLATE FOR BEAM SPLICE
7. NOT USED.
8. NOT USED
9. OVERHANG C-CHANNEL MEMBER (SEE DETAIL 7)
10. 1/4" FULL DEPTH STIFFENER INSIDE SPLICE LOCATIONS AT ROOF BEAM
11. NOT USED
12. NOT USED
13. FLOOR BEAM (SEE STRUCTURAL FLOOR FRAMING PLAN)

17

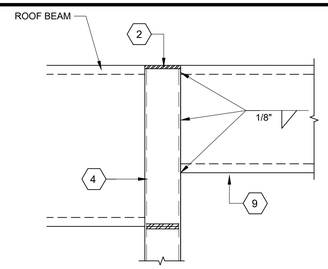
NOTE:
PLATE WILL SET TEMPORARY (ACT AS A BACKER PLATE) PRIOR TO COLUMN TO STUB COLUMN CONNECTION. SEE DETAIL #3 OR #4



CORNER COLUMN PROFILE

SCALE: NTS

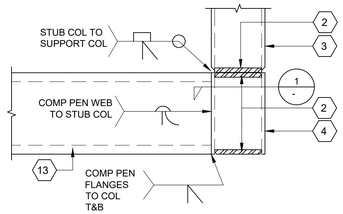
12



"C" CHANNEL
OVERHANG CONNECTION DETAIL

SCALE: NTS

7



POST CONNECTION AT FLOOR

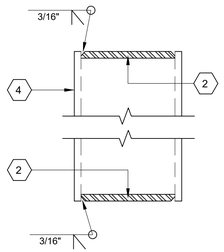
SCALE: 3" = 1'-0"

2

GENERAL NOTES

1. DRILL HOLES AT PLATES FOR THE LIFTING EYE BOLT SCREW
2. INSTALL LIFTING EYE BOLT NUT TO 1ST PLATES PRIOR TO INSTALLING THE PLATE INSIDE THE COLUMN

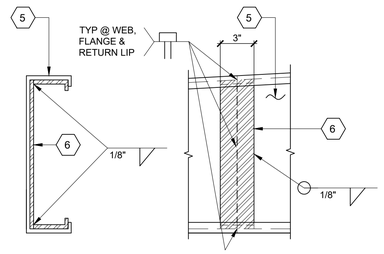
18



FLOOR STUB COLUMN PROFILE

SCALE: NTS

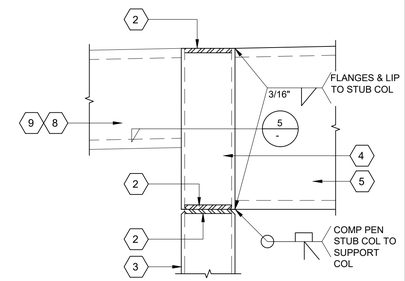
13



TYPICAL BEAM SPLICE

SCALE: NTS

8

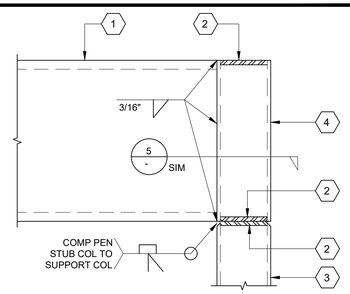


POST CONNECTION AT ROOF

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

3

14



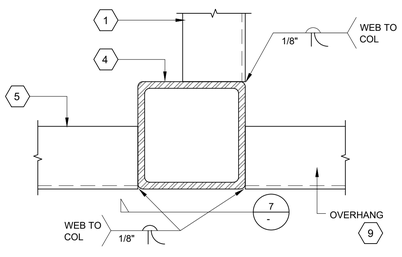
POST CONNECTION AT ROOF

SCALE: NTS

4

9

15



CORNER COLUMN AT ROOF

SCALE: NTS

5

10

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SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

TYPICAL STRUCTURAL DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
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BRIAN J. ORION
No. S-6421
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

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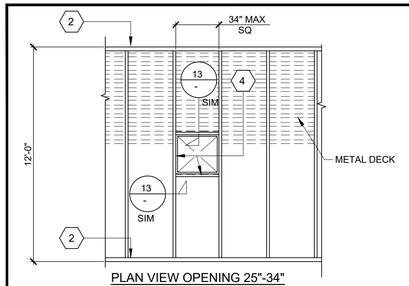
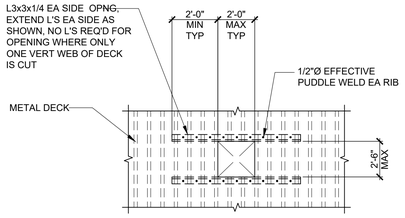


PLAN VIEW OPENING 25"-34"



PLAN VIEW OPENING UP TO 24"

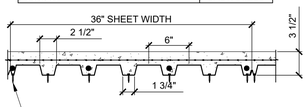
NOTE: FRAMING TO BE FURNISHED AND INSTALLED WITH STRUCTURAL STEEL. INSTALL DECK CLOSURE AS REQUIRED WHERE OPENING OCCURS IN CONCRETE PAD ON METAL DECK.

OPENINGS IN METAL DECK

SCALE: NTS

9

METAL FLOOR DECKING	
METAL DECK MIN SECTION PROPERTIES & DATA	
DECK DEPTH	1 1/2"
GAUGE	20
MOMENT OF INTERIA, I (IN.) 4	0.213
SECTION MODULUS S (+) (IN.) 3	0.230
S (-) (IN.) 3	0.237
FINISH	GALVANIZED

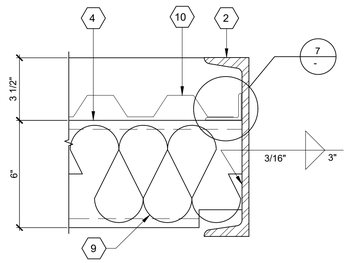


FASTENERS (PER DETAIL #3) AT PANEL SIDE AND SEAM. SEE NOTE 6 FOR ALTERNATE ATTACEHMENT

METAL FLOOR DECKING

SCALE: NTS

14



FLOOR JOIST TO CHANNEL (CONCRETE)

SCALE: 3" = 1'-0"

10

MINIMUM DECK CONNECTION ALL SUPPORTS:

1/2"Ø EFFECTIVE ARC SPOT OR ARC SEAM (PUDDLE) WELDS AT ALL STEEL SUPPORTS. PUDDLE WELDS AT 12" OC PERPINDICULAR TO DECK FRAMING. 24" OC AT FRAMING PARALLEL TO DECK FRAMING. PROVIDE BUTTON PUNCH AT 24" OC @ ALL DECK SEAMS

NOTES:

1. DECK LAYOUT SHALL PROVIDE ALL DECK SHEETS OF SUFFICIENT LENGTH TO EXTEND CONTINUOUSLY OVER AT LEAST 3 SPANS
2. ENDS OF ADJOINING DECK SHEETS SHALL BE LAPPED 2"
3. NO SHORING IS REQUIRED FOR DECK, UNO
4. METAL B-DECK SHALL BE VERCO MANUFACTURING CO. PER IAMPO #ER-217 OR APPROVED EQUAL. DECK TO BE ASTM A653 SS DESIGNATION GRADE 50 MINIMUM.
5. LIGHT WEIGHT CONCRETE FLOOR SHALL BE REINFORCED WITH 6x6 W1.4xW1.4 WWF PLACED AT MID-DEPTH OF THE FLOOR OVER THE TOP FLUTE OF THE METAL DECK. 1 1/2" X 20 GA. B-DECK WITH 3 1/2" LIGHT WEIGHT CONCRETE FILL (2" OVER DECK FLUTES)
6. ALTERNATE ATTACHMENT OF B-DECK TO FLOOR JOIST: 'HILTI' X-ENP-19 L15 FASTENER OR EQUAL, 7 PINS PER SHEET TO PERPENDICULAR SUPPORTS PER ICC REPORT #ESR-2197. VSC2 AT 12" OC MAX. SEE DETAIL #14 FOR SELF-DRILLING SCREWS USE #14 X 1-1/4" MIN
7. LIGHT WEIGHT CONCRETE FLOOR SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS
8. SEE DETAIL #14 FOR ADDITIONAL INFORMATION

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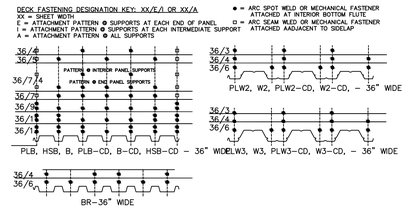
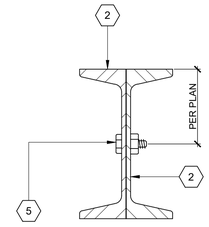
Issued: 11/2011

FIGURE 5 - ATTACHMENT PATTERNS



KEY NOTES

1. PLYWOOD FLOOR SHEATHING
2. PERIMETER CHANNEL (SEE STRUCTURAL FLOOR FRAMING PLANS)
3. NOT USED
4. FLOOR JOIST AND/OR BLOCK (SEE STRUCTURAL FLOOR FRAMING PLANS)
5. 5/8" MACHINE BOLT. SEE SHEET S0.2 MONO SLOPE INT MODLINE SECTION FOR SPACING
6. NOT USED
7. NOT USED
8. 4"x6"x1/4" PLATE AT 8" CHANNEL SPLICE. 4"x8"x1/4" PLATE AT 10" CHANNEL SPLICE
9. R-11 INSULATION. SEE DETAIL 17 FOR SIMILAR ATTACHMENT U.N.O
10. METAL DECK FLOOR (SEE DETAIL 14)
11. NOT USED
12. MINIMUM 2"x2"x1/4" THICK PLATE. PLATE QUANTITY TO BE FIELD VERIFY
13. 2"x2"x1/4" ANGLE SUPPORT
14. NOT USED
15. NOT USED
16. INSULATION ON 'SEAL TITE' TYPE HW POLYMAX UNDERBELLY OR EQUAL WITH BI-DIRECTIONAL POLYESTER FIBERS
17. BOTTOM BOARD



FLOOR FRAME AT MODLINE (PLY'D FLR)

SCALE: 3" = 1'-0"

1

NOTE:
MAX. (2) ADJACENT WEBS CUT IF MORE THAN (2) WEBS ARE NOTCHED, SEE DETAIL #9

TYPICAL SMALL REINFORCED DECK OPENING UP TO 9" MAX

SCALE: NTS

15

NOTE:
SPLICE MAY OCCUR AT ANY POINT MIN. 18" FROM BOLT LOCATION

CHANNEL SPLICE

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

11

ALTERNATE MODLINE ATTACHMENT

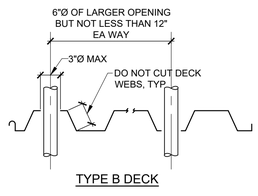
SCALE: 1 1/2" = 1'-0"

6

LIGHT WEIGHT CONCRETE FLOOR NOTES

SCALE: NTS

3



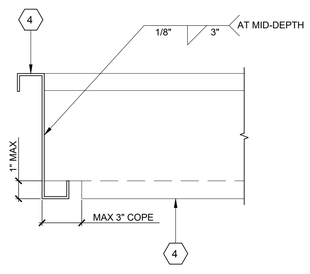
TYPE B DECK

IF OPENINGS ARE CLOSER OR LARGER THAN SHOWN, REINFORCE DECK - SEE OTHER DETAILS

UNREINFORCED OPENING AT DECK

SCALE: NTS

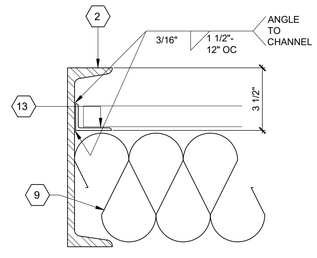
16



JOIST TO JOIST (WOOD)

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

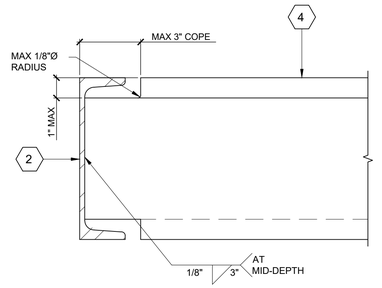
12



METAL DECK SUPPORT ANGLE ATTACHMENT

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

7



FLOOR JOIST TO CHANNEL-WOOD

SCALE: 3" = 1'-0"

2

JOIST TO JOIST (CONCRETE)

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

13

FLOOR FRAME AT MODLINE (CONCRETE)

SCALE: 3" = 1'-0"

8

17

5B

5A

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

FLOOR FRAMING DETAILS
PLYWOOD & CONCRETE

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER
RYAN J. ORION
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

1	-
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4	-
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PROJECT NO.:	00-0000
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SCALE:	AS NOTED
DATE:	00-00-00

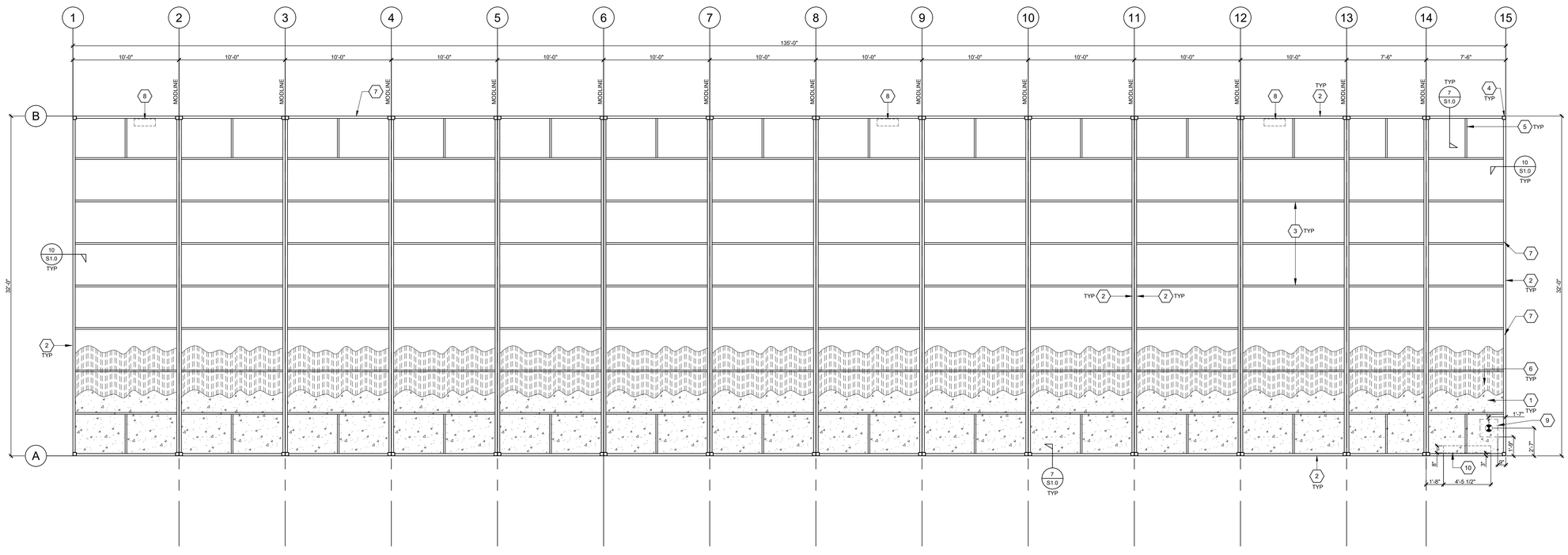
SHEET NUMBER

S1.0

5/2/2025 12:11:50 PM

KEY NOTES

1. LIGHT WEIGHT CONCRETE FILL OVER METAL FLOOR DECK (SEE 14/S1.0)
2. C-10" X 15.3 LB CHANNEL AT PERIMETER FRAME
3. C-CHANNEL (FLOOR JOIST ARE SHOWN AT 24" OC AS AN EXAMPLE ONLY, SEE SCHEDULE FOR SPACING)
4. STEEL STUB CORNER COLUMN
5. C-6" X 8.2 LB CHANNEL AT MID SPAN
6. METAL FLOOR DECKING (SEE 14/S1.0)
7. HSS: 4" X 4" X 1/4" SUPPORT COLUMN FOR ARCHITECTURAL AWNING
8. BLOCK-OUT CONCRETE FOR SITE ELECTRICAL PENETRATION.SEE FLOOR PLAN FOR INFORMATION
9. BLOCK-OUT 20" X 20" AT SHOP APPLIED CONCRETE. SITE SHALL DRILL HOLE FOR FIRE SPRINKLER RISER (#16/S1.0). AFTER INSTALLATION OF FIRE RISER, APPLY CONCRETE AROUND OPENING.
10. BLOCK-OUT CONCRETE LOW VOLTAGE PENETRATION. SEE FLOOR PLAN FOR INFORMATION

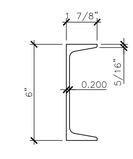


FLOOR FRAMING PLAN

SCALE: 3/16" = 1'-0"

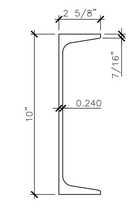
FLOOR JOIST SCHEDULE		
FLOOR LOAD	FLOOR JOIST	SPACING
50+15	C6x8.2	48" OC

NOTE: FLOOR SPACING CAN BE EQUALLY SPACED.



Ix = 13.1
Sx = 4.38
Fy = 36 KSI

FLOOR JOIST
SCALE: 3" = 1'-0"



Ix = 67.3
Sx = 13.5
Fy = 36 KSI

FLOOR CHANNEL
SCALE: 3" = 1'-0"

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SCHOOL/SITE NAME:
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SHEET TITLE:

FLOOR FRAMING PLAN CONCRETE

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ORION
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DATE:	00-00-00

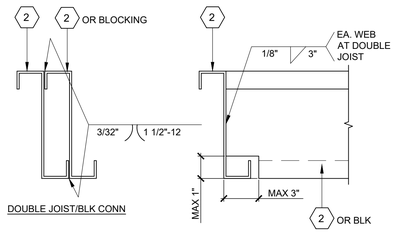
SHEET NUMBER

S1.2

5/2/2025 12:18:04 PM

16

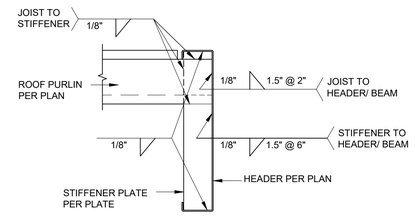
11



JOIST TO JOIST

SCALE: 3" = 1'-0"

6



STIFFENER TO ROOF HEADER/BEAM

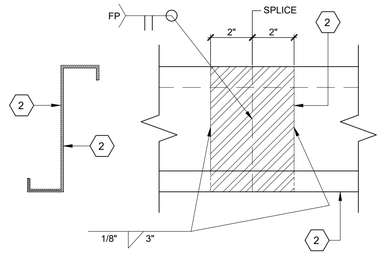
SCALE: 1 1/2" = 1'-0"

1

KEY NOTES

1. ROOF HEADER/BEAM (SEE STRUCTURAL ROOF FRAMING PLAN)
2. ROOF JOIST (SEE STRUCTURAL ROOF FRAMING PLAN)
3. DOUBLE JOIST BLOCKING
4. ROOF MOUNTED A/C UNIT (SEE MECHANICAL PLANS)
5. 1/4" STIFFENER
6. L-1 1/2" x 1 1/2" x 3/16" BRACE
7. 5/8" MACHINE BOLT. SHEET S0.2 MONO SLOPE INT MODLINE SECTION FOR SPACING
8. OVERHANG OUTRIGGER FASCIA (SEE STRUCTURAL ROOF FRAMING PLAN)
9. PLYWOOD ROOF
10. NOT USED
11. NOT USED

17

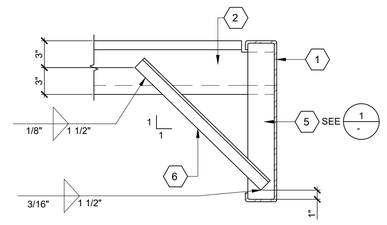


ALT ROOF JOIST SPLICE

SCALE: NTS

12

7

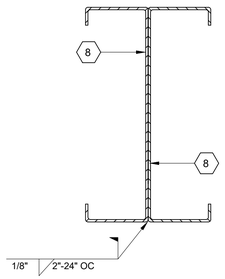


BRACE AT ROOF

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

2

18

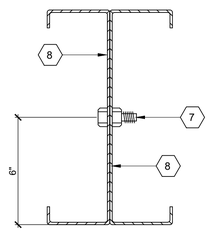


ALT. OVERHANG CONNECTION (CHANNEL)

SCALE: 3" = 1'-0"

13

8



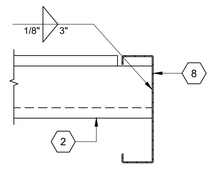
OVERHANG CONNECTION (CHANNEL)

SCALE: 3" = 1'-0"

3

19

14



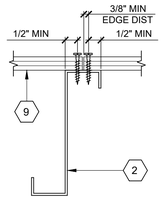
OVERHANG JOIST TO OUTRIGGER

SCALE: NTS

9

4

20

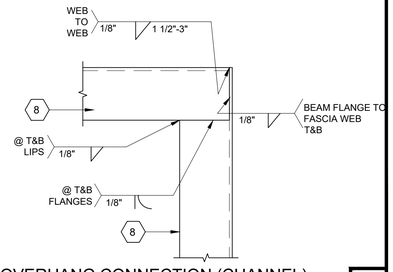


ROOF JOIST

SCALE: 3" = 1'-0"

15

10



OVERHANG CONNECTION (CHANNEL)

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

5

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BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

ROOF FRAMING DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

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ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

RYAN J. ORR
EXP 12/31/26
STRUCTURAL
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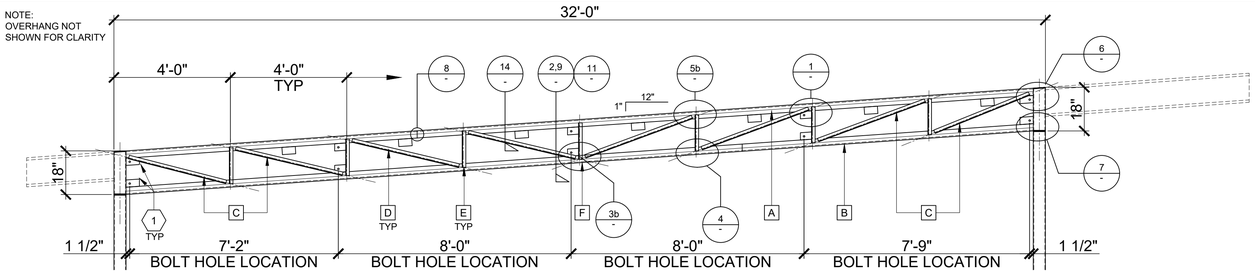
PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

S2.0

5/2/2025 12:21:25 PM

NOTE:
OVERHANG NOT
SHOWN FOR CLARITY



MONO SLOPE TRUSS AT MODLINE

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

A

KEY NOTES

1. 3/8" X 3" x 5 1/2" PLATE (A-36 STEEL) WITH 11/16" HOLE FOR 5/8" MACHINE BOLT PLATES AT 8'-0" OC MAX WHERE OCCURS PER ELEVATION FOR MODULE CONNECTION SEE DETAIL 2
2. 5/8"Ø MACHINE BOLT AT 8'-0" OC MAX
3. 6" LONG x 1/4" BACK UP PLATE (A-36 STEEL)
4. 1/4" FULL DEPTH STIFFENER PLATE
5. NOT USED
6. NOT USED
7. STEEL ROOF JOIST
8. L-1 1/2" X 1 1/2" X 3/16" BRACE EACH SIDE @ 8'-0" OC MAX
9. STEEL COLUMN
10. STEEL STUB COLUMN
11. NOT USED
12. WHERE DIAGONAL CHORD DOES NOT ACHIEVE MIN WELD PER DETAIL DUE TO TOLERANCES, USE ADDITIONAL PLATES AS REQUIRED. PLATES SHALL MEET THE SAME SIZE AND GRADE PER KEYNOTE #01. WELD ADDITIONAL PLATE PER DETAIL #2/-

GENERAL NOTES

1. ALL STEEL GRADES TO BE A-36 PER SHEET S0.0a
2. REQUIRED ELECTRODES FOR ALL WELDS TO BE E-70-XX OR EQUAL
3. VOLTAGE & AMPERAGE SHALL BE PER ELECTRODE MANUFACTURES SPECS
4. BOLTS & NUTS TO BE A307

TRUSS SCHEDULE

A	TOP CHORD	L-3" X 3" X 3/8"
B	BOTTOM CHORD	L-3" X 3" X 3/8"
C	1ST & 2ND DIAGONAL	L-2" X 2" X 3/16" - 4" TOTAL WELD COMBINED
D	TYPICAL DIAGONAL	L-1 1/2" X 1 1/2" X 3/16" - 1-1/2" FILLET WELD AT EACH SIDE EACH END.
E	TYPICAL VERTICAL	L-1 1/2" X 1 1/2" X 3/16" - 1-1/2" FILLET WELD AT EACH SIDE EACH END.
F	CAMBER	1/2" AT MIDSPAN

B

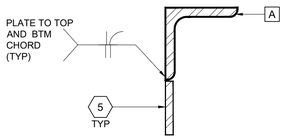


PLATE @ TOP CORD CONNECTION

SCALE: 3" = 1'-0"

14

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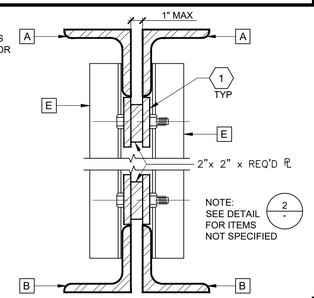
SHEET TITLE:

ROOF TRUSS
AND DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

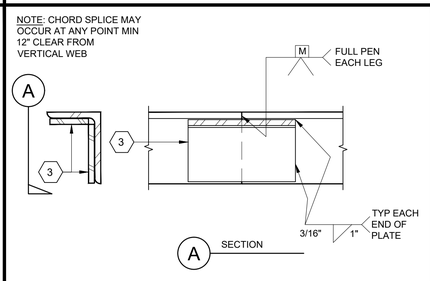
NOTE:
ROOF JOIST &
ANGLE BRACES
NOT SHOWN FOR
CLARITY



GAP AT MODLINE (ALTERNATE)

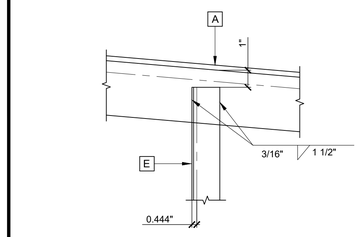
11

NOTE: CHORD SPLICE MAY
OCCUR AT ANY POINT MIN
12" CLEAR FROM
VERTICAL WEB



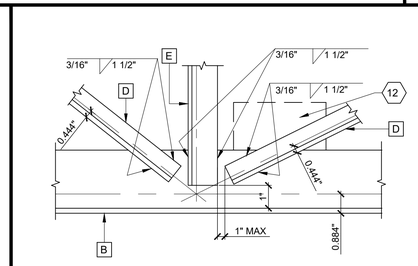
TRUSS CHORD SPLICE

8



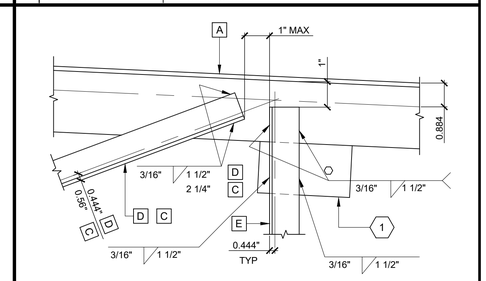
TOP CHORD @ MIDPOINT
(MONO SLOPE)

5b



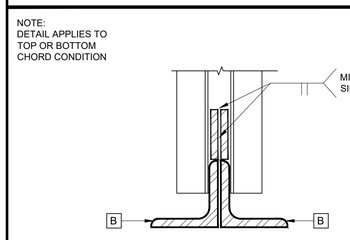
BOTTOM CHORD @ MID SPAN (MONO
SLOPE)

3b



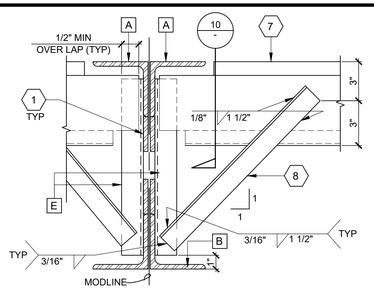
VERTICLE & DIAGONAL TOP CHORD

1



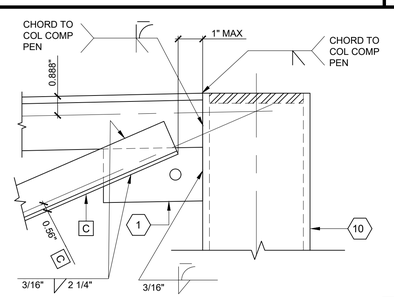
ALTERNATE ATTACHMENT AT MISALIGNED
BOLT CONNECTION

12



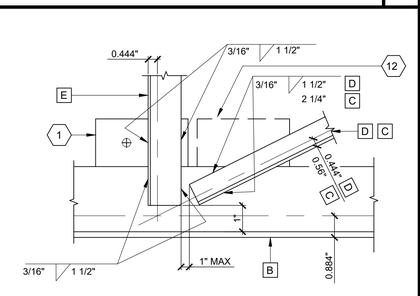
TRUSS TO ROOF JOIST BRACING

9



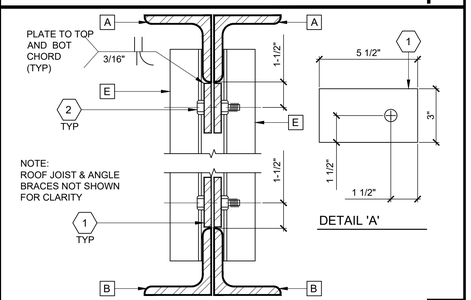
POST CONNECTION TO TRUSS (TOP)

6



VERT & DIAG TO BOTTOM CHORD

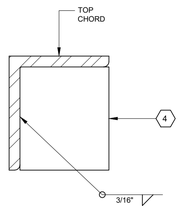
4



DETAIL 'A'

TIE PLATE MODLINE CONNECTION

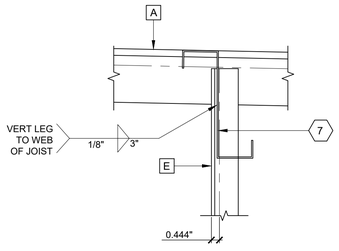
2



SECTION AT TRUSS RIDGE

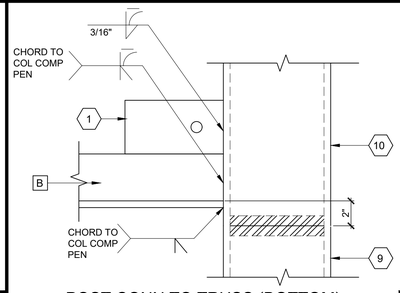
SCALE: 6" = 1'-0"

13



STEEL JOIST TO VERTICAL LEG

10



POST CONN TO TRUSS (BOTTOM)

7

5a

3a

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA, 92127
PHONE (858) 679-1974

RYAN J. ORION
No. 3020
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

S2.1

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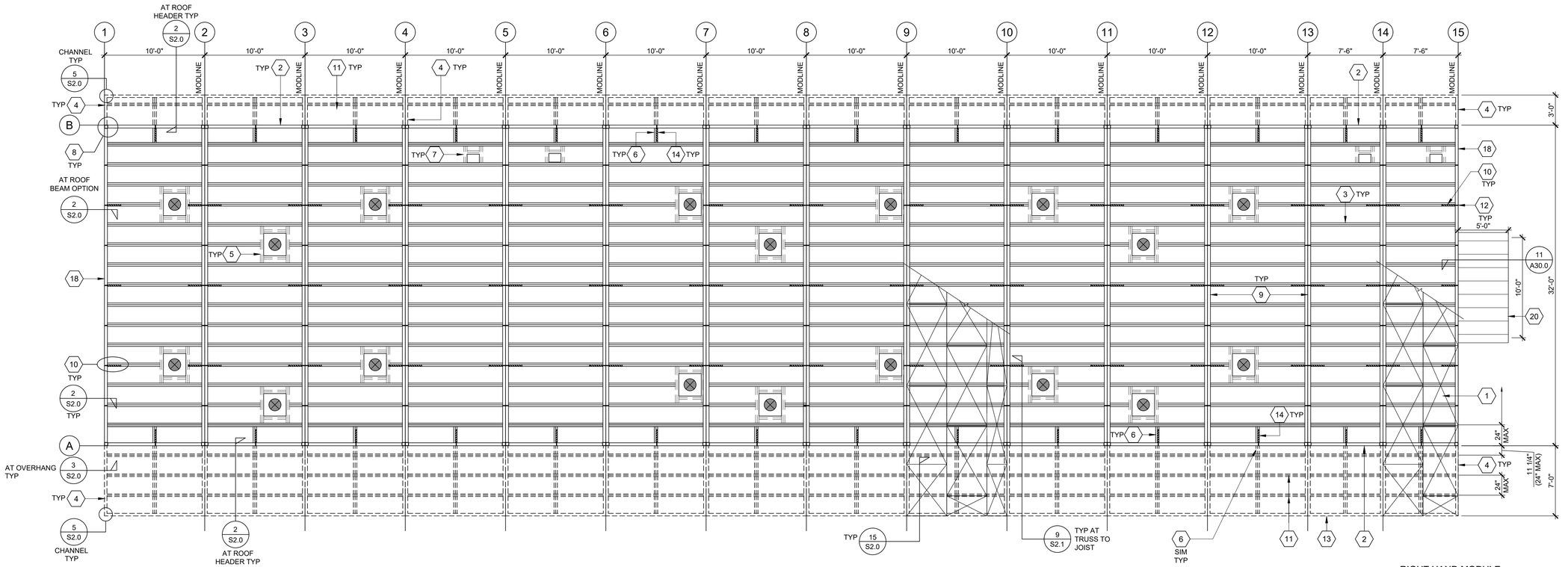


LEFT HAND MODULE

TYPICAL CENTER MODULE

RIGHT HAND MODULE

ROOF FRAMING PLAN (W/ PLYWOOD)

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

KEY NOTES

1. ROOF SHEATHING: 5/8" C-D EXPOSURE 1, STRUCTURAL 1, 48/24 SPAN RATING, PS 1-09, APA RATED OR EQUAL, SQUARE EDGE. ATTACH TO STEEL FRAMING WITH MIN #10-16 X 1 1/2" SELF TAP SCREWS, 0.145 MIN (BY BUILDEX, ICC REPORT # ESR-1976) @ 6" OC BOUNDARY & SUPPORTED EDGES AND 6" OC FIELD WHERE JOIST ARE A24" OC AND 12" OC FIELD AT JOISTS WITH SPACING LESS THAN 24" OC. MIN 24" SHEET DIMENSION. OPTIONAL: TOUNGE AND GROVE PLYWOOD SHALL ELIMINATE THE USE OF PLYWOOD CLIPS
2. 'C' SHAPE ROOF HEADER (SEE PROFILE BELOW)
3. 'Z' SHAPE ROOF JOIST (SEE PROFILE BELOW)
4. 'C' SHAPE OVERHANG OUTRIGGER, TYPICAL EACH SIDE (SEE PROFILE BELOW)
5. BLOCKING FOR SOLATUBE. SEE DETAIL SHEET A11.0 FO ADDITION INFORMATION.
6. 'Z' SHAPE ROOF JOIST BLOCKING AT MID-SPAN OF HEADER, TYPICAL EACH END
7. BLOCKING FOR MECHANICAL EXHAUST FAN.
8. STEEL CORNER STUB COLUMN. FOR CONNECTIONS TO OVERHANG SEE DETAIL 3,6,7/S0.3.
9. STEEL TRUSS (SEE ROOF TRUSS & DETAILS SHEET)
10. STEEL TRUSS BRACE AT BOTH TRUSS AND BEAM. SEE DETAIL 2 / S2.0 FOR BEAM AND 9/S2.1 FOR TRUSS DETAIL.
11. 'Z' SHAPE OVERHANG JOIST (SEE PROFILE BELOW)
12. 1/4" FULL HEIGHT STIFFENER AT ROOF BEAM TYPICAL (SEE STRUCTURAL BLDG SECTION SHEET)
13. 'C' SHAPE OVERHANG FASCIA.
14. STEEL BRACE AT ROOF HEADER TYPICAL (SEE BUILDING SECTIONS)
15. OUTLINE OF TYPICAL A/C ROOF MOUNT FRAMING. SEE MECHANICAL PLANS FOR LOCATIONS. PROVIDE DOUBLE PURLINS AS SHOWN. SEE DETAIL #10/S2.0.
16. FOR SOLATUBE OPTION, SEE SHEET A11.0 FOR LOCATIONS AND DETAIL
17. NOT USED
18. ROOF BEAM AT SIDEWALL. (SEE PROFILE BELOW)
19. NOT USED
20. ARCHITECTURAL CANOPY. REFER TO SHEET A30.0. FRAMING SHOWN ON DETAIL #5/A30.0

ROOF BEAM SCHEDULE

ROOF SLOPE	
MONO	15" x 3 1/2" x 10 GA CHANNEL

ROOF HEADER SCHEDULE

ROOF SLOPE	
MONO	15" x 3 1/2" x 12 GA CHANNEL

ROOF JOIST SCHEDULE

JOIST	SPACING
6" x 2" x 14 GA Z-MEMBER	24" OC MAX

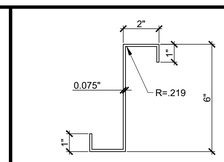
MODLINE SCHEDULE

TOP CHORD	BOTTOM CHORD	CHANNEL
SEE ROOF TRUSS SHEET	SEE ROOF TRUSS SHEET	N/A

OVERHANG SCHEDULE

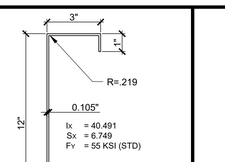
STANDARD OVERHANG		
JOIST	OUTRIGGER	FASCIA
Z-6" X 2" X 14 GA AT 24" MAX OC	C-12" X 3" X 12 GA	C-12" X 3" X 12 GA
OPTIONAL OVERHANG		
JOIST	OUTRIGGER	FASCIA
L-5" X 3" X 3/8" AT 24" MAX OC	L-5" X 3" X 3/8"	L-5" X 3" X 3/8"

STRUCTURAL STEEL PROFILES



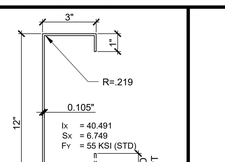
Ix = 4.734
Sx = 1.578
Fy = 50 KSI (STD)
Fu = 65 KSI

ROOF JOIST/BLOCKING
SCALE: 3" = 1'-0"



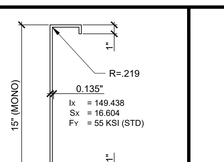
Ix = 40.491
Sx = 6.749
Fy = 55 KSI (STD)

OVERHANG CHANNEL
SCALE: 3" = 1'-0"



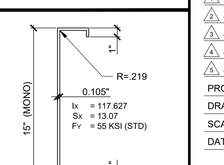
Ix = 40.491
Sx = 6.749
Fy = 55 KSI (STD)

OVERHANG FACIA CHANNEL
SCALE: 3" = 1'-0"



Ix = 149.438
Sx = 16.604
Fy = 55 KSI (STD)

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



Ix = 117.627
Sx = 13.07
Fy = 55 KSI (STD)

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

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

KSC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

ROOF FRAMING PLAN
PLYWOOD SHEATHING
DIAPHRAGM

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
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PHONE (858) 679-1974

RYAN J. ORION — REGISTERED PROFESSIONAL ENGINEER — STRUCTURAL — STATE OF CALIFORNIA
EXP 12/31/26

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
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PHONE: 858-679-1974

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DATE:	00-00-00

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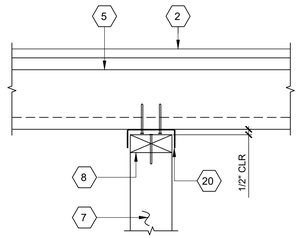
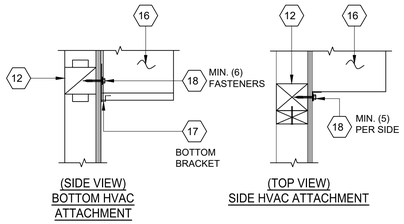


(ALT.) INTERIOR WALL ATTACHMENT PERPENDICULAR TO ROOF JOIST

SCALE: NTS

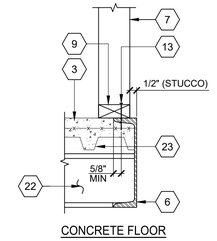
11



ATTACHMENT AT AC UNIT

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

6



EXTERIOR WALL AT FLOOR

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

1

KEY NOTES

1. EXTERIOR PLYWOOD SIDING/SHEATHING (SEE WALL FRAMING ELEVATION SHEET)
2. ROOF DIAPHRAGM (SEE STRUCTURAL ROOF FRAMING PLAN)
3. FLOOR SYSTEM (SEE FLOOR FRAMING SHEET)
4. STEEL COLUMN
5. STEEL ROOF JOIST (SEE STRUCTURAL ROOF FRAMING PLAN)
6. PERIMETER FLOOR FRAME (SEE STRUCTURAL FLOOR FRAMING PLAN)
7. 2x FULL HEIGHT STUDS
8. 2x TOP PLATE
9. 2x BOTTOM PLATE (PRESSURE TREATED @ CONCRETE FLOOR OPTION)
10. 'HILTI' X-U 62 0.157"Ø X 2-7/16" SHOT PIN AT 24" OC MAX
11. CONTINUOUS SPACER AS REQUIRED
12. 4x POST / BLOCKING. SEE WALL FRAMING ELEVATION SHEET DETAIL 5 / S3.2.
13. FASTENERS (SEE WOOD STUD WALL FRAMING SCHEDULE ON S3.2)
14. NOT USED
15. TRUSS BOTTOM CHORD
16. WALL MOUNTED HEAT PUMP UNIT (SEE MECHANICAL PLANS)
17. 16 GA X 24" LONG STEEL BOTTOM BRACKET AT HVAC UNIT
18. 3/8"Ø X MIN 3-1/2" LAG BOLTS, QUANTITY INDICATED PER DETAIL #6/-
19. 2X6 BLOCKING AT 48" OC WITH (2) #12 X 1-1/2" WS EACH END OF BLOCKING, NOTCH AS REQUIRED
20. CONTINUOUS C-3 1/2" X 1 5/8" X 20 GA TRACK, SECURED TO MEMBERS W/(2) #12 SDS AT ROOF JOIST OR (2) 16D NAILS INTO 2X BLOCK TYP
21. CONTINUOUS 2X BLOCKING AT EACH SIDE OF TOP PLATE WITH (2) 16D NAILS TO EACH BLOCKING AT 48" OC OR (2) #12 SDS TO EACH JOIST TYPICAL
22. FLOOR JOIST MEMBER OR BLOCKING (SEE FLOOR FRAMING PLAN)
23. METAL FLOOR DECK
24. 2X BLOCK AT SPLICE LOCATION. SECURE 2x BLOCK WITH (6) 16d NAILS AT EACH SIDE.
25. 16D NAILS AT 24" OC AT DOUBLE STUDS
26. MIN #12 X 3" MIN SDS AT 16" OC MAX WHERE STEEL JOIST OCCURS. USE #12 X 3" MIN WOOD SCREW ELSEWHERE OR 16D NAILS OC MAX
27. 1/2"Ø THREADED ROD WELD TO FLOOR JOIST OR BLOCKING. FASTEN TO SILL PLATE WITH (2) NUTS AND (2) WASHERS @ 48" O.C. MAX
28. PLYWOOD FLOOR EDGE NAILING

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-8470
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BAKERSFIELD CITY SD

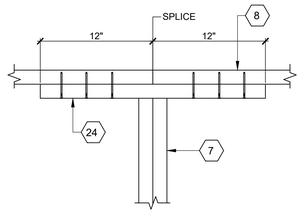
SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

WALL FRAMING DETAILS WOOD STUDS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

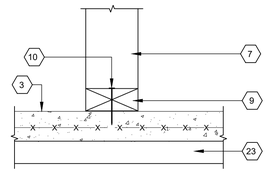
17



TOP PLATE SPLICE

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

12

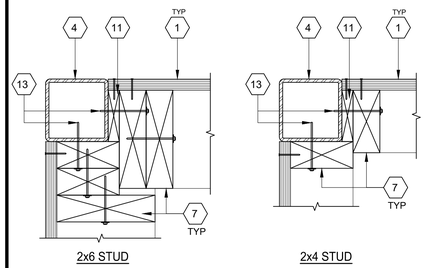


INTERIOR WALL TO CONCRETE FLOOR

SCALE: 3" = 1'-0"

7

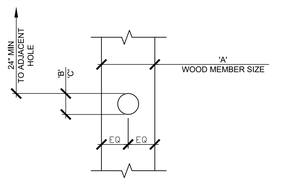
2



COLUMN AT CORNER

SCALE: 3" = 1'-0"

18



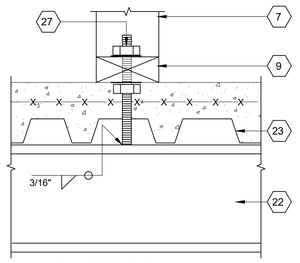
BORING SCHEDULE FOR WOOD STUDS					
A	SIZE	2X4	2X6	2X8	
B	EXT		2-3/16"Ø MAX	2-7/8"Ø MAX	
C	INT	2"Ø MAX	3-1/4"Ø MAX	4-3/8"Ø MAX	

ALLOWABLE HOLE SIZES DETERMINED PER CBC SECTION 2308.5.9

WOOD STUD BORING DETAIL

SCALE: 3" = 1'-0"

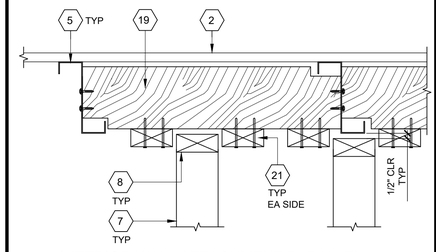
13



(ALT) INTERIOR WALL PERPENDICULAR TO FLOOR JOIST

SCALE: 3" = 1'-0"

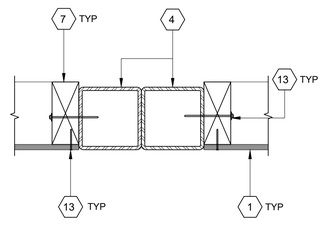
8



INTERIOR WALL ATTACHMENT PARALLEL TO ROOF JOIST

SCALE: NTS

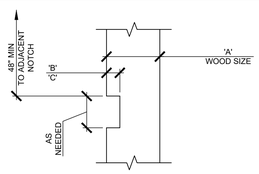
3



COLUMN AT MODLINE

SCALE: 3" = 1'-0"

19



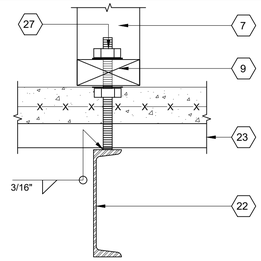
NOTCHING SCHEDULE FOR WOOD STUDS					
A	SIZE	2X4	2X6	2X8	
B	EXT		1-3/8" MAX	1-13/16" MAX	
C	INT	1-3/8" MAX	2-3/16" MAX	2-7/8" MAX	

ALLOWABLE NOTCH SIZES DETERMINED PER SECTION CBC 2308.5.9

WOOD STUD NOTCHING DETAIL

SCALE: 3" = 1'-0"

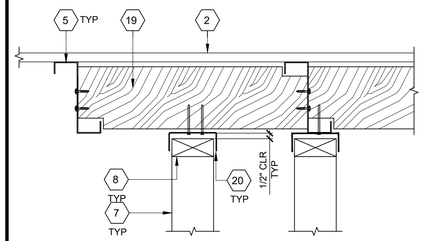
14



(ALT) INTERIOR WALL PARALLEL TO FLOOR JOIST

SCALE: 3" = 1'-0"

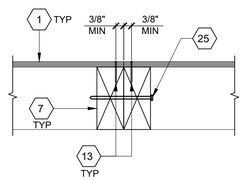
9



(ALT.) INTERIOR WALL ATTACHMENT PARALLEL TO ROOF JOIST

SCALE: NTS

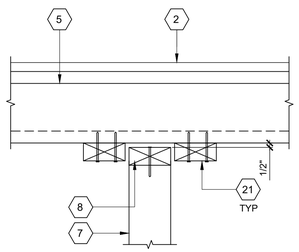
4



WALL AT PANEL JOINT

SCALE: 3" = 1'-0"

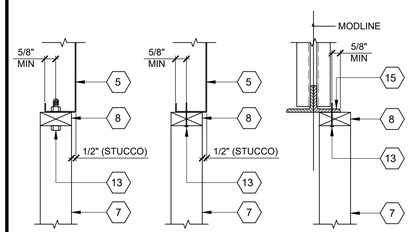
15



INTERIOR WALL ATTACHMENT PERPENDICULAR TO ROOF JOIST

SCALE: NTS

10



WALL AT ROOF

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

5

GENERAL NOTES

1. SEE WALL FRAMING ELEVATION SHEET S3.2 FOR NAILING SCHEDULE

PROJECT SPECIFIC PROFESSIONAL OF RECORD

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Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
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PHONE (858)-679-1974

REGISTERED PROFESSIONAL ENGINEER — RYAN Z. ORION — No. S-6827 — EXP 12/31/26 — STRUCTURAL — STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

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PROJECT NO.:	00-0000
DRAFTER:	00
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DATE:	00-00-00

SHEET NUMBER

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DUAL SLOPE MODLINE FRAME SECTION

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

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

KSC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 GC LIC # 992118
DEALER # DL1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

WALL FRAMING ELEVATION

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD
SUITE 121
SAN DIEGO CA. 92127
PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER
RYAN J. OLSEN
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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5 -

PROJECT NO.:	00-0000
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S3.1

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WOOD STUD WALL FRAMING SCHEDULE

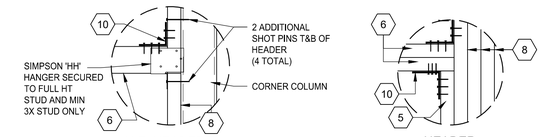
EXTERIOR	GRADE	SIZE	SPACING	BLDG CORNER SPACING
STUCCO	DF #2	SHEET A0.2	12" OC	8" OC WITHIN 72" OF CORNER

WOOD STUD WALL OPENING SCHEDULE

OPENING		FULL HT/JAMB STUD	TRIMMER	HEADER	SILL	BLOCKING
WINDOWS						
8'x4'	STUCCO	(5) EACH SIDE [**]	(1) EACH SIDE	(2) FLAT	(2) FLAT	-
8'x2'	STUCCO	(5) EACH SIDE [**]	(1) EACH SIDE	(2) FLAT	(2) FLAT	-
6'x4'	STUCCO	(5) EACH SIDE [**]	(1) EACH SIDE	(2) FLAT	(2) FLAT	-
4'x4'	STUCCO	(3) EACH SIDE	(1) EACH SIDE	(2) FLAT	(2) FLAT	-
DOORS						
3'x7'	STUCCO	(3) EACH SIDE	(1) EACH SIDE	(2) FLAT	-	-
6'x7'	STUCCO	(5) EACH SIDE [**]	(1) EACH SIDE	(2) FLAT	-	-
AC						
ALL		(1) 4x4 POST EACH SIDE	-	(1) FLAT AT RETURN	(1) FLAT AT RETURN	4x4

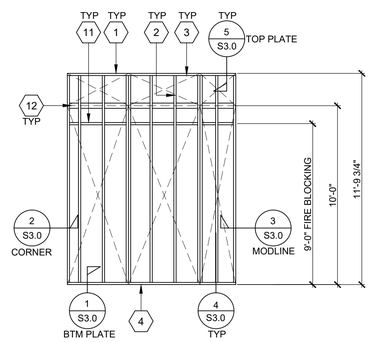
WOOD STUD WALL FRAMING SCHEDULE

TOP PLATE TO BTM BEAM OR TRUSS CHORD	BTM PLATE TO CHANNEL (CONC FLRS)	JAMB STUD TO COLUMN
'HILT' X-U 0.157"Ø SHOT PIN AT 12" MAX OC PER ICC REPORT #ESR-2269 ALT: 1/2" MACHINE BOLTS AT 32" MAX OC	'HILT' X-U 0.157"Ø SHOT PIN AT 12" MAX OC PER ICC REPORT #ESR-2269 ALT: #12 MIN SDS AT 14" MAX OC, 8" MAX OC AT CORNERS	'HILTI' X-U 0.157"Ø SHOT PIN AT 24" MAX OC PER ICC REPORT # ESR-2269 ALT: #12 STSMS AT 24" MAX OC



TYPICAL FRAMING ATTACHMENT DETAILS

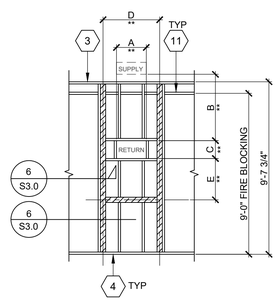
SCALE: 1/4" = 1'-0"



TYPICAL ENDWALL FRAMING

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

3



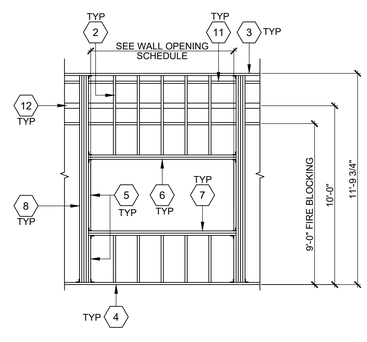
**VERIFY DIMENSIONS ACCORDING TO MANUFACTURES SPECS PER UNIT TYPE AND SIZE

HATCH = 4X FRAMING PER SCHEDULE SECURE 4X BLKG WITH (5) 10d NAILS TOP AND BOTTOM
ALTERNATE: USE SIMPSON A34 CLIPS TOP AND BOTTOM (TYP)

TYPICAL WALL MOUNT HVAC FRAMING

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

5



TYPICAL WINDOW FRAMING

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

4

KEY NOTES

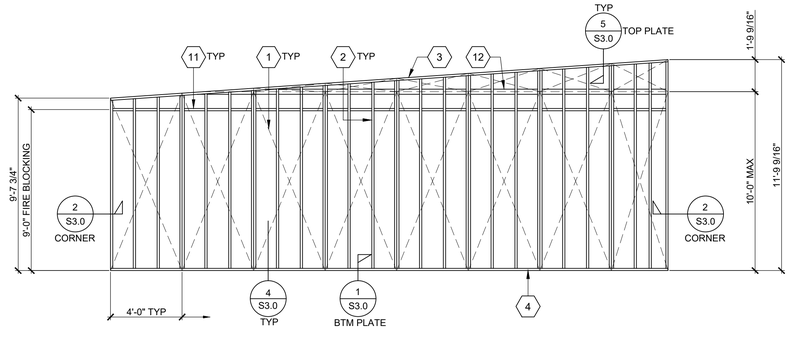
1. 1/2" MIN OSB WOOD STRUCTURAL PANEL (ALT: 1/2" CDX PLYWOOD):
   TO WOOD STUDS USE HOT-DIPPED GALVANIZED 8d BOX NAILS AT 6" OC BOUNDARY & EDGES, AND 12" OC FIELD
2. 2x FULL HEIGHT STUDS
3. 2x TOP PLATE
4. 2x BOTTOM PLATE (PRESSURE WOOD TREATED @ CONCRETE FLOOR OPTION)
5. 2x STUD TRIMMER - TYPICAL AT OPENINGS
6. HEADER (SEE WALL OPENING SCHEDULE)
7. WINDOW SILL (SEE WALL OPENING SCHEDULE)
8. JAMB STUD (SEE WALL OPENING SCHEDULE)
9. 'SIMPSON' A35 CLIP AT OPENINGS GREATER THAN 48"
10. 'SIMPSON' A34 CLIP
11. FIRE BLOCKING REQUIRED WHEN WALLS ARE GREATER THAN 9 FT. SEE ARCHITECTURAL SHEET A2.0A FOR GENERAL NOTES
12. PLYWOOD SPLICE BLOCKING WHEN SHEATHING EXCEEDS 10 FT
13. 6X6 HF #2 BLOCKING FOR ARCHITECTURAL CANOPY
14. 6X6 HF #2 BLOCKING FOR ARCHITECTURAL CANOPY TURN-BUCKLE PLATES
15. MIN 3X HF STUD AT 6X6 HF BLOCKING FOR ARCHITECTURAL CANOPY TURN-BUCKLE PLATES

FASTENING SCHEDULE

SCHEDULE BELOW ARE APPLICABLE METHODS TO THESE BUILDINGS.
REFER TO TABLE 2304.10.2 FOR FULL SCHEDULE

DESCRIPTION OF BLDG ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
WALL		
STUD TO STUD (NOT AT BRACED WALL PANELS)	16D COMMON (3 1/2" X 0.162")	24" OC FACE NAIL
	10D BOX (3" X 0.128"); OR 3" X 0.131" NAILS OR 3-3" 14 GAGE STAPLES, 7/16" CROWN	16" OC FACE NAIL
STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16D COMMON (3 1/2" X 0.162") OR	24" OC FACE NAIL
	16D COMMON (3 1/2" X 0.135"); OR	24" OC FACE NAIL
	3" X 0.131" NAILS OR 3-3" 14 GAGE STAPLES, 7/16" CROWN	12" OC FACE NAIL
BUILT-UP HEADER (2" TO 2" HEADER)	16D COMMON (3 1/2" X 0.162")	16" OC FACE NAIL
	16D COMMON (3 1/2" X 0.135")	12" OC FACE NAIL
CONTINOUS HEADER TO STUD	4-8D COMMON (2 1/2" X 0.131"); OR 4-10D BOX (3" X 0.128")	12" OC FACE NAIL
TOP PLATE TO TOP PLATE	16D COMMON (3 1/2" X 0.162"); OR	16" OC FACE NAIL
	10D BOX (3" X 0.128"); OR 3" X 0.131" NAILS OR 3" 14 GAGE STAPLES, 7/16" CROWN	12" OC FACE NAIL
TOP PLATE TO TOP PLATE, AT END JOINTS	8-16D COMMON (3 1/2" X 0.162"); OR 12-10D BOX (3" X 0.128"); OR 12-3" X 0.131" NAILS; OR 12-3" 14 GAGE STAPLES, 7/16" CROWN	EACH SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16D COMMON (3 1/2" X 0.162"); OR	16" OC FACE NAIL
	16D BOX (3" X 0.135"); OR 3" X 0.131" NAILS OR 3" 14 GAGE STAPLES, 7/16" CROWN	12" OC FACE NAIL
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING AT BRACED WALL PANELS	2-16D COMMON (3 1/2" X 0.162"); OR 3-16D BOX (3" X 0.135"); OR 4-3" X 0.131" NAILS; OR 3" 14 GAGE STAPLES, 7/16" CROWN	12" OC FACE NAIL
STUD TO TOP OR BOTTOM PLATE	4-8D COMMON (2 1/2" X 0.131"); OR 4-10D BOX (3" X 0.135"); OR 4-3" X 0.131" NAILS; OR 4-3" 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
	2-16D COMMON (3 1/2" X 0.162"); OR 3-10D BOX (3" X 0.128"); OR 3-3" X 0.131" NAILS; OR 3-3" 14 GAGE STAPLES, 7/16" CROWN	END NAIL
TOP OR BOTTOM PLATE TO STUD	2-16D COMMON (3 1/2" X 0.162"); OR 3-10D BOX (3" X 0.135"); OR 3-3" X 0.131" NAILS; OR 3-3" 14 GAGE STAPLES, 7/16" CROWN	END NAIL
TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	2-16D COMMON (3 1/2" X 0.162"); OR 3-10D BOX (3" X 0.135"); OR 3-3" X 0.131" NAILS; OR 3-3" 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
1" BRACE TO EACH STUD AND PLATE	2-8D COMMON (2 1/2" X 0.131"); OR 2-10D BOX (3" X 0.128"); OR 2-3" X 0.131" NAILS; OR 2-3" 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
1" X 6" SHEATHING TO EACH BEARING	2-8D COMMON (2 1/2" X 0.131"); OR 2-10D BOX (3" X 0.128")	FACE NAIL
1" X 8" AND WIDER SHEATHING TO EACH BEARING	3-8D COMMON (2 1/2" X 0.131"); OR 3-10D BOX (3" X 0.128")	FACE NAIL
PANEL SIDING TO FRAMING		
1/2" OR LESS	6D CORROSION-RESISTANT SIDING (1 7/8" X 0.106"); OR 6D CORROSION-RESISTANT CASING (2" X 0.099")	6" EDGES / 12" INTERMEDIATE SUPPORTS
5/8"	8D CORROSION-RESISTANT SIDING (2 3/8" X 0.128"); OR 8D CORROSION-RESISTANT CASING (2 1/2" X 0.113")	6" EDGES / 12" INTERMEDIATE SUPPORTS
WOOD STRUCTURAL PANELS (WSP), SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLE BOARD WALL SHEATHING TO FRAMING[a]		
INTERIOR PANELING		
1/4"	4D CASING (1 1/2" X 0.080"); OR 4D FINISH (1 1/2" X 0.072")	6" EDGES / 12" INTERMEDIATE SUPPORTS
3/8"	6D CASING (2" X 0.099"); OR 6D FINISH (PANEL SUPPORTS AT 24")	6" EDGES / 12" INTERMEDIATE SUPPORTS

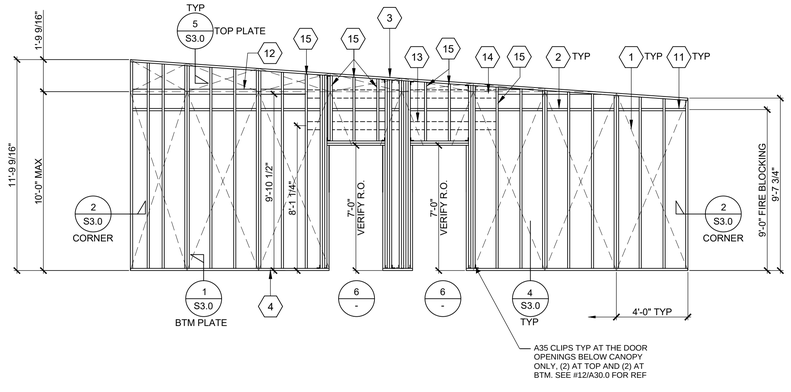
a. NAILS SPACED AT 6" AT INTERMEDIATE SUPPORTS WHERE SPANS ARE 48" OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLE BOARD DIAPHRAGM AND SHEAR WALLS, REFER TO SECTION 2305. NAILS FOR WALL SHEATHING ARE PERMITTED TO BE COMMON, BOX OR CASING



SIDEWALL FRAMING

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

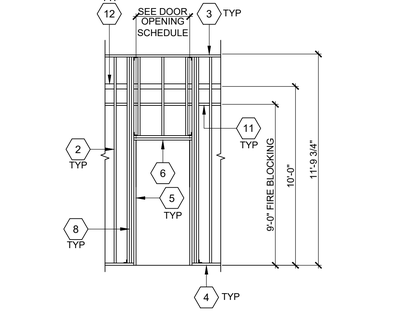
1



SIDEWALL FRAMING

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

2



TYPICAL DOOR FRAMING

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

6

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
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DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
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MANUFACTURER #IMF1279666 GC LIC # 992118
DEALER # DL1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

WALL FRAMING ELEVATIONS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
SAN DIEGO CA, 92127
PHONE (858)-679-1974

RYAN Z. ORION — No. S-6627 — EXP 12/31/26 — PROFESSIONAL ENGINEER — STRUCTURAL — STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
ADDRESS: 11305 Rancho Bernardo Road Ste 121
CITY: San Diego, CA
PHONE: 858-679-1974

REVISIONS

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SHEET NUMBER

S3.2

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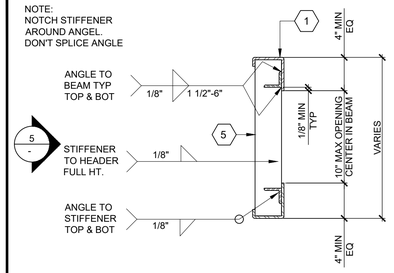
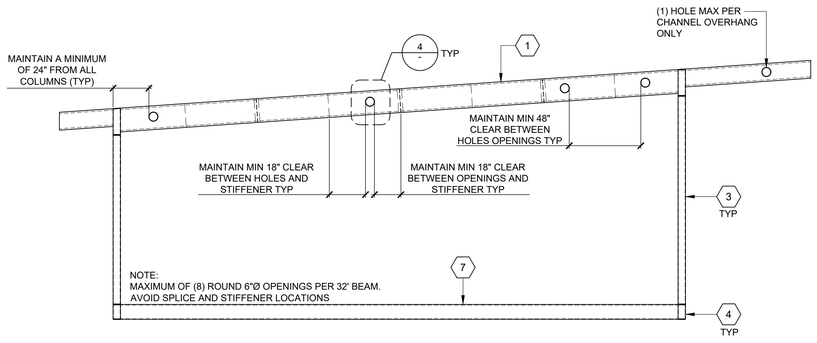
NOTE:
NOTCH STIFFENER AROUND ANGEL. DON'T SPLICE ANGLE



OPENING IN BEAM SECTION

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

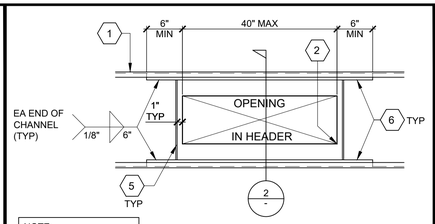
11



PENETRATIONS IN BEAM WITHOUT REINFORCEMENT (MONO SLOPE)

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

6

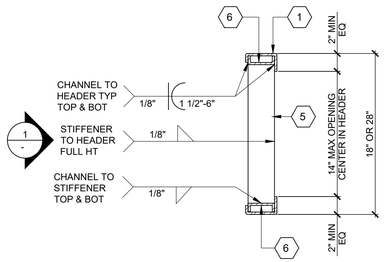


NOTE:
SEE MANUFACTURERS SPECIFICATIONS FOR OPENINGS IN HEADER FOR AC UNITS

REINFORCED PENETRATIONS IN HEADER

SCALE: 1" = 1'-0"

1



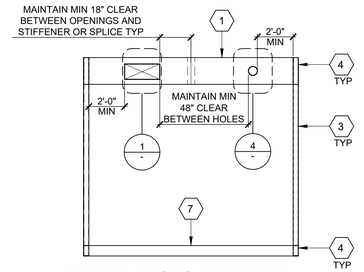
OPENING IN HEADER SECTION

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

2

12

7

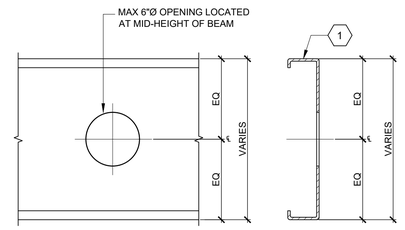


PENETRATIONS IN HEADER (REINFORCED & NON REINFORCED)

3

13

8



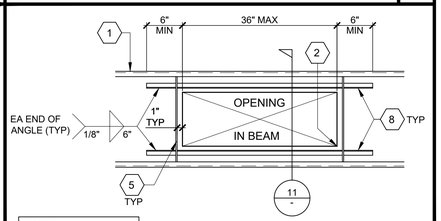
FRONT VIEW SIDE VIEW

NON REINFORCED PENETRATIONS IN HEADER/BEAM

4

14

9



NOTE:
SEE MANUFACTURERS SPECIFICATIONS FOR OPENINGS IN HEADER FOR AC UNITS

REINFORCED PENETRATIONS IN BEAM

SCALE: 1" = 1'-0"

5

15

10

KEY NOTES

1. ROOF HEADER/BEAM (SEE ROOF STRUCTURAL FRAMING PLAN)
2. CUT CORNERS WITH 1/4" RADIUS
3. COLUMN (SEE STRUCTURAL BUILDING SECTION SHEETS)
4. STUB COLUMN (SEE STRUCTURAL BUILDING SECTION SHEETS)
5. 1/4" STIFFENER PLATE
6. C-3 1/4" X 1" X 10 GA CHANNEL TOP AND BOTTOM
7. PERIMETER FLOOR BEAM (SEE STRUCTURAL FLOOR FRAMING SHEETS)
8. L-2" X 2" X 1/4" ANGLE TOP AND BOTTOM

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DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

ALLOWABLE BEAM AND HEADER PENETRATIONS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

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ORION
Structural Engineering, Inc.
11305 RANCHO BERNARDO RD SUITE 121
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PHONE (858) 679-1974

REGISTERED PROFESSIONAL ENGINEER RYAN J. ORION EXP 12/31/26 STRUCTURAL STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM: Orion Structural Engineering, Inc.
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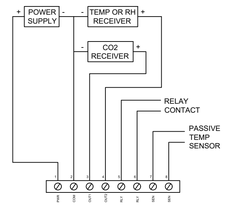
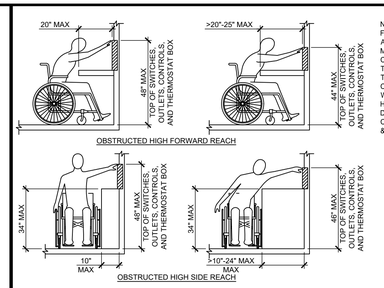


CO2 SENSOR WIRING DIAGRAM

SCALE: NTS

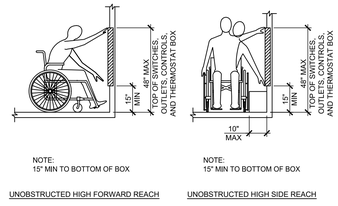
3



OBSTRUCTED MOUNTING HEIGHT DETAIL

SCALE: 3/8" = 1'-0"

2



UNOBSTRUCTED MOUNTING HEIGHT DETAIL

SCALE: 3/8" = 1'-0"

1

ENERGY CODE TABLE 140.4-E
AIR ECONOMIZER HIGH LIMIT SHUT OFF CONTROL REQUIREMENTS

DEVICE TYPE	CLIMATE ZONES	REQUIRED HIGH LIMIT (ECONOMIZER OFF WHEN): EQUATION	DESCRIPTION
FIXED DRY BULB	1,3,5, 11-16	T_{OA} > 75°F	OUTDOOR AIR TEMPERATURE EXCEED 75°F
	2,4,10	T_{OA} > 73°F	OUTDOOR AIR TEMPERATURE EXCEED 73°F
	6,8,9	T_{OA} > 71°F	OUTDOOR AIR TEMPERATURE EXCEED 71°F
	7	T_{OA} > 69°F	OUTDOOR AIR TEMPERATURE EXCEED 69°F
DIFFERENTIAL DRY BULB	1,3,5, 11-16	T_{OA} > T_{RA} °F	OUTDOOR AIR TEMPERATURE EXCEEDS RETURN AIR TEMPERATURE
	2,4,10	T_{OA} > T_{RA} -2°F	OUTDOOR AIR TEMPERATURE EXCEEDS RETURN AIR TEMPERATURE MINUS 2° F
	6,8,9	T_{OA} > T_{RA} -4°F	OUTDOOR AIR TEMPERATURE EXCEEDS RETURN AIR TEMPERATURE MINUS 4° F
	7	T_{OA} > T_{RA} -6°F	OUTDOOR AIR TEMPERATURE EXCEEDS RETURN AIR TEMPERATURE MINUS 6° F
FIXED ENTHALPY + FIXED DRY BULB	ALL	H_{OA} > 28 BTU/LB* OR T_{OA} > 75°F	OUTDOOR AIR ENTHALPY EXCEEDS 28 BTU/LB OF DRY AIR OR OUTDOOR AIR TEMPERATURE EXCEED 75°F

WALL MOUNT EQUIPMENT SCHEDULE

SEE GENERAL NOTE #2

HP 1 (3.5 TON) BARD: W42HF-A05YN4JXE WALL MOUNTED HEAT PUMP
42,000 BTUH COOLING, EER = 11.0
39,000 BTUH HEATING, COP = 3.3
1350 CFM @ .15 MAX ESP, WT = 500 LBS
208/230V-1PH-60CY, MCA = 60, MOP = 60, RLA = 17.2/19.3, FLA = 25.8/28.95
(WITH 5KW HEATER STRIP (PREFIX "05")
2" MERV 13 FILTER (PREFIX "N")
ECONOMIZER (PREFIX "Y") USE ECON-DB5 KIT INCLUDES
JADE CONTROLLER BY HONEYWELL W7220
AND TEMPERATURE SENSORS
(INTERNALLY MOUNTED BEHIND SERVICE DOOR) &
'DWYER' SERIES CDT-2N40-LCD-RLY WALL MOUNT CO2 SENSOR.
SENSOR SHALL HAVE A DISPLAY SHOWING PPM

HP 2 (2 TON) BARD: W24HB-A05YN4JXE WALL MOUNTED HEAT PUMP
23,400 BTUH COOLING, EER = 11.3
22,400 BTUH HEATING, COP = 3.3
800 CFM @ .10 MAX ESP, WT = 335 LBS
208/230V-1PH-60CY, MCA = 45, MOP = 50, RLA = 8.0/9.0, FLA = 12.0/13.5
(WITH 5KW HEATER STRIP (PREFIX "05")
2" MERV 13 FILTER (PREFIX "N")
ECONOMIZER (PREFIX "Y") USE ECON-DB5 KIT INCLUDES
JADE CONTROLLER BY HONEYWELL W7220
AND TEMPERATURE SENSORS
(INTERNALLY MOUNTED BEHIND SERVICE DOOR) &
'DWYER' SERIES CDT-2N40-LCD-RLY WALL MOUNT CO2 SENSOR.
SENSOR SHALL HAVE A DISPLAY SHOWING PPM

MATERIAL SCHEDULE

SUPPLY AIR PLENUM: GALV IRON SHEETS WITH 1/2" LINER INSULATION

INTERIOR DUCTWORK: FLEX DUCT CLASS 1 UL-181 WITH R-8 INSULATION

METAL DUCTWORK LINER: UL-181 R4.2 MIN

REGISTER BOXES: GALV IRON SHEETS WITH 1/2" LINER INSULATION

SUPPLY AIR REGISTERS: METALAIRE '7650-6' SERIES OR APPROVED EQUAL

RETURN AIR GRILLES: METALAIRE 'RH' SERIES OR APPROVED EQUAL

THERMOSTAT: EMERSON '1F95-1277' (SEE GENERAL NOTE #4)

FLAME SPREAD LESS THAN 25 SMOKE DEVELOPED RATING LESS THAN 50

EXHAUST FAN EQUIPMENT SCHEDULE

EF 1 -BROAN: MODEL #A110 INVENT SERIES -CEILING EXHAUST FAN
110 CFM, 120V-1PH-60 HZ, 47.3 WATTS. WT = 22.8 LBS
INTERCONNECT WITH LIGHT SWITCH & LIGHT UNO
USE BROAN ROOF CAP #634
PROVIDE EXHAUST DUCT THRU ROOF
FOR SPACES LESS THAN 100 SF

GENERAL NOTES:

1. PER THE CALIFORNIA ENERGY CODE (CEC) CLASSROOMS ARE DESIGNED FOR MINIMUM OUTSIDE AIR OF 0.38 CFM PER SF OR TO 15 CFM PER OCCUPANT. WHICHEVER IS GREATER. PC MANUFACTURER SHALL VERIFY WITH THE SCHOOL DISTRICT TO EXPECTED NUMBER OF OCCUPANTS IN THE CLASSROOM SO THAT THE OUTDOOR VENTILATION RATE FOR MECHANICAL SYSTEMS CAN BE ADEQUATELY ADJUSTED UPON INSTALLATION OF THE BUILDING. PC MANUFACTURER SHALL ALSO CONFIRM WITH HVAC EQUIPMENT MANUFACTURER THAT THE SELECTED EQUIPMENT WILL BE ABLE TO PERFORM TO ACCOMMODATE THE ADDITIONAL OUTDOOR AIR REQUIREMENTS UNDER PEAK DESIGN CONDITIONS FOR THE CLIMATE ZONE IN WHICH THE BUILDING IS LOCATED. AT OCCUPANCY, THE BUILDING MANUFACTURER SHALL PROVIDE TO BUILDING OWNER A DESCRIPTION OF THE QUANTITIES OF OUTDOOR AND RE-CIRCULATED AIR THAT THE VENTILATION SYSTEMS ARE DESIGNED TO PROVIDE TO EACH AREA.
2. THE HVAC VARIATION CHARTS ABOVE ARE DESIGNED WITH THE HEAT PUMP MODEL THAT WAS DEMONSTRATED WITH THE WORST CASE BUILDING CONDITION, LISTED ON THE PC OPTIONS. AT THE (3) WORST CLIMATE ZONES IN CALIFORNIA. FOR SITE-SPECIFIC APPLICATION, IF MODIFICATIONS TO THE BUILDING AFFECT ENERGY CODE COMPLIANCE ARE DESIRED, A REVISED BUILDING ENERGY ANALYSIS REPORT SHALL BE SUBMITTED TO DSA AT THE TIME OF THE SITE SUBMITTAL APPROVAL APPOINTMENT PER DSA PR 18-02.
3. THE HEAT PUMP EQUIPMENTS LISTED ON THIS PC DOES NOT INCLUDE SUPPLEMENTAL HEATING
4. THERMOSTAT SHALL BE PROGRAMMED WHEN A MODULAR BUILDING IS PLACED ON SITE TO ENSURE THE MINIMUM AIR RATE WILL BE SUPPLIED TO THE SPACE AT ALL USUALLY OCCUPIED TIMES AND PROGRAMMED TO PROVIDE A PRE-OCCUPANCY PURGE ONE HOUR PRIOR TO THE MODULAR BUILDING BEING NORMALLY OCCUPIED PER ENERGY CODE SECTION 120.1(d)1
5. HEAT PUMPS USING SUPPLEMENTARY ELECTRIC RESISTANCE HEATING MUST USE A THERMOSTAT DESIGNED FOR HEAT PUMPS PER SECTION 110.2(b). THERMOSTAT SHALL BE PROGRAMMED TO PREVENT SUPPLEMENTARY HEATER OPERATION WHEN THE HEATING LOAD CAN BE MET BY THE HEAT PUMP ALONE. THE CUT-ON TEMPERATURE FOR SUPPLEMENTARY HEATING, AND THE CUT-OFF TEMPERATURE FOR COMPRESSION HEATING MUST BE HIGHER THAN THE CUT-OFF TEMPERATURE FOR SUPPLEMENTARY HEATING
6. SEE SHEET A0.6 FOR CALGREEN REQUIREMENTS PERTAINING TO THE HVAC REQUIREMENTS OF THIS PC
7. CO2 SENSORS ARE NOT REQUIRED IN OFFICE USE
8. THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY LISTED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE
9. LIGHTING CONTROLS ACCEPTANCE TEST MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT). MECHANICAL SYSTEM ACCEPTANCE TEST MUST BE PERFORMED BE A CERTIFIED MECHANICAL ATT FOR PROJECT SUBMITTED ON OR AFTER OCTOBER 1, 2021. A LISTING OF CERTIFIED ATT'S CAN BE FOUND AT: https://www.energy.ca.gov/programs-and-topics/programs/acceptance-test-technician-certification-provider-program/acceptance
THE ACCEPTANCE TESTING PROCEDURE MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORMS AND PASS THE REQUIRED ACCEPTANCE CRITERIA. PROJECT INSPECTORS WILL BE COLLECTING THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TEST HAVE BEEN COMPLETED
10. ALL ECONOMIZERS MUST BE PROGRAMMED IN THE FIELD BY THE HVAC CONTRACTOR TO THE TEMPERATURE IN TABLE 140.4-E (SAMPLE TABLE SHOWN ON THIS SHEET)

LEGEND AND ABBREVIATIONS

	FLEXIBLE DUCT		DIRECTIONAL AIR FLOW
12"	NUMBER INDICATES DUCT SIZE	UCD	UNDERCUT DOOR
	ROUND/SPIRAL DUCT		DUCT REDUCER
	TEE DUCT TRANSITION		WYE DUCT
	ELBOW DUCT		ROUND DIFFUSER (OPT AT GYP CEILING)
	24x24 CEILING RETURN REGISTER	T	TOP OF THERMOSTAT +48" AFF
	24x24 CEILING SUPPLY REGISTER	CO2	TOP OF CO2 SENSOR +36" THRU +72" AFF
	EXHAUST FAN		DAMPER
	FIRE SMOKE DAMPER 'POTTORF': FSD-125R		EQUIPMENT CALLOUT: TOP = EQUIPMENT TYPE BOTTOM = IDENTIFICATION
	COMBINATION SMOKE FIRE DAMPER 'POTTORF': FSD-141	E	ELECTRICAL LOCATION (PROVIDE WP BOX)
CD	CONDENSATE DRAIN	G	GAS LOCATION
		RAG	RETURN AIR GRILL
		RL	RIDGE LINE

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #/MF'1279666 DEALER # CL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

MECHANICAL SCHEDULES AND NOTES

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

REGISTERED PROFESSIONAL ENGINEER
SYED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1	-
2	-
3	-
4	-
5	-

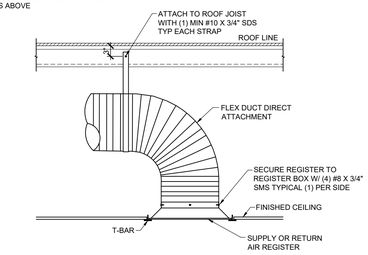
PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

M0.0

5/2/2025 12:13:20 PM

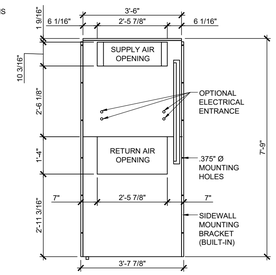
NOTE: STRAP ANGLE VARIANCE ALLOWED DUE TO LOCATION OF ROOF FRAMING MEMBERS ABOVE



SECTION AT REGISTER (OPTIONAL)

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

NOTE: DIMENSIONS SHOWN IS PER HEAT PUMP UNIT ON SHEET M0.0



WALL MT HVAC REAR VIEW

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

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 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 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 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE;E CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE 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 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G. OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

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

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

METAL DUCT NOTES:

1. CMC SECTION 603.3.2 HORIZONTAL ROUND DUCTS: HORIZONTAL ROUND DUCTS NOT MORE THAN 40" IN DIAMETER WHERE SUSPENDED FROM ABOVE SHALL BE SUPPORTED WITH ONE HANGER PER INTERVAL AND IN ACCORDANCE WITH SECTION 603.3.2.1 THROUGH SECTION 603.3.2.3
2. CMC SECTION 603.3.2.1 TIGHT-FITTING AROUND THE PERIMETER: DUCTS SHALL BE EQUIPPED WITH TIGHT-FITTING CIRCULAR BANDS EXTENDING AROUND THE ENTIRE PERIMETER OF THE DUCT AT EACH SPECIFIED SUPPORT INTERVALS
3. CMC SECTION 603.3.2.2 SIZ OF CIRCULAR BANDS: CIRCULAR BANDS SHALL BE NOT LESS THAN 1" WIDE NOR LESS THAN EQUIVALENT TO THE GAUGE OF THE DUCT MATERIAL IT SUPPORTS.
   EXCEPTION: DUCT NOT MORE THAN 10" IN DIAMETER SHALL BE PERMITTED TO BE SUPPORTED BY NO. 18 GAUGE GALVANIZED STEEL WIRE
4. CMC SECTION 603.3.2.3 CONNECTION: EACH CIRCULAR BAND SHALL BE PROVIDED WITH MEANS OF CONNECTING TO THE SUSPENDING SUPPORT

GENERAL NOTES:

1. ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS, INCLUDING BUT NOT LIMITED TO BUILDING CAVITIES, MECHANICAL CLOSETS, AIR-HANDLER BOXES, AND SUPPORT PLATFORMS USED AS DUCTS OR PLENUMS, SHALL BE INSTALLED, SEALED AND INSULATED TO MEET THE REQUIREMENT OF THE CMC SECTIONS: 601.0, 602.0, 603.0, 604.0, AND 605.0, AND ANSI/SMACNA-006-2006 HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE, 3RD EDITION INCORPORATED HEREIN BY REFERENCE. CONNECTIONS OF METAL DUCTS AND THE INNER CORE OF FLEXIBLE DUCTS SHALL BE MECHANICALLY FASTENED. OPENINGS SHALL BE SEALED WITH MASTIC, TAPE, AEROSOL SEALANT OR OTHER DUCT-CLOSURE SYSTEM THAT MEETS THE APPLICABLE REQUIREMENTS OF UL 181, UL 181A, OR UL 181B. IF MASTIC OR TAPE IS USED TO SEAL OPENINGS GREATER THAN 1/4 INCH, THE COMBINATION OF MASTIC AND EITHER MESH OR TAPE SHALL BE USED.

   PORTIONS OF SUPPLY-AIR AND RETURN AIR DUCTS CONVEYING HEATED OR COOLED AIR LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-8:

   1. OUTDOORS; OR
   2. IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING; OR
   3. IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES; OR
   4. IN AN UNCONDITIONED CRAWLSPACE; OR
   5. IN OTHER UNCONDITIONED SPACES

   PORTIONS OF THE SUPPLY-AIR DUCTS THAT ARE NOT IN ONE OF THESE SPACES, INCLUDING DUCTS BURIED IN CONCRETE SLAB, SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-4.2 (OR ANY HIGHER LEVEL REQUIRED BY CMC SECTION 605.0) OR BE ENCLOSED IN DIRECTLY CONDITIONED SPACE

2. ALL HVAC EQUIPMENT, DUCT WORK, PLENUMS, SUPPORTS AND ANCHORAGE SHALL COMPLY WITH THE REQUIREMENTS PROVIDED BY DSA ON SHEET M0.0
3. ALL FINAL CONNECTIONS OF DUCT WORK AND PLENUMS SHALL COMPLY WITH ENERGY CODE SECTION 120.4 (b),(f)
4. ROOF MOUNT HVAC UNITS SET ON A FACTORY ROOF CURB SHALL COMPLY WITH THE ROOF CURB AND HVAC UNIT MANUFACTURE FOR THE SEALING AND GASKET OF THE UNIT TO THE CURB CONNECTION
5. ALL DUCK WORK INSTALLED IN THE FACTORY SHALL COMPLY WITH ENERGY CODE SECTIONS 120.4(a),(b),(c),(d),(e),(f)
6. ALL JOINTS MUST BE SEALED USING UL 181 TAPE OR MASTIC IN THE DUCT SYSTEM INCLUDING HVAC EQUIPMENT, PLENUMS, CURB AND BOOTS

FLEXIBLE DUCT NOTES:

1. FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FT IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOWS OR FITTINGS. FLEXIBLE AIR DUCTS SHALL BE PERMITTED TO BE USED AS AN ELBOW AT A TERMINAL DEVICE PER ENERGY CODE SECTION 120.4 AND CMC SECTION 603.4
2. HORIZONTAL FLEX DUCTS SHALL BE SUPPORTED AT A MAXIMUM 4 FT INTERVALS, WITH HANGING STRAPS A MINIMUM 1-1/2" WIDE. FLEX DUCTS MUST BE PULLED TIGHT WITH A MAXIMUM SAG OF 1/2" PER FOOT OF HORIZONTAL RUN. FLEXIBLE DUCT SHALL NOT BE KINKED OR CRUSHED. FLEXIBLE DUCTS SHALL USE A DRAWBAND TO ATTACH THE INNER CORE TO A METAL COLLAR

SHEET METAL DUCT & FITTINGS		
MAXIMUM DIA / WIDTH OF DUCT & FITTINGS	SHEET METAL GAUGE (MIN)	DUCT HANGER GAUGE, TYPE & SPACING
6" THRU 10"	26 GA	18 GA MIN GALV STEEL WIRE AT 10'-0" FT MAX OC
11" THRU 12"	26 GA	24 GA MIN 1-1/2" GALV STEEL STRAP MIN 1" AT 10'-0" FT MAX OC
13" THRU 24"	24 GA	22 GA MIN 1-1/2" GALV STEEL STRAP MIN 1" AT 10'-0" FT MAX OC
25" THRU 30"	22 GA	18 GA MIN 1-1/2" GALV STEEL STRAP MIN 1" AT 10'-0" FT MAX OC

HVAC SEQUENCE OF OPERATIONS:

OPTIMUM START: THE THERMOSTAT WILL AUTOMATICALLY CALCULATE WHEN TO START THE UNIT ONE-HOUR PRIOR TO OCCUPANCY, IN EITHER HEATING OR COOLING MODE, TO ACHIEVE SPACE TEMPERATURE BY THE START OF THE DAY. CALCULATIONS WILL BE DONE BEFORE EACH OPTIMUM START SCHEDULE AND BE BASED ON A SEVEN DAYS OF PERVIOUS RUN-TIME FOR THE SPACE. OPTIMUM START WILL USE ECONOMIZER TO PRE-COOL THE BUILDING IF OUTSIDE AIR TEMPERATURE IS GREATER THAN THE RETURN AIR TEMPERATURE ON TABLE 140.4-E DURING ALL OCCUPIED PERIODS. DURING MORNING WARM-UP OUTSIDE AIR DAMPER WILL BE CLOSED UNTIL OCCUPIED HOURS

OCCUPIED HEAT DEMAND: IF THE THERMOSTAT NEEDS TO HEAT THE SPACE, HEAT MODE WILL BE ACTIVE. AT THE END OF THE HEATING CYCLE THERMOSTAT WILL TURN OFF HEAT MODE. A FEW MINUTES AFTER HEAT MODE HAS BEEN TURNED OFF ALL ALL CONDITIONED AIR TO BE PUSHED INTO THE SPACE. OUTSIDE AIR DAMPER WILL BE SET TO CONFIGURED MINIMUM VENTILATION POSITION

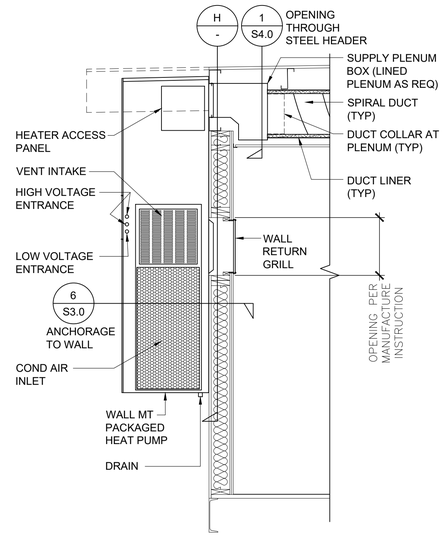
OCCUPIED COOL DEMAND: IF THERMOSTAT NEEDS TO COOL THE SPACE AND THE OUTSIDE TEMPERATURE IS GREATER THAN THE RETURN AIR TEMPERATURE ON TABLE 140.4-E DURING ALL OCCUPIED PERIODS, IT WILL OPEN THE OUTSIDE AIR DAMPER AS AN ECONOMIZER. THERMOSTAT WILL TURN-ON COOL MODE. IF OUTSIDE AIR IS NOT PROVIDING ENOUGH COOLING, THERMOSTAT WILL START THE AIR HANDLER COMPRESSOR. AT THE END OF THE COOLING CYCLE THERMOSTAT WILL DISABLE THE COMPRESSOR. A FEW MINUTES AFTER IT HAS BEEN DISABLED ALLOWING ALL CONDITIONED AIR TO BE PUSHED INTO THE SPACE. IF ECONOMIZER IS UNABLE TO BE USED, OUTSIDE AIR DAMPER WILL BE SET TO CONFIGURED MINIMUM VENTILATION POSITION

DEAD-BAND: THERMOSTAT WILL NOT ALLOW BOTH HEAT AND COOL MODES TO RUN SIMULTANEOUSLY. THERMOSTAT USES AN INTELLIGENT AUTO-ADJUSTING DEAD-BAND OF FIVE DEGREES TO PREVENT CROSS OVER

OCCUPIED VENTILATION (FAN ON): SUPPLY AIR FAN WILL BE CONTINUOUSLY ON DURING OCCUPIED PERIODS IN HEATING OR COOLING MODE CYCLE. NORMAL OPERATION OF THE SYSTEM IS AT THE MINIMUM DCV ECONOMIZER DAMPER POSITION PER ATTACHMENT 3 ON SHEET M0.0. IF SPACE CO2 SENSOR READS 1,100 PPM OR ABOVE THEN THE ECONOMIZER WILL OPEN THE OUTSIDE AIR DAMPER TO ALLOW INCREASED OUTSIDE AIR INTO THE SPACE AND REPLACE THE ELEVATED CO2 LEVEL WITH FRESH AIR. WHEN CO2 READING IS LESS THAN 1,100 PPM, THE ECONOMIZER OUTSIDE AIR DAMPER WILL RETURN TO ORIGINAL POSITION

UNOCCUPIED HEAT DEMAND: IF THE THERMOSTAT NEEDS TO HEAT THE SPACE, HEAT-MODE WILL RUN ITS CYCLE. AT THE END OF THE HEATING CYCLE THERMOSTAT WILL DISABLE HEAT-MODE. A FEW MINUTES AFTER IT HAS BEEN DISABLED ALLOWING ALL CONDITIONED AIR TO BE PUSHED INTO THE SPACE. OUTSIDE AIR DAMPER WILL REMAIN CLOSED DURING ALL UNOCCUPIED PERIODS

SET-POINTS AND SCHEDULE: THERMOSTAT WILL BE SCHEDULED TO USE CUSTOMER-DEFINED OCCUPIED AND UNOCCUPIED SET-POINTS. FOR THE START OF THE DAY SCHEDULE, THERMOSTAT WILL USE OPTIMUM START. THERMOSTAT WILL ALLOW A LIMITED ADJUSTMENT FROM THE CUSTOMER OCCUPIED SET-POINTS (IF CUSTOMER ALLOWS). DURING UNOCCUPIED THERMOSTAT WILL ALLOW OVERRIDE OF UNOCCUPIED SETBACK, HOWEVER WILL GO BACK TO THE CUSTOMER'S UNOCCUPIED SETBACK EVERY 2 HOURS (ADJUSTABLE) AFTER THE END OF THE DAY SCHEDULE



WALL MT HVAC SIDE VIEW

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

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

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15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # CL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
MECHANICAL DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

REGISTERED PROFESSIONAL ENGINEER
SYED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

M0.1

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MECHANICAL VENTILATION (CLASSROOM 101):
MIN OUTSIDE AIR FOR OCCUPIABLE SPACES PER CEC 120.1(c)3:
53 (NET OCC) X 15 CFM = 795 CFM

DEMAND CONTROL VENTILATION (DCV) (CLASSROOM 101):
MIN VENTILATION RATE FOR DCV PER CEC 120.1(d)4E:
0.15 (PER TABLE 120.1-A) X 1054 (BLDG SF) = 159 CFM

MECHANICAL VENTILATION (WORKROOM 107):
MIN OUTSIDE AIR FOR OCCUPIABLE SPACES PER CEC 120.1(c)3:
3 (NET OCC) X 15 CFM = 45 CFM

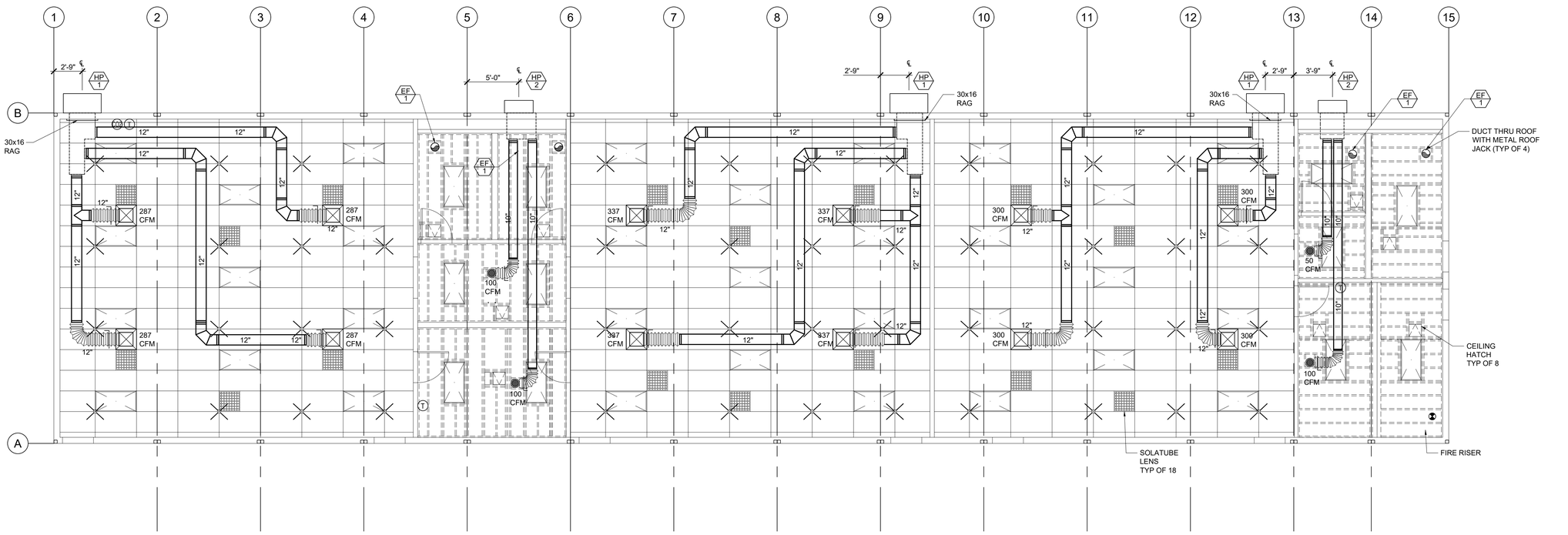
MECHANICAL VENTILATION (CLASSROOM 102):
MIN OUTSIDE AIR FOR OCCUPIABLE SPACES PER CEC 120.1(c)3:
54 (NET OCC) X 15 CFM = 810 CFM

DEMAND CONTROL VENTILATION (DCV) (CLASSROOM 102):
MIN VENTILATION RATE FOR DCV PER CEC 120.1(d)4E:
0.15 (PER TABLE 120.1-A) X 1072 (BLDG SF) = 161 CFM

MECHANICAL VENTILATION (CLASSROOM 103):
MIN OUTSIDE AIR FOR OCCUPIABLE SPACES PER CEC 120.1(c)3:
54 (NET OCC) X 15 CFM = 810 CFM

DEMAND CONTROL VENTILATION (DCV) (CLASSROOM 103):
MIN VENTILATION RATE FOR DCV PER CEC 120.1(d)4E:
0.15 (PER TABLE 120.1-A) X 1074 (BLDG SF) = 162 CFM

MECHANICAL VENTILATION (WORKROOM 110):
MIN OUTSIDE AIR FOR OCCUPIABLE SPACES PER CEC 120.1(c)3:
2 (NET OCC) X 15 CFM = 30 CFM



FLEXIBLE DUCT DESIGN AIRFLOW	
DUCT SIZE	DESIGN AIRFLOW (CFM)
6"	75
8"	160
10"	300
12"	480
14"	700

ROUND METAL PIPE DUCT DESIGN AIRFLOW	
DUCT SIZE	DESIGN AIRFLOW (CFM)
6"	85
8"	180
10"	325
12"	525
14"	750

NOTES:

1. REFER TO SHEET M0.0 & M0.1 FOR DETAILS, LEGEND AND SCHEDULES
2. BUILDING OVERHANG PROJECTION MUST BE A MINIMUM 36" FOR ANY HVAC UNIT 13.00 SEER AND GREATER
3. DUCT SEALING LEAKAGE RATE SHALL NOT EXCEED 6%
4. WHEN AN INTERIOR ROOM(S) ARE ADDED AND COMBINED A/C SYSTEM EXCEEDS 2000 CFM, AN AUTOMATIC SHUT DOWN OF A/C UNITS MUST BE PROVIDED AND SHOWN ON THIS PLAN SET AND COORDINATED WITH THE ARCHITECT'S FIRE ALARM SYSTEM DRAWINGS PER CMC SECTION 608.1
5. PER ENERGY CODE SECTION 120.2(e), EACH SPACE-CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:
   THE CONTROLS SHALL BE CAPABLE OF AUTOMATICALLY SHUTTING OFF THE SYSTEM DURING PERIODS OF NON-USE AND SHALL HAVE:
   A. AN AUTOMATIC TIME SWITCH CONTROL DEVICE COMPLYING WITH SECTION 110.9, WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE SYSTEM FOR UP TO 4 HOURS; OR
   B. AN OCCUPANCY SENSOR; OR
   C. A 4-HOUR TIMER THAT CAN BE MANUALLY OPERATED

MECHANICAL PLAN

SCALE: 3/16" = 1'-0"

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
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DEALER # DL1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
MECHANICAL PLAN

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

REGISTERED PROFESSIONAL ENGINEER
TED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 1 of 18)

Project Name: DOUGLAS K FLETCHER ELEMENTARY SCHOOL **135 X 32 TK Classroom Building** **Date Prepared:** 2024-03-30

A. General Information

1	Project Name	135 X 32 TK Classroom Building			
2	Run Title	Title 24 Analysis			
3	Project Location	9801 Highland Knolls Drive			
4	City	Bakersfield	5	Standards Version	Compliance 2022
6	Zip code	93306	7	Compliance Software (version)	EnergyPro 9.2
8	Climate Zone	13	9	Building Orientation (deg)	0
10	Building Type(s)	• Nonresidential	11	Weather File	MEADOWS-FIELD_STYP20.epw
12	Project Scope	• New complete scope	13	Number of Dwelling Units	0
14	Total Conditioned Floor Area in Scope (ft²)	3795	15	Total # of hotel/motel rooms	0
16	Total Unconditioned Floor Area (ft²)	500	17	Fuel Type	Natural gas
18	Nonresidential Conditioned Floor Area	3795	19	Total # of Stories (Habitable Above Grade)	1
20	Residential Conditioned Floor Area	0			

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 2 of 18)

B. PROJECT SUMMARY

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 the permit application.

Building Components Complying via Performance					Building Components Complying Prescriptively	
Envelope (See Table G)	Nonres	Performance	Solar Thermal Water Heating (See Table I3)	☐ Performance	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).	
	MultiFam	Not Included		☒ Not Included		
Mechanical (See Table H)	Nonres	Performance	Covered Process: Commercial Kitchens (see Table J)	☐ Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required
	MultiFam	Not Included		☒ Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E is required
Domestic Hot Water (See Table I)	Nonres	Not Included	Covered Process: Laboratory Exhaust (see Table J)	☐ Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required
	MultiFam	Not Included		☒ Not Included	**Building Components Complying with Mandatory Measures**	
Lighting (Indoor Conditioned, see Table K)	Nonres	Performance	Photovoltaics (see Table F)	☐ Performance	Electrical power systems, commissioning, solar ready, elevator and escalator requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)	
	MultiFam	Not Included		☒ Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required
			Battery (see Table F)	☐ Performance	Commissioning 120.8	NRCC-CXR-E is required
				☒ Not Included	Solar and Battery 110.10	NRCC-SAB-E is required

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 3 of 18)

C1. COMPLIANCE SUMMARY

	COMPLIES[3]		
	Time Dependent Valuaton (TDV)		Source Energy Use
	Efficiency[1] (kBtu/ft² - yr)	Total[2] (kBtu/ft² - yr)	Total[2] (kBtu/ft² - yr)
Standard Design	351.26	351.26	27.14
Proposed Design	274.64	274.64	20.96
Compliance Margins	**76.62**	**76.62**	**6.18**
	Pass	**Pass**	**Pass**

[1] Efficiency measures include improvements like a better building envelope and more efficient equipment
[2] Compliance Totals include efficiency, photovoltaics and batteries
[3] New Construction, Complete Addition Scope: Building complies when all efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded
Existing, Addition and Alteration Scope: Building complies when efficiency compliance margin is greater than or equal to zero and unmet load hour limits are not exceeded

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 4 of 18)

C2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft² - yr)

COMPLIES[2]			
Energy Component	**Standard Design (TDV)**	**Proposed Design (TDV)**	**Compliance Margin (TDV)[1]**
Space Heating	12.48	21.73	-9.25
Space Cooling	114.5	108.69	5.81
Indoor Fans	171.11	86.4	84.71
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	25.84	25.75	0.09
Indoor Lighting	27.33	32.07	-4.74
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**351.26**	**274.64**	**76.62 (21.8%)**
Photovoltaics	---	---	---
Batteries	---	---	---
TOTAL COMPLIANCE	**351.26**	**274.64**	**76.62 (21.8%)**

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

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 5 of 18)

C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	70.09	70.09	---
Process	43.54	43.54	---
Other Ltg	37.67	37.67	---
Process Motors	7.22	14.32	-7.1
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**509.78**	**440.26**	**69.52 (13.6%)**

[1] Notes: This table is not used for Energy Code Compliance.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 6 of 18)

C4. SOURCE ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual SOURCE Energy Use, kBtu/ft² /yr)

COMPLIES[2]			
Energy Component	**Standard Design (SOURCE)**	**Proposed Design (SOURCE)**	**Compliance Margin (SOURCE)[1]**
Space Heating	1.67	3.15	-1.48
Space Cooling	5.28	4.57	0.71
Indoor Fans	15.63	8.31	7.32
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	2.37	2.36	0.01
Indoor Lighting	2.19	2.57	-0.38
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**27.14**	**20.96**	**6.18 (22.8%)**
Photovoltaics	---	---	---
Batteries	---	---	---
TOTAL COMPLIANCE	**27.14**	**20.96**	**6.18 (22.8%)**

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

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 7 of 18)

C5. SOURCE ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Receptacle	5.24	5.24	---
Process	3.24	3.24	---
Other Ltg	3.02	3.02	---
Process Motors	0.68	1.34	-0.66
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**39.32**	**33.8**	**5.52 (14%)**

[1] Notes: This table is not used for Energy Code Compliance.

C6. 'ABOVE CODE' QUALIFICATIONS

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

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 8 of 18)

C7. 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	1.4	2.5	-1.1	---	---	---
Space Cooling	13.1	13.4	-0.3	---	---	---
Indoor Fans	22.8	11.6	11.2	---	---	---
Heat Rejection	---	---	---	---	---	---
Pumps & Misc.	---	---	---	---	---	---
Domestic Hot Water	4	4	0	---	---	---
Indoor Lighting	4	4.7	-0.7	---	---	---
Flexibility	---	---	---	---	---	---
EFFICIENCY TOTAL	**45.3**	**36.2**	**9.1**	**0**	**0**	**0**
Photovoltaics	---	---	---	---	---	---
Batteries	---	---	---	---	---	---
ENERGY USE SUBTOTAL	**45.3**	**36.2**	**9.1**	**0**	**0**	**0**
Receptacle	10.7	10.7	0	---	---	---
Process	6.7	6.7	0	---	---	---
Other Ltg	5.5	5.5	0	---	---	---
Process Motors	1	1.9	-0.9	---	---	---
ENERGY USE TOTAL	**69.2**	**61**	**8.2**	**0**	**0**	**0**

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 9 of 18)

C8. ENERGY USE INTENSITY (EUI)

	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / yr)	Margin Percentage
GROSS EUI[1]	54.97	48.46	6.51	11.84
NET EUI[1]	54.97	48.46	6.51	11.84

[1] Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.

D1. EXCEPTIONAL CONDITIONS

• The 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.
• The building does not include service water heating. Verify that service water heating is not required and is not included in the design.
• PV/Battery Building Type has been modified from software defaults for one or more spaces. Review project's PV/Battery Building Type(s) with documentation author. Refer to Energy Code section 140.10 for Nonresidential or 170.2(g) for more information.

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

01	02	03	04
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft²)**	**Total Fenestration Area (ft²)**	**Window to Wall Ratio (%)**
North-Facing[1]	740	32	4.32
East-Facing[2]	1008	24	2.38
South-Facing[3]	956	96	10.04
West-Facing[4]	332	32	9.64
Total	**3036**	**184**	**6.06**

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 west (NW), but excluding 45 00'00" south of west (SW),

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
TITLE 24 REPORT

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

REGISTERED PROFESSIONAL ENGINEER
SYED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

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DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

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G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

01	02	03	04
Opaque Surfaces & Orientation	Total Gross Surface Area (ft²)	Total Fenestration Area (ft²)	Window to Wall Ratio (%)
Roof	3795	72	1.9

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 west (NW), but excluding 45 00'00" south of west (SW),

G4. NONRESIDENTIAL AIR BARRIER

01	02
Building Story Name	Air Barrier
Com-Floor 1	No air barrier

G5. OPAQUE SURFACE ASSEMBLY SUMMARY

01	02	03	04	05	06		07	08	09	10
Surface Name	Construction Type	Area (ft²)	Framing Type	Cavity R-Value	Continuous R-Value		Units	Value	Description of Assembly Layers	Status[1]
					Interior	Exterior				
R-19 Wood Studs6	Exterior Wall	3,439	Wood	19	N/A	N/A	U-factor	0.0683	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Composite-1 Gypsum Board - 1/2 in.	N
R-30 Metal Roof18	Roof	4,295	N/A	30	N/A	N/A	U-factor	0.0673	Metal Standing Seam - 1/16 in. Roofing felt - 1/8 in. Plywood - 3/4 in. Composite-2	N
3.5 Conc Flr With R-1326	Exterior Floor	4,295	Metal	19	N/A	13	U-factor	0.0392	Carpet - 3/4 in. Composite-3 Glass fiber batt - 3 1/2 in. R13 (CEC Default)	N
R-13 Wall69	Interior Wall	790	Wood	13	N/A	N/A	U-factor	0.0852	Gypsum Board - 1/2 in. Composite-4 Acoustic Tile - 3/8 in. Fiber cement board - 88 lb/ft3 - 1/2 in.	N

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

G6A. OPAQUE DOOR SUMMARY (NONRESIDENTIAL)

01	02	03	04
Assembly Name	Area (ft²)	Overall U-factor	Status[1]
Hollow Metal Door10	168	0.7	N

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

G7A. FENESTRATION ASSEMBLY SUMMARY (NONRESIDENTIAL)

01	02	03	04	05	06	07	08	09
Fenestration Assembly Name	Fenestration Type/ Product Type / Frame Type	Certification Method[1]	Assembly Method	Area (ft²)	Overall U-factor	Overall SHGC	Overall VT	Status[2]
Double Metal Tinted	Vertical fenestration Fixed window Metal	Default 110.6	Manufactured	184	0.71	0.6	0.77	N
Double Non Metal Clear	Skylight Fixed window N/A	NFRC	Manufactured	72	0.18	0.7	0.5	N

[1] Notes: 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.)

01	02	03	04	05	06	07	08	09	10	11	12
Equipment Name	Equipment Type	Qty	Heating				Cooling			Economizer Type (if present)	Status[1]
			Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency		
HP_1	Single Package VHP Air System	3	40.62	17.06	COP	3.3	40.33	EER	11	Differential DB	N
HP_2	Single Package VHP Air System	2	23.33	0	COP	3.3	22.47	EER	11.3	Differential DB	N

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

H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13
Name or Item Tag	Qty	Design OA CFM	Supply Fan				Return / Relief Fan					Status[1]
			CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	
HP_1	3	425.6	1,350	0.5	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
HP_2	2	32.63	800	0.33	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N

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

H5. GENERAL EXHAUST FAN SUMMARY

01	02	03	04	05	06	07	08
System ID	Zone Name	Qty	CFM	Power	Power Units	Continuous Operation?	Status[1]
Unconditioned Restrooms63	2-Unconditioned Restrooms	4	109	0.1	BHP	No	N

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

H8. SYSTEM SPECIAL FEATURES

01	02	03	04
System Name	Equipment Type	Interlocks per 140.4(n)[1]	Other Special Features and Controls
HP_1	Single Package VHP Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Differential DB
HP_2	Single Package VHP Air System	N/A	Differential DB

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.

[1] Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.

H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01	02	03	04	05	06	07
Zone Name	Mechanical Ventilation				Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# of People	Supply OA CFM	Exhaust CFM		
1-Conditioned Classrooms	Education - Lecture/postsecondary classroom	84	1276.8	0	3360	DCV
4-WorkRoom / Vestibule	Office - Office space	2.17	65.25	0	435	N/A

H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12
System ID	System Type	Qty	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			VSD
			Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	
1-Conditioned Classrooms-Trm	Uncontrolled	3	N/A	N/A	4,050	N/A	0	N/A	N/A	N/A	☐
4-WorkRoom / Vestibule-Trm	Uncontrolled	2	N/A	N/A	1,600	N/A	0	N/A	N/A	N/A	☐

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO

01	02	03	04	05	06
Occupancy Type[1]	Conditioned Floor Area[2] (ft²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance	
				Area Category Footnotes (Watts)	Area Category Footnotes (Watts)
Classroom, Lecture, or Training Vocational	3360	2016	0	0	0
Office (250 square feet)	435	261	0	0	0
Building Totals:	**3795**	**2277**	**0**	**0**	**0**

[1]See Table 140.6-C
[2]See NRCC-LTI-E for unconditioned spaces
[3]Lighting information for existing spaces modeled is not included in this table

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROL

Building Level Controls

01	02
Mandatory Demand Response 110.12(c)	Shut-Off Controls 130.1(c) & 160.5(b)4C
Required	Required

Area Level Controls (includes all lighting controls installed in conditioned space to meet mandatory requirements per 130.1)

03	04	05	06	07	08	09
Area Description	Area Category Primary Function Area	Area Controls 130.1(a) & 160.5(b)4A	Multi-Level Controls 130.1(b) & 160.5(b)4B	Shut-Off Controls 130.1(c) & 160.5(b)4C	Primary Daylighting 130.1(d) & 160.5(b)4D	Secondary Daylighting 140.5(d) & 160.5(b)4D
Whole Building	All Other Space Types	Required	Required	Required	Required	Required

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections made by Documentation Author 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

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

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections made by Documentation Author 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

Building Component	Form/Title
Envelope	NRCI-ENV-E - Envelope (for all buildings)
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems
Indoor Lighting	NRCI-LTI-01-E - Must be submitted for all buildings
Indoor Lighting	NRCI-LTI-E - Indoor Lighting (for all buildings)
Indoor Lighting	NRCI-LTI-05-E- Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author 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).

Building Component	Form/Title
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration
Indoor Lighting	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls.
Indoor Lighting	NRCA-LTI-03-A - Automatic Daylight Controls.
Mechanical	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
Mechanical	NRCA-MCH-05-A - Air Economizer Controls
Mechanical	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.

N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections made by Documentation Author indicate which Certificates of Verification 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

There are no Certificates of Verification applicable to this project

Documentation Author's Declaration Statement

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

Documentation Author Name: Jeffrey C. Chan-Lugay	Documentation Author Signature: Jeffrey C. Chan-Lugay
Company: SKC Company	Signature Date: 03/30/2024
Address: 15345 Fairfield Ranch Road, Suite #160	CEA/HERS Certification Identification (if applicable): 992118
City/State/Zip: Chino Hills, CA 91709	Phone: (909) 740-3120

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 understand that a registered 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, and I will take the necessary steps to accomplish this requirement.
6. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to accomplish these requirements.

Responsible Designer Name: Sean Khan	Responsible Designer Signature: Sean Khan	
Company: SKC Company		
Address: 15345 Fairfield Ranch Road, Suite #160	Date Signed: 03/30/2024	
City/State/Zip: Chino Hills, CA 91709	License #: 992118	
Phone: 909-740-3120	Title: Executive VP	Scope: Lighting
Responsible Designer Name: Sean Khan	Responsible Designer Signature: Sean Khan	
Company: SKC Company		
Address: 15345 Fairfield Ranch Road, Suite #160	Date Signed: 03/30/2024	
City/State/Zip: Chino Hills, CA 91709	License #: 992118	
Phone: 909-740-3120	Title: Executive VP	Scope: Mechanical

Responsible Designer Name: Sean Khan	Responsible Designer Signature: Sean Khan	
Company: SKC Company		
Address: 15345 Fairfield Ranch Road, Suite #160	Date Signed: 03/30/2024	
City/State/Zip: Chino Hills, CA 91709	License #: 992118	
Phone: 909-740-3120	Title: Executive VP	Scope: Envelope

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL 1279666
GC LIC # 992118 SBE CERTIFIED

ALL DESIGNS INDICATED ON THESE PLANS/DRAWINGS ARE PROPERTY OF SKC, INC AND ARE FOR THE USE BY SKC IN THE SPECIFIED JOB ONLY. THEY SHALL NOT BE USED AND/OR DUPLICATED OR TRANSMITTED IN ANY FORM, FOR ANY PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF SKC, INC. ANY UNAUTHORIZED USE OF THESE PLANS SHALL SUBJECT THE OWNER OF SAID PROPERTY TO LIQUIDATED DAMAGES OF $75,000.00. THESE PLANS ARE PROTECTED UNDER THE PROVISIONS OF THE 1976 COPYRIGHT ACT COPYRIGHT SKC, © ALL RIGHTS RESERVED.

DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
TITLE 24 REPORT

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

REGISTERED PROFESSIONAL ENGINEER
SYED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS
1 -
2 -
3 -
4 -
5 -

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER
M3.1

5/2/2025 12:12:11 PM

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-CXR-E
This document is used to demonstrate compliance with mandatory commissioning requirements in 120.8 for nonresidential buildings and hotel/motel or mixed-use buildings with nonresidential spaces. This document does not demonstrate compliance with commissioning requirements within Title 24, Part 11, which need to be documented separately if they apply.	
Project Name: Douglas Fletcher TK Classrooms	**Report Page:** (Page 1 of 6)
Project Address: 9801 Highland Knolls Drive	**Date Prepared:** 3/30/2024

A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	04	Building Size (ft²)	3795
02	Occupancy Type	Nonresidential	05		< 10,000 ft²
03	Project Type	Newly constructed	06		Unitary or packaged equipment each serving one zone
			07	Climate Zone	13

B. PROJECT SCOPE

Based on project information provided in Table A, Table B indicates which commissioning related requirements apply per 120.8. Table B is not editable by the user.

Commissioning Requirements per 120.8

01	Table F: Design Review Kickoff	120.8(d)1 and 120.8(d)2	The design review kickoff meeting establishes who will play the role of the design reviewer, the project schedule and identify owner's requirements. This meeting should be conducted during schematic design.
02	Table G: Owner's Project Requirements (OPR)	120.8(b)	This requirement does not apply.
03	Table H: Basis of Design (BOD)	120.8(c)	This requirement does not apply.
04	Table I: Design Review	120.8(d) and 120.8(e)	The design reviewer(s) reviews the construction documents for clarity, completeness, and adherence to the owner's goals. Commissioning measures must be included in the construction documents to facilitate the design review and commissioning process. For projects with >= 10,000 ft² of nonresidential conditioned floor area, the design review is for adherence with the Owner's Project Requirements (OPR) and Basis of Design (BOD). This should be conducted during design.
05	Table J: Commissioning Plan	120.8(f)	This requirement does not apply.
06	Table K: Functional Performance Testing	120.8(g)	This requirement does not apply.
07	Table L: Documentation and Training	120.8(h)	This requirement does not apply.
08	Table M: Commissioning Report	120.8(i)	This requirement does not apply.

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-CXR-E
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Project Name: Douglas Fletcher TK Classrooms Report Page: (Page 1 of 6)
Project Address: 9801 Highland Knolls Drive Date Prepared: 3/30/2024
A. GENERAL INFORMATION
01 Project Location (city) Bakersfield 04 Building Size (ft²) 3795
02 Occupancy Type Nonresidential 05 < 10,000 ft²
03 Project Type Newly constructed 06 Unitary or packaged equipment each serving one zone
07 Climate Zone 13
B. PROJECT SCOPE
Based on project information provided in Table A, Table B indicates which commissioning related requirements apply per 120.8. Table B is not editable by the user.
Commissioning Requirements per 120.8
01 Table F: Design Review Kickoff 120.8(d)1 and 120.8(d)2 The design review kickoff meeting establishes who will play the role of the design reviewer, the project schedule and identify owner's requirements. This meeting should be conducted during schematic design.
02 Table G: Owner's Project Requirements (OPR) 120.8(b) This requirement does not apply.
03 Table H: Basis of Design (BOD) 120.8(c) This requirement does not apply.
04 Table I: Design Review 120.8(d) and 120.8(e) The design reviewer(s) reviews the construction documents for clarity, completeness, and adherence to the owner's goals. Commissioning measures must be included in the construction documents to facilitate the design review and commissioning process. For projects with >= 10,000 ft² of nonresidential conditioned floor area, the design review is for adherence with the Owner's Project Requirements (OPR) and Basis of Design (BOD). This should be conducted during design.
05 Table J: Commissioning Plan 120.8(f) This requirement does not apply.
06 Table K: Functional Performance Testing 120.8(g) This requirement does not apply.
07 Table L: Documentation and Training 120.8(h) This requirement does not apply.
08 Table M: Commissioning Report 120.8(i) This requirement does not apply.
Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Report Version: 2022.0.000 Schema Version: rev 20220101
Compliance ID: EnergyPro-42049-0324-10220 Report Generated: 2024-03-30 08:19:27

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-CXR-E
Project Name: Douglas Fletcher TK Classrooms Report Page: (Page 2 of 6)
Date Prepared: 3/30/2024
C. COMPLIANCE RESULTS
Table C will indicate if the project data input into the compliance document is compliant with commissioning requirements per 120.8. This table is not editable by the user. If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

01	02	03	04	05	06	07	08	09
Design Kickoff Review	Owner's Project Requirements	Basis of Design	Design Review	Commissioning Plan	Functional Performance Testing	Documentation and Training	Commissioning Report	
Table F	Table G	Table H	Table I	Table J	Table K	Table L	Table M	
Yes	Yes							COMPLIES
10								COMPLIES

D. EXCEPTIONAL CONDITIONS
This table is auto-filled with uneditable 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.
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Compliance ID: EnergyPro-42049-0324-10220 Report Generated: 2024-03-30 08:19:27

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-CXR-E
Project Name: Douglas Fletcher TK Classrooms Report Page: (Page 3 of 6)
Date Prepared: 3/30/2024
F. DESIGN REVIEW KICKOFF MEETING
This table indicates that the design reviewer meets the qualification requirements per Title 24, Part 1 Section 10-103(a)1 and demonstrates compliance with design review kickoff requirements per 120.8(d)2. This meeting should occur during the Schematic Design phase of the project.
Design Review Kickoff Meeting Details
01 Date of Design Review Kickoff Meeting 0001-01-01
02 Meeting Attendees: (one person may play multiple roles)
☐ Owner/Facility Manager: ☒ Design Reviewer(s) Designer
☐ Project Manager: ☐ Design Architect/ Engineer(s):
☐ Contractor: ☐ Certified Acceptance Test Tech(s):
☐ Commissioning Provider: ☐ Energy/ T24 Part 6 Consultant:
Design Reviewer Qualifications per Title 24 Part 1 Section 10-103(a)1
The design reviewer(s) must be licensed professional engineers or licensed architects, or licensed contractors representing services performed by or under the direct supervision of a licensed engineer or architect, as specified in the provisions of Division 3 of the Business and Professions Code. Do the Design Reviewer(s) meet these qualifications?
03 In addition, for buildings with >= 10,000 ft² but < 50,000², the design reviewer(s) shall be a qualified in-house engineer or architect with no other project involvement or a third party engineer, architect, or contractor Yes ● No ○
04 The design reviewer(s) for this project will be: Designer
Preliminary Construction Schedule

	Start Date	Completion Date
05 Schematic Design	0001-01-01	0001-01-01
06 Design Development	0001-01-01	0001-01-01
07 Construction Documents	0001-01-01	0001-01-01
08 Construction	0001-01-01	0001-01-01
09 Building Turnover	0001-01-01	0001-01-01

Project Goals Related to Energy Efficiency

10 Operational Costs	
11 Desired Building Lifespan	
12 Equipment Lifecycle	
13 Project Energy Efficiency Goals	

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STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-CXR-E
Project Name: Douglas Fletcher TK Classrooms Report Page: (Page 4 of 6)
Date Prepared: 3/30/2024
F. DESIGN REVIEW KICKOFF MEETING

14 Envelope Goals	
15 HVAC System Goals	
16 Indoor Lighting System Goals	
17 Outdoor Lighting System Goals	
18 Water Heating System Goals	
19 Equipment and System Specifications	
20 Operations and Maintenance	

G. OWNER'S PROJECT REQUIREMENTS (OPR)
This section does not apply to this project.
H. BASIS OF DESIGN (BOD)
This section does not apply to this project.
I. CONSTRUCTION DOCUMENT DESIGN REVIEW CHECKLIST
This table is only completed if a design review document is not attached to permit application to demonstrate compliance with 120.8(b) and 120.8(e). For buildings with >= 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the Owner's Project Requirements (Table G.) and the Basis of Design Documents (Table H.). For buildings with < 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the goals documented in Table F. during the Design Review Kickoff.

		YES	NO
01	Attaching Completed Design Review Documentation?	●	○

J. COMMISSIONING PLAN
This section does not apply to this project.
Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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Compliance ID: EnergyPro-42049-0324-10220 Report Generated: 2024-03-30 08:19:27

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-CXR-E
Project Name: Douglas Fletcher TK Classrooms Report Page: (Page 5 of 6)
Date Prepared: 3/30/2024
K. FUNCTIONAL PERFORMANCE TESTING
This section does not apply to this project.
L. DOCUMENTATION AND TRAINING
This section does not apply to this project.
M. COMMISSIONING REPORT
This section does not apply to this project.
N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
There are no forms required for this project.
O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
There are no forms required for this project.
Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Report Version: 2022.0.000 Schema Version: rev 20220101
Compliance ID: EnergyPro-42049-0324-10220 Report Generated: 2024-03-30 08:19:27

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-CXR-E
Project Name: Douglas Fletcher TK Classrooms Report Page: (Page 6 of 6)
Project Address: 9801 Highland Knolls Drive Date Prepared: 3/30/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jeffrey C. Chan-Lugay	Documentation Author Signature: Jeffrey C. Chan-Lugay
Company: SKC Company	Signature Date: 03/30/2024
Address: 15345 Fairfield Ranch Road, Suite #160	CEA/ HERS Certification Identification (if applicable): 992118
City/State/Zip: Chino Hills CA 91709	Phone: (909) 740-3120

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: Sean Khan	Responsible Designer Signature: Sean Khan
Company: SKC Company	Date Signed: 2024-03-30
Address: 15345 Fairfield Ranch Road, Suite #160	License: 992118
City/State/Zip: Chino Hills CA 91709	Phone: 909-740-3120

Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Report Version: 2022.0.000 Schema Version: rev 20220101
Compliance ID: EnergyPro-42049-0324-10220 Report Generated: 2024-03-30 08:19:27

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

ALL DESIGNS INDICATED ON THESE PLANS/DRAWINGS ARE PROPERTY OF SKC, INC AND ARE FOR THE USE BY SKC IN THE SPECIFIED JOB ONLY. THEY SHALL NOT BE USED AND/OR DUPLICATED OR TRANSMITTED IN ANY FORM, FOR ANY PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF SKC, INC. ANY UNAUTHORIZED USE OF THESE PLANS SHALL SUBJECT THE OWNER OF SAID PROPERTY TO LIQUIDATED DAMAGES OF $75,000.00. THESE PLANS ARE PROTECTED UNDER THE PROVISIONS OF THE 1976 COPYRIGHT ACT COPYRIGHT SKC, © ALL RIGHTS RESERVED.

DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
TITLE 24 REPORT

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

REGISTERED PROFESSIONAL ENGINEER
SYED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS
1 -
2 -
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4 -
5 -

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER
M3.2

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HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024
System Name: HP_1 | Floor Area: 3,360

ENGINEERING CHECKS

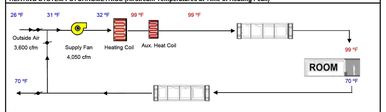
Number of Systems	3
Heating System	
Output per System	39,000
Total Output (Btuh)	117,000
Output (Btuh/sqft)	34.8
Cooling System	
Output per System	42,000
Total Output (Btuh)	126,000
Total Output (Tons)	10.5
Total Output (Btuh/sqft)	37.5
Total Output (sqft/Ton)	320.0
Air System	
CFM per System	1,350
Airflow (cfm)	4,050
Airflow (cfm/sqft)	1.21
Airflow (cfm/Ton)	385.7
Outside Air (%)	88.9%
Outside Air (cfm/sqft)	1.07

SYSTEM LOAD

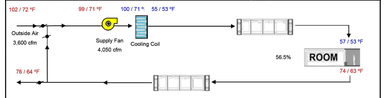
	COIL COOLING PEAK CFM	Sensible	Latent	COIL HTG. PEAK CFM	Sensible
Total Room Loads	7,512	138,611	42,187	1,065	32,360
Return Vented Lighting		0			0
Return Air Ducts		6,931			1,618
Return Fan		0			0
Ventilation	3,600	100,817	-1,686	3,600	166,669
Supply Fan		4,605			-4,605
Supply Air Ducts		6,931			1,618
TOTAL SYSTEM LOAD		257,894	40,501		197,660
HVAC EQUIPMENT SELECTION					
Bard W42HC		130,640	0		73,075
HP Supplemental Coil					51,183
Total Adjusted System Output (Adjusted for Peak Design conditions)		130,640	0		124,258
TIME OF SYSTEM PEAK		Jul 3 PM			Jan 1 AM

Note: values above given at ARI conditions

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024
System Name: HP_2 | Floor Area: 435

ENGINEERING CHECKS

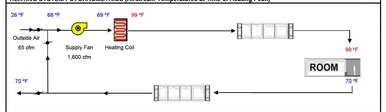
Number of Systems	2
Heating System	
Output per System	22,400
Total Output (Btuh)	44,800
Output (Btuh/sqft)	103.0
Cooling System	
Output per System	23,400
Total Output (Btuh)	46,800
Total Output (Tons)	3.9
Total Output (Btuh/sqft)	107.6
Total Output (sqft/Ton)	111.5
Air System	
CFM per System	800
Airflow (cfm)	1,600
Airflow (cfm/sqft)	3.68
Airflow (cfm/Ton)	410.3
Outside Air (%)	4.1%
Outside Air (cfm/sqft)	0.15

SYSTEM LOAD

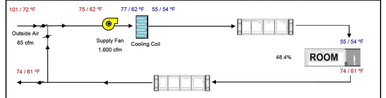
	COIL COOLING PEAK CFM	Sensible	Latent	COIL HTG. PEAK CFM	Sensible
Total Room Loads	386	7,694	967	83	2,558
Return Vented Lighting		0			0
Return Air Ducts		385			128
Return Fan		0			0
Ventilation	65	1,853	436	65	3,042
Supply Fan		2,028			-2,028
Supply Air Ducts		385			128
TOTAL SYSTEM LOAD		12,342	1,403		3,830
HVAC EQUIPMENT SELECTION					
Bard W24HB-A		34,441	7,661		27,981
Total Adjusted System Output (Adjusted for Peak Design conditions)		34,441	7,661		27,981
TIME OF SYSTEM PEAK		Jul 2 PM			Jan 1 AM

Note: values above given at ARI conditions

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



ZONE LOAD SUMMARY

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024
System Name: HP_1 | Floor Area: 3,360

ZONE LOAD SUMMARY

ZONE NAME	SYSTEM NAME	ZONAL SYSTEM Mult.	CFM	Sensible	Latent	Heating	OA CFM	COOLING PEAK Peak Hr	CFM	Sensible	Latent	HEATING PEAK CFM	Sensible
Conditioned Classrooms		1.0					3,600	Jul 3 PM	7,512	245,589	61,106	1,065	200,468
TOTALS		0	0	0	0	4,036		Jul 3 PM		245,589	61,106		200,468

(BLOCK LOAD)

ZONE LOAD SUMMARY

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024
System Name: HP_2 | Floor Area: 435

ZONE LOAD SUMMARY

ZONE NAME	SYSTEM NAME	ZONAL SYSTEM Mult.	CFM	Sensible	Latent	Heating	OA CFM	COOLING PEAK Peak Hr	CFM	Sensible	Latent	HEATING PEAK CFM	Sensible
Work/Room / Vestibule		1.0					65	Jul 2 PM	386	9,562	1,312	83	5,605
TOTALS		0	0	0	0	65		Jul 2 PM		9,562	1,312		5,605

(BLOCK LOAD)

ROOM LOAD SUMMARY

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024
System Name: HP_1 | Floor Area: 3,360

ROOM LOAD SUMMARY

Zone Name	Room Name	Mult.	ROOM COOLING PEAK CFM	Sensible	Latent	COIL COOLING PEAK CFM	Sensible	Latent	COIL HTG. PEAK CFM	Sensible
Conditioned Classrooms	Classroom 101	1	2,559	47,144	14,062	2,510	46,325	14,062	361	10,960
	Classroom 102	1	2,459	45,383	14,062	2,418	44,619	14,062	313	9,503
	Classroom 103	1	2,583	47,668	14,062	2,583	47,668	14,062	392	11,896
PAGE TOTAL			7,512	138,611	42,187	7,512	138,611	42,187	1,065	32,360
TOTAL *			7,512	138,611	42,187	7,512	138,611	42,187	1,065	32,360

* Total includes ventilation load for zonal systems.

ROOM LOAD SUMMARY

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024
System Name: HP_2 | Floor Area: 435

ROOM LOAD SUMMARY

Zone Name	Room Name	Mult.	ROOM COOLING PEAK CFM	Sensible	Latent	COIL COOLING PEAK CFM	Sensible	Latent	COIL HTG. PEAK CFM	Sensible
Work/Room / Vestibule	Vestibule 104	1	84	1,666	220	84	1,666	220	14	437
	Work/Room 107	1	171	3,416	419	171	3,416	419	41	1,266
	Vstibule 108	1	33	653	80	33	653	80	5	159
	Work/Room 110	1	98	1,959	248	98	1,959	248	23	697
PAGE TOTAL			386	7,694	967	386	7,694	967	83	2,558
TOTAL *			386	7,694	967	386	7,694	967	83	2,558

* Total includes ventilation load for zonal systems.

ROOM HEATING PEAK LOADS

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024

ROOM INFORMATION

Room Name	Classroom 101
Floor Area	1,120.00 ft²
Indoor Dry Bulb Temperature	70 °F

DESIGN CONDITIONS

Time of Peak	Jan 1 AM
Outdoor Dry Bulb Temperature	26 °F

Conduction	Area	U-Value	ΔT °F	Btu/hr
R-19 Wood Studs	972.0	0.0720	44	3,079
Double Metal Tinted	64.0	0.7100	44	1,999
Hollow Metal Door	42.0	0.7000	44	1,294
R-30 Metal Roof	1,096.0	0.0486	44	2,346
Double Non Metal Clear	24.0	0.1800	44	190
3.5" Conc Flr With R-13	1,120.0	0.0416	44	2,052

Items shown with an asterisk (*) denote conduction through an interior surface to another room — Page Total: 10,960

Infiltration: [1.00 Schedule Fraction] x [1.061 Air Sensible] x [1,120 Area] x [9.00 Ceiling Height] x [0.000 ACH] / 60] x [44 ΔT] = 0

TOTAL HOURLY HEAT LOSS FOR ROOM: 10,960

ROOM HEATING PEAK LOADS

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024

ROOM INFORMATION

Room Name	Classroom 102
Floor Area	1,120.00 ft²
Indoor Dry Bulb Temperature	70 °F

DESIGN CONDITIONS

Time of Peak	Jan 1 AM
Outdoor Dry Bulb Temperature	26 °F

Conduction	Area	U-Value	ΔT °F	Btu/hr
R-19 Wood Studs	512.0	0.0720	44	1,622
Double Metal Tinted	64.0	0.7100	44	1,999
Hollow Metal Door	42.0	0.7000	44	1,294
R-30 Metal Roof	1,096.0	0.0486	44	2,346
Double Non Metal Clear	24.0	0.1800	44	190
3.5" Conc Flr With R-13	1,120.0	0.0416	44	2,052

Items shown with an asterisk (*) denote conduction through an interior surface to another room — Page Total: 9,503

Infiltration: [1.00 Schedule Fraction] x [1.061 Air Sensible] x [1,120 Area] x [9.00 Ceiling Height] x [0.000 ACH] / 60] x [44 ΔT] = 0

TOTAL HOURLY HEAT LOSS FOR ROOM: 9,503

ROOM HEATING PEAK LOADS

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024

ROOM INFORMATION

Room Name	Vestibule 104
Floor Area	110.00 ft²
Indoor Dry Bulb Temperature	70 °F

DESIGN CONDITIONS

Time of Peak	Jan 1 AM
Outdoor Dry Bulb Temperature	26 °F

Conduction	Area	U-Value	ΔT °F	Btu/hr
Wall	110.0	0.0977	0	0
R-30 Metal Roof	110.0	0.0486	44	235
3.5" Conc Flr With R-13	110.0	0.0416	44	202

Items shown with an asterisk (*) denote conduction through an interior surface to another room — Page Total: 437

Infiltration: [1.00 Schedule Fraction] x [1.061 Air Sensible] x [110 Area] x [9.00 Ceiling Height] x [0.000 ACH] / 60] x [44 ΔT] = 0

TOTAL HOURLY HEAT LOSS FOR ROOM: 437

ROOM HEATING PEAK LOADS

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024

ROOM INFORMATION

Room Name	WorkRoom 107
Floor Area	179.00 ft²
Indoor Dry Bulb Temperature	70 °F

DESIGN CONDITIONS

Time of Peak	Jan 1 AM
Outdoor Dry Bulb Temperature	26 °F

Conduction	Area	U-Value	ΔT °F	Btu/hr
Wall	152.0	0.0977	0	0
R-30 Metal Roof	179.0	0.0486	44	383
3.5" Conc Flr With R-13	179.0	0.0416	44	328
R-19 Wood Studs	175.0	0.0720	44	554

Items shown with an asterisk (*) denote conduction through an interior surface to another room — Page Total: 1,266

Infiltration: [1.00 Schedule Fraction] x [1.061 Air Sensible] x [179 Area] x [9.00 Ceiling Height] x [0.000 ACH] / 60] x [44 ΔT] = 0

TOTAL HOURLY HEAT LOSS FOR ROOM: 1,266

ROOM HEATING PEAK LOADS

Project Name: Douglas Fletcher TK Classrooms | Date: 3/30/2024

ROOM INFORMATION

Room Name	Vstibule 108
Floor Area	40.00 ft²
Indoor Dry Bulb Temperature	70 °F

DESIGN CONDITIONS

Time of Peak	Jan 1 AM
Outdoor Dry Bulb Temperature	26 °F

Conduction	Area	U-Value	ΔT °F	Btu/hr
Wall	40.0	0.0977	0	0
R-30 Metal Roof	40.0	0.0486	44	86
3.5" Conc Flr With R-13	40.0	0.0416	44	73

Items shown with an asterisk (*) denote conduction through an interior surface to another room — Page Total: 159

Infiltration: [1.00 Schedule Fraction] x [1.061 Air Sensible] x [40 Area] x [9.00 Ceiling Height] x [0.000 ACH] / 60] x [44 ΔT] = 0

TOTAL HOURLY HEAT LOSS FOR ROOM: 159

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #IM1279666 GC LIC # 992118
DEALER # DL1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
TITLE 24 REPORT

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1 -
2 -
3 -
4 -
5 -

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

M3.3

5/2/2025 12:22:21 PM

ROOM HEATING PEAK LOADS

Project Name: *Douglas Fletcher TK Classrooms* — Date: *3/30/2024*

ROOM INFORMATION		DESIGN CONDITIONS	
Room Name	*WorkRoom 110*	**Time of Peak**	*Jan 1 AM*
Floor Area	*106.00 ft²*	**Outdoor Dry Bulb Temperature**	*26 °F*
Indoor Dry Bulb Temperature	*70 °F*		

Conduction	Area		U-Value		ΔT °F		Btu/hr
**R-13 Wall*	*106.0*	X	*0.0977*	X	*0*	=	*0*
R-30 Metal Roof	*106.0*	X	*0.0486*	X	*44*	=	*227*
3.5" Conc Flr With R-13	*106.0*	X	*0.0416*	X	*44*	=	*194*
R-19 Wood Studs	*87.0*	X	*0.0720*	X	*44*	=	*276*
		X		X		=	
		X		X		=	
		X		X		=

WIRELESS CONTROLS

'LUTRON' 434 MHZ PICO WIRELESS CONTROL (BATTERY OPERATED, 10 YR MAX BATTERY LIFE) MODEL #PJ2-2BRL-GWH-L01, WALL MOUNT, 2-BUTTON CONTROL WITH RAISE/LOWER DIMMING CAPABILITIES. CONTROLS MUST BE COMBINED WITH 'LUTRON' VIVE POWPAK MODEL #RMJS-8T-DV-B DIMMING MODULE WITH 0-10V CONTROL. SWITCH SHALL COMPLY WITH ENERGY CODE SECTION 130.1(b). SWITCH MAYBE SUBSTITUTED FOR AN APPROVED EQUAL

(D) 'LUTRON' RADIO POWR SAVR WIRELESS DAYLIGHT SENSOR (BATTERY OPERATED, 10 YR MAX BATTERY LIFE) MODEL #LRF2-DCRB-WH. SENSOR MUST BE COMBINED WITH 'LUTRON' VIVE POWPAK MODEL #RMJS-8T-DV-B DIMMING MODULE WITH 0-10V CONTROL. SENSOR MUST BE COMPATIBLE WITH WIRELESS CONTROL. SENSOR SHALL COMPLY WITH ENERGY CODE SECTION 130.1(d)2. SENSOR MAYBE SUBSTITUTED FOR AN APPROVED EQUAL

LIGHTING LEGEND & SYMBOLS

SYMBOL	DESCRIPTION
	'EX-LITE' MODEL #FP24-50W-EM, 2'x4' EMERGENCY LED DROP IN LIGHT FIXTURE WITH 90 MIN BATTERY BACK-UP, WEIGHT 27 LBS, 50 WATT MAX TUNABLE, 5000K COLOR TEMP TUNABLE. BLOCK-OUT FOR RECESSED MOUNT AT DRYWALL APPLICATION
	'EX-LITE' MODEL #FP24-50W, 2'x4' LED DROP IN LIGHT FIXTURE WITH, WEIGHT 27 LBS, 50 WATT MAX TUNABLE, 5000K COLOR TEMP TUNABLE. BLOCK-OUT FOR RECESSED MOUNT AT DRYWALL APPLICATION
EXIT	SURFACE MOUNTED CEILING DOUBLE FACE EXIT SIGN (UNIVERSAL ARROWS INDICATED AS NEEDED)
	EMERGENCY LIGHT W/ 90 MIN BATTERY BACK-UP PACK
EXIT	WALL OR CEILING MOUNTED LIGHTED EXIT SIGN W/ 90 MIN BATTERY BACK-UP PACK @ +2" ABOVE FLOOR BASE (AS APPLICABLE)
EXIT	WALL OR CEILING MOUNTED EMERGENCY EXIT LIGHT W/ 90 MIN BATTERY BACK-UP PACK
	EXTERIOR LIGHT: CTL #LWP15BZ/DL/P, 15 WATTS, SURFACE MOUNTED AT 80" MIN A.F.F. TO BOTTOM OF LIGHT UNO, CONTROLLED BY PHOTOCELL
	EXTERIOR LIGHT WITH 90 MIN BATTERY BACK-UP PACK: MULE LIGHTING #MERU-LED-ACEM-DB, 17 WATTS, SURFACE MOUNTED AT 80" MIN A.F.F. TO BOTTOM OF LIGHT UNO, CONTROLLED BY PHOTOCELL
	MANUAL DIMMING WITH COMBINED BUILT-IN OCCUPANCY SENSOR: LUTRON 'MAESTRO' MS-Z101. THIS IS SWITCH IS APPLICABLE FOR DIMMING LED BULB, CFL BULB, INCANDESCENT AND DIMMABLE FLUORESCENT BALLAST WITH MAX 20 FT RANGE FROM WALL. REFER TO CATALOG CUT SHEET FOR ADDITIONAL INFORMATION. INSTALL PER MOUNTING HEIGHT DETAIL UNO. SWITCH SHALL COMPLY WITH ENERGY CODE SECTION 130.1(b). SWITCH MAYBE SUBSTITUTED FOR AN APPROVED EQUAL
	MANUAL DIMMING (CAN BE COMBINED WITH CEILING MOUNTED OCCUPANCY SENSOR): LUTRON 'DIVA' DVSTV-XX. THIS IS SWITCH IS APPLICABLE FOR DIMMING LED BULB, CFL BULB, INCANDESCENT AND DIMMABLE FLUORESCENT BALLAST. APPROX 1500 SQ FT COVERAGE 360° HAS A 3-WAY SWITCHING CAPABILITIES. REFER TO CATALOG CUT SHEET FOR ADDITIONAL INFORMATION. INSTALL PER MOUNTING HEIGHT DETAIL UNO. SWITCH SHALL COMPLY WITH ENERGY CODE SECTION 130.1(b). SWITCH MAYBE SUBSTITUTED FOR AN APPROVED EQUAL

POWER LEGEND & SYMBOLS

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE OUTLET (20 AMPS, 125 VOLTS). INSTALL PER MOUNTING HEIGHT DETAIL U.N.O.
GFI	DUPLEX RECEPTACLE OUTLET (20 AMPS, 125 VOLTS GFI TYPE). INSTALL PER MOUNTING HEIGHT DETAIL U.N.O.
WP	WEATHERPROOF DUPLEX RECEPTACLE OUTLET (20 AMPS, 125 VOLTS GFI TYPE). INSTALL PER MOUNTING HEIGHT DETAIL.
	RECESSED CEILING MOUNTED DUPLEX RECEPTACLE OUTLET, CONVENIENCE (20 AMPS, 125 VOLTS)
DED	DUPLEX RECEPTACLE OUTLET ON DEDICATED CIRCUIT (20 AMPS, 125 VOLTS). INSTALL PER MOUNTING HEIGHT DETAIL.
WP	WATER PROOF JUNCTION BOX WITH COVER
J	WALL JUNCTION BOX
	CLOCK W/CLOCK OUTLET @ +8'-0"
M	'WATTSTOPPER MODEL #DT300 CEILING MOUNTED OCCUPANCY MOTION SENSOR
	BRANCH PANEL BOARD, WALL MOUNTED, SEE PLANS AND SCHEDULE (RECESSED MOUNTED)
	EXHAUST FAN - SEE MECHANICAL PLANS FOR SCHEDULE

LOW VOLTAGE LEGEND & SYMBOLS

SYMBOL	DESCRIPTION
S	OUTDOOR WEATHER PROOF SPEAKER
SP	CEILING MOUNTED SPEAKER
	HOME RUN TO DESTINATION AS INDICATED. REFER TO CONDUIT SYMBOL ABOVE
	CEILING MOUNTED STROBE OR SPEAKER
	WALL MOUNTED STROBE OR SPEAKER. INSTALL PER MOUNTING DETAIL UNO
	EXT. AUDIBLE NOTIFICATION DEVICE J-BOX W/ 3/4"Ø CONDUIT AT +90" A.F.F.
S	SMOKE DETECTOR AT CEILING
	DATA OUTLET
	PHONE OUTLET
	DATA/VOICE OUTLET
J	CEILING MOUNTED JUNCTION BOX
	CEILING MOUNTED DATA BOX
	CEILING MOUNTED VOICE DATA BOX

GENERAL NOTES

1. ALL FIRE ALARM SHOULD BE HOMERUN TO SINGLE POINT OF CONNECTION W/ 3/4" CO (UNO)
2. ALL LOW VOLTAGE CONDUIT RUNS ARE STUBBED FROM OUTLET BOX TO ATTIC SPACE (UNO). USE 1"Ø CO FOR ALL OUTLET STUBS (UNO)
3. ALL WIRING & DEVICES FOR LOW VOLTAGE SYSTEMS INCLUDING BUT NOT LIMITED TOO FIRE ALARM SYSTEMS ARE BY OTHERS
4. VERIFY ALL FIRE ALARM DEVICE LOCATION W/ AOR'S ELECTRICAL DWG'S FOR PROJECT SPECIFIC DESIGN
5. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND SCOPE OF WORK. MAINTAIN HEADROOM AND MINIMUM CODE REQUIRED WORKING CLEARANCES AT ALL TIMES
6. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL WALL OUTLET BOXES FOR SWITCHES, BELL/STROBES, FIRE ALARM PULL STATIONS, RECEPTACLES ETC WITH CABINETS, FURNITURE, EQUIPMENT ETC, TO AVOID CONFLICT
7. SEE MECHANICAL AND PLUMBING DRAWINGS AND SPECIFICATION FOR ADDITIONAL CONNECTION REQUIREMENTS TO CONTROL PANELS, CONTROL TRANSFORMERS, POWER FOR CONTROL SYSTEM EP AND PE SWITCHES, TIME CLOCKS, VALVES, T-STATS, RELAYS, DUCT SMOKE DETECTOR LOCATIONS, ETC. INDICATED ON CONTROL WIRING DIAGRAMS. ELECTRICAL CONTRACTOR SHALL VERIFY FINAL CONTROL WIRING REQUIREMENTS PRIOR TO ANY WORK AND PROVIDE ALL NECESSARY DEVICES AND CONNECTIONS AS REQUIRED
8. ALL EXTERIOR ELECTRICAL DEVICES AND EQUIPMENT INCLUDING THOSE THAT ARE EXPOSED TO OUTSIDE ENVIRONMENT (UP TO 16') SHALL BE WEATHERPROOF TYPE, NEMA 3R
9. ALL ELECTRICAL POWER LIGHTING, TELEPHONE OR SIGNAL WIRING IN FIRE RATED WALL IS TO BE INSTALLED IN A METALLIC CONDUIT SYSTEM
10. ALL ELECTRIC MATERIAL SHALL BE LISTED BY "UL" FOR THE TYPE OF APPLICATION AND "UL" LABEL SHALL APPEAR ON ALL ELECTRICAL EQUIPMENT.
11. ALL DISTRIBUTION AND CONTROL EQUIPMENT (SUCH AS CB's, SWITCHES, CONTRACTORS, ETC), TERMINATIONS SHALL BE FULLY RATED PER UL AS FOLLOWS:
    a. 125A OR LESS : 60°C OR MORE
    b. MORE THAN 125A : 75°C OR MORE
12. REFER TO ENERGY CODE TABLE 140.6-A FOR LIGHTING CONTROL TYPES
13. LIGHTING CONTROLS ACCEPTANCE TEST MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT). MECHANICAL SYSTEM ACCEPTANCE TEST MUST BE PERFORMED BE A CERTIFIED MECHANICAL ATT FOR PROJECT SUBMITTED ON OR AFTER OCTOBER 1, 2021. A LISTING OF CERTIFIED ATT'S CAN BE FOUND AT:

    HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER- PROGRAM/ACCEPTANCE

    THE ACCEPTANCE TESTING PROCEDURE MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORMS AND PASS THE REQUIRED ACCEPTANCE CRITERIA. PROJECT INSPECTORS WILL BE COLLECTING THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TEST HAVE BEEN COMPLETED

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # CL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

ELECTRICAL
LEGENDS & DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

NOTES

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 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 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 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE 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 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G. OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

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

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

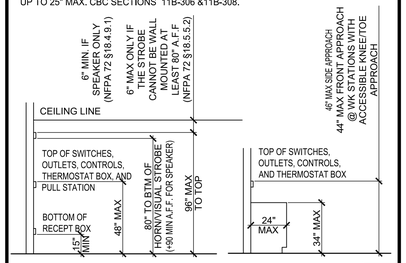
FIRE ALARM NOTES

1. FIRE ALARM SYSTEM SHALL COMPLY WITH 2022 CBC CHAPTER 9 SECTION 907.2.3.7 TITLE 24, PART 3, ARTICLE 760 OF THE CALIFORNIA ELECTRICAL CODE,
2. INSTALLATION OF FIRE ALARM SYSTEM SHALL NOT BE STARTED UNTIL DETAIL PLANS, SPECIFICATIONS AND ENGINEERING CALCULATIONS HAVE BEEN ACCEPTED AND SIGNED BY THE ARCHITECT OR STRUCTURAL ENGINEER IN GENERAL CHARGE OF DESIGN. THE SIGNATURE OF THE ARCHITECT OR PROFESSIONAL ENGINEER WHO HAS BEEN DELEGATED RESPONSIBILITY COVERING THE WORK SHOWN ON A PARTICULAR PLAN OR SPECIFICATION, MUST BE APPROVED BY THE DIVISION OF THE STATE ARCHITECT AND STATE FIRE MARSHALL, PER CFC SECTION 907.1.2 & DSA POLICY GL-2
3. 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 THE FIRE PANEL/EXTENDERS, NFPA 72 SECTION 10.6.5.2, 10.6.5.2.2, 10.6.5.2.3, 10.6.5.2.4 & 10.6.5.4
4. UPON COMPLETION OF THE INSTALLATION OF THE PROTECTIVE SIGNALING EQUIPMENT, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE ENFORCING FIRE AGENCY.
5. ALARMS, SECTION 907, CALIFORNIA FIRE CODE. IF EMERGENCY WARNING SYSTEMS ARE REQUIRED, THEY SHALL ACTIVATE A MEANS OF WARNING THE HEARING IMPAIRED. PER NFPA 72 §18.5.3.1: FLASHING VISUAL WARNING SHALL HAVE A FLASH RATE OF NOT LESS THAN 1 FLASH PER SECOND AND NOT MORE THAN 2 FLASHES EVERY SECOND. LOCATE PER CFC 907.5.2.3 & NFPA 72
6. EMERGENCY VOICE COMMUNICATION PER 2022 CBC 907.2.3. SMOKE DETECTORS TO BE 3' FROM DIFFUSERS.

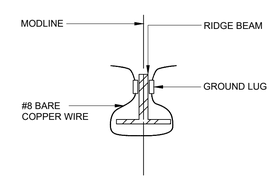
GENERAL NOTES CONT:

14. ACCEPTANCE TESTS SHALL BE COMPLETED ON NEWLY INSTALLED OR REPLACEMENT OF LIGHTING CONTROLS BEFORE PROJECT COMPLETION PER THE CALIFORNIA ENERGY CODE SECTION 10-103. ACCEPTANCE TEST MUST BE PERFORMED BY A CERTIFIED ACCEPTANCE TEST TECHNICIAN (ATT). THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES CORRECTED UNTIL THE INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA. COMPLETED NRCA FORMS SHALL BE SUBMITTED TO THE PROJECT INSPECTOR AND THE DISTRICT

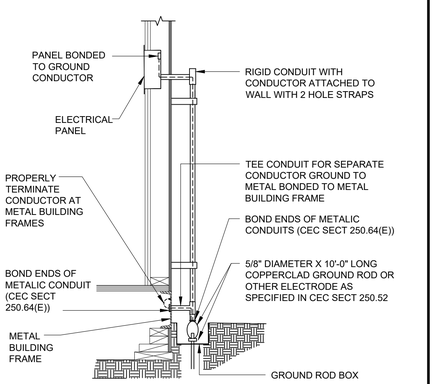
NOTE:
FORWARD OR FRONT APPROACH FOR DEVICES MOUNTED ABOVE COUNTER ASSUMES THAT DIRECTLY BELOW THE DEVICE THE COUNTER HAS A 30" MIN WIDTH x 27" MINIMUM HIGH X A DEPTH AS DEEP AS THE DEVICE FROM COUNTER FRONT UP TO 25" MAX. CBC SECTIONS 11B-308 &11B-308.



MOUNTING HEIGHT DETAIL 2



MODULE BONDING 3



(REFER TO CEC SECTION 250.50 FOR THE ITEMS BELOW AND DSA IR E-1)

NOTES:
1. SIZE OF CONDUCTORS SHALL COMPLY WITH CEC TABLE 250.66
2. BOND SEPARATE CONDUCTORS FROM GROUND ROD TO ELECTRICAL PANEL AND TO METAL BUILDING FRAME. IN ADDITION TO THE DETAIL SHOWN ABOVE, BOND THE ELECTRICAL GROUND TO METAL UNDERGROUND WATER PIPE IN DIRECT CONTACT WITH THE EARTH FOR 10 FT OR MORE, IF AVAILABLE (CEC 250.52), EXCEPT FIRE SPRINKLER SYSTEM PIPING.
3. ALL MODULES OF METAL FRAME BUILDINGS SHALL BE ELECTRICALLY BONDED TOGETHER. (BOLTING ONLY IS NOT ACCEPTABLE BONDING).
4. CHECK RESISTANCE TO GROUND. IF RESISTANCE EXCEEDS 25 OHMS, INSTALL ADDITIONAL GROUND ROD GREATER THAN SIX FEET AWAY (CEC 250.53(A)). ONCE THE SECOND GROUND ROD IS INSTALLED, ADDITIONAL GROUND RESISTANCE TESTING IS NOT REQUIRED.
5. WHERE MODULAR BUILDING ARE GROUPED TOGETHER, A GROUND ROD MAY BE INSTALLED AT THE END BUILDINGS AND A GROUND RING MAY BE INSTALLED BETWEEN THEM. EACH INTERMEDIATE MODULAR BUILDING MAY BE BONDED TO THAT GROUND RING. WHERE THIS METHOD IS USED, GROUND RESISTANCE TESTING SHALL NOT BE REQUIRED
6. WHERE MODULAR BUILDINGS ARE INSTALLED ON CONCRETE FOUNDATIONS, A UFER GROUND SHALL BE INSTALLED IN THE FOOTING PER (CEC 250.52 (A) (3))
7. OTHER GROUNDING METHODS IDENTIFIED IN CEC 250 SHALL BE ACCEPTABLE MEANS TO ACHIEVE ADEQUATE GROUNDING OF METAL BUILDINGS IN COMPLIANCE WITH THE ABOVE

ACCEPTABLE GROUNDING DETAIL
NOT BY BUILDING MANUFACTURER 1

PROJECT SPECIFIC PROFESSIONAL OF RECORD

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

E0.0

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LOAD CENTER SCHEDULE — PANEL A

VOLTS 120/240 | PHASE 1 | BUSS 100 A | FEED WALL
MAIN BRKR 100 A | WIRE 3 | MOUNT RECESSED | LOCATION INTERIOR

DESCRIPTION	WATTS AØ	WATTS BØ	WIRE SIZE	BREAKER	POLE	CKT. NO.	A	B	CKT. NO.	POLE	BREAKER	WIRE SIZE	WATTS AØ	WATTS BØ	DESCRIPTION
HEAT PUMP WM (4TON)	3795	-	6	70	2	1			2	1	20	12	448	-	LIGHTS / EXIT / EXT. LTS.
HEAT PUMP WM (4 TON)	-	3795	-	-	-	3			4	1	20	12	-	497.3	LIGHTS / EXIT / EXT. LTS.
EXT RECEPT	180	-	12	20	1	5			6	1	20	12	42	-	EXTERIOR LIGHTS
TAMPER SWITCH	-	360	12	20	1	7			8	1	20	12	-	1260	RECEPTS/ DATA
-	-	-	-	-	-	9			10	1	20	12	1260	-	RECEPTS/ DATA
-	-	-	-	-	-	11			12	-	-	-	-	600	*F.A.C.P.
SUB TOTAL	3975	3795											1700	2210	SUB TOTAL

LOAD
A 5,675
B 6,005
TOTAL 11,680

L.C.L: 880 x 25% = 220
25% LARGEST MOTOR = 3,120
TOTAL DEMAND = 11,680
20% FUTURE LOAD = 11,680 X 20% = 2,336
TOTAL LOAD DEMAND + FUTURE LOAD = 11,680 + 2,336 = 14,016
MAX DEMAND = 14,016 / 240

TOTAL LOAD
MAX DEMAND W/O FUTURE LOAD 49 AMPS
MAX DEMAND 59 AMPS

*LABEL & LOCK ON DEVICE

LOAD CENTER SCHEDULE — PANEL B

VOLTS 120/240 | PHASE 1 | BUSS 200 A | FEED WALL
MAIN BRKR 200 A | WIRE 3 | MOUNT RECESSED | LOCATION INTERIOR

DESCRIPTION	WATTS AØ	WATTS BØ	WIRE SIZE	BREAKER	POLE	CKT. NO.	A	B	CKT. NO.	POLE	BREAKER	WIRE SIZE	WATTS AØ	WATTS BØ	DESCRIPTION
HEAT PUMP WM (4TON)	3795	-	6	70	2	1			2	1	20	12	251	-	LIGHTS / EXIT / EXT. LTS.
HEAT PUMP WM (4 TON)	-	3795	-	-	-	3			4	1	20	12	-	300	LIGHTS / EXIT / EXT. LTS.
EXT RECEPT	180	-	12	20	1	5			6	1	20	12	42	-	EXTERIOR LIGHTS
FOR FUTURE SOLAR ELECTRIC	-	TBD	-	TBD	2	7			8	1	20	12	-	1620	RECEPTS
FOR FUTURE SOLAR ELECTRIC	TBD	-	-	-	-	9			10	1	20	12	900	-	RECEPTS/ DATA
HAND DRYER	-	180	12	20	1	11			12	-	-	-	-	-	*
-	-	-	-	-	-	13			14	-	-	-	-	-	
-	-	-	-	-	-	15			16	-	-	-	-	600	*F.A.C.P.
SUB TOTAL	3975	3795											1340	2570	SUB TOTAL

LOAD
A 5,315
B 6,365
TOTAL 11,680

L.C.L: 880 x 25% = 220
25% LARGEST MOTOR = 3,120
TOTAL DEMAND = 11,680
20% FUTURE LOAD = 11,680 X 20% = 2,336
TOTAL LOAD DEMAND + FUTURE LOAD = 11,680 + 2,336 = 14,016
MAX DEMAND = 14,016 / 240

TOTAL LOAD
MAX DEMAND W/O FUTURE LOAD 49 AMPS
MAX DEMAND 59 AMPS

*LABEL & LOCK ON DEVICE

LOAD CENTER SCHEDULE — PANEL C

VOLTS 120/240 | PHASE 1 | BUSS 100 A | FEED WALL
MAIN BRKR 100 A | WIRE 3 | MOUNT RECESSED | LOCATION INTERIOR

DESCRIPTION	WATTS AØ	WATTS BØ	WIRE SIZE	BREAKER	POLE	CKT. NO.	A	B	CKT. NO.	POLE	BREAKER	WIRE SIZE	WATTS AØ	WATTS BØ	DESCRIPTION
HEAT PUMP WM (4TON)	3795	-	6	70	2	1			2	1	20	12	495	-	LIGHTS / EXIT / EXT. LTS.
HEAT PUMP WM (4 TON)	-	3795	-	-	-	3			4	1	20	12	-	400	LIGHTS / EXIT / EXT. LTS.
EXT RECEPT	180	-	12	20	1	5			6	1	20	12	84	-	EXTERIOR LIGHTS
INSTA-HOT	-	3500	10	30	1	7			8	1	20	12	-	1440	RECEPTS
HAND DRYER	180	-	12	20	1	9			10	1	20	12	1440	-	RECEPTS/ DATA
WC-1 SENSOR	-	180	12	20	1	11			12	-	-	-	-	-	
-	-	-	-	-	-	13			14	-	-	-	-	-	
-	-	-	-	-	-	15			16	-	-	-	-	600	*F.A.C.P.
SUB TOTAL	3975	3795											2019	2440	SUB TOTAL

LOAD
A 5,994
B 7,295
TOTAL 13,289

L.C.L: 880 x 25% = 220
25% LARGEST MOTOR = 3,120
TOTAL DEMAND = 13,289
20% FUTURE LOAD = 13,289 X 20% = 2,658
TOTAL LOAD DEMAND + FUTURE LOAD = 13,289 + 2,658 = 15,947
MAX DEMAND = 15,947 / 240

TOTAL LOAD
MAX DEMAND W/O FUTURE LOAD 56 AMPS
MAX DEMAND 67 AMPS

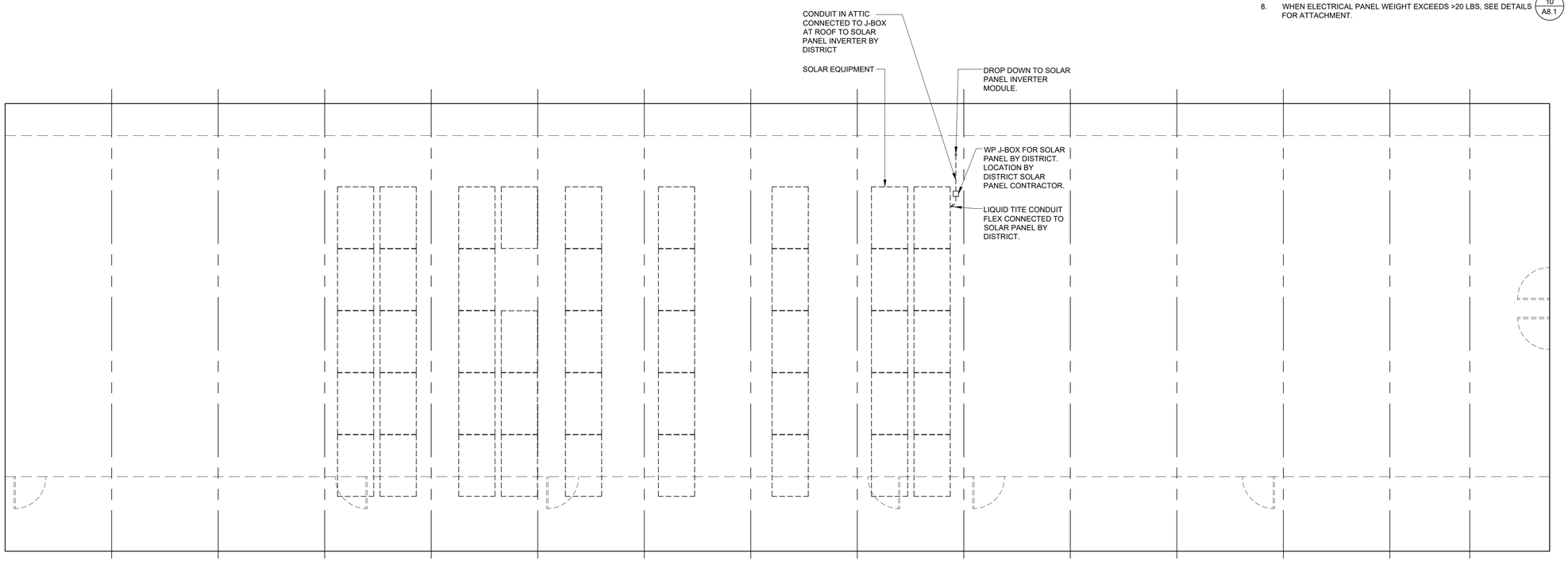
*LABEL & LOCK ON DEVICE

NOTE

1. VERIFY LOCATION OF SOLAR PANEL Z0NES WITH SOLAR READY ARCHITECTURAL ROOF PLANS
2. MIN ELECTRICAL PANEL SIZE SHALL BE 200 AMPS PER ENERGY CODE SECTION 110.10 (e)

GENERAL NOTES

1. SEE SHEET E0.0 FOR ELECTRICAL, FIRE ALARM AND SIGNAL PLAN DESIGN NOTES
2. RECEPTS AT INTERIOR WALL APPLICABLE ONLY WITH OPTIONAL INTERIOR WALL
3. LIGHTED EXIT SIGNS NOT APPLICABLE WITH OPTIONAL INTERIOR WALL
4. EMERGENCY BACK-UP LIGHTS (SHOWN AS HATCHED) APPLICABLE WHEN INTERIOR WALL OPTION IS NOT USED
5. PROVIDE EMERGENCY LIGHTING AT ALL EXTERIOR DOORS PER SECTION 1008.3.2. LOCATION OF EMERGENCY LIGHTING TO BE DETERMINED BY SITE ARCHITECT BASED ON PROJECT SPECIFIC DESIGN
6. CBC SECTION 907.5.2.2.5, EMERGENCY POWER FOR EMERGENCY VOICE COMMUNICATION.
7. SEE DAYLIT FLOOR PLANS FOR DAYLIT LOCATIONS
8. WHEN ELECTRICAL PANEL WEIGHT EXCEEDS >20 LBS, SEE DETAILS 10/A8.1 FOR ATTACHMENT.



SOLAR READY ELECTRICAL ROOF PLAN

SCALE: 3/16" = 1'-0"

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 GC LIC # 992118
DEALER # DL1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
SOLAR READY ELECTRICAL ROOF PLAN

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

LICENSED PROFESSIONAL ENGINEER
MATTHEW H. LOWERY
E 24881
EXP. 03/31/26
ELECTRICAL
STATE OF CALIFORNIA
SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS
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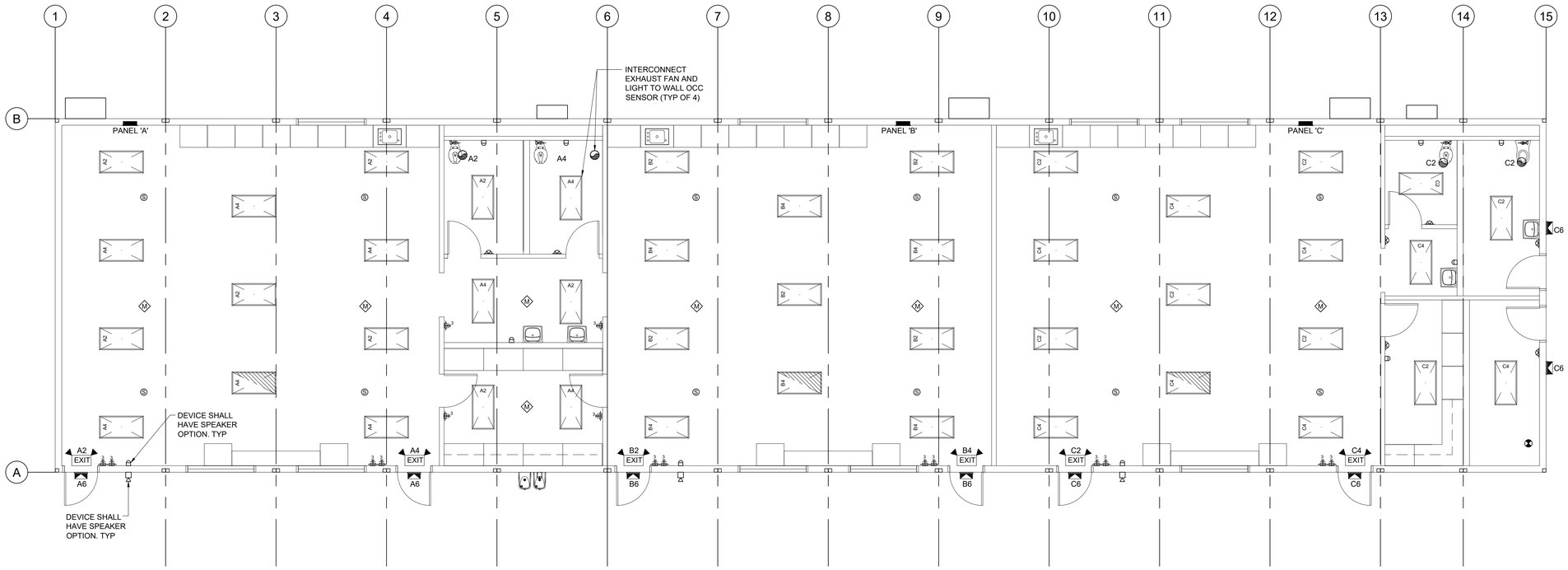
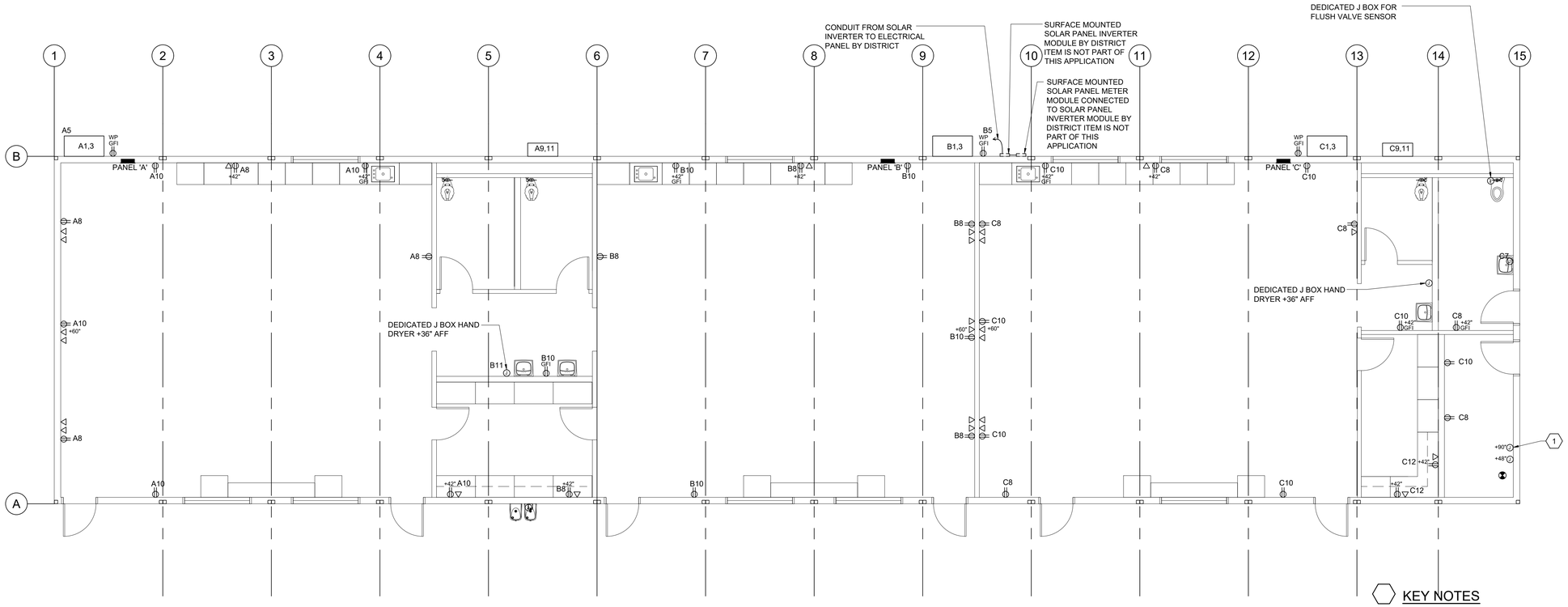


ELECTRICAL LIGHTING AND FIRE ALARM PLAN

SCALE: 3/16" = 1'-0"



ELECTRICAL POWER AND DATA PLANS

SCALE: 3/16" = 1'-0"

KEY NOTES

1. J-BOX FOR FIRE RISER BELL. CONNECT TO FIRE ALARM SYSTEM

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SKC COMPANY
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OFFICE: (909) 740-3120, FAX: (909) 726-9470
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BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
ELECTRICAL PLAN

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

LICENSED PROFESSIONAL ENGINEER
MATTHEW H. LOVING
E 24881
EXP. 03/31/26
ELECTRICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

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5	-

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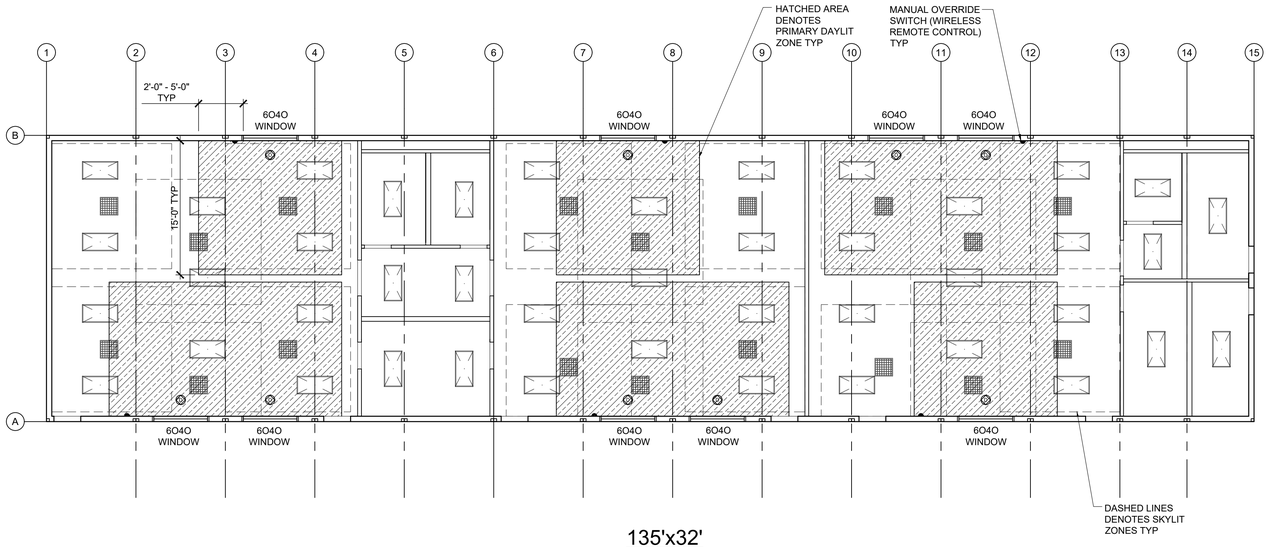
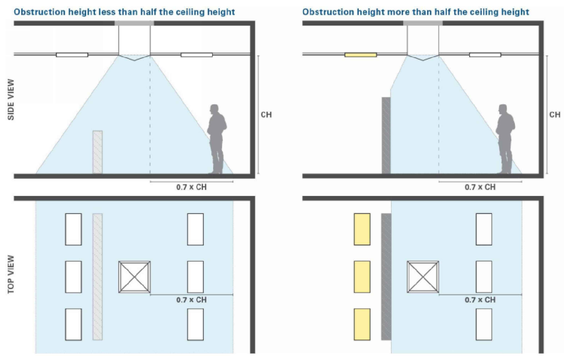


135'x32'



SKYLIT ZONE DIAGRAM

SCALE: NTS

NOTES:

1. THE PURPOSE OF THESE PLANS ARE TO LOCATE THE SKYLIT & SIDELIT DAYLIT ZONES AND ITS OPERATING SWITCH PER ENERGY CODE SECTION 130.1(d)2 & 130.1(d)3. FOR ALL OTHER ELECTRICAL INFORMATION SEE ELECTRICAL PLANS
2. CALCULATION OF SIDELIT ZONES: 0.5 TIMES WINDOW HEAD HEIGHT FROM FINISHED FLOOR EQUALS WIDTH ON EACH SIDE OF WINDOW MINUS ANY AREA ON A PLAN BEYOND A PERMANENT OBSTRUCTION THAT IS 6 FT OR TALLER AS MEASURED FROM THE FLOOR
3. 8040 WINDOW (AS SHOWN, SEE ARCHITECTURAL FOR PRECISE SIZE)
4. REFER TO ELECTRICAL PLANS FOR EMERGENCY LIGHT LOCATIONS
5. SKYLIT ZONES - WHEN DETERMINING THE SKYLIT ZONE, THE SHAPE OF THE ZONE IS THE SAME AS THE GEOMETRIC SHAPE OF THE OPENING OF THE SKYLIGHT. FOR EXAMPLE, A RECTANGULAR SKYLIGHT CREATES A RECTANGULAR DAYLIGHT ZONE, AND A CIRCULAR SKYLIGHT CREATES A CIRCULAR ZONE
7. SKYLIT ZONE CALCULATION STEPS:
   1. MULTIPLY THE CEILING HEIGHT BY 0.7
   2. ADD THIS VALUE IN ALL DIRECTIONS AROUND THE SKYLIGHT (STARTING AT THE EDGE OF THE ROUGH OPENING)
   3. SUBTRACT ANY AREA IN WHICH A PERMANENT OBSTRUCTION WOULD BLOCK DAYLIGHT (TALLER THAN HALF THE DISTANCE FROM THE FLOOR TO THE BOTTOM OF THE SKYLIGHT). SEE SKYLIT ZONE DIAGRAM ON THIS SHEET

DAYLIT ZONE FLOOR PLANS

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

STATE AGENCY APPROVAL

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DIV. OF THE STATE ARCHITECT
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

SKYLIT & SIDELIT DAYLIT ZONE FLOOR PLANS 135'X32'

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

LICENSED PROFESSIONAL ENGINEER
MATTHEW H. LOGEMANN
E 24981
EXP. 03/31/26
ELECTRICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

E4.3DL

5/2/2025 12:23:27 PM

SEQUENCE OF OPERATIONS FOR LIGHTING CONTROL SYSTEMS

INTERIOR SPACES:

GENERAL - ALL LIGHTING AND LIGHTING CONTROL SHALL COMPLY WITH THE LATEST CODE. THE LIGHTING AND LIGHTING CONTROLS SHOWN ON THIS PC ARE COMPANY STANDARDS. WHERE DISTRICT SPECIFICATIONS ARE IN CONFLICT WITH THE PC STANDARDS, THE DISTRICT SPECIFICATIONS SHALL GOVERN UNO. ALL LIGHTING CONTROL SHOWN ARE EQUIPPED WITH A MANUAL DIMMER (EXCEPTION - KEYED SWITCH INTERCONNECTED TO A CEILING OCCUPANCY SENSOR FOR MULTI-USE RESTROOMS WHERE APPLICABLE). ALL EMERGENCY LIGHTING SHALL BE UN-SWITCHED AND INDICATED ON PLAN WITH A HATCH

CLASSROOMS - LIGHTING CONTROL FOR CLASSROOMS SHALL BE A LIGHT SWITCH EQUIPPED WITH A MANUAL DIMMER AND INTERCONNECTED TO A CEILING OCCUPANCY SENSOR. QUANTITY OF CEILING OCCUPANCY SENSOR SHALL BE DETERMINED BY SF COVERAGE OF THE CEILING OCCUPANCY MANUFACTURE. WHERE APPLICABLE OR OPTIONAL, CLASSROOMS WITH MORE THAN ONE DOOR LEADING TO THE EXTERIOR CAN UTILIZE A 3 OR 4 WAY SWITCH WHICH MUST BE EQUIPPED WITH A MANUAL DIMMER

OFFICES AND SPACES LESS THAN 300 SF - LIGHTING CONTROL FOR OFFICES AND OR SPACES LESS THAN 300 SF SHALL USE A WALL OCCUPANCY SENSOR EQUIPPED WITH A MANUAL DIMMER. THE OCCUPANCY SENSOR SHALL BE SET TO A MAXIMUM 10 MINUTES TO TURN OFF THE LIGHTS WHEN NO MOVEMENT OR PERSON(S) ARE IN THE ROOM. UNO, DISTRICT CAN REQUEST THE SAME LIGHTING CONTROL AS THE CLASSROOM THAT UTILIZES A CEILING OCCUPANCY SENSOR

OFFICES AND SPACES GREATER THAN 300 SF - LIGHTING CONTROL FOR OFFICES AND SPACES GREATER THAN 300 SF SHALL BE A LIGHT SWITCH EQUIPPED WITH A MANUAL DIMMER AND INTERCONNECTED TO A CEILING OCCUPANCY SENSOR. QUANTITY OF CEILING OCCUPANCY SENSOR SHALL BE DETERMINED BY SF COVERAGE OF THE CEILING OCCUPANCY MANUFACTURE

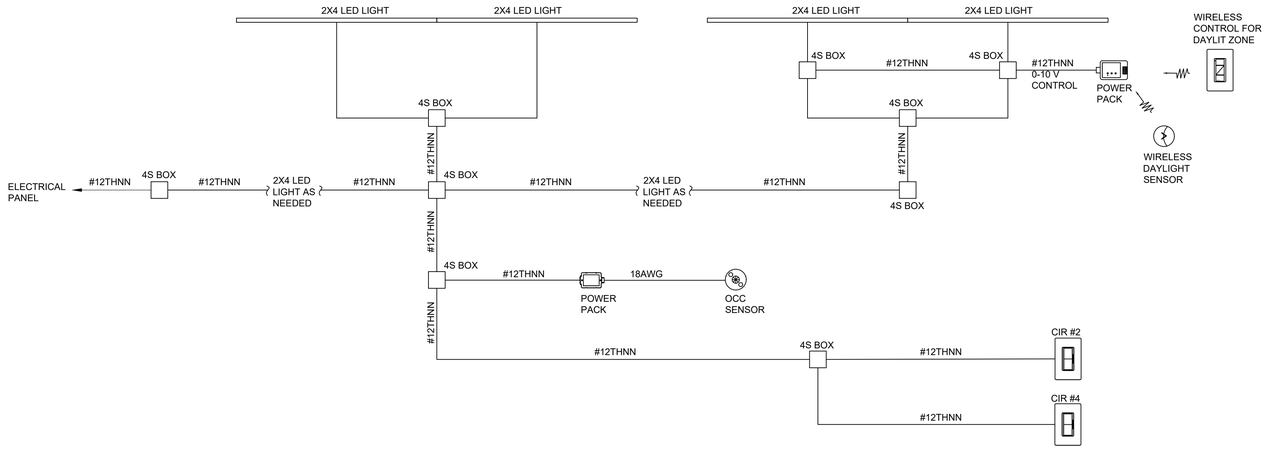
HALLWAYS (WHERE APPLICABLE) - THE LIGHTING CONTROL FOR HALLWAYS SHALL BE A LIGHT SWITCH EQUIPPED WITH A MANUAL DIMMER. WHERE SPECIFIED, THE LIGHT SWITCH CAN BE A 3 OR 4 WAY LIGHTING SWITCH WHICH MUST BE EQUIPPED WITH A MANUAL DIMMER

DAYLIT ZONE SWITCH - THE LIGHTING CONTROL FOR THE DAYLIT ZONE SHALL BE AN OVERRIDE SWITCH EQUIPPED WITH A MANUAL DIMMER UNO

EXTERIOR SPACES:

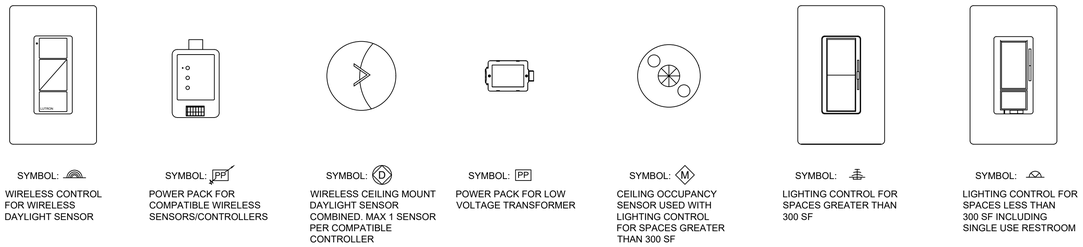
GENERAL - ALL LIGHTING AND LIGHTING CONTROL SHALL COMPLY WITH THE LATEST CODE. THE LIGHTING AND LIGHTING CONTROLS SHOWN ON THIS PC ARE COMPANY STANDARDS. WHERE DISTRICT SPECIFICATIONS ARE IN CONFLICT WITH THE PC STANDARDS, THE DISTRICT SPECIFICATIONS SHALL GOVERN UNO. THE EXTERIOR LIGHT ON THIS PC IS EQUIPPED WITH A PHOTO CONTROL STANDARD (EMERGENCY BACK-UP WHERE APPLICABLE) AND NO GREATER THAN 32 WATTS

EXTERIOR DOORS - ALL EXTERIOR DOORS SHALL HAVE AN EXTERIOR LIGHT ABOVE THE DOOR HEADER STANDARD. THE EXTERIOR LIGHT IS HARD-WIRED DIRECTLY TO THE ELECTRICAL PANEL



CLASSROOM LIGHTING DIAGRAM

SCALE: NTS



SYMBOL:
WIRELESS CONTROL FOR WIRELESS DAYLIGHT SENSOR

SYMBOL: PP
POWER PACK FOR COMPATIBLE WIRELESS SENSORS/CONTROLLERS

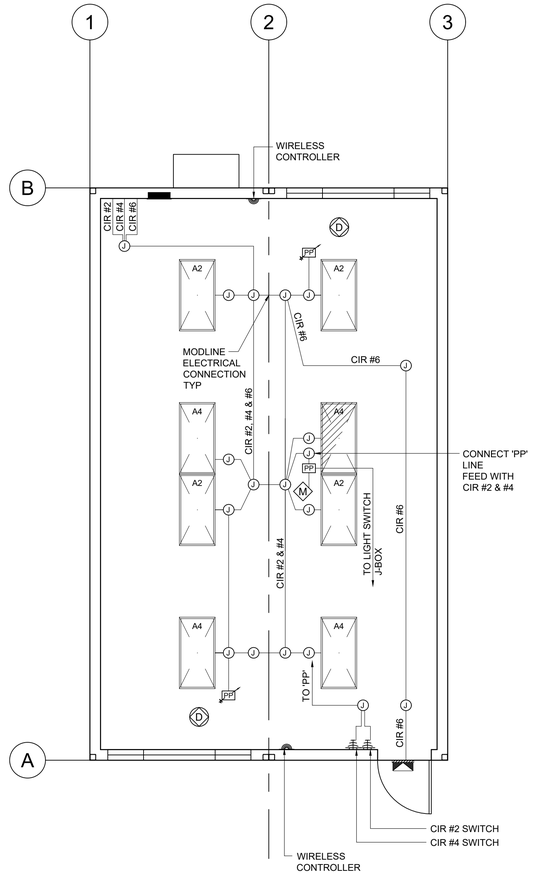
SYMBOL: D
WIRELESS CEILING MOUNT DAYLIGHT SENSOR COMBINED. MAX 1 SENSOR PER COMPATIBLE CONTROLLER

SYMBOL: PP
POWER PACK FOR LOW VOLTAGE TRANSFORMER

SYMBOL: M
CEILING OCCUPANCY SENSOR USED WITH LIGHTING CONTROL FOR SPACES GREATER THAN 300 SF

SYMBOL:
LIGHTING CONTROL FOR SPACES GREATER THAN 300 SF

SYMBOL:
LIGHTING CONTROL FOR SPACES LESS THAN 300 SF INCLUDING SINGLE USE RESTROOM



SAMPLE 20X32 CLASSROOM INCREMENT LIGHTING SCHEMATIC

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

GENERAL NOTES

1. REFER TO SHEET E0.0 FOR ALL ELECTRICAL AND LOW VOLTAGE LEGEND
2. VERIFY LUMINARIES LOCATED IN DAYLIT ZONES

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

ELECTRICAL LIGHTING CONTROL AND SEQUENCE OF OPERATION

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

LICENSED PROFESSIONAL ENGINEER
MATTHEW H. LONGFELLOW
E 24981
EXP. 03/31/26
ELECTRICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1	-
2	-
3	-
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5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

E6.0

5/2/2025 12:18:01 PM

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

This document is used to demonstrate compliance with mandatory requirements in 130.5, for electrical systems in newly constructed nonresidential and hotel/motel occupancies and 160.6 and 160.9 for electrical systems in newly constructed multifamily occupancies. Additions and alterations to electrical service systems in nonresidential and hotel/motel occupancies will also use this document to demonstrate compliance per 141.0(a) or 141.0(b)2P for alterations. For multifamily addition or alterations compliance will be documented per 180.1(a) or 180.2 (b)4Bvii

Project Name:	Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 1 of 4)**
Project Address:	9801 Highland Knolls Drive	**Date Prepared:**	3/30/2024

A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	02	Climate Zone	13
			03	Occupancy Types Within Project:	ClassroomOfficeSupportAreas

B. PROJECT SCOPE

This table includes electrical systems that are within the scope of the permit application.

01	02	03	04	05	06	07
Electrical Service Designation/ Description	Scope of Work[1]	Rating[2] (kVA)	Utility Provided Metering System Exception to 130.5(a)/ 160.6(a)[3]	System subject to CA Elec Code Article 517 Exception to 130.5(a)and (b)	Demand Response Controls	Provides power to dwelling units/common living areas only in multifamily occupancy
Main	New electrical service equipment and meter	0	☐	☐	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections 120.2/ 160.3, 130.1/ 160.5, and 130.3/ 160.5, and mechanical, indoor lighting, and sign lighting Certificate of Compliance documents will indicate when demand response controls are required.	☐

[1] *FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c)/160.6(c), no other requirements from 130.5/160.6 are required.*
[2] *If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.*
[3] *Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.*

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

Project Name:	Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 2 of 4)**
		Date Prepared:	3/30/2024

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through J. 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.

01		02		03		04	05	06
Service Electrical Metering 130.5(a)/ 160.6(a) (See Table F)	AND	Separation for Monitoring 130.5(b)/ 160.6(b) (See Table G)	AND	Voltage Drop 130.5(c)/ 160.6(c) (See Table H)	AND	Controlled Receptacles 130.5(d)/ 160.6(d) (See Table I)	Electric Ready 160.9 (See Table J)	**Compliance Results**
Yes	AND		AND	Yes	AND			COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable 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. SERVICE ELECTRICAL METERING

This table includes new or replacement electrical service systems OR equipment to demonstrate compliance with 130.5(a) / 160.6(a). For multifamily occupancies, submetered systems that provide power to common use areas must meet the following metering requirements. Submetered systems providing power to dwelling units do not.

01	02	03				04	05	
		Required Metering Capabilities per Table 130.5-A					Field Inspector	
Electrical Service Designation/ Description	Rating[1] (kVA)	Instantaneous Demand (kW)	Historical Peak Demand (kW)	Tracking kWh for user-defined period	kWh per rate period	Location of Requirements in Construction Documents	Pass	Fail
Main	0	☒	☐	☒	☐		☐	☐

[1] *FOOTNOTES: If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.*

H. VOLTAGE DROP

This table includes entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with 130.5(c)/ 160.6(c). For alterations, only the altered circuits must demonstrate compliance per 141.0(b)2Piii/ 180.2(b)4Bviic.

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

Project Name:	Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 3 of 4)**
		Date Prepared:	3/30/2024

H. VOLTAGE DROP

01	02			03	04	05	
Electrical Service Designation/Description	Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method			Location of Voltage Drop Calculations[1]	Sheet Number for Voltage Drop Calculations in Construction Documents	Field Inspector	
						Pass	Fail
Main	☒ Voltage drop less than 5%	☐	Permitted by CA Elec Code (Exception to 130.5(c))*	Attached	E-Sheets	☐	☐

** NOTES: If "Permitted by CA Elec Code *" is selected under Compliance Method above, please indicate where the exception applies in the space provided below.*

[1] *FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".*

J. ELECTRIC READY BUILDINGS

This section does not apply to this project.

K. 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

Form/Title
NRCI-ELC-E - Must be submitted for all buildings

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

Project Name:	Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 4 of 4)**
Project Address:	9801 Highland Knolls Drive	**Date Prepared:**	3/30/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jeffrey C. Chan-Lugay	Documentation Author Signature: Jeffrey C. Chan-Lugay
Company: SKC Company	Signature Date: 03/30/2024
Address: 15345 Fairfield Ranch Road, Suite #160	CEA/ HERS Certification Identification (if applicable): 992118
City/State/Zip: Chino Hills CA 91709	Phone: (909) 740-3120

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: Sean Khan	Responsible Designer Signature: Sean Khan
Company: SKC Company	Date Signed: 2024-03-30
Address: 15345 Fairfield Ranch Road, Suite #160	License: 992118
City/State/Zip: Chino Hills CA 91709	Phone: 909-740-3120

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E

This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.

Project Name:	Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 1 of 10)**
Project Address:	9801 Highland Knolls Drive	**Date Prepared:**	3/30/2024

A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	04	Total Conditioned Floor Area (ft²)	3,795
02	Climate Zone	13	05	Total Unconditioned Floor Area (ft²)	500
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

● Classroom ● Office ● Support Areas

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 / 170.2(e) or 141.0(b)2 / 180.2(b)4 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	Area Category Method	3795	Area Category Method	500
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	3795		500	

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E

Project Name:	Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 2 of 10)**
		Date Prepared:	3/30/2024

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 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(a) / 170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)				Compliance Results
	01	02	03	04	05		06	07	08		09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)	**Total Allowed** (Watts)	≥	Total Designed (Watts)	Adjustments PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)	**Total Adjusted** (Watts) *Includes Adjustments		**05 must be >= 08 140.6 / 170.2(e)**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned		2,277	0		2,277	≥	2,150	215	1935		COMPLIES
Unconditioned		295	0		295	≥	250	25	225		COMPLIES
								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 uneditable 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.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E

Project Name:	Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 3 of 10)**
		Date Prepared:	3/30/2024

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
									Field Inspector	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Pass	Fail
Int Lts	2x4 LED	No	NA	50	Mfr. Spec	43	No	2,150	☐	☐
							Total Designed Watts: CONDITIONED SPACES	2,150		

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
									Field Inspector	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Pass	Fail
Int Lts	2x4 LED	No	NA	50	Mfr. Spec	5	No	250	☐	☐
							Total Designed Watts: UNCONDITIONED SPACES	250		

[1] *FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% 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) / 160.5(b). 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.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E

Project Name:	Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 4 of 10)**
		Date Prepared:	3/30/2024

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	Pass	Fail
Required >= 4,000W subject to multilevel	Whole Building Auto Time Switch	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
								Field Inspector	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) // 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) / 160.5(b)4D	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Pass	Fail
Whole Building	All Other Space Types	Readily Accessible	Dimmer	See Building Level	Included	Included	No	☐	☐
							13		
							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	
					Additional Allowance / Adjustment	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Area Category	PAF
Conditioned Classrooms	Classroom, Lecture, or Training Vocational	0.6	3,360	2,016	No	Yes

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E

Project Name:	Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 5 of 10)**
		Date Prepared:	3/30/2024

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

WorkRoom / Vestibule	Office (>250 square feet)	0.6	435	261	No / Yes
		TOTALS:	3,795	2,277	See Tables J, or P for detail

Unconditioned Spaces

01	02	03	04	05	06	
					Additional Allowance / Adjustment	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Area Category	PAF
Unconditioned Restrooms	Restroom	0.65	380	247	No	Yes
Unconditioned Storage	All Other Space Types	0.4	120	48	No	Yes
		TOTALS:	500	295	See Tables J, or P for detail	

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 DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
TITLE 24 REPORT & CEC FORMS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

LICENSED PROFESSIONAL ENGINEER — TIMOTHY H. LOHENRITTER — E 24881 — EXP. 03/31/26 — ELECTRICAL — STATE OF CALIFORNIA
SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER
E7.0

5/2/2025 12:18:22 PM

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 table includes all areas indicated in Table I or Table K as using a PAF credit described in 140.6(a)2 / 170.2(e)2B.

Conditioned Spaces

01	02									03	04	05	06	07
Area Description	PAF per 140.6(a)2 / 170.2(e)2B[1] (*Can be used in conjunction with other PAF'S)									Luminaires Controlled for PAF Credit				Additional Control Credit Allowance (Watts)
	1	2A	2B	3A*	3B*	4*	5*	6*	7*	Luminaire Name or Item Tag	Luminaire Design Watts	Number of Luminaires	Lighting Controlled (Watts)	
				Pick up to one	Pick up to one		Pick up to one[2]	Pick up to one[2]						
Conditioned Classrooms	☒	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	15	750	75.0
Conditioned Classrooms	☒	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	11	550	55.0
Conditioned Classrooms	☒	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	11	550	55.0
WorkRoom / Vestibule	☒	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	2	100	10.0
WorkRoom / Vestibule	☒	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	2	100	10.0
WorkRoom / Vestibule	☒	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	1	50	5.0
WorkRoom / Vestibule	☒	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	1	50	5.0
	08											09		
☐	All spaces applying PAF 5, 6 or 7 include a daylight design meeting requirements in 140.3(d). See Table S.									**Total Power Adjustment (Watts) CONDITIONED SPACES:**				0.06

Unconditioned Spaces

01	02									03	04	05	06	07
Area Description	PAF per 140.6(a)2 / 170.2(e)2B[1] (*Can be used in conjunction with other PAF'S)									Luminaires Controlled for PAF Credit				Additional Control Credit Allowance (Watts)
	1	2A	2B	3A*	3B*	4*	5*	6*	7*	Luminaire Name or Item Tag	Luminaire Design Watts	Number of Luminaires	Lighting Controlled (Watts)	
				Pick up to one	Pick up to one		Pick up to one[2]	Pick up to one[2]						
Unconditioned Restrooms	☒	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	1	50	5.0
Unconditioned Restrooms	☒	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	1	50	5.0
Unconditioned Restrooms	☒	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	1	50	5.0

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

Unconditioned Restrooms	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	1	50	5.0
Unconditioned Storage	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	Int Lts	50	1	50	5.0
	08										09				
☐	All spaces applying PAF 5, 6 or 7 include a daylight design meeting requirements in 140.3(d). See Table S.										**Total Power Adjustment (Watts) UNCONDITIONED SPACES:**				0.05

[1] FOOTNOTES: PAFs outlined in Table 140.6-A /170.2-L include 1) Daylight continuous dimming plus OFF; 2A) Occupant sensors in offices with one sensor per <= 125 ft²; 2B) Occupant sensors in offices with one sensor per 126 - 250 ft²; 3A) institutional tuning, non-daylit areas and 3B) institutional tuning, daylit areas; 4) Demand response; 5) Clerestory fenestration; 6) Horizontal slats; 7) Light shelves.

[2] Luminaires that qualify for PAF 5, 6, or 7 can be used in conjunction with PAF 1.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE 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 table documents clerestories, horizontal slats or light shelves meet the requirements in 140.3(d) / 170.2(e)2B if a Power Adjustment Factor was claimed on Table P. These features must be documented on the architectural plans or where appropriate within the construction documents. This PAF also must be verified in the field with an acceptance test per Table U.

01	Compliance Strategy	

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections 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

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections 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
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Whole Building Time Switch;
NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	Whole Building;
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Whole Building Demand Response;

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jeffrey C. Chan-Lugay	Documentation Author Signature: Jeffrey C. Chan-Lugay
Company: SKC Company	Signature Date: 2024-03-30
Address: 15345 Fairfield Ranch Road, Suite #160	CEA/ HERS Certification Identification (if applicable): 992118
City/State/Zip: Chino Hills CA 91709	Phone: (909) 740-3120

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: Sean Khan	Responsible Designer Signature: Sean Khan
Company: SKC Company	Date Signed: 2024-03-30
Address: 15345 Fairfield Ranch Road, Suite #160	License: 992118
City/State/Zip: Chino Hills CA 91709	Phone: 909-740-3120

This document is used to demanstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2I, for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(o) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	04	Total Illuminated Hardscape Area (ft²)	0
02	Climate Zone	13			
03	Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Urban Clusters	☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval		
☐	LZ-1: Low - Rural Areas	☒ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				

● Classroom ● Office ● Support 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 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02		
☒ New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6		
☐ 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.

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. 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 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv												Compliance Results		
01		02		03		04		05	OR	06	=	07		08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)		Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)		**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
0	+	120	+	---	+	---	+	---	OR	---	=	120	≥	120	COMPLIES
														Shielding Compliance (See Table G for Details)	N/A
														Controls Compliance (See Table H for Details)	Not applicable

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable 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. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 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). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)1[4]	Field Inspector	
										Pass	Fail
Ext Lt	LED Wall Pack 15W	☐ Linear	15	Mfr. Spec	8	New	☐	120	NA: < 6200 lumens	☐	☐
							Total Design Watts:	120			

* 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) / 160.5(b)

[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 shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)

G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

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.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail

[1] FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.

[2] Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.

[3] Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. 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.
Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

	01				
	"Use it or lose it" Allowance (select all that apply) (select all that apply)				
☐ General Hardscape Allowance Table I (below)	☒ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M	

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

ALL DESIGNS INDICATED ON THESE PLANS/DRAWINGS ARE PROPERTY OF SKC, INC AND ARE FOR THE USE BY SKC IN THE SPECIFIED JOB ONLY. THEY SHALL NOT BE USED AND/OR DUPLICATED OR TRANSMITTED IN ANY FORM, FOR ANY PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF SKC, INC. ANY UNAUTHORIZED USE OF THESE PLANS SHALL SUBJECT THE OWNER OF SAID PROPERTY TO LIQUIDATED DAMAGES OF $75,000.00. THESE PLANS ARE PROTECTED UNDER THE PROVISIONS OF THE 1976 COPYRIGHT ACT COPYRIGHT SKC, © ALL RIGHTS RESERVED.

DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
TITLE 24 REPORT & CEC FORMS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

LICENSED PROFESSIONAL ENGINEER — MATTHEW H. LOUGHEED — E 24881 — EXP. 03/31/26 — ELECTRICAL — STATE OF CALIFORNIA
SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER
E7.1

5/2/2025 12:24:40 PM

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 5 of 7)**
	Date Prepared:	3/30/2024

J. LIGHTING ALLOWANCE: PER APPLICATION

This table includes areas using the wattage allowance per application from Table 140.7-B / Table 170.2-S.

01	02	03	04	05	06	07	08	09	10
Area Description	Application per Table 140.7-B[1]	CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				Additional Allowance (Watts)
		# of Locations	Allowance per Location[2]	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	
Entrance / Exit	Building Entrance/Exit	8	19	152	Ext Lt	15	8	120	120
							Total Design Watts for this Area:	120	
							Total Allowance (Watts) All Areas:		120

[1] *FOOTNOTES: Primary entrance applications are only available for senior care facilities, healthcare facilities, police stations, hospitals, fire stations, and emergency vehicle facilities.*
[2] *The Allowance per Location for ATMs is 100W for the first ATM and 35W for each additional per Table 140.7-B /Table 170.2-S.*
[3] *For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.*

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.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 6 of 7)**
	Date Prepared:	3/30/2024

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection has 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

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no NRCA forms required for this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 7 of 7)**
Project Address: 9801 Highland Knolls Drive	**Date Prepared:**	3/30/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jeffrey C. Chan-Lugay	Documentation Author Signature: Jeffrey C. Chan-Lugay
Company: SKC Company	Signature Date: 03/30/2024
Address: 15345 Fairfield Ranch Road, Suite #160	CEA/ HERS Certification Identification (if applicable): 992118
City/State/Zip: Chino Hills CA 91709	Phone: (909) 740-3120

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: Sean Khan	Responsible Designer Signature: Sean Khan
Company: SKC Company	Date Signed: 2024-03-30
Address: 15345 Fairfield Ranch Road, Suite #160	License: 992118
City/State/Zip: Chino Hills CA 91709	Phone: 909-740-3120

STATE OF CALIFORNIA
Solar And Battery
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SAB-E
This document is used to demonstrate compliance with prescriptive PV and battery requirements in 140.10/ 170.2 for nonresidential, multifamily and mixed-use buildings and prescriptive solar thermal requirements in 170.2(d)3C for multifamily and hotel/ motel occupancies. When PV/battery/solar thermal requirements don't apply or are traded using the performance approach, this document demonstrates compliance with mandatory solar readiness requirements in 110.10/ 160.8 for newly constructed buildings which are either multifamily ten stories or fewer, hotel/motel ten stories or fewer or all other nonresidential buildings three stories or fewer. It is also used to demonstrate compliance with solar readiness in 110.10/ 160.8 for additions to nonresidential, multifamily or hotel/motel building types which add more than 2,000 ft² of roof area. Alterations, or additions of less than 2,000 ft² of roof area, are not required to comply with solar readiness, solar PV and battery requirements and do not need to complete this document.		
Project Name: Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 1 of 5)**
Project Address: 9801 Highland Knolls Drive	**Date Prepared:**	3/30/2024

A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	04	Building Occupancies	All Other OccupanciesOfficeSupport Areas
02	Climate Zone	13	05	Construction Type	New construction
03	Conditioned Floor Area (ft²)	3795	06	Number of Stories	Bldg <= 3 stories

B. PROJECT SCOPE

The compliance path the project is using to comply per 110.10(b)1B/ 140.10/ 170.2(g and h) is indicated below.

Compliance with Solar Photovoltaic (PV) and Battery Requirements in 140.10/ 170.2(g and h)

01		
☐	Provided PV system and battery storage sized per 140.10/ 170.2 (g and h)	The project has included an installed PV system and battery storage system per requirements in 140.10/ 170.2(g and h) as documented in Table J.
☐	Exception to PV and Battery: Not enough Solar Access Roof Area	The total of all available Solar Access Roof Area(s) of the project site is less than three percent of the conditioned floor area as documented in Table J.
☐	Exception to PV and Battery: Required PV < 4kW	The required PV system size is less than 4 kW dc as documented in Table J..
☐	Exception to PV and Battery: No contiguous Solar Access Roof Area	The Solar Access Roof Area(s) of the project site contains less than 80 contiguous square feet as documented in Table J.
☐	Exception to PV and Battery: Can't meet snow load	The project has a roof design where the enforcement authority has verified it is not possible for the PV system, including panels, modules, components, supports, and attachments to the roof structure, to meet ASCE 7-16 Chapter 7, Snow Loads.
☐	Exception to PV and Battery: Multi-tenant without VNEM or Community Solar	The project is a multi-tenant building in an area where a load serving entity does not provide either a Virtual Net Metering (VNEM) or community solar program.
☐	The prescriptive PV/battery requirement has been traded off using the performance compliance approach as documented on the PRF Certificate of Compliance form.	

STATE OF CALIFORNIA
Solar And Battery
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SAB-E
Project Name: Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 2 of 5)**
	Date Prepared:	3/30/2024

Compliance with Solar Thermal Water Heating Requirements in 170.2(d)3C (Multifamily and hotel/ motel occupancies only)

01	
☐	The project includes a hotel/motel or multifamily occupancy with a gas or propane central water-heating system (serves 2+ dwelling units) and includes a permanently installed domestic solar water-heating system to comply with 170.2(d)3C and Reference Residential Appendix RA4, as documented in Table H. Compliance meets Exception 2 to solar ready requirements in 110.10(b).

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 "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance or see the applicable Table referenced below.

Allocated Solar Zone				Installed PV System				Installed SWH System				Smart Tstat and Alternative EE Measure		Compliance Results
01		02	OR	03		04	OR	05		06	OR	07	08	
Required Minimum Area (ft²)	<=	Designated Area (ft²)		Required Minimum DC Power Rating (Watts)	<=	Designed DC Power Rating (Watts)		Required Minimum Solar Savings Fraction	<=	Designed/Rated Solar Savings Fraction		JA5 Compliant Thermostat Specifies?	Alternative Energy Efficiency Measure	COMPLIES
(See Table F)				(See Tables G or J)				(See Table H)				(See Table I)		
	<=		OR	0	<=	7,040	OR		<=		OR			
Location in construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system per §110.10(c).														
Battery storage system design meets the minimum requirements in Joint Appendix JA12 and the minimum energy (kWh)/ power (kW) capacity per Table J.														COMPLIES

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

STATE OF CALIFORNIA
Solar And Battery
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SAB-E
Project Name: Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 3 of 5)**
	Date Prepared:	3/30/2024

F. ALLOCATED SOLAR ZONE

This section does not apply to this project.

G. PERMANENTLY INSTALLED SOLAR PV FOR SOLAR READY EXCEPTION

This section does not apply to this project.

H. PERMANENTLY INSTALLED SOLAR HOT WATER SYSTEMS

This section does not apply to this project.

I. SMART THERMOSTATS AND ALTERNATIVE EFFICIENCY MEASURE FOR SOLAR READY EXCEPTION

This section does not apply to this project.

STATE OF CALIFORNIA
Solar And Battery
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SAB-E
Project Name: Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 4 of 5)**
	Date Prepared:	3/30/2024

J. PHOTOVOLTAIC (PV) AND BATTERY SYSTEMS

This table documents compliance with prescriptive photovoltaic and battery system requirements in 140.10/ 170.2(g and h). Unless the project meets one of the listed exceptions, or trades-off PV in an energy model using performance path, 140.10/ 170.2(g and h) requires installed photovoltaic and battery systems for newly constructed buildings. The installed PV systems must meet the minimum requirements in Joint Appendix 11.

Photovoltaic (PV) System

01	02	03	04	05	06	07	08
Occupancy	Conditioned Floor Area (ft²)	Area of New Roof[1] (ft²)	Roof Area < 70% Solar Access[2] (ft²)	Plansheet or Document showing Solar Access Calculations	Occupied Roof Area[3] (ft²)	Solar Access Roof Area (SARA) (ft²)	Min Size of PV System Required (kWdc)
						Total Min Size PV System Required for all Spaces (kWdc):	
						Total Size PV System in Design (kWdc):	

[1] *FOOTNOTES: Includes the area of the building's roof space capable of structurally supporting a PV system and the area of all roof space on covered parking areas, carports, and all other newly constructed structures on the site that are compatible with supporting a PV system per Title 24, Part 2 Section 1511.2.*
[2] *Solar access must be determined using CEC approved solar access calculation tools found at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/solar-assessment-tools.*
[3] *As specified by CBC Section 503.1.4.*

K. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included Table E. Additional Remarks and ExceptionalConditionMessageCCSABE += UserChangedSelectionInCI. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-SAB-01-E - Must be submitted for all buildings that must comply with solar readiness or PV/Battery requirements.

L. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

STATE OF CALIFORNIA
Solar And Battery
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SAB-E
Project Name: Douglas Fletcher TK Classrooms	**Report Page:**	**(Page 5 of 5)**
Project Address: 9801 Highland Knolls Drive	**Date Prepared:**	3/30/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jeffrey C. Chan-Lugay	Documentation Author Signature: Jeffrey C. Chan-Lugay
Company: SKC Company	Signature Date: 2024-03-30
Address: 15345 Fairfield Ranch Road, Suite #160	CEA/ HERS Certification Identification (if applicable): 992118
City/State/Zip: Chino Hills CA 91709	Phone: (909) 740-3120

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: Sean Khan	Responsible Designer Signature: Sean Khan
Company: SKC Company	Date Signed: 2024-03-30
Address: 15345 Fairfield Ranch Road, Suite #160	License: 992118
City/State/Zip: Chino Hills CA 91709	Phone: 909-740-3120

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 DEALER # DL1279666
GC LIC # 992118 SBE CERTIFIED

ALL DESIGNS INDICATED ON THESE PLANS/DRAWINGS ARE PROPERTY OF SKC, INC. AND ARE FOR THE USE BY SKC IN THE SPECIFIED JOB ONLY. THEY SHALL NOT BE USED AND/OR DUPLICATED OR TRANSMITTED IN ANY FORM, FOR ANY PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF SKC, INC. ANY UNAUTHORIZED USE OF THESE PLANS SHALL SUBJECT THE OWNER OF SAID PROPERTY TO LIQUIDATED DAMAGES OF $75,000.00. THESE PLANS ARE PROTECTED UNDER THE PROVISIONS OF THE 1976 COPYRIGHT ACT COPYRIGHT SKC, © ALL RIGHTS RESERVED.

DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
TITLE 24 REPORT & CEC FORMS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

LICENSED PROFESSIONAL ENGINEER
MATTHEW H. LOWRY
E 24881
EXP. 03/31/26
ELECTRICAL
STATE OF CALIFORNIA
SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER
E7.2

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REQUIRED PHOTOVOLTAIC (PV) SIZING TABLE

BUILDING SIZE	BUILDING SF	ARITHMETIC SYMBOL	FACTOR PER TABLE 140.10-A	ARITHMETIC SYMBOL	FACTOR PER EQUATION 140.10-A	REQUIRED PV ≥ 4KW	CLIMATE ZONE
135' X 32'	4,320	•	1.63	/	1000	7.04	13

NOTES:
THE KW SUM FOR THE REQUIRED PV SYSTEM FOR EACH BUILDING SIZE AND CLIMATE ZONES ARE SHOWN ABOVE WITH EQUATION 140.10-A ALREADY CALCULATED ONTO THE TABLE. THE DESIGN PROFESSIONAL IN-CHARGE FOR THE SCHOOL DISTRICT MUST REVIEW ENERGY CODE SECTION 140.10 AND DETERMINE IF THE BUILDING MEETS THE ANY OF THE EXCEPTION WHERE THE PV IS NOT REQUIRED. WHEN REQUIRED, THE PV SYSTEM ARE FURNISHED AND INSTALLED BY THE SCHOOL DISTRICT. THE SCHOOL DISTRICT AND THEIR DESIGN PROFESSIONAL IN-CHARGE MUST DESIGN THE PV SYSTEM IN ITS ENTIRETY. REFER TO THE COVER SHEET AND SOLAR READY ROOF PLAN AND ELECTRICAL PLANS FOR MIN REQUIREMENTS

BATTERY STORAGE RATED ENERGY CAPACITY TABLE

BUILDING SIZE	CLIMATE ZONE	PV KW TOTAL SUM	ARITHMETIC SYMBOL	FACTOR B TABLE 140.10-B	ARITHMETIC SYMBOL	SINGLE CHARGE-DISCHARGE CYCLES AC TO AC (ROUND-TRIP) EFFICIENCY	RATED USEABLE ENERGY CAPACITY OF BATTERY IN KWH
135' X 32'	13	7.04	•	1.87	/	80%	16.4

NOTES:
REFER TO ENERGY CODE SECTION 140.10(b) FOR BATTERY STORAGE REQUIREMENTS AND EXCEPTIONS

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

KSC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
SITE-SPECIFIC PHOTOVOLTAIC AND BATTERY STORAGE CAPACITY TABLES

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS
1 -
2 -
3 -
4 -
5 -

PROJECT NO.:	00-0000
DRAWN:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER
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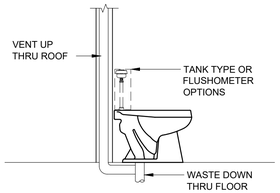
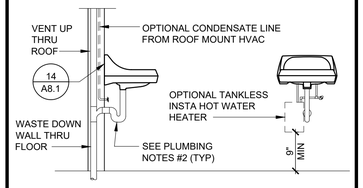


FLOOR MOUNT

TYP WATER CLOSET PIPING ELEVATIONS

1

NOTE:
THE OPTIONAL INSTA-HOT SHALL NOT ENCROACH INTO THE KNEE AND TOE CLEARANCES. NO SHARP OR ABRASIVE SURFACES ARE ALLOWED IN PROMIXTY TO THE KNEE AND TOE CLEARANCES.
SEE DETAILS #15 OR 5/A10.1 FOR REFERENCE



TYPICAL LAVATORY PIPING

2

NOTES

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 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANTELY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPEMNT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMOSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIB;E CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE 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 ELECTRRICAL 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 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G. OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

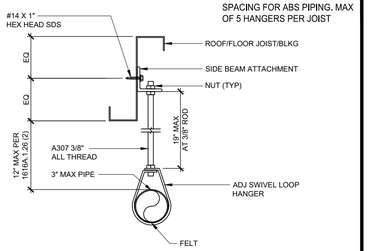
MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

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

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

3

NOTE:
10'-0" MAX SPACING, 4'-0" MAX SPACING FOR ABS PIPING. MAX OF 5 HANGERS PER JOIST



3" MAX PIPE HANGER SUPPORT

SCALE: 3" = 1'-0"

5

GENERAL PLUMBING SPECIFICATIONS

A. PLUMBING EQUIPMENT, FIXTURE AND ACCESSORIES: FURNISH AND INSTALL ALL PIPING, VALVES, VENTS, STOPS AND TRAPS REQUIRED TO CONNECT ALL FIXTURES AND EQUIPMENT PROVIDE ALL ELECTRICAL CONNECTIONS AS REQUIRED

B. MATERIALS AND WORKMANSHIP: ALL WORKMEN SHALL BE SKILLED AND QUALIFIED FOR THE WORK WHICH THEY PERFORM ALL MATERIALS USED, UNLESS OTHERWISE SPECIFIED, SHALL BE NEW AND OF THE TYPES AND GRADE SPECIFIED WORKMANSHIP SHALL BE EQUAL OF BETTER IN QUALITY TO THAT REQUIRED BY THE CONSTRUCTION TRADES FOR A FINISHED PRODUCT

C. THE DETAILS ON THIS SHEET ONLY ILLUSTRATE THE SPECIFIC REQUIREMENTS FOR INSTALLING THE FIXTURES AND THE ACCESSORIES SHOWN INSTALL FIXTURES PER MFR'S INSTRUCTIONS SEE PROJECT SPECIFICATIONS FOR THE ACCESSORIES AND FIXTURES THAT APPLY TO THIS PROJECT.

D. THE USE OF PEX TUBING, AND ITS FITTINGS AND INSTALLATION, SHALL COMPLY WITH TABLE 6-4, SECTIONS: 604.1.2, 604.11, 604.11.1, AND604.11.2 OF THE CPC.

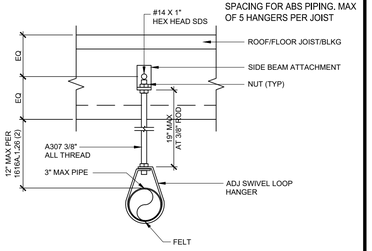
E. THE USE OF PEX-AL-PEX TUBING AND ITS ITS FITTINGS AND INSTALLATION, SHALL COMPLY WITH TABLE 6-4, SECTIONS: 604.13, 604.13.1 AND 604.13.2

F. THERMAL EXPANSION TANK REQUIREMENTS FOR WATER HEATERS: THE CALIFORNIA PLUMBING CODE (SECTION 608.3) AND THE CALIFORNIA MECHANICAL CODE (SECTION 1005.0) REQUIRES A THERMAL EXPANSION TANK, OR LISTED EQUIVALENT, TO BE INSTALLED TO WATER HEATING SYSTEMS TO RELIEVE EXCESSIVE BUILDING PRESSURE DURING THE HEATING PROCESS.

PLUMBING NOTES

1. FAUCET CONTROLS & 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 & ELECTRONICALLY CONTROLLED MECHANISMS ARE ACCEPTABLE SELF CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.
2. ALL WATER & DRAIN PIPES ACCESSIBLE UNDER LAVATORIES AND SINKS: SHALL BE INSULATED (CLASS I FLAME SPREAD INDEX 0-25, SMOKE DEVELOP 450) OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE OBJECTS OR SURFACES UNDER LAVATORIES.
3. ALL VENTS TO ROOF AND VENT RISER CONNECTIONS TO BE OFFSET ABOVE CEILING FROM WALLS IN ORDER TO PREVENT PENETRATION THROUGH TOP PLATES.
4. ALL WASTE DROPS IN WALLS TO BE OFFSET PRIOR TO WALL BOTTOM PLATES.
5. FOR ALLOWABLE CUTTING/NOTCHING/BORED HOLES IN 2X WALL STUDS AND JOISTS, SEE TYPICAL DETAILS ON STRUCTURAL SHEETS
6. TOILET CURB ON FLOORS: FOR TOILET ROOMS WITH MORE THAN TWO (2) FIXTURES IN RELOCATABLE BUILDINGS, PROVIDE A CONTINUOUS VINYL FLOORING WITH FULLY SEALED JOINTS. VINYL FLOORING TO EXTEND A MIN OF SIX (6) INCHES UP THE STUD WALL FROM THE FINISH FLOOR LEVEL.
7. ALL INTERIOR COLD AND HOT WATER IS OVERHEAD PIPING EXCEPT AT INSIDE WALLS UNLESS OTHERWISE NOTED.
8. ALL DRAIN AND SEWER FITTINGS BELOW FLOOR LINE SITE INSTALLED
9. SEWER/WATER STUB OUTS: SHALL BE LOCATED WITHIN THE ALLOWABLE AREA AS SHOWN ON PLANS AND CONNECTIONS SHOULD BE EASILY ACCESSIBLE FOR FUTURE RELOCATION STUB OUT HEIGHT SHOULD BE COORDINATED WITH BUILDING MFR AND SITE CONTRACTOR/OWNER.
10. ALL DIMENSIONS ON THIS SHEET ARE TO FACE OF FINISH
11. FOR ALL WALL HUNG WATER CLOSETS, USE 'JOSAM COMPANY" (OR EQUAL) CLOSET CARRIERS, MODEL #12674 (LEFT HAND) OR #12694 (BACK TO BACK) OR #12704 (VERTICAL W/ LEFT HAND VENT) OR #12724 (VERTICAL BACK TO BACK)

NOTE:
10'-0" MAX SPACING, 4'-0" MAX SPACING FOR ABS PIPING. MAX OF 5 HANGERS PER JOIST



3" MAX PIPE HANGER SUPPORT

SCALE: 3" = 1'-0"

6

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	QTY	REAR WALL GRAB BAR REF	ACCESSIBLE FOR	WASTE	VENT	CW	HW
WC 1	BOWL: 'KOHLER' - MODEL #K-4325, KINGSTON, WALL HUNG FLUSHOMETER. SEE PLUMB NOTE #13 FOR CARRIER INFO VALVE: 'SLOAN'- MODEL #180-1.0-TMO-HW, ROYAL SENSOR FLUSHOMETERS, 1.0 GPF, 110 V - 1 PHASE, 275 WATTS SEAT: 'OLSONITE' - MODEL #95CT/95SSCT, TOILET SEAT		#1/A12.0 FOR AGES 13+	ADULT AGES 13+	3"	2"	1"	-
WC 2	BOWL: 'KOHLER' - MODEL #K-96064, PRIMARY, FLOOR MOUNT FLUSHOMETER VALVE: 'SLOAN'- MODEL #111-1.28 XL, REGAL XL FLUSHOMETERS, 1.28 GPF SEAT: 'OLSONITE' - MODEL #95CT/95SSCT, TOILET SEAT THIS FIXTURE OBSTRUCTS REAR GRAB BAR. SEE GEN NOTE #1 SHEET A10.0		#2/A12.0	FOR COMBINED AGE GROUP 3-8, THE SEAT MUST BE 12" ABSOLUTE	3"	2"	1/2"	-
LV 1A — COLD WATER ONLY	LAV: KOHLER' - MODEL# K-2005, KINGSTON, WALL HUNG, 21-1/4" x 18-1/8" LAVATORY. 6 1/2" MAX SINK DEPTH. COLOR: WHITE	1		AGE GROUP 5-12	2"	2"	1/2"	1/2"
	FAUCET: 'CHICAGO FAUCETS' - MODEL# 3400-ABCP, VANDAL PROOF, SINGLE HANDLE, 0.5 GPM. COLOR: CHROME	1						
	CARRIER: 'JAY R SMITH' - MODEL #SP-S072216KING, WALL MT LAVATORY SUPPORT WITH CONCEALED ARMS							
	P-TRAP: 'PROFLO' - MODEL #PFPTB107, 100 SERIES 1-1/2" BRASS P-TRAP WITH ESCUTHEON, COLOR CHROME TRAP ADAPTER: 'CHARLOTTE PIPE' - MODEL #ADWVFTAJ104R, 1-1/2" ABS DWV SLIP JOINT FEMALE TRAP ADAPTER, COLOR: BLACK P- TRAP ESCUTHEON: 'PROFLO' - MODEL #PFE11, 1 1/2" ESCUTHEON, COLOR: CHROME ANGLE STOP VALVE: 'PROFLO' - MODEL #PFX3C322C, 5/8" COMP X 3/8" COMP TWO-WAY STOP, COLOR: CHROME SUPPLY HOSE: 'PROFLO' - MODEL #PFX146342, 3/8" COMP X 3/8" COMP X 12" FLEXIBLE WATER CONNECTOR, COLOR: CHROME TAILPIECE: 'PROFLO' - MODEL #PFTPB101, 100 SERIES 1-1/2" X 6" BRASS FLANGED TAILPIECE, COLOR: CHROME ESCUTHEON: 'PROFLO' - MODEL #PFE7, 5/8" ESCUTHEON, COLOR: CHROME CLEAN-OUT PLUG: 'AB&A' - MODEL #IPS68500, 2" ABS CLEAN-OUT FITTING WITH PLUG, COLOR: BLACK CLEAN-OUT COVER: 'PROFLO' - MODEL #PFDAC4C, 4-1/4" ABS DOME CLEAN-OUT ACCESS COVER, COLOR: CHROME ADA PIPE COVER: 'PROFLO' - MODEL #PF201WH, 200 SERIES SOFT TRAP COVER, COLOR: WHITE	1						
LV 1C — HOT & COLD WATER	LAV: KOHLER' - MODEL# K-2005, KINGSTON, WALL HUNG, 21-1/4" x 18-1/8" LAVATORY. 6 1/2" MAX SINK DEPTH			ADULT AGES 13+	2"	2"	1/2"	1/2"
	FAUCET: 'CHICAGO FAUCETS' - MODEL# 3600-E2805AB, VANDAL PROOF, SINGLE HANDLE, 0.5 GPM	1						
	CARRIER: 'JAY R SMITH' - MODEL #SP-S072216KING, WALL MT LAVATORY SUPPORT WITH CONCEALED ARMS							
	P-TRAP: 'PROFLO' - MODEL #PFPTB107, 100 SERIES 1-1/2" BRASS P-TRAP WITH ESCUTHEON, COLOR CHROME TRAP ADAPTER: 'CHARLOTTE PIPE' - MODEL #ADWVFTAJ104R, 1-1/2" ABS DWV SLIP JOINT FEMALE TRAP ADAPTER, COLOR: BLACK P- TRAP ESCUTHEON: 'PROFLO' - MODEL #PFE11, 1 1/2" ESCUTHEON, COLOR: CHROME ANGLE STOP VALVE: 'PROFLO' - MODEL #PFX3C322C, 5/8" COMP X 3/8" COMP TWO-WAY STOP, COLOR: CHROME	1						
	SUPPLY HOSE: 'PROFLO' - MODEL #PFX146342, 3/8" COMP X 3/8" COMP X 12" FLEXIBLE WATER CONNECTOR, COLOR: CHROME	2						
	TAILPIECE: 'PROFLO' - MODEL #PFTPB101, 100 SERIES 1-1/2" X 6" BRASS FLANGED TAILPIECE, COLOR: CHROME ESCUTHEON: 'PROFLO' - MODEL #PFE7, 5/8" ESCUTHEON, COLOR: CHROME CLEAN-OUT PLUG: 'AB&A' - MODEL #IPS68500, 2" ABS CLEAN-OUT FITTING WITH PLUG, COLOR: BLACK CLEAN-OUT COVER: 'PROFLO' - MODEL #PFDAC4C, 4-1/4" ABS DOME CLEAN-OUT ACCESS COVER, COLOR: CHROME ADA PIPE COVER: 'PROFLO' - MODEL #PF201WH, 200 SERIES SOFT TRAP COVER, COLOR: WHITE	1						
SK 1A — COLD WATER ONLY	SINK: 'ELKAY" - MODEL #PSDKR2417C, 25X17X7-1/8", 18 GA TOP MOUNT, SS CLASSROOM SINK. DRAIN SHALL BE TOWARDS CENTER REAR OF SINK			AGE GROUP 5-12	2"	2"	1/2"	1/2"
	FAUCET (COLD ONLY): 'HAWS' - MODEL #5510LF, DECK MOUNTED, SINGLE HOLE ONE HANDLE FAUCET W/ 1/2" THREADED OUTLET 0.5 GPM	1						
	BUBBLER: 'HAWS' - MODEL #5054LF LEAD FREE BUBBLER. NOTE: SPOUT HEIGHT SHALL BE NO MORE THAN 2" HIGH TO WHEN INSTALLED ON A CLASSROOM SINK COUNTER							
	DRAIN: 'HAWS' - MODEL #6455, FLAT TOP BASKET STRAINER W/ GRID WASHER, LOCKNUT AND SLIP JOINT TAIL PIECE FOR 3-1/2" OPENING P-TRAP: 'PROFLO' - MODEL #PFPTB107, 100 SERIES 1-1/2" BRASS P-TRAP WITH ESCUTHEON TRAP ADAPTER: 'CHARLOTTE PIPE' - MODEL #ADWVFTAJ104R, 1-1/2" ABS DWV SLIP JOINT FEMALE TRAP ADAPTER, COLOR: BLACK ESCUTHEON: 'PROFLO' - MODEL #BE11, 1-1/2 IN. STEEL IPS STANDARD ESCUTCHEON FOR 1-1/2" OPENING IN CHROME TAPPED TEE 'CHARLETTE PIPE' #NH 00034 1200, 2 X 1-1/2 IN. SPIGOT X FNPT CAST IRON SANITARY TAPPED TEE, CAST IRON ANGLE STOP VALVE: 'PROFLO' - MODEL #PFXAC32C, 5/8" X COMP X 3/8" COMP	1						
	SUPPLY HOSE: 'PROFLO' - MODEL #146326, 1/2" FIP X 3/8" COMP X 30" FLEXIBLE WATER CONNECTOR	1						
	TAILPIECE: 'PROFLO' - MODEL #PFTPB101, 100 SERIES 1-1/2" X 6" BRASS FLANGED TAILPIECE ESCUTHEON: 'PROFLO' - MODEL #BE7, 5/8" ESCUTHEON CLEAN-OUT PLUG: 'PROFLO' - MODEL #EP53J, 1-1/2" MIP COUNTERSUNK BRASS TAP CLEAN-OUT COVER: 'PROFLO' - MODEL #PFDAC4C, 4-1/4" ABS DOME CLEAN-OUT ACCESS COVER ADA PIPE COVER: 'PROFLO' - MODEL #PF201WH, 200 SERIES SOFT TRAP COVER	1						
WH 4	TANKLESS ELECTRIC WATER HEATER: 'STIEBEL ELTRON" - MODEL# MINI-E 3.5-1, INSTANT-FLOW , 0.3 GPM ELECTRICAL REQUIREMENTS: 120V, 30A. WT = 3.44#		-	-	-	-	1/2"	1/2"
DF 1	WALL MOUNTED DRINKING FOUNTAIN WITH BOTTLE FILLER: 'HAWS' - MODEL# 1501, HEAVY DUTY CAST IRON, VANDEL RESISTANT, DUAL BASINS, OUTDOOR USE ONLY, WITH PUSH BOTTON, 8 GPH. 'HAWS' - MODEL# 1920W, BOTTLE FILLER, 14 GA TYPE 304 STAINLESS STEEL, VANDEL RESISTANT, PUSH BOTTON, , OUTDOOR USE ONLY, 1 GPH.			ALL AGES	1-1/4"	2"	1/2"	-
HB 2	WALL RECESSED BOX 'ZURN' - MODEL# Z1350 NARROW WALL HYDRANT			-	-	-	3/4"	-
WHA 1	WATER HAMMER ARRESTOR: 'JAY R. SMITH' MODEL# 520-T			-	-	-	-	-

FOR NON-ACCESSIBLE FIXTURES (STANDARD), USE THE ACCESSIBLE DIMENSIONS FOR ALL FIXTURES

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SKC COMPANY
15345 FAIRFIELD RANCH ROAD, SUITE #160, CHINO HILLS, CA 91709
OFFICE: (909) 740-3120, FAX: (909) 726-9470
WEBSITE: WWW.SKCCOMPANY.COM
MANUFACTURER #MF1279666 GC LIC # 992118
DEALER # DL1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:

PLUMBING SCHEDULE AND DETAILS

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

REGISTERED PROFESSIONAL ENGINEER
SYED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

P0.0

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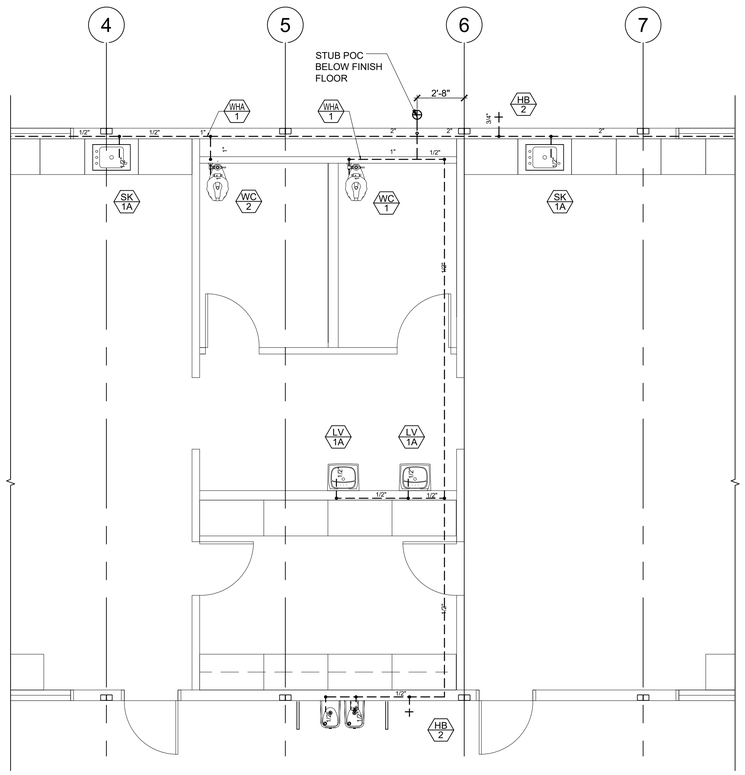
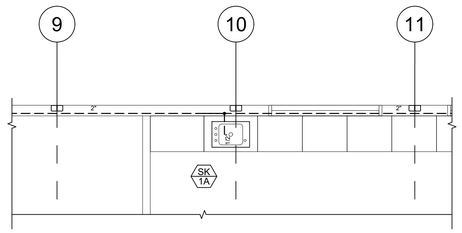
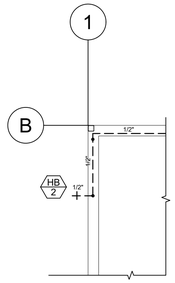
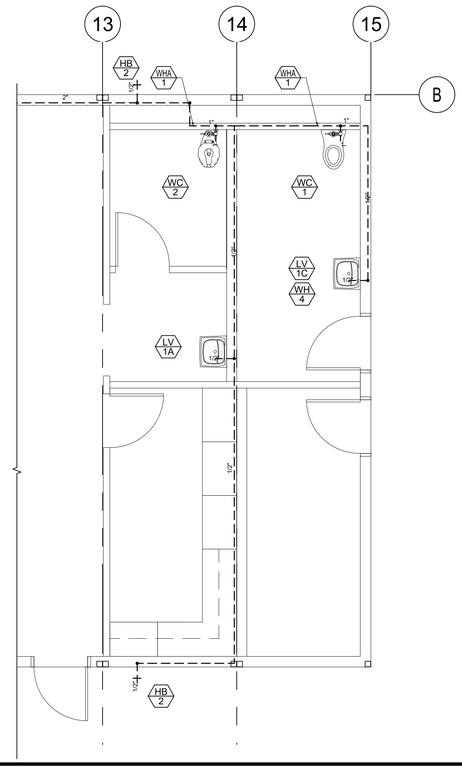




NOTE: HOSE BIBS WILL BE ALONG PERIMETER AT MAX 75'-0" INTERVALS.

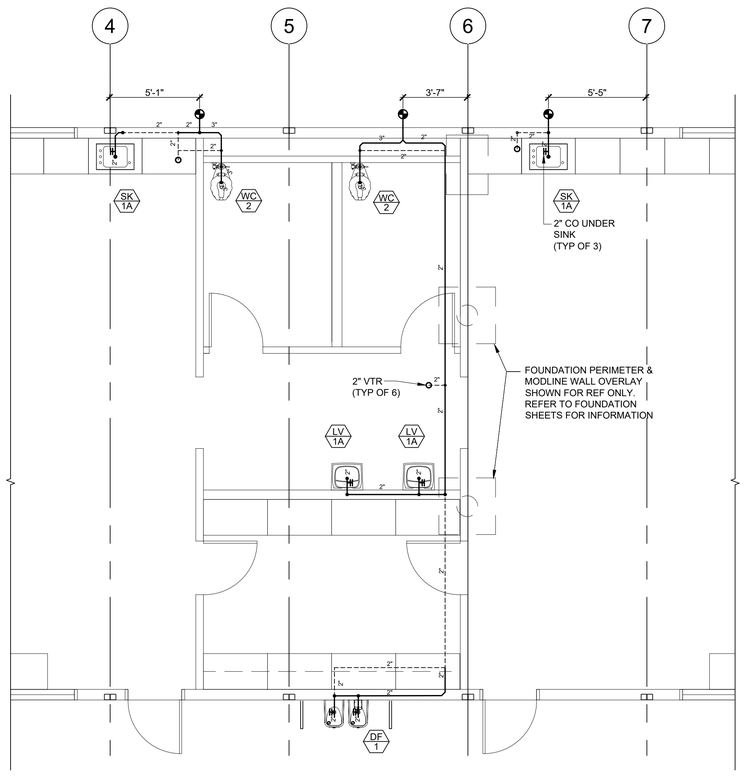


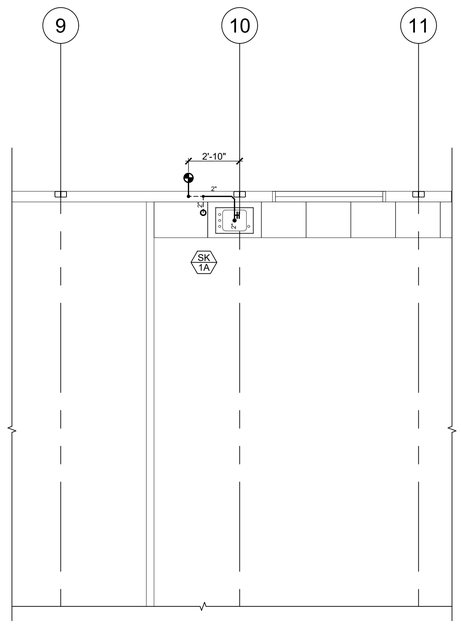


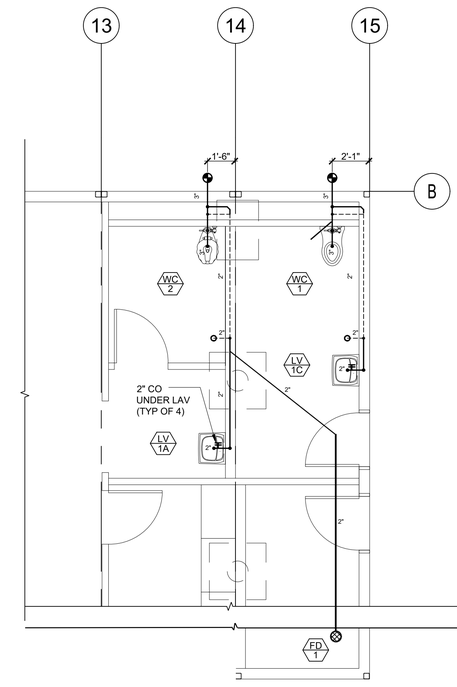
COLD WATER PLAN

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

NOTE: ALL SANITARY WASTE LINES AND VENT PIPING BELOW GRADE SHALL BE NO HUB CAST IRON WITH ELASTOMERIC COUPLING SECURED WITH STAINLESS STEEL BANDS. ALL SANITARY WASTE AND VENT LINES ABOVE GROUND SHALL BE SCHEDULE 40 PVC.







WASTE AND VENT PLAN

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

PLUMBING LEGEND

- COLD WATER
- WASTE
- WALL CLEAN OUT (WCO)
- CLEAN OUT
- VENT / VENT THROUGH ROOF (VTR)
- FLOOR CLEAN OUT (FCO)
- WATER POC 1-1/2"
- WASTE POC 3"
- PIPE UP OR PIPE DOWN
- PLUMBING FIXTURE CALL OUT (REFERENCE SHEET P0.0 FOR FIXTURE SCHEDULE)

GENERAL NOTES

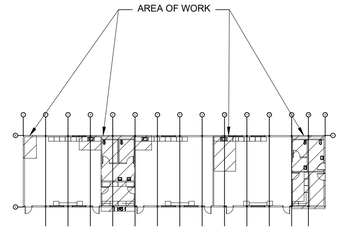
1. SEE PLUMBING FIXTURE SCHEDULE FOR INLET BRANCH, OUTLET BRANCH AND VENT PIPE SIZES FOR EACH FIXTURE
2. INSULATE WATER LINES PER ENERGY CODE SECTION 120.3. INSULATION THICKNESS SHALL NOT BE A MIN 1" FOR PIPES 1" DIAMETER OR SMALLER. PIPES GREATER THAN 1" SHALL BE MIN 1-1/2" THICK INSULATION. INSULATION MATERIALS SHALL HAVE A 25 FLAME SPREAD INDEX AND A 50 SMOKE DEVELOPED INDEX.
3. ALL PLUMBING VENTS SHALL BE 10'-0" MINIMUM AWAY FROM ANY FRESH AIR IN-TAKE EQUIPMENT
4. WATER HAMMER ARRESTORS ARE REQUIRED WHEN QUICK ACTING VALVES ARE USED. (I.E. FLUSH VALVES) PER CPC SECTION 609.11. INSTALL WATER HAMMER ARRESTOR MIN OF (2), ONE AT EACH END OF THE MAIN TRUNK LINE.

FIXTURE UNIT CALCULATIONS (FLUSHOMETER)

ITEM	FIXTURE	QTY	FIXTURE COLD WATER	
			EACH	TOTAL
WC-1,2	WATER CLOSET	4	20.8	83.2
LV-1C	LAVATORY	1	1.0	1.0
LV-1A	LAVATORY	3	1.0	3.0
SK-1A	CR SINK	3	3.0	3.0
DF-1	DRINKING FOUNTAIN	1	1.0	1.0
HF-2	HOSE BIB	5	2.5	12.5
TOTAL FIXTURE UNITS				103.7

UNITS CALCULATED PER TABLE 610.3, 610.4 AND 610.10 CPC
UNITS ASSUMING 30-45 PSI RANGE PER TABLE 610.4 (VERIFY)

FD 1 FLOOR DRAIN: 'ZURN' - MODEL #Z415B, 5" DIAMETER CAST IRON



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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
PLUMBING PLAN

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

REGISTERED PROFESSIONAL ENGINEER
SYED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

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5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER

P1.0

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STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Douglas Fletcher TK Classrooms	Report Page: (Page 1 of 7)
Project Address:		Date Prepared: 2024-03-30T12:28:00-04:00

This document is used to demonstrate compliance for nonresidential occupancies with requirements in 110.1, 110.3, 120.3, and 140.5, and with requirements in 141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in 110.1, 110.3, 160.4 and 170.2(d), and with requirements 180.1 for additions and 180.2 for alterations.

A. GENERAL INFORMATION

01	Project Location (city)	Bakersfield	02	Climate Zone	13
03	Occupancy Types Within Project (select all that apply):				

● Classroom

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in 140./ 170.2(d) and 141.0(a)/ 180.1, or 141.0(b)2N / 180.2 for additions or alterations. Solar water heating systems are documented on the NRCC-SAB compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03		
My project consists of (check all that apply):	System Type[1,2]	System Components		
☒ New system (DHW system being installed for the first time)	Individual System (serving nonresidential spaces)	☒ Equipment	☒ Distribution	☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution	☐ Controls

[1] *FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.*
[2] *Dwelling units refers to hotel/motel guest rooms and units in a multifamily residential occupancy.*
[3] *DHW systems serving 2 or more dwelling units are considered "Central Systems" for multifamily occupancies*

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance.

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	Compliance Results
Table F	Table G	Table H	
Yes	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

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

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Douglas Fletcher TK Classrooms	Report Page: (Page 2 of 7)
		Date Prepared: 2024-03-30T12:28:00-04:00

E. ADDITIONAL REMARKS

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

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Douglas Fletcher TK Classrooms	Report Page: (Page 3 of 7)
		Date Prepared: 2024-03-30T12:28:00-04:00

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in 110.1 and 110.3. Compliance with prescriptive requirements in 140.5(c) / 170.2(d) must also be demonstrated and with 141.0 / 180.1/ 180.2 for addition and alteration scopes.

Equipment Schedule: Water Heating Efficiency and Standby Loss

03	04			05		06		
System Name	WH	Exception to 140.5(c)/ 170.2(d)3	Exceptions Do Not Apply	☐	Gas Service Water Heating System >= 1MMBtu/h[1]	Capacity-weighted Average Efficiency %		
07	08	09	10		11	12	13	14	15
Name or Item Tag	Equipment Type	Volume (gal)	Rated Input Capacity (Btu/h)	Max GPM/ First Hour Rating (FHR)	Rated Efficiency	Minimum Efficiency Required	Efficiency Unit	Designed Standby Loss	Maximum Standby Loss
WH-1	Consumer Rated Electric Instantaneous (<=12kW)	<=2	24	2.8 <= GPM < 4.0	0.99	0.91	UEF		

[1] *FOOTNOTE: In systems >= 1MMBtu/h with multiple units, gas water heaters with input capacity > 100,000 Btu/h may meet 90% Et requirements via an input capacity-weighted average.*
[2] *FOOTNOTE: Compliant equipment may be found in the Modernized Appliance Efficiency Database System (MAEDBS) on the Energy Commission website: https://cacertappliances.energy.ca.gov/Pages/Search/AdvancedSearch.aspx*

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	☐	☒	☐	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per 110.3(c)3
19	☐	☐	☒	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per 110.3(c)5
20	☐	☒	☐	Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per 110.3(c)6
21	☐	☐	☒	School buildings < 25,000 ft² and < 4 stories must install a heat pump water heating system per 140.5(a)1. Water heating systems serving an individual bathroom space may be an instantaneous electric water heater.

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Douglas Fletcher TK Classrooms	Report Page: (Page 4 of 7)
		Date Prepared: 2024-03-30T12:28:00-04:00

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in 120.3 and 140.5. For multifamily and hotel/motel occupancies, compliance is demonstrated with requirements 110.3(c), 160.4, 170.2(d).

Mandatory Pipe Insulation All Occupancies

13	☐	For systems serving dwelling units, pipe insulation must meet the minimum insulation requirements in Table 160.4-A (see blow) except: • Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall abut securely against all framing members • Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5. • Piping surrounded with a minimum of 1 inch of wall insulation, 2 inches of crawlspace insulation, or 4 inches of attic insulation, shall not be required to have pipe insulation.
14	☐	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per 120.3: • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
15	☒	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per 120.3(b) / 160.4(f). Pipe insulation buried below grade must be installed in a water proof and non-crushable casing or sleeve.

TABLE 120.3-A / 160.4-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft² per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)			
			< 1	1 to < 1.5	1.5 to < 4	1.5 to < 4 Multifamily & Hotel/Motel
			Minimum Insulation Required			
105-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11	2.0 in or R-16

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Douglas Fletcher TK Classrooms	Report Page: (Page 5 of 7)
		Date Prepared: 2024-03-30T12:28:00-04:00

H. DOMESTIC HOT WATER CONTROLS

This table is used to demonstrate compliance with control requirements in 110.3 for all occupancies. For multifamily residential and hotel/motel occupancies, compliance is also demonstrated with requirements in 160.4(e) / 170.2(d).

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per 110.3(a).
02	☐	☐	☒	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per 110.3(c)1 unless covered by California Plumbing Code 613.0.
03	☐	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per 170.2(d) or 180.1(b)3 for additions.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per 170.2(d).
06	☐	☐	☒	Combustion air positive shut-off shall be provided per 160.4(3).on all newly installed commercial boilers as follows: • Boilers with input capacity >= 2.5 MMBtu/h, in which the boiler is designed to operate with a nonpositive vent static pressure • Boilers where one stack serves two or more boilers with a total combined input capacity per stack of 2.5 MMBtu/h.
07	☐	☐	☒	Boiler combustion air fans with motor >= 10 hp shall meet one of the following • The fan motor shall be driven by a variable speed drive OR • The fan motor shall include controls that limit the fan motor demand to <=30% of the total design wattage at 50% of the design air volume.
08	☐	☐	☒	Newly installed boilers with an input capacity [d;gte/] 5MMBtu/h and a steady state full-load combustion efficiency < 90% shall maintain excess (stack-gas) oxygen concentrations <= 5% by volume on a dry basis over firing rates of 20-100%. Combustion air volume shall be controlled with respect to firing rate or flue gas oxygen concentration. Use of a common gas and combustion air control linkage or jack shaft is prohibited.

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Douglas Fletcher TK Classrooms	Report Page: (Page 6 of 7)
		Date Prepared: 2024-03-30T12:28:00-04:00

I. 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

Form/Title
NRCI-PLB-E - Must be submitted for all buildings

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Douglas Fletcher TK Classrooms	Report Page: (Page 7 of 7)
Project Address:		Date Prepared: 2024-03-30T12:28:00-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jeffrey Chan-Lugay	Documentation Author Signature: Jeffrey C. Chan-Lugay
Company: SKC Company	Signature Date: 03/30/2024
Address: 15345 Fairfield Ranch Road, Suite #160	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Chino Hills, CA 91709	Phone: (909) 740-3120

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: Sean Khan	Responsible Designer Signature: Sean Khan
Company: SKC Company	Date Signed: 03/30/2024
Address: 15345 Fairfield Ranch Road, Suite #160	License: 992118
City/State/Zip: Chino Hills, CA 91709	Phone: (909) 238-1963

STATE AGENCY APPROVAL

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MANUFACTURER #MF1279666 GC LIC # 992118
DEALER # DL 1279666 SBE CERTIFIED

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DISTRICT/CUSTOMER NAME:
BAKERSFIELD CITY SD

SCHOOL/SITE NAME:
DOCTOR DOUGLAS K. FLETCHER ELEMENTARY SCHOOL

SHEET TITLE:
TITLE 24 REPORT

PROJECT SPECIFIC PROFESSIONAL OF RECORD

PROJECT SPECIFIC PROFESSIONAL OF RECORD

REGISTERED PROFESSIONAL ENGINEER
SYED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25

FIRM:
ADDRESS:
CITY:
PHONE:

REVISIONS

1	-
2	-
3	-
4	-
5	-

PROJECT NO.:	00-0000
DRAFTER:	00
SCALE:	AS NOTED
DATE:	00-00-00

SHEET NUMBER
P2.0

5/2/2025 12:19:48 PM

GENERAL NOTES:

(a) It is the responsibility of the owner to property to maintain the fire protection system in an operable condition at all times.

(b) The fire protection contractor will provide the owner with the necessary instruction manuals for the upkeep of the system,as well as a copy of N.F.P.A. 25.

(c) Only new fire sprinkler shall be employed in the installation of the fire sprinkler system.

(d) The system shall only employ the use of approved materials and devices.

(e) Fire protection plans shall be approved prior to the installation of any pipe. A set of approved plans shall be maintained at all times on the job site.

(f) An appointments shall be made a minimum of two working days in advance,with the appropriate Fire Prevention Division regional office for all inspection and test.

(g) All underground mains and lead-in connections shall be flushed, as indicated in N.F.P.A. 13 and 24 prior to connecting to the overhead piping. The flushing shall continue until the water is clear. Flushing should be performed at the time of hydrostatic test, and shall witnessed by a Fire Prevention Division inspector.

(h) System piping shall be hydrostatically tested at 200 psi for two hours or at 50 psi above the maximum system operating pressure whichever is greater.

(i) Fire Department Connection shall be located on the address side of the building, face the street, be visible and accessible, have National Standard Thread (N S T) female inlets,have protective caps and an accessible,approved check valve located in the main line.(as close to the inlet as possible)

(j) All Valves and Fire Department Connection shall have permanently affixed signs, indicating their function.

(k) A stock of spare sprinklers of each style,tupe and temperature ratings along with sprinkler wrench shall be located at the main riser.

(l) Any portion of a wet fire protection system exposed to freezing temperature shall be adequately protected. (Heat tape is not acceptable method of protection.)

(m) Welding shall be performed per N.F.P.A. 13 requirements.

(n) Automatic sprinkler system shall be supervised by a listed / approved central,proprietu or remote station,or a local alarm when approved by the Chief,which will give an audible signal at a constantly attended location when the number of sprinklers is 100 or more.

FIRE NOTES:

1) CONTRACTOR'S MATERIALS and TEST CERTIFICATE - "BEFORE ASKING FINAL APPROVAL OF AN INSTALLATION BY THE AUTHORITY HAVING JURISDICTION , THE INSTALLING CONTRACTOR SHALL FURNISH A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE, COUNTER SIGNED BY THE OWNER OR REPRESENTATIVE." A TYPICAL CERTIFICATE IS SHOWN IN FIGURE 10.10.1

2) PERMIT NUMBERS -PLEASE CLEARLY INDICATE THE PERMIT NUMBER ON PLANS. IF MULTIPLE PERMIT NUMBERS APPLY TO A SET OF PLANS PLEASE PLACE THE SPECIFIC PERMIT NUMBER DIRECTLY ON THE BUILDING.

3) CONNECTION TO UNDERGROUND PIPING - UNDERGROUND PIPING FROM THE WATER SUPPLY TO THE SYSTEM RISER , AND LEAD IN CONNECTIONS TO THE RISER SHALL BE COMPLETELY FLUSHED BEFORE CONNECTION IS MADE TO DOWNSTREAM FIRE PROTECTION SYSTEM PIPING.

4) ACCEPTANCE TESTING CRITERIA (C. F. C. CHAPTER 47)

a) SCHEDULE AN INSPECTION WITH AUTHORITY HAVING JURISDICTION AND COORDINATE INSPECTION TIME WITH THE OWNER / REPRESENTATIVE.

b) PERFORM TESTING - PIPING INSPECTION INCLUDING WELD INSPECTION AND CERTIFICATE REVIEW,
OVERHEAD ROUGH AND HYDROSTATIC TEST PUMP UP TO 200 PSI OR 50 OVER WORKING PRESSURE WHICHEVER IS GREATER , AND OVERHEAD FINAL.

c) COMPLETE AND SIGN THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATE.

d) REMOVE ALL CAPS AND STRAPS PRIOR TO PLACING SPRINKLER SYSTEM INTO SERVICE.

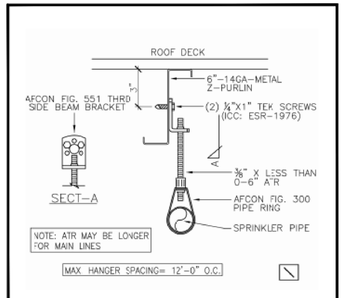
e) UPON SYSTEM ACCEPTANCE BY AUTHORITY HAVING JURISDICTION A LABEL PRESCRIBE BY TITLE 19 CALIFORNIA CODE OF REGULATIONS , CHAPTER 5 SHALL BE AFFIXED TO EACH SYSTEM RISER.

5) CONTRACTOR TO SUPPLY OWNER'S INFORMATION (C.F.C. CHAPTER 47)

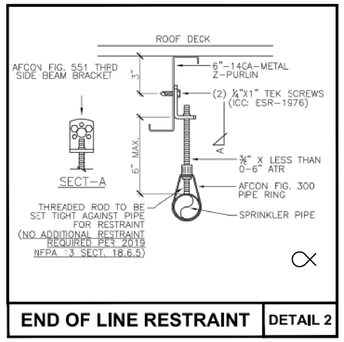
a) ALL LITERATURE AND INSTRUCTIONS PROVIDED BY THE MANUFACTURER DESCRIBING PROPER OPERATION AND MAINTENANCE OF ANY EQUIPMENT AND DEVICES INSTALLED.

b) N.F.P.A. 25 STANDARD FOR THE INSPECTION TESTING AND MAINTENANCE OF WATER -BASED FIRE PROTECTION SYSTEMS, 2016 CALIFORNIA EDITION.

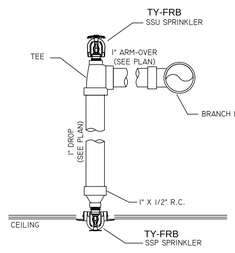
c) TITLE 19 , CALIFORNIA CODE OF REGULATIONS, CHAPTER 5, "FIRE EXTINGUISHING SYSTEMS."



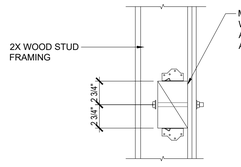
TYPICAL HANGER DETAIL | **DETAIL 1**



END OF LINE RESTRAINT | **DETAIL 2**



UP & DOWN HEADS | **DETAIL 3**



BLOCKING | **DETAIL 4**

NFPA #13, 2022 EDITION

SECTION 23.1.2

DEVIATION FROM APPROVED PLANS SHALL REQUIRE PERMISSION OF THE AUTHORITY HAVING JURISDICTION.

BUILDING CODE DATA:

2022 CALIFORNIA BUILDING CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA FIRE CODE
2022 CALIFORNIA BUILDING CODE / T-24
2022 CALIFORNIA ENERGY CODE

SCOPE OF WORK:

(1) INSTALL NEW FIRE SPRINKLER SYSTEM FOR THE NEW MODULAR CLASSROOMS

BUILDING INFORMATION :

DEVELOPMENT TYPE:	MODULAR
CONS.TYPE:	V-B
DESCRIPTION USE:	CLASSROOMS
OCCUPANCY:	E
STORIES:	1

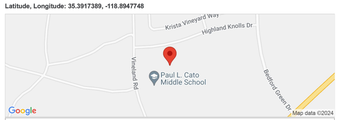
NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

Underground Service Alert
Call: TOLL FREE
1-800 227-2600
WWW.CALL811.COM
TWO WORKING DAYS BEFORE YOU DIG

OSHPD

9801 Highland Knolls Dr, Bakersfield, CA 93306, USA

Latitude, Longitude: 35.3917389, -118.8947748



Date	4/16/2024, 4:23:25 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Default (See Section 11.4.3)

Type	Value	Description
S_S	0.933	MCE_R ground motion. (for 0.2 second period)
S_1	0.333	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.119	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	0.746	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.402	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.483	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	0.933	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.009	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.333	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.361	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)

Seismic Bracing Calculation

DOUGLAS K FLETCHER ELEMENTARY

Brace Information

Length of brace:	7'-0"
Diameter of brace:	1"
Type of brace:	SCH.40
Angle of brace:	45° TO 90°
Least radius of gyration:	45°
Maximum horizontal load:	200 #OR #OR

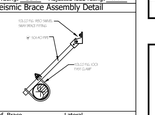
Fastener Information

Orientation of connecting members: 4
Type: 3/8 HILTI KWIK BOLT TZ
Diameter: 3/8"
Length (in wood): 3"
Maximum load: 2840

Seismic Brace Attachment

Structure attachment fitting or tension-only bracing system: Model: HS100S
Listed load rating: 4230 Adjusted load rating: 1744
Sway brace (pipe attachment) fitting: Model: HS2WS
Listed load rating: 4230 Adjusted load rating: 1744

Seismic Brace Assembly Detail



Orientation of Brace: Lateral

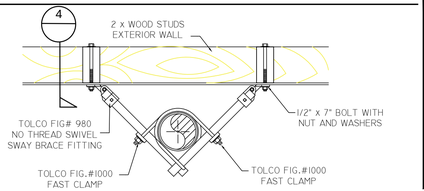
Sprinkler System Load Calculation [Fw=CpWp (default is 0.5)]

Diameter	Type	Total length (ft)	Weight per ft	Wp	Total weight
4"	SCH 10 CPVC	14 ft	2.867 lb/ft	0.45	40 lb
1-1/4"	SCH 10 CPVC	60 ft	2.564 lb/ft	0.45	69 lb
1"	SCH 10 CPVC	20 ft	1.900 lb/ft	0.45	18 lb
			Total weight Wp x 1.15		124 lb
					91 lb

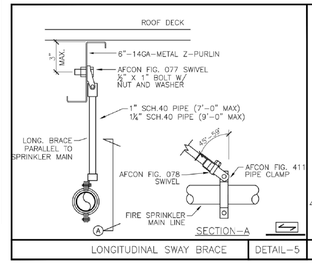
LATITUDE = 35.391
LONGITUDE = -118.894
Ss = 0.99
Cp = .45

MAX. ZONE OF INFLUENCE 5'-1" FIRE @ 14' SPACING

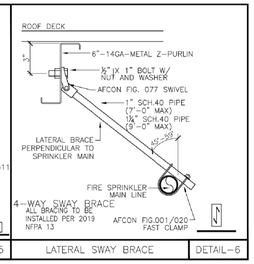
Total Adjusted Load of all pipe within Zone of Influence: 145 lb



4-WAY SWAY BRACE | DETAIL-7

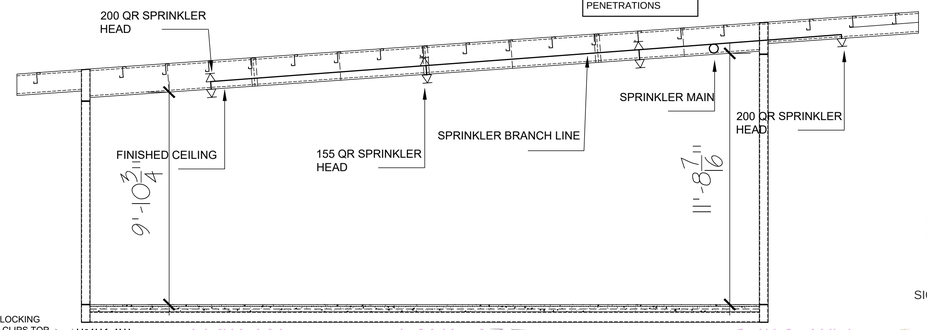


LONGITUDINAL SWAY BRACE | DETAIL-5



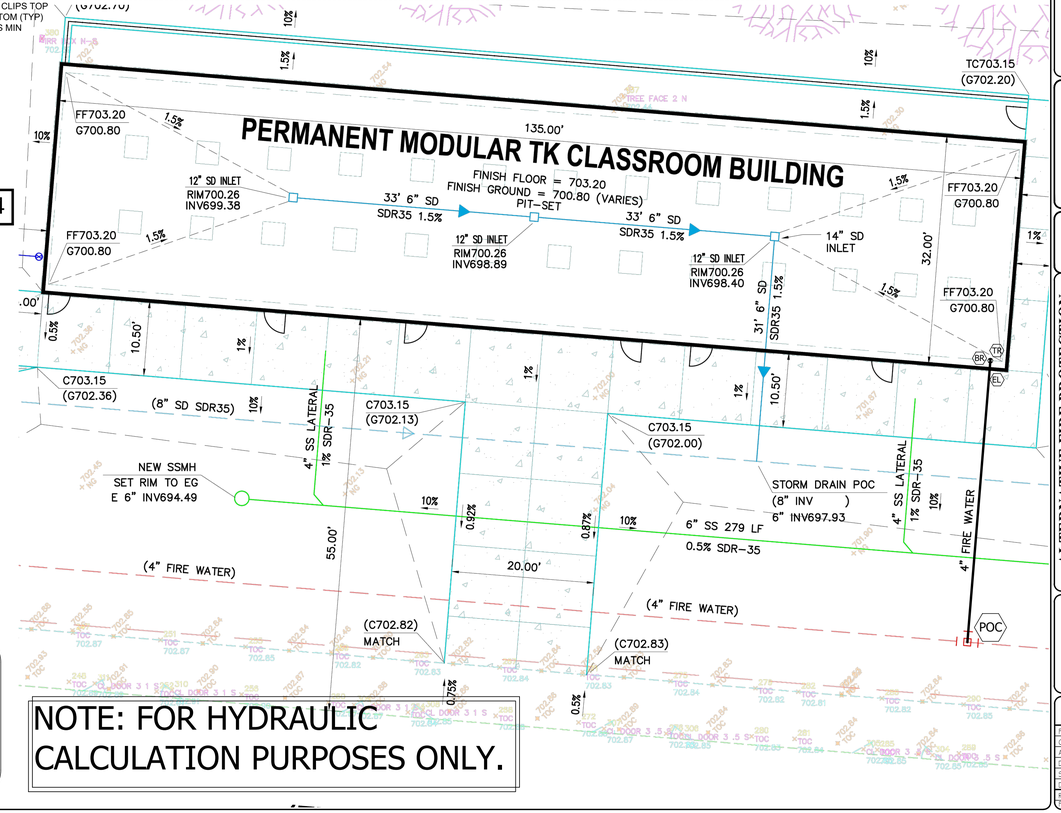
LATERAL SWAY BRACE | DETAIL-6

REFER TO SHEET S4.0 FOR ALLOWABLE PENETRATIONS



REGISTERED PROFESSIONAL ENGINEER
SYED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

SIGNED: 4-29-25



STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SPRINKLER SCHEDULE AND LEGEND

SYMBOL	LOCATION	SPRINKLER DESCRIPTION	TYPE	FINISH	SIN	QT
		TOTAL REQUIRED SPRINKLER HEADS IN THIS BUILDING				

SYMBOL LEDGEND

- LONG./LAT. / SWAY BRACE LOCATION
- 4 WAY SWAY BRACING LOCATION
- REVISION NOTE LOCATION
- HYDRAULIC NODE POINT LOCATION
- FLOW SWITCH LOCATION
- ELECTRIC BELL LOCATION
- RISER NIPPER LOCATION
- SUPER HYDRANT 6" x 4" x 2-1/2" x 2-1/2"

FIRE PROTECTION CONTRACTOR
C-16 941639
EXPIRES: 12-31-2025
STATE OF CALIFORNIA

ALTERNATIVE FIRE PROTECTION
21960 OLETZ ROAD SUITE #A MENIFEE, CA 92587
PH (951) 245-7111 FX (951) 245-7222
LIC # C-16 941639

PROJECT: DOUGLAS K. FLETCHER ELEMENTARY SCHOOL
9801 HIGHLAND KNOLLS DRIVE
BAKERSFIELD, CA. 93306

COVERSHEET
DETAILS SITE PLAN

PERMIT NO.	
CONTRACT NO.	24032
APPROVAL	DSA
DESIGN BY	LUIS HERNANDEZ
SCALE	1/8"=1'-0"
DATE	APR. 15,2024
REVISED -	
PLOTTED -	

FP-1

California Water Service Company
Fire Flow Test

10/4/2023

Test Date: 09/08/2023 Time: 6:00

District: BAKERSFIELD Zone: 880 Plat: 28-48

Address: 9801 HIGHLAND KNOLLS DR

Cross Street: BEDFORD GREEN DR

Requested By: BCSD- DANIEL WASTAFERRO

Conducted By: JACK MOORE

Purpose Of Test: FIRE FLOW

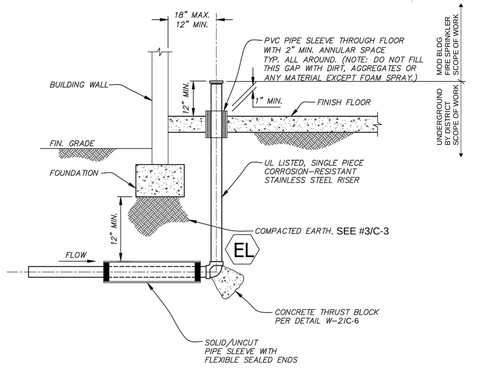
Witnessed By: Calwater: ANGEL HINOJOS

Others: DAN PEREZ-COB

Outlet No.	Outlet Size	PITOT	Observed	Static Pressure	Residual Pressure	Flow Observed	Flow Avail. @20
Location 1 Hydrant No.: 5819			Address: 9801 HIGHLAND KNOLLS DR				
1	4.00	21	1968	65	35	1968	2450
2							
3							
4							
Location 2 Hydrant No.:			Address:				
1							
2							
3							
4							
Location 3 Hydrant No.			Address:				
1							
2							
3							
4							
			Total Flow Observed Available @20:			1968	2450

Remarks: FLOW 1968 GPM

Static/Residual Location: 9801 HIGHLAND KNOLLS DR FH 5818



WATER RESOURCES DEPARTMENT
CITY OF BAKERSFIELD, CALIFORNIA

UNDER FOUNDATION RISER DETAIL

HYDRAULIC SYSTEM

This building is protected by a hydraulically Designed Automatic Sprinkler System

Location: MODULAR CLASSROOM

Sprinkler Information

NUMBER OF FLOWING SPRINKLERS	15
MANUFACTURE	TYCO
MODEL	TY-FRB
200°	QUICK RESPONSE
1/2"	5.6 K-FACTOR

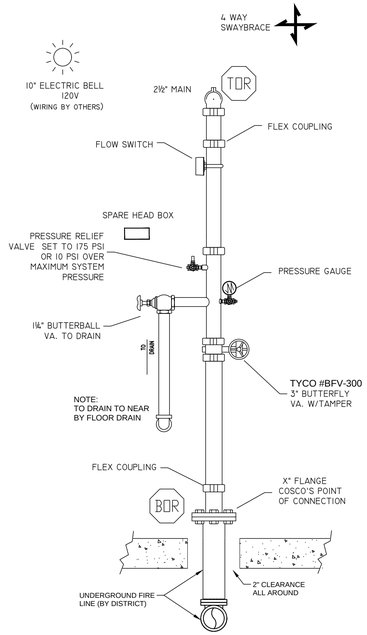
Basis of Design

STANDARD	NFPA 13, 2022 EDITION
HAZARD GROUP	LIGHT HAZARD
DENSITY	.15 GPM/SQ.FT.
DESIGNED AREA OF DISCHARGE	1509 SQ.FT.

System Demand

GPM DEMAND AT THE BASE OF THE RISER	291.16 GPM
RESIDUAL PRESSURE AT THE BASE OF THE RISER	21.854 PSI
GPM DEMAND AT THE WATER SUPPLY SOURCE	391.16 GPM
RESIDUAL PRESSURE AT THE WATER SUPPLY SOURCE	43.735 PSI
HOSE STREAM ALLOWANCE	50 GPM INSIDE 50 GPM OUTSIDE 100 GPM TOTAL
REMOTE SPRINKLER FLOW	14.82 GPM @ 7.00 PSI

HYDRAULIC DATA PLATE
(SEE RISER DETAIL FOR LOCATION)



RISER DETAIL #4
NTS

SYMBOL LEGEND

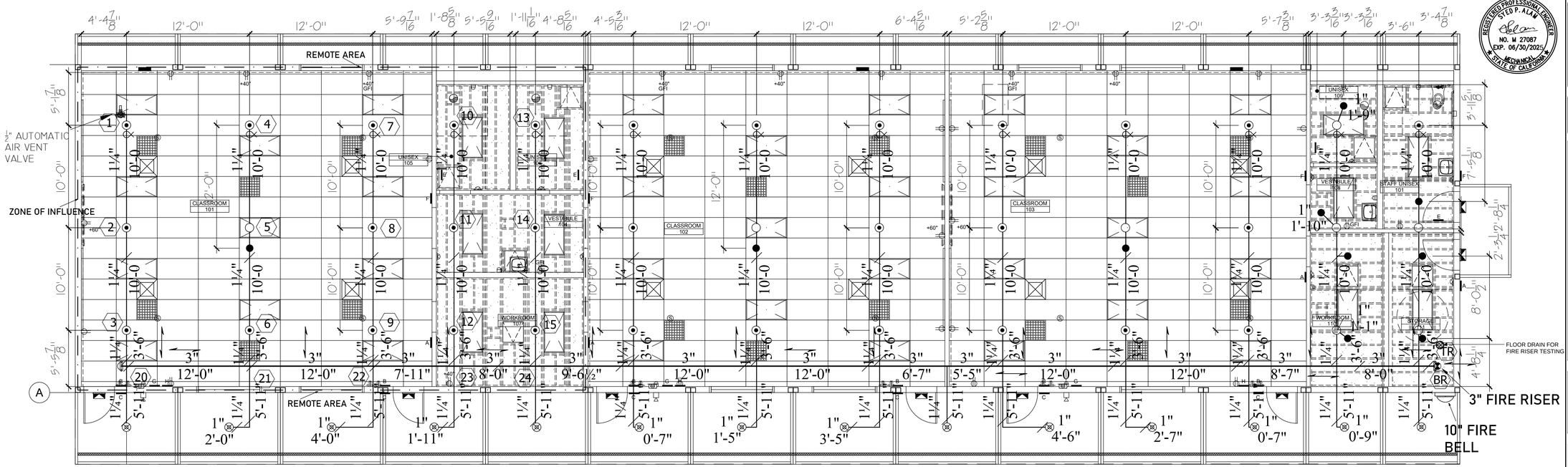
- FIRE SPRINKLER RISER. SEE #4/- THIS SHEET
- 4-WAY RISER BRACE. SEE #7/FP-1
- SEMI-RECESSED PENDENT FIRE SPRINKLER HEAD SEE ADDITIONAL SPRINKLER HEAD INFORMATION BELOW
- UPRIGHT FIRE SPRINKLER HEAD. SEE ADDITIONAL SPRINKLER HEAD INFORMATION BELOW
- UPRIGHT FIRE SPRINKLER HEAD OVER A PENDENT HEAD AT SAME LOCATION. SEE ADDITIONAL SPRINKLER HEAD INFORMATION BELOW
- (1) HYDRAULIC CALCULATION NODES. SEE SHEET FP-3
- LONGITDINAL SWAY BRACE. SEE #5/FP-1
- LATERAL SWAY BRACE. SEE #6/FP-1
- TYPICAL PIPE HANGERS. SEE #1/FP-1
- END OF THE LINE RESTRAINT. SEE #2/FP-1
- PLAN VIEW OF AUXILIARY DRAIN LOCATION (SEE DETAIL)
- GROOVED END COUPLING. SEE THIS SHEET FP-2 ON PIPING PLAN
- SUPPLY AIR REGISTER
- RETURN AIR REGISTER
- ***RELOCATED*** RETURN AIR REGISTER (SEE PLAN)
- 2'x 4' RECESSED LIGHT FIXTURE
- FULL-HEIGHT WALL TO BOTTOM OF ROOF DECK OR BLOCKING

SPRINKLER HEAD LEGEND:

- 155°F TYCO QUICK RESPONSE SSP HEADS MODEL TY-FRB , ½ ORIFICE,5.6 K-FACTOR CHROME FINISHED,WITH CHROME ESCUTCHEON. SIN TY3225 TOTAL 41
- 200°F TYCO QUICK RESPONSE SSU HEADS MODEL TY-FRB , ½ ORIFICE,5.6 K-FACTOR BRASS FINISHED, SIN TY3513 TOTAL 39

TOTAL HEADS 56

- UPRIGHT SPRINKLER HEAD OVER A PENDANT SPRINKLER HEAD AT THE SAME LOCATION



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

SIGNED: 4-29-25

REGISTERED PROFESSIONAL ENGINEER SYED P. ALAM NO. M 27087 EXP. 06/30/2025 MECHANICAL STATE OF CALIFORNIA

STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

tyco

Worldwide Contacts | www.tyco-fire.com

Series TY-FRB, 5.6 K-factor Upright, Pendent, and Recessed Pendent Sprinklers Quick Response, Standard Coverage

IMPORTANT
Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

Always refer to Technical Data Sheet TFP700 for the "INSTALLER WARNING" that provides cautions with respect to handling and installation of sprinkler systems and components. Improper handling and installation can permanently damage a sprinkler system or its components and cause the sprinkler to fail to operate in a fire situation or cause it to operate prematurely.

Scan the QR code or enter the URL in a web browser to access the most up-to-date electronic version of this document. Data rates may apply.

docs.jci.com/tycofire/tfp172

NOTICE
The TYCO Series TY-FRB Sprinklers described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

General Description

The TYCO Series TY-FRB, 5.6 K-factor, Upright (TY313) and Pendent (TY323) Sprinklers described in this data sheet are quick-response, standard coverage, decorative 5 mm glass bulb type sprinklers intended for use in light or ordinary hazard, commercial occupancies such as banks, hotels, and shopping malls.

The recessed version of the Series TY-FRB Pendent Sprinkler, where applicable, is intended for use in areas with a finished ceiling. This recessed pendent sprinkler uses one of the following:

- A two-piece Style 15 Recessed Escutcheon with recessed adjustment up to 5/8 in. (15.9 mm) from the flush pendent position.
- A two-piece Style 20 Recessed Escutcheon with recessed adjustment up to 1/2 in. (12.7 mm) from the flush pendent position.

The adjustment provided by the Recessed Escutcheon reduces the accuracy to which the fixed pipe drops to the sprinklers must be cut.

Intermediate level versions of Series TY-FRB Sprinklers are described in Technical Data Sheet TFP297. Sprinkler guards and shields are described in Technical Data Sheet TFP780.

Sprinkler Identification Number (SIN)

TY313. . . . Upright **5.6K, 1/2 in. NPT**
TY323. . . . Pendent **5.6K, 1/2 in. NPT**

Technical Data

Approvals
See Table A

Maximum Working Pressure
175 psi (12.1 bar)
200 psi (17.2 bar)†
† The maximum working pressure of 200 psi (17.2 bar) only applies to the listing by Underwriters Laboratories, Inc. (UL).

Discharge Coefficient
$K_{5.6}$ 5.6 GPM/psi^{½} (80.6 LPM/bar^{½})

Temperature Rating
See Table A

Finishes
Sprinkler: See Table B

Recessed Escutcheon: White Coated, Black Coated, Chrome Plated, or Brass Plated

Physical Characteristics

Frame	Bronze
Button	Brass/Copper
Sealing Assembly	Stainless Steel w/TEFLON
Bulb	Glass
Compression Screw	Bronze
Deflector	Bronze

SPRINKLER SCHEDULE AND LEGEND

SYMBOL	LOCATION	SPRINKLER DESCRIPTION	TYPE	FINISH	SIN	½"
○	CLASSROOMS	TY-FRB,5.6K,155°F,QR,SSP,RECESS 5/8"	TY3225	CHROME	TY3225	41
●	CLASSROOMS	TY-FRB,5.6K,155°F,QR,SSP,RECESS 5/8"	TY3225	CHROME	TY3225	41
⊗	CLASSROOMS	TY-FRB,5.6K,155°F,QR,SSP,RECESS 5/8"	TY3225	CHROME	TY3225	41

TOTAL SPRINKLER HEADS IN THIS BUILDING: 56

TOTAL REQUIRED SPRINKLER HEADS IN THIS BUILDING: 56

SYMBOL LEDGEND

- 1 (1)(N)5,6 AT -3(N)1 BRACE LOCATION
- (N)1 AT -1(N)1 HANGER LOCATION
- 4 4 WAY SWAY BRACING LOCATION
- 1 REVISION NODE LOCATION
- (1) HYDRAULIC NODE POINT LOCATION
- FDC FDC LOCATION
- ELECTRIC BELL LOCATION
- RISER NIPPER LOCATION

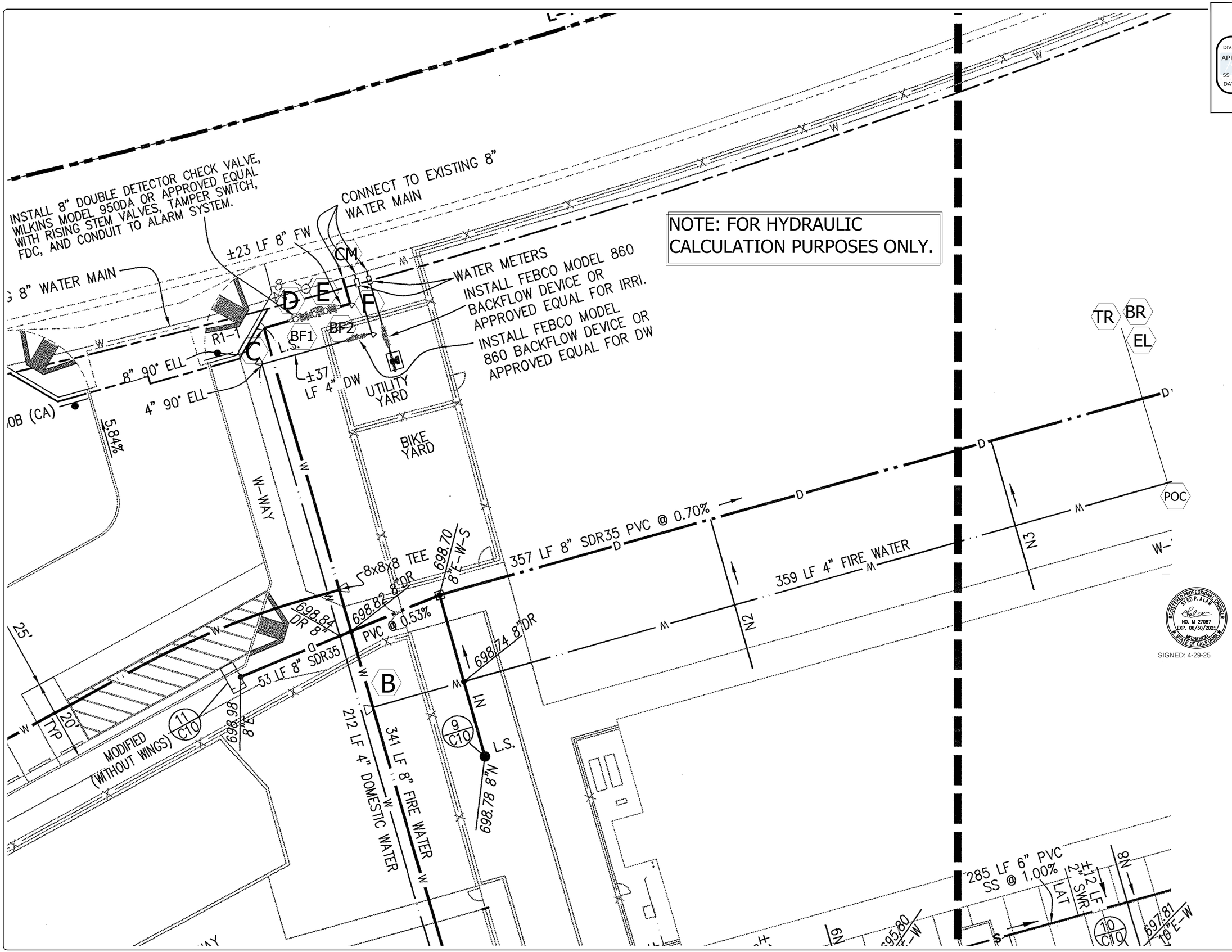
FIRE PROTECTION CONTRACTOR ★ FIRE SPRINKLER ★ C-16 941639 ★ LIC. EXP. 12-31-2025 ★ STATE OF CALIFORNIA

ALTERNATIVE FIRE PROTECTION
2960 GOETZ ROAD SUITE #A MENIFEE,CA 92587
PH (951) 245-7111 FX (951) 245-7222
LIC # C-16 941639

PROJECT: DOUGLAS K. FLETCHER ELEMENTARY SCHOOL
9801 HIGHLAND KNOLLS DRIVE
BAKERSFIELD, CA. 93306

FIRE SPRINKLER PIPING PLAN

PERMIT NO.	
CONTRACT NO.	24032
APPROVAL	DSA
DESIGN BY	LUIS HERNANDEZ
SCALE	1/4"= 1'-0"
DATE	APR. 15,2024
REVISED	
PLOTTED	FP-2



STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124330 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 06/05/2025

SPRINKLER SCHEDULE AND LEGEND

SYMBOL	LOCATION	SPRINKLER DESCRIPTION	TYPE	K-FACTOR/ORIFICE SIZE	TYPE	FINISH	SIN	TEMP RATING

TOTAL SPRINKLER HEADS PER FLOOR
TOTAL REQUIRED SPRINKLER HEADS IN THIS BUILDING

SYMBOL LEDGEND

- LONG / A.T. / SWAY BRACE LOCATION
- 4 WAY SWAY BRACING LOCATION
- REVISION NODE LOCATION
- HYDRAULIC NODE POINT LOCATION
- FDC LOCATION
- ELECTRIC BELL LOCATION
- RISER NIPPER LOCATION

REGISTERED PROFESSIONAL ENGINEER
SYED P. ALAM
NO. M 27087
EXP. 06/30/2025
MECHANICAL
STATE OF CALIFORNIA

ALTERNATIVE FIRE PROTECTION
21960 OGETZ ROAD SUITE #A MENIFEE,CA 92587
PH (951) 245-7111 FX (951) 245-7222
LIC # C16 & C36 #1045

PROJECT:
DOUGLAS K. FLETCHER ELEMENTARY SCHOOL
9801 HIGHLAND KNOLLS DRIVE
BAKERSFIELD, CA. 93306

SITE PLAN

PERMIT NO.	
CONTRACT NO.	24082
APPROVAL	DSA
DESIGN BY	LUIS HERNANDEZ
SCALE	1/4"=1'-0"
DATE	APR. 15, 2024
REVISED	
PLOTTED	FP-3