STK ARCHITECTURE INC

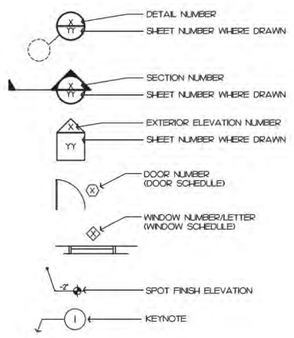
SAN BERNARDINO COUNTY FIRE STATION No. 227 PROJECT SITE PLANS CITY OF SAN BERNARDINO, SAN BERNARDINO COUNTY, CALIFORNIA

MARCH 25, 2025

CONFIDENTIAL

wsp

AC	• AIR COMPRESSOR	MAX.	• MAXIMUM
CG	• CORNER GUARDS	MIN.	• MINIMUM
C.J.	• CONTROL JOINTS	NIC	• NOT IN CONTRACT
CONC.	• CONCRETE	O.C.	• ON CENTER (SPACING)
CONT	• CONTRACTOR	SS	• STAINLESS STEEL
DIA.	• DIAMETER	SW. BD.	• SWITCH BOARD
E.J.	• EXPANSION JOINT	TEL	• TELEPHONE BACKBOARD.
EM	• EMERGENCY	TV	• TELEVISION
EXH	• EXHAUST SYSTEM. SEE MECH.	TYP.	• TYPICAL CONDITION. UON
FD	• FLOOR DRAIN	UON	• UNLESS OTHERWISE NOTED
FE	• FIRE EXTINGUISHER		
FS	• FLOOR SINK		
GYP. BD.	• GYPSUM BOARD		
HM	• HOLLOW METAL		



ABBREVIATIONS / SYMBOLS LEGEND

INSTALLED INSULATING MATERIAL SHALL HAVE BEEN CERTIFIED BY THE MANUFACTURER TO COMPLY WITH THE CALIFORNIA QUALITY STANDARDS FOR INSULATING MATERIAL.

ALL INSULATING MATERIALS SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAME SPREAD RATING AND SMOKE DENSITY REQUIREMENTS OF SECTION 2602 AND 707 OF THE CBC.

ALL EXTERIOR JOINTS AND OPENINGS IN THE BUILDING ENVELOPE THAT ARE OBSERVABLE SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, OR WEATHERSTRIPPED.

SITE CONSTRUCTED DOORS, WINDOWS AND SKYLIGHTS SHALL BE CAULKED BETWEEN THE UNIT AND THE BUILDING, AND SHALL BE WEATHER STRIPPED (EXCEPT FOR UNFRAMED GLASS DOORS AND FIRE DOORS)

MANUFACTURED DOORS AND WINDOWS INSTALLED SHALL HAVE AIR INFILTRATION RATES CERTIFIED BY THE MANUFACTURER PER 2-5369(a)ii. AFTER JULY 1, 1993, MANUFACTURED FENESTRATION PRODUCTS MUST BE LABELED FOR U-VALUE ACCORDING TO NFRC PROCEDURES. ALSO ALL OVERHEAD DOORS OF APPARATUS ROOM PROVIDE CERTIFICATES OF COMPLIANCE FOR DOORS, WINDOWS & INSULATION.

TITLE 24 MANDATORY MEASURES

THE COUNTY OF SAN BERNARDINO WISHES TO CONSTRUCT A NEW FIRE STATION FOR SAN BERNARDINO FIRE PROTECTION DISTRICT. THE NEW FIRE STATION IS 17,764 S.F. WHICH INCLUDES THREE APPARATUS BAYS W/ LOCKER ROOM, 9 SLEEPING QUARTERS, 5 BATHROOMS, 1 OFFICE, KITCHEN, DAYROOM, LAUNDRY, FITNESS, ETC. THE EXTERIOR INCLUDES A 20'X20' STORAGE BUILDING, DIESEL FUEL TANK, EMERGENCY GENERATOR, HOSE DRYING RAMP, CMU SITE WALLS, ETC.

SCOPE OF WORK/PROJECT DESCRIPTION

A PRE-CONSTRUCTION CONFERENCE WITH THE GEOTECHNICAL ENGINEER SHALL BE HELD AT THE SITE PRIOR TO THE INITIATION OF SITE GRADING TO ASSURE A COMPLETE UNDERSTANDING OF THE RECOMMENDATIONS PRESENTED IN THIS REPORT AS THEY APPLY TO THE ACTUAL GRADING PERFORMED.

THE FOLLOWING SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER:

BUILDING PAD - WHEN OVER EXCAVATION WORK HAS REACHED BOTTOM.

BUILDING PAD - WHEN OVER EXCAVATION MATERIAL IS BEING PLACED. TESTS SHOULD BE TAKEN @ 2'-0" VERTICAL INTERVALS.

MATERIAL IMPORT - WHEN PLACEMENT OF IMPORT MATERIAL. TESTS SHOULD BE TAKEN @ 2'-0" VERTICAL INTERVALS.

CONCRETE - PRIOR TO ANY BUILDING OR SITE CONCRETE PLACEMENT. (NON-RETAINING CMU WALLS DO NOT REQUIRE TESTING)

CONCRETE - PRIOR TO THE PLACEMENT OF BASE, STEEL & CONCRETE. THE CONCRETE SUB-GRADE SHOULD BE TESTED. THIS INCLUDES ALL CONCRETE SLABWORK.

SITE UTILITY TRENCHES - ALL SITE UTILITY TRENCHES MUST BE TESTED FOR PROPER COMPACTION.

SITE LIGHTING ELECTRICAL TRENCHES - ALL TRENCHES MUST BE TESTED FOR PROPER COMPACTION.

LANDSCAPE SLEEVES - ALL TRENCHES FOR LANDSCAPE SLEEVES MUST BE TESTED FOR PROPER COMPACTION.

NOTE: THE GENERAL CONTRACTOR SHOULD BECOME FAMILIAR W/ THE SOILS REPORT PROVIDED AS PART OF THE SPECIFICATIONS.

GEOTECHNICAL INSPECTION CHECKLIST

SAN BERNARDINO COUNTY
FIRE STATION #227
PROJECT # 10.10.1202

180 WEST 38TH STREET
SAN BERNARDINO, CA. 92405

THE GENERAL BUILDING CONTRACTOR SHALL SUBMIT TO THE COUNTY OF SAN BERNARDINO PROJECT MANAGEMENT DIVISION THE FOLLOWING DOCUMENTS FOR REVIEW AND APPROVAL PRIOR TO OBTAINING BUILDING PERMIT:

1. FIRE SPRINKLER SYSTEM SHALL BE DESIGNED, ENGINEERED AND BUILT BY GENERAL CONTRACTOR & FIRE SPRINKLER SUB-CONTRACTOR. GENERAL CONTRACTOR TO DESIGN THE SYSTEM TO MEET NFPA 13D IN THE LIVING AREA AND NFPA 13 LIGHT HAZARD IN THE APPARATUS BAYS. SPRINKLER PLANS SHALL BE SUBMITTED AND APPROVED BY THE FIRE PREVENTION BUREAU UNDER A SEPARATE PERMIT (CBC 1303.3.3). CONTRACTOR SHALL PROVIDE A COMPLETE AND FUNCTIONING SYSTEM, INCLUDING ANY REQUIRED ELECT. WORKS, TRENCHING, ETC., TO THE OWNER AT NO ADDED COST.
2. COMPLY W/ C.B.C. SECTION 3303.7 - "PEDESTRIAN PROTECTION" DURING CONSTRUCTION.
3. GENERAL CONTRACTOR TO PROVIDE ALL BACKING/FRAMING AS NECESSARY FOR LIGHTS, GRAB BARS, PLASTER REVEALS, SIGNS, ETC. WITH NO ADDED COST TO THE OWNER.
4. DEFERRED SUBMITTAL / SEPARATE PERMITS

   THE FOLLOWING ARE UNDER DEFERRED SUBMITTAL/SEPARATE PERMITS (TO BE OBTAINED BY THE GENERAL CONTRACTOR):
   - SITE WALLS
   - FLAGPOLE
   - LIGHT POLES
   - SIGNS
   - FIRE SPRINKLER SYSTEM
   - TRUSSES
   - ABOVE GROUND FUEL TANK (FIRE DEPT. & SAN BERNARDINO COUNTY ENVIRONMENTAL HEALTH APPROVAL REQUIRED).
   - EMERGENCY DIESEL GENERATOR
   - UNDERGROUND FIRE LINE FROM STREET MAIN TO BUILDING
   - FIRE ALARM
   - PARKING CANOPY

   SUBMITTAL DOCUMENTS (PLANS & CALCULATIONS) FOR DEFERRED ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OF ENGINEER OF RECORD, WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE DEFERRED ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
5. CLEANOUTS INSTALLED UNDER CONCRETE OR ASPHALT PAVING SHALL BE ACCESSIBLE BY YARD BOXES, OR EXTENDED FLUSH WITH PAVING WITH A "BRASS CAP" OR OTHER APPROVED MATERIAL WHEN SUBJECT TO VEHICULAR TRAFFIC. (TMCC (L.D.04.P1))
6. ELECTRICAL CONDUITS IN COMMERCIAL BUILDINGS TO BE BURIED 6" BELOW CONCRETE SLAB. (TMCC (L.D.4.0.5.0.C.1))
7. VERTICAL GLAZING SHALL HAVE U-FACTORS PER NFRC 100-SB OR DEFAULT VALUES PER APPENDIX I OF ACM MANUAL. (CEC EXCEPTION TO 116(A) 2)
8. REQUIRED SPECIAL INSPECTIONS

   THE FOLLOWING SPECIAL INSPECTIONS PER 2019 C.B.C. ARE REQUIRED:
   - SOILS COMPLIANCE PRIOR TO FOUNDATION INSPECTIONS.
   - STRUCTURAL CONCRETE OVER 2500 P.S.I.
   - FIELD WELDING.
   - HIGH-STRENGTH BOLTS.
   - EXPANSION EPOXY ANCHORS.
   - PROVIDE STRUCTURAL SPECIAL INSPECTIONS SEE SHEET S0.1
9. STRUCTURAL OBSERVATION BY THE ENGINEER/ARCHITECT SHALL BE PERFORMED. A STATEMENT IN WRITING SHALL BE GIVEN TO THE BUILDING OFFICIAL STATING THAT THE SITE VISIT HAVE BEEN MADE AND WHETHER OR NOT ANY OBSERVED DEFICIENCIES HAVE BEEN CORRELTED TO CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS. SECTION 1701.
10. WHEN SERVING MORE THAN 100 SPRINKLER HEADS, AUTOMATIC SPRINKLER SYSTEMS SHALL BE SUPERVISED BY AN APPROVED CENTRAL, PROPRIETARY OR REMOTE STATION SERVICE, OR SHALL BE PROVIDED WITH A LOCAL ALARM WHICH WILL GIVE AN AUDIBLE SIGNAL AT A CONSTANTLY ATTENDED LOCATION. SECTION 904.3. GENERAL CONTRACTOR SHALL PROVIDE FIRE ALARM AS REQUIRED BY THE FIRE DEPARTMENT. CONTRACTOR SHALL PROVIDE A COMPLETE AND FUNCTIONING SYSTEM, INCLUDING ANY REQUIRED ELECT. WORKS, TRENCHING, ETC., TO THE OWNER AT NO ADDED COST.
11. NO HAZARDOUS MATERIALS ARE TO BE STORED OR USED WITHIN THE BUILDING WHICH EXCEED THE QUANTITIES IN UBC, TABLES 3-D & 3-E, 2019 CBC.
12. PROVIDE CABLE/WIRE/CONDUIT FOR CATV SYSTEM PER ELECT'L.
13. PAINT CONC. CURB "RED" & PROVIDE "BLUE" REFLECTOR IN THE STREET PER THE COUNTY OF SAN BERNARDINO FIRE DEPARTMENT REQUIREMENTS AT NO ADDED COST.
14. THE UNDERGROUND FIRE LINE IS NOT TO BE CONSTRUCTED UNTIL THE ABOVEGROUND FIRE SPRINKLER SYSTEM PLANS HAVE BEEN APPROVED BY THE COUNTY OF SAN BERNARDINO FIRE DEPARTMENT AND DISTRIBUTED TO ALL PARTIES (ARCHITECT AND OWNER).
15. GENERAL CONTRACTOR TO COORDINATE / PROVIDE A "COPPER-WIRE" PHONE LINE FROM TELEPHONE COMPANY TO TELEPHONE BACK BOARD.
16. IF VEGETATION REMOVAL IS CONDUCTED DURING THE NESTING SEASON (FEBRUARY TO AUGUST), A QUALIFIED BIOLOGIST HIRE BY THE OWNER/ARCHITECT WILL NEED TO CONDUCT A PRE-CONSTRUCTION SURVEY FOR NESTING BIRDS WITHIN 7-DAYS OF ANY VEGETATION REMOVAL OR INITIAL GROUND DISTURBING ACTIVITIES.

    IF NESTING BIRDS AND/OR ANY NESTING ACTIVITIES ARE IDENTIFIED DURING THE PRE-CONSTRUCTION SURVEY, CONSTRUCTION ACTIVITIES WILL NEED TO AVOID THIS NEST UNTIL THE NESTLINGS HAVE FLEDGED THE NEST. A CONSTRUCTION-FREE PERIMETER SHALL BE SET UP AROUND THE ACTIVE NEST AT DISTANCES SPECIFIED BY THE BIOLOGICAL MONITOR. THIS PERIMETER WILL VARY DEPENDING ON THE SENSITIVE NATURE OF THE NESTING BIRD, BUT IS TYPICALLY BETWEEN 50 AND 250 FEET. THIS PERIMETER CAN EXPAND TO 500 FEET FOR FEDERALLY OR STATE LISTED SPECIES AND/OR RAPTORS SUCH AS OWLS, HAWKS AND EAGLES. THE BIOLOGICAL MONITOR CAN ADJUST THIS CONSTRUCTION-FREE PERIMETER BASED ON THE BEHAVIOR OF THE NESTING BIRDS. THE BUFFER AREAS WILL REMAIN IN PLACE UNTIL THE NESTLINGS HAVE FLEDGED OR THE NEST IS NO LONGER ACTIVE (OFTEN DUE TO PREDATION). IF FOR ANY REASON, CONSTRUCTION ACTIVITIES ARE POSTPONED DURING THE NESTING SEASON FOR 14 OR MORE DAYS AND SUITABLE NESTING HABITAT REMAINS ON-SITE, ANOTHER PRE-CONSTRUCTION SURVEY MAY BE REQUIRED WITHIN 7 DAYS OF CONTINUING VEGETATION REMOVAL. FOLLOWING THE END THE PRE-CONSTRUCTION SURVEY A SHORT MEMO WILL BE PREPARED DOCUMENTING THE RESULTS.

    CONTRACTOR SHALL NOTIFY ARCHITECT AND OWNER 7-DAYS PRIOR TO ANY SCHEDULED VEGETATION DISTURBANCE.

NOTES TO GENERAL CONTRACTOR

OWNER
SAN BERNARDINO COUNTY
PROJECT & FACILITIES MANAGEMENT DEPARTMENT
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385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA. 92415
PHONE: (909) 387-5000

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MPE ENGINEER
SALAS O'BRIEN
ED DAVID, P.E.
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CIVIL ENGINEER
ERSC REDLANDS LOCATION
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GEOTECHNICAL ENGINEER
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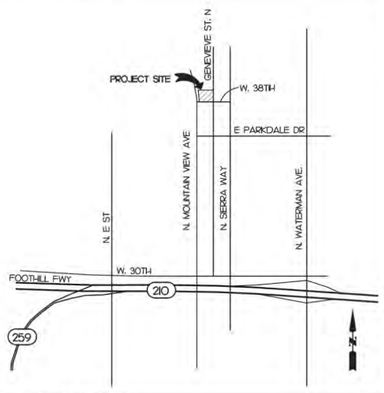
(951) 654-1555 / devore@inlandfoundation.com

DESIGN TEAM



VICINITY MAP

N.T.S.

ASSESSOR'S PARCEL NUMBER — PORTION OF APN 015 428 101

FIRE STATION

OCCUPANCY GROUP	• B, R2
TYPE OF CONSTRUCTION	• V-B
SPRINKLERED (YES/NO)	• YES
STORIES	• 1
HEIGHT (ALLOWABLE 40'-0")	• 20'-3"
BASIC ALLOWABLE FLOOR AREA	• 28,000 S.F.
ACTUAL WORK/SLEEP FLOOR AREA	• 4,964 S.F. < 28,000 S.F. (OK)

APPARATUS BAY

OCCUPANCY GROUP	• S2
TYPE OF CONSTRUCTION	• V-B
SPRINKLERED (YES/NO)	• YES
STORIES	• 1
HEIGHT (ALLOWABLE 60'-0")	• 26'-8"
BASIC ALLOWABLE FLOOR AREA	• 54,000 S.F.
ACTUAL APPARATUS BAY FLOOR AREA	• 5,800 S.F. < 54,000 F.S. (OK)

TOTAL FLOOR AREA (FIRE STATION & APPARATUS) •10,764 S.F.

STORAGE BUILDING

OCCUPANCY GROUP	• S1
TYPE OF CONSTRUCTION	• V-B
SPRINKLERED (YES/NO)	• NO
STORIES	• 1
HEIGHT	• 14'-0"
BASIC ALLOWABLE FLOOR AREA	• 9,000 S.F.
ACTUAL STORAGE BLDG. FLOOR AREA	• 400 S.F. < 9,000 S.F. (OK)

ASSESSOR'S PARCEL NUMBERS: A PORTION OF 015-4281-01

LIST OF APPLICABLE CODES

ALL WORK SHALL COMPLY WITH CURRENTLY ADOPTED:

2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R. (2021 INTERNATIONAL BUILDING CODE)

2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R. (2021 NATIONAL ELECTRICAL CODE)

2022 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24 C.C.R. (2021 UNIFORM MECHANICAL CODE)

2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R. (2021 UNIFORM PLUMBING CODE)

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

2022 CALIFORNIA ENERGY CODE

AMERICANS WITH DISABILITIES ACT 1990 WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND 2010 REVISIONS TO TITLE II

LEGAL DESCRIPTION/CODE ANALYSIS

SHEET INDEX

T1.1 - TITLE SHEET

CIVIL
C 1 - TITLE SHEET
C 2 - DETAILS
C 3 - PRECISE GRADING
C 4 - UTILITY PLAN
C 5 - EROSION CONTROL

LANDSCAPING
L-1 - PLANTING PLAN
L-2 - IRRIGATION PLAN
L-3 - PLANTING & IRRIGATION DETAILS

ARCHITECTURAL
A1.0 - DEMOLITION PLAN
A1.1 - SITE PLAN
A1.2 - SITE DETAILS
A1.3 - SITE DETAILS
A1.4 - SITE DETAILS
A1.5 - METAL CANOPY DETAILS
A2.1 - DIMENSION FLOOR PLAN
A2.2 - REFERENCE FLOOR PLAN
A2.3 - SCHEDULES
A2.4 - DOOR & WINDOW DETAILS
A2.5 - REFLECTED CEILING PLAN & DETAILS
A2.6 - ROOF PLAN & DETAILS
A3.1 - BUILDING SECTIONS & DETAILS
A3.2 - EXTERIOR ELEVATIONS
A4.1 - INTERIOR ELEVATIONS
A5.1 - INTERIOR ELEVATIONS
A5.2 - INTERIOR ELEVATIONS
A6.1 - MISCELLANEOUS DETAILS
A6.2 - MISCELLANEOUS DETAILS

STRUCTURAL
SC.S - STRUCTURAL COVER SHEET
SN.1 - STRUCTURAL NOTES
SN.2 - STRUCTURAL NOTES
S1 - FOUNDATION PLAN
S2 - LOW ROOF FRAMING PLAN
S3 - HIGH/ CLERESTORY ROOF FRAMING PLAN
S4 - SITE STRUCTURES, STORAGE BUILDING & TRASH ENCLOSURE- ROOF FRAMING & FOUNDATION PLANS.
S5 - SITE STRUCTURES, FUEL GENERATOR/ TANK CANOPY - ROOF FRAMING & FOUNDATION PLANS
SD1 - FOUNDATION DETAILS
SD1.1 - SITE & RETAINING WALL DETAILS
SD2 - GENERAL WOOD FRAMING DETAILS
SD3 - ROOF FRAMING DETAILS
SD3.1 - AWNING FRAMING DETAILS
SD4 - SITE STRUCTURES -ADDITIONAL DETAILS

MECHANICAL
M0.1 - MECHANICAL LEGEND AND GENERAL NOTES
M0.2 - MECHANICAL SCHEDULES
M0.3 - TITLE 24
M0.4 - TITLE 24
M2.1 - MECHANICAL FLOOR PLAN
M2.2 - MECHANICAL ROOF PLAN
M5.1 - MECHANICAL DETAILS
M5.2 - MECHANICAL DETAILS
M5.3 - MECHANICAL DETAILS

PLUMBING
P0.1 - PLUMBING LEGEND AND GENERAL NOTES
P0.2 - PLUMBING SCHEDULES & CALCULATIONS
P0.3 - PLUMBING SCHEDULES
P1.1 - PLUMBING SITE PLAN
P2.1 - PLUMBING FLOOR PLAN WEST- SEWER & VENT
P2.2 - PLUMBING FLOOR PLAN EAST-SEWER & VENT
P2.3 - PLUMBING FLOOR PLAN WEST-DOMESTIC WATER
P2.3 - PLUMBING FLOOR PLAN EAST-DOMESTIC WATER
P2.4 - PLUMBING FLOOR PLAN
P2.5 - PLUMBING ROOF PLAN
P4.1 - PLUMBING RISER DIAGRAM
P5.1 - PLUMBING DETAILS
P5.2 - PLUMBING DETAILS

ELECTRICAL
E0.1 - ELECTRICAL LEGEND AND GENERAL NOTES
E0.2 - ELECTRICAL SCHEDULES
E0.3 - EXTERIOR TITLE 24
E0.4 - EXTERIOR TITLE 24
E0.5 - INTERIOR TITLE 24
E1.1 - ELECTRICAL SITE PLAN
E1.1P.H - ELECTRICAL SITE PLAN PHOTOMETRIC
E2.1 - LIGHTING FLOOR PLAN
E2.2 - POWER FLOOR PLAN
E2.3 - ALERT SYSTEM
E2.4 - PHOTOVOLTAIC ROOF PLAN
E4.1 - SINGLE LINE DIAGRAM AND LOAD SUMMARY
E4.2 - DAS SYSTEM WIRING DIAGRAM
E4.3 - PANEL SCHEDULES
E5.1 - ELECTRICAL DETAILS
E5.3 - PV DETAILS
E5.4 - ELECTRICAL DETAILS
E5.5 - PV CUT SHEETS
E5.6 - PV CUT SHEETS

FIRE STATION I.T. / ALERT SYSTEM
D1.1 - INTERIOR ELEVATIONS
D2.1 - FIRE ALERT SYSTEM-FLOOR DEVICE PLAN
D2.2 - FIRE ALERT SYSTEM CONDUIT
D2.3-D2.7 - ALERT SYSTEM DETAILS

STK ARCHITECTURE
42095 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
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CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA. 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202

CIP #22-105

CAFM #

APN Part of 015-428-101

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
TITLE SHEET

SHEET NO.:
T1.1

C:\2024\374-193-24 SAN BERNARDINO COUNTY FIRE STATION #227\Architectural\T1.1 TITLE SHEET.dwg
12/20/2024 3:37 PM JOSHUA HARRIS

SAN BERNARDINO COUNTY

FIRE STATION NO.227

GRADING NOTES:

1. ALL GRADING SHALL CONFORM TO THE LATEST CALIFORNIA BUILDING CODE (CBC) CHAPTERS 17, 18, APPENDIX-J AND ALL APPLICABLE SECTIONS.
2. A GRADING PERMIT SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF ANY WORK ON THE SITE.
3. ISSUANCE OF A GRADING PERMIT DOES NOT ELIMINATE THE NEED FOR PERMITS FROM OTHER REGULATORY AGENCIES WITH REGULATORY RESPONSIBILITIES FOR CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE WORK AUTHORIZED IN THIS PLAN.
4. ALL WORK UNDER THIS PERMIT SHALL BE LIMITED TO WORK WITHIN THE PROPERTY LINES. A SEPARATE CONSTRUCTION, EXCAVATION OR ENCROACHMENT PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS MAY BE REQUIRED FOR ANY WORK WITHIN THE COUNTY RIGHT-OF-WAY.
5. APPROVAL OF THESE PLANS DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL THE EFFECTIVE PROPERTY OWNER'S PERMISSION HAS BEEN OBTAINED AND VALID GRADING PERMIT HAS BEEN ISSUED.
6. MAXIMUM CUT AND FILL SLOPE = 2:1 (HORIZONTAL TO VERTICAL) AND MAXIMUM VERTICAL HEIGHT = 30 FEET, UNLESS AN APPROVED GEOTECHNICAL REPORT CAN JUSTIFY A STEEPER AND TALLER SLOPE.
7. NO FILL SHALL BE PLACED ON EXISTING GROUND UNTIL THE GROUND HAS BEEN CLEARED OF WEEDS, DEBRIS, TOPSOIL AND OTHER DELETERIOUS MATERIAL.
8. FILL SLOPES SHALL NOT HAVE LESS THAN 90% RELATIVE COMPACTION, OR AS RECOMMENDED ON THE APPROVED GEOTECHNICAL REPORT.
9. IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ADEQUATE COMPACTION HAS BEEN ATTAINED ON THE ENTIRE GRADING SITE, INCLUDING FILL AREAS OUTSIDE THE BUILDING PADS AND ON ALL FILL SLOPES.
10. UNLESS OTHERWISE RECOMMENDED IN AN APPROVED GEOTECHNICAL REPORT, OVER-EXCAVATION SHALL BE AT LEAST 60" (5') MINIMUM BELOW THE BOTTOM OF FOOTINGS OR TO COMPETENT NATIVE SOIL OR BEDROCK MATERIALS, WHICHEVER IS DEEPER, AS APPROVED BY THE PROJECT'S GEOTECHNICAL ENGINEER OR GEOLOGIST.
11. EARTHWORK VOLUMES:
    CUT 1,285 (CY), FILL 287 (CY), TOTAL DISTURBED AREA 47,400 (SF)
12. EARTHWORK QUANTITIES ARE SHOWN FOR GRADING PERMIT PURPOSES ONLY, AND SAN BERNARDINO COUNTY IS NOT RESPONSIBLE FOR THEIR ACCURACY.
13. A COPY OF THE GRADING PERMIT AND APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE AT ALL TIMES.
14. ANY ONSITE RETAINING WALLS SHOWN ON THE GRADING PLANS THAT ARE OVER 4' IN HEIGHT, MEASURED FROM TOP OF WALL TO BOTTOM OF FOOTING, ARE FOR REFERENCE ONLY. RETAINING WALLS OVER 4' IN HEIGHT ARE NOT CHECKED, PERMITTED, OR INSPECTED PER THE GRADING PERMIT. A SEPARATE RETAINING WALL PERMIT IS REQUIRED FOR ALL RETAINING WALLS OVER 4' IN HEIGHT.
15. ANY WALLS, FENCES, STRUCTURES AND/OR APPURTENANCES ADJACENT TO THIS PROJECT ARE TO BE PROTECTED IN PLACE. IF GRADING OPERATIONS DAMAGE OR ADVERSELY AFFECT SAID ITEMS IN ANY WAY, THE CONTRACTOR AND/OR DEVELOPER IS RESPONSIBLE FOR WORKING OUT AN ACCEPTABLE SOLUTION TO THE SATISFACTION OF THE AFFECTED PROPERTY OWNER(S).
16. FOR SITES WITH PROTECTED SPECIES OR TREES, THE PROPOSED GRADING MAY BE SUBJECT TO A SEPARATE PERMIT.
17. ADEQUATE FIRE ACCESS AROUND BUILDINGS (INCLUDING GARAGES) SHOULD BE PROVIDED AS APPROVED BY COUNTY FIRE.
18. EXISTING DRAINAGE COURSES SHALL NOT BE OBSTRUCTED, ALTERED, OR DIVERTED WITHOUT PRIOR APPROVAL FROM THE COUNTY OF SAN BERNARDINO, LAND DEVELOPMENT DIVISION. A STREAMBED ALTERATION AGREEMENT MAY ALSO BE REQUIRED FROM THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE.
19. DRAINAGE EASEMENTS SHALL NOT BE OBSTRUCTED, ALTERED OR DIVERTED WITHCUT PRIOR APPROVAL OF THE COUNTY OF SAN BERNARDINO, LAND DEVELOPMENT DIVISION.
20. SETBACKS AND BUILDING LOCATIONS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND MUST BE REVIEWED AND APPROVED UNDER A SEPARATE BUILDING PERMIT.
21. UTILITY AND SEPTIC IMPROVEMENTS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND MUST BE REVIEWED AND APPROVED UNDER A SEPARATE BUILDING PERMIT.
22. ON PROJECTS DISTURBING ONE ACRES OR MORE, THE FOLLOWING NOTE MUST BE ADDED: A NOTICE OF INTENT (NOI) HAS BEEN, OR WILL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN OR WILL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CAS000002) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. THE PERMITTEE SHALL KEEP A COPY OF THE SWPPP ON SITE AND AVAILABLE FOR REVIEW BY COUNTY.
23. IN CONJUNCTION WITH THE CALIFORNIA GENERAL PERMIT FOR PROPOSED DISTURBANCE OVER ONE ACRE, AN ACTIVE WASTEWATER DISCHARGE ID # (WDID) _____ MUST BE INCLUDED ON THE FINAL GRADING PLAN.
24. A FINAL GRADING CERTIFICATION WILL BE COLLECTED BY THE BUILDING INSPECTOR AT THE FINAL BUILDING INSPECTION OR PRIOR A GRADING FINAL STATUS ON THE PERMIT. THE FINAL GRADING CERTIFICATION IS TO BE COMPLETED BY THE ENGINEER OF RECORD ON THE APPROVED GRADING PLANS.
25. ALL FLOOD ZONE REQUIREMENTS MUST BE REFLECTED OR ACCOUNTED FOR ON THE GRADING PLANS. ELEVATIONS OR CONSTRUCTION NOTES MUST BE INCLUDED IN THE PLANS TO ENSURE COMPLIANCE WITH ALL APPLICABLE FIRST FLOOR ELEVATION REQUIREMENTS PER FEMA AND SAN BERNARDINO COUNTY DEVELOPMENT CODE GUIDELINES.
26. FOR NONRESIDENTIAL PROJECTS, PROVIDE FOLLOWING NOTE ON PLANS:
    CALIFORNIA GREEN BUILDING STANDARDS CODE
    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.
27. CONTRACTOR SHALL ACQUIRE ENCROACHMENT PERMITS, CONSTRUCTION PERMITS OR ACCEPTANCE CORRESPONDENCE IN KIND PRIOR TO EXCAVATION ON THE STREET FOR UTILITIES.
28. CONTRACTOR SHALL FOLLOW MONUMENT PRESERVATION PER BUSINESS AND PROFESSIONS CODE § 8776

EROSION CONTROL NOTES:

1. IN CASE OF EMERGENCY, CALL BEVILLE LLOYD AT 909 361 7215
2. POLLUTION AND EROSION PREVENTION MEASURES, ALSO KNOWN AS BEST MANAGEMENT PRACTICES (BMPS), MUST BE INSTALLED PRIOR TO GRADING. THESE MEASURES, INCLUDING THE PREVENTION OF SEDIMENTATION OR FLOOD DAMAGE, TO OFFSITE PROPERTY SHALL BE ADEQUATE WHETHER OR NOT AN EROSION CONTROL PERMIT IS REQUIRED.
3. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ONSITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.
4. EROSION CONTROL DEVICES SHALL BE FUNCTIONING AT ALL TIMES. IN CASE OF FAILURE, RAPID CONSTRUCTION OF EMERGENCY DEVICES SHALL BE IMPLEMENTED.
5. STOCKPILES OF EARTH AND OTHER CONSTRUCTION-RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
6. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOILS AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
7. EXCESS OR WASTE CONCRETE MUST BE CONTAINED ONSITE. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ONSITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
8. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO ENSURE ALL EROSION CONTROL DEVICES AND BMPS ARE INSTALLED AND FUNCTIONING PROPERLY PER PLAN. PROPER PRECAUTION SHALL BE CONSIDERED WHEN 50% OR GREATER PROBABILITY OF PREDICTED PRECIPITATION, AND AFTER ACTUAL PRECIPITATION. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL.
9. TRASH AND CONSTRUCTION-RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
10. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
11. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
12. ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF PROPERLY.
13. ALL STORM WATER CAPTURE DEVICES SHALL BE PROTECTED AT ALL TIMES.

CIVIL ENGINEER'S STATEMENT:

"I CERTIFY THAT I WILL BE RESPONSIBLE FOR THIS GRADING IN ACCORDANCE WITH SECTION 7014(C) OF THE BUILDING CODE TO INCLUDE INCORPORATING ALL RECOMMENDATIONS OF THE SOILS ENGINEER, REPORT AND BE RESPONSIBLE FOR PROFESSIONAL INSPECTION AND APPROVAL OF THE GRADING. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, INSPECTION AND APPROVAL AS TO THE ESTABLISHMENT OF LINE GRADE AND DRAINAGE OF DEVELOPMENT AREA. I WILL ALSO BE RESPONSIBLE FOR THE PREPARATION OF REVISED PLANS AND THE SUBMISSION OF 'AS GRADED' GRADING PLANS UPON THE COMPLETION OF THE WORK.

JOHN M. BRUDIN, P.E. | 41836 | _____ | _____
SUPERVISING CIVIL ENGINEER | R.C.E. NUMBER | SIGNATURE | DATE

SOILS ENGINEER'S STATEMENT:

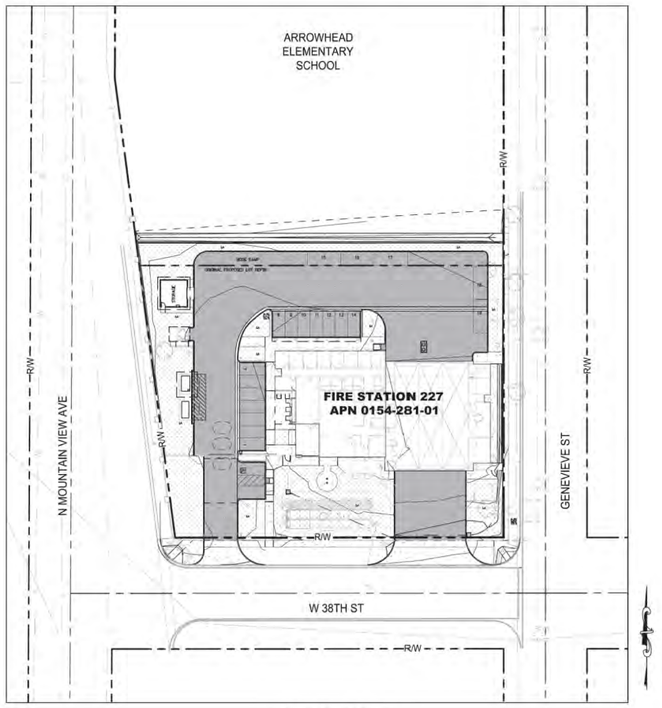
"I SHALL PROVIDE PROFESSIONAL INSPECTION AND APPROVAL CONCERNING THE PREPARATION OF GROUND TO RECEIVE FILLS, TESTING FOR REQUIRED COMPACTION STABILITY OF ALL FINISHED SLOPES AND INCORPORATING THE DATE SUPPLIED BY THE ENGINEERING GEOLOGIST AND THE PREPARATION OF THE SOILS GRADING REPORT."

ALLEN D. EVANS, P.E., G.E. | 2060 | _____ | _____
SUPERVISING CIVIL ENGINEER | R.C.E. NUMBER | SIGNATURE | DATE

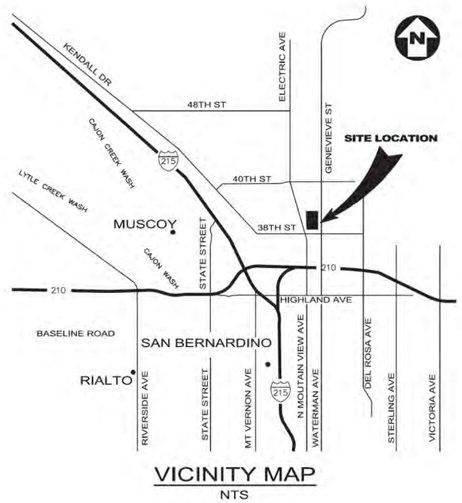
NO GRADING IN EXCESS OF 5000 CU. YDS. SHALL BE STARTED WITHOUT FIRST NOTIFYING THE ENGINEER. A PRE-GRADING MEETING AT THE SITE IS REQUIRED BEFORE START OF GRADING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, GRADING CONTRACTOR, SUPERVISING CIVIL ENGINEER, SOILS ENGINEER AND/OR GEOLOGIST, CITY CONSTRUCTION INSPECTORS OR THEIR REPRESENTATIVES.

THE PERMITTEE OR HIS AGENT SHALL NOTIFY THE CITY OF SAN BERNARDINO WHEN THE GRADING OPERATION (EXCEEDING 5000 CU. YDS.) IS READY FOR REQUIRED INSPECTIONS AS SHOWN IN THE TESTING AND INSPECTION REQUIREMENTS OF DIVISION V.

WATER, SEWER AND PLUMBING ELEMENTS PER SEPARATE PERMIT.



LOCATION MAP
SCALE 1"=40'
0 20' 40' 80'
FEET



VICINITY MAP
NTS

LEGEND:

PROPOSED RIGHT OF WAY	R/W
PROPOSED IMPROVEMENTS	
PROPOSED FLOW LINE	
EXISTING IMPROVEMENTS	
EXISTING OVERHEAD LINE	OHE
EXISTING GAS LINE	G
EXISTING SEWER LINE	S
EXISTING STORM DRAIN LINE	SD
EXISTING TELECOMM.	TC
EXISTING WATER LINE	W
℄/CENTER LINE	

HATCH LEGEND:

CONSTRUCT RIPRAP

CONSTRUCT PCC IMPROVEMENTS

CONSTRUCT PCC IMPROVEMENTS

POWER POLE	
STREET LIGHT	
FIRE HYDRANT	
UTILITY VALVE	
PALM TREE	
TREE	
EXISTING SIGN	
UTILITY PULL BOX	
STORM DRAIN MANHOLE	
TELEPHONE MANHOLE	
ELECTRICAL MANHOLE	
SEWER MANHOLE	
WATER MANHOLE	
WATER METER	
ELECTRICAL PULLBOX	
BENCH MARK	
SPOT ELEVATION	
FENCE	

LEGEND ABBREVIATIONS

AC	ASPHALT CONCRETE
℄	CENTER LINE
C&G	CURB AND GUTTER
FF	FINISHED FLOOR
FL	FLOW LINE
FS	FINISHED SURFACE
GB	GRADE BREAK
NTS	NOT TO SCALE
PL	PROPERTY LINE
RL	RIDGE LINE
R/W	RIGHT OF WAY
SWR	SEWER
TC	TOP OF CURB
TD	TOP OF DITCH
TF	TOP OF FOOTING
TG	TOP OF GRATE
TW	TOP OF WALL
TYP.	TYPICAL

TOPOGRAPHY SOURCE
ERSC.INC, DATED 07/26/2024
1810 W. REDLANDS AVE., REDLANDS, CALIFORNIA 92373
(909) 890-1255

SITE ADDRESS
180 W. 38TH STREET, SAN BERNARDINO CA 92405

BENCH MARK
VERTICAL CONTROL FOR THIS SURVEY IS A NGS: BENCHMARK A-6-11

DESCRIPTION: "A-6-11" DESCRIBED BY METRO WATER DISTR SO. CALIFORNIA 1993 SAN BERNARDINO, AT THE NORTHWEST CORNER OF 48TH ST. AND H STREET (AKA 42ND ST AND E ST.), 42 FEET (12.8 M) NORTH OF 48TH ST AND 46 FEET (14.0 M) WEST OF H ST., IN TOP OF A CONCRETE POST 0.4 FOOT (12.2CM) BELOW CONCRETE SIDEWALK AND 10 FEET NORTHWEST OF CURB FACE.

ELEVATION: 1364.63' (NAVD88)

TOTAL DISTURBED AREA | WDID
1.33 ACRES

ASSESSOR PARCEL NUMBER
0154-281-01

GEOTECHNICAL ENGINEER'S
GEOLOGIC HAZARDS EVALUATION/GEOTECHNICAL INVESTIGATION, DATED 09/06/2024
INLAND FOUNDATION ENGINEERING, INC. 1310 S. SANTA FE AVENUE, SAN JACINTO, CALIFORNIA 92581
(951) 654-1555

FEMA FLOOD ZONE INFORMATION
THIS PROJECT IS LOCATED IN FLOOD ZONE X, AREAS OF 0.2% ANNUAL CHANGE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1%ANNUAL CHANCE FLOOD PER FEMA FLOOD INSURANCE RATE MAP NUMBER 06071C7945H EFFECTIVE AUGUST 28, 2008.

SHEET NO.	DESCRIPTION
C-1	TITLE SHEET
C-2	DETAILS SHEET
C-3	GRADING PLAN
C-4	ON-SITE UTILITIES
C-5	EROSION CONTROL

EARTHWORK QUANTITIES

CUT=	1,285 C.Y.
FILL=	287 C.Y.
TOTAL EXPORT =	998 C.Y.

UTILITIES CONTACT

SOUTHERN CALIFORNIA EDISON
1-800-990-7788

SOUTHERN CALIFORNIA GAS
1-800-427-2000

FRONTIER
(877) 599-1870

SPECTRUM
(833) 267-6094

SAN BERNARDINO MUNICIPAL WATER DISTRICT
1350 SOUTH E STREET
SAN BERNARDINO, CA 92408
(909) 384-5141

*EARTHWORK NOTE
EARTHWORK VOLUMES SHOWN HERE ARE FOR FEE PURPOSES ONLY NOT FOR BIDDING. CONTRACTOR SHALL PERFORM INDEPENDENT EARTHWORK CALCULATIONS AND BID A COMPLETE JOB.
THE SOURCE OF FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER OF RECORD AND THE BUILDING DEPARTMENT BEFORE IMPORT OF THE MATERIAL.

STK
42099 ZEVO DR. TEMECULA, CALIFORNIA 92590-5760
Phone: 951.296.9110 Fax: 951.296.6279 Email: info@stkinc.com

CONSULTANT:

ERSG INC.
Engineering Resources of Southern California
1861 W. Redlands Blvd, Bldg 7B
Redlands, Ca. 92373
P: (909) 890-1255
F: (909) 890-0995

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202

CIP #

CAFM #

APN: 0154-281-01-0-000

180 W. 38TH STREET
SAN BERNADINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

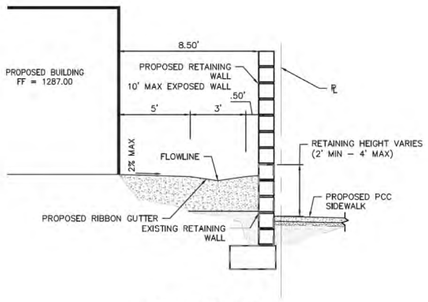
REGISTERED PROFESSIONAL ENGINEER — JOHN M. BRUDIN — No. 41836 Exp. 3/31/26 — CIVIL — STATE OF CALIFORNIA

SHEET TITLE:

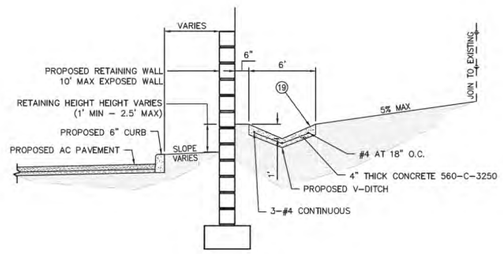
TITLE SHEET

SHEET NO.:

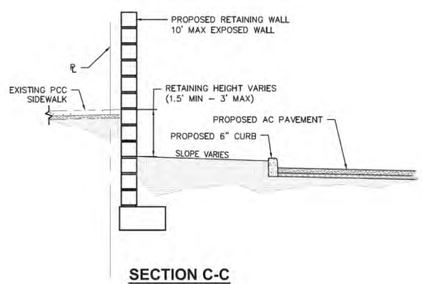
C-1



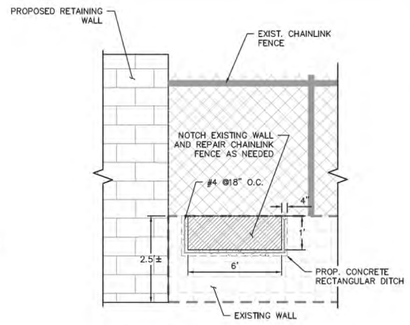
SECTION A-A
NTS



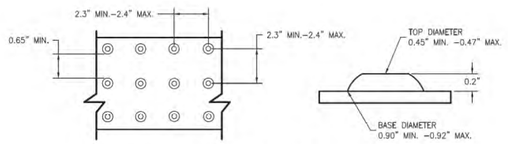
SECTION B-B
NTS



SECTION C-C
NTS

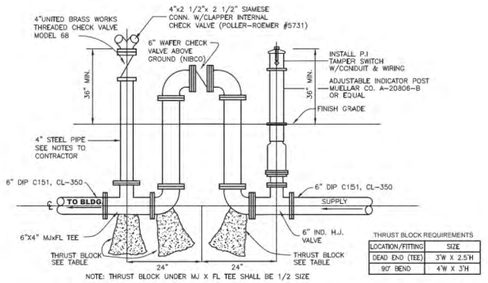


NOTCH EXISTING WALL DETAIL
NTS



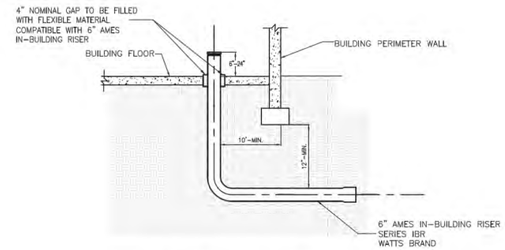
DETECTABLE WARNING PER C.B.C. FIGURE 11B-705

DETECTABLE WARNING DETAIL
NTS

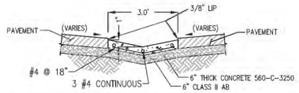


NOTE: THRUST BLOCK UNDER MJ X FL TEE SHALL BE 1/2 SIZE

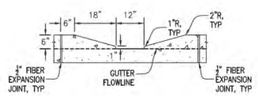
POST INDICATOR FIRE DEPARTMENT CONNECTION
NTS



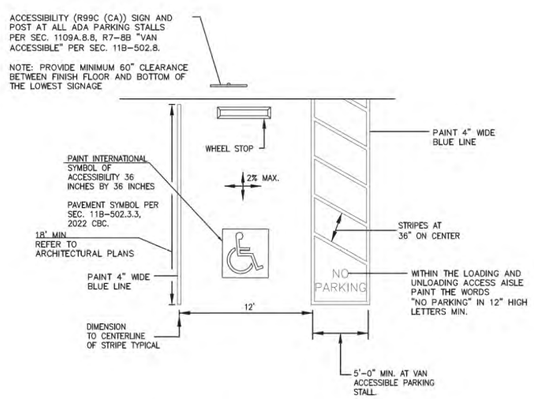
IN-BUILDING RISER DETAIL
NTS



3' RIBBON GUTTER
NTS

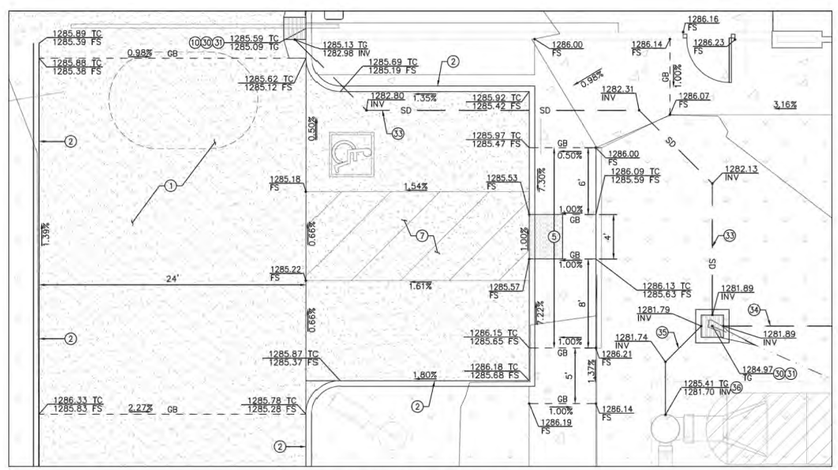


6" CURB CUT DETAIL
NTS



PER CBC 2022, CHAPTER 11B-502.3.3 AND SPPWC STD. 180-0

ADA PARKING STALL DETAIL
NTS



ENLARGED DETAIL "A"
SCALE: 1"=5'

CONSTRUCTION NOTES

1. CONSTRUCT 9" PCC OVER 6" OF CLASS II AGGREGATE BASE MATERIAL.
2. CONSTRUCT 6" PCC CURB PER PER CITY OF SAN BERNARDINO STD. DWG. 200
5. CONSTRUCT CURB RAMP CASE B, TYPE 1 PER SPPWC STD. 111-5
7. CONSTRUCT HANDICAP STALL PER DETAIL ON SHEET C-2
10. CONSTRUCT MODIFIED PER PLAN LOCAL DEPRESSION TYPE F PER SPPWC STD. DWG. 313-4
30. INSTALL 24"x24" JENSEN PRECAST DROP INLET BASIN MODEL 2424, OR APPROVED EQUAL
31. INSTALL ADS FLEXSTORM PURE INLET FILTER, OR APPROVED EQUAL
33. INSTALL 12" HDPE PIPE OR APPROVED EQUAL
34. INSTALL 16" HDPE PIPE OR APPROVED EQUAL
35. INSTALL 22" HDPE PIPE OR APPROVED EQUAL
36. INSTALL 30" DIAMETER NYLOPLAST INLET

STK
42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3789
Phone: 951.296.9110 Fax: 951.296.9075 Email: info@stkinc.com

CONSULTANT:

ERSG
Engineering Resources of Southern California
1861 W. Redlands Blvd, Bldg 7B
Redlands, Ca. 92373
P: (909) 890-1255
F: (909) 890-0995

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202

CIP #

CAFM #

APN: 0154-281-01-0-000

180 W. 38TH STREET
SAN BERNADINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

REGISTERED PROFESSIONAL ENGINEER
JOHN W. BROSTE
No. 41836
Exp. 3/31/26
CIVIL
STATE OF CALIFORNIA

SHEET TITLE:

DETAILS SHEET

SHEET NO.:

C-2

N MOUNTAIN VIEW AVENUE

PROPOSED FIRE STATION
FF = 1287.00
PAD = 1286.50

FIRE APPARATUS BAY
FF = 1287.00
PAD = 1286.25

PROPOSED BLDG
FF = 1286.20

PROPOSED CHAMBERS
TOP OF CHAMBERS = 83.80
CHAMBERS INV. ELEV. = 80.05
BOTTOM OF ROCK = 79.30

SEE ENLARGED DETAIL "A" ON SHEET 3

SEE NOTCH DETAIL ON SHEET C-2

JOIN EXIST SW

PROPERTY LINE

38TH STREET

℄ 38TH STREET

GENEVIEVE STREET

Line Table			
Line #	Length	Direction	SLOPE
SD1	30.50	N13° 01' 34.18"E	0.51%
SD2	8.99	S45° 00' 00.00"E	2.00%
SD3	24.54	N90° 00' 00.00"E	2.00%
SD4	9.31	S45° 00' 00.00"E	2.00%
SD5	11.81	S0° 00' 00.00"E	2.00%
SD6	4.56	N45° 00' 00.00"E	1.00%
SD7	4.76	N0° 00' 00.00"E	1.00%
SD8	22.10	S89° 59' 23.81"E	0.70%
SD9	44.23	N89° 57' 57.47"E	0.70%
SD10	43.67	S45° 07' 19.96"E	0.70%
SD11	30.08	N90° 00' 00.00"E	0.70%

CONSTRUCTION NOTES

1. CONSTRUCT 9" PCC OVER 6" OF CLASS II AGGREGATE BASE MATERIAL.
2. CONSTRUCT 6" PCC CURB PER PER CITY OF SAN BERNARDINO STD. DWG. 200
3. CONSTRUCT 6" CURB & GUTTER PER SAN BERARDINO COUNTY STD. DWG. 116
4. CONSTRUCT 6" CURB CUT PER DETAIL ON SHEET C-2
5. CONSTRUCT CURB RAMP CASE B, TYPE 1 PER SPPWC STD. 111-5
6. CONSTRUCT RETAINING WALL PER ARCHITECTS PLANS AND DETAILS
7. CONSTRUCT HANDICAP STALL PER DETAIL ON SHEET C-2
8. CONSTRUCT 4" THICK PCC SIDEWALK OVER COMPACTED SUBGRADE
9. CONSTRUCT CURB RAMP CASE F PER CALTRANS 2023 STD. PLAN No. A88A
10. CONSTRUCT MODIFIED PER PLAN LOCAL DEPRESSION TYPE F PER SPPWC STD. DWG. 313-4
11. CONSTRUCT 3' RIBBON GUTTER PER DETAIL ON SHEET C-2
12. INSTALL 4" THERMOPLASTIC WHITE PARKING STRIPE
13. CONSTRUCT MODIFIED COMMERCIAL DRIVEWAY APPROACH PER SAN BERNARDINO COUNTY STD. DWG. 129B
14. CONSTRUCT 12" PCC OVER 6" OF CLASS II AGGREGATE BASE MATERIAL
15. CONSTRUCT TRASH ENCLOSURE PER ARCHITECTS PLANS AND DETAILS
16. CONSTRUCT CURB RAMP PER COUNTY OF SAN BERNARDINO STD. DWG. 110
17. CANOPY PER ARCHITECTS PLAN
18. INSTALL ADS MC-3500 STORMTECH CHAMBERS PER PLANS AND SEPARATE ADS CHAMBERS DESIGN DOCUMENTS
19. CONSTRUCT CONCRETE V-DITCH PER SECTION B-B ON SHEET C-2
20. CONSTRUCT 4" THICK CONCRETE RECTANGULAR DITCH, D=1', W=6'

STORM DRAIN NOTES

30. INSTALL 24"x24" JENSEN PRECAST DROP INLET BASIN MODEL 2424, OR APPROVED EQUAL
31. INSTALL ADS FLEXSTORM PURE INLET FILTER, OR APPROVED EQUAL
32. INSTALL 6" HDPE PIPE OR APPROVED EQUAL
33. INSTALL 12" HDPE PIPE OR APPROVED EQUAL
34. INSTALL 16" HDPE PIPE OR APPROVED EQUAL

0' 5' 10' 20'
FEET
SCALE: 1"=10'

STK
42095 ZEVO DR, TEMECULA, CALIFORNIA 92590-3789
Phone: 951.296.9110 Fax: 951.296.9299 Email: stk@stkinc.com

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PROJECT ADMINISTERED BY:
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PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

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SAN BERNARDINO, CA 92415

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FIRE STATION 227

PROJECT # 10.10.1202

CIP #

CAFM #

APN: 0154-281-01-0-000

180 W. 38TH STREET
SAN BERNADINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

JOHN M. BROWN
No. 41836
Exp. 3/31/26
CIVIL
STATE OF CALIFORNIA

SHEET TITLE:

GRADING PLAN

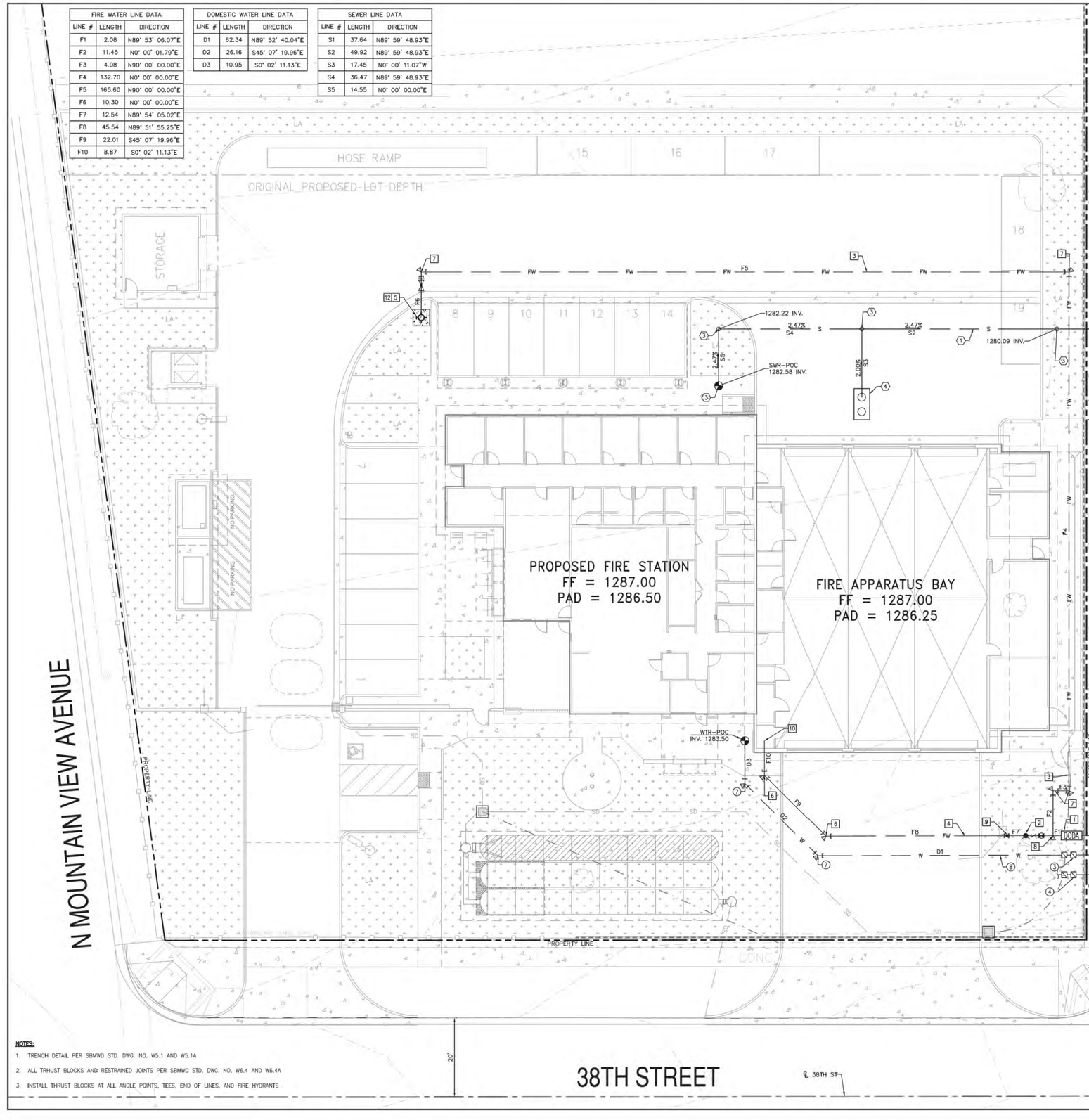
SHEET NO.:

C-3

FIRE WATER LINE DATA		
LINE #	LENGTH	DIRECTION
F1	2.08	N89° 53' 06.07"E
F2	11.45	N0° 00' 01.79"E
F3	4.08	N90° 00' 00.00"E
F4	132.70	N0° 00' 00.00"E
F5	165.60	N90° 00' 00.00"E
F6	10.30	N0° 00' 00.00"E
F7	12.54	N89° 54' 05.02"E
F8	45.54	N89° 51' 55.25"E
F9	22.01	S45° 07' 19.96"E
F10	8.87	S0° 02' 11.13"E

DOMESTIC WATER LINE DATA		
LINE #	LENGTH	DIRECTION
D1	62.34	N89° 52' 40.04"E
D2	26.16	S45° 07' 19.96"E
D3	10.95	S0° 02' 11.13"E

SEWER LINE DATA		
LINE #	LENGTH	DIRECTION
S1	37.64	N89° 59' 48.93"E
S2	49.92	N89° 59' 48.93"E
S3	17.45	N0° 00' 11.07"W
S4	36.47	N89° 59' 48.93"E
S5	14.55	N0° 00' 00.00"E



NOTES:

1. TRENCH DETAIL PER SBMWD STD. DWG. NO. W5.1 AND W5.1A
2. ALL THRUST BLOCKS AND RESTRAINED JOINTS PER SBMWD STD. DWG. NO. W6.4 AND W6.4A
3. INSTALL THRUST BLOCKS AT ALL ANGLE POINTS, TEES, END OF LINES, AND FIRE HYDRANTS

UTILITY NOTES

WATER CONSTRUCTION NOTES:

1. INSTALL 2-INCH WATER SERVICE CONNECTION AND METER PER SBMWD STD. DWG. NO. W1.8
2. INSTALL 1-INCH WATER IRRIGATION SERVICE CONNECTION AND METER PER SBMWD STD. DWG. NO. W1.11
3. INSTALL 2-INCH BACKFLOW PREVENTER PER SBMWD STD. DWG. NO. W4.1
4. INSTALL 1-INCH BACKFLOW PREVENETER PER SBMWD STD. DWG. NO. W4.1
5. INSTALL 2-INCH WATER SERVICE TYPE L HARD COPPER TUBING OR APPROVED EQUAL.
6. INSTALL 1-INCH WATER SERVICE TYPE K SOFT COPPER TUBING OR APPROVED EQUAL
7. INSTALL 2-INCH 45° ELBOW
8. INSTALL 2-INCH PVC, SCH 40 OR APPROVED EQUAL

SEWER CONSTRUCTION NOTES:

1. INSTALL 6-INCH PVC SDR 35 SEWER LATERAL PER SBMWD STD. DWG. NO. S.305
2. INSTALL 6-INCH SEWER SADDLE PER SBMWD STD. DWG. NO. S.307
3. INSTALL 6-INCH CLEAN OUT PER SBMWD STD. DWG. NO. S.310
4. INSTALL GREASE INTERCEPTOR PER PLUMBING PLANS

FIRE PROTECTION CONSTRUCTION NOTES:

1. INSTALL 8-INCH FIRE DOUBLE DETECTOR CHECK PER SBMWD STD. DWG. NO. W4.3
2. INSTALL POST INDICATOR AND FIRE DEPARTMENT CONNECTION VALVE PER DETAIL ON SHEET C-2
3. INSTALL 8-INCH PVC C900 OR APPROVED EQUAL
4. INSTALL 6-INCH PVC C900 OR APPROVED EQUAL
5. INSTALL 6-INCH DIA. FIRE HYDRANT PER SBMWD STD. DWG. NO. W2.2
6. INSTALL 6-INCH 45° ELBOW
7. INSTALL 8-INCH 90° ELBOW
8. INSTALL 8X8-INCH TEE
9. INSTALL 8X6" REDUCER WITH RESTRAINED JOINTS
10. CONNECT FIRE LINE PER DETAIL ON SHEET C-2
11. INSTALL 8-INCH TAPPING SLEEVE PER SBMWD STD. DWG. NO. W3.5
12. CONSTRUCT 3'X3' CONCRETE PAD PER SBMWD STD. DWG. NO. W2.2
13. INSTALL 6-INCH CLASS 350 DUCTILE IRON PIPE RESTRAINED WITH MEGALUG OR APPROVED EQUAL
14. INSTALL 8-INCH CLASS 350 DUCTILE IRON PIPE RESTRAINED OR APPROVED EQUAL
15. INSTALL 6-INCH TAPPING SLEEVE PER SBMWD STD. DWG. NO. W3.5

LEGEND

- TAPPING SLEEVE
- DDCA — DOUBLE CHECK DETECTOR ASSEMBLY
- POST INDICATOR VALVE
- GATE VALVE
- FIRE HYDRANT
- BACKFLOW PREVENTER
- FW — PROPOSED FIRELINE
- POINT OF CONNECTION
- CLEAN OUT
- F.D.C.
- WM WATER METER
- BLUE RETRO-REFLECTIVE
- THRUST BLOCK
- W — PROPOSED WATERLINE
- SD — PROPOSED STORM DRAIN

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Phone: 951.296.9110 Fax: 951.296.9075 Email: info@stkinc.com

CONSULTANT:

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Engineering Resources of Southern California
1861 W. Redlands Blvd, Bldg 7B
Redlands, Ca. 92373
P: (909) 890-1255
F: (909) 890-0995

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202

CIP #

CAFM #

APN: 0154-281-01-0-000

180 W. 38TH STREET
SAN BERNADINO,
CA 92405

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STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

REGISTERED PROFESSIONAL ENGINEER
JOHN M. BRUSH
No. 41836
Exp. 3/31/26
CIVIL
STATE OF CALIFORNIA

SHEET TITLE:
ON-SITE
UTILITIES

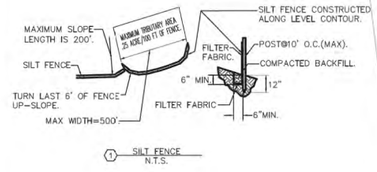
SHEET NO.:
C-4

EROSION CONTROL CONSTRUCTION NOTES

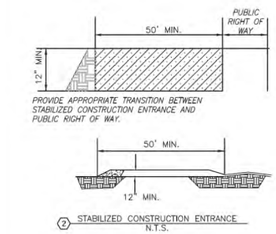
1. SILT FENCE (SE-1).
2. STABILIZED CONSTRUCTION ENTRANCE/EXIT (TC-1) WITH RUMBLE RACKS (10'x24' MIN.).
3. GRAVEL BAG BARRIER (SE-6).
4. MATERIAL DELIVERY AND STORAGE (WM-01).
5. VEHICLE STORAGE.
6. WASTE STORAGE AREA.
7. VEHICLE WASHING AND MAINTENANCE AREA.
8. STORM DRAIN INLET PROTECTION (SE-10).
9. WIND EROSION CONTROLS PER CASQA NS-3.
10. STREET SWEEPING (SE-7).

LEGEND

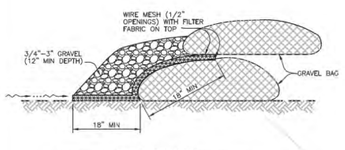
- SAND BAGS
- SILT FENCE
- FLOW PATH
- GRADING LIMITS
- STABILIZED CONSTRUCTION ENTRANCE
- MATERIAL DELIVERY/STORAGE AREA
- VEHICLE STORAGE AND MAINTENANCE AREA
- VEHICLE WASHING AREA
- WASTE STORAGE AREA



1 SILT FENCE
N.T.S.

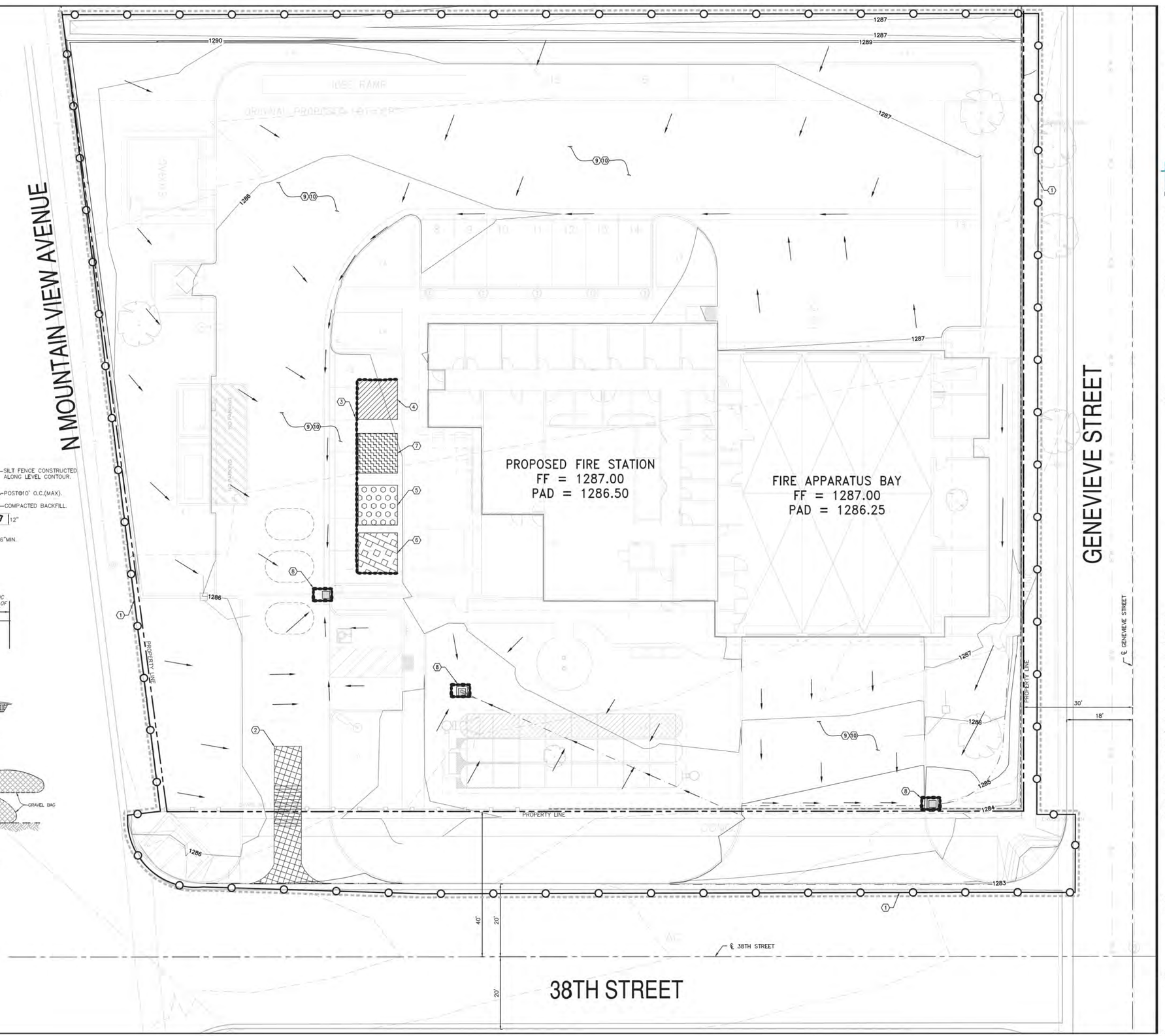


2 STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



3 GRAVEL BAG DETAIL
N.T.S.





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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202

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APN: 0154-281-01-0-000

180 W. 38TH STREET
SAN BERNADINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:

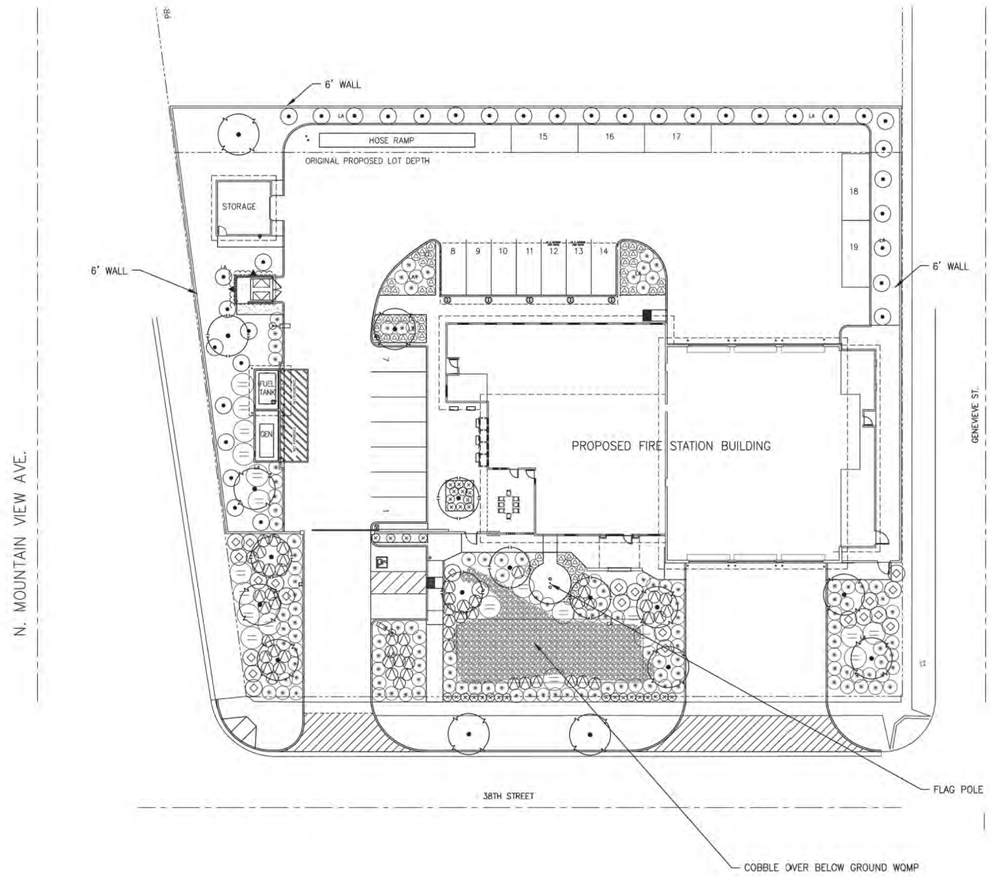
SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

REGISTERED PROFESSIONAL ENGINEER
JOHN M. BRUCH
No. 41536
Exp. 3/31/26
CIVIL
STATE OF CALIFORNIA

SHEET TITLE:
EROSION CONTROL

SHEET NO.:
C-5



PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	NUMBER	REMARKS	WUCOLS IV
	TREES:					
	LAURUS NOBILIS 'SARATOGA'	BAY LAUREL	24" BOX	11	DOUBLE STAKE / HEIGHT 8–10' , SPREAD 3'–4' MIN.	L
	CERCIDIUM 'DESERT MUSEUM'	DESERT MUSEUM PALO VERDE	24" BOX	6	DOUBLE STAKE / HEIGHT 8–10' , SPREAD 3'–4' MIN.	L
	SHRUBS:					
	BACCHARIS PILULARIS 'PIGEON POINT'	PROSTRATE COYOTE BUSH	1 GAL	130	TRIANGULAR SPACING @ 5' O.C.	L
	HESPERALOE PARVIFLORA	RED YUCCA	5 GAL	57	FULL & BUSHY @ 4' O.C.	L
	CALLISTEMON VIMINALIS 'BETTER JOHN'	DWARF BOTTLEBRUSH	5 GAL.	32	FULL & BUSHY @ 3' O.C.	L
	DIANELLA 'LITTLE REV'	LITTLE REV FLAX	5 GAL	53	FULL & BUSHY @ 3' O.C.	L
	ACACIA REDOLENS 'DESERT CARPET'	PROSTRATE ACACIA	1 GAL	20	TRIANGULAR SPACING @ 8' O.C.	L
	LEUCOPHYLLUM FRUTESCENS 'GREEN CLOUD'	GREEN TEXAS RANGER	5 GAL	36	FULL & BUSHY @ 6' O.C.	L
	CAESALPINIA PULCHERRIMA	MEXICAN BIRD OF PARADISE	5 GAL	23	FULL & BUSHY @ 6' O.C.	L
	VINES:					
	MACFADYENA UNGUIS–CATI	CAT'S CLAW	5 GAL	2	ATTACH TO WALLS	L
	MULCH :					
NOT SHOWN	MEDIUM GRIND WOOD MULCH	SHREDDED WOOD MULCH	3" MIN.	AS REQ'D.	3" DEEP – INSTALL TO ALL PLANTING AREAS	

PLANTING NOTES

1. *CONTRACTOR SHALL APPLY "RON STAR" PRE–EMERGENT HERBICIDE AT 3 lbs. PER 1000 s.f. AFTER PLANTING AND BEFORE MULCH INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.(ONLY ON NON–SEEDED AREAS)*
2. *ALL PLANTING SHALL CONFORM TO THE SAN BERNARDINO COUNTY DEVELOPMENT CODES AND STANDARDS.*
3. *SOIL TESTING: CONTRACTOR SHALL PROVIDE A HORTICULTURAL SOILS ANALYSIS PERFORMED BY A LABORATORY OF THE CALIFORNIA ASSOC. OF AGRICULTURAL LABORATORIES. SOIL ANALYSIS SUBMITTED TO THE CITY SHALL INCLUDE THE FOLLOWING: SOIL TEXTURE, PERCENTAGE OF ORGANIC MATTER, SOIL INFILTRATION RATE (DERIVED FROM SOIL TEXTURE/ INFILTRATION RATE TABLES), PH AND TOTAL SOLUBLE SALTS. CONTRACTOR SHALL SPECIFICALLY REQUEST THE SOILS LAB TO PROVIDE AMENDMENT RECOMMENDATIONS.*
4. *CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE OF ALL PLANTING AREAS ON SITE AND SUBSURFACE DRAINAGE FOR ENCLOSED PLANTING AREAS.*
5. *THE CONTRACTOR SHALL CAREFULLY INSPECT THE SITE AND VERIFY ALL THE CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH ANY WORK. NOTIFY LANDSCAPE ARCHITECT AND OWNER IF ANY INCONSISTENCIES OCCUR.*
6. *THE CONTRACTOR SHALL REMOVE ALL WEEDS, ROCKS, DEBRIS AND OTHER EXTRANEOUS MATERIALS FROM THE JOB SITE PRIOR TO PROCEEDING WITH ANY WORK.*
7. *ALL PLANT MATERIALS SHALL BE HANDLED OR STORED SO THAT THEY ARE ADEQUATELY PROTECTED FROM DRYING OUT, FROM SUN OR WIND BURN, OR FROM ANY OTHER INJURY.*
8. *THE CONTRACTOR SHALL APPLY TO ALL PLANTING AREAS FOREST FLOOR MEDIUM GRIND WOOD MULCH OR EQUAL CONTRACTOR SHALL PROVIDE LANDSCAPE ARCHITECT WITH SAMPLES FOR APPROVAL PRIOR TO INSTALLATION.*
9. *CONTRACTOR TO VERIFY ALL PLANT QUANTITIES SHOWN ON PLANS.*
10. *SEE SHEET L–3 FOR DETAILS & SPECIFICATIONS.*
11. *ALL ABOVE GROUND UTILITIES SHALL BE SCREENED W/ PLANTING. CONTACT CITY LANDSCAPE ARCHITECT REGARDING LOCATIONS.*
12. *ALL PLANTING SHALL NOT INTERFERE W/ TRAFFIC SITE LINES.*
13. *CONTRACTOR SHALL TURN OVER SOIL AMENDMENT VERIFICATION TICKETS TO THE CITY INSPECTOR.*
14. *INSTALL CENTURY PRODUCTS .0060" SIZE NON–PANELED ROOT BARRIERS ADJACENT TO HARDSCAPE WHEN TREES ARE PLANTED 5' FROM THE HARDSCAPE TYP. SEE DETAILS & SPECIFICATIONS.*
15. *CONTACT THE COUNTY REPRESENTATIVE FOR FINAL INSPECTION WHEN ALL WORK IS COMPLETED.*
16. *TREES & SHRUBS SHALL BE PLACED A MINIMUM OF 5' AWAY FROM WATER METER, GAS METER, OR SEWER LATERALS; A MINIMUM OF 10' AWAY FROM UTILITY POLES; & A MINIMUM OF 8' AWAY FROM FIRE HYDRANTS & FIRE DEPARTMENT SPRINKLER & STANDPIPE CONNECTIONS.*

SCALE: 1"=20'–0"

STK ARCHITECTURE, INC.
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Phone: 951.296.5119 Fax: 951.296.5076 Email: stk@stkinc.com

CONSULTANT:

ALHAMBRA GROUP
LANDSCAPE ARCHITECTURE
CALIFORNIA LICENSE #2017
RECREATION FACILITIES PLANNING
41635 ENTERPRISE CIRCLE NORTH, SUITE C
TEMECULA, CA 92590 (951) 296-6802

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
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180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9–11–24	D.D.s
12–20–24	95% CDS

SHEET INFORMATION:
STK PROJECT NO.: 374–193–24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:
REGISTERED LANDSCAPE ARCHITECT VINCENT DI DONATO
12-20-24
9-30-25
STATE OF CALIFORNIA

SHEET TITLE:
PLANTING PLAN

SHEET NO.:
L-1
OF 3

BLU-LOCK SPECIFICATIONS

HIGH DENSITY POLYETHYLENE PIPE AND FITTINGS:

A. ALL PIPE SHALL BE CONSTRUCTED OF VIRGIN HIGH DENSITY POLYETHYLENE (HDPE) RESIN WITH THE CELL CLASSIFICATION OF 345464C PER ASTM D 2239 OR ASTM D 2737. THE MATERIAL SHALL CONTAIN 2% CARBON BLACK AS A UV INHIBITOR TO ACCOMMODATE OUTSIDE STORAGE.

B. ALL PIPE FITTINGS SHALL BE CONSTRUCTED FOR QUICK COUPLE PUSH-ON INSTALLATION WITHOUT THE USE OF GLUE OR CLAMPS ONTO 1/2" SWING, OR 3/4", OR 1", HDPE 3408 SIDR 15 LATERAL PIPE.

C. FITTINGS SHALL BE BUILT OF ABS MATERIAL WITH A STAINLESS STEEL RETAINING RING AND EPDM SEAL MATERIAL.

D. FITTINGS SHALL BE FOR OUTDOOR USE ONLY ON COLD WATER, NOT FOR USE ON CONSTANT PRESSURE, DESIGNED FOR USE ON LATERALS ONLY OR FOR USE ON ALL SYSTEM LINES FROM THE MASTER VALVE OUT.
TYPE: HYDRO-RAIN BLU LOCK OR APPROVED EQUAL

DRIP SYSTEM PRESSURE LOSS CALCS.

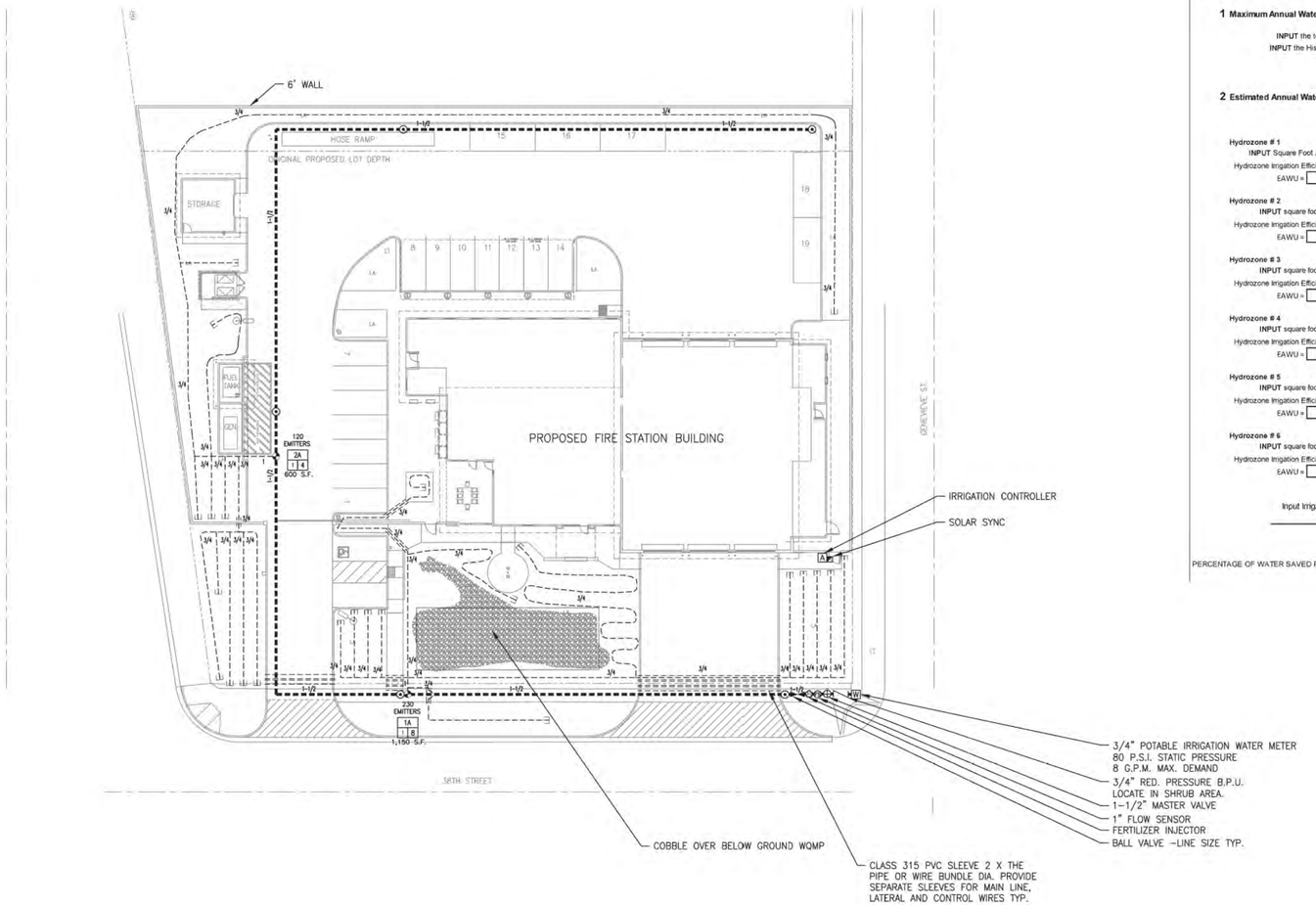
VALVE 1A @ 6 G.P.M.
PRESSURE AVAILABLE AT METER : *80.0 P.S.I.*
REGULATED PRESSURE: *65.0 P.S.I.*

EQUIPMENT	SIZE	P.S.I. LOSS
METER	3/4"	(1.0)
B.P.U.	3/4"	(11.0)
MASTER VALVE	1-1/2"	(1.5)
FLOW SENSOR	1"	(2.0)
BALL VALVE	1-1/2"	(.1)
R.C.V.	1"	(1.5)
MAIN LINE	1-1/2"	(2.2)
ELEVATION CHANGE	0'	(0.0)

P.S.I. LOSS BEFORE PRESSURE REGULATOR: *(24.3 P.S.I.)*
PRESSURE AVAILABLE AT R.C.V BEFORE PR: *50.7 P.S.I.*
REGULATOR REDUCES PRESSURE TO: *40.0 P.S.I.*

EQUIPMENT	SIZE	P.S.I. LOSS
LATERAL LINES	VARIES	(3.0)
EMITTERS (OPERATING PRESSURE 25 PSI)	N/A	(25.0)
ELEVATION CHANGE	0'	(0.0)

P.S.I. LOSS AFTER PRESSURE REGULATOR: *(28.0 P.S.I.)*
TOTAL RESIDUAL PRESSURE: *12.0 P.S.I.*



IRRIGATION LEGEND

SYMBOL	MANUFACTURER	MODEL NO.	REMARKS - SEE SHEET L-3 FOR DETAILS & SPECIFICATIONS
A	HUNTER	IC-600-PL	6 STATION AUTOMATIC IRRIGATION CONTROLLER - INSTALL IN ELECTRIC ROOM NEAR A 120V A.C. CONNECTION.
	FEBCO	825-YA-3/4"	REDUCED PRESSURE B.P.U., INSTALL IN PLANTING AREA
	HUNTER	SOLAR SYNC	ET SENSOR W/ OUTDOOR INTERFACE ET MODULE. INSTALL ON POLE NEAR WALL, UNOBSTRUCTED BY TREES AND OVERHANGS.
	RAINBIRD	XCZ-100-PRB-COM	1" REMOTE CONTROL VALVE KIT W/ PRESSURE REGULATOR (40 PSI) AND FILTER
	HUNTER	FLOW-CLIK-100	1" FLOW SENSOR
	HUNTER	ICV-150G	1-1/2" MASTER CONTROL VALVE
	RAINBIRD	33DLRC	QUICK COUPLING VALVE
NOT SHOWN	BOWSMITH	SB-20	NON-STOP DRIP EMITTER (2 GPH), 3 PER TREE, 1 PER SHRUB.
	NIBCO	UB SERIES	PLASTIC BALL VALVE (THREADED) LINE SIZE - TYPICAL
	PAC. PLASTICS	SCHEDULE 40	PRESSURE TYPE MAINLINE - INSTALL WITH 18" MINIMUM COVER
	PAC. PLASTICS	CLASS 315	NON-PRESSURE TYPE SLEEVE
	HYDRO-RAIN	BLU-LOCK	NON-PRESSURE LATERAL LINE-INSTALL 2" BELOW GRADE EXCEPT UNDER PAVEMENT INSTALL 12" BELOW GRADE-SEE DETAILS.
	PAC. PLASTICS	SCHEDULE 40	NON-PRESSURE TYPE LATERAL - INSTALL WITH 12" MINIMUM COVER
NOT SHOWN	ROBERTS	POLY	MICRO (SPAGHETTI) POLYTUBE WITH STAKES
	HYDRORAIN/ORBIT	MODEL 5024	AUTOMATIC DRAIN FLUSH VALVE
	FLO-CONTROL	1520-10/1012-10	SWING TYPE OR SPRING TYPE CHECK VALVE, USE SWING CHECK WHEN RCV IS AT THE TOE OF THE SLOPE, USE SPRING CHECK WHEN RCV IS AT THE TOP. LINE SIZE BY LATERAL LINE.
F	EZ-FLO	EZ005-FX	5 GALLON FERTIGATION TANK

240 EMITTERS — EMITTER QUANTITY
1A — VALVE SEQUENCE NUMBER
1 | 10 — GALLONS PER HOUR
SB-20 — REMOTE CONTROL VALVE SIZE
DRIP SHRUB 1,200 S.F. — WETTABLE AREA

IRRIGATION NOTES

1. IRRIGATION SYSTEM IS SHOWN DIAGRAMMATICALLY. LOCATE ALL PIPE AND EQUIPMENT WITHIN PLANTING AREAS WHEREVER POSSIBLE.
2. LOCATE PRESSURE LINES WITHIN 18" OF EDGE OF HARDSCAPE IN PLANTING AREAS.
3. ADJUST ALL EMITTERS FOR UNIFORM DISTRIBUTION IN ALL PLANTING AREAS & ADD EMITTERS AS REQUIRED.
4. TREE LOCATIONS TAKE PRECEDENCE OVER IRRIGATION PIPING & DRIP LINE. STAKE TREE LOCATIONS PRIOR TO TRENCHING PIPE.
5. CONTRACTOR SHALL ARRANGE AND PAY FOR ALL NECESSARY CONNECTIONS FOR 120V A.C. ELECTRICAL SERVICE TO IRRIGATION CONTROLLER.
6. CONTRACTOR SHALL INSPECT THE SITE AND VERIFY ALL CONDITIONS PRIOR TO PROCEEDING WITH ANY WORK. TO ALLOW FOR ADEQUATE IRRIGATION COVERAGE AS SHOWN ON PLAN, ADJUST DRIP LINE TO COMPENSATE FOR ANY CHANGES IN AREA.
7. TO ENSURE PROPER LOCATION OF IRRIGATION SLEEVE INSTALLATION COORDINATE LOCATION OF MAINLINE, DRIP LINES AND CONTROL WIRES WITH ALL OTHER RELATED TRADES AS REQ.
8. ALL BRASS FITTINGS TO BE RED BRASS TYPICAL.
9. USE 3/4" TEFLON TAPE ON ALL THREADED CONNECTIONS.
10. IRRIGATION SYSTEMS DESIGNED FROM A STATIC WATER PRESSURE OF 80 P.S.I., THE CONTRACTOR SHALL VERIFY WATER PRESSURE AT WORST CONDITION AND CONTACT LANDSCAPE ARCHITECT IF ANY INCONSISTENCIES OCCUR.
11. CONTROL WIRE SCHEDULE: (MAX. LENGTH OF RUNS)

CONTROL/COMMON NO. 14	NO. 12	NO. 10	NO. 8
NO. 14 1700'	2000'	2400'	2700'
NO. 12	2700'	3300'	3800'
NO. 10		4300'	5200'
NO. 8			6700'

12. ALL IRRIGATION SHALL CONFORM TO SAN BERNARDINO COUNTY DEVELOPMENT CODES AND STANDARDS.

LOW DRIP IRRIGATION SCHEDULE

	ETO	% ETO	CU. FT.	GALLONS	DAYS	GPM	MIN	G/DAY
JANUARY	2.17	0.04	82	616.72	4.00	11.67	13	154
FEBRUARY	2.84	0.05	108	807.61	5.00	11.67	14	162
MARCH	4.03	0.07	153	1,145.33	7.00	11.67	14	164
APRIL	4.55	0.08	173	1,292.17	8.00	11.67	14	162
MAY	6.10	0.11	232	1,732.68	11.00	11.67	14	158
JUNE	7.65	0.13	291	2,173.19	13.00	11.67	14	167
JULY	7.86	0.14	298	2,231.93	14.00	11.67	14	159
AUGUST	7.24	0.13	275	2,055.72	13.00	11.67	14	158
SEPTEMBER	6.00	0.10	228	1,703.31	10.00	11.67	15	170
OCTOBER	4.03	0.07	153	1,145.33	7.00	11.67	14	164
NOVEMBER	2.69	0.05	102	763.55	5.00	11.67	13	153
DECEMBER	2.17	0.04	82	616.72	4.00	11.67	13	154
	57.33	1.00	2,177	16,284.27				

SCALE: 1"=20'-0"

County of San Bernardino Landscape Water Use Calculations

Project Type (Select) Commercial
Fire Station 227
0.45 ETo allowance

Applicant to use drop down menus in cells that indicate a selection to describe each hydrozone.
Where "INPUT" is shown, applicant to enter project specific information.
Please note that embedded formulas will reflect as 'false' or as an error until selections are completed.

1 Maximum Annual Water Allowance (MAWA)

INPUT the total square footage of landscape = 1,750 S.F.
INPUT the Hist. ETo for the area = 57.33

MAWA = 3,742 cu ft / yr

2 Estimated Annual Water Use (EAWU)

			Plant Type	Water Use
Hydrozone # 1	Plant Factor =	0.2	Shrubs / Groundcover	Low
INPUT Square Foot Area of Hydrozone =	1,750			
Hydrozone Irrigation Efficiency =	0.90		Point Source Drip	
EAWU =	1,848 cu ft / yr			
Hydrozone # 2	Plant Factor =	0	SELECT	SELECT
INPUT square footage of hydrozone =	0			
Hydrozone Irrigation Efficiency =	1	n/a		
EAWU =	0 cu ft / yr			
Hydrozone # 3	Plant Factor =	0	SELECT	SELECT
INPUT square footage of hydrozone =	0			
Hydrozone Irrigation Efficiency =	1	n/a		
EAWU =	0 cu ft / yr			
Hydrozone # 4	Plant Factor =	0	SELECT	SELECT
INPUT square footage of hydrozone =	0			
Hydrozone Irrigation Efficiency =	1	n/a		
EAWU =	0 cu ft / yr			
Hydrozone # 5	Plant Factor =	0	SELECT	SELECT
INPUT square footage of hydrozone =	0			
Hydrozone Irrigation Efficiency =	1	n/a		
EAWU =	0 cu ft / yr			
Hydrozone # 6	Plant Factor =	0	SELECT	SELECT
INPUT square footage of hydrozone =	0			
Hydrozone Irrigation Efficiency =	1	n/a		
EAWU =	0 cu ft / yr			

SubTotal EAWU = 1,848 cu ft / yr
Input Irrigation System Operation Factor 0.85
Total EAWU = 2,174
MAWA - EAWU = 1,568 cu ft / yr
(this number must be positive)

PERCENTAGE OF WATER SAVED RELATIVE TO MAX ALLOWED = 42%

STK ARCHITECTURE, INC.
42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3700
Phone: 951.296.5115 Fax: 951.296.5076 Email: stk@stkinc.com

CONSULTANT:

ALHAMBRA GROUP
LANDSCAPE ARCHITECTURE
CALIFORNIA LICENSE #2017
RECREATION FACILITIES PLANNING
41635 ENTERPRISE CIRCLE NORTH, SUITE C
TEMECULA, CA 92590 (951) 296-6802

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

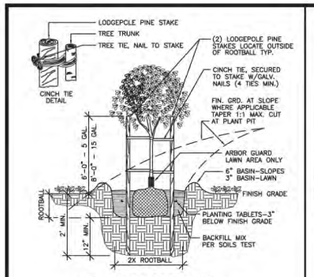
DATE:	INFORMATION:
9-11-24	D.D.s
12-20-24	95% CDS

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

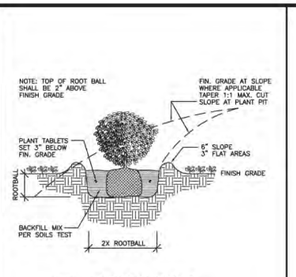
SEAL:
REGISTERED LANDSCAPE ARCHITECT VINCENT DI DONATO
12-20-24
STATE OF CALIFORNIA

SHEET TITLE:
IRRIGATION PLAN

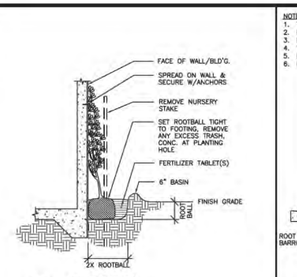
SHEET NO.:
L-2
OF 3



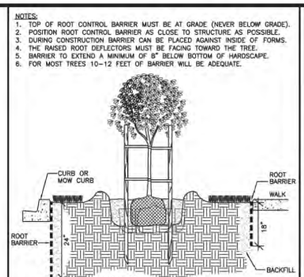
1 L-3 TREE PLANTING AND STAKING



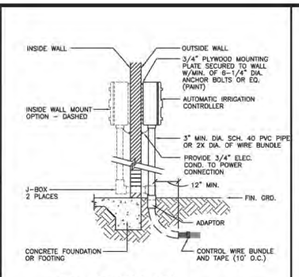
2 L-3 SHRUB PLANTING



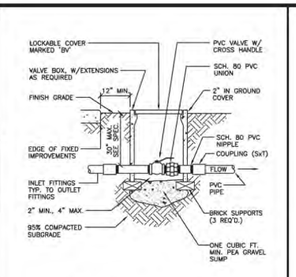
3 L-3 VINE DETAIL



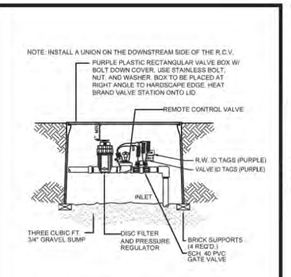
4 L-3 ROOT BARRIER



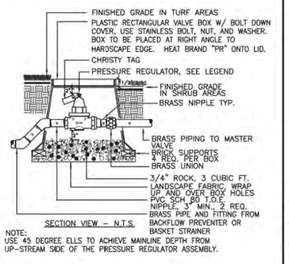
5 L-3 CONTROLLER WALL MOUNT



6 L-3 BALL VALVE



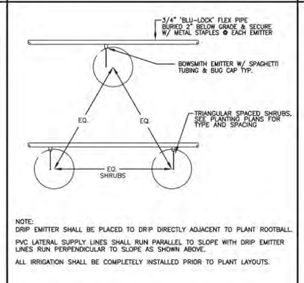
7 L-3 REMOTE CONTROL VALVE



SECTION VIEW - N.T.S.

NOTE:
USE 45 DEGREE ELLS TO ACHIEVE MAINLINE DEPTH FROM UP-STREAM SIDE OF THE PRESSURE REGULATOR ASSEMBLY.

8 L-3 PRESSURE REGULATOR FOR REFERENCE

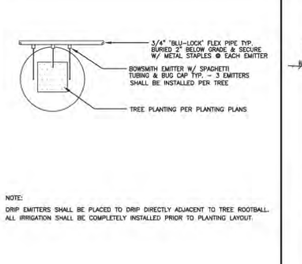


NOTE:
DRIP EMITTER SHALL BE PLACED TO DRIP DIRECTLY ADJACENT TO PLANT ROOTBALL.

PVC LATERAL SUPPLY LINES SHALL RUN PARALLEL TO SLOPE WITH DRIP EMITTER LINES RUN PERPENDICULAR TO SLOPE AS SHOWN ABOVE.

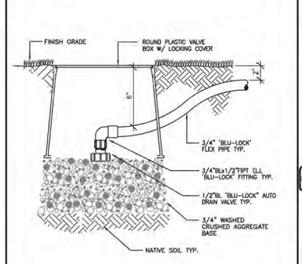
ALL IRRIGATION SHALL BE COMPLETELY INSTALLED PRIOR TO PLANT LAYOUTS.

9 L-3 DRIP EMITTER ASSEMBLY DETAIL

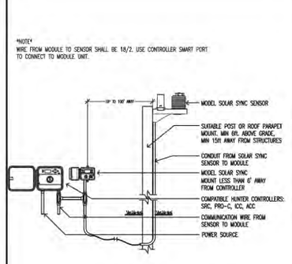


NOTE:
DRIP EMITTERS SHALL BE PLACED TO DRIP DIRECTLY ADJACENT TO TREE ROOTBALL.
ALL IRRIGATION SHALL BE COMPLETELY INSTALLED PRIOR TO PLANTING LAYOUT.

10 L-3 TREE DRIP LAYOUT



11 L-3 END FLUSH CAP



12 L-3 SOLAR SYNC SYSTEM

IRRIGATION

1. INTENT - TO INDICATE AND SPECIFY A COMPLETE AND EFFICIENT SPRINKLER IRRIGATION SYSTEM, READY FOR USE, WITH ALL WORK AND MATERIAL CONFORMING TO GOVERNING CODES.

2. ALL DIMENSIONS AND LOCATIONS SHOWN ARE DIAGRAM SITE CONDITIONS AND SHALL BE VERIFIED BEFORE INITIATING WORK.

3. ALL WORK SHALL BE INSTALLED IN THE MOST DIRECT AND WORKMANLIKE MANNER WITHOUT INTERFERING WITH EXISTING OR PROPOSED PLANTING OR OTHER WORK AND UTILITY LINES.

4. IRRIGATION MATERIALS

   VALVE BOXES: PLASTIC BOXES SIZES AS REQUIRED.

   PLASTIC PIPING: ALL PRESSURE PIPE, SCHEDULE 40 PVC SOLVENT WELD TYPE, OR BETTER. NON-PRESSURE PIPE, BLU-LOCK HDPE PIPE TYP.

   PLASTIC FITTINGS: TYPE I, SCHEDULE 80 PVC.

   POLYETHYLENE: MOLDED, 85 P.S.I.

   BALL VALVES: PLASTIC BODIED, 125 P.S.I. MINIMUM, HEAVY DUTY TYPE, FEDERAL SPEC, CROSS HANDLE.

   DRIP EMITTERS: OF MODEL AND TYPE SHOWN ON PLANS.

   CONTROL WIRE: DIRECT BURIAL, UL APPROVED; WHITE FOR COMMON, BLACK FOR CONTROL; 12 GAUGE MINIMUM SIZE COMMON, 14 GAUGE MINIMUM SIZE CONTROL WIRE. 2-WIRE SYSTEM

   QUICK COUPLING VALVES: SINGLE LUG, TWO PIECE; PER LEGEND.

   EXTRA STOCK: SUPPLY OWNER WITH VALVE KEYS, EXTRA EMITTERS, TWO QUICK COUPLING HOSE BIBS, AND MANUALS FOR EQUIPMENT USED.

5. EXCAVATION

   TRENCHES SHALL BE CUT TO FOLLOWING REQUIRED GRADES: PRESSURE PIPE AT (18") MIN. COVER; ALL NON-PRESSURE HDPE PIPE AT (2") MIN. COVER; 12" UNDER PAVEMENT TYP.

6. PIPE FITTING AND LAYOUT

   JOIN AND INSTALL PIPING IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDE. INSTALL LINES AWAY FROM FIXED IMPROVEMENTS AND ALONG EDGE OF PLANTING AREAS.

7. EQUIPMENT AND INSTALLATION

   SET ALL EQUIPMENT TRUE, PLUMB, SECURE, AND ACCESSIBLE FOR OPERATION AND SERVICING PER MANUFACTURER'S RECOMMENDATIONS AND PER DETAILS SHOWN.

8. BACKFILLING

   MATERIAL: SUITABLE FILL SOIL FREE OF LARGE ROCKS AND CLODS.

   BACKFILL: TRENCHES SHALL BE COMPACTED TO AT LEAST 85% OF THE MAX. RELATIVE DENSITY AS DETERMINED BY THE ASTM D-1557 EXCEPT BACKFILL IN TRENCHES LOCATED UNDER A.C. PAVED AREAS AND/OR ANY TRAFFIC AREAS IN WHICH CASE TRENCHES SHALL BE COMPACTED TO 90%. BACKFILL SHALL BE SUBJECT TO TESTING BY THE SOILS ENGINEER.

   SETTLING: PROPERLY WETTED AND TAMPED TO A FIRM FINISH GRADE WITH NO FUTURE SETTLING.

9. TESTING AND ADJUSTING

   PRESSURE TEST: PRESSURE LINES AT 150 P.S.I. FOR 3 HOURS AND NON-PRESSURE LINES AT EXISTING STATIC LINE PRESSURE FOR 2 HOURS. LINES SHALL BE WATERTIGHT WITH NO LEAKAGE.

   COVERAGE TEST: ADJUST AND POSITION EMITTERS FOR COMPLETE COVERAGE OF ALL WETTABLE AREAS.

10. RECORD PRINTS

    MAINTAIN A SET OF PRINTS DELINEATING AND DIMENSIONING LOCATIONS AND DEPTHS OF ALL PRESSURE PIPING, VALVES, AND GATE VALVES AS WORK IS COMPLETED. RECORD PRINTS SHALL REMAIN ON THE JOB SITE THROUGHOUT CONSTRUCTION. A LEGIBLE REDUCED LAMINATED SET SHALL BE PREPARED AND SUBMITTED TO THE OWNER PRIOR TO FINAL ACCEPTANCE.

SOIL PREPARATION AND PLANTING

1. ALL PLANTING LOCATIONS SHOWN AND MEASUREMENTS SCALED FROM THE DRAWINGS ARE APPROXIMATE. FINAL LOCATIONS TO BE APPROVED BY THE LANDSCAPE ARCHITECT.

2. ALL PLANT MATERIALS SHALL BE PROTECTED FROM EXCESSIVE WIND, SUN, AND ALL OTHER DAMAGE.

3. MATERIALS:

   TOPSOIL: APPROVED CLEAN SANDY LOAM AND/OR LOAM SOIL, OR APPROVED EQUAL.

   SOIL CONDITIONER

   NITROLIZED SHAVINGS, TERRA BLEND OR APPROVED EQUAL.

   GYPSUM: BEN FRANKLIN AGRICULTURAL GYPSUM, OR EQUAL.

   PRE-PLANT FERTILIZER: COMMERCIAL (6-20-20) OR EQUAL.

   POST-PLANT FERTILIZER: COMMERCIAL (16-8-8) OR EQUAL.

   PLANTING TABLETS: AGRIFORM (20-10-5) BLUE CHIP TABLETS.

   PLANTING BACKFILL: TWO (2) PARTS EXCAVATED SOIL BLENDED WITH ONE (1) PART SOIL CONDITIONER.

   MULCH: SHREDDED, CLEAN GROUND FIR OR PINE WOOD MULCH.

   TREE STAKES: TWO INCH (2") BY TEN FOOT (10') LONG SOUND LODGE POLE PINE STAKES, POINTED ONE END ONLY.

   TREE TIES: BLACK VINYL CINCH-TIES BY BORDEN OR EQUAL.

   TREE GUYS: 12 GAUGE GALVANIZED STRANDED WIRE PER DETAIL.

   WOOD HEADERS: CONSTRUCTION ALL-HEART REDWOOD, FREE OF KNOTS ON TOP EDGE.

   PLANT MATERIALS: PER THE CALIFORNIA STATE DEPARTMENT OF AGRICULTURE'S REGULATIONS FOR NURSERY INSPECTIONS OF RULES AND GRADING. PLANTS SHALL BE SOUND AND HEALTHY, FREE OF DISEASE AND DEFECTS, WELL DEVELOPED OF SIZE NORMAL FOR CONTAINER SIZE AND NOT ROOT-BOUND. UNSATISFACTORY AND UNDER-SIZED PLANTS WILL BE REJECTED. PROTECT PLANTS AT ALL TIMES ACCORDING TO SPECIES.

   SEEDS: PURE, LIVE SEED OF VARIETIES SPECIFIED, FREE OF WEED SEED; GERMINATION AS SPECIFIED.

4. SOIL PREPARATION AND GRADING

   ROUGH GRADES AND ROCK PLACEMENT: ESTABLISHED BY OTHER SECTIONS.

   SOIL CONDITIONING: THOROUGHLY INCORPORATE THE FOLLOWING INTO THE PLANT BACKFILL MIX TYPICAL.
   - SOIL CONDITIONER - PER SOIL TEST
   - PRE-PLANT FERTILIZER - PER SOIL TEST
   - GYPSUM-PER SOIL TEST
   - WETTING AGENT - PER SOIL TEST

   DEEP WATERING: DEEP WATERING LEACH ALL PLANTING AREAS TO EIGHT (8) INCHES MINIMUM DEPTH.

   FINAL GRADING: ENSURE POSITIVE DRAINAGE OF PROJECT AREA WITH ALL AREAS LEFT SMOOTH AND EVEN AND FREE OF ROCKS, CLODS AND DEBRIS. FINISH GRADE SHALL BE ONE INCH (1") BELOW ADJACENT FLATWORK AND CURBS.

5. PLANTING INSTALLATION

   LAYOUT: PER PLANS WITH FINAL REVIEW AND APPROVAL OF LOCATIONS BY LANDSCAPE ARCHITECT.

   EXCAVATION: PLANTING HOLES SHALL BE AS SHOWN ON DETAILS.

   PLANTING TABLETS: SET THREE INCHES (3") BELOW GRADE:

   1-5 GRAM PER FLAT PLANT AND/OR CUTTING
   1-21 GRAM PER 1 GALLON
   3-21 GRAM PER 5 GALLON
   5-21 GRAM PER 15 GALLON
   1-21 GRAM PER EACH 2 INCH BOX SIZE

   SETTING: SET PLANTS SLIGHTLY HIGHER THAN FINISH GRADE AND THOROUGHLY WATER IN.

   STAKING AND GUYING: TO INSURE SAFETY AND PROPER HEALTH OF TREE. TIE WITH TIES PER DETAILS.

   WATER BASINS: AS REQUIRED TO ADEQUATELY WATER TREES AND SHRUBS.

   LEVELING: ALL PLANTING AREAS SHALL BE LEFT SMOOTH AND EVEN.

6. MAINTENANCE

   PLANT MAINTENANCE WORK SHALL CONSIST OF APPLYING WATER (EXCEPT INITIAL WATERING OF PLANTS) WEEDING, CARING FOR PLANTS, AND PERFORMING THE FOLLOWING FINAL PLANT ESTABLISHMENT WORK:

   THE ENTIRE PROJECT TO BE MAINTAINED FOR A PERIOD OF (60) CALENDAR DAYS, COMMENCING FROM THE TIME ALL ITEMS OF WORK HAVE BEEN COMPLETED TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT.
   THE ENTIRE PROJECT SHALL BE CARED FOR SO THAT A NEAT AND DURING THE FINAL (60) CALENDAR DAY PERIOD ALL PLANTS AND PLANTED AREAS SHALL BE KEPT WELL WATERED AND WEED FREE AT ALL TIMES. WEEDS, DALLAS, JOHNSON, AND BERMUDA GRASS SHALL BE REMOVED.

   CLEAN CONDITION WILL BE PRESENTED AT ALL TIMES, TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT.

   CONTRACTOR SHALL MAINTAIN A SUFFICIENT NUMBER OF MEN AND WORKMEN SHALL NOT BE ALLOWED TO WALK ON SHRUB AREAS UNNECESSARILY BEFORE, DURING OR AFTER PLANTING. DAMAGED OR COMPACTED SHRUB AREAS SHALL BE RE-PLANTED AT THE CONTRACTOR'S EXPENSE.

   IN ORDER TO EXPEDITE THE PLANT ESTABLISHMENT WORK, ADEQUATE EQUIPMENT TO PERFORM THE WORK HEREIN SPECIFIED AND FROM THE TIME ANY PLANTING IS DONE UNTIL THE END OF THE FINAL (60) CALENDAR DAY PERIOD.

   THE CONTRACTOR MAY BE RELIEVED FROM MAINTENANCE WORK WHEN THE FINAL (60) CALENDAR DAY MAINTENANCE WORK HAS BEEN SATISFACTORILY COMPLETED TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT.

   DAMAGE TO PLANTING AREAS SHALL BE REPLACED IMMEDIATELY.

   (1) DEPRESSIONS CAUSED BY VEHICLES, BICYCLES, OR FOOT

7. GUARANTEE AND REPLACEMENTS

   ALL SHRUBS AND GROUNDCOVER SHALL BE GUARANTEED BY THE CONTRACTOR AS TO GROWTH AND HEALTH FOR A PERIOD OF SIX MONTHS AFTER COMPLETION OF THE SPECIFIED MAINTENANCE PERIOD AND/OR FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT. ALL TREES UP TO 5 GALLON SIZE SHALL BE GUARANTEED BY THE CONTRACTOR TO LIVE AND GROW IN AN ACCEPTABLE UPRIGHT POSITION FOR A PERIOD OF SIX MONTHS AFTER COMPLETION OF THE SPECIFIED MAINTENANCE PERIOD AND/OR FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT. TREES IN 15 GALLON, OR LARGER, AND ALL FIELD GROWN SPECIMENS SHALL BE GUARANTEED BY THE CONTRACTOR TO LIVE AND GROW IN AN ACCEPTABLE UPRIGHT POSITION FOR A PERIOD OF ONE YEAR AFTER COMPLETION OF THE SPECIFIED MAINTENANCE PERIOD, AND/OR FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT.

8. CLEAN-UP

   UPON COMPLETION OF WORK OF THIS SECTION, REMOVE RUBBISH, TRASH AND DEBRIS RESULTING FROM OPERATION. REMOVE DISUSED EQUIPMENT AND IMPLEMENTS OF SERVICE, AND LEAVE ENTIRE AREA INVOLVED IN A NEAT AND ACCEPTABLE CONDITION SUCH AS TO MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT, WITH ALL PAVING, WALKS AND OTHER CONSTRUCTION WASHED-DOWN AND FREE OF ALL DIRT AND DEBRIS.

SPECIAL CONDITIONS

ALL PROVISIONS OF THE GENERAL CONDITIONS OF THE CONTRACT SHALL APPLY TO THE WORK AS IF HEREIN WRITTEN.

1. ALL EXISTING UTILITY LINES AND IMPROVEMENTS SHALL BE LOCATED PRIOR TO WORK.

2. CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND FEES TO COMPLETE WORK.

3. CONTRACTOR SHALL BE INSURED FOR LIABILITY AND PROPERTY DAMAGE.

4. CONTRACTOR SHALL ADEQUATELY PROTECT ALL EXISTING PROPERTY.

5. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR ONE YEAR. (EXCEPT AS NOTED)

6. ALL MATERIALS SHALL BE OF STANDARD, APPROVED, AND FIRST GRADE QUALITY AND SHALL BE IN PRIME CONDITION.

7. WORK SHALL BE PERFORMED WHEN WEATHER CONDITIONS PERMIT SATISFACTORY RESULTS.

8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPROVED METHODS AND STANDARDS AS SET FORTH BY THE CALIFORNIA COUNCIL OF LANDSCAPE CONTRACTORS, UNLESS OTHERWISE INDICATED OR SHOWN.

9. ALL WORK SHALL BE IN FULL COMPLIANCE WITH ALL GOVERNING CODES AND REGULATIONS.

10. ALL AREAS SHALL BE LEFT CLEAN, FREE OF DEBRIS AND WASHED DOWN.

11. LANDSCAPE ARCHITECT RETAINS OPTION TO REQUIRE THAT CONTRACTOR RECEIVE A FIELD OBSERVATION OF EACH OPERATION AND MATERIAL PRIOR TO INCORPORATION INTO THE WORK.

PLANTED AREAS FROM FOOT TRAFFIC INCLUDING BUT NOT LIMITED TO STAKES & WARNING TAPE.

SCALE: 1"=20'-0"

STK
SIGN TECHNOLOGY, INC.
42090 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.9078 Email: stk@stksci.com

CONSULTANT:

ALHAMBRA GROUP
LANDSCAPE ARCHITECTURE
CALIFORNIA LICENSE #2017
RECREATION FACILITIES PLANNING
41535 ENTERPRISE CIRCLE NORTH, SUITE C
TEMECULA, CA 92590 (951) 296-6802

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9-11-24	D.D.s
12-20-24	95% CDS

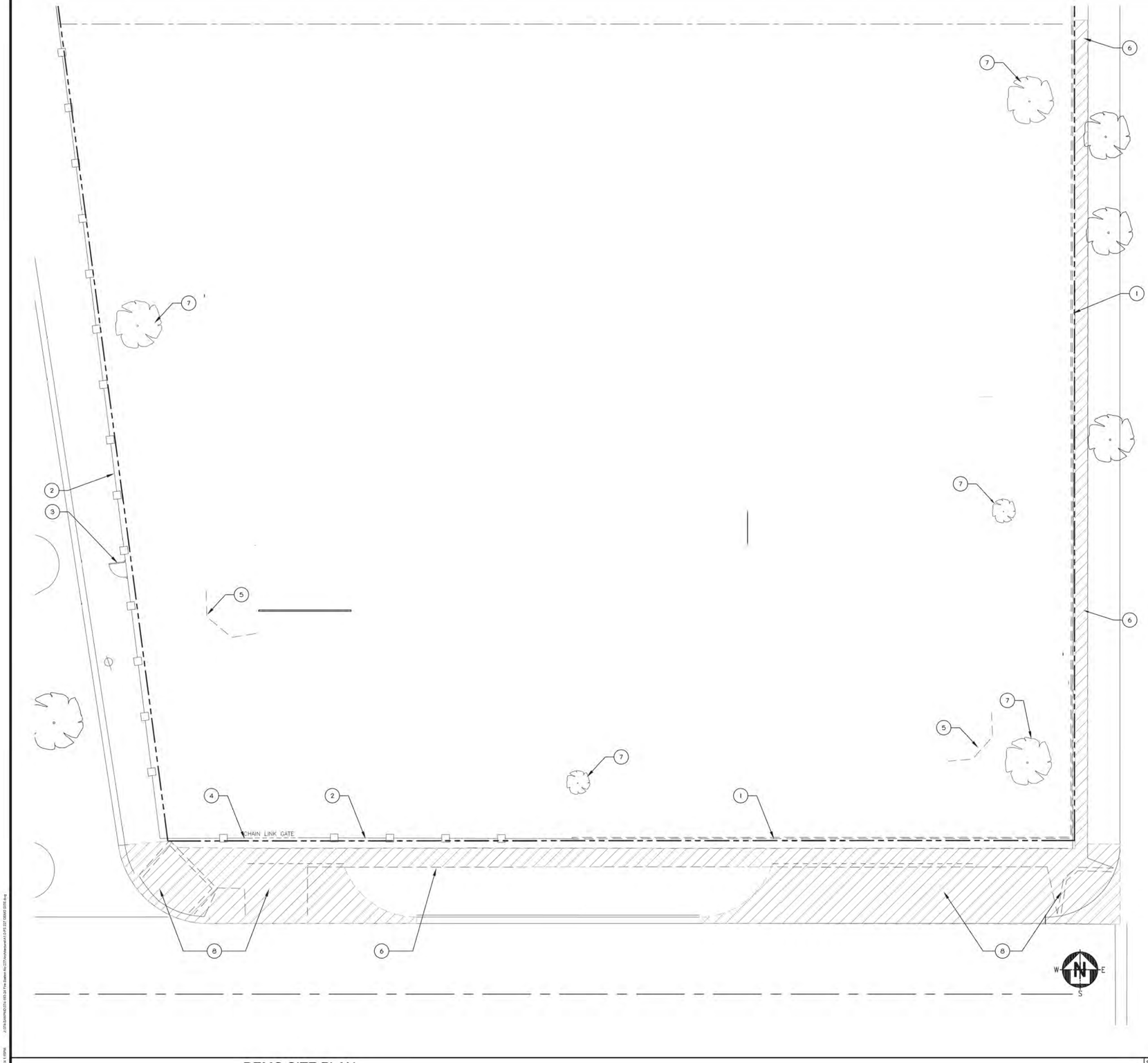
SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:



SHEET TITLE:
DETAILS and SPECIFICATIONS

SHEET NO.:
L-3
OF 3



DEMO SITE PLAN

SCALE: 1"=10'-0" (1)

KEY NOTE

1. DEMOLISH EXISTING RETAINING WALL AND CHAIN LINK FENCE ABOVE. SEE CIVIL.
2. DEMOLISH EXISTING CHAIN LINK FENCE.
3. REMOVE EXISTING CHAIN LINK PERSONAL GATE. SALVAGE FOR PROPERTY OWNER.
4. REMOVE EXISTING CHAIN LINK DOUBLE GATE.
5. DEMOLISH EXISTING CHAIN LINK BACKSTOP.
6. DEMOLISH EXISTING CONCRETE SIDEWALK.
7. DEMOLISH EXISTING TREE.
8. DEMOLISH EXISTING CONCRETE CURB RAMP, DRIVEWAY AND LANDSCAPE MATERIAL WITHIN BOUNDARY.

STK
ARCHITECTURE

42395 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.6979 E-mail: info@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:

SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0J202

CIP #22-105

CAFM #

APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:

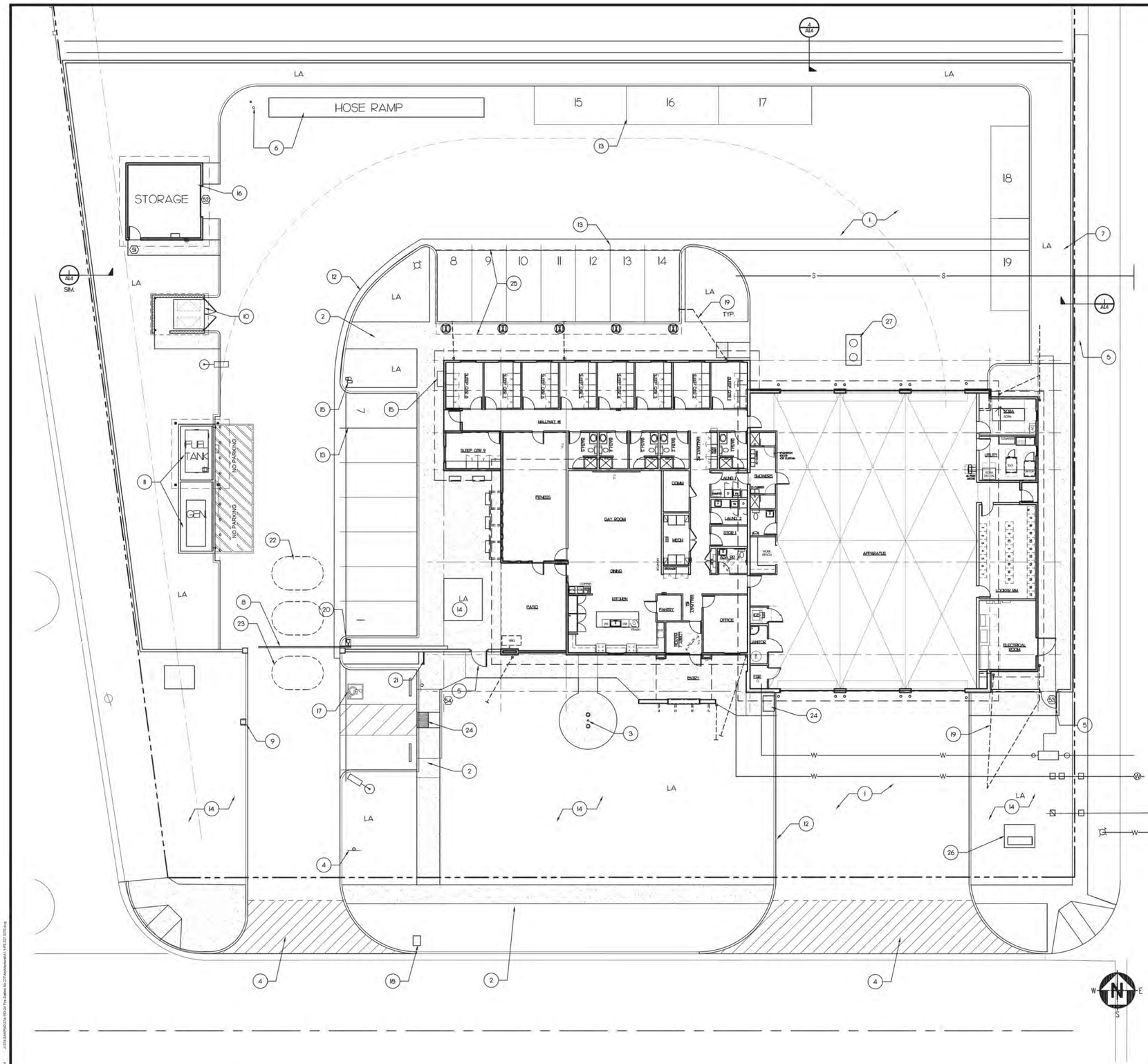
SHEET TITLE:

DEMO
SITE PLAN

SHEET NO.:

A1.0

12/20/2024 1:15 PM
J:\STK SHARED\STK 485 Jul Fire Station #22\Architecture\A1.0 PS 227 DEMO SITE.dwg



SITE PLAN

SCALE: 1"=10'-0" (1)

KEY NOTE

1. 9" CONCRETE PAVING (4,500 PSI) W/ #4'S AT 24" O.C. EACH WAY AT MID-SLAB OVER 6" CLASS 2 BASE. PROVIDE SAWCUT CONTROL JOINTS (C.J) AT 10'-0" O.C. & EXPANSION JOINTS (E.J) AT 60' O.C. SEE 4/A12

   PROVIDE PLAN OF PROPOSED LOCATIONS OF EXPANSION JOINTS AND CONTROL JOINTS FOR APPROVAL PRIOR PLACING CONCRETE.
2. CONCRETE SIDEWALK W/ EXPANSION JOINTS AT 15'-0" O.C. & CONTROL JOINTS AT 5'-0" O.C. (TYP.)
3. FLAGPOLE WITH UPLIGHTS. SEE 6/A12
4. 12" CONCRETE PAVING (4,500 PSI) W/#4'S AT 18" O.C. EACH WAY AT MID-SLAB OVER 6" CLASS 2 BASE. PROVIDE CONTROL JOINTS (C.J) AT 10'-0" O.C. AND EXPANSION JOINTS (E.J) AT 20'-0" O.C. SEE 4/A12
5. PERSONNEL GATE- TYP OF 2. PROVIDE LEVEL LANDING OF 60"x60" AND 24" CLEAR AT GATE STRIKE SIDE (PULL SIDE). SEE 2/A12
6. HOSE DRYING RAMP WITH ADJACENT HOSE BIB. SEE 1/A12
7. 6' HIGH CMU WALL TOPPED WITH ANTI-CLIMB CURVED FENCE PANELS. SEE 8/A12
8. MOTORIZED SLIDING GATE. SEE 3/A13
9. GATE KEYPAD ON PEDESTAL. MOUNT KEYPAD AT +40". FIELD VERIFY.
10. TRASH ENCLOSURE. SEE 1/A13
11. ABOVE GROUND FUEL TANK & GENERATOR; CONCRETE CONTAINMENT POND & CANOPY. SEE 16/A12
12. CONCRETE CURB OR CONCRETE CURB & GUTTER.
13. PARKING LOT STRIPING.
14. LANDSCAPE.
15. FUEL TANK EMERGENCY SHUT OFF AND FIRE EXTINGUISHER MOUNTED ON POST. SEE 6/A12
16. STORAGE BUILDING. SEE 10/A13
17. ACCESSIBLE PARKING SPACE. SEE 15/A13
18. MAIL BOX
19. RAIN GUTTER DOWNSPOUT UNDER SIDEWALK. SEE ·/·
20. GATE MOTOR ON 4" THICK CONCRETE PAD.
21. BIKE RACK WITH CONC. PAD - INSTALL PER MANUF.'S RECOMMENDATIONS.
22. MOTORIZED GATE EXIT LOOP.
23. MOTORIZED GATE SAFETY LOOPS (TYP. OF 2).
24. DETECTABLE WARNING SURFACE. 17/A13
25. PARKING CANOPY SHALL BE DESIGNED TO BE SOLAR READY OVER ENTIRE ROOF AREA.
26. ELECTRICAL TRANSFORMER. SEE ELECT.
27. SAND AND GREASE INTERCEPTOR. SEE PLUMB.
28. GAS METER. SEE PLUMB.
29. ACCESSIBLE PARKING SIGN. SEE 9/A13

STK
INSTRUCTURE
42195 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9115 Fax: 951.296.9179 E-mail: stk@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.JO.1202
CIP #22-105
CAFM #
APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
SITE PLAN

SHEET NO.:
A1.1

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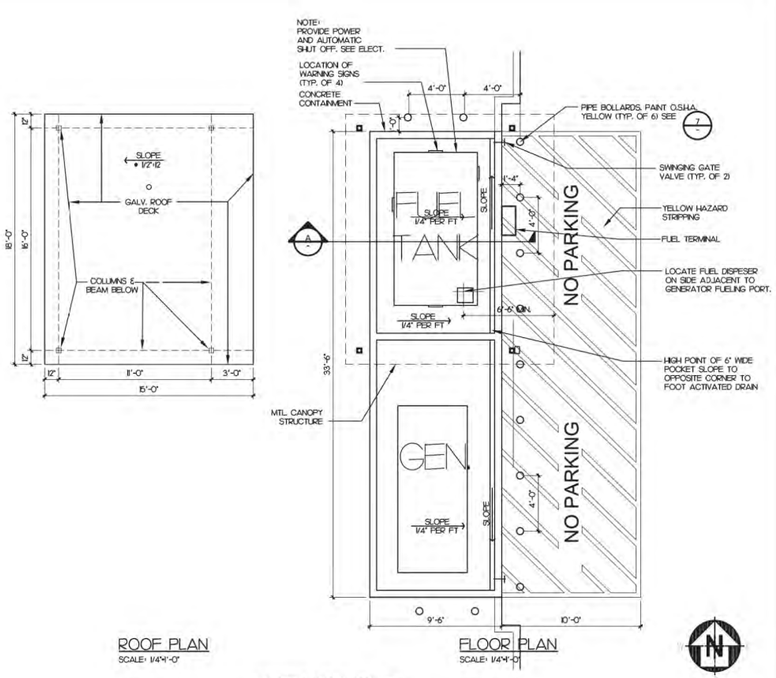
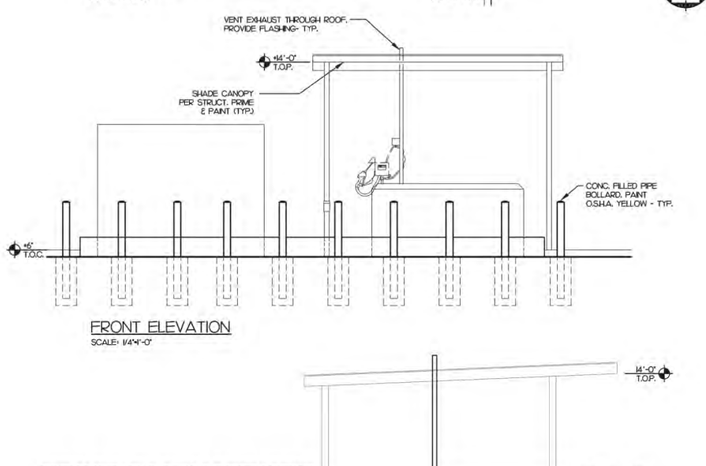
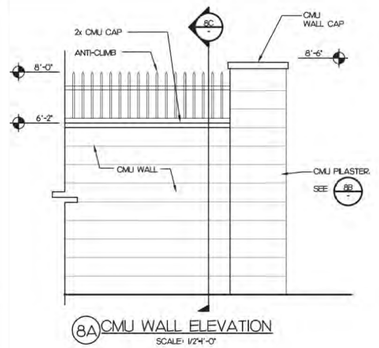
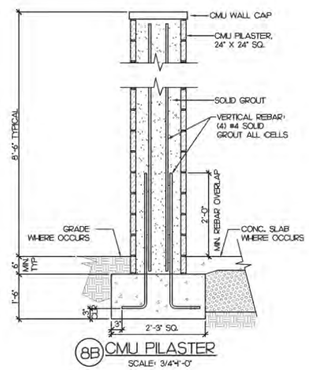
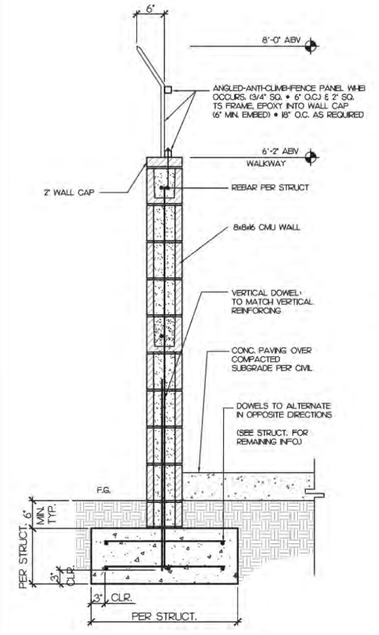




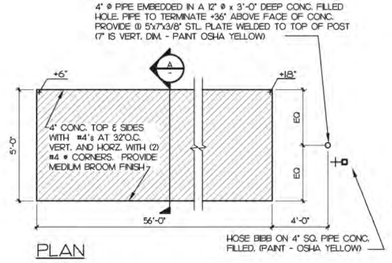
ENLARGED FUEL TANK / GENERATOR — SCALE: AS NOTED — 12



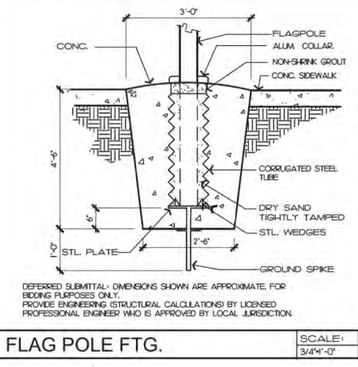




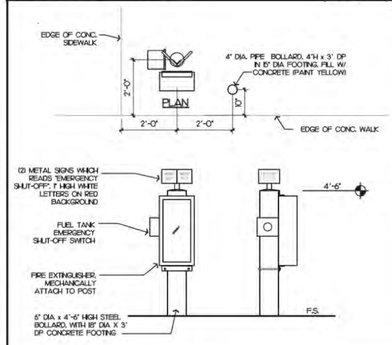
CMU WALL DETAILS — SCALE: AS SHOWN — 12



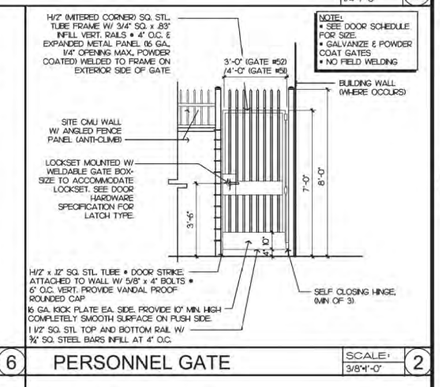
HOSE DRYING RAMP — SCALE: 1/4"=1'-0" — 1



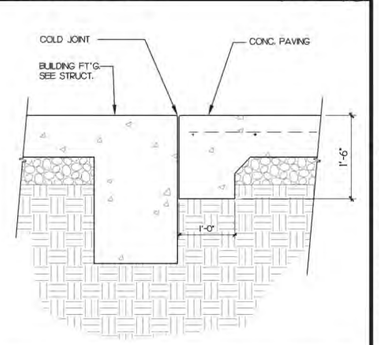
FLAG POLE FTG. — SCALE: 3/4"=1'-0" — 6



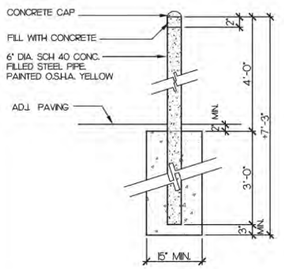
FUEL SHUT OFF/ F.E. — SCALE: 1/4"=1'-0" — 7



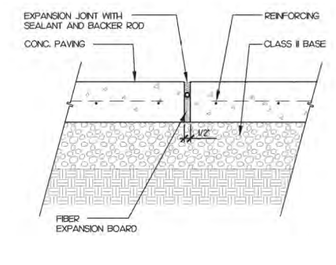
PERSONNEL GATE — SCALE: 3/8"=1'-0" — 2



CONC. COLD JOINT — SCALE: 1"=1'-0" — 3



BOLLARD — SCALE: 3/4"=1'-0" — 8



CONC. EXPANSION JOINT — SCALE: 1"=1'-0" — 4

STK ARCHITECTURE
42135 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9115 Fax: 951.296.9179 E-mail: info@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

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PROJECT # 10J0J202
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180 W. 38TH STREET
SAN BERNARDINO, CA 92405

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SEAL:

SHEET TITLE:
SITE DETAILS

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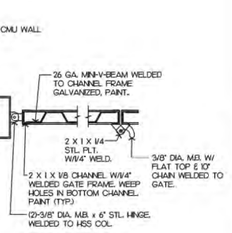
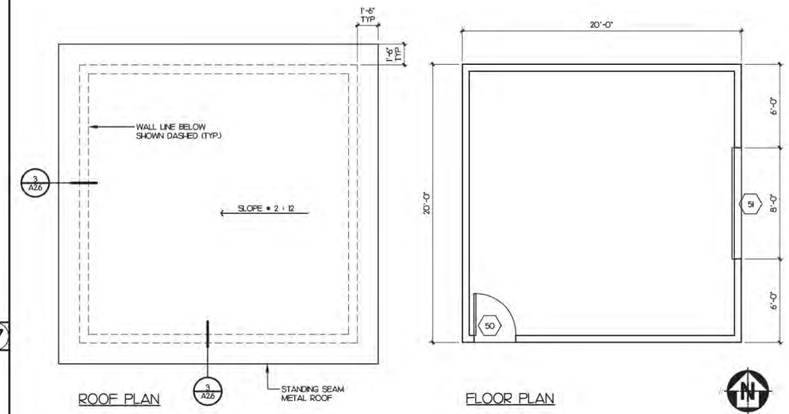
SCALE: N.T.S. 17



PLAN

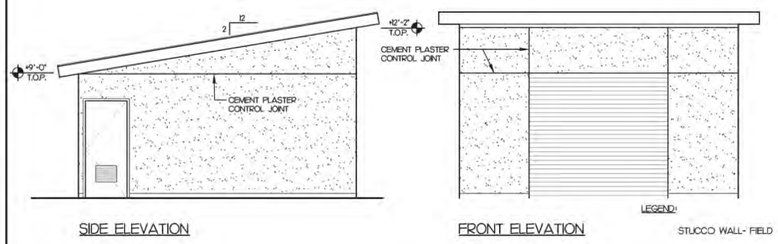
TRASH ENCLOSURE DET.

SCALE: 3" = 1'-0" 18



ROOF PLAN

FLOOR PLAN

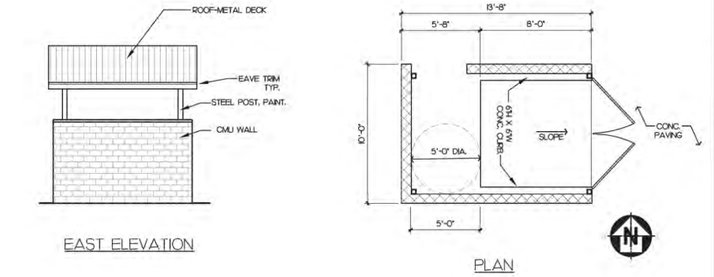


SIDE ELEVATION

FRONT ELEVATION

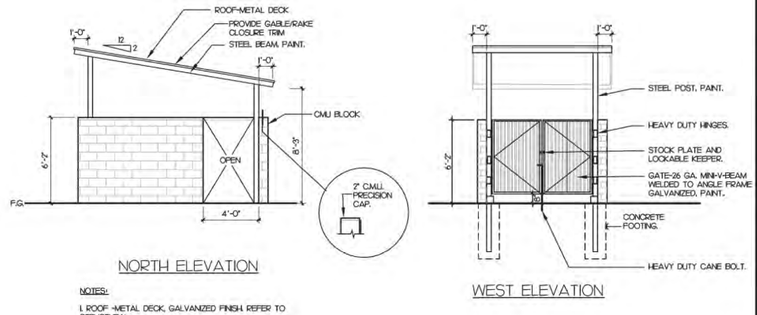
STORAGE BUILDING

SCALE: 10



EAST ELEVATION

PLAN



NORTH ELEVATION

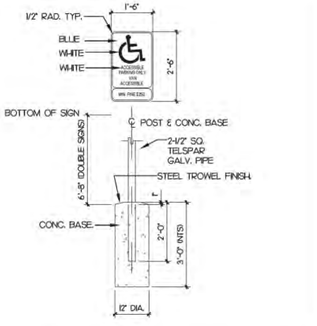
WEST ELEVATION

NOTES:

1. ROOF -METAL DECK, GALVANIZED FINISH. REFER TO STRUCTURAL.
2. FRAMING MEMBERS ARE TO HAVE (2) COATS ZINC PRIMER AND (2) COATS SATIN FINISH PAINT.
3. CANOPY COVER ENGINEERING - REFER TO STRUCTURAL.

TRASH ENCLOSURE

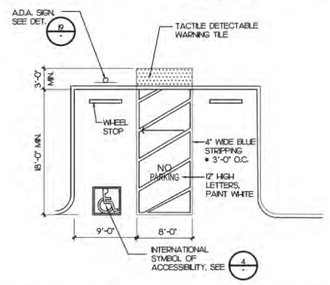
SCALE: 1/4"=1'-0" 2



ADA PARKING SIGN

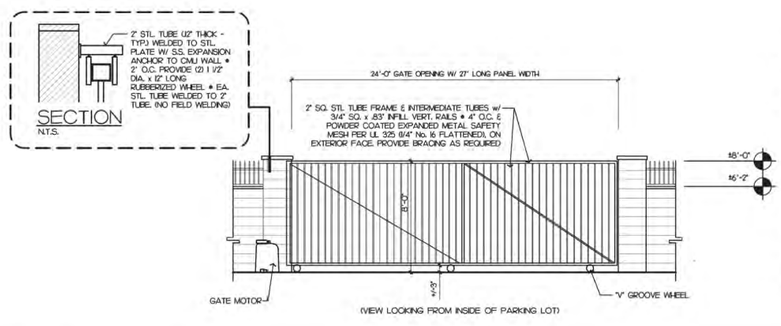
SCALE: 1/2"=1'-0" 19

1. PROVIDE ADEQUATE DRAINAGE.
2. SLOPE SHALL NOT EXCEED 2% IN ANY DIRECTION UNLESS THERE IS EQUIVALENT FACILITATION.
3. BLUE COLOR SHOULD MATCH COLOR # 15090 IN THE FEDERAL STANDARD 595a AS SPECIFIED IN SECTION 522b)2.
4. EACH PARKING STALL WILL REQUIRE A WHEEL STOP.



ADA PARKING

SCALE: 1/8" = 1'-0" 15



(VIEW LOOKING FROM INSIDE OF PARKING LOT)

GATE NOTES:

ELECTRIC OPERATED W/ AC MOTOR W/ MOUSE PROOF ENCLOSURES. SEE SPECIFICATIONS.

PROVIDE GATE MOTOR W/ ADJUSTABLE AUTOMATIC TIMED GATE CLOSING DEVICE.

ALL GATE STEEL SHALL BE 12" THICK MIN. (TYP.).

ALL GATE COMPONENTS SHALL BE POWDER POLYESTER COATED. USE A TWO-COAT SYSTEM, PRIMER & POWDER TOP COAT.

GATE PINS SHALL BE RATED WITH SHEAR PIN FORCE NOT TO EXCEED 30 FOOT POUNDS.

PROVIDE KNOX KEY SWITCH AS REQUIRED. CONTRACTOR TO OBTAIN ORDER FORM FROM THE COUNTY FIRE DEPARTMENT.

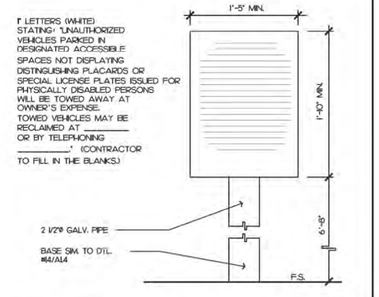
INSTALL (2) TWO PER GATE, DG.A ENGINEER-GRADE REFLECTIVE ALUMINUM (.63" x 11") LL 325 (ENGLISH/SPANISH) MOVING GATE WARNING SIGNS WITH 1/4" x .4" x 5/8" BRAZIER HEAD ALUMINUM DRIVE RIVETS BY HANSON RIVET & SUPPLY CO. (818)485-7500 / www.hansonrivet.com OR APPROVED EQUAL. INSTALL 4 FASTENERS MIN. PER SIGN. FIELD VERIFY EXACT LOCATION.

THE INSTALLATION OF SECURITY GATES SHALL BE IN ACCORDANCE WITH UL-325 AND AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM F2200 STANDARDS).

MOTORIZED SLIDING GATE

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

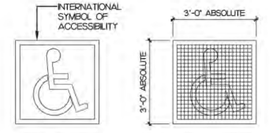
NOT USED



1" LETTERS (WHITE) STATING- "UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PHYSICALLY DISABLED PERSONS WILL BE TOWED AWAY AT OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT _____ OR BY TELEPHONING _____." (CONTRACTOR TO FILL IN THE BLANKS.)

ADA PARKING SIGN

SCALE: N.T.S. 8



A) SYMBOL PROPORTIONS

B) DISPLAY CONDITIONS

NOTES:

1. PAVEMENT SYMBOL SHALL BE PAINTED WHITE ON A BLUE BACKGROUND
2. BLUE COLOR SHOULD MATCH COLOR # 15090 IN THE FEDERAL STANDARD 595a AS SPECIFIED IN SECTION 522b)2.

ADA SYMBOL

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

STK
42995 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.9179 E-mail: info@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

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PROJECT # 10J0J202

CIP #22-105

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DRAWING NAME:

SEAL:

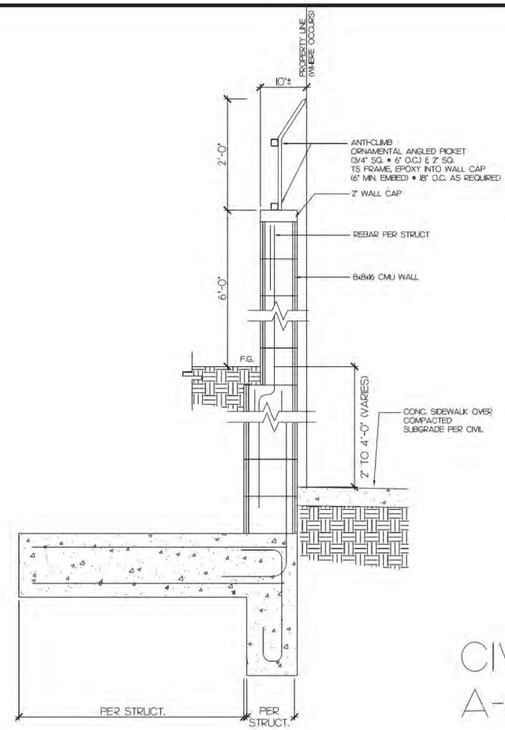
SHEET TITLE:

SITE DETAILS

SHEET NO.:

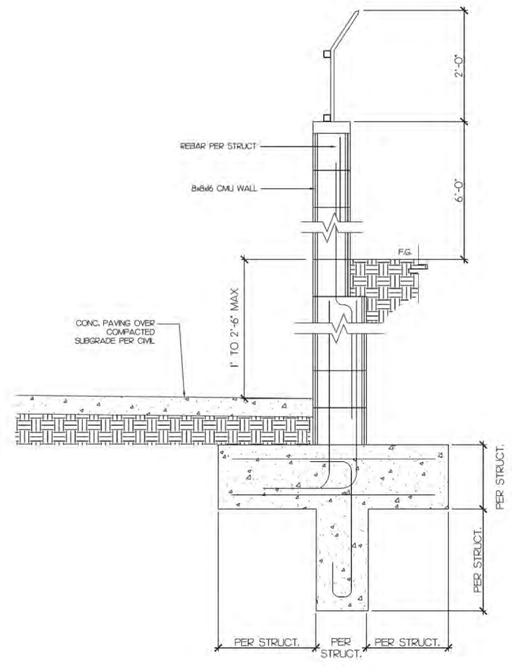
A1.3

NOT USED



CIVIL A-A

RETAINING WALL @ PROPERTY LINE CONDITION — SCALE: 1"=1'-0" — 1



CIVIL B-B

RETAINING WALL — SCALE: 1"=1'-0" — 4

STK
43615 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9410 Fax: 951.296.9373 Email: info@stkinc.com

CONSULTANT:

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SHEET TITLE:
SITE DETAILS

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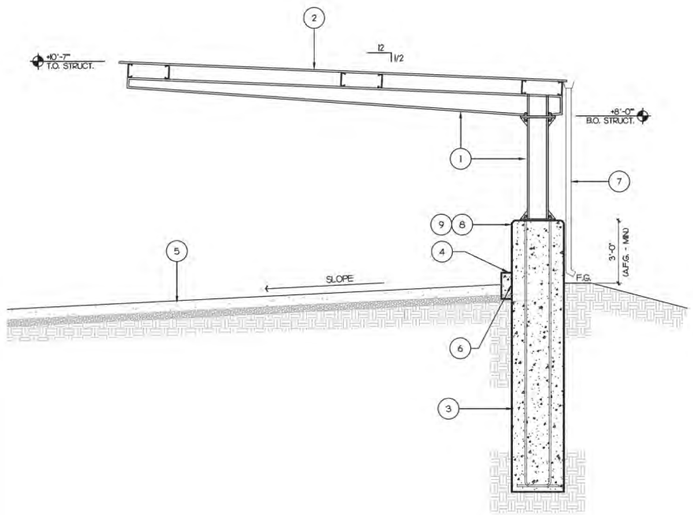
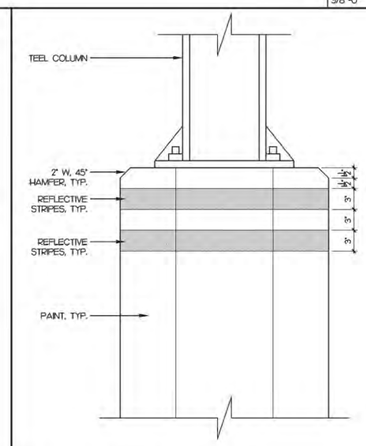
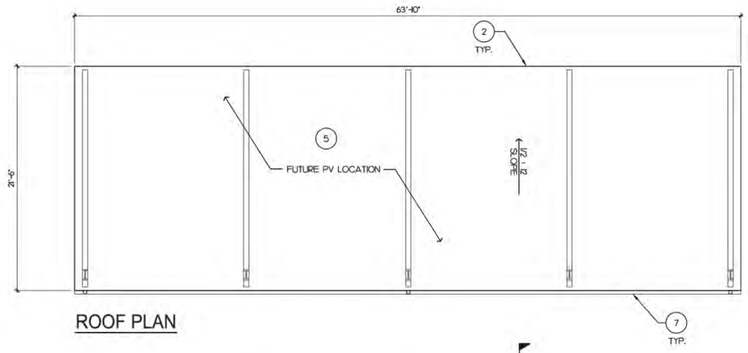


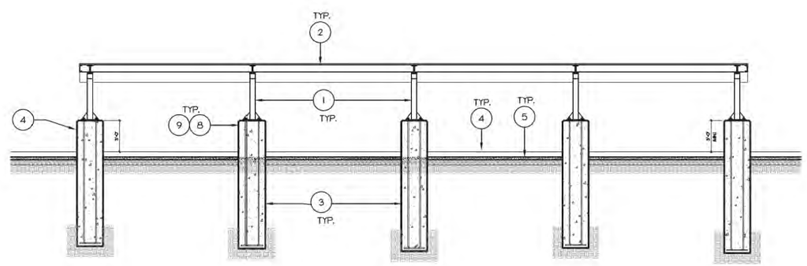
METAL CANOPY COLUMN — SCALE: 3/8"-0" — 10



REFLECTIVE STRIPPING — SCALE: 1/2"-1'-0" — 11



METAL CANOPY PLANS — SCALE: 3/16"-1'-0" — 2



METAL CANOPY ELEVATION — SCALE: 3/8"-1'-0" — 4

NOTES:
THE DRAWING & NOTES SHOWN ON THIS SHEET IS FOR INFORMATION & BIDDING PURPOSE ONLY. FINAL DESIGN & ENGINEERING/SHOP DRAWING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, WET STAMPED BY A REGISTERED CALIFORNIA ENGINEER. SEE SECTION 13 3420 OF SPECIFICATIONS.

KEY NOTE

1. PRE-FABRICATED METAL SHADE CANOPY, STRUCTURAL MEMBER SIZING PER MANUF.'S RECOMMENDATIONS, SEE SPECIFICATIONS. PAINT ALL EXPOSED STRUCT. SURFACES AS REQUIRED. COLOR TO BE DETERMINED AND FIELD VERIFY BY OWNER. COORDINATE WITH OWNER.
2. METAL ROOFING & SECONDARY FRAMING BY PRE-FAB BUILDING MANUFACTURE, PER SPECIFICATIONS.
   METAL CANOPY SHALL BE DESIGNED TO BE SOLAR READY OVER ENTIRE ROOF AREA.
3. CONCRETE FOOTING, STEEL ANCHOR PLATE, REINFORCING, ETC. PER PRE-FAB METAL BUILDING MANUF.'S & SOILS REPORT RECOMMENDATIONS.
4. CONCRETE CURB AS OR WHERE OCCURS PER CIVIL.
5. CONCRETE PAVING PER CIVIL.
6. SEAL AT COLUMN - TYP.
7. GALVANIZED SHEET METAL GUTTER AND DOWNSPOUT (AT 3 LOCATIONS) BY PRE-FAB METAL BUILDING MANUFACTURER - PAINT, SURFACE DRAIN AWAY FROM STRUCTURE.
8. PAINT ALL EXPOSED CONCRETE WITH 2-COATS PRIMERS & 2-COATS "SAFETY YELLOW".
9. INSTALL 2 BANDS OF 3" WIDE 3M REFLECTIVE TAPE AROUND THE CAISSONS, SEE 5/- TYP.
10. CAR CANOPY LIGHTING. SEE ELECTRICAL.

GENERAL NOTES

A. THE DRAWING SHOWN HEREIN IS FOR REFERENCE ONLY. GENERAL CONTRACTOR SHALL ENGINEER & CONSTRUCT ALL FOUNDATIONS REQUIRED BY THE PRE-FABRICATED METAL BUILDING COMPANY. CONTRACTOR SHALL PROVIDE ENGINEERED & WET STAMPED SHOP DRAWINGS FOR BUILDING & FOUNDATIONS.

B. THE STRUCTURAL COMPONENTS/SIZES SHOWN HEREIN ARE FOR REFERENCE ONLY. CONTRACTOR'S ENGINEER SHALL PROVIDE STRUCTURAL CALCULATIONS VERIFYING STRUCTURAL COMPONENT'S SIZING. SIZE MAY INCREASE OR DECREASE AT NO ADDED COST TO OWNER.

C. ALL BAYS TO REMAIN CLEAR - TYP.

D. NO "X" BRACING IS ALLOWED BETWEEN COLUMNS - TYP.

E. DESIGN: PORTAL / MOMENT FRAMES ONLY - TYP.

F. SPECIFICATIONS ARE UNDER SEPARATE COVER AND ARE PART OF THE BID DOCUMENTS.

G. GENERAL CONTRACTOR TO PROVIDE STAMPED, SIGNED, ENGINEERED SHOP DRAWINGS AS PART OF THE CONTRACT.

H. GENERAL CONTRACTOR TO SUBMIT ALL REQUIRED PLANS & DOCUMENTS THROUGH THE COUNTY LAND USE SERVICES AND IS A "DEFERRED APPROVAL" WITH APPROXIMATE FOUR (4) WEEK LEAD TIME.

J. GENERAL CONTRACTOR TO FIELD VERIFY ALL SITE EXISTING SITE UTILITIES, INCLUDING UNDERGROUND ELEMENTS, PRIOR TO PLACING BUILDING FOUNDATION.

STK ARCHITECTURE
42016 ZEVO DR. TEMECULA, CALIFORNIA 92590-3760
Phone: 951.296.8170 Fax: 951.296.8172 Email: stk@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #22-105
CAFM #
APN Part of 015-428H-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

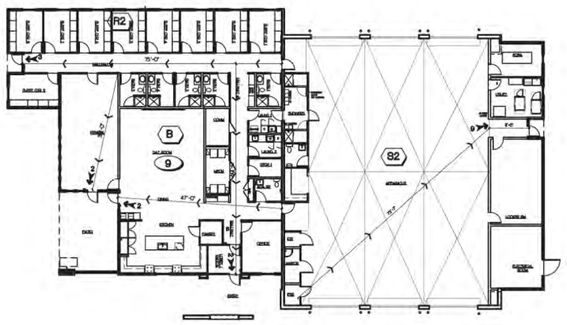
SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
METAL CANOPY PLANS/ELEV

SHEET NO.:
A1.5

12/20/2024 1:28PM J:\STK\ARCH\374-193-24 Fire Stations No.227 Architecture\A1.5 - 93.27 METAL CANOPY.dwg



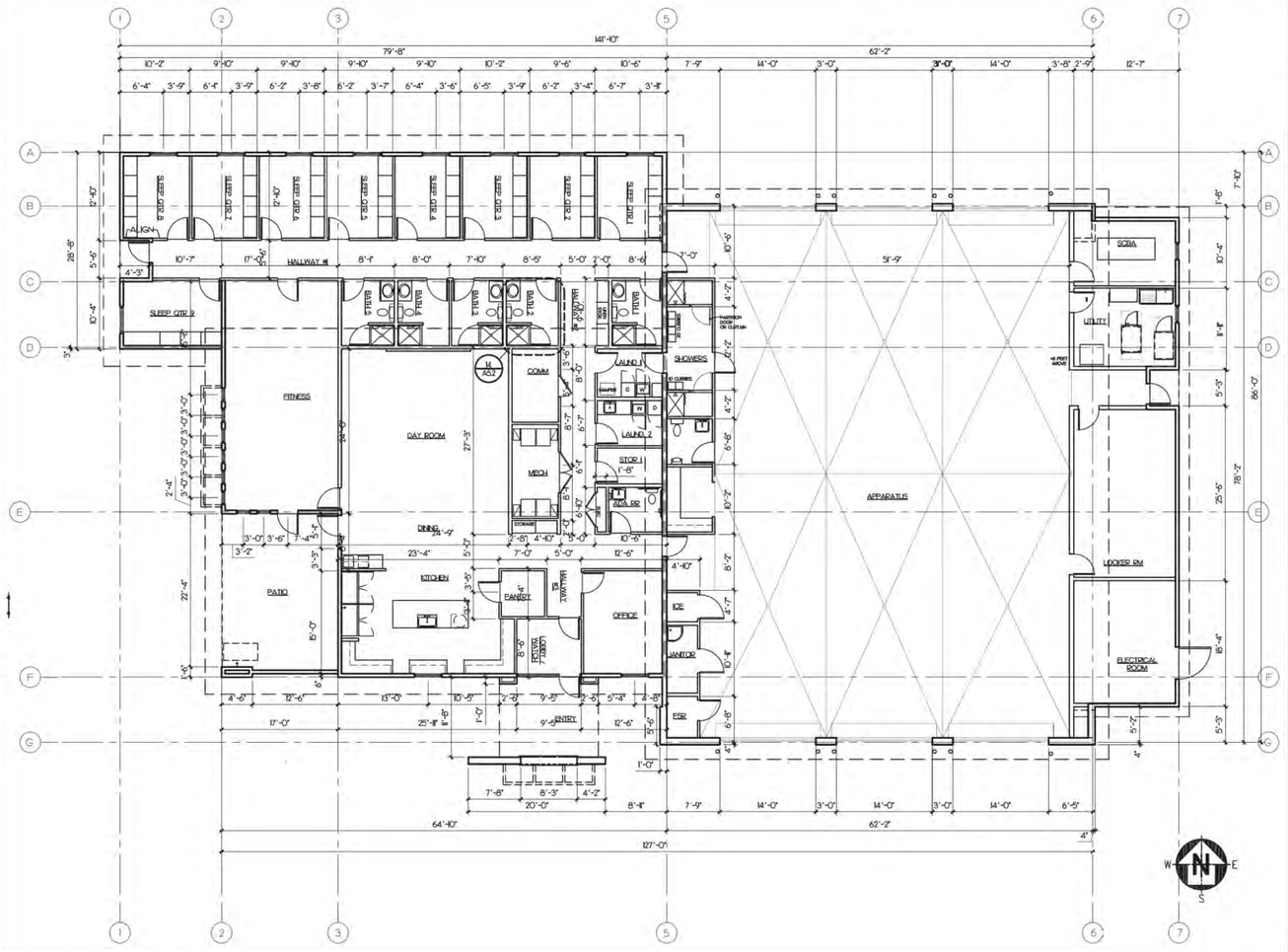
Symbol	Remarks
(000)	ROOM SPACE OCCUPANT LOAD
(R2)	OCCUPANCY GROUP
0.0 ➔	EXIT FLOW BASED ON OCCUPANT LOAD

OCCUPANT QUANTITY SET BY SIZE OF STAFF.

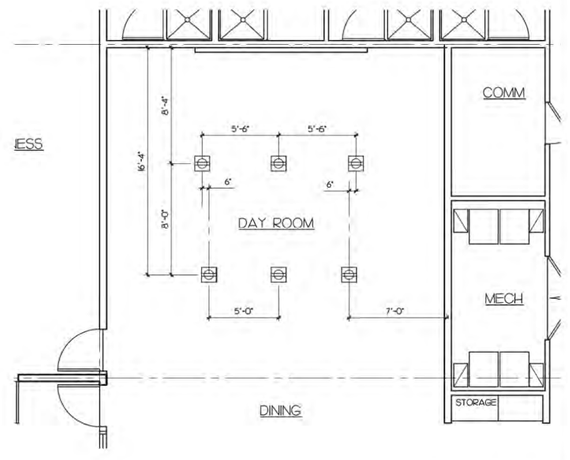
1) EGRESS WIDTHS ARE CALCULATED PER CBC 1005.3.2, EXCEPTION 1, FOR BUILDINGS EQUIPPED WITH AUTOMATIC SPRINKLERS, USING .15" PER PERSON FOR HORIZONTAL EGRESS AND .2" PER PERSON FOR VERTICAL EGRESS.
2) HORIZONTAL EGRESS TRANSLATES AS FOLLOWS:
   a) 1'-0" WIDTH ACCOMMODATES 80 OCCUPANTS.
   b) 3'-0" DOOR OPENING ACCOMMODATES 240 OCCUPANTS.

LIFE SAFETY/ EGRESS PLAN — SCALE: 1/16"=1'-0" — 14

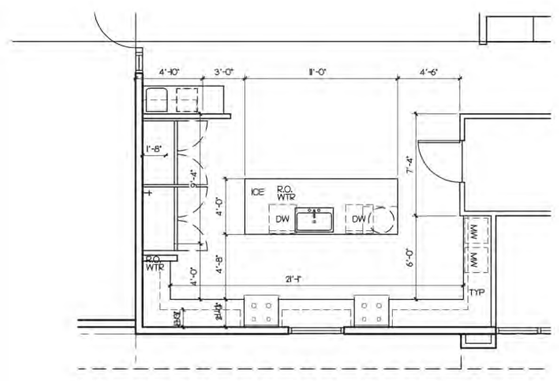
NOT USED



DIMENSION FLOOR PLAN — SCALE: 1/8"=1'-0" — 3



DAY ROOM FLOOR OUTLETS — SCALE: 1/4"=1'-0" — 8



ENLARGED KITCHEN PLAN — SCALE: 1/4"=1'-0" — 4

STK
ARCHITECTURE INC
42180 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.9179 E-mail: stk@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0.1202
CIP #22-105
CAFM #
APN Part of 0135-428-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

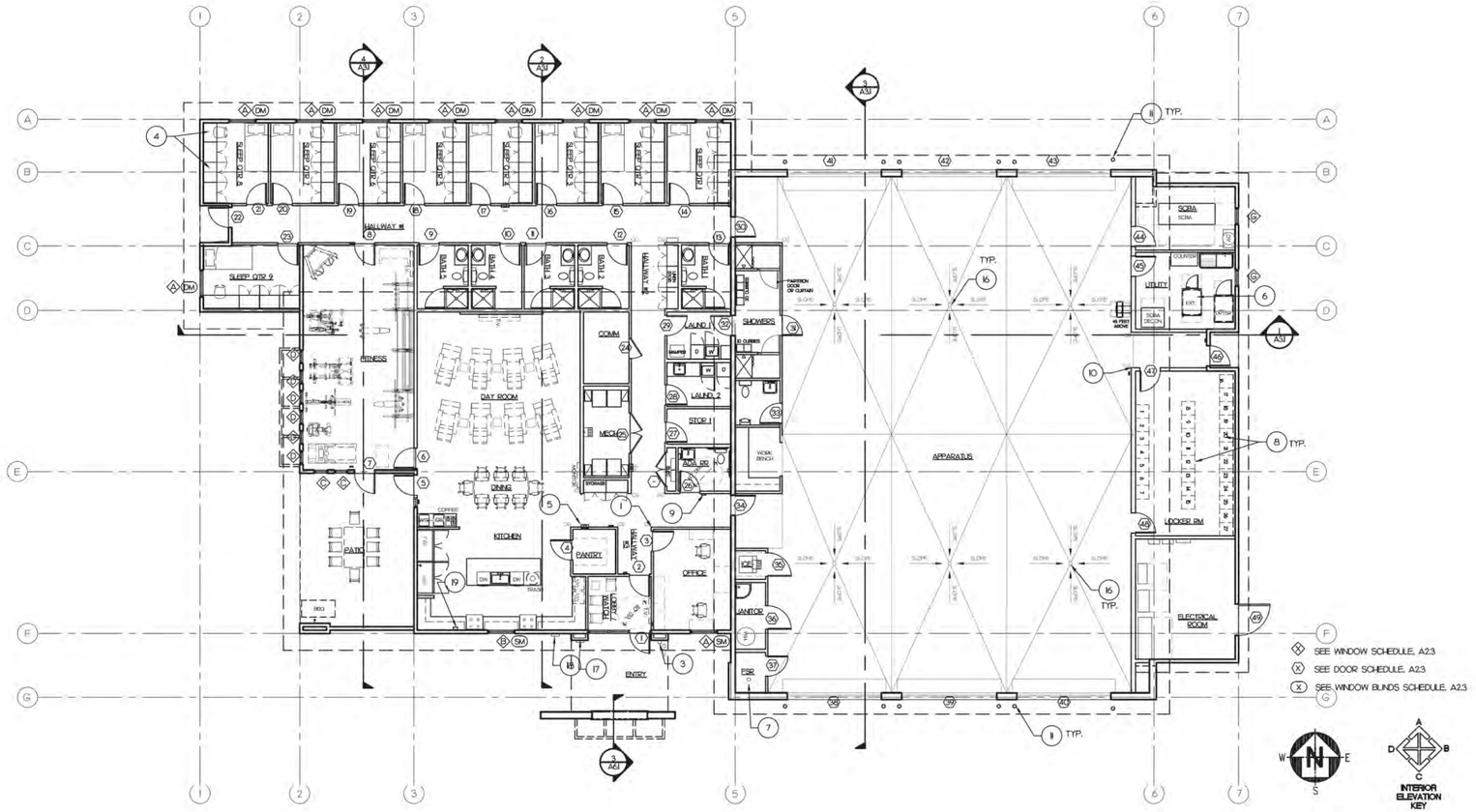
DATE:	INFORMATION:
9-11-24	DDs
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME: -

SEAL:

SHEET TITLE:
DIMENSION PLAN

SHEET NO.:
A2.1



REFERENCE FLOOR PLAN

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

KEY NOTE

1. CORNER GUARDS (PVC). (TYP. OF 13)
2. METAL MESH GEAR LOCKERS, FLOOR MOUNTED AT CENTER OF ROOM. WALL MOUNTED AT ROOM PERIMETER. PROVIDE BACKING AS REQUIRED.
3. KNOX BOX. PROVIDE PER COUNTY OF SAN BERNARDINO FIRE DEPT. REQUIREMENTS.
4. CASEWORK WARDROBE LOCKERS AND DESK. SEE (K / A6.1)
5. SEMI-RECESSED FIRE EXTINGUISHER. SEE (4 / A6.2)
6. FLUSH PYRAMID SHAPED CONC. PAD FOR EXTRACTOR PER MANUF. INSTRUCTIONS. SEE (2 / A6.1)
7. FIRE SPRINKLER RISER.
8. 1/2 HOUR FIRE RATED WALL. (K / -)
9. ADA RESTROOM WALL AND DOOR SIGNAGE. SEE (6 / A2.4)
10. CORNER GUARDS (STAINLESS STEEL). (TYP. OF 7)
11. 6" DIA. X 4' HIGH CONCRETE FILLED BOLLARD, PAINT OSHA YELLOW. SEE (7 / A6.2)
12. OVERHEAD COILING DOORS. (TYP. OF 6) SEE (3 / A2.4)
13. ICE MACHINE
14. 3' WIDE GLASS SHOWER DOOR & SHOWER RECEPTOR.
15. TACTILE EXIT SIGN. SEE (1 / A2.4)
16. AREA DRAIN. SEE PLUMBING DWGS.
17. RED 911 PHONE, BY FIRE DEPT. SEE SHEET D1.1.
18. VIDEO DOOR BELL. SEE COMMUNICATIONS PLANS.
19. GAS RESET BUTTON. SEE COMMUNICATIONS PLANS.

WALL LEGEND

EXTERIOR WALL: 2x6 or 2x8 WOOD STUDS @ 16" O.C. W/ SHEATHING PER STRUCTURAL DRAWINGS W/ CEMENT CEMENT PLASTER W/ R-21 BATT INSULATION & ONE LAYER OF 5/8" TYPE "X" GYP. BD. ON INTERIOR FACE, UNLESS OTHERWISE NOTED.

1 HOUR WALL: 2x8 WOOD STUDS @ 16" O.C. w/ ONE LAYER OF 5/8" TYPE "X" GYP. BD. FROM FLOOR TO UNDERSIDE OF ROOF SHEATHING ON APPARATUS BAY SIDE AND ONE LAYER OF 5/8" TYPE "X" GYP. BD. FROM FLOOR TO UNDERSIDE OF ROOF SHEATHING ON LIVING QUARTERS SIDE W/ PLYWOOD PER STRUCT. DRAWING. USE R-21 BATT INSULATION TO FILL CAVITY.

INTERIOR WALL: 2x6 OR 2x4 WOOD STUDS @ 16" O.C. W/ 5/8" TYPE "X" GYP. BD. ON EACH FACE (UNLESS OTHERWISE NOTED) W/ (SOUND) INSULATION FULL HEIGHT OF WALL. REFER TO FIRE RATED WALL ASSEMBLIES FOR SPECIFICATION.

NOTES: PROVIDE WATER RESISTANT GYP. BD. BEHIND ALL WET AREAS.

NOTE: COORDINATE / SEE STRUCTURAL DRAWINGS FOR ALL +6" HIGH CONC. CURB - CURB WIDTH TO MATCH WALL STUD WIDTH. (TYP. AT ALL EXTERIOR WALLS AND ALL APPARATUS WALLS)

NOTE: ALL PIPING, CONDUITS, WIRES, DUCTS, ETC. SHALL BE CONCEALED INSIDE WALLS OR ATTIC. NO EXCEPTIONS.

NOTE: MIXED-USE BUILDING SEPARATION PROPOSED PER CBC 508.3 NONSEPARATED OCCUPANCIES

EQUIPMENT LIST

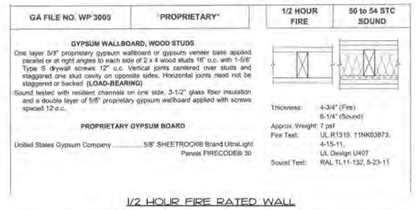
QTY.	ITEM	FURNISHED BY	INSTALLED BY
1 EA	REFRIGERATOR/FREEZER	CONTRACTOR	CONTRACTOR
2	DISHWASHER	CONTRACTOR	CONTRACTOR
2	RANGE & HOOD	CONTRACTOR	CONTRACTOR
2	MICROWAVE	CONTRACTOR	CONTRACTOR
1	COFFEE MAKER	CONTRACTOR	CONTRACTOR
1	RESIDENTIAL ICE MAKER	CONTRACTOR	CONTRACTOR
2	WASHER	CONTRACTOR	CONTRACTOR
2	DRYER	CONTRACTOR	CONTRACTOR
5	FIRE EXTINGUISHERS	CONTRACTOR	CONTRACTOR
27	METAL GEAR LOCKERS	CONTRACTOR	CONTRACTOR
24	WARDROBE CABINETS	CONTRACTOR	CONTRACTOR
1	COMMERCIAL ICE MACHINE/BIN	CONTRACTOR	CONTRACTOR
1	P/A SYSTEM - SEE DATA2.2	OWNER	OWNER
1	RADIO COMM. SYSTEMS - SEE DATA2.2	OWNER	OWNER
1	EXTRACTOR WASHER	CONTRACTOR	CONTRACTOR
1	COMM. DRYER	CONTRACTOR	CONTRACTOR
1	AIR COMPRESSOR	CONTRACTOR	CONTRACTOR
1	VEHICLE EXHAUST SYSTEM	CONTRACTOR	CONTRACTOR
8	CEILING FANS	CONTRACTOR	CONTRACTOR
2	LARGE FORMAT CEILING FANS	CONTRACTOR	CONTRACTOR
1	AUTO TRANSFER SWITCH	CONTRACTOR	CONTRACTOR
2	UNIT HEATER	CONTRACTOR	CONTRACTOR
1	EXERCISE EQUIPMENT	CONTRACTOR	CONTRACTOR
1	EMERGENCY GENERATOR	CONTACTOR	CONTRACTOR
1	COMPRESSED AIR HOSE REEL	CONTACTOR	CONTRACTOR
1	1,000gal DIESEL FUEL TANK	CONTACTOR	CONTRACTOR
	FURNITURE*	CONTACTOR	CONTRACTOR

NOTES:
- "OWNER" REFERS TO COUNTY OF SAN BERNARDINO FIRE DEPT.

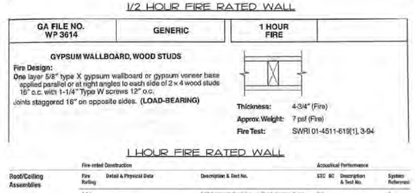
COMPRESSED AIR HOSE REEL:
COXREELS T SERIES, EZ-TSH-3100 OR APPROVED EQUAL.

NOTE: APPARATUS IS FOR PARKING ONLY AND NO VEHICLE MAINTENANCE OCCURS IN THE FACILITY.

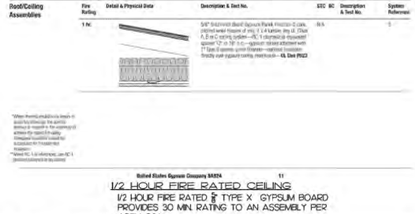
*CONTRACTOR TO PROVIDE FURNITURE:
DAY ROOM- RECLINERS, ACCENT TABLES, DINING TABLE & CHAIRS.
OFFICE- DESKS, SHELVES, CHAIRS
SLEEP QUARTERS- MATTRESSES
PATIO-TABLE & CHAIRS
SEE SPECIFICATIONS FOR DETAILS.



1/2 HOUR FIRE RATED WALL



1 HOUR FIRE RATED WALL

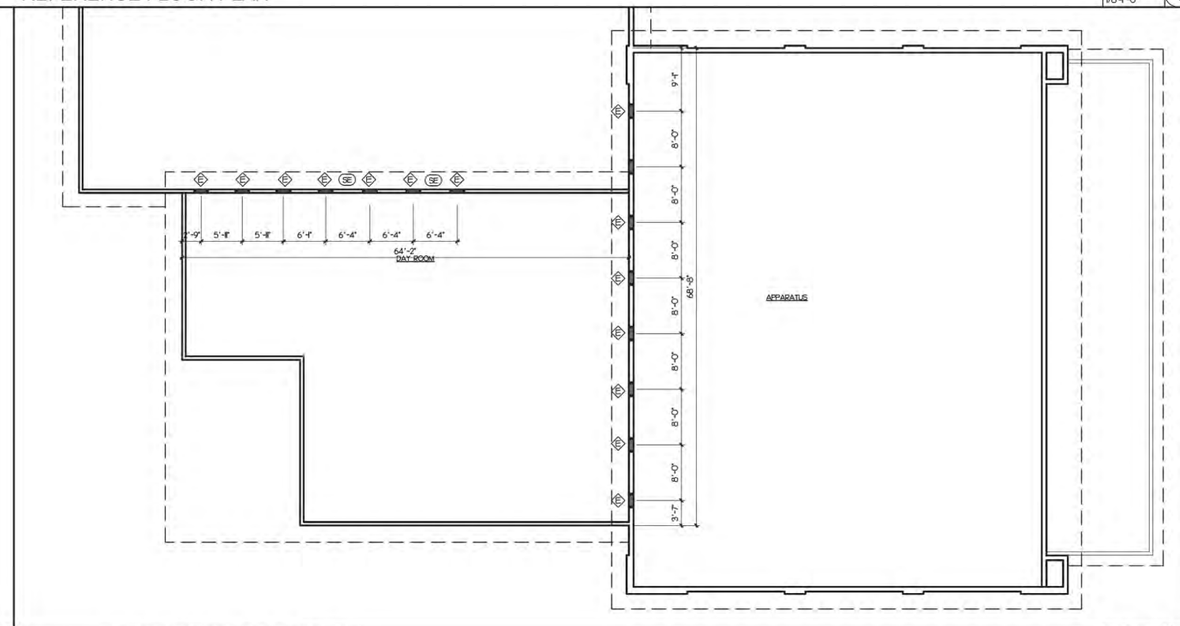


1/2 HOUR FIRE RATED CEILING

1/2 HOUR FIRE RATED 5/8" TYPE X GYPSUM BOARD PROVIDES 30 MIN. RATING TO AN ASSEMBLY PER ASTM C36.

FIRE RATED ASSEMBLIES

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



CLERESTORY FLOOR PLAN

SCALE: 1/8"=1'-0" (4)

STK ARCHITECTURE
42195 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9115 Fax: 951.296.9179 E-mail: info@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

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CA 92405

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STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
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PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
REFERENCE PLAN

SHEET NO.:
A2.2

DOOR SCHEDULE

	MARK	DOOR SIZE WD-HT	DOOR SIZE THK	TYPE	MATL	FIN	GLAZING	FIRE RATING LABEL (MIN)	FRAME MATL	FRAME DETAIL, SHEET A2.4 HEAD	FRAME JAMB	FRAME SILL	HARDWARE GROUP (SEE SPEC'S)	REMARKS
FIRE STATION	1	3070	1-3/4	D	AL	AL	TP	-	HM	12	13	14		①②③
	2	3070	1-3/4	B	SC	WD	TP	-	HM	2	2	9B		①
	3	3070	1-3/4	B	SC	WD	TP	-	HM	2	2	9A		
	4	3070	1-3/4	A	SC	WD	-	-	HM	2	2	9B		⑫
X	5	3070	1-3/4	F	HM	MP	TP	-	HM	1	1	10		①②③ Ⓘ
	6	3070	1-3/4	E	SC	WD	TP	-	HM	2	2	9E		
X	7	3070	1-3/4	E	HM	MP	TP	-	HM	1	1	10		①②③
	8	3070	1-3/4	E	SC	WD	TP	-	HM	2	2	9E		
	9	3070	1-3/4	A	SC	WD	-	-	HM	2	2	9C		⑫
	10	3070	1-3/4	A	SC	WD	-	-	HM	2	2	9C		⑫
	11	3070	1-3/4	A	SC	WD	-	-	HM	2	2	9C		⑫
	12	3070	1-3/4	A	SC	WD	-	-	HM	2	2	9C		⑫
	13	3070	1-3/4	A	SC	WD	-	-	HM	2	2	9C		⑫
	14	3070	1-3/4	A	SC	WD	-	20	HM	2	2	9A		②④
	15	3070	1-3/4	A	SC	WD	-	20	HM	2	2	9A		②④
	16	3070	1-3/4	A	SC	WD	-	20	HM	2	2	9A		②④
	17	3070	1-3/4	A	SC	WD	-	20	HM	2	2	9A		②④
	18	3070	1-3/4	A	SC	WD	-	20	HM	2	2	9A		②④
	19	3070	1-3/4	A	SC	WD	-	20	HM	2	2	9A		②④
	20	3070	1-3/4	A	SC	WD	-	20	HM	2	2	9A		②④
	21	3070	1-3/4	A	SC	WD	-	20	HM	2	2	9A		②④
X	22	3070	1-3/4	B	HM	MP	TP	-	HM	1	1	10		①②③ Ⓘ
	23	3070	1-3/4	A	SC	WD	-	20	HM	2	2	9A		②④
	24	4070	1-3/4	A	SC	MP	-	-	HM	2	2	9D		⑨
	25	6070	1-3/4	C	SC	MP	-	-	HM	2	2	9D		⑨
	26	3070	1-3/4	A	SC	WD	-	-	HM	2	2	9D		Ⓑ⑫
	27	3070	1-3/4	A	SC	WD	-	-	HM	2	2	9B		
	28	3070	1-3/4	B	SC	WD	-	-	HM	2	2	9D		
	29	3070	1-3/4	B	SC	WD	-	-	HM	2	2	9C		
	30	3070	1-3/4	B	HM	MP	TP	20	HM	4	4	10		②⑤Ⓚ
	31	3070	1-3/4	A	HM	MP	-	20	HM	4	4	10		
	32	3070	1-3/4	A	HM	MP	-	20	HM	2	2	9B		②
	33	3070	1-3/4	A	HM	MP	-	-	HM	2	2	9B		②
	34	3070	1-3/4	A	HM	MP	TP	20	HM	2	2	10		②⑤
	35	3670	1-3/4	A	HM	MP	-	-	HM	2	2	9B		
	36	3670	1-3/4	A	HM	MP	-	-	HM	2	2	9B		⑨
	37	3070	1-3/4	A	HM	MP	-	-	HM	2	2	9B		
	38	140140	-	G	RF	MF	-	-	RF	3	3	-		
	39	140140	-	G	RF	MF	-	-	RF	3	3	-		
	40	140140	-	G	RF	MF	-	-	RF	3	3	-		
	41	140140	-	G	RF	MF	-	-	RF	3	3	-		
	42	140140	-	G	RF	MF	-	-	RF	3	3	-		
	43	140140	-	G	RF	MF	-	-	RF	3	3			
	44	3070	1-3/4	A	HM	MP	-	-	HM	1	1	10		
	45	3070	1-3/4	A	HM	MP	-	-	HM	1	1	10		
	46	3070	1-3/4	A	HM	MP	-	-	HM	1	1	10		①②③
	47	3070	1-3/4	B	HM	MP	-	-	HM	1	1	10		⑨
	48	3070	1-3/4	B	HM	MP	-	-	HM	1	1	10		
	49	4070	1-3/4	A	HM	MP	-	-	HM	1	1	10		② ⑩
	50	5070	1-3/4	A	HM	MP								
STOR BLDG	51	3070	1-3/4	A	HM	MP	-	-	HM	1	1	10		
	52	8080	-	G	RF	MF	-	-	RF	3	3			⑥Ⓘ
GATES	53	4070	-	J	MG	PC								⑥Ⓔ
	54	3070	-	J	MG	PC								⑥Ⓔ

(X) DOOR MARK PER REFERENCE PLAN, A2.2

NOTES

- ALL DOORS TO HAVE THE BOTTOM OF 10" OF SMOOTH, UNINTERRUPTED SURFACE OR SHALL BE PROVIDED WITH A 10" HIGH SMOOTH METAL PANEL AT THE BOTTOM OF THE DOOR.
- ALL EXITS TO BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
- OPERABLE PARTS OF DOORS AND GATES 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 MAXIMUM.

MATL/GLAZING KEY

HM	HOLLOW METAL
RF	ROLL FORMED GALVANIZED STEEL
SC	SOLID CORE
MG	METAL GATE
TP	TEMPERED PLATE
AL	ALUMINUM
FR	FIRE RATED GLAZING

FINISH KEY

MF	MANUFACTURE'S FINISH
MP	METAL PAINTED
WD	WOOD VENEER
PC	POWDER COATED
AL	ALUMINUM

REMARKS KEY

1. INSTALL SIGN ABOVE DOOR STATING "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED". PROVIDE 1" HIGH LETTERS ON A CONTRASTING BACKGROUND.
2. W/ CLOSER.
3. PROVIDE EXIT, SIGNAGE - SEE (+ A2.4)
4. PROVIDE PRIVACY LATCH.
5. PROVIDE DOOR FRAME WITH SEAL.
6. FIELD VERIFY SIZE.
7. PROVIDE WEATHER STRIPPING AT JAMBS.
8. PROVIDE A.D.A. R.R. SIGNAGE, SEE
9. PROVIDE LOUVER, SEE MECH. (8 A2.4)
10. PROVIDE PANIC HARDWARE
11. WITH DIGITAL KEYPAD LOCK
12. UNDERCUT DOOR 1"

FINISH SCHEDULE

ROOM NAME	FLOOR MTL	FLOOR BASE	WALL A MTL	WALL A FIN	WALL B MTL	WALL B FIN	WALL C MTL	WALL C FIN	WALL D MTL	WALL D FIN	CEILING MTL	CEILING FIN	REMARKS
LOBBY / WATCH	F4	B3	W1	A	W1	A	W1	A	W1	A	C2	C	
ADA RESTROOM	F1	B2	W/W3	D/C	W/W3	D/C	W/W3	D/C	W/W3	D/C	C1	D	WATER RESISTANT GYP. BD. FROM FLOOR TO BOTTOM OF CEILING
OFFICE	F2	B1	W1	A	W1	A	W1	A	W1	A	C2	C	
KITCHEN	F4	B1	W/W3	A	W/W3	A/C	W/W3	A	W1	A	C1	A	
PANTRY	F4	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
DINING	F4	B1	W1	A	W1	A	W1	A	W1	A	C2	C	
DAYROOM	F2	B1	W1	A	W1	A	W1	A	W1	A	C1/C2	A/C	
FITNESS	F3	B1	W1	A	W1	A	W1	A	W1	A	C1/C2	A/C	
LAUNDRY #1 AND #2	F4	B1	W1	A	W1	A	W1	A	W1	A	C2	C	PROVIDE WATER RESISTANT GYP. BD. FOR WALL "D" ONLY
SLEEP QUARTER'S #1	F2	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
SLEEP QUARTER'S #2	F2	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
SLEEP QUARTER'S #3	F2	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
SLEEP QUARTER'S #4	F2	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
SLEEP QUARTER'S #5	F2	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
SLEEP QUARTER'S #6	F2	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
SLEEP QUARTER'S #7	F2	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
SLEEP QUARTER'S #8	F2	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
SLEEP QUARTER'S #9	F2	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
BATH #1	F1	B2	W/W3	D/C	W/W3	D/C	W/W3	D/C	W/W3	D/C	C1	D	WATER RESISTANT GYP. BD. FROM FLOOR TO BOTTOM OF CEILING
BATH #2	F1	B2	W/W3	D/C	W/W3	D/C	W/W3	D/C	W/W3	D/C	C1	D	WATER RESISTANT GYP. BD. FROM FLOOR TO BOTTOM OF CEILING
BATH #3	F1	B2	W/W3	D/C	W/W3	D/C	W/W3	D/C	W/W3	D/C	C1	D	WATER RESISTANT GYP. BD. FROM FLOOR TO BOTTOM OF CEILING
BATH #4	F1	B2	W/W3	D/C	W/W3	D/C	W/W3	D/C	W/W3	D/C	C1	D	WATER RESISTANT GYP. BD. FROM FLOOR TO BOTTOM OF CEILING
BATH #5	F1	B2	W/W3	D/C	W/W3	D/C	W/W3	D/C	W/W3	D/C	C1	D	WATER RESISTANT GYP. BD. FROM FLOOR TO BOTTOM OF CEILING
STOR #1	F6	B1	W1	A	W1	A	W1	A	W1	A	C1	A	
HALLWAY #1	F4	B1	W1	A	W1	A	W1	A	W1	A	C2	C	
HALLWAY #2	F4	B1	W1	A	W1	A	W1	A	W1	A	C2	C	
HALLWAY #3	F4	B1	W1	A	W1	A	W1	A	W1	A	C2	C	
COMMUNICATION	F5	-	W1	A	W6	-	W6	-	W6	-	C1	A	FIRE RESISTANT PLYWOOD AT ALL WALLS.
MECH	F5	-	W1	A	W1	A	W1	A	W1	A	C1	A	
APPARATUS	F6	B3	W/W2	A/C	W/W2	A/C	W/W2	A/C	W/W2	A/C	C3/C5	-	
SHOWERS	F6	B1/B3	W/W2	A/C	W/W2	A/C	-	-	W/W2	A/C	-	-	PROVIDE WATER RESISTANT GYP. BD.
APP BAY RESTROOM	F6	B1	W/W2	D/C	W/W2	D/C	W/W2	D/C	W/W2	D/C	W/W2	D/C	PROVIDE WATER RESISTANT GYP. BD.
LOCKER ROOM	F6	B1/B3	W1	A	W1	A	W1	A	W1	A	C5	C	
JANITOR	F6	B1/B3	W2	C	W2	C	W2	C	W2	C	C1	A	PROVIDE SANITARY WALL PANEL FOR WALLS "C" & "D".
ICE MACHINE	F6	B1/B3	W2	C	W2	C	W2	C	W2	C	C1	A	PROVIDE WATER RESISTANT GYP. BD.
FSR	F5	-	W1	A	W1	A	W1	A	W1	A	C3	-	
SCBA ROOM	F6	B1/B3	W1	A	W1	A	W1	A	W1	A	C5	C	
UTILITY ROOM	F6	B1/B3	W2	C	W2	C	W2	C	W2	C	C5	C	
ELECTRICAL ROOM	F5	-	W1	A	W1	A	W1	A	W1	A	C1	A	
STORAGE BUILDING	F6	B3	W5	C	W5	C	W5	C	W5	C	C3	C	

MATERIAL KEY

FLOOR

F1	CERAMIC TILE OVER FULL MORTAR BED
F2	CARPET TILES
F3	RESILIENT ATHLETIC FLOORING
F4	LUXURY VINYL TILE
F5	EXPOSED CONCRETE, MEDIUM BROOM
F6	EXPOSED CONCRETE, SMOOTH TROWEL FINISH (SEALED)

BASE

B1	TOP SET BASE
B2	CERAMIC TILE, COVED
B3	6" CONC. BASE W/ SEALER

WALL

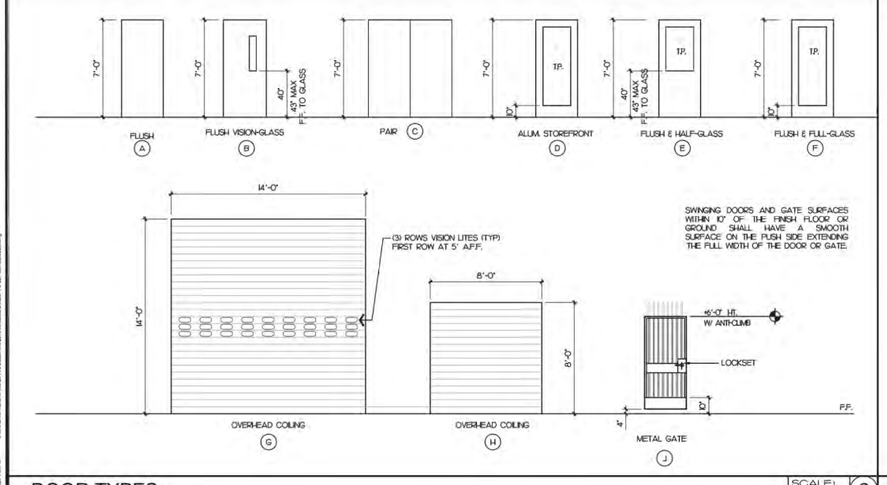
W1	GYPSUM BOARD, 5/8" TYPE X "MOLD RESISTANT" AND TEXTURED (MEDIUM ORANGE PEEL (PROVIDE WATER RESISTIVE TYPE BEHIND WET AREAS)
W2	SANITARY WALL PANEL
W3	CERAMIC TILE OVER CEMENT BOARD
W4	CEMENT PLASTER (STUCCO)
W5	5/8" PLYWOOD, FULL HEIGHT
W6	3/4" PLYWOOD, FULL HEIGHT

CEILING

C1	5/8" TYPE X GYPSUM BOARD, TAPED AND TEXTURED W/ MEDIUM ORANGE PEEL FINISH (PROVIDE MOISTURE RESISTIVE TYPE IN WET AREAS)
C2	2X2 LAY IN CEILING
C3	OPEN TO STRUCTURE
C4	CEMENT PLASTER CEILING
C5	VINYL FACED INSULATION

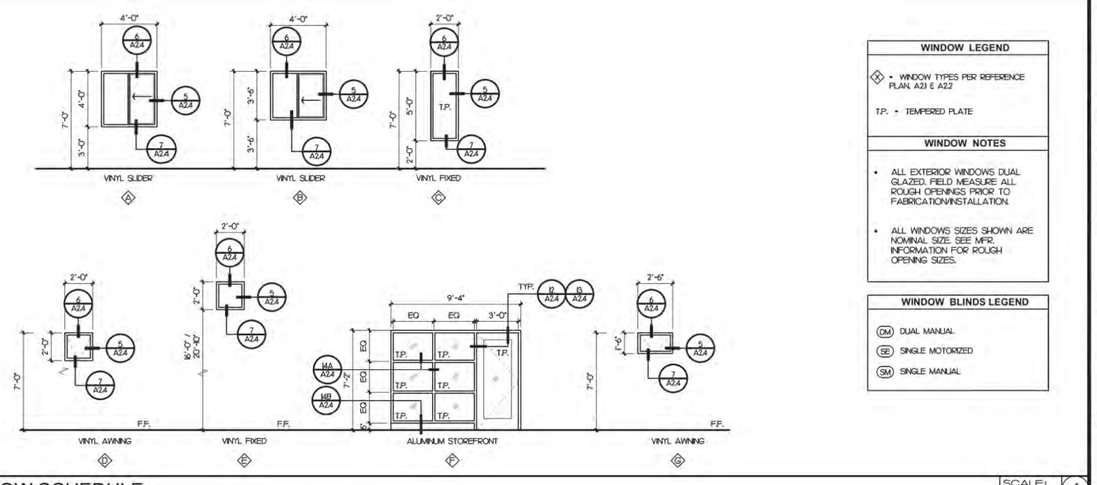
FINISH KEY

A	PAINT, EGGSHELL
B	CERAMIC TILE
C	MANUFACTURER'S FINISH (CLEAN)
D	PAINT, SEMI GLOSS



DOOR TYPES

SCALE: 1/4"=1'-0" (2)



WINDOW LEGEND

(X) - WINDOW TYPES PER REFERENCE PLAN, A2.1 & A2.2

T.P. - TEMPERED PLATE

WINDOW NOTES

- ALL EXTERIOR WINDOWS DUAL GLAZED. FIELD MEASURE ALL ROUGH OPENINGS PRIOR TO FABRICATION/INSTALLATION.
- ALL WINDOWS SIZES SHOWN ARE NOMINAL SIZE. SEE MFR. INFORMATION FOR ROUGH OPENING SIZES.

WINDOW BLINDS LEGEND

(DM) DUAL MANUAL
(SE) SINGLE MOTORIZED
(SM) SINGLE MANUAL

WINDOW SCHEDULE

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

STK
42395 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
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CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1.202
CIP #22-105
CAFM #
APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

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10-26-24	PROGRESS
12-20-24	95% CDs

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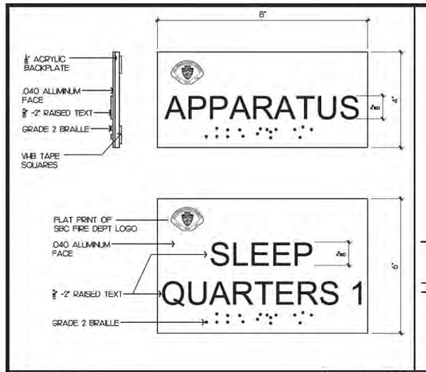
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

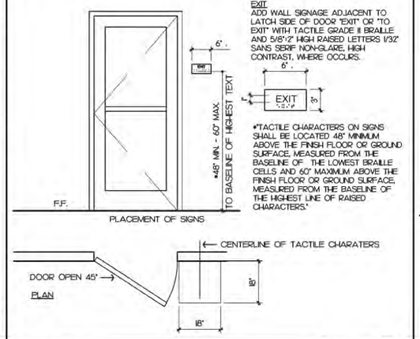
SEAL:

SHEET TITLE:
SCHEDULES

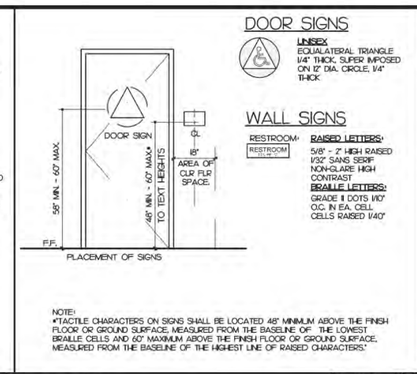
SHEET NO.:
A2.3



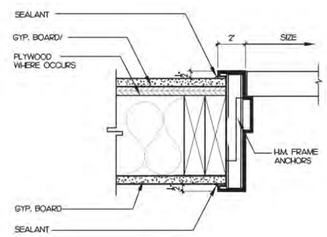
DETAIL | SCALE: NTS | 15



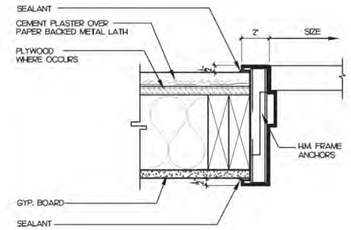
DETAIL | SCALE: 1/2"-0" | 11



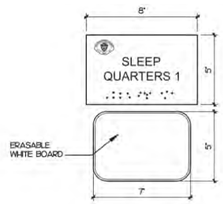
DETAIL | SCALE: 1/2"-0" | 8



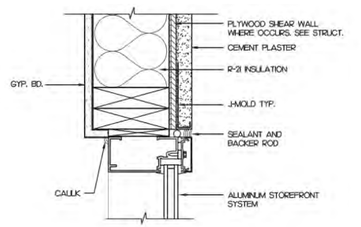
DETAIL | SCALE: 3"-1"-0" | 4



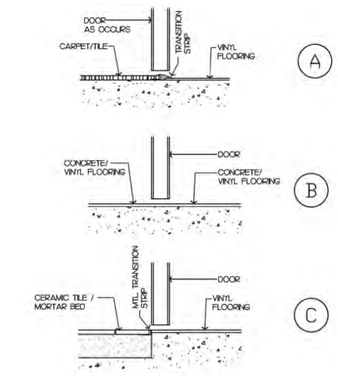
EXTERIOR DOOR JAMB | SCALE: 3"-1"-0" | 1



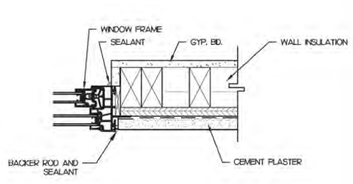
MINI WHITE BOARDS | SCALE: NTS | 16



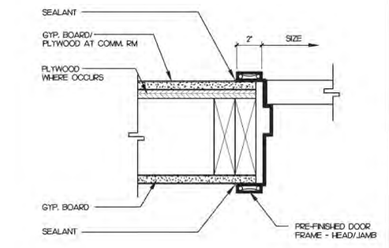
STOREFRONT HEAD | SCALE: 3"-1"-0" | 12



DETAIL | SCALE: 3"-1"-0" | 9

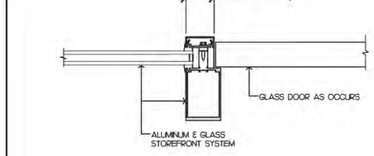


WINDOW JAMB | SCALE: 3"-1"-0" | 5

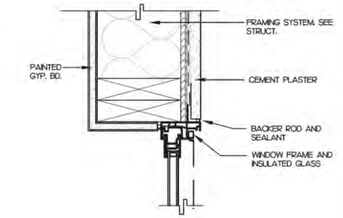


INTERIOR DOOR JAMB | SCALE: 3"-1"-0" | 2

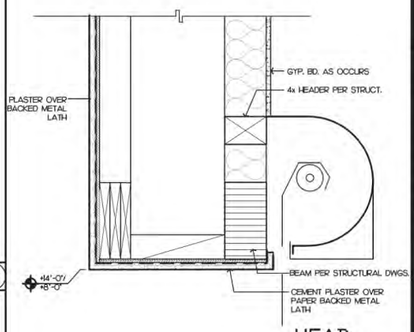
NOT USED

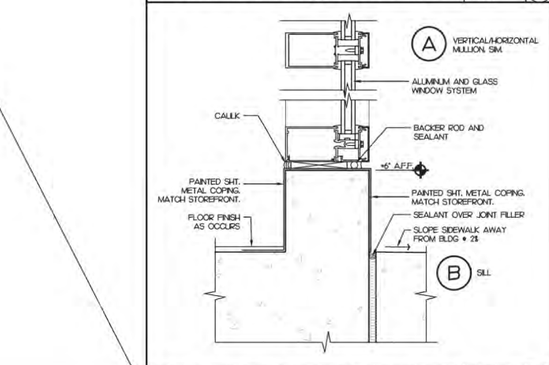


DOOR HEAD/JAMB @ STOREFRONT | SCALE: 3"-1"-0" | 13

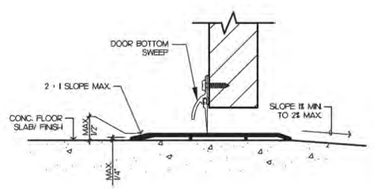


WINDOW HEAD | SCALE: 3"-1"-0" | 6

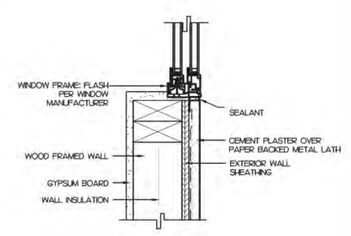




SILL & MULLION @ STOREFRONT | SCALE: 3"-1"-0" | 14



DETAIL | SCALE: 6"-1"-0" | 10



WINDOW SILL | SCALE: 3"-1"-0" | 7

DETAIL | SCALE: H/2"-1"-0" | 3

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420961 ZEVO DR., TEMECULA, CALIFORNIA 92590-3739
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CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT & FACILITIES MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT #: 10J01202
CIP #22-105
CAFM #:
APN: Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

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9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

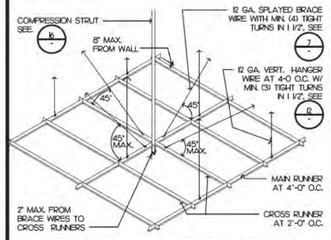
SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
DOOR & WINDOW DETAILS

SHEET NO.:
A2.4

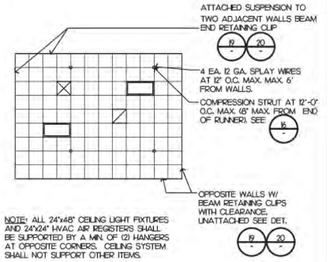
12/20/2024 2:39 PM
J:\STK PROJECTS\2024\374-193-24 Fire Station 227\Drawings\Arch\A 2.4 DOOR AND WINDOW DETAILS.dwg



INSTALLATION TO COMPLY WITH CBC STANDARD 2506.2.1

CEILING SYSTEM

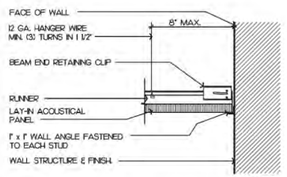
SCALE: 3/8"=1'-0" — 17



NOTE: ALL 24"x48" CEILING LIGHT FIXTURES AND 24"x24" HVAC AIR REGISTERS SHALL BE SUPPORTED BY A MIN. OF (2) HANGERS AT OPPOSITE CORNERS. CEILING SYSTEM SHALL NOT SUPPORT OTHER ITEMS.

CEILING SYSTEM PLAN

SCALE: 1/8"=1'-0" — 18



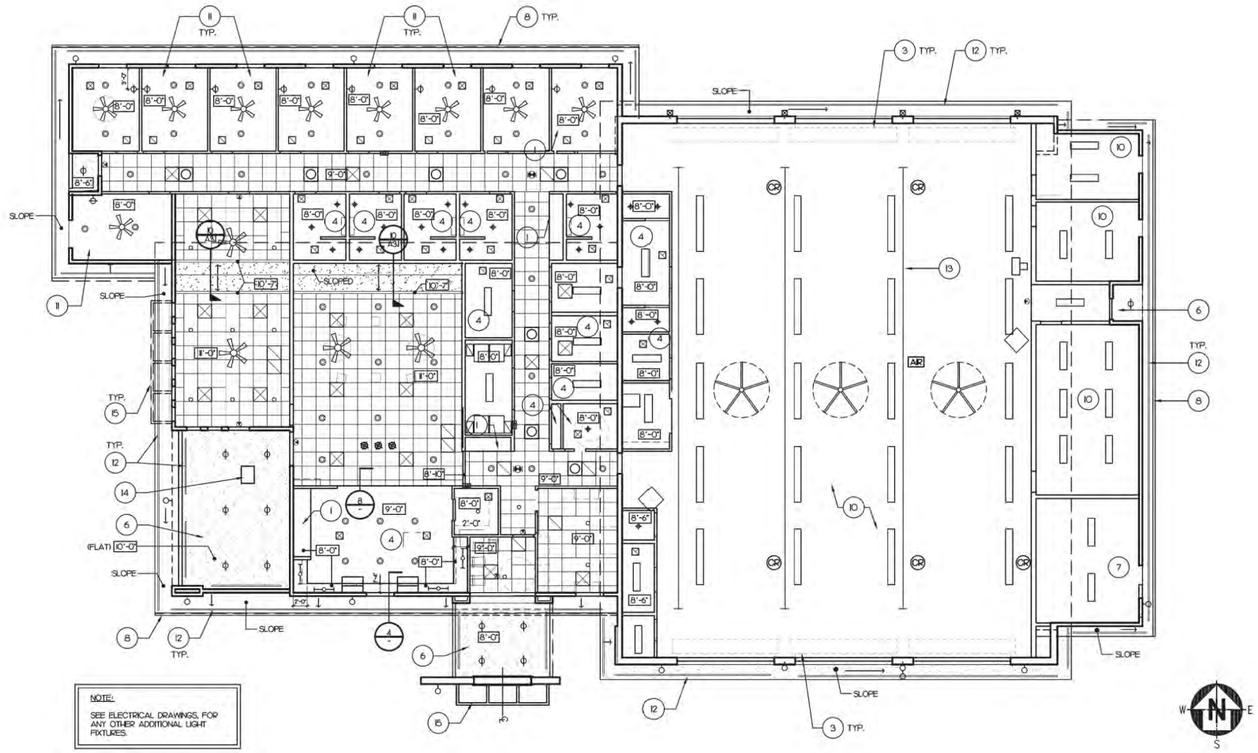
NOTES:

NAILS AT ENDS OF HORIZONTAL STRUTS ARE TO BE PLACED WITH NAIL HEAD TOWARD CENTERLINE OF SPAN STRUT.

INSTALLATION TO COMPLY WITH CBC STANDARD 2506.2.1

GRID BEAM END

SCALE: 1/2"=1'-0" — 19

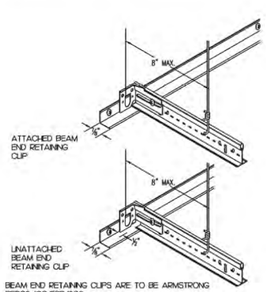


NOTE:

SEE ELECTRICAL DRAWINGS, FOR ANY OTHER ADDITIONAL LIGHT FIXTURES.

REFLECTED CEILING PLAN

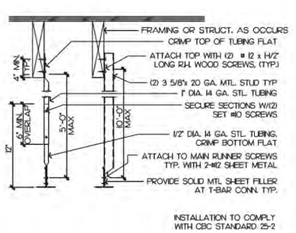
SCALE: 1/8"=1'-0" — 3



BEAM END RETAINING CLIPS ARE TO BE ARMSTRONG BERC2, ICC-ESR-1308

BERC DETAIL

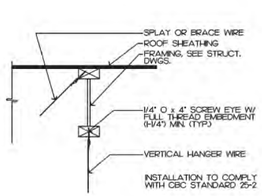
SCALE: N.T.S. — 20



INSTALLATION TO COMPLY WITH CBC STANDARD 25-2

COMPRESSION STRUT

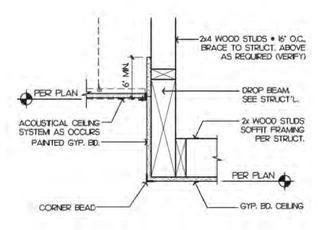
SCALE: 1/2"=1'-0" — 16



INSTALLATION TO COMPLY WITH CBC STANDARD 25-2

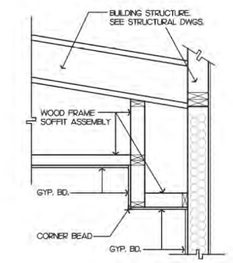
DETAIL

SCALE: 6"=1'-0" — 12



SOFFIT

SCALE: 1/2"=1'-0" — 8



SOFFIT

SCALE: 3/4"=1'-0" — 4

KEY NOTE

1. GYP. BD. SOFFIT OVER 2x FRAMING @ 24" O.C.
2. CEMENT PLASTER / SLOPED CEILING.
3. OVERHEAD COILING DOOR - TYP. OF 6.
4. GYP. BOARD CEILING.
5. TUBULAR SKYLIGHT - TYP. OF 7.
6. CEMENT PLASTER OVER CJ FRAMING.
7. OPEN TO STRUCTURE.
8. GALV. SHEET METAL GUTTER & DOWNSPOUT.
9. 2x2 SUSPENDED ACOUSTICAL CEILING.
10. EXPOSED INSULATION ON CEILING. PAINT EXPOSED STRUCTURE AND MPE SYSTEMS, ETC.
11. 1/2 HOUR RATED GYPSUM BOARD CEILING. PROVIDE DAMPERS AT AC REGISTERS. PROVIDE FIRE RATED RECESSED LIGHT FIXTURE ENCLOSURES. SEE MECH. AND ELECT. SEE 5/A2.2 FOR UL ASSEMBLY.
12. CONTINUOUS 2" EAVE SOFFIT VENT.
13. VEHICLE EXHAUST SYSTEM. REFER TO MECH.
14. 22x30 ACCESS PANEL. PAINT.
15. STEEL AWNING. PAINT.

SYMBOL LEGEND

- 1' x 4' SURFACE MOUNTED LIGHT FIXTURE
- 2' x 4' LAY IN RECESSED LED LIGHT FIXTURE
- 2' x 2' LAY IN RECESSED LED LIGHT FIXTURE
- RECESSED DOWN LIGHT FIXTURE
- RECESSED DOWN LIGHT FIXTURE ON DIMMER SWITCH
- XXXXXXX LIGHT FIXTURE
- SURFACE MOUNTED FIXTURE UNDER CABINET. (NOTE: NO EXPOSED CONDUIT. USE ELECT. WIRING WHIP)
- WALL MOUNTED READING LIGHT FIXTURE AT +4'-0" AFF.
- PENDANT LIGHT FIXTURE
- EXTERIOR RECESSED DOWN LIGHT FIXTURE
- EXTERIOR WALL LIGHT FIXTURE
- EXTERIOR WALL MOUNTED AREA LIGHT
- EXIT SIGN
- SUPPLY AIR REGISTER
- RETURN AIR REGISTER
- EXHAUST FAN
- TUBULAR SKYLIGHT
- ELECT. CORD REEL
- AIR COMPRESSED AIR REEL
- CEILING FAN MANUFACTURE: MINKA AIRE MODEL F786-WHF 44", EXT. RATED WALL CONTROL-WC400 INSTALL AT 7'-0" A.F.F. CLEARANCE MIN.
- LARGE FORMAT CEILING FAN

STK
42195 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9115 Fax: 951.296.6979 E-mail: rob@stkinc.com

CONSULTANT:

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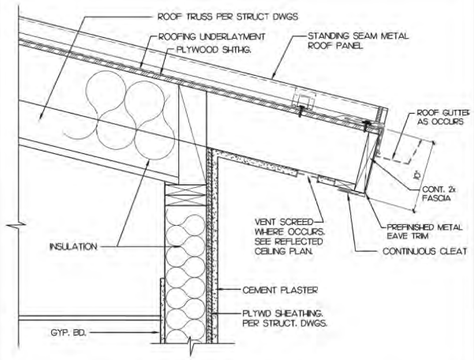
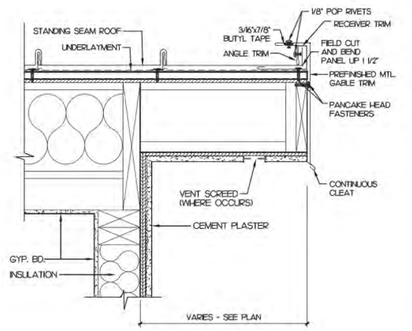
SEAL:

SHEET TITLE:
REFLECTED CEILING PLAN & DETAILS

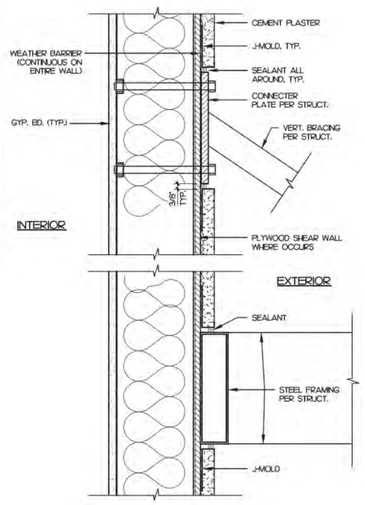
SHEET NO.:
A2.5



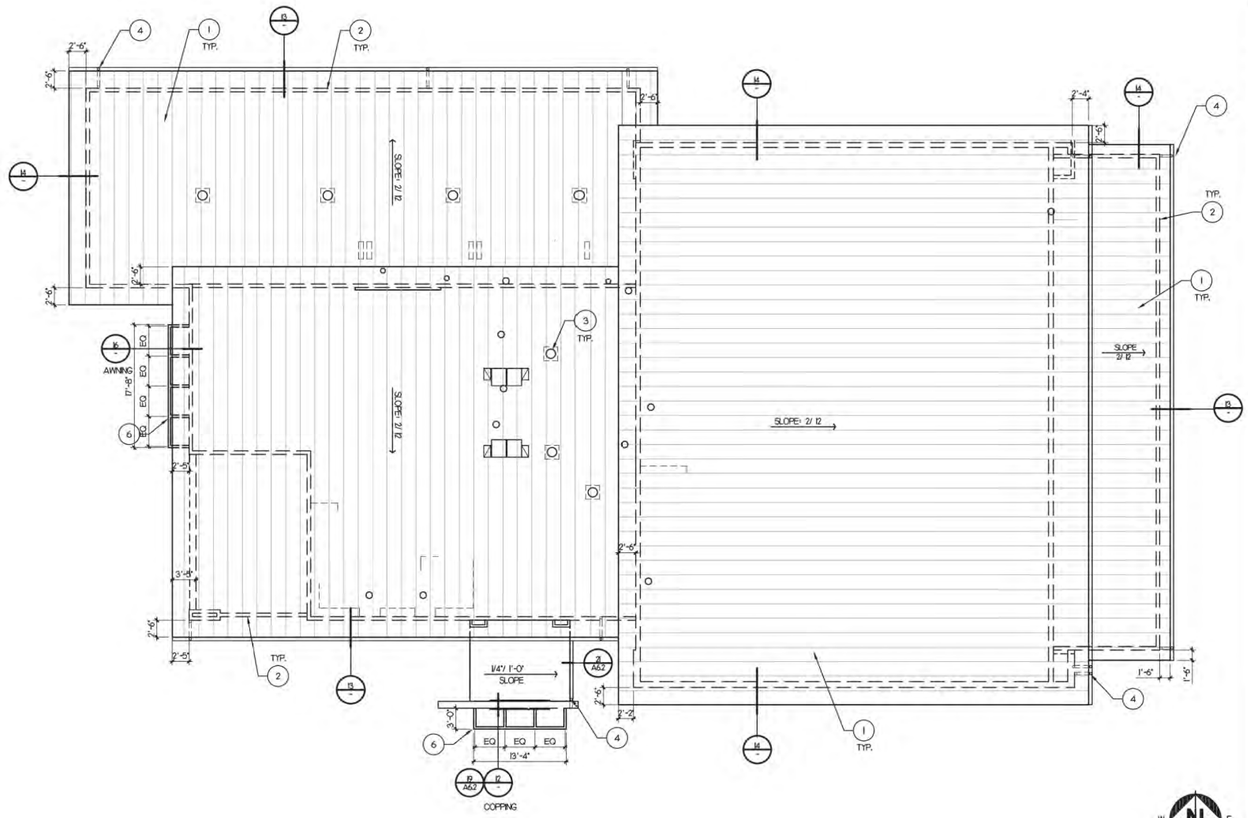
ROOF EAVE — SCALE: 1 1/2"=1'-0" — 13



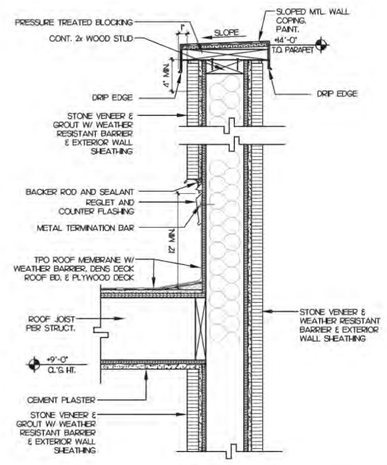
ROOF RAKE — SCALE: 1 1/2"=1'-0" — 14



CANOPY TO WALL FLASHING — SCALE: 1 1/2"=1'-0" — 16



ROOF PLAN — SCALE: 1/8"=1'-0" — 2



ENTRY WALL — SCALE: 1 1/2"=1'-0" — 12

KEY NOTE

1. STANDING SEAM METAL ROOF OVER PLYWOOD SHEATHING.
2. WALL LINE BELOW SHOWN DASHED.
3. TUBULAR SKYLIGHT - TYP. OF 7.
4. GALV. SHEET METAL GUTTER AND DOWNSPOUT, DOWN FROM EXTERIOR WALL OR SPILL UNDER CONC. SLAB TO LANDSCAPE. PAINT.
5. DUCT ROOF CAP. SEE MECHANICAL.
6. STEEL CANOPY. PAINT.

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385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

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180 W. 38TH STREET
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CA 92405

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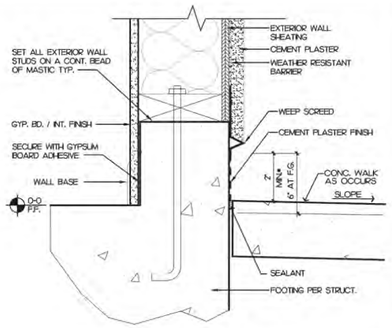
DRAWING NAME:

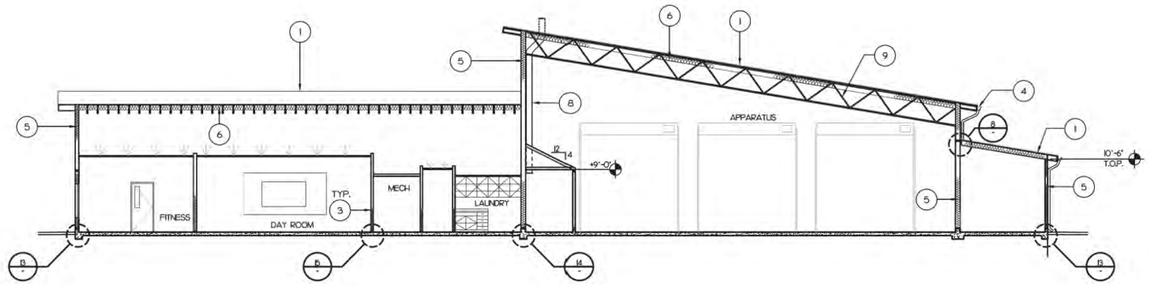
SEAL:

SHEET TITLE:
ROOF PLAN & DETAILS

SHEET NO.:
A2.6



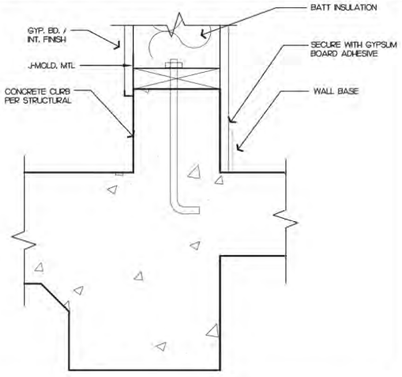
DETAIL — SCALE: 3"=1'-0" — 13



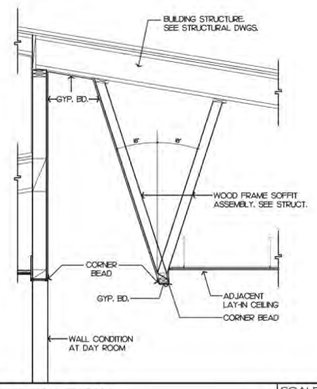
SECTION — SCALE: 1/8"=1'-0" — 1

KEY NOTE

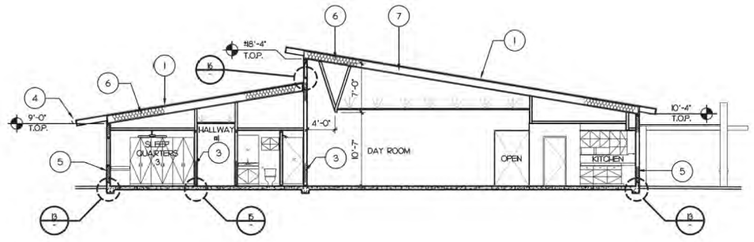
1. STANDING SEAM METAL ROOF
2. CEMENT PLASTER CEILING.
3. SOUND INSULATION. TYP. ALL INTERIOR WALLS.
4. SHEET METAL GUTTER AND DOWNSPOUT. PAINT.
5. R-21 WALL INSULATION. TYP. ALL EXTERIOR WALLS.
6. R-38 ROOF INSULATION.
7. BUILDING STRUCTURE. SEE STRUCTURAL DRAWINGS.
8. DUCT UP THRU ROOF TO ROOF CAP. BRACE TO WALL. SEE MECHANICAL DRAWINGS.
9. EXPOSED TRUSSES. PAINT.



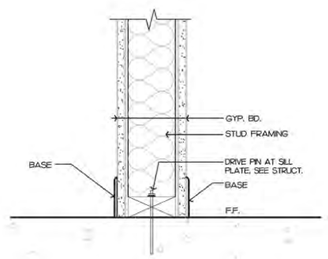
DETAIL — SCALE: 3"=1'-0" — 14



SOFFIT DETAIL — SCALE: 1/2"=1'-0" — 10



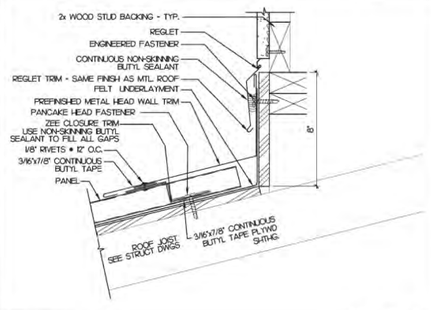
SECTION — SCALE: 1/8"=1'-0" — 2



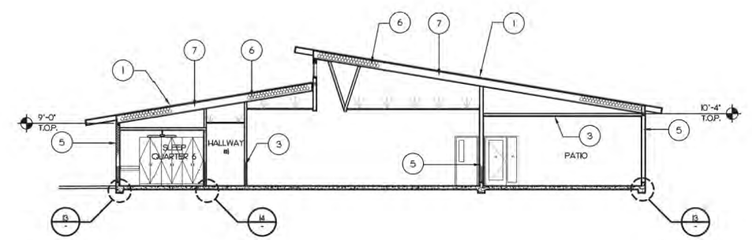
DETAIL — SCALE: 3"=1'-0" — 15

NOT USED

SECTION — SCALE: 1/8"=1'-0" — 3



DETAIL — SCALE: 3"=1'-0" — 16



SECTION — SCALE: 1/8"=1'-0" — 4

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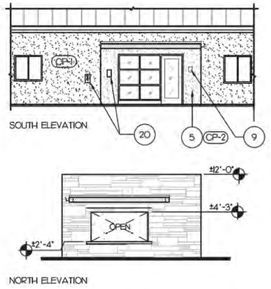
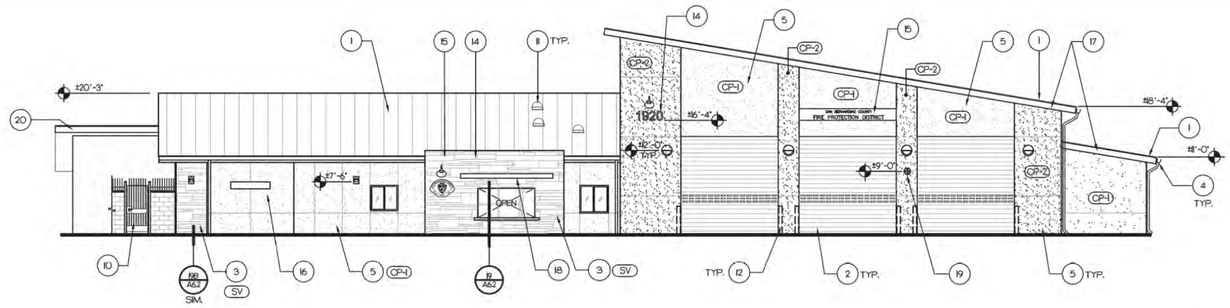
BUILDING SECTIONS & DETAILS

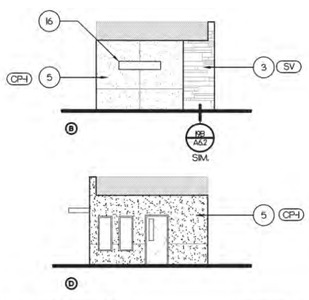
SHEET NO.:
A3.1



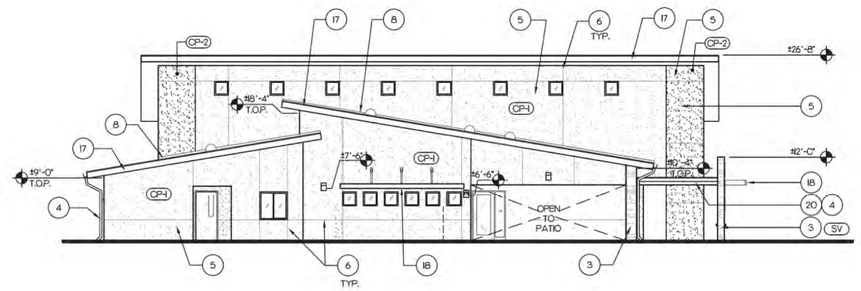
ENTRY ELEVATION SCALE: 1/8"=1'-0" 5



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



PATIO ELEVATION SCALE: 1/8"=1'-0" 6



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

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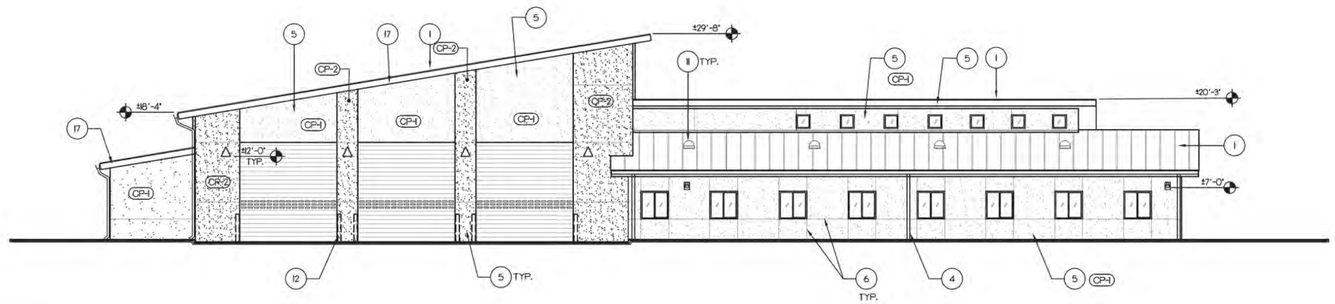
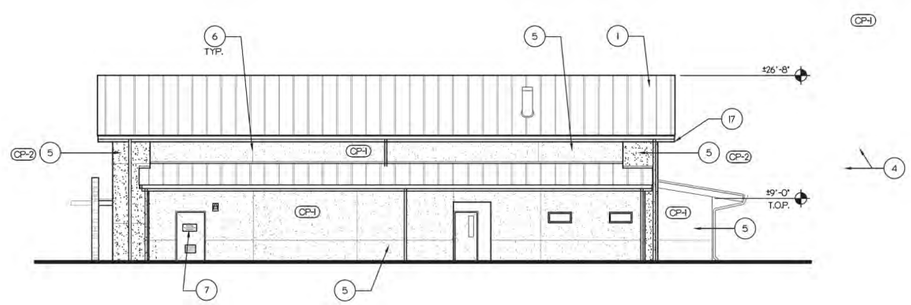


NORTH ELEVATION SCALE: 1/8"=1'-0" 3



EAST ELEVATION SCALE: 1/8"=1'-0" 4

KEY NOTE

1. STANDING SEAM METAL ROOF.
2. OVERHEAD COILING DOOR.
3. STONE VENEER.
4. GALV. SHEET METAL GUTTER AND SURFACE MOUNTED DOWNSPOUT, PAINT.
5. CEMENT PLASTER.
6. CEMENT PLASTER CONTROL JOINT. SEE 8/A2
7. 6"X12" SIGN THAT READS "ELECTRICAL ROOM" WITH 3" X 3/4" STROKE LETTERS WITH CONTRASTING WHITE REFLECTIVE BACKGROUND. SIGN SHALL ALSO STATE: "THIS BUILDING IS SUPPLIED BY AN ON-SITE GENERATOR IN THE BACK PARKING AREA".
8. SHEET METAL FLASHING. PAINT TO MATCH ADJACENT PLASTER CEMENT. SEE 6/A3
9. KNOX BOX LOCATED PER FIRE DEPARTMENTS DIRECTION.
10. METAL PERSONNEL GATE .
11. TUBULAR SKYLIGHT
12. CONC. FILLED PIPE BOLLARD. PAINT O.S.H.A. YELLOW. SEE 7/A2
13. 6'-0" HIGH CMU WALL WITH 2" CONC. CAP.
14. 12" CAST NUMBERS & LETTERS.
15. FIRE STATION SIGN
16. OPENING
17. METAL FASCIA
18. STEEL AWNING. PAINT.
19. FIRE STATION RED LIGHT. SEE ELECT.
20. DOORBELL AND 911 PHONE. SEE DATA PLANS.

EXTERIOR FINISHES

CP-1 CEMENT PLASTER WALL- FIELD

CP-2 CEMENT PLASTER WALL- ACCENT 1

SV STONE VENEER

STK ARCHITECTURE
42195 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.9378 E-mail: info@stkinc.com

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EXTERIOR ELEVATIONS

SHEET NO.:
A3.2

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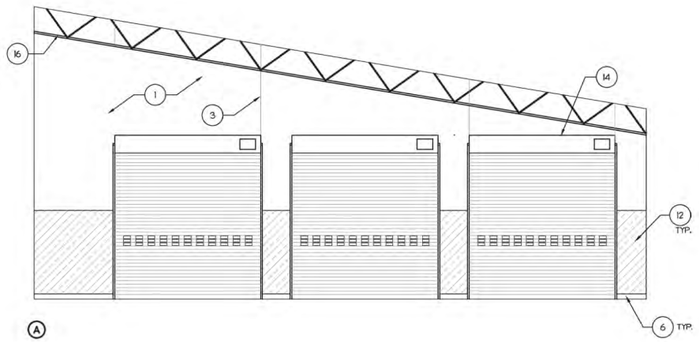
KEY NOTE

1. GYPSUM BOARD, PAINT.
2. SLOPED GYPSUM BOARD SOFFIT OR WALL.
3. GYPSUM BOARD CONTROL JOINT. SEE 6/A6.1
4. PLASTIC LAMINATE CABINETS W/ ADJUSTABLE SHELVING (TYP.)
5. VEHICLE EXHAUST SYSTEM WITH MOTOR & SHELF.
6. 6" CONCRETE CURB WITH SEALER.
7. STAINLESS STEEL COUNTER.
8. STAINLESS STEEL SINK WITH DRAINBOARD. SEE PLUMBING DWGS.
9. STAINLESS STEEL CORNER GUARD.
10. WALL MOUNTED METAL MESH LOCKERS. MOUNT PER MFG. RECOMMENDATIONS.
11. EXHAUST THRU ROOF. SEE MECHANICAL DWGS.
12. SANITARY WALL PANEL, FROM +5' AFF. TO +8'-6" AFF.
13. LOUVER. REFER TO MECH. PLANS.
14. OVERHEAD COILING DOOR. SEE
15. FIRE EXTINGUISHER CABINET. SEE 20/A6.2
16. EXPOSED STRUCTURE. PAINT.



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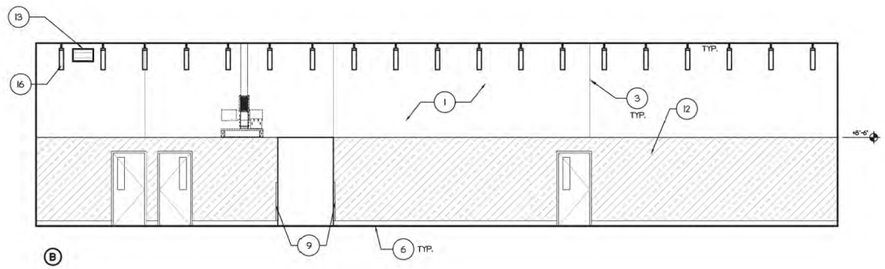

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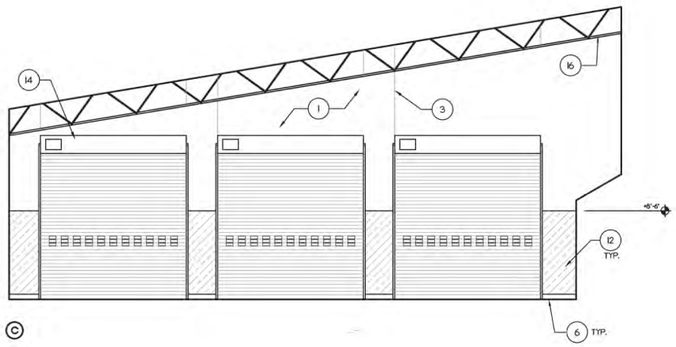

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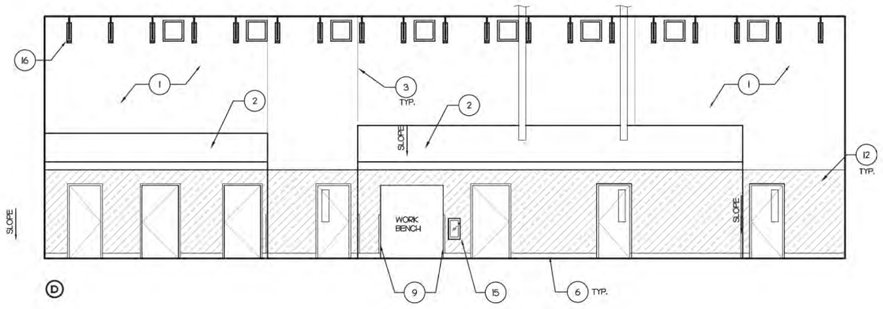
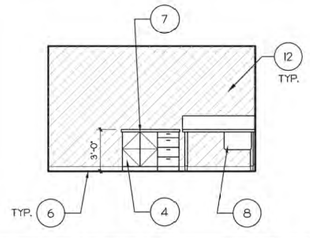


D

INTERIOR ELEVATION- APPARATUS

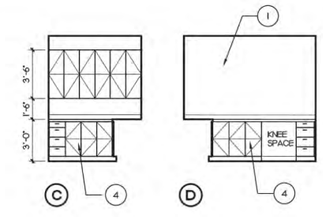
SCALE: 3/16"=1'-0" (2)

NOT USED



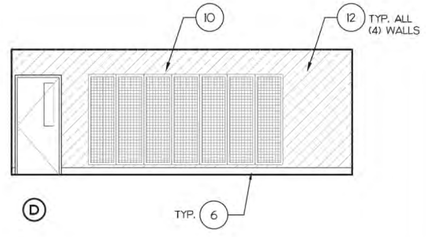
DECON ROOM

SCALE: 1/4"=1'-0" (7)



WORK BENCH

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



LOCKER ROOM

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

STK ARCHITECTURE
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SHEET NO.:
A4.1

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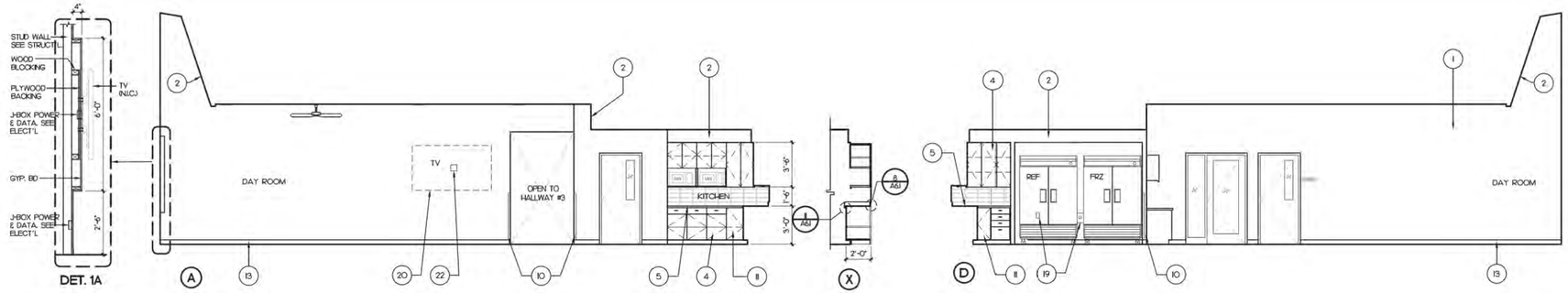
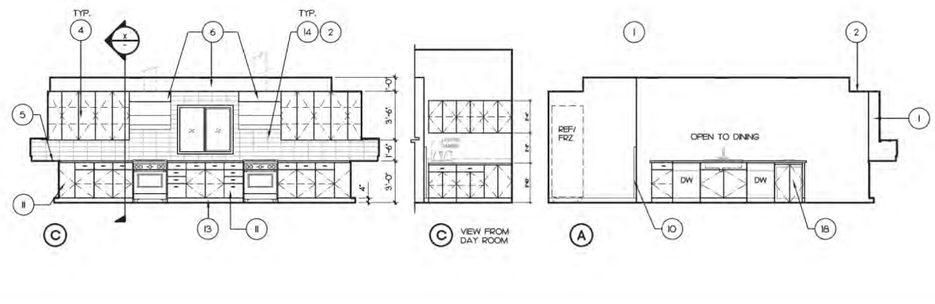
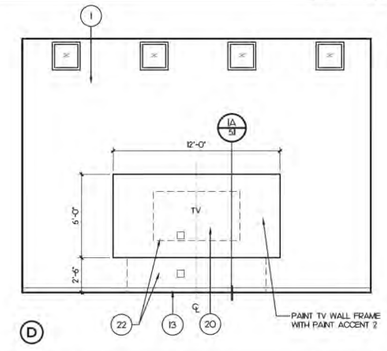


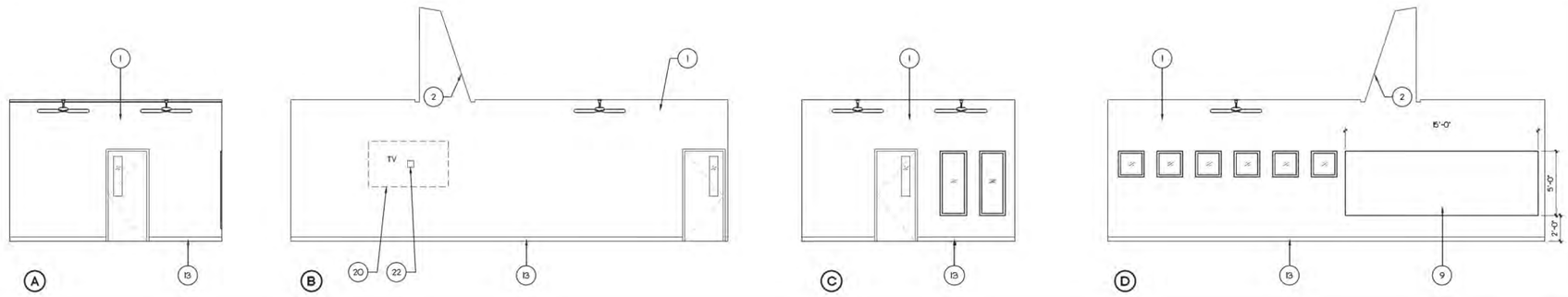
DAYROOM, DINING, KITCHEN — SCALE: 1/4"=1'-0" — 1



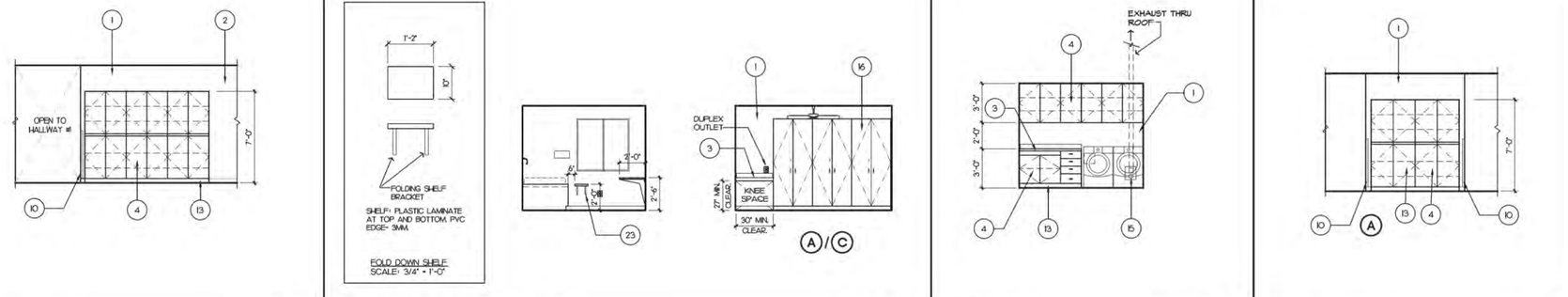
KITCHEN — SCALE: 1/4"=1'-0" — 5



DAYROOM — SCALE: 1/4"=1'-0" — 2



FITNESS — SCALE: 1/4"=1'-0" — 3



HALLWAY #2 — SCALE: 1/4"=1'-0" — 8

SLEEP QUARTERS - TYP. — SCALE: 1/4"=1'-0" — 12

LAUNDRY — SCALE: 1/4"=1'-0" — 8

HALLWAY #3 — SCALE: 1/4"=1'-0" — 4

KEY NOTE

1. GYPSUM BOARD.
2. GYPSUM BOARD SOFFIT
3. PLASTIC LAMINATE COUNTERTOP AND 4" SPLASH.
4. PLASTIC LAMINATE CABINETS w/ ADJUSTABLE SHELVES (TYP.).
5. QUARTZ COUNTERTOP
6. RANGE EXHAUST HOOD. SEE MECH.
7. NOT USED
8. SHOWER HEAD MOUNTED AT 7'-0" A.F.F.
9. MIRROR
10. CORNER GUARDS (PVC).
11. CORNER CABINET WITH LAZY-SUSAN STORAGE UNIT.
12. DUPLEX OUTLET
13. 4" TOP SET BASE.
14. CERAMIC TILE BACKSPLASH.
15. RECESSED 4" DEEP x 8" WIDE x 10" SHEET METAL BOX W/ 4" SQ. LINT CLEAN OUT DOOR & DRYER EXHAUST OUTLET - PAINT.
16. WARDROBE LOCKERS, SEE 16/A2.1
17. SANITARY WALL PANEL.
18. CABINET FOR TRASH RECEPTACLE. PROVIDE PLASTIC ON INSIDE SURFACE OF OPENING AND CABINET LINER AT UNDERSIDE OF COUNTER. PROVIDE 9" DIA S.S. TRASH CHUTE IN COUNTER.
19. COORDINATE REF/FREEZER POWER REQUIREMENTS.
20. TV. PROVIDE WOOD BACKING FOR TV MOUNTING BRACKET/SUPPORT.
21. LAMINATO 3/4" SHOP GRADE PLYWOOD SHELVING
22. J-BOX POWER & DATA, SEE ELECT'L.
23. FOLD-DOWN SHELF

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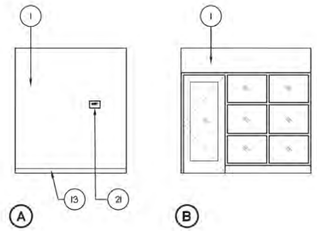
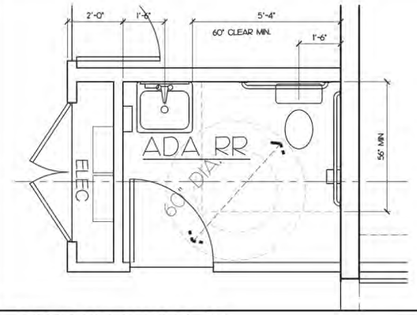
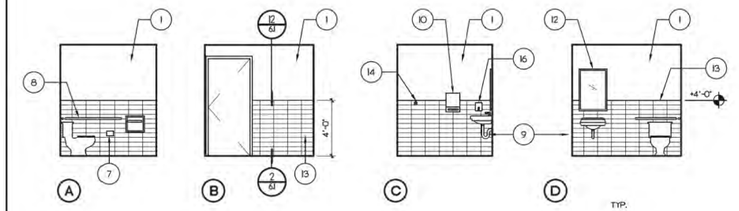
SHEET NO.:
A5.1



LOBBY/WATCH ELEVATION — SCALE: 1/4"=1'-0" — 17



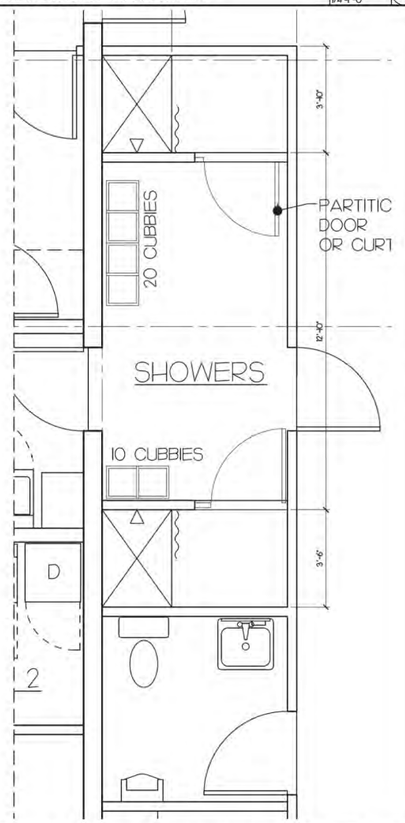
ADA RESTROOM PLAN — SCALE: 1/2"=1'-0" — 13



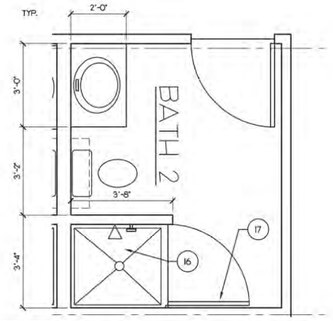
ADA RESTROOM ELEV. — SCALE: 1/4"=1'-0" — 9

KEY NOTE

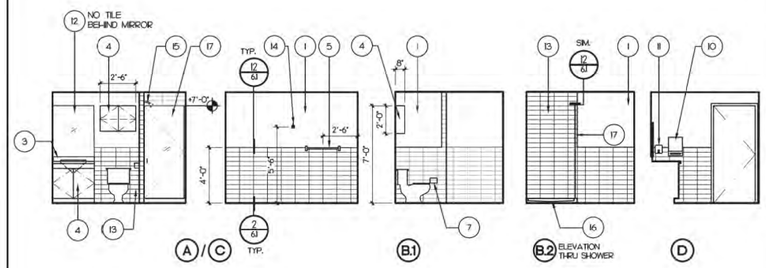
1. GYPSUM BOARD.
2. GYPSUM BOARD SOFFIT
3. QUARTZ COUNTERTOP w/ 4" BACKSPLASH. PROVIDE 4" MATCHING END SPLASH AS APPLIES.
4. PLASTIC LAMINATE CABINETS w/ ADJUSTABLE SHELVES (TYP.).
5. TOWEL BAR
6. TOILET SEAT COVER DISPENSER.
7. TOILET PAPER DISPENSER.
8. GRAB BARS. SEE DETAIL 5/A5.1
9. INSULATE HOT WATER & DRAIN PIPING.
10. PAPER TOWEL DISPENSER.
11. SOAP DISPENSER.
12. MIRROR
13. CERAMIC TILE OVER CEMENT BOARD (MORTAR BED IN SHOWER) W/ METAL TRIM.
14. ROBE HOOK. MOUNT STANDARD AT 5'-6" A.F.F. MOUNT A.D.A. AT 4'-0" A.F.F.
15. SHOWER HEAD MOUNTED AT 7'-0" A.F.F.
16. SHOWER RECEPTOR
17. 3' WIDE GLASS SHOWER DOOR
18. SHOWER: SOLID SURFACE SHOWER WALL PANEL WITH TERRAZZO BASE.
19. FIBERGLASS WALL PANEL.
20. SOLID PHENOLIC DOOR WITH OCCUPANCY INDICATOR LATCH.
21. SHOWER CURTAIN AN ROD.
22. TILE SANITARY COVE BASE.



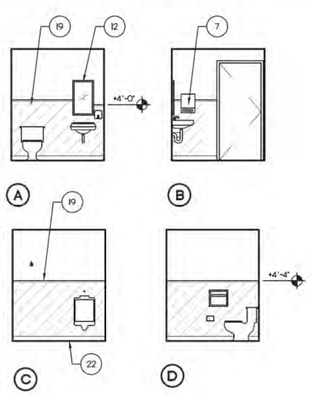
DECON SHOWER/APP BAY RESTROOM — SCALE: 1/2"=1'-0" — 19



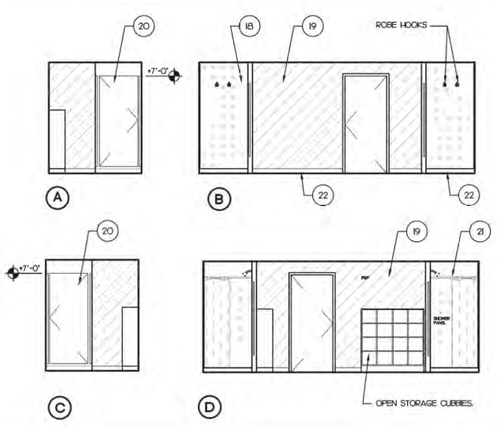
PLAN-BATH 1, 2, 4(BATH 3, 5 MIRRORED.) — SCALE: 1/2"=1'-0" — 14



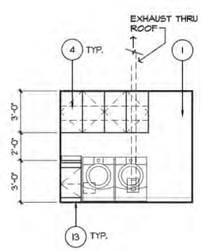
BATH 1, 2, 4 - (BATH 3, 5 MIRRORED) — SCALE: 1/4"=1'-0" — 10



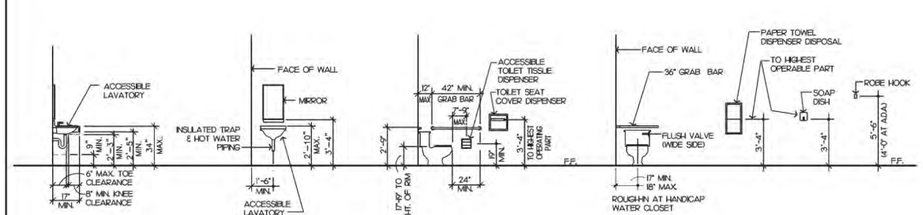
APP BAY RESTROOM — SCALE: 1/4"=1'-0" — 15



DECON SHOWERS — SCALE: 1/4"=1'-0" — 11



LAUNDRY #2 — SCALE: 1/4"=1'-0" — 20



MOUNTING HEIGHTS FOR FIXTURES AND ACCESSIBLE — SCALE: 1/4"=1'-0" — 16

	MIRROR	TOILET PAPER DISPENSER	ROBE HOOK	24" TOWEL BAR	SOAP DISPENSER	36" GRAB BAR	48" GRAB BAR	PAPER TOWEL DISPENSER	REMARKS
ACCESSIBLE BATH									
BATH #1									
BATH #2									
BATH #3									
BATH #4									
BATH #5									
DECON SHOWER 1	-	-				-	-	-	
DECON SHOWER 2	-	-				-	-	-	

TOILET ACCESSORIES — SCALE: N/A — 12

STK
42395 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9115 Fax: 951.296.9379 E-mail: info@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #22-105
CAFM #
APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

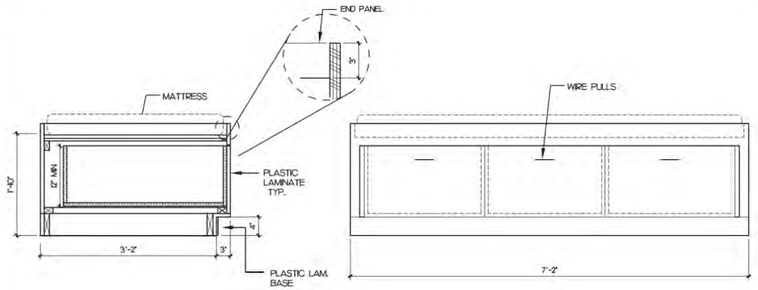
DATE:	INFORMATION:
9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

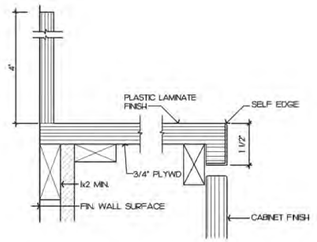
SEAL:

SHEET TITLE:
INTERIOR
ELEVATIONS &
ENLARGED
PLANS

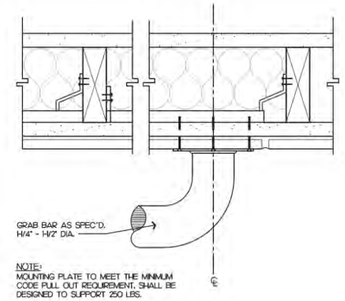
SHEET NO.:
A5.2



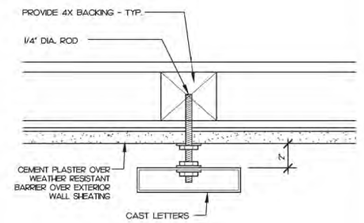
BUILT-IN BED DETAIL — SCALE: 1"=1'-0" — 13



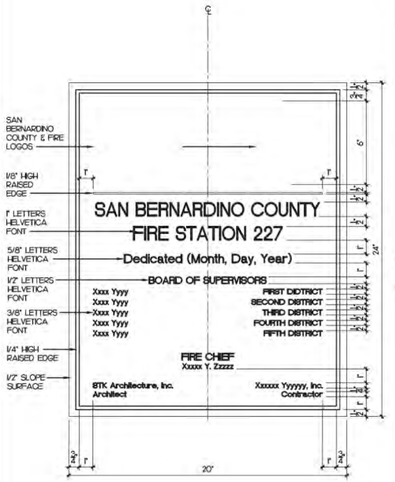
COUNTER EDGE DETAIL — SCALE: 3/4"=1'-0" — 9



GRAB BAR DETAIL — SCALE: 6"=1'-0" — 5

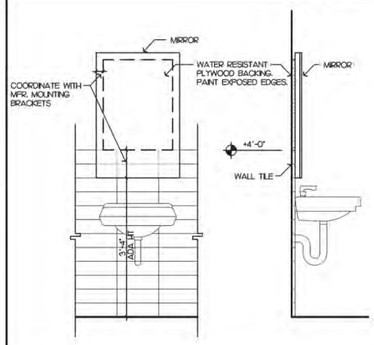


SIGN ATTACHMENT DETAIL — SCALE: 3"=1'-0" — 1

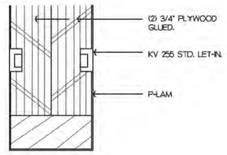


ALL NAMES, TITLE(S) AND TEXT TO BE APPROVED BY FIRE DEPARTMENT PRIOR TO FABRICATION.

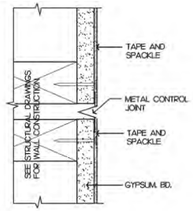
DEDICATION PLAQUE — SCALE: 3"=1'-0" — 17



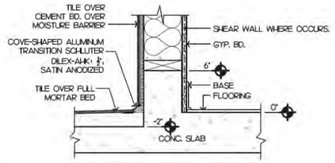
MIRROR DETAIL — SCALE: 3/4"=1'-0" — 14



DETAIL — SCALE: FULL — 10

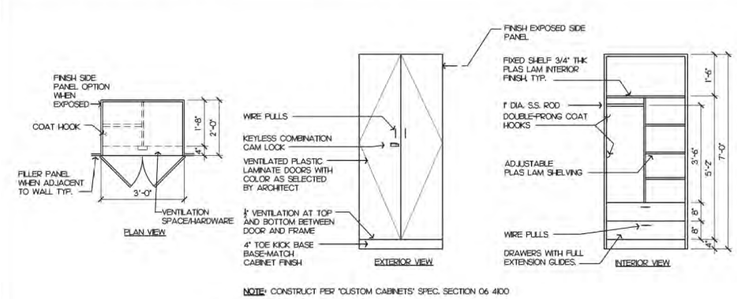


GYP. BD. CONTROL JOINT — SCALE: 6"=1'-0" — 6



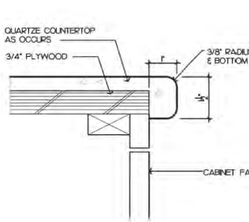
TYPICAL * ALL BATHROOMSPS

TILE @ FLOOR BASE — SCALE: 1"=1'-0" — 2

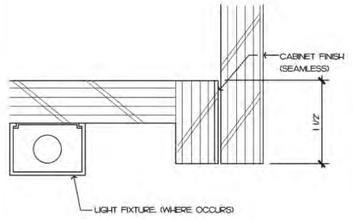


NOTE: CONSTRUCT PER "CUSTOM CABINETS" SPEC. SECTION 06 4100

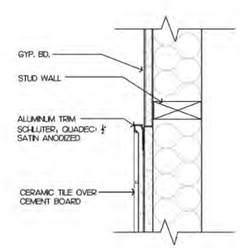
WARDROBE LOCKERS — SCALE: 1/2"=1'-0" — 16



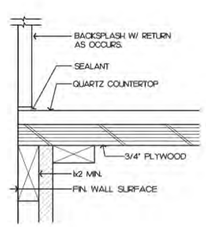
COUNTER EDGE — SCALE: 6"=1'-0" — 11



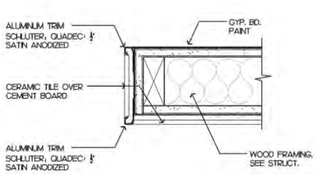
CABINET DETAIL — SCALE: FULL — 7



TILE TRIM DETAIL — SCALE: 3/16"=1'-0" — 12



BACK SPLASH DETAIL — SCALE: 6"=1'-0" — 8



TILE TRANSITION DETAIL — SCALE: 3"=1'-0" — 4

STK
4295 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.8110 Fax: 951.296.8072 Email: stk@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #22-105
CAFM #
APN Part of 015-428-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:
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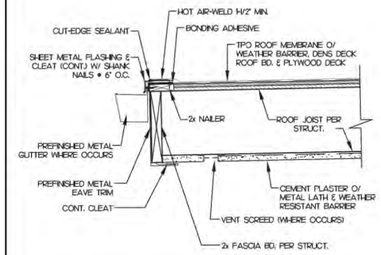
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME: -

SEAL:

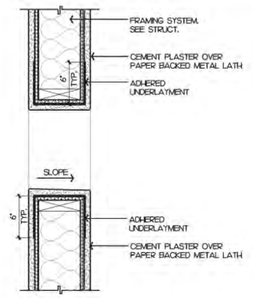
SHEET TITLE:
MISC. DETAILS

SHEET NO.:
A6.1

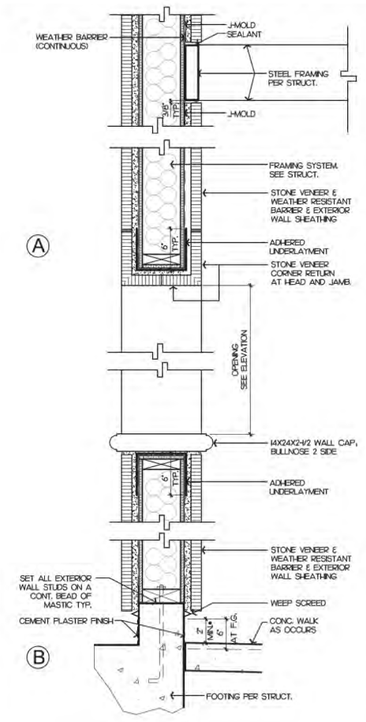
NOT USED



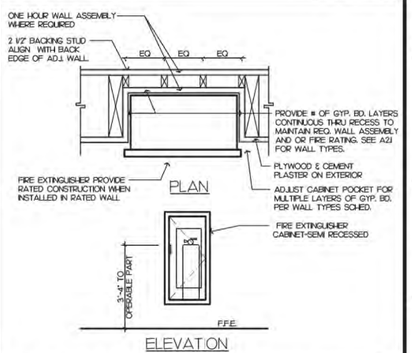
ROOF EDGE DETAIL — SCALE: H/2"=1'-0" — 5



PATIO WINDOW — SCALE: H/2"=1'-0" — 1



DETAIL — SCALE: H/2"=1'-0" — 3



SEMI-RECESSED FIRE EXT. — SCALE: 3/4"=1'-0" — 4

STK
42045 ZEVO DR. TEMECULA, CALIFORNIA 92590-3700
Phone: 951.296.9110 Fax: 951.296.9070 Email: info@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

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SEAL:

SHEET TITLE:
MISC. DETAILS

SHEET NO.:
A6.2

DESIGN PARAMETERS

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

ASCE Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: IV
Soil Class: D - Stiff Soil

Latitude: 34.160118
Longitude: -117.286677
Elevation: 1286.6701953335498 ft (NAVD 88)



Wind

Results:

Wind Speed	125 Vmph for Special Wind Region
10-year MRI	67 Vmph
25-year MRI	72 Vmph
50-year MRI	77 Vmph
100-year MRI	82 Vmph
Special	Special Wind Region -- Mountainous terrain, gorges, and special wind regions shown in Fig. 26.5-1 shall be examined for unusual wind conditions. The Authority Having Jurisdiction shall, if necessary, adjust the values given in Fig. 26.5-1 to account for higher local wind speeds. Such adjustment shall be based on meteorological information and an estimate of the basic wind speed obtained in accordance with the provisions in Section 26.5.3.

Data Source: ASCE/SEI 7-16, Fig. 26.5-1D and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Aug 29 2024

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 1.6% probability of exceedance in 50 years (annual exceedance probability = 0.00033, MRI = 3,000 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2

SHEET INDEX

GENERAL NOTES

SCS STRUCTURAL COVER SHEET
SN1 STRUCTURAL NOTES
SN2 STRUCTURAL NOTES

PLANS

S1 FOUNDATION PLAN
S2 LOW ROOF FRAMING PLAN
S3 HIGH / CLERESTORY ROOF FRAMING PLAN
S4 SITE STRUCTURES, STORAGE BUILDING & TRASH ENCLOSURE - ROOF FRAMING AND FOUNDATION PLANS
S5 SITE STRUCTURES, FUEL GENERATOR/TANK CANOPY ROOF FRAMING & FOUNDATION PLANS

STRUCTURAL DETAILS

SD1 FOUNDATION DETAILS
SD1.1 SITE & RETAINING WALL DETAILS
SD2 GENERAL WOOD FRAMING DETAILS
SD3 ROOF FRAMING DETAILS
SD3.1 AWNING FRAMING DETAILS
SD4 SITE STRUCTURES - ADDITIONAL DETAILS

PROJECT DESIGN CRITERIA	
BUILDING CODE:	2022 CBC
LOCATION (LATITUDE / LONGITUDE):	34.160118, -117.286677
GEOTECHNICAL PARAMETERS:	
SOILS ENGINEER:	INLAND FOUNDATION ENGINEERING, INC.
REPORT NUMBER:	S168-193
DATE:	SEPTEMBER 6, 2024
ALLOWABLE SOIL BEARING PRESSURE:	2,000PSF - 4,000PSF
ALLOWABLE PASSIVE PRESSURE:	250PCF
EXPANSION POTENTIAL:	LOW
LIQUEFACTION POTENTIAL:	NOT SIGNIFICANT
DIFFERENTIAL SETTLEMENT POTENTIAL:	LESS THAN ½" OVER 30'
CORROSIVITY:	MODERATE
SULFATE CONTENT:	CLASS S0
CHLORIDE CONTENT:	30 PPM
SEISMIC DESIGN PARAMETERS:	
RISK CATEGORY:	IV
SITE CLASS:	D
SHORT PERIOD SPECTRAL ACCELERATION, S_s:	2.506
1s PERIOD SPECTRAL ACCELERATION, S_1:	1.002
SPECTRAL RESPONSE COEFFICIENT, S_{DS}:	1.620
SHORT PERIOD SPECTRAL RESPONSE, S_{DS}:	1.670
SITE COEFFICIENT, F_a:	1.2
SITE COEFFICIENT, F_v:	1.7
SEISMIC DESIGN CATEGORY:	F
SEISMIC IMPORTANCE FACTOR, I_e:	1.5
RESPONSE MODIFICATION, R & SEISMIC FORCE RESISTING SYSTEM:	6.5 - LIGHT FRAMED SHEAR WALLS
DESIGN PROCEDURE:	EQUIVALENT LATERAL FORCE
REDUNDANCY FACTOR, ρ:	1.0
SYSTEM OVERSTRENGTH FACTOR, Ω:	2.5
DEFLECTION AMPLIFICATION FACTOR, C_d:	4.0
HORIZONTAL STRUCTURAL IRREGULARITIES:	NONE
VERTICAL STRUCTURAL IRREGULARITIES:	NONE
WIND DESIGN PARAMETERS:	
RISK CATEGORY:	IV
WIND EXPOSURE CATEGORY:	C
ULTIMATE DESIGN WIND SPEED (3-SECOND GUST), V_{ULT}:	125
NOMINAL DESIGN WIND SPEED (3-SECOND GUST), V_{ASD}:	97 MPH
INTERNAL PRESSURE COEFFICIENT, GC_{pi}:	±0.18

GRAVITY DESIGN PARAMETERS: (PSF, SERVICE LOADS)					
	DEAD	ROOF LIVE	SNOW	LIVE	TOTAL
ROOF:	15	20	-	-	35
EXTERIOR WALL:	15	-	-	-	15
INTERIOR WALL:	10	-	-	-	10

STK ARCHITECTURE, INC.
42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.9379 Email: stk@stkinc.com

CONSULTANT:
ISE
STRUCTURAL ENGINEERS
27368 VIA INDUSTRIA
TEMECULA, CA 92590
TELE 951.600.0032
WWW.ISEENGINEERS.COM
SOCAL | NORCAL | COLORADO
ISE PROJECT NO.: 24-8400.32

PROJECT MANAGER:
SANDY FONG EXT. 1016
SANDY@ISEENGINEERS.COM

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

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180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

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-	-

SHEET INFORMATION:

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SCALE: AS NOTED
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SEAL:



SHEET TITLE:
STRUCTURAL COVER SHEET

SHEET NO.:
SCS

W:\SAVE - STK\SAVE 22 - SBC Fire Station 227\02 - Drawings\SCS.dwg 12/20/2024 2:29PM

WOOD MANUFACTURED PLATED TRUSSES

1. MANUFACTURED PLATED TRUSSES ARE A DEFERRED SUBMITTAL ITEM. SEE DESIGN/BUILD NOT SECTION FOR REQUIREMENTS.
2. GRAVITY LOADS: REFER TO PROJECT DESIGN CRITERIA FOR ALL ROOF & FLOOR MEMBER GRAVITY LOAD REQUIREMENTS. TRUSSES SHALL BE DESIGNED WITH CONSIDERATION FOR ALL SUPERIMPOSED LOADING, SUCH AS CHIMNEY FLUE FRAMING, MECHANICAL EQUIPMENT, ETC. PER NFPA 13-16 SECTION 9.2.1.3.1, FIRE SPRINKLER PIPE SHALL BE SUBSTANTIALLY SUPPORTED FROM THE BUILDING STRUCTURE, WHICH MUST SUPPORT THE WEIGHT OF THE WATER-FILLED PIPE PLUS A MINIMUM OF 250 LB. APPLIED AT THE POINT OF HANGING.
3. LATERAL LOADS: TRUSSES SHALL BE DESIGNED FOR SPECIFIC DRAG LOADS NOTED ON THE STRUCTURAL PLANS. ALL GABLE END TRUSSES SHALL BE DESIGNED FOR A MINIMUM 1000# LATERAL LOAD.
4. MATERIAL: ALL TRUSSES SHALL UTILIZE DOUGLAS FIR LUMBER UNLESS NOTED OTHERWISE.
5. DESIGN & CONSTRUCTION: THE STRUCTURAL DESIGN, MEANS OF CONSTRUCTION AND BRACING OF TRUSSES IS THE SOLE RESPONSIBILITY OF THE TRUSS MANUFACTURER AND ENGINEER OF RECORD FOR THE TRUSS DESIGN AND NOT ISE.
6. SHOP DRAWINGS: THE TRUSS SUPPLIER SHALL SUBMIT SHOP DRAWINGS TO ISE FOR REVIEW AND APPROVAL FOR GENERAL CONFORMANCE TO THE BUILDING STRUCTURAL DESIGN. THE SHOP DRAWINGS SHOULD INCLUDE A FLOOR PLAN LAYOUT AND DESIGN FOR EACH SPECIFIC TRUSS. THE TRUSS CALCULATION SHOULD INCLUDE MATERIAL TYPE, LOADING, TRUSS PROFILE AND REACTIONS.
7. HANGERS: THE TRUSS SUPPLIER SHALL SPECIFY ALL TRUSS TO TRUSS & TRUSS TO FRAMING MEMBER HANGERS.
8. LAYOUT & SPACING: THE STRUCTURAL PLANS SPECIFY A RECOMMENDED SPACING OF TRUSSES. THE TRUSS DESIGN PACKAGE DETERMINES THE FINAL SPACING OF TRUSSES. THE INTENT OF THE STRUCTURAL PLANS IS A RECOMMENDATION AND IN NO WAY REPRESENTS THE FINAL TRUSS FRAME CONFIGURATION OR SPACING.
9. TRUSS DEFLECTION SHALL BE LIMITED TO THE FOLLOWING:

DEFLECTION CRITERIA		
LEVEL	LIVE LOAD	TOTAL LOAD
ROOF	L/360	L/240
FLOOR	L/600	L/240

CONVENTIONAL WOOD FRAMING REQUIREMENTS - CBC & TABLE 2304.10.1	
CONNECTION	NAILING
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATES, TOENAIL	(3) 8d COMMON ; (3" x 0.131" NAILS, OR (3) 3" 14 GAGE STAPLES
BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT WALL TOP PLATES, TOENAIL, EACH END	(2) 8d COMMON , (2) 3" x 0.131" NAILS, (2) 3" 14 GAGE STAPLES
BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT WALL TOP PLATES, TOENAIL	(2) 16d COMMON , (3) 3" x 0.131" NAILS, (3) 3" 14 GAGE STAPLES
FLAT BLOCKING TO TRUSS/WEB FILLER, FACE NAIL	16d COMMON ; 3" x 0.131" NAILS, 3" 14 GAGE STAPLES @ 6" O.C.
CEILING JOIST TO TOP PLATE, EACH JOIST, TOENAIL	(3) 8d COMMON , (3) 3" x 0.131" NAILS, (3) 3" 14 GAGE STAPLES, 7/16" CROWN
CEILING JOIST, LAPS PARTITION, FACE NAIL - TABLE 2308.7.3.1	(3) 16d COMMON , (4) 3" x 0.131" NAILS, (4) 3" 14 GAGE STAPLES, 7/16" CROWN
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL - TABLE 2308.7.3.1	PER TABLE 2308.7.3.1
COLLAR TIE TO RAFTER, FACE NAIL	(3) 10d COMMON, (4) 3" x 0.131" NAILS, OR (4) 3" 14 GAGE STAPLES
RAFTER OR ROOF TRUSS TO PLATE, TOENAIL - TABLE 2308.7.3.1	(3) 10d COMMON, (4) 3" x 0.131" NAILS, OR (4) 3" 14 GAGE STAPLES
ROOF RAFTER TO 2x RIDGE BEAM, END NAIL	(2) 16d COMMON, (3) 3" x 0.131" NAILS, OR (3) 3" 14 GAGE STAPLES
ROOF RAFTER TO 2x RIDGE BEAM, TOE NAIL	(3) 10d COMMON, (4) 3" x 0.131" NAILS, OR (4) 3" 14 GAGE STAPLES
STUD TO STUD (NON-BRACED WALL PANELS), 24" O.C. FACE NAIL	16d COMMON @ 3½" x 0.162")
STUD TO STUD (NON-BRACED WALL PANELS), 16" O.C. FACE NAIL	3" x 0.131" NAILS, (3) 3" 14 GAGE STAPLES
STUD TO STUD AT INTERSECTING CORNER (BRACED), 16" O.C. FACE NAIL	16d COMMON @ 3½" x 0.162")
STUD TO STUD AT INTERSECTING CORNER (BRACED), 12" O.C. FACE NAIL	3" x 0.131" NAILS, (3) 3" 14 GAGE STAPLES
BUILT-UP HEADER (2" TO 2), 16" O.C. EACH EDGE, FACE NAIL	16d COMMON @ 3½" x 0.162")
CONTINUOUS HEADER TO STUD, TOENAIL	(4) 8d COMMON
TOP PLATE TO TOP PLATE, 16" O.C. FACE NAIL	16d COMMON
TOP PLATE TO TOP PLATE, 12" O.C. FACE NAIL	3" x 0.131" NAILS, 3" 14 GAGE STAPLES
TOP PLATE TO TOP PLATE, AT END JOINTS, EACH SIDE OF END JOINT, FACE NAIL (MIN. 24" LAP SPLICE LENGTH EACH SIDE END JOINT)	(8) 16d COMMON, (12) 3" x 0.131" NAILS, (12) 3" 14 GAGE STAPLES
BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT BRACED WALL PANEL, 16" O.C. FACE NAIL	16d COMMON
BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANEL, 12" O.C. FACE NAIL	3" x 0.131" NAILS, 3" 14 GAGE STAPLES
BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT BRACED PANEL, 16" O.C. FACE NAIL	(2) 16d COMMON, (4) 3" x 0.131" NAILS, (4) 3" 14 GAGE STAPLES
BUILT-UP GIRDER AND BEAMS	20d COMMON AT 32" o/c, 3" x 0.131" NAILS AT 24" o/c, OR 3" 14 GAGE STAPLES AT 24" o/c AT TOP AND BOTTOM, STAGGERED. (2) 20d COMMON, (3) 3" x 0.131" NAILS, OR (3) 3" 14 GAGE STAPLES AT ENDS AND AT EACH SPLICE
LEDGER STRIP, EACH JOIST OR RAFTER, FACE NAIL	(3) 16d COMMON, (4) 3" x 0.131" NAILS, OR (4) 3" 14 GAGE STAPLES
JOIST TO BAND JOIST, FACE NAIL	(3) 16d COMMON, (4) 3" x 0.131" NAILS, OR (4) 3" 14 GAGE STAPLES
BRIDGING TO JOIST, TOENAIL EACH END	(2) 8d COMMON , (2) 3" x 0.131" NAILS, OR (2) 3" 14 GAGE STAPLES
BRIDGING TO JOIST, TOENAIL EACH END	(2) 8d COMMON , (2) 3" x 0.131" NAILS, OR (2) 3" 14 GAGE STAPLES

EARTHWORK AND FOUNDATIONS

1. GEOTECHNICAL REPORT: PERFORM SOILS WORK COMPLYING WITH FOUNDATION DESIGN BASED ON RECOMMENDATIONS IN SOILS REPORT. SEE STRUCTURAL COVER SHEET FOR SOILS REPORT NUMBER AND DATE.
2. ALLOWABLE FOUNDATION DESIGN VALUES PER GEOTECHNICAL REPORT: VALUES BELOW MAY BE INCREASED 33 PERCENT FOR TRANSIENT LOADING.
   A. BEARING CAPACITY: SEE PROJECT DESIGN CRITERIA
   B. PASSIVE LATERAL BEARING PRESSURE: SEE PROJECT DESIGN CRITERIA
   C. COEFFICIENT OF FRICTION: SEE PROJECT DESIGN CRITERIA
3. GRADING, EXCAVATIONS, BACKFILL AND COMPACTION OF BACKFILL: COMPLY WITH GEOTECHNICAL REPORT AND REQUIREMENTS OF GOVERNING CODE AUTHORITY AND PERFORMED ONLY UNDER CONTINUOUS SPECIAL INSPECTION OF GEOTECHNICAL ENGINEER.
4. PREPARATION OF SOIL UNDER BUILDING PAD: SEE GEOTECHNICAL REPORT FOR OVER-EXCAVATION OF EXISTING SOIL AND INSTALLATION OF PROPERLY COMPACTED BACKFILL.
5. FOUNDATION EXCAVATIONS: FOUNDATIONS ARE TO BEAR ON FIRM EXISTING SOIL OR APPROVED COMPACTED FILL, AS RECOMMENDED IN GEOTECHNICAL REPORT. EXCAVATIONS ARE TO BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL AND FORMWORK. ENSURE EXCAVATIONS ARE CLEANS, DRY AND FREE OF DEBRIS OR LOOSE SOIL. SLOPE SIDES OF EXCAVATION NOT LESS THAN MINIMUM SLOPE INDICATED IN GEOTECHNICAL REPORT. CAST CONCRETE DIRECTLY AGAINST EXCAVATED SURFACES.
6. BACKFILLING OF RETAINING WALLS: PLACE AFTER COMPLETION AND INSPECTION OF WATERPROOFING. ADEQUATELY SHORE RETAINING WALLS DURING BACKFILL OPERATION, UNLESS ADEQUATELY SHORED, DO NOT PLACE BACKFILL BEHIND BUILDING STRUCTURE RETAINING WALLS (EXCLUDING SITE RETAINING WALLS) UNTIL CONCRETE AT ELEVATED FLOOR LEVELS ADJACENT TO WALLS ARE COMPLETELY POURED (IN AREA) AND HAVE CURED FOR AT LEAST 7 DAYS.
7. WATER EXPOSURE AT BUILD-NG PERIMETER FOOTINGS: AT AREAS WHERE SIDEWALKS OR PAVING DO NOT IMMEDIATELY ADJOIN STRUCTURE, PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURE AT BUILDING PERIMETER. LANDSCAPE IRRIGATION IS NOT PERMITTED WITHIN FIVE FEET OF BUILDING PERIMETER FOOTINGS EXCEPT WHEN ENCLOSED IN PROTECTED PLANTERS WITH DIRECT DRAINAGE AWAY FROM STRUCTURE OR WHICH COMPLIES WITH APPLICABLE CODE. DISCHARGE FROM DOWN SPOUTS, ROOF DRAINS AND SCUPPERS IS NOT PERMITTED ONTO UNPROTECTED SOILS WITHIN FIVE FEET OF BUILDING PERIMETER. REFER TO GEOTECHNICAL REPORT FOR COMPLETE REQUIREMENTS.

WOOD FRAMING

1. SAWN LUMBER: ALL STRUCTURAL SAWN LUMBER SHALL BE DOUGLAS FIR LARCH WITH 19% MAXIMUM MOISTURE CONTENT OF THE FOLLOWING GRADES, CONFORMING TO STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17, UNLESS NOTED OTHERWISE. THE LUMBER GRADES AS SPECIFIED BELOW MEET MINIMUM REQUIREMENTS:

LUMBER GRADES	
CONDITION	GRADE
PLATES & BLOCKING	STANDARD OR BETTER
STUDS TO 10'-0" IN HEIGHT	STANDARD OR BETTER
STUDS OVER 10'-0" IN HEIGHT	#2
2x RAFTER JOISTS	#2
4x6 THROUGH 4x12 BEAMS, HEADER & POSTS	#2
4x14 BEAMS, HEADERS & POSTS	#1
4x4 POSTS, HEADERS	#2
6x AND LARGER POSTS, BEAMS, STRINGERS	#1

2. GRADE STAMPS: WHERE POSSIBLE ALL LUMBER GRADE STAMPS SHALL REMAIN ON LUMBER AFTER INSTALLATION. CONVENTIONAL LUMBER SHALL MEET DOC PS 20 REQ.
3. PRESSURE TREATED LUMBER: ALL EXPOSED EXTERIOR WOOD AND WOOD BEARING ON CONCRETE OR MASONRY SHALL BE PRESSURE TREATED P/R. ALL NAILS TO PLATES TREATED w/ BORATE MAY BE STANDARD NAILS, FOR ALL OTHER PRESSURE TREATED PLATES, USE HOT DIP GALVANIZED NAILS.
4. PLYWOOD/OSB: EACH WOOD-BASED STRUCTURAL-USE PANEL USED FOR DIAPHRAGM CONSTRUCTION SHALL BE IDENTIFIED BY A REGISTERED STAMP OR BRAND OF AN ICC-APPROVED COMPLIANCE ASSURANCE AGENCY. WOOD-BASED STRUCTURAL-USE PANELS SHALL MEET THE REQUIREMENTS OF DOC PS 1 OR PS 2. ALL PANELS SHALL BE GLUED WITH EXTERIOR TYPE GLUE MEETING APA SPECIFICATIONS. PANELS PERMANENTLY EXPOSED TO THE OUTDOORS SHALL BE EXTERIOR TYPE.
5. METAL CONNECTORS: ALL METAL CONNECTORS SHALL BE THOSE MANUFACTURED BY SIMPSON STRONG TIE OR USP LUMBER CONNECTORS. THE NAILS FOR THESE CONNECTORS SHALL BE AS SPECIFIED BY THE MANUFACTURERS FOR CAPACITY OF THE HARDWARE. ALL SHALL COMPLY WITH SIMPSON PRODUCT CODES AND NAMES. REFER TO CROSS REFERENCE TABLES PROVIDED BY USP IN THEIR PRODUCT CATALOGS.
6. FIRE STOPS: PROVIDE FIRE STOPS AT ALL INTERSECTIONS OF STUD WALLS AT FLOOR, CEILING AND ROOF. FIRE STOPS SHALL BE 2x NOMINAL THICKNESS OF WOOD AND SHALL BE THE FULL WIDTH OF THE ENCLOSED SPACE. PLACE FIRESTOPS AT A MAXIMUM SPACING OF 10'-0" IN THE VERTICAL DIRECTION. PROVIDE 2x FIRE STOPS IN ALL FURRED SPACES, VERTICAL AND HORIZONTAL, AND AT A MAXIMUM SPACING OF 10'-0" IN EACH DIRECTION AND AT THE SAME LINES AS FIRE STOPS IN ADJACENT STUD WALLS.
7. BOLT HOLES: IN WOOD SHALL BE 1/32" TO 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER. ALL BOLTS SHALL HAVE A STANDARD CUT WASHER UNDER HEAD AND NUT UNLESS NOTED OTHERWISE.
8. BOLTS: ALL BOLTS USED FOR WOOD CONNECTIONS SHALL BE ASTM A307, U.N.O. ALL NUTS AND BOLTS S-HALL BE RE-TIGHTENED PRIOR TO THE APPLICATION OF SHEATHING, CLADDING, ETC.
9. NOTCHING & CUTTING: STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY DETAILED. NOTCHING OF HORIZONTAL STRUCTURAL MEMBERS SHALL CONFORM TO THE CBC. NOTCHING AND BORING OF STUDS AND TOP PLATES SHALL CONFORM TO THE BUILDING CODE.
10. JOIST BLOCKING: PROVIDE 2x BLOCKING BETWEEN JOISTS AND RAFTERS AT ALL BEARING SUPPORTS U.N.O. CROSS BRIDGING OR SOLID BLOCKING SHALL BE PROVIDED AT 8'-0" O.C. MAXIMUM FOR ALL JOISTS UNLESS BOTH EDGES ARE HELD IN LINE FOR THEIR ENTIRE LENGTH.
11. JOIST HANGERS: FOR I-JOISTS, PROVIDE SIMPSON 'IUS' HANGER. FOR CONVENTIONAL JOIST, USE SIMPSON 'LUS' HANGER, OR EQUIVALENT.
12. BEAM BEARING: ALL BEAMS TO BE SUPPORTED WITH FULL BEARING UNLESS NOTED OTHERWISE.
13. CONVENTIONAL FRAMING: ALL CONVENTIONAL FRAMED PORTIONS OF THE STRUCTURE ARE TO BE CONSTRUCTED PER CBC SECTION 2308 .
14. WALLS ON WOOD FLOOR: PROVIDE SINGLE FLOOR JOIST BELOW NON-BEARING, PARALLEL WALLS 10'-0" OR LONGER.
15. FINGER JOINTED STUDS: IT IS STRUCTURALLY ACCEPTABLE TO USE STRUCTURAL GLUED (FINGER-JOINTED) LUMBER. ALL FINGER-JOINTED LUMBER MUST BE 'CER EXT JNTS' AND CONFORM WITH THE WWPA'S GLUED PRODUCTS PROCEDURES AND QUALITY CONTROL. FINGER-JOINTED LUMBER IS TO BE STAMPED WITH 'CER EXT JNTS' AND MAY BE USED INTERCHANGEABLE WITH ANY SOLID-SAWN LUMBER PRODUCT OF THE SAME SPECIES AND GRADES. PLEASE REFER TO LUMBER SPECIFICATION IN THE STRUCTURAL GENERAL NOTES AND CALCULATIONS.
16. PLATE WASHERS AT NON-SILL PLATE APPLICATION: MINIMUM SIZE FOR SQUARE PLATE WASHERS: (REFER TO PLANS FOR SILL PLATE WASHER REQUIREMENTS.)

PLATE WASHERS NON SILL PLATE APPLICATION	
BOLT SIZE	PLATE WASHER SIZE
1/2"	3"x 3" x 2"
5/8"	3" x 3" x 2"
3/4"	3" x 3" x 2"
7/8"	3" x 3" x 3"
1"	3" x 3" x 3"

MANUFACTURED LUMBER PRODUCTS

1. MANUFACTURED LUMBER: ALL MANUFACTURED SHALL HAVE ICC APPROVAL FOR THE LATEST BUILDING CODE.
2. SIZES & STRENGTH: THE FOLLOWING MINIMUM DESIGN VALUES MUST BE ACHIEVED FOR EACH TYPE OF MANUFACTURED LUMBER SPECIFIED ON THE STRUCTURAL PLANS.

STRUCTURAL COMPOSITE LUMBER			
BEAM TYPE	MINIMUM DESIGN VALUES		
	Fb (PSI)	Fv (PSI)	E (PSI x 10^6)
PSL - PARALLAM	2,900	290	2.0
LVL - MICROLAM	2,600	285	1.9
LSL - TIMBERSTRAND	2,325	310	1.55
RIM - TIMBERSTRAND	1,700	400	1.3

3. I-JOISTS: PROVIDE FLOOR I-JOISTS AS MANUFACTURED BY I-LEVEL OR APPROVED EQUAL. THE FLOOR I-JOIST SIZES NOTED ON PLAN REFERENCE I-LEVEL PRODUCT.
4. FOR UNPROTECTED EXTERIOR APPLICATIONS, CONTRACTOR TO PROVIDE EXTERIOR GRADE PRODUCTS OF EQUIVALENT DESIGN CAPACITY PER MANUFACTURER REQUIREMENTS. CONTRACTOR TO INDIVIDUALLY NOTIFY THE STRUCTURAL EOR OF ANY DISCREPANCIES, PRIOR TO THE START OF CONSTRUCTION.

WOOD HARDWARE NAILING SCHEDULE				
HOLDOWNS				
SIMPSON				USP
MODEL NAME	CAPACITY (LBS)	FASTENER SCHEDULE	APPLICATION	MODEL NAME
STHD14	3,506	(24) 10d Nails (0.148" x 3-½")	HOLDOWN	
HTT4	4,455	(18) SD #10 1-½"	HOLDOWN	
HDU4	4,565	(10) 7/16" x 2-½" SDS	HOLDOWN	
HDU5	5,645	(14) 7/16" x 2-½" SDS	HOLDOWN	
HDU8	6,765	(20) 7/16" x 2-½" SDS	HOLDOWN	
HDU11	9,335	(30) 7/16" x 2-½" SDS	HOLDOWN	
HDU14	10,770	(36) 7/16" x 2-½" SDS	HOLDOWN	
ANCHOR BOLTS				
SSTB20	4,785	7/8"	HOLDOWN ANCHOR	
SSTB24	5,790	1"	HOLDOWN ANCHOR	
SSTB28	11,645	1¼"	HOLDOWN ANCHOR	
SB1x30	13,090	1"	HOLDOWN ANCHOR	
HARDWARE				
A34	465	(8) 8d Nails (0.131" x 1-½")	AT BLOCKING OR RIM	MPA1
A35	650	(12) 8d Nails (0.131" x 1-½")	AT BLOCKING OR RIM	MPA1
LTP4	625	(12) 8d Nails (0.131" x 1-½")	AT BLOCKING OR RIM	MP4F
LTP5	565	(12) 8d Nails (0.131" x 1-½")	AT BLOCKING OR RIM	MP4F
LS50	560	(8) 8d Nails (0.131" x 1-½")	AT BLOCKING OR RIM	MP5
STRAPS				
MODEL NAME	CAPACITY (LBS)	FASTENER SCHEDULE	APPLICATION	MODEL NAME
CS16	1,705	(22) 8d Nails (0.131" x 2-½")	DIRECTLY TO TIMBER	RS150
CS16	1,705	(22) 8d Nails (0.131" x 2-½")	THRU PLYWOOD	RS150
CS14	2,490	(30) 8d Nails (0.131" x 2-½")	DIRECTLY TO TIMBER	
CMSTC16	4,690	(50) 10d Nails (0.148" x 3-¼")	DIRECTLY TO TIMBER	
CMST14	6,475	(66) 10d Nails (0.148" x 2-½")	DIRECTLY TO TIMBER	
CMST12	9,215	(86) 10d Nails (0.148" x 2-½")	DIRECTLY TO TIMBER	
SHEAR WALLS				
NAIL TYPE	SHEAR WALL TYPE	NAIL SIZE		
8d COMMON	SW 2, 3, 4, 6	2-1/2" x .131"		
10d COMMON	SW 2B	2-1/4" x .148"		

CONCRETE EXPOSURE REQUIREMENTS

ACI 318-14 TABLE 19.3.1.1 - EXPOSURE CATEGORIES AND CLASSES

CATEGORY	CLASS	CONDITION
F FREEZING AND THAWING	F0	CONCRETE NOT EXPOSED TO FREEZING-AND-THAWING CYCLES
	F1	CONCRETE EXPOSED TO FREEZING-AND-THAWING CYCLES WITH LIMITED EXPOSURE TO WATER
	F2	CONCRETE EXPOSED TO FREEZING-AND-THAWING CYCLES WITH FREQUENT EXPOSURE TO WATER
	F3	CONCRETE EXPOSED TO FREEZING-AND-THAWING CYCLES WITH FREQUENT EXPOSURE TO WATER AND EXPOSURE TO DEICING CHEMICALS
S SULFATE	S0	WATER SOLUBLE SULFATE ($SO_4^{=}$) IN SOIL, PERCENT BY WEIGHT	DISSOLVED SULFATE ($SO_4^{=}$) IN WATER, PPM
		$SO_4^{=} < 0.10$	$SO_4^{=} < 150$
	S1	$0.10 \leq SO_4^{=} < 0.20$	$150 \leq SO_4^{=} < 1500$ OR SEAWATER
	S2	$0.20 \leq SO_4^{=} \leq 2.0$	$1500 \leq SO_4^{=} \leq 10,000$
	S3	$SO_4^{=} > 2.00$	$SO_4^{=} > 10,000$
W IN CONTACT WITH WATER	W0	CONCRETE DRY IN SERVICE
		CONCRETE IN CONTACT WITH WATER AND LOW PERMEABILITY IS NOT REQUIRED
	W1	CONCRETE IN CONTACT WITH WATER AND LOW PERMEABILITY IS NOT REQUIRED
C CORROSION PROTECTION OF REINFORCEMENT	C0	CONCRETE DRY OR PROTECTED FROM MOISTURE
	C1	CONCRETE EXPOSED TO MOISTURE BUT NOT TO EXTERNAL SOURCES OF CHLORIDES
	C2	CONCRETE EXPOSED TO MOISTURE AND AN EXTERNAL SOURCE OF CHLORIDES FROM DEICING CHEMICALS, SALT, BRACKISH WATER, SEAWATER, OR SPRAY FROM THESE SOURCES

ACI 318-14 TABLE 19.3.2.1 - REQUIREMENTS FOR CONCRETE BY EXPOSURE CLASS

EXPOSURE CLASS	MAX W/CM	MIN f'c	ADDITIONAL MINIMUM REQUIREMENTS		
			AIR CONTENT		LIMITS ON CEMENTITIOUS MATERIALS
F0	N/A	2500	N/A		N/A
F1	0.55	3500	PER TABLE 19.3.3.1		N/A
F2	0.45	4500	PER TABLE 19.3.3.1		N/A
F3	0.40 [a]	5000 [a]	PER TABLE 19.3.3.1		26.4.2.2(b)
			CEMENTITIOUS MATERIALS - TYPES		CALCIUM CHLORIDE ADMIXTURE
			ASTM C150	ASTM C595	ASTM C1157	
S0	N/A	2500	NO TYPE RESTRICTION	NO TYPE RESTRICTION	NO TYPE RESTRICTION	NO RESTRICTION
S1	0.50	4000	II [a,b]	TYPES IP, IS, OR IT WITH (MS) DESIGNATION	MS	NO RESTRICTION
S2	0.45	4500	V [b]	TYPES IP, IS, OR IT WITH (HS) DESIGNATION	HS	NOT PERMITTED
S3	0.45	4500	V PLUS POZZOLAN OR SLAG CEMENT [a]	TYPES IP, IS, OR IT WITH (HS) DESIGNATION PLUS POZZOLAN OR SLAG CEMENT [a]	HS PLUS POZZOLAN OR SLAG CEMENT [a]	NOT PERMITTED
W0	N/A	2500	NONE			
W1	0.50	4000	NONE			
			MAXIMUM WATER SOLUBLE CHLORIDE ION (CL-) CONTENT IN CONCRETE, PERCENT BY WEIGHT OF CEMENT [a]		ADDITIONAL PROVISIONS	
			NON-PRESTRESSED CONCRETE	PRESTRESSED CONCRETE		
C0	N/A	2500	1.00	0.06	NONE	
C1	N/A	2500	0.30	0.06		
C2	0.40	5000	0.15	0.06	CONCRETE COVER [a]	

1. THE MAXIMUM W/CM LIMITS IN TABLE 19.3.2.1 DO NOT APPLY TO LIGHTWEIGHT CONCRETE.
2. FOR PLAIN CONCRETE, THE MAXIMUM W/CM SHALL BE 0.45 AND THE MINIMUM f'c SHALL BE 4,500 PSI.
3. ALTERNATIVE COMBINATIONS OF CEMENTITIOUS MATERIALS TO THOSE LISTED IN TABLE 19.3.2.1 ARE PERMITTED WHEN TESTED FOR SULFATE RESISTANCE AND MEETING THE CRITERIA IN 26.4.2.2(c).
4. FOR SEAWATER EXPOSURE, OTHER TYPES OF PORTLAND CEMENTS WITH TRI-CALCIUM ALUMINATE (C_3A) CONTENTS UP TO 10 PERCENT ARE PERMITTED IF THE W/CM DOES NOT EXCEED 0.40.
5. OTHER AVAILABLE TYPES OF CEMENT SUCH AS TYPE I OR TYPE II ARE PERMITTED IN EXPOSURE CLASSES S1 OR S2 IF THE C_3A CONTENTS ARE LESS THAN 8 PERCENT FOR EXPOSURE CLASS S1 OR LESS THAN 5 PERCENT FOR EXPOSURE CLASS S2.
6. THE AMOUNT OF THE SPECIFIC SOURCE OF THE POZZOLAN OR SLAG CEMENT TO BE USED SHALL BE AT LEAST THE AMOUNT THAT HAS BEEN DETERMINED BY SERVICE RECORD TO IMPROVE SULFATE RESISTANCE WHEN USED IN CONCRETE CONTAINING TYPE V CEMENT. ALTERNATIVELY, THE AMOUNT OF THE SPECIFIC SOURCE OF THE POZZOLAN OR SLAG CEMENT TO BE USED SHALL BE AT LEAST THE AMOUNT TESTED IN ACCORDANCE WITH ASTM C1012 AND MEETING THE CRITERIA IN 26.4.2.2(c).
7. WATER-SOLUBLE CHLORIDE ION CONTENT THAT IS CONTRIBUTED FROM THE INGREDIENTS INCLUDING WATER, AGGREGATES, CEMENTITIOUS MATERIALS, AND ADMIXTURES SHALL BE DETERMINED ON THE CONCRETE MIXTURE BY ASTM C1218 AT AGE BETWEEN 28 AND 42 DAYS.
8. CONCRETE COVER SHALL BE IN ACCORDANCE WITH 20.6.

PROPRIETARY ANCHORAGES AND FASTENERS

1. ANCHORAGES:
   1.A. DRILL AND EPOXY ANCHORS: SIMPSON SET-XP EPOXY ADHESIVE SYSTEM USING THREADED STEEL RODS CONFORMING TO ASTM A-F1554, GRADE 36, OR REINFORCING STEEL CONFORMING TO ASTM A615 OR A706, GRADE 60. COMPLYING WITH ICC ES ESR 2508. INSTALLERS TO BE CERTIFIED BY MANUFACTURER.
   1.B. MECHANICAL ANCHORS:
   1.B.1. HILTI KWIK BOLT-III CARBON STEEL EXPANSION ANCHORS COMPLYING WITH ICC ESR-1385.
   1.B.2. SIMPSON TITEN HD ANCHORS STEEL SCREW ANCHORS COMPLYING WITH ICC ESR-2713.
   1.B.2.1. TITEN HD ANCHORS SHALL BE STAINLESS STEEL IN EXPOSED WET ENVIROMENTS.
   1.C. WELDED SHEAR STUDS: NELSON 3SL FLUX FILLED, HEADED STUD ANCHORS, 60,000 PSI MINIMUM ULTIMATE TENSILE STRENGTH, AUTOMATICALLY END WELDED IN FIELD CONFIRMING TO ASTM A108 AND COMPLYING WITH ICC ES REPORT NO. 2614.
   1.D. WELDED DEFORMED ANCHORS: NELSON D2L, COLD ROLLED, DEFORMED STEEL REINFORCING BARS CONFORMING "D ASTM A496 AND COMPLYING WITH ICC ES REPORT NO. 5217.
2. FASTENERS:
   2.A. POWDER ACTUATED FASTENERS: HILTI X-DP, COMPLYING WITH CURRENT ICC ES REPORT NO. 2379. PROVIDE APPROPRIATE WASHER BETWEEN FASTENER HEAD AND LIGHT GAUGE METAL OR WOOD SURFACE.
   2.A.1. POWER-DRIVEN FASTENERS SHALL NOT BE USED TO ANCHOR SILL PLATES EXCEPT AT INTERIOR NON-BEARING WALL NOT DESIGN AS SHEAR WALLS.
   2.B. SELF-DRILLING METAL SCREWS (INDICATED 'SCREWS' ON DRAWINGS): MINIMUM 0.292-INCH HEAD DIAMETER SELF-DRILLING/SELF-TAPPING STEEL SCREWS COMPLYING WITH ICC ES REPORT. MINIMUM YIELD STRESS, FY=33 KSI.
   2.A. FASTENERS, INCLUDING NUTS AND WASHERS, IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. STAPLES SHALL BE OF STAINLESS STEEL. FASTENERS OTHER THAN NAILS, STABLES, TIMBER RIVETS, WOOD SCREWS AND LAG SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH ASTM B695, CLASS 55 MINIMUM.
   2.A.1. EXCEPTION: PLAIN CARBON STEEL FASTENERS, INCLUDING NUTS AND WASHERS, IN SBX/DOT AND ZINC BORATED PRESERVATIVE WOOD IN AN INTERIOR, DRY ENVIRONMENT SHALL BE PERMITTED.
3. INSTALLATION: SEE MANUFACTURER'S WRITTEN INSTRUCTIONS AND REFERENCED ICC ES REPORT.
4. MATERIALS NOT TO BE PENETRATED BY FASTENERS OR ANCHORAGES:
   POST-TENSIONED CONCRETE AND PRECAST, PRESTRESSED CONCRETE UNLESS SPECIFICALLY DETAILED HEREIN OR AS ACCEPTED IN WRITING BY ARCHITECT STRUCTURAL ENGINEER. WHEN INSTALLATION OCCURS, LOCATE PRESTRESSING AND POST-TENSIONED TENDONS ACCURATELY PRIOR TO INSTALLATION.
5. DRILLING HOLES IN EXISTING CONCRETE OR MASONRY FOR ANCHORAGES: USE NON-PNEUMATIC, ROTARY HAMMER TOOLS WITH ANSI COMPLIANT NON-REBAR CUTTING DRILL BITS TO DRILL HOLES OF PROPER TOLERANCES. LOCATE EXISTING REBAR INCLUDING PRESTRESSING AND POST-TENSIONING TENDONS USING NON-DESTRUCTIVE 1 METHODS WITH ACCURATE LOCATION TOLERANCES (PLUS OR MINUS INCH PRIOR TO DRILLING. 4 HOLES TO AVOID CUTTING OR DAMAGING. HOLES SHALL BE THOROUGHLY CLEANED PER MANUFACTURERS WRITTEN RECOMMENDATIONS PRIOR TO INSTALLATION OF ANCHORAGES.
6. DELETERIOUS MATERIALS: KEEP ANCHORAGES, INCLUDING HOLES FOR DRILL AND EPOXY ANCHORAGES AND MECHANICAL ANCHORS, FREE OF DUST, GREASE, AND OTHER MATERIALS THAT IMPAIR BOND.
6. TESTING FOR DRILL AND EPOXY ANCHORS:
   6.A. SPECIAL INSPECTION: SPECIAL INSPECTOR WILL PERFORM CONTINUOUS SPECIAL INSPECTION DURING INSTALLATION.
7. EXTERIOR PROPRIETARY ANCHORS & FASTENERS:
   7.A. FOR EXTERIOR APPLICATIONS & CORROSIVE ENVIRONMENTS, ALL ANCHORS SHOULD BE GALVANIZED OR STAINLESS STEEL. CONTRACTOR TO VERIFY AND PROVIDE GALVANIZED OR STAINLESS STEEL ANCHORAGE PER MANUFACTURER REQUIREMENTS. CONTRACTOR TO IMMEDIATELY NOTIFY THE STRUCTURAL EOR OF ANY DISCREPANCIES, PRIOR TO THE START OF CONSTRUCTION
   7.B. EXTERIOR ANCHOR BOLTS AND POST BASES SHALL BE GALVANIZED AND SHALL HA

REQUIRED INSPECTION OF STEEL CONSTRUCTION PER CBC 2019 - SECT. 1705.2 & ACI 360-14

PRIOR TO WELDING STEEL - PER TABLE N5.4-1

CHECK IF REQUIRED	TASK	CONTINUOUS	PERIODIC
X	WELDING QUALIFICATION RECORDS AND CONTINUITY RECORDS		X
X	WELDING PROCEDURES (WPSs) AVAILABLE	X	
X	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES	X	
X	MATERIAL IDENTIFICATION (TYPE/GRADE)	X	X
--	WELDER IDENTIFICATION SYSTEM [1]	X	
X	FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) • JOINT PREPARATION • DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION) • BACKING TYPE AND FIT (IF APPLICABLE)		X
X	FIT-UP OF GROOVE WELDS OF HSS T-, Y- AND K-JOINT WITHOUT BACKING (INCLUDING JOINT GEOMETRY) • JOINT PREPARATION • DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION)		X
--	CONFIGURATION AND FINISH OF ACCESS HOLES		X
X	FIT-UP OF FILLET WELDS • DIMENSIONS (ALIGNMENT, GAPS AT ROOT) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION)		X
X	CHECK WELDING EQUIPMENT		X

DURING WELDING STEEL - PER TABLE N5.4-2

CHECK IF REQUIRED	TASK	CONTINUOUS	PERIODIC
X	CONTROL AND HANDLING OF WELDING CONSUMABLES • PACKAGING • EXPOSURE CONTROL		X
--	NO WELDING OVER CRACKED TACK WELDS		X
--	ENVIRONMENTAL CONDITIONS • WIND SPEED WITHIN LIMITS • PRECIPITATION AND TEMPERATURE		X
X	WPS FOLLOWED • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE/FLOW RATE • PREHEAT APPLIED • INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) • PROPER POSITION (F, V, H, OH)		X
X	WELDING TECHNIQUES • INTERPASS AND FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEETS QUALITY REQUIREMENTS		X
--	PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	X	

AFTER WELDING STEEL - PER TABLE N5.4-3

CHECK IF REQUIRED	TASK	CONTINUOUS	PERIODIC
X	WELDS CLEANED		X
X	SIZE, LENGTH AND LOCATION OF WELDS	X	
X	WELDS MEET VISUAL ACCEPTANCE CRITERIA • CRACK PROHIBITION • WELD/BASE-METAL FUSION • CRATER CROSS SECTION • WELD PROFILES • WELD SIZE • UNDERCUT • POROSITY	X	
--	ARC STRIKES	X	
--	K-AREA [2]	X	
--	WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES [3]	X	
--	BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	X	
--	REPAIR ACTIVITIES	X	
X	DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	X	
X	NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR	X	X

FOOTNOTES:

1. THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.
2. WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 IN. (75 MM) OF THE WELD.
3. AFTER ROLLED HEAVY SHAPES (SEE SECTION A3.1c) AND BUILT-UP HEAVY SHAPES (SEE SECTION A3.1d) ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE FOR CRACKS

EXCEPTION:

SPECIAL INSPECTION OF THE STEEL FABRICATION PROCESS SHALL NOT BE REQUIRED WHERE THE FABRICATOR DOES NOT PERFORM ANY WELDING, THERMAL CUTTING OR HEATING OPERATION OF ANY KIND AS PART OF THE FABRICATION PROCESS. IN SUCH CASES, THE FABRICATOR SHALL BE REQUIRED TO SUBMIT A DETAILED PROCEDURE FOR MATERIAL CONTROL THAT DEMONSTRATES THE FABRICATOR'S ABILITY TO MAINTAIN SUITABLE RECORDS AND PROCEDURES SUCH THAT, AT ANY TIME DURING THE FABRICATION PROCESS, THE MATERIAL SPECIFICATION, AND GRADE FOR THE MAIN STRESS-CARRYING ELEMENTS ARE CAPABLE OF BEING DETERMINED. MILL TEST REPORTS SHALL BE IDENTIFIABLE TO THE MAIN STRESS-CARRYING ELEMENTS
WHEN REQUIRED BY THE APPROVED CONSTRUCTION DOCUMENTS.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION PER TABLE 1705.3

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
X	INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT		X
	REINFORCING BAR WELDING:		
---	VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN A706;		X
---	INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND		X
--	INSPECT ALL OTHER WELDS	X	
X	INSPECT ANCHORS CAST IN CONCRETE		X
---	INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS		
---	• ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS		X
---	• MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE		X
X	VERIFY USE OF REQUIRED DESIGN MIX		X
X	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	
X	INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	
---	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X
---	INSPECT PRESTRESSED CONCRETE FOR:		
---	• APPLICATION OF PRESTRESSING FORCES; AND	X	
---	• GROUTING OF BONDED PRESTRESSING TENDONS	X	
---	INSPECT ERECTION OF PRECAST CONCRETE MEMBERS		X
---	VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		X
---	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		X

EXCEPTIONS:

1. ISOLATED SPREAD FOOTINGS OF BUILDINGS THREE STORIES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK.

2. CONTINUOUS CONCRETE FOOTINGS SUPPORTING WALLS OF BUILDINGS THREE STORIES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK WHERE:

2.1. THE FOOTINGS SUPPORT WALLS OF LIGHT FRAME CONSTRUCTION;
2.2. THE FOOTINGS ARE DESIGNED IN ACCORDANCE WITH 1809.7; OR
2.3 THE STRUCTURAL DESIGN OF THE FOOTING IS BASED ON f'c= 2,500 PSI OR LESS, REGARDLESS OF THE COMPRESSIVE STRENGTH SPECIFIED IN THE IN THE CONSTRUCTION DOCUMENTS OR USED IN THE FOOTING CONSTRUCTION.

3. NON STRUCTURAL CONCRETE SLABS SUPPORTED DIRECTLY ON THE GROUND, INCLUDING PRESTRESSED SLABS ON GRADE, WHERE THE EFFECTIVE PRE-STRESS IS LESS THAN 150 PSI.

4. CONCRETE FOUNDATION WALLS CONSTRUCTED WITH TABLE 1807.1.6.2

5. CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE.

MINIMUM VERIFICATION REQUIREMENTS OF MASONRY CONSTRUCTION PER TMS 602-TABLE 3

MINIMUM VERIFICATION	REQUIRED FOR QUALITY ASSURANCE [1] LEVEL 1	LEVEL 2	LEVEL 3
PRIOR TO CONSTRUCTION, VERIFICATION OF COMPLIANCE OF SUBMITTALS.	R	R	R
PRIOR TO CONSTRUCTION, VERIFICATION OF F_M AND F_{AAC} EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE CODE	NR	R	R
DURING CONSTRUCTION, VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) WHEN SELF-CONSOLIDATING GROUT IS DELIVERED TO THE PROJECT SITE.	NR	R	R
DURING CONSTRUCTION, VERIFICATION OF F_M AND F_{AAC} FOR EVERY 5,000 SQ. FT. (465 SQ. M).	NR	NR	R
DURING CONSTRUCTION, VERIFICATION OF PROPORTIONS OF MATERIALS AS DELIVERED TO THE PROJECT SITE FOR PREMIXED OR PRE-BLENDED MORTAR, PREMIXED GROUT, AND GROUT OTHER THAN SELF-CONSOLIDATING GROUT.	NR	NR	R

[1] R = REQUIRED, NR – NOT REQUIRED

REQUIRED SPECIAL INSPECTIONS AND TESTS OF MASONRY CONSTRUCTION PER TABLE 1705.4 & TMS 602

MASONRY LEVEL 1 INSPECTION REQUIREMENTS

CHECK IF REQUIRED	TYPE
X	PRIOR TO CONSTRUCTION, VERIFICATION OF COMPLIANCE OF SUBMITTALS.

EXCEPTIONS: SPECIAL INSPECTIONS AND TESTS SHALL NOT BE REQUIRED FOR:
1. EMPIRICALLY DESIGNED MASONRY, GLASS UNIT MASONRY OR MASONRY VENEER DESIGNED IN ACCORDANCE WITH SECTION 2109, 2110 OR CHAPTER 14, RESPECTIVELY, WHERE THEY ARE PART OF A STRUCTURE CLASSIFIED AS RISK CATEGORY I, II OR III.
2. MASONRY FOUNDATION WALLS CONSTRUCTED IN ACCORDANCE WITH TABLE 1807.1.6.3(1), 1807.1.6.3(2), 1807.1.6.3(3) OR 1807.1.6.3(4).
3. MASONRY FIREPLACES, MASONRY HEATERS OR MASONRY CHIMNEYS INSTALLED OR CONSTRUCTED IN ACCORDANCE WITH SECTION 2111, 2112 OR 2113, RESPECTIVELY.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS PER TABLE 1705.6

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
X	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X
X	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X
X	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS		X
X	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	
X	PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X

EXCEPTIONS:

WHERE SECTION 1803 DOES NOT REQUIRE REPORTING OF MATERIALS AND PROCEDURES FOR FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL IS NOT LESS THAN 90 PERCENT OF THE MAXI-MUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D1557

REQUIRED SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE PER 1705.12

STRUCTURAL STEEL PER 1705.12.1

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
--	SPECIAL INSPECTIONS OF STRUCTURAL STEEL IN THE SEISMIC FORCE-RESISTING SYSTEMS IN BUILDINGS AND STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY B, C, D, E OR F SHALL BE PER-FORMED IN ACCORDANCE WITH THE QUALITY ASSURANCE REQUIREMENTS OF AISC 341.	--	--

EXCEPTIONS:
1. IN BUILDINGS AND STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY B OR C, SPECIAL INSPECTIONS ARE NOT REQUIRED FOR STRUCTURAL STEEL SEISMIC FORCE-RESISTING SYSTEMS WHERE THE RESPONSE MODIFICATION COEFFICIENT, R, ASSIGNED FOR STEEL SPECIALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMN SYSTEMS' IN ASCE 7, TABLE 12.2-1, HAS BEEN USED FOR DESIGN AND DETAILING.
2. IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F, SPECIAL INSPECTIONS ARE NOT REQUIRED FOR STRUCTURAL STEEL SEISMIC FORCE-RESISTING SYSTEMS WHERE DESIGN AND DETAILING IN ACCORDANCE WITH AISC 360 IS PERMITTED BY ASCE 7, TABLE 15.4-1.

STRUCTURAL STEEL ELEMENTS PER 1705.12.2

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
--	INSPECTION OF STRUTS, COLLECTORS, CHORDS AND FOUNDATION ELEMENTS, SHALL BE PERFORMED IN ACCORDANCE WITH THE QUALITY ASSURANCE REQUIREMENTS OF AISC 341.	--	--

EXCEPTIONS:
1. IN BUILDINGS AND STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY B OR C, SPECIAL INSPECTIONS OF STRUCTURAL STEEL ELEMENTS ARE NOT REQUIRED FOR SEISMIC FORCE-RESISTING SYSTEMS WITH A RESPONSE MODIFICATION COEFFICIENT, R, OF 3 OR LESS.
2. IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F, SPECIAL INSPECTIONS OF STRUCTURAL STEEL ELEMENTS ARE NOT REQUIRED FOR SEISMIC FORCE-RESISTING SYSTEMS WHERE DESIGN AND DETAILING OTHER THAN AISC 341 IS PERMITTED BY AISC 341, TABLE 15.4-1. SPECIAL INSPECTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE REFERENCED STANDARD LISTED IN ASCE 7, TABLE 15.4-1.

STRUCTURAL WOOD PER 1705.12.2

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
--	INSPECTION DURING FIELD GLUING OPERATIONS OF ELEMENTS OF THE SEISMIC FORCE-RESISTING SYSTEM.	X	--
X	INSPECTION FOR NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE SEISMIC FORCE-RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, SHEAR PANELS AND HOLD-DOWNS.	--	X

EXCEPTION:
SPECIAL INSPECTIONS ARE NOT REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING AND OTHER FASTENING TO OTHER ELEMENTS OF THE SEISMIC FORCE-RESISTING SYSTEM, WHERE THE FASTENER SPACING OF THE SHEATHING IS MORE THAN 4 INCHES ON CENTER.

COLD-FORMED STEEL LIGHT FRAME CONSTRUCTION PER 1705.11.2

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
--	INSPECTION FOR WELDING OPERATIONS OF ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEM.	--	X
--	INSPECTION FOR SCREW ATTACH-MENT, BOLTING, ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEM, INCLUDING SHEAR WALLS, BRACES, DIAPHRAGMS, COLLECTORS (DRAG STRUTS) AND HOLD-DOWNS.	--	X

EXCEPTION:
SPECIAL INSPECTIONS ARE NOT REQUIRED FOR COLD-FORMED STEEL LIGHT-FRAME SHEAR WALLS AND DIAPHRAGMS, INCLUDING SCREWING, BOLTING, ANCHORING AND OTHER FASTENING TO COMPONENTS OF THE SEISMIC FORCE-RESISTING SYSTEM, WHERE THE FASTENER SPACING OF THE SHEATHING IS MORE THAN 4 INCHES ON CENTER.
THE SPECIAL INSPECTIONS SPECIFIED IN SECTIONS 1705.12.1 THROUGH 1705.12.9 ARE NOT REQUIRED FOR STRUCTURES
DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ONE OF THE FOLLOWING:
1. THE STRUCTURE CONSISTS OF LIGHT-FRAME CONSTRUCTION; THE DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS, SDS, AS DETERMINED IN SECTION 1613.2.4, DOES NOT EXCEED 0.5; AND THE BUILDING HEIGHT OF THE STRUCTURE DOES NOT EXCEED 35 FEET.
2. THE SEISMIC FORCE-RESISTING SYSTEM OF THE STRUCTURE CONISTS OF REINFORCED MASONRY OR REINFORCED CONCRETE: THE DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS, SDS, AS DETERMINED IN SECTION 1613.2.4, DOES NOT EXCEED 0.5; AND THE BUILDING HEIGHT OF THE STRUCTURE DOES NOT EXCEED 25 FEET.
3. THE STRUCTURE IS A DETACHED ONE- OR TWO-FAMILY DWELLING NOT EXCEEDING TWO STORIES ABOVE GRADE PLANE AND DOES NOT HAVE ANY OF THE FOLLOWING HORIZONTAL OR VERTICAL IRREGULARITIES IN ACCORDANCE WITH SECTION 12.3 OF ASCE 7:
3.1. TORSIONAL OR EXTREME TORSIONAL IRREGULARITY.
3.2. NONPARALLEL SYSTEMS IRREGULARITY.
3.3. STIFFNESS-SOFT STORY OR STIFFNESS-EXTREME SOFT STORY IRREGULARITY.
3.4. DISCONTINUITY IN LATERAL STRENGTH-WEAK STORY IRREGULARITY.

REQUIRED SPECIAL INSPECTIONS OF METAL-PLATE-CONNECTED WOOD TRUSSES PER 1705.5.2

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
--	SPECIAL INSPECTIONS OF WOOD TRUSSES WITH OVERALL HEIGHTS OF 60 INCHES OR GREATER SHALL BE PERFORMED TO VERIFY THAT THE INSTALLATION OF THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.	--	X
--	FOR WOOD TRUSSES WITH A CLEAR SPAN OF 60 FEET OR GREATER, THE SPECIAL INSPECTOR SHALL VERIFY DURING CONSTRUCTION THAT THE TEMPORARY INSTA-LLATION RESTRAINT/BRACING IS INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.	--	X

REQUIRED SPECIAL INSPECTIONS FOR WIND RESISTANCE PER 1705.11

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
--	1. IN WIND EXPOSURE CATEGORY B, WHERE V_{ASD} AS DETERMINED IN ACCORDANCE WITH SECTION 1609.3.1 IS 120 MILES PER HOUR OR GREATER	--	X
--	2. IN WIND EXPOSURE CATEGORY C OR D, WHERE V_{ASD} AS DETERMINED IN ACCORDANCE WITH SECTION 1609.3.1 IS 110 MPH OR GREATER	--	X

STRUCTURAL WOOD PER 1705.11.1

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
--	DURING FIELD GLUING OPERATIONS OF ELEMENTS OF THE MAIN WINDFORCE RESISTING SYSTEM.	X	--
X	INSPECTION OF NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES AND HOLD-DOWNS.	--	X

EXCEPTION:
SPECIAL INSPECTIONS ARE NOT REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING AND OTHER FASTENING TO OTHER ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEM, WHERE THE SPECIFIED FASTENER SPACING AT PANEL EDGES IS MORE THAN 4 INCHES ON CENTER.

COLD-FORMED STEEL LIGHT FRAME CONSTRUCTION PER 1705.11.2

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
--	INSPECTION FOR WELDING OPERATIONS OF ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEM.	--	X
--	INSPECTION FOR SCREW ATTACHMENT, BOLTING, ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEM, INCLUDING SHEAR WALLS, BRACES, DIAPHRAGMS, COLLECTORS (DRAG STRUTS) AND HOLD-DOWNS.	--	X

EXCEPTION:
SPECIAL INSPECTIONS ARE NOT REQUIRED FOR COLD-FORMED STEEL LIGHT-FRAME SHEAR WALLS AND DIAPHRAGMS, INCLUDING SCREWING, BOLTING, ANCHORING AND OTHER FASTENING TO COMPONENTS OF THE WINDFORCE RESISTING SYSTEM, WHERE EITHER OF THE FOLLOWING APPLIES:
1. THE SHEATHING IS GYPSUM BOARD OR FIBERBOARD.
2. THE SHEATHING IS WOOD STRUCTURAL PANEL OR STEEL SHEARWALL, SHEAR PANEL OR DIAPHRAGM ASSEMBLY AND THE FASTENER SPACING OF THE SHEATHING IS MORE THAN 4 INCHES ON CENTER (O.C.).

WIND RESISTING COMPONENTS PER 1705.11.3

CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIODIC
--	ROOF COVERING, ROOF DECK AND ROOF FRAMING CONNECTIONS.	--	X
--	EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS	--	X

QUALITY ASSURANCE (STRUCTURAL OBSERVATION, MATERIALS TESTING, AND SPECIAL INSPECTION)

1. STRUCTURAL OBSERVATION:
   A. COORDINATION RESPONSIBILITIES OF CONTRACTOR: NOTIFY ARCHITECT (STRUCTURAL ENGINEER) 48 HOURS IN ADVANCE OF CRITICAL STAGES OF CONSTRUCTION INDICATED BELOW. SO VISITS MAY BE SCHEDULED BY STRUCTURAL OBSERVER. FAILURE BY CONTRACTOR TO MEET OBSERVATION SCHEDULE MAY REQUIRE REMOVAL OF SUBSEQUENT WORK FOR OBSERVATION. CONTRACTOR TO BEAR COSTS OF REMOVAL AND REPLACEMENT OF FINISHED WORK OR FRAMING DAMAGED BY REMOVAL PROCESS OR AS REQUIRED FOR CORRECTIVE ACTION.
   B. PRE-CONSTRUCTION MEETING: OWNER MAY COORDINATE AND CALL FOR MEETING BETWEEN ARC-HITECT (ENGINEER) RESPONSIBLE FOR STRUCTURAL DESIGN, STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND SPECIAL INSPECTOR. STRUCTURAL OBSERVER WILL PRESIDE OVER THIS MEETING. PURPOSE OF MEETING IS TO IDENTIFY MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT VERTICAL AND LATERAL LOAD RESISTING SYSTEMS OF STRUCTURE AND TO REVIEW SCHEDULE OF STRUCTURAL OBSERVATION, MATERIALS TESTING, AND SPECIAL INSPECTION OF PROJECT.
   C. CRITICAL STAGES OF CONSTRUCTION REQUIRING STRUCTURAL OBSERVATION:
      I. CASTING OF CONCRETE
      II. COVERING OF FRAMING
2. MILL TEST REPORTS CERTIFYING MATERIALS: CONTRACTOR TO SUBMIT MILL TEST REPORTS CERTIFYING REINFORCING STEEL, STRESSING TENDONS, AND STRUCTURAL STEEL, ARE OF IDENTIFIABLE TESTED STOCK TO OWNER, SPECIAL INSPECTOR, ARCHITECT (STRUCTURAL ENGINEER) AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. ENSURE MATERIALS ARE PROPERLY TAGGED FOR IDENTIFICATION. IF MILL TEST REPORTS CANNOT BE MADE AVAILABLE OR IF MATERIAL CANNOT BE IDENTIFIED, TESTING LABORATORY WILL PERFORM TESTS AS DIRECTED BY ARCHITECT (STRUCTURAL ENGINEER). CONTRACTOR SHALL PAY TESTING RELATED TO TESTS AND INSPECTIONS OF UNIDENTIFIABLE MATERIALS FURNISHED WITHOUT MILL LABORATORY FOR COSTS TEST REPORTS. MATERIALS FOUND DEFICIENT AFTER INITIAL TESTS AND INSPECTIONS, OR MATERIALS REPLACING DEFICIENT MATERIALS.
   A. ULTRASONIC EXAMINATION OF HEAVY ROLLED SHAPES AND THICK PLATES AT PROPOSED WELDED MOMENT CONNECTIONS: WHERE COMPLETE PENETRATION GROOVE WELDS OCCUR AT GROUPS 4 AND 5 STRUCTURAL STEEL SHAPES, AS DEFINED IN ASTM A6, AND PLATES EXCEEDING 2 INCHES THICK, SUBMIT MILL TEST REPORTS TO ENGINEER AND TESTING LABORATORY ENGINEER AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. MILL TEST REPORTS SHALL CERTIFY THAT SPECIALLY DETAILED FOR TESTING WAS CONDUCTED IN COMPLIANCE WITH ASTM A6, SUPPLEMENTARY REQUIREMENT S5, INCLUDING IMPACT TEST COMPLYING WITH ASTM A673 AT FREQUENCY P WITH MINIMUM AVERAGE VALUE OF 20 FT.-LBS. ABSORBED ENERGY AT 70 DEGREES FAHRENHEIT.
3. CERTIFICATE OF COMPLIANCE FOR OFFSITE FABRICATION: SUBMIT FOR STRUCTURAL STEEL, GLU-LAMS, AND PLYWOOD-WEB JOISTS, PRECAST CONCRETE IN COMPLIANCE WITH APPLICABLE CODE SECTION 1701.7. SUBMIT TO OWNER, TESTING LABORATORY, ARCHITECT (STRUCTURAL ENGINEER) AND GOVERNING CODE AUTHORITY.
4. WELD TESTING AND INSPECTION: TESTING LABORATORY WILL SUBMIT WELD TEST RESULTS TO OWNER, CONTRACTOR, ARCHITECT (STRUCTURAL ENGINEER) AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. SEE SPECIFICATIONS FOR TESTING REQUIREMENTS NOT INDICATED ON STRUCTURAL DRAWINGS.
   A. STRUCTURAL STEEL WELDING NOT DESTRUCTIVE TESTING REQUIREMENTS: APART FROM VISUAL INSPECTION AND REVIEW OF FABRICATION AND ERECTION REPORTS OF FABRICATOR/ERECTORS OWN QUALITY CONTROL TESTING AND INSPECTION, OWNER'S TESTING LABORATORY WILL PERFORM INDICATED SHOP AND FIELD INSPECTION AND TESTING. TESTING LABORATORY WILL BE AWS CERTIFIED AND WILL PROVIDE INSPECTORS FOR CONTINUOUS INSPECTION OF STEEL FABRICATION AND ERECTION AND STRUCT-URAL WELDING SHOP AND FIELD TESTING OF WELDING AND WELDING WILL BE AS FOLLOWS:
      I. COMPLETE JOINT PENETRATION WELDS: FOR STRUCTURES IN RISK CATEGORY III OR IV ULTRASONIC TESTING (UT) SHALL BE PERFORMED BY QA ON ALL CJP GROOVE WELDS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING IN BUTT, T- AND CORNER JOINTS. IN MATERIALS 5/16 IN. THICK OR GREATER. FOR STRUCTURES IN RISK CATEGORY I, UT SHALL BE PERFORMED BY QA ON 10% OF CJP GROOVE WELDS IN BUTT, T- AND CORNER JOINTS SUBJECT TO TRANSIVERSELY APPLIED TENSION LOADING, IN MATERIALS 5/16 IN THICK OR GREATER. FOR STRUCTURES IN RISK CATEGORY I, NDT OF CJP GROOVE WELDS IS NOT REQUIRED. FOR ALL STRUCTURES IN ALL RISK CATEGORIES, NDT OF CJP GROOVE WELDS IN MATERIALS LESS THAN 5/16 IN THICK IS NOT REQUIRED.
      II. ACCESS HOLES: THERMALLY CUT SURFACES OF ACCESS HOLES SHALL BE TESTED BY QA USING MT OR PT, WHEN THE FLANGE THICKNESS EXCEEDS 2 IN. (50 MM) FOR ROLLED SHAPES, OR WHEN THE WEB THICKNESS EXCEEDS 2 IN FOR BUILT-UP SHAPES. ANY CRACK SHALL BE DEEMED UNACCEPTABLE REGARDLESS OF SIZE OR LOCATION.
5. CONTINUOUS SPECIAL INSPECTION: UNLESS OTHERWISE INDICATED, CONTINUOUS SPECIAL INSPECTION WILL BE PERFORMED BY SPECIAL INSPECTOR COMPLYING WITH APPLICABLE CODE SECTION 1701 AND SPECIFICALLY APPROVED BY GOVERNING CODE AUTHORITY FOR EACH INSPECTION CATEGORY BELOW. PERIODIC INSPECTION IS NOT PERMITTED UNLESS INDICATED IN THE PROGRAM OR OTHERWISE ACCEPTED BY ARCHITECT (STRUCTURAL ENGINEER). SEE SPECIFICATIONS FOR ADDITIONAL SPECIAL INSPECTION REQUIREMENTS.

ENGINEER OF RECORD - STRUCTURAL OBSERVATION PROGRAM

STRUCTURAL OBSERVATIONS FOR SEISMIC & WIND RESISTANCE:

1. THE OWNER SHALL EMPLOY THE ENGINEER OR ARCHITECT REGISTERED/LICENSED IN THE STATE OF CALIFORNIA WHO IS RESPONSIBLE FOR THE STRUCTURAL DESIGN TO PERFORM STRUCTURAL OBSERVATION(S).

ENGINEER IN RESPONSIBLE CHARGE/ENGINEER OF RECORD:

NAME: SHAWN LOTHROP, SE
LIC #: S5627

OBSERVER DESIGNATED BY E.O.R. RESPONSIBLE FOR STRUCTURAL OBSERVATION(S):

NAME: SHAWN LOTHROP, SE
LIC #: S5627

2. STRUCTURAL OBSERVATIONS SHALL BE PROVIDED BY THE DESIGNATED STRUCTURAL OBSERVER FOR ALL BUILDINGS AT THE FOLLOWING STAGES OF CONSTRUCTION, UNLESS OT-HERWISE AUTHORIZED OR REQUESTED IN WRITING BY THE BUILDING OFFICIAL:

   A. PRE-CONCRETE POUR REBAR OBSERVATION
   B. WOOD FRAMING OBSERVATION PRIOR TO COVERING w/ FINISH & AFTER ROOF LOAD

3. PRIOR TO COMMENCEMENT OF OBSERVATION, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING DEPARTMENT A WRITTEN STATEMENT IDENTIFYING THE FREQUENCY AND EXTENT OF THE STRUCTURAL OBSERVATION.

4. AT THE CONCLUSION OF WORK, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING DEPARTMENT A WRITTEN STATEMENT THAT THE STRUCTURAL OBSERVATION VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

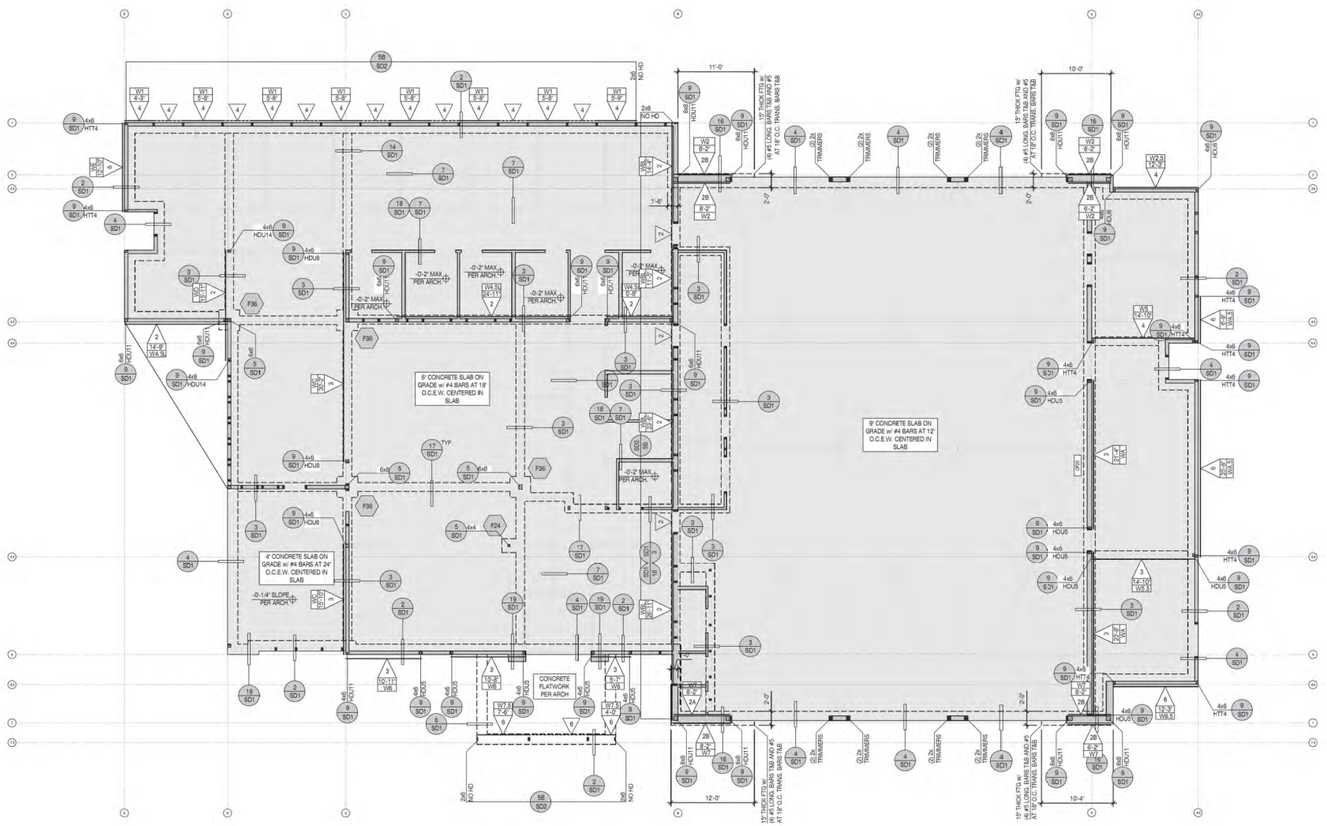
DEPUTY SPECIAL INSPECTOR

1. DEPUTY SPECIAL INSPECTIONS SHALL BE PROVIDED BY:

   NAME:
   PHONE NUMBER:

2. SPECIAL INSPECTOR SHALL BE HIRED BY THE OWNER TO PROVIDE SPECIAL INSPECTIONS AS REQUIRED PER THE PLANS.

3. SPECIAL INSPECTOR: A QUALIFIED PERSON, EMPLOYED BY THE OWNER, WHO HAS DEMONSTRATED COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL FOR INSPECTION O



FOUNDATION PLAN

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

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS SHOULD BE VERIFIED WITH THE ARCHITECTURAL SET OF PLANS

GEOTECHNICAL INFORMATION

1. REFER TO STRUCTURAL COVER SHEET (SCS) FOR ASSUMED SOIL VALUES OR VALUES BASED ON THE PROVIDED GEOTECHNICAL (SOILS) REPORT:
2. PRIOR TO REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE SOILS ENGINEER SHALL CERTIFY IN WRITING THAT:
   a. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE SOILS REPORT,
   b. THE FOOTINGS EXTEND TO THE PROPER DEPTH OR BEARING STRATA,
   c. UTILITY TRENCHES ARE PROPERLY BACKFILLED AND COMPACTED,
   d. AND THAT THE CONDITIONS FOUND MATCH THOSE ASSUMED IN THE SOILS REPORT.
3. THE OWNER/DEVELOPER AND SUBCONTRACTORS ARE TO REVIEW THE SOILS REPORT PRIOR TO COMMENCING CONSTRUCTION AND VERIFY THE PLANS COMPLY WITH THE CURRENT SOILS REPORT RECOMMENDATIONS. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF THE SOILS REPORT DATE SHOWN ON SHEET (SCS) DOES NOT MATCH THE CURRENT REPORT DATE. THE OWNER/DEVELOPER IS RESPONSIBLE FOR UPDATING THE STRUCTURAL ENGINEER WITH CURRENT GEOTECHNICAL ENGINEERING REQUIREMENTS.

FOUNDATION NOTES

1. INSTALL HOLDOWN ANCHOR BOLTS PER 9/SD1. PROVIDE AND INSTALL ALL U.S.P. OR SIMPSON LUMBER CONNECTORS (OR EQUAL) FOUNDATION HARDWARE PER MANUFACTURERS RECOMMENDATIONS. DEEPEN FOOTING WHERE NECESSARY TO PROVIDE ANCHOR EMBEDMENT AT HOLDOWN LOCATIONS.
2. REFER TO SHEARWALL SCHEDULE 8/SD1 FOR ANCHOR BOLT SPACING AND FOR ANCHOR BOLT INSTALLATION.
3. REFER TO DETAIL PACKAGE FOR TYPICAL CONDITIONS NOT SPECIFICALLY CALLED OUT OR NOTED ON PLANS.
4. ALL DIMENSIONS SHALL BE PER THE CURRENT APPROVED STAMPED SET OF ARCHITECTURAL PLANS. OUR OFFICE SHOULD BE NOTIFIED IMMEDIATELY IF DISCREPANCIES EXIST BETWEEN THE ARCHITECTURAL & STRUCTURAL PLANS.
5. CONSTRUCT CONTINUOUS FOOTINGS AT CORNERS AND INTERSECTIONS PER DETAIL 11/SD1.
6. FOUNDATION SIZES, DEPTHS, AND REINFORCEMENT SHOULD BE COORDINATED WITH THE OWNER/DEVELOPER'S SOILS ENGINEERS REPORT. SOILS ENGINEER REPORT MAY REQUIRE ADDITIONAL ITEMS NOT NOTED ON THE STRUCTURAL PLANS.
7. CLIENT/OWNER SHALL ADDRESS CORROSIVE SOIL CONDITIONS. FOR HIGH SULFATE SOIL CONDITIONS, MITIGATE PER ACI TABLE 4.3.1. THE CLIENT/OWNER SHALL HAVE A CORROSION ENGINEER PROVIDE MITIGATION RECOMMENDATIONS FOR ALL OTHER CORROSIVE SOIL CONDITIONS. CLIENT IS RESPONSIBLE TO REVIEW STRUCTURAL PLANS AND DETAILS FOR COMPLIANCE TO CORROSION ENGINEER'S RECOMMENDATIONS PRIOR TO CONSTRUCTION.

FOUNDATION LEGEND & SYMBOLS

	CONCRETE SLAB & FOOTING. FOOTING SIZE AND REINFORCING PER DETAIL SHEET SD1
	CONCRETE CURB PER ARCH. FOOTING SIZE AND REINFORCING PER DETAIL SHEET SD1
AT XX' O.C. ANCHOR /SPACING; XX DETAIL # / SHEET #	INDICATES: DETAIL CUT LOCATION. REFER TO DETAIL # AND STRUCTURAL SHEET NUMBER FOR MORE INFORMATION. TEXT ABOVE BUBBLE INDICATES REVISED HARDWARE OTHER THAN NOTED IN DETAIL
END POST W/ HOLDOWN; TYP; TYPE; WALL CALC ID; L=X LENGTH =WX	INDICATES: WOOD SHEAR WALL LOCATION. REFER TO DETAIL 8/SD1 FOR ANCHOR BOLT SIZE & SPACING AT EACH SHEAR WALL TYPE. PROVIDE 3" SQ x 0.229" ANGLE SLOTTED PLATE WASHERS AT EACH ANCHOR BOLT. REDUCE BOLT SPACING BY HALF AT DOUBLE SIDED SHEAR WALLS.
F##	INDICATES PAD FOOTING PER DETAIL 5/SD1 w/ REINFORCEMENT PER SPREAD FOOTING SCHEDULE.

SPREAD FOOTING SCHEDULE

FOOTING MARK	CONCRETE FOOTING SIZE		STEEL REINFORCING
	WIDTH X LENGTH	EMBEDMENT	
F24	24" x 24"	12"	(2)-#5 BARS EACH WAY AT TOP & BTM
F36	36" x 36"	12"	(3)-#5 BARS EACH WAY AT TOP & BTM

CONTINUOUS FOOTING SCHEDULE

FOOTING MARK	CONCRETE FOOTING SIZE		STEEL REINFORCING	
	WIDTH X DEPTH	EMBEDMENT	CONTINUOUS LONGITUDINAL BARS	TRANSVERSE BARS
CF20	20" x 12"	12"	(2) #5 T&B	#4 AT 18" O.C.

STRUCTURAL OBSERVATION REQUIREMENTS

STRUCTURAL OBSERVATION IS REQUIRED BY THE ENGINEER OF RECORD. OUR OFFICE SHOULD BE NOTIFIED TO PERFORM STRUCTURAL OBSERVATION AT THE FOLLOWING STAGES OF CONSTRUCTION:

1. PRIOR TO POUR OF CONCRETE TO OBSERVE REINFORCING & EMBEDS
2. WOOD FRAMING OBSERVATION PRIOR TO COVERING w/ FINISH & AFTER ROOF LOAD

STK ARCHITECTURE, INC.
42095 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
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CONSULTANT:

ISE STRUCTURAL ENGINEERS
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TEMECULA CA 92590
TELE: 951.600.0032
WWW.ISEENGINEERS.COM
SOCAL | NORCAL | COLORADO
ISE PROJECT NO.: 24-8400.32

PROJECT MANAGER:
SANDY FONG EXT. 1016
SANDY@ISEENGINEERS.COM

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT & FACILITIES MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202

CIP #

CAFM #

APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:

SEAL:



SHEET TITLE:
FOUNDATION PLAN

SHEET NO.:
S1

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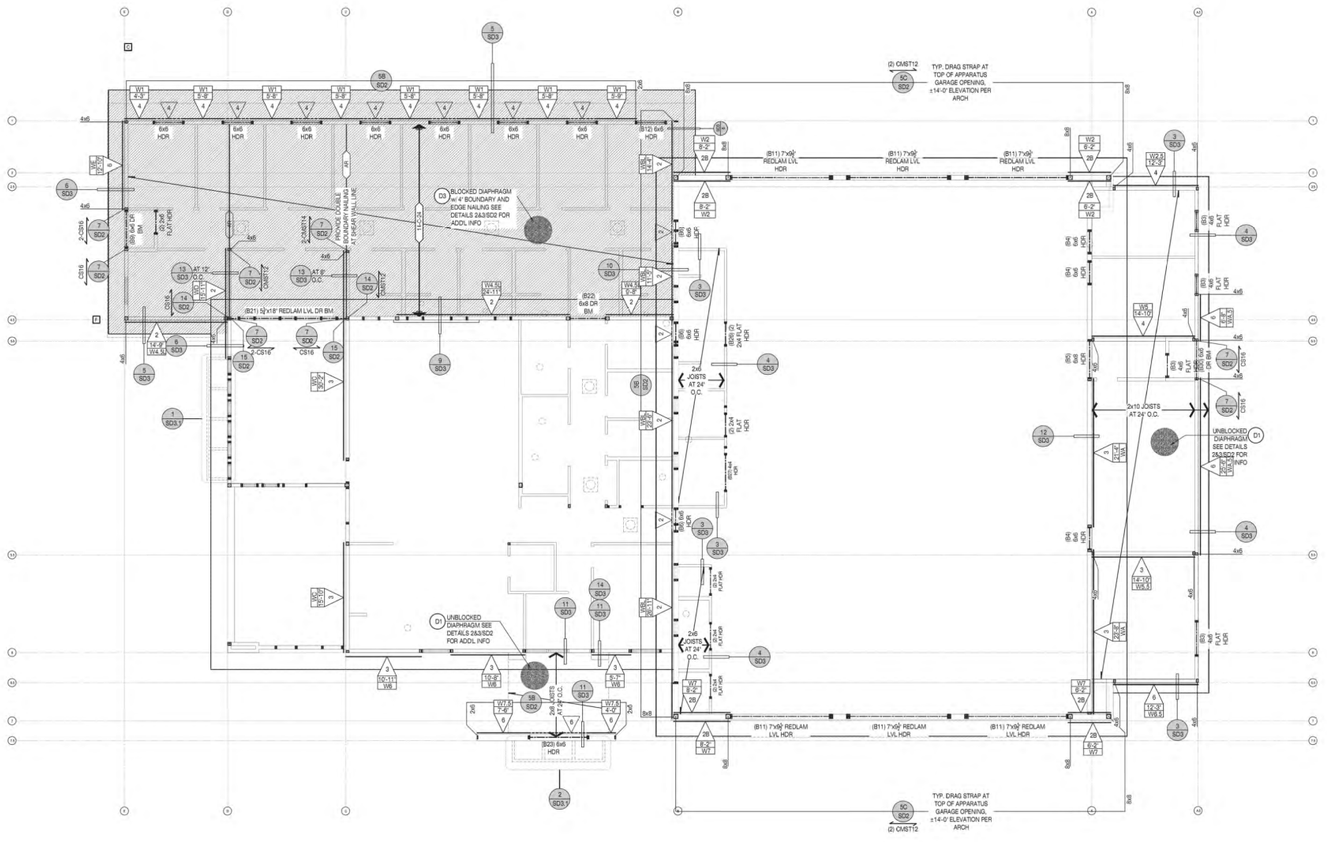

LOW ROOF FRAMING PLAN

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

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS SHOULD BE VERIFIED WITH THE ARCHITECTURAL SET OF PLANS

FRAMING NOTES

1. REFER TO STRUCTURAL GENERAL NOTE SHEET (SN SERIES) AND DETAILS (SD SERIES) FOR INFORMATION NOT SHOWN ON THE MAIN FRAMING PLANS.
2. REFER TO MAIN FRAMING PLAN FOR ALL INFORMATION NOT SHOWN ON THE ALTERNATE ELEVATIONS AND OPTIONS.
3. FRAMER & TRUSS MANUFACTURER TO COORDINATE JOIST AND TRUSS SPACING WITH M.E.P. DESIGNS. FRAMER TO REVIEW MECH. AND ELECTRIC PLANS BEFORE FINAL PLACEMENT OF JOISTS AND/OR TRUSSES. WHERE ALIGNED JOIST AND/OR TRUSS INTERFERES W/ FUTURE INSTALLATION OF M.E.P. INSTALLATION, CONTACT STRUCTURAL ENGINEER.
4. SPLICE ALL EXTERIOR WALL AND INTERIOR SHEAR WALL TOP PLATE BREAKS PER DETAIL 4/SD2, TYP.
5. ROOF SHOULD BE FULLY LOADED PRIOR TO NAILING THE TOP PLATE HARDWARE TO ROOF TRUSS BOTTOM CHORD.
6. SUSPENDED CEILING IS PER THE ARCHITECTURAL; DRAWINGS. SUSPENDED CEILING SHALL BE INSTALLED PER ASCE 7-16 SECTION 13.5.6.2.2, AND COMPLY WITH THE FOLLOWING:
   A. THE WIDTH OF PERIMETER CLOSURE ANGLE OR CHANNEL SHALL NOT BE LESS THAN 2" UNLESS QUALIFIED PERIMETER SUPPORT CLIPS ARE USED.
   B. FOR AREAS EXCEEDING 2,500 SQ. FT. WITH A RATIO OF LESS THAN OR EQUAL TO 4, LONG TO SHORT DIMENSIONS.
7. HVAC DUCTWORK IS PER THE MECHANICAL DRAWINGS. HVAC DUCTWORK SHALL BE INSTALLED PER ASCE 7-16 SECTION 13.6.6. UNDER EXCEPTION 2, PROVISIONS ARE MADE TO:
   A. AVOID IMPACT WITH OTHER DUCTS OR MECHANICAL COMPONENTS OR TO PROTECT THE DUCTS IN THE EVENT OF SUCH IMPACT.
   B. THE DISTRIBUTED SYSTEM IS POSITIVELY ATTACHED TO THE STRUCTURE.
   C. HVAC DUCTS HAVE A CROSS SECTIONAL AREA OF LESS THAN 6 SQ. FT. AND WEIGH LESS THAN 20 LB/FT.

FRAMING LEGEND & SYMBOLS

REQUIRED ANCHOR/SPACING AT XX' O.C.; DETAIL #; SHEET #	INDICATES DETAIL CUT LOCATION. REFER TO DETAIL # AND STRUCTURAL SHEET NUMBER FOR MORE INFORMATION. TEXT ABOVE BUBBLE INDICATES REVISED HARDWARE OTHER THAN NOTED IN DETAIL.
	INDICATES 2x6 STUD WALL PER PLAN & DETAIL 5/SD2. COORDINATE STUD WALL SIZE WITH ARCH. PLANS.
	INDICATES (2) 2x6 AT 16" O.C. STUD WALL PER DETAIL 5/SD2. COORDINATE STUD WALL SIZE WITH ARCH. PLANS.
	INDICATES 2x8 STUD WALL PER PLAN & DETAIL 5/SD2. COORDINATE STUD WALL SIZE WITH ARCH. PLANS.
XX	INDICATES: 1. WALL OPENING HEADER PER PLANS. 2. PROVIDE (1) 2x TRIMMER EACH SIDE U.N.O. ON PLAN. 3. PROVIDE KING STUDS EACH SIDE PER DETAIL 5/SD2 U.N.O. ON PLAN.
XX; HU BM TO BM HGR TYP., U.N.O. PER PLAN AS OCCURS. USE CONCEALED FLANGE HGR AS NEEDED	INDICATES: 1. BEAM AS NOTED ON PLANS 2. PROVIDE BEARING STUDS OR POST EACH END TO MATCH WIDTH OF BEAM AND SUPPORT WALL , U.N.O. 3. (1) 2x WALL STUD ALIGNED AT 1 ¾" WIDE LSL BEAMS IS ACCEPTABLE 4. BEAM SHOULD BE INSTALLED WITH BOTTOM ON TOP PLATE U.N.O.
D4	INDICATES: BLOCKED ROOF SHEATHING LOCATIONS (HATCHED AREA) PER DETAILS 2 & 3/SD2, TYPICAL
JOIST DEPTH (IN.); JOIST SPAC. (IN. O.C.); XX-XX-XX; JOIST TYPE (SEE SHT. SN1)	INDICATES ROOF I-JOIST SPAN, DIRECTION, DEPTH, SPACING AND TYPE OF FLOOR I-JOISTS PER TABLE AT RIGHT. REFER TO 'ROOF JOIST SPECIFICATIONS' ON SHEET SN1 FOR MANUF ALT

I-JOIST SPECIFICATIONS			
TYPE	MANF	TYPE	SIZE - DEPTH (IN)
A	REDBUILT	I45	14
B	REDBUILT	I65	14
C	REDBUILT	I90	14

AR	INDICATES ALIGNED ROOF RAFTER W/ ROOF DIAPHRAGM BOUNDARY NAILING
	INDICATES SPAN AND DIRECTION OF SAWN LUMBER ROOF RAFTERS. RAFTER SIZE AND SPACING PER PLAN
END POST W/ HOLDOWN; TYPE; WALL CALC ID; LENGTH	INDICATES: 1. WOOD SHEAR WALL PANEL LOCATION PER PLAN INSTALLED FULL HEIGHT OF WALL 2. REFER TO DETAIL 1/SD2 SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS 3. PROVIDE POST AND STRAP/HOLDOWN EACH END OF WALL MIN AS INDICATED PER PLAN 4. AT UPPER FLOORS W/HERE WALL SHEATHING DOES NOT EXTEND AND EDGE NAIL TO FLOOR RIM PROVIDE SILL PLATE NAILING OR SCREWS PER DETAIL 1/SD2
INDICATES SHEAR TYPE ABV & BLW OPENING; END POST W/ HOLDOWN; TYPE; LENGTH; WALL CALC ID; XXXX; INDICATES HORIZ STRAP ABV & BLW OPENING	INDICATES: 1. WOOD SHEAR WALL PANEL LOCATION PER PLAN INSTALLED FULL HEIGHT OF WALL AND SHEAR PANEL ABOVE AND BELOW OPENING 2. REFER TO DETAIL 1/SD2 SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS 3. PROVIDE POST AND STRAP/HOLDOWN EACH END OF WALL MIN AS INDICATED PER PLAN 4. AT UPPER FLOORS W/HERE WALL SHEATHING DOES NOT EXTEND AND EDGE NAIL TO FLOOR RIM PROVIDE SILL PLATE NAILING OR SCREWS PER DETAIL 1/SD2 5. REFER TO DETAIL 5B/SD2 FOR PERFORATED SHEAR WALL CONDITION (SHEAR ABV AND BLW OPENING W/O STRAP) 6. REFER TO DETAIL 5C/SD2 FOR FORCE TRANSFER SHEAR WALL CONDITION (SHEAR ABV AND BLW OPENING W/ STRAP)
TENSION STRAP L=X'-XX"	INDICATES: DRAG TIE STRAP TO ROOF BLKG LENGTH SHOWN INDICATES STRAP LENGTH OFF WALL
	INDICATES: DRAG TIE STRAP PER PLAN OR DETAIL SHOWN ON PLANS.
A	INDICATES TOP PLATE SPLICE PER SCHEDULE (REF. DETAIL 4/SD2) IN THE WALL BELOW AT THE INDICATED GRIDLINE. USE TOP PLATE SPLICE 'A' UNLESS NOTED OTHERWISE IN PLAN.

STRUCTURAL OBSERVATION REQUIREMENTS

STRUCTURAL OBSERVATION IS REQUIRED BY THE ENGINEER OF RECORD. OUR OFFICE SHOULD BE NOTIFIED TO PERFORM STRUCTURAL OBSERVATION AT THE FOLLOWING STAGES OF CONSTRUCTION:

1. PRIOR TO POUR OF CONCRETE TO OBSERVE REINFORCING & EMBEDS
2. WOOD FRAMING OBSERVATION PRIOR TO COVERING W/ FINISH & AFTER ROOF LOAD

STK ARCHITECTURE, INC.
42395 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.6979 Email: stk@stkinc.com

CONSULTANT:

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STRUCTURAL ENGINEERS
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TELE: 951.600.0032
WWW.ISEENGINEERS.COM
SOCAL | NORCAL | COLORADO
ISE PROJECT NO.: 24-8400.32

PROJECT MANAGER:
SANDY FONG EXT. 1016
SANDY@ISEENGINEERS.COM

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202

CIP #

CAFM #

APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:

SEAL:

REGISTERED PROFESSIONAL ENGINEER SANDY FONG No. C88985 CIVIL STATE OF CALIFORNIA

SHEET TITLE:
LOW ROOF FRAMING PLAN

SHEET NO.:
S2

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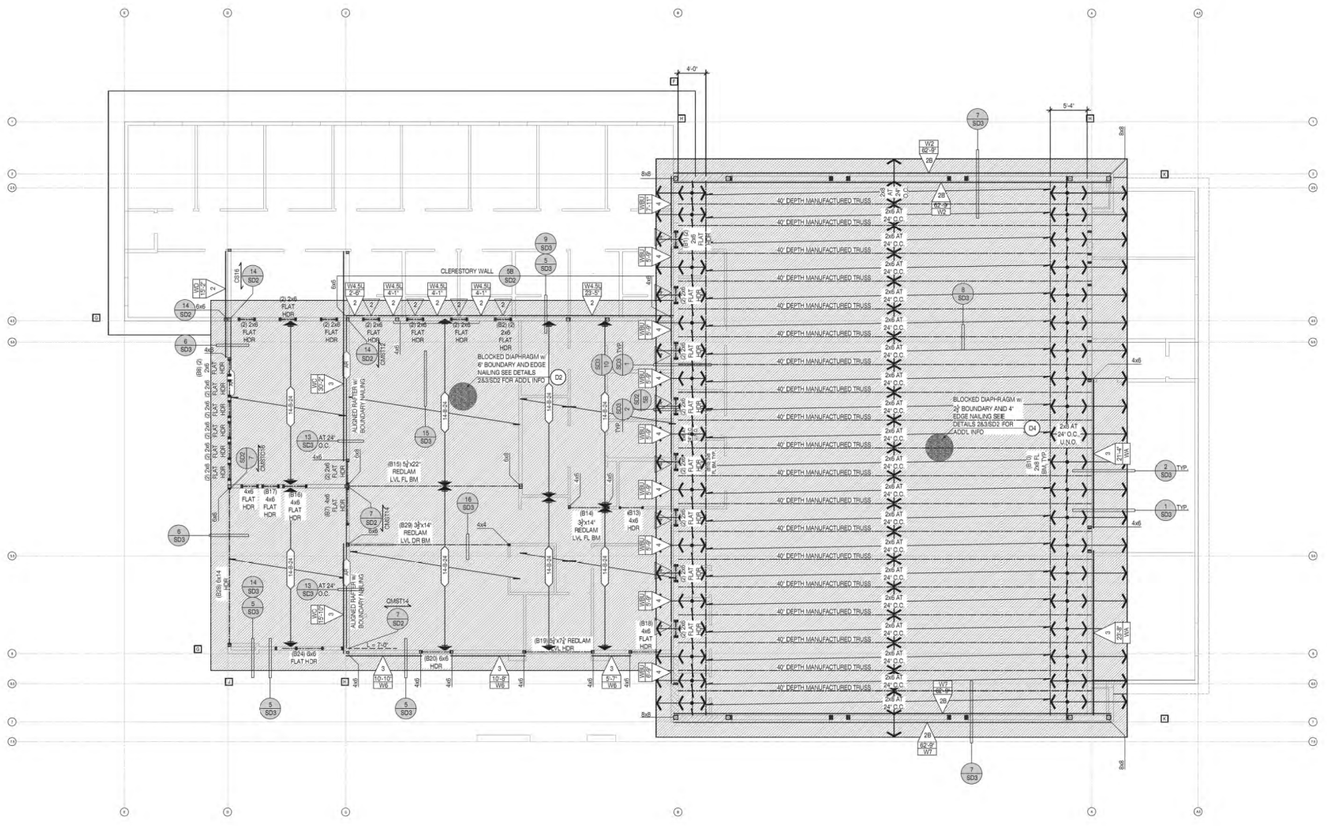


HIGH / CLERESTORY ROOF FRAMING PLAN

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

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS SHOULD BE VERIFIED WITH THE ARCHITECTURAL SET OF PLANS

FRAMING NOTES

1. REFER TO STRUCTURAL GENERAL NOTE SHEET (SN SERIES) AND DETAILS (SD SERIES) FOR INFORMATION NOT SHOWN ON THE MAIN FRAMING PLANS.
2. REFER TO MAIN FRAMING PLAN FOR ALL INFORMATION NOT SHOWN ON THE ALTERNATE ELEVATIONS AND OPTIONS.
3. FRAMER & TRUSS MANUFACTURER TO COORDINATE JOIST AND TRUSS SPACING WITH M.E.P. DESIGNS. FRAMER TO REVIEW MECH. AND ELECTRIC PLANS BEFORE FINAL PLACEMENT OF JOISTS AND/OR TRUSSES. WHERE ALIGNED JOIST AND/OR TRUSS INTERFERES W/ FUTURE INSTALLATION OF M.E.P. INSTALLATION, CONTACT STRUCTURAL ENGINEER.
4. SPLICE ALL EXTERIOR WALL AND INTERIOR SHEAR WALL TOP PLATE BREAKS PER DETAIL 4/SD2, TYP.
5. ROOF SHOULD BE FULLY LOADED PRIOR TO NAILING THE TOP PLATE HARDWARE TO ROOF TRUSS BOTTOM CHORD.
6. SUSPENDED CEILING IS PER THE ARCHITECTURAL; DRAWINGS. SUSPENDED CEILING SHALL BE INSTALLED PER ASCE 7-16 SECTION 13.5.6.2.2, AND COMPLY WITH THE FOLLOWING:
   A. THE WIDTH OF PERIMETER CLOSURE ANGLE OR CHANNEL SHALL NOT BE LESS THAN 2" UNLESS QUALIFIED PERIMETER SUPPORT CLIPS ARE USED.
   B. FOR AREAS EXCEEDING 2,500 SQ. FT. WITH A RATIO OF LESS THAN OR EQUAL TO 4, LONG TO SHORT DIMENSIONS.
7. HVAC DUCTWORK IS PER THE MECHANICAL DRAWINGS. HVAC DUCTWORK SHALL BE INSTALLED PER ASCE 7-16 SECTION 13.6.6. UNDER EXCEPTION 2, PROVISIONS ARE MADE TO:
   A. AVOID IMPACT WITH OTHER DUCTS OR MECHANICAL COMPONENTS OR TO PROTECT THE DUCTS IN THE EVENT OF SUCH IMPACT.
   B. THE DISTRIBUTED SYSTEM IS POSITIVELY ATTACHED TO THE STRUCTURE.
   C. HVAC DUCTS HAVE A CROSS SECTIONAL AREA OF LESS THAN 6 SQ. FT. AND WEIGH LESS THAN 20 LB/FT.

FRAMING LEGEND & SYMBOLS

REQUIRED ANCHOR/SPACING AT XX' O.C.; XX DETAIL #; SHEET #	INDICATES DETAIL CUT LOCATION. REFER TO DETAIL # AND STRUCTURAL SHEET NUMBER FOR MORE INFORMATION. TEXT ABOVE BUBBLE INDICATES REVISED HARDWARE OTHER THAN NOTED IN DETAIL.
	INDICATES 2x6 STUD WALL PER PLAN & DETAIL 5/SD2. COORDINATE STUD WALL SIZE WITH ARCH. PLANS.
	INDICATES (2) 2x6 AT 16" O.C. STUD WALL PER DETAIL 5/SD2. COORDINATE STUD WALL SIZE WITH ARCH. PLANS.
	INDICATES 2x8 STUD WALL PER PLAN & DETAIL 5/SD2. COORDINATE STUD WALL SIZE WITH ARCH. PLANS.
XX	INDICATES: 1. WALL OPENING HEADER PER PLANS. 2. PROVIDE (1) 2x TRIMMER EACH SIDE U.N.O. ON PLAN. 3. PROVIDE KING STUDS EACH SIDE PER DETAIL 5/SD2 U.N.O. ON PLAN.
XX; HU BM TO BM HGR TYP., U.N.O. PER PLAN AS OCCURS. USE CONCEALED FLANGE HGR AS NEEDED	INDICATES: 1. BEAM AS NOTED ON PLANS 2. PROVIDE BEARING STUDS OR POST EACH END TO MATCH WIDTH OF BEAM AND SUPPORT WALL , U.N.O. 3. (1) 2x WALL STUD ALIGNED AT 1 ¾" WIDE LSL BEAMS IS ACCEPTABLE 4. BEAM SHOULD BE INSTALLED WITH BOTTOM ON TOP PLATE U.N.O.
SX	INDICATES: BLOCKED ROOF SHEATHING LOCATIONS (HATCHED AREA) PER DETAILS 2 & 3/SD2, TYPICAL
JOIST DEPTH (IN.); JOIST SPAC. (IN. O.C.); XX-XX-XX; JOIST TYPE (SEE SHT. SN1)	INDICATES ROOF I-JOIST SPAN, DIRECTION, DEPTH, SPACING AND TYPE OF FLOOR I-JOISTS PER TABLE AT RIGHT. REFER TO 'ROOF JOIST SPECIFICATIONS' ON SHEET SN1 FOR MANUF ALT

I-JOIST SPECIFICATIONS			
TYPE	MANF	TYPE	SIZE - DEPTH (IN)
A	REDBUILT	I45	14
B	REDBUILT	I65	14
C	REDBUILT	I90	14

AR	INDICATES ALIGNED ROOF RAFTER W/ ROOF DIAPHRAGM BOUNDARY NAILING
	INDICATES SPAN AND DIRECTION OF SAWN LUMBER ROOF RAFTERS. RAFTER SIZE AND SPACING PER PLAN
END POST W/ HOLDOWN; TYPE; L=X LENGTH; WALL CALC ID; WX	INDICATES: 1. WOOD SHEAR WALL PANEL LOCATION PER PLAN INSTALLED FULL HEIGHT OF WALL. 2. REFER TO DETAIL 1/SD2 SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS 3. PROVIDE POST AND STRAP/HOLDOWN EACH END OF WALL MIN AS INDICATED PER PLAN 4. AT UPPER FLOORS W/HERE WALL SHEATHING DOES NOT EXTEND AND EDGE NAIL TO FLOOR RIM PROVIDE SILL PLATE NAILING OR SCREWS PER DETAIL 1/SD2
INDICATES SHEAR TYPE ABV & BLW OPENING; END POST W/ HOLDOWN; TYPE; LENGTH; WALL CALC ID; INDICATES HORIZ. STRAP ABV & BLW OPENING; WX; XXXX	INDICATES: 1. WOOD SHEAR WALL PANEL LOCATION PER PLAN INSTALLED FULL HEIGHT OF WALL AND SHEAR PANEL ABOVE AND BELOW OPENING 2. REFER TO DETAIL 1/SD2 SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS 3. PROVIDE POST AND STRAP/HOLDOWN EACH END OF WALL MIN AS INDICATED PER PLAN 4. AT UPPER FLOORS W/HERE WALL SHEATHING DOES NOT EXTEND AND EDGE NAIL TO FLOOR RIM PROVIDE SILL PLATE NAILING OR SCREWS PER DETAIL 1/SD2 5. REFER TO DETAIL 5B/SD2 FOR PERFORATED SHEAR WALL CONDITION (SHEAR ABV AND BLW OPENING W/O STRAP). 6. REFER TO DETAIL 5C/SD2 FOR FORCE TRANSFER SHEAR WALL CONDITION (SHEAR ABV AND BLW OPENING W/ STRAP)
TENSION STRAP L=X'-XX"; A	INDICATES: DRAG TIE STRAP TO ROOF BLKG. LENGTH SHOWN INDICATES STRAP LENGTH OFF WALL INDICATES: DRAG TIE STRAP PER PLAN OR DETAIL SHOWN ON PLANS. INDICATES TOP PLATE SPLICE PER SCHEDULE (REF. DETAIL 4/SD2) IN THE WALL BELOW AT THE INDICATED GRIDLINE. USE TOP PLATE SPLICE 'A' UNLESS NOTED OTHERWISE IN PLAN.

STRUCTURAL OBSERVATION REQUIREMENTS

STRUCTURAL OBSERVATION IS REQUIRED BY THE ENGINEER OF RECORD. OUR OFFICE SHOULD BE NOTIFIED TO PERFORM STRUCTURAL OBSERVATION AT THE FOLLOWING STAGES OF CONSTRUCTION:

1. PRIOR TO POUR OF CONCRETE TO OBSERVE REINFORCING & EMBEDS
2. WOOD FRAMING OBSERVATION PRIOR TO COVERING w/ FINISH & AFTER ROOF LOAD

STK ARCHITECTURE, INC.
42095 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.6079 Email: info@stkinc.com

CONSULTANT:

ISE STRUCTURAL ENGINEERS
27368 VIA INDUSTRIA
TEMECULA, CA 92590
TELE: 951.600.0032
WWW.ISEENGINEERS.COM
SOCAL | NORCAL | COLORADO
ISE PROJECT NO.: 24-8400.32

PROJECT MANAGER:
SANDY FONG EXT. 1016
SANDY@ISEENGINEERS.COM

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:

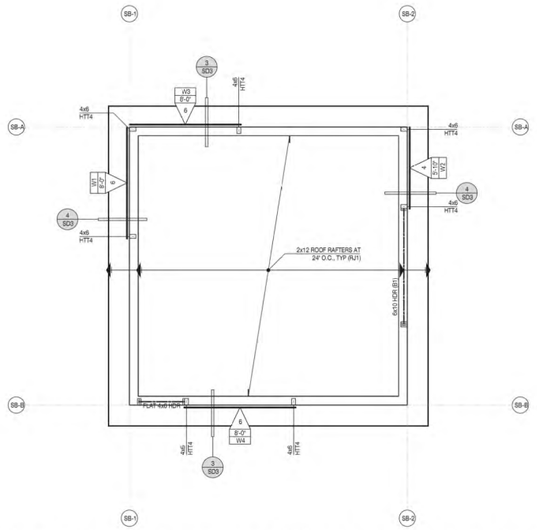
SEAL:

LICENSED PROFESSIONAL ENGINEER SANDY FONG C88965 CIVIL STATE OF CALIFORNIA

SHEET TITLE:
HIGH / CLERESTORY ROOF FRAMING PLAN

SHEET NO.:
S3

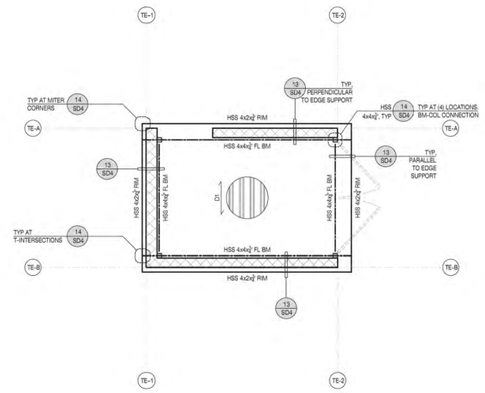
12/20/2024 3:30PM K:\24400 - STK\24400.32 - SBC Fire Station 227\02 - Drawings\Plans #.dwg



STORAGE BUILIDNG (SB) - ROOF FRAMING PLAN

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

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS SHOULD BE VERIFIED WITH THE ARCHITECTURAL SET OF PLANS



TRASH ENCLOSURE (TE) - ROOF FRAMING PLAN

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

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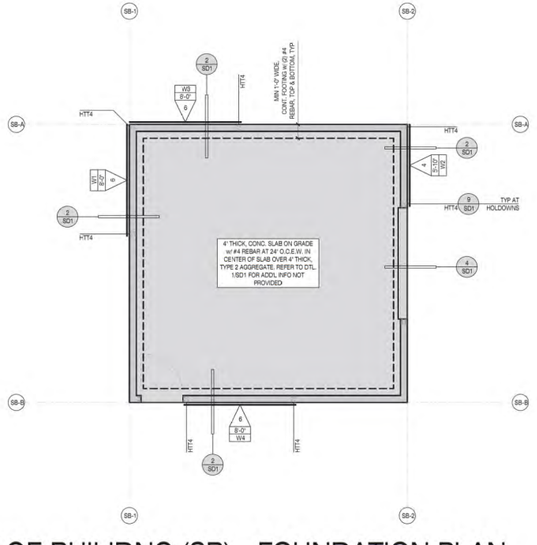
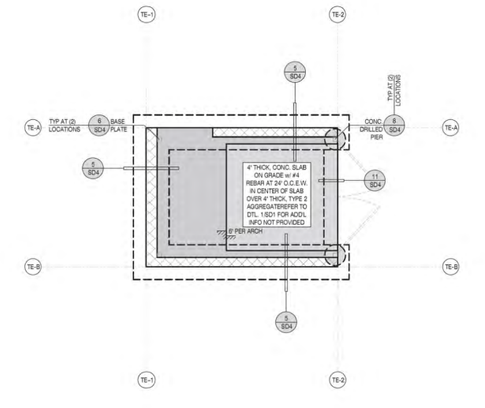


STORAGE BUILIDNG (SB) - FOUNDATION PLAN

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

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS SHOULD BE VERIFIED WITH THE ARCHITECTURAL SET OF PLANS



TRASH ENCLOSURE (TE) - FOUNDATION PLAN

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

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS SHOULD BE VERIFIED WITH THE ARCHITECTURAL SET OF PLANS

FRAMING NOTES

1. REFER TO STRUCTURAL GENERAL NOTE SHEET (SN SERIES) AND DETAILS (SD SERIES) FOR INFORMATION NOT SHOWN ON THE MAIN FRAMING PLANS.
2. FRAMER TO COORDINATE JOIST SPACING WITH M.E.P. DESIGNS. FRAMER TO REVIEW MECH. AND ELECTRIC PLANS BEFORE FINAL PLACEMENT OF JOISTS. WHERE ALIGNED JOIST INTERFERES W/ FUTURE INSTALLATION OF M.E.P. INSTALLATION, CONTACT STRUCTURAL ENGINEER.
3. SPLICE ALL EXTERIOR WALL AND INTERIOR SHEAR WALL TOP PLATE BREAKS PER DETAIL 4/SD2, TYP.
4. ROOF SHOULD BE FULLY LOADED PRIOR TO NAILING THE TOP PLATE HARDWARE TO ROOF JOIST BOTTOM CHORD.
5. WATERPROOFING & DRAINAGE SHALL BE PROVIDED BY OTHERS.

FRAMING LEGEND & SYMBOLS

AT XX' O.C. REQUIRED ANCHOR/SPACING; XX DETAIL #; SHEET #	INDICATES DETAIL CUT LOCATION. REFER TO DETAIL # AND STRUCTURAL SHEET NUMBER FOR MORE INFORMATION. TEXT ABOVE BUBBLE INDICATES REVISED HARDWARE OTHER THAN NOTED IN DETAIL
	INDICATES 2x6 STUD WALL PER PLAN & DETAIL 5/SD2. COORDINATE STUD WALL SIZE WITH ARCH. PLANS. INDICATES: 8" CMU (f'm' = 1500 psi) WALL WITH #4 AT 16" O.C. VERTICAL & #4 AT 24" O.C. HORIZONTAL WITH SOLID GROUT. REFER TO PLANS & DETAILS FOR ADDL INFORMATION
XX; AR	INDICATES: 1. WALL OPENING HEADER PER FRAMING SCHEDULE BELOW 2. PROVIDE (1) 2x TRIMMER EACH SIDE U.N.O. ON PLAN 3. PROVIDE KING STUDS EACH SIDE PER DETAIL 5/SD2 U.N.O. ON PLAN. INDICATES ALIGNED ROOF RAFTER W/ ROOF DIAPHRAGM EDGE NAILING INDICATES SPAN AND DIRECTION OF ROOF RAFTERS. RAFTER SIZE AND SPACING PER PLANS.
XX; D1; INDICATES METAL DECK SPAN & TYPE; INDICATES METAL DECK DIAPHRAGM	INDICATES: 1. BEAM AS NOTED ON PLANS INDICATES METAL ROOF DECK PER PLAN. REFER TO DETAIL 12/SD4 FOR ADDITIONAL INFORMATION INCLUDING DECK TYPES.
END POST W/ HOLDOWN; TYPE; X; WALL CALC ID; L=X WX; LENGTH	INDICATES: 1. WOOD SHEAR WALL PANEL LOCATION PER PLAN INSTALLED FULL HEIGHT OF WALL 2. REFER TO DETAIL 1/SD2 SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS 3. PROVIDE POST AND STRAP/HOLDOWN EACH END OF WALL MIN AS INDICATED PER PLAN 4. AT UPPER FLOORS WHERE WALL SHEATHING DOES NOT EXTEND AND EDGE NAIL TO FLOOR RIM PROVIDE SILL PLATE NAILING OR SCREWS PER DETAIL 1/SD2
INDICATES SHEAR TYPE ABV & BLW OPENING; END POST W/ HOLDOWN; TYPE; LENGTH; WALL CALC ID; L=X WX; XXXX; INDICATES HORIZ STRAP ABV & BLW OPENING	INDICATES: 1. WOOD SHEAR WALL PANEL LOCATION PER PLAN INSTALLED FULL HEIGHT OF WALL AND SHEAR PANEL ABOVE AND BELOW OPENING 2. REFER TO DETAIL 1/SD2 SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS 3. PROVIDE POST AND STRAP/HOLDOWN EACH END OF WALL MIN AS INDICATED PER PLAN 4. AT UPPER FLOORS WHERE WALL SHEATHING DOES NOT EXTEND AND EDGE NAIL TO FLOOR RIM PROVIDE SILL PLATE NAILING OR SCREWS PER DETAIL 1/SD2 5. REFER TO DETAIL 5B/SD2 FOR PERFORATED SHEAR WALL CONDITION (SHEAR ABV AND BLW OPENING W/O STRAP) 6. REFER TO DETAIL 5C/SD2 FOR FORCE TRANSFER SHEAR WALL CONDITION (SHEAR ABV AND BLW OPENING W/ STRAP)
	INDICATES: DRAG TIE STRAP PER PLAN OR DETAIL SHOWN ON PLANS.

GEOTECHNICAL INFORMATION

1. REFER TO STRUCTURAL COVER SHEET (SCS) FOR ASSUMED SOIL VALUES OR VALUES BASED ON THE PROVIDED GEOTECHNICAL (SOILS) REPORT:
2. THE OWNER/DEVELOPER AND SUBCONTRACTORS ARE TO REVIEW THE SOILS REPORT PRIOR TO COMMENCING CONSTRUCTION AND VERIFY THE PLANS COMPLY WITH THE CURRENT SOILS REPORT RECOMMENDATIONS. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF THE SOILS REPORT DATE SHOWN ON SHEET (SCS) DOES NOT MATCH THE CURRENT REPORT DATE. THE OWNER/DEVELOPER IS RESPONSIBLE FOR UPDATING THE STRUCTURAL ENGINEER WITH CURRENT GEOTECHNICAL ENGINEERING REQUIREMENTS.

FOUNDATION NOTES

1. INSTALL HOLDOWN ANCHOR BOLTS PER 9/SD1. PROVIDE AND INSTALL ALL U.S.P. OR SIMPSON LUMBER CONNECTORS (OR EQUAL). FOUNDATION HARDWARE PER MANUFACTURERS RECOMMENDATIONS. DEEPEN FOOTING WHERE NECESSARY TO PROVIDE ANCHOR EMBEDMENT AT HOLDOWN LOCATIONS.
2. REFER TO SHEARWALL SCHEDULE 8/SD1 FOR ANCHOR BOLT SPACING AND FOR ANCHOR BOLT INSTALLATION.
3. REFER TO DETAIL PACKAGE FOR TYPICAL CONDITIONS NOT SPECIFICALLY CALLED OUT OR NOTED ON PLANS.
4. ALL DIMENSIONS SHALL BE PER THE CURRENT APPROVED STAMPED SET OF ARCHITECTURAL PLANS. OUR OFFICE SHOULD BE NOTIFIED IMMEDIATELY IF DISCREPANCIES EXIST BETWEEN THE ARCHITECTURAL & STRUCTURAL PLANS.
5. CONSTRUCT CONTINUOUS FOOTINGS AT CORNERS AND INTERSECTIONS PER DETAIL 11/SD1.
6. CENTER CONTINUOUS FOOTINGS UNDER WALLS U.N.O. CENTER DRILLED PIER FOOTINGS UNDER COLUMNS U.N.O.
7. FOUNDATION SIZES, DEPTHS, AND REINFORCEMENT SHOULD BE COORDINATED WITH THE OWNER/DEVELOPER'S SOILS ENGINEERS REPORT. SOILS ENGINEER REPORT MAY REQUIRE ADDITIONAL ITEMS NOT NOTED ON THE STRUCTURAL PLANS.
8. CLIENT/OWNER SHALL ADDRESS CORROSIVE SOIL CONDITIONS. FOR HIGH SULFATE SOIL CONDITIONS, MITIGATE PER ACI TABLE 19.3.2.1. THE CLIENT/OWNER SHALL HAVE A CORROSION ENGINEER PROVIDE MITIGATION RECOMMENDATIONS FOR ALL OTHER CORROSIVE SOIL CONDITIONS. CLIENT IS RESPONSIBLE TO REVIEW STRUCTURAL PLANS AND DETAILS FOR COMPLIANCE TO CORROSION ENGINEERS RECOMMENDATIONS PRIOR TO CONSTRUCTION.
9. IN NO CASE SHALL PIPES, CONDUITS, OR SLEEVES BE EMBEDDED IN SPREAD FOOTINGS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS.

FOUNDATION LEGEND & SYMBOLS

	CONCRETE SLAB & FOOTING. FOOTING SIZE AND REINFORCING PER DETAIL SHEET SD1, U.N.O. PER PLAN.
	INDICATES: CONCRETE, CMU WALL FOOTING. FOOTING SIZE AND REINFORCING PER DETAIL SHEET SD4, U.N.O. PER PLAN.
	INDICATES: CONCRETE, DRILLED PIER FOOTING. FOOTING SIZE AND REINFORCING PER DETAIL SHEET SD4, U.N.O. PER PLAN.
AT XX' O.C. ANCHOR /SPACING; XX DETAIL #; SHEET #	INDICATES: DETAIL CUT LOCATION. REFER TO DETAIL # AND STRUCTURAL SHEET NJMBER FOR MORE INFORMATION. TEXT ABOVE BUBBLE INDICATES REVISED HARDWARE OTHER THAN NOTED IN DETAIL
END POST W/ HOLDOWN; TYPE; X; WALL CALC ID; L=X WX; LENGTH; XXXX; END POST W/ HOLDOWN	INDICATES: WOOD SHEAR WALL LOCATION. REFER TO DETAIL 8/SD1 FOR ANCHOR BOLT SIZE & SPACING AT EACH SHEAR WALL TYPE. PROVIDE 3" SQ x 0.229" ANGLE SLOTTED PLATE WASHERS AT EACH ANCHOR BOLT. REDUCE BOLT SPACING BY HALF AT DOUBLE SIDED SHEAR WALLS.

STRUCTURAL OBSERVATION REQUIREMENTS

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1. PRIOR TO POUR OF CONCRETE TO OBSERVE REINFORCING & EMBEDS
2. WOOD FRAMING OBSERVATION PRIOR TO COVERING w/ FINISH & AFTE'R ROOF LOAD

STK ARCHITECTURE

42395 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.6979 Email: stk@stkinc.com

CONSULTANT:

ISE STRUCTURAL ENGINEERS
27368 VIA INDUSTRIA
TEMECULA CA 92590
TELE 951.600.0032
WWW.ISEENGINEERS.COM
SOCAL | NORCAL | COLORADO
ISE PROJECT NO.: 24-8400.32

PROJECT MANAGER:
SANDY FONG EXT. 1016
SANDY@ISEENGINEERS.COM

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT & FACILITIES MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:

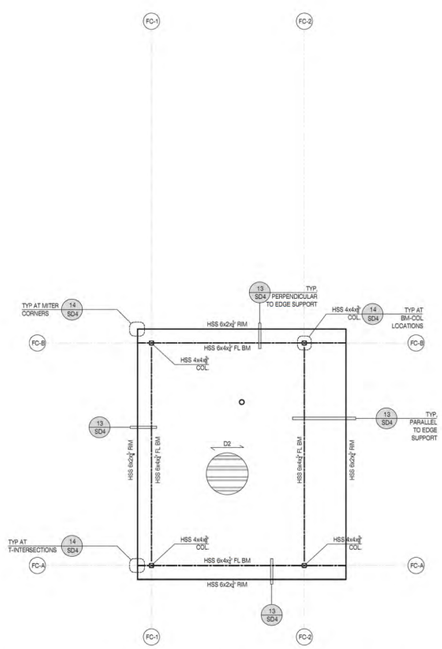
SEAL:



SHEET TITLE:
SITE STRUCTURES, STORAGE BUILDING & TRASH ENCLOSURE - ROOF FRAMING & FOUNDATION PLANS

SHEET NO.:
S4

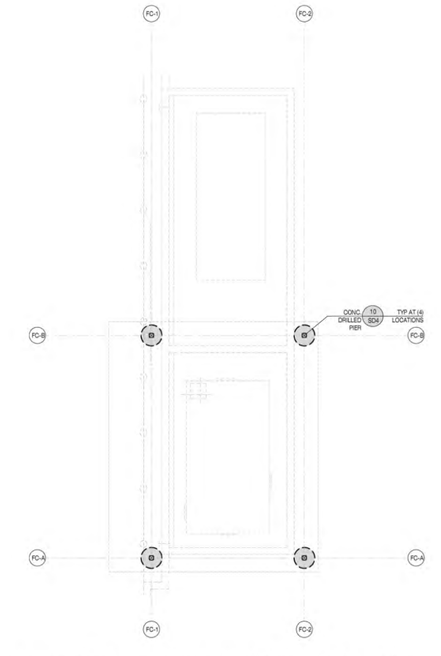
W:\8400 - STK\8400.32 - SBC Fire Station 227\02 - Drawings\Plans - Site Structures.dwg
12/20/2024 3:30PM



FUEL CANOPY (FC) - ROOF FRAMING PLAN

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

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS SHOULD BE VERIFIED WITH THE ARCHITECTURAL SET OF PLANS



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3. SPLICE ALL EXTERIOR WALL AND INTERIOR SHEAR WALL TOP PLATE BREAKS PER DETAIL 4/SD2, TYP.
4. ROOF SHOULD BE FULLY LOADED PRIOR TO NAILING THE TOP PLATE HARDWARE TO ROOF JOIST BOTTOM CHORD.
5. WATERPROOFING & DRAINAGE SHALL BE PROVIDED BY OTHERS.

FRAMING LEGEND & SYMBOLS

AT XX' O.C. REQUIRED ANCHOR/SPACING; X DETAIL #; XX SHEET #	INDICATES DETAIL CUT LOCATION. REFER TO DETAIL # AND STRUCTURAL SHEET NUMBER FOR MORE INFORMATION. TEXT ABOVE BUBBLE INDICATES REVISED HARDWARE OTHER THAN NOTED IN DETAIL
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FOUNDATION LEGEND & SYMBOLS

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	INDICATES: CONCRETE, CMU WALL FOOTING. FOOTING SIZE AND REINFORCING PER DETAIL SHEET SD4, U.N.O. PER PLAN.
	INDICATES: CONCRETE, DRILLED PIER FOOTING. FOOTING SIZE AND REINFORCING PER DETAIL SHEET SD4, U.N.O. PER PLAN.
AT XX' O.C. ANCHOR /SPACING; X DETAIL #; XX SHEET #	INDICATES: DETAIL CUT LOCATION. REFER TO DETAIL # AND STRUCTURAL SHEET NUMBER FOR MORE INFORMATION. TEXT ABOVE BUBBLE INDICATES REVISED HARDWARE OTHER THAN NOTED IN DETAIL
END POST W/ HOLDOWN; TYPE; X; LENGTH; WALL CALC ID; L=X WX; XXXX; END POST W/ HOLDOWN	INDICATES: WOOD SHEAR WALL LOCATION. REFER TO DETAIL 8/SD1 FOR ANCHOR BOLT SIZE & SPACING AT EACH SHEAR WALL TYPE. PROVIDE 3" SQ x 0.229" ANGLE SLOTTED PLATE WASHERS AT EACH ANCHOR BOLT. REDUCE BOLT SPACING BY HALF AT DOUBLE SIDED SHEAR WALLS.

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STRUCTURAL OBSERVATION IS REQUIRED BY THE ENGINEER OF RECORD. OUR OFFICE SHOULD BE NOTIFIED TO PERFORM STRUCTURAL OBSERVATION AT THE FOLLOWING STAGES OF CONSTRUCTION:

1. PRIOR TO POUR OF CONCRETE TO OBSERVE REINFORCING & EMBEDS
2. WOOD FRAMING OBSERVATION PRIOR TO COVERING w/ FINISH & AFTER ROOF LOAD

STK ARCHITECTURE, INC.
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ISE PROJECT NO.: 24-8400.32

PROJECT MANAGER:
SANDY FONG EXT. 1016
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT & FACILITIES MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:

SEAL:



SHEET TITLE:
SITE STRUCTURES, FUEL GENERATOR/TANK CANOPY - ROOF FRAMING & FOUNDATION PLANS

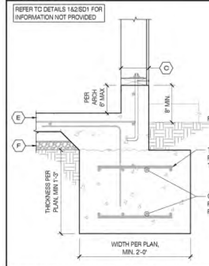
SHEET NO.:
S5

W:\8400 - STK\8400.32 - SBC Fire Station 227\02 - Drawings\Plans - Site Structures.dwg
12/20/2024 3:30PM

TYPICAL SLAB JOINT DETAIL

13

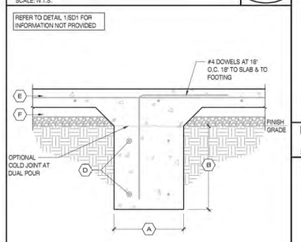
SCALE: N.T.S.



WIDENED FOOTING AT EXTERIOR WALL

16

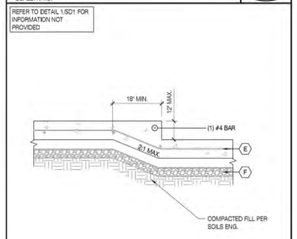
SCALE: N.T.S.



INTERIOR TIE BEAM FOOTING

17

SCALE: N.T.S.



SLAB DEPRESSION

18

SCALE: N.T.S.

NOT USED

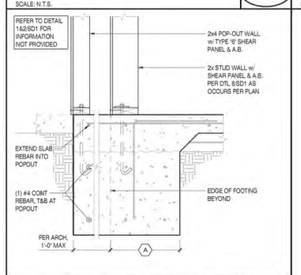
14

SCALE: N.T.S.

NOT USED

15

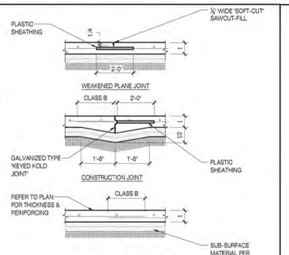
SCALE: N.T.S.



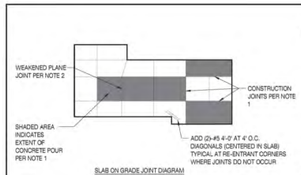
EXTERIOR FOOTING AT 12' (MAX) FRAMING POP-OUT

19

SCALE: N.T.S.

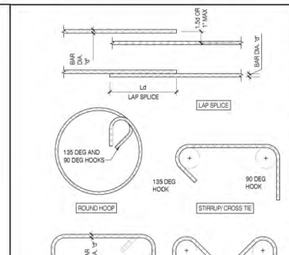


TYPICAL SLAB ON GRADE SECTION



SLAB ON GRADE JOINT DIAGRAM

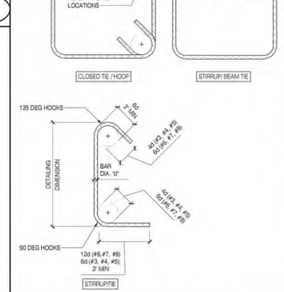
NOTES:
1. AREA OF CONCRETE POURS TO BE DETERMINED BY CONTRACTOR. SUBMIT JOINT LAYOUT PRIOR TO POURING SLABS PER GENERAL NOTES. PROVIDE CONSTRUCTION JOINTS SURROUNDING AREA OF EACH POUR UNLESS DETAILED OTHERWISE. ALLOW 24 HOURS MINIMUM BEFORE CASTING SLABS IN OTHER AREAS.
2. SAWCUT WEAKENED PLANE JOINTS AS SOON AS CONCRETE CAN SUPPORT WEIGHT OF PERSONNEL AND SAW WITHOUT AFFECTING FINAL FINISH BUT NO LATER THAN 12 HOURS AFTER POUR. LOCATE WEAKENED PLAN JOINTS NO GREATER THAN 24 TO 36 TIMES SLAB THICKNESS 'T' (15'-0" MAXIMUM) IN BOTH DIRECTIONS, U.N.O..

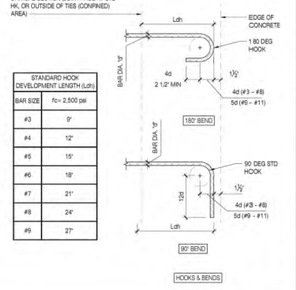


f'c = 2,500 PSI		TENSION DEVELOPMENT (Ld) AND LAP SPLICE (LL) LENGTH FOR BARS IN WALLS, SLABS, AND FOOTINGS							
		COVER = 0.75"		COVER = 1.5"		COVER = 2"		COVER = 3"	
BAR SIZE	LAP CLASS	UNCOATED		UNCOATED		UNCOATED		UNCOATED	
		TOP*	OTHER	TOP*	OTHER	TOP*	OTHER	TOP*	OTHER
#3	A	15"	12"	15"	15"	15"	15"	15"	15"
	B	19"	15"	19"	19"	19"	19"	19"	19"
#4	A	24"	18"	19"	19"	19"	19"	19"	19"
	B	31"	24"	25"	25"	25"	25"	25"	25"
#5	A	35"	27"	24"	24"	24"	24"	24"	24"
	B	45"	35"	31"	31"	31"	31"	31"	31"
#6	A	47"	36"	29"	29"	29"	29"	29"	29"
	B	61"	47"	37"	37"	37"	37"	37"	37"
#7	A	76"	59"	47"	36"	41"	32"	41"	32"
	B	99"	76"	61"	47"	54"	41"	54"	41"
#8	A	94"	72"	59"	45"	47"	36"	47"	36"
	B	122"	94"	77"	59"	61"	47"	61"	47"
#9	A	113"	87"	72"	56"	58"	45"	53"	41"
	B	147"	113"	94"	72"	76"	58"	69"	53"

NOTES:
1. TABULATED VALUES ARE BASED ON A MINIMUM YIELD STRENG'TH OF 60,000 PSI FOR ALL REINFORCING AND NORMAL WEIGHT CONCRETE.
2. SPACING OF REINFORCING BEING SPLICED SHALL BE GREATER THAN ONE BAR DIAMETER PLUS TWICE THE CONCRETE COVER.
3. "TOP" INDICATES A TOP BAR WHICH ARE DEFINED AS HORIZONTAL REINFORCING WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.
4. LENGTHS ARE FOR UNCOATED BARS ONLY.
5. FOR LIGHTWEIGHT CONCRETE, DIVIDE THE CORRESPONDING TABULATED VALUE BY 0.75.

CRITICAL SECTION (JOINT FACE AT STD HK, OR OUTSIDE OF TIES (CONFINED) AREA)





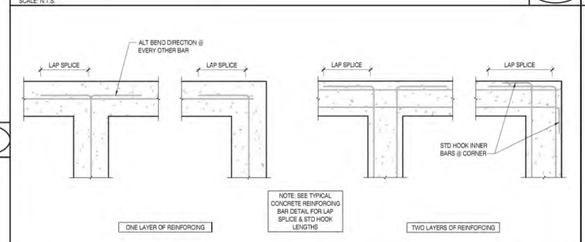
HOOKS & BENDS

STANDARD HOOK DEVELOPMENT LENGTH (Ldh)	
BAR SIZE	fc= 2,500 psi
#3	9"
#4	12"
#5	15"
#6	18"
#7	21"
#8	24"
#9	27"

TYPICAL CONCRETE REINFORCING BAR DETAILS

10

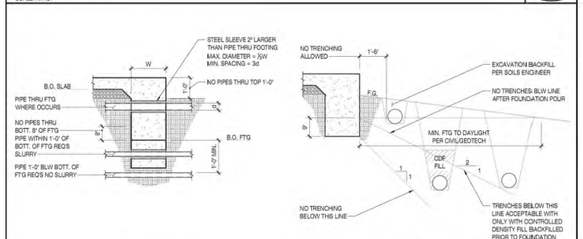
SCALE: N.T.S.



TYPICAL REINFORCING @ FOOTING INTERSECTIONS

11

SCALE: N.T.S.



FOOTING TRENCH & PIPES THRU FOOTING

12

SCALE: N.T.S.

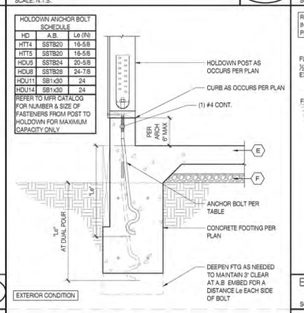
TYPICAL SILL PLATE ANCHOR BOLT SPECIFICATIONS

8

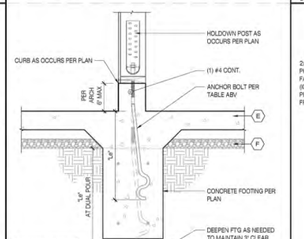
SCALE: N.T.S.

HOLDOWN ANCHOR BOLT SCHEDULE		
HD	A.B.	Le (IN)
HTT4	SSTB20	16-5/8
HTT5	SSTB20	16-5/8
HDU5	SSTB24	20-5/8
HDU8	SSTB28	24-7/8
HDU11	SB1x30	24
HDU14	SB1x30	24

REFER TO MFR CATALOG FOR NUMBER & SIZE OF FASTENERS FROM POST TO HOLDOWN FOR MAXIMUM CAPACITY ONLY



EXTERIOR CONDITION

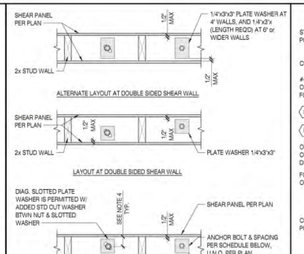


INTERIOR CONDITION

SSTB & SB HOLDOWN ROD AT INTERIOR AND EXTERIOR FOOTINGS

9

SCALE: N.T.S.



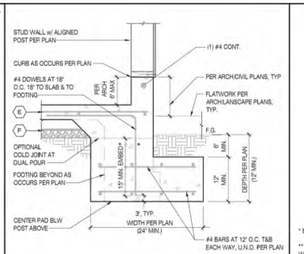
SHEAR WALL TYPE	FOUNDATION ATTACHMENT HARDWARE ALTERNATES MAXIMUM SPACING (INCHES ON CENTER)			
	SINGLE-SIDED SHEAR WALL		DOUBLE-SIDED SHEAR WALL	
	5/8" Ø A.B.	5/8"Dia" TITEN HD (CC-ESR-2713)	5/8" Ø A.B..	5/8"Dia" TITEN HD (CC-ESR-2713)
NON-SHEAR	72"	72"	72"	72"
6	48"	40"	24"	20"
4	32"	27"	16"	12"
3	24"	21"	12"	10"
2	18"	16"	9"	8"
2A	16"	14"	8"	7"
2B	14"	12"	7"	6"

NOTES:
1. EMBEDMENT: ANCHOR BOLTS EMBEDMENT SHALL BE 7" EMBEDMENT INTO CONCRETE. EMBEDMENT SHALL BE FROM TOP OF SLAB AT MONOPOUR. EMBEDMENT SHALL BE AT 8IS FROM COLD-JOINT AT DUAL POUR CONDITIONS. AT CURB/WALL CONDITION, EMBEDMENT SHALL BE FROM TOP OF CURB/WALL.
2. BOLT NUT & WASHER: ANCHOR BOLTS SHALL BE EITHER: L-BOLTS OR HEADED BOLTS. PROVIDE PROPER NUT & STANDARD (ANSI 1 ½" Ø x 0.100" THICK CUT WASHERS AT ALL BEARING, AND NON-SHEAR WALL ANCHOR BOLT LOCATIONS. PROVIDE STANDARD (ANSI) 1 ½" Ø x 0.100" THICK CUT WASHERS AND 3" x 3" x 0.229" THICK ANGLE SLOTTED PLATE WASHER A" ALL SHEAR WALL ANCHOR BOLT LOCATIONS.
3. MINIMUM ANCHORS: MINIMUM (2) ANCHOR BOLTS PER PIECE OF SILL PLATE. ANCHOR BOLTS SHALL BE LOCATED WITHIN 7" MIN OR 12" MAX FROM THE END OF ANY SILL PLATE BREAK.
4. EDGE & END DISTANCE: ANCHOR BOLTS SHALL MAINTAIN A MINIMUM 1-½" EDGE OF CONCRETE DISTANCE & 1" EDGE OF SILL PLATE DISTANCE. SQUARE WASHER SHALL BE MAXIMUM ½" DISTANCE FROM EDGE OF SILL PLATE ON SHEAR SIDE.

PAD FOOTING

5

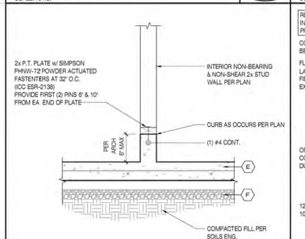
SCALE: N.T.S.



EXTERIOR TIE BEAM FOOTING

6

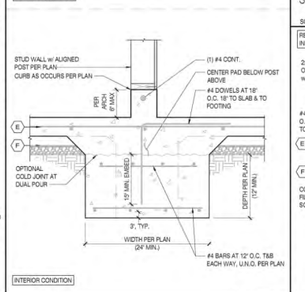
SCALE: N.T.S.



INTERIOR PARTITION WALL CONNECTION

7

SCALE: N.T.S.



EXTERIOR CONDITION

INTERIOR CONDITION

**SLAB & FOOTING SPECIFICATIONS FOR 'LOW' EXPANSIVE SOILS	
*LOW - PER GEOTECHNICAL ENGINEER	
LABEL	1 STORY FOUND.
A	15", U.N.O. PER PLAN
B	12" BELOW LOWEST ADJACENT GRADE
C	4" (2X4 WALL PER PLAN) 6" (2x6 WALL PER PLAN) 8" (2x8 WALL PER PLAN)
D	(2) #5 BAR TOP & BOTTOM, U.N.O. PER PLAN
E	PER PLAN
F	2" THICK CLEAN SAND OVER 10 MIL VAPOR BARRIER OVER 2" THICK, CLEAN SAND BASE

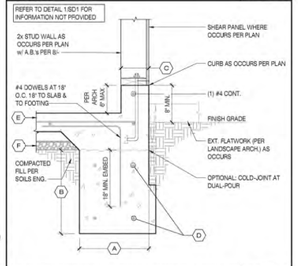
* EXPANSION CATEGORY CLASSIFICATION IS PER CBC 1803.3

** THE CONVENTIONAL- FOUNDATION INFORMATION ABOVE IS FOR THIS SPECIFIC PROJECT ONLY WITH A 'LOW' EXPANSION INDEX

SLAB & FOOTING SPECIFICATIONS

1

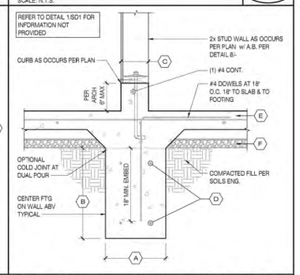
SCALE: N.T.S.



EXTERIOR BEARING OR SHEAR WALL FOOTING W/ CURB

2

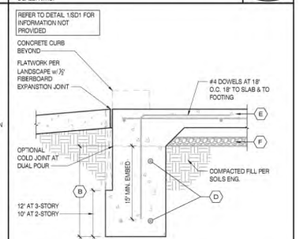
SCALE: N.T.S.



INTERIOR BEARING OR SHEAR WALL FOOTING

3

SCALE: N.T.S.



EXTERIOR FOOTING AT OPENING

4

SCALE: N.T.S.

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385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
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FIRE STATION 227

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APN #

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-	-

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:

SEAL:



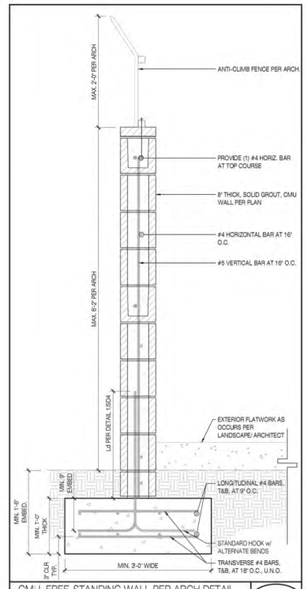
SHEET TITLE:

FOUNDATION DETAILS

SHEET NO.:

SD1

12/20/2024 3:29PM
W:\8400 - STK\8400.32 - SBC Fire Stations (27)\2 - Drawings\Sheets.dwg

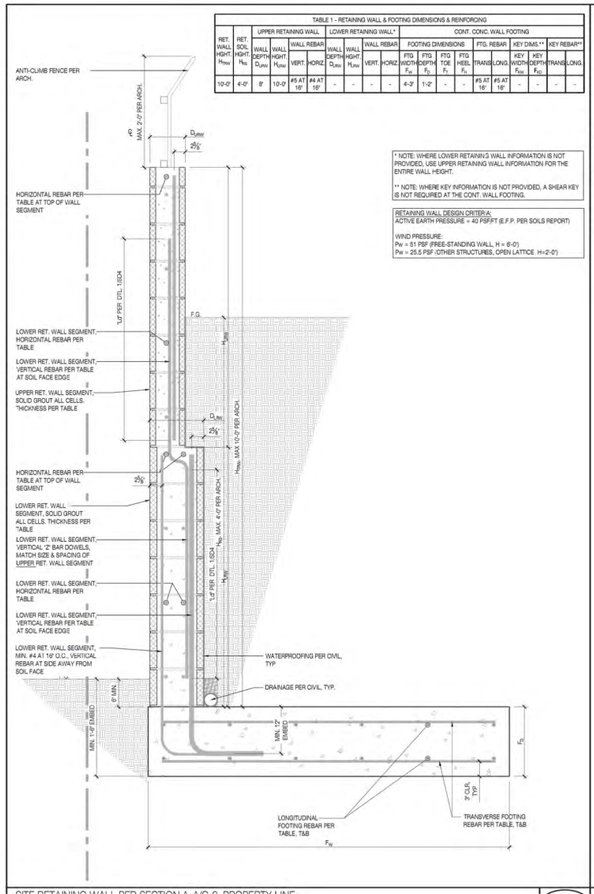


CMU FREE-STANDING WALL PER ARCH DETAIL
8C/A1.2
SCALE: N.T.S.

1

TABLE 1 - RETAINING WALL & FOOTING DIMENSIONS & REINFORCING

RET. WALL HGHT. H_{TRW}	RET. SOIL HGHT. H_{RS}	UPPER RETAINING WALL			LOWER RETAINING WALL*				CONT. CONC. WALL FOOTING									
				WALL REBAR				WALL REBAR			FOOTING DIMENSIONS				FTG. REBAR		KEY DIMS.**		KEY REBAR**	
		WALL DEPTH D_{UWU}	WALL HGHT H_{UWU}	VERT.	HORIZ	WALL DEPTH D_{LWU}	WALL HGHT H_{LWU}	VERT.	HORIZ	FTG WIDTH F_W	FTG DEPTH F_D	FTG TOE F_T	FTG HEEL F_H	TRANS	LONG.	KEY WIDTH K_W	KEY DEPTH K_D	TRANS	LONG.
10'-0"	4'-0"	8"	10'-0"	#5 AT 16"	#4 AT 16"	-	-	-	-	4'-3"	1'-3"	-	-	#5 AT 16"	#5 AT 16"	-	-	-	-

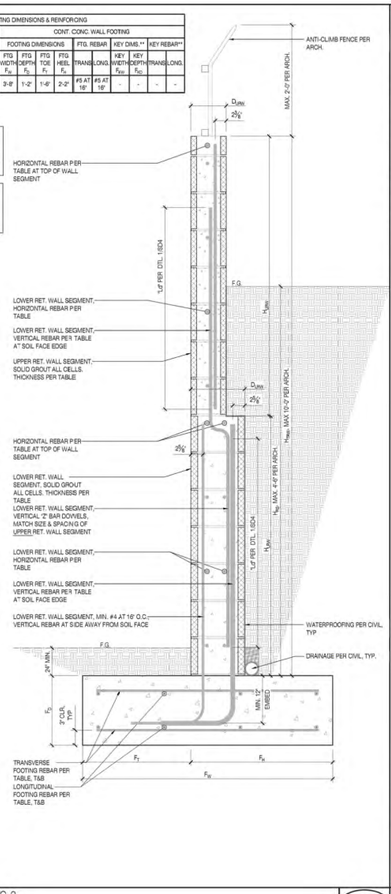


SITE RETAINING WALL PER SECTION A-A/C-2, PROPERTY LINE CONDITION
SCALE: N.T.S.

4

TABLE 1 - RETAINING WALL & FOOTING DIMENSIONS & REINFORCING

RET. WALL HGHT. H_{TRW}	RET. SOIL HGHT. H_{RS}	UPPER RETAINING WALL			LOWER RETAINING WALL*				CONT. CONC. WALL FOOTING									
				WALL REBAR				WALL REBAR			FOOTING DIMENSIONS				FTG. REBAR		KEY DIMS.**		KEY REBAR**	
		WALL DEPTH D_{UWU}	WALL HGHT H_{UWU}	VERT.	HORIZ	WALL DEPTH D_{LWU}	WALL HGHT H_{LWU}	VERT.	HORIZ	FTG WIDTH F_W	FTG DEPTH F_D	FTG TOE F_T	FTG HEEL F_H	TRANS	LONG.	KEY WIDTH K_W	KEY DEPTH K_D	TRANS	LONG.
10'-0"	4'-6"	8"	10'-0"	#5 AT 16"	#4 AT 16"	-	-	-	-	3'-8"	1'-2"	1'-6"	2'-2"	#5 AT 16"	#5 AT 16"	-	-	-	-

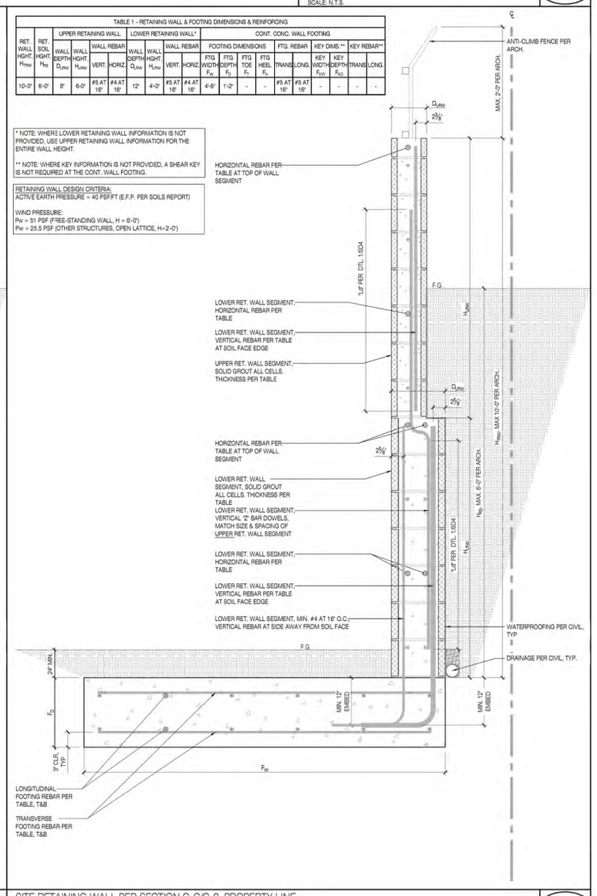


SITE RETAINING WALL PER SECTION B-B/C-2
SCALE: N.T.S.

3

TABLE 1 - RETAINING WALL & FOOTING DIMENSIONS & REINFORCING

RET. WALL HGHT. H_{TRW}	RET. SOIL HGHT. H_{RS}	UPPER RETAINING WALL			LOWER RETAINING WALL*				CONT. CONC. WALL FOOTING									
				WALL REBAR				WALL REBAR			FOOTING DIMENSIONS				FTG. REBAR		KEY DIMS.**		KEY REBAR**	
		WALL DEPTH D_{UWU}	WALL HGHT H_{UWU}	VERT.	HORIZ	WALL DEPTH D_{LWU}	WALL HGHT H_{LWU}	VERT.	HORIZ	FTG WIDTH F_W	FTG DEPTH F_D	FTG TOE F_T	FTG HEEL F_H	TRANS	LONG.	KEY WIDTH K_W	KEY DEPTH K_D	TRANS	LONG.
10'-0"	6'-0"	8"	6'-0"	#5 AT 16"	#4 AT 16"	12"	4'-0"	#5 AT 16"	#4 AT 16"	4'-6"	1'-2"	-	-	#5 AT 16"	#5 AT 16"	-	-	-	-



SITE RETAINING WALL PER SECTION C-C/C-2, PROPERTY LINE CONDITION
SCALE: N.T.S.

2

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SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:

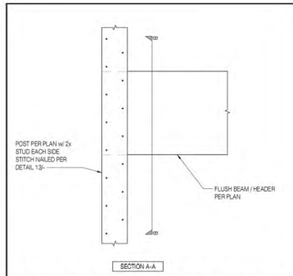
SEAL:

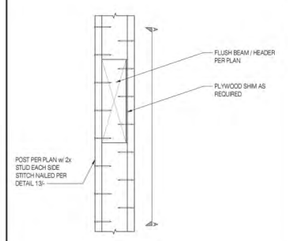


SHEET TITLE:
SITE & RETAINING WALL DETAILS

SHEET NO.:
SD1.1

8/1400 - 8/8400.32 - SBC Fire Station 227\02 - Drawings\Sheets.dwg
12/20/2024 3:30PM





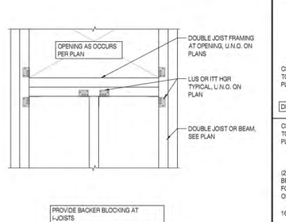
BEAM COLUMN IN STUD WALL — 15

SCALE: N.T.S.

NON-BEARING HEADER SCHEDULE		
HEADER SIZE	MAXIMUM SPAN (S-O WALL ABOVE)	MAXIMUM SPAN (10'-0" WALL ABOVE)
2x4 FLAT*	3'-0"	--
4x4 STD & BTR	5'-6"	4'-6"
4x6 DF NO. 2	10'-0"	9'-6"
4x8 DF NO. 2	12'-0"	12'-0"

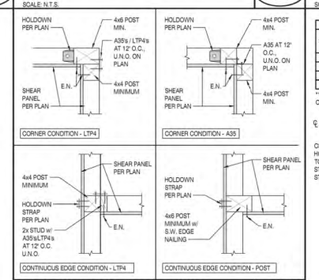
NON-BEARING HEADER SCHEDULE — 10

SCALE: N.T.S.



JOIST HEAD-OUT FRAMING — 11

SCALE: N.T.S.

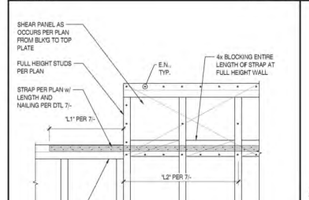


COMMON HOLDOWNS AT SHEAR WALLS — 12

SCALE: N.T.S.

BUILT-UP MEMBER DETAILS — 13

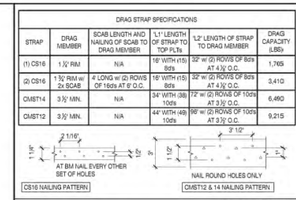
SCALE: N.T.S.



DRAG CONNECTION AT STEPPED TOP PLATES — 14

SCALE: N.T.S.

DRAG STRAP SPECIFICATIONS				
STRAP	DRAG MEMBER	SCAB LENGTH AND NAILING OF SCAB TO DRAG MEMBER	"L1" LENGTH OF STRAP TO TOP PLTs	"L2" LENGTH OF STRAP TO DRAG MEMBER
(1) CS16	1 ½" RIM	N/A	16" WITH (15) 8d's	32" w/ (2) ROWS OF 8d's AT 4 ½" O.C.
(2) CS16	1 ½" RIM w/ 2x SCAB	4' LONG w/ (2) ROWS OF 16d's AT 6" O.C.	16" WITH (15) 8d's	32" w/ (2) ROWS OF 8d's AT 4 ½" O.C.
CMST14	3 ½" MIN.	N/A	34" WITH (38) 10d's	72" w/ (4) ROWS OF 10d's AT 3 ½" O.C.
CMST12	3 ½" MIN.	N/A	44" WITH (49) 10d's	96" w/ (2) ROWS OF 10d's AT 3 ½" O.C.



DRAG STRAP TO BEAM OR JOIST CONNECTION — 7

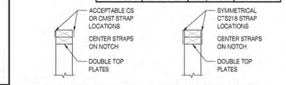
SCALE: N.T.S.

TOP PLATE NOTCH - STRAP REINFORCING (DTL 4/SD2)			
DTL 4/SD2 STRAP SHOWN ON PLANS	NO. OF CTS218 (24-10d's) 3/"/"	ALLOW. TENSION, LB	ALLOW. COMP., LB
CS16	2-CTS218	3632	1632
2-CS16	2-CTS218	3632	1632
CMST14	4-CTS218	7264	3792
CMST12	4-CTS218	7264	3792

STRAPS ONLY REQUIRED AT EXTERIOR WALLS AND INTERIOR BEARING AND SHEAR WALLS

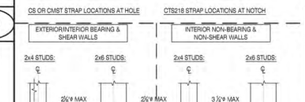
**REPLACES 4/SD2 COLLECTOR STRAPS CTS218 (OC) ES-ESR 2105

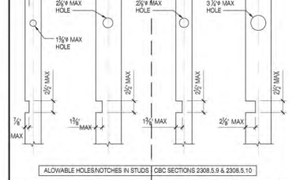
CENTER CTS218 STRAP(S) ON NOTCH PER TBL ABV



OS OR CMST STRAP AT HOLES PER 4/SD2 REFER TO PLANS FOR TOP 1 BRK STRAP AT HOLE, CENTER STRAP ON HOLE

ALLOWABLE NOTCHES AND HOLES IN TOP PLATES			
PLATE SIZE	"D" DEPTH	WIDTH	HOLE Ø
2x4	1"	4 ½" MAX	1" MAX
2x6	2"	4 ½" MAX	3" MAX



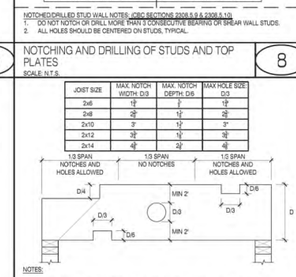


NOTCHED/DRILLED STUD WALL NOTES: CBC SECTIONS 2308.5.9 & 2308.5.10:
1. DO NOT NOTCH OR DRILL MORE THAN 3 CONSECUTIVE BEARING OR SHEAR WALL STUDS.
2. ALL HOLES SHOULD BE CENTERED ON STUDS, TYPICAL.

NOTCHING AND DRILLING OF STUDS AND TOP PLATES — 8

SCALE: N.T.S.

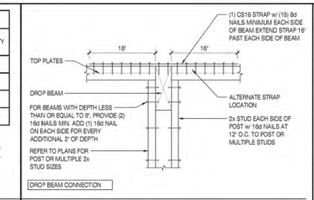
JOIST SIZE	MAX. NOTCH WIDTH: D/3	MAX. NOTCH DEPTH: D/6	MAX HOLE SIZE: D/3
2x6	1⅝"	¾"	1⅝"
2x8	2⅝"	1"	2⅝"
2x10	3⅜"	1"	3"
2x12	3⅝"	1"	3⅝"
2x14	4⅝"	2⅜"	4⅝"



NOTES:
1. HOLES MAY BE DRILLED IN ANY 1/3 SPAN. HOLES MUST BE A MIN 12" FROM ANY NOTCH.
2. DO NOT NOTCH BOTH TOP AND BOTTOM SURFACES WITHIN THE SAME 1/3 SPAN.
3. MAX ALLOWED IS A COMBINATION OF TWO NOTCHES AND/OR HOLES PER 1/3 SPAN.
4. THIS DETAIL DOES NOT APPLY TO NOTCHES AND HOLES IN STRUCTURAL BEAMS, THEY MUST BE SPECIFICALLY DETAILED.
5. NOTCHES AND HOLES ARE NOT ALLOWED IN CANTILEVERED JOISTS.
6. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR HOLES IN MANUFACTURED I-JOISTS. DO NOT NOTCH I-JOISTS.

NOTCHED OR DRILLED SOLID JOISTS — 9

SCALE: N.T.S.



BEAM DRAG CONNECTIONS — 6

SCALE: N.T.S.

NOT USED — -

SCALE: N.T.S.

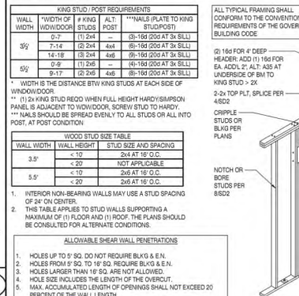
KING STUD / POST REQUIREMENTS				
WALL WIDTH	"WIDTH OF WDW/DOOR	# KING STUDS	ALT. POST	***NAILS (PLATE TO KING STUD/POST)
3½"	0-7"	(1) 2x4	--	(3)-16d (200 AT 3x SILL)
	7-14"	(2) 2x4	4x4	(6)-16d (200 AT 3x SILL)
	14-18"	(3) 2x4	4x6	(9)-16d (200 AT 3x SILL)
5½"	0-9"	(1) 2x6	--	(4)-16d (200 AT 3x SILL)
	9-17"	(2) 2x6	4x6	(8)-16d (200 AT 3x SILL)

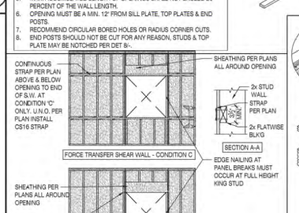
* WIDTH IS THE DISTANCE BTW KING STUDS AT EACH SIDE OF WINDOW/DOOR.
** (1) 2x KING STUD REQD WHEN FULL HEIGHT HARDY/SIMPSON PANEL IS ADJACENT TO WDW/DOOR, SCREW STUD TO HARDY.
*** NAILS SHOULD BE SPREAD EVENLY TO ALL STUDS OR ALL INTO POST, AT POST CONDITION.

WOOD STUD SIZE TABLE		
WALL WIDTH	WALL HEIGHT	STUD SIZE AND SPACING
3.5"	< 10'	2x4 AT 16" O.C.
	< 20'	NOT APPLICABLE
5.5"	< 10'	2x6 AT 16" O.C.
	< 20'	2x6 AT 16" O.C.

1. INTERIOR NON-BEARING WALLS MAY USE A STUD SPACING OF 24" ON CENTER.
2. THIS TABLE APPLIES TO STUD WALLS SUPPORTING A MAXIMUM OF (1) FLOOR AND (1) ROOF. THE PLANS SHOULD BE CONSULTED FOR ALTERNATE CONDITIONS.

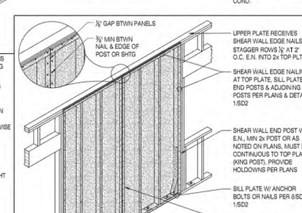
ALLOWABLE SHEAR WALL PENETRATIONS
1. HOLES UP TO 5" SQ. DO NOT REQUIRE BLKG & E.N.
2. HOLES FROM 5" SQ. TO 16" SQ. REQUIRE BLKG & E.N.
3. HOLES LARGER THAN 16" SQ. ARE NOT ALLOWED.
4. HOLE SIZE INCLUDES THE LENGTH OF THE OVERCUT.
5. MAX. ACCUMULATED LENGTH OF OPENINGS SHALL NOT EXCEED 20 PERCENT OF THE WALL LENGTH.
6. OPENING MUST BE A MIN. 12" FROM SILL PLATE, TOP PLATES & END POSTS.
7. RECOMMEND CIRCULAR BORED HOLES OR RADIUS CORNER CUTS.
8. END POSTS SHOULD NOT BE CUT FOR ANY REASON. STUDS & TOP PLATE MAY BE NOTCHED PER DET 8/-.





TYPICAL WOOD STUD WALL AND SHEAR WALL FRAMING — 5

SCALE: N.T.S.



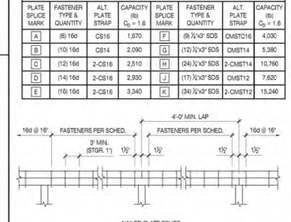
NOT USED — -

SCALE: N.T.S.

TYPICAL TOP PLATE SPLICE — 4

SCALE: N.T.S.

TOP PLATE SPLICE SCHEDULE							
PLATE SPLICE MARK	FASTENER TYPE & QUANTITY	ALT. PLATE STRAP	CAPACITY (lb) C_D = 1.6	PLATE SPLICE MARK	FASTENER TYPE & QUANTITY	ALT. PLATE STRAP	CAPACITY (lb) C_D = 1.6
A	(8) 16d	CS16	1,670	F	(9) ⅞"x3" SDS	CMSTC16	4,030
B	(10) 16d	CS14	2,090	G	(12) ⅞"x3" SDS	CMST14	5,380
C	(12) 16d	2-CS16	2,510	H	(24) ⅞"x3" SDS	2-CMST14	10,760
D	(14) 16d	2-CS16	2,930	J	(17) ⅞"x3" SDS	CMST12	7,620
E	(16) 16d	2-CS16	3,340	K	(34) ⅞"x3" SDS	2-CMST12	15,240



NOTE: SDS SCREWS MAY SPACED A MIN. OF 1½", IF PLACED IN TWO ROW & STAGGERED 1½".

SHEAR WALL SCHEDULE — 1

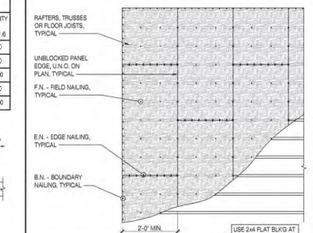
SCALE: N.T.S.

VERTICAL WOOD FRAMED SHEAR WALL SCHEDULE - 2019 CBC / AF&PA SDPWS-2015 - SEISMIC DESIGN CATEGORY D, E & F											
MARK	WOOD STRUCTURAL PANEL			PANEL NAILING			SHEAR WALL SILL PLATE ATTACHMENT WHEN RIM DOES NOT NOT EXTEND AND EDGE NAIL FLOOR RIM			FRAMING MEMBER THICKNESS AT ADJOINING PANEL EDGES	ASD CAPACITY (PLF) (DOUGLAS FIR)	
	THICK. (IN)	GRADE RATING	SPAN RATING	NAIL SIZE	EDGE NAIL ON CENTER SPACING	FIELD NAIL ON CENTER SPACING	NOMINAL PLATE THICKNESS	TO WOOD FRAMING			SEISMIC	WIND
								SDWS22300DB SCREW O.C. SPACING	MIN. RIM/BLK THK. (in)			
6	3/8	SHEATHING	24/0	8d	6"	12"	2x	12"	1.25	2x	260	365
4	3/8	SHEATHING	24/0	8d	4"	12"	2x	8"	1.25	2x	350	532
3	3/8	SHEATHING	24/0	8d	3"	12"	2x	7"	1.25	3x	490	665
2	3/8	SHEATHING	24/0	8d	2"	12"	2x	6"	1.25	3x	640	895
2A	3/8	STRUCTURAL I	24/0	8d	2"	12"	2x	3"	1.25	3x	730	1022
2B	15/32	STRUCTURAL I	32/16	10d	2"	12"	2x	3"	1.25	3x	870	1217

SHEAR WALL NOTES:
1. PANEL NAILS - MAY BE EITHER COMMON OR GALVANIZED BOX. GALVANIZED NAILS ARE REQUIRED WHEN PENETRATING PRESSURE TREATED LUMBER THAT CONTAINS TREATMENTS OTHER THAN BORATE.
2. PANEL RATING - WOOD PANELS MAY CONSIST OR EITHER OSB OR 5-PLY PLYWOOD WITH- A MINIMUM EXPOSURE 1 RATING.
3. STUD SPACING - 2x WOOD STUDS AT SHEAR WALL SHALL BE SPACED A MAXIMUM 16" ON CENTER.
4. PANEL BREAKS - ALL PANELS EDGES SHALL BE 2x BLOCKED IF OCCUPS.
5. STAGGERED NAILS - ALL NAILING AT 3" O.C. OR CLOSER SHALL BE STAGGERED.
6. SILL PLATE ANCHOR BOLT WASHERS - SHALL BE 0.229" x 3" x 3" STEEL PLATE WASHERS WITH A DIAGONALLY SLOTTED HOLE NO LARGER THAN 3/16" GREATER THAN THE BOLT DIAMETER OR 1 ¾" MAXIMUM. THE WASHER SHALL BE PLACED BETWEEN THE NUT AND SILL PLATE AND SHALL NOT BE OFFSET BY MORE THAN ½" OF THE EDGE OF THE SILL PLATE ON THE SIDE WITH SHEATHING ATTACHMENT.
7. DOUBLE SIDED SHEAR WALLS - MEMBERS SHALL BE 3x AT ALL ADJOINING PANEL EDGES AND NAILS SHALL BE STAGGERED ON EACH SIDE OF THE PANEL BREAK ON EACH SIDE OF THE ADJOINING MEMBER. SILL PLATE FASTENER SPACING SHALL BE REDUCED IN HALF.

HORIZONTAL DIAPHRAGM LAYOUT AND NAILING SCHEDULE — 2

SCALE: N.T.S.



NOTES:
1. RUN LONG DIMENSION OF SHEATHING ACROSS (PERPENDICULAR TO) JOIST AND RAFTERS. PANELS SHALL BE SPACED ⅛" FOR THERMAL EXPANSION.
2. STAGGER END JOINTS 2-0" MINIMUM.
3. BOUNDARY NAILING APPLIES TO PERIMETER PLATE LINES, CHORDS, TIES, AND AS CALLED FOR ON DRAWINGS.
4. SEE PLANS FOR NAILING AT BLOCKED DIAPHRAGMS.
5. NAILS SHALL HAVE ⅜" MIN. EDGE DISTANCE.
6. ALL JOISTS AND RAFTERS SHALL BE LAID OUT IN 4'-0" MODULE TO COINCIDE WITH THE SHEATHING.
7. USE TONGUE-AND-GROOVE SHEATHING AT FLOORS, UNLESS NOTED OTHERWISE.
8. SEE DETAIL 'B' FOR FRAMING WHERE SHEATHING JOINTS ARE OFFSET DUE TO RAFTER OR JOIST LAP SPLICES.
9. PROVIDE A ⅛" GAP BETWEEN ALL PANEL EDGES TYPICAL.

HORIZONTAL ROOF SHEATHING SCHEDULE — 3

SCALE: N.T.S.

HORIZONTAL DIAPHRAGM SCHEDULE - 2022 CBC						
SYMBOL (PER PLAN)	MAXIMUM SPACING	PANEL DESCRIPTION	NAIL SIZE	EDGE NAILING	BOUNDARY NAILING	FIELD NAILING
D1	ROOF 24" O.C.	UNBLOCKED DIAPHRAGM ⅞" WOOD STRUCTURAL PANEL, PS 24/0	10d	6" o.c.	6" o.c.	12" o.c.
D2	ROOF 24" O.C.	BLOCKED DIAPHRAGM ⅞" WOOD STRUCTURAL PANEL, PS 24/0	10d	6" o.c.	6" o.c.	12" o.c.
D3	ROOF 24" O.C.	BLOCKED DIAPHRAGM ⅞" WOOD STRUCTURAL PANEL, PS 24/0	10d	4" o.c.	4" o.c.	12" o.c.
D4	ROOF 24" O.C.	BLOCKED DIAPHRAGM ⅞" WOOD STRUCTURAL PANEL, PS 24/0	10d	4" o.c.	2" o.c.	12" o.c.

NOTES:
1. ALL ROOF AND FLOOR SHEATHING TO BE EXPOSURE 1 OR EXTERIOR PER TABLE 2306.3.1. ⅞" SHEATHING IS NOT STRUCTURALLY ACCEPTABLE FOR ROOF SHEATHING.
2. ALL ROOF NAILS MUST BE 8d.

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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT & FACILITIES MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
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180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

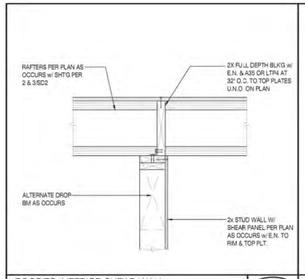
SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:

SEAL:
REGISTERED PROFESSIONAL ENGINEER SANDY FONG C83985 CIVIL STATE OF CALIFORNIA

SHEET TITLE:
GENERAL WOOD FRAMING DETAILS

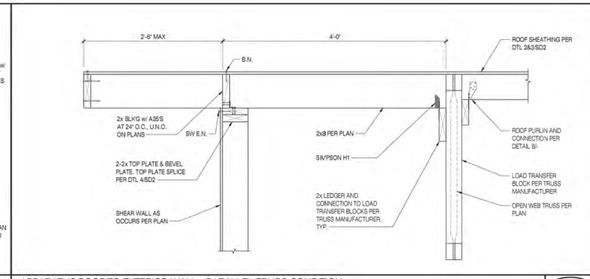
SHEET NO.:
SD2

12/20/2024 3:30 PM
R:\Work\ - STK\Work\32 - SBC Fire Station 227\02 - Drawings\Details.dwg



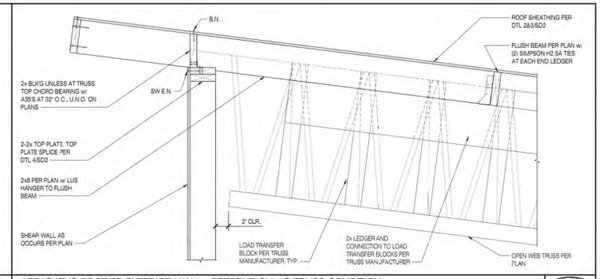
ROOF TO INTERIOR SHEAR WALL - PERPENDICULAR CONDITION 14

SCALE: N.T.S.



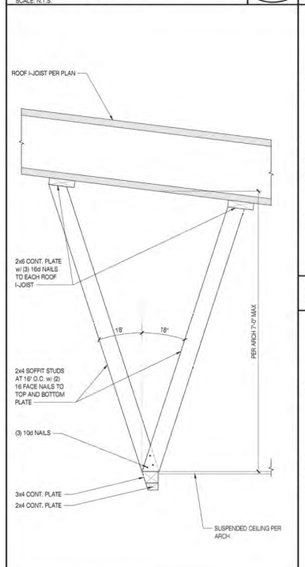
APPARATUS ROOF TO EXTERIOR WALL - PARALLEL TRUSS CONDITION 7

SCALE: N.T.S.



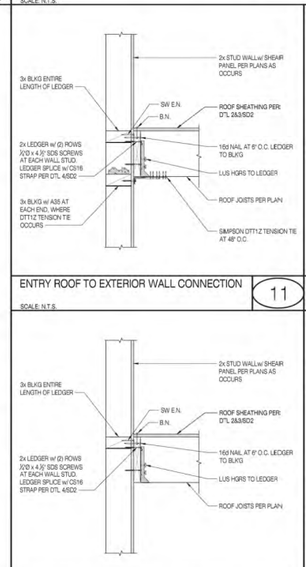
APPARATUS ROOF TO EXTERIOR WALL - PERPENDICULAR TRUSS CONDITION 1

SCALE: N.T.S.



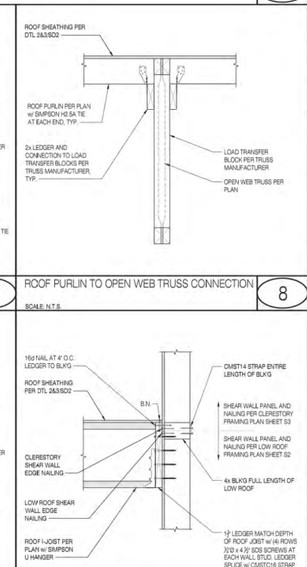
ENTRY ROOF TO EXTERIOR WALL CONNECTION 11

SCALE: N.T.S.



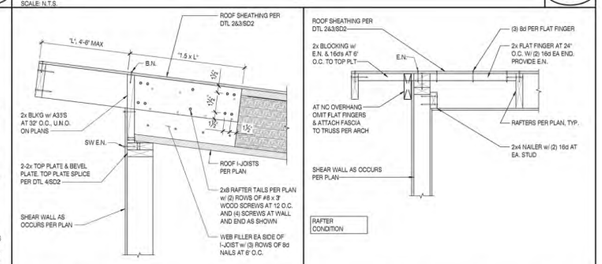
ROOF PURLIN TO OPEN WEB TRUSS CONNECTION 8

SCALE: N.T.S.



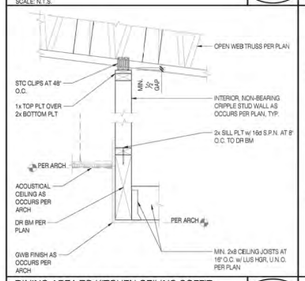
OPEN WEB TRUSS TO EXTERIOR WALL 2

SCALE: N.T.S.



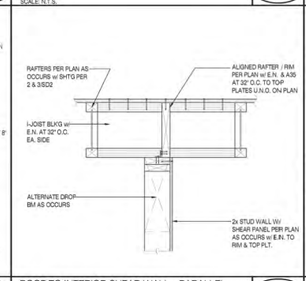
DAY ROOM SOFFIT FRAMING 15

SCALE: N.T.S.



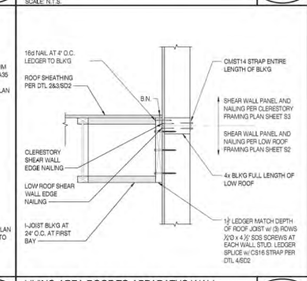
ELECTRICAL ROOM ROOF TO EXTERIOR WALL CONNECTION 12

SCALE: N.T.S.



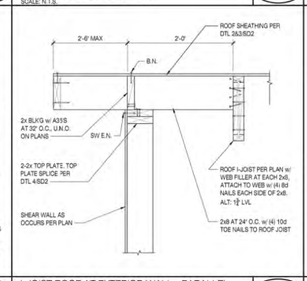
LOW ROOF TO CLERESTORY WALL 9

SCALE: N.T.S.



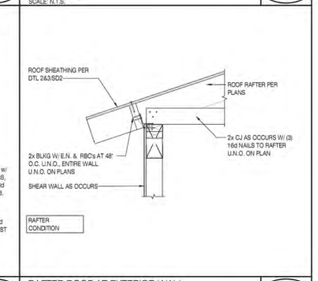
I-JOIST ROOF AT EXTERIOR WALL - PERPENDICULAR CONDITION 5

SCALE: N.T.S.



RAFTER ROOF AT EXTERIOR WALL - PARALLEL CONDITION 3

SCALE: N.T.S.



DINING AREA TO KITCHEN CEILING SOFFIT TRANSITION 16

SCALE: N.T.S.

ROOF TO INTERIOR SHEAR WALL - PARALLEL CONDITION 13

SCALE: N.T.S.

LIVING AREA ROOF TO APPARATUS WALL 10

SCALE: N.T.S.

I-JOIST ROOF AT EXTERIOR WALL - PARALLEL CONDITION 6

SCALE: N.T.S.

RAFTER ROOF AT EXTERIOR WALL - PERPENDICULAR CONDITION 4

SCALE: N.T.S.

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ISE PROJECT NO.: 24-8400.32

PROJECT MANAGER:
SANDY FONG EXT. 1016
SANDY@ISEENGINEERS.COM

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT & FACILITIES MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:

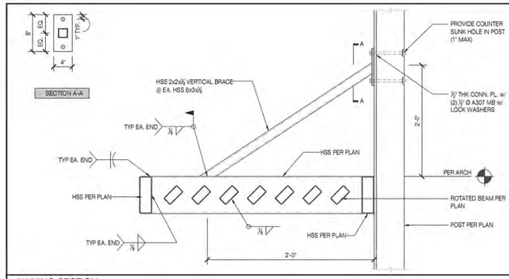
SEAL:



SHEET TITLE:
ROOF FRAMING DETAILS

SHEET NO.:
SD3

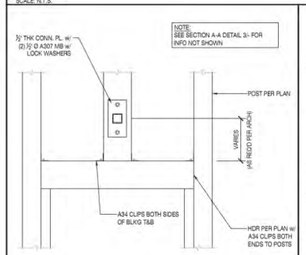
12/20/2024 3:30PM K:\24400 - STK\24400.32 - SBC Fire Station 227\02 - Drawings\Sheets.dwg



AWNING SECTION

SCALE: N.T.S.

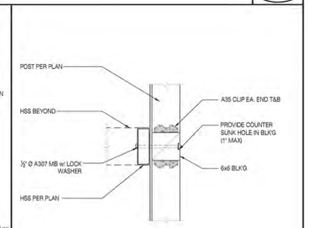
3



FRAMING AT AWNING BRACE CONNECTION ABOVE WINDOW/DOOR HEADER

SCALE: N.T.S.

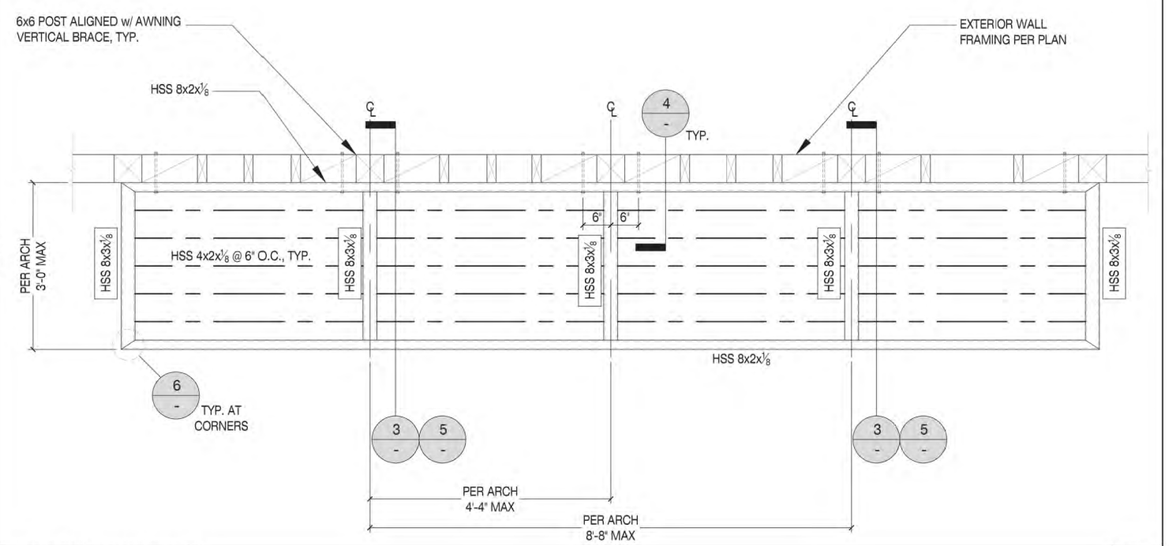
5



AWNING CONNECTION TO WALL

SCALE: N.T.S.

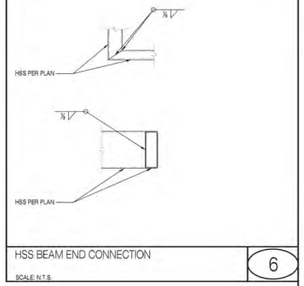
4



AWNING FRAMING AT FITNESS CENTER WALL

SCALE: N.T.S.

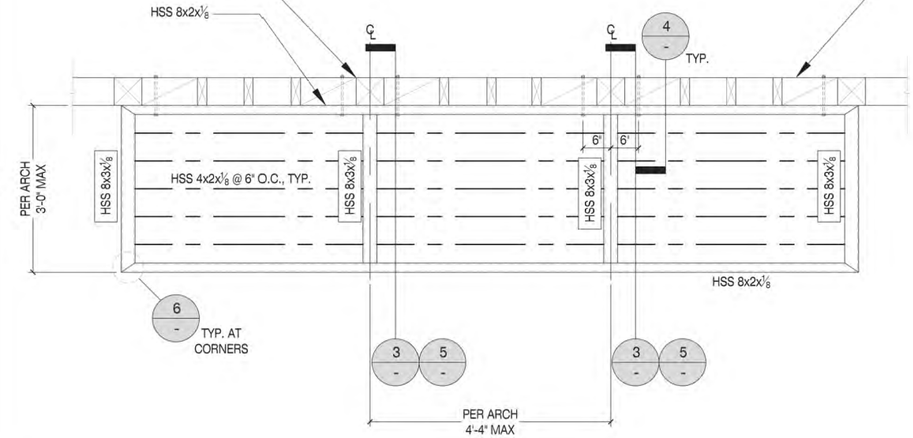
1



HSS BEAM END CONNECTION

SCALE: N.T.S.

6



AWNING FRAMING AT ENTRANCE

SCALE: N.T.S.

2

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SEAL:



SHEET TITLE:

AWNING FRAMING DETAILS

SHEET NO.:

SD3.1

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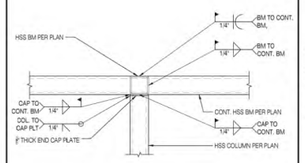
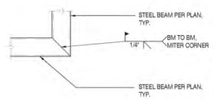
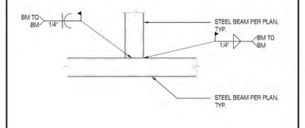


BEAM-COLUMN, BOTH DIRECTIONS



BEAM-BEAM, MITERED CORNER



BEAM-BEAM, T INTERSECTION

HSS TO HSS WELDED CONNECTIONS

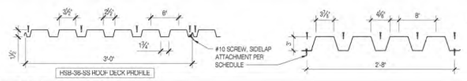
SCALE: N.T.S.

14

METAL DECK DIAPHRAGM SCHEDULE

DECK MARK	GALVANIZED (GD) VERCO DECK TYPE	ALLOWABLE SPAN	DECK PROPERTIES: GAGE	DECK PROPERTIES: MIN. fy (KSI)	DECK PROPERTIES: MIN. - Go (KSI)	DECK ATTACHMENT: SIDE LAPS: #10 SCREW SPACING	DECK ATTACHMENT: SCREWS TO SUPPORTS: #12 SCREWS SPACING AT DECK RIBS PARALLEL TO SUPPORT	DECK ATTACHMENT: SCREWS TO SUPPORTS: #12 SCREWS PER SHEET AT DECK RIBS PERPENDICULAR TO SUPPORT	ALLOWABLE DIAPHRAGM SHEAR LOAD (PROPORTIONAL)
D1	HSB-36-SS	8'-8"	18	0.302	0.314	0.331	24"	12"	4	383 PLF
D2	HSN3-WB	11'-2"	22	0.721	0.353	0.405	24"	8"	5	182 PLF

1. REFER TO FRAMING PLANS FOR APPLICATION LOCATIONS.
2. ROOF DECK ATTACHMENTS TO SUPPORTS (MIN. 0.0295 INCHES THICK) SHALL BE MADE BY #12 SELF-DRILLING, SELF-TAPPING, SCI RECOGNIZED SCREWS FROM BUILDEX, ELCO, HILTI, AND SIMPSON STRONG TIE PER THE SCHEDULE ABOVE & AS INDICATED BELOW.
3. ALL DECKS SHALL BE CONTINUOUS OVER SINGLE SPANS AND CANTILEVERS.
4. THE DIMENSION FROM THE FIRST AND LAST SIDELAP CONNECTION WITHIN EACH SPAN IS TO BE NO MORE THAN ONE-HALF OF THE SPECIFIED SPACING.

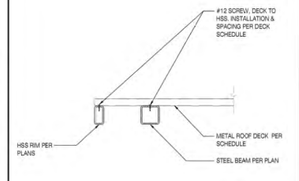


HSB-36-SS ROOF DECK PROFILE

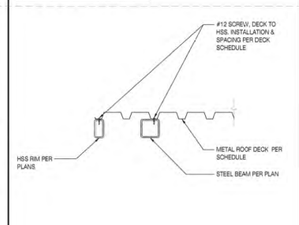
METAL DECK DIAPHRAGM SCHEDULE

SCALE: N.T.S.

12



DECK RIBS PERPENDICULAR TO EDGE SUPPORT

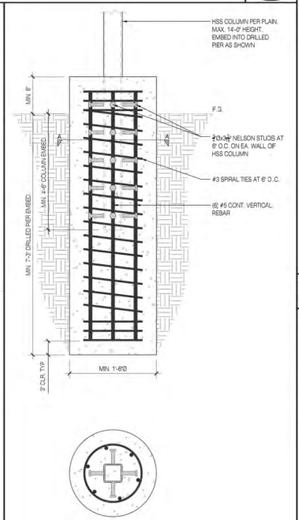


DECK RIBS PARALLEL TO EDGE SUPPORT

METAL DECK TO HSS

SCALE: N.T.S.

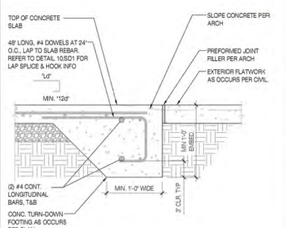
13



FUEL GENERATOR/TANK CANOPY, DRILLED PIER

SCALE: N.T.S.

10

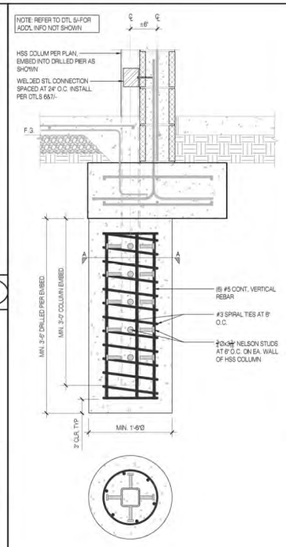


TRASH ENCLOSURE, CONCRETE TURN-DOWN FOOTING

SCALE: N.T.S.

11

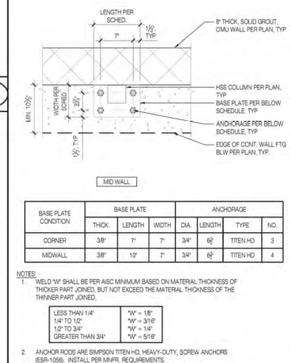
NOTE: REFER TO DTL 9/- FOR ADDL INFO NOT SHOWN



TRASH ENCLOSURE, HSS POST AT CMU WALL, POST EMBED w/ DRILLED PIER

SCALE: N.T.S.

8



BASE PLATE CONDITION	BASE PLATE: THICK.	LENGTH	WIDTH	ANCHORAGE: DIA.	LENGTH	TYPE	NO.
CORNER	3/8"	7"	7"	3/4"	6"	TITEN-HD	3
MIDWALL	3/8"	10"	7"	3/4"	6"	TITEN-HD	4

NOTES:
1. WELD "W" SHALL BE PER AISC MINIMUM BASED ON MATERIAL THICKNESS OF THICKER PART JOINED, BUT NOT EXCEED THE MATERIAL THICKNESS OF THE THINNER PART JOINED.

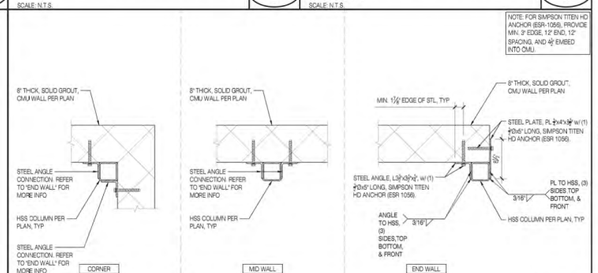
LESS THAN 1/4"	"W" = 1/8"
1/4" TO 1/2"	"W" = 3/16"
1/2" TO 3/4"	"W" = 1/4"
GREATER THAN 3/4"	"W" = 5/16"

2. ANCHOR RODS ARE SIMPSON TITEN HD, HEAVY-DUTY, SCREW ANCHORS (ESR-1056). INSTALL PER MNFR. REQUIREMENTS.
3. WHERE COLUMN IS PART OF A FRAME, USE SPECIFIC DETAILS REFERENCED ON PLAN OR ELEVATION.

TRASH ENCLOSURE, TYP COLUMN & BASE PLATE

SCALE: N.T.S.

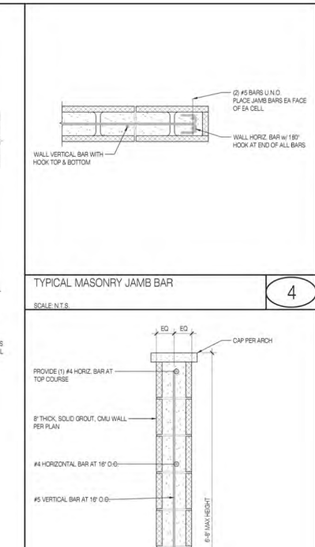
9



HSS POST TO CMU WALL, STEEL ANGLE/PLATE CONNECTIONS

SCALE: N.T.S.

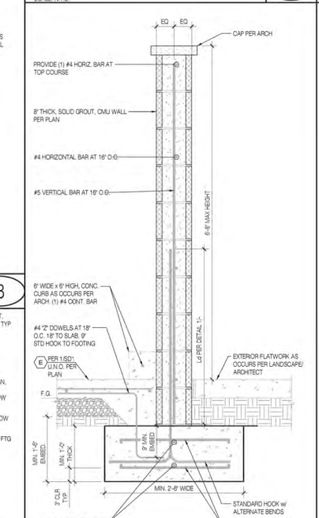
7



TYPICAL MASONRY JAMB BAR

SCALE: N.T.S.

4

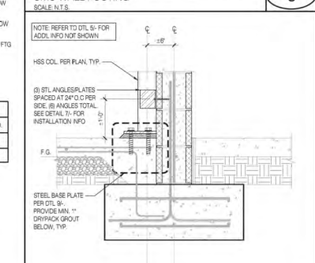


TRASH ENCLOSURE, HSS POST AT CMU WALL, BASE PLATE

SCALE: N.T.S.

6

NOTE: REFER TO DTL 9/- FOR ADDL INFO NOT SHOWN



TRASH ENCLOSURE, TYPICAL FREE-STANDING CMU WALL FOOTING

SCALE: N.T.S.

5

REBAR SPLICE & DEVELOPMENT LENGTH Ld IN MASONRY						
MASONRY STRENGTH (PSI)	SPLICE & DEVELOPMENT LENGTH IN MASONRY (INCHES)					
	#3	#4	#5	#6	#7	#8	#9
1,500	15	25	39	74	120	151	192
1,800	14	23	36	67	91	138	175
2,000	13	22	34	64	87	131	166
2,500	12	20	30	57	78	117	149

1. f'_m = 60,000 psi
2. VERTICAL SPLICES IN REBAR SHOULD BE STAGGERED 24" MINIMUM
3. INCREASE DISTANCE 50% FOR EPOXY COATED BARS
4. LAP SPLICES SHALL BE STAGGERED VERTICALLY 24 BAR DIAMETERS

TYPICAL REBAR SPLICE AND DEVELOPMENT IN MASONRY

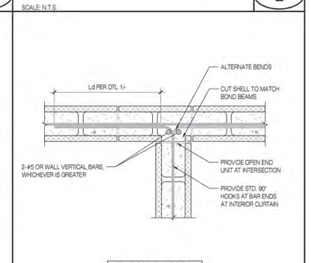
SCALE: N.T.S.

1

NOT USED

SCALE: N.T.S.

2



TYPICAL CMU WALL CONSTRUCTIONS AT CORNERS & INTERSECTIONS

SCALE: N.T.S.

3

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SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:

SEAL:



SHEET TITLE:
SITE STRUCTURES - ADDITIONAL DETAILS

SHEET NO.:
SD4

12/20/2024 8:30PM
W:\8400 - STK\8400.32 - SBC Fire Station 227\02- Drawings\Sheets - Site Structures.dwg

GENERAL NOTES

1. THESE DOCUMENTS MAY NOT BE USED FOR ANY REPRODUCTION, BIDDING, OR CONSTRUCTION UNLESS AUTHORIZED, IN WRITING, BY SALAS O'BRIEN AND THE ENGINEER OF RECORD RESPONSIBLE FOR THEIR PREPARATION.
2. ALL BRANCH DUCTS SHALL HAVE BALANCE DAMPERS WITH QUADRANT LOCKS.
3. ALL DUCT SIZES SHOWN ARE NET INSIDE DIMENSIONS.
4. DUCTWORK SHALL BE GALVANIZED SHEET METAL IN COMPLETE CONFORMANCE WITH C.M.C., AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS. FLEXIBLE DUCTS MAY BE USED TO CONNECT INTO AIR OUTLETS AND INLETS. MAXIMUM LENGTH OF FLEXIBLE DUCTWORK SHALL BE 5'-0".

   DUCTWORK ON ROOF SHALL BE INTERNALLY LINED AND PAINTED. ALL JOINTS AND SEAMS SHALL BE WEATHERPROOF.

   ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES.

   DUCTS SERVING TYPE 1 KITCHEN HOODS SHALL BE CONSTRUCTED OF MINIMUM 16 GAUGE CARBON STEEL OR MINIMUM 18 GAUGE STAINLESS STEEL WITH FULLY WELDED JOINTS. DISHWASHER EXHAUST SHALL BE MINIMUM 18 GAUGE STAINLESS STEEL.
5. ALL FLEXIBLE DUCTS SHALL BE INSULATED. MINIMUM BEND RADIUS SHALL BE TWICE THE DUCT DIAMETER.
6. SUPPLY AND RETURN DROPS SHALL BE LINED SHEET METAL PLENUMS.
7. DUCT AND PLENUM INSULATION SHALL BE IN ACCORDANCE WITH THE 2022 CALIFORNIA CODE OF REGULATIONS, TITLE-24, PART 6, ENERGY EFFICIENCY STANDARDS (E.E.S.), TABLE 150.1-A AND THE 2022 CALIFORNIA MECHANICAL CODE (C.M.C.) SECTION 605.0.
8. ALL SHEET METAL DUCTS SHALL BE INSULATED BY MEANS OF FOIL WRAP, 3/4 LB. DENSITY FIBERGLASS INSULATION. INSULATION SHALL BE UL LISTED. DUCT LINERS SHALL BE NON-FIBERGLASS TYPE WITH THICKNESS AS REQUIRED TO MEET T-24 REQUIREMENTS.
9. THERMOSTATS SHALL BE LOCATED AT 4' - 0" ABOVE FINISHED FLOOR (46" MAX. IF MOUNTED OVER CASEWORK OR OTHER OBSTRUCTION) IN ACCORDANCE WITH A.D.A. REQUIREMENTS, UNLESS NOTED OTHERWISE.
10. CONDENSATE DRAIN PIPING SHALL BE COPPER TYPE "L", AND SHALL BE ROUTED TO AN APPROVED RECEPTOR.
11. PROVIDE FLEXIBLE CONNECTIONS AT THE INLET AND OUTLET OF ALL FANS.
12. COORDINATE FINAL LOCATIONS OF AIR DISTRIBUTION DEVICES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS, I.E. LIGHTS, SPEAKERS, TILES AND SPRINKLER HEADS.
13. ALL SUPPLY CEILING DIFFUSERS SHALL HAVE 4-WAY AIR FLOW DISTRIBUTION PATTERNS, UNLESS INDICATED OTHERWISE.
14. COORDINATE FINAL LOCATIONS OF THERMOSTATS WITH ARCHITECT AND OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. FIELD COORDINATE LOCATIONS WITH OTHER TRADES INCLUDING ELECTRICAL, TELEPHONE, ETC.
15. FIRE/SMOKE DAMPERS SHALL BE INSTALLED ON ALL DUCTWORK PASSING THROUGH FIRE SEPARATING WALLS, AND SHALL BE INSTALLED AS PER 2022 CMC SECTION 606.0, 2022 CBC SECTION 717. AND UL, LOCAL, STATE, AND N.F.P.A. FIRE CODES.
16. ALL ROOF PENETRATIONS, CUTTING, PATCHING, BLOCKOUTS, STRUCTURAL SUPPORT, ROOF OPENINGS, LEVELING OF PRE-FAB CURBS SHALL BE BY GENERAL CONTRACTOR. CONTRACTOR SHALL VERIFY EXACT ROOF OPENING SIZES WITH UNIT MANUFACTURER PRIOR TO START OF WORK AND SHALL MAKE ALL NECESSARY ADJUSTMENTS AT NO EXTRA COST TO OWNER.
17. LOCATION OF ALL MECHANICAL EQUIPMENT SHOWN ARE SCHEMATIC. CONTRACTOR SHALL FIELD COORDINATE EXACT LOCATIONS AND REQUIRED SERVICE/MAINTENANCE CLEARANCES PRIOR TO START OF WORK.
18. CONTRACTOR SHALL VERIFY WEIGHTS OF ALL MECHANICAL EQUIPMENT WITH THEIR MANUFACTURER PRIOR TO START OF WORK. IF DIFFERENT THAN THE WEIGHTS INDICATED ON DRAWINGS, CONTRACTOR SHALL INFORM THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO START OF WORK.
19. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS W/MFR. AND COORDINATE WITH THE ELECTRICAL CONTRACTOR AND THE MANUFACTURER PRIOR TO START OF WORK. NOTIFY THE ARCHITECT, IN WRITING, IN CASE OF ANY DISCREPANCIES, PRIOR TO START OF WORK.
20. ALL HVAC EQUIPMENT, APPLIANCES, AND DUCTWORK SHALL CONFORM TO THE LATEST GUIDELINES OF U.L., A.G.A., N.F.P.A., C.M.C., C.P.C., AND ALL OTHER LOCAL CODES HAVING JURISDICTION.
21. TEST AND BALANCE THE HVAC SYSTEM AS PER REQUIREMENTS OF THE MANDATORY HVAC MEASURES INDICATED ON THIS SHEET.
22. CONTRACTOR SHALL FIELD VERIFY EXACT CEILING SPACE AVAILABLE FOR ROUTING OF DUCT, PRIOR TO START OF WORK, INFORM ARCHITECT, IN WRITING, IN CASE OF ANY DISCREPANCY OR POTENTIAL CONFLICTS PRIOR TO FABRICATING AND/OR PURCHASE OF ANY DUCTWORK.
23. ALL HVAC UNITS SYSTEMS SUPPLYING AIR IN EXCESS OF 2000 CFM OR SERVING A COMMON AIR SPACE MUST BE INTERCONNECTED TO SHUT DOWN IMMEDIATELY UPON ALARM CONDITION FROM DUCT DETECTORS (OR FIRE ALARM SYSTEM WHEN USING AREA SMOKE DETECTORS IN LIEU OF DUCT DETECTORS) WITHOUT INTERFACE FROM EMS OR ANY OTHER SYSTEMS. ALL CONTROL RELAYS USED FOR SHUT DOWN MUST BE CALIFORNIA STATE FIRE MARSHAL LISTED FOR RELEASING SERVICE.
24. ACCESS PANELS SHALL BE PROVIDED TO ALL EQUIPMENT, MANUAL VOLUME DAMPERS, ETC. LOCATED IN INACCESSIBLE AREAS.
25. MAINTAIN MINIMUM 10'-0" BETWEEN ALL OA INTAKES AND EXHAUST AIR DISCHARGES OR VENTS.

LEGEND

SYMBOL	ABBREV.	DESCRIPTION
	FSD	FIRE SMOKE DAMPER
	OA	OUTSIDE AIR
		ROUND DUCT UP
		ROUND DUCT DOWN
		CEILING SUPPLY AIR DIFFUSER (4-WAY THROW UNLESS NOTED OTHERWISE)
	SA	SUPPLY AIR
	RR/RG	RETURN AIR REGISTER/GRILLE
	RA	RETURN AIR
	ER/EG	EXHAUST AIR REGISTER/GRILLE
	EA	EXHAUST AIR
	AP	CEILING ACCESS PANEL
	SA	RECTANGULAR SUPPLY DUCT UP
	RA	RECTANGULAR RETURN DUCT UP
	EA	RECTANGULAR EXHAUST DUCT UP
	SA	RECTANGULAR SUPPLY DUCT DOWN
	RA	RECTANGULAR RETURN DUCT DOWN
	EA	RECTANGULAR EXHAUST DUCT DOWN
T	TSTAT	THERMOSTAT
CO	CO	CARBON MONOXIDE SENSOR
SD	SD	DUCT MOUNTED SMOKE DETECTOR INTERLOCK WITH FIRE ALARM. SEE ELECT. DWGS.
	CFM	CUBIC FEET PER MINUTE
	ACI	AMERICAN CONCRETE INSTITUTE
	A.D.A.	AMERICANS WITH DISABILITIES ACT
	A.F.F.	ABOVE FINISH FLOOR
	A.G.A.	AMERICAN GAS ASSOCIATION
	AL	ALUMINUM
	AMB.	AMBIENT
	APRX.	APPROXIMATE(LY)
	ARCH.	ARCHITECT OR ARCHITECTURAL
	ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
	BHP	BRAKE HORSEPOWER
	BLDG	BUILDING
	BTU(H)	BRITISH THERMAL UNIT (PER HOUR)
	B.U.R.	BUILT-UP ROOFING
	CAP.	CAPACITY
	C.B.C.	CALIFORNIA BUILDING CODE
	C.E.C.	CALIFORNIA ENERGY COMMISSION
	C.M.C.	CALIFORNIA MECHANICAL CODE
	C.P.C.	CALIFORNIA PLUMBING CODE
	CD	CONDENSATE DRAIN
	CGBSC	CALIFORNIA GREEN BUILDING STANDARDS COMMISSION
	CONC.	CONCRETE
	COND.	CONDITIONS
	CONN.	CONNECTIONS
	COORD.	COORDINATE
	C.O.P.	COEFFICIENT OF PERFORMANCE
	CORR.	CORRIDOR
	CU	COPPER
	CW	COLD WATER
	DB	DRY BULB
	DET.	DETAIL
	DIM.	DIMENSIONS
	DN.	DOWN
	DWG(S).	DRAWING(S)
	TSP	TOTAL STATIC PRESSURE
	TYP.	TYPICAL
	U/C	UNDERCUT DOOR
	U.L.	UNDERWRITER'S LABORATORIES
	U.F.C.	UNIFIED FACILITIES CRITERIA
	V	VOLTAGE/VOLTS
	VEL.	VELOCITY
	WB	WET BULB
	WT.	WEIGHT

LEGEND (CONT.)

SYMBOL	ABBREV.	DESCRIPTION
	DX	DIRECT EXPANSION
	(E)	EXISTING
	EAT	ENTERING AIR TEMPERATURE
	EDB.	ENTERING DRY BULB
	ENT.	ENTERING
	EQ.	EQUAL
	EWT	ENTERING WATER TEMPERATURE
	EER	ENERGY EFFICIENCY RATIO
	E.E.S.	ENERGY EFFICIENCY STANDARDS
	EFF.	EFFICIENCY
	ELEC.	ELECTRICAL
	ESP	EXTERNAL STATIC PRESSURE (INCHES OF WATER)
	FAB	FABRICATED
	F.A.R.	FREE AREA REQUIRED
	FLA	FULL LOAD AMPS
	FPM	FEET PER MINUTE
	FT.	FEET
	GA.	GAUGE
	GALV.	GALVANIZED
	GPM	GALLONS PER MINUTE
	GSM	GALVANIZED SHEET METAL
	HERS	HOME ENERGY RATING SYSTEM
	HP	HORSEPOWER
	HSPF	HEATING SEASONAL PERFORMANCE FACTOR
	HVAC	HEATING, VENTILATION AND AIR CONDITIONING
	I.B.C.	INTERNATIONAL BUILDING CODE
	I.M.C.	INTERNATIONAL MECHANICAL CODE
	I.P.C.	INTERNATIONAL PLUMBING CODE
	IN.	INCHES
	KW	KILOWATT
	LAT	LEAVING AIR TEMPERATURE
	LBS.	POUNDS
	LVG.	LEAVING
	MECH.	MECHANICAL
	MAX.	MAXIMUM
	MB	MACHINE BOLT
	MBH	1000 BTUH
	MCA	MINIMUM CIRCUIT AMPACITY
	MFR	MANUFACTURER
	MIN.	MINIMUM
	MOCP	MAXIMUM OVERCURRENT PROTECTION
	MTG.	MOUNTING
	MVD	MANUAL VOLUME DAMPER
	NA	NOT APPLICABLE
	N.F.P.A.	NATIONAL FIRE PROTECTION ASSOCIATION
	NIC	NOT IN CONTRACT
	NC	NOISE CRITERIA
	NO.	NUMBER
	OBD	OPPOSED BLADE DAMPER
	OPER.	OPERATING
	PH	PHASE
	QTY.	QUANTITY
	RPM	REVOLUTIONS PER MINUTE
	SEER	SEASONAL ENERGY EFFICIENCY RATIO
	SF	SQUARE FEET
	SQ.	SQUARE
	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
	S.M.S.	SHEET METAL SCREW
	SPD	STATIC PRESSURE DROP
	SQFT	SQUARE FEET
	STRUC.	STRUCTURAL
	STL.	STEEL
	TEMP.	TEMPERATURE
	THRU	THROUGH

MANDATORY HVAC SYSTEM MEASURES

1. ALL WORK INDICATED ON DRAWINGS AND/OR SPECIFICATIONS SHALL BE COORDINATED WITH WORKS OF OTHER TRADES PRIOR TO START OF WORK.
2. ALL HVAC EQUIPMENT LISTED IN SECTION 100(H) OF THE E.E.S. MUST BE C.E.C. CERTIFIED.
3. ALL PIPING INSULATION SHALL BE CONSISTENT WITH THE REQUIREMENTS OF C.M.C. SECTIONS 1201.2 AND TABLE E 502.5, AND E.E.S. SECTION 120.3-A.
4. ALL DUCTWORK INSULATION SHALL BE CONSISTENT WITH THE REQUIREMENTS OF SECTIONS C.M.C. SECTION 605.0 TITLE 24 E.E.S. TABLE 150.1-A.
5. ALL HVAC EQUIPMENT AND APPLIANCE SHALL MEET THE REQUIREMENTS PER SECTIONS 110.1-110.2, 110.5 AND 120.1-120.7 E.E.S.
6. ALL HVAC SYSTEMS SHALL MEET THE CONTROL REQUIREMENTS PER SECTION 110.2 AND 120.2 E.E.S.
7. ALL VENTILATION SYSTEMS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE C.M.C.
8. THE CONTRACTOR SHALL PROVIDE THE BUILDING OWNER, MANAGER, AND THE ORIGINAL OCCUPANTS A LIST OF THE HEATING, VENTILATION, AND AIR CONDITIONING FEATURES, MATERIALS, AND COMPONENTS INSTALLED IN THE BUILDING AND OPERATING INSTRUCTIONS.
9. INSULATION MATERIAL SHALL MEET THE CALIFORNIA QUALITY STANDARD PER SECTION 120.3 AND 120.4 E.E.S.
10. ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED TO THE QUANTITIES SPECIFIED IN THESE PLANS, IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) PROCEDURAL STANDARDS, OR ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS. TESTING AND BALANCING SHALL BE DONE BY AN INDEPENDENT QUALIFIED AGENCY.
11. ALL SYSTEMS SHALL PROVIDE THE MINIMUM OUTSIDE AIR AS SHOWN ON THE MECHANICAL DRAWINGS, AND SHALL BE MEASURED AND CERTIFIED BY AN INDEPENDENT QUALIFIED TESTING AGENCY.
12. DUCT INSULATION SHALL HAVE A MINIMUM INSTALLED R-VALUE OF 8.0.
13. DURING CONSTRUCTION, ENDS OF DUCT OPENINGS SHALL BE SEALED AND MECHANICAL EQUIPMENT SHALL BE COVERED TO PROTECT INTEGRITY OF SYSTEM CLEANLINESS. CGBSC 5.504.3.
14. PRIOR TO FINAL APPROVAL OF THE BUILDING, THE LICENSED CONTRACTOR, ARCHITECT, OR ENGINEER IN RESPONSIBLE CHARGE OF THE OVERALL CONSTRUCTION MUST COMPLETE AND SIGN THE GREEN BUILDING STANDARDS CERTIFICATION FORM AND GIVE TO THE BUILDING DEPARTMENT OFFICIAL TO BE FILED WITH THE APPROVED PLANS.
15. PROVIDE TEMPORARY MEANS OF BUILDING VENTILATION DURING CONSTRUCTION IN ACCORDANCE WITH CGBSC SECTION 5.504.1.
16. BUILDING FLUSH-OUT SHALL BE PERFORMED AND MONITORED UPON CONSTRUCTION COMPLETION IN ACCORDANCE WITH CGBSC SECTION 45.504.2.
17. ALL ENVELOPE AND MECHANICAL CERTIFICATE OF ACCEPTANCE FORMS AND ALL RELATED ACCEPTANCE DOCUMENTS SHALL BE SUBMITTED TO THE FIELD INSPECTOR DURING CONSTRUCTION. CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL THESE FORMS ARE REVIEWED AND APPROVED.
18. FOR NEW BUILDINGS OVER 10,000 SQUARE FEET IN FLOOR AREA, UNLESS NOTED OTHERWISE, FUNDAMENTAL BUILDING COMMISSIONING FOR HVAC, LIGHTING AND DOMESTIC HOT WATER SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 23 08 00 AND THE CGBSC SECTION 5.410.2.
19. THERMOSTATIC CONTROLS FOR ALL SINGLE ZONE AIR CONDITIONERS AND HEAT PUMPS SHALL COMPLY WITH THE REQUIREMENTS OF EES SECTION 110.2(C) AND REFERENCE JOINT APPENDIX JA5. THERMOSTAT SHALL BE CAPABLE OF COMMUNICATING THROUGH EITHER (1) AT LEAST ONE EXPANSION PORT WITH A REMOVABLE MODULE TO ENABLE COMMUNICATION; OR (2) ON BOARD COMMUNICATION DEVICE.
20. DUCTWORK SHALL BE LEAK TESTED IN ACCORDANCE WITH SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL FOR A REPRESENTATIVE TOTAL NOT LESS THAN 10% OF INSTALLED DUCTWORK IN ACCORDANCE WITH THE REQUIREMENTS OF CMC 603.9.2.

STK
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760.560.0100 12-20-24 #2024-03417

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.0.1202

CIP #

CAFM #

APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:



SHEET TITLE:
MECHANICAL LEGEND AND GENERAL NOTES

SHEET NO.:
M0.1

12/20/2024 11:14AM T:\2024\03417.00 - SB Fire Station 227\03 - BIM-CAD\Architecture\2024\03417_M1.1.dwg

HEAT PUMP / FAN COIL UNIT

TAG	MANUFACTURER & MODEL NO.	COOLING NET CAPACITY TOTAL (MBH)	COOLING NET CAPACITY SENS. (MBH)	COOLING NET CAPACITY AMB. (°F)	SEER2 (EER2)	HEATING CAPACITY SENS. (MBH)	HEATING CAPACITY AMB. (°F)	HSPF (COP)	ELECTRICAL COND. FAN NO.	COND. FAN HP	COND. FAN FLA	COMPRESSOR NO.	COMPRESSOR RLA	COMPRESSOR LRA	UNITS POWER SUPPLY MCA	UNITS POWER SUPPLY MOCP	UNITS POWER SUPPLY V	UNITS POWER SUPPLY PH	OPER. WEIGHT (LBS.)	REMARKS
HP 5	CARRIER MCY-MAP036	36.0	27.0	102	22.8	40.0	27	10.52	2			1			36.3	40	208	1	345	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)

TAG	MANUFACTURER & MODEL NO.	SERVES	CFM	ESP (IN. W.G.)	MIN. OA CFM	COOLING EDB (°F)	COOLING EWB (°F)	HEATING EDB (°F)	ELECTRICAL EVAP. FAN NO.	EVAP. FAN HP	EVAP. FAN FLA	UNITS POWER SUPPLY MCA	UNITS POWER SUPPLY MOCP	UNITS POWER SUPPLY V	UNITS POWER SUPPLY PH	FILTERS QTY	FILTERS SIZE	OPER. WEIGHT (LBS.)	REMARKS
FC 5-A	CARRIER MMJ-UP018	GYM	480	0.0	125	80.6	64.2	66.9	(5)	(5)	(5)	(5)	(5)	(5)	(5)	1	(9)	60	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)
FC 5-B	CARRIER MMJ-UP018	GYM	480	0.0	125	80.6	64.2	66.9	(5)	(5)	(5)	(5)	(5)	(5)	(5)	1	(9)	60	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)

(1) PROVIDE REFRIGERANT PIPING AND INSULATION INCLUDING FULL REFRIGERANT CHARGE. SIZES SHALL BE BASED ON FINAL DEVELOPED LENGTH AND MANUFACTURER'S REQUIREMENTS. PROVIDE ALL REFRIGERANT ACCESSORIES AS PER MANUFACTURER'S RECOMMENDATION. VERIFY SIZING WITH MANUFACTURER'S REP. PRIOR TO INSTALLATION. SEE DETAILS 5/M5.1, 6/M5.1.

(2) PROVIDE WITH NON-CFC REFRIGERANT BASED SYSTEM.

(3) PROVIDE WITH PROGRAMMABLE THERMOSTAT AND GROUP CONTROL. SEE DETAIL 1/M5.1.

(4) PROVIDE CONDENSING UNIT WITH VIBREX VIBRATION ISOLATOR TYPE RC 2"x2" NEOPRENE PADS. SEE DETAIL 8/M5.1.

(5) INDOOR FAN COIL UNIT RECEIVES POWER FROM OUTDOOR CONDENSING UNIT.

(6) PROVIDE WITH DISCONNECT. FOR CONTROL DIAGRAM, SEE 1/M5.3.

(7) PROVIDE ALL CONTROL WIRING INSIDE CONDUIT AND ALL OTHER ACCESSORIES REQUIRED BY MANUFACTURER FOR PROPER OPERATION.

(8) FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO START OF WORK.

(9) PROVIDE MANUFACTURER FILTERS.

(10) MOUNT CASSETTE FAN COIL PER DETAIL 9/M5.2.

FURNACE

TAG	MANUFACTURER & MODEL NO.	SERVES	CFM	ESP (IN. WG.)	MIN. OA CFM	INPUT (MBH)	AFUE (%)	ELECTRICAL SUPPLY FAN NO.	SUPPLY FAN HP	SUPPLY FAN FLA	UNIT POWER SUPPLY MCA	UNIT POWER SUPPLY MOCP	UNIT POWER SUPPLY V	UNIT POWER SUPPLY PH.	FILTERS QTY	FILTERS SIZE	OPER. WEIGHT (LBS.)	REMARKS
FAU 1	CARRIER 59SU5B04	SLEEP QTRS & TOILETS	800	.5	75	40	95.0	1	0.5	0.6	8.8	15	115	1	1	16x24x2	150	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)(12)
FAU 2	CARRIER 59SU5B04	SLEEP QTRS	800	0.5	90	40	95.0	1	0.5	0.6	8.8	15	115	1	1	16x24x2	150	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)(12)
FAU 3	CARRIER 59SU5B04	KITCHEN & LIVING ROOM	800	0.5	170	40	95.0	1	0.5	0.6	8.8	15	115	1	1	16x24x2	150	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)(12)
FAU 4	CARRIER 59SU5B04	OFFICES/ LAUNDRY ROOMS & TOILETS	800	0.5	90	40	95.0	1	0.5	0.6	8.8	15	115	1	1	16x24x2	150	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)(12)

(1) FOR FURNACE MOUNTING, SEE DETAIL 7/M5.1.

(2) PROVIDE WITH DUCT MOUNTED SMOKE DETECTOR. SEE FLOOR PLAN FOR LOCATION. SEE ELECTRICAL PLAN FOR POWER REQUIREMENTS.

(3) PROVIDE UV EMITTERS, 80 WATT/120V/1PH.

(4) PROVIDE DOOR SWITCH.

(5) PROVIDE NATURAL GAS BURNER.

(6) PROVIDE PVC FURNACE FLUE PIPES WITH CONCENTRIC VENT TERMINATION KIT. SIZE SHALL BE BASED ON THE FINAL DEVELOPED LENGTH AND MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL 3/M5.2.

(7) PROVIDE WITH PROGRAMMABLE THERMOSTAT, SEE DETAIL 1/M5.1.

(8) PROVIDE UL 900 (CLASS 1 OR 2) (MERV-13) PLEATED FILTER.

(9) PROVIDE WITH STAINLESS STEEL DRAIN PAN.

(10) PROVIDE WITH DISCONNECT. FOR CONTROL DIAGRAM, SEE DETAIL 12/M5.1.

(11) PROVIDE ALL CONTROL WIRING INSIDE CONDUIT AND ALL OTHER ACCESSORIES FOR PROPER OPERATION REQUIRED BY MANUFACTURER.

(12) FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO START OF WORK.

EXHAUST FAN SCHEDULE

TAG	MANUFACTURER & MODEL NO.	SERVES	CFM	ESP (IN. W.G.)	DRIVE TYPE	RPM	BHP (AMPS)	HP (WATTS)	MAX. SONES (dB(A))	V	PH	FAN TYPE	OPER. WEIGHT (LBS.)	REMARKS
EF 1	PLYMOVENT TEV-585-60	PLYMOVENT	3250	6.0	BELT	3450	(30)	7.5	(69)	230	3	UTILITY SET	190	(1)(2)(11)(12)
EF 2	COOK GC-622	ELEC	350	0.25	DIRECT	1137	–	(107)	2.0	115	1	CEILING MOUNT	35	(3)(4)(5)(7)(8)(9)(10)
EF 3	COOK GC-168	JAN	150	0.25	DIRECT	1093	–	(53)	3.0	115	1	CEILING MOUNT	21	(3)(4)(5)(6)(8)(9)(10)
EF 4	COOK GC-342	TOILET/SHOWER	150	0.25	DIRECT	1093	–	(53)	3.0	115	1	CEILING MOUNT	21	(3)(4)(5)(6)(8)(9)(10)
EF 5	COOK GC-342	LAUNDRY	200	0.25	DIRECT	1620	–	(70)	3.5	115	1	CEILING MOUNT	32	(3)(4)(5)(6)(8)(9)(10)
EF 6	COOK GC-342	TOILET/SHOWER	200	0.25	DIRECT	1620	–	(70)	3.5	115	1	CEILING MOUNT	32	(3)(4)(5)(6)(8)(9)(10)
EF 7	COOK GC-622	TEL	350	0.25	DIRECT	1137	–	(107)	2.0	115	1	CEILING MOUNT	35	(3)(4)(5)(7)(8)(9)(10)
EF 8	COOK GC-342	TOILET/SHOWER	200	0.25	DIRECT	1620	–	(70)	3.5	115	1	CEILING MOUNT	32	(3)(4)(5)(6)(8)(9)(10)
EF 9	COOK GC-342	TOILET/SHOWER	200	0.25	DIRECT	1620	–	(70)	3.5	115	1	CEILING MOUNT	32	(3)(4)(5)(6)(8)(9)(10)
EF 10	COOK GC-342	TOILET/SHOWER	200	0.25	DIRECT	1620	–	(70)	3.5	115	1	CEILING MOUNT	32	(3)(4)(5)(6)(8)(9)(10)
EF 11	COOK GC-342	ICE	200	0.25	DIRECT	1620	–	(70)	3.5	115	1	CEILING MOUNT	32	(3)(4)(5)(7)(8)(9)(10)
EF 12	COOK GC-342	LAUNDRY	200	0.25	DIRECT	1620	–	(70)	3.5	115	1	CEILING MOUNT	32	(3)(4)(5)(6)(8)(9)(10)
EF 13	COOK GC-342	TOILET/SHOWER	200	0.25	DIRECT	1620	–	(70)	3.5	115	1	CEILING MOUNT	32	(3)(4)(5)(6)(8)(9)(10)
EF 14	COOK GC-342	TOILET/SHOWER	200	0.25	DIRECT	1620	–	(70)	3.5	115	1	CEILING MOUNT	32	(3)(4)(5)(6)(8)(9)(10)
EF 15	COOK GC-342	TOILET/SHOWER	200	0.25	DIRECT	1620	–	(70)	3.5	115	1	CEILING MOUNT	32	(3)(4)(5)(6)(8)(9)(10)
EF 16			1980											

(1) PROVIDE WITH SPRING TYPE VIBRATION ISOLATION HARDWARE, SILENCER, FLEXIBLE CONNECTIONS, MOTOR GUARD AND BACKDRAFT RAIN CAP.

(2) PROVIDE WITH BACKDRAFT DAMPER.

(3) PROVIDE WITH INTEGRAL BACKDRAFT DAMPER AND CEILING GRILLE.

(4) PROVIDE ALL MOUNTING HARDWARE INCLUDING VIBRATION ISOLATION AND SEISMIC BRACING. SEE DETAIL 9/M5.1.

(5) PROVIDE THERMAL OVERLOAD PROTECTION ON FAN MOTOR.

(6) INTERLOCK WITH WALL SWITCH. SEE DETAIL 12/M5.1. SEE FLOOR PLANS FOR LOCATION.

(7) INTERLOCK WITH THERMOSTAT. SEE DETAIL 12/M5.1. SEE FLOOR PLANS FOR LOCATION.

(8) PROVIDE WITH DISCONNECT SWITCH, BY OTHERS.

(9) PROVIDE ALL CONTROL WIRING IN CONDUIT AND ALL ACCESSORIES REQUIRED BY MANUFACTURER FOR A COMPLETE AND OPERATIONAL SYSTEM.

(10) FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO START OF WORK.

(11) PROVIDE WITH CONTROL PANEL (PLYMOVENT MODEL #GS-3). FAN IS RADIAL, CAST ALMAG WHEEL, CAST ALUMINUM HOUSING WITH FLEXIBLE CONNECTIONS AND FAN SILENCER. ENTIRE FAN ASSEMBLY SHALL BE INSTALLED INDOORS.

(12) MECHANICAL CONTRACTOR SHALL PROVIDE FUSED DISCONNECT AND MOTOR STARTER (COORDINATE WITH EXHAUST REMOVAL SYSTEM SUPPLIER). SEE DETAIL 10/M5.1 FOR CONTROL.

CONDENSING UNIT

TAG	MANUFACTURER & MODEL NO.	CAPACITY (MBH) @ DESIGN COND. TOTAL	CAPACITY (MBH) @ DESIGN COND. SENSIBLE	DESIGN COND. EDB (°F)	DESIGN COND. EWB (°F)	CFM	S.P. DROP (IN. WC)	OPER. WEIGHT (LBS.)	REMARKS
CC 1	CARRIER CAPMP19	17.43	13.75	80	67	675	0.5	70	(1)(2)(3)
CC 2	CARRIER CAPMP24	21.73	16.20	80	67	650	0.5	65	(1)(2)(3)
CC 3	CARRIER CAPMP36	31.33	22.93	80	67	1050	0.5	75	(1)(2)(3)
CC 4	CARRIER CAPMP30	26.98	19.62	80	67	875	0.5	75	(1)(2)(3)

(1) SWEAT SUCTION TUBE & LIQUID TUBE CONNECTIONS.

(2) COIL LOCATED ON SUPPLY SIDE OF FORCED AIR UNIT. COIL NUMBER CORRESPONDS WITH FURNACE NUMBER.

(3) PROVIDE FAN COIL WITH DRAIN PAN AND SECONDARY CONDENSATE DRAIN OVERFLOW CUTOUT SWITCH

CONDENSING UNIT

TAG	MANUFACTURER & MODEL NO.	SERVES	COOLING NET CAPACITY TOTAL (MBH)	COOLING NET CAPACITY SENSIBLE (MBH)	COOLING NET CAPACITY AMB. (°F)	SEER2 (EER2)	ELECTRICAL COMPRESSOR NO.	COMPRESSOR RLA	COMPRESSOR LRA	CONDENSER FAN NO.	CONDENSER FAN HP	CONDENSER FAN FLA	UNIT POWER SUPPLY MCA	UNIT POWER SUPPLY MOCP	UNIT POWER SUPPLY V	UNIT POWER SUPPLY PH	OPER. WEIGHT (LBS.)	REMARKS
CU 1	CARRIER 24SCA518	DORMS	17.43	13.75	102	16.0 (13.5)	1	8.8	42.6	1	1/5	0.40	11.4	20	208	1	140	(1)(2)(3)(4)(5)(6)(7)
CU 2	CARRIER 24SCA524	DORMS	21.73	16.20	102	15.2 (12.5)	1	10.9	59.5	1	1/5	0.60	14.2	20	208	1	160	(1)(2)(3)(4)(5)(6)(7)
CU 3	CARRIER 24SCA536	KITCHEN/ LIVING	31.33	22.93	102	14.3 (12.0)	1	12.2	80.1	1	1/5	1.40	16.7	25	208	1	190	(1)(2)(3)(4)(5)(6)(7)
CU 4	CARRIER 24SCA530	COMMON	26.98	19.62	102	15.2 (12.0)	1	11.7	71.3	1	1/5	0.60	15.2	25	208	1	180	(1)(2)(3)(4)(5)(6)(7)

(1) PROVIDE REFRIGERANT PIPING AND INSULATION INCLUDING FULL REFRIGERANT CHARGE. SIZE SHALL BE AS PER MFR.'S REQUIREMENT AND FINAL DEVELOPED LENGTH. PROVIDE ALL REFRIGERANT ACCESSORIES AS PER MFR.'S RECOMMENDATION. VERIFY SIZING WITH MFR.'S REP. PRIOR TO INSTALLATION. SEE DETAILS 5/M5.1 AND 6/M5.1.

(2) PROVIDE WITH CRANKCASE HEATER AND LIQUID LINE SOLENOID VALVE FOR LONG LINE APPLICATIONS.

(3) PROVIDE WITH EVAPORATOR FREEZE THERMOSTAT, ISOLATION RELAY, LOW-AMBIENT CONTROL KIT AND WINTER START CONTROL KIT FOR LOW-AMBIENT COOLING APPLICATIONS.

(4) MOUNT ON LEVEL PLATFORM, SEE DETAIL 8/M5.1.

(5) PROVIDE WITH DISCONNECT. FOR CONTROL DIAGRAM, SEE DETAIL 11/M5.1.

(6) PROVIDE ALL CONTROL WIRING INSIDE CONDUIT AND ALL OTHER ACCESSORIES FOR PROPER OPERATION REQUIRED BY MANUFACTURER.

(7) FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO START OF WORK.

BOOSTER FAN SCHEDULE

TAG	MANUFACTURER & MODEL NO.	SERVES	CFM	ESP (IN. W.G.)	DRIVE TYPE	RPM	BHP (WATTS)	HP (WATTS)	MAX. SONES	V	PH	FAN TYPE	OPER. WEIGHT (LBS.)	REMARKS
BF 1	S&P TD-100X	GYM	60	0.25	DIRECT	2096		(33)	N/A	120	1	INLINE	10	(1)(2)(3)(4)(5)(6)(7)
BF 1	S&P TD-100X	GYM	60	0.25	DIRECT	2096		(33)	N/A	120	1	INLINE	10	(1)(2)(3)(5)(6)(7)(8)

(1) PROVIDE WITH BACKDRAFT DAMPER.

(2) PROVIDE ALL MOUNTING HARDWARE INCLUDING SEISMIC BRACING. SEE DETAIL 2/M5.3.

(3) PROVIDE THERMAL OVERLOAD PROTECTION ON FAN MOTOR.

(4) INTERLOCK WITH FC-5-A.

(5) PROVIDE WITH DISCONNECT SWITCH, BY OTHERS.

(6) PROVIDE WITH MANUFACTURERS FAN SPEED CONTROLLER.

(7) FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO START OF WORK.

(8) INTERLOCK WITH FC-5-B.

SUPPLY FAN SCHEDULE

TAG	MANUFACTURER & MODEL NO.	SERVES	CFM	ESP (IN. W.G.)	DRIVE TYPE	RPM	BHP (WATTS)	HP (WATTS)	MAX. SONES	V	PH	FAN TYPE	OPER. WEIGHT (LBS.)	REMARKS
S 1	COOK 120SQN17D(VF)	TURN OUT	600	0.25	DIRECT	910	0.55	1/6	3.8	115	1	INLINE	190	(1)(2)(3)(4)(5)(6)(7)

(1) PROVIDE WITH BACKDRAFT DAMPER.

(2) PROVIDE ALL MOUNTING HARDWARE INCLUDING SEISMIC BRACING. SEE DETAIL 2/M5.3.

(3) PROVIDE THERMAL OVERLOAD PROTECTION ON FAN MOTOR.

(4) INTERLOCK WITH WALL SWITCH. SEE DETAIL 12/M5.1. SEE FLOOR PLANS FOR THERMOSTAT LOCATION.

(5) PROVIDE WITH DISCONNECT SWITCH, BY OTHERS.

(6) PROVIDE ALL CONTROL WIRING IN CONDUIT AND ALL ACCESSORIES REQUIRED BY MANUFACTURER FOR A COMPLETE AND OPERATIONAL SYSTEM.

(7) FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO START OF WORK.

CIRCULATING CEILING FAN SCHEDULE

TAG	MANUFACTURER & MODEL NO.	SERVES	VELOCITY (RPM)	ELECTRICAL DATA NO.	ELECTRICAL DATA HP	ELECTRICAL DATA AMPS	ELECTRICAL DATA V	ELECTRICAL DATA PH.	OPER. WEIGHT (LBS.)	REMARKS
F 1	MACRO AIR MA12XL1006	APP BAY	(84)	1	----	10.8	208	3	225	(1)(2)(3)(4)(5)
F 2	MACRO AIR MA12XL1006	APP BAY	(84)	1	----	10.8	208	3	225	(1)(2)(3)(4)(5)
F 3	MACRO AIR MA12XL1006	APP BAY	(84)	1	----	10.8	208	3	225	(1)(2)(3)(4)(5)

(1) PROVIDE WITH MANUFACTURER'S INSTALLATION KIT. SEE MANUFACTURER'S INSTALLATION MANUAL FOR MOUNTING DETAILS.

(2) INTERLOCK WITH MANUFACTURER'S CONTROLLER. SEE 8/M5.2.

(3) PROVIDE WITH DISCONNECT SWITCH BY ELECTRICAL.

(4) PROVIDE ALL CONTROL WIRING IN CONDUIT AND ALL ACCESSORIES REQUIRED BY MANUFACTURER FOR PROPER OPERATION.

(5) FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO START OF WORK.

AIR DEVICE SCHEDULE

TAG	MANUFACTURER & MODEL NO.	TYPE	FRAME STYLE	OBD (YES/NO)	REMARKS
A	TITUS PMC	PERFORATED SUPPLY	BORDER TYPE 3	NO	(1)(2)(3)(4)
B	TITUS PAR	PERFORATED RETURN/EXHAUST	BORDER TYPE 3	NO	(1)(2)(4)
C	TITUS MCD	MODULAR CORE SUPPLY	BORDER TYPE 1	NO	(1)(2)(3)(4)(5)
D	TITUS 350RL	LOUVER FACE RETURN/EXHAUST	BORDER TYPE 3	NO	(2)(4)
E	TITUS 300	LOUVER FACE SUPPLY	BORDER TYPE 1	NO	(1)(2)(4)
F	TITUS PMC	PERFORATED SUPPLY	BORDER TYPE 3	NO	(1)(2)(4)(6)

(1) SQUARE NECK WITH ROUND ADAPTOR.

(2) STEEL CONSTRUCTION.

(3) MODULAR CORE WITH 4-WAY DEFLECTION, U.N.O.

(4) SEE DETAIL 4/M5.1.

(5) PROVIDE YOUNG REGULATOR CABLE TYPE REMOTE MANUAL VOLUME DAMPER.

(6) MODULAR CORE WITH 2-WAY DEFLECTION, U.N.O.

UNIT HEATER SCHEDULE

TAG	MANUFACTURER & MODEL NO.	SERVES	CFM	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	AFUE (%)	FAN HP	FAN TYPE	ELECTRICAL FLA	ELECTRICAL V	ELECTRICAL PH	OPER. WEIGHT (LBS.)	REMARKS
UH 1	REZNOR UEZ-85	APP BAY	1200	85	79	93	1/20	DIRECT	2.2	115	1	120	(1)(2)(3)(4)
UH 2	REZNOR UEZ-85	APP BAY	1200	85	79	93	1/20	DIRECT	2.2	115	1	120	(1)(2)(3)(4)

(1) PROVIDE STAINLESS STEEL HEAT EXCHANGER AND SINGLE STAGE GAS VALVE.

(2) CONTROL BY THERMOSTAT, SEE DETAIL 5/M5.2. MOUNT THERMOSTAT PER DETAIL 1/M5.1.

(3) PROVIDE CONCENTRIC VENT KIT. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND DETAIL 3/M5.2.

(4) PROVIDE MOUNTING HARDWARE. SUPPORT PER DETAIL 6/M5.2.

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12.20.24 #2024-03417
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.0.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER M. STEVENSON — No. 30281 Exp. 6/30/26 — MECHANICAL — STATE OF CALIFORNIA

SHEET TITLE:
MECHANICAL SCHEDULES

SHEET NO.:
M0.2

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — (Page 1 of 17)

Project Name:	Fire Station 227	Date Prepared:	2024-12-11

A. General Information

1	Project Name	Fire Station 227			
2	Run Title	Title 24 Analysis			
3	Project Location	180 W. 38th St.			
4	City	San Bernardino	5	Standards Version	Compliance 2022
6	Zip code	92405	7	Compliance Software (version)	EnergyPro 9.1
8	Climate Zone	10	9	Building Orientation [deg]	0
10	Building Type(s)	• Nonresidential	11	Weather File	RIVERSIDE_STYP20.epw
12	Project Scope	• New envelope and mechanical	13	Number of Dwelling Units	0
14	Total Conditioned Floor Area in Scope (ft^2)	4739	15	Total # of hotel/motel rooms	0
16	Total Unconditioned Floor Area (ft^2)	0	17	Fuel Type	Natural gas
18	Nonresidential Conditioned Floor Area	4739	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 17)

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	Performance	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	Not Included	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 17)

C1. COMPLIANCE SUMMARY

	COMPLIES[1]		
	Time Dependent Valuation (TDV)		Source Energy Use
	Efficiency[2] (kBtu/ft^2 - yr)	Total[2] (kBtu/ft^2 - yr)	Total[2] (kBtu/ft^2 - yr)
Standard Design	199.56	183.69	16.8
Proposed Design	129.24	129.24	12.61
Compliance Margins	**70.32**	**54.45**	**4.19**
	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] *Building complies when efficiency and total compliance margins are 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 17)

C2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft^2 - yr)

	COMPLIES[2]		
Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	8.66	10.59	-1.93
Space Cooling	56.32	51.08	5.24
Indoor Fans	91.28	27.83	63.45
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	8.71	5.15	3.56
Indoor Lighting	34.59	34.59	0
Flexibility	—	—	—
EFFICIENCY COMPLIANCE TOTAL	**199.56**	**129.24**	**70.32 (35.2%)**
Photovoltaics	-15.87	—	-15.87
Batteries	—	—	—
TOTAL COMPLIANCE	**183.69**	**129.24**	**54.45 (29.6%)**

[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 17)

C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	90.73	90.73	—
Process	28.75	28.75	—
Other Ltg	—	—	—
Process Motors	—	—	—
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**303.17**	**248.72**	**54.45 (18%)**

[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 17)

C4. SOURCE ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual SOURCE Energy Use, kBtu/ft^2/yr)

	COMPLIES[2]		
Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Space Heating	1.32	3.22	-1.9
Space Cooling	2.53	2.3	0.23
Indoor Fans	8.55	2.61	5.94
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	2.39	1.86	0.53
Indoor Lighting	2.62	2.62	0
Flexibility	—	—	—
EFFICIENCY COMPLIANCE TOTAL	**17.41**	**12.61**	**4.8 (27.6%)**
Photovoltaics	-0.61	—	-0.61
Batteries	—	—	—
TOTAL COMPLIANCE	**16.8**	**12.61**	**4.19 (24.9%)**

[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 17)

C5. SOURCE ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Receptacle	11.44	11.44	—
Process	3.17	3.17	—
Other Ltg	—	—	—
Process Motors	—	—	—
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**31.41**	**27.22**	**4.19 (13.3%)**

[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 17)

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	1.3	0.2	1.1	—	15.7	—
Space Cooling	7.6	7	0.6	—	—	—
Indoor Fans	15.2	4.6	10.6	—	—	—
Heat Rejection	—	—	—	—	—	—
Pumps & Misc.	—	—	—	—	—	—
Domestic Hot Water	0.5	—	—	10.9	9.6	1.3
Indoor Lighting	6.4	6.4	0	—	—	—
Flexibility	—	—	—	—	—	—
EFFICIENCY TOTAL	**31**	**18.2**	**12.8**	**10.9**	**25.3**	**-14.4**
Photovoltaics	-3.6	—	—	—	—	—
Batteries	—	—	—	—	—	—
ENERGY USE SUBTOTAL	**27.4**	**18.2**	**9.2**	**10.9**	**25.3**	**-14.4**
Receptacle	13.9	13.9	0	32.3	32.3	0
Process	4.8	4.8	0	—	—	—
Other Ltg	—	—	—	—	—	—
Process Motors	—	—	—	—	—	—
ENERGY USE TOTAL	**46.1**	**36.9**	**9.2**	**43.2**	**57.6**	**-14.4**

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — (Page 9 of 17)

C8. ENERGY USE INTENSITY (EUI)

	Standard Design (kBtu/ft^2 / yr)	Proposed Design (kBtu/ft^2 / yr)	Margin (kBtu/ft^2 / yr)	Margin Percentage
GROSS EUI[1]	44.9	38.72	6.18	13.76
NET EUI[1]	42.31	38.72	3.59	8.48

[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.
• Project is claiming Exception 1 to Section 140.10(b): No battery storage system is required if the installed PV system size is less than 15 percent of the size determined by Equation 140.10-A.
• Project is claiming Exception 3 to Section 140.10(b): No battery storage system required for tenant spaces less than or equal to 5,000 ft2.
• 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.

F1. REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception[1]	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt (k in 12)	Inverter Eff (%)	Annual Solar Access (%)

[1] *See Table D1 for any PV exceptions used.*

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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.0.0202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME: -

SEAL:

SHEET TITLE:
TITLE 24

SHEET NO.:
M0.3

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F1B. PV BATTERY BUILDING TYPE(S)

01	02	03
Building Occupancy Type* (From Table 140.10-A/B and 170.2-U/V)	Conditioned Floor Area (ft²)	Unconditioned Floor Area (ft²)
Grocery	0	0
High-Rise Multifamily	0	0
Office, Financial Institutions, Unleased Tenant Space	0	0
Retail	0	0
School	0	0
Warehouse	0	0
Auditorium, Convention Center, Hotel/Motel, Library, Medical Office Building/Clinic, Restaurant, Theater	4739	0
None	0	0

*Building Occupancy Types are defined in Section 100.1 of the Energy Code

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]	928	156	16.81
East-Facing[2]	80	0	0
South-Facing[3]	855	106	12.4
West-Facing[4]	800	64	8
Total	**2663**	**326**	**12.24**
Roof	4739	0	0

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-Level 1	No air barrier
Com-Level 1 + Roof	No air barrier

G5. OPAQUE SURFACE ASSEMBLY SUMMARY

01	02	03	04	05	06		07	08	09	10
					Continuous R-Value					
Surface Name	Construction Type	Area (ft²)	Framing Type	Cavity R-Value	Interior	Exterior	Units	Value	Description of Assembly Layers	Status[1]
SBFS Wall8	Exterior Wall	2,663	Wood	21	N/A	4.5	U-factor	0.0495	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Composite-1 Compliance Insulation R4.50 Gypsum Board - 1/2 in.	N
SBFS Roof14	Roof	4,739	Wood	30	N/A	8	U-factor	0.0273	AsphaltShingles0_25in Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Compliance Insulation R8.00 Composite-2 Gypsum Board - 1/2 in.	N
Slab On Grade16	Underground Floor	4,739	N/A	0	N/A	N/A	F-factor	0.73	Slab Type =Unheated slab on grade Insulation Orientation =None Insulation R-Value =none	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]
SBFS Window	Vertical fenestration Fixed window N/A	NFRC	Manufactured	326	0.5	0.4	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
			Heating				Cooling				
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status[1]
CU/CC/FAU-1	Single Zone Air Conditioner (SZAC) Air System	1	24	0	AFUE	80	23.04	EER SEER	12.5 16	No Economizer	N
CU/CC/FAU-2	Single Zone Air Conditioner (SZAC) Air System	1	24	0	AFUE	80	23.04	EER SEER	12.5 16	No Economizer	N
CU/CC/FAU-3	Single Zone Air Conditioner (SZAC) Air System	1	36	0	AFUE	80	34.56	EER SEER	12.5 16	No Economizer	N

[1] 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
			Heating				Cooling				
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status[1]
CU/CC/FAU-4	Single Zone Air Conditioner (SZAC) Air System	1	36	0	AFUE	90	34.56	EER SEER	12.5 16	No Economizer	N
FC-SA/B	Single Zone Heat Pump (SZHP) Air System	2	25	0	N/A	NA	23.04	EER SEER	12.2 15	No Economizer	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
			Supply Fan				Return / Relief Fan					
Name or Item Tag	Qty	Design OA CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	Status[1]
CU/CC/FAU-1	1	150.6	700	0.1	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
CU/CC/FAU-2	1	160.5	800	0.1	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
CU/CC/FAU-3	1	225.5	1,050	0.15	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
CU/CC/FAU-4	1	128.25	1,050	0.2	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
FC-SA/B	2	43.5	700	0.1	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]
Main Room24	3-Main Room	2	600	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
WH-11 - SHW	Service Hot Water	N/A	Fixed Temperature Control

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.
[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
		Mechanical Ventilation				
Zone Name	Ventilation Function	# of People	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
1-Sleeping Quarters 1-3 and	Misc - All others	5.02	150.6	0	1004	N/A
2-Sleeping Quarters 4-9	Misc - All others	5.35	160.5	0	1070	N/A
3-Main Room	Exhaust - Kitchenettes	3.08	225.5	1200	1230	N/A
4-Lobby/Office/Corridor	Office - Office space	4.28	128.25	0	855	N/A
5-Fitness	Sports/Entertainment - Health club/weight rooms	5.8	87	0	580	N/A

H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12
			Rated Capacity (kBtu/h)		Airflow (cfm)			Fan			
System ID	System Type	Qty	Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	VSD
1-Sleeping Quarters 1-3 and-Trm	Uncontrolled	1	N/A	N/A	700	N/A	0	N/A	N/A	N/A	☐
2-Sleeping Quarters 4-9-Trm	Uncontrolled	1	N/A	N/A	800	N/A	0	N/A	N/A	N/A	☐
3-Main Room-Trm	Uncontrolled	1	N/A	N/A	1,050	N/A	0	N/A	N/A	N/A	☐
4-Lobby/Office/Corridor-Trm	Uncontrolled	1	N/A	N/A	1,050	N/A	0	N/A	N/A	N/A	☐
5-Fitness-Trm	Uncontrolled	2	N/A	N/A	1,400	N/A	0	N/A	N/A	N/A	☐

J1. WATER HEATER EQUIPMENT SUMMARY

01	02	03	04	05	08	07	08	09	10	11	12	13	14
Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value Int/Ext	Standby Loss Fraction	1st Hr. Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
WH-12	Natural Gas	Storage	1	60	120	kBtu/HR	0.8	TE	N/A	0.01	N/A	N/A	N/A

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
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
Plumbing	NRCI-PLB-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
Plumbing	NRCI-PLB-E - For all buildings with Plumbing Systems
Covered Process	NRCI-PRC-01-E - Must be submitted for all Covered Processes

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 - NFRC label verification for fenestration
Covered Process	NRCA-PRC-02-F Kitchen Exhaust
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-03-A - Constant Volume Single Zone HVAC

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 Ogle	Documentation Author Signature:
Company: Salar O'Brien Engineers	Signature Date: 12/11/2024
Address: 3220 Executive Ridge suite 210	CEA/HERS Certification Identification (if applicable):
City/State/Zip: Vista, CA 92081	Phone:

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
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: Misty DuPre	Responsible Designer Signature:
Company: Salasobrien	Date Signed: 12/11/2024
Address: 3220 Executive Ridge suite 210	License #: M32811
City/State/Zip: Vista, CA 92081	Title: Mechanical Engineer — Scope: Mechanical
Phone:	

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12-10-24 www.salasobrien.com
#2024-03417
DO DOES NOT SCALE

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA. 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.0.0.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA. 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
TITLE 24

SHEET NO.:
M0.4

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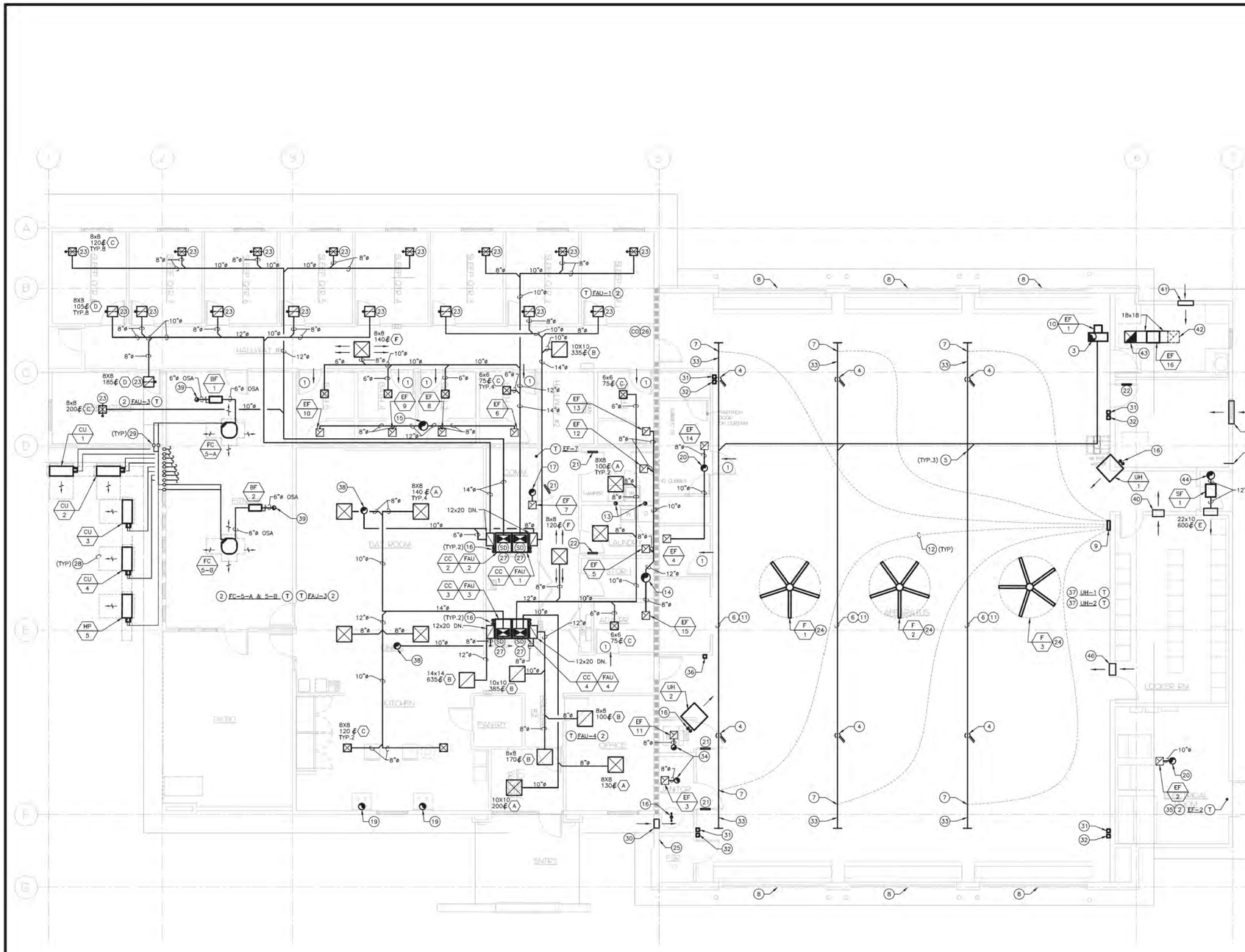

GENERAL NOTES

A. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

B. FOR DUCT TAKE-OFFS SUPPORTING & INSULATION, SEE DETAILS 3/M5.1, 2/M5.1 & 3/M5.3.

C. FOR DUCT SMOKE DETECTOR, SEE DETAIL 7/M5.2.

KEY NOTES

1. UNDERCUT DOOR 1".
2. FULLY PROGRAMMABLE TITLE-24 COMPLIANT THERMOSTAT. SEE 1/M5.1. VERIFY EXACT LOCATION WITH ARCHITECT AND OWNER'S REP. PRIOR TO START OF WORK.
3. 12"ø VEHICLE EXHAUST DUCT UP THRU ROOF TO ROOF CAP. TERMINATE MINIMUM 3' ABOVE FINISHED ROOF. MAINTAIN DUCT MINIMUM 3' AWAY FROM EXTERIOR WALLS AND 10'-0" FROM BUILDING OPENINGS.
4. FLEXIBLE EXHAUST HOSE WITH FITTINGS AND CONNECTIONS AS SPECIFIED AND PER MANUFACTURER'S RECOMMENDATIONS.
5. 7"ø VEHICLE EXHAUST DUCT, SEE DETAIL 1/M5.2 ATTACHMENT TO RAIL SYSTEM. SEE SPECIFICATIONS FOR MATERIAL, SEE DETAIL 2/M5.2 FOR SUPPORT.
6. STRAIGHT RAIL SYSTEM FOR VEHICLE EXHAUST MOUNTING SHALL BE FIELD VERIFIED BY THE MANUFACTURER'S REPRESENTATIVE. SEE ARCHITECTURAL DRAWINGS FOR RAIL SUPPORT. MOUNT BOTTOM OF RAIL AT 14'-0" A.F.F.
7. SENSOR LOCATION FOR AUTO START. LOCATION SHALL BE WITHIN 5 FEET OF FRONT AND BACK OF RAIL. PROVIDE COMPRESSOR FITTING FOR ADDITIONAL DETAILS SEE SPECIFICATIONS AND MANUFACTURER'S INSTALLATION GUIDE.
8. ROLL UP APPARATUS DOOR. INSTALL WITHOUT WEATHER STRIPPING TO MAINTAIN 4.5 SF F.A.R. FOR VEHICLE EXHAUST MAKE UP AIR.
9. VEHICLE EXHAUST REMOVAL SYSTEM CONTROL PANEL. VERIFY EXACT LOCATION WITH OWNER PRIOR TO START OF WORK. MOUNT AS PER MANUFACTURER'S WRITTEN RECOMMENDATIONS.
10. VEHICLE EXHAUST FAN. FOR INSTALLATION, SEE DETAIL 10/M5.1.
11. CONTRACTOR SHALL PROVIDE STRUCTURAL CROSS MEMBERS AS REQUIRED BY THE MANUFACTURER FOR SUPPORT OF EXHAUST REMOVAL SYSTEM.
12. ROUTE LOW VOLTAGE CONTROL WIRING IN CONDUIT TO SENSOR CONNECTION LOCATION ON EACH RAIL. CONCEAL CONTROL WIRING AND INSTALL AS PER MANUFACTURER'S REQUIREMENTS.
13. 4"ø DRYER VENT UP THRU ROOF. PROVIDE WITH DRYER VENT BACK DRAFT DAMPER.
14. 8"ø DRYER VENT THRU WALL. PROVIDE WITH DRYER VENT BACK DRAFT DAMPER.
15. 14"ø EXHAUST DUCT UTR. SEE M2.2 FOR CONTINUATION.
16. 3"ø COMBUSTION AND EA DUCTS UP TO CONCENTRIC VENT THRU THE ROOF. SEE DETAIL 3/M5.2.
17. 10"ø EXHAUST DUCT UTR. SEE M2.2 FOR CONTINUATION.
18. 12"ø EXHAUST DUCT UTR. SEE M2.2 FOR CONTINUATION.
19. 10"ø RANGE VENT DUCT UP THRU ROOF TO ROOF CAP. 600 CFM KITCHEN HOOD. VERIFY EXACT SIZE WITH HOOD MANUFACTURER PRIOR TO START OF WORK.
20. 10"ø EXHAUST DUCT UTR. SEE M2.2 FOR CONTINUATION.
21. 18x14 DOOR LOUVER. MINIMUM 0.88 SQFT. F.A.R. SEE ARCHITECTURAL DRAWINGS FOR EXACT SIZE, LOCATION, COLOR AND STYLE.
22. 12x18 DOOR LOUVER. MINIMUM 0.75 SQFT. F.A.R. SEE ARCHITECTURAL DRAWINGS FOR EXACT SIZE, LOCATION, COLOR AND STYLE.
23. PROVIDE 1HR FUSED LINK FIRE DAMPER AT CEILING. DIFFUSER. SEE DETAIL 11/M5.2.
24. MOUNT FAN BLADES AT 13'-6" A.F.F.
25. 36x22 ARCHITECTURAL WALL LOUVER. MINIMUM 3.0 SQFT F.A.R. MOUNT BELOW WINDOW.
26. PROVIDE CO DETECTION WITH AUDIBLE AND VISUAL ALARM.
27. DUCT SMOKE DETECTOR. INTERLOCK WITH FIRE ALARM, COORDINATE WITH FIRE ALARM CONTRACTOR. SEE DETAIL 7/M5.2.
28. MANUFACTURER'S MIN. CLEARANCE. KEEP CLEAR FROM ALL OBSTACLES.
29. MANUFACTURER SPECIFIED SIZED REFRIGERANT PIPING UP THRU WALL TO CEILING SPACE. ROUTE TO CORRESPONDING COOLING COIL & CASSETTE UNIT. SEE DETAIL 6/M5.1. VERIFY PIPE SIZING AND LENGTH BEFORE START OF WORK.
30. 14x8 ARCHITECTURAL COMBUSTION AIR LOUVER MIN 0.34 SQFT F.A.R. LOUVER SHALL BE INSTALLED WITHIN 12" OF CEILING.
31. VEHICLE EXHAUST CRAB CRAWL RETURN SYSTEM EMERGENCY STOP SWITCH. COORDINATE FINAL LOCATION WITH END USER BEFORE START OF WORK. MOUNT PER MANUFACTURER INSTRUCTIONS AND PROVIDE ALL CONTROL WIRING IN CONDUIT.
32. VEHICLE EXHAUST CRAB CRAWL RETURN SYSTEM MANUAL START SWITCH. COORDINATE FINAL LOCATION WITH END USER BEFORE START OF WORK. MOUNT PER MANUFACTURER INSTRUCTIONS AND PROVIDE ALL CONTROL WIRING IN CONDUIT.
33. VEHICLE EXHAUST CRAB CRAWL SYSTEM. PROVIDE ALL CONTROL WIRING IN CONDUIT. SEE ELECTRICAL DESIGN FOR POWER REQUIREMENTS.
34. 8"ø EXHAUST DUCT UTR. SEE M2.2 FOR CONTINUATION.
35. PROVIDE LINE VOLTAGE THERMOSTAT INTERLOCK WITH EF-2. SEE DETAIL 12/M5.1.
36. F-1, F-2 & F-3 FAN CONTROLLER. COORDINATE WITH ELECTRICAL TO PROVIDE CONDUIT FOR CONTROL WIRING.
37. PROVIDE MANUFACTURER THERMOSTAT CONTROLLER. COORDINATE WITH ELECTRICAL TO PROVIDE CONDUIT FOR CONTROL WIRING. SEE 1/M5.1 FOR MOUNTING & 5/M5.2 FOR CONTROLS. VERIFY EXACT LOCATION WITH ARCHITECT AND OWNER'S REP. PRIOR TO START OF WORK.
38. 10"ø OUTSIDE AIR DUCT UTR. SEE M2.2 FOR CONTINUATION.
39. 6"ø OUTSIDE AIR DUCT UTR. SEE M2.2 FOR CONTINUATION.
40. 24X10 ARCHITECTURAL WALL LOUVER. MINIMUM 0.75 SQFT F.A.R. MOUNT AT 6" BELOW LOCKER ROOM FINISH CEILING.
41. 24X60 ARCHITECTURAL WALL LOUVER. MINIMUM 4.95 SQFT F.A.R. 6" A.F.F TO BOTTOM OF LOUVER.
42. 18x18 DUCT DOWN TO EQUIPMENT. TRANSITION TO CONNECTION SIZE FOR FINAL CONNECTION. PROVIDE FLEXIBLE CONNECTION AT EQUIPMENT.
43. 18x18 DUCT UP THROUGH ROOF. SEE M2.2 FOR CONTINUATION.
44. 12"ø DUCT UTR TO ROOF CAP. SEE M2.2 FOR CONTINUATION.

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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
MECHANICAL
FLOOR PLAN

SHEET NO.:
M2.1

MECHANICAL FLOOR PLAN
SCALE: 3/16"=1'-0" 1

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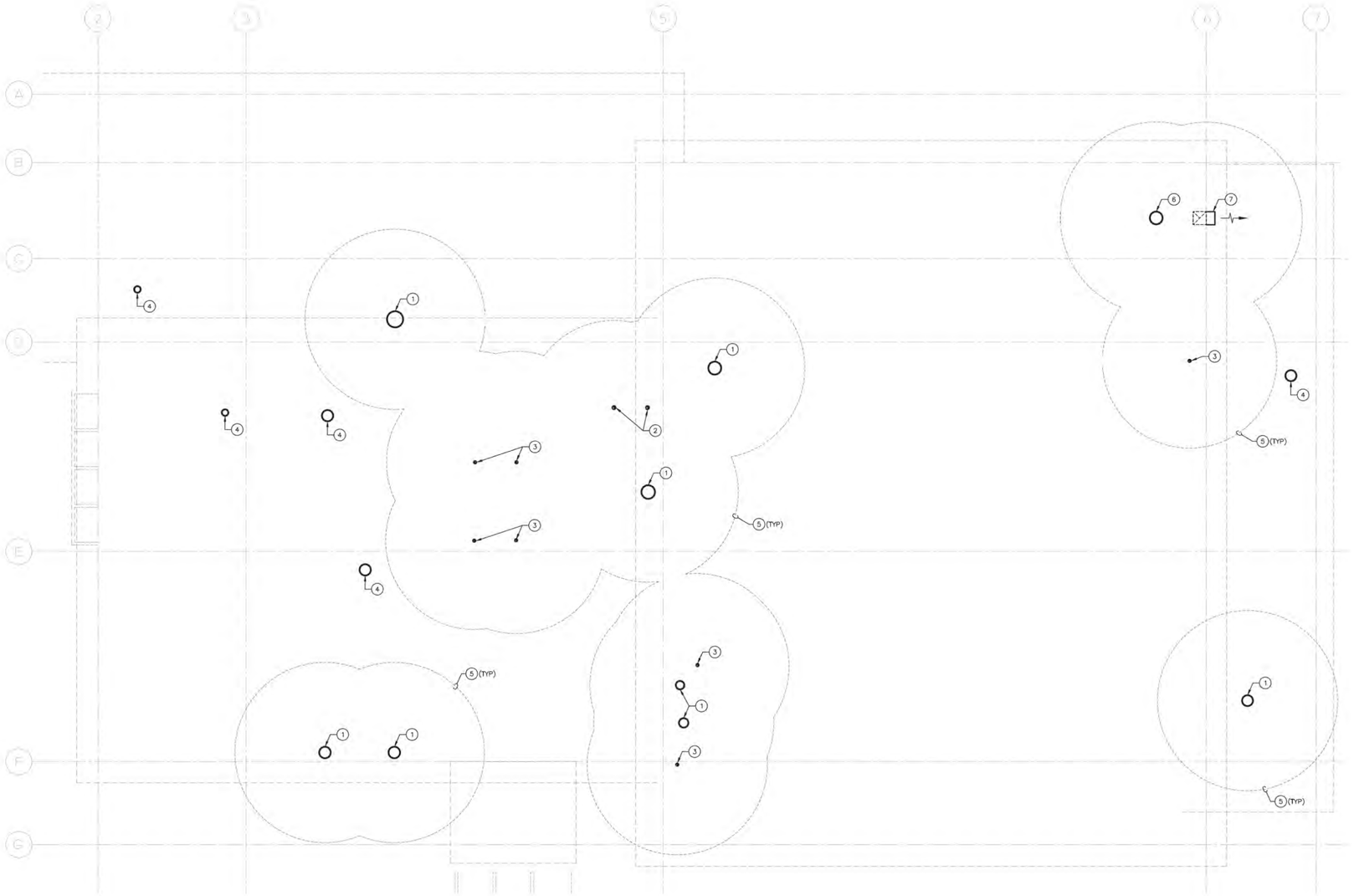

GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, DETERMINING EXTENT OF DEMOLITION, AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

KEY NOTES

1. EA ROOF CAP. SEE DETAIL 4/M5.2.
2. DRYER VENT ROOF CAP. SEE DETAIL 10/M5.2.
3. CONCENTRIC FLUE AND COMBUSTION AIR ROOF CAP. SEE DETAIL 5/M5.2.
4. OA ROOF CAP. SEE DETAIL 4/M5.2.
5. MAINTAIN MINIMUM 10'-0" FROM ALL OUTSIDE AIR INTAKES.
6. MANUFACTURER'S VEHICLE EXHAUST ROOF CAP.
7. EXHAUST TERMINATION AT ROOF. SEE DETAIL 6/M5.3.

MECHANICAL ROOF PLAN

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

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12-20-24 #2024-03417
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT #: 10.10.1202
CIP #:
CAFM #:
APN #:

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

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-	-

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DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

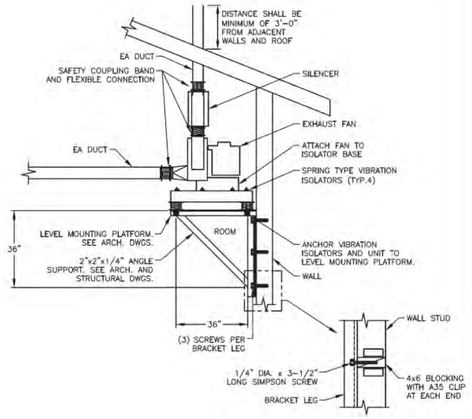


SHEET TITLE:

MECHANICAL ROOF PLAN

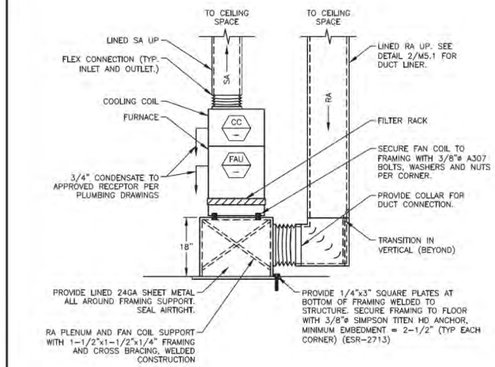
SHEET NO.:

M2.2



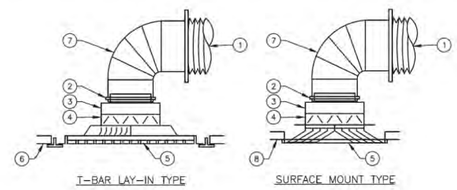
VEHICLE EXHAUST FAN MOUNTING DETAIL

SCALE: NONE | 10



VERTICAL FURNACE INSTALLATION DETAIL

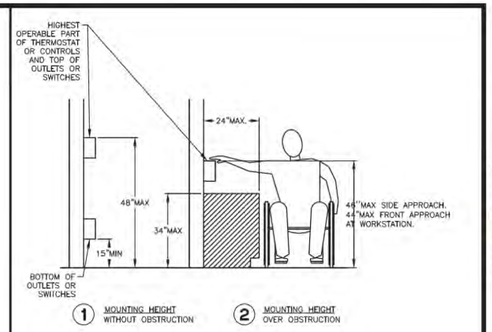
SCALE: NONE | 7



1. FLEXIBLE DUCT.
2. STAINLESS STEEL CLAMP (NO DUCT TAPE).
3. SQUARE TO ROUND ADAPTOR (WHERE INDICATED).
4. OPPOSED BLADE DAMPERS (WHERE INDICATED).
5. DIFFUSER OR GRILLE.
6. LAY-IN T-BAR CEILING.
7. RIGID 90° ELBOW.
8. HARD-LID CEILING.

CEILING DIFFUSER/REGISTER DETAIL

SCALE: NONE | 4

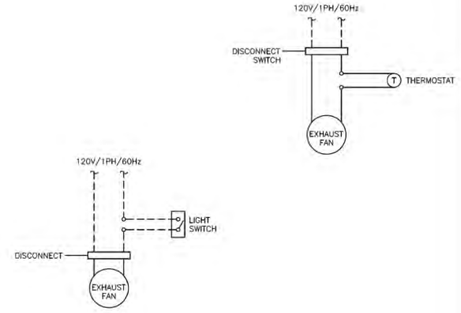


NOTE: ELECTRICAL OUTLETS, SWITCHES AND SIMILAR CONTROLS SHALL BE MOUNTED A MAXIMUM OF 48" ABOVE FINISHED FLOOR, MEASURED TO THE TOP OF THE ELECTRICAL BOX.

THE MINIMUM MOUNTING HEIGHT FOR SWITCHES AND OUTLETS IS 18"A.F.F. MEASURED FROM CENTERLINE OF ELECTRICAL BOX.

THERMOSTAT MOUNTING DETAIL

SCALE: NONE | 1



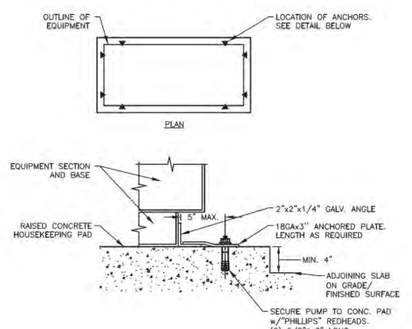
NOTE: CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING INSIDE CONDUIT AND ALL OTHER ACCESSORIES REQUIRED FOR PROPER OPERATION OF SYSTEM AS RECOMMENDED BY MANUFACTURER.

WIRING PROVIDED AND INSTALLED BY DIVISION 16

WIRING PROVIDED AND INSTALLED BY DIVISION 15

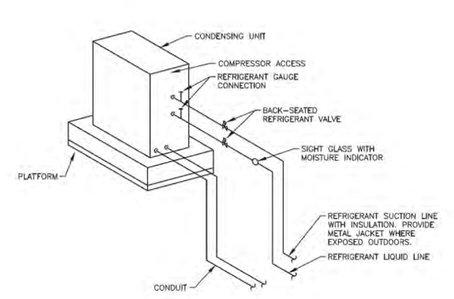
SPLIT SYSTEM HEAT PUMP CONTROL DIAGRAM

SCALE: NONE | 11



CONDENSING UNIT MOUNTING DETAIL

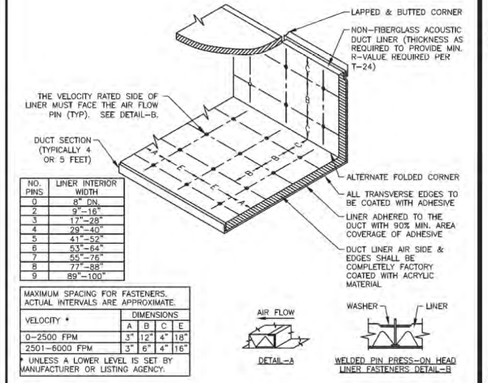
SCALE: NONE | 8



NOTE: NOT A MOUNTING DETAIL.

CONDENSING UNIT PIPING DIAGRAM

SCALE: NONE | 5



NO. PINS	LINER INTERIOR WIDTH
0	8" DN.
2	9"-16"
3	17"-28"
4	29"-40"
5	41"-52"
6	53"-64"
7	65"-76"
8	77"-88"
9	89"-100"

MAXIMUM SPACING FOR FASTENERS. ACTUAL INTERVALS ARE APPROXIMATE.				
VELOCITY *	DIMENSIONS			
	A	B	C	E
0-2500 FPM	3"	12"	4"	18"
2501-6000 FPM	3"	6"	4"	16"

* UNLESS A LOWER LEVEL IS SET BY MANUFACTURER OR LISTING AGENCY.

DUCT LINER DETAIL

SCALE: NONE | 2

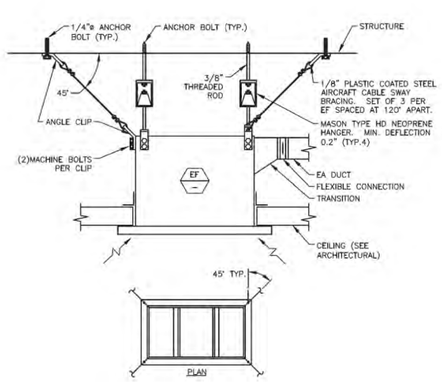
NOTE: CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING INSIDE CONDUIT AND ALL OTHER ACCESSORIES REQUIRED FOR PROPER OPERATION OF SYSTEM AS RECOMMENDED BY MANUFACTURER.

WIRING PROVIDED AND INSTALLED BY DIVISION 16

WIRING PROVIDED AND INSTALLED BY DIVISION 15

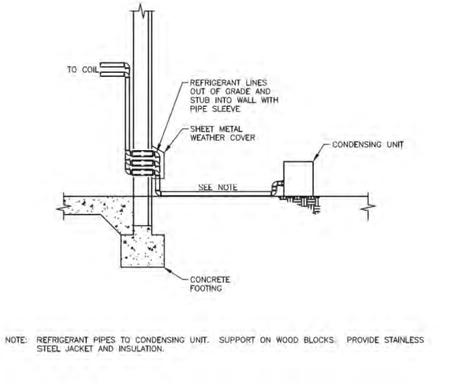
EXHAUST FAN CONTROL DIAGRAMS

SCALE: NONE | 12



CEILING MOUNTED EXHAUST FAN DETAIL

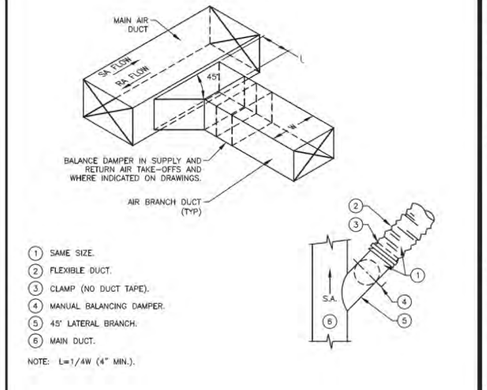
SCALE: NONE | 9



NOTE: REFRIGERANT PIPES TO CONDENSING UNIT. SUPPORT ON WOOD BLOCKS. PROVIDE STAINLESS STEEL JACKET AND INSULATION.

REFRIGERANT PIPE TO UNIT DETAIL

SCALE: NONE | 6



1. SAME SIZE.
2. FLEXIBLE DUCT.
3. CLAMP (NO DUCT TAPE).
4. MANUAL BALANCING DAMPER.
5. 45° LATERAL BRANCH.
6. MAIN DUCT.

NOTE: L=1/4W (4" MIN.).

DUCT TAKE-OFF DETAIL

SCALE: NONE | 3

STK
42016 ZEVO DR. TEMECULA, CALIFORNIA 92590-5780
Phone: 951.296.9115 Fax: 951.296.9178 Email: info@stkinc.com

CONSULTANT:
Salas O'Brien
3220 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100 12-20-24 #2024-03417
DO NOT SCALE THIS PRINT www.salasobrien.com

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J01202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME: -

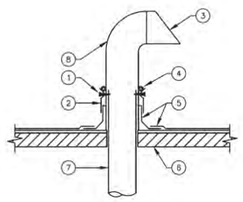
SEAL:



SHEET TITLE:
MECHANICAL DETAILS

SHEET NO.:
M5.1

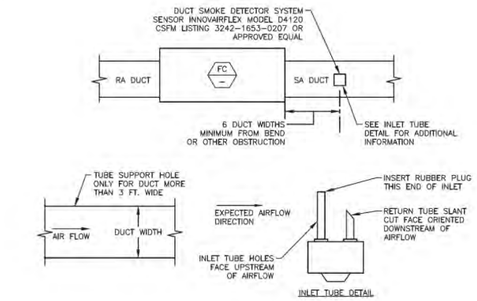
T:\2024\024-114AM - 2B Fire Station\CD\05 Bid-Const\Mechanical\2024-0417_M5.1.dwg



1. SECURE w/#10 S.M.S. (2)EACH SIDE.
2. COUNTER FLASHING.
3. PROVIDE WITH DRYER VENT HOOD WITH BACKDRAFT DAMPER.
4. WATER PROOF SEALANT ALL AROUND.
5. ROOFING AS PER ARCH. DRAWING'S.
6. ROOF STRUCTURE.
7. EXHAUST DUCT THROUGH ROOF.
8. G.I. GOOSENECK.

DRYER VENT ROOF CAP

SCALE: NONE | 10

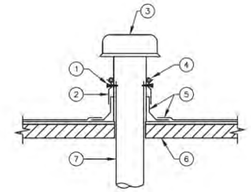


INLET TUBE DETAIL

NOTE: PROVIDE WITH U.L. 268A AND CSFM LISTED, PHOTOELECTRIC-TYPE DUCT SMOKE DETECTOR IN SUPPLY DUCT. DIVISION 23 TO PROVIDE DETECTOR, DIVISION 26 TO PROVIDE 120V-1PH POWER.

DUCT SMOKE DETECTOR MOUNTING DETAIL

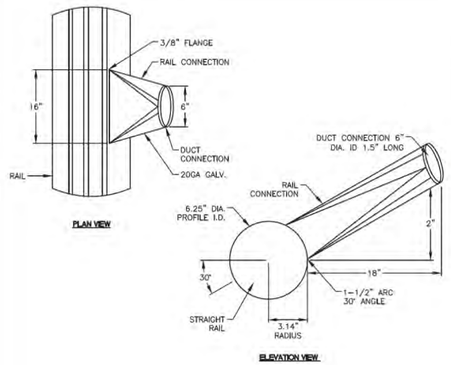
SCALE: NONE | 7



1. SECURE w/#10 S.M.S.-2 EACH SIDE
2. COUNTER FLASHING
3. ROOF CAP
4. WATER PROOF SEALANT ALL AROUND
5. ROOFING AS PER ARCH. DWGS.
6. ROOF STRUCTURE
7. EXHAUST DUCT THROUGH ROOF

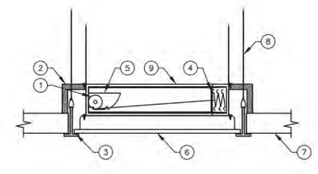
ROOF CAP DETAIL

SCALE: NONE | 4



VEHICLE EXHAUST ATTACHMENT DETAIL

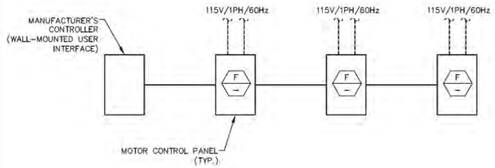
SCALE: NONE | 1



1. STAINLESS STEEL NEGATOR CLOSURE SPRING.
2. 1-HR FIRE PROTECTION.
3. CEILING GRID.
4. FUSIBLE LINK.
5. BLADE LOCK.
6. DIFFUSER OR REGISTER.
7. SUSPENDED ACOUSTIC CEILING.
8. 12GA STEEL WIRE (TYP.2).
9. FIRE DAMPER IN FRAME.

FIRE DAMPER IN CEILING

SCALE: NONE | 11



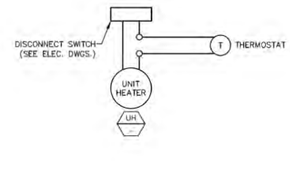
NOTE: CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING INSIDE CONDUIT AND ALL OTHER ACCESSORIES REQUIRED FOR PROPER OPERATION OF SYSTEM AS RECOMMENDED BY MANUFACTURER.

WIRING PROVIDED AND INSTALLED BY DIVISION 16

WIRING PROVIDED AND INSTALLED BY DIVISION 15

CIRCULATING FAN CONTROL

SCALE: NONE | 8



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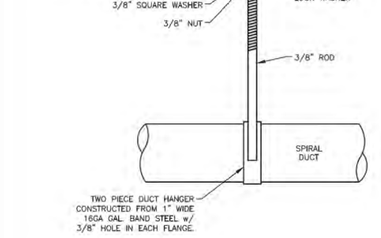
WIRING PROVIDED AND INSTALLED BY DIVISION 16

WIRING PROVIDED AND INSTALLED BY DIVISION 15

UNIT HEATER CONTROL DIAGRAM

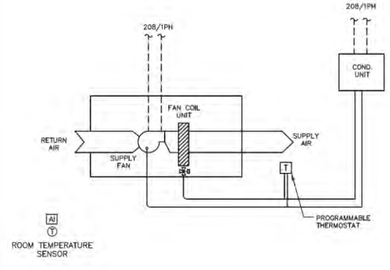
SCALE: NONE | 5



NOTE: PROVIDE GUARDS AS NECESSARY TO PROTECT DUCT FROM DAMAGE.

VEHICLE EXHAUST DUCT MOUNTING DETAIL

SCALE: NONE | 2



NOTE:
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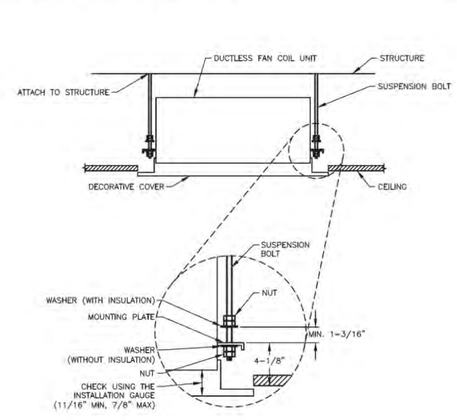
WIRING PROVIDED AND INSTALLED BY DIVISION 26

WIRING PROVIDED AND INSTALLED BY DIVISION 23

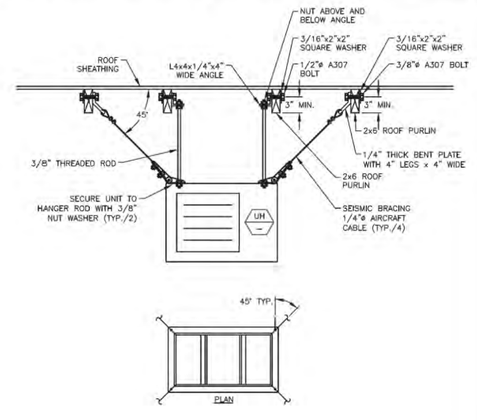
SPLIT SYSTEM CONTROL DIAGRAM

SCALE: NONE | 12



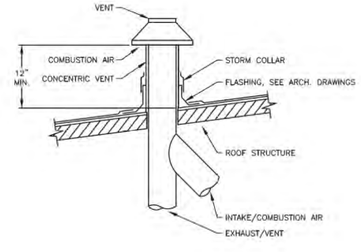
DUCTLESS CEILING MOUNTED FAN COIL DETAIL

SCALE: NONE | 9



UNIT HEATER MOUNTING DETAIL

SCALE: NONE | 6



CONCENTRIC VENT TERMINATION DETAIL

SCALE: NONE | 3

STK
4096 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
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CONSULTANT:

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3220 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100

12-20-24 #2024-03417

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0J202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME: -

SEAL:

SHEET TITLE:
MECHANICAL
DETAILS

SHEET NO.:
M5.2

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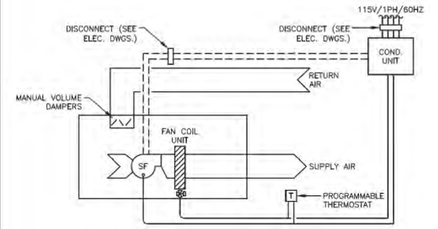
12/20/2024 11:14:44 AM

NOT USED — SCALE: NONE — 10

NOT USED — SCALE: NONE — 7

NOT USED — SCALE: NONE — 4

DUCTLESS SPLIT SYSTEM CONTROL DIAGRAM — SCALE: NONE — 1



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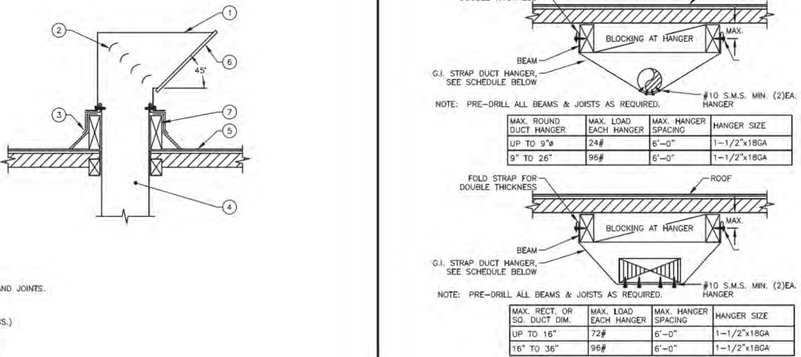
---------- WIRING PROVIDED AND INSTALLED BY DIVISION 26

———— WIRING PROVIDED AND INSTALLED BY DIVISION 23

NOT USED — SCALE: NONE — 11

NOT USED — SCALE: NONE — 8

IN-LINE FAN SUPPORT DETAIL — SCALE: NONE — 2



*NOTE: IF LENGTH 'L' IS GREATER THAN 18", PROVIDE 2 x 2 x 1/4 STIFFENER WITH WELDS TOP & BOTTOM AND AT 18"O.C. MAX.

NOT USED — SCALE: NONE — 12

NOT USED — SCALE: NONE — 9

EXHAUST DUCT TERMINATION — SCALE: NONE — 6

1. WATERPROOF ALL SEAMS AND JOINTS.
2. TURNING VANES.
3. FLASHING (SEE ARCH. DWGS.)
4. INTAKE/EXHAUST DUCT.
5. ROOF (SEE ARCH. DWGS.).
6. 1/2"x1/2" BIRD SCREEN.
7. 2x WOOD CURB.

DUCT SUPPORT DETAILS — SCALE: NONE — 3

NOTE: PRE-DRILL ALL BEAMS & JOISTS AS REQUIRED.

MAX. ROUND DUCT HANGER	MAX. LOAD EACH HANGER	MAX. HANGER SPACING	HANGER SIZE
UP TO 9"ø	24#	6'-0"	1-1/2"x18GA
9" TO 26"	96#	6'-0"	1-1/2"x18GA

NOTE: PRE-DRILL ALL BEAMS & JOISTS AS REQUIRED.

MAX. RECT. OR SQ. DUCT DIM.	MAX. LOAD EACH HANGER	MAX. HANGER SPACING	HANGER SIZE
UP TO 16"	72#	6'-0"	1-1/2"x18GA
16" TO 36"	96#	6'-0"	1-1/2"x18GA

STK
4006 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9115 Fax: 951.296.9116 Email: info@stkinc.com

CONSULTANT:

Salas O'Brien
3220 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100 12-20-24 #2024-03417

PROJECT ADMINISTERED BY:

SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:

SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0.1202

CIP #

CAFM #

APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER M. SCHANDEL — No. M28811 — Exp. 6/30/26 — MECHANICAL — STATE OF CALIFORNIA

SHEET TITLE:

MECHANICAL DETAILS

SHEET NO.:

M5.3

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PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	S	SEWER PIPE
	OW	OILY WASTE PIPE
	GW	GREASE WASTE PIPE
	PW	PUMPED (FORCED) WASTE PIPE
	IW	INDIRECT WASTE PIPE
	V	VENT PIPE
	CW	COLD WATER PIPE
	ICW	INDUSTRIAL COLD WATER PIPE
	SCW	SOFT COLD WATER PIPE
	HW	HOT WATER PIPE
	IHW	INDUSTRIAL HOT WATER PIPE
	HWR	HOT WATER RETURN PIPE
	140	140°F HOT WATER PIPE
	R	RECLAIMED WATER PIPE
	G	LOW PRESSURE NATURAL GAS PIPE
	MPG	MEDIUM PRESSURE NATURAL GAS PIPE
	HPG	HIGH PRESSURE NATURAL GAS PIPE
	LPG	LIQUEFIED PETROLEUM GAS PIPE
	CD	CONDENSATE DRAIN PIPE
	SCD	SECONDARY CONDENSATE DRAIN PIPE
	PCD	PUMPED CONDENSATE DRAIN PIPE
	RD	ROOF DRAIN PIPE
	ORD	OVERFLOW ROOF DRAIN PIPE
	CA	COMPRESSED AIR PIPE
	FCO	FLOOR CLEAN OUT
	GCO	GRADE CLEAN OUT
	WCO	WALL CLEAN OUT
	FC	FLEXIBLE CONNECTION
	SOV	SHUT OFF VALVE
	GC	GAS COCK
	CV	CHECK VALVE
	BV	BALL VALVE
	PRV	PRESSURE REDUCING VALVE
	BLV	BALANCING VALVE
PTR	PTR	PRESSURE AND TEMPERATURE RELIEF VALVE
	U	UNION
		CAPPED PIPE
	CONT	CONTINUED OR CONTINUATION
TP	TP	TRAP PRIMER LINE
	WHA	WATER HAMMER ARRESTOR
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
	HB	HOSE BIBB
		PIPE DOWN OR DROP
		PIPE UP OR RISE
		VALVE ON DROP
		VALVE ON RISE
	T	THERMOMETER
	AS	AQUASTAT
	P.O.D.	POINT OF DISCONNECT
	POC	POINT OF CONNECTION
	AD, FD	AREA DRAIN OR FLOOR DRAIN
	FS, RR	FLOOR SINK OR ROOF RECEPTOR
	VTR	VENT THROUGH ROOF
	DEMO	DEMOLITION OR DEMOLISH
	RELO	RELOCATE
	CIRC PUMP	CIRCULATING PUMP
ø	DIA, DIAM	DIAMETER

ABBREVIATION	DESCRIPTION
ABV	ABOVE
A/C	ABOVE CEILING
AGA	AMERICAN GAS ASSOCIATION
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
ASME	AMERICAN SOCIETY FOR MECHANICAL ENGINEERS
ASSE	AMERICAN SOCIETY FOR SANITARY ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
A/G	ABOVE GRADE
AP	ACCESS PANEL
ARCH	ARCHITECT OR ARCHITECTURAL
BT	BATH TUB
BEL	BELOW
B/F	BELOW FLOOR
B/G	BELOW GRADE
BOP	BOTTOM OF PIPE
B/S	BELOW SLAB
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CBC	CALIFORNIA BUILDING CODE
CEC	CALIFORNIA ELECTRICAL CODE
CFC	CALIFORNIA FIRE CODE
CMC	CALIFORNIA MECHANICAL CODE
CPC	CALIFORNIA PLUMBING CODE
CI	CAST IRON
CISPI	CAST IRON SOIL PIPE INSTITUTE
CLG	CEILING
CP	CIRCULATION PUMP
CL	CLARIFIER
CLR	CLEAR
CONC	CONCRETE
CONN	CONNECT OR CONNECTION
CONTR	CONTRACTOR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
°C	DEGREES CELSIUS
°F	DEGREES FAHRENHEIT
DIV	DIVISION
DWG(S)	DRAWING(S)
EA	EACH
(E)	EXISTING
ELEC	ELECTRICAL
ELEV	ELEVATION
ET	EXPANSION TANK
FF	FINISHED FLOOR
FPM	FEET PER MINUTE
FLR	FLOOR
FT	FEET OR FOOT
FU	FIXTURE UNIT
FOG	FAT, OIL AND GREASE
GA	GAUGE
GALV	GALVANIZED
GPC	GALLONS PER CYCLE
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GD	GARBAGE DISPOSAL
HD	HEAD
GI	GREASE INTERCEPTOR
HDR	HEADER
HR	HOUR
IM	ICE MAKER SUPPLY BOX
IES	ILLUMINATING ENGINEERS SOCIETY
IND	INDIRECT
IAPMO	INTERNATIONAL ASSOCIATION OF PLUMBERS AND MECHANICAL OFFICIALS
IBC	INTERNATIONAL BUILDING CODE
IMC	INTERNATIONAL MECHANICAL CODE
IPC	INTERNATIONAL PLUMBING CODE
INV	INVERT
IE	INVERT ELEVATION
KEC	KITCHEN EQUIPMENT CONTRACTOR
KG	KILOGRAMS
KPQ	KILOPASCALS
KS	KITCHEN SINK
LS	LAUNDRY SINK
L, LAV	LAVATORY
L/S	LITERS PER SECOND
LPF	LITERS PER FLUSH
MH	MANHOLE
MFR	MANUFACTURER
MSS	MANUFACTURERS STANDARDIZATION SOCIETY
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MS	MOP SINK
MTD	MOUNTED
NSF	NATIONAL SANITATION FOUNDATION
NPSH	NET POSITIVE SUCTION HEAD
NOM	NOMINAL
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER
PLBG	PLUMBING
PDI	PLUMBING AND DRAINAGE INSTITUTE
PE	POLYETHYLENE
LBS	POUNDS
PSIG	POUNDS PER SQUARE INCH GAUGE
PD	PRESSURE DROP
QTY	QUANTITY
REQ'D	REQUIRED
RI	ROUGH-IN
SCH	SCHEDULE
SH	SHOWER
SOV	SHUT-OFF VALVE
SPEC	SPECIFICATION
SF	SQUARE FEET
SS	STAINLESS STEEL
STRUC	STRUCTURAL
TEMP	TEMPERATURE
MBH	THOUSANDS OF BRITISH THERMAL UNITS PER HOUR
THRU	THROUGH
TDH	TOTAL DEVELOPED HEAD
TDL	TOTAL DEVELOPED LENGTH
TEL	TOTAL EQUIVALENT LENGTH
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UL	UNDERWRITERS LABORATORIES
UBC	UNIFORM BUILDING CODE
UMC	UNIFORM MECHANICAL CODE
UPC	UNIFORM PLUMBING CODE
UR	URINAL
VCP	VITRIFIED CLAY PIPE
V/PH/Hz	VOLTS/PHASE/HERTZ
WB, WSB	WASHING MACHINE SUPPLY BOX
WC	WATER CLOSET
WHA	WATER HAMMER ARRESTOR
WH	WATER HEATER
YB	YARD BOX

PLUMBING GENERAL NOTES:

1. THESE DOCUMENTS MAY NOT BE USED FOR ANY REPRODUCTION, BIDDING, OR CONSTRUCTION UNLESS AUTHORIZED, IN WRITING, BY SALAS O'BRIEN AND THE ENGINEER OF RECORD RESPONSIBLE FOR THEIR PREPARATION.
2. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITY PIPES PRIOR TO START OF WORK. NECESSARY ADJUSTMENTS TO THE PLUMBING LAYOUT SHALL BE DONE AT NO EXTRA COST.
3. CONTRACTOR SHALL NOTIFY ALL LOCAL UTILITY COMPANIES INCLUDING BUT NOT LIMITED TO THE GAS COMPANY, ELECTRIC COMPANY, TELEPHONE COMPANY, AND THE WATER DEPARTMENT, ABOUT THE EXTENT OF PLUMBING WORK. ALL EXCAVATION WORK SHALL BE APPROVED BY ALL UTILITY COMPANIES TO ASSURE PREVENTION OF INTERRUPTION OF EXISTING SERVICES PRIOR TO START OF WORK.
4. ALL PLUMBING WORK SHALL MEET OR EXCEED THE REQUIREMENTS OF THE CALIFORNIA PLUMBING CODE, CALIFORNIA BUILDING CODE, CALIFORNIA MECHANICAL CODE, CALIFORNIA ADMINISTRATIVE CODE, TITLE 24, AMERICANS WITH DISABILITIES ACT (ADA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), THE LOCAL CITY AND COUNTY CODES; AND ALL OTHER CODES HAVING JURISDICTION. IN CASE OF CONFLICT, THE MORE STRICT REGULATIONS SHALL GOVERN.
5. ALL PLUMBING WORK SHALL BE COORDINATED WITH THE WORKS OF OTHER TRADES PRIOR TO START OF WORK. NECESSARY ADJUSTMENTS SHALL BE MADE AT NO EXTRA COST.
6. FOR MINIMUM PIPE SIZE CONNECTIONS TO EACH PLUMBING FIXTURE SEE PLUMBING FIXTURE SCHEDULE. THESE VALUES ARE MINIMUM; LARGER CONNECTIONS MAY RESULT BASED ON THE DIFFERENT MANUFACTURER'S RECOMMENDATIONS.
7. MANUFACTURER'S NAMES AND MODEL NUMBERS SHOWN FOR PLUMBING FIXTURES AND EQUIPMENT ARE FOR REFERENCE ONLY. OTHER MANUFACTURERS WHICH CAN MEET THE DESIGN REQUIREMENTS OF THE PLUMBING SYSTEM MAY BE SUBSTITUTED UPON APPROVAL FROM THE ARCHITECT AND THE OWNER.
8. PROVIDE DIELECTRIC FITTINGS FOR DISSIMILAR METALS IN CONTACT.
9. PROVIDE HANGERS AND SUPPORTS FOR PIPING IN ACCORDANCE WITH THE RECOMMENDATIONS OF MSS SP-69-2003.
10. PROVIDE VALVES AT THE FOLLOWING LOCATIONS:
    A. WATER MAIN SHUT-OFF VALVE IN VALVE BOX.
    B. VALVE WITH HOSE CONNECTION ON DOWNSTREAM SIDE OF THE MAIN SHUT-OFF VALVE.
    C. SHUT-OFF VALVE ON EACH SUPPLY TO EACH FIXTURE AND EQUIPMENT ITEM NOT PROVIDED WITH CONTROL STOP OR OTHER AUXILIARY SHUT-OFF VALVE. INSTALL SHUT-OFF VALVES SO THAT STEMS EITHER ARE VERTICAL WITH HANDWHEELS OR OPERATORS ON TOP OR ARE HORIZONTAL AND SO THAT VALVES ARE EASILY ACCESSIBLE FOR OPERATION, SERVICE, REMOVAL AND REPLACEMENT.
11. PROVIDE SLEEVES FOR ALL PIPE AND TUBING PASSING THROUGH FLOORS, ROOFS, AND WALLS. PACK CAULK INTO THE SPACE AROUND THE PIPE OR TUBING. PROVIDE FLASHING FOR ALL PIPES EXTENDING THROUGH THE ROOF.
12. ALL VENT TERMINATIONS AT ROOF SHALL BE AT LEAST 10 FEET AWAY FROM OUTSIDE AIR INTAKES, OPERABLE WINDOWS, AND BUILDING OPENINGS.
13. FOR SEWER CLEANOUT SIZING REFER TO CPC 2022 TABLE 707.1.
14. FILL CRACKS BETWEEN FIXTURES AND WALL/FLOORS WITH SILICONE RUBBER SEALANT.
15. LOCATE, SIZE, AND INSTALL WATER HAMMER ARRESTERS IN ACCORDANCE WITH PLUMBING AND DRAINAGE INSTITUTE STANDARD NO. WH-201.
16. INSTALL FIXTURES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ALL APPLICABLE CODES. SECURE FLOOR OUTLET OF FLOOR-MOUNTED FIXTURES TO DRAINAGE CONNECTIONS AND FLOOR IN A RIGID MANNER. RIGIDLY SUPPORT WALL-HUNG FIXTURES BY MEANS OF METAL SUPPORTING MEMBERS. USE CHROMIUM-PLATED BRASS BOLTS, NUTS, AND WASHERS WHERE EXPOSED. ALL CONNECTIONS SHALL BE MADE GAS-TIGHT AND WATER-TIGHT. USE OF PUTTY AND PLASTICS FOR GASKETS WILL NOT BE PERMITTED.
17. PROVIDE ALL FIXTURE COMPONENTS AS INDICATED ON DRAWINGS. PROVIDE ADDITIONAL COMPONENTS AS PER MANUFACTURER'S RECOMMENDATIONS FOR PROPER OPERATION OF THE FIXTURES.
18. PROVIDE EACH PLUMBING FIXTURE (INCLUDING HOSE BIBBS) WITH AN INDIVIDUAL STOP OR COMPRESSION VALVE OF POLISHED CHROME-PLATED LOOSE KEY TYPE.
19. WHERE DEPTHS OR INVERTS ELEVATIONS ARE NOT INDICATED, PROVIDE MINIMUM COVERAGE (ABOVE TOP OF PIPES) AS FOLLOWS:
    A. ANY PIPING UNDER SLAB (TOP OF PIPE TO UNDERSIDE OF SLAB): 18 INCHES.
    B. CAST IRON AND COPPER PIPES IN OTHER LOCATIONS: 18 INCHES.
    C. EXCAVATE TO UNDISTURBED EARTH; CUT LEVEL AND FORM TRUE. REMOVE DEBRIS, RUBBISH AND SOFT MATERIAL (SUCH AS MUD). WHERE ROCK IS ENCOUNTERED, UNDERCUT TRENCHES 6-INCHES AND FILL WITH WELL TAMPED NEUTRAL SAND AND PEA GRAVEL TO PROPER PIPE ELEVATION. DURING EXCAVATION FREE OF STANDING WATER. UNDERCUT TRENCH 6-INCHES AND INSTALL PIPING IN A 6-INCH NEUTRAL SAND ENVELOPE.
19. BACKFILL TO A POINT 12-INCHES ABOVE TOP OF PIPING WITH EARTH (EXCAVATED MATERIAL MAY BE USED) FREE OF CLAY, DEBRIS, RUBBISH, ROCKS, OR CLODS OVER 4-INCHES IN THE GREATEST DIMENSION. BACKFILL ABOVE 12-INCHES FROM TOP OF PIPING MAY BE WITH EXCAVATED MATERIAL. APPLY BACKFILL BY HAND IN 6-INCH DEEP LAYERS THE FULL WIDTH OF THE TRENCH. MOISTEN EACH LAYER (DO NOT FLOOD OR PUDDLE), AND HAND TAMP TO A MINIMUM 90 PERCENT COMPACTION BEFORE PROCEEDING WITH THE NEXT LAYER OF BACKFILL.
20. DO NOT EXCAVATE UNDER FOUNDATIONS OR FOOTINGS EXCEPT IN MANNER PERMITTED BY THE ARCHITECT. DO NOT BACKFILL UNTIL INSTALLED PIPING HAS BEEN SUCCESSFULLY TESTED.
21. VERIFICATION OF WATER AGENCY APPROVAL SHALL BE SUBMITTED TO THE BUILDING AND SAFETY DIVISION PRIOR TO ISSUANCE OF A PLUMBING PERMIT FOR THIS PROJECT.
22. ALL PENETRATIONS THRU FIRE RATED ASSEMBLIES SHALL BE PACKED WITH APPROVED FIRE PROOFING. FOR LOCATIONS OF FIRE RATED ASSEMBLIES, SEE ARCHITECTURAL PLANS.
23. ROUTE ALL PIPES AS HIGH AS POSSIBLE IN EXPOSED LOCATIONS. COORDINATE ROUTING WITH ALL OTHER TRADES PRIOR TO START OF WORK.
24. NO SPRAY FOAM INSULATION SHALL BE APPLIED TO AREAS CONTAINING PEX PIPING.

PLUMBING MANDATORY MEASURES

1. ALL PLUMBING SYSTEM COMPONENTS SHALL MEET OR EXCEED THE REQUIREMENTS OF CURRENT CBC, CMC, CPC, NEC, NFPA, ASTM, ANSI, AND ALL LOCAL AND STATE CODE REQUIREMENTS. (SEE BELOW)
2. ALL PLUMBING EQUIPMENT LISTED IN OF THE 2022 CALIFORNIA CODE OF REGULATIONS (CCR), TITLE-24, PART 6, SECTION 110.3 ENERGY EFFICIENCY STANDARDS MUST BE CERTIFIED BY THE MANUFACTURER TO MEET OR EXCEED SPECIFICATIONS OR EFFICIENCIES ADOPTED BY THE CEC.
3. ALL HEATERS FOR DOMESTIC HOT WATER MUST BE CERTIFIED BY THE MANUFACTURER TO MEET THE SPECIFICATIONS OR EFFICIENCIES AS ADOPTED BY THE CEC IN ACCORDANCE WITH THE 2022 CALIFORNIA CODE OF REGULATIONS (CCR), TITLE-24, PART 6, SECTION 110.3 RESIDENTIAL NON-RESIDENTIAL.
4. ALL INSULATING MATERIALS INSTALLED MUST BE CERTIFIED BY CALIFORNIA ENERGY COMMISSION TO MEET 2022 CALIFORNIA CODE OF REGULATIONS, TITLE-24, PART 6, ENERGY EFFICIENCY STANDARDS, SECTION 120.3 AND TABLE 4-15.
5. ALL INSULATION INSTALLED SHALL MEET THE FLAME SPREAD AND SMOKE DENSITY REQUIREMENTS OF 2022 CBC, PART 1, SECTION 720 AND 2022 CMC. SECTION 602.2.
6. ALL PIPING EXPOSED TO WEATHER SHALL BE METALLIC.
7. ALL FERROUS PIPING EXPOSED TO WEATHER SHALL BE GALVANIZED AND PAINTED.
8. ALL PIPES, FITTINGS AND FIXTURES USED TO CONVEY POTABLE WATER SHALL BE LEAD FREE IN COMPLIANCE WITH CPC SECTION 604.2.
9. ALL FIXTURES REQUIRED TO BE ACCESSIBLE SHALL BE INSTALLED AS PER THE LATEST REQUIREMENTS OF TITLE 24 AND ADA (AMERICANS WITH DISABILITIES ACT).
10. CROSS CONNECTION PROTECTION SHALL BE PROVIDED AT ALL POTABLE WATER SUPPLIED APPLIANCES AND EQUIPMENT (OTHER THAN THOSE LISTED IN INFORMATION BULLETIN 103).
11. A WATER HEATER PRESSURE AND TEMPERATURE RELIEF DRAIN THAT TERMINATES OUTSIDE THE BUILDING SHALL COMPLY WITH CPC SECTION 608.5.
12. WATER HEATER SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT DUE TO EARTHQUAKE MOTION PER CPC SECTION 507.2.
13. WATER HEATER SHALL COMPLY WITH CPC SECTION 608.3, FOR THERMAL EXPANSION REQUIREMENTS.
14. LAVATORY FAUCETS IN PUBLIC RESTROOM SHALL BE SELF CLOSING TYPE.
15. TUB AND SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER CPC SECTION 408.3.
16. SHOWERHEADS SHALL BE 1.8 GPM AT 80PSI.
17. NONRESIDENTIAL LAVATORY FAUCETS SHALL BE 0.4 GPM MAXIMUM.
18. KITCHEN FAUCETS AND WASH FOUNTAINS SHALL BE 1.8 GPM MAXIMUM.
19. METERING FAUCETS SHALL BE 0.2 GPC MAXIMUM.
20. WATER CLOSETS (GRAVITY TANK TYPE, FLUSHOMETER TANK, FLUSHOMETER VALVE AND ELECTROMECHANICAL HYDRAULIC TYPE) SHALL BE 1.28 GPF MAXIMUM.
21. FLOOR-MOUNT URINALS SHALL BE 0.5 GPF MAXIMUM. WALL-MOUNT URINALS SHALL BE 0.125 GPF MAXIMUM.
22. ALL INSTALLATION OF PEX PIPE INSTALLED IN NEW CONSTRUCTION SHALL BE FLUSHED TWICE OVER A PERIOD OF AT LEAST ONE WEEK PER CPC SECTION 604.1.2. PEX.
    1) AT THE TIME OF FILL, EACH NEW PLUMBING FIXTURE SHALL HAVE A REMOVABLE TAG APPLIED STATING:
       a. THIS NEW PLUMBING SYSTEM SHALL BE FIRST FILLED AND FLUSHED ON _____(DATE) BY _____(NAME). THE STATE OF CALIFORNIA REQUIRES THAT THE SYSTEM BE FLUSHED AFTER STANDING AT LEAST ONE WEEK AFTER THE FILL DATE SPECIFIED ABOVE. IF THIS SYSTEM IS USED EARLIER THAN ONE WEEK AFTER THE FILL DATE ABOVE, IF THIS SYSTEM IS USED EARLIER THAN ONE WEEK AFTER THE FILL DATE, THE WATER MUST BE ALLOWED TO RUN FOR AT LEAST TWO MINUTES PRIOR TO USE FOR HUMAN CONSUMPTION. THE TAG MAY NOT BE REMOVED PRIOR TO THE COMPLETION OF THE REQUIRED SECOND FLUSHING, EXCEPT BY BUILDING OWNER OR OCCUPANT.
    2) PRIOR TO ISSUING A BUILDING PERMIT TO INSTALL PEX PIPE, THE BUILDING OFFICIAL SHALL REQUIRE AS PART OF THE PERMITTING PROCESS THAT THE CONTRACTOR; OR THE APPROPRIATE PLUMBING SUBCONTRACTORS, PROVIDE WRITTEN CERTIFICATION THAT HE OR SHE WILL COMPLY WITH THE FLUSHING PROCEDURES SET FORTH BY CODE.
    3) THE BUILDING OFFICIAL SHALL NOT GIVE FINAL PERMIT APPROVAL FOR ANY PEX PLUMBING INSTALLATION UNLESS HE OR SHE FINDS THAT THE MATERIAL HAS BEEN INSTALLED IN COMPLIANCE WITH THE REQUIREMENTS OF THE CODE, INCLUDING THE REQUIREMENTS TO FLUSH AND TAG THE SYSTEMS.
    4) ANY CONTRACTOR OR SUBCONTRACTOR FOUND TO HAVE FAILED TO COMPLY WITH THE PEX FLUSHING REQUIREMENTS SHALL BE SUBJECT TO THE PENALTIES IN HEALTH AND SAFETY CODE, DIVISION 13, PART 1.5, CHAPTER 6 (SECTION 17995, et seq.).

APPLICABLE CODES

- 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), CCR PART 1, TITLE 24
- 2022 CALIFORNIA BUILDING CODE (CBC), CCR TITLE 24, PARTS 1 & 2 (BASED ON THE 2021 EDITION INTERNATIONAL BUILDING CODE, VOLS. 1 & 2)
- 2022 CALIFORNIA ELECTRICAL CODE (CEC), CCR TITLE 24, PART 3 (BASED ON THE 2020 EDITION NATIONAL ELECTRICAL CODE WITH CALIFORNIA AMENDMENTS)
- 2022 CALIFORNIA MECHANICAL CODE (CMC), CCR TITLE 24, PART 4, TITLE 24 CCR (BASED ON THE 2021 EDITION UNIFORM MECHANICAL CODE WITH CALIFORNIA AMENDMENTS)
- 2022 CALIFORNIA PLUMBING CODE (CPC), CCR TITLE 24, PART 5, (BASED ON THE 2021 EDITION UNIFORM PLUMBING CODE WITH CALIFORNIA AMENDMENTS)
- 2022 CALIFORNIA ENERGY CODE (CEC), CCR TITLE 24, PART 6, AND ASSOCIATED ADMINISTRATIVE REGULATION IN PART 1.
- 2022 CALIFORNIA FIRE CODE (CFC), CCR TITLE 24, PART 9 (BASED ON THE 2021 EDITION INTERNATIONAL FIRE CODE WITH CALIFORNIA AMENDMENTS)
- 2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), CCR TITLE 24, PART 10, (BASED ON THE 2021 EDITION INTERNATIONAL EXISTING BUILDING CODE WITH CALIFORNIA AMENDMENTS)
- 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGreen), CCR TITLE 24, PART 11
- 2022 CALIFORNIA REFERENCED STANDARDS CODE, CCR TITLE 24, PART 12
- TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.0.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
PLUMBING
LEGEND AND
GENERAL
NOTES

SHEET NO.:
P0.1

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MANDATORY CALGREEN CHECKLIST

WATER EFFICIENCY AND CONSERVATION INDOOR WATER USE	MANDATORY
5.303.1 METERS. SEPARATE METERS SHALL BE INSTALLED FOR THE USES DESCRIBED IN SECTIONS 5.303.1.1 AND 5.303.1.2. 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 100GAL/DAY. 2. WHERE SEPARATE SUBMETERS FOR INDIVIDUAL BUILDINGS TENANTS ARE UNFEASABLE, FOR WATER SUPPLIED TO THE FOLLOWING SUBSYSTEMS: a. MAKEUP WATER FOR COOLING TOWERS WHERE FLOW THROUGH IS GREATER THAN 500 GPM (30L/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. ANY BUILDING OR A SPACE WITHIN A BUILDING THAT IS PROJECTED TO CONSUME MORE THAN 1,000 GAL/DAY (3800 L/DAY)	
5.303.2 20 PERCENT SAVINGS. A SCHEDULE OF PLUMBING FIXTURES AND FIXTURE FITTINGS THAT WILL REDUCE THE OVERALL USE OF POTABLE WATER WITHIN THE BUILDING BY 20 PERCENT SHALL BE PROVIDED. (CALCULATE SAVINGS BY WATER USE WORKSHEETS) 5.303.2.1 MULTIPLE SHOWERHEADS SERVING ONE SHOWER. WHEN A SHOWER IS SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL THE SHOWERHEADS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED THE MAXIMUM FLOW RATE AT ≥ 20 PERCENT REDUCTION CONTAINED IN TABLE 5.303.2.3 OR THE SHOWER SHALL BE DESIGNED TO ONLY ALLOW ONE SHOWERHEAD TO BE IN OPERATION AT A TIME.	
5.303.4 WASTEWATER REDUCTION. EACH BUILDING SHALL REDUCE THE GENERATION OF WASTEWATER BY ONE OF THE FOLLOWING METHODS: 1. THE INSTALLATION OF WATER-CONSERVING FIXTURES OR 2. UTILIZING NONPOTABLE WATER SYSTEMS.	
5.303.6 PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE REQUIREMENTS LISTED FOR EACH TYPE IN ITEMS LISTED IN TABLE 5.303.6. 1. WATER CLOSETS (TOILETS) – FLUSHOMETER TYPE 2. WATER CLOSETS (TOILETS) – TANK TYPE 3. URINALS 4. PUBLIC LAVATORY FAUCETS 5. PUBLIC METERING SELF-CLOSING FAUCETS 6. RESIDENTIAL BATHROOM LAVATORY SINK FAUCETS 7. RESIDENTIAL KITCHEN FAUCETS 8. RESIDENTIAL SHOWER HEADS 9. SINGLE SHOWER FIXTURES SERVED BY MORE THAN ONE SHOWERHEAD	

WATER REDUCTION FIXTURE FLOW RATES

PER 2022 CALIFORNIA GREEN BUILDING CODE – TABLE A5.303.2.3.1

FIXTURE TYPE	MAXIMUM FLOW RATE
KITCHEN FAUCETS	1.8 GPM AT 60 PSI
WASH FOUNTAINS	1.8 [RIM SPACE (IN.)/20 GPM AT 60 PSI]
METERING FAUCETS	0.20 GALLONS/CYCLE
METERING FAUCETS FOR WASH FOUNTAINS	0.20 GALLONS/CYCLE/20 [RIM SPACE (IN.)@ 60 PSI]

EACH PLUMBING FIXTURE AND FITTING SHALL MEET THE FLOW RATE SPECIFIED IN 2022 CAL GREEN TABLE A5.303.2.3.1

WATER CONSERVATION FIXTURE FLOW RATES

PER 2022 CALIFORNIA GREEN BUILDING CODE SECTION 5.303.3

FIXTURE TYPE	MAXIMUM BASELINE FLOW RATE
WATER CLOSETS	1.28 GALLONS PER FLUSH
URINALS (FLOOR-MOUNT/WALL-MOUNT)	0.5/0.125 GALLONS PER FLUSH
SHOWERHEADS	1.8 GPM AT 80 PSI

PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH 5.303.3.

PLUMBING FIXTURES AND FIXTURE FITTINGS

PER 2022 CALIFORNIA PLUMBING CODE – TABLE 1701.1

REQUIRED STANDARDS	
WATER CLOSETS (TOILETS) – FLUSHOMETER VALVE TYPE SINGLE FLUSH, MAXIMUM FLUSH VOLUME	ASME A 112.19.2/CSA B45.1 – 1.28 GPF (4.8 L)
WATER CLOSETS (TOILETS) – FLUSHOMETER VALVE TYPE DUAL FLUSH, MAXIMUM FLUSH VOLUME	ASME A 112.19.2 AND USEPA WATERSENSE TANK-TYPE HIGH-EFFICIENCY TOILET SPECIFICATION – 1.28 GPF (4.8 L)
WATER CLOSETS (TOILETS) – TANK TYPE	U.S. EPA WATERSENSE TANK-TYPE HIGH EFFICIENCY TOILET SPECIFICATION
URINALS, MAXIMUM FLUSH VOLUME	ASME A 112.19.2/CSA B45.1 – 0.5 GPF (1.9 L)
URINALS, NONWATER URINALS	ASME A 112.19.19 (VITREOUS CHINA) ANSI Z124.9–2004 OR IAPMO Z124.9 (PLASTIC)
PUBLIC LAVATORY FAUCETS: MAXIMUM FLOW RATE – 0.5 GPM (1.9 L/MIN.)	ASME A 112.18.1/CSA B125.1
PUBLIC METERING SELF-CLOSING FAUCETS: MAXIMUM FLOW RATE – 0.25 (1.0 L) PER METERING CYCLE	ASME A 112.18.1/CSA B125.1
RESIDENTIAL BATHROOM LAVATORY SINK FAUCETS: MAXIMUM FLOW RATE – 1.5 GPM (5.7L/MIN)	ASME A 112.18.1/CSA B125.1

PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL MEET THE STANDARDS REFERENCED IN TABLE 5.303.6.

PLUMBING PIPE MATERIAL SCHEDULE

SERVICE	LOCATION	PIPE MATERIAL	SLOPE
WATER	ABOVE GRADE	ASTM B88 TYPE "L" HARD DRAWN COPPER WITH WROUGHT COPPER FITTINGS.	1/32" PER 1'
	BELOW GRADE	ASTM B88 TYPE "K" HARD DRAWN COPPER, FACTORY INSULATED, WITH WROUGHT COPPER FITTINGS.	1/32" PER 1'
SEWER AND VENT	ABOVE GRADE	ASTM A888 HUBLESS CAST IRON PIPE AND DWV FITTINGS SHALL CONFORM TO CPC AND BEAR THE COLLECTIVE TRADEMARK OF CISPI AND NSF.	1/4" PER 1'
	BELOW GRADE	SOLID CORE PVC-DWV PER ASTM D1785/D2665. PVC SOCKET FITTINGS PER ASTM D2665.	1/4" PER 1'
ROOF DRAIN	ABOVE GRADE	ASTM A888 HUBLESS CAST IRON PIPE AND DWV FITTINGS SHALL CONFORM TO CPC AND BEAR THE COLLECTIVE TRADEMARK OF CISPI AND NSF.	1/4" PER 1'
	BELOW GRADE	SOLID CORE PVC-DWV PER ASTM D1785/D2665. PVC SOCKET FITTINGS PER ASTM D2665.	1/4" PER 1'
NATURAL GAS	ABOVE GRADE	ASTM A53 SCHEDULE 40 GALVANIZED STEEL "BLACK" PIPE AND FITTINGS SHALL CONFORM TO CPC. EXPOSED PIPING SHALL BE PAINTED.	1/4" PER 15'
	BELOW FLOOR (INTERIOR)	ASTM A53 SCHEDULE 40 GALVANIZED STEEL "BLACK" PIPE AND FITTINGS SHALL CONFORM TO CPC. PIPING INSTALLED UNDERGROUND BENEATH BUILDING SHALL CONFORM TO CPC 1210.1.6.	1/4" PER 15'
	BELOW GRADE (EXTERIOR)	ASTM D2513-16a POLYETHYLENE "PE" PIPE. ALL FITTINGS SHALL BE AS PER CPC.	1/4" PER 15'
CONDENSATE	ABOVE GRADE	ASTM B88 TYPE "L" HARD DRAWN COPPER WITH WROUGHT COPPER FITTINGS.	1/4" PER 1'

PIPE INSULATION THICKNESS

PER 2022 CALIFORNIA ENERGY CODE TABLE 120.3-A

FLUID OPERATING TEMPERATURE RANGE (°F)	INSULATION CONDUCTIVITY: CONDUCTIVITY (IN BTU-IN/H PER SQ. FT° °F)	INSULATION CONDUCTIVITY: MEAN RATING TEMPERATURE (°F)		NOMINAL PIPE DIAMETER(INCHES): <1	1 – < 1.5	1.5 – < 4	4 – < 8	8 AND LARGER
				INSULATION THICKNESS REQUIRED (IN INCHES)				
SPACE HEATING, SERVICE WATER HEATING SYSTEMS (STEAM, STEAM CONDENSATE, REFRIGERANT, SPACE HEATING, SERVICE HOT WATER)				MINIMUM PIPE INSULATION REQUIRED (THICKNESS IN INCHES OR R-VALUE)				
ABOVE 350	0.32 – 0.34	250	INCHES	4.5	5.0	5.0	5.0	5.0
			R-VALUE	R37	R41	R37	R27	R23
251–350	0.29 – 0.31	200	INCHES	3.0	4.0	4.5	4.5	4.5
			R-VALUE	R24	R34	R35	R26	R22
201–250	0.27 – 0.30	150	INCHES	2.5	2.5	2.5	3.0	3.0
			R-VALUE	R21	R20	R17.5	R17	R14.5
141–200	0.25 – 0.29	125	INCHES	1.5	1.5	2.0	2.0	2.0
			R-VALUE	R11.5	R11	R14	R11	R10
105–140	0.22 – 0.28	100	INCHES	1.0	1.5	1.5	1.5	1.5
			R-VALUE	R7.7	R12.5	R11	R9	R8
				NOMINAL PIPE DIAMETER(INCHES): <=1	1 – < 1.5	1.5 – < 4	4 – < 8	8 <
SPACE COOLING SYSTEMS (CHILLED WATER, REFRIGERANT AND BRINE)				MINIMUM PIPE INSULATION REQUIRED (THICKNESS IN INCHES OR R-VALUE)				
40–60	0.21 – 0.27	75	INCHES	NONRES 0.5 / RES 0.5	NONRES 0.5 / RES 0.5	1.0	1.0	1.0 / 1.0
			R-VALUE	R3 / R6	R3 / R5			
BELOW 40	0.20 – 0.26	50	INCHES	1.0	1.5	1.5	1.5	1.5
			R-VALUE	R8.5	R14	R12	R10	R9

WATER HEATER CALCULATION

FROM TABLE 6-1 ASPE HANDBOOK VOL.2

FIXTURE	QTY	GPH	TOTAL GPH
LAVATORY	7	5	35
SHOWER	7	20	20
EXTRACTOR	1	75	75
DECON SERVICE SINK	1	15	15
COFFEE SINK	1	10	10
KITCHEN SINK	1	10	10
MOP SINK	1	20	20
LAUNDRY SINK	1	15	15
SMALL CLOTH WASHER	2	20	40
DISH WASHER	2	21	42
TOTAL DOMESTIC HOT WATER DEMAND			402
DEMAND FACTOR			100%
INCOMING CW TEMP.			60°
STORAGE TEMP.			140°
GAS REQUIRED TO HEAT WATER			402X8.33X(140–60).
GPH X 8.33 X TEMP RISE 80°			268,000 BTUH

USING SINGLE WATER HEATER, A MINIMUM WATER HEATER SIZE MUST BE MINIMUM 476,000 BTU's WITH 118 GAL TANK CAPACITY.

FUTURE FIXTURE DATA

SYMBOL	DESCRIPTION	DOMESTIC WATER: NO. OF UNITS	F.U. PER UNIT (1)	TOTAL FIXTURE UNITS: CW	TOTAL FIXTURE UNITS: HW	SEWER: NO. OF UNITS	F.U. PER UNIT (2)	TOTAL FIXTURE UNITS
BT 1	BATHTUB	0	4.0	0.0	0.0	0	2.0	0.0
WB 1	CLOTHES WASHER SUPPLY BOX	2	4.0	8.0	6.0	2	3.0	6.0
EX 1	EXTRACTOR	1	6.0	6.0	4.5	1	INDIRECT	--
DW 1	DISHWASHER	2	1.5	3.0	2.3	2	INDIRECT	--
DF 1	DRINKING FOUNTAIN	0	0.5	0.0	--	0	0.5	0.0
HB 1	HOSE BIBB	1	2.5	2.5	--	1	--	--
HB 1	ADDITIONAL HOSE BIBB	5	1.0	5.0	--	5	--	--
L 1	LAVATORY	7	1.0	7.0	5.3	7	1.0	7.0
S 2	COFFEE COUNTER SINK	0	1.5	0.0	0.0	0	2.0	0.0
KS 1	KITCHEN SINK	1	1.5	1.5	1.1	1	2.0	2.0
LS 1	LAUNDRY/DECON SINK	2	1.5	3.0	2.3	2	2.0	4.0
MS 1	SERVICE/MOP BASIN SINK	1	3.0	3.0	2.3	1	3.0	3.0
W 1	WASHUP	1	2.0	2.0	1.5	1	2.0	2.0
SH 1	SHOWER	7	2.0	14.0	10.5	7	2.0	14.0
UR 1	URINAL	1	4.0	4.0	--	1	2.0	2.0
WC 1	WATER CLOSET (TANK)	7	2.5	17.5	--	7	4.0	28.0
WC 1	WATER CLOSET (VALVE)	0	5.0	0.0	--	0	4.0	0.0
FD 1	FLOOR DRAIN	11	--	--	--	11	0.0	0.0
FS 1	FLOOR SINK	3	--	--	--	3	2.0	6.0
TD 1	TRENCH DRAIN	0	--	--	--	0	3.0	0.0
	TOTAL			76.5	35.6			74.0

(1) WATER FIXTURE UNITS PER CPC TABLE A 103.1 (2) SEWER FIXTURE UNITS PER CPC TABLE 702.1 (3) FIXTURE UNITS TO GREASE INTERCEPTOR

WATER CALCULATIONS

DOMESTIC COLD WATER PRESSURE CALCULATION (AVG PSI / 100 FT)

RESIDUAL PRESSURE
CONTRACTOR TO FIELD VERIFY STREET WATER PRESSURE PRIOR TO START OF WORK. IN CASE OF ANY DISCREPANCIES NOTIFY ARCHITECT/ENGINEER PRIOR TO START OF WORK.

MAX. SYSTEM INLET PRESSURE [AT WATER METER INLET]	=	52	PSI
MIN. SYSTEM INLET PRESSURE [AT PRESSURE REDUCING VALVE INLET]	=	50	PSI
SYSTEM PRESSURE LOSSES			
2" WATER METER @ 38 GPM	=	4	PSI
2" BACKFLOW PREVENTER	=	13	PSI
2" PRESSURE REDUCING VALVE	=	5	PSI
TOTAL OF SYSTEM PRESSURE LOSSES		22.0	PSI
RESIDUAL PRESSURE AT PRV		28	
PRESSURE REDUCING VALVE SETPOINT	=	52	PSI
STATIC HEIGHT PRESSURE LOSS (25' x .433)	=	10.8	PSI
RESIDUAL PRESSURE REQUIRED AT GOVERNING FIXTURE [WATER CLOSET 25 PSI, EXTRACTOR 30 PSI]	=	30	PSI
TOTAL SYSTEM PRESSURE LOSSES (DOWNSTREAM OF PRV)	=	40.8	PSI
PRESSURE AVAILABLE FOR PIPE SIZING			
(PRV SETPOINT – TOTAL SYSTEM PRESSURE LOSSES DOWNSTREAM OF PRV)	=	9.2	PSI
ACTUAL LENGTH OF SYSTEM	=	260	FT
DEVELOPED LENGTH OF SYSTEM (260' X 1.5)	=	390	FT
AVERAGE PRESSURE DROP			
(PRESSURE AVAILABLE FOR PIPE SIZING) X 100 FT / (DEVELOPED LENGTH OF SYSTEM)	(9.2PSI	x100	/ 390)
	=	2.4	PSI/100 FT AVG

SUMMARY

PIPE SIZING BASED UPON 2.4 PSI LOSS PER 100' AVG

DOMESTIC COLD WATER SIZING

FRICTION LOSS 2.4 PSI PER 100 FT AVG, AT 8 FPS MAX. VELOCITY

PIPE SIZE	WSFU: FLUSH TANK	WSFU: FLUSH VALVE	GPM	FPS
1/2"	1	–	2	2.6
3/4"	3	–	5	3.4
1"	12	–	11	4.1
1-1/4"	19	–	19	4.8
1-1/2"	40	13	30	5.4
2"	165	68	64	6.6
2-1/2"	400	279	115	7.7
3"	710	605	170	8.0

DOMESTIC HOT WATER SIZING

FRICTION LOSS 2.4 PSI PER 100 FT AVG, AT 5 FPS MAX. VELOCITY

PIPE SIZE	WSFU: FLUSH TANK	WSFU: FLUSH VALVE	GPM	FPS
1/2"	1	–	2	2.6
3/4"	6	–	5	3.4
1"	15	–	11	4.1
1-1/4"	28	–	19	4.8
1-1/2"	49	–	28	5.0
2"	119	–	48	5.0

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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

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SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
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CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

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-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME: -

SEAL:

SHEET TITLE:
PLUMBING SCHEDULES

SHEET NO.:
P0.2

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GAS FIRED WATER HEATER SCHEDULE

SYMBOL	MANUFACTURER & MODEL NO.	LOCATION	SERVICE	STORAGE (GAL.)	MBH	RECOVERY @ 80°/T (GPH)	INLET TEMP °F	OUTLET TEMP °F	OPERATING WEIGHT (LBS.)	THERMAL EFFICIENCY %	REMARKS
WH 1	AO SMITH BTH-120A MXI	SEE PLAN	KITCHEN DOMESTIC HOT WATER	60	120	173	60°	140°	1,100	95	1 2 3 4 5 6 7 8 9

1. APPROVED FOR USE IN CALIFORNIA ULTRA LOW NOX TYPE.
2. FULLY AUTOMATIC CONTROLS WITH SAFETY SHUTOFF.
3. DIRECT VENT WATER HEATER. 3" PVC PIPE FOR VENTING AND AIR INTAKE. VERIFY SIZE WITH MANUFACTURER PRIOR TO START OF WORK.
4. PROVIDE MANUFACTURER'S VERTICAL FLUE CONDENSATE DRAIN CONNECTION.
5. PROVIDE EXPANSION TANK PER MANUFACTURER'S RECOMMENDATIONS.
6. WATER HEATER RATED FOR INDOOR USE.
7. ELECTRICAL REQUIREMENT: 120V~60HZ, 5.0AMP
8. PROVIDE WITH MANUFACTURER'S CONDENSATE NEUTRALIZING KIT.

PLUMBING EQUIPMENT SCHEDULE

TAG	EQUIPMENT	LOCATION	MANUFACTURER	MODEL	REMARKS
BV 1	BALANCE VALVE	HOT WATER RECIRCULATION	BELL & GOSSETT	117415LF CB-3/4LF	3/4" NPT LEAD FREE BALL-TYPE TRIPLE PURPOSE BALANCING VALVE.
CA 1	AIR COMPRESSOR	AIR COMPRESSOR ROOM	INGERSOLL-RAND	2475N7.5-P	80 GAL VERT RECEIVER. 7.5HP, 2 STAGE COMPRESSOR, 24 CFM AT 90 PSI MAX PRESSURE (PSIG) 175, LOW LEVEL SWITCH, AIR COOLED AFTER COOLED, ELECTRIC TANK DRAIN, MAGNETIC STARTER, START UP KIT, ELECTRICAL: 5HP 230V/3PH.
CAV 1	COMPRESSED AIR VALVE	APPARATUS BAY	NIBCO	M2-500	PROVIDE BRASS QUICK CONNECT FITTING. COORDINATE WITH OWNER TO PROVIDE FITTING TO MEET OWNER REQUIREMENTS. SEE DETAIL 1/P5.2.
ET 1	EXPANSION TANK	WATER HEATER LOCATION	AMTROL	THERM-X-TROL ST-12	SIZED PER MANUFACTURER'S RECOMMENDATIONS.
GO 1	GAS OUTLET BOX	VARIES	GUY GRAY	MULTIBOX	20 GAUGE BOX AND FACEPLATE, WHITE POWDER COAT ON COLD ROLLED STEEL.
SO 1	SAND & OIL INTERCEPTOR	SEE PLAN	JENSEN PRE-CAST	CL-750	750 GALLON OIL INTERCEPTOR/CLARIFIER. PROVIDE TRAFFIC RATED HEAVY DUTY CAST IRON FRAME AND COVERS WITH GAS TIGHT GASKETS, SAMPLING BOX. SEE DETAIL 11/P5.1 FOR SIZING CALCULATION.
PRV 1	PRESSURE REGULATOR VALVE	AT BUILDING	ZURN WILKINS	500XL	LEAD FREE 2" PRESSURE REDUCING VALVE WITH STRAINER. FALLOFF OF 6 PSI AT A FLOWRATE OF 36 GPM.
CP 1	HOT WATER CIRCULATION PUMP	WATER HEATER LOCATION	TACO	113	1/8 HP, 115 V, 60HZ, 1Ø, 27 LBS. INSTALL PER MANUFACTURER'S INSTRUCTIONS. PROVIDE AQUASTAT. 1GPM, 5.1' HEAD LOSS.
RPBP 1	REDUCED PRESSURE BACKFLOW PREVENTER	VARIES	WATTS	SERIES 009	PISTON OPERATED WITH HARD DRAWN, SEAMLESS TYPE "K" COPPER BODY. PROVIDE WITH APPROVED ACCESS PANEL AND DRAIN LINE.
TP 1	TRAP PRIMER	VARIES	MIFAB	M2-500	PROVIDE WITH APPROVED ACCESS PANEL. SEE DETAIL 9/P3.1.
TMV 1	THERMOSTATIC MIXING VALVE	WATER HEATER ROOM	WATTS	LFSH1435	ASSE-1070 LISTED, SET TO 120°F, LEAD FREE, BRASS BODY AND CHECKSTOP. SET TO 120° SIZE AND INSTALL PER MANUFACTURER'S INSTRUCTIONS.
TMV 2	THERMOSTATIC MIXING VALVE	VARIES	WATTS	LFMMV-M1	1/2" ASSE-1070 LISTED, SET TO 105°F. THERMOSTATIC MIXING VALVE SHALL BE INSTALLED ON THE HOT WATER SUPPLY TO FIXTURE. LEAD FREE* CAST COPPER SILICON ALLOY BODY. VALVE SHALL INCLUDE INTEGRAL FILTER WASHERS AND CHECK VALVES AND AN ADJUSTMENT CAP WITH LOCKING FEATURE.
WHA 1	WATER HAMMER ARRESTOR	VARIES	MIFAB	HAMMERGARD MWH SERIES	SIZE PER LINE SIZE. PROVIDE WITH APPROVED ACCESS PANEL. SEE DETAIL 14/P5.1.
CD 1	COMMERCIAL DRYER	DECON	MILNOR	M758V	75LB CAPACITY DRYER. 1750FH GAS. SEE ARCHITECTURAL PLAN SHEET A2.1. INSTALL WITH LIQUID PROPANE CONVERSION KIT.
EX 1	EXTRACTOR	DECON	B&C	HE-65	HEAVY DUTY INDUSTRIAL GRADE HARD MOUNT EXTRACTOR. 65LB CAPACITY, 15A 240V/3PH. SEE ARCHITECTURAL PLANS.
BFP 1	BACKFLOW PREVENTER	WATER FILTRATION SYSTEM	WATTS	SS009	3/4" STAINLESS STEEL REDUCED PRESSURE ZONE BACKFLOW PREVENTER ASSEMBLY WITH QUARTER TURN SHUTOFF VALVES, BRONZE STRAINER.
RO 1	REVERSE OSMOSIS WATER FILTRATION SYSTEM.	KITCHEN	CULLIGAN	LCRO-150AC	OPERATING TEMP 33-100°, INLET PRESSURE, 60-120 PSI.
RO 2	REVERSE OSMOSIS WATER FILTRATION SYSTEM.	EQUIP/WASH ROOM	CULLIGAN	01035219	SIZE 6 W/ 5 MICRON CB 7 SR, FLOW RATE 1.67 GPM.
GD 1	GARBAGE DISPOSAL	KITCHEN SINK	BADGER	5	1/2 HORSEPOWER, 120V, 1PH, DISPOSAL OR APPROVED EQUAL. INSTALL WITH AIR SWITCH, KOHLER MODEL K-35723. ELECTRICAL TO PROVIDE SWITCHED GFCI OUTLET AND AIR SWITCH CONTROLLER BASE UNIT. SEE ELECTRICAL PLANS.
AGV 1	AUTOMATIC GAS SHUT OFF VALVE	SEE PLAN	--	--	NORMALLY CLOSED VALVE.

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	MIN. PIPE SIZE CW	HW	V	S	DESCRIPTION
WC 1	WATER CLOSET (TANK TYPE)	3/4"	---	2"	4"	AMERICAN STANDARD "CADET PRO" #3517C.101 ELONGATED TOILET. 1.28 GPF, WHITE VITREOUS CHINA. SEAT: #5901.100 OPEN FRONT SEAT LESS COVER.
WC 2	WATER CLOSET (TANK TYPE, ADA)	3/4"	---	2"	4"	AMERICAN STANDARD "CADET RIGHT HEIGHT" #3517F.101 ELONGATED TOILET. 1.28 GPF, WHITE VITREOUS CHINA, ADA. LOCATE ACTUATOR AS PER ADA. SEAT: 5901.100. OPEN FRONT SEAT LESS COVER.
LAV 1	LAVATORY (WALL MOUNT, ADA)	3/4"	3/4"	1-1/2"	2"	AMERICAN STANDARD "LUCERNE" #0355.012 LAVATORY. VITREOUS CHINA, FRONT OVERFLOW, FAUCET LEDGE. FAUCET: CHICAGO FAUCET #2200-4E39-VPABCP SINGLE HANDLE, DECK MOUNTED WITH 0.35 GPM AERATOR AND POINT-OF-USE TMV. PROVIDE "LAV-GUARD 2" P-TRAP COVER.
LAV 2	LAVATORY (COUNTERTOP, ADA)	3/4"	3/4"	1-1/2"	2"	AMERICAN STANDARD "AQUALYN" #0476.028 LAVATORY. VITREOUS CHINA, SELF-RIMMING, FRONT OVERFLOW. FAUCET: CHICAGO FAUCET #2200-4E39-VPABCP SINGLE HANDLE, DECK MOUNTED WITH 0.35 GPM AERATOR AND POINT-OF-USE TMV. PROVIDE "LAV-GUARD 2" P-TRAP COVER.
US 1	DECON SERVICE SINK	3/4"	3/4"	2"	3"	FIXTURE: JUST MANUFACTURING MODEL #NSF8136-24L-2-J , 61.5 X 27.5 X 14 INCH FLOOR MOUNT SINGLE TWO HOLE SCULLERY SINK WITH DRAINBOARD, 304 STAINLESS STEEL, 16 GAUGE. FAUCET: JUST MANUFACTURING MODEL # JS-47-TGSA GOOSENECK WITH WRIST BLADE HANDLES-BACKSPLASH MOUNT. 1.5 GPM FLOW
KS 1	KITCHEN SINK	3/4"	3/4"	1-1/2"	2"	JUST MANUFACTURING #DL-1933-A-GR SINK. TYPE 304, 18 GAUGE STAINLESS STEEL, SELF-RIMMING,4" CENTERS. PROVIDE ADDITIONAL FAUCET HOLE FOR GARBAGE DISPOSAL AIR SWITCH WITH PUSH BUTTON. FAUCET: MOEN "SALORA" #CA7570C SINGLE HANDLE, CHROME PULLOUT FAUCET.
LS 1	LAUNDRY SERVICE SINK	3/4"	3/4"	2"	3"	SINK: ELKAY LUSTERTONE MODEL DLR191910PD, 18GUAGE 304 STAINLESS STEEL, 19-1/2" X 19" X 10-1/8" SINGLE BOWL DROP-IN LAUNDRY SINK. FAUCET: ELKAY MODEL LKGT1041, SINGLE HOLE FAUCET PULL-OUT SPRAY AND LEVER HANDLE. FLOW RATE: 1.75 GPM.
SH 1	SHOWER	3/4"	3/4"	1-1/2"	2"	DELTA ARVO MODE 142840-SP-1, PRESSURE BALANCED SHOWER SYSTEM WITH SHOWER HEAD, HAND SHOWER, SHOWER ARM, HOSE, AND VALVE TRIM. FLOW RATE:1.75 GPM
SHD 1	SHOWER DRAIN	1/2"TP	---	1-1/2"	2"	ZURN #FD2260. SHOWER STALL DRAIN. ABS BODY WITH BOTTOM OUTLET, GASKET SEAL AND STAINLESS STEEL ROUND STRAINER.
WB 1	CLOTHES WASHER SUPPLY BOX	3/4"	3/4"	2"	3"	GUY GRAY #B2064 SUPPLY BOX. HOT DIPPED GALVANIZED STEEL, 20 GAUGE FACEPLATE, 18 GAUGE BOX. DOMESTIC VALVES AND MIP CONNECTON, MALE THREADED DRAIN FITTING.
FD 1	FLOOR DRAIN	1/2"TP	---	1-1/2"	2"	ZURN #ZN415B-P-Y. CAST IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND COLLAR WITH NICKEL BRONZE STRAINER, TRAP PRIMER CONNECTION AND SEDIMENT BUCKET.
FS 1	FLOOR SINK	1/2"TP	---	1-1/2"	3"	ZURN ZN1900-P-2. CAST IRON BODY WITH SQUARE SLOTTED LIGHT-DUTY 1/2 GRATE WITH PORCELAIN ENAMEL INTERIOR AND TOP WITH INTERIOR BOTTOM DOME STRAINER AND TRAP PRIMER CONNECTION.
MS 1	MOP SINK	3/4"	3/4"	2"	3"	AMERICAN STANDARD "FLORWELL" #7741.000. ENAMELED CAST IRON, CORNER MODEL. PROVIDE AMERICAN STANDARD #7745.811 VINYL RIM GUARD. FAUCET: CHICAGO FAUCETS #897-CP. VACUUM BREAKER, PAIL HOOK, WALL BRACE.
HB 1	HOSE BIBB	3/4"	--	--	--	ZURN #Z1305-YB ANTI-FREEZE WALL HYDRANT. ENCASED HYDRANT WITH BRONZE BODY, ALL BRONZE INTERIOR PARTS, KEY OPERATED CONTROL VALVE, STAINLESS STEEL BOX WITH HINGED COVER WITH LOCK.
HB 2	HOSE BIBB	3/4"	--	--	--	PROFLO #PFXEM7501 FROST-PROOF YARD HYDRANT. LEVER OPERATED CONTROL VALVE, GALVANIZED PIPE AND ROD. LEAD FREE COMPLIANT. PROVIDE RPBP AS SHOWN ON PLAN.
HD 1	FIRE RISER HUB DRAIN	--	--	2"	4"	PROVIDE 6" TO 4" HUB DRAIN RISER. SEE DETAIL 1/P5.2.
IM 1	ICE MAKER SUPPLY BOX	1/2"	---	--	--	GUY GRAY #BIM875AB SUPPLY BOX. HOT DIPPED GALVANIZED STEEL, 20 GAUGE FACEPLATE, 18 GAUGE BOX.
AD 1	AREA DRAIN	1/2"TP	---	2"	4"	ZURN #ZN415S-HD-P. CAST IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND COLLAR WITH HEAVY DUTY TRAFFIC RATED GRATE, AND TRAP PRIMER CONNECTION.

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385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
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COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

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180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

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-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:
REGISTERED PROFESSIONAL ENGINEER
No. 82911
Exp. 9/30/26
CHRISTOPHER J. MCCHANCHON
STATE OF CALIFORNIA
CIVIL

SHEET TITLE:
PLUMBING
SCHEDULES

SHEET NO.:
P0.3

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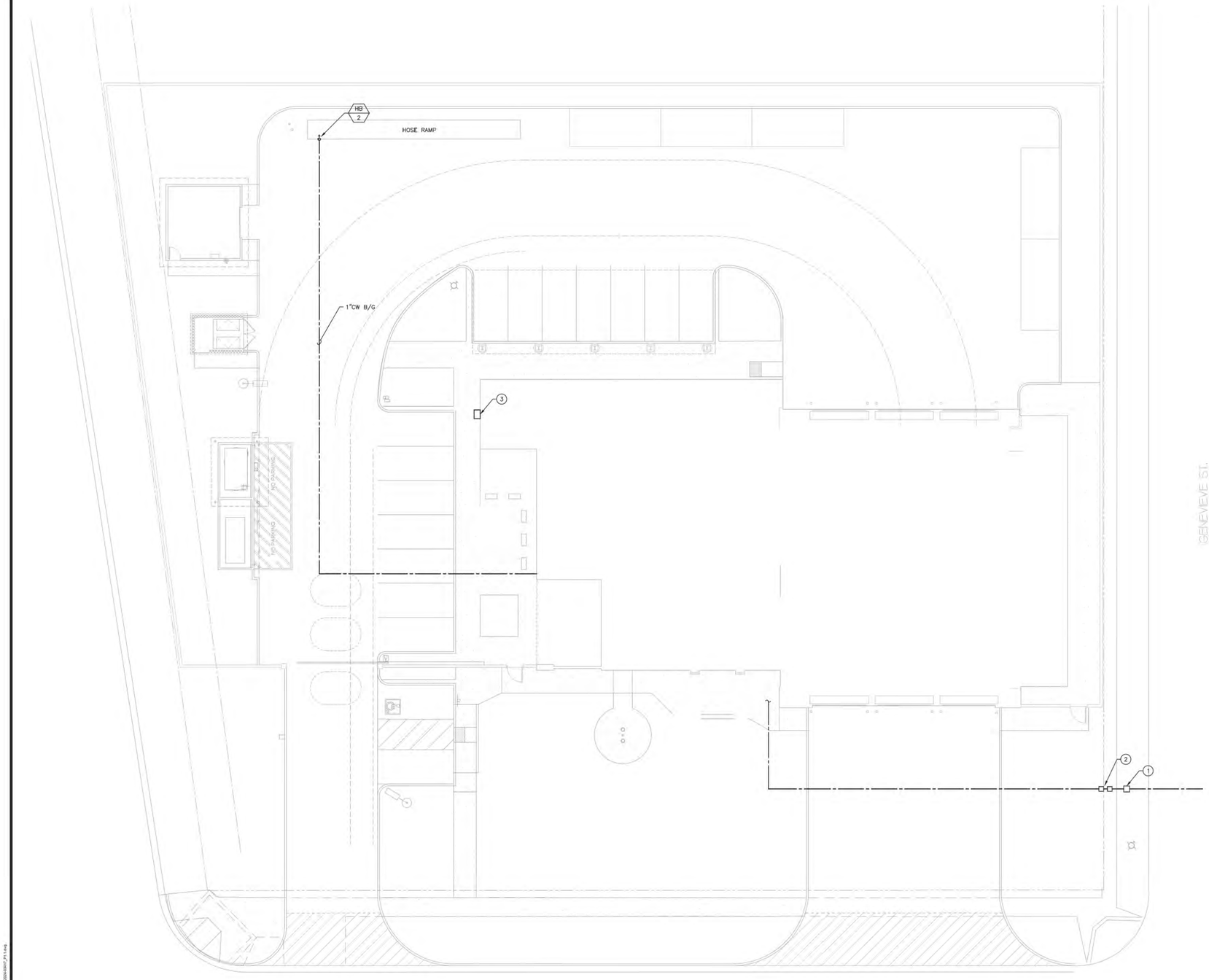

GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL PIPING AND UTILITIES PRIOR TO START OF WORK. IN THE EVENT OF ANY DISCREPANCIES OR POTENTIAL CONFLICTS, NOTIFY THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

B. ALL PIPING LOCATIONS ARE DIAGRAMMATIC. CONTRACTOR SHALL COORDINATE WITH ALL TRADES AND OWNER'S REPRESENTATIVE AND VERIFY EXACT ROUTING PRIOR TO START OF WORK.

C. VERIFY EXACT SIZE AND LOCATION OF ALL PLUMBING CONNECTIONS TO MECHANICAL EQUIPMENT PRIOR TO START OF WORK. IN NO CASE SHALL THE CONNECTION SIZE BE LARGER THAN THE BRANCH PIPING SIZE.

KEY NOTES

1. 2" WATER SERVICE AND METER PER CIVIL PLAN.
2. 2" BACKFLOW PREVETNER. REFER TO CIVIL PLAN FOR DETAIL.
3. PROPOSED LOCATION OF GAS METER. OBTAIN APPROVAL FROM GAS UTILITY COMPANY PRIOR TO BEGIN WORK.

PLUMBING SITE PLAN

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

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PLUMBING SITE PLAN

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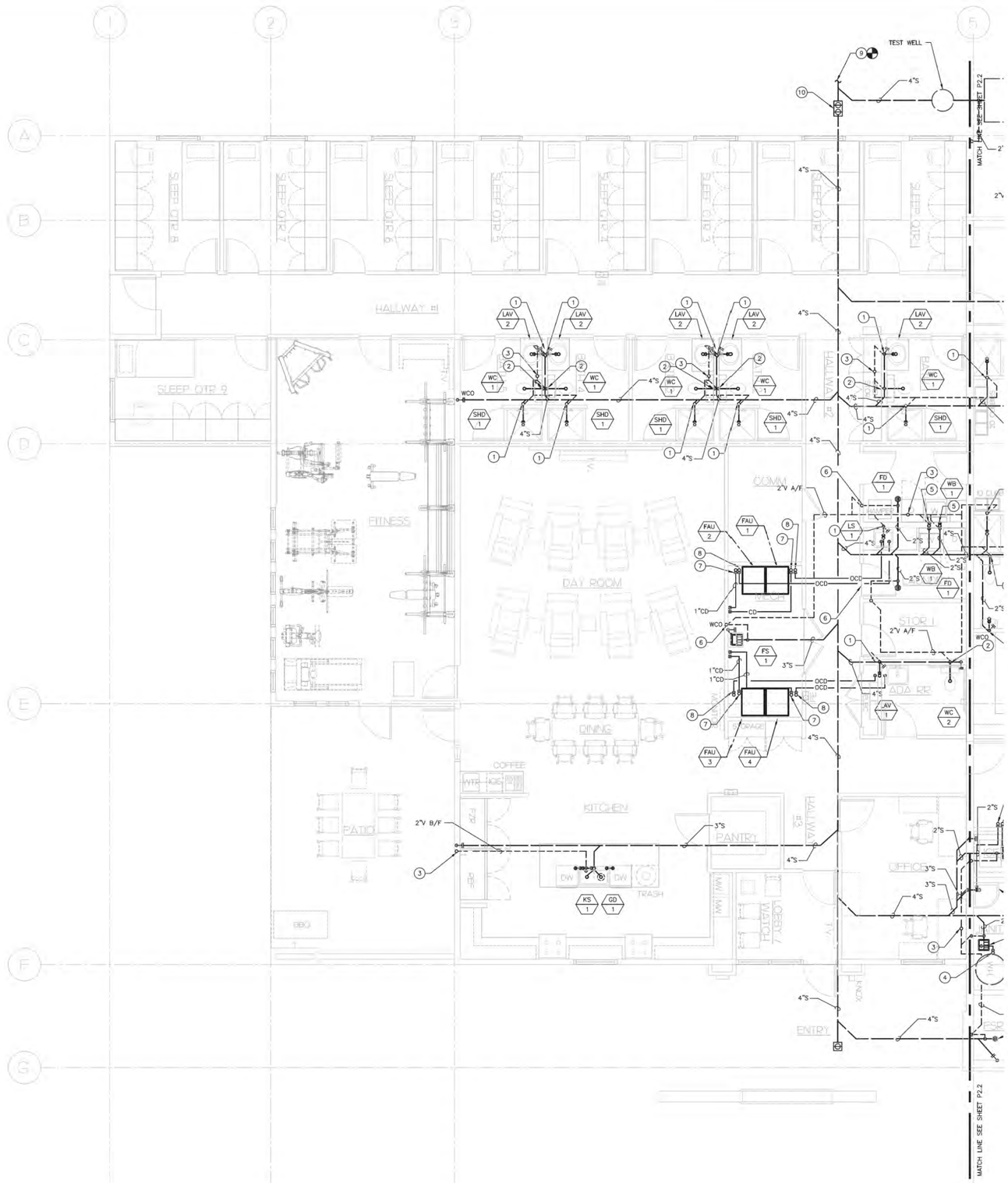
P1.1



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C. VERIFY EXACT SIZE AND LOCATION OF ALL PLUMBING CONNECTIONS TO MECHANICAL EQUIPMENT PRIOR TO START OF WORK. IN NO CASE SHALL THE CONNECTION SIZE BE LARGER THAN THE BRANCH PIPING SIZE.

KEY NOTES

1. 2" SEWER DOWN. 1-1/2" VENT UP.
2. 4" SEWER DOWN. 2" VENT UP.
3. 2" VENT THROUGH ROOF. TERMINATE 10' AWAY FROM ANY AIR INTAKE. REFER TO DETAIL 10/P5.1.
4. WATER HEATER T & P AND CONDENSATE DRAIN TO FLOOR SINK. INSTALL WITH APPROVED AIR GAP. REFER TO WATER HEATER DETAIL 3/P5.1.
5. 2" SEWER DOWN. 2" VENT UP.
6. 2" VENT FROM BELOW FLOOR UP TO ABOVE CEILING.
7. 1" CONDENSATE DRAIN TO FLOOR SINK. INSTALL WITH AIR GAP. REFER TO DETAIL 11/P5.1.
8. 1" OVERFLOW CONDENSATE DRAIN TO ABOVE CEILING. INSTALL AT VISIBLE LOCATION.
9. CONNECT 4" SEWER TO SITE SEWER. REFER TO CIVIL PLAN FOR CONTINUATION.
10. 2-WAY CLEANOUT. REFER TO DETAIL 2/P5.2

PLUMBING FLOOR PLAN - WEST - SEWER, VENT & STORM

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

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-	-

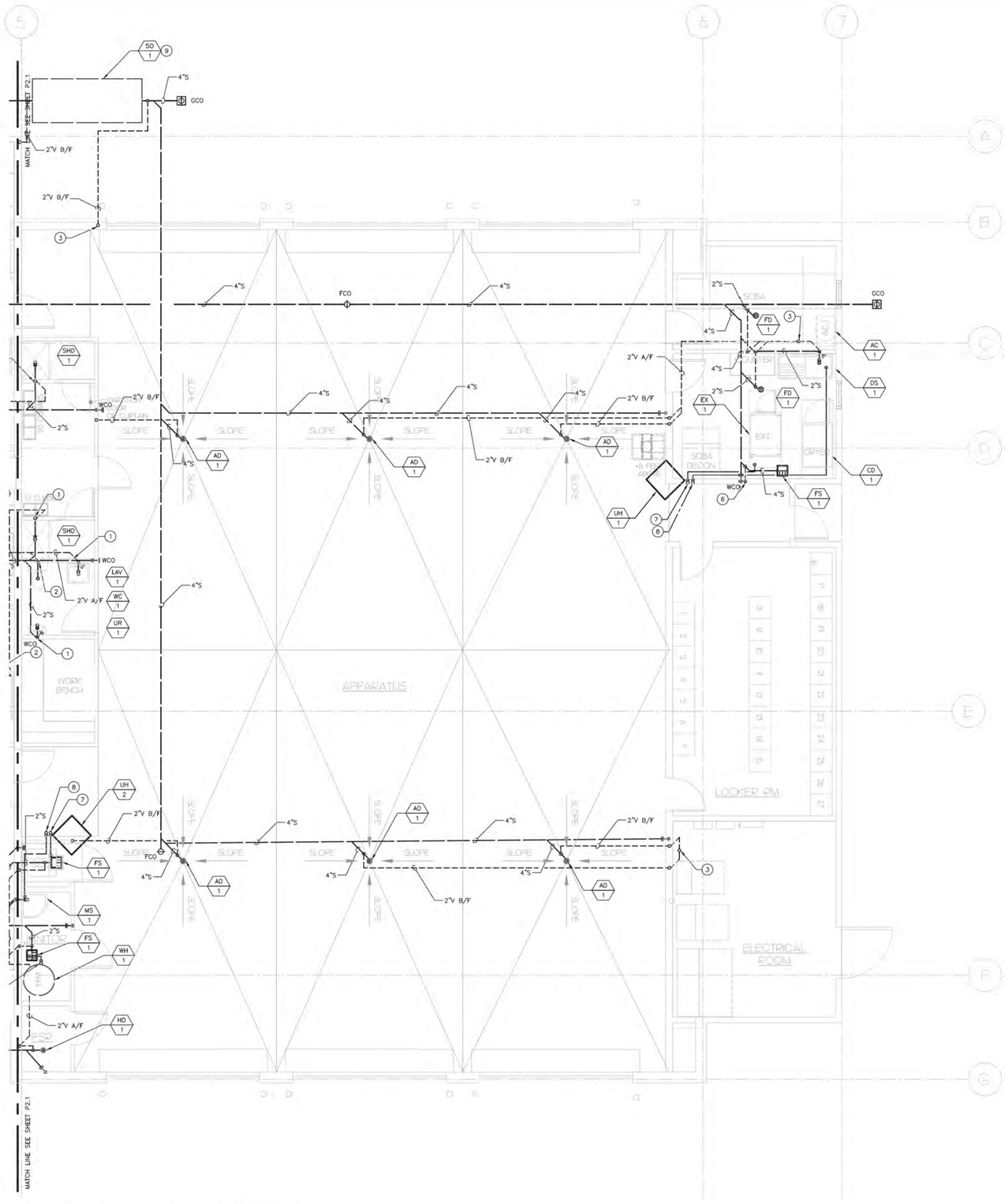
SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

REGISTERED PROFESSIONAL ENGINEER — MARY FOSTER — No. M28811 — Civil — 04/30/26 — STATE OF CALIFORNIA

SHEET TITLE:
PLUMBING FLOOR PLAN WEST - SEWER, VENT & STORM

SHEET NO.:
P2.1



GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL PIPING AND UTILITIES PRIOR TO START OF WORK. IN THE EVENT OF ANY DISCREPANCIES OR POTENTIAL CONFLICTS, NOTIFY THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

B. ALL PIPING LOCATIONS ARE DIAGRAMMATIC. CONTRACTOR SHALL COORDINATE WITH ALL TRADES AND OWNER'S REPRESENTATIVE AND VERIFY EXACT ROUTING PRIOR TO START OF WORK.

C. VERIFY EXACT SIZE AND LOCATION OF ALL PLUMBING CONNECTIONS TO MECHANICAL EQUIPMENT PRIOR TO START OF WORK. IN NO CASE SHALL THE CONNECTION SIZE BE LARGER THAN THE BRANCH PIPING SIZE.

KEY NOTES

1. 2" SEWER DOWN. 1-1/2" VENT UP.
2. 4" SEWER DOWN. 2" VENT UP.
3. 2" VENT THROUGH ROOF. TERMINATE 10' AWAY FROM ANY AIR INTAKE.
4. WATER HEATER T & P AND CONDENSATE DRAIN TO FLOOR SINK. INSTALL WITH APPROVED AIR GAP.
5. 2" SEWER DOWN. 2" VENT UP.
6. 2" VENT FROM BELOW FLOOR UP TO ABOVE CEILING.
7. 1" CONDENSATE DRAIN TO FLOOR SINK. INSTALL WITH AIR GAP
8. 1" OVERFLOW CONDENSATE DRAIN TO ABOVE CEILING. INSTALL AT VISIBLE LOCATION.
9. REFER TO DETAIL 6/P5.2 FOR OIL AND SAND INTERCEPTOR.

PLUMBING FLOOR PLAN - EAST - SEWER, VENT & STORM

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

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42095 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
PLUMBING FLOOR PLAN EAST - SEWER, VENT & STORM

SHEET NO.:
P2.2

T:\2024\24-017-00 - SB Fire Station 227\05-Bids\CAD\Plumbing\P2\24-017_P2.2.dwg
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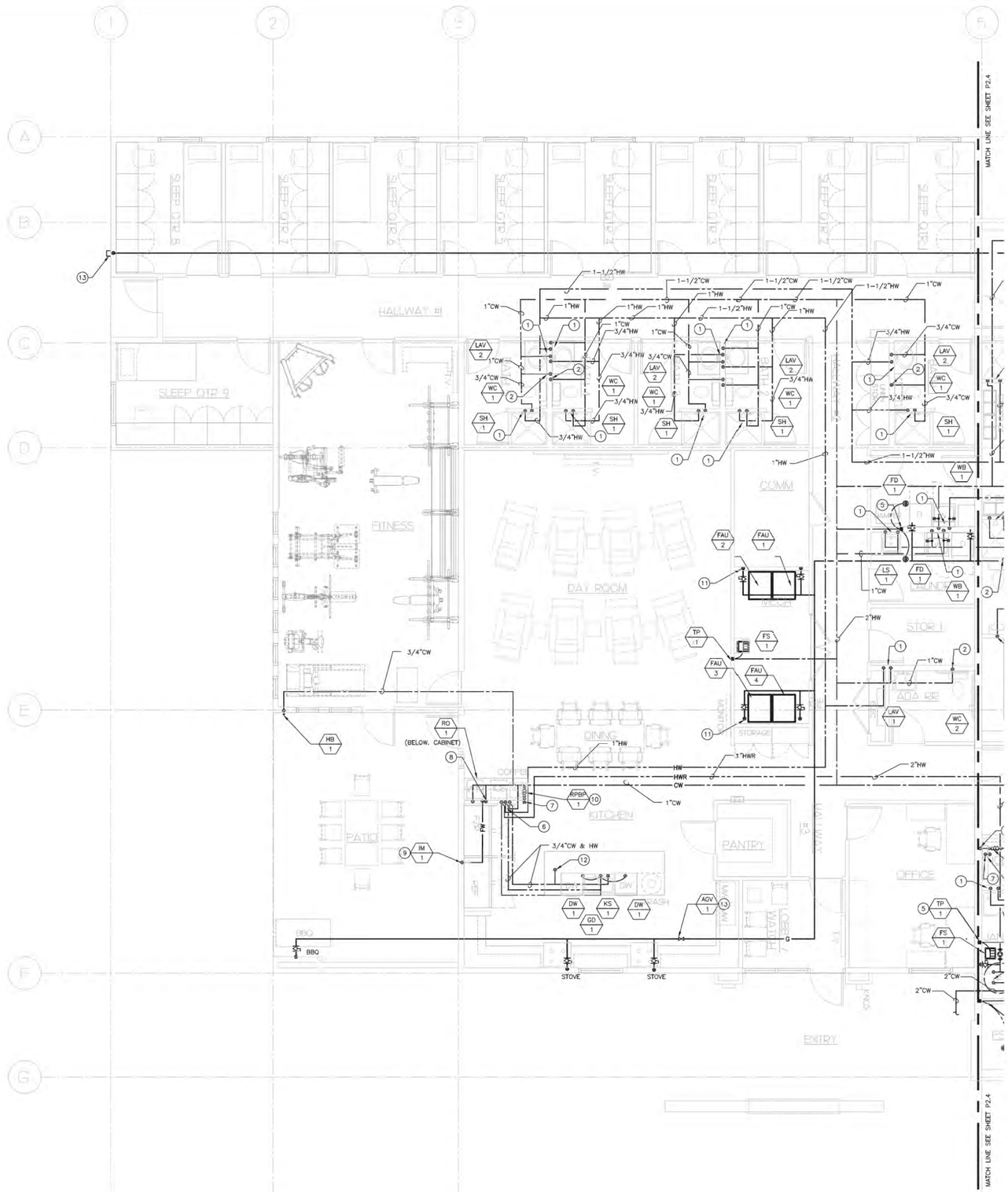

GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL PIPING AND UTILITIES PRIOR TO START OF WORK. IN THE EVENT OF ANY DISCREPANCIES OR POTENTIAL CONFLICTS, NOTIFY THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

B. ALL PIPING LOCATIONS ARE DIAGRAMMATIC. CONTRACTOR SHALL COORDINATE WITH ALL TRADES AND OWNER'S REPRESENTATIVE AND VERIFY EXACT ROUTING PRIOR TO START OF WORK.

C. VERIFY EXACT SIZE AND LOCATION OF ALL PLUMBING CONNECTIONS TO MECHANICAL EQUIPMENT PRIOR TO START OF WORK. IN NO CASE SHALL THE CONNECTION SIZE BE LARGER THAN THE BRANCH PIPING SIZE.

KEY NOTES

1. 3/4" HW & CW IN WALL DOWN TO FIXTURE
2. 3/4" CW IN WALL DOWN TO FIXTURE
3. 1" CW IN WALL DOWN TO FIXTURE
4. 1" HW & CW IN WALL DOWN TO FIXTURE.
5. 1/2" CW FROM TRAP PRIMER TO FLOOR DRAIN/SINK. REFER TO DETAIL 12/P5.1
6. 1-1/4" HW & CW IN WALL DOWN TO BELOW FLOOR. EXTEND AND CONNECT TO FIXTURES AT ISLAND COUNTER.
7. 1/2" FILTERED WATER TO COFFEE MACHINE.
8. 3/4" CW DOWN TO BELOW CABINET TO FEED RO SYSTEM.
9. 1/2" FILTERED WATER TO REFRIGERATOR
10. PROVIDE ACCESS PANEL AND DRAIN LINE PER MANUFACTURER GUIDE LINE FOR RPBP-1.
11. REFER TO DETAIL 5/P5.1 FOR EQUIPMENT GAS CONNECTION (TYP).
12. 1/2" CW TO ICE MACHINE UNDER THE COUNTER.
13. AUTOMATIC GAS SHUTOFF VALVE. COORDINATE ACCESS PANEL LOCATION WITH ARCHITECTURAL PLANS. REFER TO ELECTRICAL PLANS FOR POWER CONNECTIONS AND REQUIREMENT.

PLUMBING FLOOR PLAN - WEST - DOMESTIC WATER & GAS

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

STK ARCHITECTURE
42096 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

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DATE:	INFORMATION:
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SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
PLUMBING FLR. PLAN WEST DOMESTIC WATER & GAS

SHEET NO.:
P2.3

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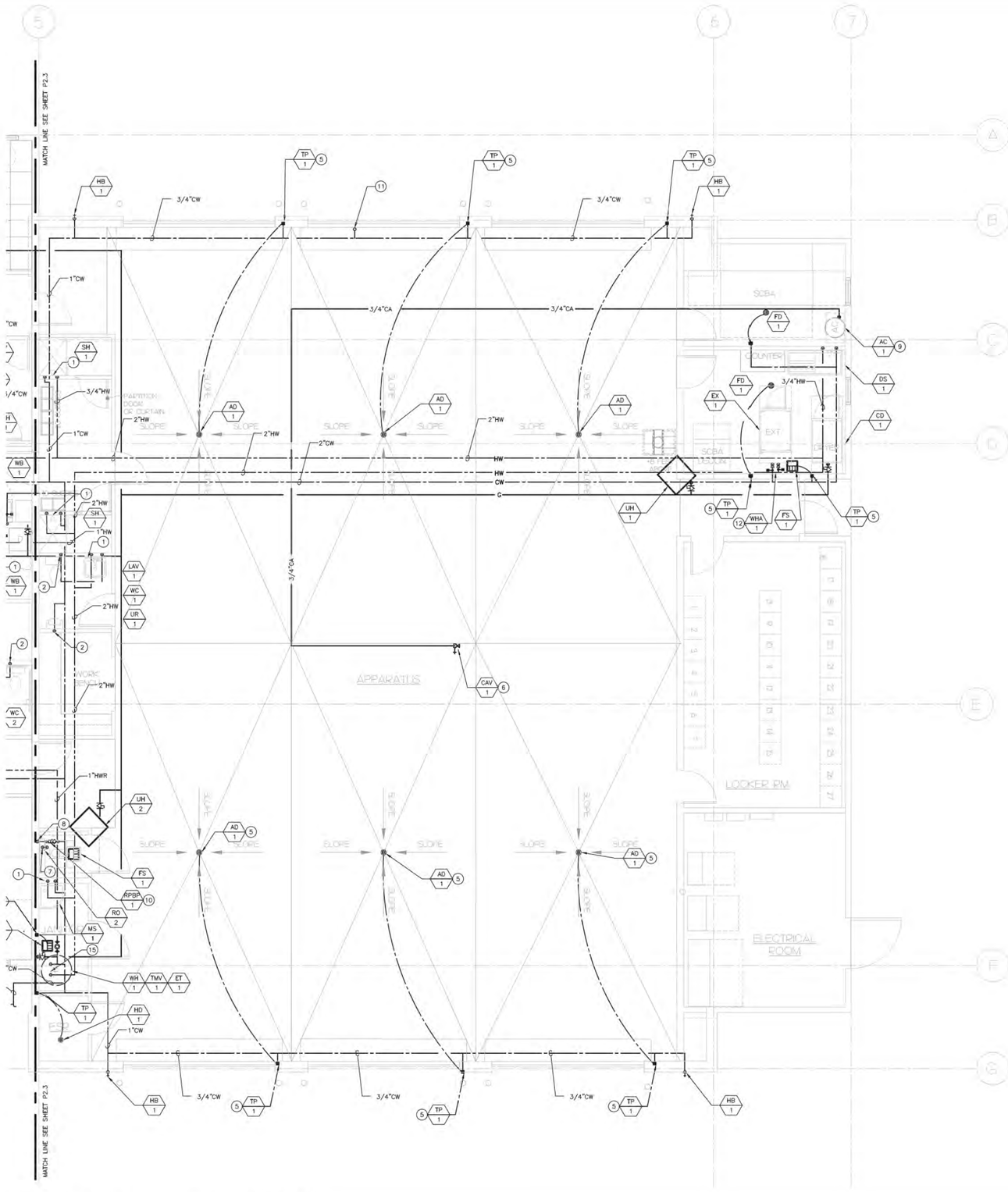

GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL PIPING AND UTILITIES PRIOR TO START OF WORK. IN THE EVENT OF ANY DISCREPANCIES OR POTENTIAL CONFLICTS, NOTIFY THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

B. ALL PIPING LOCATIONS ARE DIAGRAMMATIC. CONTRACTOR SHALL COORDINATE WITH ALL TRADES AND OWNER'S REPRESENTATIVE AND VERIFY EXACT ROUTING PRIOR TO START OF WORK.

C. VERIFY EXACT SIZE AND LOCATION OF ALL PLUMBING CONNECTIONS TO MECHANICAL EQUIPMENT PRIOR TO START OF WORK. IN NO CASE SHALL THE CONNECTION SIZE BE LARGER THAN THE BRANCH PIPING SIZE.

KEY NOTES

1. 3/4" HW & CW IN WALL DOWN TO FIXTURE
2. 3/4" CW IN WALL DOWN TO FIXTURE
3. 1" CW IN WALL DOWN TO FIXTURE
4. 1" HW & CW IN WALL DOWN TO FIXTURE.
5. 1/2" CW FROM TRAP PRIMER TO FLOOR DRAIN/SINK. REFER TO DETAIL 12/P5.1
6. REFER TO 7/P5.1 FOR COMPRESSED AIR CONNECTION DETAIL.
7. 1/2" FILTERED WATER TO ICE MACHINE.
8. 3/4" CW DOWN TO ICE MACHINE FILTRATION SYSTEM.
9. REFER TO DETAIL 4/P5.2 FOR AIR COMPRESSOR
10. PROVIDE ACCESS PANEL AND DRAIN LINE PER MANUFACTURER GUIDE LINE FOR RPBP-1
11. 3/4" CW TO ROOF.
12. REFER TO DETAIL 2/P5.2 FOR WATER HAMMER ARRESTOR.
14. PROPOSED LOCATION OF GAS METER. COORDINATE LOCATION WITH ARCHITECTURAL PLANS. OBTAIN APPROVAL FROM GAS UTILITY COMPANY PRIOR TO INSTALLATION.
15. 1-1/2" CW & HW TO/FROM WATER HEATER.

PLUMBING FLOOR PLAN - EAST - DOMESTIC WATER & GAS

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

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Salas O'Brien
3220 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100 12-20-24 #2024-03417

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

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SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
PLUMBING FLR. PLAN EAST DOMESTIC WATER & GAS

SHEET NO.:
P2.4

GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, DETERMINING EXTENT OF DEMOLITION, AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

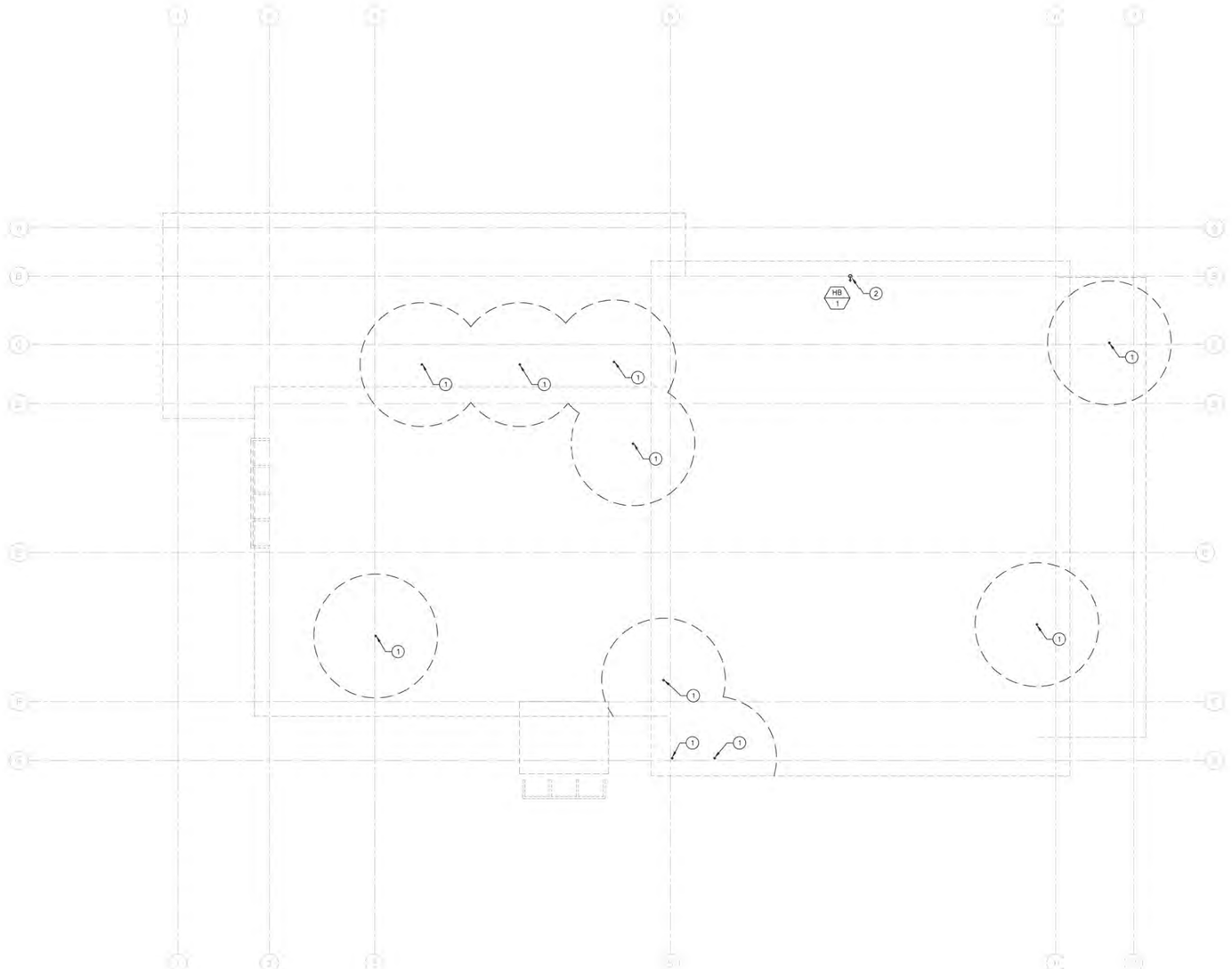
B. ALL EXISTING EQUIPMENT, DUCTWORK AND AIR DISTRIBUTION DEVICES, WHICH AIRE TO REMAIN, SHALL BE CLEANED AND REFURBISHED TO ORIGINAL WORKING CONDITION.

C. ALL WORK TO BE DEMOLISHED OR REMOVED SHALL NOT BE RE-INSTALLED UNLESS NOTED OTHERWISE.

KEY NOTES

(1) 2" VENT THROUGH ROOF. TERMINATE 10' AWAY FROM ANY AIR INTAKE. REFER TO DETAIL 10/P5.1

(2) 3/4" CW FROM BELOW TO HOSE BIB ON ROOF.



PLUMBING ROOF PLAN

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

1

STK
40995 ZEVO DR. TEMECULA, CALIFORNIA 92590-3780
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Vista, CA 92081
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0J202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
PLUMBING ROOF PLAN

SHEET NO.:
P2.5

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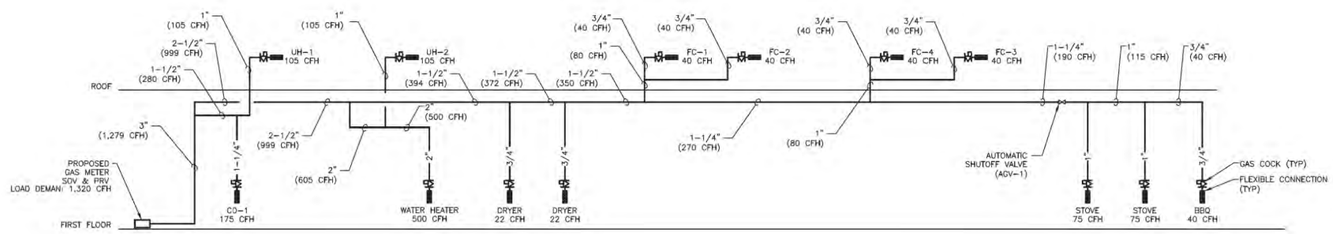

	GAS	NATURAL					
	INLET PRESSURE	<2 PSI					
BASED ON TABLE 1216.2(1) SCH.40 METALLIC PIPE [NFPA 54-12:TABLE 6.2(c)]	PRESSURE DROP	0.5 IN W.C.					
	SPECIFIC GRAVITY	0.60					

	PIPE SIZE						
NOMINAL	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
LENGTH(FT)	CAPACITY IN CUBIC FEET OF GAS PER HOUR (CFH)						
200	71	134	275	412	794	1270	2240

1. GAS PIPE BRANCH SIZE TO EQUIPMENT SHALL NEVER BE SMALLER THAN CONNECTION SIZES TO EQUIPMENT. IN CASE OF A DISCREPANCY, PROVIDE THE LARGER SIZE PIPE.
2. SEE DETAIL 5/PS.1 FOR GAS CONNECTION.
3. CONTRACTOR SHALL FIELD VERIFY EXACT LENGTH, GAS LOAD REQUIREMENTS AND EQUIPMENT CONNECTION SIZES PRIOR TO START OF WORK. IN CASE OF ANY DISCREPANCIES OR POTENTIAL CONFLICT, NOTIFY ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

APPLIANCES/EQUIPMENT GAS LOAD

EQUIPMENT/APPLIANCE	QTY	CFH (EA.)	CFH TOTAL
COMMERCIAL DRYER (CD-1)	1	175	175
DRYER	2	22	44
WATER HEATER (WH-1)	1	500	500
STOVE GAS	2	75	150
BBQ	1	40	40
FC-1	1	40	40
FC-2	1	40	40
FC-3	1	40	40
FC-4	1	40	40
UNIT HEATER (UH-1)	1	105	105
UNIT HEATER (UH-2)	1	105	105
TOTAL CFH			1,279

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Vista, CA 92081
760.560.0100

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SAN BERNARDINO COUNTY PROJECT & FACILITIES MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:



SHEET TITLE:
PLUMBING RISER DIAGRAM - GAS

SHEET NO.:
P4.1

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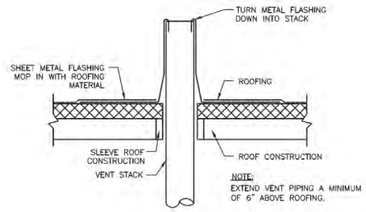
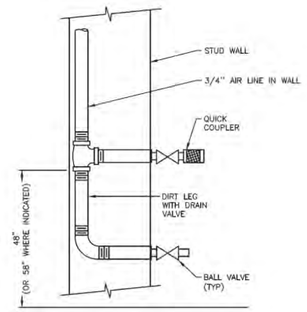


VENT THRU ROOF DETAIL

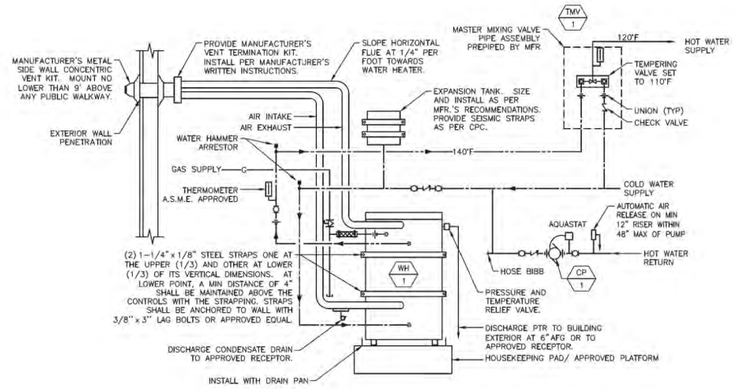
SCALE: NONE | 10



NOTE: CONTRACTOR SHALL FIELD VERIFY AND COORDINATE EXACT HEIGHT AND LOCATION OF EACH OUTLET WITH OWNER'S REPRESENTATIVE PRIOR TO START OF WORK.

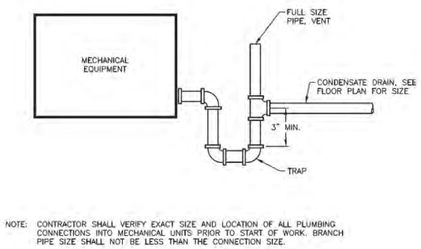
AIR CONNECTION DETAIL

SCALE: NONE | 7



WATER HEATER AND MIXING VALVE DETAIL

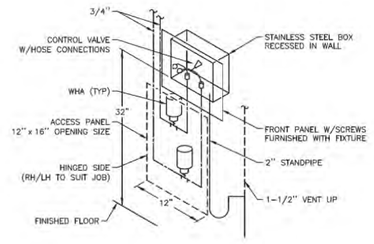
SCALE: NONE | 1



NOTE: CONTRACTOR SHALL VERIFY EXACT SIZE AND LOCATION OF ALL PLUMBING CONNECTIONS INTO MECHANICAL UNITS PRIOR TO START OF WORK. BRANCH PIPE SIZE SHALL NOT BE LESS THAN THE CONNECTION SIZE.

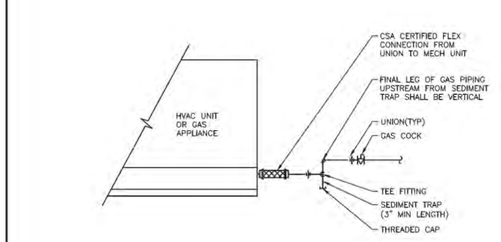
CONDENSATE DRAIN TRAP DETAIL

SCALE: NONE | 11



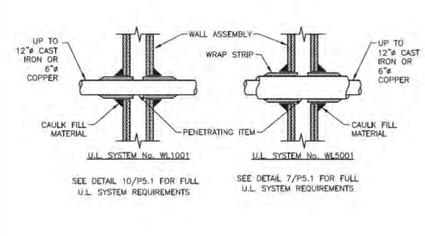
WASHING MACHINE CONNECTION DETAIL

SCALE: NONE | 8



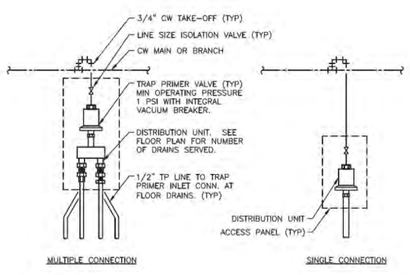
GAS CONNECTION DETAIL

SCALE: NONE | 5



PIPE PENETRATION DETAIL

SCALE: NONE | 2



TRAP PRIMER DETAIL

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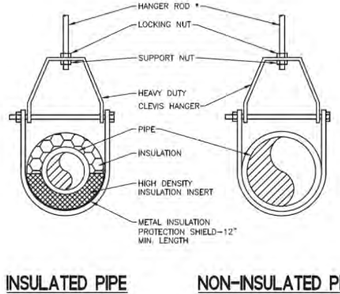
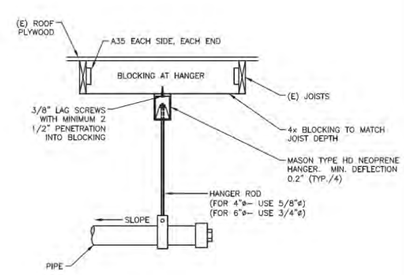


* FASTEN TO TOP CHORDS OF BAR JOISTS OR OTHER STRUCTURAL BEAMS. DO NOT FASTEN TO ROOF DECK OR JOIST BRIDGING.

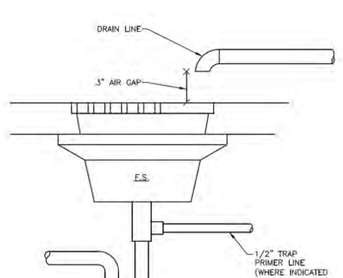
CLEVIS HANGER DETAIL

SCALE: NONE | 9



PIPE ANCHOR DETAIL (HUNG FROM PLYWOOD TYPE CEILING.)

SCALE: NONE | 6



AIR GAP FITTING DETAIL

SCALE: NONE | 3

STK
4356 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
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CONSULTANT:
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12-20-24 #2024-03417
AC BOOZE PE | AP

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
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180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

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SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
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DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
PLUMBING DETAILS

SHEET NO.:
P5.1

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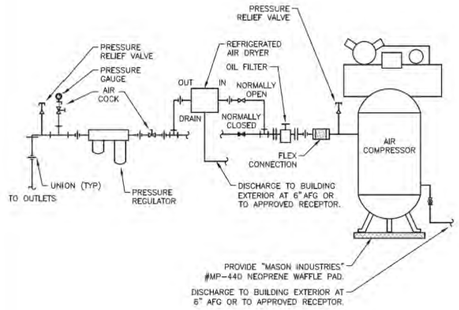
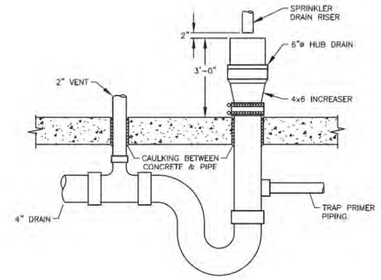
NOT USED — SCALE: NONE — 10

NOT USED — SCALE: NONE — 7

AIR COMPRESSOR PIPING DETAIL — SCALE: NONE — 4



FIRE SPRINKLER RISER DRAIN DETAIL — SCALE: NONE — 1



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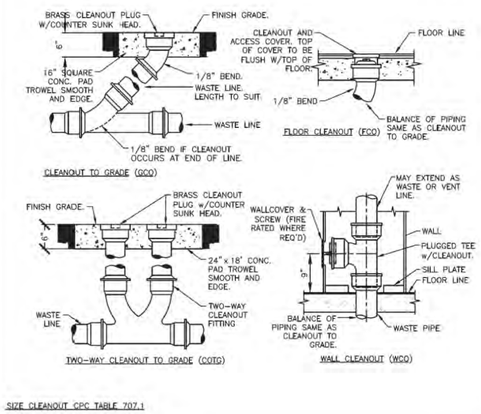
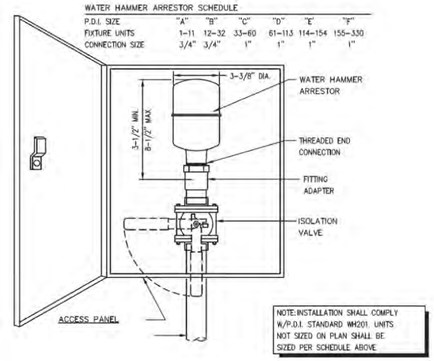
NOT USED — SCALE: NONE — 8

CLEANOUT DETAILS — SCALE: NONE — 5



SIZE CLEANOUT CPC TABLE 707.1

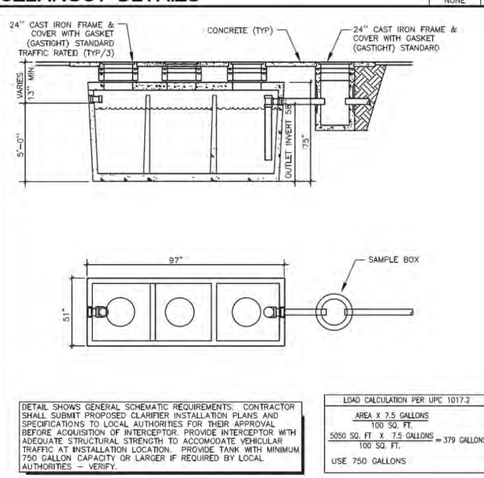
WATER HAMMER ARRESTOR DETAIL — SCALE: NONE — 2



NOT USED — SCALE: NONE — 12

NOT USED — SCALE: NONE — 9

SAND AND OIL INTERCEPTOR DETAIL — SCALE: NONE — 6



DETAIL SHOWS GENERAL SCHEMATIC REQUIREMENTS. CONTRACTOR SHALL SUBMIT PROPOSED CLARIFIER INSTALLATION PLANS AND SPECIFICATIONS TO LOCAL AUTHORITIES FOR THEIR APPROVAL BEFORE ACQUISITION OF INTERCEPTOR. PROVIDE INTERCEPTOR WITH ADEQUATE STRUCTURAL STRENGTH TO ACCOMODATE VEHICULAR TRAFFIC AT INSTALLATION LOCATION. PROVIDE TANK WITH MINIMUM 750 GALLON CAPACITY OR LARGER IF REQUIRED BY LOCAL AUTHORITIES – VERIFY.

LOAD CALCULATION PER UPC 1017.2

$\frac{\text{AREA} \times 7.5 \text{ GALLONS}}{100 \text{ SQ. FT.}}$

$\frac{5050 \text{ SQ. FT} \times 7.5 \text{ GALLONS}}{100 \text{ SQ. FT.}} = 379 \text{ GALLONS}$

USE 750 GALLONS

NOT USED — SCALE: NONE — 3

STK
42996 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
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CONSULTANT:
Salas O'Brien
3220 Executive Ridge, Suite 210
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760.560.0100

12-20-24 #2024-03417

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J01202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
–	–

SHEET INFORMATION:
STK PROJECT NO: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:

SHEET TITLE:
PLUMBING DETAILS

SHEET NO:
P5.2

C:\2024\374-193-24\1 - CD Pre Check\227CD-Sht-ADD\Planning\227CD-P5.2.dwg

ELECTRICAL SYMBOL LEGEND

SOME SYMBOLS IN THIS LEGEND MAY OR MAY NOT BE USED IN THIS PROJECT. FLOOR PLANS SHALL DICTATE WHICH SYMBOLS ARE APPLICABLE.

SYMBOL	DESCRIPTION
A–1,3	CONDUIT HOMERUN WITH PANEL DESIGNATION AND CIRCUITS INDICATED.
	CONDUIT/WIRING, INSTALLED IN OR BELOW FLOOR SLAB.
	CONDUIT/WIRING, EXPOSED.
	CONDUIT/WIRING CONCEALED IN WALL OR CEILING SPACE.
	CONDUIT, FLEXIBLE CONNECTION DRY LOCATIONS – FLEXIBLE STEEL CONDUIT WET LOCATIONS – LIQUIDTIGHT FLEXIBLE STEEL CONDUIT
A	LIGHT FIXTURE DESIGNATION
L1	LED LIGHTING FIXTURE UPPER CASE LETTER(S) = FIXTURE TYPE NUMBER = CIRCUIT NUMBER LOWER CASE LETTER(S) = ROOM SWITCHING CIRCUITS AND NUMBER OF SWITCHES NOTE: THIS LABELING SCHEME IS TYPICAL FOR ALL LIGHT FIXTURES.
	LED, WALL MOUNTED LIGHT FIXTURE.
	LED STRIP OR UNDERCABINET TASK LIGHT
E	LED LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY POWER SYSTEM.
	POLE MOUNTED LIGHT FIXTURE WITH POLE AND FOUNDATION. NUMBER AND ORIENTATION OF LUMINAIRES AS SHOWN ON DRAWINGS
	LIGHTING FIXTURE, WALL OR BRACKET MOUNTED.
	LIGHTING FIXTURE, SURFACE OR RECESSED MOUNTED.
E	LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY POWER SYSTEM.
	TRACK LIGHTING WITH FIXTURES.
MS	MOTION SENSOR, DUAL TECHNOLOGY, CEILING MOUNTED. NOT TO BE LOCATED WITHIN 48" OF ANY HVAC DIFFUSER.
	EXIT LIGHT FIXTURE. DARKENED AREA INDICATES FIXTURE FACE. ARROW INDICATES DIRECTION OF FACE ARROW. LL = LOW LEVEL
S a,b	LIGHT SWITCH, WALL MOUNTED AT +42" AFF, U.O.N. 2 = TWO POLE, 3 = THREE WAY, 4 = FOUR WAY a,b = INDICATES ROOM SWITCHING CIRCUITS AND NUMBER OF SWITCHES D = DIMMER K = KEYED OC = OCCUPANCY SENSOR, DUAL TECHNOLOGY VS = VACANCY SENSOR, MANUAL ON, WHERE REQUIRED BY CODE P = PILOT LIGHT, LIGHTED IN THE OFF POSITION. BP = BYPASS TIMER WP = WEATHERPROOF WR = WEATHER RESISTANT F = FAN SWITCH S = SOLATUBE CONTROL T = TIMER SWITCH LV = LOW VOLTAGE
J	JUNCTION BOX, HANDHOLE OR PULLBOX WITH COVER, SIZE PER NEC, ART. 314.28.
	GROUND
M	FUSE
	UTILITY COMPANY APPROVED CT/METER PROVISIONS
	FUSED SWITCH
	CIRCUIT BREAKER
TC	TIME CLOCK
LA	LIGHTING OR POWER PANEL – FLUSH MOUNT UNLESS INDICATED OTHERWISE
FC 3	DISTRIBUTION BOARD, LIGHTING OR POWER PANEL DESIGNATION
	MOTOR OR MECHANICAL EQUIPMENT, WITH FLEXIBLE CONNECTION
	MECHANICAL EQUIPMENT DESIGNATION
30AS 3P	DISCONNECT SWITCH (30=AMPS 3=POLES) NEMA 1 INDOORS NEMA 3R IN WET LOCATIONS F = FUSED PROVIDE TIME-DELAY TYPE FUSE(S) SIZED PER EQUIPMENT MANUFACTURERS NAMEPLATE RATING.
SM	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD PROTECTOR
'O'	MAGNETIC MOTOR STARTER WITH THERMAL OVERLOAD PROTECTOR
30AS 3P 'O'	COMBINATION MOTOR STARTER WITH FUSED SWITCH, WITH THERMAL OVERLOAD PROTECTOR AND DUAL ELEMENT FUSES. (30=AMPS, 3=POLES 0=STARTER SIZE).
	PUSHBUTTON OR SHUNT TRIP STATION
GFI	DUPLEX RECEPTACLE, +18" AFF, U.O.N.; NEMA 5–20R, U.O.N.; NUMBER INDICATES CIRCUIT NUMBER. GFIF = GROUND FAULT INTERRUPTION, FEED–THRU TYPE WP = WEATHERPROOF WITH A WEATHERPROOF WHILE–IN–USE COVER WR = WEATHER–RESISTANT TYPE RECEPTACLE WITH A WEATHERPROOF WHILE IN–USE COVER GFI = GROUND FAULT INTERRUPTION.
DR	DOUBLE DUPLEX RECEPTACLE, +18" AFF, U.O.N.
	DUPLEX RECEPTACLE ABOVE COUNTERTOP BACKSPLASH, VERIFY REQ'D HEIGHT
J	POWER RECEPTACLE, SEE POWER RECEPTACLE SCHEDULE FOR NEMA CONFIGURATION AND SIZE.
	POWER POLE, WITH NUMBER OF RECEPTACLES INDICATED
	DUPLEX RECEPTACLE, PEDESTAL MOUNTED
	CEILING MOUNTED DUPLEX RECEPTACLE AT T–BAR CEILING NOT TO BE MOUNTED IN CEILING SPACE.
	DUPLEX RECEPTACLE, FLUSH FLOOR MOUNTED, WITH HINGED COVER, U.O.N.
	CORD SUSPENDED CEILING RECEPTACLE, WITH STRAIN RELIEF ASSEMBLY
	SURFACE MOUNTED DUPLEX RECEPTACLE +18" AFF, U.O.N.
	SURFACE MOUNTED DOUBLE DUPLEX RECEPTACLE +18" AFF, U.O.N.
	DOUBLE DUPLEX RECEPTACLE, +18" AFF, U.O.N. 1–CONTROLLED + 1–UNCONTROLLED DUPLEX RECEPTACLE. CONTROLLED RECEPTACLE TO BE GRAY IN COLOR.

SYMBOL	DESCRIPTION
DS	DUCT MOUNTED SMOKE DETECTOR
SSD	SOLID STATE, ELECTRONIC, ADJUSTABLE TRIP CIRCUIT BREAKER WITH LSIG.
PIR	DAYLIGHT AREA SENSOR, PRIMARY AND SECONDARY WHERE APPLICABLE
SD	SMOKE DETECTOR
	FIRE SMOKE DAMPER (PROVIDED BY OTHER'S)

Signal Systems

	TELEPHONE OR TERMINAL BACKBOARD
	TELEPHONE OR TERMINAL CABINET, WITH PLYWOOD BACKBOARD
S	PAGING SPEAKER, WALL MOUNT
S	PAGING SPEAKER, CEILING MOUNT WITH BACKBOX
I	INTRUSION INFRARED SENSOR.
	TIME–OF–DAY CLOCK OUTLET AND CLOCK, AT +96" AFF, U.O.N.
TV	CABLE TELEVISION OUTLET, AT +18" AFF, U.O.N.
CS	CLOCK AND SPEAKER COMBINATION
	DATA JUNCTION BOX, AT +18" AFF U.O.N., WITH 1–1/4" CONDUIT ONLY WITH PULLSTRING UP TO NEAREST CABLE TRAY OR ACCESSIBLE TO CEILING SPACE.
	TELEPHONE JUNCTION BOX, AT +18" AFF U.O.N., WITH 1–1/4" CONDUIT ONLY WITH PULLSTRING UP TO NEAREST ACCESSIBLE TO CEILING SPACE. W = WALL MOUNT AT +46" AFF, U.O.N.
	TELE/DATA JUNCTION BOX AT +18" AFF, U.O.N., WITH (2)1–1/4" CONDUIT ONLY WITH PULLSTRING UP TO NEAREST CABLE TRAY OR ACCESSIBLE CEILING SPACE. W = WALL MOUNT AT +46" AFF, U.O.N.
	CEILING MOUNTED DATA AT T–BAR CEILING NOT TO BE MOUNTED IN CEILING SPACE, WITH 1" CONDUIT AND (1) CAT 6 CABLE TO INTERMEDIATE DISTRIBUTION FRAME AS INDICATED ON DWGS.
	PROJECTOR SHOWN FOR REFERENCE ONLY
	DATA OUTLET, FLUSH FLOOR MOUNTED, WITH HINGED COVER, U.O.N.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE SPECIFICALLY INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH THESE EXISTING CONDITIONS, AND BY SUBMITTING A BID ACCEPTS CONDITIONS UNDER WHICH THEY WILL BE REQUIRED TO PERFORM THEIR WORK.
2. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE ALL EXISTING LIGHTING FIXTURES, RECEPTACLES, ELECTRICAL EQUIPMENT, ETC., AFFECTED BY THE REMODELED AREA. THIS WILL INCLUDE REROUTING, OR THE EXTENSION OF, EXISTING CONDUIT AND FEEDERS WHERE NECESSARY TO MAINTAIN THE CONTINUITY OF EXISTING EQUIPMENT REMAINING.
3. ALL CIRCUIT NUMBERS AND EXISTING CONDUIT HOMERUNS SHOWN ON THESE DRAWINGS WERE TAKEN FROM EXISTING RECORD DRAWINGS. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF HOMERUNS, AND ADJUST CIRCUIT NUMBERS ACCORDING TO EXISTING CONDITIONS IF REQUIRED.
4. WHERE EXISTING WALLS HAVE BEEN REMOVED, AND THERE ARE EXISTING CONDUIT FEEDS WHICH HAVE BEEN CUT–OFF AND CAPPED FLUSH WITH FLOOR, IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND DIMENSION ALL SUCH CONDUITS ON THE "AS–BUILT" DRAWINGS UNLESS NOTED OTHERWISE.
5. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS, EQUIPMENT, ETC., REMAINING IN OPERATION WHICH ARE BEING FED BY AN ABANDONED OUTLET. MAINTAINING CONTINUITY SHALL CONSIST OF REROUTING CONDUIT, WIRING, ETC., AS REQUIRED.
6. WHERE NEW CIRCUITS ARE SHOWN TO EXISTING PANELS, INSTALL NEW BREAKERS OF SAME TYPE, STYLE AND RATING (MINIMUM 20 AMP, SINGLE POLE) AS CALLED FOR ON DRAWINGS. IDENTIFY EACH NEW CIRCUIT ON PANEL SCHEDULE.
7. EXISTING CONDUIT MAY BE REUSED IF ADEQUATELY SIZED, BUT IN NO CASE SHALL ANY EXISTING CONDUCTORS BE REUSED.
8. ALL ABANDONED OUTLETS INCLUDING LIGHT, RECEPTACLES, TELEPHONE, ETC., SHALL BE COVERED AND PATCHED TO MATCH THE FINISH OF SURROUNDING WALL OR CEILING TO THE SATISFACTION OF THE OWNER.
9. ALL LIGHTING FIXTURES REMOVED TO ACCOMPLISH DEMOLITION WORK SHALL BE REINSTALLED SIMILAR TO NEW WORK

BRANCH CIRCUIT WIRING NOTE:

1. FOR RECEPTACLE CIRCUITS AND 120 VOLT BRANCH CIRCUITS, UNLESS NOTED OTHERWISE, PROVIDE THE FOLLOWING CONDUCTORS: (1) #12 CONDUCTOR FOR EACH PHASE (I.E. CIRCUIT NUMBER) AND (1) SEPARATE DEDICATED #12 NEUTRAL CONDUCTOR FOR EACH SINGLE 120 VOLT CIRCUIT OR FOR 2 TO 3 CIRCUITS PROVIDED THEY ARE OF DIFFERENT PHASES; (1) EQUIPMENT GROUNDING CONDUCTOR, SIZED PER CEC. FOR CIRCUITS TO COMPUTER/DATA EQUIPMENT, PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT.
2. FOR LIGHTING BRANCH CIRCUITS, PROVIDE THE FOLLOWING CONDUCTORS: (1) #12 CONDUCTOR FOR EACH PHASE (I.E. CIRCUIT NUMBER); (1) #12 NEUTRAL CONDUCTOR FOR A SINGLE, 120 OR 277 VOLT CIRCUIT, OR (1) #12 NEUTRAL CONDUCTOR FOR 2 TO 3 CIRCUITS WHERE EACH CIRCUIT IS ON A DIFFERENT PHASE; (1) EQUIPMENT GROUNDING CONDUCTOR, SIZED PER CEC ARTICLE 250 (DO NOT USE A COMMON NEUTRAL FOR MULTIPLE CIRCUITS ON SAME PHASE) (1) INTERCONNECTING CONDUCTOR BETWEEN EACH 3–WAY AND/OR 4–WAY SWITCH

APPLICABLE CODES

- 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
- 2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR (2021 EDITION INTERNATIONAL BUILDING CODE, VOL. 1 & 2)
- 2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR (2020 EDITION NATIONAL ELECTRICAL CODE)
- 2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR (2021 EDITION IAPMO UNIFORM MECHANICAL CODE)
- 2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR (2021 EDITION IAPMO UNIFORM PLUMBING CODE)
- 2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
- 2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR (2021 EDITION INTERNATIONAL FIRE CODE)
- 2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR (2021 EDITION INTERNATIONAL)
- 2022 CALIFORNIA GREEN BUILDING STANDARDS 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

PROJECT NOTES

1. THESE DOCUMENTS MAY NOT BE USED FOR ANY REPRODUCTION, BIDDING, OR CONSTRUCTION UNLESS AUTHORIZED, IN WRITING, BY SALAS O'BRIEN AND THE ENGINEER OF RECORD RESPONSIBLE FOR THEIR PREPARATION.
2. VERIFY EXISTING SITE CONDITIONS, ELECTRICAL SERVICE REQUIREMENTS, DIMENSIONS, ELEVATIONS, POINTS OF CONNECTION AND PROJECT CONSTRUCTION LIMITS BEFORE SUBMITTING BID. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
3. THESE DRAWINGS ARE DIAGRAMMATIC AND ONLY INDICATE THE INTENT OF OUTLETS, DEVICES, ETC., TO BE CONNECTED AND THE CIRCUIT NUMBERS TO WHICH THEY ARE TO BE CONNECTED TO. CONTRACTOR SHALL INSTALL ALL REQUIRED JUNCTION BOXES ETC., AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM WHICH COMPLIES WITH ALL LOCAL AND NATIONAL GOVERNING CODES.
4. ALL EXTERIOR EQUIPMENT SHALL BE WEATHERPROOF.
5. LOCATIONS OF ALL EQUIPMENT SHALL BE VERIFIED PRIOR TO ROUGH–IN.
6. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN COMPLIANCE WITH OSHA.
7. PVC CONDUIT, WITH CODE SIZED GROUND, SHALL BE USED UNDERGROUND ONLY, IF APPROVED BY LOCAL CODE. INSTALL PER LOCAL CODE REQUIREMENTS. CONDUIT RISERS AND STUBS ABOVE GRADE SHALL BE I.M.C. WITH HALF–LAPPED TAPE COVERING OR PVC COATING.
8. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC. FOR A COMPLETE AND PROPERLY OPERATING ELECTRICAL SYSTEM.
9. ALL MATERIALS SHALL BE NEW, AND OF THE SAME MANUFACTURER FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY THE UNDERWRITER'S LABORATORIES, AND SHALL BEAR THE INSPECTION LABEL WHERE SUBJECT TO SUCH APPROVAL. MATERIAL SHALL MEET WITH THE APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY, AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY A.N.S.I., U.L., N.E.M.A. AND N.B.F.U. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
10. ALL CONDUIT SHALL BE INSTALLED CONCEALED WHERE PHYSICALLY POSSIBLE. ALL EXPOSED CONDUIT SHALL BE INTERMEDIATE METAL CONDUIT AND INSTALLED PARALLEL TO OR AT RIGHT ANGLES WITH THE BUILDING WALLS. IF VIEWED BY THE PUBLIC, PAINT TO MATCH SURFACE TO WHICH IT IS ATTACHED.
11. CONTRACTOR SHALL CARRY OUT HIS WORK IN ACCORDANCE WITH ALL GOVERNING STATE, COUNTY, LOCAL CODES, O.S.H.A. AND THE CURRENTLY ADOPTED NATIONAL ELECTRICAL CODE (N.E.C.).
12. THE COMPLETE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE NEC, ARTICLE 250.
13. ALL ELECTRICAL PENETRATIONS THROUGH FIRE RATED AREA SEPARATION AND CORRIDOR ASSEMBLIES INCLUDING CONDUITS AND PIPING SHALL BE TIGHTLY AND SOLIDLY SEALED WITH FIRESTOPPING WALLBOARD COMPOUND AND SHALL BE AN APPROVED MATERIAL AS REQUIRED BY LOCAL ENFORCING AGENCY.
14. ELECTRICAL CONTRACTOR SHALL SECURE ALL NECESSARY BUILDING PERMITS, UTILITY CHARGES AND PAY FOR SAME. COORDINATE AND PAY FOR ALL ELECTRICAL SERVICE CHARGES WITH THE BUILDING DEPARTMENT, SERVING UTILITY AND OWNER.
15. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE BY OWNER. ANY WORK, MATERIAL OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.
16. CONDUCTORS SHALL BE CODE GRADE, 600 VOLT CLASS, COPPER (UNLESS NOTED OTHERWISE) MARKED EVERY 24" ALONG IT'S LENGTH SHOWING MANUFACTURER'S NAME, MAXIMUM ALLOWABLE VOLTAGE AND SIZE. GENERAL PURPOSE WIRING SHALL BE SOLID COPPER CONDUCTORS #10 AND SMALLER, STRANDED COPPER CONDUCTORS FOR #8 AND LARGER, TYPE "THWN/(WET) OR "THHN/(DRY). FOR SPECIAL PURPOSE WIRE TYPES, REFER TO EQUIPMENT MANUFACTURER'S PLANS.
17. ALL CONDUIT ONLY (C.O.) SHALL HAVE A PULL WIRE OR ROPE.
18. USE ONLY COMPETENT AND SKILLED PERSONNEL AND PERFORM ALL WORK, INCLUDING AESTHETIC AS WELL AS ELECTRICAL AND MECHANICAL ASPECTS TO STANDARDS CONSISTENT WITH THE BEST PRACTICES OF THE TRADE.
19. ALL ELECTRICAL SYSTEM CONDUCTORS SHALL BE INSTALLED IN APPROVED RACEWAYS. NON–METALLIC SHEATHED CABLE IS NOT APPROVED.
20. WHERE IT BECOMES NECESSARY TO DRILL INTO OR CUT THROUGH ANY EXISTING SLABS, WALKWAYS OR DRIVES TO PERMIT THE INSTALLATION OF ANY WORK UNDER THIS CONTRACT, OR TO REPAIR ANY DEFECTS THAT MAY APPEAR TO THE EXPIRATION OF THE WARRANTY, SUCH CUTTING AND PATCHING SHALL PERFORMED BY TRADESMAN EXPERIENCED IN THE WORK REQUIRED. CONTRACTOR SHALL PAY FOR ALL COSTS REQUIRED FOR CUTTING OR REPAIRING. ALL FINISHES SHALL MATCH EXISTING OR NEW ADJACENT SURFACES.
21. ALL BROCHURES, OPERATING MANUALS, CATALOGS, ETC. SHALL BE TURNED OVER TO THE OWNER AT JOB COMPLETION.
22. ALL SUBSTITUTIONS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT TEN (10) DAYS PRIOR TO BID. SUBMITTAL SHALL INCLUDE, BUT NOT BE LIMITED TO, COST SAVINGS, WRITTEN REASON FOR SUBSTITUTION AND A WRITTEN STATEMENT THAT IF THE SUBSTITUTION IS APPROVED, THERE WILL BE NO DELAY IN DELIVERY, CONSTRUCTION TIME OR COST TO OTHER TRADES.
23. PROVIDE ENGRAVED PLASTIC NAMEPLATES FOR ALL MAJOR PIECES OF EQUIPMENT. PLATES SHALL BE 3 PLY, BLACK FACE, WHITE CORE WITH 1/4" HIGH CONDENSED GOTHIC LETTERING. SCREW–ON ATTACHMENT ONLY. NO CEMENT.
24. PROVIDE THE OWNER WITH ONE (1) SET OF COMPLETE ELECTRICAL "AS–BUILTS" AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DEPTHS AND LOCATIONS.
25. WHERE A CONFLICT OCCURS BETWEEN THESE DRAWINGS AND THE SPECIFICATIONS ISSUED AS PART OF THESE DOCUMENTS, THE MORE STRINGENT REQUIREMENTS SHALL PREVAIL.
26. COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES. THE OWNER WILL MAKE NO SUBSEQUENT ALLOWANCE FOR ELECTRICAL WORK REQUIRED BY OTHER TRADES. OBTAIN ALL OTHER PERTINENT INFORMATION REQUIRED TO MEET ACTUAL BUILDING OR FIELD CONDITIONS.
27. ALL FINAL CONNECTIONS TO OWNER–FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR. CONNECTIONS TO ALL EQUIPMENT FURNISHED BY OTHERS SHALL BE COORDINATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH EQUIPMENT MANUFACTURER PRIOR TO ROUGHING IN ALL CONDUIT TO THIS EQUIPMENT.
28. NOTIFY THE OWNER'S REPRESENTATIVE WHEREVER A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT DEVICES, CIRCUIT BREAKERS, TRANSFORMERS, GROUND FAULT PROTECTION SYSTEMS, ETC. (ALL MATERIALS) THAT ARISE ON THE DRAWINGS AND/OR SPECIFICATIONS. PROVIDE AND INSTALL ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON DRAWINGS AND/OR IN THE SPECIFICATIONS TO INSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE OWNER AND ENGINEER.
29. ALL FEEDER AND BRANCH CIRCUITS SHALL BE PROVIDED WITH AN EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC, AND RUN IN THE SAME RACEWAY OR CONDUIT SUPPLYING SUCH FEEDER OR BRANCH CIRCUIT.
30. TRENCH AND BACKFILL AS REQUIRED TO PERFORM UNDERGROUND WORK. USE EXTREME CAUTION WHEN TRENCHING SO AS NOT TO INTERFERE WITH EXISTING UNDERGROUND UTILITIES. REPAIR ANY DAMAGE CAUSED BY UNDERGROUND TRENCHING.
31. PATCH AND REPAIR WALLS OR CEILINGS WHICH HAVE BEEN DAMAGED BECAUSE OF ELECTRICAL WORK.
32. CONDUIT SHALL NOT BE RUN THROUGH ANY STRUCTURAL MEMBER OF THE BUILDING, EXCEPT AS SPECIFICALLY DIRECTED BY THE OWNER'S REPRESENTATIVE. UNDER NO CIRCUMSTANCE SHALL CONDUIT RUN THROUGH COLUMNS, FOOTINGS OR GRADE BEAMS.
33. FOR ADDITIONAL ROUGH–IN AND WIRING REQUIREMENTS SEE MANUFACTURER'S INSTALLATION PLANS, WHICH ARE SUPPLEMENTAL TO AND PART OF THE ELECTRICAL WORK.
34. EXACT ROUTING OF ALL FEEDERS, CONDUITS, ETC. SHALL BE FIELD VERIFIED AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. COORDINATE THE INSTALLATION WITH OTHER TRADES.
35. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF RECESSED, SURFACE OR PENDANT MOUNTED LIGHT FIXTURES.
36. COLD WATER PIPE GROUNDING BOND SHALL BE LOCATED WITHIN 5' OF BUILDING ENTRANCE.
37. CONTRACTOR SHALL VERIFY EXACT LOADS OF HVAC EQUIP. WITH MECHANICAL ENGINEER AND HVAC EQUIPMENT MANUFACTURER PRIOR TO START OF WORK. IN CASE OF ANY DISCREPANCIES OR POTENTIAL CONFLICTS, INFORM ARCHITECT AND ELECTRICAL ENGINEER IN WRITING PRIOR TO PROCEEDING ANY FURTHER.
38. PIPES, DUCTS AND CONDUITS SHALL BE SUPPORTED AND BRACED PER THE S.M.A.C.N.A. "GUIDELINES FOR SEISMIC RESTRAINT OF MECHANICAL SYSTEMS AND PLUMBING AND PIPING SYSTEMS".
39. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA:
    A. EQUIPMENT ON GRADE – 20% OF OPERATING WEIGHT
    B. EQUIPMENT ON STRUCTURE – 30% OF OPERATING WEIGHT
    C. FOR FLEXIBLY MOUNTED EQUIPMENT USE FOUR (4) TIMES THE ABOVE VALUES, AND FOR SIMULTANEOUS VERTICAL FORCE USE ONE–THIRD (1/3) TIMES THE HORIZONTAL FORCE.
    D. THE ABOVE VALUES ARE FOR AN IMPORTANCE FACTOR I = 1.0 AND SEISMIC ZONE Z = 0.4
    E. WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND THE FIELD INSPECTOR.
40. ALL OUTLET RATINGS SHALL BE 20 AMPS, UNLESS NOTED OTHERWISE.

ABBREVIATIONS

A	AMPS
AF	AMP FUSE (SIZE), AMP FRAME (SIZE)
AFCI	ARC FAULT CURRENT INTERRUPT
AFF	ABOVE FINISH FLOOR
AS	AMP SWITCH (SIZE)
BC	BARE COPPER
C	CONDUIT
CB	CIRCUIT BREAKER
CIR	CIRCUIT
CO	CONDUIT ONLY, WITH PULL LINE
CU	COPPER
EDF	ELECTRIC DRINKING FOUNTAIN
EM	EMERGENCY POWER
EMT	ELECTRICAL METALLIC TUBING
EX	EXISTING
EXP	EXPLOSION PROOF
F	FUSE
G	GROUND CONDUCTOR
GFI	GROUND FAULT INTERRUPT PROTECTION
GND	GROUND
I.G.	ISOLATED GROUND
IMC	INTERMEDIATE METALLIC CONDUIT
ISC	INTERRUPTING SHORT CIRCUIT
LCL	LONG CONTINUOUS LOAD
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NA	NON–AUTOMATIC
NEC	NATIONAL ELECTRICAL CODE
NKE	NO KNOWN EQUAL; NO SUBSTITUTES
NOM	NOMINAL
NTS	NOT TO SCALE
P	POLE
PH OR #	PHASE
PNL	PANEL
PVC	POLYVINYL CHLORIDE
RE'Q'D	REQUIRED
RGS	RIGID GALVANIZED STEEL
SFM	STATE FIRE MARSHAL
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TYP	TYPICAL, UNLESS NOTED OTHERWISE, OF MANY
U.O.N.	UNLESS OTHERWISE NOTED OR INDICATED
V	VOLTS
WP	WEATHERPROOF
X	EXISTING TO REMAIN
XL	EXISTING TO BE RELOCATED
XN	NEW LOCATION OF RELOCATED EQUIPMENT
XR	EXISTING TO BE REMOVED
XFMR	TRANSFORMER

FIRE ALARM DEFERRED APPROVAL NOTES

1. THE FIRE ALARM SYSTEM DRAWINGS WHEN REQUIRED SHALL BE PROVIDED BY THE FIRE ALARM CONTRACTOR UNDER A DEFERRED APPROVAL PROCESS.
2. FIRE ALARM SHOP DRAWINGS SHALL BE SUBMITTED TO THE STATE FIRE MARSHAL OR LOCAL FIRE DEPARTMENT (AS DETERMINED BY THE LOCAL AUTHORITY HAVING JURISDICTION) FOR APPROVAL WITHIN 14 CALENDAR DAYS AFTER NOTICE TO PROCEED. THE FIRE ALARM SHOP DRAWINGS SHALL CONTAIN THE FOLLOWING REQUIREMENTS:
    A. INDICATE WHAT TYPE OF SYSTEM IS BEING PROVIDED
    B. PROVIDE CATALOG DATA, SFM LISTING NUMBER, AND MODEL NUMBER FOR EVERY FIRE ALARM SYSTEM COMPONENT.
    C. PROVIDE SINGLE LINE, RISER AND POINT–TO–POINT WIRING DIAGRAMS.
    D. AN EMERGENCY WARNING SYSTEM WITH VISUAL STROBE DEVICES IS REQUIRED FOR THE HEARING IMPAIRED.
    E. INDICATE THE CONDUIT SIZES, QUANTITY AND TYPE CONDUCTORS, AND WHETHER THE SYSTEM IS POWER LIMITED OR NON–POWER LIMITED.
    F. PROVIDE BATTERY CALCULATIONS FOR THE ENTIRE SYSTEM (24 HOUR STANDBY, 5 MINUTE ALARM TIME).
    G. PROVIDE FLOOR PLANS SHOWING LOCATIONS OF ALL FIRE ALARM EQUIPMENT, INTERCONNECT WIRING, REMOTE POWER SUPPLIES AND ANNUNCIATORS.
    H. INDICATE WHETHER THE SYSTEM IS INDEPENDENT OR INTERCONNECTED TO THE EXISTING FIRE ALARM SYSTEM.
    I. PROVIDE VOLTAGE DROP CALCULATIONS FOR THE LONGEST RUN AND THE CIRCUITS WITH THE LARGEST LOAD REQUIRED FOR BOTH INITIATION AND SIGNAL CIRCUITS.
3. THE WORK SHALL NOT BE STARTED UNTIL THE DETAILED DRAWINGS, SPECIFICATIONS, AND ENGINEERING CALCULATIONS HAVE BEEN ACCEPTED AND APPROVED BY THE STATE FIRE MARSHAL OR LOCAL FIRE DEPARTMENT (AS DETERMINED BY THE LOCAL AUTHORITY HAVING JURISDICTION). CONTRACTOR SHALL PROVIDE APPROVED COPY TO THE ARCHITECT.

STK ARCHITECTURE, INC.
42086 ZEVO DR., TEMECULA, CALIFORNIA 92590-3760
Phone: 951.296.8113 Fax: 951.296.8379 Email: info@stkinc.com

CONSULTANT:
Salas O'Brien
3220 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100

12-20-24 #2024-03417
www.salasobrien.com

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA. 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.0.0.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
–	–

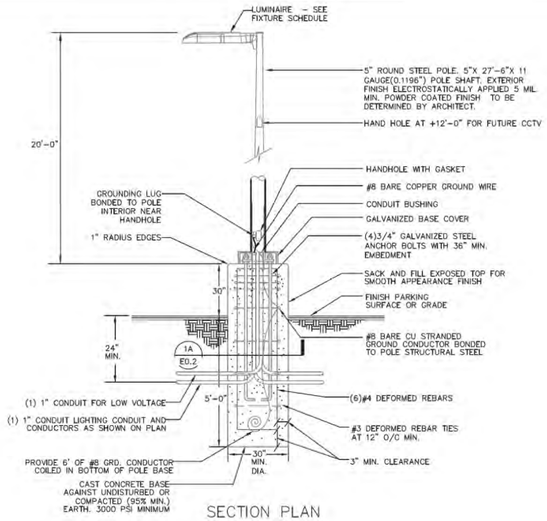
SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:

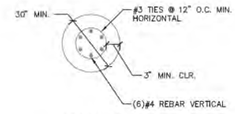
SHEET TITLE:
ELECTRICAL LEGEND AND GENERAL NOTES

SHEET NO.:
E0.1

12/20/2024 4:03PM T:\2024\03417-00 - 227 Yucca Shelter 22700 - SBC\ACAD\Revit\2024\03417_E0.1.rvt



SECTION PLAN

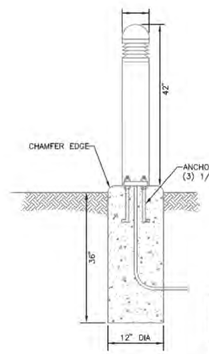


BASE PLAN

FOOTING BASE PLAN | 1A | NTS

NOTE: POLE BASE DIMENSIONS AND ANCHORING HARDWARE SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO INSTALLATION.

SCALE: NONE — FIXTURE TYPE "F11" DETAIL — 1



NOTE: BASE DIMENSIONS AND ANCHORING HARDWARE SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO INSTALLATION.

SCALE: NONE — FIXTURE TYPE "F23" DETAIL — 2

LIGHTING CONTROL PANEL 'LCP'

RELAY #	PANEL	CIR #	VOLTS	SERVES	CONTROL	BLDG. SHUT-OFF CONTROL BY
1	B	9	120	EXTERIOR BUILDING LIGHTS	PHOTOCELL "ON", TIMECLOCK "OFF"	NONE
2	B	11	120	CANOPY LIGHTING	PHOTOCELL "ON", TIMECLOCK "OFF"	NONE
3	B	15,17	120	SITE POLE LIGHTING	PHOTOCELL "ON", TIMECLOCK "OFF"	NONE
4	B	12	120	FLAGPOLE, BOLLARD LIGHTING	PHOTOCELL "ON", TIMECLOCK "OFF"	NONE
5	B	16	120	BAY EXTERIOR LIGHTING	PHOTOCELL "ON", TIMECLOCK "OFF"	NONE
6	B	22	120	EXTERIOR SIGNAGE LIGHTING	PHOTOCELL "ON", TIMECLOCK "OFF"	NONE
7	B	26	120	SITE SIGNAGE LIGHTING	PHOTOCELL "ON", TIMECLOCK "OFF"	NONE
8	–	–	–	SPARE		
9	–	–	–	SPARE		
10	–	–	–	SPARE		
11	–	–	–	SPARE		
12	–	–	–	SPARE		

LIGHTING MATRIX CONTROL SYSTEM NOTES:

1. PROVIDE THE LIGHTING CONTROL SYSTEM WITH AN INTEGRAL ELECTRONIC SOLID-STATE, 365 DAY PROGRAMMABLE, MULTI-CHANNEL, TIME SWITCH WITH INTEGRAL BACKUP POWER (MINIMUM 90 MINUTES).
2. PROVIDE (1) PHOTOCELL ON ROOF FOR CONTROL OF SITE LIGHTING AND RED LIGHTS.

LIGHTING FIXTURE SCHEDULE

FIXT DES	SYMBOL	LAMP TYPE	FIXTURE MOUNTING	LAMP DESC	WATTS	VOLTS	MFR/CATALOG	DESCRIPTION
F1		LED	WALL PER ARCH	57W LED 4000K 7200 LUMENS	57	120	ARCHITECTURAL AREA LIGHTING M22-WD-36L-475-4K80-4W-CL-BLS SF-UNV	WALL MOUNTED LED AREALIGHT FIXTURE, BLACK FINISH, REMOTE SENSOR CONTROL AT 15', WET LOCATION LISTED, SEE ARCHITECTURAL DRAWINGS FOR FINAL LOCATION
F2		LED	SURFACE	27.4W LED 4000K 3,794 LUMENS	27.4	120	COLUMBIA LIGHTING MPS4-40LW-CW-ED-U	4' LED STRIPLIGHT WITH NON-DIMMING ELECTRONIC DRIVER
F3		LED	SURFACE	31W LED 4000K 3665 LUMENS	31	120	COLUMBIA LIGHTING MPS4-40LW-CW-ED-U	4' LED INDUSTRIAL LIGHT FIXTURE, PRISMATIC ACRYLIC LENS, END CAP AND 0-10V DIMMABLE ELECTRONIC DRIVER
F3E		LED	SURFACE	31W LED 4000K 3665 LUMENS	31	120	COLUMBIA LIGHTING MPS4-40LW-CW-ED-U-ELL14	4' LED INDUSTRIAL LIGHT FIXTURE, PRISMATIC ACRYLIC LENS, END CAP, 0-10V DIMMABLE ELECTRONIC DRIVER AND 1100 LUMEN EMERGENCY BATTERY PACK
F4		LED	RECESSED	17W LED 3500K 1599 LUMENS	17	120	PRESCOLITE LFR-6RD-M-20L-35K8-XW-DM1-LFR-6RD-T-S-WT-LFR-6RD-H-IC	6" DIAMETER RECESSED LED DOWN LIGHT, IC RATED HOUSING, OPEN WHITE TRIM AND 0-10V DIMMABLE ELECTRONIC DRIVER
F5		LED	UNDER CABINET	10W LED 4000K 479 LUMENS	10	120	CONTECH LIGHTING LPU2-18-1-P-LPAC6-P	19.25" LED UNDER COUNTER LIGHT, WHITE HOUSING AND WHITE HARD WIRED WIRING COMPARTMENT. PROVIDE A COMPLETE AND OPERABLE SYSTEM
F6		LED	RECESSED	17W LED 3500K 1599 LUMENS	17	120	PRESCOLITE LFR-6RD-20L-35KBXW-DM1-LFR-6RD-T-SS-WT-LFR-6RD-H-IC	6" DIAMETER RECESSED LED DOWN LIGHT, IC RATED HOUSING, OPEN CLEAR DIFFUSE FINISH, WHITE TRIM AND 0-10V DIMMABLE ELECTRONIC DRIVER, FIRE RATED COVERS WHERE NECESSARY
F6E		LED	RECESSED	17W LED 3500K 1599 LUMENS	17	120	PRESCOLITE LFR-6RD-20L-35KBXW-DM1-EM LFR-6RD-T-SS-WT-LFR-6RD-H-IC	6" DIAMETER RECESSED LED DOWN LIGHT, IC RATED HOUSING, OPEN CLEAR DIFFUSE FINISH, WHITE TRIM, 0-10V DIMMABLE ELECTRONIC DRIVER AND EMERGENCY BATTERY PACK
F7		LED	RECESSED	17W LED 3500K 1599 LUMENS	17	120	PRESCOLITE LFR-6RD-20L-35KBXW-DM1-LFR-6RD-T-SS-WT-CL LFR-6RD-H-IC	6" DIAMETER RECESSED LED DOWN LIGHT, IC RATED HOUSING, OPEN CLEAR DIFFUSE FINISH, WHITE TRIM AND 0-10V DIMMABLE ELECTRONIC DRIVER, WET LISTED
F8		FLUOR	WALL	20W 4000K	20	120	CURRENT LIGHTING VWGL-2 VGL-RD	WALL MOUNTED LED VAPORTIGHT LIGHT, RUBY RED GLOBE, CAST ALUMINUM GUARD AND ELECTRONIC BALLAST
F9		LED	RECESSED	21W LED 3500K DN	21	120	PRESCOLITE LFR-6RD-M-25L-35K-NR-DM1-LFR-6RD-T-SS-WT	6" DIAMETER RECESSED LED DOWN LIGHT, CLEAR REFLECTOR, WHITE TRIM, 0-10V DIMMABLE ELEC DRIVER
F10		LED	RECESSED	15.7W LED 3500K 1501 LUMENS	15.7	120	PRESCOLITE LFR-6RD-M-20L-35K-NR-DM1-EM LFR-6RD-T-SS-WT-CL	6" DIAMETER RECESSED LED DOWN LIGHT, LENSED COMFORT CLEAR FINISH, WHITE TRIM, 0-10V DIMMABLE ELECTRONIC DRIVER WET LOCATION LISTED AND EMERCENCY BATTERY PACK
F11		LED	20' TALL, 4" SQUARE POLE 24" DIA X 30" HIGH CONC BASE	104W 5000K 12,357 LUMENS	104	208	CURRENT LIGHTING VF-1-160L-115-4K7-SQW-R-UNV-ASQU-DBS-BTS-40F	POLE MOUNTED LED SITE LIGHT FIXTURE, FULL CUTOFF, TYPE 5 MEDIUM OPTICS, INTEGRAL MOTION-AMBIENT SENSOR AND DARK BRONZE FINISH
F12		LED	WALL	23W LED 4000K 1358 LUMENS	23	120	AMERICA LIGHT ERH-__-23-40K-UNV-BZ-EM	WALL MOUNTED LED LIGHT FIXTURE, BRONZE HOUSING, WET LOCATION LISTED PROVIDE WITH 90 MIN EMERGENCY BACK UP, SEE ARCHITECTURAL DRAWINGS FOR FINAL LOCATION
F13		LED	WALL	34W LED 4000K 1358 LUMENS	34	120	KIM LIGHTING PWTR-13-20-40K8-D05-UNV-WHS	WALL MOUNTED LED LIGHT FIXTURE, WHITE HOUSING, WET LOCATION LISTED, SEE ARCHITECTURAL DRAWINGS FOR FINAL LOCATION
F14		LED	CHAIN HUNG	38W LED 4000K 4431 LUMENS	38	120	COLUMBIA LIGHTING LXEM-4-40-ML-RFP-ED-U-XEHC	4' LED INDUSTRIAL GASKETED LIGHT FIXTURE, POLYCARBONATE LENS, END CAP, SURFACE OR CHAIN HUNG AS DIRECTED BY ARCHITECT AND 0-10V DIMMABLE ELECTRONIC DRIVER
F15		LED	PENDANT	21W LED 3500K 2027 LUMENS	21	120	PRESCOLITE LFR-6RD-M-25L-35K-NR-DM1-LFR-6RD-T-SS-WT	6" DIAMETER RECESSED LED DOWN LIGHT, LENSED COMFORT CLEAR FINISH, WHITE TRIM, 0-10V DIMMABLE ELEC DRIVER AND WET LOCATION LISTED
F16		LED	GRADE	18W LED 3000K 25 DEGREE SPREAD	18	120	KIM LIGHTING LTVB2-SS-NF-118L-3K-UN	INGROUND & WELL LIGHT FLAG POLE, WET LOCATION LISTED LIGHT FIXTURE WITH REMOTE ELECTRONIC DRIVER
F17		LED	WALL	2.5W LED 3000K	2.5	120	MP LIGHTING L22S-W1-S-2-W30N-N-CS-TBX-MA	ADJUSTABLE WALL MOUNTED LED READING LIGHT FIXTURE WITH INTEGRAL SWITCH
F18		LED	RECESSED	27.9W LED 3500K 2739 LUMENS	27.9	120	LITE CONTROL 55L-6-D-22-ASO-WHS-35K-D01-UNV	2 X 2 RECESSED MOUNTED LED LIGHT FIXTURE, WHITE HOUSING WITH 0-10V DIMMABLE ELECTRONIC DRIVER
F18E		LED	RECESSED	27.9W LED 3500K 2739 LUMENS	27.9	120	LITE CONTROL 55L-6-D-22-ASO-WHS-35K-D01-UNV-EF	2 X 2 RECESSED MOUNTED LED LIGHT FIXTURE, WHITE HOUSING, 0-10V DIMMABLE ELECTRONIC DRIVER AND 900 LUMEN EMERGENCY BATTERY PACK
F19		LED	SURFACE	38W LED 4000K 4431 LUMENS	38	120	COLUMBIA LIGHTING LXEM-4-40-ML-RFA-ED-U	1'x4' SURFACE MOUNTED LED LIGHT FIXTURE, WHITE VAPORTIGHT HOUSING, 0-10V DIMMABLE ELECTRONIC DRIVER AND WET LOCATION LISTED
F20		LED	SURFACE	130W LED 4000K 14660 LUMENS	130	120	COLUMBIA LIGHTING LXEM-8-40-VL-RFA-ED-U	1'x8' SURFACE MOUNTED LED LIGHT FIXTURE, WHITE VAPORTIGHT HOUSING, 0-10V DIMMABLE ELECTRONIC DRIVER AND WET LOCATION LISTED
F20E		LED	SURFACE	130W LED 4000K 14660 LUMENS	130	120	COLUMBIA LIGHTING LXEM-8-40-VL-RFA-ED-U-ELL14	1'x8' SURFACE MOUNTED LED LIGHT FIXTURE, WHITE VAPORTIGHT HOUSING, 0-10V DIMMABLE ELECTRONIC DRIVER, WET LOCATION LISTED WITH EMERGENCY BATTERY PACK
F21		N/A	CEILING	N/A	50	120	HUNTER CEILING PER ARCHITECT REMOTE FAN CONTROL 22691	CEILING FAN WITH 52" BLADE, WHITE SATIN FINISH AND ONE (1) REMOTE CONTROL UNIT
F23		LED	BOLLARD	60W LED 3500K 200 LUMENS	25	120	KIM LIGHTING PA7S-FT-NU-3-12L-010-3K7-24A-BLS-UNV	LED FREE STANDING BOLLARDS.
E1		LED	SURFACE	1W LED	1	120	CURRENT LIGHTING CCEDRE	LED EXIT SIGN, BLACK HOUSING, RED LETTERS WITH INTEGRAL EMERGENCY BATTERY PACK
F24		LED	RECESSED	27.9W LED 3500K 2739 LUMENS	27.9	120	LITE CONTROL 55L-6-D-24-ASO-WHS-35K-D01-UNV	2 X 4 RECESSED MOUNTED LED LIGHT FIXTURE, WHITE HOUSING WITH 0-10V DIMMABLE ELECTRONIC DRIVER
F24E		LED	RECESSED	27.9W LED 3500K 2739 LUMENS	27.9	120	LITE CONTROL 55L-6-D-24-ASO-WHS-35K-D01-UNV-EF	2 X 4 RECESSED MOUNTED LED LIGHT FIXTURE, WHITE HOUSING, 0-10V DIMMABLE ELECTRONIC DRIVER AND 900 LUMEN EMERGENCY BATTERY PACK
F25		LED	PENDANT	38W LED 3000K 2660 LUMENS	38	120	LUMENWIDX FOARP-12IN-D-HLO-SW-90CRI-1600LM-30K-UNV-D1-1C PCS-TMB-TMW	THESE CLASSIC CONE PENDANTS IN MATTE BLACK THESE PENDANTS ARE ILLUMINATED ON THE BOTTOM PERIMETER CREATING A BLACK ABYSS ON THE INSIDE GENERATING AN INTERESTING LIGHTING EFFECT
F26		LED	WALL	3.4W 3500K 400 LUMENS	3.4	120	MEYER LIGHTING S151	1-1/4" DIAMETER LED, OUTDOOR LINEAR WALL WASHER.
F27		LED	WALL	5.5W 3000K 470 LUMENS	5.5	120	LUIRA LINE LIGHTING RA11 GNL- -- MBL6A-	11" ANGLED, 11" L-ARM
F28		LED	GROUND	LED 4200K	74	120	KIM LIGHTING 434BP70/32L4KUV-DB-PH48	4' LENGTH LINEAR LED LIGHT FIXTURE FOR MONUMENT SIGNAGE.

LIGHTING FIXTURE NOTES:

1. PROVIDE SPECIFIED LIGHTING MANUFACTURER FOR EACH LIGHT FIXTURE. ANY SUBSTITUTIONS SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE LISTED MANUFACTURERS CATALOG NUMBER. PROVIDE CUT SHEETS FOR APPROVAL BY ARCHITECT PRIOR TO PROCUREMENT.
2. COORDINATE ALL FIXTURE COLORS, REFLECTORS, FINISHES, MOUNTING LOCATIONS, POLES AND HEIGHTS WITH ARCHITECT PRIOR TO PROCUREMENT.

STK ARCHITECTURE, INC.
42050 ZEVO DR., TEMECULA, CALIFORNIA 92590-3250
Phone: 951.296.8115 Fax: 951.296.8979 Email: info@stkinc.com

CONSULTANT:
Salas O'Brien
3220 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100 10-20-24 #2024-03417
www.salasobrien.com

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA. 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.0.0.202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
–	–

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:



SHEET TITLE:
LIGHTING FIXTURE SCHEDULE

SHEET NO.:
E0.2

T:\2024\03417-00 - SB Fire Station 227\01-BIM\ACAD\Model\2024\03417_E0.2.dwg

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: San bernardino County Fire Department: Fire Station 227	Report Page:	(Page 7 of 8)
	Date Prepared:	11/11/2024

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: San bernardino County Fire Department: Fire Station 227	Report Page:	(Page 4 of 8)
	Date Prepared:	11/11/2024

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.*

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
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(e) 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.		
Project Name: San bernardino County Fire Department: Fire Station 227	Report Page:	(Page 1 of 8)
Project Address: 180 W. 38th Street	Date Prepared:	11/11/2024

A. GENERAL INFORMATION

01	Project Location (city)	San Bernardino	04	Total Illuminated Hardscape Area (ft²)	52000
02	Climate Zone	10			
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				
• All Other Occupancies					

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: San bernardino County Fire Department: Fire Station 227	Report Page:	(Page 8 of 8)
Project Address: 180 W. 38th Street	Date Prepared:	11/11/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Company: Salas O'Brien Engineers	Signature Date: 2024-11-11
Address:	CEA/ HERS Certificate Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
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: Ed David	Responsible Designer Signature:
Company: Salas OBrien	Date Signed: 2024-11-11
Address: 3220 Executive Ridge, Suite 210	License: E18809
City/State/Zip: Vista CA 92081	Phone: (760) 560-0100

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: San bernardino County Fire Department: Fire Station 227	Report Page:	(Page 5 of 8)
	Date Prepared:	11/11/2024

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-H 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					
☒ General Hardscape Allowance Table I (below)	"Use it or lose it" Allowance (select all that apply) (select all that apply)				☒ Per Specific Area Table M
	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L		

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA
Area Description	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	(Watts)
Automotive Hardscape	52000	0.021	1092	300	0.2	60	1152
				Initial Wattage Allowance for Entire Site (Watts):			250
				Instances of Initial Wattage Allowance (LZ 0 only)[1]			
				Total General Hardscape Allowance (Watts):			1402

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: San bernardino County Fire Department: Fire Station 227	Report Page:	(Page 2 of 8)
	Date Prepared:	11/11/2024

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. General Hardscape Allowance 140.7(d)1 / 170.2(e)6- (See Table I)	+	02. Per Application 140.7(d)2 / 170.2(e)6- (See Table J)	+	03. Sales Frontage 140.7(d)2 (See Table K)	+	04. Ornamental 140.7(d)2 / 170.2(e)6- (See Table L)	+	05. Per Specific Area 140.7(d)2 / 170.2(e)6- (See Table M)	OR	06. Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv- (See Table N)	+	07. Total Allowed (Watts)	≥	08. Total Actual (Watts)	09. 07 must be >= 08
1,402	+	—	+	—	+	—	+	484	OR	—	+	1,886	≥	1,324	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.

STATE OF CALIFORNIA
Sign Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTS-E
This document is used to demonstrate compliance with requirements in 110.9, 110.12, 130.0/ 160.5, 130.3/ 160.5(d), 140.8/ 170.2(e) and 141.0(b)2M/ 180.2(b)4Bvi for sign lighting scopes using the prescriptive path. Exit signs and traffic signs are not required to comply with prescriptive requirements per exceptions to 140.8/ 170.2(e) and do not need to complete this compliance document.		
Project Name: San bernardino County Fire Department: Fire Station 227	Report Page:	(Page 1 of 5)
Project Address: 180 W. 38th Street	Date Prepared:	11/11/2024

A. GENERAL INFORMATION

01	Project Location (city)	San Bernardino	
02	Climate Zone	10	
03	Occupancy Types within Project	☐	Healthcare Facility
		☐	Multifamily/ MF Mixed-use >= 4 stories (includes dormitory, senior living)

B. PROJECT SCOPE

This table includes illuminated signs that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.8/ 170.2(e) or 141.0(b)2M/ 180.2(b)4Bvi for alterations. Exit signs and traffic signs are not required to comply with prescriptive requirements per exceptions to 140.8/ 170.2(e) and do not need to complete this compliance document.

01	02	03	04	05
Name or Item Tag	Complete Sign Description	Sign Status[1]	Sign Type	Compliance Method[2]
F27	Signage	New	Outdoor	Max Allowed Lighting Power

[1] *FOOTNOTE: Sign alterations that increase the connected lighting load, replace and rewire more that 50% of the ballasts, or relocate the sign to a different location must comply with 140.8/ 170.2(e). See 141.0(b)2M/ 180.2(b)4Bvi for more details.*
[2] *The ENERGY VERIFIED Label compliance method is only applicable if the sign has a permanent, factory-installed, ENERGY VERIFIED label certified by UL or comparable, confirming the sign complies with 140.8/ 170.2(e). Note that using an ENERGY VERIFIED label is an optional compliance path, not a mandatory requirement. See the tooltips for this table for more details.*

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: San bernardino County Fire Department: Fire Station 227	Report Page:	(Page 6 of 8)
	Date Prepared:	11/11/2024

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This table includes areas using the wattage allowance per specific area from Table 140.7-B /Table 170.2-S. More than one specific area allowance may be taken in a single project, if applicable. However, multiple specific area allowances may not be taken for the exact same area on the site.

01	02	03	04	05	06	07	08	09	10
		CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				
Area Description	Specific Area Type per Table 140.7-B	Specific Area (ft²)	Allowed Density (W/ft²)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	Additional Allowance (Watts)
Building Facade	BuildingFacade	9900	0.2	1683	F12	23	16	368	484
					F8	32	1	32	
					F9	21	4	84	
					Total Design Watts for this Area:			484	
					Total Allowance (Watts) All Areas:				484

[1] *FOOTNOTES: See Table 140.7-B /Table 170.2-S for rules for calculating the specific areas (ft²) for these additional lighting allowances.*
[2] *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.*

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

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: San bernardino County Fire Department: Fire Station 227	Report Page:	(Page 3 of 8)
	Date Prepared:	11/11/2024

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
F1	54w LED Wall Mounted Area Light	☐	Linear	54	Mfr. Spec	4	New	☐	216	NA: < 6200 lumens	☐	☐
F11	104W POLE	☐	Linear	104	Mfr. Spec	6	New	☐	624	NA: < 6200 lumens	☐	☐
F12	23w LED Wall Mounted SCONCE Light	☐	Linear	23	Mfr. Spec	16	New	☐	368	NA: < 6200 lumens	☐	☐
F8	32w Decorative LED Wall Light	☐	Linear	32	Mfr. Spec	1	New	☐	32	NA: < 6200 lumens	☐	☐
F9	21w LED Down Light	☐	Linear	21	Mfr. Spec	4	New	☐	84	NA: < 6200 lumens	☐	☐
								Total Design Watts:	1324			

* 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)*

STK ARCHITECTURE, INC.
42066 ZEVO DR., TEMECULA, CALIFORNIA 92590-3760
Phone: 951.296.8470 Fax: 951.296.8979 Email: stk@stkinc.com

CONSULTANT:
Salas O'Brien
3220 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100

10-20-24 #2024-03417
www.salasobrien.com

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA. 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT #: 10JO.1202
CIP #:
CAFM #:
APN #:

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:

REGISTERED PROFESSIONAL ENGINEER
Ed David
No. 18809
Exp. 6/30/25
ELECTRICAL
STATE OF CALIFORNIA

SHEET TITLE:

TITLE 24
EXTERIOR

SHEET NO.:

E0.3

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STATE OF CALIFORNIA
Sign Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTS-E
Project Name: San bernardino County Fire Department: Fire Station 227	**Report Page:**	(Page 5 of 5)
Project Address: 180 W. 38th Street	**Date Prepared:**	11/11/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Company: Salas O'Brien Engineers	Signature Date: 2024-11-11
Address:	CEA/HERS Certification Identification:s (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
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:	Responsible Designer Signature:
Ed Davitt	
Company: Salas OBrien	Date Signed: 2024-11-11
Address: 3220 Executive Ridge, Suite 210	License: E18809
City/State/Zip: Vista CA 92081	Phone: (760) 560-0100

STATE OF CALIFORNIA
Sign Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTS-E
Project Name: San bernardino County Fire Department: Fire Station 227	**Report Page:**	(Page 2 of 5)
	Date Prepared:	11/11/2024

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables B through H. 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	07
Name or Item Tag (See Table B)	Complete Sign Description (See Table B)	Total Allowed (Watts) (See Table F)	≥	Total Designed (Watts) (See Table F)	OR	Compliant Light Sources (See Table G)	OR	ENERGY VERIFIED Label (See Table H)	**Compliance Results**
F27	Signage	0	≥	36.3	OR		OR		DOES NOT COMPLY
								Controls Compliance (See Table F/G/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
Sign Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTS-E
Project Name: San bernardino County Fire Department: Fire Station 227	**Report Page:**	(Page 3 of 5)
	Date Prepared:	11/11/2024

F. MAXIMUM ALLOWED LIGHTING POWER AND CONTROLS

This table includes illuminated signs using the Maximum Allowed Lighting Power compliance method per 140.8(a) / 170.2(e) as indicated on Table B of this compliance document. It also demonstrates compliance with mandatory controls requirements from 130.3 / 160.5(d) by indicating control types for each sign.

01	02	03	04	05	06	07	08			09	
Name or Item Tag	Complete Sign Description	Illumination Method	Sign Area (ft^2)	Allowed Density (W/ft^2)	Allowance (Watts)	Design Watts	Mandatory Controls			Field Inspector	
							Shut-Off	Dimming	Demand Response[1]	Pass	Fail
F27	Signage	Externally	0	2.3	0	36.3	Automatic Time Switch + Photocontrol (outdoor)			☐	☐

	10	11	12	13	14
	Luminaire Name or Item Tag	Complete Luminaire Description	Watts per luminaire	How is Wattage determined	Total Number of Luminaires
	F27	3.4w LED Wall Mounted Light SIGNAGE	3.4	Mfr. Spec	2
	F26	5.5w LED Wall Mounte Light	5.5	Mfr. Spec	1
	F28	74w LED ground Mounted Signage	24	Mfr. Spec	1

** NOTES: Controls with a * require a note in the space below explaining how compliance is achieved. EX: Sign within tunnel illuminated day and night, EXCEPTION to 130.3(b)2A.*

[1] *FOOTNOTE: Demand response controls are only required for an Electronic Message Center having a new connected lighting power load greater than 15 kW per 130.12(d).*

G. LIGHT SOURCES AND CONTROLS

This section does not apply to this project.

H. ENERGY VERIFIED LABELED SIGNS AND CONTROLS

This section does not apply to this project.

STATE OF CALIFORNIA
Sign Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTS-E
Project Name: San bernardino County Fire Department: Fire Station 227	**Report Page:**	(Page 4 of 5)
	Date Prepared:	11/11/2024

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-LTS-E - Must be submitted for all buildings

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

STK
43066 ZEVO DR., TEMECULA, CALIFORNIA 92590-3760
Phone: 951.296.8410 Fax: 951.296.8479 Email: info@stkllc.com

CONSULTANT:
Salas O'Brien
3220 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100
12-20-24 #2024-03417
www.salasobrien.com

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA. 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
TITLE 24
EXTERIOR

SHEET NO.:
E0.4

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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: San Bernardino County Fire Department: Fire Station 226	Report Page:	(Page 7 of 9)
	Date Prepared:	11/11/2024

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.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE
This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))
This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR 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.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: San Bernardino County Fire Department: Fire Station 226	Report Page:	(Page 4 of 9)
	Date Prepared:	11/11/2024

F. INDOOR LIGHTING FIXTURE SCHEDULE

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[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	Field Inspector	
									Pass	Fail
F2	48" LED Strip Light	No	NA	42	Mfr. Spec	2	No	84	☐	☐
F6	17w 6" Daimeter LED Down Light	No	NA	17	Mfr. Spec	1	No	17	☐	☐
					Total Designed Watts: UNCONDITIONED SPACES			101		

[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.

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	
		Pass	Fail
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	☐	☐
Required >= 4,000W subject to multilevel	Whole Building Auto Time Switch	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: San Bernardino County Fire Department: Fire Station 226	Report Page:	(Page 1 of 9)
Project Address: 180 W. 38th Street	Date Prepared:	11/11/2024

A. GENERAL INFORMATION

01	Project Location (city)	San Bernardino	04	Total Conditioned Floor Area (ft²)	31,225
02	Climate Zone	10	05	Total Unconditioned Floor Area (ft²)	295
01	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1
▸ All Other Occupancies					

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	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	31225	Area Category Method	295
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	31225		295	

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: San Bernardino County Fire Department: Fire Station 226	Report Page:	(Page 8 of 9)
	Date Prepared:	11/11/2024

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)
This section does not apply to this project.

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	System/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.	DAY ROOM; FITNESS;
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Whole Building Demand Response;

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
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	Date Prepared:	11/11/2024

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Area Level Controls

04	05	06	07	08	09	10	11	12	
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)2 / 170.7(e)2A	Field Inspector:	
								Pass	Fail
offices	All Other Space Types	Readily Accessible	Dimmer	See Building Level	NA:Garage < 36sf opening	NA:Garage < 36sf opening	No	☐	☐
utility rooms	Electrical Mechanical Telephone Room	Readily Accessible	Dimmer	See Building Level	NA:Garage < 36sf opening	NA:Garage < 36sf opening	No	☐	☐
SLEEP QUARTER	All Other Space Types	Readily Accessible	Dimmer	See Building Level	NA:Garage < 36sf opening	NA:Garage < 36sf opening	No	☐	☐
DAY ROOM	Dining - Bar/Fine	Readily Accessible	Dimmer	See Building Level	Included	Included	No	☐	☐
LOBBY	Lounge	Readily Accessible	Dimmer	See Building Level	NA:Garage < 36sf opening	NA:Garage < 36sf opening	No	☐	☐
FITNESS	Exercise Center Gymnasium	Readily Accessible	Dimmer	See Building Level	Included	Included	No	☐	☐
KITCHEN	Kitchen/ Food Preparation	Readily Accessible	Dimmer	See Building Level	NA:Garage < 36sf opening	NA:Garage < 36sf opening	No	☐	☐
BATHROOM	Restroom	Readily Accessible	Dimmer	See Building Level	NA:Garage < 36sf opening	NA:Garage < 36sf opening	No	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: San Bernardino County Fire Department: Fire Station 226	Report Page:	(Page 2 of 9)
	Date Prepared:	11/11/2024

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(b) / 170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)				Compliance Results
	01	02	03	04		05	06	07 Adjustments		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)	PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)	=	Total Adjusted (Watts) *Includes Adjustments	
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned		12,490	0		=	12,490	4,281	0	=	4281	COMPLIES
Unconditioned		118	0		=	118	101	0	=	101	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: San Bernardino County Fire Department: Fire Station 226	Report Page:	(Page 9 of 9)
Project Address: 180 W. 38th Street	Date Prepared:	11/11/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Company: Salas O'Brien Engineers	Signature Date: 2024-11-11
Address: CLA/ HERS Certification Identification (If applicable):	
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
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 Co-mpliance 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: Ed David	Responsible Designer Signature:
Company: Salas Obrien	Date Signed: 2024-11-11
Address: 3220 Executive Ridge, Suite 210	License: ₵18809
City/State/Zip: Vista CA 92083	Phone: (760) 560-0100

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: San Bernardino County Fire Department: Fire Station 226	Report Page:	(Page 6 of 9)
	Date Prepared:	11/11/2024

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

LOCKER	Locker/Dressing Room	Readily Accessible	Dimmer	See Building Level	NA:Garage < 36sf opening	NA:Garage < 36sf opening	No	☐	☐
STORAGES	Electrical Mechancial Telephone Room	Readily Accessible	Dimmer	See Building Level	NA:Garage < 36sf opening	NA:Garage < 36sf opening	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	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Fire Station Conditioned	All Other Space Types	0.4	31,225	12,490	No	No
			TOTALS:	31,225	12,490	See Tables J, or P for detail

Unconditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Fire Station Unconditioned	All Other Space Types	0.4	295	118	No	No
			TOTALS:	295	118	See Tables J, or P for detail

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM
This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: San Bernardino County Fire Department: Fire Station 226	Report Page:	(Page 3 of 9)
	Date Prepared:	11/11/2024

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	
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	Field Inspector	
									Pass	Fail
F15	21w 8" Daimeter LED Shower Light	No	NA	21	Mfr. Spec		No	0	☐	☐
F17	2.5w LED Reading Light	No	NA	2.5	Mfr. Spec	8	No	20	☐	☐
F18/F18E	27.9w 2 X 2 LED Troffer	No	NA	27.9	Mfr. Spec	22	No	613.8	☐	☐
F19	38w 48" LED Vapor Tight Light	No	NA	38	Mfr. Spec	5	No	190	☐	☐
F2	48" LED Strip Light	No	NA	42	Mfr. Spec	10	No	420	☐	☐
F20/F20L	130w 96" LED Vapor Tight Light	No	NA	130	Mfr. Spec	15	No	1,950	☐	☐
F21	50w Metal Halide	No	NA	58	Mfr. Spec		No	0	☐	☐
F24/F24I	27.9w 2 X 4 LED Troffer	No	NA	27.9	Mfr. Spec	11	No	306.9	☐	☐
F5	20" 10w LED Linear Under Cabinet	No	NA	10	Mfr. Spec	10	No	100	☐	☐
F6	17w 6" Daimeter LED Down Light	No	NA	17	Mfr. Spec	22	No	374	☐	☐
F6/F6E	17w 6" Daimeter LED Down Light	No	NA	17	Mfr. Spec	10	No	170	☐	☐
F7	17w 6" Daimeter LED Down Light	No	NA	17	Mfr. Spec	8	No	136	☐	☐
							Total Designed Watts: CONDITIONED SPACES	4,281		

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12-20-24 #2024-03417
AC 10/22 PP 1 BP

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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA. 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J01202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER J. KLEIN
No. E24861
EXP. 4/30/25
ELECTRICAL
STATE OF CALIFORNIA

SHEET TITLE:
TITLE 24
INTERIOR

SHEET NO.:
E0.5

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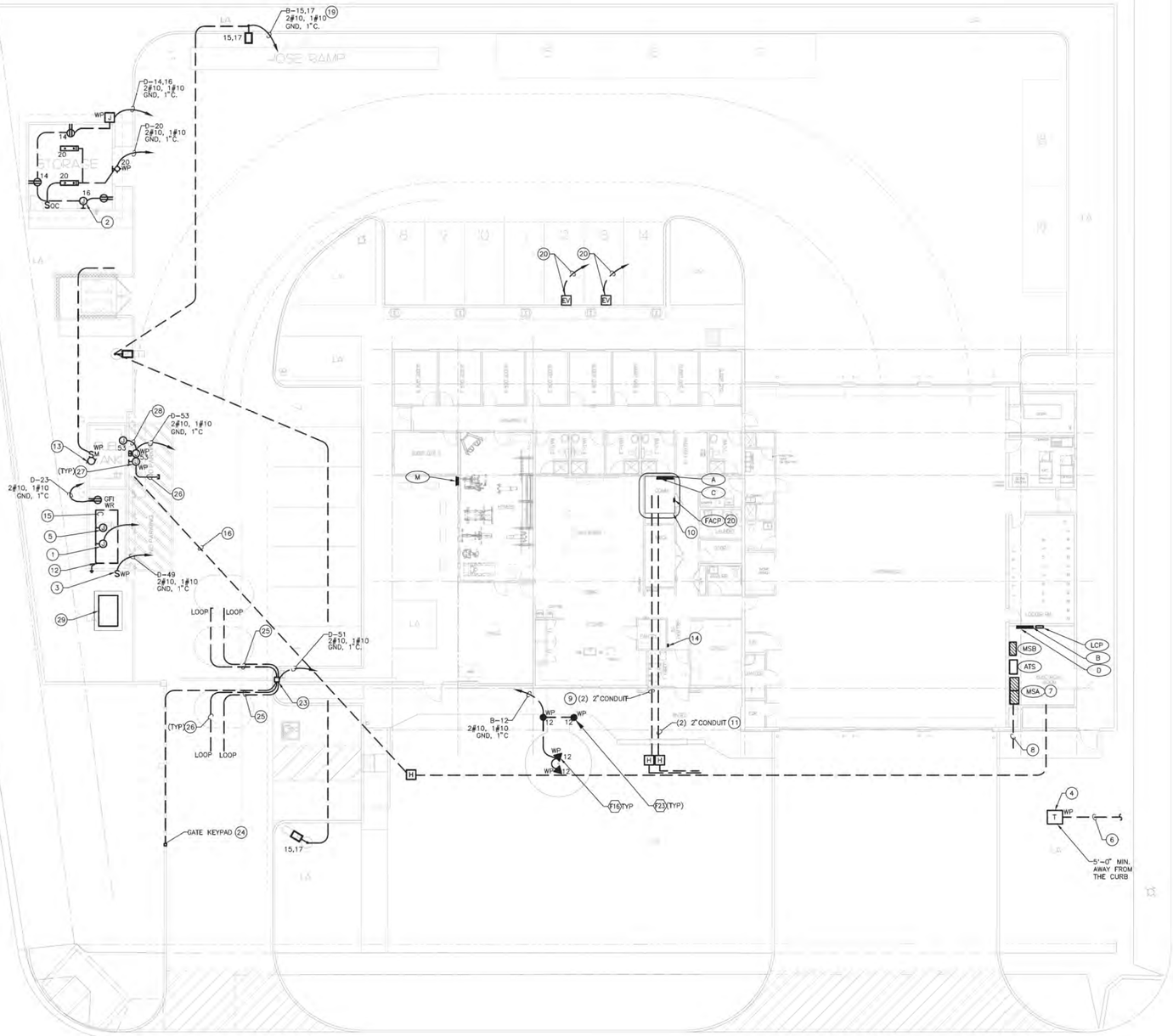

GENERAL NOTES

A. CONDUITS TO BE MINIMUM 24" BELOW GRADE.

B. UTILITY SERVICES TO BE MINIMUM 36" BELOW GRADE TO TOP OF CONDUITS. COORDINATE WITH MECHANICAL, CIVIL, LANDSCAPE AND IRRIGATION SITE DRAWINGS, PRIOR TO START OF WORK.

C. PROVIDE PULL WIRES IN ALL EMPTY CONDUITS AS REQUIRED BY UTILITIES SERVICE.

D. UTILITY PAD TO BE FURNISHED PER SERVING UTILITY COMPANY STANDARDS. PROVIDE EASILY IDENTIFIABLE MARKERS AT ALL CONDUIT STUBS.

E. CONSTRUCTION AND INSPECTION WILL BE PER UTILITY-ISSUED DRAWINGS AND SPECIFICATIONS.

F. REFER TO ARCHITECTURAL UTILITY SITE PLAN A1.1 FOR ELECTRICAL, TELEPHONE AND CATV CONDUIT REQUIREMENTS AND INSTALLATION POINTS TO BE INCLUDED IN BID.

G. ALL OUTLETS (INCLUDING OUTSIDE) NEAR POSSIBLE WATER SOURCE SHALL BE GFI TYPE.

H. UNLESS SWITCH IS SHOWN, ALL EXTERIOR LIGHTS SHALL BE CONTROLLED BY LIGHTING CONTROL PANEL.

I. PROVIDE ALL UNDERGROUND CONDUIT REQUIRED AS PART OF THE BASE BID.

J. ALL EQUIPMENT LOCATED OUTSIDE SHALL BE RATED AS SUCH.

K. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR POTENTIAL CONFLICTS, INFORM ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

L. EXTERIOR LIGHT POLLUTION SHALL COMPLY WITH CGC SECTION 5.106.8.

KEY NOTES

1. CONNECT TO GENERATOR JACKET WATER HEATER. COORDINATE WIRING REQUIREMENTS AND LOCATION WITH GENERATOR PROVIDER/INSTALLER PRIOR TO START OF WORK.
2. JUNCTION BOX FOR IRRIGATION CONTROLLER. COORDINATE LOCATION WITH LANDSCAPE CONTRACTOR PRIOR TO START OF WORK.
3. PROVIDE 2-POLE PUSHBUTTON WITH RED MUSHROOM HEAD SWITCHES IN "FS" BOX AND WEATHER PROOF COVER FLUSH IN WALL AT +54" TO CENTER LINE. SWITCHES TO DISCONNECT BOTH HOT AND NEUTRAL CONDUCTORS. PROVIDE RED 6" X 12" MICARTA SIGN WITH 1-1/2" H X 1/4" STROKE LETTERS ENGRAVED: "EMERGENCY FUEL PUMP "A" SHUT OFF" AND "EMERGENCY FUEL PUMP "B" SHUT OFF". PROVIDE 3" H X 1/2" STROKE LETTERS (RED LETTERS ON WHITE BACKGROUND). "NO SMOKING" SIGN ON EACH SIDE OF ABOVE GROUND FUEL TANKS. PROVIDE EYS FITTING IN CONDUIT GOING TO PUSHBUTTON AND 12" X 18" PULL BOX.
4. PROPOSED LOCATION OF UTILITY TRANSFORMER. VERIFY EXACT LOCATION WITH UTILITY COMPANY PRIOR TO START OF WORK.
5. CONNECT TO GENERATOR BATTERY CHARGER. COORDINATE WIRING REQUIREMENTS AND LOCATION WITH GENERATOR PROVIDER/INSTALLER PRIOR TO START OF WORK.
6. UTILITY COMPANY PRIMARY FEEDER. COORDINATE REQUIREMENTS WITH UTILITY PLANNER.
7. PROVIDE 600 AMP, 208Y/120 VOLT, 3 PHASE, 4 WIRE, METER MAIN SWITCHBOARD 'MS'. SEE SINGLE LINE DIAGRAM ON SHEET E4.1 FOR MORE INFORMATION.
8. PROVIDE TWO (2) 4" CONDUIT TO UTILITY TRANSFORMER. COORDINATE WITH UTILITY COMPANY FOR EXACT LOCATION AND REQUIREMENTS, PRIOR TO START OF WORK.
9. PROVIDE TWO (2) 2" SCHEDULE 40 PVC CONDUIT, ONE FOR CATV AND ONE FOR TELEPHONE WITH 3/8" PULL ROPE. COORDINATE WITH CATV AND TELCO UTILITY FOR EXACT LOCATION AND REQUIREMENTS PRIOR TO START OF WORK. CONDUITS SHALL BE BURIED A MINIMUM OF 36" BELOW FINISHED GRADE.
10. PROVIDE 3/4" X 8'-0" HIGH X 6'-0" WIDE FIRE RATED PLYWOOD BACKBOARD WITH 1#6 COPPER GROUNDING CONDUCTOR BOND TO MAIN SWITCHBOARD GROUND ELECTRODE SYSTEM.
11. PROVIDE 2#12, 1#12 GROUND IN 3/4" CONDUIT TO FLOW SWITCH, PIV AND CONNECT TO SPRINKLER BELLS. COORDINATE WITH SPRINKLER SYSTEM FOR EXACT LOCATION AND REQUIREMENTS.
12. GENERATOR PROVIDED BY CONTRACTOR. SEE SINGLE LINE DIAGRAM FOR MORE INFORMATION.
13. PROVIDE CONNECTION TO 1/4 HP 120 VOLT PUMP/TANK PACKAGE UNIT. COORDINATE WITH MANUFACTURER FOR EXACT REQUIREMENTS PRIOR TO START OF WORK.
14. PROVIDE GENERATOR REMOTE ANNUNCIATOR PANEL IN LOBBY ABOVE COUNTER WITH 1" CONDUIT TO GENERATOR CONTROLS LOCATION, COORDINATE ALL REQUIREMENTS WITH GENERATOR SUPPLIER/INSTALLER PRIOR TO START OF WORK.
15. PROVIDE GROUNDING ELECTRODE SYSTEM TO METALLIC BUILDING STRUCTURE AS REQUIRED BY NEC ARTICLE 250. 1#6, 3/4"C TO 3/4" DIAMETER X 10'-0" LONG COPPER CLAD GROUND ROD, 1#4 UFER AS REQUIRED BY NEC ARTICLE 250
16. PROVIDE 1#10 BOND TO METALLIC BUILDING GROUNDING ELECTRODE SYSTEM AS REQUIRED BY NEC ARTICLE 250.
17. NOT USED.
18. ROUTE LIGHTING CIRCUIT THRU LIGHTING CONTROL PANEL "LCP".
19. COORDINATE EXACT LOCATION WITH FIRE ALARM CONTRACTOR.
20. FUTURE EV CHARGING STATION. PROVIDE INFRASTRUCTURE WITH CONDUITS ONLY FOR POWER AND DATA WITH PULLSTRINGS. ROUTE (1) 2" CONDUIT ONLY STUB INTO ELECTRICAL ROOM AND ROUTE (1) 1" CONDUIT ONLY STUB INTO TELECOM ROOM.
21. NOT USED.
22. NOT USED.
23. MOTORIZED GATE CONTROLLER. COORDINATE WITH GATE INSTALLER PRIOR TO ROUGH-IN FOR EXACT LOCATION.
24. PROVIDE 3/4" CONDUIT FROM GATE CONTROLLER TO MOTORIZED GATE KEYPAD ON PEDESTAL. COORDINATE WITH KEYPAD INSTALLER PRIOR TO ROUGH-IN.
25. PROVIDE 3/4" CONDUIT FROM GATE CONTROLLER TO GATE SENSOR LOOP. COORDINATE WITH GATE CONTROLLER INSTALLER PRIOR TO ROUGH-IN.
26. PROVIDE 1" CONDUIT TO TELECOMM ROOM WITH (1) CAT6 CABLING FOR TERMINAL CONTROLLER NETWORK DATA.
27. PROVIDE EXPLOSION-PROOF JUNCTION BOX TO ALL FUEL TERMINAL CONTROLLER AND FUEL DISPENSER.
28. PROVIDE (2) 3/4" RIGID CONDUIT BETWEEN FUEL TERMINAL AND THE DISPENSER.
29. 50kW/125kWh BATTERY ENERGY STORAGE SYSTEM 'BESS', SEE SINGLE LINE DIAGRAM ON SHEET E4.1 AND CUT SHEETS ON SHEET E5.6 FOR MORE INFORMATION.

STK
42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-5780
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12-23-24 #2024-03417
AE MECHANICAL ELECTRICAL
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 9245

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.01.202

CIP #

CAFM #

APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:	
DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:



SHEET TITLE:
ELECTRICAL
SITE PLAN

SHEET NO.:
E1.1



ELECTRICAL SITE PLAN

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

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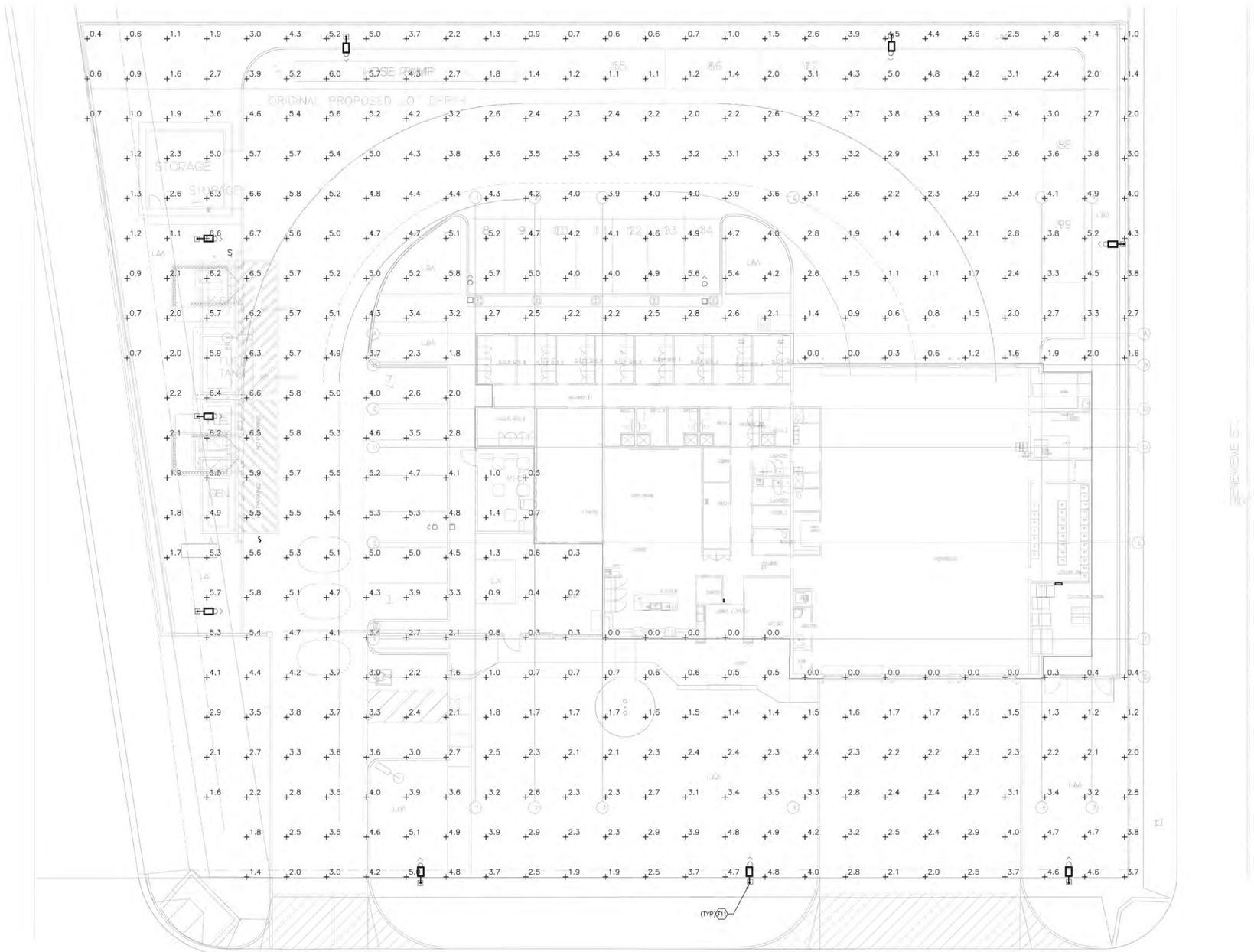
Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	3.1 fc	7.1 fc	0.5 fc		



LIGHTING SITE PLAN - PHOTOMETRIC

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

STK ARCHITECTURE, INC.
42056 ZEVO DR., TEMECULA, CALIFORNIA 92590-3760
Phone: 951.296.8170 Fax: 951.296.8979 Email: cs@stkinc.com

CONSULTANT:
Salas O'Brien
3220 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100 10-20-24 #2024-03417
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT #: 10J0J202
CIP #:
CAFM #:
APN #:

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
LIGHTING SITE PLAN PHOTOMETRIC

SHEET NO.:
E1.2

GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

B. CONTRACTOR SHALL VERIFY EXACT QUANTITIES, LOCATIONS AND HEIGHTS OF ALL FIXTURES WITH TENANT AND ARCHITECT PRIOR TO START OF WORK.

C. ALL LIGHTING TO BE CONNECTED TO PANEL 'B' AT THE BAY AND 'A' FOR ALL INTERIOR. CIRCUIT NUMBER(S) AS SHOWN.

D. ALL FIXTURES PROVIDED WITH EGRESS LIGHTING BATTERY PACK BACK-UP SHALL BE FED FROM UNSWITCHED CIRCUIT SERVING LIGHTING IN SAME AREA PER NEC ARTICLE 700.12(F). EMERGENCY BATTERY PACK SHALL BE ACTIVATED ONLY UPON NORMAL POWER FAILURE.

KEY NOTES

1. JUNCTION BOX FOR BUILDING SIGNAGE POWER. COORDINATE WITH ARCHITECT PLANS FOR EXACT LOCATION OF THE SIGNAGE AND MOUNTING HEIGHT. ROUTE EXTERIOR THRU LIGHTING CONTROL PANEL.
2. PROVIDE EXHAUST FAN INTERLOCK WITH WALL LIGHT SWITCH. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT WIRING AND LOCATION PRIOR TO START OF WORK.

LIGHTING FLOOR PLAN

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

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13-20-24 #2024-03417
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT #: 10.10.1202
CIP #:
CAFM #:
APN #:

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

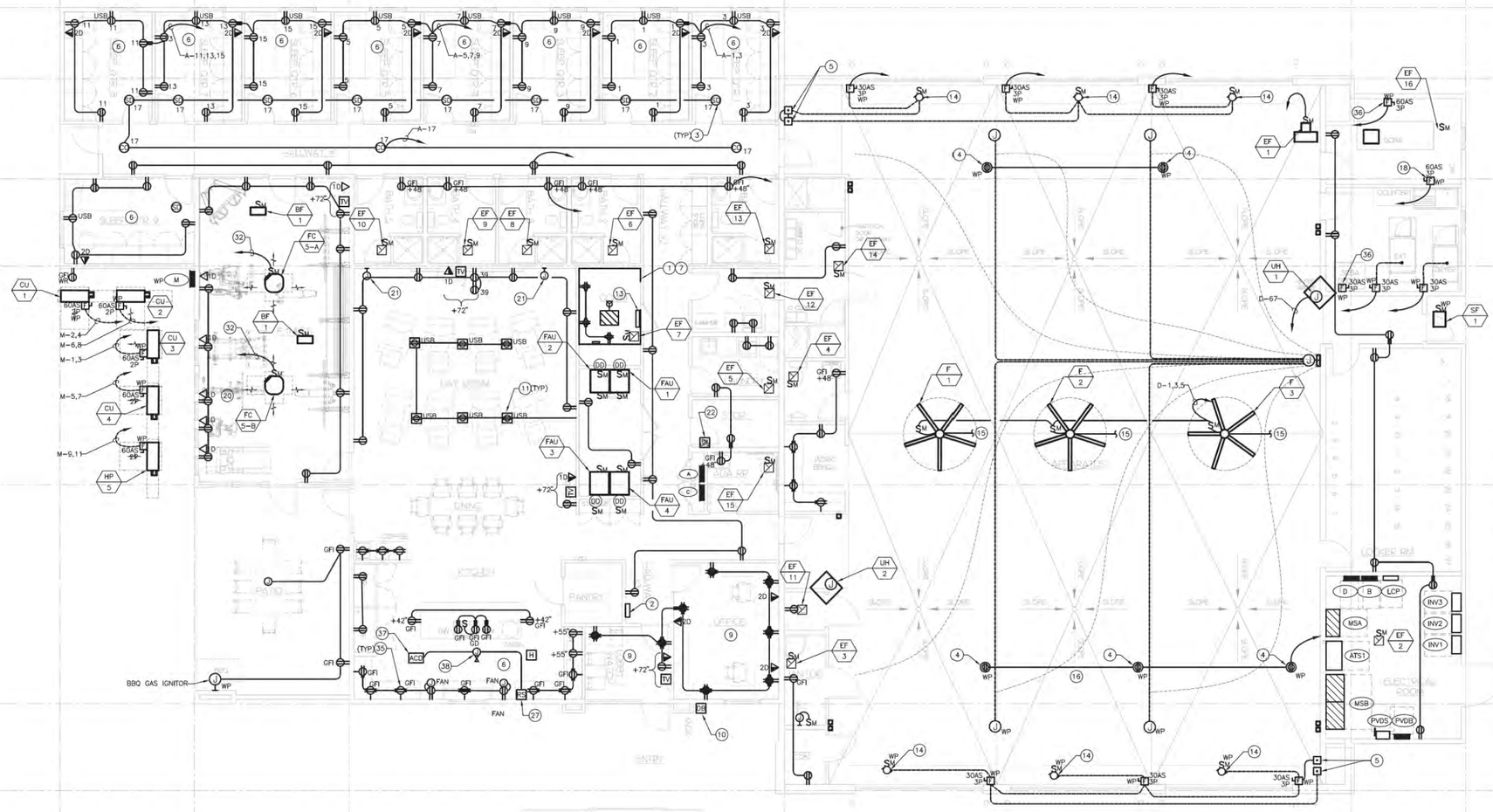
DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
LIGHTING FLOOR PLAN

SHEET NO.:
E2.1



GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

B. CONTRACTOR SHALL VERIFY EXACT QUANTITIES, LOCATIONS AND HEIGHTS OF ALL OUTLETS WITH TENANT AND ARCHITECT PRIOR TO START OF WORK.

C. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION OF EQUIPMENT AND REQUIREMENTS PRIOR TO START OF WORK.

D. MECHANICAL EQUIPMENT FUSE SIZE RATINGS PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.

E. ALL MECHANICAL EQUIPMENT FUSED DISCONNECTS AND MOTOR RATED SWITCHES EXPOSED TO WEATHER SHALL BE WEATHERPROOF RATED.

F. RECEPTACLES AND SWITCHES BACKED UP BY GENERATOR SHALL BE RED IN COLOR AND WITH RED COVER PLATES.

G. ALL RECEPTACLES IN SLEEPING ROOMS AND WHERE REQUIRED BY CODE SHALL BE TAMPERPROOF SPECIFICATION RECEPTACLES FED FROM ARC-FAULT-CIRCUIT-INTERRUPTING (AFCI) TYPE CIRCUIT BREAKERS.

KEY NOTES

1. MAIN TELEPHONE SERVICE BACKBOARD.
2. GENERATOR REMOTE ANNUNCIATOR PANEL. COORDINATE LOCATION OF ANNUNCIATOR PANEL WITH ARCHITECT AND OWNER'S REPRESENTATIVE PRIOR TO START OF WORK.
3. MOUNT SMOKE DETECTORS A MINIMUM OF 36" FROM AIR REGISTERS AND CEILING FANS. INTERFACE ALL SMOKE DETECTORS WITH FIRE ALARM SYSTEM.
4. PROVIDE CEILING MOUNTED DUAL CIRCUIT, DUAL RECEPTACLE, 30 AMP CORD REEL. COORDINATE WITH OWNER FOR EXACT RECEPTACLE TYPE PRIOR TO START OF WORK.
5. GARAGE BAY DOOR CONTROL. MOUNT AT 42" ABOVE FINISH FLOOR. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR EXACT LOCATION PRIOR TO START OF WORK.
6. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.
7. PROVIDE 3/4" X 8'-0"X 4'-0" FIRE TREATED PLYWOOD WITH 1#6 GROUND CONNECTED TO BUILDING MAIN SERVICE GROUND.
8. NOTE NOT USED.
9. ROUTE CONTROLLED RECEPTACLE THROUGH CEILING MOUNTED OCCUPANCY SENSOR.
10. PROVIDE DOOR BELL SYSTEM AS INDICATED ON PLAN. COORDINATE WITH ARCHITECT FOR EXACT LOCATION PRIOR TO START OF WORK.
11. DUPLEX FLOOR OUTLETS. MANUFACTURER BY CARLON OR EQUAL. FIELD VERIFY EXACT LOCATION AND COORDINATE WITH ARCHITECT AND OWNER'S REPRESENTATIVE PRIOR TO START OF WORK.
12. DISPATCH PANEL. COORDINATE WITH ARCHITECT FOR EXACT LOCATION PRIOR TO START OF WORK.
13. FIRE ALARM CONTROL PANEL. COORDINATE LOCATION WITH FIRE ALARM CONTRACTOR PRIOR TO START OF WORK.
14. PROVIDE CONNECTION TO ROLL-UP DOOR MOTOR, COORDINATE EXACT LOCATION AND POINT OF CONNECTION WITH DOOR SUPPLIER/INSTALLER PRIOR TO START OF WORK.
15. PROVIDE 3/4" CONDUIT FOR FAN CONTROL WIRING AND ALL CONTROLS FOR A COMPLETE AND OPERABLE SYSTEM, COORDINATE EXACT LOCATION AND POINTS OF CONNECTION WITH FAN SUPPLIER/INSTALLER PRIOR TO START OF WORK.
16. THERE SHALL BE NO EXPOSED CONDUIT WITHIN THE APPARATUS BAY.
17. NOTE NOT USED.
18. PROVIDE CONNECTION TO AIR COMPRESSOR. PROVIDE WITH MAGNETIC STARTER, START UP KIT. COORDINATE WITH PLUMBING PLANS.
19. NOTE NOT USED.
20. RECEPTACLE FOR EXERCISE MACHINE. COORDINATE RECEPTACLE NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO START OF WORK.
21. JUNCTION BOX FOR MOTORIZED SHADES. COORDINATE EXACT LOCATION WITH SHADES PROVIDER PRIOR TO START OF WORK.
22. RECESSED DORM REMOTE 8X10X4 BACKBOX AT 48" A.F.F. PROVIDE 3/4" CONDUIT TO ACCESSIBLE TO DOME LIGHTS. COORDINATE WITH LOW VOLTAGE DRAWINGS FOR BACKBOX SIZE.
23. PROVIDE 8X8X4 BACKBOX FOR POWER MODULE MOUNTED AT +7'-0"A.F.F. PROVIDE 1-1/2" CONDUIT STUB INTO ACCESSIBLE CEILING SPACE.
24. NOT USED.
25. NOT USED.
26. NOT USED.
27. PROVIDE MAINTAINED PUSH BUTTON WITH 4 SQUARE DEEP SINGLE GANG RING BOX AT +48" A.F.F. PROVIDE 3/4" CONDUIT TO APPLIANCE CONTROL DEVICE.
28. 3-POLE MAGNETIC CONTACTOR.
29. NOT USED.
30. NOT USED.
31. NOT USED.
32. INDOOR FAN COIL RECEIVES POWER FROM CUTSIDE UNIT. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND WIRING AND CONDUIT REQUIREMENT.
33. FIRST IN SYSTEM STROBE LITE. PROVIDE CUSTOM BACK BOX FROM WESTNET, MOUNT VERTICALLY AT +6'-0" A.F.F. TO BOTTOM WITH 1" CONDUIT TO ALERTING STROBE ADAPTER.
34. ALERTING STROBE ADAPTER, MOUNTED AT +8'-0" IN ACCESSIBLE AREA WITH 1" CONDUIT TO ACCESSIBLE CEILING SPACE OR NEXT DEVICE. FIELD VERIFY MOUNTING LOCATION AND HEIGHT PRIOR TO START OF WORK.
35. KITCHEN MICROWAVE ABOVE THE COUNTER. COORDINATE WITH ARCHITECTURAL DRAWINGS EXACT MOUNTING LOCATION AND HEIGHT.
36. FUSED DISCONNECT SWITCH FOR SCBA UNIT. COORDINATE WITH ARCHITECT AND EQUIPMENT MANUFACTURER FOR EXACT LOCATION AND REQUIREMENTS PRIOR TO START OF WORK.
37. ROUTE CIRCUITS THRU GAS SHUT OFF RELAY. SEE DIAGRAM ON SHEET E5.1 DETAIL #6.
38. JUNCTION BOX FOR GAS CONTROLLER SOLENOID POWER. REFER TO PLUMBING DRAWINGS FOR EXACT LOCATION ABOVE CEILING SPACE.

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12-20-24 #2024-03417
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DC 10/20/2 PF 1 BP

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J01202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:



SHEET TITLE:
POWER FLOOR PLAN

SHEET NO.:
E2.2

POWER FLOOR PLAN

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

1

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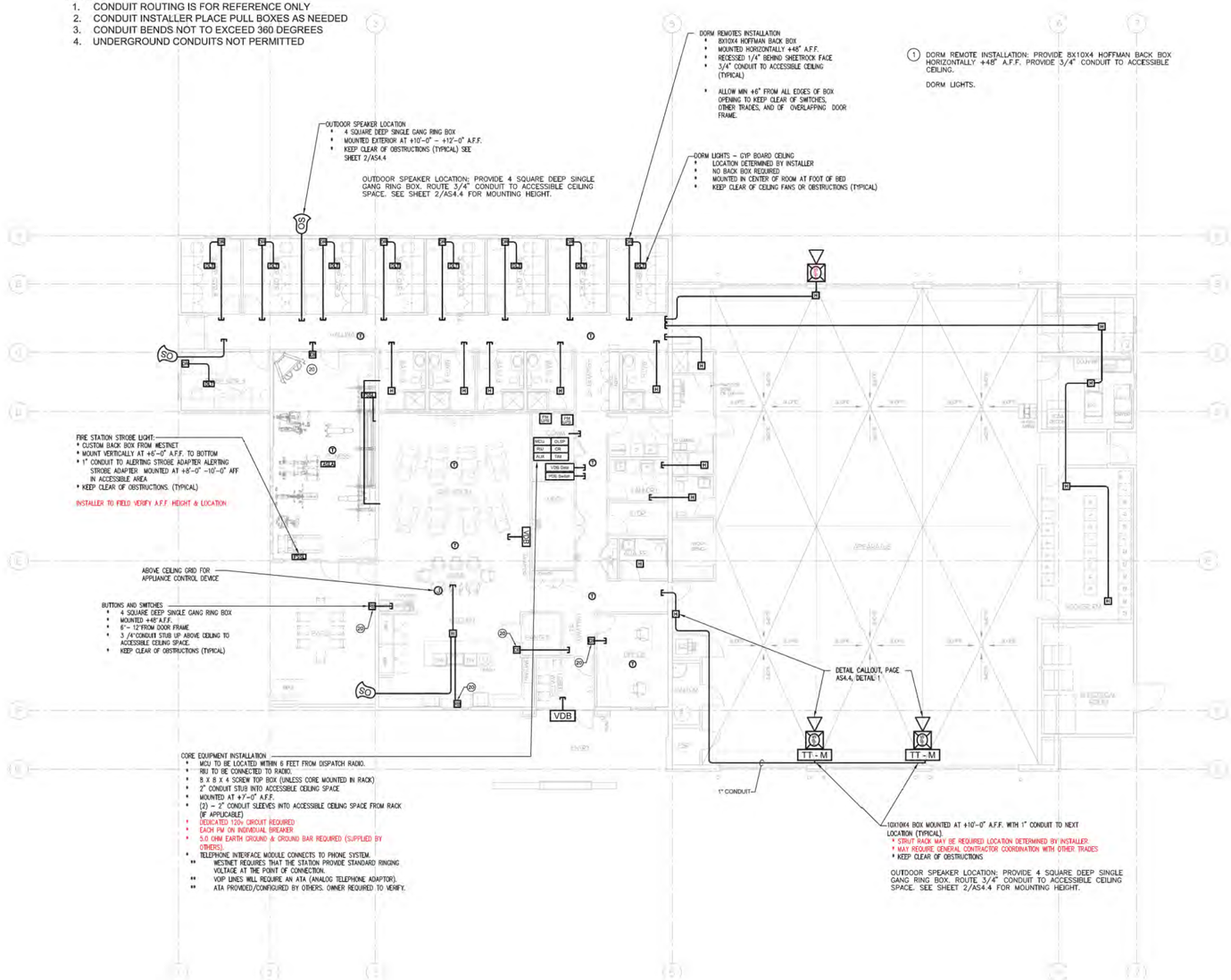
NOTE:
1. CONDUIT ROUTING IS FOR REFERENCE ONLY
2. CONDUIT INSTALLER PLACE PULL BOXES AS NEEDED
3. CONDUIT BENDS NOT TO EXCEED 360 DEGREES
4. UNDERGROUND CONDUITS NOT PERMITTED



(1) DORM REMOTE INSTALLATION: PROVIDE 8X10X4 HOFFMAN BACK BOX HORIZONTALLY +48" A.F.F. PROVIDE 3/4" CONDUIT TO ACCESSIBLE CEILING.

DORM LIGHTS.

GENERAL NOTES

1. DEVICES ARE TYPICAL AND FOR REFERENCE ONLY.
2. ALL BACK BOXES & CONDUITS ARE TO BE FLUSH MOUNTED UNLESS OTHERWISE SPECIFIED FOR NEW CONSTRUCTION.
3. DEVICES LOCATED IN ACOUSTICAL CEILINGS DO NOT REQUIRE BACKBOXES
4. DEVICES LOCATED IN ACOUSTICAL CEILINGS REQUIRE ACOUSTICAL WESTNET MOUNTING KIT (SSATKIT–A)
5. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE HOFFMAN BRAND 8X10X4 BACKBOX
6. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE APPROPRIATE WESTNET MOUNTING KIT (SURFACE MOUNT OR FLUSH MOUNT) FOR NEW CONSTRUCTION.
7. LOCATIONS OF DEVICES DETERMINED AT INSTALLATION BY INSTALLER FOR NEW CONSTRUCTION.
8. SEE ARCHITECTURAL SPECIFICATION FOR ALL ROUGH–IN AND INSTALLATION DETAILS FOR NEW CONSTRUCTION.
9. INSTALLER TO VERIFY WALL AND CEILING TYPE TO DETERMINE NEED FOR FLUSH OR SURFACE MOUNT INSTALLATION OF EQUIPMENT SPECIFIED FOR NEW CONSTRUCTION.
10. ALL WIRING AND DEVICES TO BE INSTALLED BY WESTNET.
11. ALL PENETRATION TO EXTERIOR DEVICES MUST BE WEATHERPROOF AND FIRE CAULKED FOR CONSTRUCTION BY OTHERS.
12. DEVICES LOCATED IN BATHROOM/SHOWER AREAS MUST BE VISIBLE FROM SHOWERS. INSTALLER TO FIELD VERIFY DEVICE LOCATION. (TYPICAL)
13. ALL DEVICES MUST BE KEPT CLEAR OF OBSTRUCTIONS & CEILING FAN BLADES.
14. IN ACOUSTICAL CEILING (T–BAR), WIRE CABLING IS FREE WIRE (NOT IN CONDUIT).
15. IN GYPSUM BOARD CEILING (SHEET ROCK / HARD LID), WIRE CABLING IN IN 3/4" CONDUIT UNLESS CONDUIT SIZE OTHERWISE NOTED.
16. IN EXPOSED AREAS ONLY 8X10X4 HOFFMAN BACK BOX MOUNTED AT +10'–0" A.F.F. MAX. WITH OPEN FACE DOWN IN CENTER OF ROOM WITH 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE. KEEP CLEAR OF OBSTRUCTIONS.
17. A 5 OHM EARTH GROUND MUST BE CONNECTED TO THE RADIO ISOLATION UNIT IN THE COMMUNICATION RACK.
18. THE RADIO RECEIVING THE DISPATCH INFORMATION SHALL BE LOCATED WITHIN 6'–0" FT. OF THE RADIO ISOLATION UNIT.
19. INSTALLER TO PROVIDE ONE ADDITIONAL UNCONNECTED BLUE CAT5 CABLE WITH RJ45 CONNECTORS ON BOTH ENDS BETWEEN THE MCU LOCATION AND EACH ALERTING END POINT FOR NETWORK CONNECTIVITY.
20. BUTTONS AND SWITCHES
    * 4 SQUARE DEEP SINGLE GANG RING BOX * MOUNTED +48" A.F.F.
    * 6" – 12" FROM DOOR FRAME
    * 3 /4" CONDUIT STUB UP ABOVE CEILING TO ACCESSIBLE CEILING SPACE.
    * KEEP CLEAR OF OBSTRUCTIONS (TYPICAL)

FIRST-IN FIRE STATION ALERTING

SYMBOL LEGEND

	MCU	MASTER CONTROL UNIT
	DLSP	DATA LINE SURGE PROTECTOR
	TIM	TELEPHONE INTERFACE MODULE
	CR	CONTROL REMOTE
	RIU	RADIO ISOLATION UNIT
	AUX	AUXILLIARY MODULE
	PM UPS	POWER MODULE WITH UPS–BLACK (DEDICATED 120V CIRCUIT REQUIRED.
	PM UPS	POWER MODULE WITH UPS–BLUE (DEDICATED 120V CIRCUIT REQUIRED.
	HPS	HIGH–POWERED AMPLIFIED SPEAKER IN CONJUNCTION WITH
	OS	OUTSIDE SPEAKER – IN CONJUNCTION WITH
	BK BX FSSL	CUSTOM BACKBOX PROVIDED BY WESTNET
	BK BX DR	DORM REMOTE BACKBOX PROVIDED WESTNET
	DLT	DORM LITE ACOUSTIC CEILING MOUNT KIT
	H	8x10x4 HOFFMAN BACKBOX
	T	ACOUSTIC CEILING KIT
	▬	LOCATION OF DEVICE WALL MOUNTED

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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT & FACILITIES MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J01202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:
REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER M. [illegible] No. [illegible] Exp. 6/30/25 ELECTRICAL STATE OF CALIFORNIA

SHEET TITLE:
ALERT SYSTEM FLOOR PLAN

SHEET NO.:
E2.3

ALERT SYSTEM FLOOR PLAN
SCALE: 1/8"=1'-0" (1)

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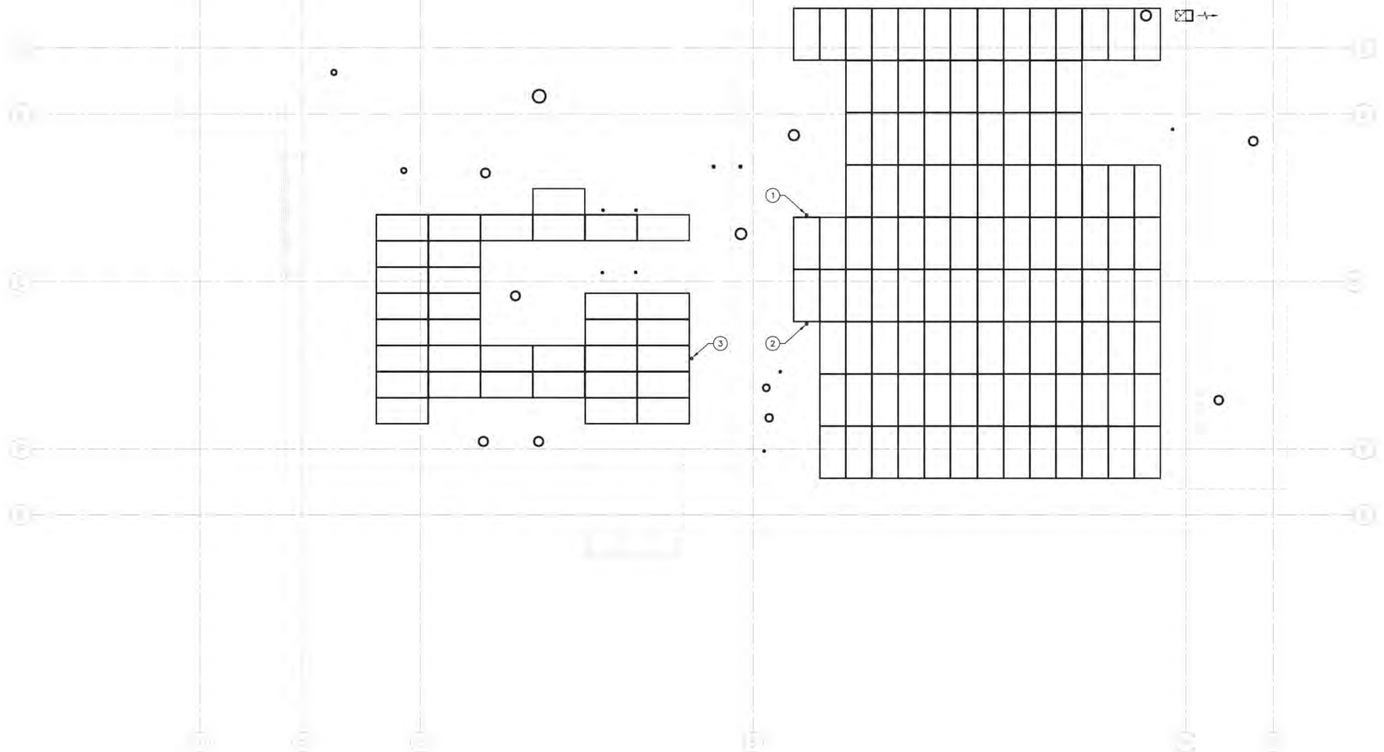
GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

KEY NOTES

1. (1) 2" CONDUIT DOWN TO SOLAR INVERTER "INV1" IN MAIN ELECTRICAL ROOM FOR DC STRING WIRING. CONDUIT TO BE PLACED AS CLOSE AS PRACTICABLE TO SOLAR ARRAY TO CONCEAL STRING WIRING AS MUCH AS POSSIBLE FROM VIEW.
2. (1) 2" CONDUIT DOWN TO SOLAR INVERTER "INV2" IN MAIN ELECTRICAL ROOM FOR DC STRING WIRING. CONDUIT TO BE PLACED AS CLOSE AS PRACTICABLE TO SOLAR ARRAY TO CONCEAL STRING WIRING AS MUCH AS POSSIBLE FROM VIEW.
3. (1) 2" CONDUIT DOWN TO SOLAR INVERTER "INV3" IN MAIN ELECTRICAL ROOM FOR DC STRING WIRING. CONDUIT TO BE PLACED AS CLOSE AS PRACTICABLE TO SOLAR ARRAY TO CONCEAL STRING WIRING AS MUCH AS POSSIBLE FROM VIEW.



N

PHOTOVOLTAIC ROOF PLAN

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

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760.560.0100 12-20-24 #2024-03417
DC 92008 INF 1 SBF www.salasobrien.com

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT #: 10J01202
CIP #:
CAFM #:
APN #:

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
–	–

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:



SHEET TITLE:
PHOTOVOLTAIC ROOF PLAN

SHEET NO.:
E2.4

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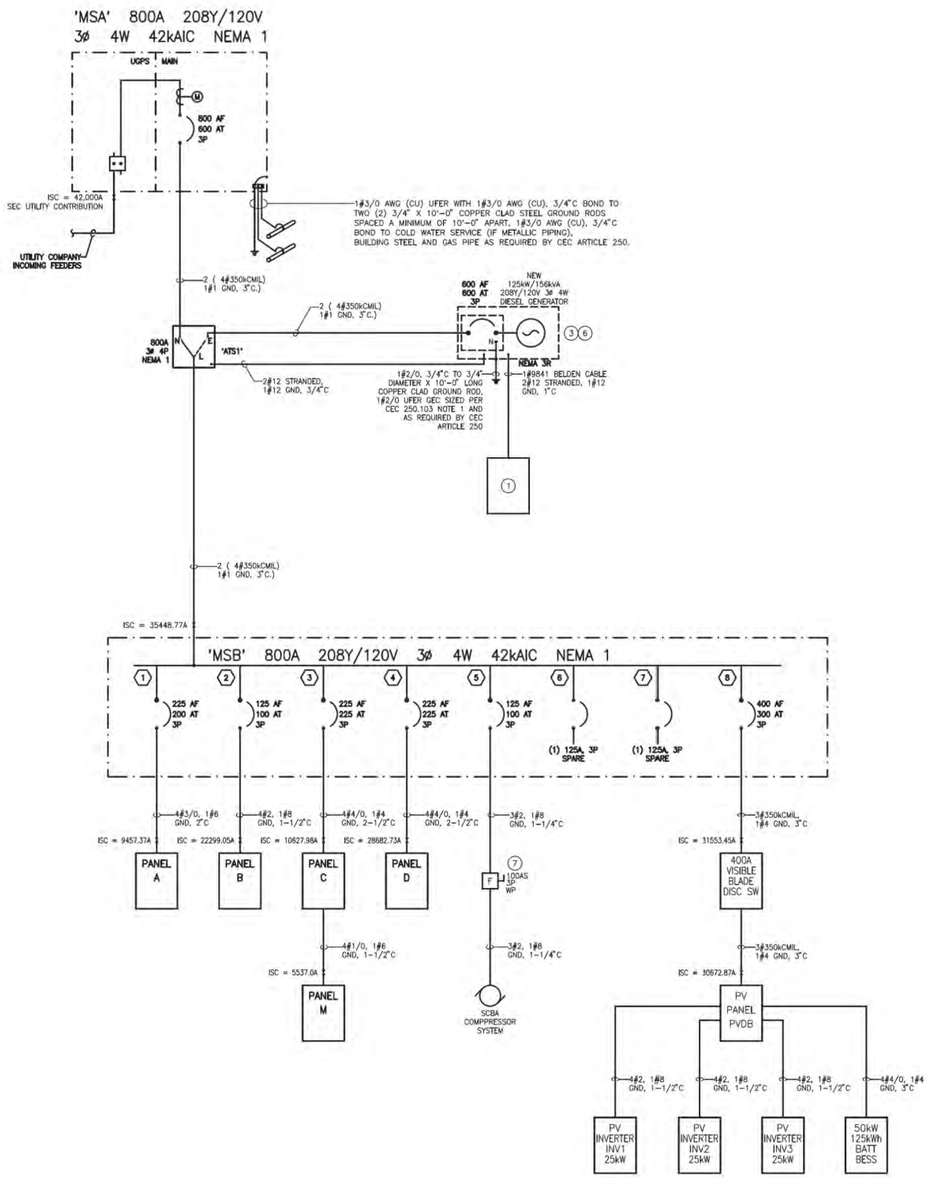

SINGLE LINE DIAGRAM (1)
NO SCALE

GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

B. ALL WORK SHOWN IS NEW UNLESS NOTED OTHERWISE.

C. ALL CONDUCTORS SHALL BE COPPER UNLESS NOTED OTHERWISE.

KEY NOTES

1. REMOTE GENERATOR ANNUNCIATOR PANEL.
2. PROVIDE REVERSE FEED LISTED CIRCUIT BREAKER FOR PV INSTALLATION.
3. EMERGENCY GENERATOR WITH 72-HR UL-142 LISTED SUB BASE DIESEL TANK. PROVIDE GENERATOR WITH WEATHERPROOF SOUND ATTENUATED ENCLOSURE. WIRING SHALL BE INSTALLED PER N.E.C. ART 700. CONTRACTOR SHALL PROVIDE CERTIFICATE OF APPROVAL FROM SCAQMD FOR ENGINE EXHAUST EMISSIONS, FIRE DEPARTMENT, HAZMAT AND OTHER AGENCY REQUIREMENTS. SECURE PERMIT TO INSTALL AND OPERATE.
4. THE EXISTING FIRE STATION BUILDING SHALL REMAIN FULLY FUNCTIONAL AND OCCUPIED DURING THE DURATION OF THE CONSTRUCTION OF THE NEW FIRE STATION. THE GENERAL CONTRACTOR SHALL PROVIDE ANY TEMPORARY UTILITIES THAT MAY BE REQUIRED FOR EITHER OR BOTH BUILDINGS TO REMAIN OPERATIONAL. THIS SHALL BE INCLUDED IN THE CONTRACTORS BID AND SHALL NOT INCUR ADDITIONAL COST TO THE OWNER. EXISTING FIRE STATION TO BE REMAIN AND IN OPERATIONAL. ALL UTILITIES CONNECTED TO EXISTING SHALL PROTECT IN PLACE DURING CONSTRUCTION OF THE PROJECT DURING PHASE 1.
5. DISCONNECT AND REMOVE ALL EXISTING UTILITIES (POWER, PHONE, DATA, ETC. BACK TO ITS ORIGINAL SOURCE ONCE THE NEW FIRE STATION IS COMPLETED DURING PHASE 2 OF THE CONSTRUCTION. ALL DEMOLITION OF THE EXISTING BUILDING DURING PHASE 2 OF THE PROJECT SHALL BE IN THE CONTRACTOR'S BID PROPOSAL FOR BOTH PHASES AND SHALL NOT INCUR ADDITIONAL COST TO THE OWNER.
6. GROUNDING AND NEUTRAL BOND AT THE GENERATOR PER (NEC 250.26).
7. FUSED DISCONNECT SWITCH FOR SCBA UNIT. COORDINATE WITH ARCHITECT AND EQUIPMENT MANUFACTURER FOR EXACT LOCATION AND REQUIREMENTS PRIOR TO START OF WORK.

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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT & FACILITIES MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA. 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J01202
CIP #
CAFM #
APN #

180 W. 38TH STREET SAN BERNARDINO, CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
–	–

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:
REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER M. DUNN — No. E18870 — EXP. 6/30/25 — ELECTRICAL — STATE OF CALIFORNIA

SHEET TITLE:
SINGLE LINE DIAGRAM AND LOAD SUMMARY

SHEET NO.:
E4.1

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GENERAL NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.

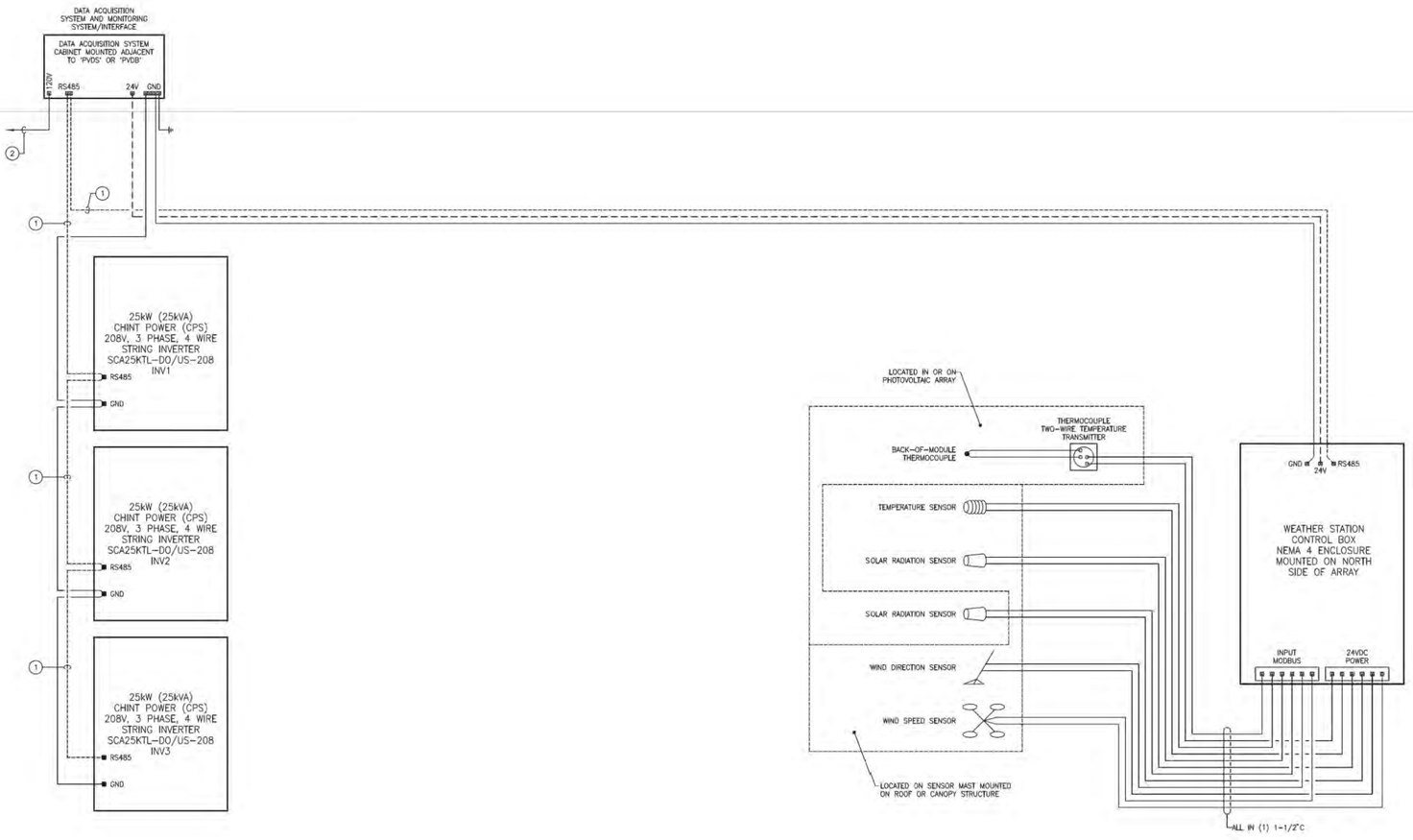
B. ALL WORK SHOWN LIGHT IS EXISTING, ALL WORK SHOWN DARK IS NEW UNLESS NOTED OTHERWISE.

C. CONTRACTOR SHALL PROVIDE A COMPLETE, OPERABLE SOLAR PHOTOVOLTAIC MONITORING SYSTEM COMPLIANT AND COMPATIBLE WITH THE SCHOOL DISTRICT'S REQUIREMENTS.

KEY NOTES

(1) (1) 18 AWG, 2 TWISTEDPAIR RS485 CABLE, 1" CONDUIT.

(2) 120 VOLT CONTROL POWER CIRCUIT.



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CONSULTANT:
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

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SAN BERNARDINO COUNTY FIRE DEPARTMENT:
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180 W. 38TH STREET
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SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:

SHEET TITLE:
DAS SYSTEM WIRING DIAGRAM

SHEET NO.:
E4.2

PANEL: M | LOCATION: EXTERIOR MECH. YARD | MAIN: 150A/3P | BUS: 200A | NEMA 3R
VOLTAGE: 208 / 120 | AIC RATING: 10000 | FEED: BOTTOM | MTG: SURFACE
PHASE: 3 | CIRCUIT CODE:
WIRE: 4 | blank=NON-CONTINUOUS, N=NON-COINCIDENTAL, L=LONG CONTINUOUS, R=RECEPT (NEC ART. 220-44), K=KITCHEN

NOTE	DESCRIPTION	CODE	BKR	P	#	VA	PHASE	VA	#	P	BKR	CODE	DESCRIPTION	NOTE
	CU-3		40	2	1	3109	A	3109	2	2	40		CU-1	
	-				3	3109	B	3109	4				-	
	CU-4		40	2	5	3109	C	3109	6	2	40		CU-2	
	-				7	3109	A	3109	8				-	
	CU-5	L	60	2	9	3276	B	180	10	1	20		RECEPTACLE	
	-	L			11	3276	C		12	1	20		SPARE	
	SPARE		20	1	13		A		14	1	20		SPARE	
	SPARE		20	1	15		B		16	1	20		SPARE	
	SPARE		20	1	17		C		18	1	20		SPACE	
	SPACE				19		A		20				SPACE	
	SPACE				21		B		22				SPACE	
	SPACE				23		C		24				SPACE	

CONNECTED VA Ø A	12436	CONNECTED VA ( )	25052	PANEL CONN. AMPS WITH LCL	92.27	PANEL DEMAND KVA WITH LCL	33.24
CONNECTED VA Ø B	9674	CONNECTED VA (L)	6552	CONNECTED VA WITH LCL (L)	8190	PANEL DEMAND AMPS WITH LCL	92.27
CONNECTED VA Ø C	9494	CONNECTED VA (R)	0	DEMAND VA (R)	0	PANEL CONNECTED AMPS	87.72
TOTAL VA	31604	CONNECTED VA (K)	0	DEMAND VA (K)	0	DEMAND HIGH Ø AMPS WITH LCL	103.56

SPECIAL NOTES:
1 2 3 4 5 6 7 8 9 10

PANEL: PVDB | LOCATION: EXTERIOR MECH. YARD | MAIN: MLO | BUS: 400A | NEMA 1
VOLTAGE: 208 / 120 | AIC RATING: 42000 | FEED: BOTTOM | MTG: SURFACE
PHASE: 3 | CIRCUIT CODE:
WIRE: 4 | blank=NON-CONTINUOUS, N=NON-COINCIDENTAL, L=LONG CONTINUOUS, R=RECEPT (NEC ART. 220-44), K=KITCHEN

NOTE	DESCRIPTION	CODE	BKR	P	#	VA	PHASE	VA	#	P	BKR	CODE	DESCRIPTION	NOTE
	PV INVERTER INV1		90	3	1	8334	A	8334	2	3	90		PV INVERTER INV2	
	-				3	8334	B	8334	4				-	
	-				5	8334	C	8334	6				-	
	PV INVERTER INV3		90	3	7	8334	A		8				SPACE	
	-				9	8334	B		10				SPACE	
	-				11	8334	C		12				SPACE	
	SPACE				13		A		14				SPACE	
	SPACE				15		B		16				SPACE	
	SPACE				17		C		18				SPACE	
	SPACE				19		A		20				SPACE	
	SPACE				21		B		22				SPACE	
	SPACE				23		C		24				SPACE	
	SPACE				25		A		26				SPACE	
	SPACE				27		B		28				SPACE	
	SPACE				29		C		30				SPACE	

CONNECTED VA Ø A	25002	CONNECTED VA ( )	75006	PANEL CONN. AMPS WITH LCL	208.20	PANEL DEMAND KVA WITH LCL	75.01
CONNECTED VA Ø B	25002	CONNECTED VA (L)	0	CONNECTED VA WITH LCL (L)	0	PANEL DEMAND AMPS WITH LCL	208.20
CONNECTED VA Ø C	25002	CONNECTED VA (R)	0	DEMAND VA (R)	0	PANEL CONNECTED AMPS	208.20
TOTAL VA	75006	CONNECTED VA (K)	0	DEMAND VA (K)	0	DEMAND HIGH Ø AMPS WITH LCL	208.20

SPECIAL NOTES:
1 2 3 4 5 6 7 8 9 10

PANEL: C | LOCATION: INTERIOR MECH. ROOM | MAIN: 225A/3P | BUS: 225A | NEMA 1
VOLTAGE: 208 / 120 | AIC RATING: 14000 | FEED: BOTTOM | MTG: SURFACE
PHASE: 3 | CIRCUIT CODE:
WIRE: 4 | blank=NON-CONTINUOUS, N=NON-COINCIDENTAL, L=LONG CONTINUOUS, R=RECEPT (NEC ART. 220-44), K=KITCHEN

NOTE	DESCRIPTION	CODE	BKR	P	#	VA	PHASE	VA	#	P	BKR	CODE	DESCRIPTION	NOTE
3	DUCT SMOKE DETECTORS		20	1	1	500	A	360	2	1	20		REC - OFFICE	1c
	MICRO-SHADES		20	1	3	500	B	900	4	1	20		REC - OFFICE CTRL	1c,2
	SPARE		20	1	5		C	360	6	1	20		REC - OFFICE	1c
	SPARE		20	1	7		A	360	8	1	20		REC - LOBBY	1d
	SPARE		20	1	9		B	360	10	1	20		REC - LOBBY CTRL	1d,2
	SPARE		20	1	11		C	180	12	1	20		REC - LOBBY TV	1d
	SPARE		20	1	13		A		14	1	20		SPARE	
	SPARE		20	1	15		B		16	1	20		SPARE	
	SPARE		20	1	17		C		18	1	20		SPARE	

POWER LOADS ABOVE - SPLIT-BUS - MECHANICAL LOADS BELOW

	SPARE		20	1	19		A	1464	20	1	20		FAU-1	1a
	SPARE		20	1	21		B	1464	22	1	20		FAU-5	1a
	SPARE		20	1	23		C	1464	24	1	20		FAU-2	1b
	SPARE		20	1	25		A	1464	26	1	20		FAU-3	1b
	SPARE		20	1	27		B	1464	28	1	20		FAU-4	1b
	SPARE		20	1	29		C	107	30	1	20		EF-7	
	SPARE		20	1	31		A		32	1	20		SPARE	
	SPARE		20	1	33		B		34	1	20		SPARE	
	SPARE		20	1	35		C		36	1	20		SPARE	
	PANEL M		150	3	37	12438	A		38				SPACE	
	-				39	9674	B		40				SPACE	
	-				41	9494	C		42				SPACE	

CONNECTED VA Ø A	16584	CONNECTED VA ( )	42551	PANEL CONN. AMPS WITH LCL	118.11	PANEL DEMAND KVA WITH LCL	42.55
CONNECTED VA Ø B	14362	CONNECTED VA (L)	0	CONNECTED VA WITH LCL (L)	0	PANEL DEMAND AMPS WITH LCL	118.11
CONNECTED VA Ø C	11605	CONNECTED VA (R)	0	DEMAND VA (R)	0	PANEL CONNECTED AMPS	118.11
TOTAL VA	42551	CONNECTED VA (K)	0	DEMAND VA (K)	0	DEMAND HIGH Ø AMPS WITH LCL	138.10

SPECIAL NOTES:
1 PROVIDE LISTED HANDLE-TIE DEVICE
2 CONTROLLED CIRCUIT ROUTED THRU CEILING OCC. SENSOR
3 PROVIDE CIRCUIT BREAKER LOCK-ON DEVICE.
4 5 6 7 8 9 10

PANEL: D | LOCATION: MAIN ELECTRICAL ROOM | MAIN: 225A/3P | BUS: 225A | NEMA 1
VOLTAGE: 208 / 120 | AIC RATING: 35000 | FEED: BOTTOM | MTG: SURFACE
PHASE: 3 | CIRCUIT CODE:
WIRE: 4 | blank=NON-CONTINUOUS, N=NON-COINCIDENTAL, L=LONG CONTINUOUS, R=RECEPT (NEC ART. 220-44), K=KITCHEN

NOTE	DESCRIPTION	CODE	BKR	P	#	VA	PHASE	VA	#	P	BKR	CODE	DESCRIPTION	NOTE
1b	CEILING FAN - F-1		20	1	1	1200	A	2016	2	3	40		CA-1	
1b	CEILING FAN - F-2		20	1	3	1200	B	2016	4				-	
1b	CEILING FAN - F-3		20	1	5	1200	C	2016	6				-	
1c	APPARATUS CORD REELS		30	1	7	360	A	1000	8	1	20		HPA AMP	
1c	APPARATUS CORD REELS		30	1	9	360	B		10	1	20		SPARE	
1c	APPARATUS CORD REELS		30	1	11	360	C	508	12	1	20		WH-1/CP	
	GARAGE DOOR		20	3	13	800	A	800	14	3	20		GARAGE DOOR POWER	
	-				15	800	B	800	16				-	
	-				17	800	C	800	18				-	
	GENERAT. BATTERY CHARGER		20	1	19	1500	A	500	20	1	20		IRRIGATION CTRL	
	GENERAT. JACKET HEATER		20	1	21	1500	B	360	22	1	20		POWER STORAGE	
	GENERA. RECEPTACLE		20	1	23	120	C		24	1	20		SPARE	
	GARAGE DOOR		20	3	25	800	A		26	1	20		SPARE	
	-				27	800	B	720	28	1	20		EXTERIOR GARAGE RECEP	
	-				29	800	C	360	30	1	20		REC - ELEC. RM	1a
	GARAGE DOOR		20	3	31	800	A	540	32	1	20		REC- APPARATUS	1a
	-				33	800	B	540	34	1	20		REC - APPARATUS	1a
	-				35	800	C		36	1	20		SPARE	
	GARAGE DOOR		20	3	37	800	A	360	38	1	20		REC - APPARATUS	1
	-				39	800	B	360	40	1	20		REC- APPARATUS	1
	-				41	800	C	1800	42	1	20		REC -ICE MACHINE	1
	WASH EXTRACTOR		15	3	43	612	A	6240	44	3	60		DRYER	
	-				45	612	B	6240	46				-	
	-				47	612	C	6240	48				-	
	GENERATOR EM PUMP		20	1	49	500	A	800	50	3	20		GARAGE DOOR POWER	
	GATE CONTROLLER		20	1	51	1920	B	800	52				-	
	FUEL CONTROL TERMINAL		20	1	53	500	C	800	54				-	
	SPACE				55		A	600	56	3	20		GARAGE DOOR POWER	
	SPACE				57		B	600	58				-	
	SPACE				59		C	800	60				-	

POWER LOADS ABOVE - SPLIT-BUS - MECHANICAL LOADS BELOW

	EF-1		50	3	61	2916	A	107	62	1	20		EF-2	
	-				63	2916	B	107	64	1	20		SF-1	
	-				65	2916	C		66	1	20		SPARE	
	UH-1		20	1	67	1584	A		68	1	20		SPARE	
	UH-2		20	1	69	1584	B		70	1	20		SPARE	
	SPARE		20	1	71		C		72	1	20		SPARE	
	SPARE		20	1	73		A		74	1	20		SPARE	
	SPARE		20	1	75		B		76	1	20		SPARE	
	SPARE				77		C		78	1	20		SPARE	
	SPACE				79		A		80				SPACE	
	SPACE				81		B		82				SPACE	
	SPACE				83		C		84				SPACE	

CONNECTED VA Ø A	25035	CONNECTED VA ( )	73302	PANEL CONN. AMPS WITH LCL	203.47	PANEL DEMAND KVA WITH LCL	73.30
CONNECTED VA Ø B	26035	CONNECTED VA (L)	0	CONNECTED VA WITH LCL (L)	0	PANEL DEMAND AMPS WITH LCL	203.47
CONNECTED VA Ø C	22232	CONNECTED VA (R)	0	DEMAND VA (R)	0	PANEL CONNECTED AMPS	203.47
TOTAL VA	73302	CONNECTED VA (K)	0	DEMAND VA (K)	0	DEMAND HIGH Ø AMPS WITH LCL	216.80

1 PROVIDE LISTED HANDLE-TIE DEVICE
SPECIAL NOTES:
2 3 4 5 6 7 8 9 10

PANEL: A | LOCATION: INTERIOR COMM ROOM | MAIN: 200A/3P | BUS: 200A | NEMA 1
VOLTAGE: 208 / 120 | AIC RATING: 10000 | FEED: BOTTOM | MTG: SURFACE
PHASE: 3 | CIRCUIT CODE:
WIRE: 4 | blank=NON-CONTINUOUS, N=NON-COINCIDENTAL, L=LONG CONTINUOUS, R=RECEPT (NEC ART. 220-44), K=KITCHEN

NOTE	DESCRIPTION	CODE	BKR	P	#	VA	PHASE	VA	#	P	BKR	CODE	DESCRIPTION	NOTE
1a,3	SLEEPING QUARTER 1 REC		20	1	1	720	A	540	2	1	20		HALLWAY 2, MECH RM REC	1g
1a,3	SLEEPING QUARTER 2 REC		20	1	3	720	B	540	4	1	20		STOR 3, PANTRY REC	1g
1b,3	SLEEPING QUARTER 3 REC		20	1	5	720	C	540	6	1	20		STOR 1, ADA BATH REC.	1g
1b,3	SLEEPING QUARTER 4 REC		20	1	7	720	A	500	8	1	20		FACP	4
1b,3	SLEEPING QUARTER 5 REC		20	1	9	720	B		10	1	20		SPARE	
1c,3	SLEEPING QUARTER 6 REC		20	1	11	720	C	540	12	1	20		REC - PATIO	
1c,3	SLEEPING QUARTER 7 REC		20	1	13	720	A	900	14	1	20		KITCHEN COUNTER RECEPTS	1n
1c,3	SLEEPING QUARTER 8 REC		20	1	15	720	B	1000	16	1	20		MICROWAVE	1n
4	SLEEPING QUARTER SMK DETECTORS		20	1	17	800	C	1000	18	1	20		MICROWAVE	1n
1e	BATH 2,3,4 & STOR 2 RECEPTS		20	1	19	540	A	1200	20	1	20		DISHWASHER	1k
1w	HALLWAY 1 & CU AREA RECEPTS		20	1	21	720	B	1200	22	1	20		DISHWASHER	1k
1d	FITNESS EQUIPMENT 1		20	1	23	1600	C	1130	24	1	20		KITCHEN DISPOSAL	1k
1d	FITNESS EQUIPMENT 2		20	1	25	1600	A	1500	26	1	20		KITCHEN ISLAND RECEPT	
1d	FITNESS EQUIPMENT 3		20	1	27	1600	B	1500	28	1	20		WASHER	1t
1e	FITNESS EQUIPMENT 4		20	1	29	1600	C	1500	30	1	20		DRYER	1t
1e	FITNESS EQUIPMENT 5		20	1	31	1600	A	540	32	1	20		BATH 1, LAUNDRY REC.	1t
1e	FITNESS RECEPTS		20	1	33	1080	B	100	34	1	20		GAS SHUT OFF SOLENOID	1a
	SPARE		20	1	35	1080	C	100	36	1	20		GAS SHUT OFF BUTTON	1a
1f	DAY ROOM USB RECEPTS		20	1	37	1080	A		38	1	20		SPARE	
1f	DAY ROOM RECEPTS		20	1	39	1260	B	500	40	1	20		KITCHEN EXHAUST HOOD	
1f	COFFEE MAKER		20	1	41	1500	C	500	42	1	20		KITCHEN EXHAUST HOOD	
1g	COMM REC		20	1	43	500	A	1000	44	1	20		KITCHEN REF. REC	1m
1g	COMM REC		20	1	45	500	B	1000	46	1	20		KITCHEN REF. REC	1m
1g	COMM REC		20	1	47	500	C	1000	48	1	20		KITCHEN REF. REC	1m
	PIM UPS		20	1	49	1000	A	900	50	2	20		208V RACK	
	SPARE		20	1	51		B	900	52				-	
	SPARE		20	1	53		C		54	1	20		SPARE	
	SPARE		20	1	55		A	500	56	1	20		PIM UPS	1a
	SPARE		20	1	57		B	500	58	1	20		PIM UPS	1a
	SPARE		20	1	59		C	500	60	1	20		PIM UPS	1a
	SPARE		20	1	61		A		62	1	20		SPARE	
	SPARE		20	1	63		B		64	1	20		SPARE	
	SPARE		20	1	65		C		66	1	20		SPARE	

CONNECTED VA Ø A	18060	CONNECTED VA ( )	45950	PANEL CONN. AMPS WITH LCL	127.54	PANEL DEMAND KVA WITH LCL	45.95
CONNECTED VA Ø B	14560	CONNECTED VA (L)	0	CONNECTED VA WITH LCL (L)	0	PANEL DEMAND AMPS WITH LCL	127.54
CONNECTED VA Ø C	15330	CONNECTED VA (R)	0	DEMAND VA (R)	0	PANEL CONNECTED AMPS	127.54
TOTAL VA	45950	CONNECTED VA (K)	0	DEMAND VA (K)	0	DEMAND HIGH Ø AMPS WITH LCL	133.73

SPECIAL NOTES:
1 PROVIDE LISTED HANDLE-TIE DEVICE
2 PROVIDE DEDICATED NEUTRAL
3 PROVIDE AFCI TYPE CIRCUIT BREAKER AND TAMPERPROOF SPECIFICATION RECEPTACLES
4 PROVIDE CIRCUIT BREAKER LOCK-ON DEVICE RED HANDLE
5 6 7 8 9 10

PANEL: B | LOCATION: MAIN ELECTRICL ROOM | MAIN: 100A/3P | BUS: 125A | NEMA 1
VOLTAGE: 208 / 120 | AIC RATING: 35000 | FEED: BOTTOM | MTG: SURFACE
PHASE: 3 | CIRCUIT CODE:
WIRE: 4 | blank=NON-CONTINUOUS, N=NON-COINCIDENTAL, L=LONG CONTINUOUS, R=RECEPT (NEC ART. 220-44), K=KITCHEN

NOTE	DESCRIPTION	CODE	BKR	P	#	VA	PHASE	VA	#	P	BKR	CODE	DESCRIPTION	NOTE
	UTILITY ROOM, ADA RR, OFFICE	L	20	1	1	284	A	148	2	1	20	L	SLEEP QUARTER 5,6,7,8 LTG	
	HALLWAY LIGHTS & EXIT SIGNS	L	20	1	3	292	B	148	4	1	20	L	SLEEP QUARTER 1,2,3,4 LTG	
	LKR RM,JAN, UTL RM, WRK SHP	L	20	1	5	407	C	180	6	1	20	L	BATH 1,2,3,4 & STOR 2	
	APPARATUS LIGHTING	L	20	1	7	1300	A	354	8	1	20	L	FITNESS & PATIO LIGHTS	
1	EXTERIOR BUILDING LIGHTS	L	20	1	9	291	B	410	10	1	20	L	DAY RM, PANTRY & KITCHEN	
1	CANNOPY LIGHTING	L	20	1	11	114	C	100	12	1	20	L	BOLLARD & INGROUND LAMP	1
	APPARATUS LIGHTING	L	20	1	13	1300	A		14	1	20		SPARE	
	SITE POLE LIGHTING	L	20	2	15	260	B	528	16	1	20	L	GARGE BAY EXTERIOR LTG	1
	-				17	260	C		18				SPARE	
	STORAGE LIGHTING	L	20	1	19	100	A		20	1	20		SPARE	
	SPARE		20	1	21		B	100	22	1	20	L	EXTERIOR SIGNAGE LTG	
	SPARE		20	1	23		C	500	24	1	20	L	LCP	
	SPARE		20	1	25		A	100	26	1	20		SITE SIGNAGE	1
	SPARE		20	1	27		B		28	1	20		SPARE	
	SPARE		20	1	29		C		30	1	20		SPARE	
	SPARE		20	1	31		A		32	1	20		SPARE	
	SPARE		20	1	33		B		34	1	20		SPARE	
	SPARE		20	1	35		C		36	1	20		SPARE	
	SPACE				37		A		38				SPACE	
	SPACE				39		B		40				SPACE	
	SPACE				41		C		42				SPACE	

CONNECTED VA Ø A	3586	CONNECTED VA ( )	350	PANEL CONN. AMPS WITH LCL	24.65	PANEL DEMAND KVA WITH LCL	8.88
CONNECTED VA Ø B	2029	CONNECTED VA (L)	6816	CONNECTED VA WITH LCL (L)	8520	PANEL DEMAND AMPS WITH LCL	24.65
CONNECTED VA Ø C	1561	CONNECTED VA (R)	0	DEMAND VA (R)	0	PANEL CONNECTED AMPS	19.92
TOTAL VA	7176	CONNECTED VA (K)	0	DEMAND VA (K)	0	DEMAND HIGH Ø AMPS WITH LCL	37.12

1 CIRCUIT ROUTED THRU TIMECLOCK CONTACTOR OR LCP
SPECIAL NOTES
2 3 4 5 6 7 8 9 10

M	C	A
PVDB	D	B
–	–	–

STK
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42056 ZEVO DR., TEMECULA, CALIFORNIA 92590-3700
Phone: 951.296.8110 Fax: 951.296.8079 Email: info@stkkopf.com

CONSULTANT:

Salas O'Brien
3228 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100

10-20-24 #2024-03417
www.salasobrien.com
CA: 8/2023 NV: 1 WP:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA. 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0J202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
–	–

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:

SHEET TITLE:
PANEL SCHEDULES

SHEET NO.:
E4.3

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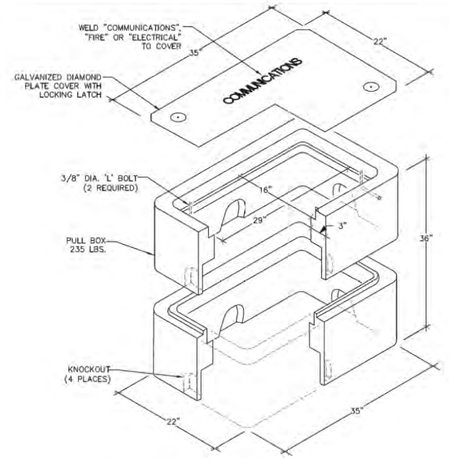
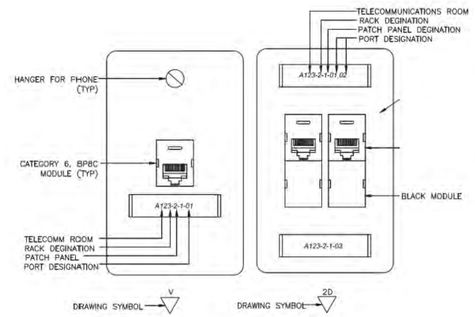
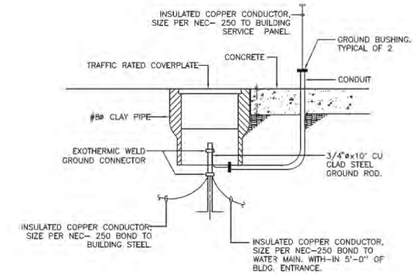


SCALE NONE **10** UNDERGROUND HANDHOLE



SCALE NONE **7** TELECOMM WALL FACEPLATES

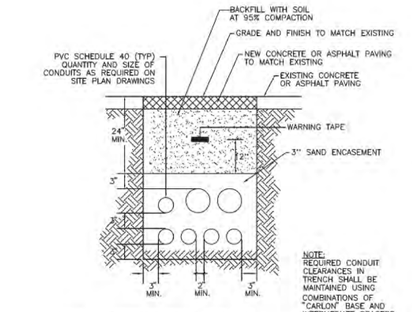


SCALE NONE **4** GROUNDING DETAIL

SCALE NONE **11**

SCALE NONE **8**

SCALE NONE **5** GRID FIXTURE SEISMIC SUPPORTS

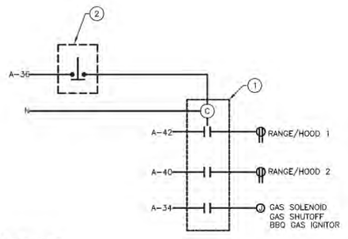


NOTE: 1. CONTRACTOR SHALL MAINTAIN A 12" SEPARATION BETWEEN POWER AND SIGNAL CONDUITS.

SCALE NONE **2** UNDERGROUND TRENCHING DETAIL

SCALE NONE **12**

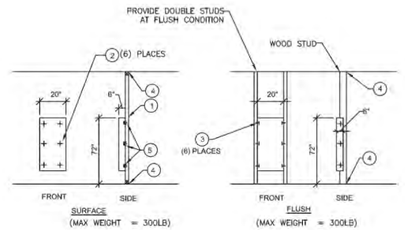
SCALE NONE **9**



KEY NOTES

1. APPLIANCE CONTROLLER DEVICE, 3-POLE MAGNETIC CONTACTOR IN NEMA 1 ENCLOSURE WITH 120V COIL. MOUNT WALL.
2. MAINTAINED PUSH BUTTON WITH NORMALLY CLOSE CONTACTS. MOUNTED IN ACCESSIBLE AREA LOCATED NEXT TO GAS VALVE. PROVIDED DEDICATED 120V CIRCUIT.

SCALE NONE **6** RELAY WIRING DIAGRAM



NOTES:
1. WOOD STUD
2. #10 WOOD SCREW WITH 1.5" EMBED TO 4X MIN. WITH A34 T&B EACH SITE BLOCKING BETWEEN WOOD STUDS
3. #10 WOOD SCREW WITH 1.5" EMBED TOTAL OF 6
4. MOUNTING @ WOOD STUDS, SEE STRUCTURAL DETAILS. (STUD SIZE AND ANCHORAGE AT TOP AND BOTTOM VARIES DEPENDING ON PANEL LOCATION)

SCALE NONE **3** SURFACE MOUNT PANEL

STK
ARCHITECTURE + DESIGN
42056 ZEVO DR., TEMECULA, CALIFORNIA 92590-5700
Phone: 951.296.8410 Fax: 951.296.8579 Email: info@stkinc.com

CONSULTANT:

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Vista, CA 92081
760.560.0100
CA BOARD OF ARCHITECTURE

10-20-24 #2024-03417
www.salasobrien.com

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
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385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

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CIP #
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180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

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SEAL:

SHEET TITLE:
ELECTRICAL DETAILS

SHEET NO.:
E5.1

T:\2024\24-1193\E5.1 - SB 1Fire Station 227\01-SB1FireStation227\Sheets\E5.1.dwg
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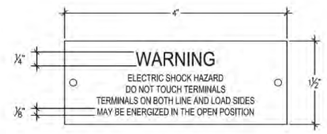
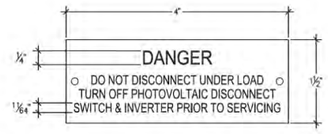
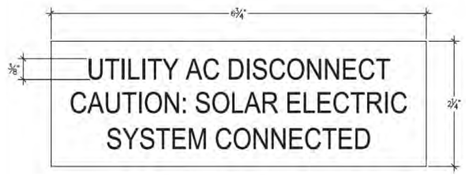
MULTIPLE SERVICE PLAQUE | SCALE NONE | 16



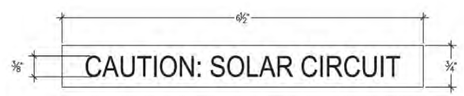
LINE-LOAD SIDE WARNING PLAQUE | SCALE NONE | 17



DANGER PLAQUE | SCALE NONE | 18



UTILITY AC DISCONNECT PLAQUE | SCALE NONE | 19



CONDUIT-JUNCTION BOX PLAQUES | SCALE NONE | 20

NOT USED | SCALE NONE | 21

NOT USED | SCALE NONE | 10

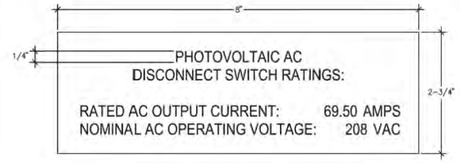
NOT USED | SCALE NONE | 11

NOT USED | SCALE NONE | 12

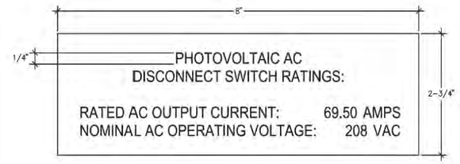
NOT USED | SCALE NONE | 13

NOT USED | SCALE NONE | 14

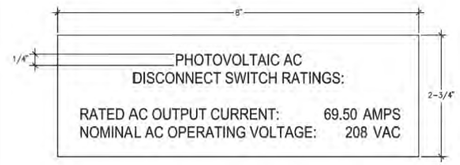
NOT USED | SCALE NONE | 15



PV AC DISCONNECT PLAQUE (INV1) | SCALE NONE | 4



PV AC DISCONNECT PLAQUE (INV2) | SCALE NONE | 5

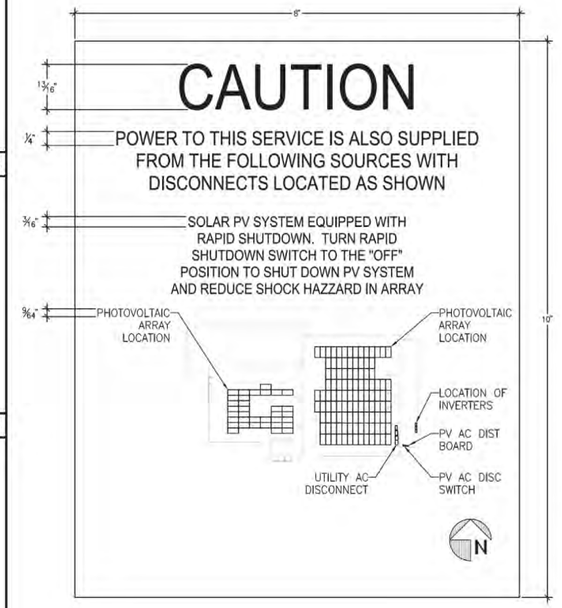


PV AC DISCONNECT PLAQUE (INV3) | SCALE NONE | 6

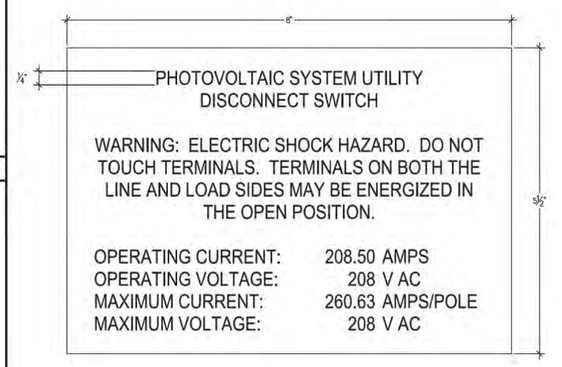
NOT USED | SCALE NONE | 7

NOT USED | SCALE NONE | 8

NOT USED | SCALE NONE | 9



SERVICE LOCATION PLAQUE | SCALE NONE | 1



PV SYSTEM DISCONNECT SWITCH PLAQUE | SCALE NONE | 3

STK
4286 ZEVO DR., TEMECULA, CALIFORNIA 92590-5510
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CONSULTANT:
Salas O'Brien
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Vista, CA 92081
760.560.0100
CA BOARD FOR P.E. 12-20-24 #2024-03417
www.salasobrien.com

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10J01202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME: -

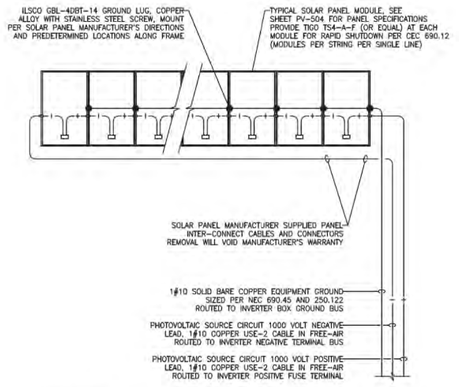
SEAL:



SHEET TITLE:
PHOTOVOLTAIC
DETAILS

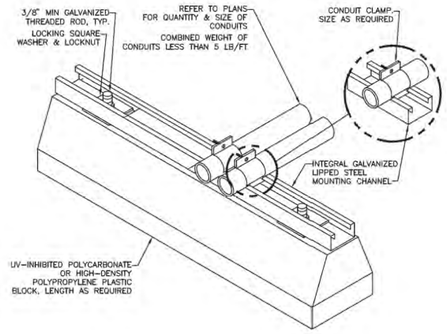
SHEET NO.:
E5.3

T:\2024\374-193-24\Cad\Plot Sheets\374-193-24 PHOTOVOLTAIC DETAILS.dwg 12/20/2024 3:36PM



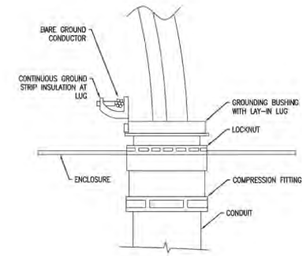
PHOTOVOLTAIC STRING WIRING DIAGRAM

SCALE: NONE | 7



ROOF CONDUIT SUPPORT DETAIL

SCALE: NONE | 4

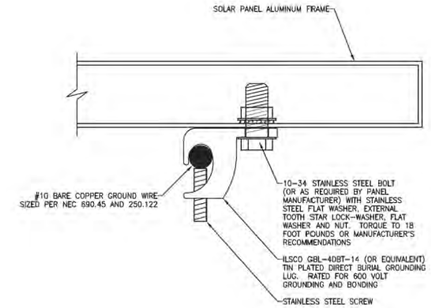


CONDUIT GROUND BONDING DETAIL

SCALE: NONE | 1

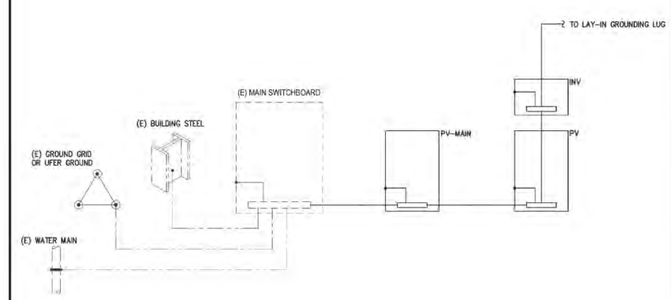
NOT USED

SCALE: NONE | 8



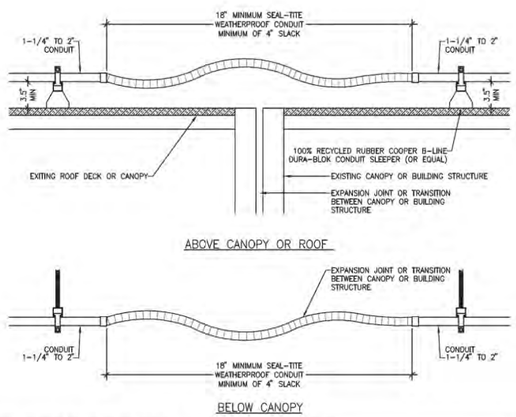
SOLAR PANEL EQUIPMENT GROUND DETAIL

SCALE: NONE | 5



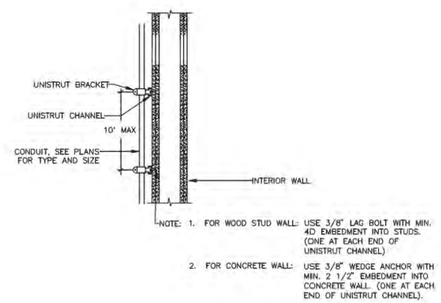
BASIC GROUNDING DIAGRAM

SCALE: NONE | 2



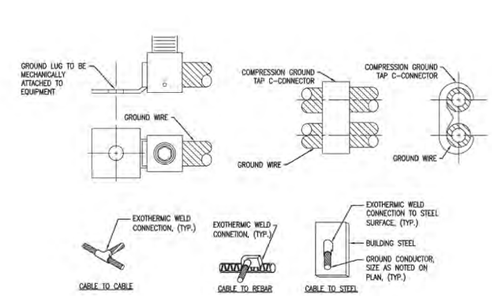
CONDUIT AT EXPANSION JOINT OR TRANSITION

SCALE: NONE | 9



EXTERIOR WALL CONDUIT SUPPORT

SCALE: NONE | 6



GROUNDING CONNECTION DETAILS

SCALE: NONE | 3

STK
42016 ZEVO DR., TEMECULA, CALIFORNIA 92590-3781
Phone (951) 296-2410 Fax (951) 296-2411 E-mail: info@stkinc.com

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12-20-24 #2024-03417
NO EXCEPTIONS TAKEN
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SAN BERNARDINO COUNTY
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SAN BERNARDINO, CA 92415

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FIRE STATION 227

PROJECT # 10J01202
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180 W. 38TH STREET
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PHOTOVOLTAIC DETAILS

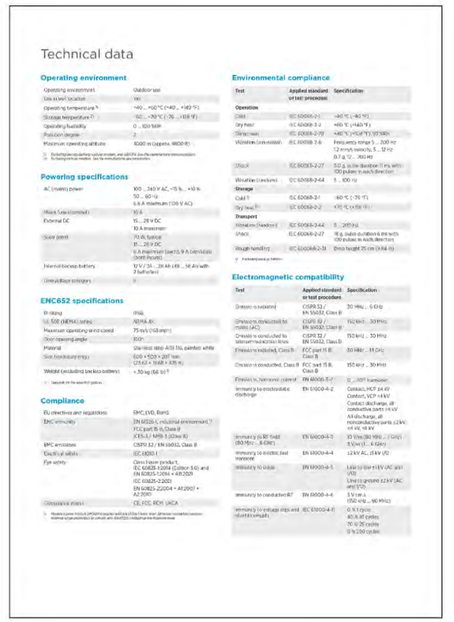
SHEET NO.:
E5.4











STK ARCHITECTURE, INC.
42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
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#2024-03417
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT & FACILITIES MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0.1202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO, CA 92405

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PLOT DATE: -
DRAWING NAME:

SEAL:



SHEET TITLE:
PHOTOVOLTAIC CUT SHEETS

SHEET NO.:
E5.5

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eSpire Mini

FULLY INTEGRATED, PRE-CONFIGURED ENERGY STORAGE SOLUTION

FORTRESS POWER



ONE SOLUTION FOR ALL

- Large Residential - Light Commercial
- Microgrid, Backup, Off-Grid, Peak Shaving, Time of Use, Self-Supply, Demand Response, and VPP
- AC and DC Coupling Options
- Scalable Energy Storage Capacity
- Indoor and Outdoor Installation

Sample Applications

Residential System (1 Multi-Family Building) · Grocery Store & Convenience Stores · Charging Stations & Service Areas · Electric Buses & Beyond

Product Features

Turnkey Solution for Fast Install
Fully integrated, pre-configured package system reduces on-site installation times; includes inverter(s), battery trays, racks, BMS, Microgrid Controller, HVAC, fire suppression, balancing switch, and outdoor rated enclosure.

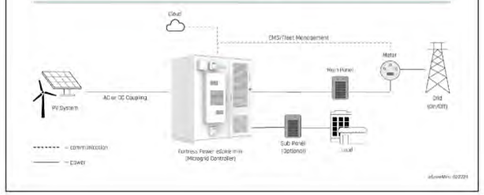
Built-in Microgrid Controls
Ability to integrate with solar, generator, wind, micro-turbines, utility, or other distributed energy resources.

Adaptive Intelligent EMS / Fleet Management
Intelligent software to reduce electricity cost, provide for resiliency, and maximize return on investment. Remote operation and maintenance for multiple sites.

Safe Technology & Multi-level Protection
Tier 1 Lithium Iron Phosphate (LFP) chemistry for the highest level of safety, thermal stability, and reliability. An integrated, multi-level Battery Management System (BMS) maintains, optimizes, and balances the system.

Easy & Flexible to scale (Easy scalability)
This outdoor rated, modular solution can be cascaded supporting on the energy and power requirement at either 208Vac or 480Vac with a maximum of 2 units in parallel.

Excellent Local Support
Our QE based technical support team can help you from project design to completion.



eSpireMini 032224



Tigo

TS4-A-F

Module-level rapid shutdown

The TS4-A-F (Fire Safety) is the advanced add-on rapid shutdown solution that brings smart module functionality to standard PV modules for higher reliability. Ensure safety by upgrading existing PV systems or by adding safety features to new installations.

The TS4-A-F complies with NEC 2017, 2020, and 2023 690.12 Rapid Shutdown specifications when installed with the Tigo RSS Transmitter or an inverter with a built-in Tigo certified transmitter.

Features

- High input current rating – now rated for 20 A I_{sc}/25 A I_{sc} to better accommodate bifacial and high-current modules
- Simple, fast installation – snaps to a standard PV module frame or mounts to racking
- Power-line communications (PLC) signaling – rapid shutdown signaling over PV conductors
- Automatic shutdown – PV array enters rapid shutdown mode in the event of AC grid loss
- UL Standards-certified – tested and certified with hundreds of top inverter models
- 25-year warranty

Specifications

	20 A	25 A
Electrical		
Maximum current (I_{mp}/I_{sc})	15 A/20 A	20 A/25 A
Input voltage range (V_{oc})	16 – 80 V	
Maximum input voltage	80 V	
Maximum system voltage (V_{max})	1000 V/1500 V*	
Maximum output current (I_{max})	15 A	
Maximum output power (P_{max})	700 W	
Maximum fuse rating	25 A	30 A
Maximum efficiency	99.9%	
Rapid Shutdown		
TS4 conductor AWG	12	
Rapid shutdown time limit	<30 sec.	
PVRSE-controlled conductor limits	≤240 VA, ≤8 A, ≤30 V_{oc}	
UL 1741-compliant PVRSE	Yes	
Communications	PLC	
Connections		
Input (from module) cable lengths	0.12/0.62 m	
Output (to string) cable lengths	1.2/2 m	
Connectors	MC4/EVO2	

* Depending on UL/IEC certification

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CPS

Datasheet

25 kW-208 V, 1000 Vdc String Inverters for North America

The CPS 25 kW-208 V three-phase string inverters are designed for rooftop and carport applications. The units are high performance, advanced, and reliable inverters designed specifically for the North American environment and grid. High efficiency at 97.0% peak and 96.5% CEC, wide operating voltages, broad temperature ranges, and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 25KTL-208V product ships with the Rapid Shutdown wire box, fully integrated and separable with touch-safe fusing, monitoring, and AC and DC disconnect switches. The integrated PLC transmitter in the Rapid Shutdown wire box enables PVRSS-certified module-level rapid shutdown when used with APS RSD-S-PLC/RSD-D products. The CPS FlexOM Gateway enables monitoring, controls, and remote product upgrades.



CPS SCA25KTL-DO/US-208

Key Features

- NEC 2017/2020 PVRSS-certified rapid shutdown
- NEC 2017-compliant and UL-listed arc-fault circuit protection
- UL 1741-SB and IEEE 1547-2018 certified
- 15-90° mounting orientation for low-profile roof installs
- Optional FlexOM Gateway enables remote firmware upgrades
- Integrated AC and DC disconnect switches
- 3 MPPTs with 2 inputs each for maximum flexibility
- Copper- and Aluminum-compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- UL 1741-SA certified to CA Rule 21, including SA8-SA16
- Separable wire-box design for fast service
- Standard 10-year warranty with extensions to 20 years
- Generous 1.8 DC/AC inverter load ratio



SCA25KTL (208V) Rapid Shutdown Wire-box

CHINT POWER SYSTEMS AMERICA 5224-6-MKT-NA

China Power Systems America
1200 Presidential Drive, Suite 100, Richardson, TX 75081
tel: 855-584-7168 · Mail: America@chintpowersystems.com · Web: www.chintpowersystems.com

EAGLE MODULES

THE MOST DEPENDABLE SOLAR PRODUCT



EAGLE® 72 G6B

570-590 WATT • N-TYPE BIFACIAL

Positive power tolerance of 0~+3%

- NYSE-listed since 2010, Bloomberg Tier 1 manufacturer
- Top performance in the strictest 3rd party labs.
- Automated manufacturing utilizing artificial intelligence
- Vertically integrated, tight controls on quality
- Premium solar factories in USA, Vietnam, and Malaysia

KEY FEATURES

- **N-Type Technology** — N-type cells offer Jinko's in-house TOPCon technology with better performance and improved reliability.
- **Industrial Grade Construction** — Fire Type 29 with optimized double-glass construction and thick frames for high-mechanical load resistance.
- **Multi Busbar Half Cell Technology** — Better light trapping and current collection to improve module power output and reliability.
- **Shade Tolerant** — Twin array design allows continued performance even with shading by trees or debris.
- **Bifacial Power Gain** — N-Type architecture increases bifaciality for higher backside bonus and better lifetime yield.
- **Protected Against All Environments** — Certified to withstand humidity, heat, rain, marine environments, wind, hailstorms, and packed snow.
- **Low Temperature Coefficient** — Best-in-class temperature coefficient for higher lifetime energy yield in all climates.
- **Warranty** — 12-year product and 30-year linear power warranty.

- IEC61215, IEC61730 certified products
- ISO9001:2015 Quality Standards
- ISO14001:2015 Environmental Standards
- ISO45001:2018 Occupational Health & Safety Standards
- UL61730 certified products

BUILDING YOUR TRUST IN SOLAR. WWW.JINKOSOLAR.US

JinkoSolar

Three-Phase 208 VAC			Three-Phase 480 VAC		
PCS Rated AC Power	**30 kW**	**40 kW**	**50 kW**	**40 kW**	**60 kW**	**90 kW**
AC Data	Rated Grid Voltage	Three-Phase 208 VAC			Three-Phase 480 VAC	
	AC Rated Current	83.3 A	111 A	138.8 A	48.1 A	72.2 A	108.3 A
	Grid Voltage Range	± 15%					
	Output THDi	< 3%					
	Automatic Transfer Switch timing	20ms					
	Grid Frequency Range	50 Hz / 60 Hz ±2.5%					
	Grid Connected Power Factor	1.0 leading to 1.0 lagging (Adjustable)					
	Wiring Configuration	3 Phase 4 Wire (3PHW Configuration)					

	Battery Capacity	**81/122/184 kWh**	**91 kWh**	**125/184/245 kWh**	**91 kWh**	**122/184/245 kWh**	**184/245/266 kWh**
DC Data	String Rack Configuration	1P8S/1P12S /2P9S	1P8S	1P12S/2P9S /2P12S	1P8S	1P12S/2P9S /2P12S	2P9S/2P12S /2P13S
	Rack Nominal Voltage	413/614/460 VDC	410 VDC	614/460/614 VDC	410 VDC	614/460/614 VDC	460/614/665 VDC
	Battery Chemistry	Lithium Iron Phosphate					
	Cell Spec (Nominal voltage/Capacity)	3.2 VDC / 100 Ah					
	Pack Configuration	2P16S					
	Pack Spec (Nominal voltage/Capacity)	51.2 VDC / 200 Ah					
	Pack Nominal Energy	10.24 kWh					
	Voltage Range	310 – 750 VDC					
	BMS Communication Interface	RS485 via Serial, Ethernet via Cat 5 or Cat 6					
	BMS Communication Protocol	Modbus RTU, Modbus TCP					

	PV Input Power	**45 kW**	**60 kW**	**90 kW**	**90 kW**	**135 kW**
PV Input (DC Data)	PV Input Voltage Range	200 – 830 VDC				
	MPPT per charge controller	3				
	Strings per MPPT	2				
	Current Rating per MPPT	35 A				

General Data	Dimensions without Clearance (W x D x H)	82.7in x 51.18in x 97.05in (2100mm x 1300mm x 2465mm)
	Weight of Whole System	Up to 8860 lbs
	Enclosure Degree of Protection	NEMA 3R / IP54
	Operating Temperature Range	5 °F to 122 °F (-15 °C to 50 °C)
	Relative Humidity	0 – 95% Non-Condensing
	Max Altitude	10,000 ft (3,000 m)
	Noise Level	70 dB
	Thermal Management System	HVAC (Forced Air)
	Communication Interface	RS485 Ethernet, HMI
	Warranty	10 years, 70% Retention with 8,000 cycles @ 25 °C
	Certificates	UL1973, UL9540(A), UL1741-SB, IEEE-1547, IEEE-519, UL9540, SGIP, CEC, OSHA

www.FortressPower.com • Sales@FortressPower.com • 877-497-6937

eSpireMini 032224

Tigo

Specifications

	20 A	25 A
Environmental		
Operating temperature range	-40 – 85 °C (-40 – 185 °F)	
Storage temperature range	-40 – 85 °C (-40 – 185 °F)	
Maximum elevation	3000 m (9840 ft.)	
Outdoor IP rating	IP68/NEMA 3R	
Mechanical		
Dimensions (H/W/D)	139.7 x 138.4 x 22.9 mm (5.4 x 5.5 x 0.9 in.)	
Weight	~490 g (1.1 lb.)	
General		
Standards compliance	UL 1741 PVSRE, UL 1741 PVRSS, CSA 22.2, IEC 62109, NEC 690.12	
Warranty	25 years	

* 20 A UL rating: -30 – 75 °C (-22 – 167 °F)

More Resources

Fitness · Help Center · Downloads

Ordering Information

Part Number	V_{MAX} Certifications UL/IEC	Cable Lengths	Connectors
20 A I_{SC}			
481-00252-20	1500 V/1000 V	1.2/2 m	MC4
481-00252-32	1500 V/1000 V	0.12/1.2 m	MC4
481-00252-62	1500 V/1000 V	0.62/1.2 m	MC4
481-00261-32	1500 V/1500 V	0.12/1.2 m	EVO2
481-00261-62	1500 V/1500 V	0.62/1.2 m	EVO2
481-01252-32	1500 V/1000 V	0.12/1.2 m	MC4
481-01252-62	1500 V/1000 V	0.62/1.2 m	MC4
481-01261-32	1500 V/1500 V	0.12/1.2 m	EVO2
481-01261-62	1500 V/1500 V	0.62/1.2 m	EVO2
25 A I_{SC}			
486-00252-32	1500 V/1000 V	0.12/1.2 m	MC4
486-00252-62	1500 V/1000 V	0.62/1.2 m	MC4
486-00261-32	1500 V/1500 V	0.12/1.2 m	EVO2
486-00261-62	1500 V/1500 V	0.62/1.2 m	EVO2
488-00252-32	1000 V*	0.12/1.2 m	MC4
488-00252-62	1000 V*	0.62/1.2 m	MC4
488-00261-32	1500 V*	0.12/1.2 m	EVO2
488-00261-62	1500 V*	0.62/1.2 m	EVO2

* IEC certified only

tigoenergy.com

TS4-A-F Specifications and Ordering Information

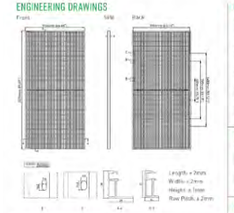
CPS

Technical Data

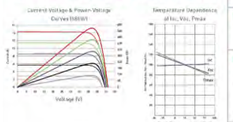
Model name	CPS SCA25KTL-DO/US-208
DC Input	
Max. PV power	45 kW (17 kW per MPPT)
Max. DC input voltage	1000 Vdc
Operating DC input voltage range	200-950 Vdc
Startup DC input voltage / power	330 V / 80 W
Number of MPPTs	3
MPPT voltage range for Pnom @ PF=0.99	480-850 Vdc
Max. PV short circuit current[1]	108 A (36 A per MPPT)
Number of DC inputs	6 inputs, 2 per MPPT
DC disconnecting type	Load-rated DC switch
DC surge protection	Type II MOV
AC Output	
Rated AC output power @ PF=0.99	25 kW
Max. AC apparent power	25 kVA
Rated output voltage	208 Vac
Output voltage range[2]	183-228 Vac
Grid connection type	3Ø / PE / N (neutral optional)
Max. AC output current @ 208 Vac	69.5 A
Rated output frequency	60 Hz
Output frequency range[2]	57-63 Hz
Power factor	>0.99 (±0.8 adjustable)
Current THD @ rated load	< 3%
Max. fault current contribution (1 cycle RMS)	64.1 A (8.92 PU)
Max. OCPD rating	125 A
AC disconnection type	Load-break rated AC switch
AC surge protection	Type II MOV
System and Performance	
Topology	Transformerless
Max. efficiency	97.0%
CEC efficiency	96.5%
Standby / night consumption	< 3 W
Environment	
Enclosure protection degree	NEMA 4X
Cooling method	Variable speed cooling fans
Operating temperature range[3]	-22°F to 140°F (-30°C to 60°C)
Non-operating temperature range[3]	-40°F to 158°F (-40°C to 70°C)
Operating humidity	0-100%
Operating altitude	13123 ft / 4000 m (derating from 9843 ft / 3000 m)
Audible noise	<60 dBA @ 1 m and 77°F (25°C)
Display and Communication	
User interface and display	LCD+LED
Inverter monitoring	SunSpec, Modbus RS485
Site-level monitoring	CPS FlexOM Gateway (1 per 32 inverters)
Modbus data mapping	CPS
Remote diagnostics / firmware upgrade functions	Standard / (with FlexOM Gateway)
Mechanical	
Dimensions (H × W × D)	19.4 × 23.6 × 10.2 in (1000 × 600 × 260 mm) Inverter: 121.5 lb (55 kg) Wire box: 33 lb (15 kg)
Mounting / installation angle[4]	15 to 90 degrees from horizontal (vertical or angled)
AC termination	M8 stud type terminal block (wire range: #6-3/0 AWG CU/AL; lugs not supplied)
DC termination[5]	Screw clamp, negative busbar wire range: #14-#6 AWG CU
Fused string inputs (5 per MPPT)	20 A fuses provided (fuse values up to 30 A acceptable)
Safety	
Certifications and standards	UL 1741-SA/SB Ed. 3, UL 1699B, UL 1998, CSA-C22.2 NO.107.1-01, IEEE 1547-2018, FCC Part 15
Selectable grid standards	IEEE 1547a-2014, IEEE 1547-2018[6], CA Rule 21, ISO-NE, HECO
Smart grid features	Volt-Ride Thru, Freq-Ride Thru, Ramp-Rate, Specified PF, Volt-VAR, Freq-Watt, Volt-Watt
Warranty	
Standard	10 years
Extended terms	15 and 20 years

[1] The sum of parallel connected PV module short circuit currents.
[2] Grid voltage and frequency ranges may vary to meet the requirements of the area according to the specific grid standard.
[3] Active power derating begins at 95 °C when PF = 1 and MPPT close, and at 50°C when PF = 1 and MPPT is 250 kW.
[4] See user manual for further requirements regarding non-standard tilt conditions.
[5] Model closer accessory may used for installation angles of 75 degrees or less.
[6] RSD-only functionality includes Trans and Fuse Failure on the possible outputs, consistent with NEC 2017/2020 Section 690.9(C).
[7] Firmware version 4.0 or later required.

ENGINEERING DRAWINGS



ELECTRICAL PERFORMANCE & TEMPERATURE DEPENDENCE



ELECTRICAL CHARACTERISTICS

Module Type	JKM570N-72HL4-BDV		JKM575N-72HL4-BDV		JKM580N-72HL4-BDV		JKM585N-72HL4-BDV		JKM590N-72HL4-BDV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	570Wp	430Wp	575Wp	433Wp	580Wp	437Wp	585Wp	441Wp	590Wp	445Wp
Maximum Power Voltage (Vmp)	43.58V	40.84V	43.73V	40.73V	43.88V	40.89V	44.02V	41.05V	44.17V	41.21V
Maximum Power Current (Imp)	13.08A	10.09A	13.15A	10.64A	13.22A	10.69A	13.29A	10.74A	13.36A	10.79A
Open-circuit Voltage (Voc)	52.79V	49.47V	52.95V	49.63V	53.10V	49.77V	53.26V	49.92V	53.41V	50.07V
Short-circuit Current (Isc)	13.63A	11.16A	13.69A	11.21A	13.95A	11.26A	14.01A	11.31A	14.07A	11.36A
Module Efficiency STC (%)	22.03%		22.26%		22.45%		22.68%		22.84%	

*STC: ☀ Irradiance 1000W/m² · Cell Temperature 25°C · AM = 1.5
NOCT: ☀ Irradiance 800W/m² · Ambient Temperature 20°C · AM = 1.5 · Wind Speed 1m/s

*Power measurement tolerance ±3%

MECHANICAL CHARACTERISTICS

No. of Half Cells	144 (2 x 72)
Dimensions	2278 x 1134 x 30mm (89.69 x 44.65 x 1.18in)
Weight	28kg (61.7lbs)
Front Glass	2.0mm, AR(Anti-reflective) Coating
Back Glass	2.0mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	12 AWG, 1400mm (55.12in)
Fire Type	Type 29
Pressure Rating	5400Pa (Upward & 2400Pa (Wind)
Maintaine Test	25mm Hail stones at 23 m/s

TEMPERATURE CHARACTERISTICS

Temperature Coefficients of Pmax	-0.29%/°C
Temperature Coefficients of Voc	-0.25%/°C
Temperature Coefficients of Isc	0.045%/°C
Nominal Operating Cell Temperature (NOCT)	45±2°C
Bifacial Factor	85±5%

MAXIMUM RATINGS

Operating Temperature (°C)	-40°C~+85°C
Maximum System Voltage	1500VDC
Maximum Series Fuse Rating	30A

PACKAGING CONFIGURATION

(Two pallets = One stack)
36pcs/pallet, 72pcs/stack, 876pcs/40 HQ Container

BIFACIAL OUTPUT-REARSIDE POWER GAIN

5%	Maximum Power (Pmax)	570Wp	575Wp	580Wp	585Wp	590Wp
	Module Efficiency (%)	22.03%	22.26%	22.45%	22.68%	22.84%
15%	Maximum Power (Pmax)	656Wp	661Wp	667Wp	673Wp	679Wp
	Module Efficiency (%)	25.35%	25.58%	25.82%	26.05%	26.27%
25%	Maximum Power (Pmax)	713Wp	719Wp	725Wp	731Wp	738Wp
	Module Efficiency (%)	27.53%	27.81%	28.06%	28.29%	28.55%

WARRANTY

12-year product and 30-year linear power warranty
1st year degradation not to exceed 1%; each subsequent year not to exceed 0.4%, minimum power at year 30 is 87.4% or greater.

The company reserves the final right to explanation in any of the uncompromising warranty. JKM570-590N-72HL4-BDV 2022-12-US

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JinkoSolar

STK ARCHITECTURE, INC.
42096 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.8910 Fax: 951.296.8975 E-mail: info@stkinc.com

CONSULTANT:
Salas O'Brien
3220 Executive Ridge, Suite 210
Vista, CA 92081
760.560.0100 12-20-24 #2024-03417
www.salasobrien.com
A MEMBER OF THE IBI GROUP

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10J01202
CIP #
CAFM #
APN #

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
-	-

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: SEPTEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:



SHEET TITLE:
PHOTOVOLTAIC
CUT SHEETS

SHEET NO.:
E5.6

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GENERAL CONTRACTOR SCOPE OF WORK INCLUDES INSTALLATION OF CONDUIT, J-BOXES WITH PULL ROPE AND IDENTIFICATION.

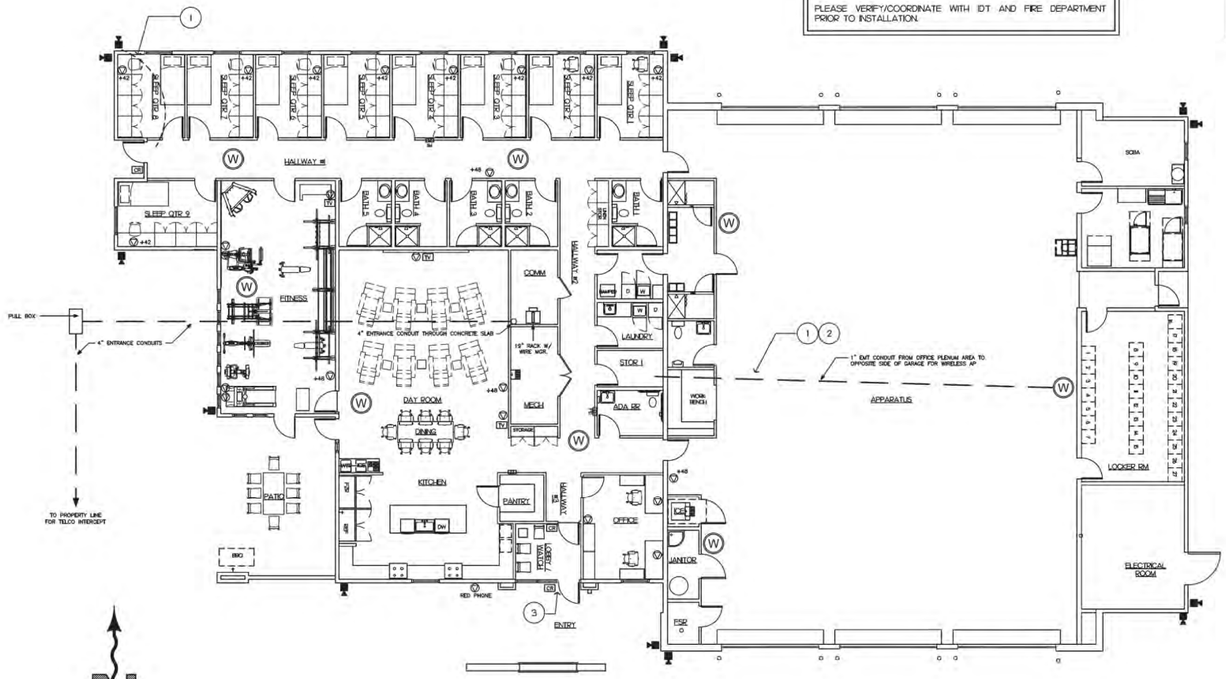
GENERAL CONTRACTOR TO PROVIDE 120V OUTLET WHERE INDICATED ON PLAN BY SYMBOL OR NOTATION.

ALL OTHER EQUIPMENT PROVIDED AND INSTALLED BY COUNTY IDT.

PLEASE VERIFY/COORDINATE WITH IDT AND FIRE DEPARTMENT PRIOR TO INSTALLATION.

LEGEND:

- DATA JACKS
- W WIRELESS AP
- TV TELEVISION
- CR CARD READER
- CCTV CAMERA



SCALE IN FEET
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TELECOMMUNICATION SERVICES	COUNTY OF SAN BERNARDINO INFORMATION SERVICES DEPARTMENT	
TITLE COUNTY FIRE STATION #227	XXX 40TH ST. SAN BERNARDINO	
SCALE SCALE BAR	APPROVED BY	REVISED 11-18-2024
DATE 11-18-2024	SHEET 1 OF 1	DRAWING NUMBER STATION 227

COMMUNICATIONS PLAN

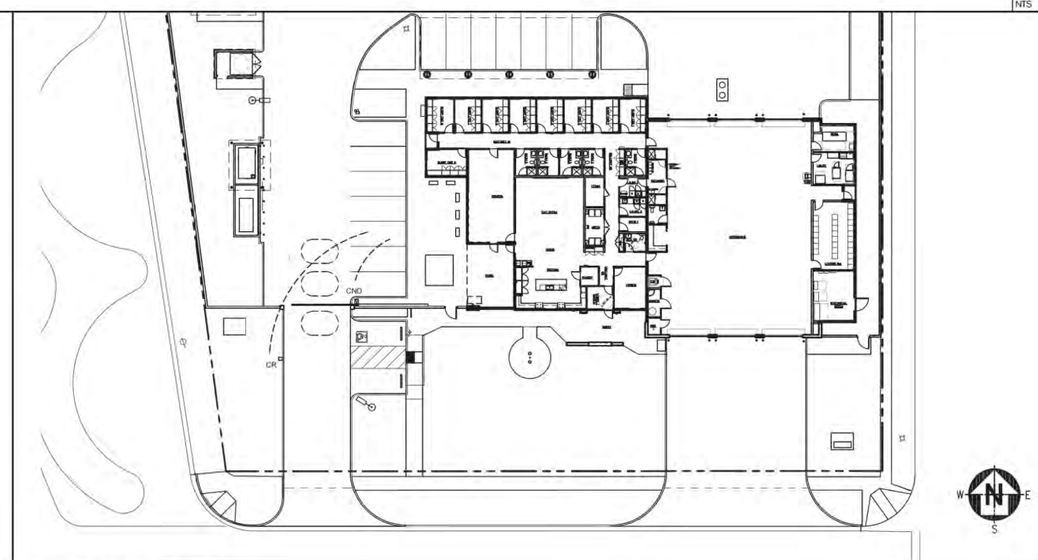
SCALE: NTS (1)

KEY NOTE

1. CONDUIT OVERHEAD.
2. THERE WILL NO EXPOSED CONDUIT IN THE APPARATUS BAY.
3. STOREFRONT DOOR CR-PROVIDE PULL STRING FROM STRIKE PLATE LOCATION TO CEILING SPACE ABOVE.

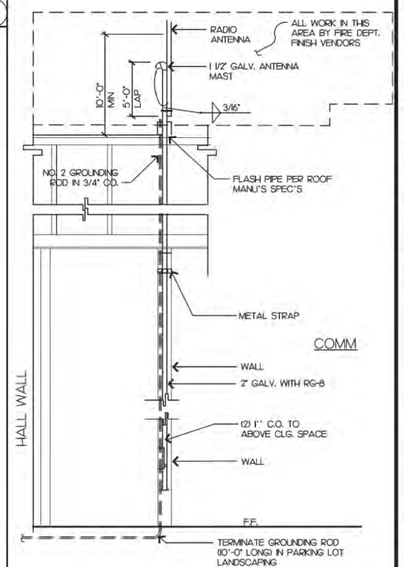
LEGEND

	DATA OUTLETS
W	WIRELESS ACCESS POINT
CR	PROVIDE 2.5" J-BOX, CONDUIT AND PULL ROPE TO COMM ROOM.
CCTV CAMERA	PROVIDE 2.5" J-BOX, CONDUIT AND PULL ROPE TO COMM ROOM.
CND	PROVIDE 3/4" CONDUIT AND PULL ROPE TO COMM ROOM.



PARTIAL SITE PLAN

SCALE: NTS (16)



ANTENNA DETAIL

SCALE: N.T.S. (4)

STK
42180 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: (951) 296-9115 Fax: 951.296.4979 E-mail: rob@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #22-105
CAFM #
APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

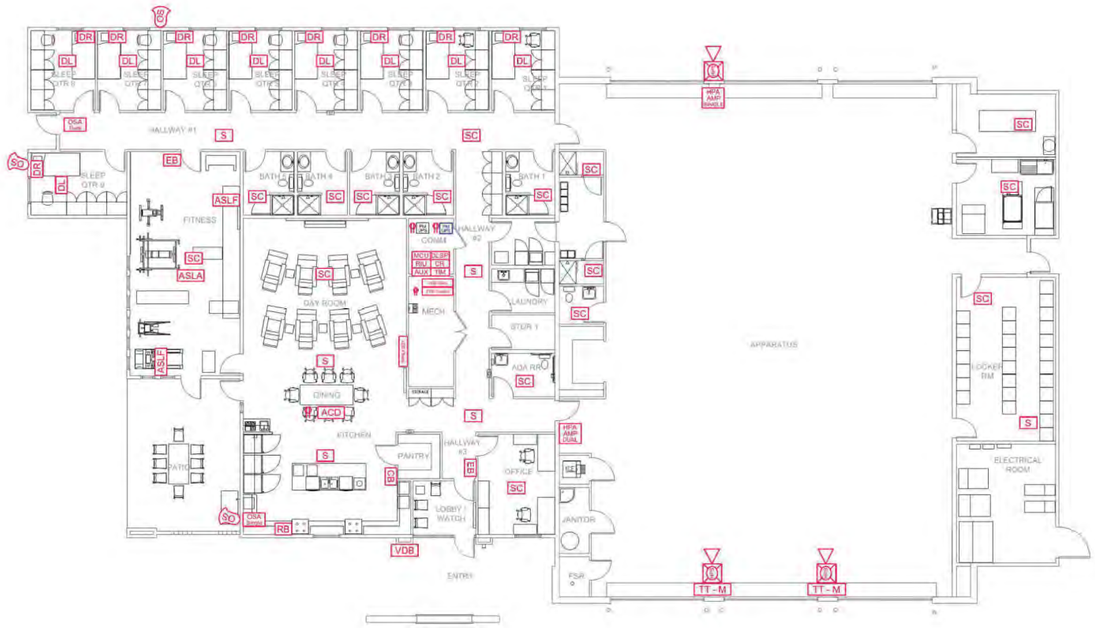
DATE:	INFORMATION:
9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME: -

SEAL:

SHEET TITLE:
DATA PLAN
ITD

SHEET NO.:
DATA 1.1



ALERT SYSTEM - 1ST FLOOR DEVICE PLAN

SCALE: N.T.S.

FIRST-IN FIRE STATION ALERTING

SYMBOL LEGEND

MCU	MASTER CONTROL UNIT
DLSP	DATA LINE SURGE PROTECTOR
TIM	TELEPHONE INTERFACE MODULE
CR	CONTROL REMOTE
RIU	RADIO ISOLATION UNIT
AUX	AUXILLIARY MODULE
PM UPS	POWER MODULE WITH UPS-BLACK (MOUNTED ON WALL MOUNTED BACKBOX - BRANDT RCI HARDWARE)
PM UPS	POWER MODULE WITH UPS-BLUE (MOUNTED ON STUDS - BRANDT RCI HARDWARE)
S	SATELLIGHT
SC	SATELLIGHT CONTROLLER
TT - M	TURNOUT TIMER MEDIUM
HPA	HIGH-POWERED AMPLIFIED SPEAKER IN CONJUNCTION WITH HPA AMP
HPA AMP SINGLE	HIGH-POWERED AMPLIFIER MODULE SINGLE
HPA AMP DUAL	HIGH-POWERED AMPLIFIER MODULE DUAL
OSA Single	OUTSIDE SPEAKER AUDIO MODULE SINGLE
OSA Dual	OUTSIDE SPEAKER AUDIO MODULE DUAL
OS	OUTSIDE SPEAKER - IN CONJUNCTION WITH OSA
DB	DOORBELL BUTTON
EB	EMERGENCY BUTTON
DR	DORM REMOTE
DL	DORM LIGHT
ASLA	ALERTING STROBE LIGHT ADAPTER
ASLF	ALERTING STROBE LIGHT FIXTURE - IN CONJUNCTION WITH ASLA
ACD	APPLIANCE CONTROL DEVICE (MOUNTED ON CHOW REMOTE)
RB	APPLIANCE RESET BUTTON
CB	CHOW BUTTON
VDB	VIDEO DOORBELL
VDB Phone	VIDEO DOORBELL PHONE
VDB Gate	VIDEO DOORBELL GATEWAY
POE Switch	POE SWITCH (LOCATION DEPENDS)

GENERAL NOTES

1. DEVICES ARE TYPICAL AND FOR REFERENCE ONLY.
2. ALL BACK BOXES & CONDUITS ARE TO BE FLUSH MOUNTED UNLESS OTHERWISE SPECIFIED FOR NEW CONSTRUCTION.
3. DEVICES LOCATED IN ACOUSTICAL CEILINGS DO NOT REQUIRE BACKBOXES
4. DEVICES LOCATED IN ACOUSTICAL CEILINGS REQUIRE ACOUSTICAL WESTNET MOUNTING KIT (SSATKIT-A)
5. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE HOFFMAN BRAND 8X10X4 BACKBOX
6. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE APPROPRIATE WESTNET MOUNTING KIT (SURFACE MOUNT OR FLUSH MOUNT) FOR NEW CONSTRUCTION.
7. LOCATIONS OF DEVICES DETERMINED AT INSTALLATION BY INSTALLER FOR NEW CONSTRUCTION.
8. SEE ARCHITECTURAL SPECIFICATION FOR ALL ROUGH-IN AND INSTALLATION DETAILS FOR NEW CONSTRUCTION.
9. INSTALLER TO VERIFY WALL AND CEILING TYPE TO DETERMINE NEED FOR FLUSH OR SURFACE MOUNT INSTALLATION OF EQUIPMENT SPECIFIED FOR NEW CONSTRUCTION.
10. ALL WIRING AND DEVICES TO BE INSTALLED BY WESTNET.
11. ALL PENETRATION TO EXTERIOR DEVICES MUST BE WEATHERPROOF AND FIRE CAULKED FOR CONSTRUCTION BY OTHERS.
12. DEVICES LOCATED IN BATHROOM/SHOWER AREAS MUST BE VISIBLE FROM SHOWERS. INSTALLER TO FIELD VERIFY DEVICE LOCATION. (TYPICAL)
13. ALL DEVICES MUST BE KEPT CLEAR OF OBSTRUCTIONS & CEILING FAN BLADES.
14. IN ACOUSTICAL CEILING (T-BAR), WIRE CABLING IS FREE WIRE (NOT IN CONDUIT).
15. IN GYPSUM BOARD CEILING (SHEET ROCK / HARD LID), WIRE CABLING IN IN 3/4" CONDUIT UNLESS CONDUIT SIZE OTHERWISE NOTED.
16. IN EXPOSED AREAS ONLY 8X10X4 HOFFMAN BACK BOX MOUNTED AT +10'-0" A.F.F. MAX. WITH OPEN FACE DOWN IN CENTER OF ROOM WITH 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE. KEEP CLEAR OF OBSTRUCTIONS.
17. A 5 OHM EARTH GROUND MUST BE CONNECTED TO THE RADIO ISOLATION UNIT IN THE COMMUNICATION RACK.
18. THE RADIO RECEIVING THE DISPATCH INFORMATION SHALL BE LOCATED WITHIN 6'-0" FT. OF THE RADIO ISOLATION UNIT.
19. INSTALLER TO PROVIDE ONE ADDITIONAL UNCONNECTED BLUE CAT5 CABLE WITH RJ45 CONNECTORS ON BOTH ENDS BETWEEN THE MCU LOCATION AND EACH ALERTING END POINT FOR NETWORK CONNECTIVITY.

WESTNET
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www.FirstInAlerting.com

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REV	REVISION	DATE	BY

ALERT SYSTEM

PROJECT NAME: SAN BERNARDINO COUNTY FIRE STATION # 227
180 W. 38TH STREET
SAN BERNARDINO, CA 92405

NOTE: IF THIS SCALE IS NOT 1", THIS SHEET IS NOT TO SCALE.

DATE: 11/15/2024
DRAWN BY: EV
SCALE: N.T.S.
TITLE: 1ST FLOOR DEVICE PLAN
SHEET
AS1.2

WESTNET/FIRST IN SYSTEM LAYOUT REVIEW

PROJECT: SAN BERNARDINO FIRE STATION # 227
DEPARTMENT: SAN BERNARDINO, CA
DATE SUBMITTED:

- [ ] Approved subject to notations and corrections as indicated.
- ___ Re-submit corrected Layout for our approval.
- ___ Re-submittal of Layout not required.
- [ ] Rejected/Re-submit Layout.

Remarks: _____

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REVIEWED BY:
DEPT TITLE:

"This serves to Clarify that this Layout (attached) has been reviewed for adequacy and compliance with the general performance of this design and has/does/do not like Engineered Consult and/or Contract Documents.

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Westnet, LLC.
15542 Chemical Lane
Huntington Beach, CA 92649
Phone: (714) 548-3500
Fax: (714) 901-5610
www.FirstInAlerting.com

GENERAL CONTRACTOR SCOPE OF WORK INCLUDES INSTALLATION OF CONDUIT, J-BOXES WITH PULL ROPE AND IDENTIFICATION.

GENERAL CONTRACTOR TO PROVIDE 120V OUTLET WITH INDICATED ON PLAN BY SYMBOL OR NOTATION.

ALL OTHER EQUIPMENT PROVIDED AND INSTALLED BY WESTNET.

PLEASE VERIFY/COORDINATE WITH WESTET AND FIRE DEPARTMENT PRIOR TO INSTALLATION.

STK
42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0J202
CIP #22-105
CAFM #
APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:

SHEET TITLE:
FIRE ALERT
SYSTEM
AS1.2

SHEET NO.:
DATA
2.1

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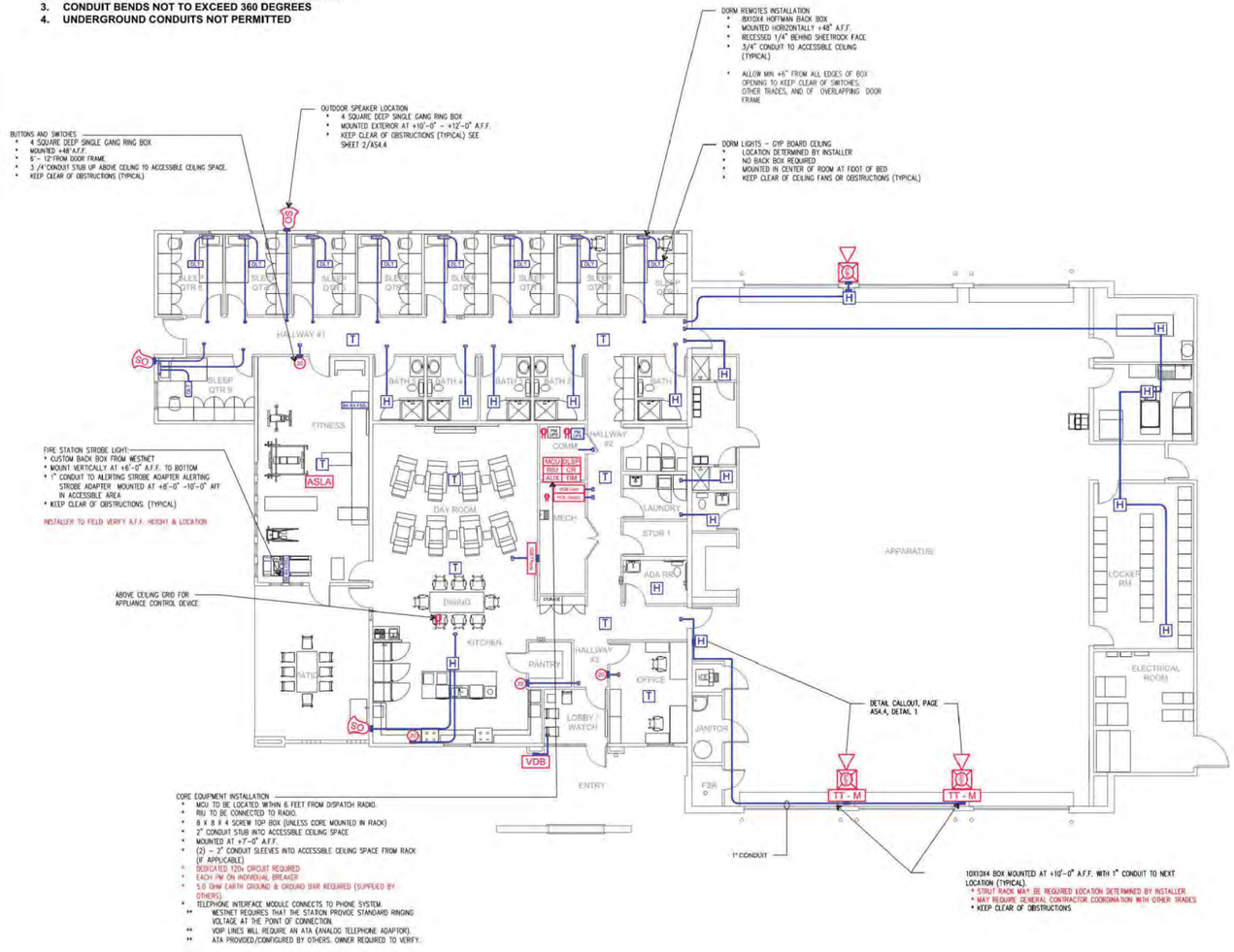
NOTE:

1. **CONDUIT ROUTING IS FOR REFERENCE ONLY**
2. **CONDUIT INSTALLER PLACE PULL BOXES AS NEEDED**
3. **CONDUIT BENDS NOT TO EXCEED 360 DEGREES**
4. **UNDERGROUND CONDUITS NOT PERMITTED**



ALERT SYSTEM - 1ST FLOOR CONDUIT PLAN

SCALE: N.T.S.

FIRST-IN FIRE STATION ALERTING

SYMBOL LEGEND

MCU	MASTER CONTROL UNIT
DLSP	DATA LINE SURGE PROTECTOR
TIM	TELEPHONE INTERFACE MODULE
CR	CONTROL REMOTE
RIU	RADIO ISOLATION UNIT
AUX	AUXILLIARY MODULE
PM UPS	POWER MODULE WITH UPS-BLACK
PM UPS	POWER MODULE WITH UPS-BLUE
HPS	HIGH-POWERED AMPLIFIED SPEAKER IN CONJUNCTION WITH
OS	OUTSIDE SPEAKER - IN CONJUNCTION WITH
BK BX FSSL	CUSTOM BACKBOX PROVIDED BY WESTNET
BK BX DR	DORM REMOTE BACKBOX PROVIDED WESTNET
DLT	DORM LITE ACOUSTIC CEILING MOUNT KIT
H	8x10x4 HOFFMAN BACKBOX
T	ACOUSTIC CEILING KIT
▬	LOCATION OF DEVICE WALL MOUNTED

GENERAL NOTES

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16. IN EXPOSED AREAS ONLY 8X10X4 HOFFMAN BACK BOX MOUNTED AT +10'-0" A.F.F. MAX. WITH OPEN FACE DOWN IN CENTER OF ROOM WITH 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE, KEEP CLEAR OF OBSTRUCTIONS.
17. A 5 OHM EARTH GROUND MUST BE CONNECTED TO THE RADIO ISOLATION UNIT IN THE COMMUNICATION RACK.
18. THE RADIO RECEIVING THE DISPATCH INFORMATION SHALL BE LOCATED WITHIN 6'-0" FT. OF THE RADIO ISOLATION UNIT.
19. INSTALLER TO PROVIDE ONE ADDITIONAL UNCONNECTED BLUE CAT5 CABLE WITH RJ45 CONNECTORS ON BOTH ENDS BETWEEN THE MCU LOCATION AND EACH ALERTING END POINT FOR NETWORK CONNECTIVITY.
20. BUTTONS AND SWITCHES
    * 4 SQUARE DEEP SINGLE GANG RING BOX
    * MOUNTED +48" A.F.F.
    * 6" - 12" FROM DOOR FRAME
    * 3 /4" CONDUIT STUB UP ABOVE CEILING TO ACCESSIBLE CEILING SPACE.
    * KEEP CLEAR OF OBSTRUCTIONS (TYPICAL)

WESTNET/FIRST IN SYSTEM LAYOUT REVIEW

PROJECT: SAN BERNARDINO FIRE STATION # 227

DEPARTMENT: SAN BERNARDINO, CA

DATE SUBMITTED:

- ☐ Approved subject to notations and corrections as indicated.
- ____ Re-submit corrected Layout for our approval.
- ____ Re-submittal of Layout not required.
- ☐ Rejected/Re-submit Layout

Remarks: _____

DATE RETURNED:

REVIEWED BY:

DEPT TITLE:

This serves to Certify that this Layout submission(s) have been reviewed for accuracy and compliance with the general conformance of the design and equipment(s) with this Department Contract and/or Contract Documents.

ONLY AFTER APPROVAL OF LAYOUT WILL SUBMITTAL INFORMATION AND QUOTES BE AVAILABLE.

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Huntington Beach, CA 92649

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REV	REVISION	DATE	BY

FIRST-IN ALERT SYSTEM

PROJECT NAME: SAN BERNARDINO COUNTY FIRE STATION # 227
180 W. 38TH STREET
SAN BERNARDINO, CA 92405

NOTE:
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DATE: 11/15/2024
DRAWN BY: EV
SCALE: N.T.S.
TITLE: 1ST FLOOR CONDUIT PLAN
SHEET
AS3.2

STK
42085 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

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SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0J202

CIP #22-105

CAFM #

APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

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9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
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FIRE ALERT SYSTEM
AS3.2

SHEET NO.:
DATA
2.2

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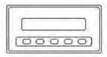
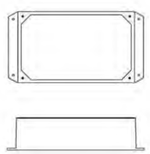


01 MASTER CONTROL UNIT - MCU
N.T.S.

MCU MASTER CONTROL UNIT

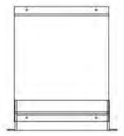
- THE MASTER CONTROL UNIT IS THE COMMAND CENTER OF THE SMART STATION NETWORK.
- THE MASTER CONTROL UNIT SHALL ACCEPT ALARM INPUTS FROM UP TO (4) RADIOS, DEDICATED PHONE LINES, POTS TELEPHONE LINES, SERIAL DATA LINES, AS WELL AS TCP/IP ETHERNET NETWORKS.
- THE MASTER CONTROL UNIT SUPPORTS THE FULL ZIN COMMAND SET.
- THE MASTER CONTROL UNIT SHALL MEET THE NFPA REQUIREMENT 1221 FOR SUPERVISED COMMUNICATIONS FOR ALERTING WITH THE DISPATCH CENTER.
- ALARM AUDIO LEVELS SHALL BE CONTROLLABLE OVER A (30) DECIBAL RANGE IN (1) DECIBAL INCREMENTS.
- RADIO AUDIO LEVELS SHALL BE CONTROLLABLE OVER A (30) DECIBAL RANGE IN (1) DECIBAL INCREMENTS.
- THE ENTIRE FIRE STATION ALERTING LEVEL SHALL BE AUTOMATICALLY REDUCED AT NIGHT AND RETURNED TO NORMAL LEVELS IN THE MORNING AUTOMATICALLY.
- OUTSIDE SPEAKERS SHALL BE AUTOMATICALLY TURNED OFF AT NIGHT AND TURNED BACK ON IN THE MORNING AUTOMATICALLY.
- PRIMARY PROGRAMMING SHALL BE ACCOMPLISHED FROM THE FRONT PANEL. WHILE SECONDARY PROGRAMMING IS ACCOMPLISHED WITH THE SMART STATION SERVICE VIA COMPUTER.
- FRONT PANEL PROGRAMMING SHALL BE LIMITED TO PLACING THE STATION ON RADIO WATCH OR REMOVING THE STATION FROM RADIO WATCH.
- THE MASTER CONTROL UNIT SHALL BE POWERED FROM AN "ON-LINE" UPS FOR UNINTERRUPTIBLE ALERTING SERVICE.



02 CONTROL REMOTE - CR
N.T.S.

CR CONTROL REMOTE

- WHEN THE ALARM SYSTEM TRIGGERS, THE CONTROL REMOTE CAN OPEN BAY DOORS, TURN ON BAY LIGHTS, OPEN GATES, AND/OR SENSE INPUTS FROM CO DETECTORS IN APPARATUS BAYS.
- PROVIDES (8), DOUBLE POLE, DOUBLE THROW (DPDT) RELAYS UNDER SOFTWARE CONTROL OF THE MASTER CONTROL UNIT.
- PROVIDE (4) REMOTE SENSING INPUTS TO COLLECT DATA RELEVANT TO THE CONTROL FUNCTIONS.
- ENABLES THE MASTER CONTROL UNIT TO OPERATE FIRE STATION ALERTING EQUIPMENT THAT IS NOT SMART STATION COMPATIBLE.
- ALL RELAYS SHALL BE ZONE, TIME DELAY AND TIME OF DAY CONTROLLABLE IN ANY COMBINATION NECESSARY.
- SHALL PROVIDE CONTROL AND SENSE CAPABILITY THROUGHOUT THE NETWORK AT ANY LOCATION.
- RELAYS SHALL BE RATED AT (5) AMPS AT (24) VOLTS DC OR AC.
- MECHANICAL LIFE OF THE RELAY CONTACTS SHALL BE A MINIMUM OF (5) MILLION OPERATIONS.
- RELAYS SHALL BE USED TO CONTROL THE OVEN/RANGES IN THE KITCHEN, OPERATION OF EACH APPARATUS BAY DOOR INDEPENDANTLY, AND CONNECTION OF CARBON MONOXIDE SENSORS TO THE SYSTEM. COORDINATE ALL ELECTRICAL CONTACTS AND RELAYS REQUIRED FOR LINE VOLTAGE CIRCUITS TO INTERFACE WITH CONTROL REMOTE DEVICES.
- WESTNET ALERT SYSTEM PROVIDES ONLY DRY CONTACTS RATED AT 24 VOLTS MAX., NO VOLTAGE IS SUPPLIED



03 STATION PAGING MODULE - PAG
N.T.S.

TIM TELEPHONE INTERFACE MODULE

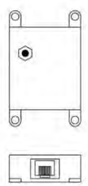
- SHALL BE UTILIZED FOR PAGING PERSONNEL WITHIN THE FIRE STATION.
- SHALL INTEGRATE THE FIRE STATION TELEPHONE SYSTEM INTO ALL AUDIO UNITS, SUCH AS COMBINATION SPEAKER/LED LIGHT DEVICES, PROGRAMMABLE SPEAKER/RED GLOW LIGHT DEVICES AND HIGH POWER AMPLIFIERS.
- REQUIRES CONDUIT SLEEVE TO STATION TELE/COMM ROOM



04 RADIO ISOLATION UNIT - RIU
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS

RIU RADIO ISOLATION UNIT

- SURGE PROTECTION DEVICE CONNECTED TO RADIO ANTENNAS EXTEND GROUND WIRE FROM UNIT TO LIGHTING PROTECTION SYSTEM.



DATA LINE SURGE SUPPRESSOR - DLSP

- SHALL BE UTILIZED FOR SURGE PROTECTION OF THE LAN FEED FROM SWITCH
- SHALL BE GROUNDED TO 5 OHM GROUND PLATE
- SHALL BE LOCATED WITHIN 6 FEET OF MCU

ALERTING SYSTEM OVERVIEW PLEASE READ

Most contractors are unfamiliar with what the Alerting System is and the capabilities of the system: This overall function of the alerting system is to reduce the response time of the received calls from 15 to 45 seconds using visual and audio alerts for dispatched units. This system is installed as a large communication loop utilizing CAT 5 cabling with very limited connections to the existing building.

There are several common questions that are generally asked during the rough in stages for our system:

Does the back box specified need to be a Hoffman Brand - Part #43050 - Cat #A-SEBX10X4 for Dorm Remotes (DR) and Satellite Controllers (SC)? YES, the mounting flanges for these devices specifically made for this type of box. This eliminates re-tapping of the box and quicker installation time.

Can power receptacles be relocated? YES, at a maximum of six (6) feet from plan indication.

Can conduit differ from plans? NO, the routing of the conduit is very specific and is the link from device to device creating the over all communication loop.

There is a spacing conflict with the Dorm Remote (DR), Thermostat, Light Switch, and Telephone location next next to the door jamb. Can this be relocated? YES, this can be moved away from the door jamb, generally between the light switch and thermostat is most common, for the occupants to monitor their dispatched calls. Refer to notes on AS.01. The mounting flange will require 18" space between light switch and next device for the horizontally mounted Hoffman back box.

Can devices be relocated? YES, but at a maximum of six (6) feet. Please keep in mind of equal spacing of devices for an even audio and visual coverage; this is important when announcing dispatched calls, Also, the cabling is pre-manufactured and is designated for that device. Relocation of devices at more than six (6) feet from indicated location will need approval by Westnet.

How is the Hoffman Brand - Part #43050 - Cat #A-SEBX10X4 boxes to be mounted? For Dorm Remotes (DR), the back box is to mount horizontally, 10" wide and 8" tall, recessed 1/8" into the sheetrock wall, at 48" to centerline, above finished floor. The mounting flange covers the back box opening and pulls flush against the sheetrock.

For Satellite Controllers (SC), that is to be mounted into sheetrock ceilings, the back box will run. the 10" side, with the length of the room, in the center, free from obstructions, avoiding other trades, recessed 1/8" into sheetrock, and mounted at a maximum of 15' above finished floor. Back boxes installed in open areas will be mounted at a maximum of 15' above finished surface, free from obstructions, avoiding other trades, recessed 1/8" into sheetrock, and mounted at a maximum of 15' above finished floor. Back boxes installed in open areas will be mounted at a maximum of 15' above finished surface, free from obstructions, with length of room, and visible from all points in the rooms. Westnet does not assume the responsibility for poor installation of back boxes. Refer to notes on AS.01.

What is the function of the Control Remote (CR)? This device can perform multiple functions, opening apparatus bay doors, gates, corridor lighting, etc. Any equipment that shows to be connected that are to be controlled by the CR will need a control voltage of 24 Volts that is NOT supplied by Westnet. The terminal rating is a maximum of 24V on the CR.

What is the MCU? This is the brains of the system. Received calls go thru this device and are announced throughout the system. This is most commonly the only connection that is made to the existing communications. This is to be located within six (6) feet of the dispatch radio in watch room or communication center of station.

These are just a few of the issues that you may have questions about.
There is to be no alteration of the system without the approval of Westnet.

If there are more questions or concerns about the rough in for installation, please call 1-800-807-1700

GENERAL CONTRACTOR SCOPE OF WORK INCLUDES INSTALLATION OF CONDUIT, J-BOXES WITH PULL ROPE AND IDENTIFICATION.

GENERAL CONTRACTOR TO PROVIDE 120V OUTLET WITH INDICATED ON PLAN BY SYMBOL OR NOTATION.

ALL OTHER EQUIPMENT PROVIDED AND INSTALLED BY WESTNET.

PLEASE VERIFY/COORDINATE WITH WESTET AND FIRE DEPARTMENT PRIOR TO INSTALLATION

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REV	REVISION	DATE	BY

ALERT SYSTEM

PROJECT NAME:
SAN BERNARDINO COUNTY
FIRE STATION # 227
180 W. 38TH STREET
SAN BERNARDINO, CA 92405

NOTE:
IF THIS SCALE IS NOT 1"
THIS SHEET IS NOT TO SCALE.

DATE: 11/15/2024
DRAWN BY:: EV
SCALE: N.T.S.
TITLE: DEVICE DETAILS
SHEET
AS4.1

STK
42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0J202

CIP #22-105

CAFM #

APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:

SHEET TITLE:
FIRE ALERT
SYSTEM
AS4.1

SHEET NO.:
DATA
2.3

Plotted: 12/20/2024 9:57:57 PM By: Edwin Vasquez
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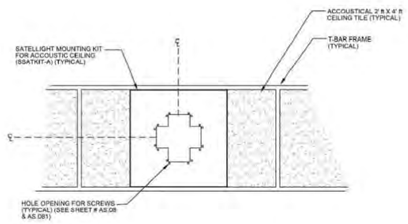
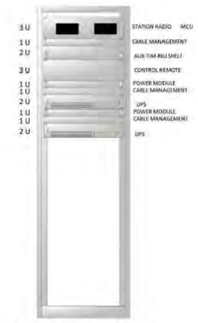


ID 929 **SSATKIT-A** **Satellight Mounting Kit - Acoustic Ceiling (A-Kit)**

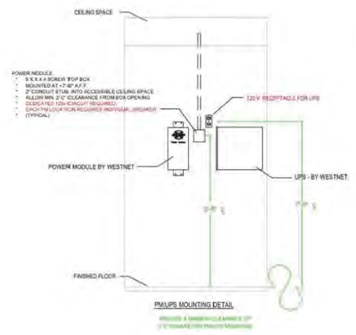


Note:
Kit used for mounting on drop-tile ceilings. Compatible products include:
1. Satellight Controllers 2. Satellights 3. Dorm lights

03 TYPICAL T-BAR PANEL INSTALLATION
N.T.S.



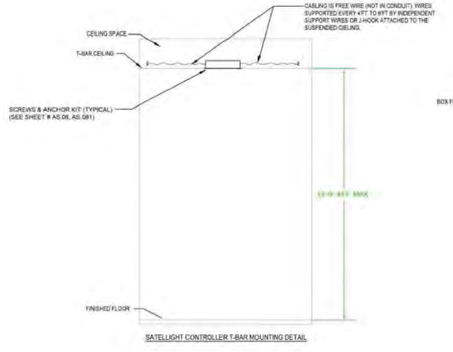
TYPICAL LAYOUT
01 SMART STATION RACK DIAGRAM
N.T.S.
RACK PROVIDED BY OTHERS



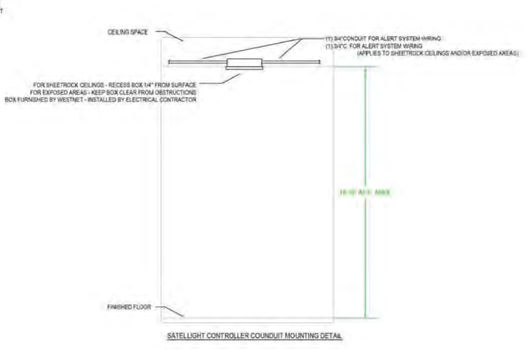
PM/UPS MOUNTING DETAIL

PM/UPS POWER MODULE AND UPS

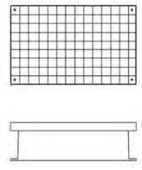
- POWER MODULES SHALL SUPPLY THE SMART STATION CAT 5 PRIMARY ALARM NETWORK WITH 24 VOLTS DC OUTPUT.
- THE POWER MODULE SHALL BE CENTERED TO THE FIRE STATION RADIO, THE PRINTER, MASTER CONTROL UNIT.
- AND THE DATA TERMINAL CONTROL UNIT IF THE FIRE STATION IS ETHERNET DISPATCHED.
- SHALL SUPPLY SYNTHESIZED 115 VAC POWER THAT IS PROTECTED FROM THE POWER GRID BY AN ON-LINE CONVERTER.
- SHALL SENSE POWER LOSS AND NOTIFY THE MASTER CONTROL UNIT OF ANY OUTAGE.
- LED STATUS INDICATORS SHALL SHOW FIRE PERSONEL THE MODULE POWER STATUS.
- STANDARD AGC POWER FUSES SHALL BE CHANGEABLE BY FIRE STATION PERSONNEL.
- EACH POWER SUPPLY SHALL BE ACCOMPANIED BY AN UNINTERRUPTIBLE POWER SUPPLY WITH CAPACITY TO RUN THE SYSTEM AT FULL OPERATION FOR (60) MINUTES



SATELLIGHT CONTROLLER T-BAR MOUNTING DETAIL



SATELLIGHT CONTROLLER COUNDUIT MOUNTING DETAIL



03 SATELLIGHT CONTROLLER - SC
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS

SATELLIGHT SPEAKER - S
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS

SC SATELLIGHT CONTROLLER

KSC KNIGHT LITE SATELLIGHT CONTROLLER

- SHALL OPERATE ON A CAT 5 SMART STATION PRIMARY ALARM NETWORK, WHICH IS DRIVEN FROM THE MCU.
- OPERATE INDEPENDANTLY OR DRIVE UP TO (3) OR (4) DEVICES DEPENDING UPON THE LOCATION IN THE FIRE STATION.
- AUDIO OUTPUT SHALL BE CONTROLLED BY SOFTWARE FROM THE MASTER CONTROL UNIT.
- AUDIO OUTPUT SHALL BE ADJUSTABLE ACROSS A (60) DECIBAL RANGE.
- SHALL BE CAPABLE OF INTELLIGENT SENSING AND CONTROL OF FIRE STATION SYSTEMS AND EQUIPMENT. CONTROLLER SHALL UTILIZE BI-DIRECTIONAL DATA THROUGHOUT THE SMART STATION NETWORK AND EXTEND CAPABILITY TO THE FIRE DEPARTMENT DPATCH CENTER.
- SHALL BE MOUNTED IN THE CEILING TO PROVIDE ALARM COVERAGE THROUGHOUT THE STATION.
- ACOUSTICAL CEILING MOUNTING SECURES THE DEVICE TO THE T-BAR RAILS AND THE SUPERSTRUCTURE OF THE BUILDING
- DRYWALL AND PLASTER CEILING MOUNTING HARDWARE SHALL UTILIZE METAL HARDWARE THAT IS COLOR MATCHED TO THE LAMP ASSEMBLY.

S SATELLIGHT, SPEAKER/LED LIGHT

KS KNIGHT LITE SATELLIGHT, SPEAKER/LED LIGHT

- SHALL OPERATE ON A CAT 5 ALARM SUBNETWORK, WHICH IS DRIVEN FROM A DEVICE CONTROLLER.
- AUDIO OUTPUT FROM THE DEVICES SHALL BE SET BY THE SOFTWARE FROM THE CONTROLLER.
- AUDIO OUTPUT SHALL BE ADJUSTABLE ACROSS A (60) DECIBLE RANGE.
- THE LIGHTING OUTPUT SHALL INCREASE AUTOMATICALLY DURING THE FIRST FEW SECONDS OF THE ALARM SEQUENCE.
- SHALL BE MOUNTED IN CEILING TO PROVIDE ALARM COVERAGE THROUGHOUT THE STATION.
- ACOUSTICAL CEILING MOUNTING SECURES THE DEVICE TO THE T-BAR RAILS AND THE SUPERSTRUCTURE OF THE BUILDING.
- DRYWALL AND PLASTER CEILING MOUNTING HARDWARE INSTALLS DEVICES INTO THESE CEILINGS.

GENERAL CONTRACTOR SCOPE OF WORK INCLUDES INSTALLATION OF CONDUIT, J-BOXES WITH PULL ROPE AND IDENTIFICATION.

GENERAL CONTRACTOR TO PROVIDE 120V OUTLET WITH INDICATED ON PLAN BY SYMBOL OR NOTATION.

ALL OTHER EQUIPMENT PROVIDED AND INSTALLED BY WESTNET.

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HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3567 FAX: (714) 895-5810
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REV	REVISION	DATE	BY

FIRE ALERT SYSTEM

PROJECT NAME:
SAN BERNARDINO COUNTY
FIRE STATION # 227
180 W. 38TH STREET
SAN BERNARDINO, CA 92405

NOTE:
IF THIS SCALE IS NOT 1"
THIS SHEET IS NOT TO SCALE.

DATE: 11/15/2024
DRAWN BY: EV
SCALE: N.T.S.
TITLE: DEVICE DETAILS
SHEET
AS4.2

STK
42085 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10J0J202
CIP #22-105
CAFM #
APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

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9-11-24	DDs
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:

SHEET TITLE:
FIRE ALERT
SYSTEM
AS4.2

SHEET NO.:
DATA
2.4

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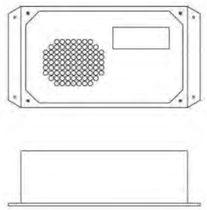
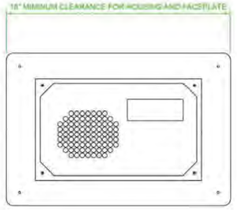
12/19/2024 4:08PM





DORM REMOTE WITH ATTACHED FACEPLATE

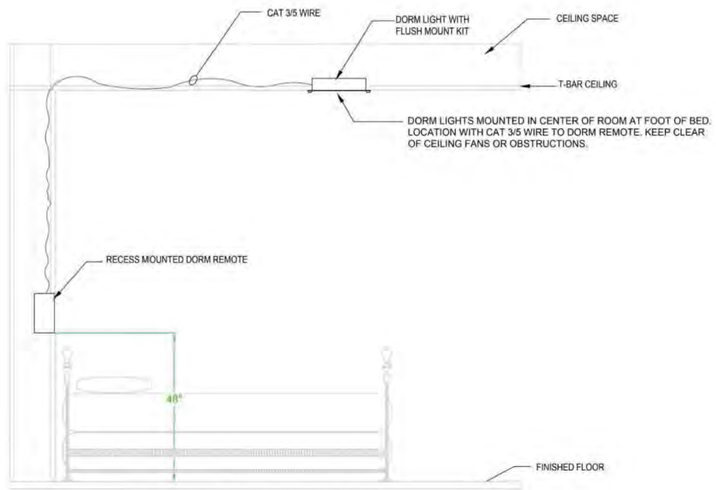
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS

01 DORM REMOTE - DR
N.T.S.

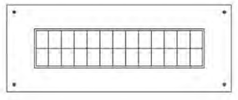
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS

DR DORM REMOTE WITH LIGHT

- SPEAKER/LIGHT DEVICES SHALL BE FIREFIGHTER PROGRAMMED TO ACTIVATE ON ALL ALARMS STARTING AT SHIFT CHANGE.
- THE DEVICE AUDIO SHALL BE ADJUSTED OVER A (60) DECIBLE RANGE IN (1) DECIBLE INCREMENTS TO AID IN THE REDUCTION OF AUDIBLE SHOCK THAT OCCURS WHEN THE FIREFIGHTER AWAKENS TO AN ALARM.
- THE LIGHTING SHALL INCREASE DURING THE FIRST FEW SECONDS OF THE ALARM SEQUENCE TO REDUCE OPTICAL SHOCK UPON AWAKENING.
- THE LIGHT OUTPUT SHALL BE ADJUSTABLE BY EACH FIREFIGHTER.
- INSTALLED WITH VISIBLE FRONT DISPLAY PANEL AND SPEAKER TOWARD THE SLEEPING AREA.
- MUST BE MOUNTED 2'-0" FROM HEAD OF BED IF LOCATED BY DOOR JAMB AND/OR SWITCHES
- THE TWO-LINE DISPLAY SHALL BE USED FOR DISPLAYING TEXT MESSAGING.
- THE DEVICE SHALL OPERATE UP TO (4) COMBINATION SPEAKER/LED LIGHT DEVICES FOR ZONE CONTROLLED SLEEP AREAS.
- THE DEVICE SHALL BE DESIGNED TO BE WALL OR ROOM DIVIDER MOUNTED AT (2) FEET ABOVE THE HEAD OF THE BED TO PROVIDE ILLUMINATION FOR THE BED AND THE FLOOR.
- THE DEVICE CAN BE SURFACE MOUNTED.
- ALL CONNECTIONS SHALL BE MODULAR PLUGS ENABLING RELOCATION OF DORM REMOTE WITH MINIMUM EFFORT.



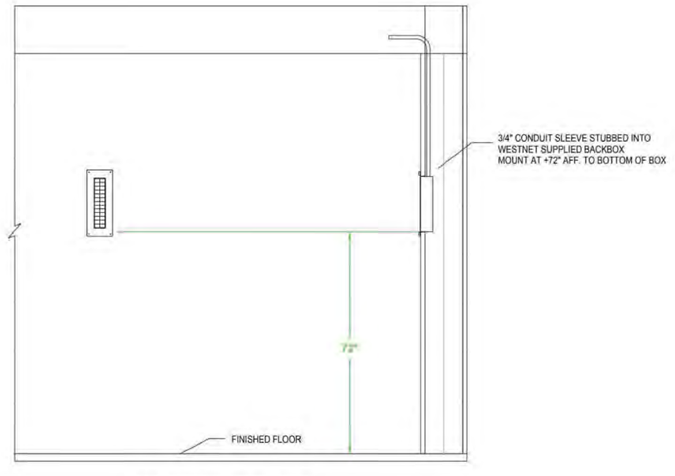
DORM REMOTE / DORM LIGHT MOUNTING DETAIL



DORM LIGHT - DL

02 FSAS WALL LITE
N.T.S.

RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS



FSAS DORM LIGHT STROBE LAYOUT

GENERAL CONTRACTOR SCOPE OF WORK INCLUDES INSTALLATION OF CONDUIT, J-BOXES WITH PULL ROPE AND IDENTIFICATION.

GENERAL CONTRACTOR TO PROVIDE 120V OUTLET WITH INDICATED ON PLAN BY SYMBOL OR NOTATION.

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15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5610
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REV	REVISION	DATE	BY

FIRST IN

ALERT SYSTEM

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE STATION # 227
180 W. 38TH STREET
SAN BERNARDINO, CA 92405

NOTE:
IF THIS SCALE IS NOT 1":
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DATE: 11/15/2024
DRAWN BY: EV
SCALE: N.T.S.
TITLE: DEVICE DETAILS
SHEET
AS4.3

STK
42395 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.9379 Email: stk@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #22-105
CAFM #
APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9-11-24	DDs
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: –
DRAWING NAME:

SEAL:

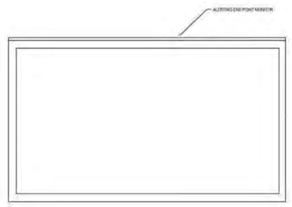
SHEET TITLE:
FIRE ALERT SYSTEM
AS4.3

SHEET NO.:
DATA
2.5

12/19/2024 4:42:PM J:\STK\PROJECTS\105-Fire Station No 227\Architect\pro\STK2.3 FS227 FIRE ALERT SYSTEM.rvt

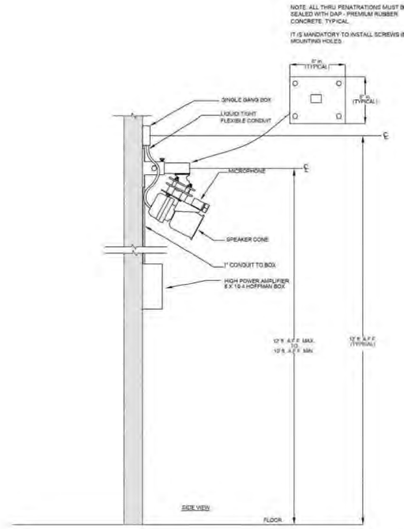
AEP ALERTING END POINT MONITOR - (SIZE VARIES)

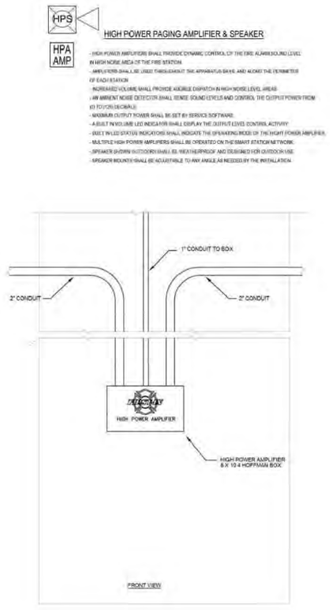
- SHALL DI TEXT AND GRAPHICS IMAGING SCANS THAT ARE CONTROLLED FROM THE MASTER CONTROL UNIT IN A SMART STATION SYSTEM.
- SHALL BE USED TO DISPLAY THE CONFIRMED ANNUNCIATED CALL AND ADDITIONAL INFORMATION SUCH AS THE ADDRESS OF THE CALL, HYDRANT OUTAGES NEAR THE CALL OR HAZMAT INFORMATION ASSOCIATED WITH THE ADDRESS OF THE CALL.
- CHARACTER PIXELS SHALL UTILIZE COLOR LIMITERS TO ENSURE A TOTAL OF 65 SHADES OF MESSAGES.
- SHALL BE DRIVEN BY THE SMART STATION CAT 6 NETWORK.
- SHALL DISPLAY SILENT, CONFIDENTIAL MESSAGES RECEIVED FROM THE MCH RESPONDING TO A MESSAGE ZONE COMMAND.
- SHALL PROVIDE ALERTING INFORMATION THAT IS TOTALLY REMOVE FROM HIGH NOISE LEVELS OF APPARATUS ROOMS AND APPARATUS FACILITIES.



ALERTING END POINT - TOUCH SCREEN

01 ALERTING END POINT MONITOR
N.T.S.





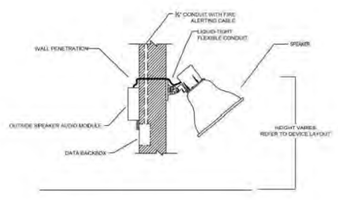
HPS
HPA
AMP

HIGH POWER PAGING AMPLIFIER & SPEAKER

- HIGH POWER AMPLIFIERS SHALL PROVIDE DYNAMIC CONTROL OF THE FIRE ALARM SOUND LEVEL IN HIGH NOISE AREA OF THE FIRE STATION.
- AMPLIFIERS SHALL BE LINED THROUGHOUT THE APPARATUS BAYS, AND ALONG THE PERIMETER OF EACH STATION.
- INCREASED VOLUME SHALL PROVIDE AUDIBLE EMPHASIS IN HIGH NOISE LEVEL AREAS.
- AMBIENT NOISE DETECTION SHALL SENSE SOUND LEVELS AND CONTROL THE OUTPUT POWER FROM (1) TO (10) DECIBALS.
- MAXIMUM OUTPUT POWER SHALL BE SET BY SERVICE SOFTWARE.
- A BUILT IN VOLUME LED INDICATOR SHALL DISPLAY THE OUTPUT LEVEL CONTROL ACTIVITY.
- BUILT IN LED STATUS INDICATIONS SHALL INDICATE THE OPERATING MODE OF THE HIGH POWER AMPLIFIER.
- MULTIPLE HIGH POWER AMPLIFIERS SHALL BE CREATED ON THE SMART STATION NETWORK.
- SPEAKER SHOWN OUTDOOR SHALL BE HIGH EFFICIENCY AND DESIGNED FOR OUTDOOR USE.
- SPEAKER MOUNTS SHALL BE ADJUSTABLE TO ANY ANGLE AS RECESSED BY THE INSTALLATION.

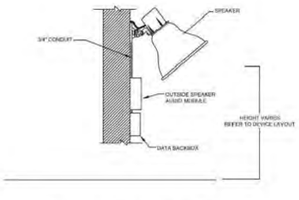
01 HIGH POWER AMPLIFIER AND INTERIOR SPEAKER
N.T.S.





02 OUTSIDE SPEAKER AUDIO MODULE - EXTERIOR
N.T.S.





03 OUTSIDE APEAKER AUDIO MODULE - INTERIOR
N.T.S.

GENERAL CONTRACTOR SCOPE OF WORK INCLUDES INSTALLATION OF CONDUIT, J-BOXES WITH PULL ROPE AND IDENTIFICATION.

GENERAL CONTRACTOR TO PROVIDE 120V OUTLET WITH INDICATED ON PLAN BY SYMBOL OR NOTATION.

ALL OTHER EQUIPMENT PROVIDED AND INSTALLED BY WESTNET.

PLEASE VERIFY/COORDINATE WITH WESTET AND FIRE DEPARTMENT PRIOR TO INSTALLATION.

WESTNET.
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX: (714) 901-5610
www.FirstAlerting.com

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REV	REVISION	DATE	BY

FIRST ALERT

ALERT SYSTEM

PROJECT NAME: SAN BERNARDINO COUNTY FIRE STATION # 227
180 W. 38TH STREET
SAN BERNARDINO, CA 92405

NOTE: IF THIS SCALE IS NOT 1" THIS SHEET IS NOT TO SCALE.

DATE: 11/15/2024
DRAWN BY: EV
SCALE: N.T.S.
TITLE: DEVICE DETAILS
SHEET
AS4.4

STK
42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.6079 Email: elk@stkad.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.01.202
CIP #22-105
CAFM #
APN Part of 015-428I-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
9-11-24	D.D.s
10-26-24	PROGRESS
12-20-24	95% CDs

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
FIRE ALERT SYSTEM
AS4.4

SHEET NO.:
DATA
2.6

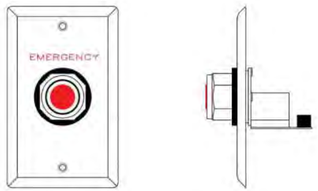
12/19/2024 4:51PM
J:\374-193\PROD\374-193-24 Fire Station No 227\Architecture\374-193-24 FIRE ALERT SYSTEM.dwg



DB DOORBELL - DB
N.T.S.

DB DOORBELL

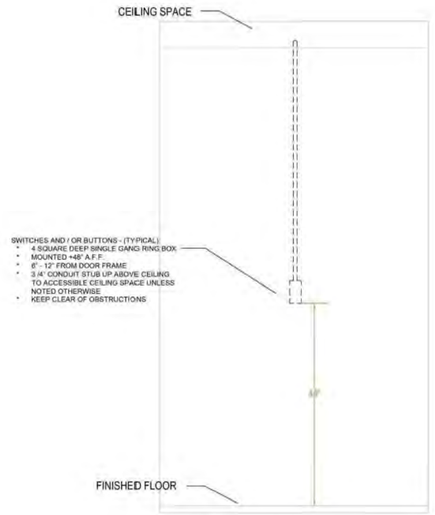
- SHALL NOTIFY PERSONNEL OF VISITOR ON FIRE STATION GROUNDS.
- NOTIFICATION OF VISITOR SHALL BE RELAYED TO DISPATCH CENTER.
- SHALL NOTIFY FIRE PERSONNEL AT WHICH DOOR THE VISITOR IS WAITING.
- SHALL PROVIDE BOTH AUDIBLE AND VISUAL NOTIFICATION OF DOORBELL ACTIVATION.
- PROVIDE CUSTOMIZED MESSAGES AND ALERT TONES.



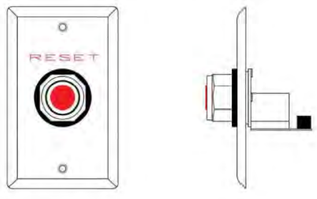
EMERGENCY BUTTON - EB
N.T.S.

EB EMERGENCY BUTTON

- SHALL NOTIFY PERSONNEL OF EMERGENCY ON FIRE STATION GROUNDS.
- SHALL ENABLE THE FIRE FIGHTER TO ANSWER THE DOOR AND ATTEND TO THE PROBLEM IMMEDIATLY.
- SHALL NOTIFY DISPATCH CENTER OF INCIDENT OCCURANCE AT THE FIRE STATION.
- SHALL PROVIDE BOTH AUDIBLE AND VISUAL NOTIFICATION OF AN EMERGENCY.
- PROVIDE CUSTOMIZED MESSAGES AND ALERT TONES.



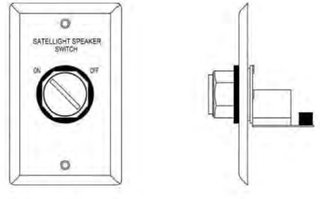
SWITCH/BUTTON MOUNTING DETAIL (TYP.)



RESET BUTTON - RB
N.T.S.

RB RESET BUTTON

-RESETS APPLIANCE CONTROLLER DEVICE
- SHALL BE WITHIN CLOSE DISTANCE TO APPLIANCE CONTROLLER DEVICE



SPEAKER SWITCH - SW
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

SW SPEAKER SWITCH

- SHALL BE UTILIZED TO CONTROL THE ACTIVE/INACTIVE OPERATION OF THE SATELLIGHT CONTROLLER IN ROOM (COMBINATION SPEAKER/LED LIGHT DEVICE).

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REV	REVISION	DATE	BY

ALERT SYSTEM

PROJECT NAME:
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180 W. 38TH STREET
SAN BERNARDINO, CA 92405

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DRAWN BY: EV
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TITLE: DEVICE DETAILS
SHEET
AS4.5

STK
42685 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780
Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@stkinc.com

CONSULTANT:

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY FIRE DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #22-105
CAFM #
APN Part of 015-428-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

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SHEET NO.:
DATA
2.7