MODULAR DRAWINGS

ARCHITECTURAL

SA001	COVER SHEET
SA100	FLOOR PLAN
SA101	ENLARGED FLOOR PLAN
SA102	STRIPING FLOOR PLAN-BASKETBALL
SA103	STRIPING FLOOR PLAN-VOLLEYBALL
SA104	DIMENSION FLOOR PLAN
SA105	SIGNAGE & EXITING FLOOR PLAN
SA120	REFLECTED CEILING PLAN
SA130	INTERIOR ELEVATIONS
SA131	INTERIOR ELEVATIONS
SA132	INTERIOR ELEVATIONS
SA133	INTERIOR ELEVATIONS
SA200	EXTERIOR ELEVATIONS
SA201	EXTERIOR ELEVATIONS
SA300	ROOF PLAN
SA400	CROSS SECTION
SA800	SCHEDULES
SA801	SCHEDULES
A005	SPECIFICATIONS
A006	CAL GREEN BLDG STANDARDS 2019
A010	WALL ASSEMBLIES
A900	SIGNAGE DETAILS
A902	ACCESSIBLE DETAILS
A903	ACCESSIBLE DRINKING FOUNTAIN
A905	DETAILS
A906	DETAILS
A910	ROOFING DETAILS
A911	ROOFING DETAILS
A912	ROOFING DETAILS
A913	ROOFING DETAILS
A914	SINGLE PLY ROOFING DETAILS
A918	DOWNSPOUT-RAIN WATER LEADER DETAILS
A920	STUCCO FINISH DETAILS
A921	METAL SIDING DETAILS
A925	DOOR DETAILS
A926	WINDOW DETAILS

MECHANICAL

M001	MECHANICAL TITLE SHEET
M201	MECHANICAL FLOOR PLAN
M202	MECHANICAL ROOF PLAN
M501	MECHANICAL DETAILS
M503	MECHANICAL DETAILS
M504	MECHANICAL DETAILS
M505	MECHANICAL DETAILS
M701	MECHANICAL SPECIFICATIONS

PLUMBING

P001	PLUMBING TITLE SHEET
P101	PLUMBING FLOOR PLAN LOWER
P102	PLUMBING FLOOR PLAN UPPER
P103	PLUMBING ROOF PLAN
P501	PLUMBING DETAILS
P502	PLUMBING DETAILS
P503	PLUMBING DETAILS
P504	PLUMBING DETAILS
P510	PLUMBING SEISMIC BRACING DETAILS
P701	PLUMBING SPECIFICATIONS

ELECTRICAL

E-101	ELECTRICAL LEGEND AND ABBREVIATIONS
E-102	ELECTRICAL SPECIFICATIONS
E-103	ELECTRICAL SPECIFICATIONS
E-104	PHOTOMETRIC PLAN
E-201	ELECTRICAL PLAN
E-202	ELECTRICAL ROOF PLAN
E-301	LIGHTING PLAN
E-401	PARTIAL PLANS
E-511	ELECTRICAL DETAILS
E-512	ELECTRICAL DETAILS
E-513	ELECTRICAL DETAILS
E-601	DIAGRAMS - POWER
E-602	DIAGRAMS - LOW VOLTAGE
E-701	ELECTRICAL SCHEDULES

FIRE ALARM

FA-101	FIRE ALARM LEGEND AND ABBREVIATIONS
FA-102	FIRE ALARM SPECIFICATIONS
FA-201	FIRE ALARM PLAN
FA-202	FIRE ALARM ROOF PLAN
FA-511	FIRE ALARM DETAILS
FA-601	FIRE ALARM DIAGRAMS
FA-701	FIRE ALARM SCHEDULES & CALCULATIONS

ENERGY COMPLIANCE

T24-1	ENERGY COMPLIANCE
T24-2	ENERGY COMPLIANCE
T24-3	ENERGY COMPLIANCE
T24-4	ENERGY COMPLIANCE
T24-5	ENERGY COMPLIANCE
T24-6	ENERGY COMPLIANCE
T24-7	ENERGY COMPLIANCE
T24-8	ENERGY COMPLIANCE
T24-9	ENERGY COMPLIANCE

FIRE SPRINKLER

FP1.0	SITE PLAN, CROSS SECTION, DETAILS AND NOTES
FP1.01	FIRE SPRINKLER PLAN

STRUCTURAL

S001	STRUCTURAL COVER SHEET
S002	STRUCTURAL GENERAL NOTES
S101	FOUNDATION PLAN
S301	ROOF FRAMING PLAN
SD401	CONVENTIONAL FOUNDATION DETAILS
SD402	CONVENTIONAL FOUNDATION DETAILS
SD611	STRUCTURAL WALL FRAMING DETAILS
SD612	SHEAR WALL FRAMING DETAILS
SD613	MISCELLANEOUS WALL FRAMING DETAILS
SD711	PARAPET & CANOPY ROOF FRAMING DETAILS
SD721	ROOF FRAMING DETAILS
SD722	ROOF FRAMING DETAILS
SD723	ROOF FRAMING DETAILS

PROJECT DATA

SCOPE OF WORK: CONSTRUCTION OF (1) GYM BUILDING USING A SHEARWALL DESIGN.

BUILDING L 7,596sf

NEW MODULAR GYM - PIEDMONT MIDDLE SCHOOL

BERRYESSA UNION SCHOOL DISTRICT

FOR REFERENCE ONLY

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
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FAX: 707.542.7718

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PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

WILSON ARCHITECTURE, INC.
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LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP 30 2023
NO. C10851
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
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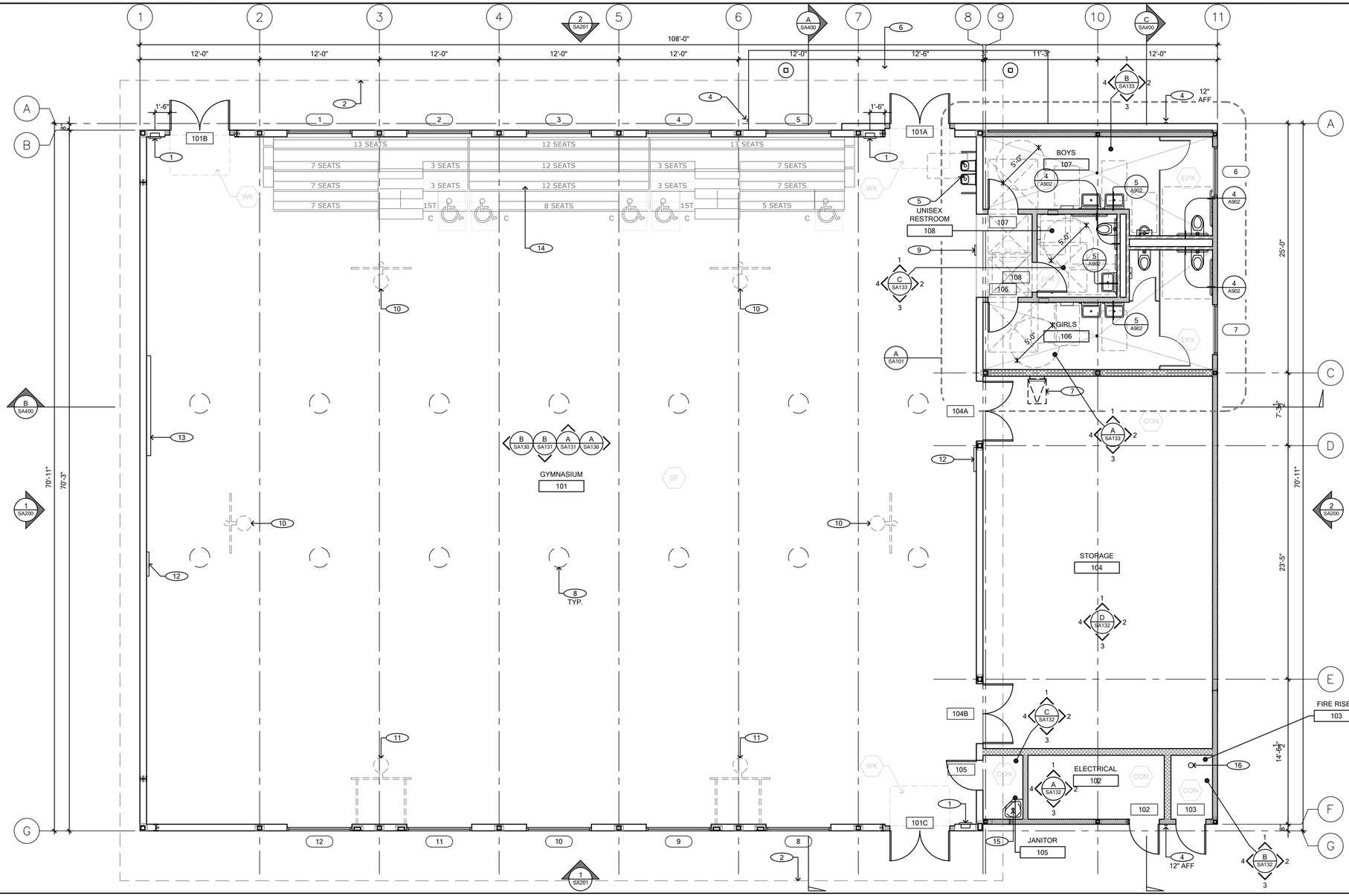
COVER SHEET

SA001



A FLOOR PLAN

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

WALL LEGEND

- 1 A010 / 2 A010 / 10 A010 — 8" EXTERIOR WALL ASSEMBLY.
- 1 A010 — 6" EXTERIOR WALL ASSEMBLY.
- 5 A010 — 8" NON-BEARING FULL HEIGHT WALL ASSEMBLY TO ROOF STRUCTURE.
- 5 A010 — 6" NON-BEARING FULL HEIGHT WALL ASSEMBLY TO ROOF STRUCTURE.
- 6 A010 — 4" NON-BEARING FULL HEIGHT WALL ASSEMBLY TO ROOF STRUCTURE.

LEGEND

30"x48" ACCESSIBLE CLEAR SPACE. NO PROJECTIONS IN CLEAR SPACE ALLOWED.

LEVEL LANDING, SEE 6 A902

DOOR, SEE 1 A925

WINDOW, SEE 1 A926

INDICATES FLOORING, SEE SA800 SCHEDULES

FLOOR PLAN KEY NOTES

		DETAIL REFERENCE
1	TYPE 2A-10BC FIRE EXTINGUISHER W/ VALID CERTIFICATION TAG IN WALL CABINET.	2 A905
2	OVERHANG.	
3	NOT USED	
4	ROOF DRAIN/OVERFLOW DRAIN, SEE PLUMBING DWGS.	
5	ACCESSIBLE DRINKING FOUNTAIN, SEE PLUMBING DRAWINGS. MOUNTED AT ADULT MOUNTING HEIGHT.	2A A903 / 1 A902 / 2 P504
6	CANOPY, SEE STRUCTURAL DRAWINGS.	
7	ROOF LADDER AND HATCH.	2 A906
8	TUBULAR SKYLIGHT.	11 A912
9	CLOCK, SEE INTERIOR ELEVATIONS.	
10	BASKETBALL STANDARD.	8 SD723
11	WALL MOUNTED BASKETBALL STANDARD.	9 SD613
12	SHOT CLOCK.	23 SD611
13	SCOREBOARD.	24 SD611
14	PRE-APPROVED TELESCOPING BLEACHERS, DEFERRED APPROVAL ITEM.	
15	WALL MOUNTED WATER HEATER ABOVE MOP SINK.	8 SD613
16	FIRE RISER, SEE FIRE SPRINKLER DRAWINGS.	

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SEP 30 2023
NO. C10851
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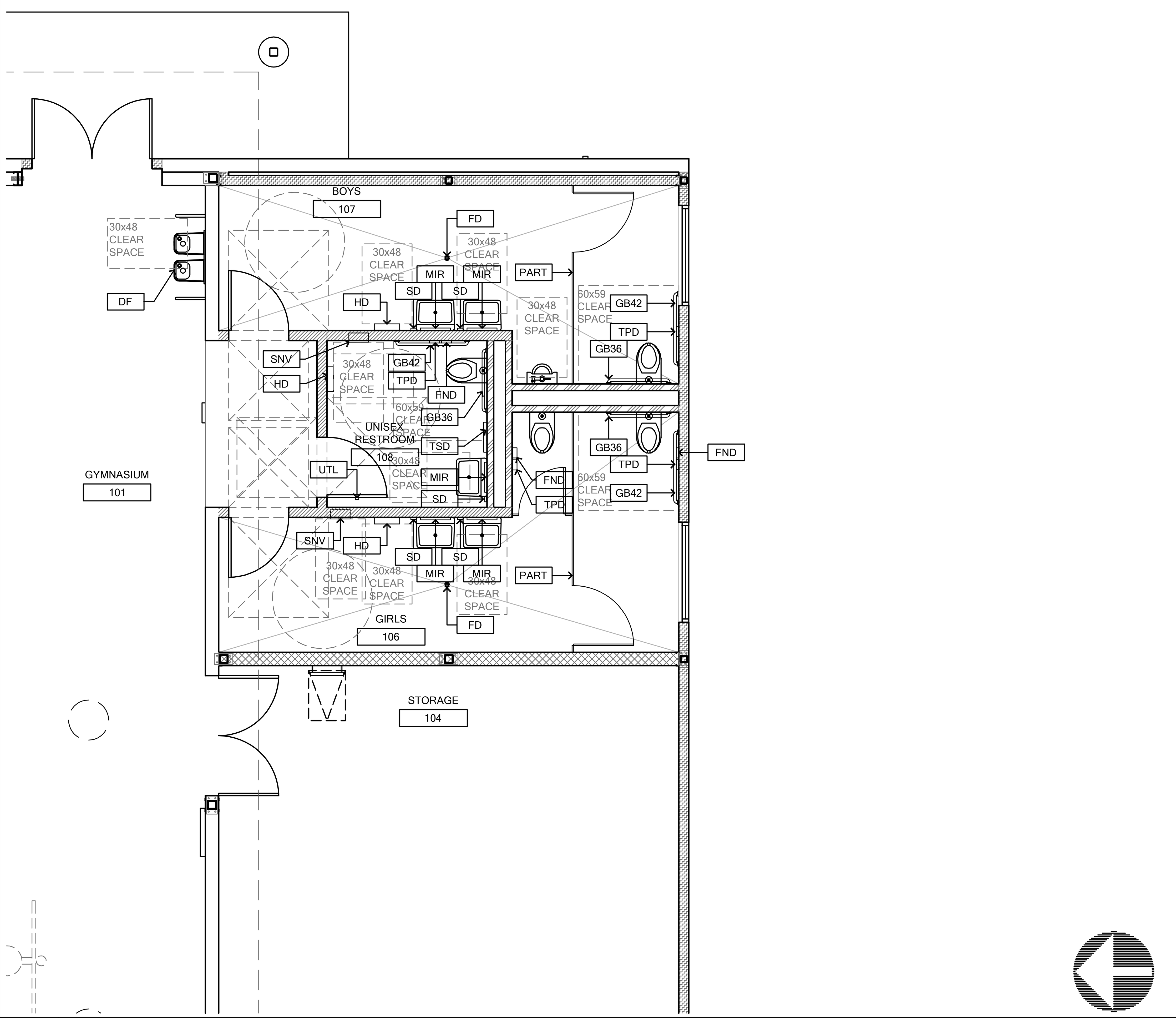
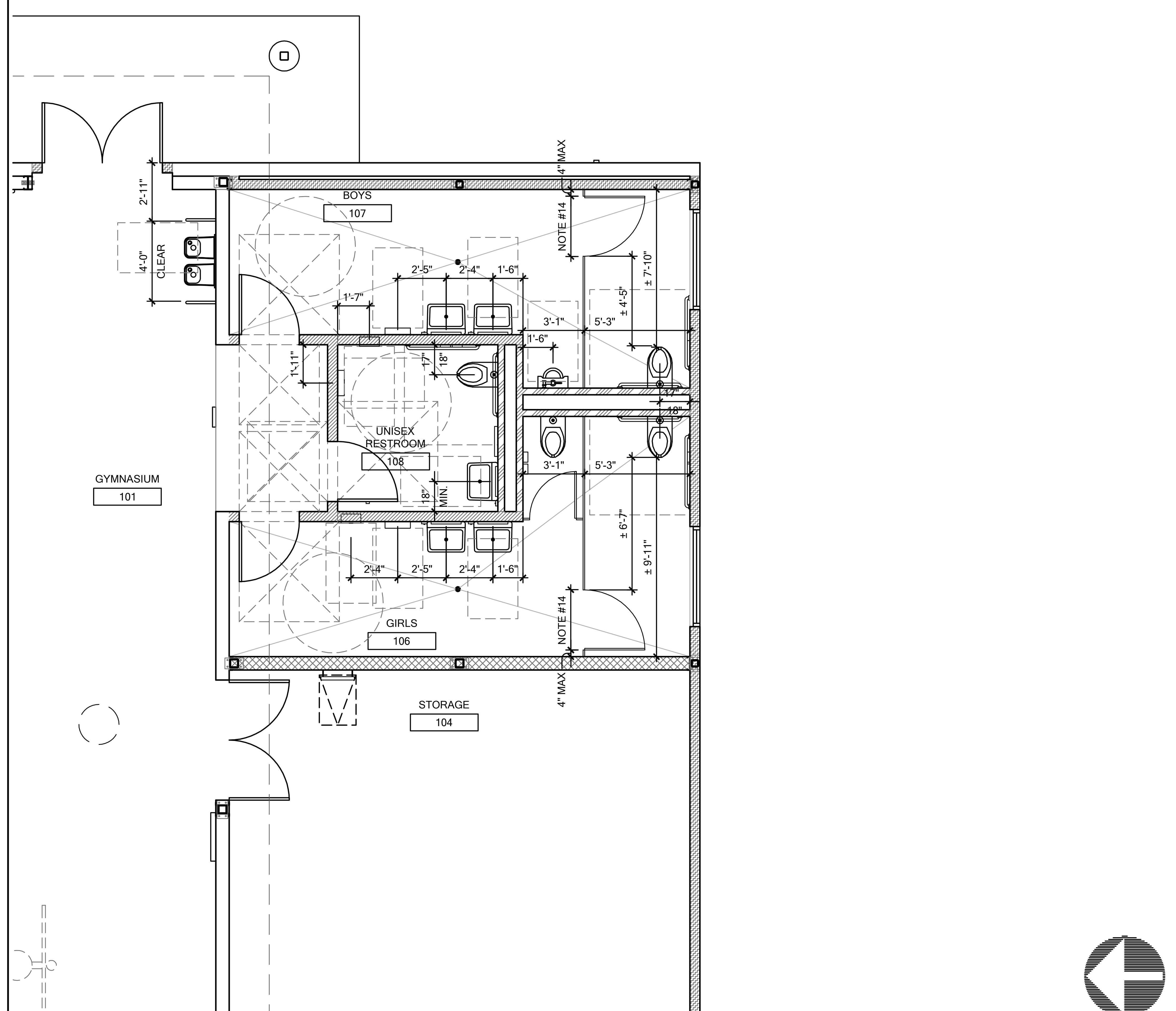
FLOOR PLAN

SA100



A ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"



B ENLARGED DIMENSION FLOOR PLAN
SCALE: 1/4" = 1'-0"

TOILET ACCESSORIES

TPD TOILET PAPER DISPENSER - BOBRICK B-2888, RECESSED MULTI-ROLL TOILET TISSUE DISPENSER.
TSD TOILET SEAT COVER DISPENSER - BOBRICK B-221, SURFACE MOUNTED SEAT-COVER DISPENSER.
SD SOAP DISPENSER - BOBRICK B-2111, SURFACE MOUNTED SOAP DISPENSER.
HD HAND DRYER - TO BE DETERMINED BY SCHOOL DISTRICT, MAX. PENETRATION INTO ROOM 4"
GB GRAB BARS - BOBRICK B-6806.99 SERIES 1-1/2" DIAMETER STAINLESS STEEL GRAB BARS WITH COVERS, 36" & 42" LONG AS INDICATED, SEE NOTE #12 THIS SHEET.
SND SANITARY NAPKIN DISPOSAL - BOBRICK B-254, SURFACE MOUNTED.
SNV SANITARY NAPKIN DISPENSER - BOBRICK B-37063, WALL MOUNTED SANITARY NAPKIN DISPENSER.
PART PARTITION - BOBRICK 1090, SEE 7/A906 FOR ATTACHMENT.
MIR MIRROR - BOBRICK B-290 (18x30), SEE 5/A906 FOR ATTACHMENT.
UTL UTILITY HOOK - BOBRICK B671, DOOR MOUNTED UTILITY HOOK.
FD FLOOR DRAIN, SEE PLUMBING DRAWINGS.
DF DRINKING FOUNTAIN, SEE 2A/A903 & PLUMBING DRAWINGS.
MS MOP SINK, SEE PLUMBING DRAWINGS.

NOTES

1. FOR ACCESSIBLE MOUNTING HEIGHTS, SEE 1/A902.
2. FOR KNEE CLEARANCES AT LAVATORY, SEE 5/A902. NO PROJECTIONS IN CLEAR SPACE ALLOWED.
3. FOR ACCESSIBLE GRAB BAR LAYOUT PLAN, SEE 4/A902.
4. FLUSH CONTROL ON WIDE SIDE OF TOILET.
5. EXPOSED PIPES TO BE INSULATED.
6. NO SHARP OR ABRASIVE EDGES ALLOWED.
7. TOE CLEARANCES AT PARTITIONS (9" MIN. FOR ADULTS & 12" FOR CHILDREN).
8. DOOR PULLS PER IIB-404.2.7 ON BOTH SIDES NEAR THE ACCESSIBLE LATCH.
9. DOOR CLOSURE SPEED TO BE PER IIB-404.2.8.
10. FOR DOOR THRESHOLD, SEE 1/A925.
11. PARTITION DOOR @ ACCESSIBLE & AMBULATORY STALLS TO BE SELF CLOSING.
12. MAINTAIN MIN. 1.5" CONTINUOUS CLEARANCE BELOW & 12" ABOVE GRAB BARS PER FIGURE IIB-609.3(A).
13. TOILET ACCESSORIES REQUIRED TO BE ACCESSIBLE SHALL BE MOUNTED AT HEIGHTS PER CBC SECTION 11B-601. THE GRAB BAR CAN NOT PROJECT MORE THAN 3" INTO THE 48" MINIMUM CLEAR SPACE IN FRONT OF THE WATER CLOSET, SEE 11B-609. TOILET PAPER AND FEMININE NAPKIN DISPENSER LOCATED ON THE GRAB BAR SIDE OF AN ACCESSIBLE TOILET STALL OR ROOM SHALL NOT PROJECT MORE THAN THE GRAB BAR. THE ACCESSORY SHALL NOT BE LOCATED CLOSER THAN 1-1/2" CLEAR OF THE TANGENT POINT OF THE GRAB BAR. ACCESSORIES SURFACE MOUNTED ABOVE THE GRAB BAR WILL RESTRICT USABILITY.
14. 34" MIN. CLEAR TO THE FACE OF DOOR WHEN OPEN @ 90° ON ACCESSIBLE STALL PARTITION DOOR.

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Berryessa Union School District

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NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP 30 2022
[illegible]
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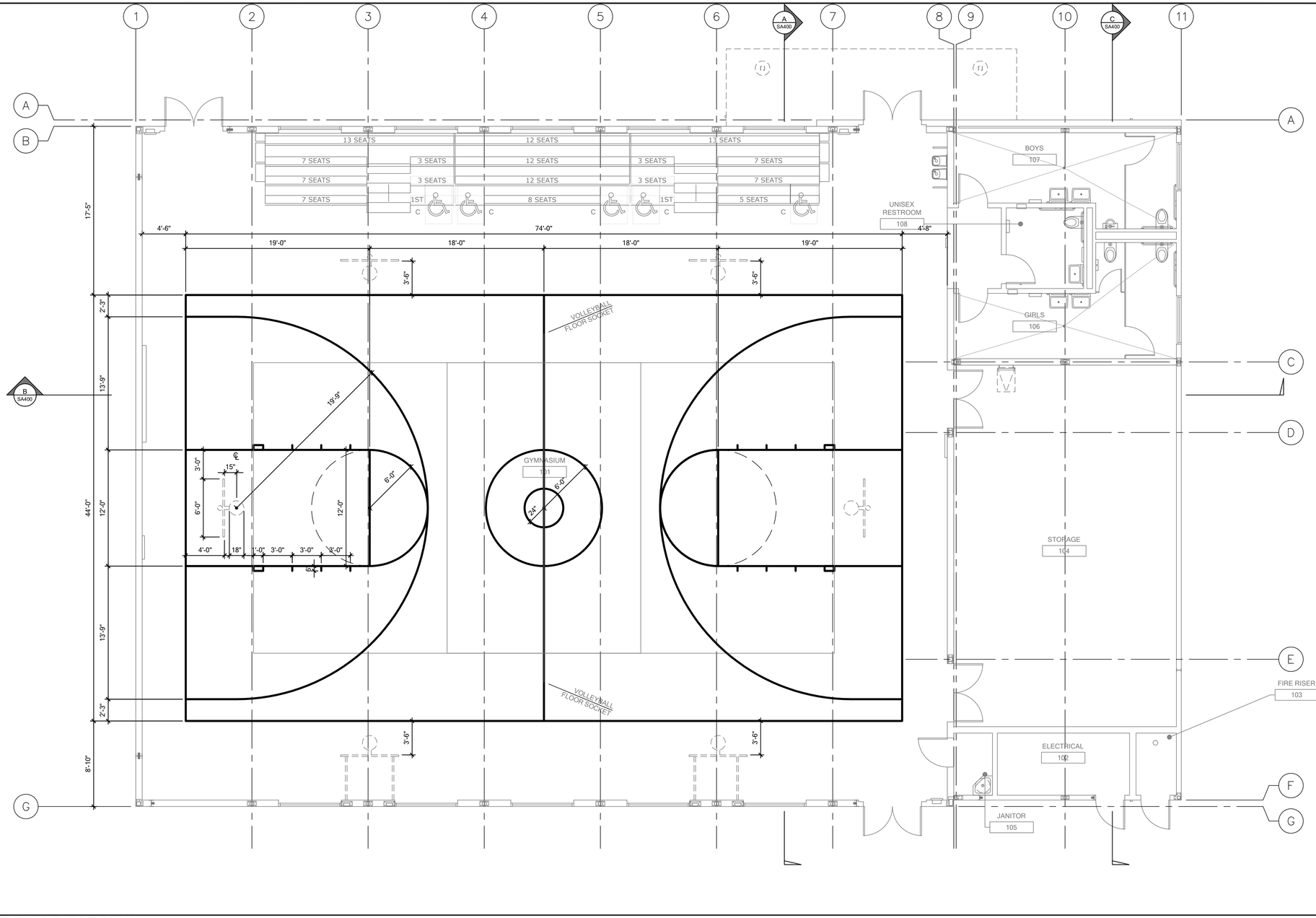
ENLARGED FLOOR PLAN
SA101



A STRIPING FLOOR PLAN

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

LEGEND

- 2" WIDE STRIPPING FOR BASKETBALL COURT
- 2" WIDE STRIPPING FOR VOLLEYBALL

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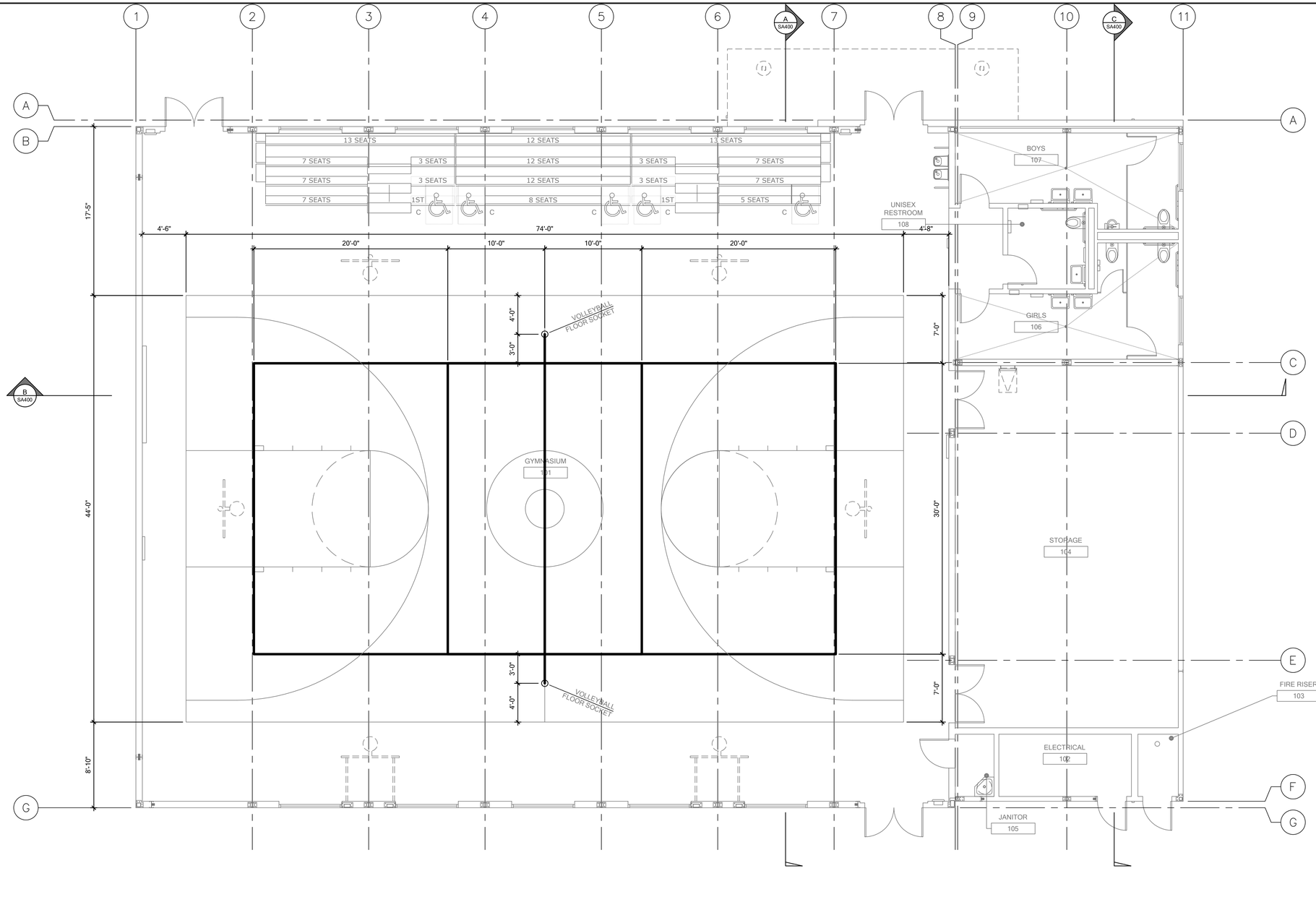
STRIPING FLOOR PLAN
BASKETBALL

SA102



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

LEGEND

2" WIDE STRIPPING FOR BASKETBALL COURT
2" WIDE STRIPPING FOR VOLLEYBALL

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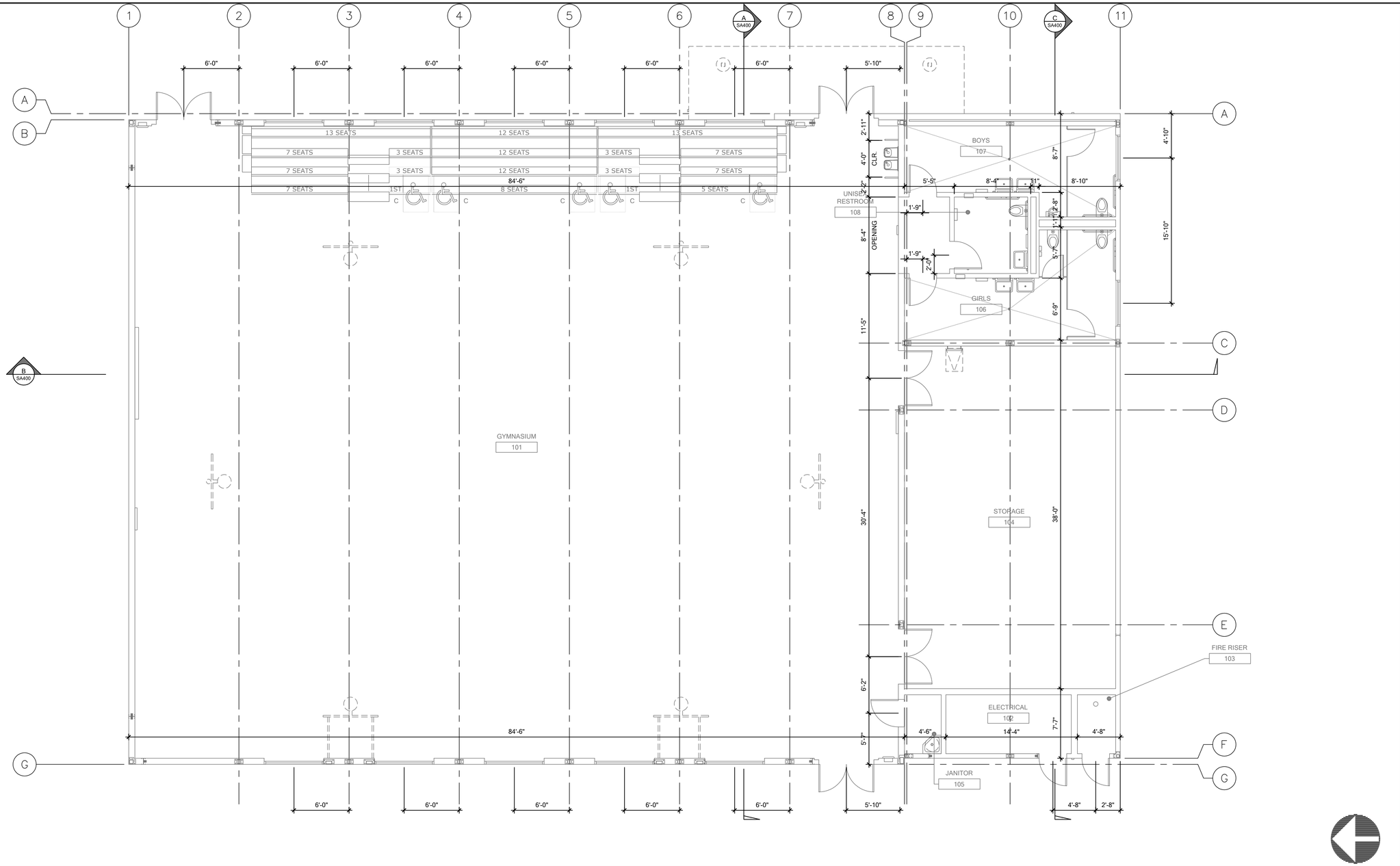
STRIPING FLOOR PLAN
VOLLEYBALL

SA103



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

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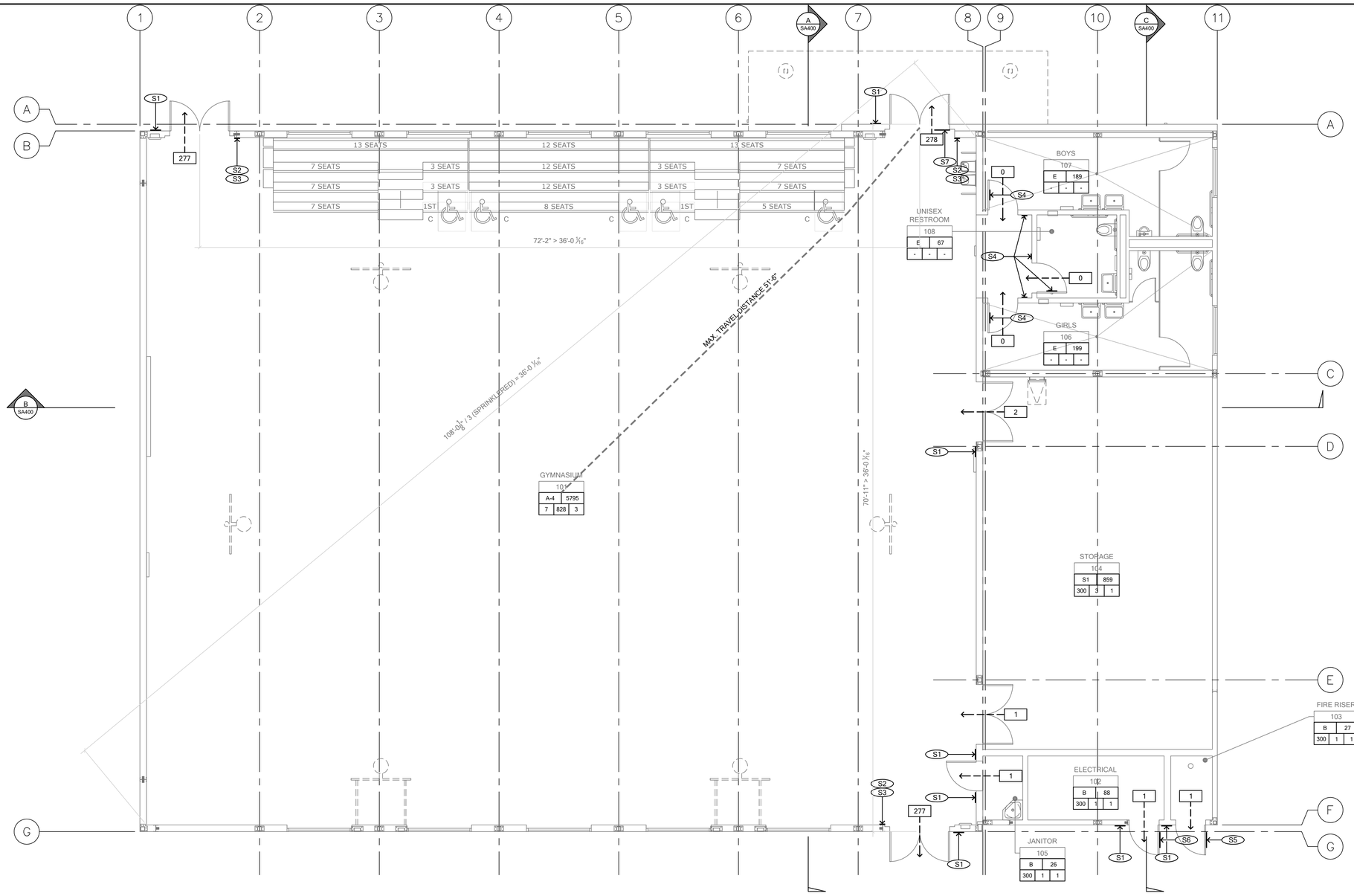
DIMENSION FLOOR PLAN

SA104



A SIGNAGE & EXITING FLOOR PLAN

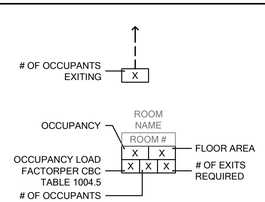
SCALE: 3/16" = 1'-0"

KEY NOTES

		DETAIL REFERENCE
S1	ROOM ID SIGN.	4 / A900
S2	EXIT SIGN.	5 / A900
S3	ASSISTED LISTENING SIGNAGE.	11 / A900
S4	RESTROOM ROOM ID & DOOR SIGNAGE.	6 / A900
S5	FIRE RISER ROOM DOOR SIGNAGE.	9 / A900
S6	ELECTRICAL ROOM DOOR SIGNAGE.	8 / A900
S7	MAXIMUM OCCUPANT LOAD SIGNAGE.	10 / A900

TOTAL OCCUPANT LOAD = 834 OCCUPANTS

ROOM #	OCC.
101	828
102	1
103	1
104	3
105	1
106	-
107	-
108	-
TOTAL	834



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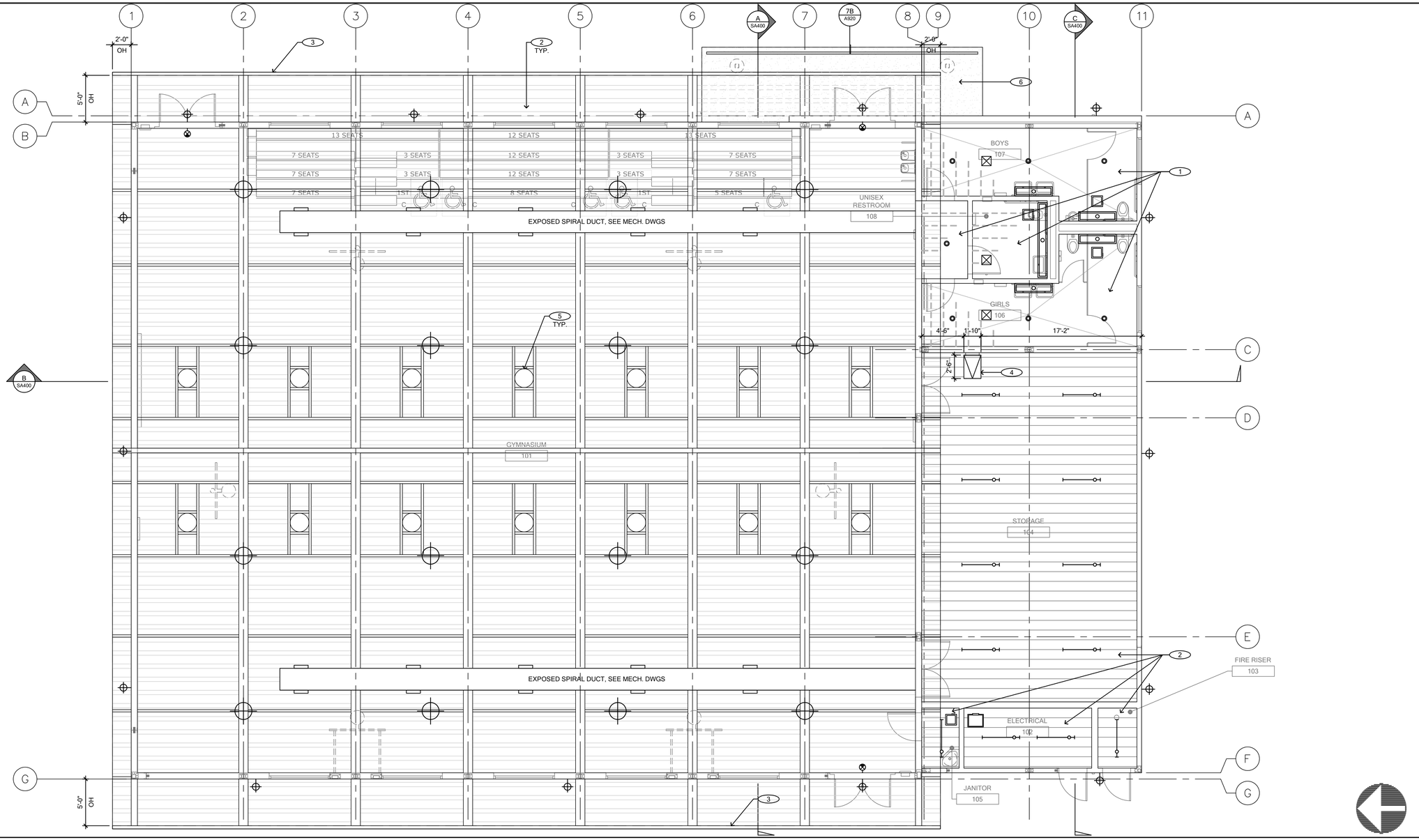
SIGNAGE & EXITING FLOOR PLAN SA105



A REFLECTED CEILING PLAN

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

KEY NOTES

		DETAIL REFERENCE
1	GYPSUM BOARD CEILING ON FRAMING.	5 / SD613
2	CEILING EXPOSED TO ROOF DECK.	
3	GUTTER & DOWNSPOUT.	4 / A911, 1 / A918, 6 / A918, 7B / A918, 2 / A906, 11 / A912, 7D / A920
4	ROOF LADDER AND HATCH.	
5	TUBULAR SKYLIGHT.	
6	CEMENT PLASTER SOFFIT.	

CEILING LEGEND

	DETAIL REFERENCE
GYPSUM BOARD ON FRAMING.	5 / SD613
CEILING EXPOSED TO ROOF DECK	
CEILING EXPOSED TO ROOF DECK.	
CEMENT PLASTER SOFFIT.	7D / A920
MECHANICAL REGISTERS & CLG. EXHAUST FANS, SEE MECH. DWGS.	
LIGHT FIXTURE, SEE ELECT. DWGS.	

SOFFIT VENT CALCULATIONS @ ENTRY CANOPY

226sf/150 = 1.51sf REQ'D

(.25)(29) [3" x 29'-0" "FRY" REGLET VENT] = 7.25' - (.50 OPEN AREA) = 3.63sf

3.63sf > 1.51sf...ok

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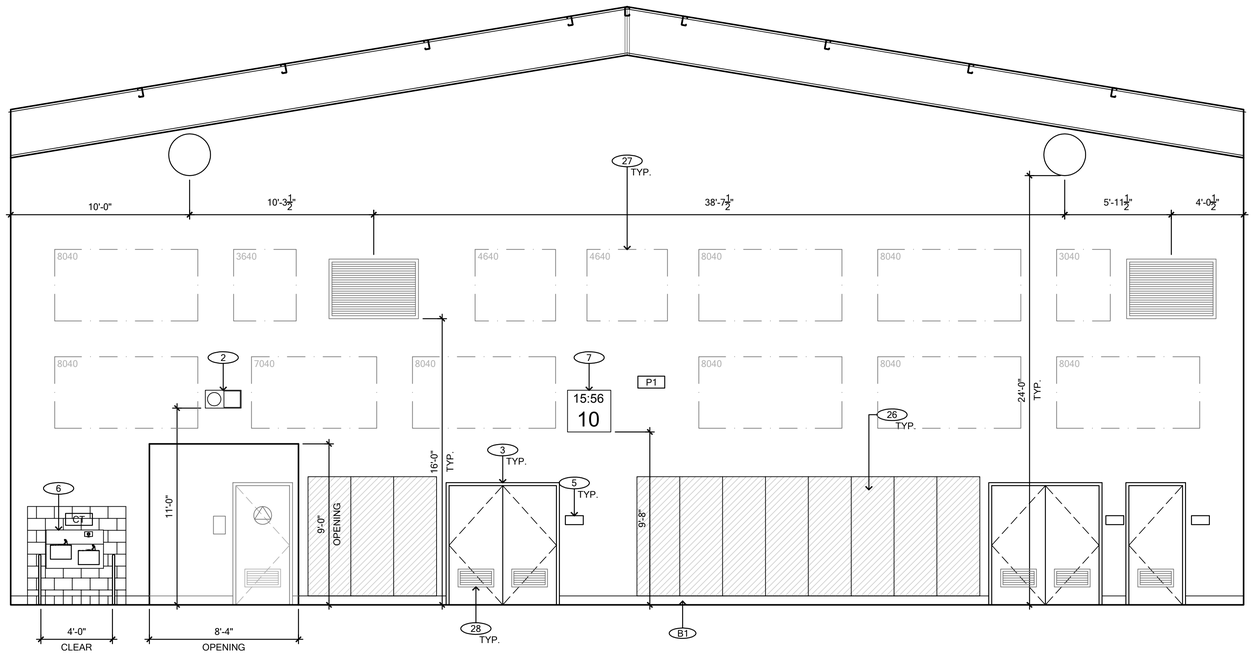
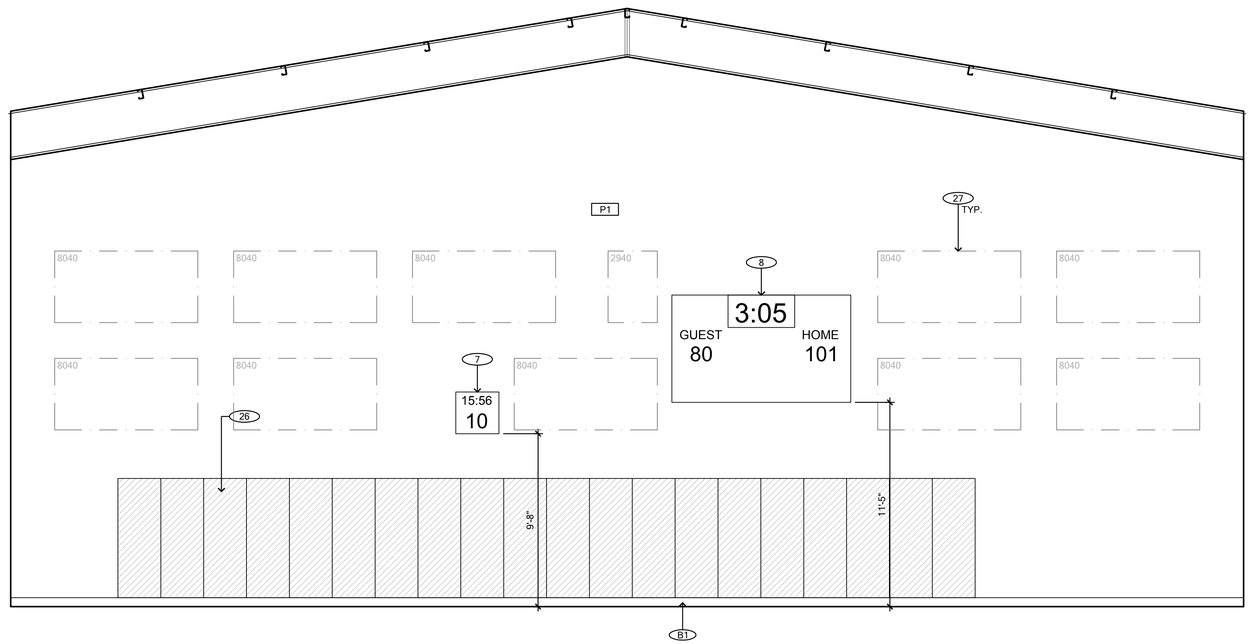
REFLECTED CEILING PLAN
SA120



A 101 GYMNASIUM - SOUTH ELEVATION



B 101 GYMNASIUM - NORTH ELEVATION

KEY NOTES

		DETAIL REFERENCE
1	TYPE 2A-10BC FIRE EXTINGUISHER W/ VALID CERTIFICATION TAG IN WALL CABINET.	2 / A905
2	CLOCK/SPEAKER WITH A PROTECTIVE CAGE.	
3	DOOR TRIM.	1 / A925
4	WINDOW TRIM.	1 / A926
5	SIGNAGE.	A / SA105
6	ACCESSIBLE DRINKING FOUNTAIN, SEE PLUMBING DRAWINGS. MOUNTED AT ADULT MOUNTING HEIGHT.	2A / A903 ; 1 / A902 ; 2 / P504
7	SHOT CLOCK.	23 / SD611
8	SCOREBOARD.	23 / SD611
9	PRE-APPROVED TELESCOPING BLEACHERS, DEFERRED APPROVAL ITEM.	
10	WALL MOUNTED BASKETBALL STANDARD.	9 / SD613
11	ROOF LADDER AND HATCH.	2 / A906
12	WALL MOUNTED WATER HEATER ABOVE MOP SINK.	8 / SD613
13	PARTITION.	1 / A902 ; 7 / A906
14	WALL MOUNTED LAVATORY.	1 / A902 ; 5 / A902
15	TOILET.	1 / A902
16	GRAB BARS.	1 / A902 ; 4 / A902
17	TOILET PAPER DISPENSER.	1 / A902 ; 7 / A902
18	TOILET SEAT COVER DISPENSER.	1 / A902
19	MIRROR.	1 / A902 ; 5 / A906
20	SANITARY NAPKIN DISPOSAL.	1 / A902 ; 7 / A902
21	SOAP DISPENSER.	1 / A902
22	HAND DRYER.	1 / A902
23	SANITARY NAPKIN VENDING MACHINE.	
24	MOP SINK.	
25	WALL MOUNTED MOP HOLDER.	
26	PROTECTIVE WALL PADS.	
27	KINETICS NOISE CONTROL ACOUSTICAL PANELS.	1 / A905 ; 9 / SD611
28	DOOR LOUVER, SMD.	

WALL & BASE KEY NOTES

		DETAIL REFERENCE
CT	CERAMIC TILE.	
P1	PAINT - COLOR BY AOR	
B1	COVED RUBBER BASE.	B / SA800
B2	EPOXY RESIN-W/6" INTEGRAL COVED BASE.	

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
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PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

WILSON ARCHITECTURE, INC.
609 15th STREET
MODESTO, CALIFORNIA 95354
TEL: (209)577-0114
FAX: (209)577-9116
NORMAN E. WILSON

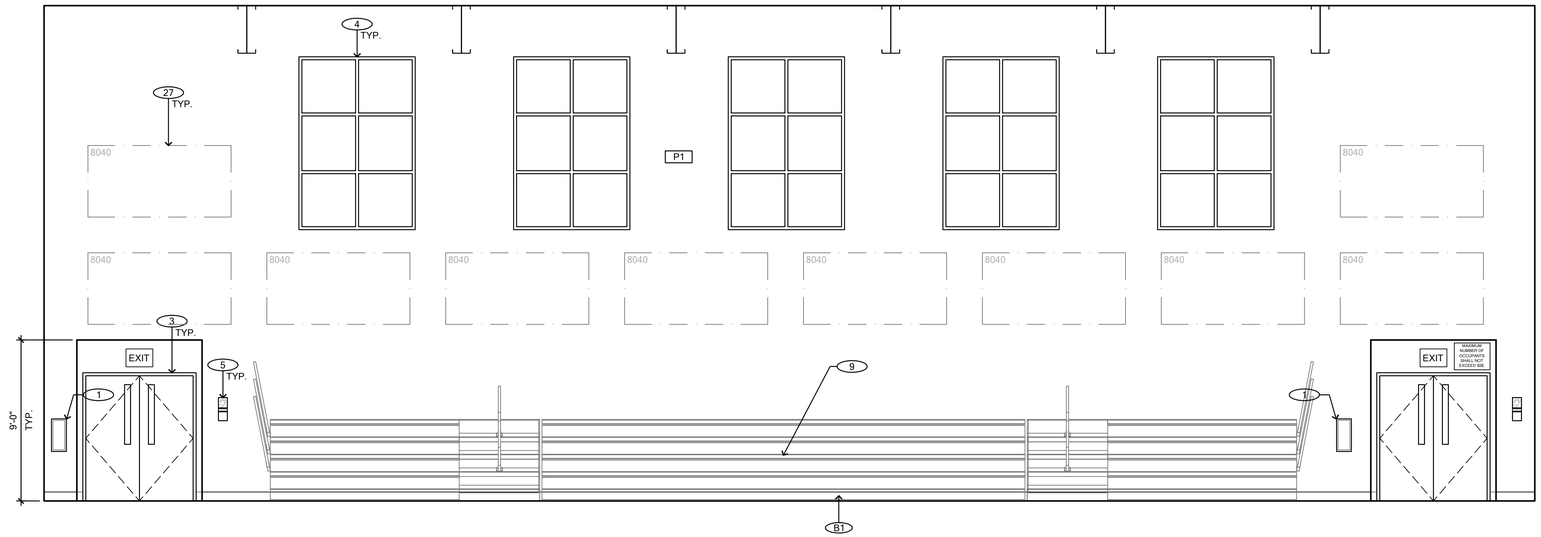
LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP. 30 2023
NO. C10851
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

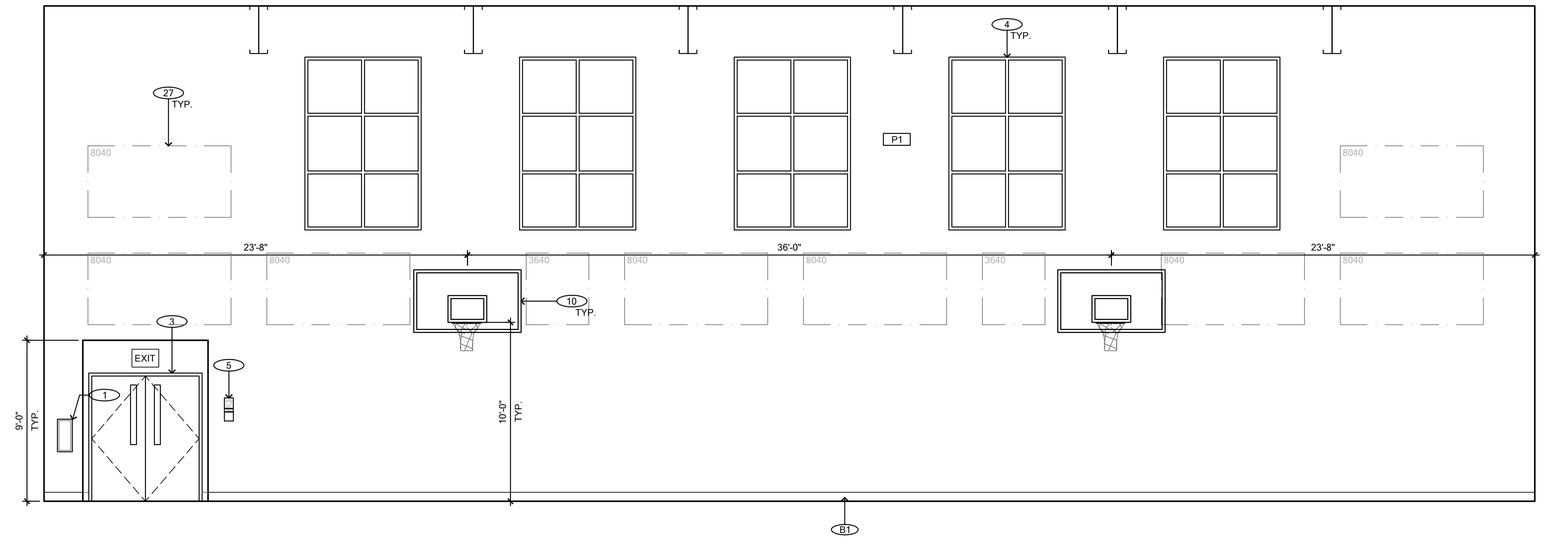
INTERIOR ELEVATIONS

SA130

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



A 101 GYMNASIUM - EAST ELEVATION



B 101 GYMNASIUM - WEST ELEVATION

KEY NOTES

		DETAIL REFERENCE
1	TYPE 2A-10BC FIRE EXTINGUISHER W/ VALID CERTIFICATION TAG IN WALL CABINET.	2 / A905
2	CLOCK/SPEAKER WITH A PROTECTIVE CAGE.	
3	DOOR TRIM.	1 / A925
4	WINDOW TRIM.	1 / A926
5	SIGNAGE.	A / SA105
6	ACCESSIBLE DRINKING FOUNTAIN, SEE PLUMBING DRAWINGS. MOUNTED AT ADULT MOUNTING HEIGHT.	2A / A903 ; 1 / A902 ; 2 / P504
7	SHOT CLOCK.	23 / SD611
8	SCOREBOARD.	23 / SD611
9	PRE-APPROVED TELESCOPING BLEACHERS, DEFERRED APPROVAL ITEM.	
10	WALL MOUNTED BASKETBALL STANDARD.	9 / SD613
11	ROOF LADDER AND HATCH.	2 / A906
12	WALL MOUNTED WATER HEATER ABOVE MOP SINK.	8 / SD613
13	PARTITION.	1 / A902 ; 7 / A906
14	WALL MOUNTED LAVATORY.	1 / A902 ; 5 / A902
15	TOILET.	1 / A902
16	GRAB BARS.	1 / A902 ; 4 / A902
17	TOILET PAPER DISPENSER.	1 / A902 ; 7 / A902
18	TOILET SEAT COVER DISPENSER.	1 / A902
19	MIRROR.	1 / A902 ; 5 / A906
20	SANITARY NAPKIN DISPOSAL.	1 / A902 ; 7 / A902
21	SOAP DISPENSER.	1 / A902
22	HAND DRYER.	1 / A902
23	SANITARY NAPKIN VENDING MACHINE.	
24	MOP SINK.	
25	WALL MOUNTED MOP HOLDER.	
26	PROTECTIVE WALL PADS.	
27	KINETICS NOISE CONTROL ACOUSTICAL PANELS.	1 / A905 ; 9 / SD611
28	DOOR LOUVER, SMD.	

WALL & BASE KEY NOTES

		DETAIL REFERENCE
CT	CERAMIC TILE.	
P1	PAINT - COLOR BY AOR	
B1	COVED RUBBER BASE.	B / SA800
B2	EPOXY RESIN-W/6" INTEGRAL COVED BASE.	

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SEP. 30, 2023
NO. C10851
STATE OF CALIFORNIA

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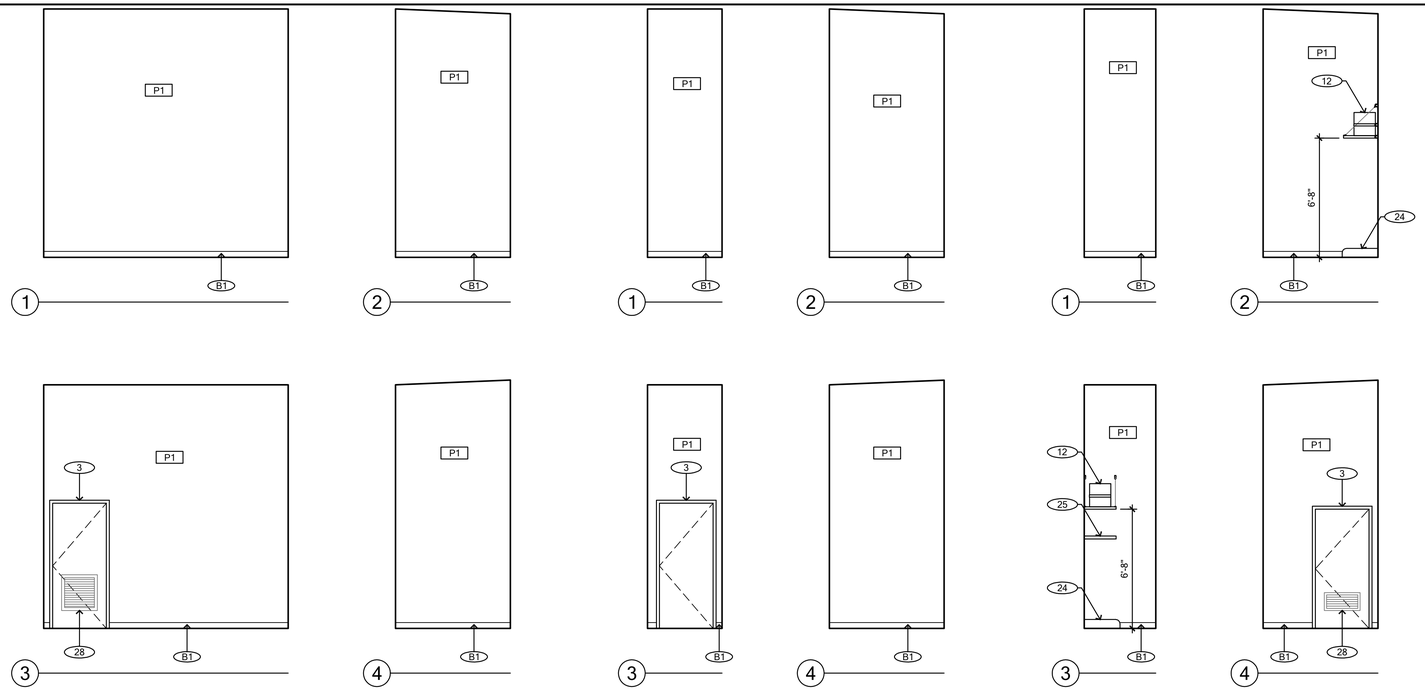
INTERIOR ELEVATIONS

SA131

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



A 102 ELECTRICAL

B 103 FIRE RISER

C 105 JANITOR

D 104 STORAGE

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

KEY NOTES

		DETAIL REFERENCE
1	TYPE 2A-10BC FIRE EXTINGUISHER W/ VALID CERTIFICATION TAG IN WALL CABINET.	2 A905
2	CLOCK/SPEAKER WITH A PROTECTIVE CAGE.	
3	DOOR TRIM.	1 A925
4	WINDOW TRIM.	1 A926
5	SIGNAGE.	A SA105
6	ACCESSIBLE DRINKING FOUNTAIN, SEE PLUMBING DRAWINGS. MOUNTED AT ADULT MOUNTING HEIGHT.	2A A903, 1 A902, 2 P504
7	SHOT CLOCK.	23 SD611
8	SCOREBOARD.	23 SD611
9	PRE-APPROVED TELESCOPING BLEACHERS, DEFERRED APPROVAL ITEM.	
10	WALL MOUNTED BASKETBALL STANDARD.	9 SD613
11	ROOF LADDER AND HATCH.	2 A906
12	WALL MOUNTED WATER HEATER ABOVE MOP SINK.	8 SD613
13	PARTITION.	1 A902, 7 A906
14	WALL MOUNTED LAVATORY.	1 A902, 5 A902
15	TOILET.	1 A902
16	GRAB BARS.	1 A902, 4 A902
17	TOILET PAPER DISPENSER.	1 A902, 7 A902
18	TOILET SEAT COVER DISPENSER.	1 A902
19	MIRROR.	1 A902, 5 A906
20	SANITARY NAPKIN DISPOSAL.	1 A902, 7 A902
21	SOAP DISPENSER.	1 A902
22	HAND DRYER.	1 A902
23	SANITARY NAPKIN VENDING MACHINE.	
24	MOP SINK.	
25	WALL MOUNTED MOP HOLDER.	
26	PROTECTIVE WALL PADS.	
27	KINETICS NOISE CONTROL ACOUSTICAL PANELS.	1 A905, 9 SD611
28	DOOR LOUVER, SMD.	

WALL & BASE KEY NOTES

		DETAIL REFERENCE
CT	CERAMIC TILE.	
P1	PAINT - COLOR BY AOR	
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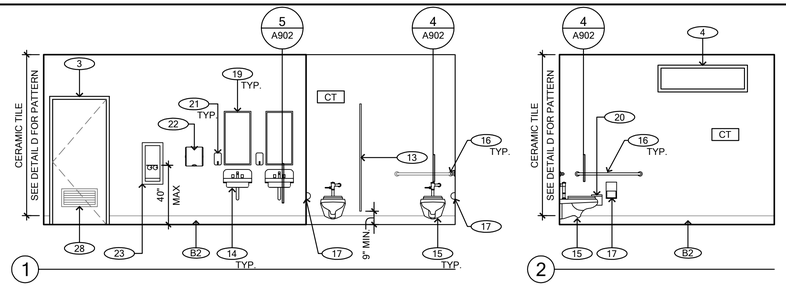
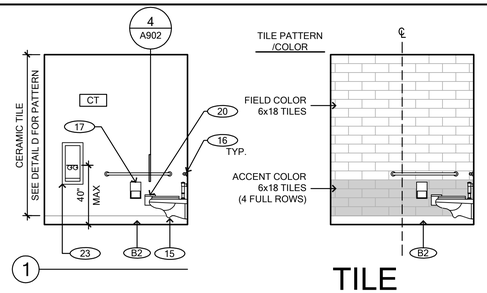
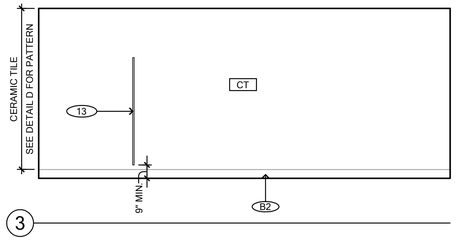
INTERIOR ELEVATIONS

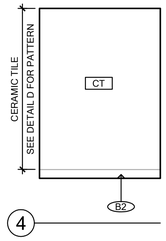
SA132

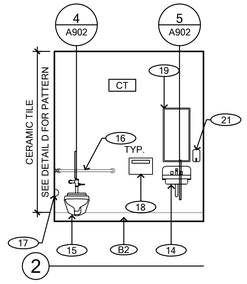




D TILE PATTERN



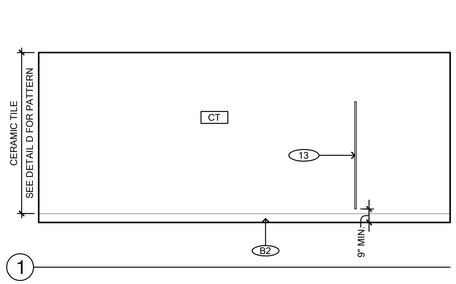


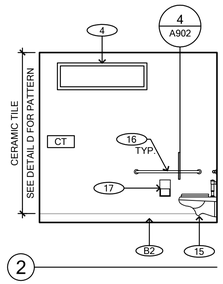


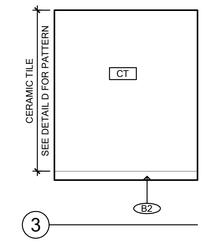
OBJECTS PROJECTING FROM THE WALL SHALL NOT BE MOUNTED 12" ABOVE AND 1 ½" BELOW THE GRAB BAR, PER CBC11B-609.3.

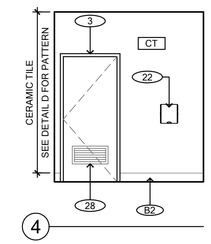
A 106 GIRLS

AGE GROUP: ADULT



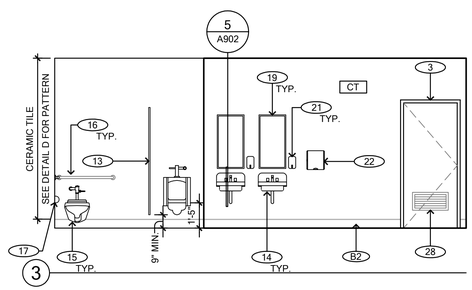


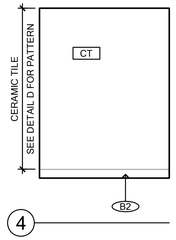




C 108 UNISEX

AGE GROUP: ADULT





B 107 BOYS

AGE GROUP: ADULT

KEY NOTES

		DETAIL REFERENCE
1	TYPE 2A-10BC FIRE EXTINGUISHER W/ VALID CERTIFICATION TAG IN WALL CABINET.	2 / A905
2	CLOCK/SPEAKER WITH A PROTECTIVE CAGE.	
3	DOOR TRIM.	1 / A925
4	WINDOW TRIM.	1 / A926
5	SIGNAGE.	A / SA105
6	ACCESSIBLE DRINKING FOUNTAIN, SEE PLUMBING DRAWINGS. MOUNTED AT ADULT MOUNTING HEIGHT.	2A / A903, 1 / A902, 2 / P504
7	SHOT CLOCK.	23 / SD611
8	SCOREBOARD.	23 / SD611
9	PRE-APPROVED TELESCOPING BLEACHERS, DEFERRED APPROVAL ITEM.	
10	WALL MOUNTED BASKETBALL STANDARD.	9 / SD613
11	ROOF LADDER AND HATCH.	2 / A906
12	WALL MOUNTED WATER HEATER ABOVE MOP SINK.	8 / SD613
13	PARTITION.	1 / A902, 7 / A906
14	WALL MOUNTED LAVATORY.	1 / A902, 5 / A902
15	TOILET.	1 / A902
16	GRAB BARS.	1 / A902, 4 / A902
17	TOILET PAPER DISPENSER.	1 / A902, 7 / A902
18	TOILET SEAT COVER DISPENSER.	1 / A902
19	MIRROR.	1 / A902, 5 / A906
20	SANITARY NAPKIN DISPOSAL.	1 / A902, 7 / A902
21	SOAP DISPENSER.	1 / A902
22	HAND DRYER.	1 / A902
23	SANITARY NAPKIN VENDING MACHINE.	
24	MOP SINK.	
25	WALL MOUNTED MOP HOLDER.	
26	PROTECTIVE WALL PADS.	
27	KINETICS NOISE CONTROL ACOUSTICAL PANELS.	1 / A905, 9 / SD611
28	DOOR LOUVER, SMD.	

WALL & BASE KEY NOTES

		DETAIL REFERENCE
CT	CERAMIC TILE.	
P1	PAINT - COLOR BY AOR	
B1	COVED RUBBER BASE.	B / SA800
B2	EPOXY RESIN-W/6" INTEGRAL COVED BASE.	

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Berryessa Union School District

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NORMAN E. WILSON

LICENSED ARCHITECT
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EXPIRES
SEP. 30 2023
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STATE OF CALIFORNIA

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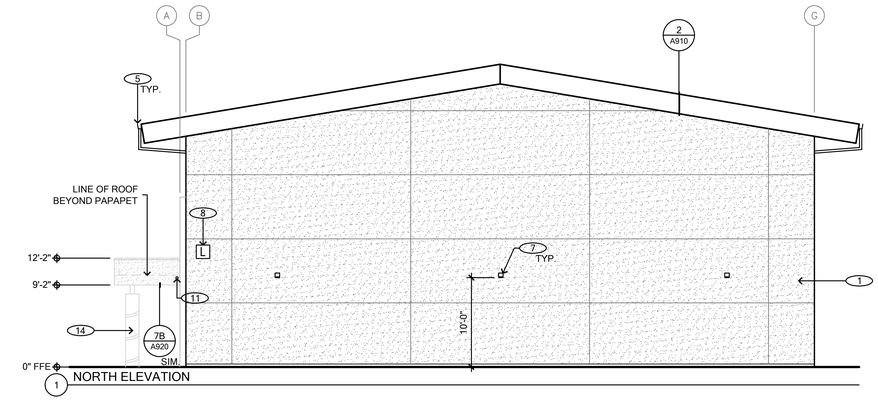
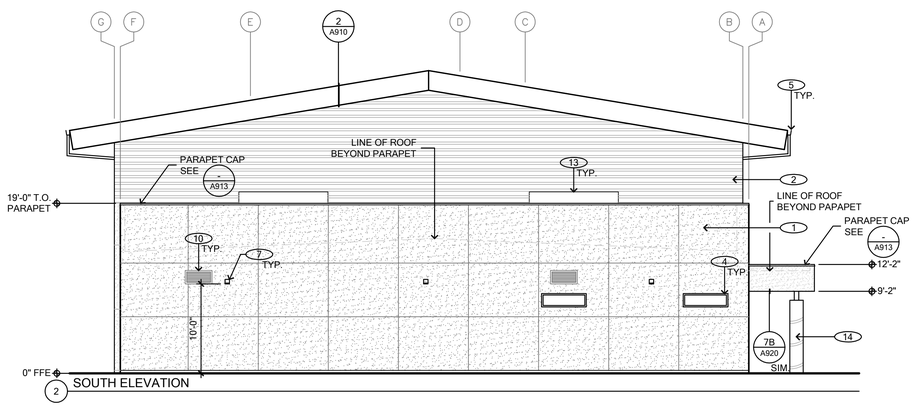
INTERIOR ELEVATIONS

SA133

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





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

LEGEND

	DETAIL REFERENCE
STUCCO SIDING.	7 / A920
PRE-FINISHED METAL SIDING.	4 / A921
PRE-FINISHED METAL ROOF PANELS.	7 / A911

KEY NOTES

	DETAIL REFERENCE
1 STUCCO SIDING.	7 / A920
2 PRE-FINISHED METAL SIDING.	4 / A921
3 DOOR TRIM.	1 / A925
4 WINDOW TRIM.	1 / A926
5 GUTTER & DOWNSPOUT.	4 / A911 ; 1 / A918 ; 6 / A918 ; 7B / A918
6 SIGNAGE.	A / SA105
7 LIGHT FIXTURE.	5 / E-511
8 12" TALL BUILDING IDENTIFICATION.	
9 DOOR LOUVER.	
10 HVAC LOUVER.	9 / M503
11 ROOF DRAIN/OVERFLOW DRAIN, SEE PLUMBING DWGS.	
12 TUBULAR SKYLIGHT.	11 / A912
13 HVAC UNIT.	
14 CONCRETE WRAPPED STEEL COLUMN.	17 / SD401

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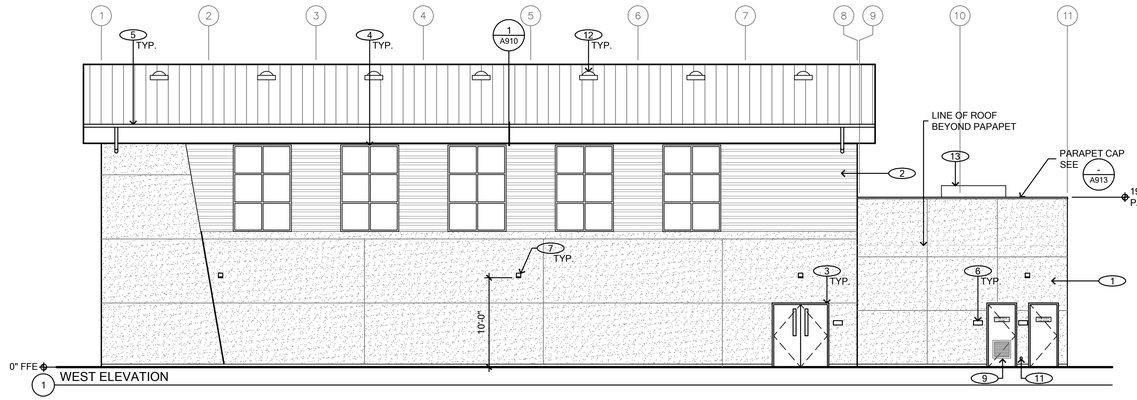
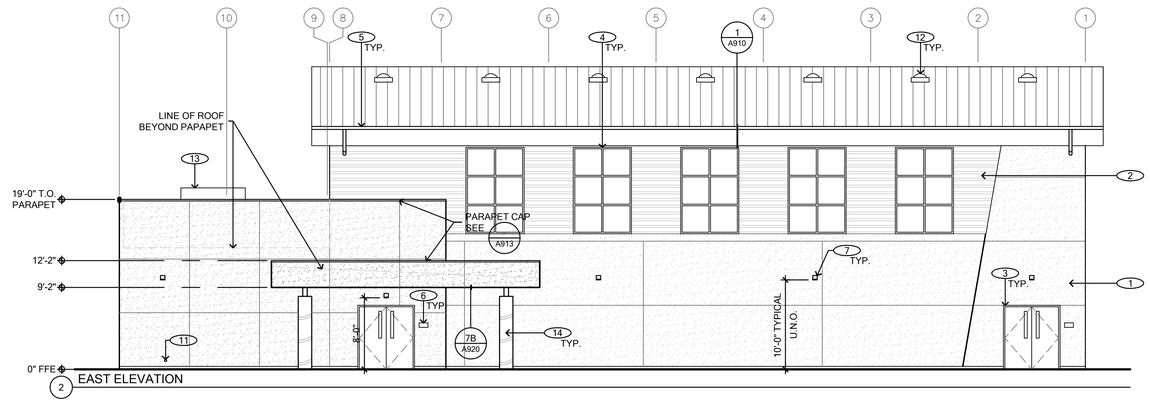
EXTERIOR ELEVATIONS

SA200





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

LEGEND

	DETAIL REFERENCE
STUCCO SIDING.	7 / A920
PRE-FINISHED METAL SIDING.	4 / A921
PRE-FINISHED METAL ROOF PANELS.	7 / A911

KEY NOTES

		DETAIL REFERENCE
1	STUCCO SIDING.	7 / A920
2	PRE-FINISHED METAL SIDING.	4 / A921
3	DOOR TRIM.	1 / A925
4	WINDOW TRIM.	1 / A926
5	GUTTER & DOWNSPOUT.	4 / A911 ; 1 / A918 ; 6 / A918 ; 7B / A918
6	SIGNAGE.	A / SA105
7	LIGHT FIXTURE.	5 / E-511
8	12" TALL BUILDING IDENTIFICATION.	
9	DOOR LOUVER.	
10	HVAC LOUVER.	9 / M503
11	ROOF DRAIN/OVERFLOW DRAIN, SEE PLUMBING DWGS.	
12	TUBULAR SKYLIGHT.	11 / A912
13	HVAC UNIT.	
14	CONCRETE WRAPPED STEEL COLUMN.	17 / SD401

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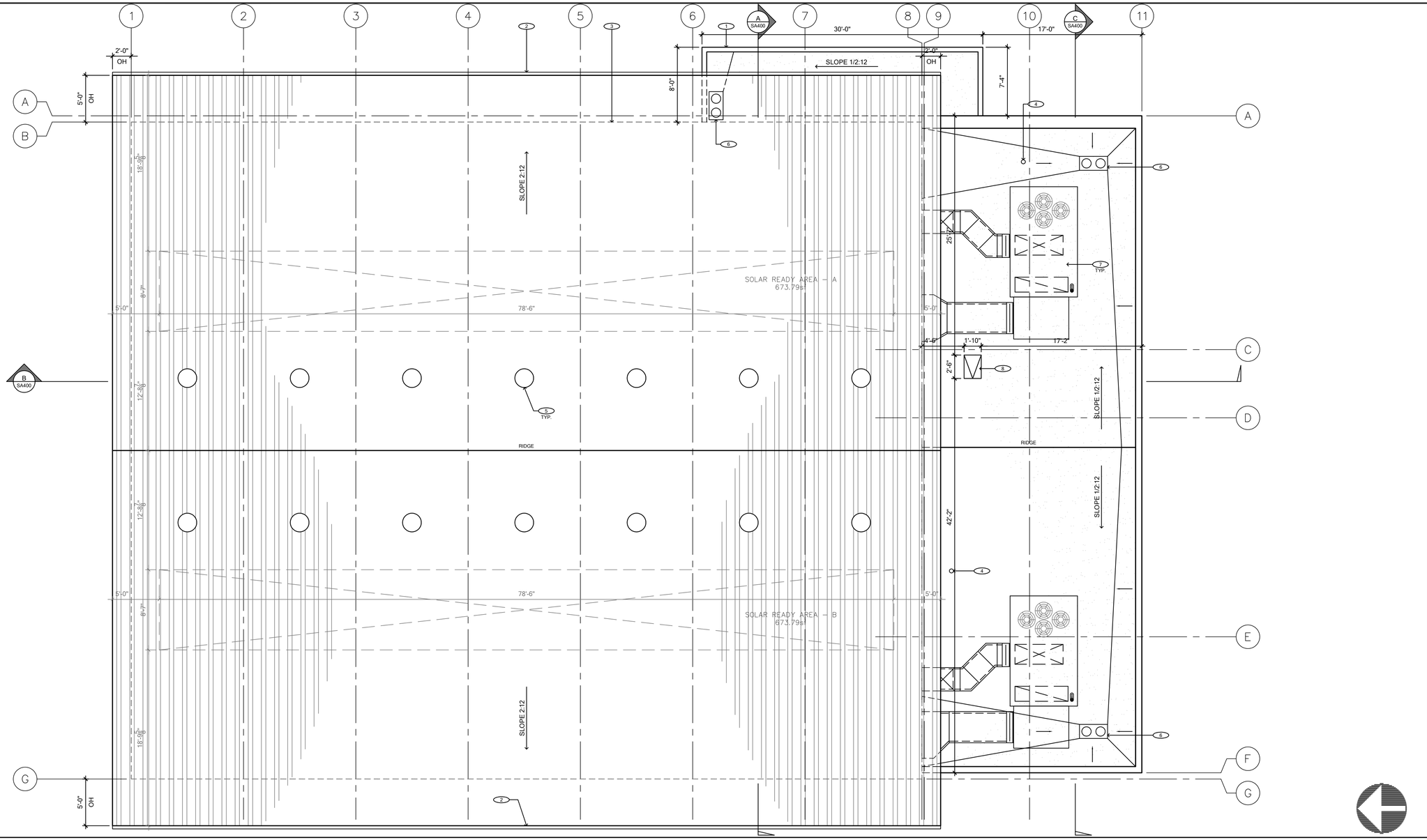
EXTERIOR ELEVATIONS

SA201



A REFLECTED CEILING PLAN

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

LEGEND

		DETAIL REFERENCE
	STANDING SEAM METAL ROOFING, MINIMUM CLASS "B" FIRE RATING.	7 / A911
	SINGLE PLY ROOFING, MINIMUM CLASS "B" FIRE RATING.	- / A914

SOLAR READY AREA

BUILDING	AREA	REQUIRED	PROVIDED
L	8,979sf	1,340.25sf	1,347.58sf

KEY NOTES

		DETAIL REFERENCE
1	ENTRY CANOPY, SEE STRUCTURAL DRAWINGS.	A / SA400, - / S301
2	GUTTER & DOWNSPOUT.	4 / A911, 1 / A918, 6 / A918, 7B / A918
3	OUTLINE OF BUILDING BELOW.	
4	MECH/PLUMBING VENT TO ROOF.	4 / A912, 5 / A912, 3 / P503
5	TUBULAR SKYLIGHT.	11 / A912
6	ROOF DRAIN & OVERFLOW.	10 / A911, 6 / P503
7	HVAC UNIT.	
8	ROOF LADDER AND HATCH.	2 / A906

JL MODULAR
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PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

WILSON
ARCHITECTURE, INC.
809 15th STREET
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TEL: (209)577-0114
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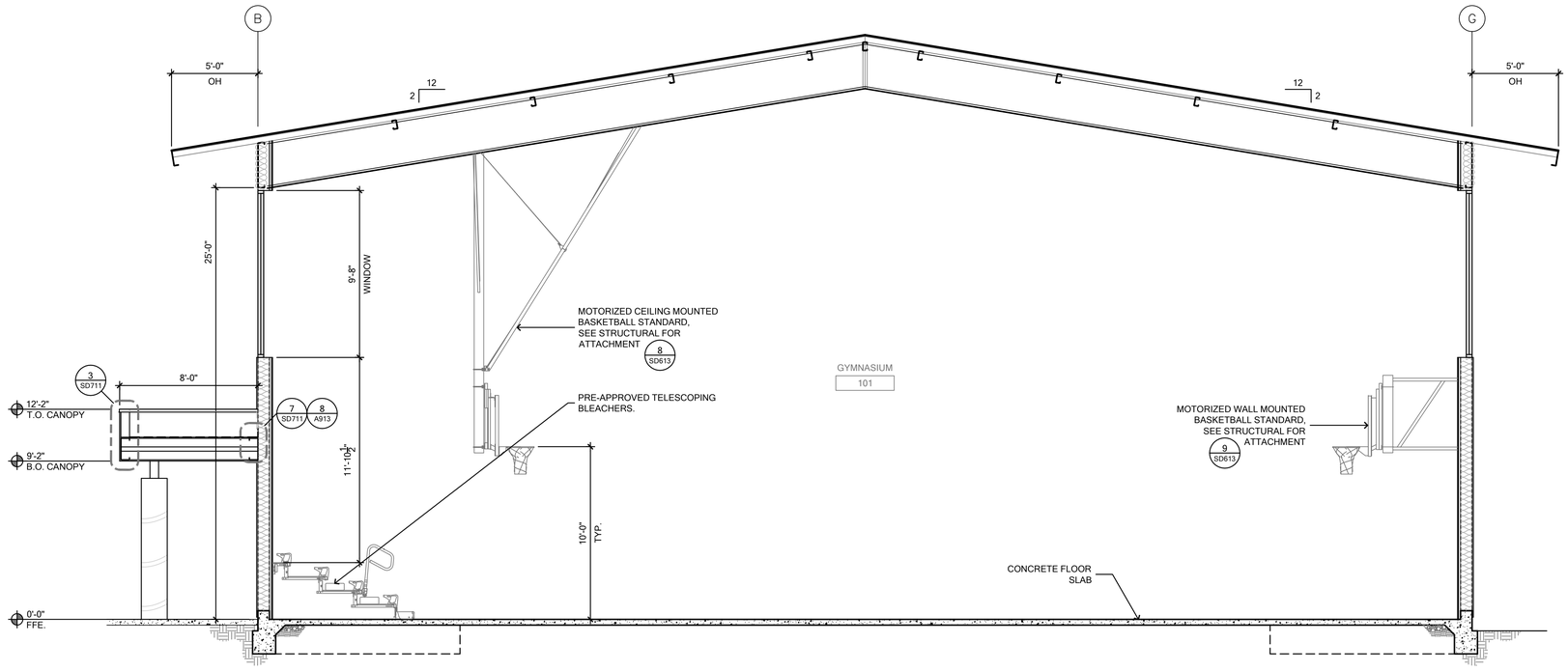
NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP 30 2023
NO. C10851
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

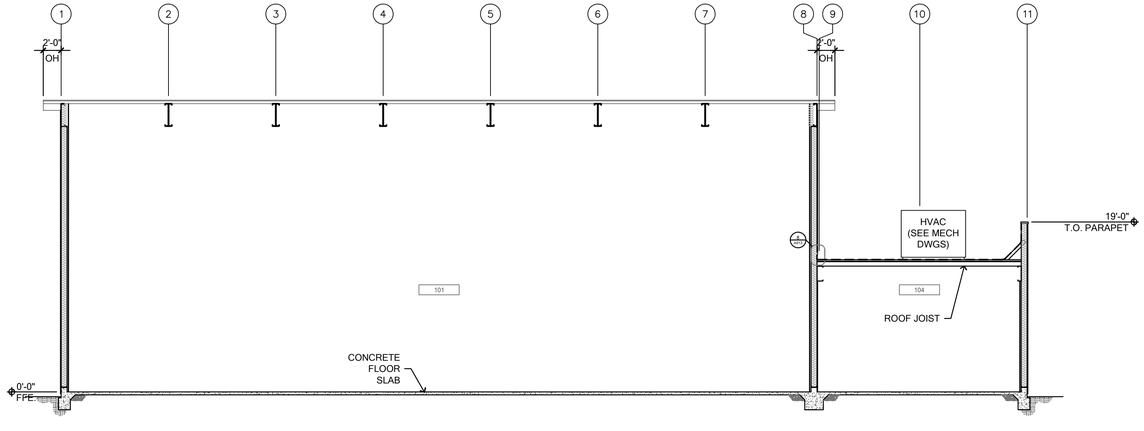
ROOF PLAN

SA300

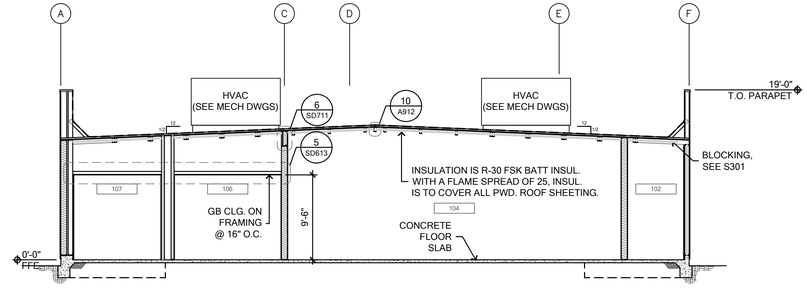


NOTE: FOR ALL ROOF, WALL & FLOOR INSULATION ASSEMBLIES, SEE SHEET C/A010 FOR CLIMATE ZONE REQUIREMENTS.

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



B CROSS SECTION
SCALE: 1/8" = 1'-0"



C CROSS SECTION
SCALE: 1/8" = 1'-0"

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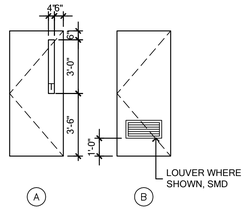
CROSS SECTION

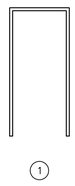
SA400

DOOR TYPES

T = TEMPERED GLAZING



DOOR FRAME TYPES



WINDOW TYPES

T = TEMPERED GLAZING

LEGEND

FLOORS
EPX - EPOXY FLOORING
CON - STAINED & POLISHED CONCRETE
SF - SPORT FLOORING
WK - WALK OFF MAT

WALLS
CT - CERAMIC TILE
P1 - PAINTED GYPSUM BOARD
B1 - RUBBER BASE
B2 - EPOXY RESIN-W/6" INTEGRAL COVED BASE

CEILINGS
P1 - PAINTED MOISTURE RESISTANT GYPSUM BOARD
DEK - ROOF DECK CEILING SYSTEM

DOORS / WINDOWS

CONSTRUCTION

HM - HOLLOW METAL

FINISH

PT - PAINTED

FRAME

ALUM- ALUMINUM
HM - HOLLOW METAL

FRAME FINISH

ALUM- ALUMINUM
PT - PAINTED

ROOM SCHEDULE

NO.	NAME	FLOOR	BASE	WALL FINISH				CLG.	CLG. HT.	REMARKS
				NORTH	EAST	SOUTH	WEST			
101	GYMNASIUM	SF/WK	B1	P1	P1	P1/CT	P1	DEK	N/A	
102	ELECTRICAL	CON	B1	P1	P1	P1	P1	N/A	N/A	
103	FIRE RISER	CON	B1	P1	P1	P1	P1	N/A	N/A	
104	STORAGE	CON	B1	P1	P1	P1	P1	N/A	N/A	
105	JANITOR	CON	B1	P1	P1	P1	P1	N/A	N/A	
106	GIRLS	EPX	B2	CT	CT	CT	CT	P1	9'-6"	
107	BOYS	EPX	B2	CT	CT	CT	CT	P1	9'-6"	
108	UNISEX RR	EPX	B2	CT	CT	CT	CT	P1	9'-6"	

DOOR SCHEDULE

FOR DOOR HARDWARE & THRESHOLD, SEE SHEET SA801

NO.	TYPE	FRAME TYPE	HDWR GROUP	SIZE	THRES-HOLD	CONST.	FINISH	RATING	FRAME CONST.	FRAME FINISH	REMARKS
101A	A	1	1	PR 3'-0"x7'-0"	A1A	HM	PT	NONE	HM	PT	
101B	A	1	1	PR 3'-0"x7'-0"	A1A	HM	PT	NONE	HM	PT	
101C	A	1	1	PR 3'-0"x7'-0"	A1A	HM	PT	NONE	HM	PT	
102	B	1	2	3'-0"x7'-0"	A1B	HM	PT	NONE	HM	PT	LOUVER, SMD
103	B	1	2	3'-0"x7'-0"	A1B	HM	PT	NONE	HM	PT	
104A	B	1	3	PR 3'-0"x6'-8"	A3	HM	PT	NONE	HM	PT	LOUVER, SMD
104B	B	1	3	PR 3'-0"x6'-8"	A3	HM	PT	NONE	HM	PT	LOUVER, SMD
105	B	1	4	3'-0"x6'-8"	A3	HM	PT	NONE	HM	PT	LOUVER, SMD
106	B	1	6	3'-0"x6'-8"	A2	HM	PT	NONE	HM	PT	LOUVER, SMD
107	B	1	6	3'-0"x6'-8"	A2	HM	PT	NONE	HM	PT	LOUVER, SMD
108	B	1	5	3'-0"x6'-8"	A2	HM	PT	NONE	HM	PT	LOUVER, SMD

WINDOW SCHEDULE

NO.	SIZE	GLAZING	FRAME	RATING	TYPE	FRAME FINISH	REMARKS
1	6'-6" x 9'-8"	DUAL	ALUM	NONE	1	ALUM	
2	6'-6" x 9'-8"	DUAL	ALUM	NONE	1	ALUM	
3	6'-6" x 9'-8"	DUAL	ALUM	NONE	1	ALUM	
4	6'-6" x 9'-8"	DUAL	ALUM	NONE	1	ALUM	
5	6'-6" x 9'-8"	DUAL	ALUM	NONE	1	ALUM	
6	5'-0" x 1'-6"	DUAL	ALUM	NONE	2	ALUM	
7	5'-0" x 1'-6"	DUAL	ALUM	NONE	2	ALUM	
8	6'-6" x 9'-8"	DUAL	ALUM	NONE	1	ALUM	
9	6'-6" x 9'-8"	DUAL	ALUM	NONE	1	ALUM	
10	6'-6" x 9'-8"	DUAL	ALUM	NONE	1	ALUM	
11	6'-6" x 9'-8"	DUAL	ALUM	NONE	1	ALUM	
12	6'-6" x 9'-8"	DUAL	ALUM	NONE	1	ALUM	

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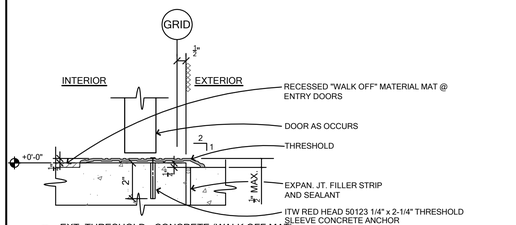
SCHEDULES

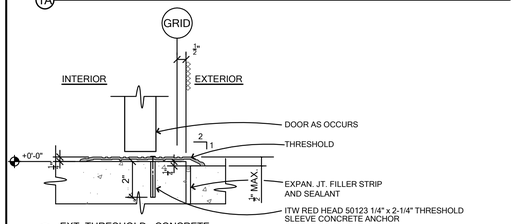
SA800

GENERAL FLOOR TRANSITION NOTE:

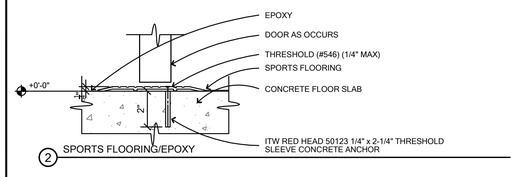
PER CBC SECTION IIB-303, ABRUPT CHANGES IN LEVEL BETWEEN ANY ADJACENT FLOOR SURFACES SHALL NOT EXCEED 1/2". WHEN SUCH A CHANGE OF LEVEL OCCURS, THE TRANSITION SHALL BE BEVELED WITH A SLOPE NO GREATER THAN ONE UNIT VERTICAL TO 2 UNITS HORIZONTAL (50%), EXCEPT THAT LEVEL CHANGES NOT EXCEEDING 1/4" MAY BE VERTICAL. CHANGES IN LEVEL IN EXCESS OF 1/2" SHALL CONFORM TO THE REQUIREMENTS FOR RAMPS. THESE REQUIREMENTS APPLY TO EACH FLOOR FINISH TRANSITION CONDITION SHOWN IN THIS DETAIL BOX.



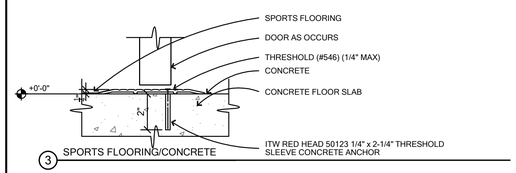
1A EXT. THRESHOLD - CONCRETE (WALK OFF MAT)



1B EXT. THRESHOLD - CONCRETE



2 SPORTS FLOORING/EPOXY



3 SPORTS FLOORING/CONCRETE

WINDOW NOTES:

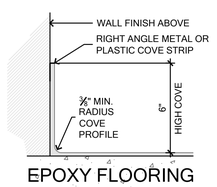
1. SEE SHEET A010 FOR GLAZING REQUIREMENTS.

TEMPERED GLAZING SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:

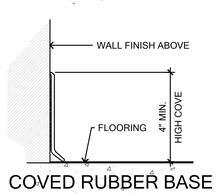
1. ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" ABOVE THE WALKING SURFACE.
2. EXPOSED BOTTOM EDGE OF GLAZING LESS THAN 18" ABOVE THE FLOOR.
3. EXPOSED TOP EDGE OF GLAZING GREATER THAN 36" ABOVE THE FLOOR.
4. ONE OR MORE WALKING SURFACE(S) WITHIN 36" HORIZONTALLY OF THE PLANE OF THE GLAZING.
5. WHEN OPERABLE AWNING TYPE WINDOWS ARE ADJACENT TO A WALKING SURFACE, AND SILL IS BELOW 80" AFF WINDOWS ARE TO HAVE A 4" MAX. PROJECTION (CBC 11B-307.2).

GENERAL NOTES:

1. ALL INTERIOR FINISH MATERIALS SHALL MEET THE TESTING & PERFORMANCE CRITERIA OF CBC CHAPTER 8. INTERIOR WALL, CEILING AND FLOOR FINISHES SHALL COMPLY WITH FIRE PERFORMANCE AND SMOKE DEVELOPMENT REQUIREMENTS OF CBC 803 & 804.
2. ALL LOCKSETS, LATCHSETS, AND PRIVACY LOCKS ARE TO HAVE LEVER TYPE HANDLES TO COMPLY WITH THE CALIFORNIA TITLE 24 REQUIREMENTS.
3. PANIC HARDWARE IS REQUIRED TO BE INSTALLED WHEN THE CONFIGURATION OF ANY ROOM PROVIDES AN OCCUPANT LOAD OF 50 OR GREATER, CBC 1010.1.10.
4. ALL CLASSROOM EXTERIOR DOOR HARDWARE MUST COMPLY WITH EDUCATION CODE SECTION 17075.50 & CBC 1010.1.9.4 W/ INTERIOR SECURITY CYLINDER.
5. ALL HARDWARE FINISH: 626 (U.N.O.).
6. OPERABLE PARTS OF DOOR AND GATE HARDWARE SHALL BE 34" MINIMUM AND 44" MAXIMUM, ABOVE THE FINISHED FLOOR OR GROUND.
7. DOOR AND GATE CLOSER SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MINIMUM. CBC 11B-404.2.8.1.
8. DOOR AND GATE SPRING HINGES SHALL BE ADJUSTED SO THAT IN THE OPEN POSITION OF 70 DEGREES, THE DOOR AND GATE SHALL MOVE TO THE CLOSED POSITION IN 1.5 SECONDS MINIMUM. CBC 11B-404.2.8.2.
9. 11B-404.2.9 THE FORCE FOR PUSHING OR PULLING OPEN A DOOR OR GATE SHALL BE AS FOLLOWS:
   A. INTERIOR HINGED DOORS AND GATES: 5 POUNDS (22.2 N) MAXIMUM.
   B. SLIDING OR FOLDING DOORS: 5 POUNDS (22.2 N)
   C. REQUIRED FIRE DOORS: THE MINIMUM OPENING FORCE ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY, NOT TO EXCEED 15 POUNDS (66.7 N)
   D. EXTERIOR HINGED DOORS: 5 POUNDS (22.2 N) MAXIMUM. OPERABLE PARTS (HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS) SHALL COMPLY WITH SECTION 11B-309.4. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST.
10. NEW BUILDINGS ON A K-12 PUBLIC SCHOOL CAMPUS SHALL BE PROVIDED WITH LOCKS WHICH ALLOW DOORS TO CLASSROOMS AND ANY ROOM WITH AN OCCUPANT LOAD OF FIVE OR MORE PERSONS TO BE LOCKED FROM THE INSIDE. LOCKS SHALL CONFORM TO THE SPECIFICATION AND REQUIREMENTS OF SECTION 1010.1.9.4. EXCEPTIONS INCLUDE DOORS WHICH ARE NORMALLY LOCKED FROM THE OUTSIDE, RELOCATABLE MOVED WITHIN THE SAME CAMPUS, AND RECONSTRUCTION PROJECTS.
11. ALL HARDWARE SHALL MEET THE MINIMUM REQUIREMENTS 11B-309.4.
12. THRESHOLDS SHALL COMPLY WITH CBC 11B-404.2.5.
13. FLOOR STOPS SHALL NOT BE LOCATED IN THE PATH OF TRAVEL AND 4" MAXIMUM FROM WALL PER IIB-307.2.
14. SEE MECHANICAL DRAWINGS FOR REQUIRED LOUVERS AND DOOR UNDERCUTS.
15. FLOORING ALONG THE ACCESSIBLE ROUTE SHALL BE STABLE, FIRM, AND SLIP-RESISTANT, PER CBC 11B-302.1. CARPET PILE HEIGHT SHALL BE ½" MAX., PER CBC 11B-302.2.



EPOXY FLOORING



COVED RUBBER BASE

A THRESHOLDS
SCALE: NONE

B BASE DETAIL
SCALE: 3" = 1'-0"

HARDWARE GROUPS

	ITEM	MODEL	MFG	COLOR
GROUP 1:	6 EA HINGE	5BB1HW	IVE	626
	2 EA PANIC HARDWARE	CD-PA-AX-99NLx990NLx99EO	VON	626
	1 EA REMOVABLE MULLION	KR4954	VON	
	2 EA SURFACE CLOSER	4011 / 4111 - TB	LCN	689
	4 EA KICKPLATE	8400-10"x1" LDWx.050"xB4E	IVE	626
	2 EA FLOOR STOP	FS455	IVE	626
	2 SET SEAL/WEATHERSTRIP	188S	ZER	BK
	2 EA DOOR SWEEP	18062CNB	PEM	ALU
	2 EA DRIP GUARD	11A x 4" PDW	ZER	ALU
	2 EA THRESHOLD	103 X 36"	ZEO	MIL
GROUP 2:	3 EA HINGE	5BB1HW	IVE	626
	1 EA LOCKSET	ND80	SCH	626
	1 EA SURFACE CLOSER	4011 / 4111 - TB	LCN	689
	2 EA KICKPLATE	8400-10"x1" LDWx.050"xB4E	IVE	626
	1 EA FLOOR STOP	FS455	IVE	626
	1 SET SEAL/WEATHERSTRIP	188S	ZER	BK
	1 EA DOOR SWEEP	18062CNB	PEM	ALU
	1 EA DRIP GUARD	11A x 4" PDW	ZER	ALU
	1 EA THRESHOLD	103 X 36"	ZER	MIL
GROUP 3:	6 EA HINGE	5BB1	IVE	626
	1 EA LOCKSET	ND80	SCH	626
	2 EA FLUSHBOLTS	FB458 (TOP & BOTTOM)	IVE	626
	1 EA SURFACE CLOSER	4011 / 4111 - TB	LCN	689
	4 EA KICKPLATE	8400-10"x1" LDWx.050"xB4E	IVE	626
	2 EA FLOOR STOP	FS455	IVE	626
	1 SET SEAL/WEATHERSTRIP	188S	ZER	BK
	2 EA DOOR SWEEP	18062CNB	PEM	ALU
	1 EA THRESHOLD	546 X 72"	ZEO	MIL
GROUP 4:	3 EA HINGE	5BB1	IVE	626
	1 EA LOCKSET	ND80	SCH	626
	1 EA SURFACE CLOSER	4011 / 4111 - TB	LCN	689
	2 EA KICKPLATE	8400-10"x1" LDWx.050"xB4E	IVE	626
	1 EA FLOOR STOP	FS455	IVE	626
	1 SET SEAL/WEATHERSTRIP	188S	ZER	BK
	1 EA DOOR SWEEP	18062CNB	PEM	ALU
	1 EA THRESHOLD	546 X 36"	ZEO	MIL
GROUP 5:	3 EA HINGE	5BB1	IVE	626
	1 EA LOCKSET	TBD DISTRICT	SCH	626
	1 EA SURFACE CLOSER	4011 / 4111 - TB	LCN	689
	2 EA KICKPLATE	8400-10"x1" LDWx.050"xB4E	IVE	626
	1 EA FLOOR STOP	FS455	IVE	626
	1 SET SEAL/WEATHERSTRIP	188S	ZER	BK
	1 EA DOOR SWEEP	18062CNB	PEM	ALU
	1 EA THRESHOLD	546 X 36"	ZEO	MIL
GROUP 6:	3 EA HINGE	5BB1	IVE	626
	1 EA PUSH PLATE	8200 - 4 x16	IVE	626
	1 EA PULL PLATE	8300 - 4 x16	IVE	626
	1 EA SURFACE CLOSER	4011 / 4111 - TB	LCN	689
	2 EA KICKPLATE	8400-10"x1" LDWx.050"xB4E	IVE	626
	1 EA FLOOR STOP	FS455	IVE	626
	1 SET SEAL/WEATHERSTRIP	188S	ZER	BK
	1 EA DOOR SWEEP	18062CNB	PEM	ALU
	1 EA THRESHOLD	546 X 36"	ZEO	MIL

MANUFACTURER

GLY = GLYNN-JOHNSON
IVE = IVES
LCN = LCN
PEM = PEMKO
SCH = SCHLAGE
ZER = ZERO INTL

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SCHEDULES

SA801

GENERAL REQUIREMENTS:

THE PERMANENT MODULAR BUILDING SPECIFIED HEREIN SHALL BE A STRUCTURE UTILIZING SHEARWALL STRUCTURE. THE MODULES MAY REQUIRE THE USE OF SPECIAL TRAILERS. THE MODULES SHALL NOT EXCEED THE MAXIMUM DIMENSIONS FOR SHIPMENT ON PUBLIC ROADS AS PRESCRIBED BY CALIFORNIA STATE LAW.

THE BUILDING SHALL BE CONSTRUCTED AND INSTALLED IN STRICT ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AS APPROVED BY A CALIFORNIA LICENSED STRUCTURAL ENGINEER AND/OR ARCHITECT AND DIVISION OF THE STATE ARCHITECT.

IN ACCORDANCE WITH TITLE 24, THIRD PARTY INSPECTION SHALL BE MADE ON ALL WORK PERFORMED IN THE MANUFACTURING PLANT. THE INSPECTION ENTITY SHALL BE APPROVED BY THE DIVISION OF THE STATE ARCHITECT AND EMPLOYED BY THE DISTRICT.

PROVISIONS WILL BE MADE FOR ENTRY TO CLASSROOM FOR THE DISABLED IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS AND DIVISION OF THE STATE ARCHITECT.

MATERIAL SPECIFICATIONS:

THE FOLLOWING MATERIAL SPECIFICATIONS ARE TO INSURE A MINIMUM ACCEPTABLE QUALITY LEVEL OF MATERIALS USED IN THE CONSTRUCTION OF THE CLASSROOM. THE TERM "OR EQUAL" SHALL APPLY TO ALL MATERIALS SPECIFIED, BUT WILL ONLY BE ALLOWED ONLY IF APPROVED BY THE ARCHITECT OF RECORD (AOR). INSTALL ALL MATERIALS/PRODUCTS PER MFG. INSTALLATION REQUIREMENTS.

FOUNDATIONS: SEE STRUCTURAL DRAWINGS FOR SPECIFICATIONS.

STRUCTURAL STEEL & MISC, METALS, BOLTS, ETC.: SEE STRUCTURAL DRAWINGS FOR SPECIFICATIONS.

CARPENTRY:

1. OSB: LP OSB STRUCTURAL 1 SHEARWALL PANELS ARE SIZED ½" x 3' 11⅛" X 7' 11⅛" DIMENSIONS (REDUCED BY ½" FROM 4' X 8' TO ALLOW FOR PROPER SPACING DURING INSTALLATION). REFER TO STRUCTURAL ROOF FRAMING PLANS 3/SD723 & 4/SD723 FOR ADDITIONAL ATTACHMENT INFORMATION. ICC REPORT ESR-2586.
2. EXTERIOR SHEATHING: ⅝" DENSGLASS EXTERIOR SHEATHING. ICC REPORT ESR-3087.
3. ROOF SHEATHING: $^{23}/_{32}$" T&G PLYWOOD. ATTACHMENT OF PLYWOOD OR REPAIRS SEE 3/SD723 & 4/SD723.
4. TRIM/SILL/STOOL: ¾" SQUARE EDGE MDF SILL WITH OVERLAPPING "EARS" @ VERTICAL JAMBS. ATTACH SILL WITH (2) #8x1 ½" STS IN COUNTERSINK HOLES @ 12" O.C. (FILL ALL COUNTERSINK HOLES FLUSH WITH FINISH SURFACE.
5. BUILDING PAPER: TYVEK WRAP UNDER SIDING, OR DOUBLE LAYER FELT PAPER UNDER STUCCO.
6. OVERHANGS WITH EXPOSED PLYWOOD: 5/8" DURATEMP PLYWOOD SHEATHING OR HARDIBOARD SEE DETAILS AS TO LENGTHS REQUIRED WITH A SPAN RATING OF 40/20 STANDARD.

EXTERIOR FINISH:

1. PRIMER: WOOD BACK PRIMED, ACRYLIC LATEX AS RECOMMENDED BY PAINT MANUFACTURER, METAL STANDARD PRIMER AS REQUIRED.
2. EXTERIOR WOOD: ACRYLIC LATEX, SEMI GLOSS.
3. EXTERIOR METAL: ACRYLIC LATEX, SEMI GLOSS.
4. EXTERIOR STUCCO: 3-COAT CEMENT PLASTER WITH COLOR COAT.
5. METAL DOORS AND FRAMES: SEMI GLOSS.

INTERIOR FINISH:

1. INTERIOR WALL FINISH: VINYL WRAPPED "FIR-TEX" TACKBOARD PANELS. CLASS 'C', INSTALLED WITH GLUE AND COLOR HEAD FASTENERS AS REQUIRED. CLASS III FLAME SPREAD. MAXIMUM SMOKE DENSITY: 450 BY CHATFIELD-CLAKE.
2. INTERIOR WALL BACKING: GYP BD. SUBSTRATE OVER STUDS.
3. FLOOR FINISH: DIRECT GLUE DOWN CARPET OR 3/32" TO 1/8" VCT. NOTE: IF CARPET IS USED, THEN IT SHALL BE SECURELY ATTACHED; HAVE A FIRM CUSHION, PAD, OR BACKING, OR NO CUSHION OR PAD; AND HAVE A LEVEL LOOP, LEVEL CUT PILE, OR LEVEL CUT/UNCUT PILE TEXTURE. THE MAXIMUM PILE THICKNESS SHALL BE 1/2". EXPOSED EDGES OF CARPET SHALL BE FASTENED TO FLOOR SURFACES AND HAVE TRIM ALONG THE ENTIRE LENGTH OF THE EXPOSED EDGE. CHANGES IN LEVEL UP TO 1/4" MAY BE VERTICAL AND WITHOUT EDGE TREATMENT. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL HAVE A SLOPED TRANSITION BEVELED VINYL STRIP WITH A SLOPE NO GREATER THAN 1:2. CHANGES IN LEVEL GREATER THAN 1/2" SHALL BE ACCOMPLISHED BY MEANS OF A RAMP THAT COMPLIES WITH CURRENT REGULATIONS. CARPET CLASS II, .22 WATT/CM² MIN. ADHESIVES SHALL BE "HIGH MOISTURE" TYPE PRODUCTS.
4. CEILING GRID: HEAVY DUTY SERIES SYSTEM CLASSIFICATION PER ASTM C635. SEE #14 OF CEILING NOTES, THIS SHEET. MUST MEET REQUIREMENTS OF DSA IR25-2.13.
5. CEILING TILE: 2' X 4' MINERAL FIBER ACOUSTICAL CEILING TILE BY ARMSTRONG OR USG, OR EQUAL CLASS A, FLAME SPREAD 0-25, MAXIMUM SMOKE DENSITY 450.
6. FINISHED CEILING HEIGHT: MIN. 8'-0" AFF. CEILINGS MAY BE SLOPED OR HORIZONTAL.
7. OPTION: ⅝" GYPSUM BOARD @ WRAPPED BEAMS OR HORIZONTAL SOFFIT AREAS.

INSULATION:

NOTE: ALL INSULATION SHALL CONFORM TO SECTION 720, CBC, (SEE SCHEDULE ON SHEET A010)

1. ROOF BATTS: FSK - UNFACED BATTS APPLIED TO UNDERSIDE OF ROOF DECK. ASTM E 84 FLAME SPREAD: 75 , SMOKE DEVELOPED: 150. EXPOSED ABOVE SUSPENDED CEILINGS OR FRAMED CEILING WHERE EXPOSED TO ATTIC SPACES. UNFACED BATT INSUL. APPLIED TO UNDERSIDE OF ROOF DECK ABOVE CEILINGS, USE FSK FACED BATTS WHERE ROOF DECK/INSULATION IS EXPOSED TO ROOM BELOW (NO CEILING).
2. EXTERIOR WALL BATTS: SEE ASSEMBLIES & SCHEDULE ON SHEET A010, FACED INSUL WITH INTEGRAL VAPOR BARRIER.
3. INTERIOR WALL BATTS: SEE ASSEMBLIES & SCHEDULE ON SHEET A010, UNFACED INSUL. INTERIOR DEMISING WALLS INSTALL R-13 (MIN.).
4. INSTALL RIGID INSUL. BOARD @ ROOF DECK & EXTERIOR WALLS AS SHOWN ON WALL ASSEMBLIES ON SHEET A010 & ROOF ASSEMBLIES ON A910.

ROOFING:

1. ROOFING: 60 MIL. TPO SINGLE PLY ROOFING BY GAF "EVERGUARD TPO" MECHANICALLY ATTACHED SYSTEM OR EQUAL - MINIMUM CLASS A FIRE RATING, UL REPORT ER1306-01. INSTALL OVER (1) LAYER OF VERSASHIELD SOLO FIRE-RESISTANT SLIP SHEET TO PROVIDE A CLASS A FIRE RATING. ALLOW FOR 2" MIN OVERLAP AT SIDE LAP, AND 4" MINIMUM OVERLAP AT END LAPS, AND BE OFFSET FROM ADJACENT END LAPS BY 6'. INSTALL VERSASHIELD SOLO WITH 1" MINIMUM DIAMETER METAL OR PLASTIC CAPS, NAILS SHOULD BE LONG ENOUGH TO PENETRATE AT LEAST ¾" INTO DECKING.
2. INSTALL PER MFG. REQUIREMENTS. COLOR: TBD. ALL ROOF FLASHING MATERIALS TO BE FROM MANUFACTURER'S STANDARD COLOR, SELECTED BY AOR.

SHEET METAL/METAL:

1. SHEET METAL: 24 GAUGE GALVANIZED, SHEET METAL UNLESS OTHERWISE NOTED ON DRAWINGS.
2. DOWNSPOUTS: SHALL BE 3" ø - 22 GAUGE, SEE SHEET A918.

HOLLOW METAL INSULATED DOORS AND FRAMES:

1. EXTERIOR DOORS: 3'-0" X 7'-0" (MIN). TYPE L FULL FLUSH, 16 GAUGE, WITH 22 GAUGE STEEL-STIFFENERS AT 6" O.C. (NO STIFFENER FACE WELDING IS PERMITTED), 1 3/4" THICK.
2. FRAMES: 14 GAUGE, COLD ROLLED, 2" FACES FULLY WELDED TYPE ONLY, WITH WEATHERING FLANGES.
3. 26 GAUGE FORMED DRIP OR PEMKO RAIN DRIP FLASHING OVER ALL DOORS.
4. EXTERIOR DOORS AND FRAMES SHALL BE HOT-DIPPED GALVANIZED PER ASTM A653. DOORS AND FRAMES TO BE CLEANED AND CHEMICALLY TREATED TO INSURE MAXIMUM FINISH PAINT ADHESION. SURFACES OF THE DOOR AND FRAMES EXPOSED TO VIEW TO RECEIVE A FACTORY APPLIED COAT OF RUST INHIBITING SHOP PRIMER COMPLYING WITH ANSI/SDI A250.10.

INTERIOR WOOD DOORS

1. FRAMES: 16 GAUGE, COLD ROLLED FULLY WELDED FRAME WITH 2" FACES.
2. WOOD DOORS: 1 ¾" THICK, SOLID CORE, VENEER FACED, COMPOSITE CORE PREPARED FOR STAINING.

FINISH HARDWARE: SEE SHEET SA801.

WINDOWS & GLAZING:

1. WINDOW: EXTERIOR WINDOWS ARE TO BE ALUMINUM CASEMENT KAWNEER 8225TL SERIES WINDOWS WITH NAIL FLANGE, UNITS, WITH A KAYNAR 500 PAINTED FINISH. INTERIOR WINDOWS ARE TO BE 16 GAUGE HOLLOW METAL FRAMES, COLD ROLLED, 2" FACES FULLY WELDED TYPE ONLY. SEE WINDOW SCHEDULE (SHEET SA800) FOR SIZES AND SHEET A010 FOR GLAZING CHARACTERISTICS.
2. GLAZING: ALL GLASS USED SHALL BE DOUBLE PANED FOR EXTERIOR WINDOWS, SINGLE PANE FOR INTERIOR WINDOWS, SEE SHEET A010 FOR GLAZING CHARACTERISTICS.
3. GLAZING IN DOORS OR WITHIN 2'-0" EA. SIDE OF DOOR SHALL BE $^{3}/_{16}$" SAFETY GLAZING / TEMPERED COMPLYING W/ CBC 2406. SEE ADDITIONAL NOTES ON SA801.
4. INTERIOR GLAZING SHALL BE A MIN. OF $^{3}/_{16}$" THICK. GLAZING SHALL BE SAFETY TYPE/TEMPERED IF WITHIN 2'-0" OF DOORS OR LOWER THAN 2'-6" ABOVE FLOOR.

MECHANICAL: SEE MECHANICAL DRAWINGS FOR SPECIFICATIONS, SHEET M701.

PLUMBING: SEE PLUMBING DRAWINGS FOR SPECIFICATIONS, SHEET P701.

ELECTRICAL: SEE ELECTRICAL DRAWINGS FOR SPECIFICATIONS, SHEET E-102 & E-103.

CEILING INSTALLATION NOTES/REQUIREMENTS:

NOTE: SUSPENDED CEILING SYSTEMS WILL BE ACCEPTABLE IN PLANS AND SPECIFICATIONS FOR CEILING SYSTEMS WHOSE TOTAL WEIGHT INCLUDING AIR CONDITIONING GRILLES AND LIGHT FIXTURES DOES NOT EXCEED FOUR (4) PSF:

1. COMPLETE HEAVY DUTY SUSPENDED CEILING SYSTEMS COMPLYING WITH AND INSTALLED WITH DSA IR25-2.13 ARE ACCEPTABLE.12 GAUGE (MINIMUM) HANGER WIRES MAY BE USED UP TO AND INCLUDING 4'-0" X 4'-0" GRID SPACING ALONG MAIN RUNNERS.
2. PROVIDE 12 GAUGE HANGER WIRES AT THE END OF ALL MAIN AND CROSS RUNNERS WITHIN 8" FROM THE SUPPORT OR WITHIN 1/4 OF LENGTH OF THE END TEE, WHICHEVER IS LEAST, FOR THE PERIMETER OF THE CEILING AREA.
3. NOT USED
4. CEILING GRID MEMBERS MAY BE ATTACHED TO NOT MORE THAN 2 ADJACENT WALLS SEE 5/A931 FOR DETAILS. CEILING GRID MEMBERS SHOULD BE AT LEAST 3/4 INCH FREE OF OTHER WALLS.
5. AT THE PERIMETER OF THE CEILING AREA WHERE MAIN OR CROSS RUNNERS ARE NOT CONNECTED TO THE ADJACENT WALL, PROVIDE INTERCONNECTION BETWEEN THE RUNNERS AT THE FREE END TO PREVENT LATERAL SPREADING SEE 5/A931. A METAL STRUT OR A 16 GAUGE WIRE WITH A POSITIVE MECHANICAL CONNECTION TO THE RUNNER MAY BE USED.
6. PROVIDE SETS OF FOUR 12 GAUGE SPLAYED BRACING WIRES ORIENTED 90 DEGREES FROM EACH OTHER AT THE FOLLOWING SPACING:
   - A PLACE SETS OF BRACING WIRES AT A SPACING NOT MORE THAN 8 FEET X 12 FEET ON CENTER.
   - B PROVIDE BRACING WIRES AT LOCATIONS NOT MORE THAN 1/2 THE SPACING GIVEN IN (A) ABOVE FROM EACH PERIMETER WALL AND AT EDGE OF VERTICAL CEILING OFFSETS FOR SCHOOL BUILDINGS.

THE SLOPE OF THESE WIRES MAY NOT EXCEED 45 DEGREES FROM THE PLANE OF THE CEILING AND SHOULD BE TAUT WITHOUT CAUSING THE CEILING TO LIFT. SPLICES IN BRACING WIRES ARE NOT TO BE PERMITTED WITHOUT SPECIAL DSA APPROVAL.

7. FASTEN HANGER WIRES WITH NOT LESS THAN 3 TIGHT TURNS IN 3" MAX LENGTH. FASTEN BRACING WIRES WITH 4 TIGHT TURNS IN 1.5" MAX LENGTH. HANGER OR BRACING WIRE ANCHORS TO THE STRUCTURE SHOULD BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION FOR THE WIRE ALIGNS AS CLOSE AS POSSIBLE WITH THE DIRECTION OF THE FORCES ACTING ON THE WIRE.
8. SEPARATE ALL CEILING HANGING AND BRACING WIRES AT LEAST 6 INCHES FROM ALL UNBRACED DUCTS, PIPES, CONDUIT, ETC.
9. ATTACH ALL LIGHT FIXTURES TO THE CEILING GRID RUNNERS W/ A MINIMUM OF (2) #8 SCREWS OR APPROVED FASTENERS (SEE DSA IR 25.2-16, SEC. 7.2.1) TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURES.
10. FLUSH OR RECESSED LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING LESS THAN 56 POUNDS MAY BE SUPPORTED DIRECTLY ON THE RUNNERS OF A HEAVY DUTY GRID SYSTEM, BUT, IN ADDITION, THEY MUST HAVE A MINIMUM OF TWO 12 GAUGE SLACK SAFETY WIRES EACH ATTACHED TO THE FIXTURE AT DIAGONAL CORNERS AND ANCHORED TO THE STRUCTURE ABOVE, SEE 1 & 4/A931.
11. NOT USED.
12. NOT USED.
13. NOT USED.
14. HEAVY DUTY SUSPENDED CEILING SYSTEMS MEETING THE REQUIREMENTS ABOVE ARE ACCEPTABLE.

SPECIALTIES:

1. FIRE ALARM SYSTEMS: SEE FA SHEETS THIS SET.
2. FIRE EXTINGUISHERS: 2A10BC U.L. RATED.
   - A LARSEN, ULINE, OR EQUAL #5 2A:10BC WITH WALL HANGING BRACKET @ +48" AFF. TO OPERATING HANDLE.
   - B ULINE RECESSED OR SEMI-RECESSED H5800 STEEL CABINET WITH PLEXIGLAS FRONT AND STAINLESS STEEL HANDLE.
3. CEILING ACCESS DOORS: ACUDOR HINGED ACCESS DOOR WITH CAM LOCK. MIN. SIZE 14"x14" WITH CONTINUOUS CONCEALED HINGE, FLUSH MOUNTED, PRIMED/READY FOR PAINTING.

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
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ISSUE:	DESCRIPTION:	DATE:
1	DISTRICT REVIEW	09.08.2022
2	DSA SUBMITTAL V1	10.03.2022

DRAWN BY: JPH
CHECKED BY: NEW
PLOT DATE: 08.11.2022

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

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LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP. 30 2023
NO. C10851
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

SPECIFICATIONS

A005

CAL GREEN BUILDING STANDARDS 2019

CONSTRUCTION WASTE MANAGEMENT PLAN (SECTION 5.408)

A. DEFINITIONS
1. CONSTRUCTION AND DEMOLITION (C&D) WASTE: INCLUDES ALL NON-HAZARDOUS SOLID WASTES RESULTING FROM CONSTRUCTION, REMODELING, ALTERATIONS, REPAIR, AND DEMOLITION. INCLUDING MATERIAL THAT IS RECYCLED, REUSED, SALVAGED OR DISPOSED AS GARBAGE.
2. RECYCLING: THE PROCESS OF SORTING, CLEANING, TREATING, AND RECONSTITUTING MATERIALS FOR THE PURPOSE OF USING THE MATERIAL IN THE MANUFACTURE OF NEW PRODUCT.
3. CO-MINGLED C&D RECYCLING: THE PROCESS OF COLLECTING MIXED RECYCLABLE MATERIALS IN ONE CONTAINER ON-SITE. THE CONTAINER IS TAKEN TO A MATERIAL RECOVERY FACILITY WHERE MATERIALS ARE SEPARATED FOR RECYCLING.

B. PERFORMANCE REQUIREMENTS
1. GENERAL: WASTE MATERIAL GENERATED DURING PROJECTS SHALL BE RECYCLED OR REUSED WHENEVER PRACTICABLE. DIVERT A MINIMUM OF 65% C&D (NON HAZARDOUS) WASTE, BY WEIGHT, FROM THE LANDFILL BY A CO-MINGLED C&D RECYCLING FACILITY.
   A C&D WASTE MATERIALS THAT SHALL BE SALVAGED, REUSED OR RECYCLED INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

   CONCRETE, METALS, WINDOW GLASS, WOOD, GYPSUM BOARD, CARPETING AND PAD, CEILING TILES.

C. QUALITY ASSURANCE
1. PRECONSTRUCTION CONFERENCE: REVIEW METHODS AND PROCEDURES RELATED TO WASTE MANAGEMENT
   INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
   A REVIEW AND DISCUSS WASTE MANAGEMENT PLAN INCLUDING RESPONSIBILITIES OF WASTE MANAGEMENT COORDINATOR.
   B REVIEW REQUIREMENTS FOR DOCUMENTING QUANTITIES OF EACH TYPE OF MATERIALS THAT WILL BE SALVAGED, RECYCLED OR DISPOSED OF AS WASTE.
   C REVIEW PROCEDURES FOR PERIODIC WASTE COLLECTION AND TRANSPORTATION TO RECYCLING AND DISPOSAL FACILITIES.
   D REVIEW WASTE MANAGEMENT REQUIREMENTS EACH TRADE.

D. WASTE MANAGEMENT PLAN
1. IDENTIFY AND CONTRACT WITH A WASTE MANAGEMENT SERVICES PROVIDER OR ASSIGN RESPONSIBILITY TO INHOUSE WASTE MANAGEMENT PROJECT ADMINISTRATOR
2. RESPONSIBLE PARTY SHALL DEVELOP AND PROVIDE A PLAN WHICH INCLUDES THE FOLLOWING INFORMATION:
   A TYPES OF C&D WASTE EXPECTED GENERATED DURING DEMOLITION AND CONSTRUCTION.
   B PROPOSED METHODS FOR SALVAGE, REUSE, RECYCLING AND DISPOSAL
   C PROPOSED METHODS FOR SALVAGE, REUSE, RECYCLING AND DISPOSAL DURING CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, ONE OR MORE OF THE FOLLOWING:
   D REQUIRING SUBCONTRACTORS TO TAKE THEIR C&D WASTE TO RECYCLING FACILITY.
   E CONTRACTING WITH A RECYCLING HAULER TO HAUL RECYCLABLE C&D WASTE TO AN APPROVED RECYCLING OR MATERIAL RECOVERY FACILITY.
   F PROCESSING AND REUSING MATERIALS ON-SITE.

E. WASTE MANAGEMENT REPORT
1. WASTE MANAGEMENT SERVICES PROVIDER OR ADMINISTRATOR SHALL SUBMIT A CUMULATIVE WASTE MANAGEMENT REPORT ON A REGULAR BASIS WHICH INCLUDES:
   A A RECORD OF THE TYPE QUANTITY, BY WEIGHT, OF EACH MATERIAL SALVAGED, REUSED, RECYCLED OR DISPOSED.
   B TOTAL QUANTITY OR WASTE RECYCLED AS A PERCENTAGE OF TOTAL WASTE.
   C DISPOSAL RECEIPTS: COPY OF RECEIPTS ISSUED BY A DISPOSAL FACILITY FOR C&D WASTE THAT IS DISPOSED IN A LANDFILL.
   D RECYCLING RECEIPTS: COPY OF RECEIPTS ISSUED BY APPROVED RECYCLING FACILITIES FOR CO-MINGLED MATERIALS. INCLUDE WEIGHT TICKETS FROM THE RECYCLING HAULER OR MATERIAL RECOVERY FACILITY AND VERIFICATION OF THE RECYCLING RATE FOR CO-MINGLED LOADS AT THE FACILITY
   E SALVAGED MATERIALS DOCUMENTATION: TYPES AND QUANTITIES, BY WEIGHT, FOR MATERIALS SALVAGED FOR REUSE ON SITE, SOLD OR DONATED TO A THIRD PARTY.

F. CONSTRUCTION WASTE MANAGEMENT, GENERAL REQUIREMENTS
1. USE DETAILED MATERIAL ESTIMATES TO REDUCE RISK OF UNPLANNED AND POTENTIALLY WASTEFUL CUTS.
2. TO THE GREATEST EXTENT POSSIBLE, INCLUDE IN MATERIAL PURCHASING AGREEMENTS A WASTE REDUCTION PROVISION REQUESTING THAT MATERIALS AND EQUIPMENT BE DELIVERED IN PACKAGING MADE OF RECYCLABLE MATERIAL, THAT THEY REDUCE THE AMOUNT OF PACKAGING, THAT PACKAGING BE TAKEN BACK FOR REUSE OR RECYCLING, AND TO TAKE BACK ALL UNUSED PRODUCT. INSURE THAT SUBCONTRACTORS REQUIRE THE SAME PROVISIONS IN THEIR PURCHASE AGREEMENTS.
3. CONDUCT REGULAR VISUAL INSPECTIONS OF DUMPSTERS AND RECYCLING BINS TO REMOVE CONTAMINATES.

G. REMOVAL OF CONSTRUCTION WASTE MATERIALS, GENERAL REQUIREMENTS
1. REMOVE C&D WASTE MATERIALS FROM PROJECT SITE ON A REGULAR BASIS. DO NOT ALLOW C&D WASTE TO ACCUMULATE ON-SITE.
2. TRANSPORT C&D WASTE MATERIALS OFF PROPERTY AND LEGALLY DISPOSE OF THEM.
3. BURNING OF C&D WASTE IS NOT PERMITTED.

FINISH MATERIALS POLLUTANT CONTROL (5.504.4)

ADHESIVES, SEALANTS AND CAULKS (SECTION 5.504.4.1)

ALL ADHESIVES SEALANTS AND CAULKS APPLIED IN THE PROJECT'S INTERIOR SHALL MEET THE REQUIREMENTS OF THE 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11, SECTION 5.504.4.1 PRODUCTS IN THIS CATEGORY INCLUDING, BUT ARE NOT LIMITED TO CARPET, RESILIENT AND WOOD FLOORING ADHESIVES, BASE COVE ADHESIVES, CERAMIC TILE ADHESIVES, DRYWALL AND PANEL ADHESIVES, AEROSOL ADHESIVES ADHESIVE PRIMERS, ACOUSTICAL SEALANTS, FIRE STOP SEALANTS, HVAC DUCT SEALANTS, SEALANT PRIMERS, AND CAULKS.

PAINTS AND COATINGS (SECTION 5.504.4.3)

ALL PAINTS AND ARCHITECTURAL COATINGS APPLIED IN THE PROJECT'S INTERIOR SHALL MEET THE REQUIREMENTS OF THE 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11, SECTION 5.504.4.3 PRODUCTS IN THIS CATEGORY INCLUDING, BUT ARE NOT LIMITED TO SEALERS, STAINS, CLEAR WOOD FINISHES, FLOOR SEALERS AND COATINGS, WATERPROOFING SEALERS, PRIMERS, FLAT PAINTS AND COATINGS, NON-FLAT PAINTS AND COATINGS, RUST PREVENTIVE COATINGS.

AEROSOL PAINTS & COATINGS (SECTION5.504.4.3.1)

ALL AEROSOL PAINTS & COATINGS SHALL MEET THE PWMIR UNITS FOR ROC IN SECTION 94552(A)(3) % VOC LIMITS BY WEIGHT PER TABLE 5.504.4.3

CARPET SYSTEMS & ADHESIVES (SECTION 5.504.4.4 & 5.504.4.2)

ALL CARPET SYSTEMS SHALL MEET THE REQUIREMENTS OF THE 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11 SECTION 5.504.4.4 ALL CARPET & PADDING SHALL BE PER THE CARPET AND RUG INSTITUTE'S GREEN LABEL PLUS PROGRAM OR SHALL BE LISTED IN THE CHPS HIGH PERFORMANCE PRODUCT DATABASE. ALL CARPET PAD SHALL BE PER THE CARPET AND RUG INSTITUTE GREEN LABEL PROGRAM. CARPET ADHESIVES SHALL MEET REQUIREMENTS OF 5.504.4.1 AND MOISTURE CONTROL (5.407.2).

RESILIENT FLOORING SYSTEMS (SECTION 5.504.4.6)

80% OF FLOORING SYSTEMS SHALL MEET THE REQUIREMENTS OF THE 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11 SECTION 5.504.4.6
1. CERTIFIED UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOOR CORE PROGRAM.
2. COMPLIANT WITH THE VOC-EMISSION LIMITS AND TESTING REQUIREMENTS SPECIFIED IN THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S 2010 STANDARD METHOD FOR THE TESTING AND EVALUATION CHAMBERS, VERSION 1.1, FEBRUARY 2010.
3. COMPLIANT WITH THE COLLABORATIVE FOR HIGH PERFORMANCE SCHO0LS CALIFORNIA (2014 CA-CHPS) CRITERIA LISTED IN THE CHPS HIGH PERFORMANCE PRODUCT DATA BASE; OR
4. PRODUCTS CERTIFIED UNDER UL GREENGUARD GOLD (FORMERLY THE GREENGUARD CHILDREN'S & SCHOOLS PROGRAM)

COMPOSITE WOOD (SECTION 5.504.4.5)

ALL OF THE COMPOSITE WOOD PRODUCTS INSTALLED IN THE PROJECT SHALL MEET THE REQUIREMENTS OF THE 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11, SECTION 5.504.4.5 COMPOSITE WOOD PRODUCTS IN THIS CATEGORY ARE DEFINED IN THE CALIFORNIA AIR RESOURCES BOARD (CARE) AIRBORNE TOXIC CONTROL MEASURE (ATCM) TO REDUCE FORMALDEHYDE EMISSIONS FROM COMPOSITE WOOD PRODUCTS (SECTIONS 93120-93120.12, TITLE 17, CALIFORNIA CODE OF REGULATIONS. THE AFFECTED PRODUCTS INCLUDE HARDWOOD PLYWOOD, PLYWOOD WITH DECORATIVE SOFTWOOD VENEER, LAMINATED PRODUCTS WITH A COMPOSITE WOOD CORE OR PLATFORM, PARTICLEBOARD, MEDIUM DENSITY FIBERBOARD (MDF), AND FINISHED GOODS FABRICATED FROM.

PRIMARY EXTERIOR DOORS

ALL WALL AND FLOOR SURFACES WITHIN 24" OF A PRIMARY EXTERIOR DOOR SHALL BE NON-ABSORBANT. ALL PRIMARY EXTERIOR DOORS SHALL BE PROTECTED BY AN OVERHANG, AWNING OR SIMILAR ELEMENT NOT LESS THAN 48" IN DEPTH. SEE DETAIL A, THIS SHEET.

OUTDOOR AIR QUALITY

HVAC, REFRIGERATION AND FIRE SUPPRESSION SYSTEMS SHALL NOT CONTAIN CFCs OR HALONS.

INDOOR AIR QUALITY (SECTION 5.504.5.3)

A. CONSTRUCTION PHASE:

FILTERS
1. ALL MECHANICAL EQUIPMENT WHICH REQUIRES A FILTER SHALL NOT BE OPERATED WITHOUT A FILTER IN PLACE.
2. ALL FILTERS SHALL HAVE A MERV RATING OF 13 OR GREATER, WITH A MINIMUM DEPTH OF 2"
3. A PRESSURE GAUGE SHALL BE INSTALLED AT ALL MECHANICAL EQUIPMENT REQUIRING FILTERS WHICH MEASURES THE PRESSURE DROP ACROSS THE FILTER AND WHICH IS MARKED TO INDICATE WHEN THE FILTER REQUIRES CLEANING OR REPLACEMENT.

PROTECTION OF MATERIALS
1. ALL BUILDING MATERIALS SHALL BE PROTECTED FROM WEATHER AND MOISTURE SOURCES WHEN RECOMMENDED BY THE MANUFACTURER.
2. ANY POROUS MATERIAL WITH VISIBLE MICROBIAL GROWTH SHALL NOT BE INSTALLED.
3. ANY OTHER MATERIAL WITH VISIBLE MICROBIAL GROWTH SHALL BE THOROUGHLY CLEANED AND DECONTAMINATED PRIOR TO INSTALLATION.

PROTECTION OF INTERIOR ENVIRONMENT
1. WHENEVER POSSIBLE ALL SANDING, CUTTING GRINDING OR OTHER ACTIVITIES WHICH WILL GENERATE AIRBORNE PARTICLES SHALL BE PERFORMED AWAY FROM BUILDING.
2. WHERE AIRBORNE PARTICLE GENERATING ACTIVITIES CANNOT BE PREFORMED AWAY FROM THE BUILDING PROTECTIVE MEASURES SHALL BE TAKEN TO SEAL INTERIOR AREAS TO REDUCE OR ELIMINATE PARTICLE TRANSFER.
3. ANY TEMPORARILY UNFILLED EXTERIOR OPENINGS SHALL BE PROTECTED WITH PLASTIC SHEETING, OR OTHER BARRIER, TO PREVENT THE MOISTURE AND OTHER CONTAMINANTS FROM ENTERING THE BUILDING.
4. ALL WELDING SHALL BE PERFORMED PRIOR TO THE INSTALLATION OF EXTERIOR WALLS WHEREVER POSSIBLE.

DUCT SYSTEM CONSTRUCTION
1. THE DUCT SYSTEMS SHALL BE CONSTRUCTED AND INSTALLED PER THE SMACNA HV DUCT CONSTRUCTION STANDARDS FOR METAL AND FLEXIBLE DUCTWORK.
2. THE DUCT SYSTEMS SHALL BE CONSTRUCTED AND INSTALLED PER THE SMACNA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS.
3. THE DUCT SYSTEMS SHALL BE CONSTRUCTED AND INSTALLED PER NFPA 90A & NFPA 90B.
4. ALL OPEN DUCTS AND REGISTERS SHALL BE PROTECTED WITH PLASTIC SHEETING, OR OTHER BARRIER, UNTIL THE BUILDING HAS BEEN COMPLETELY INSTALLED AND ENCLOSED AND THE MECHANICAL SYSTEM IS READY TO BE STARTED.
5. ALL OIL FILM SHALL BE REMOVED FROM DUCTS PRIOR TO INSTALLATION.
6. ALL DUST AND DIRT SHALL BE REMOVED FROM BOTH THE INTERIOR AND EXTERIOR OF ALL DUCTS PRIOR TO INSTALLATION.

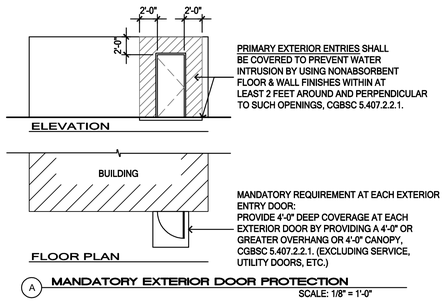
MATERIALS INSTALLATION
1. NATURAL OR TEMPORARY MECHANICAL VENTILATION SHALL BE PROVIDED WHEN MATERIALS EMIT VOLATILE ORGANIC COMPOUNDS (VOC) ARE INSTALLED.
2. NATURAL OR TEMPORARY MECHANICAL VENTILATION SHALL BE CONTINUED UNTIL SUCH A TIME THAT THE VOE EMISSIONS HAVE DISSIPATED.
3. ANY TEMPORARY VENTILATION SHALL BE EXHAUSTED TO THE EXTERIOR OF THE BUILDING.
4. WHEN TEMPORARY MECHANICAL VENTILATION IS USED A CONSTRUCTION FILTER SHALL BE INSTALLED WITH MERV RATING NOT LESS 8. THE CONSTRUCTION FILTER SHALL BE REPLACED PRIOR TO OCCUPANCY.
5. MATERIALS INSTALLATION SHALL BE SEQUENCED WHENEVER POSSIBLE TO ALLOW FOR THE INSTALLATION OF VOE EMITTING MATERIALS PRIOR PRIOR TO THE INSTALLATION OF POROUS AND FIBROUS MATERIALS.
6. MATERIALS WHICH EMIT A SIGNIFICANT AMOUNT OF VOCS OR ORDERS SHALL BE STORED IN A MANNER WHICH ALLOWS FOR OFF-GASSING, IN A DRY AND WELL VENTILATION AREA, PRIOR TO INSTALLATION.
7. CARPETED SURFACES SHALL BE VACUUMED PER THE CRJ/GREEN LABEL CLEANER PROGRAM REQUIREMENTS AT COMPLETION OF CONSTRUCTION AND PRIOR TO OCCUPANCY.

ACOUSTICAL CONTROL (SECTION 5.507.4)

ALL REGULARLY OCCUPIED BUILDINGS CONSTRUCTED PER THIS PC SHALL MEET THE REQUIREMENTS OF THE 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11, SECTION 5.507.4 THE ARCHITECT OF RECORD FOR THE PROJECT SITE THE PC BUILDING IS TO BE INSTALLED UPON SHALL IDENTIFY IF ANY NOISE TRANSMISSION MEASURES ARE REQUIRED BASED UPON THE NOISE LEVEL PRESENT AT THE PROJECT SITE. EXCEEDING 65 CNEL NOISE CONTOUR OF AIRPORT, 65 CNEL OR LDN NOISE CONTOUR OF FREEWAY, EXPRESSWAY, RAILROAD, OR INDUSTRIAL AREA., NOISE LEVEL OF 65db LEG-1HR. DURING ANY HOUR OF OPERATION. NECESSARY WALL, ROOF AND WINDOW ASSEMBLIES MEETING THE STC AND OR RATINGS SPECIFIED IN SECTIONS 5.507.4.1 & 5.507.4.1.1 SHALL BE UTILIZED.

INTERIOR SOUND TRANSMISSIONS (5.507.4.3)

WALLS BETWEEN CLASSROOMS SHALL BE CONSTRUCTED TO MAINTAIN A MINIMUM STC OF 40. SEE DETAILS ON SHEET A010.



A MANDATORY EXTERIOR DOOR PROTECTION
SCALE: 1/8" = 1'-0"

2019 GREEN BUILDING MANDATORY MEASURES

■	301.4	MANDATORY MEASURES FOR PUBLIC SCHOOLS AND COMMUNITY COLLEGES
□	301.4.3	MINIMUM REHABILITATED LANDSCAPE AREA REQUIREMENT
□	5.106.4.2.1	STUDENT BICYCLE PARKING
□	5.106.4.2.2	STAFF BICYCLE PARKING
□	5.106.5.3	ELECTRIC VEHICLE (EV) CHARGING
□	5.106.5.3.1	SINGLE CHARGING SPACE REQUIREMENTS
□	5.106.5.3.2	MULTIPLE CHARGING SPACE REQUIREMENTS
□	5.106.5.3.4	IDENTIFICATION
□	5.106.5.3.5	FUTURE CHARGING SPACES
□	5.106.8	LIGHT POLLUTION REDUCTION
□	5.106.10	GRADING AND PAVING
□	5.106.12	SHADE TREES
□	5.106.12.1	SURFACE PARKING AREAS
□	5.106.12.2	LANDSCAPE AREAS
□	5.106.12.3	HARDSCAPE AREAS
■	5.201.1	CALIFORNIA ENERGY CODE
□	5.303.3.1	WATER CLOSETS
□	5.303.3.2	URINALS
□	5.303.3.2.1	WALL MOUNTED URINALS
□	5.303.3.2.2	FLOOR MOUNTED URINALS
□	5.303.3.3.1	SINGLE SHOWERHEAD
□	5.303.3.3.2	MULTIPLE SHOWERHEADS SERVING ONE SHOWER
■	5.303.3.4.1	NON-RESIDENTIAL LAVATORY FAUCETS
□	5.303.3.4.2	KITCHEN FAUCETS
□	5.303.3.4.3	WASH FOUNTAINS
■	5.303.3.4.4	METERING FAUCETS
□	5.303.3.4.5	METERING FAUCETS FOR WASH FOUNTAINS
■	5.303.6	STANDARDS FOR PLUMBING FIXTURES AND FITTINGS
□	5.304.6.1	NEW CONSTRUCTED LANDSCAPES
□	5.304.6.2	REHABILITATED LANDSCAPES
■	5.407.1	WEATHER PROTECTION
■	5.407.2.1	SPRINKLERS
■	5.407.2.2.1	EXTERIOR DOOR PROTECTION
■	5.407.2.2.2	FLASHING
■	5.408.1.1	CONSTRUCTION WASTE MANAGEMENT PLAN
□	5.408.1.2	CONSTRUCTION WASTE MANAGEMENT COMPANY
□	5.408.1.3	WASTE STREAM REDUCTION ALTERNATIVE
□	5.408.1.4	DOCUMENTATION
□	5.410.1	RECYCLING BY OCCUPANTS
□	5.410.1.2	SAMPLE ORDINANCE
■	5.504.3	COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION
■	5.504.4.1	ADHESIVES, SEALANTS, AND CAULKS
■	5.504.4.3	PAINTS AND COATINGS
■	5.504.4.3.1	AEROSOL PAINTS AND COATINGS
□	5.504.4.3.2	VERIFICATION
□	5.504.4.4	CARPET SYSTEMS
□	5.504.4.4.1	CARPET CUSHION
□	5.504.4.4.2	CARPET ADHESIVE
□	5.504.4.5	COMPOSITE WOOD PRODUCTS
■	5.504.4.6	RESILIENT FLOORING SYSTEMS
■	5.504.5.3	FILTERS
■	5.504.5.3.1	LABELING
■	5.505.1	INDOOR MOISTURE CONTROL
■	5.506.1	OUTSIDE AIR DELIVERY
□	5.507.4	ACOUSTICAL CONTROL
□	5.507.4.1	EXTERIORS NOISE TRANSMISSION, PRESCRIPTIVE METHOD
□	5.507.4.1.1	NOISE EXPOSURE WHERE NOISE CONTOURS ARE NOT READILY AVAILABLE
■	5.507.4.2	PERFORMANCE METHOD
□	5.507.4.2.1	SITE FEATURES
□	5.507.4.2.2	DOCUMENTATION OF COMPLIANCE
■	5.507.4.3	INTERIOR SOUND TRANSMISSION
□	5.508.1.1	CHLOROFLUOROCARBONS (CFCs)

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PIEDMONT MIDDLE SCHOOL
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NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP. 30, 2023
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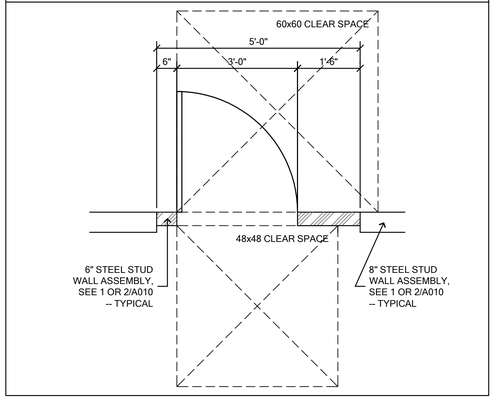
CAL GREEN BLDG. STANDARDS 2019

A006

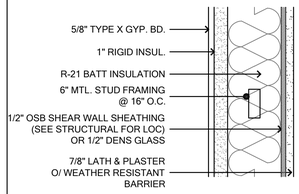
WALL THICKNESS CHANGE @ ENTRY DOOR



10

EXTERIOR WALL ASSEMBLIES

EXTERIOR WALLS - STUCCO
7/8" CEMENT PLASTER
WEATHER RESISTANT BARRIER
1/2" OSB SHEAR WALL SHEATHING (AS INDICATED ON STRUCT DWGS) OR
/ 1/2" EXT. SHEATHING (DENSGLASS) IN LOCATIONS W/O OSB SHEAR WALL SHEATHING
R-21 CAVITY
R-6.5 - 1" CLOSED-CELL POLYISOCYLANURATE RIGID INSULATION FOAM BOARD @ INTERIOR
TYPE "X" GYPSUM BOARD

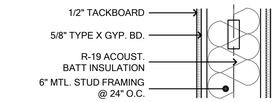


STC RATING = 50

1

INTERIOR WALL ASSEMBLIES

6" WALL
5/8" GYPSUM BOARD
R-19 CAVITY (6")
5/8" GYPSUM BOARD
1/2" TACKBOARD (WHERE SHOWN ON INTERIOR ELEVATIONS)

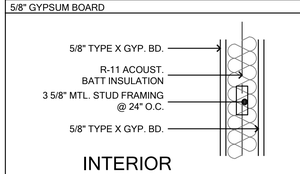


STC RATING = 45 TO 49

5

INTERIOR WALL ASSEMBLIES

3 5/8" WALL
5/8" GYPSUM BOARD
R-11 CAVITY (3 1/2")
5/8" GYPSUM BOARD

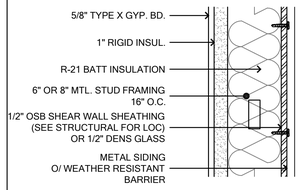


STC RATING = 45 TO 49

6

EXTERIOR WALL ASSEMBLIES

EXTERIOR WALLS - METAL SIDING
METAL SIDING
WEATHER RESISTANT BARRIER
1/2" OSB SHEAR WALL SHEATHING (AS INDICATED ON STRUCT DWGS) OR
/ 1/2" EXT. SHEATHING (DENSGLASS) IN LOCATIONS W/O OSB SHEAR WALL SHEATHING
R-21 CAVITY
R-6.5 - 1" CLOSED-CELL POLYISOCYLANURATE RIGID INSULATION FOAM BOARD @ INTERIOR
TYPE "X" GYPSUM BOARD



STC RATING = 50

2

CZ - 2 ENVELOPE ASSEMBLIES

ROOF - GYM	METAL ROOFING + 3" RIGID INSULATION BOARD W/ NAILER + 2" RIGID INSULATION BOARD + METAL ACOUSTIC DECK
ROOF	R-30 CAVITY + PLYWOOD DECK + SINGLE PLY ROOFING MATERIAL
EXT. WALLS	7/8" CEMENT PLASTER, 1/2" OSB OR EXT. SHEATHING (SEE STRUCTURAL FOR LOCATION), R-19 CAVITY, R-6.5 RIGID @ INTERIOR, 5/8" GB STC-50 (MIN)
FLOOR	SLAB-ON-GRADE FOUNDATION
WINDOW/GLAZING	U-0.39, SHGC-0.25, VT-0.49
HVAC	EER-10.6, IEER-12.0
SKYLIGHT	U-0.40, SHGC-0.27, VT-0.42

B NOT USED
SCALE: NONE

C BUILDING ENVELOPE ASSEMBLIES
SCALE: NONE

A WALL ASSEMBLIES
SCALE: NONE

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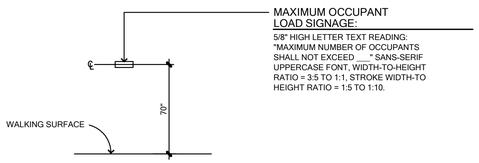
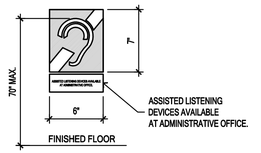
WALL ASSEMBLIES

A010



10 MAXIMUM OCCUPANT LOAD SIGNAGE
SCALE: NTS



LETTERING AT VISUAL SIGNS SHALL COMPLY WITH IIB-703.5 AND BE A MINIMUM OF ⅝" HIGH.

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

SIGN TO BE COMPLETED AT SITE SPECIFIC APPLICATION AS TO LOCATION OF DEVICE AVAILABILITY.
RECEIVERS: 4% MIN., AT LEAST 2 RECEIVERS TO BE PROVIDED.

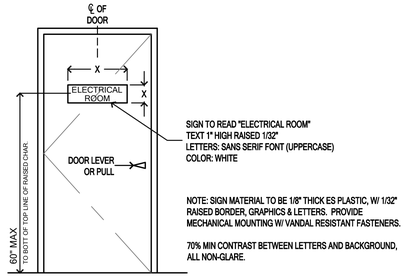
TABLE 11B-703.5.5
VISUAL CHARACTER HEIGHT

HEIGHT TO FINISH FLOOR OR GROUND FROM BASELINE OF CHARACTER	HORIZONTAL VIEWING DISTANCE	MINIMUM CHARACTER HEIGHT
40 INCHES TO LESS THAN OR EQUAL 70 INCHES	LESS THAN 72 INCHES	⅝ INCH
	72 INCHES AND GREATER	⅝ INCH, PLUS ⅛ INCH PER FOOT OF VIEWING DISTANCE ABOVE 72 INCHES
GREATER THAN 70 INCHES TO LESS THAN OR EQUAL TO 120 INCHES	LESS THAN 180 INCHES	2 INCHES
	180 INCHES AND GREATER	2 INCHES, PLUS ⅛ INCH PER FOOT OF VIEWING DISTANCE ABOVE 180 INCHES
GREATER THAN 120 INCHES	LESS THAN 21 FEET	3 INCHES
	21 FEET AND GREATER	3 INCHES, PLUS ⅛ INCH PER FOOT OF VIEWING DISTANCE ABOVE 21 FEET

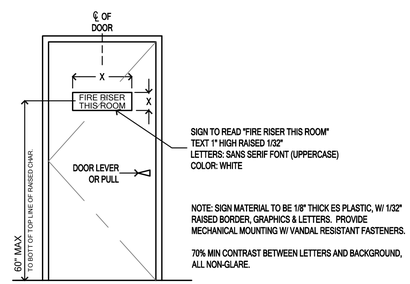
11 ASSISTED LISTENING SIGNAGE
SCALE: NTS

12 NOT USED
SCALE: -

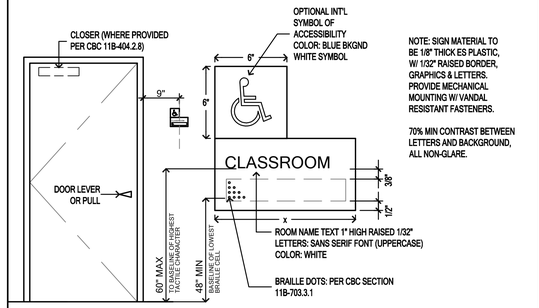
7 NOT USED
SCALE: NTS



8 ELECTRICAL ROOM SIGNAGE
SCALE: NTS

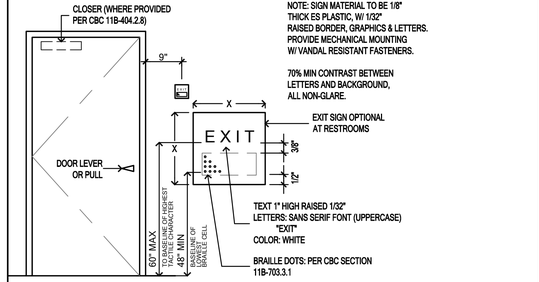


9 FIRE RISER SIGNAGE
SCALE: NTS



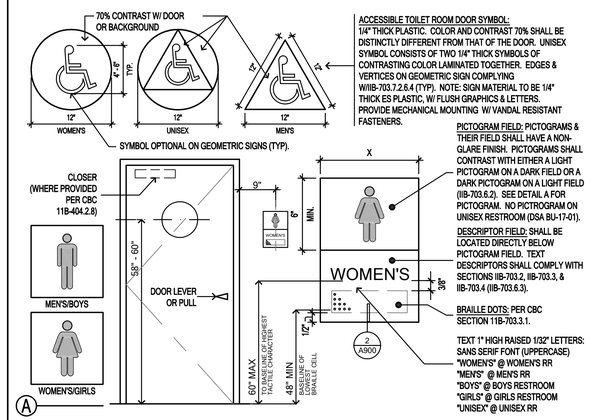
4 CLASSROOM / ENTRY SIGNAGE
SCALE: NTS

SEE 2/A900 FOR BRAILLE DIMENSIONS



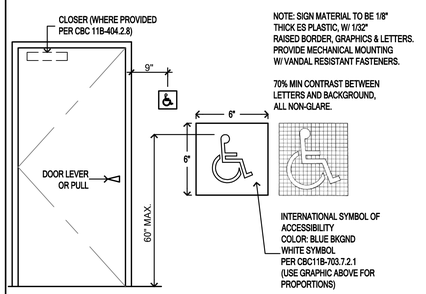
5 EXIT SIGNAGE
SCALE: NTS

SEE 2/A900 FOR BRAILLE DIMENSIONS



6 RESTROOM SIGNAGE
SCALE: NTS

SEE 2/A900 FOR BRAILLE DIMENSIONS



3 ISA SIGNAGE
SCALE: NTS

IIB-703.5.1 FINISH AND CONTRAST. CHARACTERS, SYMBOLS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS AND SYMBOLS SHALL CONTRAST 70% WITH THEIR BACKGROUND, EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.
IIB-703.2.4 PROPORTIONS. CHARACTERS ON SIGNS SHALL IN A FONT WHERE THE UPPER CASE "O" IS 60% MIN & 110% MAX OF THE HEIGHT OF THE UPPER CASE "I".
IIB-703.2.5 CHARACTER HEIGHT. CHARACTER HEIGHT SHALL BE MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER AND SHALL BE 5/8" MIN & 2" MAX BASED ON THE HEIGHT OF THE UPPER CASE "I".
11B-703.2 & 11B-703.6 RAISED CHARACTERS AND PICTORIAL SYMBOL SIGNS. WHEN RAISED CHARACTERS ARE REQUIRED OR WHEN PICTORIAL SYMBOLS (PICTOGRAMS) ARE USED ON SUCH SIGNS, THEY SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

1 CHARACTER TYPE. CHARACTERS ON SIGNS SHALL BE RAISED 1/32" (0.794MM) MINIMUM AND SHALL BE SAN SERIF UPPERCASE CHARACTERS ACCOMPANIED BY CA. CONTRACTED GRADE 2 BRAILLE COMPLYING WITH IIB-703.3.
2 CHARACTER SIZE. RAISED CHARACTERS SHALL BE A MINIMUM OF 5/8" (15.9MM) AND A MAXIMUM OF 2 INCHES (51MM) HIGH.
3 PICTORIAL SYMBOL SIGNS (PICTOGRAMS). PICTORIAL SYMBOL SIGNS (PICTOGRAMS) SHALL BE ACCOMPANIED BY THE VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE OUTSIDE DIMENSION OF THE PICTOGRAM FIELD SHALL BE A MINIMUM OF 6 INCHES (152MM) IN HEIGHT.

SIGNAGE MUST BE FIELD INSPECTED PER 2019 CBC, IIB-703.1.1.2

ALTERNATE MOUNTING METHOD FOR SIGNAGE:
1. VERY HIGH BOND (VHB) PERMANENT TAPE & SILICONE MOUNTING.

SIGNAGE CLEAR SPACE
PER CBC IIB-703.4.2

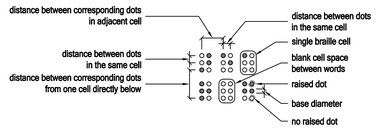
PROVIDE 18"x18" (MIN.) CLEAR SPACE CENTERED ON TACTILE CHARACTERS.

1 SIGNAGE NOTES

TABLE 11B-703.3.1
BRAILLE DIMENSIONS

MEASUREMENT RANGE	MINIMUM IN INCHES MAXIMUM IN INCHES
Dot base diameter	0.059 to 0.063
Distance between two dots in the same cell [1]	0.100
Distance between corresponding dots in adjacent cells [1]	0.300
Dot height	0.025 to 0.037
Distance between corresponding dots from one cell directly below [1]	0.395 to 0.400

[1] Measured center to center.



2 BRAILLE DIMENSIONS

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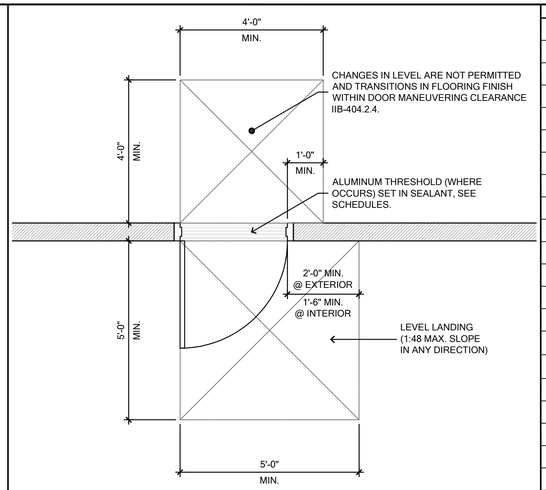
SIGNAGE DETAILS

A900

9 NOT USED
SCALE: -

6 LEVEL LANDING
SCALE: NTS



1 ACCESSIBLE MOUNTING HEIGHTS
SCALE: NONE

PRIMARY USER	AGE GROUP			
DIMENSION	ADULT (INCHES)	AGES 9-12 (INCHES)	AGES 5-8 (INCHES)	AGES 3-4 (INCHES)
TOILET CENTERING FROM WALL	17 - 18	15 - 18	12 - 15	12
TOILET SEAT HEIGHT/DIMENSIONS TO TOP OF SEAT	17 - 19	15 - 17	12 - 15	11 - 12
GRAB BAR HEIGHT (TOP OF G.B. GRIPPING SURFACE)	33 - 36	25 - 27	20 - 25	18 - 20
TPD TO THE OUTLET (AFF) (MIN).	19 (MIN).	17 - 19	14 - 17	14
TOILET PAPER IN FRONT OF TOILET TO ℄	7 - 9	7 - 9	7 - 9	7 - 9
LAVATORY/SINK TOP HEIGHT	34 MAX.	31 MAX.	31 MAX. *	31 MAX. *
LAVATORY/SINK KNEE CLEARANCE	27 MIN. 29 MIN.@APRON/LAV	24 MIN.	AGE 6-9 24" MIN. AGE 5 -	-
WALL HUNG URINAL LIP HEIGHT	17 MAX.	17 MAX.	17 MAX.	17 MAX.
WALL HUNG URINAL PROJECTION	13 1/2 MIN.	13 1/2 MIN.	13 1/2 MIN.	13 1/2 MIN.
URINAL FLUSH HANDLE HEIGHT	44 MAX.	44 MAX.	44 MAX.	44 MAX.
DRINKING FOUNTAIN BUBBLER (HIGH HEIGHT)	38 - 43	38 - 43	38 - 43	38 - 43
DRINKING FOUNTAIN BUBBLER (LOW HEIGHT)	36 MAX.	36 MAX.	36 MAX.	36 MAX.
DF SPOUT LOCATION FROM FRONT EDGE OF UNIT INCLUDING BUMPERS	5 MAX.	3 1/2 MAX.	3 1/2 MAX.	3 1/2 MAX.
DRINKING FOUNTAIN OPERABLE PARTS (FROM FRONT EDGE OF UNIT)	6 MAX.	6 MAX.	6 MAX.	6 MAX.
CANTILEVER DRINKING FOUNTAIN PROJECTION	18 - 19	18 - 19	18 - 19	18 - 19
TOE CLEARANCE AT TOILET PARTITION	9 MIN.	12 MIN.	12 MIN.	12 MIN.
SHELF HEIGHT	40 - 48	40 - 48	40 - 48	40 - 48
DISPENSER OR MIRROR HEIGHT** (WHEN LOC ABV LAV OR COUNTER)	40 MAX.	40 MAX.	40 MAX.	40 MAX.
MIRROR HEIGHT (BOTTOM EDGE OF REFLECTING SURFACE) IN DRESSING, FITTING, & LOCKER ROOMS	20 MAX.	20 MAX.	20 MAX.	20 MAX.

NOTES:
* PARALLEL APPROACH PERMITTED FOR PRIMARILY 5 & UNDER CHILDREN. IIB-606.2 (EXC. 5).

WHERE SPOUTS ARE LOCATED 3 1/2" MAX. FROM THE FRONT OF UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 15 DEGREES MAX.

** THE HEIGHT NOTED FOR A MIRROR IS TO THE BOTTOM OF THE REFLECTING SURFACE. WHEN MIRROR IS LOCATED ELSEWHERE, BOTTOM OF THE REFLECTING SURFACE SHALL BE 35" AFF.

FOR NAPKIN DISPOSAL, SEE DETAIL 7/A902

10 NOT USED
SCALE: -

7 NAPKIN DISPOSAL/TOILET PAPER DISPENSER
SCALE: 1/2" = 1'-0"

11B-604.7.2 DISPOSAL UNITS. SANITARY NAPKIN DISPOSAL UNITS, IF PROVIDED, SHALL COMPLY WITH SECTION 11B-309.4 AND SHALL BE WALL MOUNTED AND LOCATED ON THE SIDEWALL BETWEEN THE REAR WALL OF THE TOILET AND THE TOILET PAPER DISPENSER, ADJACENT TO THE TOILET PAPER DISPENSER. THE DISPOSAL UNIT SHALL BE LOCATED BELOW THE GRAB BAR, WITH THE OPENING OF THE DISPOSAL UNIT 19" MINIMUM ABOVE THE FINISH FLOOR.

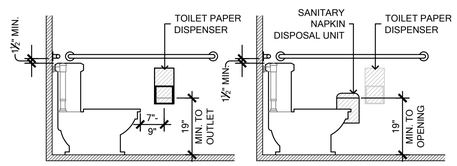
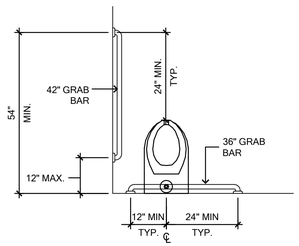


FIGURE 11B-604.7.1
DISPENSER OUTLET LOCATION

FIGURE 11B-604.7.2
DISPOSAL UNIT LOCATION

4 ACCESSIBLE TOILET GRAB BAR LAYOUT PLAN
SCALE: 1/2" = 1'-0"

PROVIDE #14x2-1/2" TYPE 304 SS SHEET METAL SCREWS AT EACH ATTACHMENT LOCATION. (2) AT END MOUNTING FLANGE OR (3) AT INTERMEDIATE FLANGE.



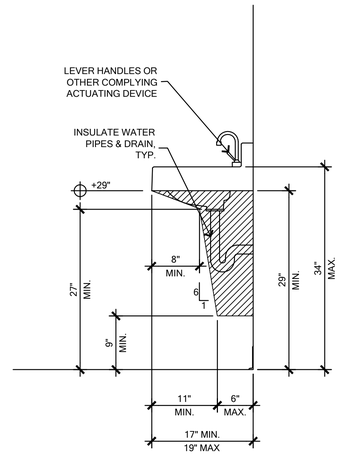
FOR GRAB BAR ATTACHMENT, SEE DETAIL 3/SD613

2 NOT USED
SCALE: -

11 NOT USED
SCALE: -

8 NOT USED
SCALE: -

5 ACCESSIBLE LAVATORY SECTION
SCALE: 1" = 1'-0"



3 NOT USED
SCALE: -

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
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PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

955 Piedmont Rd
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Berryessa Union School District

INCREMENT #2

WILSON ARCHITECTURE, INC.
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NORMAN E. WILSON

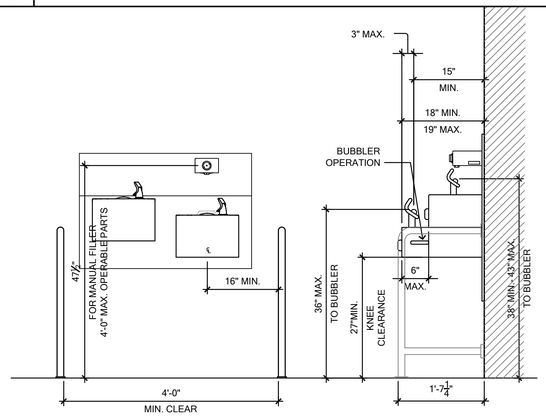
LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP 30 2023
NO. C10851
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

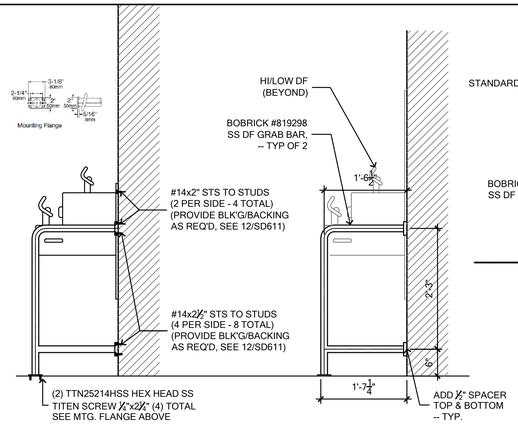
ACCESSIBLE DETAILS

A902

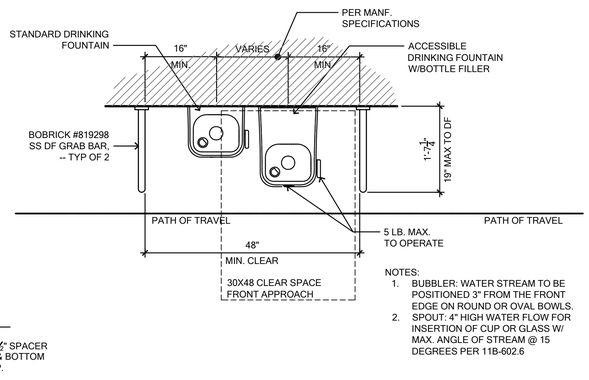
1 NOT USED
SCALE: –



A DIMENSION PLAN (BOTTLE FILLER)



ANCHORAGE PLAN



FLOOR PLAN

2 ACCESSIBLE DRINKING FOUNTAIN (RAILS)
SCALE: 3/4" = 1'-0"

7 NOT USED
SCALE: –

6 NOT USED
SCALE: –

4 NOT USED
SCALE: –

3 NOT USED
SCALE: –

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LICENSED ARCHITECT NORMAN E. WILSON EXPIRES SEP 30 2023 NO. C10851 STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 84

ACCESSIBLE DRINKING FOUNTAIN

A903

6 NOT USED
SCALE: -

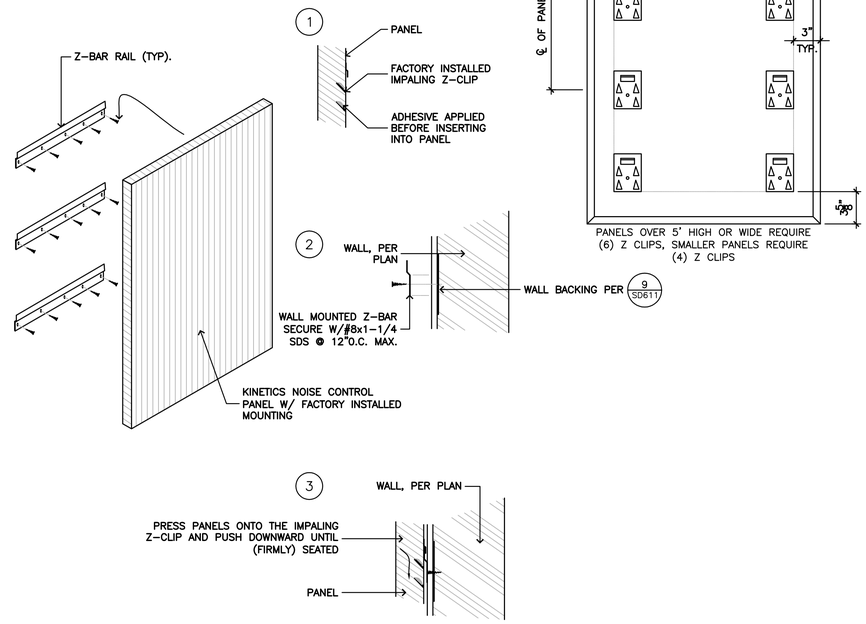
3 NOT USED
SCALE: -

7 NOT USED
SCALE: -

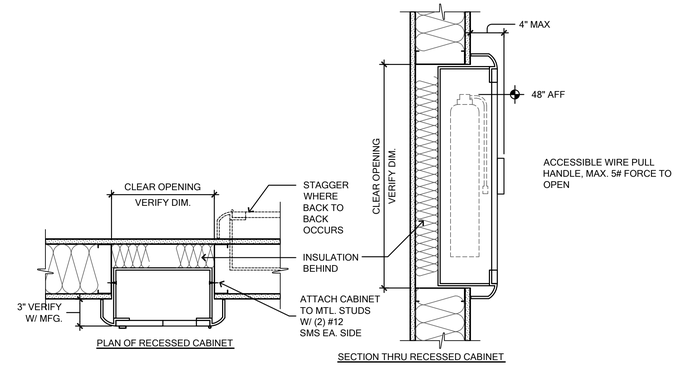
4 NOT USED
SCALE: -

8 NOT USED
SCALE: -

5 NOT USED
SCALE: -



1 KINETICS NOISE CONTROL ACOUSTICAL WALL PANELS
SCALE: NTS



2 FIRE EXTINGUISHER CABINET @ NON-RATED WALL
SCALE: 1 1/2" = 1'-0"

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LICENSED ARCHITECT
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EXPIRES
SEP. 30.2023
NO. C10951
STATE OF CALIFORNIA

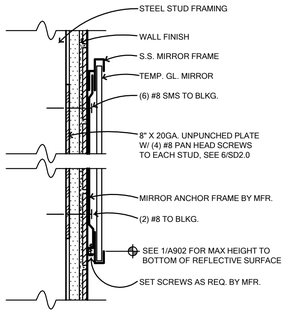
SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

DETAILS

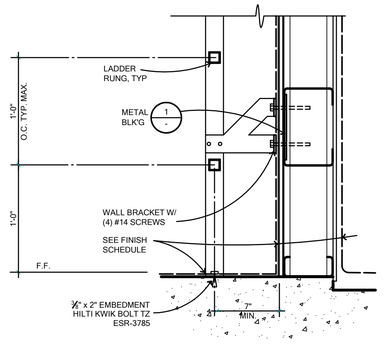
A905

8 NOT USED
SCALE: -

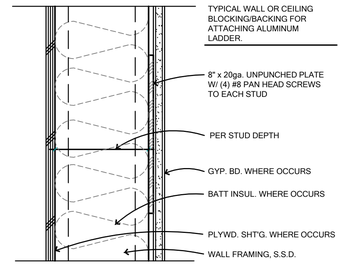
5 MIRROR ATTACHMENT
SCALE: 3" = 1'-0"



3 ALUMINUM LADDER ATTACHMENT
SCALE: 1-1/2" = 1'-0"



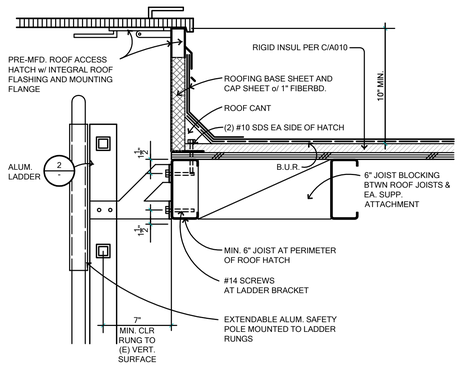
1 TYPICAL BLOCKING / BACKING @ LADDER
SCALE: 3" = 1'-0"



9 NOT USED
SCALE: -

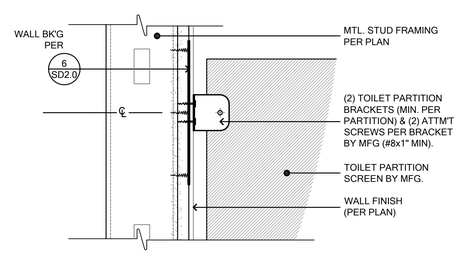
6 NOT USED
SCALE: -

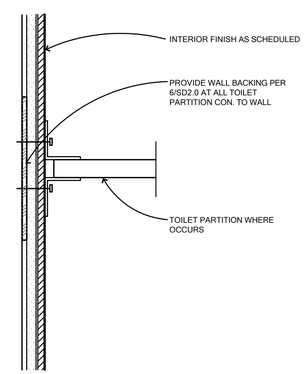
4 ROOF ACCESS HATCH
SCALE: 1-1/2" = 1'-0"



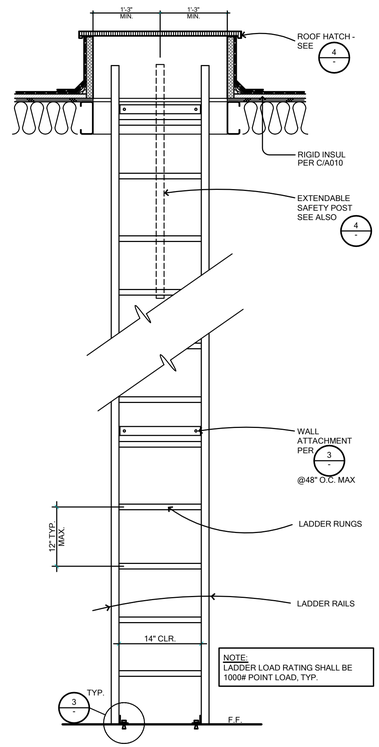
10 NOT USED
SCALE: -

7 TOILET PARTITION BACKING
SCALE: 3" = 1'-0"





2 ALUMINUM ACCESS LADDER
SCALE: 3/4" = 1'-0"



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LICENSED ARCHITECT
NORMAN E. WILSON
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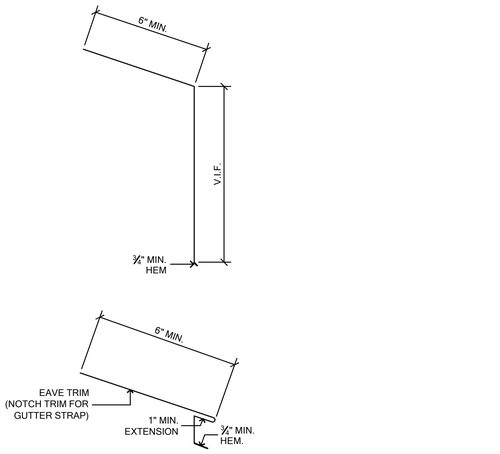
SEP 30 2023
NO. C10851
STATE OF CALIFORNIA

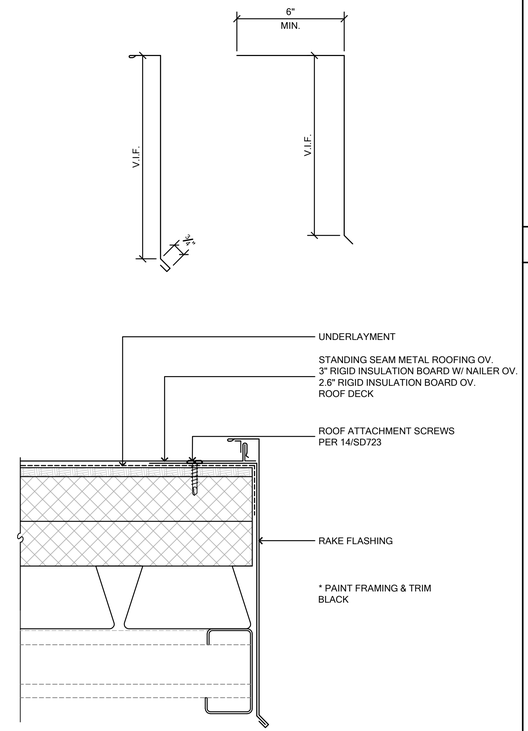
SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

DETAILS

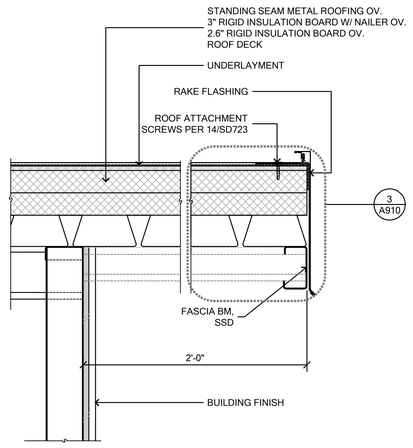
A906



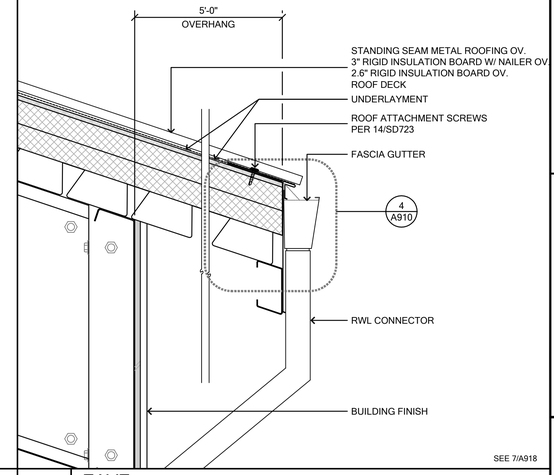
4 CONTINUOUS SOFFIT VENT @ FASCIA BEAM
SCALE: 3" = 1'-0"



3 CONTINUOUS SOFFIT VENT @ RAKE BEAM
SCALE: 3" = 1'-0"



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



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

10 NOT USED
SCALE: -

9 NOT USED
SCALE: -

8 NOT USED
SCALE: -

7 NOT USED
SCALE: -

JL MODULAR
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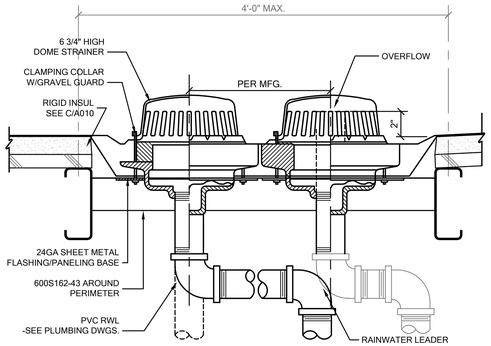
LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP. 30 2023
NO.
C10851
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

ROOFING DETAILS

A910



NOTE:
PROVIDE 45° ELBOWS MAX. WHEN SPACE PERMITS

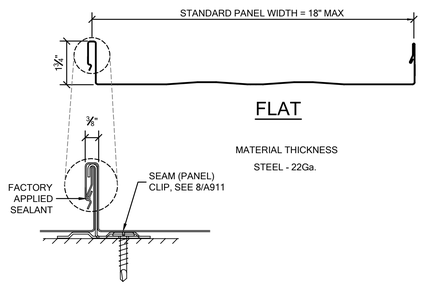
10 ROOF DRAIN & OVERFLOW
SCALE: 3" = 1'-0"

SEE DETAIL 14/SD723 FOR ANCHORAGE INFORMATION:

AEP-SPAN LOK (ER 0309)

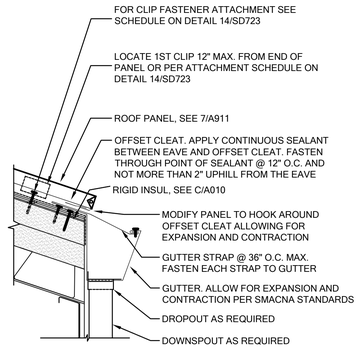
ALT: METAL SALES-MAGNA LOC (ESR 2385)

NOTE: BE CERTAIN THAT ADJOINING PANELS FULLY ENGAGE ("SNAP") TOGETHER.



7 ROOFING PROFILE
SCALE: 3" = 1'-0"

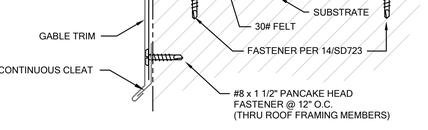
OFFSET CLEAT

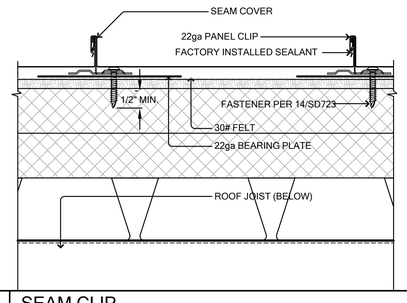


4 EAVE @ GUTTER
SCALE: 1-1/2" = 1'-0"

1 NOT USED
SCALE: -

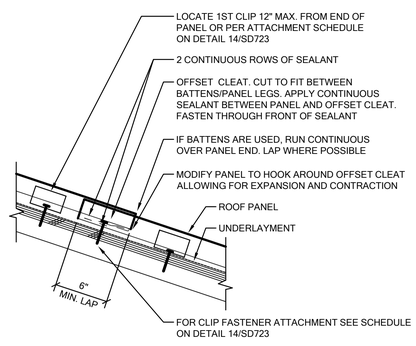
11 NOT USED
SCALE: -





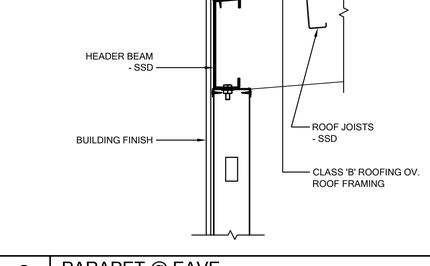
8 SEAM CLIP
SCALE: 3" = 1'-0"

OFFSET CLEAT



*NOTE: STAGGER PANEL END LAPS OF ADJACENT PANELS.

5 PANEL END LAP
SCALE: 1 1/2" = 1'-0"

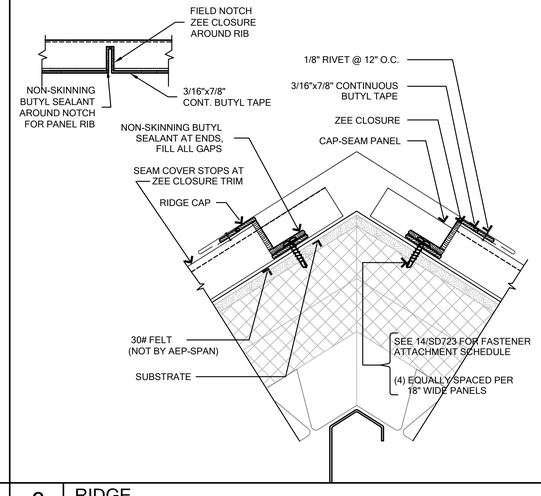


2 PARAPET @ RAKE
SCALE: 1" = 1'-0"

12 NOT USED
SCALE: -

NOTE:
FIELD CUT FIRST AND LAST PANELS TO EQUAL WIDTH.

9 RAKE TRIM
SCALE: 3" = 1'-0"



6 RIDGE
SCALE: 3" = 1'-0"

3 PARAPET @ EAVE
SCALE: 1" = 1'-0"

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70 STONY POINT ROAD, SUITE D
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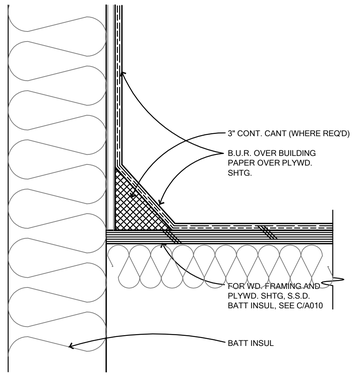
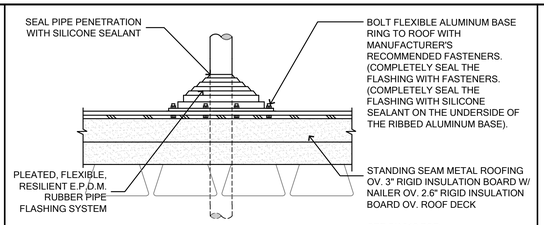
ROOFING DETAILS

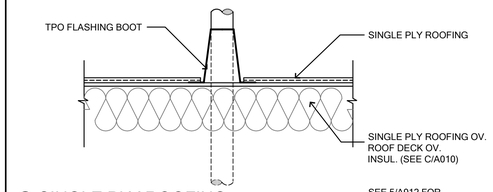
A911





@ STANDING SEAM METAL ROOF

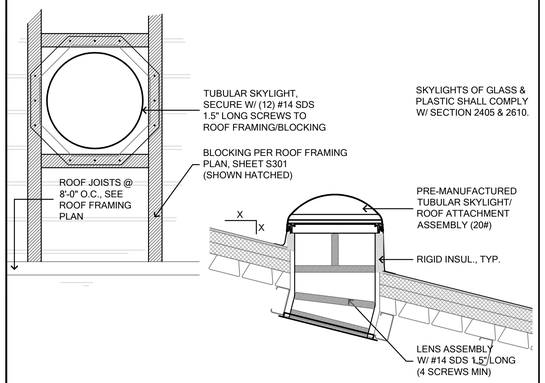
SEE 5/A912 FOR CONTINUATION



@ SINGLE PLY ROOFING

SEE 5/A912 FOR CONTINUATION

10 NOT USED
SCALE: -

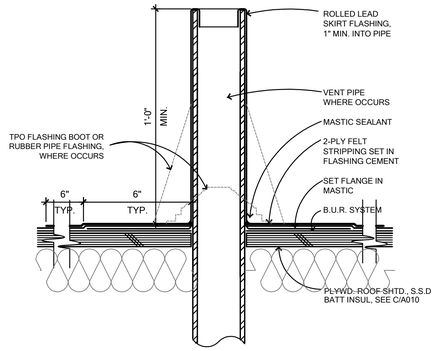


11 TUBULAR SKYLIGHT
SCALE: 3/4" = 1'-0"

7 ROOFING AT PARAPET
SCALE: 3" = 1'-0"

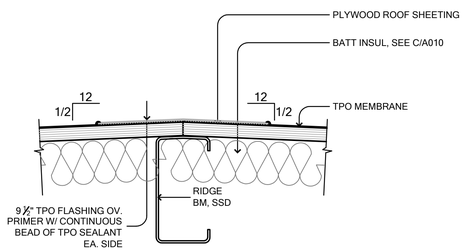
8 CRICKET
SCALE: 1 1/2" = 1'-0"

4 ROOF PENETRATIONS
SCALE: NO SCALE



5 PLUMBING VENT
SCALE: 3" = 1'-0"

1 NOT USED
SCALE: -



12 RIDGE - SINGLE PLY ROOFING
SCALE: 3" = 1'-0"

9 NOT USED
SCALE: -

6 NOT USED
SCALE: -

2 NOT USED
SCALE: -

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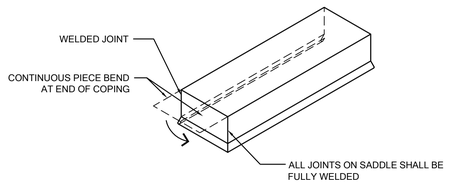
ROOFING DETAILS

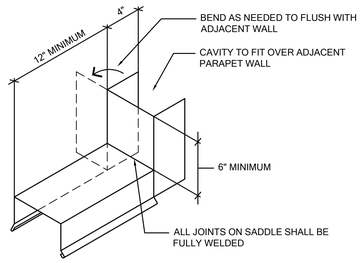
A912

NOTES:
1. ALL SADDLE JOINTS SHALL BE FULLY WELDED.
2. SADDLE SHALL BE FIELD FABRICATED TO FIT CONDITIONS ON SITE.
3. CONTINUOUS CLEAT AND SECUREMENT CLIP NOT SHOWN FOR CLARITY.



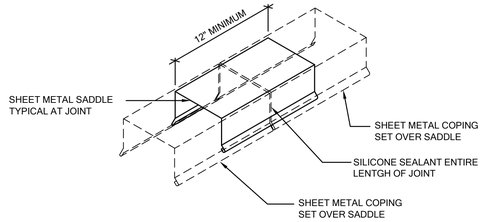
4 COPING AT END WALL
SCALE: NTS

NOTES:
1. ALL SADDLE JOINTS SHALL BE FULLY WELDED.
2. SADDLE SHALL BE FIELD FABRICATED TO FIT CONDITIONS ON SITE.
3. CONTINUOUS CLEAT AND SECUREMENT CLIP NOT SHOWN FOR CLARITY.



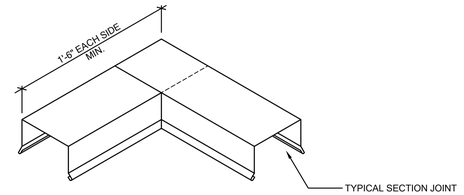
3 SADDLE AT PARAPET WALL TRANSITION
SCALE: NTS

NOTES:
1. ALL JOINTS SHALL BE FULLY SEALED.
2. CONTINUOUS CLEAT AND SECUREMENT CLIP NOT SHOWN FOR CLARITY.



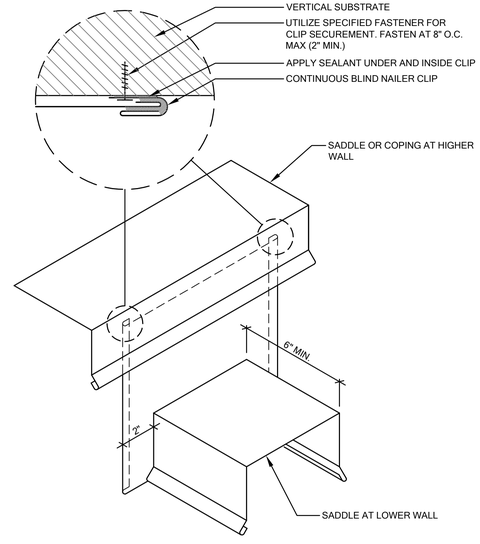
2 SADDLE @ COPING JOINT
SCALE: NTS

NOTES:
1. FORM END SECTION AS ONE CONTINUOUS PIECE.
2. CONTINUOUS CLEAT AND SECUREMENT CLIP NOT SHOWN FOR CLARITY.

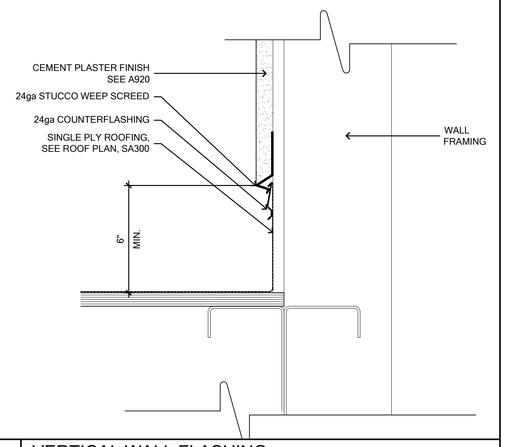


1 COPING (OUTSIDE CORNER)
SCALE: NO SCALE

NOTES:
1. FORM END SECTION AS ONE CONTINUOUS PIECE.
2. EXTEND COUNTERFLASHING AROUND OR BEYOND. PROVIDE SAW CUT REGLET WHERE VERTICAL PORTION IS NOT CONTERFLASHED BY PARAPET CAP
3. CONTINUOUS CLEAT AND BLIND NAILER CLIP NOT SHOWN FOR CLARITY.
4. ALL DIMENSIONS GIVEN SHALL BE FIELD VERIFIED.
5. ALL SADDLE JOINTS SHALL BE FULLY WELDED.
6. ENTIRE PIECE SHALL BE FIELD FABRICATED TO FIT SITE CONDITIONS.



5 COPING (END AT WALL)
SCALE: NTS



8 VERTICAL WALL FLASHING
SCALE: 3" = 1'-0"

9 NOT USED
SCALE: -

7 NOT USED
SCALE: -

6 NOT USED
SCALE: -

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:
1	DISTRICT REVIEW	09.08.2022
2	DSA SUBMITTAL V1	10.03.2022

DRAWN BY: JPH
CHECKED BY: NEW
PLOT DATE: 08.11.2022

PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

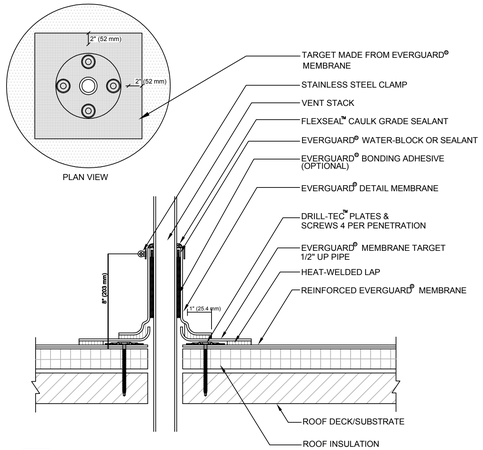
WILSON ARCHITECTURE, INC.
928 10th STREET
MODESTO, CALIFORNIA 95354
TEL: (209)577-0114
FAX: (209)577-0118
NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP. 30.2023
NO. C10851
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

ROOFING DETAILS

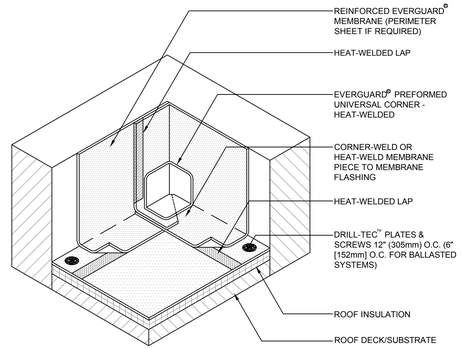
A913



NOTE:

1. FOR INSULATION THICKNESS GREATER THAN 8" (203 mm), A HARD BOARD IS REQUIRED ON MECHANICAL SYSTEMS ONLY.
2. APPLY HEAT TO UNREINFORCED DETAIL MEMBRANE AND FORM BY HAND PRIOR TO HOT AIR WELDING.
3. APPLY EVERGUARD® TPO CUT EDGE SEALANT TO ALL CUT REINFORCED TPO EDGES (REFER TO EVERGUARD® DETAIL 115).

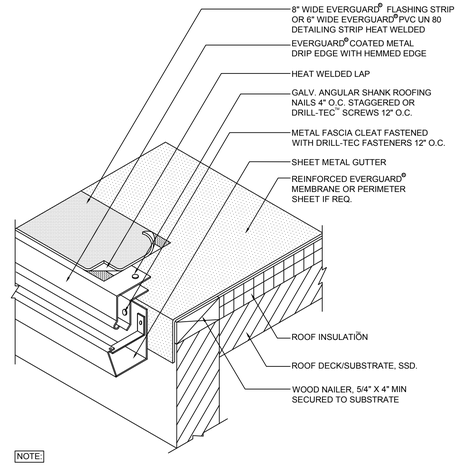
GAF www.gaf.com 1 Campus Drive, Parsippany, NJ 07054	EverGuard ROOF PENETRATION SERIES	DRAWING # 507	FIELD-WRAPPED PENETRATION FLASHING DETAIL	THIS DETAIL APPLIES TO: ALL SYSTEMS
		SCALE: N.T.S.		REVISION DATE: 12-12-17



NOTE:

1. FOR INSULATION THICKNESS GREATER THAN 8" (203 mm), A HARD BOARD IS REQUIRED ON MECHANICAL SYSTEMS ONLY.
2. IF EVERGUARD® FREEDOM™ MEMBRANE IS USED, BONDING ADHESIVE IS NOT NEEDED AND WALL MUST BE PRIMED.
3. 25 YEAR GUARANTEES AND ABOVE MUST USE EXTREME ACCESSORIES
4. FLASHINGS MAY BE ADHERED OR INSTALLED DRY. SEE MANUAL FOR DIMENSIONS.
5. INSIDE CORNERS MAY ALSO BE FIELD-FABRICATED USING UNREINFORCED MEMBRANE.
6. APPLY EVERGUARD® TPO CUT EDGE SEALANT TO ALL CUT REINFORCED TPO EDGES (REFER TO EVERGUARD® DETAIL 115).

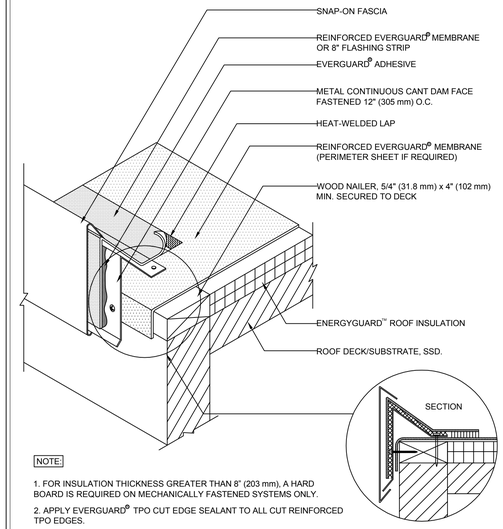
GAF www.gaf.com 1 Campus Drive, Parsippany, NJ 07054	EverGuard PARAPET WALL & CURB SERIES	DRAWING # 327A	INSIDE CORNER REINFORCMENT-PREFORMED CORNER DETAIL	THIS DETAIL APPLIES TO: ALL SYSTEMS
		SCALE: N.T.S.		REVISION DATE: 12-12-17



NOTE:

1. REFER TO DETAIL MA/FA/BA 204 FOR METAL JOINT DETAIL.
2. A CONTINUOUS METAL CLEAT IS REQUIRED.
3. APPLY EVERGUARD® TPO AND PVC CUT EDGE SEALANT TO ALL CUT REINFORCED TPO AND PVC EDGES.

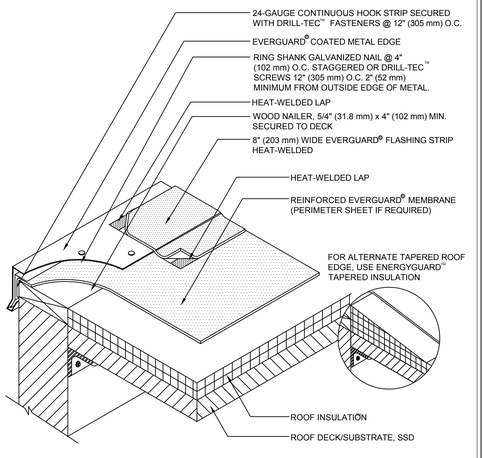
GAF 1361 Alps Rd Wayne, NJ 07470	EverGuard ROOF EDGE SERIES	GUTTER WITH COATED METAL EDGE DETAIL	DRAWING # 211	SYSTEM MA/FA/BA
			SCALE: N.T.S.	ISSUE/ REVISION DATE: 7-01-11



NOTE:

1. FOR INSULATION THICKNESS GREATER THAN 8" (203 mm), A HARD BOARD IS REQUIRED ON MECHANICALLY FASTENED SYSTEMS ONLY.
2. APPLY EVERGUARD® TPO CUT EDGE SEALANT TO ALL CUT REINFORCED TPO EDGES.

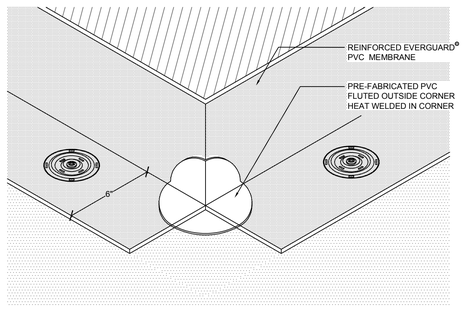
GAF www.gaf.com 1 Campus Drive, Parsippany, NJ 07054	EverGuard ROOF EDGE SERIES	DRAWING # 206	SNAP-ON FASCIA ROOF EDGE DETAIL - OPTION 2	THIS DETAIL APPLIES TO: Adhered Systems Ballasted Systems Mechanically Attached Systems Self-Adhered Systems (Heat-weld only) TriPosite Systems
		SCALE: N.T.S.		REVISION DATE: 5-1-16



NOTE:

1. FOR INSULATION THICKNESS GREATER THAN 8" (203 mm), A HARD BOARD IS REQUIRED ON MECHANICALLY FASTENED SYSTEMS ONLY.
2. 25-YEAR GUARANTEES AND ABOVE MUST USE EXTREME ACCESSORIES.
3. APPLY EVERGUARD® TPO CUT EDGE SEALANT TO ALL CUT REINFORCED TPO EDGES.

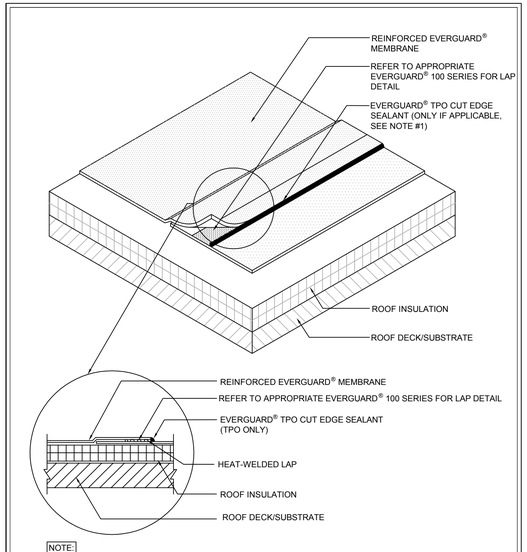
GAF www.gaf.com 1 Campus Drive, Parsippany, NJ 07054	EverGuard ROOF EDGE SERIES	DRAWING # 202A	COATED METAL ROOF EDGE DETAIL	THIS DETAIL APPLIES TO: Adhered Systems Self - Adhered Systems TriPosite Systems Mechanically Attached Systems
		SCALE: N.T.S.		REVISION DATE: 6-20-16



NOTE:

1. RIPPLED CORNER MAY REQUIRE SEGMENTS TO BE WELDED TOGETHER FULLY BEFORE INSTALLATION.

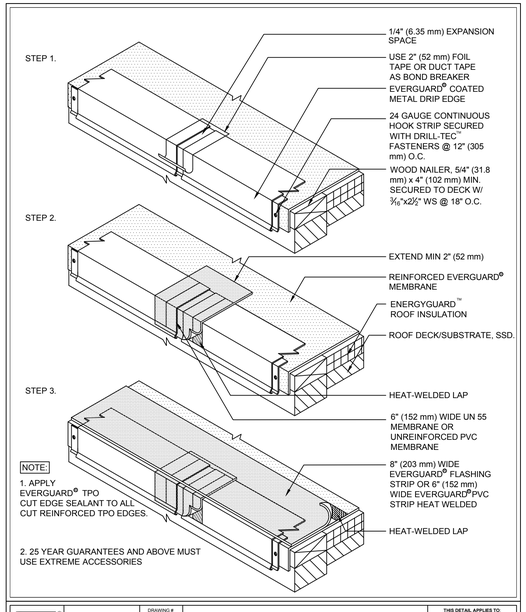
GAF GAF MATERIALS CORPORATION www.gaf.com	EverGuard PARAPET WALL & CURB SERIES	OUTSIDE CORNER REINFORCEMENT - FLUTED CORNER DETAIL	DRAWING # 329C	SYSTEM MA/FA/BA
		PVC ONLY	SCALE: N.T.S.	ISSUE/ REVISION DATE: 9-01-09



NOTE:

1. EVERGUARD® CUT EDGE SEALANT MUST BE USED ON ANY TPO CUT EDGES (REINFORCED ONLY).
2. FOR INSULATION THICKNESS GREATER THAN 8" (203 mm), A HARD BOARD IS REQUIRED ON MECHANICALLY ATTACHED SYSTEMS ONLY.

GAF www.gaf.com 1 Campus Drive, Parsippany, NJ 07054	EverGuard FIELD OF ROOF SERIES	DRAWING # 115	CUT EDGE SEALANT DETAIL	THIS DETAIL APPLIES TO: Adhered Systems Mechanically Attached Systems Rhinofleece Systems Self - Adhered Systems Mechanically Attached Systems
		SCALE: N.T.S.	EVERGUARD® TPO MEMBRANE ONLY	REVISION DATE: 12-1-19



NOTE:

1. APPLY EVERGUARD® TPO CUT EDGE SEALANT TO ALL CUT REINFORCED TPO EDGES.
2. 25 YEAR GUARANTEES AND ABOVE MUST USE EXTREME ACCESSORIES

GAF www.gaf.com 1 Campus Drive, Parsippany, NJ 07054	EverGuard ROOF EDGE SERIES	DRAWING # 204	COATED METAL JOINT DETAIL	THIS DETAIL APPLIES TO: Adhered Systems Mechanically Attached Systems Self - Adhered Systems TriPosite Systems
		SCALE: N.T.S.		REVISION DATE: 6-20-16

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

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PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

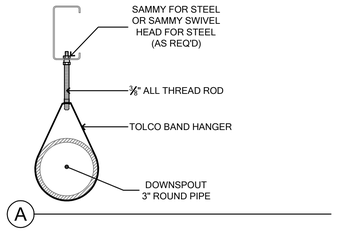
WILSON ARCHITECTURE, INC.
609 15th STREET
MODESTO, CALIFORNIA 95354
TEL: (209)577-0114
FAX: (209)577-9116
NORMAN E. WILSON

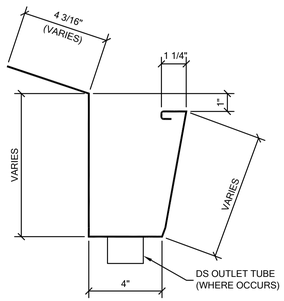
LICENSED ARCHITECT NORMAN E. WILSON EXPIRES SEP 30 2023 NO. C10851 STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
W.A PROJECT NUMBER: 222673 B4

SINGLE PLY ROOFING DETAILS
A914

L:\2022 Jobs\20222673 Piedmont MS Gym\A914 SINGLE PLY ROOFING DETAILS.dwg, 10/3/2022 12:55:58 PM



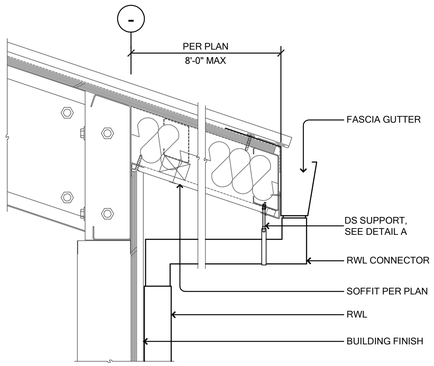


GUTTER MATERIAL:
4" TO 6": 24 GAUGE
8" TO 12": 22 GAUGE

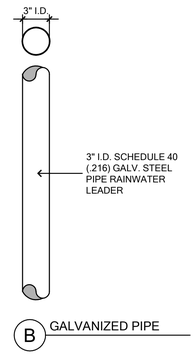
6 GUTTER PROFILE
SCALE: 3" = 1'-0"

3 NOT USED
SCALE: -

1 NOT USED
SCALE: -



9 DOWNSPOUT SUPPORT
SCALE: 1 1/2" = 1'-0"

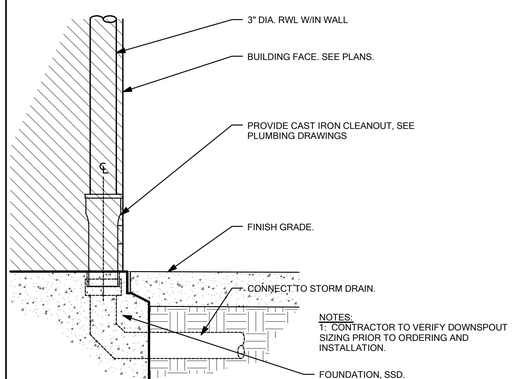


7 DOWNSPOUT/RWL PROFILE
SCALE: 1 1/2" = 1'-0"

4 NOT USED
SCALE: -

2 NOT USED
SCALE: 1

10 NOT USED
SCALE: -



8 CLEANOUT @ RWL
SCALE: 1 1/2" = 1'-0"

5 NOT USED
SCALE: -

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
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NEW MODULAR GYM
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Berryessa Union School District

INCREMENT #2

WILSON
ARCHITECTURE, INC.
609 10th STREET
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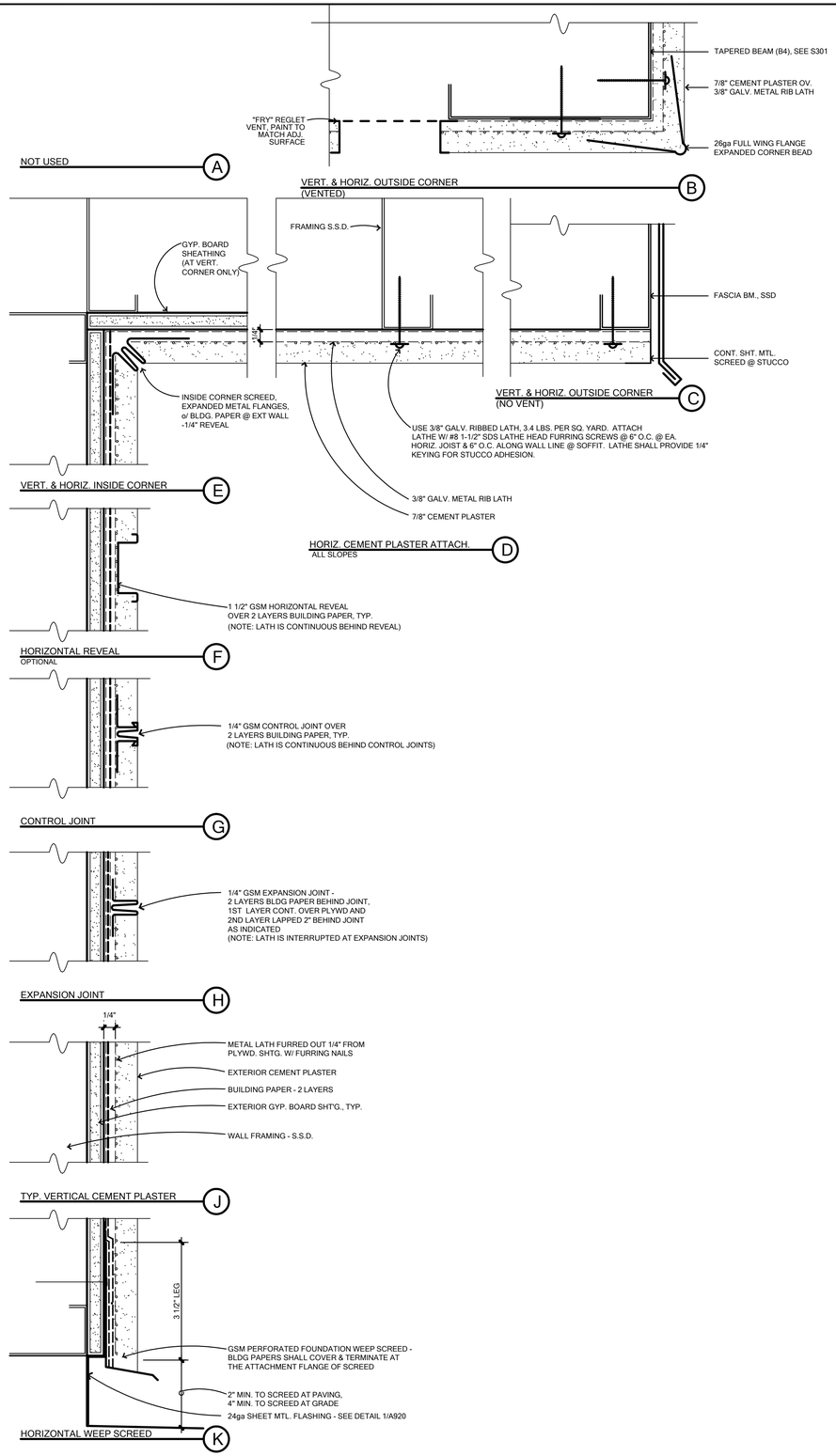
NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP 30 2023
NO.
C10851
STATE OF CALIFORNIA

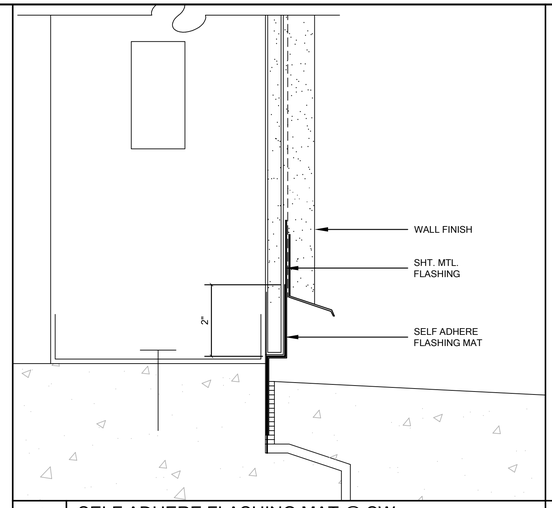
SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

DOWNSPOUT / RAIN
WATER LEADER DETAILS

A918



7 STUCCO SCREEDS
SCALE: 6" = 1'-0"

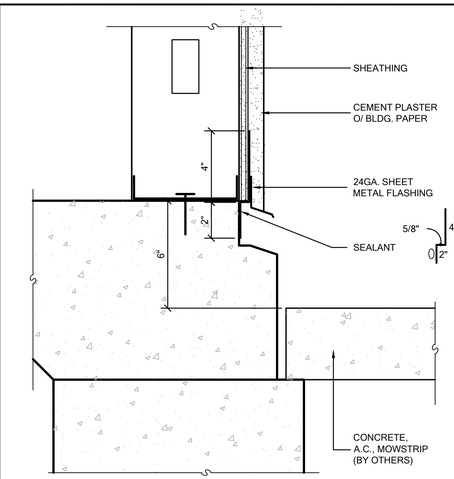


4 SELF ADHERE FLASHING MAT @ SW
SCALE: 6" = 1'-0"

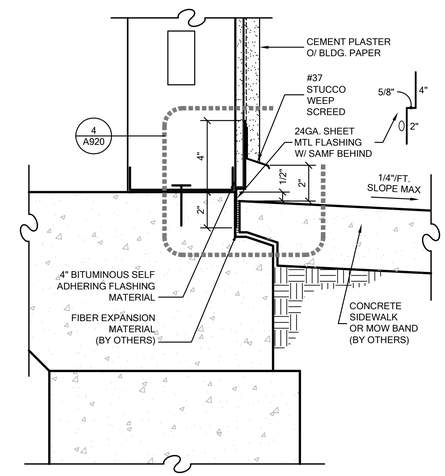
MATERIAL	FASTENING
7/8" STUCCO	PER MANUFACTURER'S STANDARDS
1/2" OSB STRUCTURAL 1 SHEARWALL PANELS	PER 1/SD612
5/8" DENSGLAS EXT. SHEATHING	#8 STS @ 8 EDGE/12 FIELD

5 WALL SHEATHING ATTACHMENT REQMNTS.

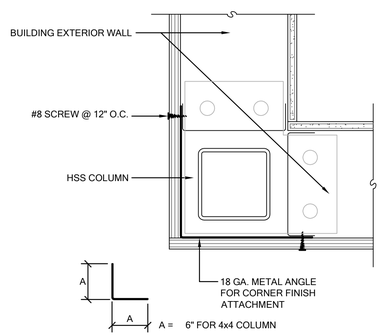
6 NOT USED
SCALE: -



1 EXTERIOR WALL FINISH @ S.O.G.
SCALE: 3" = 1'-0"



2 EXTERIOR WALL FINISH @ SIDEWALK
SCALE: 3" = 1'-0"



3 CORNER FINISH ATTACHMENT
SCALE: 3" = 1'-0"

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
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SEP. 30, 2023
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STATE OF CALIFORNIA

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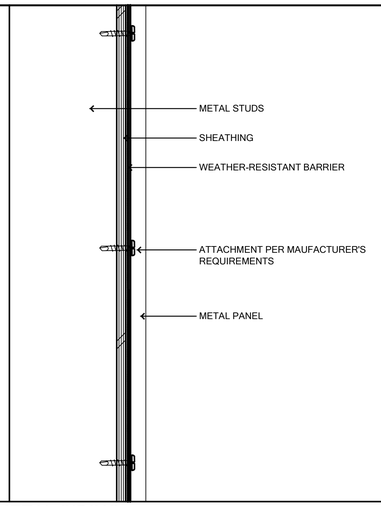
STUCCO FINISH DETAILS

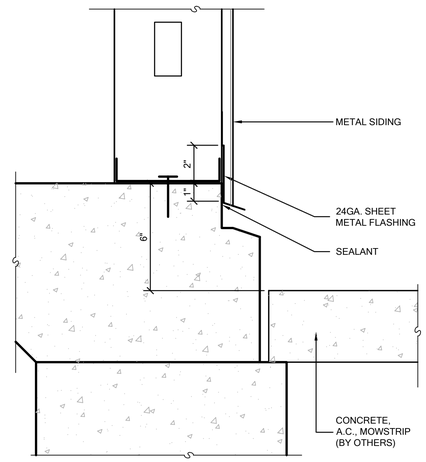
A920

7 NOT USED
SCALE: -

7 NOT USED
SCALE: -



4 METAL SIDING
SCALE: 3" = 1'-0"



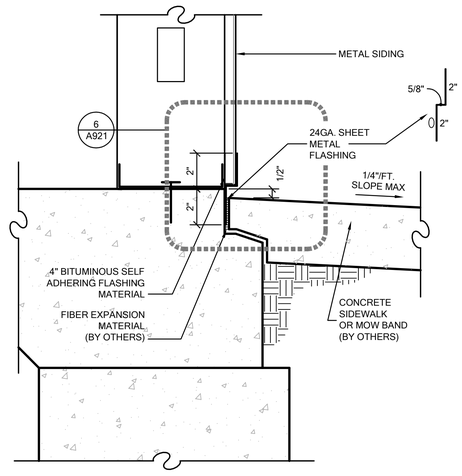
1 EXTERIOR WALL FINISH @ S.O.G.
SCALE: 3" = 1'-0"

10 NOT USED
SCALE: -

8 NOT USED
SCALE: -

MATERIAL	FASTENING
5/8" PLYWOOD	#8 X 1" STS @ 6/12, 0.285"ø HEAD

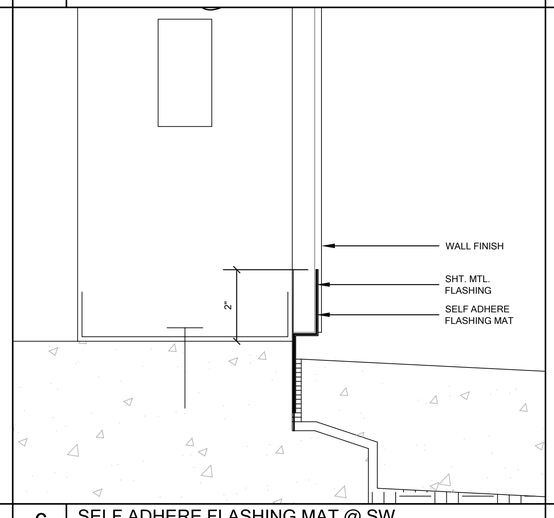
5 WALL SHEATHING ATTACHMENT REQMNTS.



2 EXTERIOR WALL FINISH @ SIDEWALK
SCALE: 3" = 1'-0"

11 NOT USED
SCALE: -

9 NOT USED
SCALE: -



6 SELF ADHERE FLASHING MAT @ SW
SCALE: 6" = 1'-0"

3 NOT USED
SCALE: -

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
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NO. C10951
STATE OF CALIFORNIA

SCALE: AS NOTED
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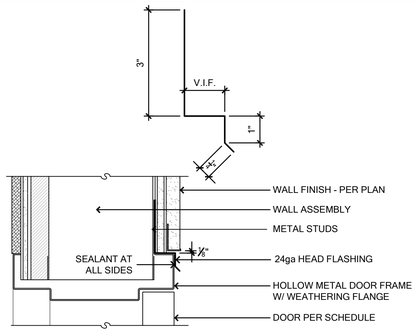
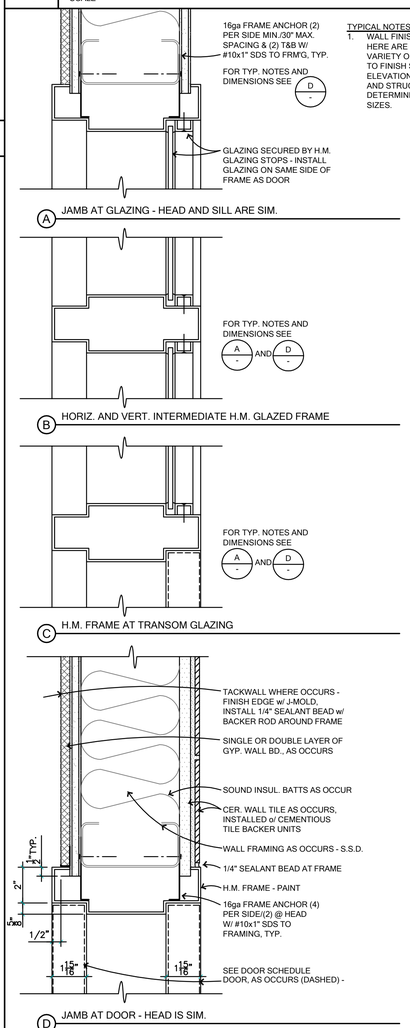
METAL SIDING DETAILS

A921



6 HEAD FLASHING
SCALE 3" = 1'-0"

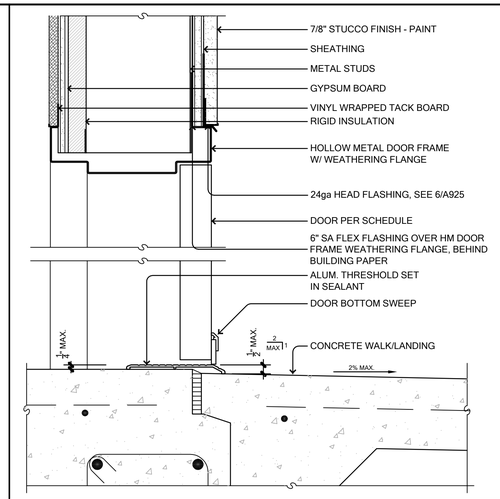
4 NOT USED
SCALE



TYPICAL NOTES FOR H.M. FRAMES

1. WALL FINISHES AND MAT'LS SHOWN HERE ARE REPRESENTATIVE OF A VARIETY OF CONDITIONS - REFER TO FINISH SCHEDULE, INTERIOR ELEVATIONS, FLOOR PLANS, DETAILS, AND STRUCTURAL DRAWINGS TO DETERMINE SPECIFIC FRAME THROAT SIZES.

5 INTERIOR HOLLOW METAL FRAMES
SCALE: 3" = 1'-0"



1 DOOR TRIM @ SW (STUCCO FINISH)
SCALE: 3" = 1'-0"

2 NOT USED
SCALE: -

3 NOT USED
SCALE: -

11 NOT USED
SCALE:

8 NOT USED
SCALE:

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:
1	DISTRICT REVIEW	09.08.2022
2	DSA SUBMITTAL V1	10.03.2022

DRAWN BY: JPH
CHECKED BY: NEW
PLOT DATE: 08.11.2022

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

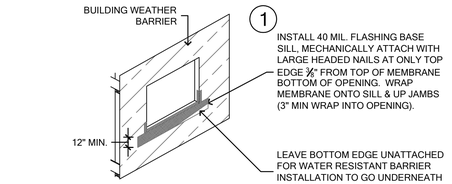
WILSON ARCHITECTURE, INC.
809 15th STREET
MODESTO, CALIFORNIA 95354
TEL: (209)577-0114
FAX: (209)577-0118
NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES
SEP. 30 2023
NO. C10851
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

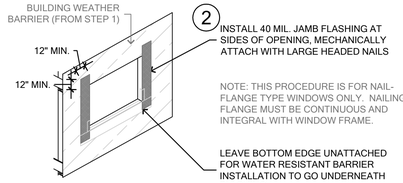
DOOR DETAILS

A925



1 INSTALL 40 MIL. FLASHING BASE SILL, MECHANICALLY ATTACH WITH LARGE HEADED NAILS AT ONLY TOP EDGE ½" FROM TOP OF MEMBRANE BOTTOM OF OPENING. WRAP MEMBRANE ONTO SILL & UP JAMBS (3" MIN WRAP INTO OPENING).

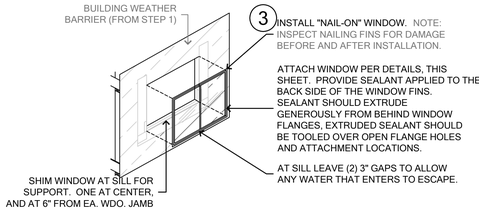
LEAVE BOTTOM EDGE UNATTACHED FOR WATER RESISTANT BARRIER INSTALLATION TO GO UNDERNEATH FLASHING.



2 INSTALL 40 MIL. JAMB FLASHING AT SIDES OF OPENING, MECHANICALLY ATTACH WITH LARGE HEADED NAILS

NOTE: THIS PROCEDURE IS FOR NAIL-FLANGE TYPE WINDOWS ONLY. NAILING FLANGE MUST BE CONTINUOUS AND INTEGRAL WITH WINDOW FRAME.

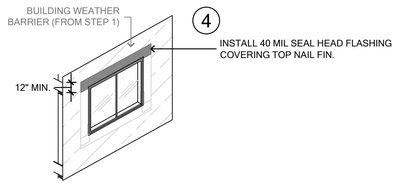
LEAVE BOTTOM EDGE UNATTACHED FOR WATER RESISTANT BARRIER INSTALLATION TO GO UNDERNEATH FLASHING.



3 INSTALL "NAIL-ON" WINDOW. NOTE: INSPECT NAILING FINS FOR DAMAGE BEFORE AND AFTER INSTALLATION.

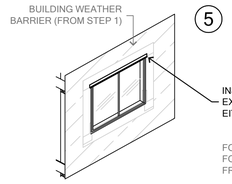
ATTACH WINDOW PER DETAILS, THIS SHEET. PROVIDE SEALANT APPLIED TO THE BACK SIDE OF THE WINDOW FINS. SEALANT SHOULD EXTRUDE GENEROUSLY FROM BEHIND WINDOW FLANGES, EXTRUDED SEALANT SHOULD BE TOOLED OVER OPEN FLANGE HOLES AND ATTACHMENT LOCATIONS.

AT SILL LEAVE (2) 3" GAPS TO ALLOW ANY WATER THAT ENTERS TO ESCAPE.



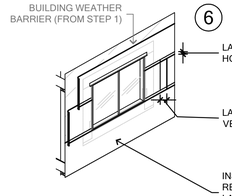
4 INSTALL 40 MIL SEAL HEAD FLASHING COVERING TOP NAIL FIN.

7 WINDOW FLASHING DETAILS
SCALE: NTS



5 INSTALL HEAD FLASHING, SEE 6/A926. EXTEND GSM HEAD FLASHING 1" ON EITHER SIDE OF OPENINGS.

FOR STUCCO FINISH CONTINUE TO STEP #6. FOR ALL OTHER FINISHES, ADHERE FLASHING FROM STEPS 1 & 2 TO BUILDING STRUCTURE.



6 LAP WATER RESISTANT BARRIER HORIZONTALLY 3" MIN.

LAP WATER RESISTANT BARRIER VERTICALLY 12" MIN.

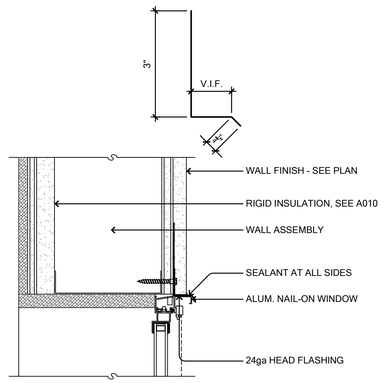
INSTALL (2) LAYERS OF WATER RESISTANT BARRIER. LAP LOWER LAYER BELOW FLASHING FROM STEPS 1 & 2.

9 NOT USED
SCALE: -

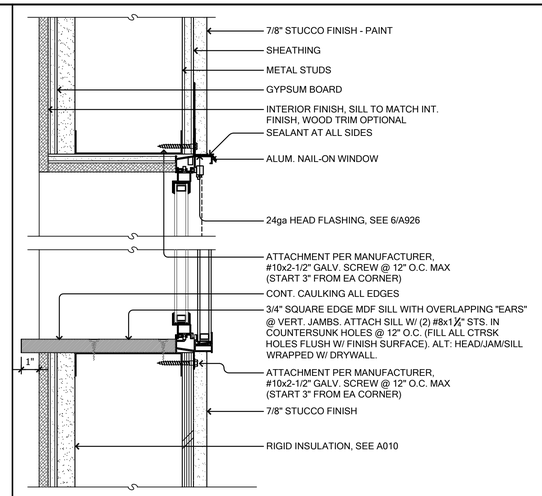
8 NOT USED
SCALE: -

4 NOT USED
SCALE: -

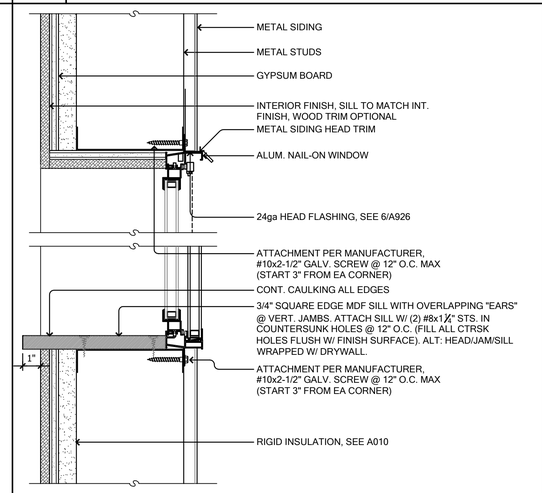
5 NOT USED
SCALE: -



6 HEAD FLASHING
SCALE: 3" = 1'-0"



1 WINDOW TRIM (STUCCO FINISH)
SCALE: 3" = 1'-0"



2 WINDOW TRIM (METAL SIDING)
SCALE: 3" = 1'-0"

3 NOT USED
SCALE: -

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
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INCREMENT #2

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808 15th STREET
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TEL: (209)577-0114
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NORMAN E. WILSON

LICENSED ARCHITECT NORMAN E. WILSON EXPIRES SEP. 30 2023 NO. C10951 STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 222673 B4

WINDOW DETAILS

A926

MECHANICAL SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
	CD	CEILING SUPPLY DIFFUSER
	CR, RG, EG	RETURN/EXHAUST AIR GRILLE
	CR, DL, SG	AIR OUTLET MOUNTED IN VERTICAL SURFACE
	VD	VOLUME DAMPER
14x12		DUCT SIZE, FIRST NUMBER IS IN PLANE OF PAGE
14x12L	L	LINED DUCTWORK
		DEMOLITION
		TURNING VANES
	FC	FLEXIBLE CONNECTION
	FD	FIRE DAMPER
		SUPPLY DUCT UP
		RETURN/EXHAUST DUCT UP
T	T	THERMOSTAT
	POC	POINT OF CONNECTION
SD	SD	DUCT SMOKE DETECTOR
M		MOTOR-ACTUATOR
		MECHANICAL EQUIPMENT TAG
		MECHANICAL DETAIL CALLLOUT
	AFF	ABOVE FINISHED FLOOR
	BDD	BACK DRAFT DAMPER
	CTE	CONNECT TO EXISTING
	DG	DOOR GRILLE
	DN	DOWN
	DWG	DRAWING
	(E)	EXISTING
	FLA	FULL LOAD AMPS
	FSD	FIRE SMOKE DAMPER
	IJS	IN JOIST SPACE
	MBH	THOUSAND BTU PER HOUR
	MCA	MINIMUM CIRCUIT AMPS
	MOCP	MAXIMUM OVER CURRENT PROTECTION
	NTS	NOT TO SCALE
	OA	OUTSIDE AIR
	(RE)	RELOCATE EXISTING
	RL	REFRIGERANT LIQUID
	RS	REFRIGERANT SUCTION
	SAD	SEE ARCHITECTURAL DRAWINGS
	SCD	SEE CIVIL DRAWINGS
	SED	SEE ELECTRICAL DRAWINGS
	SFD	SEE FOOD SERVICE DRAWINGS
	SHD	SEE HYDRONIC DRAWINGS
	SMD	SEE MECHANICAL DRAWINGS
	SPD	SEE PLUMBING DRAWINGS
	SRD	SEE REFRIGERATION DRAWINGS
	SSD	SEE STRUCTURAL DRAWINGS
	TYP	TYPICAL
	U/C	UNDERCUT DOOR 5/8"
	UON	UNLESS OTHERWISE NOTED
	VIF	VERIFY IN FIELD
	VTR	VENT THROUGH ROOF

CONTROL NOTES

PACKAGED HEAT PUMP AC UNITS (AC-1 & AC-2):
- SHALL BE WIRED TO WALL MOUNTED THERMOSTATS (T) TO MAINTAIN SPACE TEMPERATURE AT SETPOINT.
- FAN TO OPERATE CONTINUOUSLY DURING OCCUPIED MODE.

CARBON DIOXIDE SENSORS (CO2):
- SENSORS ARE MOUNTED ON WALL NEXT TO THERMOSTAT AND WIRED TO ECONOMIZERS, SEE MECHANICAL SCHEDULE.
- SENSORS ARE FACTORY CALIBRATED TO 400 PPM BASELINE CO2 CONCENTRATION.

ECONOMIZERS:
- PROVIDE ECONOMIZER OPERATION AS FIRST STAGE OF COOLING WHEN OUTSIDE AIR TEMPERATURE IS LESS THAN RETURN AIR TEMPERATURE.
- ECONOMIZER TO PROVIDE MINIMUM VENTILATION DURING NORMAL OPERATION WHEN CO2 SENSOR DETECTS LESS THAN 800-PPM CO2 IN THE SPACE. SEE VENTILATION SCHEDULE FOR MINIMUM AIRFLOW.
- WHEN CO2 LEVEL RISES ABOVE 800-PPM, ECONOMIZER CONTROLLER TO RECEIVE SIGNAL FROM CO2 SENSOR IN THE ROOM TO ACTIVATE DEMAND CONTROL VENTILATION. ECONOMIZER WILL ENABLE THE DCV OUTSIDE AIR RATE UNTIL THE CO2 SENSOR SIGNALS THAT THE SPACE HAS RETURNED BELOW 800-PPM. SEE VENTILATION SCHEDULE FOR DCV AIRFLOW.

EXHAUST FANS - MULTI-FIXTURE RESTROOMS (EF-1, EF-2):
- FANS TO BE SCHEDULED TO OPERATE DURING OCCUPIED HOURS, CONFIRM SCHEDULE WITH OWNER.
- WIRE THROUGH TIMECLOCK LOCATED IN ELECTRICAL ROOM.

EXHAUST FANS - PRIVATE RESTROOM (EF-3):
- FANS HAVE INTEGRAL CONTROLS, SEE SCHEDULES.

EXHAUST FANS - JANITOR (EF-4):
- FANS SHALL BE WIRED TO RUN CONTINUOUSLY.

EXHAUST FANS - ELECTRICAL ROOM (EF-5):
- FANS SHALL BE WIRED THROUGH LINE VOLTAGE THERMOSTAT.
- FANS ACTIVATED WHEN ROOM TEMPERATURE RISES ABOVE 85F.

THERMOSTATS (T):
- SHALL BE PROGRAMMED FOR CONTINUOUS FAN OPERATION DURING OCCUPIED HOURS.
- SHALL BE PROGRAMMED TO PROVIDE PRE-OCCUPANCY PURGE ONE HOUR PRIOR TO NORMAL OCCUPIED HOURS.
- COORDINATE SCHEDULE WITH OWNER.

CA ENERGY CODE NOTES

1. SPACE-CONDITIONING EQUIPMENT MUST BE CERTIFIED BY THE MANUFACTURER THAT THE EQUIPMENT COMPLIES WITH ALL THE APPLICABLE REQUIREMENTS OF CEC. SECTION 110.2(a)
2. ALL UNITARY HEATING OR COOLING SYSTEMS, INCLUDING HEAT PUMPS, NOT CONTROLLED BY A CENTRAL ENERGY MANAGEMENT CONTROL SYSTEM SHALL HAVE A SETBACK THERMOSTAT. SECTION 110.2(c)
3. LOW LEAKAGE AIR-HANDLING UNITS REQUIRE CERTIFICATION BY THE MANUFACTURER. SECTION 110.2(f)
4. INSTALLED FILTERS SHALL HAVE DESIGNATED EFFICIENCY EQUAL OR GREATER THAN MERV 13 AND SHALL BE 2-INCH MINIMUM DEPTH. SECTION 120.1(c)1.
5. THERMOSTATS WILL BE PROGRAMMED TO ENSURE THE MINIMUM AIR RATE WILL BE SUPPLIED TO THE SPACE AT ALL USUALLY OCCUPIED TIMES AND PROGRAMMED TO PROVIDE A PRE-OCCUPANCY PURGE ONE HOUR PRIOR TO THE MODULAR BUILDING BEING NORMALLY OCCUPIED. SECTION 120.1(d)1.
6. PIPING FOR SPACE-CONDITIONING AND SERVICE WATER-HEATING SYSTEMS WITH FLUID TEMPERATURES LISTED IN TABLE 120.3-A SHALL HAVE AT A MINIMUM THE AMOUNT OF INSULATION SPECIFIED. SECTION 120.3
7. INSULATION COVERING REFRIGERANT SUCTION PIPING LOCATED OUTSIDE THE CONDITIONED SPACE SHALL INCLUDE A VAPOR RETARDANT LOCATED OUTSIDE THE INSULATION (UNLESS THE INSULATION IS INHERENTLY VAPOR RETARDANT), ALL PENETRATIONS AND JOINTS OF WHICH SHALL BE SEALED. SECTION 120.3
8. ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS, INCLUDING, BUT NOT LIMITED TO, BUILDING CAVITIES, MECHANICAL CLOSETS, AIR-HANDLER BOXES AND SUPPORT PLATFORMS USED AS DUCTS OR PLENUMS, SHALL BE INSTALLED, SEALED AND INSULATED TO MEET THE REQUIREMENTS OF THE CEC. SECTION 120.4(a)
9. ALL DUCT MATERIALS, SEALANTS, AND CLOSURE SYSTEMS SHALL COMPLY WITH UL-181 AND THE CEC. SECTION 120.4(b)
10. INSULATION SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT DUE TO SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE, AND WIND BUT NOT LIMITED TO THE FOLLOWING: INSULATION EXPOSED TO WEATHER SHALL BE SUITABLE FOR OUTDOOR SERVICE E.G., PROTECTED BY ALUMINUM, SHEET METAL, PAINTED CANVAS, OR PLASTIC COVER. CELLULAR FOAM INSULATION SHALL BE PROTECTED AS ABOVE OR PAINTED WITH A COATING THAT IS WATER RETARDANT AND PROVIDES SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. SECTION 120.3, 120.4(f)
11. PROVIDE AND DOCUMENT ACCEPTANCE TESTS FOR ALL SYSTEMS AS REQUIRED. SEE T24 DOCUMENTATION FOR SYSTEMS REQUIRING ACCEPTANCE TESTS. SECTION 120.5

CALGREEN CODE NOTES

1. COMPLY WITH PROVISIONS OF THE 2019 CALIFORNIA GREEN BUILDING CODE (CGBC), CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 11. BELOW ARE REQUIREMENTS DIRECTLY RELATED TO MECHANICAL SYSTEMS, INCLUDING MANDATORY MEASURES ADOPTED BY DSA-SS. SEE ARCHITECTURAL PLANS AND SPECIFICATION FOR FURTHER REQUIREMENTS INCLUDING ANY VOLUNTARY MEASURES. COORDINATE ALL REQUIREMENTS WITH GENERAL CONTRACTOR.
2. COMPLY WITH ALL PROVISIONS OF SECTION 5.408 - CONSTRUCTION WASTE REDUCTION DISPOSAL AND RECYCLING. SEE ARCHITECTURAL PLANS AND SPECIFICATION FOR REQUIREMENTS. COORDINATED ALL REQUIREMENTS WITH GENERAL CONTRACTOR.
3. PROVIDE TESTING AND ADJUSTING FOR SYSTEMS IN ACCORDANCE WITH THE MECHANICAL SPECIFICATIONS AND CGBC SECTION 5.410.4.
4. BALANCE ALL AIR AND WATER SYSTEMS IN ACCORDANCE WITH THE MECHANICAL SPECIFICATIONS AND CGBC SECTION 5.410.4.3.1.
5. PROVIDE OPERATION AND MAINTENANCE MANUALS PER MECHANICAL SPECIFICATIONS AND CGBC SECTION 5.410.4.5.
6. TEMPORARY OPERATION OF THE PERMANENT HVAC SYSTEM FOR CONDITIONING OR VENTILATION OF THE SPACE SHALL BE IN ACCORDANCE WITH CGBC SECTION 5.504.1.
7. ALL DUCTWORK, EQUIPMENT AND RELATED MECHANICAL COMPONENTS SHALL BE COVERED WITH PLASTIC AND TAPE, OR SHEET METAL DURING STORAGE AT THE CONSTRUCTION SITE,DURING ROUGH INSTALLATION, AND UP UNTIL STARTUP TO PREVENT DEBRIS OR DUST FROM ENTERING DUCTWORK. CGBC SECTION 5.504.3.
8. ALL FINISH MATERIALS INCLUDING ADHESIVES, SEALANTS, CAULKS, PAINTS, AND COATINGS SHALL COMPLY WITH CGBC SECTION 5.504.4.
9. PROVIDE MINIMUM LEVEL MERV-13 EFFICIENCY FILTERS FOR RETURN AND OUTSIDE AIR WHICH ARE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING. CGBC SECTION 5.504.5.3
10. OUTSIDE AIR TO BE PROVIDED IN ACCORDANCE WITH THE CALIFORNIA ENERGY CODE, LOCAL CODES, AND DIVISION 1, CHAPTER 4 OF CCR, TITLE 8. SEE ENERGY REPORTS, VENTILATION NOTES AND MECHANICAL EQUIPMENT SCHEDULE. CGBC SECTION 5.506.1.
11. FOR BUILDINGS OR ADDITIONS WITH DEMAND CONTROL VENTILATION CARBON DIOXIDE MONITORS SHALL BE IN ACCORDANCE WITH THE 2019 CALIFORNIA ENERGY CODE 120.1(C)4. CGBC SECTION 5.506.2.
12. INSTALLATIONS OF HVAC EQUIPMENT SHALL NOT CONTAIN CHLOROFLUOROCARBONS (CFCs) OR HALONS. CGBC SECTION 5.508.
13. HVAC SYSTEM INSTALLERS SHALL BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS. CGBC SECTION 702.1.
14. WHEN REQUIRED BY THE ENFORCING AGENCY THE OWNER OR OWNERS AGENT SHALL EMPLOY SPECIAL INSPECTORS TO PROVIDE INSPECTION OR OTHER DUTIES TO SUBSTANTIATE COMPLIANCE WITH THE CGBC. CGBC SECTION 702.2.

MECHANICAL EQUIPMENT SCHEDULE

AC-1, AC-2 — PACKAGED ROOFTOP HEAT PUMP UNIT (20-TONS)
- MODEL: CARRIER 50TCQD24
- AIRFLOW: 8,000 CFM @ 1"ESP, 7.22 BHP
- HEATING: 227-MBH, 19.41-KW HEATING POWER INPUT, 3.2-COP
- COOLING: 248.6-MBH TC, 186.7-MBH SC, 10.6 EER. 12.0 IEER
- ELECTRICAL: AC UNIT: 208 V, 3 PH, 171.4 MCA, 175 MOCP; ECONOMIZER: 208 V, 3 PH, 11.5 MCA, 20.7 MOCP, 3-HP MOTOR
- WEIGHT: 3,687 LBS (UNIT: 2,216-LBS, CURB: 735-LBS, ECONOMIZER: 736-LBS)
- NOTES: HIGH STATIC HORIZONTAL DISCHARGE, STAGED AIR VOLUME WITH SUPPLY FAN VFD, 2-STAGE COOLING, 2-STAGE HEATING. WITH 18.8-KW ELECTRIC DEFROST HEATER, CANFAB #1082-IC08A-CBC STRUCTURALLY CALCULATED & PITCHED SPRING ISOLATION CURB WITH 2" DEFLECTION (8" BASE HEIGHT, 21.5" TOTAL HEIGHT), CANFAB #1180-MHPE HORIZONTAL DISCHARGE MODULATING POWER EXHAUST ECONOMIZER WITH HONEYWELL JADE CONTROLLER, MERV-13 FILTERS.

CO2 — WALL MOUNTED CARBON DIOXIDE SENSOR
- MODEL: HONEYWELL #C7232A1008/U
- DESCRIPTION: 24V, 0/2-10VDC SPST RELAY OUTPUT, LCD DISPLAY FOR SENSOR READINGS
- NOTES: UNDERWRITERS LABORATORIES INC. LISTED, FILE NO. E4436, NEMA1.

EF-1 , EF-2 — EXHAUST FAN, CEILING MOUNTED (LARGE RESTROOMS)
- MODEL: GREENHECK SP-A200
- AIRFLOW: 210 CFM @ 0.25" ESP, 2.0 SONES
- ELECTRICAL: 120 VOLTS, 0.43 FLA, 54 WATTS
- WEIGHT: 25 LBS
- NOTES: INSULATED HOUSING, INTEGRAL SPRING LOADED BACKDRAFT DAMPER, PLUG TYPE DISCONNECT, MOTOR RATED FOR CONTINUOUS USE.

EF-3 — EXHAUST FAN, CEILING MOUNTED (PRIVATE RESTROOMS)
- MODEL: PANASONIC FV-0511VK2
- AIRFLOW: 80 CFM @ 0.1" ESP, 0.3-SONES
- ELECTRICAL: 120 VOLTS, 9.8 WATTS
- OPERATING WT: 15-LBS
- NOTES: WITH BACKDRAFT DAMPER, DISCONNECT, OCCUPANCY SENSOR AND DELAY TIMER, 6" DUCT OUTLET, 13"x13" GRILLE.

EF-4 — CABINET INLINE EXHAUST FAN (JANITOR ROOM)
- MODEL: GREENHECK CSP-A110
- AIRFLOW: 85 CFM @ 0.25" ESP
- ELECTRICAL: 120 VOLTS, 19.7 WATTS
- WEIGHT: 16-LBS
- NOTES: WITH BACKDRAFT DAMPER, DISCONNECT, INSTALL 1/4" WIRE MESH OVER INLET.

EF-5 — CABINET INLINE EXHAUST FAN (ELECTRICAL ROOM)
- MODEL: GREENHECK CSP-A510
- AIRFLOW: 460 CFM @ 0.25"ESP
- ELECTRICAL: 120 VOLTS, 240 WATTS, WIRE THROUGH LVT
- OPERATING WT: 35-LBS
- NOTES: WITH BACKDRAFT DAMPER, DISCONNECT, INSTALL 1/4" WIRE MESH OVER INLET.

L-1 — LOUVER, STATIONARY
- MODEL: RUSKIN ELF375X
- FEATURES: ALUMINUM CONSTRUCTION, 4" DEEP, 37° BLADES, 54% FREE AREA
- OPTIONS: 1/4"STAINLESS STEEL SCREEN, FACTORY PRIME COAT

LVT — LINE VOLTAGE THERMOSTAT
- MODEL: HONEYWELL T6051A1016
- NOTES: SET TO 85°F

SD — DUCT SMOKE DETECTOR
- MODEL: SYSTEM SENSOR D4120, PHOTOELECTRIC TYPE
- ACCESSORIES: PICK UP TUBES (LENGTH AS NEEDED)
- ELECTRICAL: 120 VOLTS, 1 AMPS

T — THERMOSTATS
- MODEL: HONEYWELL TH8321WF1001 VISIONPRO WI-FI 8000
- FEATURES: TOUCH SCREEN, 7-DAY PROGRAMMABLE, 3-STAGE HEAT / 2-STAGE COOL HEAT PUMP, 2-STAGE HEAT / 2-STAGE COOL CONVENTIONAL, ONBOARD ENABLED WI-FI COMMUNICATION CAPABILITIES, WITH UP TO 4-HOUR MANUAL OVERRIDE.

TC — TIMECLOCK
- MODEL: INTERMATIC ET2745CR
- ELECTRICAL: 120-VOLTS
- FEATURES: 7-DAY/365-DAY PROGRAMMABLE TIMER, 4-CIRCUITS, SPST SWITCH, NEMA 3R ENCLOSURE

VENTILATION SCHEDULE

UNIT	MINIMUM VENTILATION WITH DCV	DEMAND CONTROL VENTILATION
AC-1	500	2,800
AC-2	500	2,800

AIR OUTLET SCHEDULE

CD-1, CD-1D — CEILING DIFFUSER, SURFACE MOUNT
- MODEL: TITUS MCD, BORDER 1, 4-WAY BLOW (UNLESS INDICATED OTHERWISE)
- DESCRIPTION: LOUVERED FACE MODULAR CORES, ALUMINUM CONSTRUCTION, OPPOSED BLADE DAMPER (AT CD-1D)
- WEIGHT: LESS THAN 10-LBS

DL-1 — DOOR LOUVER
- MODEL: TITUS T-700L
- DESCRIPTION: 20-GAUGE STEEL DOOR LOUVER WITH SIGHT PROOF INVERTED-V BLADES, BLADES PARALLEL TO HORIZONTAL DIMENSION. CONFIRM FRAME WITH ARCHITECT.

RG-1 — RETURN GRILLE, SURFACE MOUNT
- MODEL: TITUS 33RL, BORDER 1
- DESCRIPTION: HEAVY DUTY IMPACT RESISTANT STEEL CONSTRUCTION, 16 GAUGE BORDER AND 14 GAUGE BLADES, 38° DEFLECTION BLADES ON 1/2" CENTERS

SG-1D — SUPPLY GRILLE, SPIRAL DUCT MOUNTED
- MODEL: TITUS S300FS
- DESCRIPTION: CURVED FACE TO MATCH RADIUS OF DUCT, DOUBLE DEFLECTION LOUVER, STEEL CONSTRUCTION, AIR-SCOOP DAMPER AT SG-1D

MECHANICAL GENERAL NOTES

1. BALANCE OUTSIDE AIR TO HVAC UNITS AS NOTED IN VENTILATION SCHEDULE.
2. PROVIDE FLEXIBLE PIPE AND DUCT CONNECTORS TO ALL EQUIPMENT WHICH IS SUSPENDED OR MOUNTED ON VIBRATION ISOLATORS.
3. MAINTAIN A MINIMUM 10'-0" CLEAR BETWEEN HVAC EQUIPMENT AIR INTAKES AND PLUMBING VENTS, VENTS SERVING FUEL BURNING EQUIPMENT OR EXHAUST OUTLETS WITH OBJECTIONABLE ODORS, FUMES OR FLAMMABLE VAPORS; OR 10 FEET ABOVE THE SURFACE OF ANY ABUTTING PUBLIC WAY OR DRIVEWAY; OR WHEN IT IS IN A HORIZONTAL POSITION IN A SIDEWALK, STREET, ALLEY OR DRIVEWAY.
4. SUPPLY FANS IN HVAC EQUIPMENT WITH SMOKE DETECTORS SHALL BE WIRED FOR AUTOMATIC SHUT DOWN UPON DETECTION OF PRODUCTS OF COMBUSTION. SEE EQUIPMENT SCHEDULE AND PLANS FOR EQUIPMENT WITH SMOKE DETECTORS.
5. HVAC UNIT SUPPLY AND RETURN PLENUMS SHALL BE FULL SIZE OF UNIT OPENING (UON) AND SHALL BE INTERNALLY LINED.
6. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR OUTLETS.
7. PROVIDE UL-LISTED FIRE STOPPING, INSTALLED PER LISTING, WHERE PIPES OR DUCTS PASS THROUGH FIRE RATED CONSTRUCTION. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED ASSEMBLES.
8. ALL INDOOR LOW VOLTAGE WIRING SHALL BE INSTALLED IN EMT CONDUIT, EXCEPT WHERE CONCEALED IN ATTIC SPACES. ALL OUTDOOR CONTROL WIRING SHALL BE INSTALLED IN EITHER RIGID OR SEALTIGHT CONDUIT. ALL WIRING IN ATTIC SPACES SHALL BE NEATLY ATTACHED TO FRAMING AT MINIMUM 10' INTERVALS.
9. LABEL ALL EQUIPMENT WITH ENGRAVED PLASTIC TAGS 1"x2-1/2" WITH EQUIPMENT TAG NUMBERS.
10. DUCT LINER TO HAVE MOLD, HUMIDITY AND EROSION RESISTANT INTERIOR SURFACES THAT MEET OR EXCEED REQUIREMENTS IN ACCORDANCE WITH CMC SECTION 605.0.
11. INSULATION APPLIED TO THE EXTERIOR SURFACES OF DUCTS LOCATED IN THE BUILDING SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE- DENSITY NOT EXCEEDING 50 WHEN TESTED AS A COMPOSITE INSTALLATION IN ACCORDANCE WITH CMC SECTION 605.0.
12. INSTALLATION INSTRUCTIONS FOR ALL EQUIPMENT SHALL BE MADE AVAILABLE TO THE BUILDING INSPECTOR AT THE TIME OF INSPECTION.
13. INSTALL ALL THERMOSTATS WITH TOP OF BOX AT 48"AFF, OR 46"AFF TO CENTERLINE. INSTALL ALL CONTROLS WITH ACCESSIBLE COMPONENTS BETWEEN 42" AND 48" AFF. INSTALL ALL CO2 SENSORS AT CENTERLINE MOUNTING HEIGHT TO MATCH ADJACENT THERMOSTAT.
14. REVIEW PROJECT ENERGY COMPLIANCE DOCUMENTS AND PROVIDE ALL ACCEPTANCE TESTING AND REPORTS REQUIRED FOR MECHANICAL SYSTEMS.

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

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

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

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTION SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL, AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (e.g., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP[ ] MD[ ] PP[ ] E[ ] — OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS

MP[X] MD[X] PP[ ] E[ ] — OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # 0043-13.

ACCEPTANCE TESTING NOTES

THE CALIFORNIA MECHANICAL CODE REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED MECHANICAL SYSTEMS AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.

MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED ACCEPTANCE TEST TECHNICIAN (ATT).

A LISTING OF CERTIFIED ATT CAN BE FOUND AT:
https://www.energy.ca.gov/programs-and-topics/programs/acceptance-test-technician-certification-provider-program/acceptance

THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE INSTALLING CONTRACTOR UNTIL THE INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.

PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: JY — PLOT DATE: 09.27.2022
CHECKED BY: BM

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

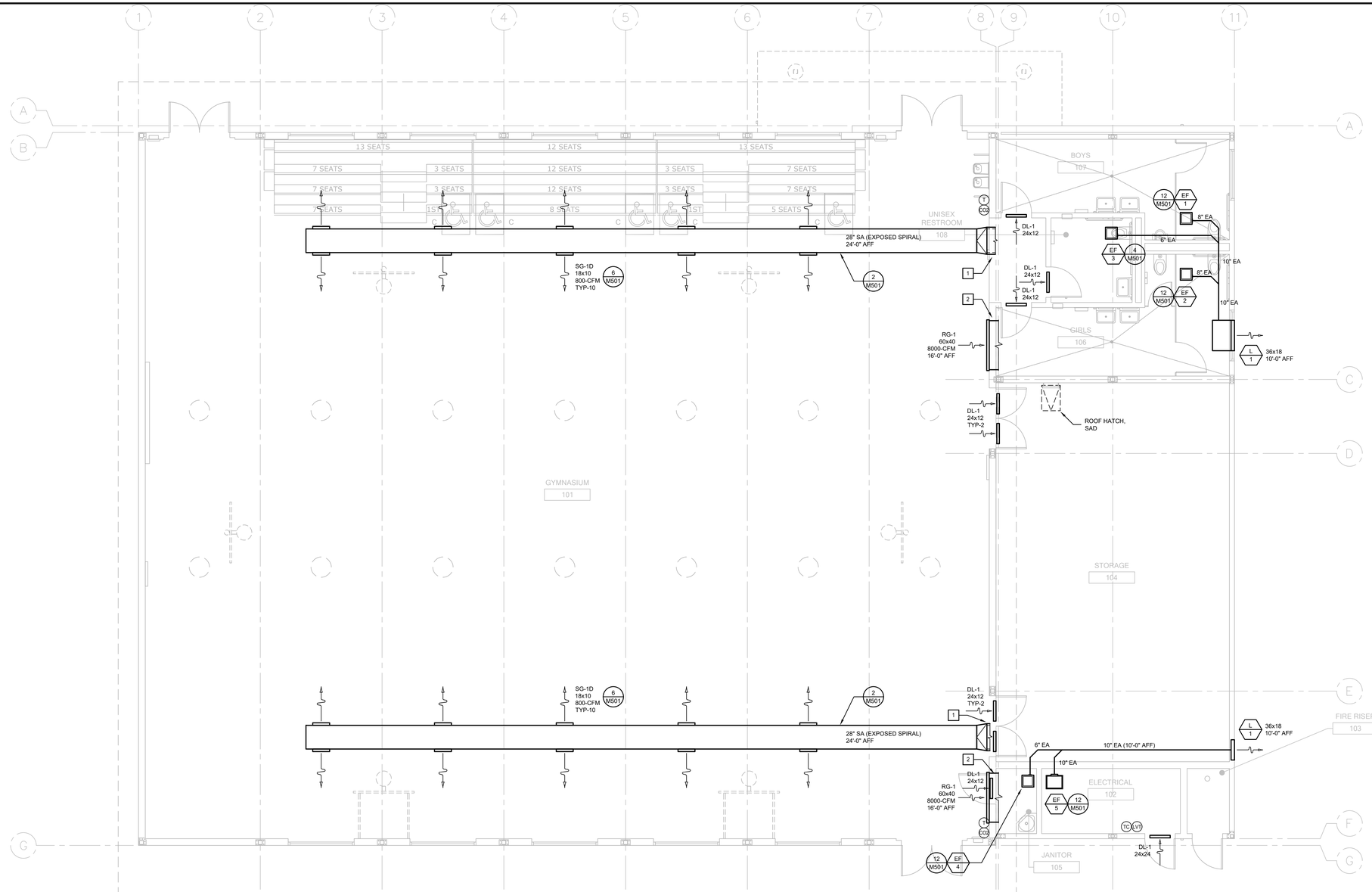
TEP ENGINEERING
880 Second Street
Santa Rosa, CA 95404-4610
707.538.0400 office
707.538.0406 fax

REGISTERED PROFESSIONAL ENGINEER — BRIAN M. MANNING — No.M.30815 EXP.12-31-22 — MECHANICAL — STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

MECHANICAL
TITLE SHEET

M001



MECHANICAL FLOOR PLAN

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

GENERAL NOTES

A. CARE SHALL BE TAKEN FOR ALL EXPOSED DUCTS TO PRESERVE CLEAN LINES AND APPEARANCE. DUCTS SHALL BE CONNECTED USING INTERNAL SLEEVES AND ANY VISIBLE EXCESS DUCT SEALANT SHALL BE REMOVED QUICKLY AFTER ASSEMBLY. DUCTS SHALL BE FREE OF ANY DENTS, DINGS OR OTHER MARKINGS.

B. MOUNT DOOR LOUVERS AT 12" AFF, SAD.

SHEET NOTES

1 28x28L SA THROUGH WALL, SEE M202 FOR CONTINUATION.

2 56x36L RA THROUGH WALL, SEE M202 FOR CONTINUATION.

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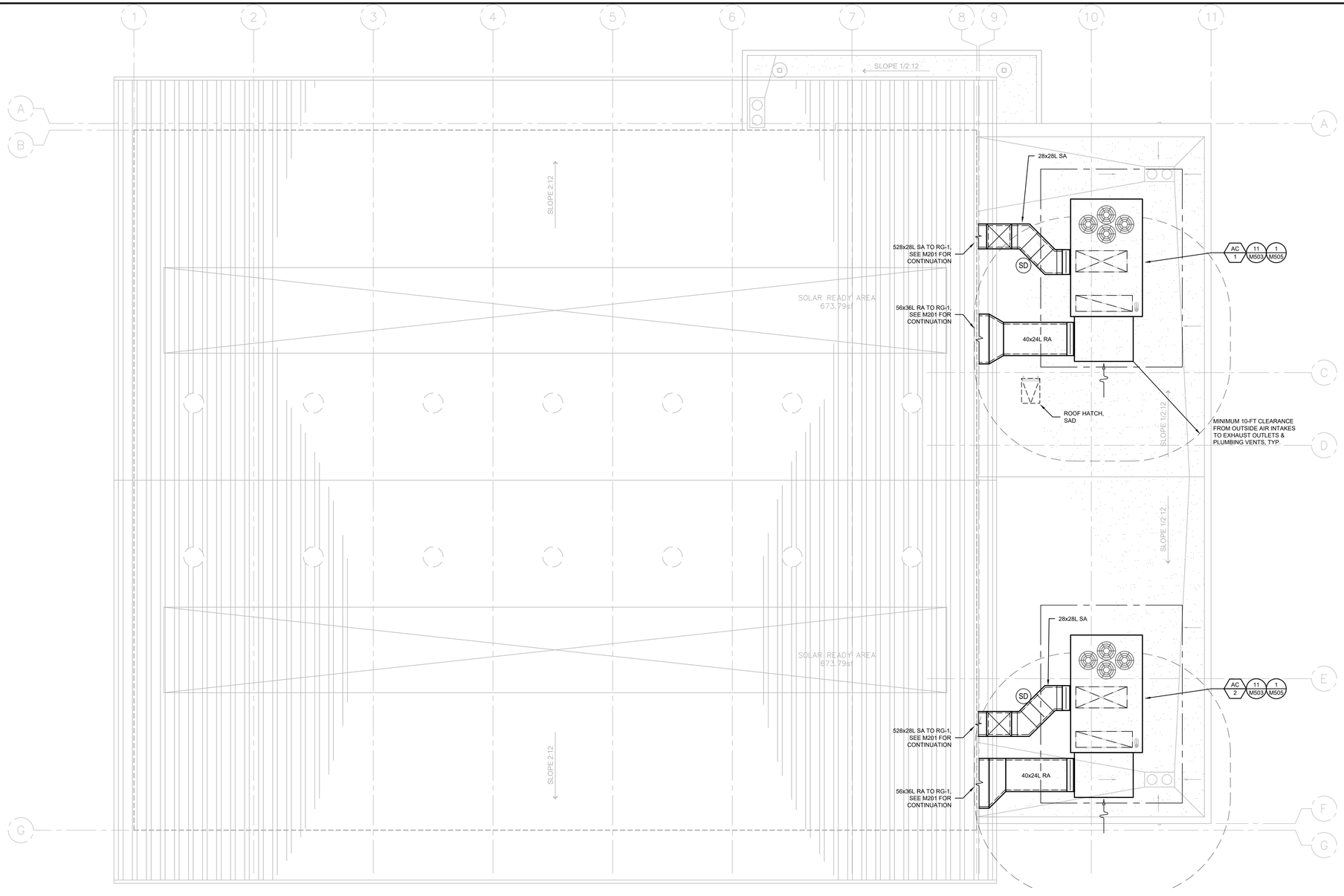
BRAD MANNING
No.M.30815
EXP.12-31-22
MECHANICAL
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

MECHANICAL
FLOOR PLAN

M201



MECHANICAL ROOF PLAN

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

JL MODULAR
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SANTA ROSA, CA 95401
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PIEDMONT MIDDLE SCHOOL
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EXP.12-31-22
MECHANICAL
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

MECHANICAL
ROOF PLAN

M202

NOT USED

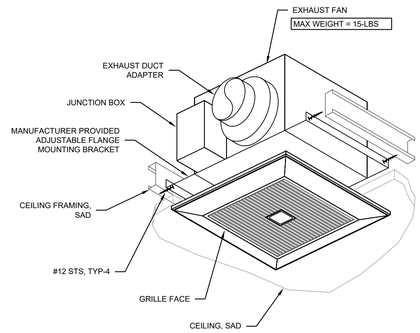
NTS

10

NOT USED

NTS

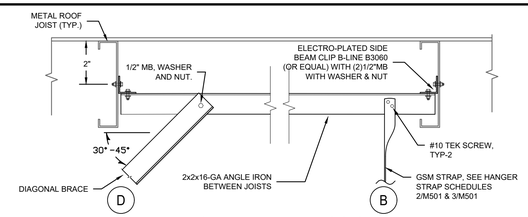
7



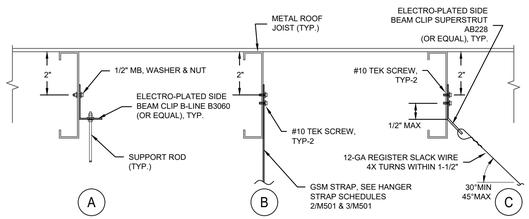
SMALL EXHAUST FAN AT GYPSUM BOARD CEILING ON FRAMING

NTS

4



ATTACHMENT BETWEEN JOISTS



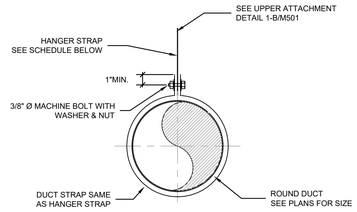
NOTES:

A. PROVIDE BLOCKING EACH SIDE OF DIAGONAL BRACING ATTACHMENTS, SSD DETAIL 20/SD613.

UPPER ATTACHMENT

NTS

1



DUCT HANGER STRAP SCHEDULE						
DUCT SIZE	DUCT MATERIAL	DUCT GAUGE	WEIGHT LB/FT	SUPPORT SPACING	WEIGHT PER HANGER	STRAP SIZE
UP THRU 10"	GALVANIZED SHEET METAL	24	4.1 *	10'-0" O.C.	41 LBS	1" x 18 GA
11" TO 18"	GALVANIZED SHEET METAL	24	7.1 *	10'-0" O.C.	71 LBS	1" x 18 GA
19" TO 28"	GALVANIZED SHEET METAL	24	13.9 *	5'-0" O.C.	70 LBS	1" x 18 GA

* WEIGHT INCLUDES 1-1/2" 0.75-PCF INSULATION.

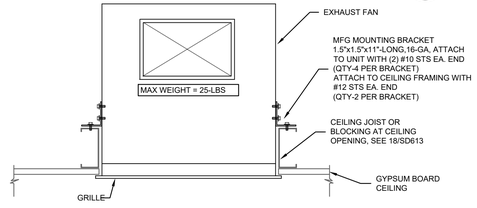
NOTES:

A. ALL DUCTWORK LARGER THAN 28" DIAMETER OR WEIGHING MORE THAN 20-LBS PER FOOT SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH MASON OPM# 0043-13.
B. INSTALL FLEXIBLE CONNECTORS AT CONNECTIONS TO ALL COMPONENTS THAT WEIGH MORE THAN 75-LBS.
C. DUCTWORK SHALL BE SUPPORTED SUCH THAT IT CANNOT COME INTO CONTACT WITH OTHER DUCTS OR MECHANICAL COMPONENTS. IF CONTACT WITH OTHER DUCTS OR MECHANICAL COMPONENTS CANNOT BE PREVENTED, DUCT RUN SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH MASON OPM# 0043-13.
D. SUPPORT FLEXIBLE DUCTWORK WITH 1-1/2" GSM (24-GA) STRAPS AT 48" O.C. MAX (MAXIMUM FLEXIBLE DUCT LENGTH TO BE 5-FT).

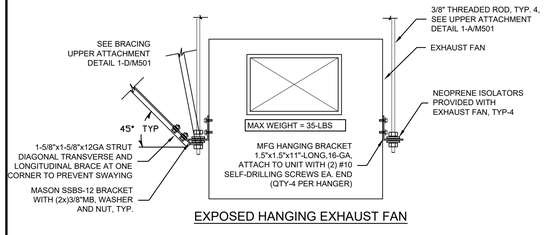
NOT USED

NTS

11



CEILING MOUNTED EXHAUST FAN



EXPOSED HANGING EXHAUST FAN

CABINET EXHAUST FAN MOUNTING

NTS

12

NOT USED

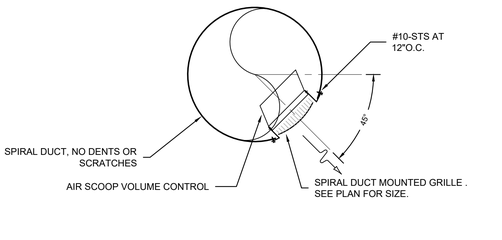
NTS

8

BRANCH DUCT CONNECTION

NTS

5



NOT USED

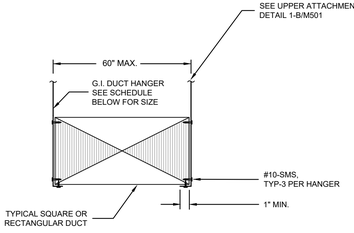
NTS

9

SIDEWALL DIFFUSER AT EXPOSED DUCT

NTS

6



DUCT HANGER STRAP SCHEDULE						
HALF DUCT PERIMETER	DUCT MATERIAL	DUCT GAUGE	WEIGHT LB/FT	SUPPORT SPACING	WEIGHT PER HANGER	STRAP SIZE
UP TO P/2 = 56"	GALVANIZED SHEET METAL	24	13 *	5'-0" O.C.	65 LBS	1" x 18 GA

* WEIGHT INCLUDES 1-1/2" 0.75-PCF INSULATION.

NOTES:

A. ALL DUCTWORK LARGER THAN 6 SQ.FT. FACE AREA OR WEIGHING MORE THAN 20-LBS PER FOOT SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH MASON OPM# 0043-13.
B. INSTALL FLEXIBLE CONNECTORS AT CONNECTIONS TO ALL COMPONENTS THAT WEIGH MORE THAN 75-LBS.
C. DUCTWORK SHALL BE SUPPORTED SUCH THAT IT CANNOT COME INTO CONTACT WITH OTHER DUCTS OR MECHANICAL COMPONENTS. IF CONTACT WITH OTHER DUCTS OR MECHANICAL COMPONENTS CANNOT BE PREVENTED, DUCT RUN SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH MASON OPM# 0043-13.

ROUND DUCT SUPPORT

NTS

2

RECTANGULAR DUCT SUPPORT

NTS

3

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
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FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: JY
CHECKED BY: BM
PLOT DATE: 09.27.2022

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

TEP ENGINEERING
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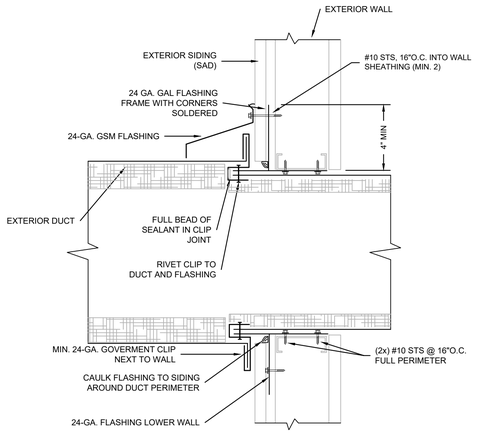
REGISTERED PROFESSIONAL ENGINEER BRIAN MANNING No.M 30515 EXP.12-31-22 MECHANICAL STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

MECHANICAL DETAILS

M501



FLASHING AT DUCT THRU WALL

NTS

10

NOT USED

NTS

7

NOT USED

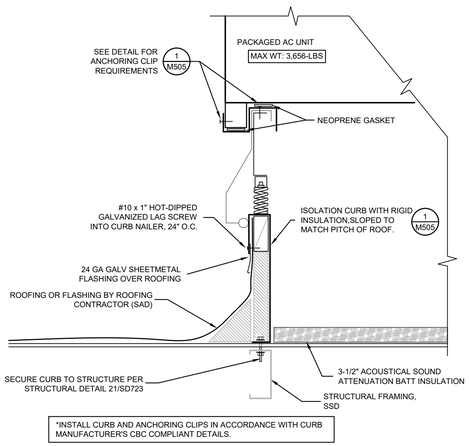
NTS

4

NOT USED

NTS

1



ROOFTOP UNIT ISO MOUNTING

NTS

11

NOT USED

NTS

8

NOT USED

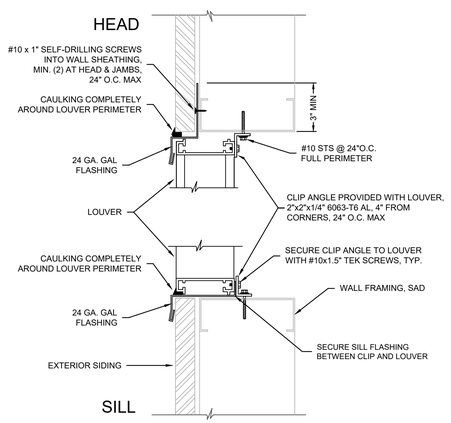
NTS

5

NOT USED

NTS

2



LOUVER MOUNTING

NTS

9

NOT USED

NTS

6

NOT USED

NTS

3

JL MODULAR
70 STONY POINT ROAD, SUITE D
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FAX: 707.542.7718

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REGISTERED PROFESSIONAL ENGINEER
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No. M 30815
EXP. 12-31-22
MECHANICAL
STATE OF CALIFORNIA

SCALE:	AS NOTED
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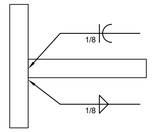
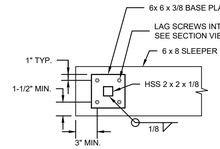
PROJECT NUMBER:	TEP #3747

MECHANICAL DETAILS

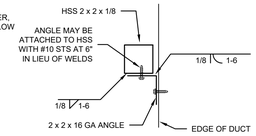
M503



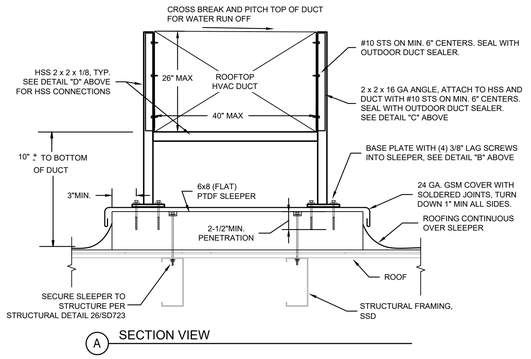
D TYPICAL HSS TO HSS CONNECTION



B BASE PLATE PLAN VIEW



C ENLARGED DUCT ATTACHMENT



A SECTION VIEW

NOTES:
1. PROVIDE FIRST SUPPORT WITHIN 24" OF AC UNIT CONNECTION.
2. SUPPORT SPACING: 5-FT O.C. AND WITHIN 12" OF CHANGES OF DIRECTION AND BRANCHES.

ROOF DUCT SUPPORT

NTS

1

JL MODULAR
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REGISTERED PROFESSIONAL ENGINEER
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No.M30813
EXP.12-31-22
MECHANICAL
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

MECHANICAL DETAILS

M504

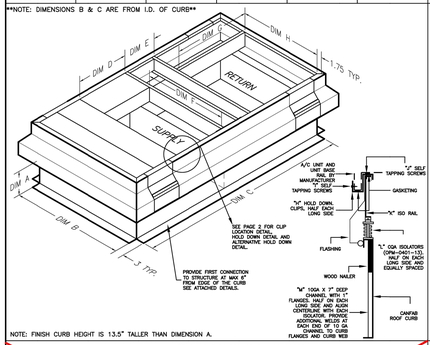
CanFab
CANNON FABRICATION INC
182 GRANITE STREET, SUITE 101, CORONA, CA 92879
PHONE:(951)278-1830 FAX:(951)278-8444 www.canfab.com canfab@canfab.com

FOR: GROUP E ISO
CARRIER 7-1/2 - 26TONS
48/50HC 20, 24, 48/50TC 21, 24, 25, 28, 48/50 LC 17, 20
50TCQ 24

PART NO: 1082-IC

DIM A	DIM B	DIM C	DIM D	DIM E	DIM F	DIM G	DIM H
VARIES MAX 36" SEE TABLE 3	76.875"	131.9375"	27.875"	25.9375"	63.875"	22.1875"	69.5625"

NOTE: DIMENSIONS B & C ARE FROM I.D. OF CURB



NOTE: FINISH CURB HEIGHT IS 13.5" TALLER THAN DIMENSION A.

ALL WORK SHALL CONFORM TO THE STANDARD OF 2018 INTERNATIONAL BUILDING CODE & 2019 CALIFORNIA BUILDING CODE.

SEISMIC DESIGN CRITERIA
-SDS = 1.5 ap = 2.5
-I = 1.5 Rp = 2.0

WIND DESIGN CRITERIA
-MAX 60 FT TALL BUILDING
-EXPOSURE C
-175 MPH, 3 SECOND GUST WIND

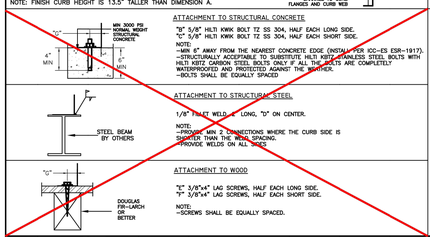
NOTE:
INSTALLER TO VERIFY WITH A LICENSED STRUCTURAL ENGINEER IN THE CORRESPONDING STATE THE ADEQUACY OF THE STRUCTURE FOR THE ADDITIONAL LOADS AND THE CURB IN ADDITION TO ALL OTHER LOADS.
-INSTALLER TO VERIFY WITH A LICENSED STRUCTURAL ENGINEER IN THE CORRESPONDING STATE THAT THE SEISMIC AND WIND DESIGN CRITERIA LISTED ABOVE ARE CONSERVATIVE AND ADEQUATE FOR THE SITE SPECIFIC VALUES. OTHERWISE, CONTACT CANNON FABRICATION FOR A SITE SPECIFIC ANALYSIS AND DRAWINGS.

CURB CONSTRUCTION
1) ☒ WELDED
2) ☐ BOLTED
3) ☐ FINGERLOCK
-ALL WELDING CONSTRUCTION CERTIFIED TO AWS/AWS D1.3 STRUCTURAL WELDING CODE-SHEET METAL.
-ALL SELF TAPPING SCREW SHALL MEET ASTM C1513 SPECIFICATION AND INSTALLED PER ASC-S100
-NO GAP IS ALLOWED BETWEEN TWO METAL SHEET SURFACES WHERE SHEET METAL SCREW IS CONNECTED

CURB AND UNIT INFORMATION
-16 GAUGE GALVANIZED STEEL CURB

-SEE TABLE 3 FOR ALLOWABLE CURB AND UNIT DIMENSIONAL AND WEIGHT

-SEE TABLE 4 FOR TABULATED CURB AND ANCHORAGE INFORMATION PER VARYING CURB HEIGHT
– ALPHA DESIGNATIONS "A" THRU "M", CAN BE FOUND ON TABLE 4, PAGE 3



ATTACHMENT TO STRUCTURAL CONCRETE
"B" 5/8" HILTI KWIK BOLT TZ SS 304, HALF EACH LONG SIDE.
"C" 5/8" HILTI KWIK BOLT TZ SS 304, HALF EACH SHORT SIDE.
NOTE:
–MIN 6" AWAY FROM THE NEAREST CONCRETE EDGE (INSTALL PER ICC-ES ESR-1917).
–STRUCTURALLY ACCEPTABLE TO SUBSTITUTE HILTI KBT3 STAINLESS STEEL BOLTS WITH HILTI KBTZ CARBON STEEL BOLTS ONLY IF ALL THE BOLTS ARE COMPLETELY WATERPROOFED AND PROTECTED AGAINST THE WEATHER.
–BOLTS SHALL BE EQUALLY SPACED

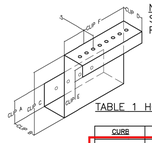
ATTACHMENT TO STRUCTURAL STEEL
1/8" FILLET WELD, 4" LONG, "D" ON CENTER.
NOTE:
–TYPICAL FOR ALL CONNECTIONS WHERE THE CURB SIDE IS SHORTER THAN THE METAL SPACING.
–PROVIDE WELDS ON ALL SIDES.

ATTACHMENT TO WOOD
"E" 3/8"x4" LAG SCREWS, HALF EACH LONG SIDE.
"F" 3/8"x4" LAG SCREWS, HALF EACH SHORT SIDE.
NOTE:
–SCREWS SHALL BE EQUALLY SPACED.

STRUCTURAL REVIEW BY:
MARTIN & associates
JOHN A. MARTIN AND ASSOCIATES Structural Engineers 950 South Grand Ave., 4th Floor Los Angeles, California 90015 Phone (213) 483-6486 Fax (213) 483-3584 Job No. 19022
REGISTERED PROFESSIONAL ENGINEER GREGORY LOUIS OROZCO No. 4957 STRUCTURAL STATE OF CALIFORNIA
3/29/2019

PROJECT: IBC 2018 UPDATE/ CBC 2019 UPDATE DATE: 3.22.19
ENGINEER: DV DISTRIBUTOR:
DRAWING NUMBER: GROUP_E_ISO.DWG PAGE 1 OF 3

HOLD DOWN DETAIL



NOTE:
SEE TABLE 1 FOR DESIGNATED HOLD DOWN CLIP PER CURB

TABLE 1 HOLD DOWN CLIP PER CURB

CURB	CLIP	GAUGE	CLIP A [IN]	CLIP B [IN]	CLIP C [IN]	CLIP D [IN]	CLIP E [IN]	CLIP F [IN]
1082	1909-SHD14-12	12 GA	1.5	2.625	4.5625	1.875	1.0	9.0
1092	1909-SHD14-12	12 GA	1.5	2.625	4.5625	1.875	1.0	9.0
1016,1018	1913-SHD14-12	12 GA	2.0	3.0	2.0	1.875	1.0	9.0

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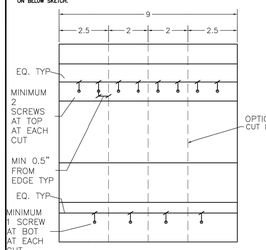
3/29/2019

ALTERNATIVE HOLD DOWN DETAIL

NOTE:
APPLICABLE ONLY FOR 9" LONG HOLD DOWN WITH (8) SCREWS AT TOP AND (4) SCREWS AT BOT EQUALLY SPACED

1. INFORMATION SHOWN ON THE STAMPED CANFAB CURB DRAWING IS THE MINIMUM REQUIREMENTS FOR THE CURB CONSTRUCTION AND INSTALLATION. NO STRUCTURAL OBJECTION TO THE USE OF LARGER SIZE SCREWS AND THICKER GAUGE SHEET METAL THAN THE INFORMATION SHOWN ON THE STAMPED CANFAB CURB DRAWING.
2. THE CLIP LOCATION IS ALLOWED TO SHIFTING THE ATTACHMENT CLIPS ALONG THE CURB. FIRST AND LAST CLIP AT THE SIDE OF CURB SHALL BE LOCATED PER CLIP LOCATION DETAIL PER STAMPED CANFAB CURB DRAWING. DISTANCE SHIFTED SHALL NOT BE LARGER THAN THE LENGTH OF THE CLIP.
3. NO STRUCTURAL OBJECTION TO CUTTING THE ATTACHMENT CLIPS FOR REQUIREMENTS AS SHOWN ON BELOW SKETCH.



CLIP LOCATION DETAIL

NOTE:
SEE TABLE 2 FOR CLIP LOCATION

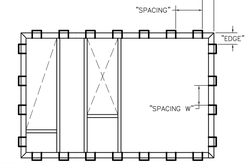


TABLE 2 CLIP LOCATION

CURB	EDGE [IN]	SPACING [IN]	SPACING W [IN]
1081	7.75	18.49	N/A
1091	7.75	21.1979	N/A
1016	7.75	19.7054	8.1071
1018	7.75	16.4167	8.1071

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TABLE 3 ALLOWABLE CURB AND UNIT DIMENSION AND WEIGHT

RELATED CURBS	LCURB [IN]	WCURB [IN]	WCURB [LBS]	LUNIT [IN]	WUNIT [IN]	HUNIT [IN]	WEIGHT [LBS]	CGLONG [IN]	CGSHORT [IN]	CGHEIGHT [IN]
1016	SEE PAGE 1	SEE PAGE 1	MIN 858 933 998 1085 1407 MAX 1735	165.094	82.031	73.125	MAX 6864	98	48	HUNIT/2
1018	SEE PAGE 1	SEE PAGE 1	MIN 1148 1215 1280 1370 1678 MAX 2017	215.406	82.031	70.75	MAX 7855	132	48	HUNIT/2
1082	SEE PAGE 1	SEE PAGE 1	MIN 735 790 846 921 1185 MAX 1468	141.5	86.375	57.375	MAX 3609	76	40.906	HUNIT/2
1092	SEE PAGE 1	SEE PAGE 1	MIN 769 826 883 961 1233 MAX 1527	157.75	86.375	57.375	MAX 3904	85.031	48	HUNIT/2

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3/29/2019

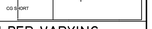

TABLE 4 TABULATED CURB AND ANCHORAGE INFORMATION PER VARYING HEIGHT

		0 < H ≤ 18"	18" < H ≤ 22"	22" < H ≤ 30"	30" < H ≤ 36"
A	CURB THICKNESS	14 GA TYP, 12GA FOR 1016 AND 1018		12 GA	12GA TYP, 10GA FOR 1016 AND 1018
B	EXP. ANCHOR	14 TYP, 18 FOR 1016, 22 FOR 1018	14 TYP, 20 FOR 1016, 24 FOR 1018	14 TYP, 22 FOR 1016, 26 FOR 1018	16 TYP, 24 FOR 1016, 28 FOR 1018
C	EXP. ANCHOR	8 TYP, 12 FOR 1016 AND 1018	8 TYP, 12 FOR 1016 AND 1018	10 TYP, 12 FOR 1016 AND 1018	10 TYP, 12 FOR 1016 AND 1018
D	WELD	24"		18"	
E	SCREWS	50 TYP, 72 FOR 1016, 90 FOR 1018	52 TYP, 76 FOR 1016, 94 FOR 1018	54 TYP, 78 FOR 1016, 98 FOR 1018	58 TYP, 80 FOR 1016, 102 FOR 1018
F	SCREWS	24 TYP, 34 FOR 1016 AND 1018	24 TYP, 36 FOR 1016 AND 1018	28 TYP, 36 FOR 1016 AND 1018	30 TYP, 36 FOR 1016 AND 1018
G	DISTANCE	MAX 0.75"		MAX 0.75"	MAX 0.75"
H I	NO. OF CLIPS	14 TYP,16 ON LONG SIDES AND 8 ON SHORT SIDES FOR 1016,20 ON LONG SIDES AND 8 ON SHORT SIDES FOR 1018			
J	CLIP SMS	(4) #14	(4) #14	(4) #14	(4) #14
K	CLIP SMS	(8) #14	(8) #14	(8) #14	(8) #14
	ISO RAIL	10 GA 7.5" DEEP X 1" FLANGES			
L	NO. OF ISOLATORS	16 TYP 20 ON LONG SIDES AND 10 ON SHORT SIDES FOR 1016 24 ON LONG SIDES AND 10 ON SHORT SIDES FOR 1018			
M	NO. OF STIFFENERS	16 TYP 20 ON LONG SIDES AND 10 ON SHORT SIDES FOR 1016 24 ON LONG SIDES AND 10 ON SHORT SIDES FOR 1018			

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ISOLATION CURB CONSTRUCTION & ATTACHMENT TO AC UNIT

NTS

1

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: JY PLOT DATE: 09.27.2022
CHECKED BY: BM

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

TEP ENGINEERING
880 Second Street
Santa Rosa, CA 95404-4610
707.538.0400 office
707.538.0406 fax

REGISTERED PROFESSIONAL ENGINEER BRAD MANNING No.M30815 EXP.12-31-22 MECHANICAL STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

MECHANICAL DETAILS

M505

MECHANICAL SPECIFICATIONS - DIVISION 23 00 00

1. GENERAL

1.1 SCOPE

A. The work in this section includes, but is not limited to, providing all mechanical work as shown and noted on the mechanical Drawings and Specifications, including the following items:
   1. Mechanical equipment and appurtenances.
   2. Ductwork, duct insulation and appurtenances.
   3. Vibration Isolation.
   4. Controls & control wiring.
   5. Piping markers and equipment nameplates.
   6. Energy code testing, adjusting and reporting.

B. Work of other sections includes the following:
   1. All trenching and backfilling associated with the mechanical installation.
   2. Line voltage wiring and disconnect switches. The Electrical Contractor will provide all line voltage wiring & conduit, disconnect switches & magnetic starters (except those furnished under this Section as a part of packaged mechanical equipment).
   3. Condensate drainage piping from mechanical equipment.

1.2 CODES AND STANDARDS

A. All work and materials shall be in full accordance with the latest adopted edition of the following documents:
   1. 2019 California Building Code (CBC)
   2. 2019 California Plumbing Code (CPC)
   3. 2019 California Mechanical Code (CMC)
   4. 2019 California Electrical Code (CEC)
   5. 2019 California Fire Code (CFC)
   6. 2019 California Energy Code (Title 24)
   7. 2019 California Green Building Code (CALGreen)
   8. National Electric Code (NEC)
   9. Americans with Disabilities Act (ADA)
   10. Sheet metal Contractors and Air Conditioning Contractors' National Association (SMACNA), HVAC Duct Construction Standards and Seismic Restraint Manual.
   11. National Fire Protection Association (NFPA)
   12. Local codes and ordinances

B. Whenever this specification calls for material, workmanship, arrangement or construction of higher quality and/or capacity than that required by governing codes, higher quality and/or capacity takes precedence.

1.3 DRAWINGS AND SPECIFICATIONS

A. Where a conflict exists between Drawings and Specifications, promptly notify the Architect for interpretation and resolution. The most stringent requirements shall be used for bid.

1.4 PERMITS

A. The Contractor shall obtain all permits, licenses and fees that are required to perform the work. Provide the Architect with the original certificates, permits, licenses and receipts for fees.

1.5 SUBMITTALS

A. Provide complete product submittals and shop drawings in electronic format (PDF), as one complete package, prior to commencing work or prior to ordering any materials. Clearly identify/mark each submittal in detail. Note what differences, if any, exist between the submitted Item and the specified Item. Failure to identify the differences will be considered cause for disapproval. If differences are not identified and/or not discovered during the submittal review process, Contractor remains responsible for providing equipment and materials that meet the Specifications and Drawings. Items, other than those specified, will not be allowed unless they are approved in writing via the submittal process. Include cut sheets and drawings for the following items in the submittal:
   1. All mechanical components that are a part of the mechanical contract documents.
   2. Insulating Contractor's current California C-2 Insulation license issued by the California State Licensing Board and insulation materials.
   3. Testing, Adjusting and Balancing (TAB) Contractor's current AABC license issued by the Associated Air Balance Council or current NEBB license issued by the National Environmental Balancing Bureau with sample TAB report of a similar air moving system.
   4. Drawings for installation details that differ from the details in the contract documents.
   5. Control drawings for all control work that is specified in the mechanical contract documents.

B. "No Exception Taken" constitutes that review is for general conformance with the design concept expressed in the Contract Documents for the limited purpose of checking for conformance with information given. Any action is subject to the requirements of the Contract Documents. Contractor is responsible for the dimensions and quantity and will confirm and correlate at the job site, fabrication processes and techniques of construction, coordination of the work with that of all other trades, and the satisfactory performance of the work.

C. All details shown on the Drawings are schematic in nature; the Contractor is responsible for determining actual installation requirements. Contractor shall include in his bid all materials and appurtenances for a complete and operable installation. Provide shop drawings for the proposed installation when coordination with other trades is required. The Contractor is responsible for all materials, equipment and appurtenances not reviewed and approved by the Engineer.

D. In checking Drawings and Submittals data, the reviewer makes effort to detect errors and omissions. Failure of the reviewer to detect errors or omissions during the review of Drawings and Submittals data shall not relieve the vendors and/or Contractor of his/her responsibility to comply with the Contract Documents.

E. Upon completion of work, provide one set of reproducible as-built drawings and two operation and maintenance manuals. The operation and maintenance manuals shall be in a binder and contain manufacturers' data, manufacturers' warranties and maintenance instructions for the equipment, fixtures and appurtenances installed. The Contractor is responsible for all materials, equipment and appurtenances not reviewed and approved by the Engineer.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements: Work and materials installed to conform with all local, State, Federal and other applicable laws and regulations.

B. Drawings are diagrammatic. They are not intended to show every item in its exact dimensions, or details of equipment or proposed systems layout. Verify actual dimensions of systems (i.e., piping) and equipment proposed to assure that systems and equipment will fit in available space.

C. Manufacturer's Instructions: Follow manufacturer's written instructions. If in conflict with Contract Documents, obtain clarification. Notify Engineer/Architect, in writing, before starting work.

D. UL Compliance: Provide electrical panels and equipment which are UL or ETL listed.

E. Installer Qualifications: Installer shall be trained and certified in the proper installation of mechanical systems by a nationally or regionally recognized training or certification program. Uncertified persons may perform mechanical installation where under the direct supervision and responsibility of a person trained and certified to install mechanical systems.

F. Pipe insulation and jacketing must be installed by a Contractor normally engaged in this type of work and holds a current C-2 Insulation Contactor license issued by the California State Licensing Board. Contractor must provide license information with submittals.

1.7 SUBSTITUTIONS OF MATERIALS AND EQUIPMENT

A. The named materials and equipment are considered the basis for design; however equal materials and equipment may be submitted to the Architect and Engineer for review. The decision of the Owner and Engineer shall be final and shall govern as to what materials and equipment may be substituted, but the burden of proof as to the quality, performance and space requirements of any proposed substitution shall rest with the Contractor.

1.8 WARRANTY

A. The Contractor shall provide a one-year warranty for the work of this Section. During this period the Contractor shall provide all labor and materials necessary to repair or replace defective systems. The warranty period shall begin at the date of final acceptance, per Section 3 below.

B. Additional warranty conditions: Where applicable, provide additional warranty time period and/or conditions in accordance with the General Conditions Section of the project Specifications manual.

1.9 GENERAL

A. The Contractor shall verify all building dimensions with Architectural Drawings and all site dimensions with Civil Drawings prior to submitting a bid.

B. The submission of a bid or proposal will be construed as evidence that the Contractor has familiarized himself with the Drawings and building site. Claims made subsequent to the proposal for materials and/or labor due to difficulties encountered will not be recognized unless these difficulties could not have been foreseen, even though proper examination had been made.

C. Provide Turnkey operation of all mechanical systems described in the Drawings and Specifications. Provide all materials and labor required for complete operational systems, unless specifically noted as provided by others on the Drawings and Specifications; or specifically excluded in the bid. Provide all cleaning, test, balance & commissioning of systems to guarantee proper operation at project completion. Inform the Owner and General Contractor of the timing of all work to be done and the requirements of other trades so the work can be completed in a timely fashion. With the bid, provide a list of all equipment and material that have lead times exceeding 4 weeks. Clearly indicate expected lead times for such equipment and material.

2. PRODUCTS

2.1 DUCTWORK

A. All indoor & outdoor ductwork shall be constructed from galvanized sheet metal in accordance with the latest edition of "SMACNA HVAC Duct Construction Standards". Ductwork shall be built to 4" WC pressure class and seal class A.

B. Outdoor Rectangular Ducts: Longitudinal seams to be Pittsburgh seams with sealant inside joint. Transverse seams to be MEZ TDC with compatible metal cleats and corners or manufactured TDF system meeting SMACNA class J by Ductmate or approved equal. Additionally install over exterior seams a 1/4" bead of Vulkum 642 or Silkaflex sealant. Diagonally cross break all ducts.

C. Concealed Round Ducts and Fittings: Spiral duct with RL-1 spiral lock seams by United McGill Uni-Seal, Mina Metals or approved equal. Wye branches, Laterals and Tap-ins to be conical, tapered body or low loss type. Elbows to be 1.5-radius segmented, stamped or gored. Join ducts with RT-1 beaded sleeve joints attached per SMACNA Standards.

D. Exposed Round Ducts and Fittings: Spiral duct with RL-1 spiral lock seams by United McGill Uni-Seal, Mina Metals or approved equal. Wye branches, Laterals and Tap-ins to be conical, tapered body or low loss type. Elbows to be 1.5-radius welded segmented (no standing seam or pleat). Join ducts with RT-1 beaded sleeve joints attached per SMACNA Standards. Ductwork to be protected during transport and installation to insure there are no dents or heavy scratches.

E. Flexible Ducting at final supply and return connections: Class 0 or Class 1, pre-insulated with minimum R-6, to be used in concealed, conditioned, areas on the supply and return only. 5'-0" maximum length at final connection to outlet. Flexmaster, ATCO series #036 (R-6) or approved equal. All connections shall be wrapped with three layers of UL rated duct tape and secured with stainless steel gear clamps or 0.345" (9 mm) heavy duty nylon cable ties, Catamount series 175 or equal by Panduit, or Thomas & Betts, tightened with factory tool.

2.2 DUCT INSULATION AND LINER

A. Duct wrap
   1. Supply, return and make-up air ducts in conditioned concealed spaces: Owens Corning SoftR, fiberglass with FRK Foil-facing, 1-1/2" thick, type 75, R-5.1, or approved equal by Certainteed or Knauf.
   2. Supply, return and make-up air ducts in unconditioned concealed spaces communicating with outdoors: Owens Corning SoftR, fiberglass with FRK Foil-facing, 3" thick, type 75, R-10, or approved equal by Certainteed or Knauf.
   3. Outside air and make-up air (that are not heated or mechanically cooled) ducts and plenums in concealed spaces (ceilings, attics or walls): AP Armacell ArmaFlex FS, elastomeric (EPDM based) thermal insulation meeting ASTM C177 or C518, 1/2" thick for minimum R-2.1. Adhered to ducts per manufacturer's instructions. All joints to be nearly mitered and tightly glued covering all duct metal surfaces. Provide continuous vapor barrier to prevent condensation or cold duct/plenum surfaces.

B. Duct liner
   1. Exterior ducts and unconditioned spaces: Owens Corning QuietR type R-8, 2" thick or approved equal by Certainteed or Knauf.
   2. Supply, return and make-up air ducts in conditioned concealed spaces Owens Corning QuietR type R-4.2, 1" thick or approved equal by Certainteed or Knauf.
   3. At all register cans: Owens Corning type 75, minimum 1/2" thick, or approved equal by Certainteed or Knauf.

C. All insulation shall have a flame spread rating of not more than 25 and a smoke-developed rating of not more than 50.

2.3 DUCT SPECIALTIES

A. Duct joint sealer: Hardcast duct seal 321 or equal United McGill, indoor and outdoor duct sealer, gray smooth finish, water based low VOCs. Up to 10" WG duct pressure rated. Install 20 mil thickness minimum. Where duct sealer is installed outdoors and installed during wet conditions, use Hardcast metal bond.

B. Duct flex connectors: 24 gage galvanized iron with grip lock seams meeting NFPA 701, 90A & 90B. Indoors, Duro Dyne Excelon #10210 MBX, color black or approved equal. Outdoors, Duro Dyne Durolon #10159 (or #10210 at TDC connectors), color white or approved equal.

C. Turning vanes: Aero-Dyne "Double wall" or Ductmate Industries Prorail, double radius, minimum 26 gauge vanes with 24 gauge siderails. Do not install in ducts with smaller dimension less than 11".

D. Duct tape: Polyken 558CA air duct closure system, 14 mils thick. CEC approved.

2.4 ECONOMIZERS

A. Where economizers are scheduled on the mechanical equipment schedule, they shall meet the requirements of CEC section 104.4(e).4 which includes:

   1. 5 Year warranty.
   2. Damper reliability testing to 60,000 cycles.
   3. Damper leakage maximum rate of 10 CFM/SF at 1"WC.
   4. Adjustable high limit setpoint.
   5. Calibrated sensor accuracy per CEC.

2.5 VOLUME DAMPERS

A. Galvanized steel minimum 24 gage sleeve, 16 gage blade with Ventlok 638 regulator locking quadrant.

   1. At ducts up to 14" round: Greenheck VCDR-50 single blade with locking quadrant.
   2. At ducts 16" and larger round: Greenheck VCDRM-50 multi blade with locking quadrant.

2.6 AIR FILTERS

A. Flanders or approved equal by Camfil. Air filters shall be pleated disposal type with MERV rating per equipment schedule (or minimum MERV 13 rating for any system with at least 10 feet of ducting attached). Provide minimum 2 inch.

2.7 CONTROLS

A. Provide complete automatic controls for all heating, ventilating and air conditioning systems, including room thermostats, control valves and all necessary control wiring, transformers, and panels. Refer to the "Controls Notes" on the Drawings for control sequences and specifications.

B. Install all low voltage wiring, which is not concealed in any walls or attics, shall be installed in conduit (EMT). All outdoor control wiring shall be installed in either rigid or sealtight conduit.

C. Install all Thermostats, switches and controls at elevations shown on Architectural Drawings. Where not shown on Architectural Drawings, install devices such that all controls are within 48" of the finished floor. Where possible match centerline of lighting controls in the same room.

2.8 ADHESIVES, SEALANTS, CAULKS, PAINTS AND COATING

A. All products shall comply with the VOC limits requirements in CALGreen Code section 5.504. If a non-conforming product is found in these bid documents, notify the Architect immediately for an alternate product.

2.9 EQUIPMENT

A. Provide equipment of the manufacturer and model numbers shown on the Drawings, complete with all required trim and other items necessary for proper operation.

B. All equipment, fixtures and fittings shall conform to California Energy Commission Certification per CEC subchapter 2, for energy usage and water usage compliance. See equipment schedules for specific ratings.

2.10 EQUIPMENT NAMEPLATES

A. Equipment nameplates: Provide Seton custom engraved acrylic (plastic), Black with white border and lettering, 3" wide by 1" high with minimum 1/4" lettering, attached with two small screws. Provide a label at each piece of major equipment for equipment identification.

2.11 OTHER MATERIALS

A. Other materials not specified, but required for a complete installation, shall be as selected by the Contractor subject to acceptance by the Engineer.

3. EXECUTION

3.1 GENERAL

A. Verify that the work of this Section may be completed in accordance with all pertinent codes and regulations, the Construction Documents, approved Submittals, and the manufacturers' recommendations. In the event of discrepancy, immediately notify the Engineer. Do not proceed in areas of discrepancy until all discrepancies have been resolved.

B. Install all equipment, valves, controls and appurtenances in accordance with manufacturers' instructions. Install all ductwork Per CMC requirements and SMACNA standards.

C. Provide access to all components requiring adjustment. Provide access panels where these components are concealed behind non-accessible construction. Label access panels with description of service.

D. Install ductwork upstream and downstream of fans with as few offsets and elbows as possible. If conditions allow, provide a minimum of 3 fan diameters of straight duct upstream of fan intakes. Do not provide less straight duct upstream and downstream of fans than indicated on the Drawings without authorization from the Engineer.

E. Cover all duct openings and protect mechanical equipment during construction at time of rough installation and during storage on construction site until final startup all duct and other related air distribution components openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system. And in accordance with the CALGreen section 5.504.3.

F. Provide approved flexible connections between fans and ducts.

G. Duct sizes shown on the Drawings are clear airflow dimensions, inside the insulation.

H. Provide double-thickness turning vanes at all duct elbows 10" or wider unless noted otherwise on Drawings.

I. Seal all duct seams and joints with approved joint sealant. Seal ducts exposed to weather water tight. Slope top of exterior ducts to shed rain.

J. Install ducts in the locations shown on the Drawings. If interference with pipes, structure etc. requires a change in duct shape or size, obtain approval from the Engineer before installing duct.

K. Install flexible ducts in a fully extended condition free of kinks and maximum sag of 1/2" per foot. Support on 48" centers with 1-1/2" wide galvanized iron strap minimum 24 gauge. All elbows shall be made with a minimum radius of 1.5 times the duct diameter.

L. Where access doors are required in ductwork, for access to internal components, provide doors with an air tight seal. Label access panels with description of service.

M. Where branch ducts tap in main ducts, provide 45 degree entry tap with clinch lock connection or conical fitting one duct size larger than branch.

N. Do not cut into or reduce the size of any load-carrying member without the prior approval of the Architect.

O. All registers with sheet metal cans shall be internally lined with duct liner.

P. Suspend ducts with sheet metal straps and hangers from structural building components.

Q. Install duct lining with 100% adhesive coverage and mechanical fasteners per SMACNA standards. Coat all exposed edges of lining to prevent erosion of fiberglass.

R. Install all equipment level.

S. Do not operate fan coils, air handlers, air conditioning units, etc. without specified filters.

T. Do not install thermostats or temperature sensors in locations where they are subject to direct sunlight. Where thermostat or sensor are on exterior or partition walls to unconditioned space, insulate wall with minimum 1" expandable foam and seal around cable at wall.

U. Install volume dampers or balancing devices on all supply, return, outside, and exhaust air branch ducts or air outlets (even if not shown on Drawings). Install dampers or devices so they are easily accessible without crawling through attic or crawl space.

3.2 ENERGY CODE TESTING, ADJUSTING AND REPORTING

A. The Contractor shall test and commission all mechanical equipment shown on the Mechanical Drawings. Testing and documentation shall be in accordance with manufacture's installation instructions and California Energy Code NRCC-MCH certificate of compliance forms.

B. The Contractor shall coordinate and schedule with the General Contractor, (or owner where applicable), controls contractor, other subcontractors and the owner as necessary to complete all testing in a timely manner.

C. The Contractor shall submit all completed and signed commissioning documents in one package (in PDF format) to the Mechanical Engineer of Record for review and approval. Any comments and/or corrections shall be addressed promptly, retested, and an updated report resubmitted for approval prior to completion. Provide an additional copy to the building department official where requested.

3.3 REQUIREMENTS FOR ACCEPTANCE

A. Make arrangements with the Engineer and the Building Inspector to observe the Work prior to covering or enclosing the work.

B. Clean all mechanical systems to remove all contaminants. At the completion of work, provide new, clean air filters in all filter banks.

C. At completion of construction, prior to TAB air balancing, provide all systems with new filters per the equipment schedule specifications.

D. Duct pressure testing: When required by the project Title 24 Energy Documentation, provide duct pressure testing and verification reports for all duct systems. Systems shall be sealed to a leakage rate not to exceed 6% of the fan airflow or rate shown in Title 24 documentation whichever is less. Provide verification reports to Owner and building department official. All other Ductwork shall be leak-tested per CMC 603.10.1 in accordance with the SMACNA HVAC Air Duct Leakage Test Manual. Representative sections totaling not less than 10 percent of the total installed duct area shall be tested. Where the tested 10 percent fail to comply with the requirements of this section, then 40 percent of the total installed duct area shall be tested. Where the tested 40 percent fail to comply with the requirements of this section, then 100 percent of the total installed duct area shall be tested. Sections shall be selected by the building owner or designated representative of the building owner. Positive pressure leakage testing shall be permitted for negative pressure ductwork. The permitted duct leakage shall be per CMC 603.10.1.

E. Test and balance all air moving systems in accordance with AABC National Standards for Field Measurements and Instrumentation. Testing shall be done by an AABC licensed TAB Contractor or independent certified NEBB Contractor which is not affiliated with a Mechanical Contractor, design Engineer or equipment manufacturer.

F. Test all control functions and verify that all control features operate as specified. Provide written verification of these tests along with the Test and Balance report.

G. An "as-built" red lined drawing set shall be kept on site and updated daily. These "as-builts" shall include the full scope of the design documents and specifications in this section of work. Submit "as-builts" to General Contractor and Owner.

H. Prior to job completion, submit redlined as-built drawings in PDF format (color, 200 to 300 DPI resolution) to the Engineer and Owner.

I. Provide operation and maintenance manuals on all equipment include equipment warranties certificates.

J. Instruct the Owner on how to operate and maintain all systems that are a part of this Section.

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: JY
CHECKED BY: BM
PLOT DATE: 09.27.2022

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

TEP ENGINEERING
880 Second Street
Santa Rosa, CA 95404-4610
707.538.0400 office
707.538.0406 fax

REGISTERED PROFESSIONAL ENGINEER
BRIAN MANNING
No.M30815
EXP.12-31-22
MECHANICAL
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

MECHANICAL SPECIFICATIONS

M701

PLUMBING SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
———	W	WASTE PIPE ABOVE GRADE
— — — —	W, SS	WASTE PIPE BELOW GRADE
----------	V	VENT PIPE
—— – ——	CW	COLD WATER PIPE
—— – – ——	HW	HOT WATER PIPE
——HWR——	HWR	HOT WATER RETURN PIPE
—— G ——	G	GAS PIPE
—— TW ——	TW	TEMPERED HOT WATER PIPE
-+-+-+-+-		PIPE DEMOLITION
—— F ——		FILTERED WATER PIPE
		GATE VALVE
		GLOBE VALVE
IOI		BALL VALVE
		CHECK VALVE
		BALANCING VALVE
	PRV	PRESSURE REDUCING VALVE
	TV	TEMPERING VALVE
		UNION
		PRESSURE GAUGE AND NEEDLE VALVE
		PUMP
		THERMOMETER
	CO	CLEANOUT
	FCO	FLOOR CLEANOUT
	COTG	CLEANOUT TO GRADE
	HB	HOSE BIBB
		PIPE UP
C		PIPE DOWN
		PIPE CONNECTION
	FD	FLOOR DRAIN
A		AQUASTAT
TS		TIME SWITCH
PT	PT	PRESSURE AND TEMPERATURE RELIEF VALVE
	POC	POINT OF CONNECTION
	WHA	WATER HAMMER ARRESTOR
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	BFF	BELOW FINISHED FLOOR
	CA	COMPRESSED AIR
	CD	CONDENSATE DRAIN
	CTE	CONNECT TO EXISTING
	DFU	DRAIN FIXTURE UNITS
	DI	DEIONIZED WATER
	DN	DOWN
	DWG	DRAWING
	(E)	EXISTING
	IE	INVERT ELEVATION
	FW	FILTERED WATER
	IJS	IN JOIST SPACE
	LV	LAB VENT
	LVTR	LAB VENT THROUGH ROOF
	LW	LAB WASTE
	NTS	NOT TO SCALE
	OD	OVERFLOW DRAIN
	(RE)	RELOCATE EXISTING
	RO	REVERSE OSMOSIS
	SD	STORM DRAIN
	SS	SANITARY SEWER
	SOV	SHUT-OFF VALVE
	TP	TRAP PRIMER
	TYP	TYPICAL
	VAC	VACUUM
	VIF	VERIFY IN FIELD
	VTR	VENT THROUGH ROOF
	WCO	WALL CLEANOUT
	WSFU	WATER SUPPLY FIXTURE UNITS
	SAD	SEE ARCHITECTURAL DRAWINGS
	SCD	SEE CIVIL DRAWINGS
	SDD	SEE DENTAL DRAWINGS
	SED	SEE ELECTRICAL DRAWINGS
	SFD	SEE FOOD SERVICE DRAWINGS
	SHD	SEE RADIANT HEATING DRAWINGS
	SMD	SEE MECHANICAL DRAWINGS
	SPD	SEE PLUMBING DRAWINGS
	SRD	SEE REFRIGERATION DRAWINGS
	SSD	SEE STRUCTURAL DRAWINGS
	UNO	UNLESS NOTED OTHERWISE

PLUMBING EQUIPMENT SCHEDULE

DF-1 DRINKING FOUNTAIN (DOUBLE) - ACCESSIBLE
- MODEL: ELKAY EZH20 #VRCTLDDWSK
- DESCRIPTION: STAINLESS STEEL, DUAL LEVEL ACCESSIBLE DRINKING FOUNTAIN WITH BOTTLE FILLING STATION, NON-REFRIGERATED, NON-FILTERED, STAINLESS STEEL, MECHANICAL FRONT BUBBLER & BOTTLE FILLER ACTIVATION.
- ELECTRICAL: 115 VOLT, 1 PHASE, 1.0 AMPS
- ACCESSORIES: ELKAY MLP200 WALL CARRIER
- WEIGHT: 120-LBS
- NOTES: INSTALL MANUFACTURER RECOMMENDED WALL CARRIER. ACCESSIBLE WHEN MOUNTED AT APPROVED HEIGHT (SAD DETAIL 1/SA900).

ET-1 EXPANSION TANK
- MODEL: AMTROL "THERM-X-TROL" #ST-5C-DD.
- DESCRIPTION: 2.0 GAL ASME BLADDER EXPANSION TANK WITH 0.9 GAL ACCEPTANCE, FACTORY PRECHARGED TO 55 PSIG (FIELD ADJUST TO LINE PRESSURE), ASME RATED TO 150 PSIG AT 200F, 8" DIAMETER x 14"TALL, FOR POTABLE WATER SERVICE.
- WEIGHT: 18 LBS (OPERATING)

FD-1 FLOOR DRAIN
- MODEL: ZURN #Z415B NO-HUB
- DESCRIPTION: CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE HEAD AND 5" DIAMETER NICKEL BRONZE TOP, TYPE 'B' STRAINER, TRAP PRIMER CONNECTION ADAPTER

HB-1 HOSE BIBB
- MODEL: WOODFORD #B24P(BR), 3/4"
- DESCRIPTION: NON-REMOVABLE VACUUM BREAKER, ROUGH BRASS FINISH, METAL WHEEL HANDLE, FLUSH MOUNTED LOCKING BOX

HB-2 HOSE BIBB (ROOF)
- MODEL: WOODFORD #B24P(BR), 3/4"
- DESCRIPTION: NON-REMOVABLE VACUUM BREAKER, ROUGH BRASS FINISH, METAL WHEEL HANDLE, FLUSH MOUNTED LOCKING BOX

L-1 LAVATORY - ACCESSIBLE (WALL-HUNG, COLD WATER ONLY)
- MODEL: AMERICAN STANDARD "LUCERNE" 0355.012
- FAUCET: CHICAGO 857-E2805-665PSHAB, 4" CENTERS, DECK MOUNTED, PUSH BUTTON, SELF METERING, VANDAL PROOF AERATOR, (0.5-GPM, 15-SECONDS, 0.125-GPC)
- DESCRIPTION: WHITE VITREOUS CHINA WITH 4" CENTERS, CHROME GRID STRAINER,
- NOTES: INSTALL MANUFACTURER RECOMMENDED CONCEALED ARM CARRIER, ACCESSIBLE WHEN MOUNTED AT APPROVED HEIGHT (SAD DETAIL 1/SA900).
- WEIGHT: 35-LBS.

MS-1 MOP SINK
- MODEL: AMERICAN STANDARD "FLORWELL" #7741.000 ENAMELED CAST IRON, CORNER SERVICE SINK WITH 3" DRAIN
- FAUCET: CHICAGO 540-LD897SWXFABCP WITH VACUUM BREAKER AND WALL BRACE.
- ACCESSORIES: PROVIDE MOP WALL RACK.

RD-1 COMBINATION ROOF DRAIN WITH OVERFLOW
- MODEL: ZURN #Z164
- DESCRIPTION: 12" DIAMETER, COMBINATION MAIN ROOF & OVERFLOW DRAIN, CAST IRON BODY AND CLAMP, ROOF SUMP RECEIVER AND LOW-SILHOUETTE CAST IRON DOME STRAINERS.
- NOTES: WHERE INDICATED ON ROOF (SAD)

U-1 URINAL, WALL MOUNTED
- MODEL: KOHLER K-4991-ET
- VALVE: SLOAN ROYAL 186-0.125, 0.125-GPF.
- DESCRIPTION: VITREOUS CHINA, WALL MOUNTED, 3/4" TOP SPUD, CHROME PLATED, MANUAL FLUSH VALVE.
- NOTES: INSTALL MANUFACTURER RECOMMENDED WALL CARRIER.
  ACCESSIBLE WHEN MOUNTED AT APPROVED HEIGHT (SAD DETAIL 1/SA900).
- WEIGHT: 39-LBS

WC-1 WATER CLOSET (WALL-MOUNTED)
- MODEL: KOHLER "KINGSTON" #K-4325
- VALVE: SLOAN ROYAL 111-1.28, 1.28-GPF.
- DESCRIPTION: WALL MOUNTED VITREOUS CHINA FIXTURE WITH 1-1/2" TOP SPUD, ELONGATED BOWL WITH BEAMIS 3155SSCT WHITE OPEN FRONT SEAT, CHROME PLATED, 1.28-GPF MANUAL FLUSH VALVE.
- NOTES: INSTALL MANUFACTURER RECOMMENDED WALL CARRIER.
  ACCESSIBLE WHEN MOUNTED AT APPROVED HEIGHT (SAD DETAIL 1/SA900).
- WEIGHT: 52-LBS

WH-1 WATER HEATER, ELECTRIC TANK
- MODEL: AO SMITH DEL-20
- DESCRIPTION: 20 GALLON
- ELECTRICAL: 6 KW AT 208 VOLT, 1 PHASE, 28.8 A
- RECOVERY: 41 GPH @ 60°F RISE
- NOTES: SET TO 120°F
- WEIGHT: 200-LBS FULL

FIXTURE CONNECTION SCHEDULE

SYMBOL	DESCRIPTION	PIPE SIZE IN INCHES W	V	HW	CW
DF-1	DRINKING FOUNTAIN	(2x)1-1/2	1-1/2	-	1/2
FD-1	FLOOR DRAIN	2	1-1/2	-	-
HB-1	HOSE BIBB	-	-	-	3/4
HB-2	HOSE BIBB	-	-	-	3/4
L-1	LAVATORY	1-1/2	1-1/2	-	1/2
MS-1	SINK, MOP	3	2	3/4	3/4
U-1	URINAL (FV)	2	2	-	3/4
WC-1	WATER CLOSET (FV)	3	2	-	1-1/4
WH-1	WATER HEATER (TANK)	-	-	3/4	3/4

WATER PIPE SIZING CALCULATIONS

PROJECT NAME: Piedmont MS Gym
PROJECT NUMBER: 3747.00
DATE: 8/23/22

AVAILABLE WATER PRESSURE CALCULATIONS PER CPC TABLE A 103.1

TOTAL FIXTURE UNITS:	38
COLD WATER DEMAND FLOW RATE (GPM):	45
HOT WATER FIXTURE UNITS:	6
HOT WATER DEMAND FLOW RATE (GPM):	5
WATER MAIN PRESSURE (PSIG)	50
PRESSURE DROP THRU METER (PSIG)	0
PRESSURE REDUCING VALVE - PRESSURE (IF REQUIRED)	0
PRESSURE DROP THRU BACKFLOW PREVENTER (PSIG)	0
ELEVATION PRESSURE DROP (PSIG)	1.7
PRESSURE DROP THROUGH WATER TREATMENT (PSIG)	0
RESIDUAL PRESSURE REQUIRED AT LAST OUTLET (PSIG)	25
NET PRESSURE AVAILABLE (PSIG)	**23**
PRESSURE BOOSTER PUMP (IF REQUIRED) (PSIG)	0
STATIC HEIGHT OF HIGHEST FIXTURE ABOVE MAIN (FT)	4
TOTAL DEVELOPED LENGTH OF LONGEST PIPE RUN (FT)	150
MAXIMUM PIPE FRICTION LOSS (PSI) PER 100 FT OF PIPE	**15.5**

COLD WATER PIPE SIZE SCHEDULE (@ MAX. ALLOWABLE PD/100 FT)

NOMINAL PIPE SIZE	MAX. GPM	VEL. (FT/S)	FIXTURE UNITS MAX. FV	FIXTURE UNITS MAX. FT	PRESS. DROP (PSI) /100 FT	NOMINAL PIPE SIZE
1/2	4.2	5.8	---	4	15.13	1/2
3/4	11.1	7.4	---	15	15.48	3/4
1	20.6	8.0	---	30	13.24	1
1 1/4	31.3	8.0	14	56	10.36	1 1/4
1 1/2	44.4	8.0	35	103	8.46	1 1/2
2	77.2	8.0	132	254	6.13	2
2 1/2	119.0	8.0	329	455	4.76	2 1/2
3	169.8	8.0	666	719	3.87	3

CW BRANCH & HOT WATER PIPE SIZE SCHEDULE (@ MAX. ALLOWABLE PD/100 FT)

NOMINAL PIPE SIZE	MAX. GPM	VEL. (FT/S)	FIXTURE UNITS MAX. FV	FIXTURE UNITS MAX. FT	PRESS. DROP (PSI) /100 FT	NOMINAL PIPE SIZE
1/2	3.6	5.0	---	3	11.59	1/2
3/4	7.5	5.0	---	8	7.57	3/4
1	12.9	5.0	---	16	5.55	1
1 1/4	19.6	5.0	---	28	4.34	1 1/4
1 1/2	27.7	5.0	10	46	3.55	1 1/2
2	48.2	5.0	44	119	2.57	2
2 1/2	74.4	5.0	124	245	2.00	2 1/2
3	106.2	5.0	270	406	1.62	3

NOTES:
1. MAXIMUM CW BRANCH & HW VELOCITY 5.0
2. MAXIMUM COLD WATER VELOCITY (ft/s): 8.0

COMMERCIAL CALGreen COMPLIANCE NOTES

1. COMPLY WITH PROVISIONS OF THE 2019 CALIFORNIA GREEN BUILDING CODE (CGBC). BELOW ARE REQUIREMENTS DIRECTLY RELATED TO MECHANICAL SYSTEMS. SEE ARCHITECTURAL PLANS AND SPECIFICATION FOR FURTHER REQUIREMENTS INCLUDING ANY VOLUNTARY MEASURES. COORDINATE ALL REQUIREMENTS WITH GENERAL CONTRACTOR.
2. PLUMBING FIXTURES SHALL MEET THE MAXIMUM FLOW RATE VALUES IN 2019 CGBC SECTION 5.303.3. (SEE SCHEDULES).
3. PLUMBING FIXTURES AND FITTINGS INCLUDING WATER CLOSETS, URINALS, FAUCETS, AND SHOWER HEADS SHALL COMPLY WITH REQUIREMENTS OF 2019 CGBC SECTION 5.303.3.
4. ALL PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE AND SHALL MEET THE APPLICABLE STANDARDS OF TABLE 1701.1 OF THE CPC PER 2019 CGBC SECTION 5.303.6.
5. COMPLY WITH ALL PROVISIONS OF 2019 CGBC SECTION 5.408 - CONSTRUCTION WASTE REDUCTION DISPOSAL AND RECYCLING. SEE ARCHITECTURAL PLANS AND SPECIFICATION FOR REQUIREMENTS. COORDINATED ALL REQUIREMENTS WITH GENERAL CONTRACTOR.
6. PROVIDE TESTING AND ADJUSTING FOR SYSTEMS IN ADDITIONS, ALTERATIONS AND BUILDINGS UNDER 10,000 SQUARE FEET PER 2019 CGBC SECTION 5.410.4.
7. PROVIDE OPERATION AND MAINTENANCE MANUALS PER MECHANICAL SPECIFICATIONS AND 2019 CGBC SECTION 5.410.4.5.
8. ALL FINISH MATERIALS INCLUDING ADHESIVES, SEALANTS, CAULKS, PAINTS, AND COATINGS SHALL COMPLY WITH 2019 CGBC SECTION 5.504.4.
9. WHEN REQUIRED BY THE ENFORCING AGENCY THE OWNER OR OWNERS AGENT SHALL EMPLOYEE SPECIAL INSPECTORS TO PROVIDE INSPECTION OR OTHER DUTIES TO SUBSTANTIATE COMPLIANCE WITH THE CGBC PER 2019 CGBC SECTION 702.2

CALIFORNIA ENERGY CODE NOTES

THE CALIFORNIA MECHANICAL CODE REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED MECHANICAL SYSTEMS AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.

MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED ACCEPTANCE TEST TECHNICIAN (ATT).

A LISTING OF CERTIFIED ATT CAN BE FOUND AT:
https://www.energy.ca.gov/programs-and-topics/programs/acceptance-test-technician-certification-provider-program/acceptance

THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE INSTALLING CONTRACTOR UNTIL THE INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.

PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

PLUMBING GENERAL NOTES

1. ALL PIPES, FITTINGS, FIXTURES AND ALL OTHER END-USE DEVICES INTENDED TO CONVEY OR DISPENSE WATER FOR HUMAN CONSUMPTION THROUGH DRINKING OR COOKING SHALL BE "LEAD FREE" IN COMPLIANCE WITH CALIFORNIA AB1953, PRIOR TO CONSTRUCTION, SUBMIT TO THE ENGINEER A STATEMENT INDICATING ALL PRODUCTS SUPPLIED ARE IN COMPLIANCE WITH THE LAW.
2. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF PLUMBING FIXTURES, FIXTURE MOUNTING HEIGHTS AND FLOOR DRAIN LOCATIONS.
3. PLUMBING FIXTURES AND INSTALLATIONS THAT SERVE PUBLIC BUILDINGS SHALL COMPLY WITH CBC SECTION 11B-213 & 11B-603 "ACCESSIBILITY TO PUBLIC BUILDINGS, BATHING AND TOILET FACILITIES" SEE ARCHITECTURAL DRAWINGS FOR INSTALLATION DETAILS.
4. ACCESSIBLE PLUMBING FIXTURES SHALL COMPLY WITH ALL REQUIREMENTS OF CBC SECTION 11B-601.
5. ALL PIPING SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED OTHERWISE.
6. REFER TO ARCHITECTURAL PLANS FOR THE PLUMBING DEMOLITION WORK. CAP ALL UNUSED PIPING.
7. PHYSICALLY VERIFY ELEVATION OF SEWER CONNECTION AND EXACT LOCATION BEFORE STARTING ANY WORK.
8. WHERE PIPES PASS THROUGH FIRE RATED CONSTRUCTION AND AT SHAFT FLOOR PENETRATIONS PROVIDE FIRE STOPPING PER CBC CHAPTER 7. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED ASSEMBLIES..
9. INSULATION, COVERINGS OR INSULATION FACING, SHALL BE OF MATERIAL SUITABLE FOR OPERATING TEMPERATURE OF SYSTEM AND SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH BUILDING CODE STANDARDS. (CMC 1201.2).
10. INSTALLATION INSTRUCTIONS FOR ALL EQUIPMENT SHALL BE MADE AVAILABLE TO THE BUILDING INSPECTOR AT THE TIME OF INSPECTION.
11. WHERE CEILING SPACES ARE USED AS A RETURN AIR PLENUM, MATERIALS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX NOT GREATER THAN TWENTY-FIVE (25) AND A SMOKE DEVELOPMENT INDEX NOT GREATER THAT FIFTY (50)IN ACCORDANCE CMC 602.2 AND NFPA 90A.
12. PROVIDE 16 GAUGE STAINLESS STEEL PROTECTIVE COVER ON PIPING, WHERE PIPING IS LOCATED IN AN AREA WHERE IT MAY BE SUBJECT TO DAMAGE PER CPC 312.
13. INSTALL ALL FLOOR SINKS FLUSH WITH FINISHED FLOOR UNLESS OTHERWISE NOTED. INDIRECT WASTE RECEPTACLES SHALL BE LOCATED WHERE THEY ARE READILY VISIBLE FOR INSPECTION & CLEANING PER CPC 804.1.
14. PROVIDE CONDENSATE DRAINS FOR ALL MECHANICAL UNITS, SMD.
15. REFER TO SPECIFICATION SECTION 22 00 00 ON DRAWING P701 FOR ADDITIONAL REQUIREMENTS.
16. ACCESSIBLE PLUMBING FIXTURES SHALL COMPLY WITH ALL REQUIREMENTS OF CBC SECTION 11B-601.
17. BELOW GRADE METALLIC PIPE AND FITTINGS SHALL BE ENCASED IN TUBES OF POLYETHYLENE, NOT LESS THAN 8 MILS IN THICKNESS.

SEISMIC BRACING NOTES

1. PIPING WITH AN Ip OF 1.0 THAT IS SUPPORTED WITHIN 12" OF STRUCTURE BY 3/8" OR 1/2" ROD, WITH LESS THAN 50-LBS PER HANGER DOES NOT REQUIRE SEISMIC BRACING.
2. NOT USED
3. PROVIDE SEISMIC BRACING FOR COPPER WATER PIPING WITH SOLDERED JOINTS LARGER THAN 3", (Ip-1.0). SEISMIC BRACE PER OPM #0052-13 DETAILS IN SUPPORTING DOCUMENTS. TRANSVERSE BRACING TO BE AT 40-FT INTERVALS (MAX) AND LONGITUDINAL BRACING TO BE AT 80-FT INTERVALS (MAX).
4. PROVIDE SEISMIC BRACING FOR SANITARY WASTE & VENT PIPING LARGER THAN 3", (Ip-1.0). SEISMIC BRACE PER OPM #0052-13 DETAILS IN SUPPORTING DOCUMENTS. TRANSVERSE BRACING TO BE AT 40-FT INTERVALS (MAX) AND LONGITUDINAL BRACING TO BE AT 80-FT INTERVALS (MAX).

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

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

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

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTION SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL, AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (e.g., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP[ ] MD[ ] PP[X] E[ ] OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS

MP[ ] MD[ ] PP[ ] E[ ] OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) 0052-13.

JL MODULAR
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PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE: DESCRIPTION: DATE:

DRAWN BY: SS PLOT DATE: 09.27.2022
CHECKED BY: BM

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

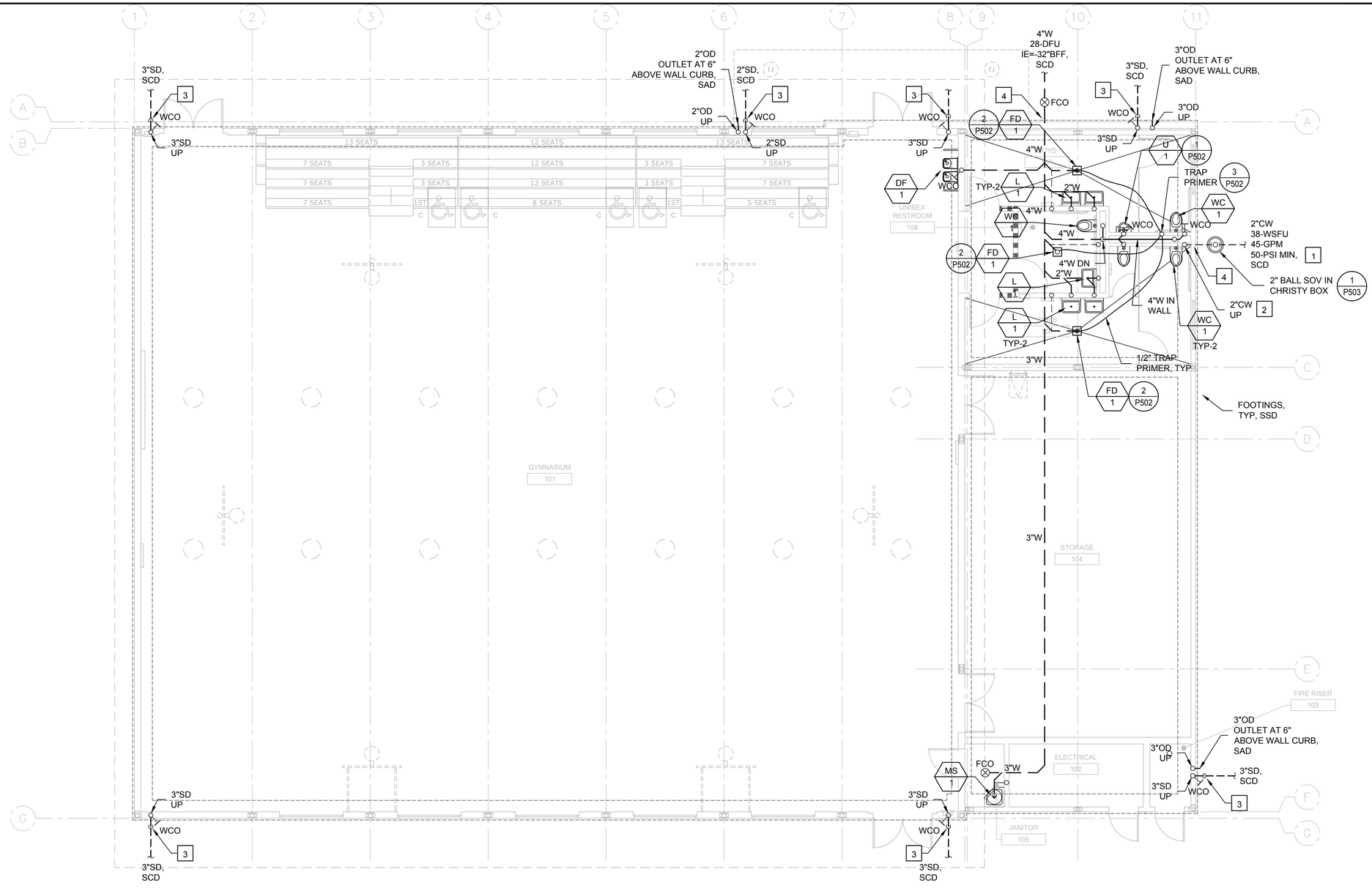
TEP ENGINEERING
980 Second Street
Santa Rosa, CA 95404-4610
707.538.0400 office
707.538.0406 fax

REGISTERED PROFESSIONAL ENGINEER — BRAD MANNING — No.M30815 EXP.12-31-22 — MECHANICAL — STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

PLUMBING
TITLE SHEET

P001



PLUMBING FLOOR PLAN - LOWER

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

GENERAL NOTES

A. WHERE FIXTURES ARE ON WALL ABOVE FOOTINGS, ROUTE PIPING ABOVE FOOTING AND INTO WALL.
B. CONFIRM ALL SITE UTILITY POINT OF CONNECTION LOCATIONS AND INVERTS.
C. CONFIRM INVERT ELEVATIONS OF ALL PIPING PASSING THROUGH FOOTINGS.
D. ALL HORIZONTAL WASTE PIPING AND HORIZONTAL RAINWATER PIPING IS TO BE AT A 2% SLOPE UNLESS OTHERWISE NOTED ON THE PLANS.

SHEET NOTES

1. CONFIRM SITE WATER PRESSURE IN FIELD. NOTIFY ENGINEER OF ANY CHANGES.
2. COORDINATE RISER WITH POUR OF FOOTINGS.
3. OFFSET SD BELOW SLAB ABOVE FOOTING, SEE DETAIL 8/A918.
4. SLEEVE PIPING THROUGH FOOTING, SSD.

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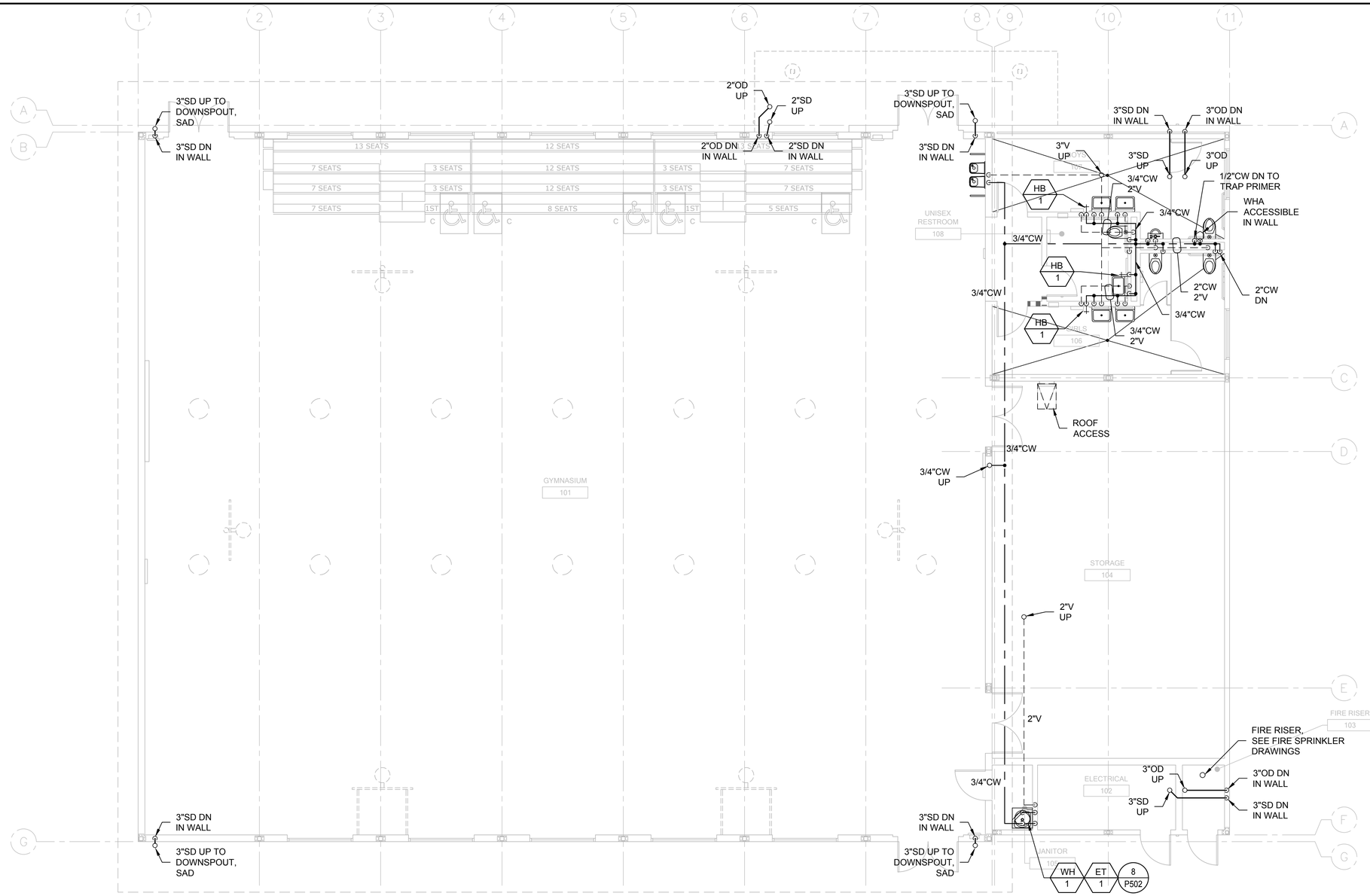
REGISTERED PROFESSIONAL ENGINEER — BRAD MANNING — No. M 30815 EXP. 12-31-22 — MECHANICAL — STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

PLUMBING
FLOOR PLAN
LOWER
P101



PLUMBING FLOOR PLAN - UPPER

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

GENERAL NOTES

A. ALL OVERHEAD PIPING HUNG WITHIN 12" OR LESS FROM STRUCTURE, FOR ENTIRE RUN OF PIPE.

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ISSUE:	DESCRIPTION:	DATE:

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PIEDMONT MIDDLE SCHOOL
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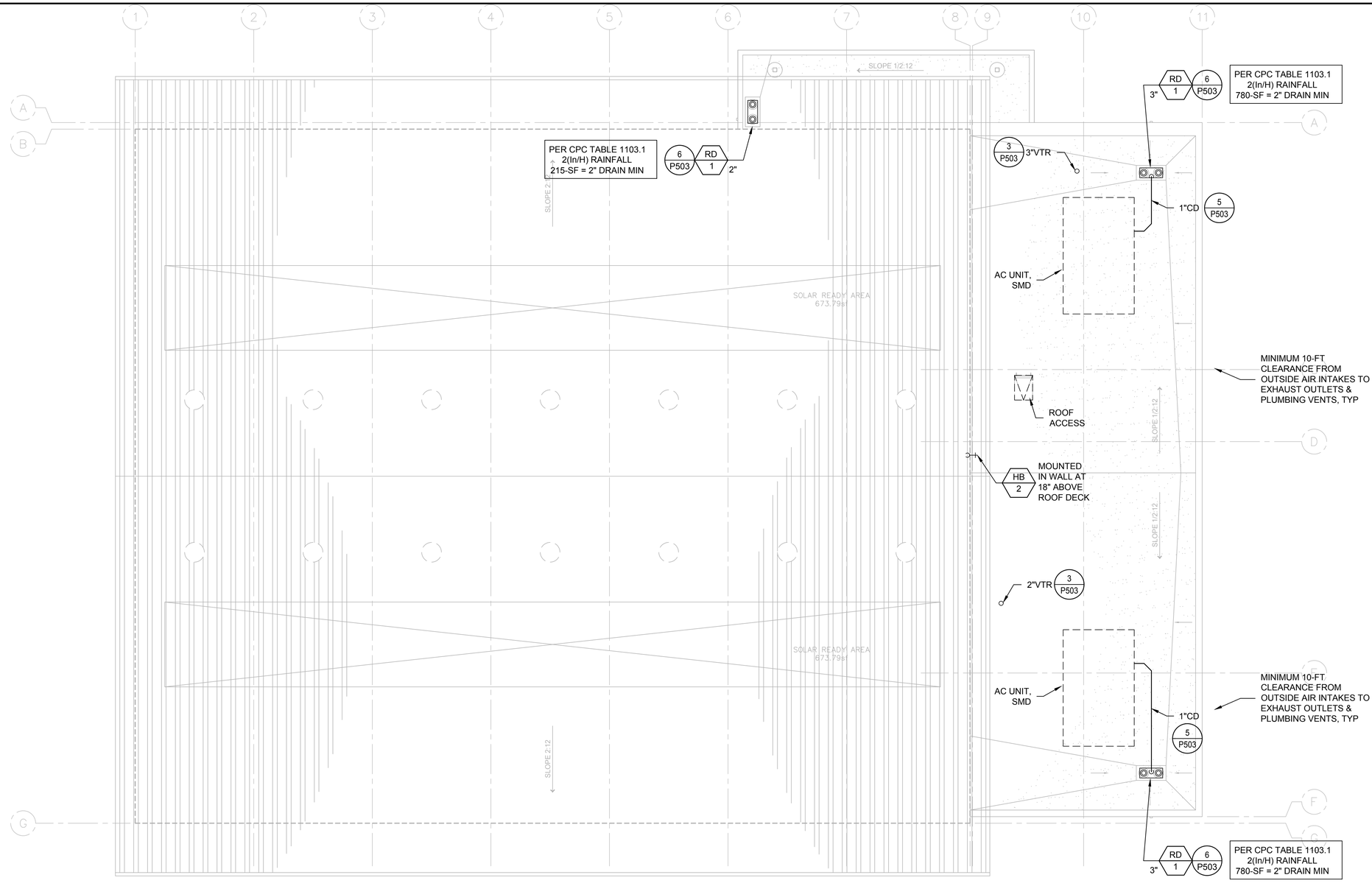
EXP.12-31-22
MECHANICAL
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

PLUMBING
FLOOR PLAN
UPPER
P102



PLUMBING ROOF PLAN

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

JL MODULAR
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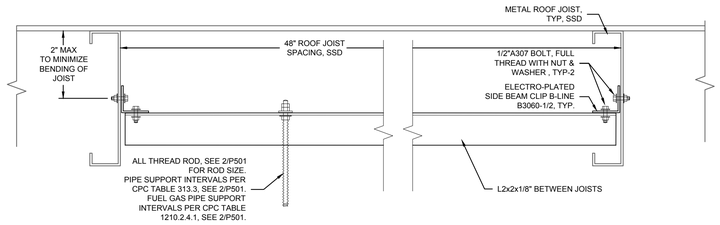
MECHANICAL
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

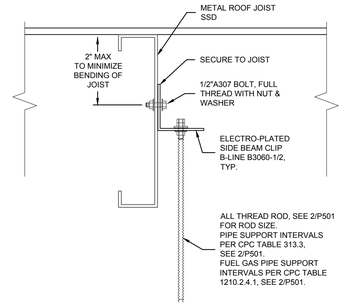
PLUMBING
ROOF PLAN

P103



NOTES:
1. THIS DETAIL IS FOR PIPING THAT DOES NOT REQUIRE SEISMIC BRACING. FOR PIPING THAT REQUIRES SEISMIC BRACING SEE SEISMIC BRACING NOTES ON SHEET P001.

ALL THREAD ROD ATTACHMENT BETWEEN JOISTS



ALL THREAD ROD ATTACHMENT AT JOIST

UPPER ATTACHMENT DETAIL

NTS

1

NOT USED

NTS

3

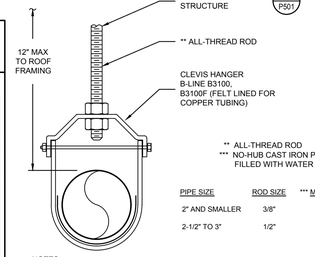
PIPE HANGERS & SUPPORT REQUIREMENTS PER 2019 CPC

TABLE 313.3 HANGERS AND SUPPORTS

MATERIALS	TYPES OF JOINTS	MAXIMUM SUPPORT SPACING FOR HORIZONTAL PIPING	MAXIMUM SUPPORT SPACING FOR VERTICAL PIPING
Cast-Iron Hubless	Shielded Coupling	Every other joint, unless over 4 feet then support each joint	Base and each floor, not to exceed 15 feet
Copper & Copper Alloys	Soldered, Brazed, Threaded, or Mechanical	½ inches and smaller, 6 feet; 2 inches and larger, 10 feet	Each floor, not to exceed 10 feet
Steel Pipe for Gas	Threaded or Welded	¾ inch, 6 feet; ¾ inch and 1 inch 8 feet; 1¼ and larger, 10 feet	¾ inch, 6 feet; ¾ and 1 inch, 8 feet; 1¼ inches every floor level
Schedule 40 PVC and ABS	Solvent Cemented	All sizes, 4 feet;allow for expansion every 30 feet[1]	Base and each floor; provide mid-story guides; provide for expansion every 30 feet
CPVC	Solvent Cemented	1 inch and smaller, 3 feet; 1¼ inch and larger, 4 feet	Base and each floor;provide mid-story guides
Polypropylene (PP)	Fusion weld (socket, butt, saddle, electrofusion), threaded (metal thrust ring), or mechanical	1 inch and smaller, 2½ inches; 1¼ inches and larger, 4 feet	Base and each floor; provide mid-story guides

For SI unit: 1 inch = 25.4 mm, 1 foot = 304.8 mm

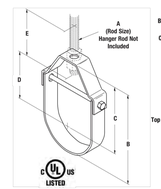
Notes:
[1] Support adjacent to joint, not to exceed 18 inches (457 mm).
[2] Brace not to exceed 40 feet (12 192 mm) intervals to prevent horizontal movement.
[3] Support at each horizontal branch connection.
[4] Hangers shall not be placed on the coupling.



** ALL-THREAD ROD
*** NO-HUB CAST IRON PIPE FILLED WITH WATER

PIPE SIZE	ROD SIZE	*** MAX. WEIGHT lb/FT
2" AND SMALLER	3/8"	5.60
2-1/2" TO 3"	1/2"	9.25

NOTES:
1. THIS DETAIL IS FOR PIPING THAT DOES NOT REQUIRE SEISMIC BRACING. FOR PIPING THAT REQUIRES SEISMIC BRACING SEE "SEISMIC BRACING NOTES" ON SHEET P001.
2. SIZE HANGER TO FIT EXTERIOR DIAMETER OF PIPE SHIELDS.
3. FELT LINED PIPE HANGERS FOR COPPER PIPING.
4. PIPE SUPPORT INTERVALS PER CPC TABLE 313.3.
5. FUEL GAS PIPE SUPPORT INTERVALS PER CPC TABLE 1210.2.4.1.
6. ALL PIPING TO HAVE FLEXIBLE CONNECTIONS BETWEEN COMPONENTS AND PIPING.
7. ALL PIPING SYSTEMS INSTALLED SHALL HAVE Rp OF 4.5 OR GREATER PER TABLE 13.6-1 IN ASCE-7.
8. PIPING SHALL BE INSTALLED WITH PROVISIONS NECESSARY TO AVOID IMPACT WITH OTHER STRUCTURAL OR NONSTRUCTURAL COMPONENTS. PIPING WITH AN Ip OF 1.0 THAT IS SUPPORTED WITHIN 12" OF STRUCTURE BY 3/8" OR 1/2" ROD, WITH LESS THAN 50-LBS PER HANGER MEETS THIS CRITERIA. ALL OTHER PIPING SHALL BE SEISMICALLY BRACED PER DETAILS ON DRAWING P510, P511 & P512.



B
Bottom of pipe to top of hanger.
C
Center of pipe to top of hanger.
D
Rod Take-Out
Center of pipe to bottom of hanger rod.
E
Minimum thread length of hanger rod
F
Adjustment
Top of cross bolt to bottom of hanger rod not inside the hanger.

* SLIDE-RITE Clevis Hanger design, as shown below, for sizes 2, 2-1/2, 3, 4, 5 & 6.

SLIDE-RITE™ Clevis Hanger Features Pipe will not pinch' when installing. 15° swing in either direction allows pipe to easily feed thru. Engineered design aligns bolt holes for quicker overhead installation.

B-LINE B3100 SERIES CLEVIS HANGER

Part No.	Nominal Pipe Size in.	(mm)	Rod Size A Std	METRIC	B in.	(mm)	C in.	(mm)	D in.	(mm)	E in.	(mm)	Adjustment F in.	(mm)	Design Load Lbs.	(kN)	Approx. Wt./100 Lbs.	(kg)
B3100-½	½"	(15)	⅜"-16	⅜"-16	2⅛"	(54.0)	1¾"	(44.4)	15/16"	(23.8)	2½"	(63.5)	7/16"	(11.1)	730	(3.25)	25	(11.3)
B3100-¾	¾"	(20)	⅜"-16	⅜"-16	2½"	(63.5)	2"	(50.8)	1⅛"	(28.6)	2½"	(63.5)	½"	(12.7)	730	(3.25)	29	(13.1)
B3100-1	1"	(25)	⅜"-16	⅜"-16	2⅞"	(73.0)	2¼"	(57.1)	1⅜"	(34.9)	2½"	(63.5)	⅝"	(15.9)	730	(3.25)	35	(15.9)
B3100-1¼	1¼"	(32)	⅜"-16	⅜"-16	3½"	(88.9)	2 11/16"	(68.2)	1 13/16"	(46.0)	2½"	(63.5)	⅞"	(22.2)	730	(3.25)	40	(18.1)
B3100-1½	1½"	(40)	⅜"-16	⅜"-16	4"	(101.6)	3½"	(77.8)	2¼"	(57.1)	2½"	(63.5)	1⅜"	(30.2)	730	(3.25)	42	(19.0)
B3100-2 *	2"	(50)	⅜"-16	⅜"-16	4½"	(114.3)	3 5/16"	(84.1)	2½"	(63.5)	2½"	(63.5)	1⅝"	(41.3)	730	(3.25)	52	(23.6)
B3100-2½ *	2½"	(65)	½"-13	⅜"-16	5⅜"	(136.5)	3 15/16"	(100.0)	3½"	(77.8)	2½"	(63.5)	2"	(50.8)	1350	(6.00)	90	(40.8)
B3100-3 *	3"	(80)	½"-13	⅜"-16	6½"	(165.1)	4¾"	(120.6)	3 15/16"	(100.0)	2½"	(63.5)	2"	(50.8)	1350	(6.00)	110	(49.9)

NOT USED

NTS

4

PIPING SUPPORT DETAIL

NTS

2

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ISSUE:	DESCRIPTION:	DATE:

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PLOT DATE: 09.27.2022

PIEDMONT MIDDLE SCHOOL
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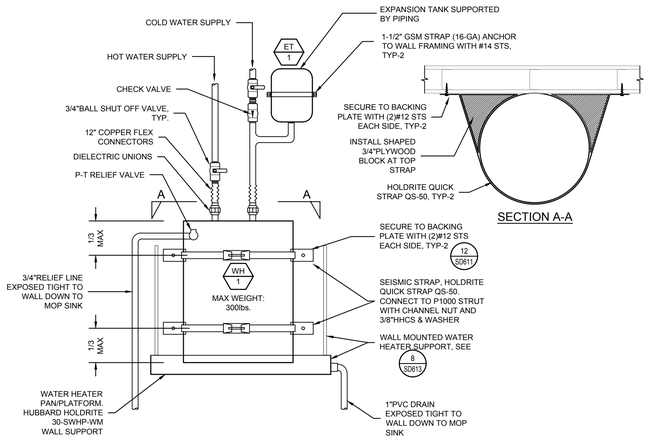
No.M.30815
EXP.12-31-22
MECHANICAL
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

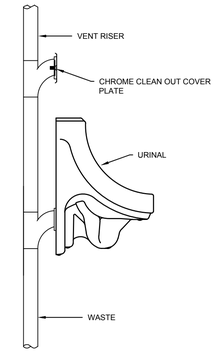
PLUMBING DETAILS

P501

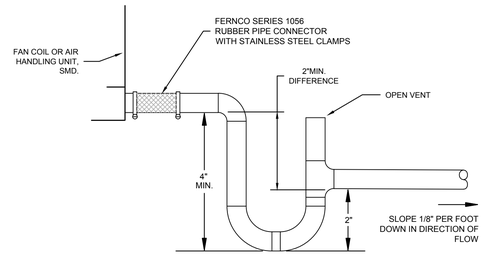


WATER HEATER DETAIL 8
NTS

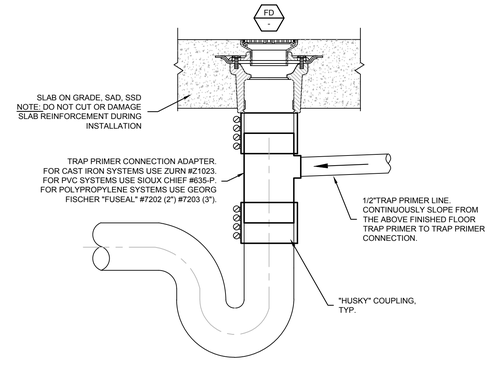
NOT USED 4
NTS



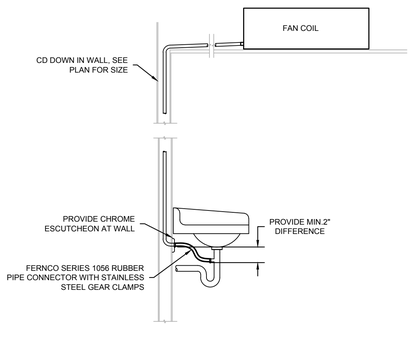
CLEAN OUT AT URINAL 1
NTS



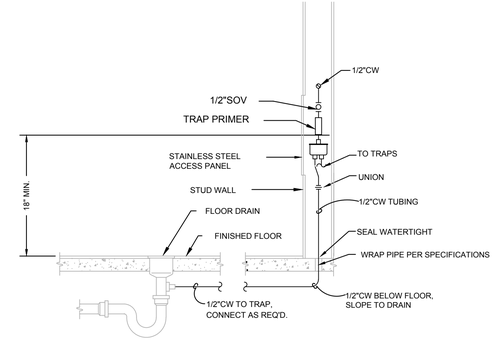
CONDENSATE TRAP DETAIL 5
NTS



FLOOR DRAIN DETAIL 2
NTS



PIPE PENETRATION 6
NTS



TRAP PRIMER PENETRATION 3
NTS

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SCALE: AS NOTED
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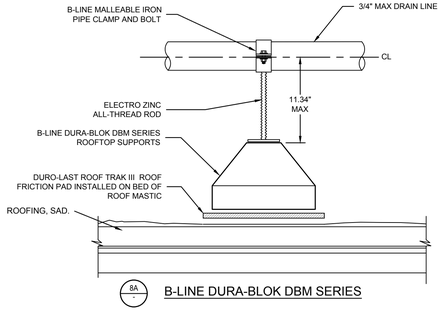
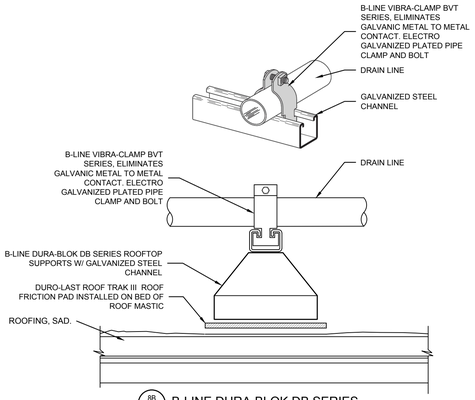
PROJECT NUMBER: TEP #3747

PLUMBING DETAILS

P502



8A — B-LINE DURA-BLOK DBM SERIES



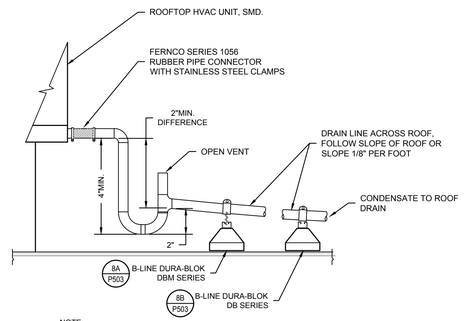
8B — B-LINE DURA-BLOK DB SERIES

SUPPORTS (1)		
MATERIALS	TYPES OF JOINTS	HORIZONTAL
SCHEDULE 40 PVC AND ABS	SOLVENT CEMENTED	ALL SIZES, 4 FEET; ALLOW FOR EXPANSION EVERY 30 FEET, SUPPORT AT EACH HORIZONTAL BRANCH CONNECTION

NOTES:
1. REFERENCE 2019 CALIFORNIA PLUMBING CODE, TABLE 313.3

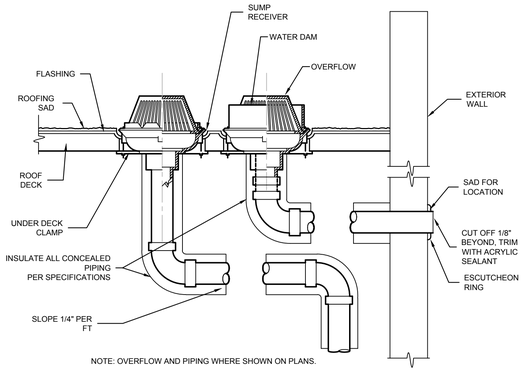
ROOFTOP CD MOUNTING DETAIL
NTS — 8

NOT USED
NTS — 4



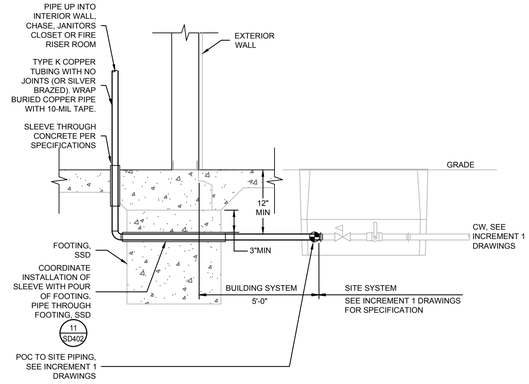
NOTE:
1. PAINT ANY PVC PIPING AND FITTINGS WHERE EXPOSED TO DIRECT SUNLIGHT WITH LIGHT COLORED, WATER BASED LATEX PAINT WHICH IS COMPATIBLE WITH PVC.

CONDENSATE TRAP AND PIPING
NTS — 5

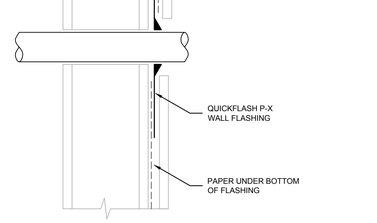


NOTE: OVERFLOW AND PIPING WHERE SHOWN ON PLANS.

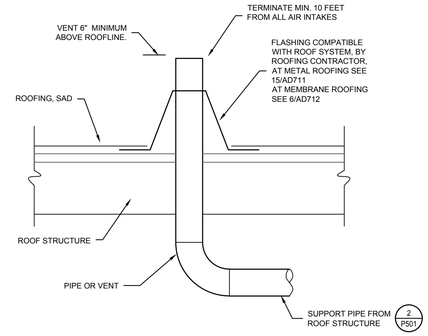
ROOF DRAIN WITH OVERFLOW
NTS — 6



BELOW GRADE CW VALVING
NTS — 1



PIPE FLASHING AT WALL
NTS — 2



NOTES:
1. ALL OVERHEAD PIPING HUNG WITHIN 12" OR LESS FROM STRUCTURE, FOR ENTIRE RUN OF PIPE.
2. CONFIRM FLASHING WITH ROOFING CONTRACTOR.
3. PAINT ANY PVC PIPING AND FITTINGS WHERE EXPOSED TO DIRECT SUNLIGHT WITH LIGHT COLORED, WATER BASED LATEX PAINT WHICH IS COMPATIBLE WITH PVC.

PIPE ROOF PENETRATION
NTS — 3

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REGISTERED PROFESSIONAL ENGINEER — BRAD MANNING — No.M30815 — EXP.12-31-22 — MECHANICAL — STATE OF CALIFORNIA

SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
PROJECT NUMBER:	TEP #3747

PLUMBING DETAILS

P503

ZN1201-ND4

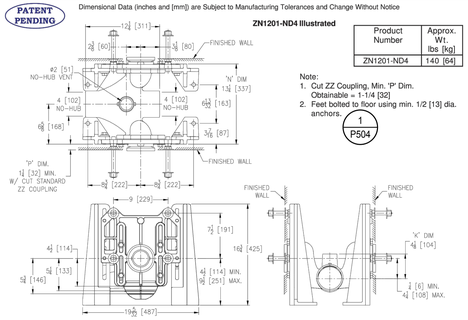
NARROW WALL BACK-TO-BACK WITH 13-9/32 [337] FRONT TO BACK EZCARRY® ADJUSTABLE HORIZONTAL HIGH PERFORMANCE SIPHON JET NO-HUB WATER CLOSET CARRIER SYSTEM

SPECIFICATION SHEET TAG _____

PATENT PENDING

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice

ZN1201-ND4 Illustrated



Product Number	Approx. Wt. lbs [kg]
ZN1201-ND4	140 [64]

Note:
1. Cut ZZ Coupling, Min. 'P' Dim. Obtainable = 1-1/4 [32]
2. Feet bolted to floor using min. 1/2 [13] dia. anchors.

1 P504

ENGINEERING SPECIFICATION: ZURN ZN1201-ND4
EZCarry® Narrow Wall horizontal siphon jet water closet carrier system, with high performance Dura-Coated cast iron main fitting with hydro-mechanically optimized sweep, 4" [102 mm] no-hub connections, and extended 2" [51 mm] vent. Corrosion resistant, adjustable 3" [76 mm] dia. X 6" [152 mm] couplings with integral test caps, designed to increase flow velocity and line carry, and labor saving "Neo-Seal" bonded gasket optimizes flow performance while reducing installation steps. Complete system includes adjustable, gasketed faceplates; floor mounted foot supports; fixture bolts, trim, and stud protectors. EZCarry® narrow wall system complies with all applicable requirements of ASME A112.6.1M up to a 500 lbs [227 kg] maximum static load.

OPTIONS (Check/specify appropriate options)
____ ZN1201-ND4 4 [102] No-Hub Back-to-Back Inlet (Double)

PREFIXES
____ Z D.C.C.I. System with Zurn ZZ Adjustable Coupling*

SUFFIXES
____ -CC Corrosin Resistant Cast Iron Coupling (2-1/4 to 12 [57 to 305])
____ -CS 2-1/4 [57] Polymer Coupling with Integral Test Cap
____ -G Galvanized Cast Iron
____ -JC 2 [51] Auxiliary Inlet with 1/8 [3] Blend
____ -VP Vandal-Proof Trim
____ -50 Flush Valve Supply Support for Water Closets

* Regularly furnished unless otherwise specified.

Zurn Industries, LLC | **Specification Drainage Operation**
1801 Pittsburgh Avenue, Erie, PA. U.S.A. 16502 · Ph. 855-663-9876, Fax 814-454-7929
In Canada | **Zurn Industries Limited**
3544 Nashua Drive, Mississauga, Ontario L4V 1L2 · Ph. 905-405-8272, Fax 905-405-1292
www.zurn.com

Rev. A
Date: 08/09/16
C.N. No. 134951
Prod. | Dwg. No. ZN1201-ND4

WATER CLOSET WALL CARRIER DETAIL

NTS

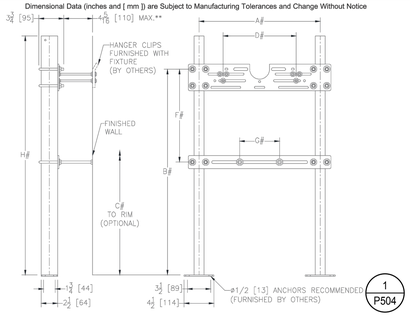
7

Z1222

PLATE TYPE SYSTEM WITH BEARING PLATE

SPECIFICATION SHEET TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



1 P504

**WITH STANDARD STUD LENGTH OF 6 [152]
REFER TO ROUGH-IN GUIDE OF SPECIFIC FIXTURE FOR DIMENSION

Product No.	Approx. Wt. Lbs. [kg]
Z1222	30 [14]

ENGINEERING SPECIFICATION: ZURN Z1222
Wall urinal support system complete with Dura-Coated carbon structural steel rectangular tubing uprights, conforming to ASTM A500 Grade C, with welded base feet having slotted floor anchor holes. Lower bearing plate is vertically adjustable with slot to accommodate bearing jack placement. Upper universal hanger plate is pre-notched for back spud inlet and is designed for various hardware positions and fixtures. Includes mounting fasteners and hardware. Carrier system exceeds load and deflection requirements as outlined in ASME Standard A112.6.1M.

OPTIONS (Check/specify appropriate options)

PREFIXES
____ Z Dura-Coated System with Universal Plate*

SUFFIXES
____ -EZ Easy to Install Assembly (Uprights, bearing plate, and hanger plate are factory assembled)
____ -UA Urinal Adapter
____ -58 Flush Valve Supply Support

* Regularly furnished unless otherwise specified.

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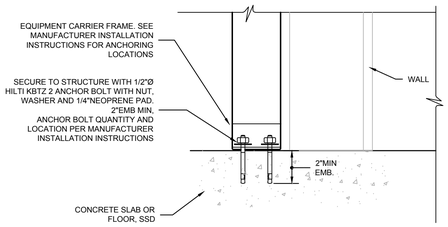
3544 Nashua Drive, Mississauga, Ontario L4V 1L2 · Ph. 905-405-8272, Fax 905-405-1292
www.zurn.com

Rev. G
Date: 09/27/2017
C.N. No. 137976
Prod. | Dwg. No. Z1222

URINAL WALL CARRIER DETAIL

NTS

3



GROUND FLOOR

NOTES:
1. ANCHOR BOLTS TO BE HILTI KB-TZ 2 (ESR-4266).
2. PULL TEST ON ANCHOR = 1741# UPLIFT.

CARRIER ANCHORING

NTS

1

ZN1201-N_4

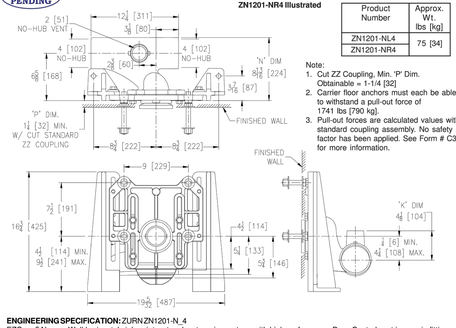
NARROW WALL WITH 8-13/16 [224] FRONT TO BACK EZCARRY® ADJUSTABLE HORIZONTAL HIGH PERFORMANCE SIPHON JET NO-HUB WATER CLOSET CARRIER SYSTEM

SPECIFICATION SHEET TAG _____

PATENT PENDING

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice

ZN1201-NR4 Illustrated



Product Number	Approx. Wt. lbs [kg]
ZN1201-NL4	75 [34]
ZN1201-NR4	

Note:
1. Cut ZZ Coupling, Min. 'P' Dim. Obtainable = 1-1/4 [32]
2. Carrier floor anchors must each be able to withstand a pull-out force of 1741 lbs [790 kg].
3. Pull-out forces are calculated values with standard coupling assembly. No safety factor has been applied. See Form # C38 for more information.

1 P504

ENGINEERING SPECIFICATION: ZURN ZN1201-N_4
EZCarry® Narrow Wall horizontal siphon jet water closet carrier system, with high performance Dura-Coated cast iron main fitting with hydro-mechanically optimized sweep, 4" [102 mm] no-hub connections, and extended 2" [51 mm] vent. Corrosion resistant, adjustable 3" [76 mm] dia. X 6" [152 mm] coupling with integral test cap, designed to increase flow velocity and line carry, and labor saving "Neo-Seal" bonded gasket optimizes flow performance while reducing installation steps. Complete system includes an adjustable, gasketed faceplate; floor mounted foot supports; fixture bolts, trim, and stud protectors. EZCarry narrow wall system complies with all applicable requirements of ASME A112.6.1M up to a 500 lbs [227 kg] maximum static load.

OPTIONS (Check/specify appropriate options)
____ ZN1201-NL4 4 [102] No-Hub Left Hand Inlet with Flow to Right
____ ZN1201-NR4 4 [102] No-Hub Right Hand Inlet with Flow to Left

PREFIXES
____ Z D.C.C.I. System with Zurn ZZ Adjustable Coupling*

SUFFIXES
____ -CC Corrosion Resistant Cast Iron Coupling (2-1/4 to 12 [57 to 305])
____ -CS 2-1/4 [57] Polymer Coupling with Integral Test Cap
____ -G Galvanized Cast Iron
____ -JC 2 [51] Auxiliary Inlet with 1/8 [3] Blend
____ -VP Vandal-Proof Trim
____ -50 Flush Valve Supply Support for Water Closets

* Regularly furnished unless otherwise specified.

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www.zurn.com

Rev. B
Date: 08/09/16
C.N. No. 134950
Prod. | Dwg. No. ZN1201-N_4

WATER CLOSET WALL CARRIER DETAIL

NTS

9

SMITH® JAY R. SMITH MFG. CO.
DIVISION OF SMITH INDUSTRIES, INC.
P.O.BOX 830267, BIRMINGHAM, ALABAMA 35283-0267 (USA)
MONTGOMERY, ALABAMA 36109-0237 (USA)
TEL: 334-277-8520 FAX: 334-272-7396 www.jrsmith.com
MEMBER OF

LOCATION

LAVATORY SUPPORTS WITH CONCEALED ARMS

WALL MOUNTED

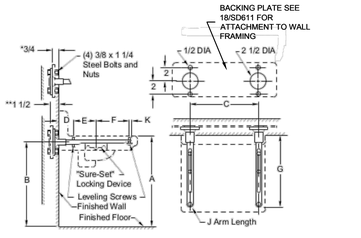


Fig. 0723 . . . FOR HIGH BACK LAVATORIES TO ATTACH TO BACKING PLATE SECURED IN WALL

* Arm support bracket shown bolted in back of wall plate for plaster wall construction.
**Arm support bracket shown bolted in front of wall plate for tile wall construction.

ROUGHING-IN TABLE

FIXTURE MFG.	NAME	NUMBER	SIZE	A	B	C	D	E	F	G	J	K
AM. STD.	LUCERNE	0350.132	20 x 18	31	29 1/4	16 3/4	4	6	6	16 1/2	19	1/2
AM. STD.	LUCERNE	0350.603	24 x 20	31	29 1/4	20 1/4	4	7	7	18 1/2	20	1/2
AM. STD.	LUCERNE	0351.072	20 x 18	31	29 1/4	16 3/4	4	6	6	16 1/2	19	1/2
AM. STD.	LUCERNE	0351.247	24 x 20	31	29 1/4	20 1/4	4	7	7	18 1/2	20	1/2
CRANE	NORWICH	1-194	20 x 18	31	29 3/8	16 1/4	4	5 5/8	4 3/8	14 1/2	16	1/2
CRANE	NORWICH	1-194	24 x 20	31	29 3/8	19 1/2	4	5 5/8	7 1/8	17 1/4	19	1/2
ELJER	DELWYN	051-1644, 1848	20 x 18	31	29	17	4	5 5/8	5 5/8	16 3/4	19	1 1/2
ELJER	DELWYN	051-1644, 1848	24 x 20	31	29 1/4	21	3	5 5/8	7 1/8	17 1/4	19	1/2
KOHLER	GREENWICH	K-2030, 1, 2, 4, 6	20 x 18	31	29	17 1/4	3 1/4	5 1/4	4 1/4	14 1/4	16	1/2
KOHLER	GREENWICH	K-2030, 1, 2, 4, 6	24 x 20	31	29	19	3 1/4	5 3/4	6 1/4	16 3/4	19	1 1/2
U-BORDLE	NEW CAMDEN	4648, 9	20 x 18	31	29 3/8	16 1/4	4 1/2	2 1/2	4	13 1/2	16	2 1/2

NOTE: The rough-in dimensions listed on this drawing are based on current information available to Jay R. Smith by the fixture manufacturers. We recommend that you verify these dimensions with the fixture manufacturer. We will not accept responsibility for rough-in dimension changes by the fixture manufacturer.

DRAWING BY: JR	CHECKED BY: RP	APPROVED BY:	DATE: 1-26-73	SCALE: NONE	SIZE: A	DRAWING NUMBER: 0723	G

WE CAN ASSUME NO RESPONSIBILITY FOR USE OF SUPERSEDED DRAWINGS

DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCE AND CHANGE WITHOUT NOTICE

FIGURE NUMBER 0723

REV.	DATE	DESCRIPTION	BY	CKD. BY	WEIGHT POUNDS	VOLUME CUBIC FEET
G	9-23-94	Submittal Update	EMB	BS		
F	12-13-74	Rev Table	RAS			
E	1-26-73	New Dwg	JH			

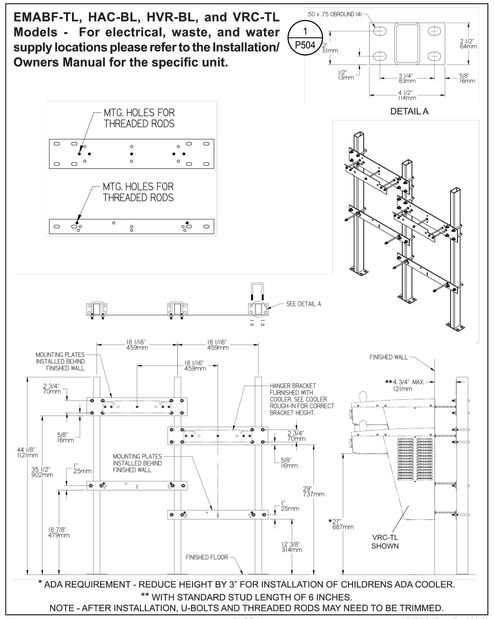
LAVATORY WALL CARRIER DETAIL

NTS

5

MLP200

EMABF-TL, HAC-BL, HVR-BL, and VRC-TL Models - For electrical, waste, and water supply locations please refer to the Installation/ Owners Manual for the specific unit.



* ADA REQUIREMENT - REDUCE HEIGHT BY 3" FOR INSTALLATION OF CHILDRENS ADA COOLER.
** WITH STANDARD STUD LENGTH OF 6 INCHES.
NOTE - AFTER INSTALLATION, U-BOLTS AND THREADED RODS MAY NEED TO BE TRIMMED.

Elkay - www.elkay.com
Halsey Taylor - www.halseytaylor.com

DRINKING FOUNTAIN BACKING PLATE DETAIL

NTS

2

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: SS
CHECKED BY: BM
PLOT DATE: 09.27.2022

PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

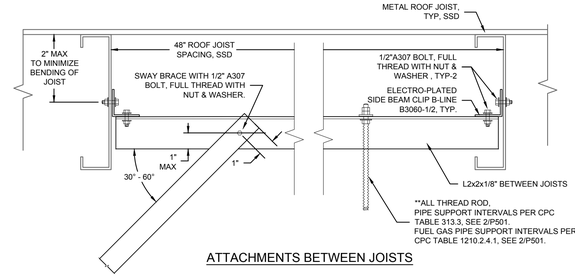
TEP ENGINEERING
880 Second Street
Santa Rosa, CA 95404-4610
707.538.0400 office
707.538.0406 fax

REGISTERED PROFESSIONAL ENGINEER MANNING No.M30815 EXP.12-31-22 MECHANICAL STATE OF CALIFORNIA

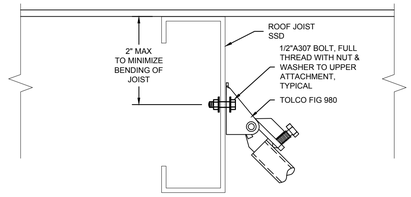
SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

PLUMBING DETAILS

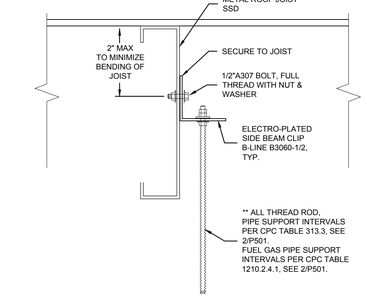
P504



ATTACHMENTS BETWEEN JOISTS



SWAY BRACE ATTACHMENT AT JOIST



** ALL-THREAD ROD
*** NO-HUB CAST IRON PIPE FILLED WITH WATER

PIPE SIZE	** ROD SIZE	*** MAX. WEIGHT lb/FT
2" AND SMALLER	3/8"	5.60
2-1/2" TO 3"	1/2"	9.25

ALL THREAD ROD ATTACHMENT AT JOIST

NOTES:
1. PROVIDE BLOCKING EACH SIDE OF ATTACHMENTS, SSD DETAIL 20/SD613.
2. BLOCKING IS TO BE LOCATED 3" MAX FROM SWAY BRACE ATTACHMENT.
3. NOT USED
4. PROVIDE SEISMIC BRACING FOR COPPER WATER PIPING WITH SOLDERED JOINTS LARGER THAN 3", (Ip-1.0). SEISMIC BRACE PER OPM #0052-13 DETAILS IN SUPPORTING DOCUMENTS. TRANSVERSE BRACING TO BE AT 40-FT INTERVALS (MAX) AND LONGITUDINAL BRACING TO BE AT 80-FT INTERVALS (MAX).
5. PROVIDE SEISMIC BRACING FOR SANITARY WASTE & VENT PIPING LARGER THAN 3", (Ip-1.0). SEISMIC BRACE PER OPM #0052-13 DETAILS IN SUPPORTING DOCUMENTS. TRANSVERSE BRACING TO BE AT 40-FT INTERVALS (MAX) AND LONGITUDINAL BRACING TO BE AT 80-FT INTERVALS (MAX).

SEISMIC BRACING UPPER ATTACHMENT

NTS

A

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: SS
CHECKED BY: BM
PLOT DATE: 09.27.2022

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

TEP ENGINEERING
880 Second Street
Santa Rosa, CA 95404-4810
707.538.0400 office
707.538.0406 fax

REGISTERED PROFESSIONAL ENGINEER
MANNING BAER
No.M30815
EXP.12-31-22
MECHANICAL
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

PLUMBING
SEISMIC BRACING
DETAILS
P510

1. GENERAL

1.1 SCOPE

A. The work in this section includes, but is not limited to, providing all plumbing work as shown and noted on the plumbing Drawings and Specifications, including the following items:

1. Plumbing fixtures, equipment and piping.
2. Sanitary waste and vent system to five feet from the building.
3. Domestic hot and cold water distribution to five feet from the building.
4. Service water heating and distribution.
5. Cleaning, sterilization and testing for work in this section.
6. Fuel gas distribution.
7. Condensate drains from mechanical equipment.
8. Pipe hangers and supports.
9. Pipe insulation.
10. Piping markers and equipment nameplates.
11. Energy code testing, adjusting and reporting

B. Work of other sections, includes the following:

1. Site piping and utilities beyond five feet from the building.
2. Fire protection systems.
3. Line voltage wiring and disconnect switches. The Electrical Contractor will provide all line voltage wiring & conduit, disconnect switches & magnetic starters (except those furnished under this Section as a part of equipment).

1.2 CODES AND STANDARDS

A. All work and materials shall be in full accordance with the latest adopted edition of the following documents:

1. 2019 California Building Code (CBC)
2. 2019 California Plumbing Code (CPC)
3. 2019 California Mechanical Code (CMC)
4. 2019 California Electrical Code (CEC)
5. 2019 California Fire Code (CFC)
6. 2019 California Energy Code (Title 24)
7. 2019 California Green Building Code (CALGreen)
8. Americans with Disabilities Act (ADA)
9. Sheetmetal Contractors and Air Conditioning Contractors' National Association (SMACNA) Seismic Restraint Manual.
10. National Fire Protection Association (NFPA)
11. Local codes and ordinances

B. Accessible plumbing fixtures shall comply with all of the accessibility requirements of CBC Chapters 11A and 11B and Federal ADA requirements.

C. Whenever this Specification calls for material, workmanship, arrangement or construction of higher quality and/or capacity than that required by governing codes, higher quality and/or capacity takes precedence.

D. All potable water system components, devices, materials, or equipment containing a weighted average of greater than 0.25 percent lead are prohibited, and shall be certified in accordance with the current editions of the Safe Drinking Water Act (SDWA), NSF 61, NSF 372 & California AB1953. Endpoint devices used to dispense water for drinking shall meet the requirements of NSF 61 & California AB1953.

1.3 SUBMITTALS

A. Provide complete product submittals and shop drawings in electronic format (PDF), prior to commencing work and prior to ordering any piece of product in a single product submittal package. Piecemealed product submittals may be rejected. Clearly identify/mark each submittal in detail. Note what differences, if any, exist between the submitted Item and the specified Item. Failure to identify the differences will be considered cause for disapproval. If differences are not identified and/or not discovered during the submittal review process, Contractor remains responsible for providing equipment and materials that meet the Specifications and Drawings. Items, other than those specified, will not be allowed unless they are approved in writing via the submittal process. Include cut sheets and drawings for the following items in the submittal:

1. All plumbing components, including pipe hangers, pipe supports & appurtenances that are a part of the plumbing contract documents.
2. Drawings for installation details that differ from the details in the contract documents.

B. "No Exception Taken" constitutes that review is for general conformance with the design concept expressed in the Contract Documents for the limited purpose of checking for conformance with information given. Any action is subject to the requirements of the Contract Documents. Contractor is responsible for the dimensions and quantity and will confirm and correlate at the job site, fabrication processes and techniques of construction, coordination of the work with that of all other trades, and the satisfactory performance of the work.

C. All details shown on the Drawings are schematic in nature; the Contractor is responsible for determining actual installation requirements. Contractor shall include in his bid all materials and appurtenances for a complete and operable installation. Provide coordination drawings for the proposed installation when coordination with other trades is required.

1.4 SUBSTITUTIONS OF MATERIALS AND EQUIPMENT

A. The named materials and equipment are considered the basis for design; however equal materials and equipment may be submitted to the Architect and Engineer for review. The decision of the Owner and Engineer shall be final and shall govern as to what materials and equipment may be substituted, but the burden of proof as to the quality, performance and space requirements of any proposed substitution shall rest with the Contractor.

1.5 WARRANTY

A. The Contractor shall provide a one-year warranty for the work of this Section. During this period the Contractor shall provide all labor and materials necessary to repair or replace defective systems. The warranty period shall begin at the date of final acceptance.

B. Additional Warranty conditions: Where applicable, provide additional warranty time period and/or conditions in accordance with the General Conditions Section of the project Specifications manual.

1.6 GENERAL

A. The locations, sizes, capacities and types of all piping, equipment and appurtenances shown on the Drawings as existing are approximate and may not have been independently verified. The Contractor shall determine the exact locations, sizes, capacities and types of existing piping, equipment and appurtenances. If necessary use electronic pipe locating devices to locate existing piping below grade. The Contractor shall include in his bid allowances for minor modifications to pipe routing necessitated by actual field conditions.

B. The Contractor shall verify all building dimensions with Architectural Drawings and all site dimensions with Civil Drawings prior to submitting a bid. The submission of a bid or proposal will be construed as evidence that the Contractor has familiarized himself with the Drawings and building site. Claims made subsequent to the proposal for materials and/or labor due to difficulties encountered will not be recognized unless these difficulties could not have been foreseen, even though proper examination had been made.

C. In these Drawings and Specifications ""Exposed" defines plumbing systems that are visible, such as in equipment rooms, vaulted building spaces, on roofs and where not concealed. "Concealed" refers to plumbing systems that are not normally visible, such as above ceilings and in shafts/walls.

2. PRODUCTS

2.1 PIPE

A. Sanitary drain, waste and vent (DWV) pipe and fittings: Polyvinyl Chloride (PVC) type 1, grade 1, per ASTM D2665 solid core (cellular core will not be accepted), Schedule 40 manufactured by Charlotte Pipe, Harvel Plastics, or Mueller Industries. Underground to be installed per ASTM D2321 to ensure proper bedding and backfilling so deflection is limited to 5%. Working temperature not to exceed 140 F. Flame spread rating of 0-25 when tested per ULC-S102-2-M88. PVC piping shall not be threaded. Solvent cement shall be in accordance with ASTM for use with PVC. Solvent welding shall not be done in ambient temperatures below 40 degrees F or above 110 degrees F, and in accordance with manufactures installation instructions. Changes from PVC to other materials shall be made with fittings designed for that purpose. Where PVC changes to hubless cast iron, provide a PVC adapter fitting (spigot x hub). Test piping only after cemented joints are properly cured.

B. Domestic water piping.

1. Pipe: Hard draw Type "L", ASTM B88 with color markings per CBC.
2. Fittings: Wrot solder joint fittings by NIBCO, MUELLER or approved equal. Cast copper alloy, lead free and in accordance with ASME B16.18 and NSF 61G. Soldered with CANFIELD "100% watersafe" lead free solder.
3. Trap primers: Cross-linked polyethylene (PEX) tubing, color white.
4. All water (and hydronic) pipe and fittings at water heaters, boilers and water tanks to be copper, brass or stainless steel. No ferrous pipe or fittings shall be used.

C. Condensate drainage piping: Schedule 40 PVC-DWV plastic, per ASTM D2665-93a. Paint any PVC piping and fittings where exposed to direct sunlight with light colored, water based latex paint which compatible with PVC.

2.2 PIPING SPECIALTIES

A. Trap primers: Precision Plumbing Products Inc., "Prime Rite" trap primer valve with distribution unit where required or Zurn Z-1022 Sani-Gard. Trap primers concealed in walls shall have Elmdor DW-SS wall access panel, or approved equal, minimum 10" x 10".

B. Water hammer arrestors: Zurn "Shoktrol" or Watts Series SS, sizes as shown on Drawings.

C. PEX supports (up to 1-14" CTS): HOLDRITE series 266-269 silencer clamps with SB2 & SB3 supports, polypropylene construction, FR UL94-V2 and IAPMO listed.

D. Pipe hangers: Tolco, Uni-Strut, Super-Strut or B-Line with zinc electroplated finish. Provide with cushioned clamps inserts. Piping supports shall be felt lined J-type hangers. Use beam clamps at hangers from steel beams. All miscellaneous steel, bolts, rods, nuts and washers shall be cadmium electroplated finish. Use materials that are consistent throughout each space.

E. Roof flashings: At TPO roof flashings to be by roofing contractor. At built up roofs provide 4 pound lead, 12" high by 12" base and stainless steel draw band. At shingle roofs, provide 24 gauge galvanized steel metal jack with neoprene top seal by Oatey or equivalent.

F. Pipe Seals: Pipes passing through walls and floors underground provide Link-Seal modular seal assembe WS series, color Black or approved equal by MetraSeal. At fire rated assemblies, provide MetraSeal 120 or approved equal.

G. Firestopping Sealant: 3M Fire Barrier CP25WB + Caulk. At PEX tubing, Wirsbo Aquapex Firestop sealant listed and tested to ASTM E-814.

2.3 VALVES & STRAINERS

A. Use full line size ported valves, types and models as follows:

1. Ball Valves: 4 inch and smaller, UL 258 listed, AGA/CGA/UL/FM approved, bronze body with standard ported hard chrome plated brass ball, lever handle, lead free Apollo Valves 70LF-100 or 70LF-200 series for water systems, unless otherwise noted or approved equivalent by Nibco, Jomar or Milwaukee. Provide extended handle shaft where pipes are insulated.
2. Gate Valves: 2 inch and smaller: Bronze and lead free, Milwaukee Valve UP105 or UP115 or equivalent by Apollo Valves, Nibco or Jomar.
3. Fuel Gas Valves: 1 inch and smaller: Jomar T-205 or equivalent by Apollo Valves, Nibco or Jomar. 1-1/4 inch to 4 inch: Full port, Jomar T-100NE or equivalent by Apollo Valves, Nibco or Jomar. Gas shutoff at main to building: brass body painted gray, full port, full line size ball valve, locking wing cap, ISO-9002 approved, Jomar 175LWN or equivalent by Apollo Valves, Nibco or Jomar.

B. Pressure and Temperature Relief Valves:
1. Water heaters with less than 100 MBH input: Watts LF100XL, lead free.
2. Water heaters with 100 MBH or higher input: Watts LF40XL, lead free.
3. Pressure relief valves on hot water storage tanks: Watts type LF174A, lead free, set at 125 psi.

C. Check Valves:
1. Silent Check Valves:
   a. 2 inch and smaller: Bronze and lead free, Milwaukee Valve UP548T or UP1548T or equivalent by Apollo Valves, Nibco or Jomar.
   b. 2-1/2 inch and larger: Cast iron wafer style, lead free, stainless steel trim, class 125 Milwaukee 1400 Series or equivalent by Apollo Valves, Nibco or Jomar.

2.4 CLEANOUTS

A. General:

1. Floor cleanout, non-traffic areas: Zurn no. ZN-1400 with membrane flange and bronze plug.
2. Floor cleanout, traffic areas: Zurn no. ZN-1400-HD with membrane flange and bronze plug.
3. Grade cleanouts: Zurn no. Z-1440 with membrane flange, ABS threaded plug. Provide Christy F08 utility box and lid in non-traffic areas & G05 with cast iron lid in traffic areas.
4. Wall cleanouts: Zurn Z-1446, Cast iron tee with plug, chrome plated cover.

B. Finishes: All exposed parts of floor cleanouts in finished areas shall be scoriated nickel bronze.

2.5 INSULATION

A. Pipe insulation thickness shall be per California Mechanical Code and California Energy Code (Section 120.3) or as indicated below, whichever is greater. Pipe insulation thickness indicated below, based on a minimum insulation K-value of 0.24. Service Water Heating Systems. At all recirculating sections, electric trace tape, and first eight feet of hot and cold outlet piping for nonrecirculating storage systems, and all hot water piping on residential systems.

1. Fluid Range 105-140 F:
   A. Nominal pipe diameter: less than 1 inch, provide 1.0 inches of insulation wall thickness.
   B. Nominal pipe diameter: 1 inch to less than 2 inch, provide 1.5 inches of insulation wall thickness.
   C. Nominal pipe diameter: 2 inch and larger, provide 2.0 inches of insulation wall thickness.

B. Above grade, inside building: Armacell AP Armaflex, thickness per CEC Title 24. Covering to be continuous with all seams and joints glued tightly. All fitting shall be cleanly mitered with proper cutting tool. Cover all exposed outdoor piping with continuous PVC jackets, Proto "Lo Smoke" or equal, including all fittings and valves. Insulation shall have a flame spread rating not to exceed 25, a smoke density rating not to exceed 450, and a smoke-developed rating not to exceed 50.

C. Pipe insulations shields: At all hanger or support locations of insulated piping provide Armacell Armafix EcoLight, or approved equal.

B. Lavatory and sink traps: Manufactured insulators with smooth, white, PVC outer covering, complying with ADA and state accessibility requirements, Truebro Lav Guard 2 or Plumberex Pro-Extreme series. Also insulate the hot water supply valve and pipe. There shall be no sharp or abrasive surfaces under sinks or lavatories.

C. Service water heating: Provide insulation thickness per Title 24 energy standards for all recirculation sections and the first eight feet on non-recirculation systems.

2.6 ADHESIVES, SEALANTS, CAULKS, PAINTS AND COATING

A. All products shall comply with the VOC limits requirements in California Green Building Code (CALGreen). If a non-conforming product is found in these bid documents, notify the Engineer immediately for an alternate product.

2.7 ACCESS PLATES AND DOORS

A. Wall cleanouts: Zurn #ZANB-1460-7 nickel bronze with polished stainless steel cover or #Z1460-8 stainless steel; with bronze cleanout plug (at cast iron) or plastic cleanout plug (at PVC or ABS).

B. Access doors:
1. Tile or wood surfaces: ELMDOR #DW-SS, 16 gauge, type 304 brushed stainless steel construction, or approved equal. Minimum size 10"x10".
2. Access doors at dry wall surfaces: ELMDOR #DWB 16 gage galvannealed steel construction with prime finish, or approved equal. Minimum size 10"x10".
3. Fire rated ceiling or walls, ELMDOR FRC or FR series or approved equal.

2.8 FIXTURES AND EQUIPMENT

A. Provide fixtures and equipment of the manufacturer and model numbers shown on the Drawings, complete with all required carriers, stops, supplies, trim, and other items necessary for proper operation.

B. Fixture tailpieces and traps for lavatories and sinks shall be KEENEY 17-gauge brass tubing or semi-cast brass with heavy duty chrome plated finish.

C. Sink, lavatory, and tank toilet supply stop valves and supply kits: BRASSCRAFT KTS 1/4 turn ball valves, chrome plated brass finish, lock shield with loose key, stainless steel or chrome plated copper supply tubing.

D. All equipment, fixtures and fittings shall conform to California Energy Commission Certification per CEC subchapter 2, for energy usage and water usage compliance. See equipment schedules for specific ratings.

2.9 SIGNAGE, PIPE MARKERS, AND EQUIPMENT NAMEPLATES

A. QUALITY ASSURANCE: Meet ANSI A13.1 2015 Scheme for identification of piping systems.

B. Piping Markers: Provide Seton Opti-Code or approved equal by MSI, self-adhesive pipe markers for all piping. Pipe markers shall include direction of fluid flow arrows, color coded field and lettering height in accordance with OSHA and ASME (ANSI) Standard A13.1-2015. As a minimum, pipes shall be marked with service and direction at both sides of wall penetration, and every 20 feet but not less than once per room, and shall be visible from the floor level.

C. EQUIPMENT NAMEPLATES: Provide Seton custom engraved acrylic (plastic), Black with white border and lettering, 3" wide by 1" high with minimum 1/4" lettering, attached with two small screws. Provide a label at each piece of major equipment for equipment identification.

2.10 OTHER MATERIALS

A. Other materials not specified, but required for a complete installation, shall be as selected by the Contractor subject to acceptance by the Engineer.

3. EXECUTION

3.1 GENERAL

A. Verify that the work of this Section may be completed in accordance with all pertinent codes and regulations, the Construction Documents, approved Submittals, and the manufacturers' recommendations. In the event of discrepancy, immediately notify the Engineer. Do not proceed in areas of discrepancy until all discrepancies have been resolved.

B. Install all equipment per manufacturer's instructions and recommendations.

C. Install all equipment level. Install all equipment in accordance with manufactures installation instructions, where plans or detail differ from manufactures' instructions, contact Engineer for clarification before proceeding with installation.

D. See Structural Drawings for details of underground piping beneath and through building footings.

E. Do not cut into or reduce the size of any load-carrying member without the prior approval of the Architect.

F. Anchor piping subject to expansion or contraction in a manner permitting strains to be evenly distributed. Provide offsets and expansion compensation devices as required to prevent undue stress on the piping and building components. Allow for pipe expansion of 1 inch per 100 feet.

G. Piping shall be securely held in place by hangers, supports & trapezes in accordance with CA Plumbing Code Section 313.0. All hangers shall be designed to support the pipe, including fluid and insulation. Provide hangers and supports at intervals per CPC table 313.3

H. Pipe Supports: All materials shall be new and manufactured for the specific purpose of supporting systems, equipment, pipes and accessories.

I. All overhead primary pipe supports shall meet the following minimum standards: ANSI/MSS SP-58: Materials, Design, Manufacture, Selection, Application, and Installation; ANSI/MSS SP-69: Selection & Application; ANSI/MSS SP-89: Fabrication & Installation Practices.

J. Provide Link-Seals for protection against water penetration where underground pipes pass through finished floors, ceilings or walls. Provide chrome plated brass split escutcheons where pipes pass through finished floors, ceilings or walls.

K. Where piping passes through foundations, footings or bearing walls, provide PVC pipe sleeves two sizes larger than the pipe passing through the structure. Caulk the annular space between the pipes or provide Link-Seals at foundation walls. Provide chrome plated brass split escutcheons where pipes pass through finished floors, ceilings, or walls.

L. Make allowances for building and support structure movement.

M. Provide 1/2" minimum separation between piping and building construction.

N. Place a hanger within 12 inches of each horizontal elbow.

O. Piping shall not be in contact with hangers or building members.

P. Do not support piping from other pipes, ductwork or other equipment that is not building structure.

Q. All steel piping and appurtenances exposed to weather shall be galvanized or zinc plated.

R. Isolate all dissimilar metals with dielectric unions and dielectric flanges, except that brass or bronze valves do not need to be isolated from steel pipe.

S. Provide means of preventing dissimilar metal contact such as plastic coated hangers, copper colored epoxy paint, or non-adhesive isolation tape - B-Line Iso-pipe.

T. Paint any PVC piping and fittings where exposed to direct sunlight with light colored, water based latex paint which compatible with PVC.

U. Where threaded piping connects between plastic and metal materials, provide metal female connection. Do not provide a metal male connection at these types of transitions.

V. All wetted materials for valves and appurtenances shall be the same material of the piping, unless noted otherwise.

W. All valves and appurtenances shall be full line size.

X. Provide accessible shutoff valves at all fixtures, equipment, and appliances. Provide access doors where valves are installed behind or above non-removable construction. Install all below-grade valves in concrete valve boxes. Install boxes flush with the finished grade. Install water hammer arrestors, valves, air vents and other appurtenances in accessible locations, or provide access doors.

Y. Provide unions at 2-1/2" and smaller equipment connections. Provide flanges at larger equipment connections.

AA. Provide straight pipe with a minimum length of six times the pipe diameter upstream of pumps.

BB. Provide UL listed fire stopping, installed per manufacturer's recommendations, where pipes pass through fire rated construction.

CC. Provide 3" deep sediment trap in the gas pipe at each gas appliance per the National Fuel Gas Code.

DD. All horizontal waste piping and horizontal rainwater piping is to be at a 2% slope unless otherwise noted on the Drawings.

EE. Seal all vapor barriers and insulation jacketing watertight, per manufacturer's instructions. Use approved materials to seal ends of insulation watertight.

FF. Ends of insulation shall be tightly butted together and held in place with bands at a max of 24" on centers

GG. Insulate all piping components, including but not limited to flexible connectors/expansion joints, valves, pumps, fittings and appurtenances.

HH. Test plugs must be installed to clear insulation.

II. Valve handles shall be installed to clear insulation/jacket by 3/4" (minimum).

JJ. Finish insulation neatly at pipe supports.

KK. Provide pre-molded fitting covers for all pumps, fittings, valves and appurtenances. Fitting covers must be easily removable for access to equipment and valves.

LL. All insulation jacketing laps and band seals to be placed in such a way as to be hidden when viewed from the most traveled locations. Insulation located outdoors where exposed to weather, must be installed with the jacket seams on bottom of piping. All banding and support shields are to be installed with equal spacing and in a uniform manner. Applications of caulking at any joints are to be kept at an absolute minimum.

MM. Insulate and jacket cold water piping, outside the building, where exposed to exterior ambient conditions, for freeze protection.

NN. At accessible flush valve type water closets, to avoid conflict with the grab bars, adjust cold water rough-in elevation to verify that the top of the flush valve clears the bottom of the grab bar while maintaining the 6" minimum critical level mark on the vacuum breaker, verify with manufacturer.

OO. All piping in trenches shall have bedding from 6 inches below pipe to 4 inches above pipe. Bedding material to be 1/4 inch min. fill sand by Canyon Rock Company or approved equivalent. Bedding must be clean and compacted so as to protect and uniformly support the pipe enclosure. Provide backfill above bedding. Backfill material specification is provided by Others. Prior to construction - verify backfill material specification with General Contractor. Bedding and backfill materials must not contain boulders, cinder fill, construction debris or materials that will damage or break the piping or cause corrosive action. Provide bedding material submittal for review and approval.

PP. Review Geotechnical report for additional backfill requirements.

3.2 REQUIREMENTS FOR ACCEPTANCE

A. Make arrangements with the Engineer and the Building Inspector to observe the Work prior to covering or enclosing the work.

B. Clean and flush all piping systems and equipment to remove all contaminants.

C. Sterilize all domestic hot and cold water piping with chlorine solution for a minimum of 24 hours. The residual chlorine concentration shall not be less than 50 PPM. Thoroughly flush the piping systems after the sterilization is completed. Coordinate times of sterilization with the Owner. Provide warning signs during sterilization to prevent system use during sterilization. Provide documentation that indicates when the sterilization was completed.

D. Testing, Adjusting and Reporting: Operate all equipment that is a part of this Division and report the following:

1. Pumps: motor amps, pump rotation direction, differential pressure.
2. Water heaters: Hot water supply temperature.

E. Test, adjust and balance all pumps and pumping systems and hydronic piping systems in accordance with AABC National Standards for Field Measurements and Instrumentation. Testing shall be done by an AABC licensed TAB Contractor or independent certified NEBB Contractor which in not affiliated with a Mechanical Contractor, design Engineer or equipment manufacturer. Provide test reports for approval. The test reports shall include, but not be limited to the following information:

1. Operating and nameplate data for all pumps and pumping equipment; including motor speed and motor amps.
2. Water flow rates and pressures at all, pumps, water heaters and through all control valves.

F. Test the plumbing systems as outlined below. Isolate all equipment, instruments, and gauges that are not rated for test pressure. If the piping fails the test, repair faulty sections and retest. Provide documentation that all piping systems passed pressure test, indicate day of test and ambient temperature. Piping must be pressure tested and inspected prior to being insulated.

1. DWV systems: Test with a 10 foot water head for a minimum of one hour.
2. Water lines: Test with water at 100 PSIG for 24 hours.
3. Fuel gas: Test with air at 15 PSIG for 8 hours, or as required by CPC.

G. An "as-built" red lined drawing set shall be kept on site and updated daily. These "as-builts" shall include the full scope of the design documents and specifications in this section of work. For underground systems include piping depth/invert elevations and exact dimension to grid lines for underground mains. Submit "As-builts" to General Contractor and Owner.

H. Provide operation and maintenance manuals on all equipment include equipment warranties certificates.

I. Instruct the Owner on how to operate and maintain all systems and equipment that are a part of this Section.

END OF SECTION

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: SS
CHECKED BY: BM
PLOT DATE: 09.27.2022

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

TEP ENGINEERING
880 Second Street
Santa Rosa, CA 95404-4610
707.538.0400 office
707.538.0406 fax

REGISTERED PROFESSIONAL ENGINEER
No.M30615
EXP.12-31-22
MECHANICAL
STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: TEP #3747

PLUMBING SPECIFICATIONS

P701

ANCHORAGE & BRACING NOTES

M/E/P Component Anchorage Note

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

1. All permanent equipment and components.
2. Temporary, movable or mobile equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110/220 volt receptacles having a flexible cable.
3. Temporary, movable or mobile equipment which is heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component is required to be restrained in a manner approved by DSA.

The following mechanical and electrical components shall be positively attached to the structure but need note demonstrate design compliance with the references noted above. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit. Flexible connections must allow movement in both transverse and longitudinal directions:

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

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

Piping, Ductwork, and Electrical Distribution System Bracing Note

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

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

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP□ MD□ PP□ E■ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP□ MD□ PP□ E□ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM#) #_____.

APPLICABLE CODES & STANDARDS REFERENCES

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2020*

2019 California Administrative Code (CAC), Part 1, Title 24 CCR*
2019 California Building Code (CBC), Part 2, Title 24 CCR
(2018 International Building Code, Vol. 1 & 2, and 2019 California amendments)
2019 California Electrical Code (CEC), Part 3, Title 24 CCR
(2017 National Electrical Code and 2019 California Amendments)
2019 California Mechanical Code (CMC), Part 4, Title 24 CCR
(2018 IAPMO Uniform Mechanical Code and 2019 California amendments)
2019 California Plumbing Code (CPC), Part 5, Title 24 CCR
(2018 IAPMO Uniform Plumbing Code and 2019 California amendments)
2019 California Energy Code (CEC), Part 6, Title 24 CCR
2019 California Fire Code (CFC), Part 9, Title 24 CCR
(2018 International Fire Code and 2019 California Amendments)
2019 California Existing Building Code (CEBC), Part 10, Title 24 CCR
(2018 International Existing Building Code and 2019 California Amendments)
2019 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
2019 California Referenced Standards Code, Part 12, Title 24 CCR
Title 19 CCR, Public Safety, State Fire Marshal Regulations
2016 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators *(per 2019 CBC Part 2 Ch 35)*
Note: Cal/OSHA Elevator Unit enforces CCR Title 8 and uses the 2004 ASME A17.1 by adoption

PARTIAL LIST OF APPLICABLE STANDARDS

NFPA 13 - Standard for the Installation of Sprinkler Systems (CA amended).....2016 Edition
NFPA 14 - Standard for the Installation of Standpipe and Hose Systems (CA amended).....2016 Edition
NFPA 17 - Standard for Dry Chemical Extinguishing Systems.....2017 Edition
NFPA 17A - Standard for Wet Chemical Extinguishing Systems.....2017 Edition
NFPA 20 - Standard for the Installation of Stationary Pumps for Fire Protection.....2016 Edition
NFPA 22 - Standard for Water Tanks for Private Fire Protection.....2013 Edition
NFPA 24 - Standard for the Installation of Private Fire Service Mains and
Their Appurtenances (CA amended).....2016 Edition
NFPA 72 - National Fire Alarm and Signaling Code (CA amended).....2016 Edition
NFPA 80 - Standard for Fire Doors and Other Opening Protectives.....2016 Edition
NFPA 2001 - Standard on Clean Agent Fire Extinguishing Systems (CA amended).....2015 Edition
UL 300 - Standard for Fire Testing of Fire Extinguishing Systems for
Protection of Commercial Cooking Equipment.....2005 (R2010)
UL 464 - Audible Signaling Devices for Fire Alarm and Signaling Systems,
Including Accessories.....2003 Edition
UL 521 - Standard for Heat Detectors for Fire Protective Signaling Systems.....1999 Edition
UL 1971 - Standard for Signaling Devices for the Hearing Impaired.....2002 (R2010)
ICC 300 - Standard for Bleachers, Folding and Telescopic Seating, and Grandstands.....2017 Edition

For a complete list of applicable NFPA standards refer to 2019 CBC (SFM) Chapter 35 and California Fire Code Chapter 80.

See California Building Code Chapter 35 for State of California amendments to the NFPA Standards.

*All parts of the 2019 California Building Code become effective January 1, 2020 except the effective date for the use of the 2019 Building Energy Efficiency Standards (Title 24, Part 1, Chapter 10) is January 8, 2019 and the effective date for the use of the California Administrative Code (Title 24, Part 1, Chapter 4) is January 8, 2019.

ELECTRICAL DEVICES

- JUNCTION BOX - WALL MOUNTED +18" A.F.F. U.O.N.
- J JUNCTION BOX - FLOOR MOUNTED
- J JUNCTION BOX - CEILING MOUNTED
- POWER OUTLET , DUPLEX - WALL MOUNTED +18" A.F.F. U.O.N.
- POWER OUTLET, SWITCHED DUPLEX - +18" A.F.F. U.O.N.
- POWER OUTLET, FOURPLEX - WALL MOUNTED +18" A.F.F. U.O.N.
- POWER OUTLET, SIMPLEX - WALL MOUNTED +18" A.F.F. U.O.N.
- POWER OUTLET, DUPLEX - FLOOR MOUNTED, FLUSH LID U.O.N.
- POWER OUTLET, FOURPLEX - FLOOR MOUNTED, FLUSH LID U.O.N.
- POWER OUTLET, DUPLEX - CEILING MOUNTED
- POWER OUTLET, FOURPLEX - CEILING MOUNTED

NOTE:
ALL 15- AND 20-AMPERE, 125- AND 250-VOLT NONLOCKING-TYPE RECEPTACLES IN PRESCHOOLS AND ELEMENTARY EDUCATION FACILITIES SHALL BE TAMPER-RESISTANT TYPE.

CONTROLS

- $ SWITCH, SINGLE CONTROL - WALL MOUNTED +42" A.F.F. U.O.N.
- $3 SWITCH, 3-WAY CONTROL - WALL MOUNTED +42" A.F.F. U.O.N.
- $4 SWITCH, 4 WAY CONTROL - WALL MOUNTED +42" A.F.F. U.O.N.
- $M SWITCH, MOTOR RATED - NOTED MOUNTING
- $D SWITCH, DIMMER CONTROL - WALL MOUNTED +42" A.F.F U.O.N.
- $VD SWITCH, DIMMER WITH VACANCY CONTROL - WALL MOUNTED +42" A.F.F U.O.N.
- $V1 SWITCH, VACANCY CONTROL - SINGLE POLE - WALL MTD +42" A.F.F U.O.N.
- $V2 SWITCH, VACANCY CONTROL - DUAL POLE - WALL MOUNTED +42" A.F.F U.O.N. (FAN CONTROL SHALL BE PROVIDED WITH TIME DELAY)
- DX LV SWITCH, UP TO FOUR ZONES, EACH WITH ON/OFF AND DIMMER CONTROL - WALL MOUNTED +42" A.F.F U.O.N.
- SN LV SCENE SWITCH - WALL MOUNTED +42" A.F.F U.O.N. (NUMBER OF SCENE BUTTONS AS INDICATED)
- M LV MASTER CONTROL - WALL MOUNTED +42" A.F.F U.O.N.
- V LV VACANCY SENSOR CONTROL - CEILING MOUNTED
- DL LV DAYLIGHTING SENSOR CONTROL - DUAL ZONE - CEILING MOUNTED
- PLC PLUG LOAD CONTROLLER - MOUNT IN ACCESSIBLE LOCATION
- RCx ROOM LIGHTING CONTROLLER - MOUNT IN ACCESSIBLE LOCATION (NUMBER OF ZONES AS INDICATED)

LOW VOLTAGE

- WP WP EXTERIOR SPEAKER: +96" A.F.F. U.O.N., 3/4" CONDUIT TO IDF
- SPEAKER/ CLOCK: +96" A.F.F. U.O.N., (2) 1" CONDUITS TO IDF
- PA CALL SWITCH: SINGLE GANG BOX, +48" A.F.F. U.O.N., (1) 3/4" CONDUIT TO CLOCK/SPEAKER BACKBOX
- DATA OUTLET - WALL MOUNTED +18" A.F.F.
- DATA OUTLET - NOTED MOUNTED
- WP WAP DATA OUTLET FOR EXTERIOR WIRELESS ACCESS POINT, +10'-0" A.F.F.
- VOICE/DATA OUTLET - WALL MOUNTED +18" A.F.F.
- VOICE/DATA OUTLET - NOTED MOUNTING
- VOICE OUTLET - WALL MOUNTED +18" A.F.F.
- VOICE OUTLET - +48" A.F.F. TO CENTER WITH PHONE MOUNT KEYSTONE WALL PLATE, SINGLE GANG, 1-PORT STAINLESS STEEL
- DATA OUTLET - FLOOR MOUNTED
- VOICE OUTLET - FLOOR MOUNTED
- VOICE/DATA OUTLET - FLOOR MOUNTED
- DATA OUTLET - CEILING MOUNTED
- WAP DATA OUTLET - CEILING MOUNTED FOR WIRELESS ACCESS POINT, 1" CONDUIT TO IDF

SECURITY

- MS SECURITY MOTION SENSOR: WALL MOUNTED +120", SINGLE GANG BOX, 3/4" CONDUIT TO SECURITY PULLCAN IN ELECTRICAL ROOM
- K INTRUSION ALARM KEYPAD: +44" TO TOP OF SINGLE GANG BOX, 3/4" CONDUIT TO SECURITY PULLCAN IN ELECTRICAL ROOM
- C SINGLE GANG BOX FOR SECURITY CAMERA: WALL MOUNTED +120" 3/4" CONDUIT TO IDF IN ELECTRICAL ROOM, VERIFY BOX LOCATIONS AND HEIGHTS WITH DISTRICT PRIOR TO ROUGH-IN
- DC SECURITY DOOR CONTACT: 3/4" CONDUIT FROM DOOR FRAME TO SECURITY PULLCAN IN ELECTRICAL ROOM

CIRCUITING

- CIRCUIT - CONCEALED
- CIRCUIT - EXPOSED
- CIRCUIT - UNDER FLOOR, GROUND OR SLAB
- CIRCUIT - HOME RUN
- CIRCUIT - STUB OUT
- CIRCUIT - STUB DOWN
- CIRCUIT - STUB UP
- CIRCUIT - COMPLETE CONNECTION

EQUIPMENT

- DISCONNECT, NON-FUSED
- DISCONNECT, WITH FUSE
- STARTER, NON-FUSED
- STARTER, WITH FUSE
- DIVISION 15 FAN
- STARTER, WITH CIRCUIT BREAKER
- PANELBOARD FLUSH
- PANELBOARD SURFACE
- ENCLOSURE FLUSH
- ENCLOSURE SURFACE
- DISTRIBUTION BOARD
- METER SECTION
- M MOTOR
- MTTB
- SITE PULL BOX / VAULT
- T TRANSFORMER

LIGHT FIXTURES

- LIGHT FIXTURE, 1 x 4 - PENDANT MOUNTED
- LIGHT FIXTURE, 1 x 8 - PENDANT MOUNTED
- LIGHT FIXTURE, 1 x 4 - RECESSED MOUNTED
- LIGHT FIXTURE, 1 x 8 - RECESSED MOUNTED
- LIGHT FIXTURE, 1 x 4 - SURFACE MOUNTED
- LIGHT FIXTURE, 1 x 8 - SURFACE MOUNTED
- LIGHT FIXTURE, 2 x 2 - RECESSED MOUNTED
- LIGHT FIXTURE, 2 x 4 - RECESSED MOUNTED
- LIGHT FIXTURE, 2 x 2 - SURFACE MOUNTED
- LIGHT FIXTURE, 2 x 4 - SURFACE MOUNTED
- LIGHT FIXTURE, 4' STRIP - SURFACE MOUNTED
- LIGHT FIXTURE, 8' STRIP - SURFACE MOUNTED
- LIGHT FIXTURE, EXIT WITH EGRESS - WALL/CEILING MOUNTED
- LIGHT FIXTURE, EGRESS - WALL MOUNTED
- LIGHT FIXTURE, EXIT DOUBLE FACE - CEILING MOUNTED
- LIGHT FIXTURE, EXIT DOUBLE FACE - WALL MOUNTED
- LIGHT FIXTURE, EXIT SINGLE FACE - CEILING MOUNTED
- LIGHT FIXTURE, EXIT SINGLE FACE - WALL MOUNTED
- LIGHT FIXTURE - PENDANT MOUNTED
- LIGHT FIXTURE - RECESSED MOUNTED
- LIGHT FIXTURE, WALL WASH - RECESSED MOUNTED
- LIGHT FIXTURE - SURFACE MOUNTED
- LIGHT FIXTURE - WALL MOUNTED
- LIGHT FIXTURE - POLE MOUNTED
- LIGHT FIXTURE, NO ARM - POLE MOUNTED OR BOLLARD

ADA REQUIREMENTS

A. ALL HEIGHTS CALLED OUT ON PLANS ARE TO CENTERLINE OF DEVICE, U.O.N.

B. FOLLOW ALL ADA REQUIREMENTS FOR DEVICE MOUNTING:
- MAX UNOBSTRUCTED FORWARD REACH 48-INCHES TO TOP OF DEVICE.
- MIN UNOBSTRUCTED FORWARD REACH 15-INCHES TO BOTTOM OF DEVICE.
- MAX OBSTRUCTED FORWARD REACH 44-INCHES TO TOP OF DEVICE.
- MAX OBSTRUCTED SIDE REACH 46-INCHES TO TOP OF DEVICE.

DIAGRAMS

- ATS ATS
- PANEL 1LA PANEL
- 100A 3P CIRCUIT BREAKER
- XXXA XXP FUSE
- XXXA XXP UTILITY FUSE
- GROUND ROD
- M METER
- M METER CT
- TRANSFORMER

MISCELLANEOUS

- XX DEMO KEYED NOTE TAG
- X ELECTRICAL EQUIPMENT TAG
- 1 KEYED NOTE TAG
- X / X MECHANICAL EQUIPMENT TAG
- A REVISION DELTA
- 1 EQUIPMENT MANUFACTURER'S IDENTIFICATION NUMBER
- X / E- DETAIL REFERENCE
- X / E1 E2 DETAIL REFERENCE
- PLAN NORTH PLAN NORTH ARROW

ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
A.F.F.	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ANN	ANNUNCIATOR
APPROX	APPROXIMATE
ARF	ABOVE RAISED FLOOR
AWG	AMERICAN WIRE GAUGE
BAT	BATTERY
BFG	BELOW FINISH GRADE
	CENTERLINE
C, CND	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CO	CONDUIT ONLY
COMM	COMMUNICATIONS
CONST	CONSTRUCTION
CONT	CONTINUED
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DWG	DRAWING
(E)	EXISTING
EA	EACH
EF	EXHAUST FAN
EMT	ELECTRICAL METALLIC CONDUIT
ENT	ELECTRICAL NON-METALLIC CONDUIT
EP	EXPLOSION PROOF
EQ	EQUAL
EVACS	EMERGENCY VOICE & COMMUNICATIONS SYSTEM
(F)	FUTURE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FC	FAN COIL
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATION & AIR-COND.
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
JB	JUNCTION BOX
KV	KILO VOLT
KVA	KILO VOLT-AMP
KW	KILO WATT
LV	LOW VOLTAGE
MAX	MAXIMUM
MC	METAL-CLAD
MCC	MOTOR CONTROL CENTER
MFR, MFGR	MANUFACTURER
MIC	MICROPHONE
MIN	MINIMUM
MDP	MAIN DISTRIBUTION BOARD
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
(N)	NEW
N, NEUT	NEUTRAL
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
PNL	PANEL
PVC	POLYVINYL CHLORIDE
PB	PULL BOX, ELECTRICAL
REQD	REQUIRED
RGS, RSG	RIGID GALVANIZED STEEL
RTU	REMOTE TERMINAL UNIT
SP	SPACE, SPARE
SS	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TP	TAMPER PROOF
TYP	TYPICAL
UF	UNDER FLOOR
UG	UNDER GROUND
U.O.N.	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT-AMP
W/0	WITHOUT
WP	WEATHER PROOF
XFMR	TRANSFORMER

ASSISTIVE LISTENING SYSTEM

PROVIDE AND INSTALL AN ASSISTIVE LISTENING SYSTEM WITH THE FOLLOWING COMPONENTS BY WILLIAMS SOUND:

(1) #FM 557-24-PRO KIT AS FOLLOWS:
- (1) #FM T55 TRANSMITTER
- (1) #ANT 005 REMOTE COAXIAL ANTENNA
- (1) #RPK 005 RACK MOUNTING KIT
- (1) #IDP 008 ADA WALL PLAQUE
- (24) #PPA R37N RECEIVERS
- (24) #EAR 022 SURROUND EARPHONES
- (24) #BAT 026-2 AA NIMH RECHARGEABLE BATTERIES
- (6) #NKL 001 NECK LOOPS
- (2) #CHG 3512 12-BAY CHARGERS

(10) #PPA R37N RECIEVERS
(10) #EAR 022 SURROUND EARPHONES
(10) #BAT 026-2 AA NIMH RECHARGEABLE BATTERIES
(3) #NKL 001 NECK LOOPS
(1) #CHG 3512 12-BAY CHARGER

TOTAL RECEIVERS/EARPHONES: 34
TOTAL NECK LOOPS: 9

ELECTRICAL SHEET INDEX

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE: DESCRIPTION: DATE:

DRAWN BY: . PLOT DATE: 09-29-22
CHECKED BY: CAC

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

BrokawDesign
P.O. BOX 3103
RICHMERT PARK, CA 94927
www.brokawdesign.com

TIMOTHY A. CHRISTY — No. E 13935 — EXP. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA
09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

ELECTRICAL LEGEND AND ABBREVIATIONS

E-101

ELECTRICAL SPECIFICATIONS

ELECTRICAL

1.01 - WORK INCLUDES

A. Work included in this section: All materials, labor, equipment, services, and incidentals necessary to install the Electrical Work as shown on the drawings and as specified hereinafter, including, but not limited to the following:
1. Electric and low voltage service as detailed on the drawings.
2. Distribution system, including panelboards, and feeders.
3. Branch circuit wiring, wiring devices and connections to all equipment requiring electrical service.
4. Lighting fixtures with hangers, anchors and supports. Lighting Controls.
5. Electrical equipment grounding system.
6. Mechanical equipment power and control connections as stated in the mechanical and electrical specifications and as shown on the mechanical and electrical drawings.
7. Sleeves, inserts and blocking in cast concrete as required for work in this section.
8. Low voltage signal systems complete.
9. All required incidental work, such as excavating and backfilling, roof flashing, and testing.
10. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the drawings.
11. All equipment and work shown on these drawings shall be provided and installed by this contractor unless noted otherwise as existing.

1.02 - INCORPORATED DOCUMENTS:

See Sheet E-001 for partial list of applicable codes and standards.

1.03 - SEISMIC DESIGN REQUIREMENTS

A. Refer to structural drawing Sheet S001 for project specific seismic design requirements.

1.04 - CONDITIONS AT SITE:

A. Visit to site is required of all bidders prior to submission of bid. All will be held to have familiarized themselves with all discernible conditions and no extra payment will be allowed for work required because of these conditions, whether specifically mentioned or not.

1.05 - QUALITY ASSURANCE

A. Conformance:
1. The Contractor shall notify the Architect, prior to submission of bid, about any part of the design which fails to comply with abovementioned requirements.
2. If after contract is awarded, minor changes and additions are required by aforementioned authorities, even though such work is not shown on drawings or covered in specifications, they shall be included at Contractor's expense.

B. Coordination:
1. The Contractor shall become familiar with the conditions at the job site, and with the drawings and specifications and plan the installation of the electrical work to conform with the existing conditions and that shown and specified so as to provide the best possible assembly of the combined work of all trades.
2. The Contractor shall work out in advance all "tight" conditions, involving all trades and if found necessary, supplementary drawings shall be prepared by this Contractor, for the Architect's approval, before work proceeds in these areas. No additional costs will be considered for work which must be relocated due to conflicts with the work of other trades.

1.06 - SUBMITTALS

A. Product Data:
1. Within 15 days after award of the Contract, submit:
   a. Complete material list of all items proposed to be furnished and installed under this Section, including but not limited to the following items: Circuit breakers, lighting fixtures, conduit, devices, enclosures, etc.
   b. Manufacturers' specifications and other data required to demonstrate compliance with the specified requirements.
   c. Manufacturers' recommended installation procedures which, when approved by the Architect, shall become the basis for inspecting and accepting or rejecting actual installation procedures used on the work.
3. Shop Drawings: Furnish shop drawings and/or equipment cuts for the following:
   a. Light Fixtures
   b. Panelboards
   c. Disconnect Switches
   d. Lighting Control System
   e. Switches, sensors, receptacles and faceplates.
   f. Assistive Listening systems.
4. Test Reports:
   a. Factory Tests where indicated for specific equipment.
   b. Field Tests: Performance tests as specified for specific equipment.
   c. When series rated circuit breakers are used, provide a letter from the manufacturer of the equipment confirming that U.L. series rating exists for all protective devices. State the available fault current from the Utility Company and indicate that the overcurrent devices exceed the available fault current at the respective point of protection.

1.07- MATERIALS

A. Materials of the same type or classification, used for the same purpose, shall be the product of the same manufacturer.

1.08 - ACCEPTABLE MANUFACTURERS

A. Materials shall be of make mentioned elsewhere in this specification. All materials shall be the best of their several kinds, perfectly new and approved by the Underwriters' Laboratories.
B. Where material, equipment, apparatus or other products are specified by manufacturer, brand name, type or catalog number, such designation is to establish standards of desired quality, style and utility and shall be the basis of the bid. Materials so specified shall be furnished under the contract unless changed by written approval of the Owner's Representative. Where two or more designations are listed, choice shall be optional with this Contractor, but this Contractor must submit his choice for final approval. Request for substitution of products must be submitted for approval prior to bid.

1.9 - DELIVERY, STORAGE AND HANDLING

A. Protection: Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the work and materials of all trades.
B. Delivery and Storage: Deliver all materials to the job site in their original containers with all labels intact and legible at time of use. Store in strict accordance with approved manufacturers' recommendations.
C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.
D. This Contractor shall personally, or through an authorized representative, check all materials upon receipt at jobsite for conformance with approved shop drawings and/or plans and specifications.

1.10 - SCHEDULING/SEQUENCING

A. Place orders for all equipment in time to prevent any delay in construction schedule or completion of project. If any materials or equipment are not ordered in time, additional charges made by equipment manufacturers to complete their equipment in time to meet the construction schedule, together with any special handling charges, shall be borne by this Contractor.

1.11 - REQUIREMENTS

A. The contract drawings indicate the extent and general arrangements of the conduit wiring systems, etc. If any departures from the contract drawings are deemed necessary by the Contractor, details of such departures and the reasons therefore shall be submitted as soon as practicable, and within 10 days after award of the electrical contract.

B. UNLESS MATERIAL LIST AND DATA IS RECEIVED AS A COMPLETE AND ALL INCLUSIVE SUBMITTAL WITHIN THE STIPULATED TIME ALL ITEMS SHALL BE PROVIDED AS SPECIFIED-WITH NO DEVIATIONS PERMITTED.

C. Any and all additional costs incurred by the substitution of electrical material or equipment, or installation thereof, whether architectural, structural, plumbing, mechanical or electrical, shall be borne by the Contractor under this section.

1.12 - IDENTIFICATION

A. Feeder circuit breakers, panels, disconnect switches, motor starters and motor disconnect switches, cabinets, and other apparatus used for the operation of, or control of circuits, appliances or equipment, shall be properly identified by means of engraved laminated plastic descriptive nameplates mounted on apparatus using stainless steel screws. Nameplates shall have white letters with black background and be submitted to the Architect for approval. Cardholders in any form are not acceptable.

B. Each branch circuit of panelboards to have a permanently fixed number with directory, mounted under celluloid on inside of cabinet door, showing circuit numbers, room number feed and typewritten description of equipment supplied by breakers.

PART 2 - PRODUCTS:

2.01 - GENERAL

A. Materials shall be new, packed in original containers, installed and turned over to the Owner free of defects.
B. Materials shall bear Underwriters' Laboratory label.
C. Furnish equipment and materials for any one system by same manufacturer.

2.02 - MATERIALS

A. Conduit/MC Cabling
1. Conduit and cabling shall be delivered to the site of construction in the original bundles. Each length shall bear the label of the National Board of Fire Underwriters. All conduit/cabling subjected to rough usage while on the job, before installation, shall be removed from the premises upon notice.
2. Raceway, cabling and boxes located as indicated on drawings and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway, cabling and boxes are shown in approximate locations unless dimensioned.
3. Rigid Steel: Hot dipped galvanized, used exposed and in concrete slab, with completely watertight fittings.
4. "Schedule 40" PVC (when used) shall be provided with code size minimum bare No. 12 ground wire with "Schedule 80" elbows and stub-ups.
5. All rigid steel conduit, couplings and elbows in soil or under membrane to be 1/2 tape wrapped with Scotch #50 tape and threaded ends coated with red lead prior to installation of couplings.
6. Use flexible conduit for all motor connections; Flexible metal type provide with code size (minimum No. 12) bare ground wire in all flexible conduit.
7. Conduit Bends - Long Radius.
8. Provide conduit seals at all concrete slab penetrations.
9. All indoor MC Cables and conduits shall be installed concealed in walls or above ceiling unless noted otherwise. Utilize MC Cabling for branch circuits within rooms/classrooms unless otherwise noted. Home runs to panelboards shall be in conduit.
10. Installation:
    a. Outdoor Locations:
       - Above Grade: Provide rigid steel conduit. Provide cast metal outlet, pull, and junction boxes.
       - In Soil: Provide Sched 40 or 80 PVC with Sched 80 PVC elbows (in marine/high moisture environments) or Rigid Steel elbows wrapped.
       - In Concrete: Provide hot dipped galvanized rigid steel or Sched 40 PVC Conduit.
       - Flexible Connection: WP Flexible metal conduit.
       - Watertight and corrosion resistant fittings, couplings, boxes, etc.
    b. Indoor Locations:
       - Exposed Dry Locations: Provide galvanized rigid steel conduit or Intermediate metal conduit. Provide cast boxes. Electric Metallic Tubing may be provided in unfinished areas.
       - Concealed Dry Locations: Provide MC Cable for sizes less than 2-inches. Provide galvanized rigid steel or intermediate steel conduit in sizes 2-inches or larger. Provide cast or sheet metal boxes.
       - Electric non-metallic tubing may be used from low voltage outlets to above non plenum ceiling only, otherwise it is unacceptable.
       - Low voltage cabling (including fire alarm) installed above accessible ceilings do not require conduit.

B. Conduit Fittings:
1. Fittings for rigid steel and flexible type conduit shall be of a type as required, malleable iron or steel, galvanized or sherardized.

C. Outlet Boxes and Junction Boxes:
1. Galvanized one piece steel knockout type, unless otherwise noted, sizes as required for conditions at each outlet or as noted, not smaller than 2 inches wide by 4 inches high, ganged where multiple switch locations are indicated.
2. Outlet boxes located on exterior to be flush type with cast aluminum gasketed covers; spring lid type for receptacles.
3. Surface mounted outlet boxes for wet locations, cast aluminum FS or FD type with gasketed spring lid cover.
4. All connectors from conduit to junction or outlet boxes shall have integral insulated throats.
5. Flush Service Floor Boxes: Multi-gang, cast iron, watertight, with corrosion resistant finish, exterior levelling screws, removable partitions, adjustable before and after concrete pour, with gasketed cover, meeting U.L 514. Coordinate with Owner's Representative and provide brass or black carpet plate (per owners preference) where required.
6. Outlet boxes for telephone and cable TV outlets shall be 4" square minimum with single gang plaster rings.

D. Power Wire and Cable:
1. Copper 90% conductivity. Solid copper for conductors smaller than No. 8 AWG. Stranded copper for conductors No. 8 AWG and larger. No conductors smaller than No. 12 AWG, except as noted.
2. Insulation type: #12 to #1 AWG: THWN for wet locations and THHN for dry locations. #1/0 through #4/0 AWG: XHHW (55 Mils). 250MCM and larger: XHHW (65 Mils).
3. Conductors No. 8 and larger and as otherwise noted on drawings shall be stranded.
4. Connections to devices from "through_feed" branch circuit conductors to be made with pigtails, with no interruption of the branch circuit conductors.
5. Neutral conductor identified by white outer covering braid, with different tracers of "EZ" numbering tags used where more than one neutral conductor is contained in a single unit.
6. Neatly arrange and "marlin" wired in panels and other equipment with "T and B Ty-rap" or approved equal plastic type strapping.
7. Label each wire of each electrical system in each pull box, junction box, outlet box, terminal cabinet, and panelboard in which it appears with "EZ" numbering tags.
8. All wire and cable shall bear the Underwriters' Label, brought to the job in unbroken packages; wire color coded as follows:

Voltage	Phasing	A Phase	B Phase	C Phase	Neutral
120/240	1p3w	Black	Red	-	White
120/208	3p 4w	Black	Red	Blue	White
208	3w	Black	Red	Blue	-
277/480	3p 4w	Brown	Orange	Yellow	White
480	3w	Brown	Orange	Yellow	-

E. Switches: Leviton, or equal, rated 20 amp, 277 volt, quiet type, white color, specification grade; unless otherwise noted.
1. Single Pole _ No. 5521-W
2. Three Way _ No. 5523-W
3. Four Way - No 5524-W
4. Momentary contact- No. 1256-W
5. Dimmer Switches- Lutron - Lyneo Series Style.
6. Wall mounted occupancy Sensors- Lutron maestro Style

F. Receptacles: Leviton or equal, 125 volts, specification grade, tamper resistant, white color:
1. 20A 3PG 125 volt duplex
2. 20A 3PG 125 volt ground fault interrupter receptacle
3. 20A 3PG 125 volt duplex
4. 20A 3PG 125 volt isolated ground receptacle, 3 wire, orange color 1 I.G.
5. Special appliances receptacles: Match NEMA configuration of equipment plug.

H. Plates: Leviton white, or equal, except as noted:
1. Plates for surface mounted outlets: galvanized steel unless otherwise noted.
2. Plates for ground fault interrupter receptacles on building exterior Sierra No. WPH_GL.
3. Weatherproof duplex receptacle plates for exterior locations and for all type FS or FD boxes _ Hubbell #5221 or equal.

I. Motor Disconnect Switches and Safety Switches: Heavy Duty Type, cover interlocked with operating handle so that cover cannot be opened with switch in closed position and switch cannot be closed with cover in open position, 240 or 480 volt rating, as required or as noted on drawings, in Nema 1 enclosure indoors, 3R enclosure outdoors, or as otherwise noted. All motor circuit fuses shall be dual element type.

J. Lugs and Connectors: Thomas and Betts "lock-tite", for No. 4 and larger wire; "Scotchlock" with insulator for No. 6 and smaller wire.

K. Splice Insulation: "Scotch" electrical tape with vinyl plastic backing or rubber tape with protective friction tape for interior work.

L. Grounding:
1. Provide and install a grounding electrods system on all separate building, expect those with only 1 circuit feeding building. NEC 250.32 (A).
2. Grounding electrode conductor: bare stranded copper type, #4/0 minimum or per NEC Table 250.66 or as indicated on single line diagram.
3. Install ground wires in rigid conduit. Provide physical protection for grounding electrode and bonding conductors in accordance with nec 250-64. Grounding conductors shall be in conduit and installed in accordance with NEC 250-64(e).
4. All grounding electrode conductor connections "thermite" or "cad_weld" welded.
5. Use approved pressure type solderless connector or use fusion welding for all connections to and bonding of grounding electrode system. All connections shall be visible, readily accessible for testing purposes.
6. Terminate grounding conduits at equipment with ground bushing, with ground wire connected through bushing.
7. Provide No. 12 stranded (green) THHN conductor from outlet box to ground screw of every receptacle except isolated ground receptacles.
8. Ground all isolated sections of metallic raceways.
9. Provide #12 minimum stranded (green) THHN conductor sized per NEC, or as noted, connected continuously throughout branch circuit for all circuits, bonded to panel ground bus, and to all electrical devices and equipment enclosures.
10. Provide an unspliced grounding electrode conductor to the grounding electrode system
11. Where the transformer supplying the service is located outside the building, at least one additional grounding connection shall be made from the grounded service conductor to a grounded electrode at the transformer.
12. Use approved pressure type solderless connector or use fusion welding for all connections to grounding electrode. Connection visible, readily accessible for testing purposes. Grounding electrode conductor between the grounding electrode and service equipment: Minimum #4/0.
13. After installation, test system, using the three-point fall of potential method only. Record results and submit to Architect for approval. If resistance to ground exceeds three (3) ohms, install additional ground rods, bonded and interconnected to grounding electrode system. Provide additional grounding until resistance is less than three (3) ohms.
14. Provide a bonding jumper to the building interior metal water piping, exposed interior structural steel, interior metal gas piping, and other interior metal piping in accordance with nec 250-68. establish the connections at accessible locations and provide bonding jumpers across removable or electrically non-continuous joints.
15. Connect grounding electrode system to metallic water service entry metallic cold water pipe (if available) with nonferrous clamp and 1-#4 B.C. in conduit, connection shall be accessible for inspection.
16. Connect grounding electrode system to building steel . Use exothermic weld, connection shall be accessible for inspection.
17. Grounding Electrode System shall be as follows:
    a. The grounding electrode system shall consist of a ufer ground (if feasible), all available building metal structure, all available metal underground water piping, and ground rods made electrodes) or ground ring (if ufer ground it not available, in existing building or if resistance needs to be lowered). bond the electrodes together in accordance with NEC 250-50.
    b. Ufer Ground: Provide a concrete encased (ufer) grounding electrode per NEC 250-52(3) consisting of at least 30' of bare copper conductor min #4/0 awg (or sized per nec table 250.66) encased in concrete, conductor located 2-inch min from bottom. concrete Foundation shall be in direct contact with the earth. This ufer ground shall be of the same size and continuous with the grounding electrode conductor as indicated. Embed in foundation with a loop at approximate center, brought out at top of foundation adjacent to building service equipment for connection to service equipment and for bonding to other parts of the grounding system.
    c. Ground Rod:Furnish and install two "Copperweld" 3/4" x 10'-0" ground rods a minimum of 10'-0" apart. Install ground rods in accessible boxes with covers. Furnish and install 2-#4/0 bare copper cables between ground rods and main switchboard ground bus. Provide an additional ground rod if resistance of ground rod exceeds 25 ohms. Ground rod spaced a minimum of 6-feet apart in accordance with NEC 250-56.

M. Panelboards:
1. Surface or flush mounted, with branch circuits as shown on drawings.
2. Enclosures: code gauge galvanized sheet steel with welded full flange end pieces, stretcher_ leveled steel trim, backpan and door.
3. Bussing of copper with silver_plated contact surfaces.
4. Trims on surface_mounted cabinets secured with nickel_plated screws with cup washers, bottom of all trims to have lugs for resting on cabinet flange.
5. Panels shall be 20 inches minimum in width, provided with approved gutter space, barriers and adjustable supports. Doors mounted with concealed hinges provided with combination spring latch and lock. Doors and trims and surface mounted cabinets primed and finished with one coat baked on gray enamel.
6. Breakers on same phase to be aligned horizontally. Each panel provided with 5_handle locks.
7. Each branch circuit of panelboards to have a permanently fixed number with one word directory, mounted under celluloid on inside of cabinet door, showing circuit numbers and typewritten description of outlets controlled by breakers. Color code mains and each breaker terminal, as conductor insulation.
8. Each panel shall be equipped with a copper ground bus.
9. Panelboards shall have lugs to accommodate the cabling shown on the Single Line Diagram. Where lugs are not available to accommodate cabling that is oversized for voltage drop, a pullcan or wireway shall be provided for cable reduction using mechanical multi-taps.

N. Circuit Breakers:
1. General: Circuit breakers shall be molded case rated for 480 or 240 volts, multiple or single pole and amperage rating as shown on the drawings, bolt on, manually operated with "de-ion" arc chutes.
2. Main circuit breaker shall be shall be rated to interrupt the available short circuit current min 42,000 amps RMS or as noted on the drawings.
3. Distribution circuit breakers shall be rated for the amps interrupting capacity noted on the drawings or U.L. series rated with the main circuit breaker.
4. Branch circuit breakers shall be rated for the amps interrupting capacity or U.L. series rated with the distribution and main circuit breakers, General Electric type TEB or equal, minimum 10,000 A.I.C for 120/208 volt, type TED or equal, minimum 14,000 A.I.C for 277/480 volt, or A.I.C. rating as indicated on the panel schedule.
5. Where mechanical equipment is U.L. listed for overcurrent protection with fuses or HACR type circuit breakers, provide fuses where a fused switch is shown. Where the overcurrent protection is a circuit breaker provide HACR, (HACR means Heating, Air-Conditioning and Refrigeration) type.
6. Provide type "SWD" circuit breakers were the circuit breaker is going to be used as a switching device in a panelboard.
7. Provide GFCI rated circuit breakers in all locations within 6-feet of water.

O. Starters:
1. Magnetic starters shall be rated in accordance with latest published NEMA standards for size and horsepower rating, Westinghouse A-200 series or equal. Provide with overload sensor in each phase, hand-off-auto switch, red "run" pilot light, in Indoor NEMA 1,Outdoor NEMA 4X, or NEMA 3R enclosure as shown. Coil shall be rated 120 VAC. Starters shall be across-the-line non-reversing unless otherwise noted.
2. Contacts: Across-the-line magnetic starters shall be equipped with double break silver alloy contacts. All contacts shall be replaceable without removing power wiring or removing starter from panel. The starter must have straight-through wiring.
3. Coils: Coils shall be of molded construction. All coils shall be replaceable from the front without removing the starter from the panel.
4. Overload Relays and Thermal Units: Overload relays shall be the melting

P. Motor Connections:
1. Install motor circuits complete for all motors by other trades as shown on drawings.
2. Furnish and install all disconnect switches, outlet boxes, starters, timeswitches etc., where noted.
3. All motor and temperature control low voltage wiring shall be installed and connected by Division 15 Section of specifications, unless otherwise indicated on electrical and mechanical drawings.

Q. Lighting Fixtures:
1. As listed in fixture schedule, and on drawings as indicated by type letter, completely lamped with new lamps, properly operating at time of acceptance of electrical work.
2. Lamps:
   a. Unless otherwise noted, lamps described on the Drawings and in these Specifications, are ANSI nomenclature; lamps shall be manufactured by Osram/Sylvania, North American Philips, or approved equal.
   b. All incandescent lamps and tungsten halogen lamps shall be 125 -130 volt rated extended life or 2,000 hour life whenever such designs are available.
   c. T8 fluorescent lamps shall be 3500K-4100K color temperature, energy saving type suitable.
   d. Compact fluorescent lamps shall be 3500K-4100K color temperature, twin-tube and double twin tube (as required for each fixture), as manufactured by North American Philips, approved equal.
3. Ballasts:
   a. Fluorescent Lamp Ballasts: Solid State full light output Class P, ETL certified to CBM standards, high power factor one, two, three, or four lamp types; minimum starting temperature 50 degrees F. unless otherwise noted. Ballasts containing "PCB" are not permitted. The allowable total harmonic distortion shall be equal to or less than 10%. Maximum crest factor 1.4. Power factor .97 or greater. Advance, Magnetek, Lutron or Motorola.
   b. Sound Ratings: "A", or the lowest rating available, for the number and types of lamps ballasted. Replace noisy ballasts at no cost to the Owner.
   c. All ballasts shall be high power factor energy efficient type.
   d. Ballasts in refrigerated spaces or outdoors shall be zero (0) degree F. temperature rated.
   e. All ballasts shall be operated without excessive or unusual noise. Noisy or otherwise defective ballasts shall be replaced.
   f. Contractor shall burn in lamps per manufacturer's instructions.
4. Plastic:
   a. Translucent Plastic Components: Translucent plastic shall be made of smooth, white, 100 percent virgin acrylic material.
   b. Plastic Lenses: Lenses shall be uncolored 100 percent virgin acrylic plastic.
5. Finish on Metal Parts:
   a. Steel Reflectors: Unless otherwise specified, the reflector surface finish shall be of synthetic white enamel or polyester powder coating.
   b. Aluminum Reflectors: Reflecting surfaces shall be provided with either a specular or diffuse finish as indicated.
   c. Non_Reflecting Surfaces: Unless otherwise specified, the finish on all non_reflecting exterior surfaces shall be aluminum oxide or aluminum; white, gray or aluminum paint on steel; nickel or chromium plating on copper alloy. Fastening devices shall be nickel, chromium, cadmium or zinc plated.

R. Assistive Listening Systems:
1. Furnish and install Assistive Listening Systems for the use by the hearing impaired as shown on Sheet E-001.

PART 3 - EXECUTION

3.01 - INSPECTION

V. Examine the areas and conditions under which the work of this Section will be installed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 - PREPARATION

A. Drawings
1. The general arrangement and location of wiring and equipment is shown on the electrical drawings and shall be installed in accordance therewith, except for minor changes required by conflict with the work of other trades.
2. Drawings indicate the circuit and panel which supplies each device or fixture. Provide and install conduit and conductors to make all connections from panel to nearest device and from first device to additional devices on same circuit. Conduit size and fill shall satisfy NEC requirements. Two or three different phases supplied by a 3-phase panel may share a single neutral only if circuit positions are adjacent in the panel and the breakers will have to be provided with a handle tie or multi-pole breaker per NEC requirements. Do not exceed 4 #12 or 3 #10 conductors in a 1/2" conduit, 7 #12 or 5 #10 in a 3/4" conduit, or 11 #12 or 9 #10 in a 1" conduit, unless otherwise noted. If more than three current carrying conductors are installed in one conduit, conductor size shall be increased as required per Note 8 to Table 310_16 of the NEC.
3. Drawings indicate the location of all light switches. Where fixtures in a room are controlled by more than one switch, the same lower case letter is drawn adjacent a switch and each fixture controlled by that switch. Where no lower case letter is adjacent to a switch, all fixtures in the room are controlled by that switch. Provide and install conduit and wire from fixture to switch and between fixtures as required to accomplish switching shown. Do not route branch circuit wiring for light fixtures through switch boxes.
4. Control wiring is generally not shown on the plans. Contractor shall refer to control diagrams and provide and install all wiring and raceways required to make all interconnections.
5. All branch circuit wiring No. 12 or larger as noted, all control wiring No. 14 or larger.
6. All dimensions, together with locations of doors, partitions, etc. are to be taken from the Architectural Drawings, verified at site by this Contractor.
7. Verify mounting locations of all devices with the Owner's Representative and Architect prior to rough-in.
8. Maintain "as-constructed" Record Drawings at all times, showing the exact location of concealed conduits and feeders installed under this contract, and actual numbering of each circuit. Upon completion of work and before acceptance can be considered, this Contractor must forward to the Owner's Representative corrected Record Drawings in Autocad format indicating the electrical work as installed.

3.03 - FIELD QUALITY CONTROL

A. All workmanship shall be first class and carried out in a manner satisfactory to and approved by the Architect.
B. This Contractor shall personally, or through an authorized and competent representative, constantly supervise the work and so far as possible keep the same foreman and workmen on the job throughout.

3.04 - INSTALLATION/APPLICATION/ERECTION

A. Cutting, repairing and structural reinforcing for the installation of this work shall be done by the General Contractor in conformance with the Architect's requirements.
B. Provide and place in form work all conduit, inserts and sleeves in time to prevent any delay in the concrete work.

3.05 - ADJUSTING AND CLEANING

A. Main switchboard, panelboards and all other electrical equipment not "finish painted" under other sections shall be touched up where finished surface is marred or damaged. Panelboards in finished areas shall be painted to match wall.
B. All equipment, lighting fixtures, etc., shall be left in clean condition, with all shipping and otherwise unnecessary labels removed therefrom.
C. Excavate and trench as necessary for the electrical installation, and when the work has been installed, inspected and approved, backfill all excavations with imported sandy soil in maximum 8" (eight inch) layers, moisten and machine tamp to 95% compaction, and restore the ground and/or paving or floor surfaces to their original condition. Comply with requirements of Division 2.

3.06 - SCHEDULES

A. Coordination: Coordinate installation of electrical items with the schedule for other work to prevent unnecessary delays in the total Work.

3.07 - TESTING

A. Grounding System:
1. All ground connections shall be checked and the entire system shall be checked for continuity. The resistance of the ground system shall be measured using a 3 point fall_of_potential method. The maximum ground resistance shall be three ohms. If the measured ground resistance exceeds three ohms, additional ground rods shall be installed until a value of three ohms or less is obtained.
2. Ground tests shall meet the requirements of the National Electric Code.

R. Lighting Systems:
1. The interior and exterior lighting systems shall be checked for proper local controls and operation of entire installation, including the operation of the low voltage lighting control system.

C. Power Distribution System:
1. Tests: Test distribution boards,and panelboards for grounds and shorts with mains disconnected from feeders, branch circuits connected and circuit breakers closed, all fixtures in place and permanently connected and grounding jumper to neutral lifted and with all wall switches closed.
2. Test each individual circuit at each panelboard with equipment connected for proper operation. Inspect the interior of each panel.
3. Check verification of color coding, tagging, numbering, and splice make up.
4. Verify that all conductors associated with each circuit are in same conduit.
5. Demonstrate that all lights, jacks, switches, outlets,and equipment operate satisfactorily and as called for.

3.08 PUTTY-PAD INSTALLATION

A. At walls between classrooms where device boxes are located back to back, seal around all electrical boxes with fire rated putty-pads or equivalent.

WIRING NOTES

1. IF MORE THEN 3 CURRENT CARRYING CONDUCTORS ARE INSTALLED PER RACEWAY. CONTRACTOR SHALL DEMONSTRATE COMPLIANCE WITH CEC TABLE 310.15(B) (3) (a).
   1.1. MAX (9) #12 AWG FOR 20A CIRCUITS.
   1.2. MAX (6) #10 AWG FOR 30A CIRCUITS.
   1.3. MAX (6) #8 AWG FOR 40A CIRCUITS.
2. FOR BRANCH CIRCUITS DO NOT EXCEED CEC CONDUIT FILL REQUIREMENTS, PROVIDE MAX.
   2.1. MAX (9) #12 AWG THHN PER 3/4"EMT CONDUIT.
   2.2. MAX (6) #10 AWG THHN PER 3/4" EMT CONDUIT.
   2.3. MAX (4) #8 AWG THHN PER 3/4" EMT CONDUIT.
   2.4. MAX (3) #6 AWG THHN PER 3/4"EMT CONDUIT.
   2.5. MAX (2) #4 AWG THHN PER 3/4"EMT CONDUIT.
   2.6. MAX (3) #4 AWG THHN PER 1" EMT CONDUIT.
   2.6. MAX (2) #2 AWG THHN PER 1" EMT CONDUIT.
   2.7. MAX (3) #2 AWG THHN PER 1 1/4" EMT CONDUIT.
3. FOR 20A CIRCUITS PROVIDE MINIMUM:
   3.1. UP TO 75FT - #12 AWG
   3.2. 75FT TO 150FT - #10 AWG
   3.3. 150FT TO 250FT - #8 AWG
4. ADHERE TO VOLTAGE DROP LIMITS AS SHOWN BELOW:

SUMMARY OF VOLTAGE DROP LIMITS

CIRCUIT VOLTS (V)	2% VOLTAGE DROP (V)	3% VOLTAGE DROP (V)	TOTAL LOSS (V)
120	2.4	3.6	6.0
208	4.2	6.2	10.4
240	4.8	7.2	12.0
277	5.5	8.3	13.9
480	9.6	14.4	24.0

VOLTAGE DROP FOR COMMON COPPER WIRE GAUGES AND CURRENT LOADS

WIRE	CIRCUIT AMPS	MAXIMUM FEEDER LENGTH					MAXIMUM BRANCH CIRCUIT LENGTH				
		120	208	240	277	480	120	208	240	277	480
14	12	39	67	78	90	156	58	101	117	135	233
12	16	46	80	93	107	185	69	120	139	160	278
10	24	48	83	96	111	192	72	125	144	166	288
8	32	57	99	115	132	229	86	149	172	199	344
6	40	73	127	146	169	293	110	190	220	253	439
4	52	89	154	178	206	356	134	232	267	309	535
2	72	103	178	206	237	412	154	267	309	356	617
0	96	123	212	245	283	490	184	319	368	424	735
00	108	137	238	274	317	549	206	357	412	475	823
0000	144	163	283	327	377	654	245	425	490	566	980
250 (kcmil)	164	170	294	340	392	679	255	441	509	588	1019
300	184	181	314	362	418	725	272	471	543	627	1087
350	200	195	338	390	450	779	292	506	584	675	1169
500	248	224	388	448	517	896	336	582	672	776	1344

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COURTNEY A. CRAWFORD — No. E-13935 — EXP. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA
09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

ELECTRICAL SPECIFICATIONS

E-102

RF SURVEY AND EMERGENCY RADIO COMMUNICATION ENHANCEMENT SYSTEM

SECTION 285500 - RF SURVEY FOR EMERGENCY RESPONDER RADIO ANTENNA/REPEATER BDA SYSTEM

PART 1 GENERAL

1.01 SUMMARY

A. The purpose of this specification is to establish the requirements and standards for initial survey for public safety radio signal strength per NFPA and IFC

B. Survey should be performed after the building is substantially completed, and prior to start of installation of electrical wiring.

C. Conduct a survey using a RF Spectrum Analyzer, a calibrated, system-compatible radio or another suitable instrument with traceable certificate of calibration to analyze the RF signal strength of Emergency Responder Radio Signal into the building and determine if amplification of the signal is required. Both inbound and outbound signal strength shall be determined, measured, calculated and documented as required by code.

1.02 SURVEY CRITERIA IF REQUIRED

A. The required Public Safety Radio Signal Level inside the Owner's facility must be determined per code, ordinance or AHJ

B. Survey shall be performed by an FCC licensed technician holding a current GROL license. NOTIFIER have distributors that meet these requirements.

1.03 REGULATIONS

A. Codes, regulations and standards referenced in the Section are:
1. NFPA 1 - The National Fire Code (including Annex O from 2009)
2. NFPA 70 - The National Electrical Code
3. IFC 510- Emergency Responder Radio Coverage
4. NFPA 101, Life Safety Code, the Ohio Building Code, and Local Code and Building Authority requirements.
5. NFPA 72 National Fire Alarm Code
6. FCC 47 CFR Private Land Mobile Radio
7. 90.219 Services-Use of Signal Boosters
8. ICC International Fire Code, Code and Commentary
9. Local or State Promulgated Fire Code
10. ADA "Americans with Disabilities Act"
11. FCC's OET 65 Standards "Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields"
12. FCC Rules Part 22, Part 90 and Part 101
13. NFPA 1221 2016 Edition
14. International Building Code 2012 / 2015 / 2018
15. UL 2524

1.04 DEFINITIONS

A. Definitions:
1. Bi-Directional Amplifier BDA: Device used to amplify band-selective or multi-band RF signals in the uplink, to the base station and in the downlink from the base station to subscriber devices for enhanced signals and improved coverage.
2. Emergency Responder Radio Coverage System: A two-way radio communication system installed to assure the effective operation of radio communications systems for fire, emergency medical services, or law enforcement agencies within a building or structure. A system used by firefighters, police, and other emergency services personnel.
3. FCC: Federal Communications Commission
4. OET 65 Standards: FCC's Bulletin 65 provides Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
5. Public Safety/First Responder: Public Safety or First Responder agencies that are charged with the responsibility of responding to emergency situations. These include, but are not limited to law enforcement departments, fire departments, and emergency medical companies.
6. RSSI: Received signal strength indicator RSSI is a measurement of the power present in a received radio signal.
7. BER: Bit Error Rate is the number of bit errors per unit time
8. GROL- FCC General Radio Operators License
9. ERRCES- Emergency Responder Radio Coverage Enhancement System
10. DAS-Distributed Antenna System

1.05 EXECUTION

A. Testing Procedures
1. Minimum Signal Strength: For testing system signal strength and quality, the testing shall be based on the. -95dBm nominal signal at 100%.
2. Spectrum Analyzer or Calibrated Handheld Radio shall be used as basis for signal measurements or other method as approved by AHJ.
3. Testing should be based on a minimum of 20 grid locations per floor OR maximum of 1600 SQ ft. areas if the floor exceeds 32,000 Sq. Ft. Also, testing should include all critical areas per NFPA. See 1.02 of this specification and NFPA 72 2013 or NFPA 1221 2016. OR per any method determined by the AHJ, local code or ordinance.
4. A minimum signal strength of -95 dBm shall be provided throughout the coverage area for both uplink and downlink by the Local Fire Department.
   a. RSSI measurement only.

1.06 SURVEY SUBMITTALS

A. Submit testing data for each level of the building.
1. An RF measurement drawing of each floor of the building which indicates relative RF field strength for each frequency band of interest must be submitted to the AHJ.
2. The drawing should indicate clearly the areas that have passed or failed based on the above parameters.

END OF SECTION 285500

SECTION 285000 - EMERGENCY RADIO COMMUNICATION ENHANCEMENT SYSTEM, NOTIFIER or EQUAL (BDA SYSTEM)

1.1 EMERGENCY RADIO COMMUNICATION ENHANCEMENT SYSTEM (BDA SYSTEM)

A. General
1. Provide an in-building radio signal amplification system to provide complete coverage in the building for the public safety agencies as required by the local AHJ (Authority Having Jurisdiction). System users shall receive and transmit radio signals from their portable radio units within the building. This shall be accomplished utilizing the following components:
   a. Bi Directional Amplifiers (Signal Boosters)
   b. Coaxial Cable
   c. Antennas
   d. Cable taps
   e. Connectors
   f. Power dividers
   g. Other components and interconnecting circuitry as required

2. The system shall comply with the requirements of UL2524 In-building 2-Way Emergency Radio Communication Enhancement Systems, NFPA 72 2013 Edition, NFPA 1221 2016 Edition and IFC 2015, as referenced.

   The entire system shall meet the requirements of the local Fire Department, and all other agencies and authorities having jurisdiction (AHJ).

3. The work in this section shall include the responsibility for all permit requirements with the AHJ. Where filings require engineer's signature, documents shall be submitted for his review and signature. This responsibility shall include furnishing of required quantities of floor plans, descriptive notes and/or specifications, wiring diagrams, shop drawings and amendment forms.

4. Early completion of the in-building emergency radio communication enhancement system will be required as to permit a Certificate of Occupancy to be obtained in a timely manner

5. Any permits necessary for the installation of the work shall be obtained prior to the commencement of the work. All permit costs and inspection fees shall be included

6. The in-building emergency radio communication enhancement system shall use a UL2524, NFPA 72, NFPA 1221 and IFC 2018 compliant signal booster.

B. Design requirements

1. In-building emergency radio communication enhancement systems for emergency responders are an integral component of the life safety equipment of a building or structure. The primary function is to provide reliable emergency responder communications at the required signal strength within the specified areas.

2. Critical Areas such as emergency command center, fire pump room, exit stairs, exit passageways, elevator lobbies, standpipe cabinets, sprinkler sectional valve locations and similar critical areas shall be provided with 100% floor area radio coverage.

3. General building areas shall be provided with 95% radio coverage, or as specified by AHJ.

4. The In-building emergency radio communication enhancement systems must provide the following signal strengths:
   a. Downlink - Minimum signal strength of -95 dBm throughout the coverage area.
   b. Uplink - Minimum signal strength of -95 dBm received at the AHJ Radio System.
   c. OR As otherwise required by the AHJ

5. The system shall be complete with all components and wiring required for compliance with all applicable codes and regulations, and for its operations described hereinafter.

6. An approved manufacturer or a qualified and approved vendor shall supply, test and determine locations of components which are required for proper operation as well as to supply, install, test and certify the performance of the complete system. Vendor qualifications must be acceptable to the AHJ.

7. Design shall include iBwave software-simulated radio propagation modeling with heat maps showing predicted signal coverage levels within the building. The iBWave design shall be done by iBWave certified personnel.

8. All tests shall be conducted, documented, and signed by a person in possession of an FCC General Radio Telephone Operators License. All testing personnel shall be certified and authorized by the signal booster manufacturer in the installation and operation of their equipment. Personnel qualifications must be acceptable to the AHJ.

9. The system design shall be based on the NOTIFIER line of Public Safety Signal Boosters UL2524, NFPA 72, NFPA 1221, IFC and FCC certified to establish standards of quality for materials and performance, or shall be based on the preferred equipment of the local AHJ. The naming of a specific manufacturer or a catalog number does not waiver any requirement or performance of individual components described in the specifications.

10. Assembly and installation of all components of the Emergency Responder Radio Communication Enhancement System shall comply with all applicable sections of the National Electrical Code.

11. Survivability from attack by fire shall meet requirements of NFPA 72, NFPA 1221, IFC or as required by the local jurisdiction.

12. The system must comply with all applicable sections of the FCC rules. Signal booster shall have FCC certification prior to installation.

13. Antenna isolation shall be maintained between the donor antenna and all inside antennas (D.A.S.) to a minimum of 20dB under all operating conditions

C. Technical Specifications and Performance Requirements

10. The system specified shall be based upon NOTIFIER line of Public Safety UL2524, NFPA72, NFPA 1221, IFC compliant signal boosters, or equipment as specified by the local AHJ. Prior to construction, the Contractor shall coordinate equipment and requirements with the local AHJ.

11. The signal booster shall be a Class B Public Safety type as designated by the FCC or as required by the AHJ.

12. The secondary power supplies, battery chargers and system monitoring shall be fully compliant with NFPA 72, NFPA 1221 and IFC. The signal booster shall have both the primary and the secondary power supplies within a waterproof, type-4 approved enclosure.

13. All signal boosters and other active system components must have FCC certification prior to installation. The equipment FCC ID must be shown on the product datasheets and technical submittals. The ID must also be displayed on the product as required by the FCC.

14. The signal booster shall be pre-set by the equipment manufacturer for the frequencies specified by the AHJ. Field tuning of RF filters and duplexers is not allowed.

15. UHF and VHF signal boosters shall be band selective type with a maximum 3dB channel bandwidth of 200KHz (Fc +/- 100KHz) per band. Non-selective wide-band signal boosters shall not be accepted, unless required to cover multiple channels within the same band.

16. Signal Boosters shall have oscillation suppression circuitry to protect the public safety radio system in case of system malfunction or other causes. The oscillation suppression circuit shall not disable the system operation. Systems that automatically disable the signal booster upon oscillation detection shall not be allowed.

17. Signal Boosters shall have uplink noise suppression function to eliminate uplink noise while in standby (i.e. no radio transmission from within a building). Systems that produce any measurable level of uplink noise while in standby shall not be allowed.

18. Signal Booster gain shall be rated at minimum of 80dB and the gain shall be adjustable in a minimum of 30dB range. System gain shall be set and documented at the time of the final system test.

19. Maximum Propagation delay of the signal booster system shall be 14µs (microseconds) or as specified by AHJ.

20. The signal booster system shall include built-in automatic supervision of malfunctions of the signal booster and battery system as per NFPA 1221 NFPA 72 and IFC. Non-OEM equipment add-ons and modifications to comply with this specification shall not be allowed.

21. A dedicated supervised monitoring panel shall be provided within the emergency command center next to the fire alarm panel / annunciator or other location as designated by AHJ to annunciate the status of all signal booster locations. The monitoring panel shall provide visual and labeled indication of the following for each signal booster:
   a. Normal AC power
   b. Signal booster trouble
   c. Antenna Failure
   d. Loss of normal AC power
   e. Failure of battery charger
   f. Low battery capacity

22. If signal booster is supervised by a NOTIFIER fire alarm panel, the signal booster system shall include a compatible, OEM built-in NOTIFIER addressable monitoring module If signal booster is supervised by other brand FACP, the signal booster shall be Honeywell branded model with universal normally open relays for connection to external monitoring modules.

23. External filters, duplexers, power supplies or other non-OEM additions or modifications of the original equipment shall not be allowed. All duplexers shall be built-in and FCC certified with the signal booster as a complete and fully integrated FCC-certified and ULlisted unit.

24. All signal booster components shall be contained in a type-4 approved waterproof enclosure. All enclosures shall be painted red with external labeling as required by the AHJ.

D. Installation Requirements

1. Installation of all components of the Emergency Responder Communication Enhancement System shall comply with all applicable sections of the National Electrical Code NFPA-70, NFPA-72, NFPA 1221, IFC or as required by the local AHJ.

2. At least 2 independent and reliable power supplies shall be provided as specified in NFPA 72, NFPA 1221 and IFC.

3. The primary power source shall be supplied from a dedicated twenty (20) ampere branch circuit and comply with NFPA-70 National Electrical Code, NFPA 72 and NFPA 1221 2016 edition.

   The signal booster shall be equipped with a secondary source of power. The secondary source of power shall be a battery system with a dedicated battery charger powered by a separate, dedicated twenty (20) ampere branch circuit. The secondary power supply shall power on automatically when the primary power source is lost. The secondary source of power shall be capable of operating the emergency responder radio coverage enhancement system for a period of at least 24 hours. The battery system shall automatically charge in the presence of external power input. Battery charger and all other electronic components must be fully enclosed in a waterproof Type-4 approved enclosure. Batteries shall be enclosed in a separate, vented Type-3R approved enclosure. External UPS (Uninterruptable Power Supplies) are not acceptable..

4. RF Coaxial Cable shall be a listed, CMP plenum. Non-plenum cable can be used when installed in a metallic raceway. The cable classification shall be clearly marked on the outer surface of the cable regular intervals.

E. Acceptance and Test Procedures

1. Acceptance testing for an in-building radio system is required upon completion of installation.

2. The coverage testing shall be done in accordance with NFPA 72, NFPA 1221, IFC and as required by the local AHJ

3. All tests shall be conducted, documented, and signed by a person in possession of a current FCC General Radio Operator License.

4. All test records along with system diagrams, iBWave design, equipment specifications, user manuals, RF link budget calculations, battery backup calculation and other design data shall be submitted upon completion of the project, and as required by the AHJ.

END OF SECTION 285000

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PLOT DATE: 09-29-22

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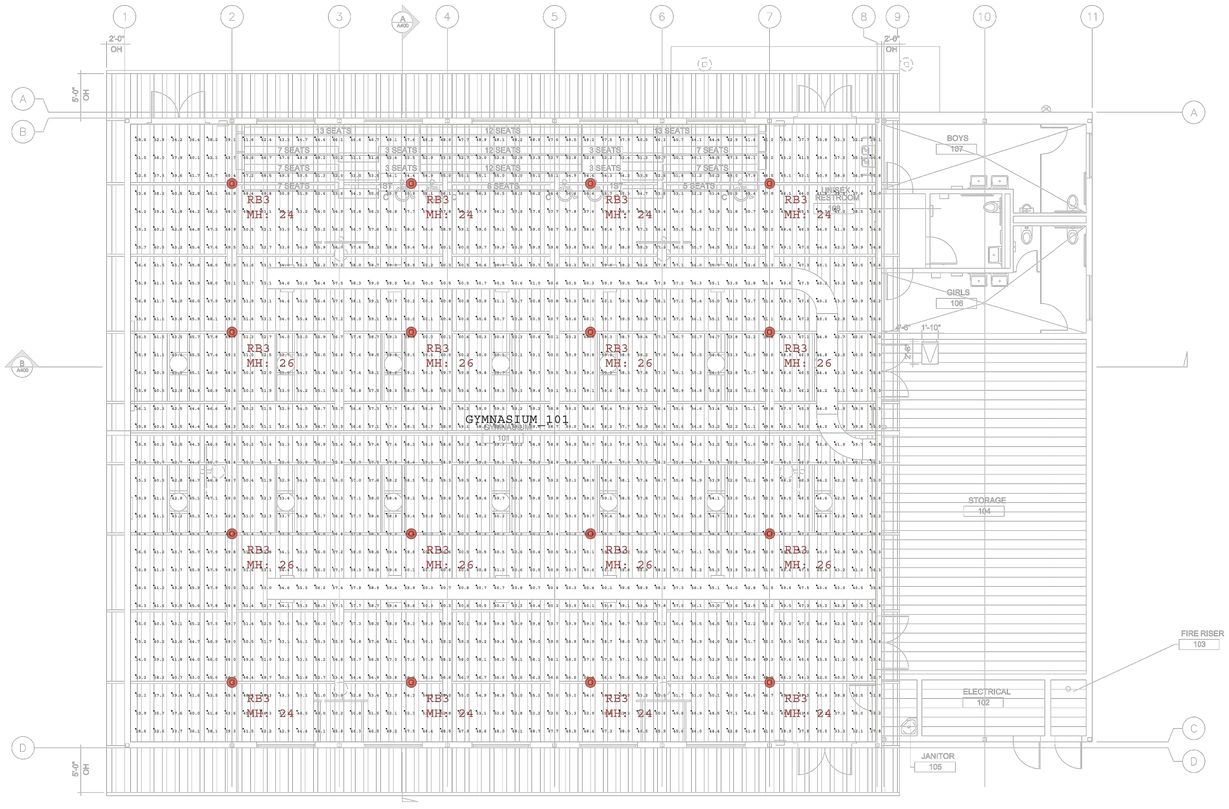
STATE OF CALIFORNIA

09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

ELECTRICAL SPECIFICATIONS

E-103



Luminaire Schedule												
Symbol	Qty	Label	Arrangement	Lum. Lumens	Lum. Watts	LLD	LDD	BF	LLF	[MANUFAC]	Description	Filename
	16	RB3	Single	27120	197.1	1.000	0.900	1.000	0.882	Industrial Lighting Products Inc	RB3-25L-U-40	RB3-25L-U-50.ies

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
GYMNASIUM_101_Floor	Illuminance	Fc	51.64	61.1	27.8	1.86	2.20

Room Summary			
Label	Type	Wall Ht.	Surface Reflectance (Ceiling, Walls, Floor)
GYMNASIUM_101	Rect-Gable	27.5	(80, 50, 20)

1 PHOTOMETRIC PLAN - GYM

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

PLAN NORTH

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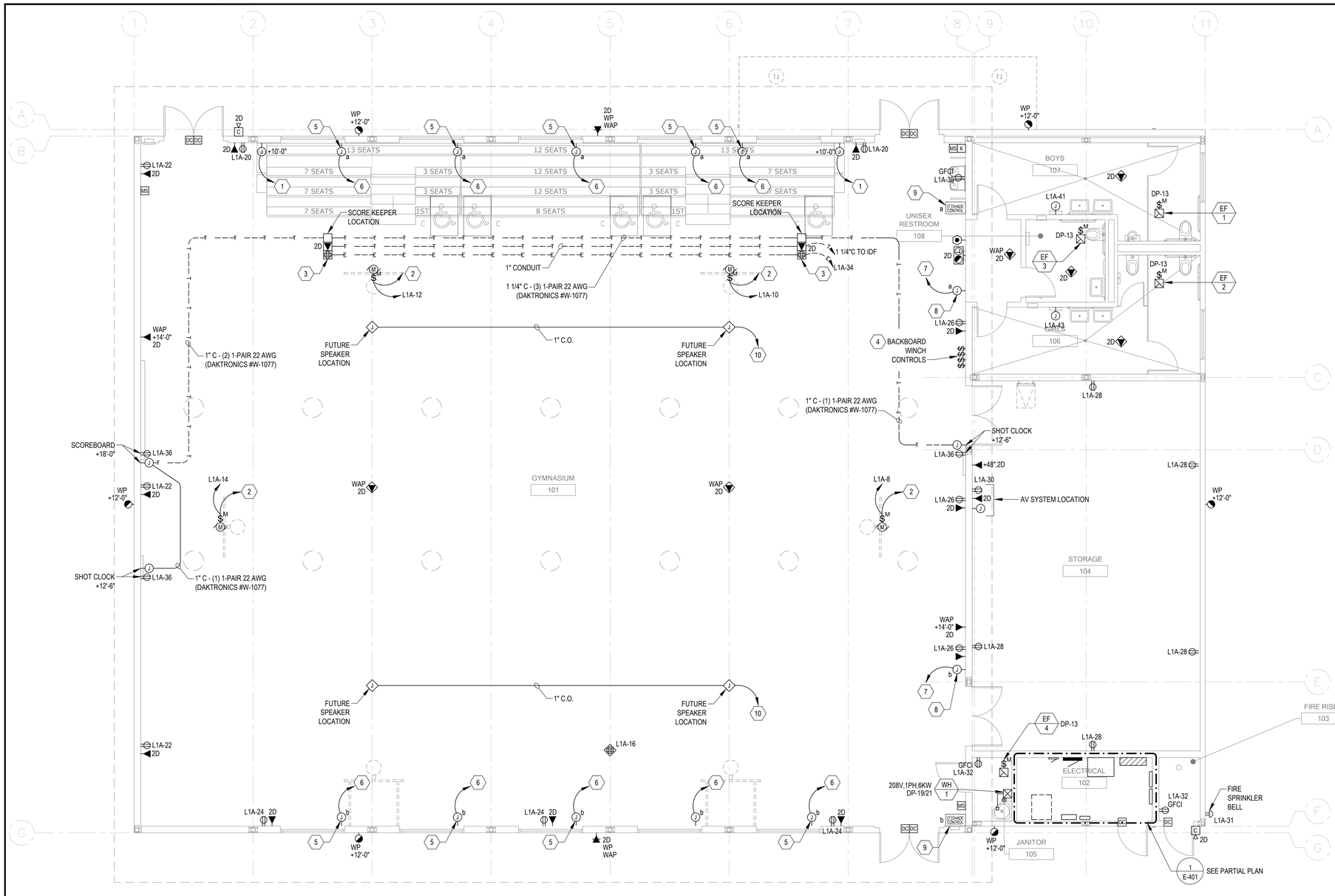
STATE OF CALIFORNIA

09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

PHOTOMETRIC PLAN

E-104



1 ELECTRICAL PLAN

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

KEYED NOTES - ELECTRICAL (X)

1. PROVIDE EMPTY 4SQ-DEEP JUNCTION BOX WITH BLANK COVER PLATE FOR FUTURE MOTORIZED BLEACHERS. PROVIDE 1" C.O. TO PANELBOARD FOR FUTURE CONDUCTORS.
2. 3/4" CONDUIT AND CONDUCTORS TO BACKSTOP WINCH CONTROL SWITCH. VERIFY EXACT REQUIREMENTS WITH BACKSTOP VENDOR PRIOR TO ROUGH-IN.
3. LEGRAND RFB11 FLOORBOX (OR APPROVED EQUAL).
4. PROVIDE LEVITON #1257-L WINCH KEY SWITCHES. PROVIDE LOCKABLE POLYCARBONATE PROTECTIVE COVER FOR BACKBOARD WINCH CONTROL SWITCHES TO PREVENT UNAUTHORIZED ACCESS.
5. PROVIDE JUNCTION BOX WITH BLANK COVER PLATE AT WINDOW FOR FUTURE MOTORIZED SHADE CONNECTIONS.
6. PROVIDE 3/4" CONDUIT FROM WINDOW JUNCTION BOX TO FUTURE SHADE CONTROLLER LOCATION.
7. PROVIDE 3/4" CONDUIT FROM FUTURE MOTORIZED SHADE SWITCH LOCATION TO FUTURE CONTROLLER LOCATION.
8. PROVIDE JUNCTION BOX AT +48" AFF WITH BLANK COVER PLATE FOR FUTURE MOTORIZED SHADE CONTROL SWITCH LOCATION.
9. LOCATION OF FUTURE MOTORIZED SHADE CONTROLLER UP HIGH ON WALL.
10. 1" C.O. TO JUNCTION BOX AT AV SYSTEM LOCATION IN STORAGE ROOM 104 FOR FUTURE SPEAKER CABLING.

SHEET NOTES - ELECTRICAL

A. ALL EXTERIOR MOUNTED DEVICES SHALL BE PROVIDED WITH WP OR NEMA 3R RATING.

B. PROVIDE HUB TYPE FITTINGS ON EXTERIOR CONDUITS.

C. ALL EMPTY BOXES SHALL BE PROVIDED WITH BLANK COVER PLATES.

D. VERIFY COLOR OF ALL DEVICES AND COVER PLATES WITH THE OWNER'S REPRESENTATIVE PRIOR TO ORDERING.

E. ALL EXTERIOR COVER PLATES SHALL BE STAINLESS STEEL.

F. RECEPTACLES PROVIDED AT COUNTER TOPS SHALL BE LOCATED AT +6" ABOVE BACK SPLASH. VERIFY EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.

G. PROVIDE DUPLEX MECHANICAL EQUIPMENT MAINTENANCE RECEPTACLE WITHIN 25-FEET OF ALL EQUIPMENT TO BE SERVICED. LOCATE ON THE SAME LEVEL AS EQUIPMENT, INCLUDING ALL ATTICS, BASEMENTS AND CRAWL SPACES. IF LOCATED OUTDOOR OR BELOW GRADE GFCI PROTECTION IS REQUIRED.

H. ALL ELECTRICAL CONSTRUCTION SHALL BE COORDINATED TO MAINTAIN WALL AND CEILING RATING INDICATED ON THE ARCHITECTURAL DOCUMENTS.

I. PROVIDE TAMPER-RESISTANT RECEPTACLES ON ALL 15-20A 125-250V NON LOCKING TYPE RECEPTACLES IN PRESCHOOLS AND EDUCATION FACILITIES PER CEC ARTICLE 406.12.

J. WORKING CLEARANCES FOR PANELBOARDS AND DISTRIBUTION BOARDS (NOT SERVICE ENTRANCE) UNDER 600V SHALL BE AS FOLLOWS:
FOR 208V, 3P, 4W SYSTEMS MAINTAIN A MINIMUM 36-INCHES IN FRONT OF EQUIPMENT.
FOR 240V OR 480V SYSTEMS MAINTAIN A MINIMUM OF 48-INCHES ON FRONT OF EQUIPMENT.
PROVIDE MINIMUM 6'-6" HEADROOM AT ALL LOCATIONS.

L. VERIFY POWER AND LOW VOLTAGE DEVICE LOCATIONS WITH THE DISTRICT PRIOR TO ROUGH-IN.

M. PROVIDE ROUGH-IN BOXES & CONDUITS FOR FIRE ALARM DEVICES. SEE FIRE ALARM DRAWINGS FOR REQUIREMENTS.

N. SEE SHEET M002 FOR CONTROL NOTES. PROVIDE CONDUITS FOR CONTROL WIRING WHERE REQUIRED TO FACILITATE PULLING OF LOW VOLTAGE CABLES.

O. FOR GROUND ROD DETAIL, SEE DETAIL 3/E-512.

P. FOR CONDUIT SWEEP REQUIREMENTS, SEE DETAIL 2/E-512.

Q. FOR CONDUIT STUB-OUT TRENCH REQUIREMENTS, SEE DETAIL 1/E-512.

R. FOR VOICE/DATA BOX REQUIREMENTS, SEE DETAIL 2/E-513.

S. FOR GROUND BAR AT IDF, SEE DETAIL 1/E-513.

T. FOR SURFACE PANELBOARD MOUNTING, SEE DETAIL 4/E-512.

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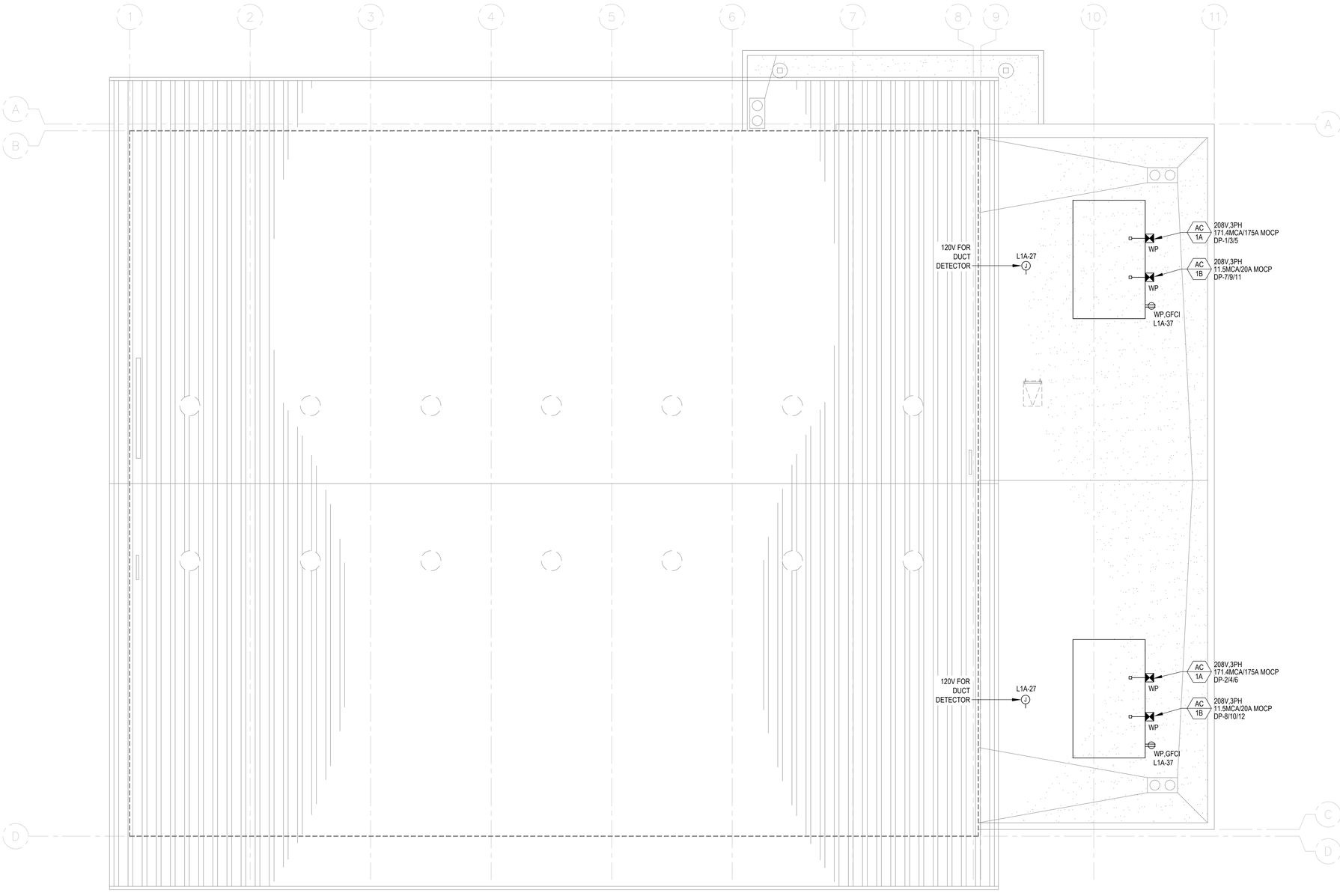
REGISTERED PROFESSIONAL ENGINEER COURTNEY A. CROSS No. E-18025 EXP. 12-31-23 ELECTRICAL STATE OF CALIFORNIA

09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

ELECTRICAL PLAN

E-201



1 ELECTRICAL ROOF PLAN

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

PLAN NORTH

SHEET NOTES - ROOF ELECTRICAL

A. ALL ROOF CONDUITS SHALL BE MOUNTED ON COOPER DURA-BLOK OR EQUAL AT MAX 10FT ON CENTER.

B. ALL ROOF MOUNTED CONDUITS SHALL BE IMC OR RGS WITH WATERTIGHT FITTINGS.

C. ALL ELECTRICAL ROOF PENETRATIONS SHALL BE PROVIDED COMPLETE, COORDINATED WITH ALL OTHER DISCIPLINES AND WATER TIGHT. REFER TO THE ARCHITECTURAL DRAWING AND SPECIFICATIONS FOR REQUIREMENTS.

D. VERIFY EXACT LOCATIONS OF DIVISION 23 EQUIPMENT WITH THE DIVISION 23 CONTRACTOR PRIOR TO ROUGH-IN.

E. LOCATIONS OF DIVISION 23 EQUIPMENT IS DIAGRAMMATIC. THE DIVISION 26 CONTRACTOR SHALL VERIFY AND COORDINATE EXACT LOCATIONS WITH ALL OTHER DISCIPLINES PRIOR TO COMMENCING ANY WORK.

F. ALL EXTERIOR MOUNTED DEVICES SHALL BE PROVIDED WITH WP OR NEMA 3R RATING.

G. PROVIDE HUB TYPE FITTINGS ON EXTERIOR CONDUITS.

H. ALL EMPTY BOXES SHALL BE PROVIDED WITH BLANK WP STAINLESS STEEL COVER PLATES.

I. ALL ELECTRICAL CONSTRUCTION SHALL BE COORDINATED AND MAINTAIN WALL AND CEILING RATING INDICATED ON THE ARCHITECTURAL DOCUMENTS.

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

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DRAWN BY: , PLOT DATE: 09-29-22
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PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

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REGISTERED PROFESSIONAL ENGINEER
COURTNEY A. CRAIG
No. 12-31-23
ELECTRICAL
STATE OF CALIFORNIA

09-29-22

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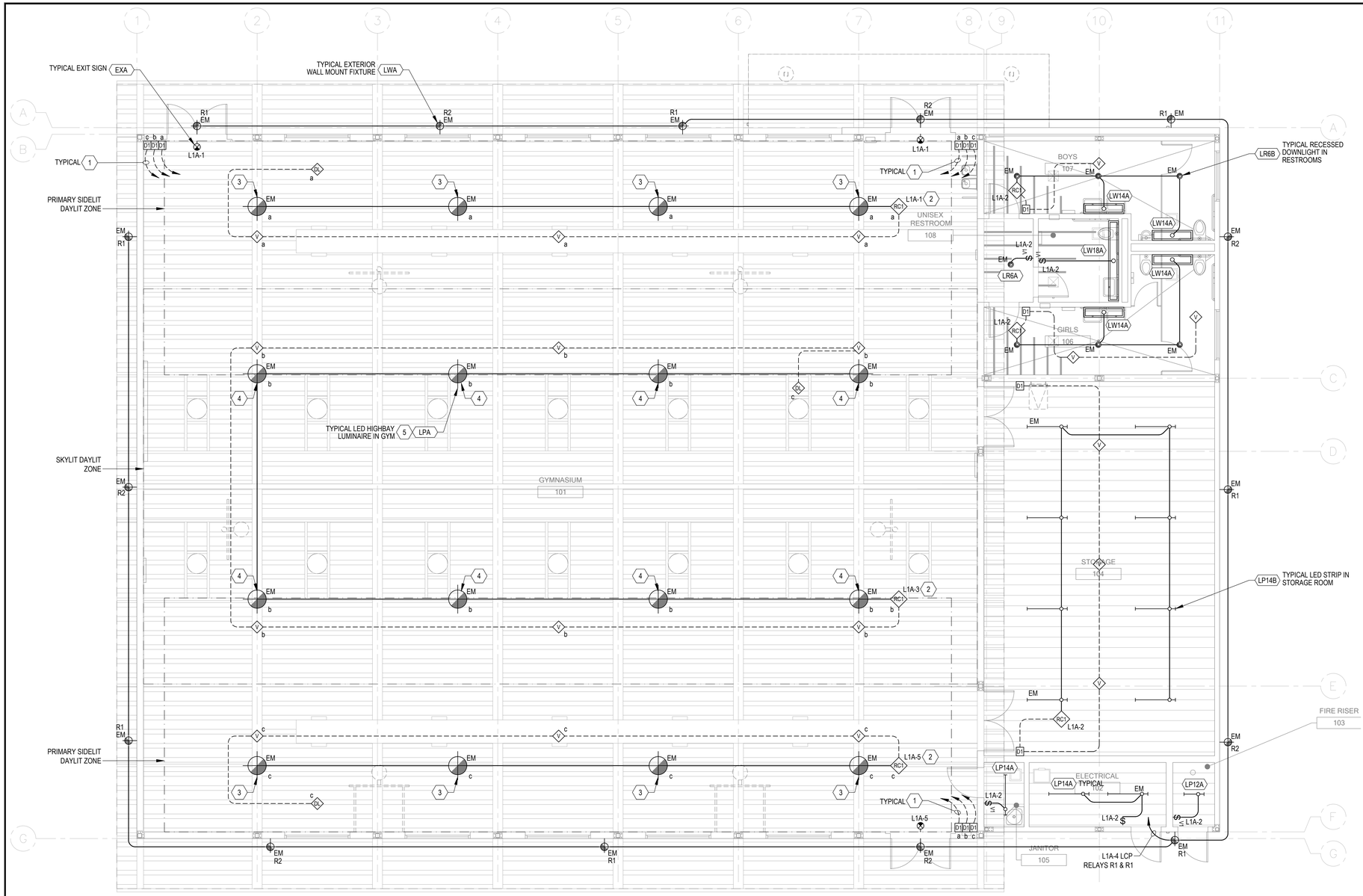
ELECTRICAL ROOF PLAN

E-202



1 LIGHTING PLAN

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

KEYED NOTES -LIGHTING (X)

1. LOW VOLTAGE CABLE TO RESPECTIVE ROOM CONTROLLER.
2. CONNECT VIA 90-MINUTE EMERGENCY INVERTER.
3. MOUNT AT +24'-0" AFF TO BOTTOM OF FIXTURE.
4. MOUNT AT +26'-0" AFF TO BOTTOM OF FIXTURE.
5. LIGHT FIXTURE SHALL BE ABLE TO SWING 45 DEGREES WITHOUT OBSTRUCTION.

SHEET NOTES - LIGHTING

A. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR COORDINATED CEILING INFORMATION. VERIFY THE CEILING TYPES IN ALL SPACES WITH THE ARCHITECTURAL DRAWINGS AND COORDINATE WITH THE LIGHT FIXTURES TO BE INSTALLED. MINOR ADJUSTMENTS IN LOCATION MAY BE REQUIRED BY THE CONTRACTOR AND PROVIDED AT NO ADDITIONAL COST TO THE OWNER AS DIRECTED BY THE OWNER'S REPRESENTATIVE. COORDINATE INSTALLATION OF ALL LIGHT FIXTURES WITH MECHANICAL SYSTEMS AND FIRE SPRINKLER HEADS AND PIPING PRIOR TO THE INSTALLATION OF ANY SYSTEMS.

B. THE FIXTURES SHALL BE PROVIDED WITH ALL NECESSARY HARDWARE, CLIPS, TRIM, ETC. FOR A COMPLETE AND "FINISHED" INSTALLATION. PROVIDE ALL NECESSARY SUPPORTS.

C. LUMINARIES RECESSED INTO INSULATED CEILINGS SHALL BE RATED FOR INSULATION CONTACT ("IC-RATED").

D. ALL LIGHTING CONSTRUCTION SHALL BE COORDINATED TO MAINTAIN WALL AND CEILING RATING INDICATED ON THE ARCHITECTURAL DOCUMENTS.

E. ALL LOW VOLTAGE (0-50 volt) LIGHTING CONTROL WIRING SHALL BE INSTALLED IN CONDUIT.

F. CENTER ALL EXIT SIGNS IN DOOR WAYS WITH BOTTOM OF SIGN AT +2" ABOVE DOOR FRAME U.O.N.

G. PROVIDE COMMON FACE PLATE FOR ALL SWITCHES IN GANGED GROUPS. INDIVIDUAL FACE PLATES FOR GROUPS OF SWITCHES WILL NOT BE ACCEPTED.

H. VERIFY ROUGH-IN LOCATIONS OF ALL DEVICES WITH THE OWNER'S REPRESENTATIVE. DO NOT PULL ANY CONDUCTORS OR CABLE UNTIL THE DEVICE LOCATIONS HAVE BEEN REVIEWED AND ACCEPTED.

I. BATTERY BALLAST FIXTURE AS INDICATED WITH "EM" DESIGNATION SHALL BE CONNECTED FOR SWITCHED OPERATION TO PROVIDE EGRESS ILLUMINATION DURING POWER OUTAGE. PROVIDE SWITCHED AND UN-SWITCHED HOT CIRCUIT TO FIXTURE AS RECOMMENDED BY THE BALLAST MANUFACTURER. PROVIDE REMOTE TEST SWITCH FOR FIXTURES WITH BATTERY BALLAST(S).

J. PROVIDE SWITCHED LED MAINTENANCE LIGHT IN ALL ACCESSIBLE ATTICS, BASEMENTS, AND CRAWLSPACES. PROVIDE WITH SWITCH LOCATED AT ACCESSIBLE ENTRY LOCATION.

K. EXTERIOR LIGHTING MOUNTED UNDER 24FT AND OVER 40W SHALL BE CONTROLLED BY A MOTION SENSOR AND SHALL REDUCE LIGHTING TO 50% WHEN UNOCCUPIED.

L. ALL EXTERIOR LIGHTING SHALL BE SET TO DUSK TO DAWN WITH ASTRONOMICAL TIMECLOCK CONTROL.

M. SEE DETAIL 4/E-511 FOR TYPICAL ROOM LIGHTING CONTROLS BY WATTSTOPPER. A NETWORKED SYSTEM SHALL BE PROVIDED THAT ALLOWS FOR DEMAND RESPONSIVE LIGHTING.

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PIEDMONT MIDDLE SCHOOL
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Berryessa Union School District

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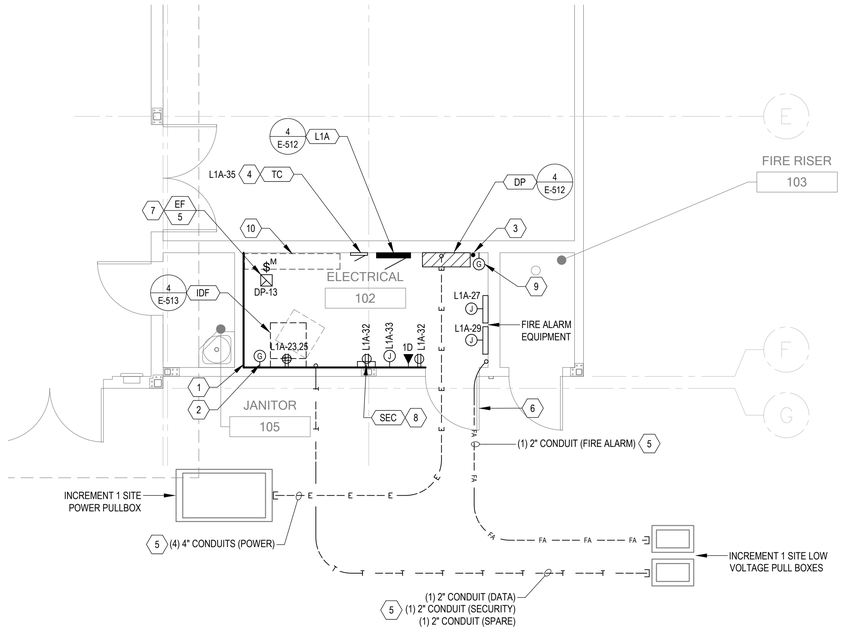
COURTNEY A. CHRISTENSEN — No. E-13905 — EXP. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA
09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

LIGHTING PLAN

E-301



1 PARTIAL PLAN - ELECTRICAL ROOM

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

PLAN NORTH

SHEET NOTES - ENLARGED PLANS

A. REFER TO SHEET E-201 FOR SHEET NOTES THAT APPLY TO THIS SHEET.

KEYED NOTES - ENLARGED PLANS (X)

1. PROVIDE 3/4"x48"x96" FIRE TREATED PLYWOOD BACKBOARD. ATTACH TO EACH STUD WITH #10 x 2" STS AT 6" CENTERS THE FULL HEIGHT OF PLYWOOD. PROVIDE STUD AT VERTICAL EDGES AND SPACED MAXIMUM 16" ON CENTER.
2. PROVIDE IDF GROUND BAR WITH #6 AWG CU TO GROUND BAR AT DISTRIBUTION PANEL.
3. PROVIDE (1) 2" C.O. TO UNDERSIDE OF ROOF STRUCTURE FOR FUTURE SOLAR.
4. PROVIDE 2-CHANNEL ASTRONOMIC TIMECLOCK FOR CONTROL OF EXTERIOR LIGHTING.
5. STUB CONDUITS OUT 15'-0" FROM BUILDING TOWARDS SITE PULL BOXES. COORDINATE WITH INCREMENT 1 SITE DRAWINGS AND CONTRACTOR.
6. ELECTRICAL ROOM MAIN PANEL IS RATED FOR 800-AMPERES, THEREFORE, PANIC HARDWARE IS REQUIRED AT THE ELECTRICAL ROOM DOOR.
7. ROUTE BRANCH CIRCUIT THROUGH LINE VOLTAGE THERMOSTAT LOCATED NEAR THE DOOR FOR CONTROL.
8. SECURITY SUB PANEL.
9. PROVIDE GROUND BAR AT DISTRIBUTION PANEL TO TIE ALL GROUNDS TOGETHER. GROUND BAR SHALL HAVE SPARE COMPRESSION LUG FOR FUTURE CONNECTIONS.
10. SPACE FOR FUTURE SOLAR EQUIPMENT.

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LICENSED FIELD PROFESSIONAL ENGINEER
COURTNEY A. CRAWFORD
No. E-23025
EXP. 12-31-23
ELECTRICAL
STATE OF CALIFORNIA

09-29-22

SCALE:	AS NOTED
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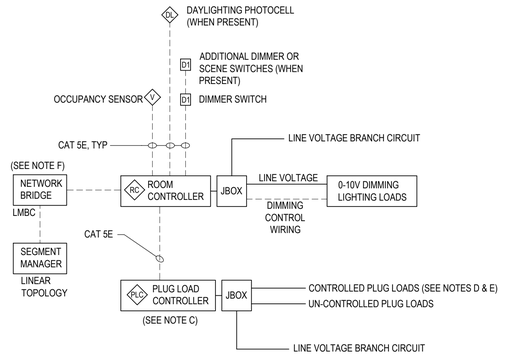
PARTIAL PLANS

E-401

DETAIL LEGEND

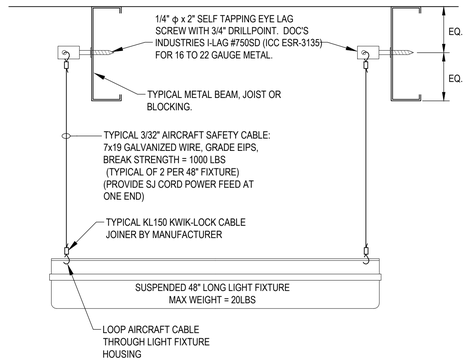
- RC — LMRC DIGITAL UNIVERSAL DIMMING ROOM CONTROLLER, PROVIDE WITH NUMBER OF RELAYS AS REQUIRED BY SWITCHING SCHEME
- PLC — LMRL DIGITAL PLUG LOAD ROOM CONTROLLER
- V — LMDC DIGITAL DUAL TECHNOLOGY CEILING OCCUPANCY SENSOR
- D1 — LMDM DIGITAL DIMMING WALL SWITCH, SINGLE ON/OFF WITH DIMMER
- DL — LMLS DIGITAL PHOTOSENSOR FOR DAYLIGHTING CONTROL



DETAIL NOTES

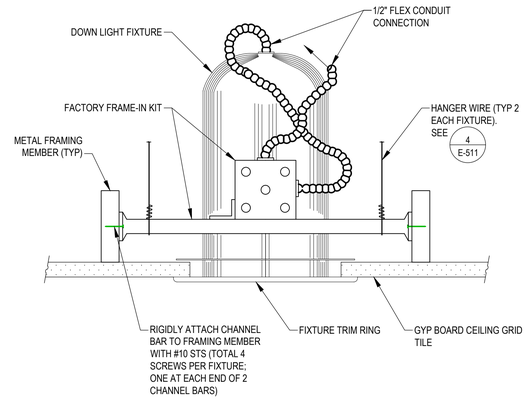
A. BASED ON WATTSTOPPER LMRC SYSTEM WITH NETWORKING. MAY SUBMIT EQUAL FOR REVIEW AND POSSIBLE ACCEPTANCE.
B. MOUNT ROOM/PLUG CONTROLLERS IN ACCESSIBLE LOCATIONS. PROVIDE ACCESS HATCHES WHERE REQUIRED FOR ACCESSIBILITY.
C. PROVIDE PLUG CONTROLLERS FOR EACH PRIVATE OFFICE, OPEN OFFICE AREA, RECEPTION LOBBY, CONFERENCE ROOM, KITCHENETTE IN OFFICE SPACES, AND COPY ROOM.
D. FOR QUAD RECEPTACLES WITH ONE STRAP BEING CONTROLLED: PROVIDE ONE STANDARD DUPLEX, AND ONE DUPLEX LABELED BY THE MANUFACTURER AS CONTROLLED (LEVITON 5362-2P OR EQUAL). NEC 406.3(E).
E. FOR DUPLEX RECEPTACLE WITH SPLIT STRAP FOR CONTROLLED AND UNCONTROLLED OUTLETS: PROVIDE DUPLEX WITH ONE RECEPTACLE LABELLED BY THE MANUFACTURER AS CONTROLLED (LEVITON 5362-1P OR EQUAL). NEC 406.3(E).
F. AT EACH ROOM CONTROLLER LOCATION, PROVIDE A NETWORK BRIDGE.

1 TYPICAL ROOM LTG CONTROLS
NOT TO SCALE

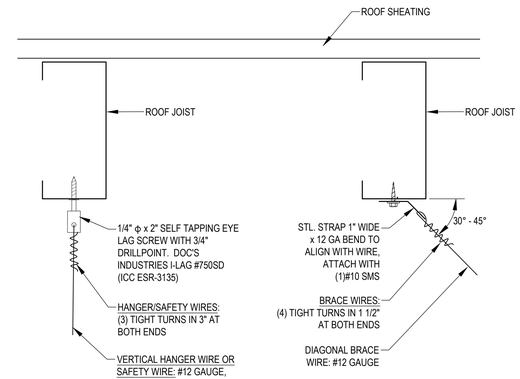


NOTE:
LIGHT FIXTURE SHALL BE ABLE TO SWING 45° FREE WITHOUT CONTACT TO STRUCTURE OR OTHER OBJECTS.

2 SUSPENDED STRIP LIGHT FIXTURE
NOT TO SCALE

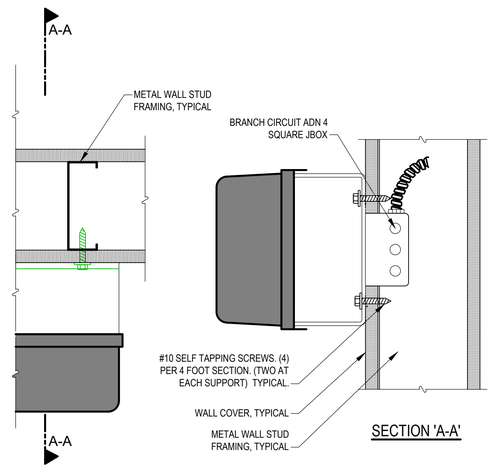


3 RECESSED DOWNLIGHT FIXTURE
NOT TO SCALE



NOTES:
1. BRACE OR HANGER WIRES SHALL ALIGN WITH WEB OF JOIST OR BLOCKING.

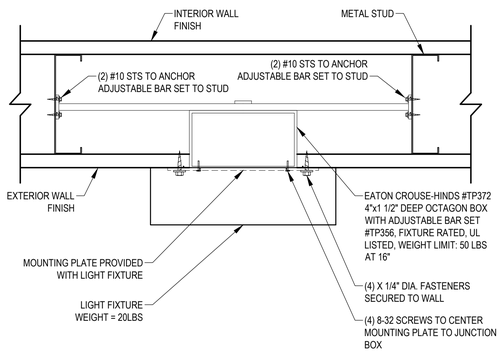
4 HANGER & BRACE WIRE DETAIL
NOT TO SCALE



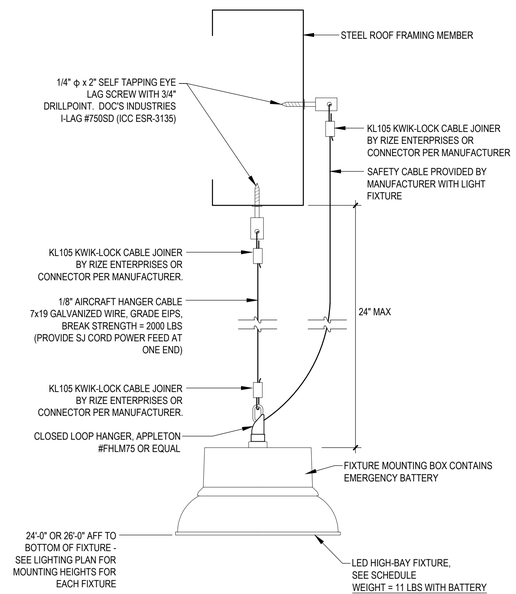
DETAIL KEYED NOTES

1. THIS DETAIL IS APPLICABLE TO FIXTURES THAT WEIGH 30 LBS OR LESS AND ARE RIGIDLY ATTACHED TO THE SUPPORTING STRUCTURE.
2. FASTEN LIGHT FIXTURE ON METAL STUD WALL CONSTRUCTION WITH (2) #10 SELF TAPPING SCREWS INTO MINIMUM OF TWO VERTICAL STUDS.

5 SURFACE WALL FIXTURE METAL STUD MOUNTING
NOT TO SCALE



6 EXTERIOR WALL LIGHT FIXTURE MOUNTING
NOT TO SCALE



DETAIL NOTES

A. LIGHT FIXTURE SHALL BE ABLE TO SWING TO 45 DEGREES WITHOUT OBSTRUCTION. THE ELECTRICAL CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION COORDINATION MEETING WITH OTHER TRADES TO ENSURE THAT NO PIPING OR DUCTING ENCROACHES ON THE SPACE NEEDED FOR THE LIGHT FIXTURES TO SWING 45 DEGREES.

7 HIGH-BAY FIXTURE MOUNTING
NOT TO SCALE

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REGISTERED PROFESSIONAL ENGINEER — STEPHANIE A. CRAIG — No. E-21825 — Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA
09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
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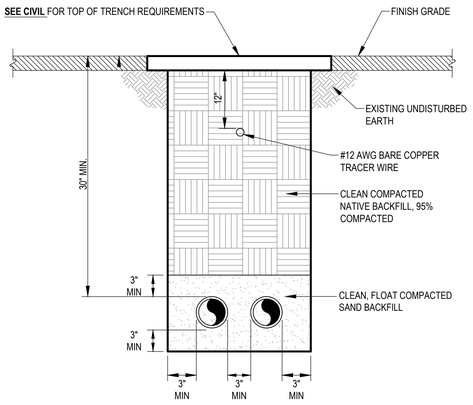
ELECTRICAL DETAILS

E-511



DETAIL NOTES

A. THE CONFIGURATION INDICATED IS DIAGRAMMATIC TO ILLUSTRATE THE REQUIRED MINIMUM SEPARATIONS FOR TRENCH UTILITIES.

B. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUITS PURSUANT TO THE PLANS AND DIAGRAMS.

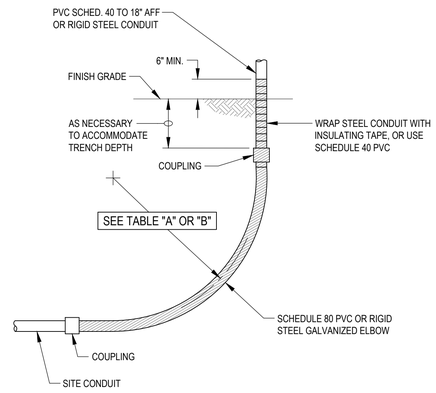
C. COORDINATE CONDUIT STUBS WITH INCREMENT #1 CONTRACTOR.

1 TYPICAL TRENCH REQUIREMENTS

NOT TO SCALE

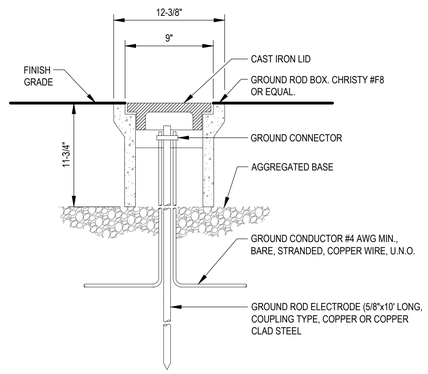
TABLE "A" - PVC		
CONDUIT SIZE	MINIMUM ELBOW RADIUS REQUIREMENTS	
	RUNS 0-100 FEET	RUNS GREATER THAN 101 FEET
1/2"	18"	24"
3/4"	18"	24"
1"	24"	36"
1 1/4"	24"	36"
1 1/2"	24"	36"
2"	24"	36"
2 1/2"	24"	36"
3"	36"	48"
4"	36"	48"
5"	36"	48"
6"	36"	48"

TABLE "B" - RSG		
CONDUIT SIZE	MINIMUM ELBOW RADIUS REQUIREMENTS	
	RUNS 0-100 FEET	RUNS GREATER THAN 101 FEET
1/2"	4"	4"
3/4"	4 1/2"	4 1/2"
1"	5 3/4"	5 3/4"
1 1/4"	7 1/4"	7 1/4"
1 1/2"	8 1/4"	8 1/4"
2"	9 1/2"	9 1/2"
2 1/2"	10 1/2"	11 7/16"
3"	13"	13 3/4"
4"	16"	18 1/4"
5"	24"	-
6"	30"	-



2 CONDUIT SWEEP REQUIREMENTS

NOT TO SCALE

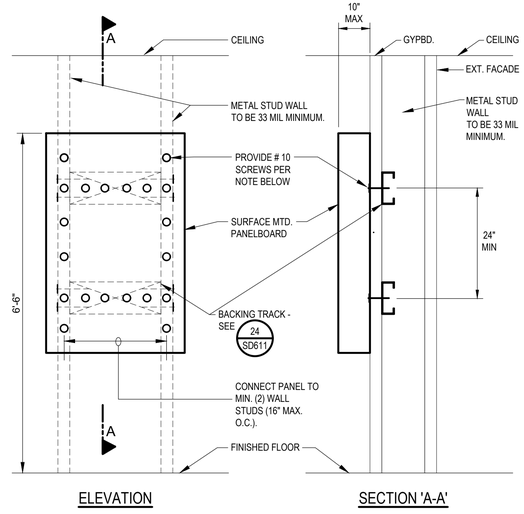


DETAIL NOTES

1. GROUNDING TESTS AND INSPECTIONS ARE BE PER DSA IR E-1.

3 GROUND ROD INSTALLATION

NOT TO SCALE

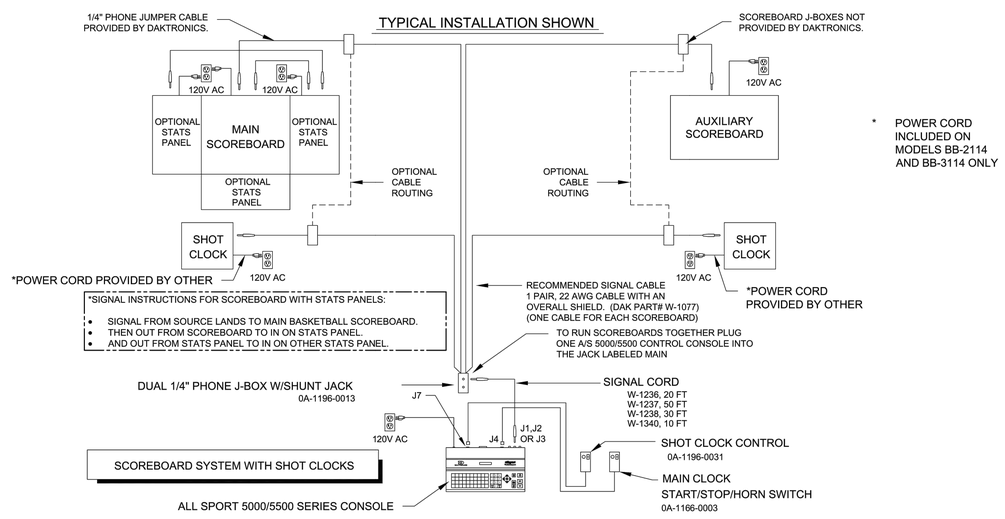


DETAIL NOTES

1. PROVIDE # 10 SCREWS TO FASTEN ELECTRICAL PANEL TO METAL STUDS AS FOLLOWS:
   1.1. FASTEN WITH 6-#10 SCREWS INTO EACH OF A MINIMUM OF TWO VERTICAL STUDS.
   1.2. FASTEN WITH 4-#10 SCREWS INTO EACH OF A MIN OF TWO HORIZONTAL BLOCKING.
   1.3. SCREWS SHALL BE EQUALLY SPACED.
2. METAL STUDS TO BE 33 MIL MINIMUM.
3. PANEL BOARD TO BE 300 LB MAX. WHEN LOADED WITH BREAKERS AND WIRE.

4 SURFACE PANELBOARD MOUNTING METAL STUD

NOT TO SCALE



5 SCOREBOARD/SHOT CLOCK WIRING

NOT TO SCALE

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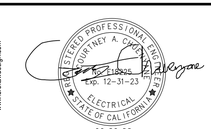

09-29-22

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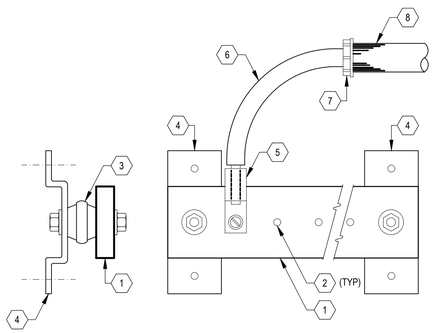
ELECTRICAL DETAILS

E-512

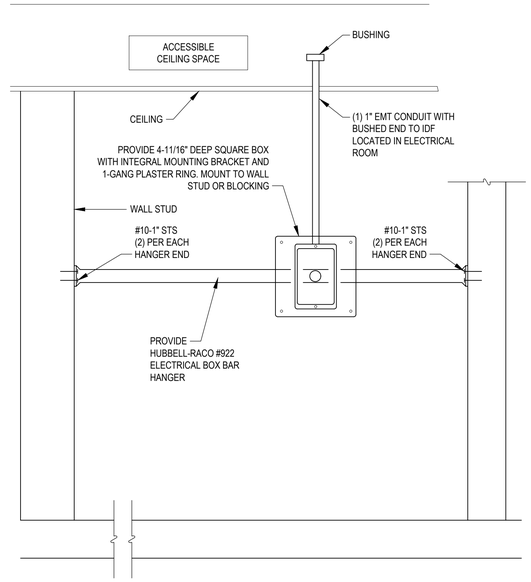


DETAIL KEYED NOTES

1. GROUND BUS BAR - 1/4" THICK x 2" WIDE, 12" MIN. LONG.
2. DRILLED AND TAPPED 5/16" DIA. HOLES. PROVIDE ON 1" CENTERS.
3. THREADED STAND OFF ISOLATORS (NON METALLIC).
4. GALVANIZED STEEL BRACKETS WITH PRE-DRILLED MOUNTING HOLES.
5. GROUND LUG.
6. STRANDED COPPER CONDUCTOR WITH GREEN JACKET. #6 AWG MIN. OR AS SPECIFICALLY NOTED. HOME RUN TO BUILDING SERVICE GROUND.
7. CONDUIT BUSHING - NON METALLIC.
8. 3/4" CONDUIT

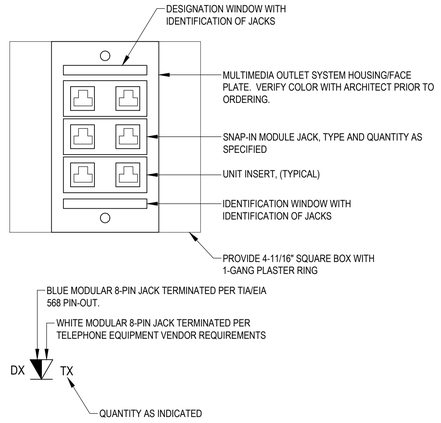
1 GROUND BAR (AT MDF/IDFs)

NOT TO SCALE



2 VOICE/DATA BOX ROUGH-IN

NOT TO SCALE



VOICE/DATA RECEPTACLE CONFIGURATION

3 VOICE/DATA OUTLET

NOT TO SCALE

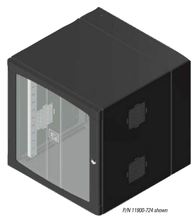
PRODUCT DATA SHEET — CUBE-iT™ Wall-Mount Cabinet

ORDERING INFORMATION:

CUBE-iT Wall-Mount Cabinets
- Attaches to the wall with included installation hardware
- Available in 12U, 19U and 26U heights, with solid metal or tempered glass door options
- All cabinet styles are 24"W (610 mm)
- Includes CH751 keyed lock

Part Number	Cabinet Depth	Door Style	Shipping Weight lb (kg)
24"W (610 mm) CUBE-iT Cabinet			
11890-X24	18" (460 mm)	Solid	90 (40.9)
11901-X24	18" (460 mm)	Tempered Glass	90 (40.9)
11940-X24	24" (610 mm)	Solid	101 (45.9)
11900-X24	24" (610 mm)	Tempered Glass	101 (45.9)
11998-X24	30" (760 mm)	Solid	112 (50.9)
12419-X24	30" (760 mm)	Tempered Glass	112 (50.9)
36"W (914 mm) CUBE-iT Cabinet			
11890-X36	18" (460 mm)	Solid	114 (51.8)
11901-X36	18" (460 mm)	Tempered Glass	114 (51.8)
11940-X36	24" (610 mm)	Solid	128 (58.2)
11900-X36	24" (610 mm)	Tempered Glass	128 (58.2)
11998-X36	30" (760 mm)	Solid	142 (64.5)
12419-X36	30" (760 mm)	Tempered Glass	142 (64.5)
48"W (1219 mm) CUBE-iT Cabinet			
11890-X48	18" (460 mm)	Solid	139 (63.2)
11901-X48	18" (460 mm)	Tempered Glass	139 (63.2)
11940-X48	24" (610 mm)	Solid	155 (70.5)
11900-X48	24" (610 mm)	Tempered Glass	155 (70.5)
11998-X48	30" (760 mm)	Solid	171 (77.7)
12419-X48	30" (760 mm)	Tempered Glass	171 (77.7)

Note: X=Color, 7=Black and E=Glacier White



P/N 11900-724 shown

ACCESSORIES:

Standard Fan and Filter Kit for CUBE-iT Wall-Mount Cabinet
- Pressurizes interior of the cabinet, forcing warm air out of open vents
- Assembly Includes 1 fan, 1 filter, and 1 vent cover
- Noise Level: 39 dB (measured at 7.1 m distance)
- Airflow: 115 CFM (170 CMH)
- 6'L (1.8 m) NEMA 5-15P/6-15P Power Cord

Part Number	Description	Shipping Weight lb (kg)
40972-001	115 Volt, 50/60 Hz, 5-15P power cord	2 (0.8)
40972-002	230 Volt, 50/60 Hz, 6-15P Power cord	2 (0.8)
40973-001	Replacement Filter Kit, Pack of 5	2 (0.8)

Vertical Cabling Section for CUBE-iT Wall-Mount Cabinet
- Attaches to the outside edge of equipment mounting rails
- 4U height; openings align with rack-mount unit spaces on equipment mounting rails
- Sold in pairs
- Order additional kits as-needed per cable management requirements

Part Number	Description	Shipping Weight lb (kg)
40970-704	4U, 7"H x 0.5"D (178 mm x 13 mm)	3 (1.4)
40970-707	7U, 12.25"H x 0.5"D (311 mm x 13 mm)	3 (1.4)
40970-711	11U, 19.25"H x 0.5"D (489 mm x 13 mm)	4 (1.8)

Color is black.

Low-Decibel Dual-Fan and Filter Kit for CUBE-iT Wall-Mount Cabinet
- Pressurizes interior of the cabinet, forcing warm air out of open vents
- Assembly Includes 2 fans and 2 filters
- Noise Level: 31 dB (measured at 7.1 m) distance)
- Recommended placement on bottom right and left sides of the cabinet
- Airflow: 120 CFM (204 CMH)
- 6'L (1.8 m) NEMA 5-15P/6-15P Power Cord

Part Number	Description	Shipping Weight lb (kg)
40975-001	115 Volt, 50/60 Hz, 5-15P power cord	4 (1.8)
40975-002	230 Volt, 50/60 Hz, 6-15P Power cord	4 (1.8)
40973-001	Replacement Filter Kit, Pack of 5	2 (0.8)

Vertical Lashing Bracket for CUBE-iT Wall-Mount Cabinet
- Provides multiple lashing points for premise cables
- Attaches to center chassis with included hardware
- Adjustable front-to-rear

Part Number	Description	Shipping Weight lb (kg)
40971-X24	24"H x 4"W (610 mm x 100 mm)	4 (1.8)
40971-X36	36"H x 4"W (910 mm x 100 mm)	6 (2.7)
40971-X48	48"H x 4"W (1220 mm x 100 mm)	8 (3.6)

Note: X=Color, 7=Black and E=Glacier White

Chatsworth Products

PRODUCT DATA SHEET — CUBE-iT™ Wall-Mount Cabinet

SPECIFICATIONS

Load Capacity	300 lbs (136 kg) of equipment, open or closed
Certifications	• UL 2416 • cUL CSA C22.2 • UL 508A: Type 1 • NEMA Type 1 • IEC 60529 IP20
Material	• Sheet sheet cabinet body, rear panel and door • Door is extruded metal frame with solid metal or tinted tempered glass panel • Equipment mounting rails are aluminum
Construction	Riveted and bolted
Finish	Powder coat paint Black or Glacier White

RELATED ACCESSORIES
- Universal Cable Runway
- Rack-Mount Shelf
- Foot Kit for CUBE-iT Wall-Mount Cabinet
- Sat-T-Grip® Straps
- Horizontal Rack Busbar
- Horizontal Switched eConnect® PDU
- RIM-750
- Ground Jumper

Space-Saving Design and Easy Access to Equipment

CUBE-iT Wall-Mount Cabinets feature highly functional elements to provide class-leading support and storage of ICT equipment. CUBE-iT Cabinets allow easy access to the front and rear of the cabinet, making it ideal for telecommunications rooms. Additionally, high airflow vent pattern and optional low-decibel, dual-fan kit provides equipment cooling without interfering noise. The new modern, sleek design with range of options make the cabinet ideal for use in office spaces, conference rooms, classrooms, or any public spaces where floor space is limited.

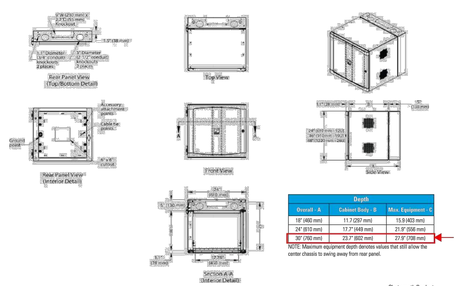
The swing-out, three-part design secures equipment while maintaining ease of access for servicability. CUBE-iT Wall-Mount Cabinet is accessed by a keyed lock on the front door. Once unlocked, an internal latch is accessible just inside the front door on the main chassis. Simply turn the lever to release the main chassis from the wall to gain access to the rear of equipment. Additionally, the cabinet is configurable for right or left swing.

The cabinet body delivers exceptional strength and rigidity. The UL 2416 Listed 300 lb (136 kg) load-rating provides tested support for heavier equipment. For an updated look with a robust, high-quality viewing panel, the front door has an optional tempered glass window. Use CUBE-iT Wall-Mount Cabinet to meet growing demands, Power over Ethernet (PoE) deployments, faster wireless and premise networks, audio and video equipment, security and monitoring equipment and smart building initiatives.

The removable top and bottom rear panels feature a rectangular cable pass-through knockout with optional brush seals, providing a larger opening for cables that can accept patch panels, making CUBE-iT a great solution for retrofit and existing infrastructure, or for use with factory-terminated structured cabling.

CUBE-iT Wall-Mount Cabinet is available in three heights and three depths to support 12U, 19U or 26U of equipment.

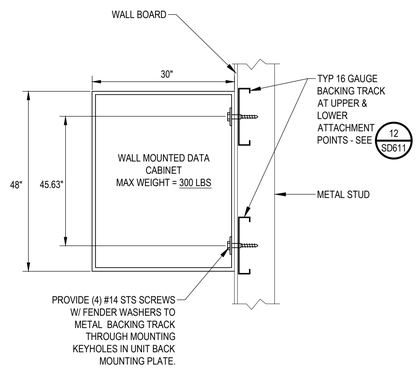
DIMENSIONS:



Depth		
Overall - A	Cabinet Body - B	Mtnr. Equipment - C
18" (460 mm)	11.7 (297 mm)	15.9 (403 mm)
24" (610 mm)	17.7 (449 mm)	21.9" (556 mm)
30" (760 mm)	23.7" (602 mm)	27.9" (708 mm)

NOTE: Maximum equipment depth denotes values that still allow the center chassis to swing away from rear panel.

Chatsworth Products



ANCHORING

4 WALL MOUNTED DATA RACK - HOFFMAN #EWMW482430

NOT TO SCALE

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: .
CHECKED BY: CAC
PLOT DATE: 09-29-22

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
www.brokawdesign.com

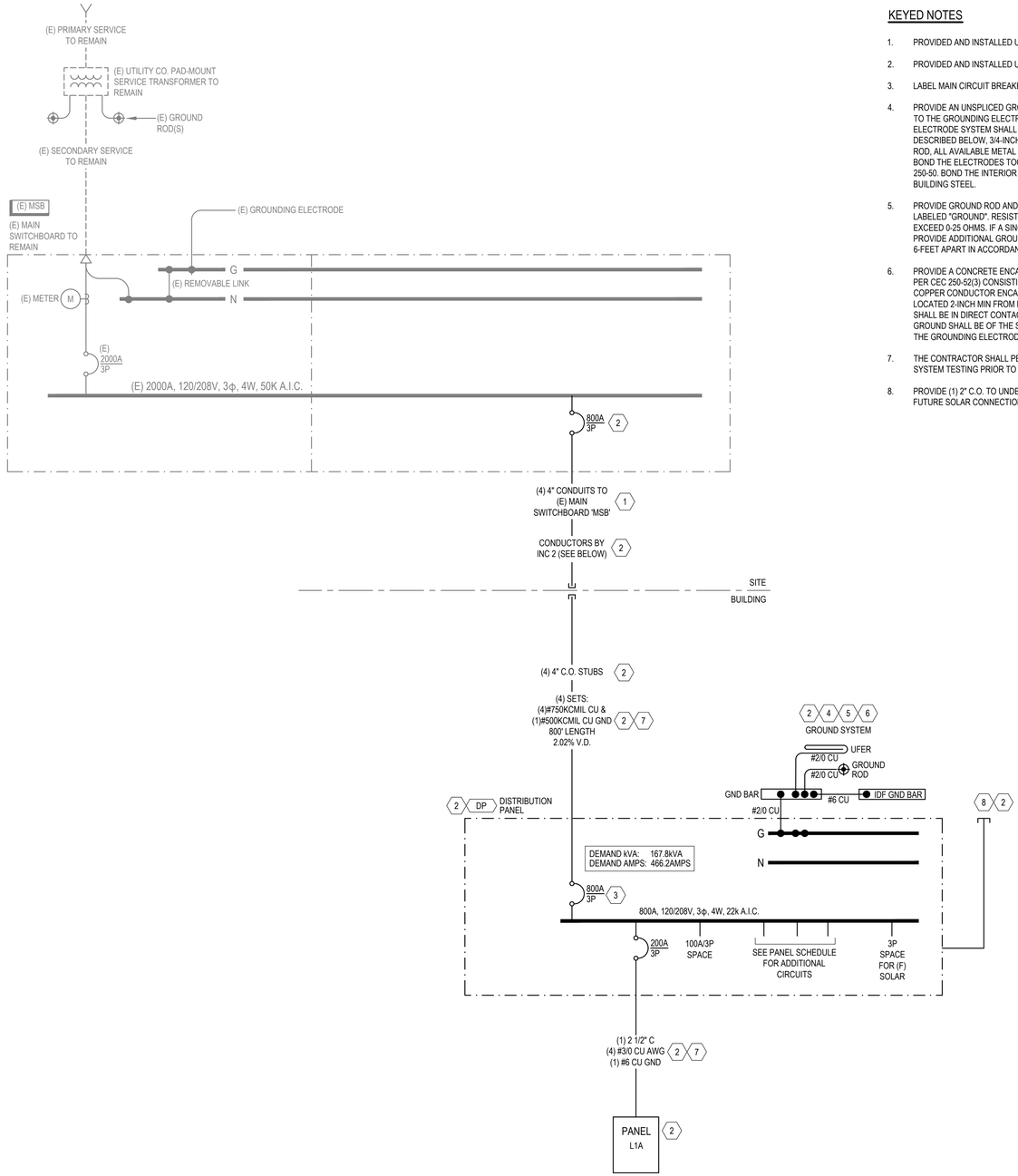
REGISTERED PROFESSIONAL ENGINEER — ANTHONY A. CRUZ — No. E-18945 — Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA

09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

ELECTRICAL DETAILS

E-513



1 SINGLE LINE DIAGRAM - BUILDING POWER

NOT TO SCALE

KEYED NOTES

1. PROVIDED AND INSTALLED UNDER INCREMENT 1.
2. PROVIDED AND INSTALLED UNDER INCREMENT 2.
3. LABEL MAIN CIRCUIT BREAKER AS "MAIN BUILDING DISCONNECT"
4. PROVIDE AN UNSPLICED GROUNDING ELECTRODE CONDUCTOR TO THE GROUNDING ELECTRODE SYSTEM. THE GROUNDING ELECTRODE SYSTEM SHALL CONSIST OF A UFER GROUND AS DESCRIBED BELOW, 3/4-INCH x 10-FOOT COPPER WELDGROUND ROD, ALL AVAILABLE METAL UNDERGROUND WATER PIPING. BOND THE ELECTRODES TOGETHER IN ACCORDANCE WITH NEC 250-50. BOND THE INTERIOR METAL WATER PIPING SYSTEM AND BUILDING STEEL.
5. PROVIDE GROUND ROD AND CONCRETE WELL WITH STEEL LID LABELED "GROUND". RESISTANCE OF GROUND ROD SHALL NOT EXCEED 0-25 OHMS. IF A SINGLE ROD EXCEEDS 25 OHMS, PROVIDE ADDITIONAL GROUND ROD(S) SPACED A MINIMUM OF 6-FEET APART IN ACCORDANCE WITH CEC 250-56.
6. PROVIDE A CONCRETE ENCASED (UFER) GROUNDING ELECTRODE PER CEC 250-52(3) CONSISTING OF AT LEAST 20' OF BARE COPPER CONDUCTOR ENCASED IN CONCRETE. CONDUCTOR LOCATED 2-INCH MIN FROM BOTTOM. CONCRETE FOUNDATION SHALL BE IN DIRECT CONTACT WITH THE EARTH. THIS UFER GROUND SHALL BE OF THE SAME SIZE AND CONTINUOUS WITH THE GROUNDING ELECTRODE CONDUCTOR AS INDICATED.
7. THE CONTRACTOR SHALL PERFORM ELECTRICAL DISTRIBUTION SYSTEM TESTING PRIOR TO ENERGIZING ANY FEEDERS.
8. PROVIDE (1) 2" C.O. TO UNDERSIDE OF ROOF STRUCTURE FOR FUTURE SOLAR CONNECTIONS.

JL MODULAR
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SANTA ROSA, CA 95401
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FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

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PLOT DATE: 09-29-22

PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

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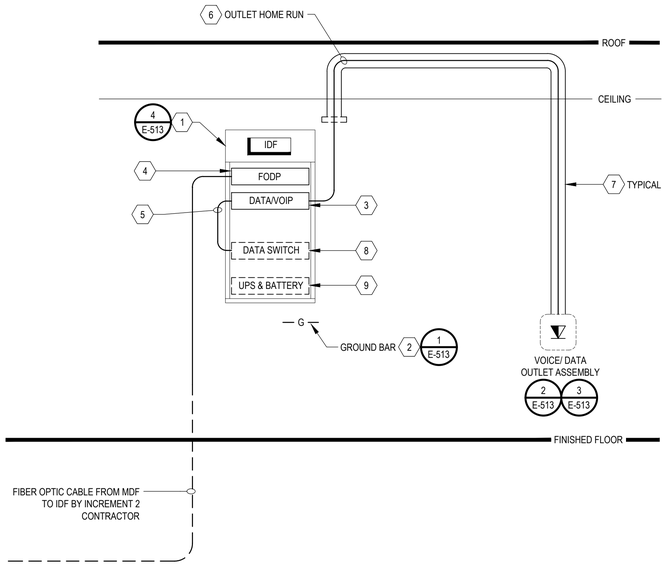
REGISTERED PROFESSIONAL ENGINEER
JONATHAN A. CRAGGS
No. E-18945
Exp. 12-31-23
ELECTRICAL
STATE OF CALIFORNIA

09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

DIAGRAMS - POWER

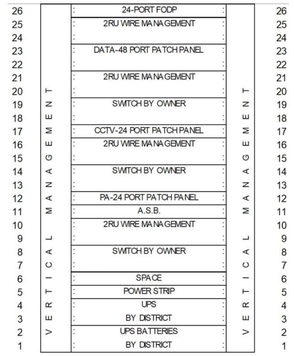
E-601



DETAIL KEYED NOTES

1. WALL MOUNTED DATA EQUIPMENT RACK.
2. PROVIDE GROUND BUS BAR. TIE TO BUILDING SERVICE GROUND WITH MIN. #6 COPPER IN 1/2" CONDUIT..
3. 48-PORT DATA PATCH PANEL - CAT-6A RATED.
4. 12-STRAND FIBER OPTIC DISTRIBUTION PANEL.
5. TYPICAL CROSS CONNECT PATCH CABLES.
6. CAT 6A CABLING FOR VOICE/DATA. TERMINATE AT RESPECTIVE PATCH PANELS.
7. (1) 1" EMT TO IDF.
8. SWITCHES PROVIDED BY OWNER.
9. UPS AND BATTERIES PROVIDED BY OWNER.

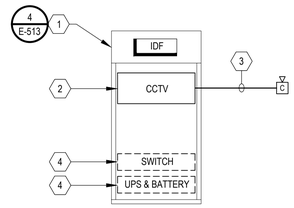
SEE 2 E-602 FOR PA/CLOCK SYSTEM CONNECTIONS



DATA RACK ELEVATION

1 DATA SYSTEMS DIAGRAM

NOT TO SCALE



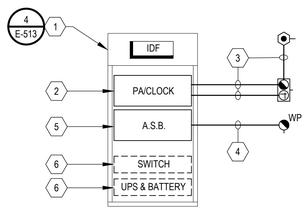
DETAIL KEYED NOTES

1. WALL MOUNTED DATA EQUIPMENT RACK.
2. 24-PORT POE DATA PATCH PANEL - CAT 6 RATED.
3. CAT 6 CABLING FOR CCTV CAMERA. INSTALL IN 1" EMT HOMERUN TO IDF.
4. EQUIPMENT PROVIDED BY DISTRICT.

EQUIPMENT	
C	MANUFACTURER + MODEL #

2 CCTV SYSTEMS DIAGRAM

NOT TO SCALE



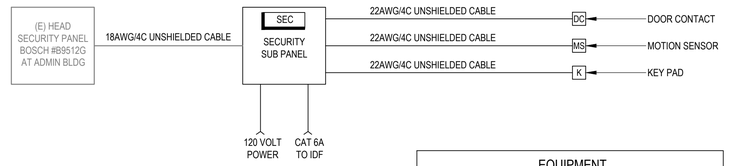
DETAIL KEYED NOTES

1. WALL MOUNTED DATA EQUIPMENT RACK.
2. 24-PORT POE DATA PATCH PANEL - CAT-6A RATED.
3. CAT 6A CABLING FOR IP PA/CLOCK. INSTALL IN 1" EMT HOMERUN TO IDF.
4. WEST PENN #292 20AWG/2C SHIELDED CABLE.
5. ANALOG STATION BRIDGE.
6. EQUIPMENT PROVIDED BY DISTRICT.

EQUIPMENT	
	BOGEN NYQUIST DIGITAL CALL SWITCH #NQ-E7020
CT	BOGEN 12" IP ROUND CLOCK #BCAP SERIES BOGEN IP SPEAKER # BOGEN CLOCK/SPEAKER BACKBOX & GRILL #
WP	BOGEN EXTERIOR WP SPEAKER # FMH15-T HORN WITH #BBSM6 SURFACE MOUNTED BACKBOX
A.S.B.	BOGEN ANALOG STATION BRIDGE #NQ-E7030

3 PA/CLOCK SYSTEMS DIAGRAM

NOT TO SCALE



EQUIPMENT	
DC	DOOR CONTACT: BOSCH #_____
MS	MOTION SENSOR: BOSCH #_____
K	KEYPAD: BOSCH #_____
SEC	INTRUSION ALARM SUB PANEL: BOSCH #_____

4 DIAGRAM - INTRUSION DETECTION SYSTEMS

NOT TO SCALE

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
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ISSUE:	DESCRIPTION:	DATE:

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REGISTERED PROFESSIONAL ENGINEER
JEFFREY A. CHRISTENSEN
No. E 13905
EXP. 12-31-23
ELECTRICAL
STATE OF CALIFORNIA

09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

DIAGRAMS - LOW VOLTAGE

E-602

LIGHTING CONTROL PANEL LCP

			SWITCHING	CHANNEL AUTOMATION SCHEDULE			
RELAY	CIRCUIT	DESCRIPTION	ZONE SWITCH	* SCENARIO	SCENARIO TIMES	BLINK	TIME DELAY
R1	L1A-4	EXTERIOR BLDG	NONE	6	On-Dusk/Off-Dawn	No	No
R2	L1A-4	EXTERIOR BLDG	NONE	7	On-Dusk/Off-Schedule	No	No
R3		SPARE					
R4		SPARE					
R5		SPARE					
R6		SPARE					
R7		SPARE					
R8		SPARE					

Notes:
1. Provide panel with astronomic timeclock.
2. Provide panel by Wattstopper.

* SCENARIO LISTINGS:
(1) - MANUAL ON / SCHEDULE OFF
(2) - SCHEDULED ON / OFF
(3) - MANUAL ON / ASTRO SWITCH OFF
(4) - PHOTO CELL ON / OFF
(5) - PHOTO CELL AND SCHEDULE ON / OFF
(6) - ASTROMONICAL CLOCK ON / OFF
(7) - ASTRONOMICAL CLOCK ON AND SCHEDULE OFF
(8) - MOTION SENSOR ON DURING OFF HOURS / TIMED DELAY OFF

LIGHTING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LAMP	FIXTURE INPUT WATTS	MOUNTING	WEIGHT	MOUNTING DETAIL	NOTES
EXA	LED EXIT SIGN WITH 90 MNUTE BACKUP, WHITE FINISH, RED LETTERS, BATTERY BACKUP	SURE-LITES	CX-7-1-WH-SD	LED	1	UNIVERSAL	5 LBS		
LP12A	2' LED LENSED STRIP LIGHT, WHITE FINISH, ACRYLIC LENS, 4000K COLOR TEMP, DIMMING DRIVER	METALUX	2ST1L1040R-WG	LED	11	PENDANT +9'-0" TO BOTTOM	2.5LBS	2/E-511	PROVIDE AND INSTALL #EBPLED14W EMERGENCY BALLAST WHERE "EM" SHOWN ADJACENT TO FIXTURE ON PLANS
LP14A	4' LED LENSED STRIP LIGHT, WHITE FINISH, ACRYLIC LENS, 4000K COLOR TEMP, DIMMING DRIVER, WIREGUARD	METALUX	4ST1L2040R-WG/SNF-4FT-4	LED	20	PENDANT +9'-0" TO BOTTOM	5LBS	2/E-511	PROVIDE AND INSTALL #EBPLED14W EMERGENCY BALLAST WHERE "EM" SHOWN ADJACENT TO FIXTURE ON PLANS
LP14B	SIMILAR TO TYPE LP14A EXCEPT WITH HIGHER LIGHT OUTPUT	METALUX	4ST1L2040R-WG/SNF-4FT-4	LED	43	PENDANT +9'-0" TO BOTTOM	5LBS	2/E-511	PROVIDE AND INSTALL #EBPLED14W EMERGENCY BALLAST WHERE "EM" SHOWN ADJACENT TO FIXTURE ON PLANS
LPA	LED HIGH BAY PENDANT, FROSTED ACRYLIC REFLECTOR, DIMMING DRIVER, 4000K COLOR TEMP, WIRE GUARD	ILP	RB3-25L-U-40-FMB-RB3-LEDBB/D	LED	193	PENDANT	11 LBS W/ BATTERY	7/E-511	PROVIDE WITH 90-MINUTE BATTERY BACKUP. PROVIDE WITH WIRE CAGE.
LR6A	6" RECESSED LED DOWNLIGHT, DIMMING DRIVER, 4000K COLOR TEMP, SEMI-SPECULAR REFLECTOR	COOPER LIGHTING	LDS6C-10-90-40-D010TR-HB26-S-2-H	LED	11	RECESSED	8 LBS	3/E-511	PROVIDE #EMBOD6STEMERGENCY BALLAST WHERE "EM" SHOWN ADJACENT TO FIXTURE ON PLANS
LR6B	SIMILAR TO TYPE LR6A EXCEPT HIGHER LIGHT OUTPUT	COOPER LIGHTING	LDS6C-10-90-40-D010TR-HB26-S-2-H	LED	23	RECESSED	8 LBS	3/E-511	PROVIDE #EMBOD6STEMERGENCY BALLAST WHERE "EM" SHOWN ADJACENT TO FIXTURE ON PLANS
LW14A	4' LED LINEAR WALL LUMINAIR, DIRECT/INDIRECT, WHITE FINISH, 4000K COLOR TEMP	NULITE LIGHTING	RW2-4B-03-L40-D-11-WH-4-DG	LED	27	WALL	7 LBS	5/E-511	
LW18A	SIMILAR TO TYPE LW14A EXCEPT 8'-0" LENGTH	NULITE LIGHTING	RW2-8B-03-L40-D-11-WH-4-DG	LED	54	WALL	14 LBS	5/E-511	
LWA	LED FULL CUT-OFF WALL SCONCE WITH BATTERY BACKUP, BRONZE FINISH, 4000K COLOR TEMP	LUMARK	AXCS3A-CBP-CEC	LED	27	WALL @ +8'-0" TO CENTER	10 LBS W/ BATTERY	6/E-511	CONFIRM MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN.,

PANEL SCHEDULE

PANEL NAME: **DP** | VOLTAGE: 208 | NEMA RATING: 1 | NOTES: SURFACE MOUNTED
MAINS RATING: 800 (A) | PHASE: 3 | AIC RATING: 22kAIC
BUS RATING: 800 (A) | WIRE: 4 | LOCATION: ELECTRICAL ROOM

CKT NO	PHASE WIRE	NEUT WIRE	USE	DESCRIPTION	BKR SIZE	BKR OPTS	BKR KVA	PHASE:	BKR KVA	BKR OPTS	BKR SIZE	DESCRIPTION	USE	NEUT WIRE	PHASE WIRE	CKT NO
1	2/0		H				20.57	A	20.57				H		2/0	2
3	2/0		H	AC-1A	175/3	**HACR**	20.57	B	20.57	**HACR**	175/3	AC-2A	H		2/0	4
5	2/0		H				20.57	C	20.57				H		2/0	6
7	10		H				1.38	A	1.38				H		10	8
9	10		H	AC-1B	20/3	**HACR**	1.38	B	1.38	**HACR**	20/3	AC-2B	H		10	10
11	10		H				1.38	C	1.38				H		10	12
13	12	12	H	EXHAUST FANS	20/1			A				SPACE	H			14
15				SPARE	20/1			B				SPACE				16
17				SPARE	20/1			C				SPACE				18
SPACE FOR FUTURE CTs																SPACE FOR FUTURE CTs
19	8		W	WH-1	40/2		3.00	A				SPACE				20
21	8		W				3.00	B				SPACE				22
23				SPARE	20/1			C				SPACE				24
SPACE FOR FUTURE CTs																SPACE FOR FUTURE CTs
25								A	10.78				P	SEE SINGLE LINE DIAGRAM		26
27				SPACE FOR (F) SOLAR				B	10.47			PANEL L1A	P			28
29								C	8.88				P			30
31								A				SPACE				32
33				100A/3P SPACE				B				SPACE				34
35								C				SPACE				36
37				SPACE				A				SPACE				38
39				SPACE				B				SPACE				40
41				SPACE				C				SPACE				42

LOADS:
PHASE A: 57.7 (KVA)
PHASE B: 57.4 (KVA)
PHASE C: 52.8 (KVA)
TOTAL: 167.8 (CONNECTED KVA) 466.2 (CONNECTED A)

USE LEGEND: "H" HVAC; "L" LIGHTING; "M" MOTOR; "O" OTHER; "R" RECEPTACLE; "P" PANEL; "C" COOKING; "E" EV LOADS; "W" WATER HEATER

LOAD TYPE: HVAC; LIGHTING; MOTOR; OTHER; RECEPTACLE; PANEL; COOKING; EV LOADS; WATER HEATER

BREAKER OPTIONS:
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
HACR - HEATING/AIR CONDITIONING RATED
LO - LOCK-ON DEVICE
PA - PADLOCK ATTACHMENT
ST - SHUNT TRIP
HT - HANDLE TIE
FA - DEDICATED CIRCUIT FOR FIRE ALARM, RED HANDLE, MARKED "FIRE ALARM CIRCUIT", LOCK-ON DEVICE. PERMANENTLY IDENTIFY CIRCUIT AT FIRE ALARM EQUIPMENT.

NEC DEMAND LOAD	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": MOTOR. LOADS (LARGEST MOTOR)		125%	
TYPE "M": MOTOR. LOADS (REMAINING)		100%	
TYPE "L": LIGHTING LOADS		125%	
TYPE "R": RECEPTACLES (FIRST 10KVA)		100%	
TYPE "R": RECEPTACLES (OVER 10KVA)		50%	
TYPE "H": HVAC LOADS	131.69	100%	131.69
TYPE "P": PANEL LOADS	30.13	100%	30.13
TYPE "C": COOKING LOADS		65%	
TYPE "E": EV LOADS		125%	
TYPE "W": WATER HEATING LOADS	6.00	100%	6.00
TYPE "O": OTHER LOADS		100%	
DEMAND KVA:			167.82
DEMAND AMPS:			466.2

PANEA1:W53L SCHEDULE

PANEL NAME: **L1A** | VOLTAGE: 208 | NEMA RATING: 1 | NOTES: SURFACE MOUNTED
MAINS RATING: MLO (A) | PHASE: 3 | AIC RATING: 22kAIC
BUS RATING: 225 (A) | WIRE: 4 | LOCATION: ELECTRICAL ROOM

CKT NO	PHASE WIRE	NEUT WIRE	USE	DESCRIPTION	BKR SIZE	BKR OPTS	BKR KVA	PHASE:	BKR KVA	BKR OPTS	BKR SIZE	DESCRIPTION	USE	NEUT WIRE	PHASE WIRE	CKT NO
1	12	12	L	GYM	20/1		0.79	A	0.67		20/1	RESTROOM/STOR/ELEC	L	12	12	2
3	10	10	L	GYM	20/1		1.58	B	0.41		20/1	EXTERIOR	L	12	12	4
5	12	12	L	GYM	20/1		0.79	C			20/1	SPARE				6
SPACE FOR FUTURE CTs																SPACE FOR FUTURE CTs
7			M				1.56	A	1.20		20/1	MOTORIZED BACKSTOP	M	10	10	8
9			M	SPACE - (F) BLEACHERS			1.56	B	1.20		20/1	MOTORIZED BACKSTOP	M	10	10	10
11			M				1.56	C	1.20		20/1	MOTORIZED BACKSTOP	M	10	10	12
13			M				1.56	A	1.20		20/1	MOTORIZED BACKSTOP	M	10	10	14
15			M	SPACE - (F) BLEACHERS			1.56	B	0.36		20/1	CEILING RECEPT	R	12	12	16
17			M				1.56	C			20/1	SPARE				18
19			M	SPACE - (F) SHADES			1.00	A	0.18		20/1	FLOOR BOX	R	12	12	20
21				SPARE	20/1			B	0.54		20/1	GYM	R	12	12	22
23	12	12	R	IDF	20/1		0.18	C	0.54		20/1	GYM	R	12	12	24
25	12	12	R	IDF	20/1		0.18	A	0.54		20/1	GYM	R	12	12	26
27	12	12	O	FIRE ALARM EQUIP.	20/1	FA	2.E	B	0.90		20/1	STORAGE	R	12	12	28
29	12	12	O	FIRE ALARM EQUIP.	20/1	FA	0.50	C	1.00		20/1	AV SOUND SYSTEM	R	12	12	30
31	12	12	O	FIRE SPRINKLER BELL	20/1		0.01	A	0.54		20/1	ELEC/JAN/SPRINKLER	R	12	12	32
33	12	12	O	HVAC TIMECLOCK	20/1		0.01	B	0.36		20/1	FLOOR BOXES	R	12	12	34
35	12	12	O	LTG RELAY PANEL	20/1		0.01	C	0.54		20/1	SCOREBOARD/CLOCKS	R	12	12	36
37	12	12	R	ROOF	20/1		0.36	A			20/1	SPARE				38
39	12	12	O	DRINKING FOUTAIN	20/1		1.00	B			20/1	SPARE				40
41	12	12	M	HAND DRYER	20/1		1.00	C			20/1	SPARE				42
43	12	12	M	HAND DRYER	20/1		1.00	A				SPACE				44
45				SPARE	20/1		1.00	B				SPACE				46
47				SPARE	20/1			C				SPACE				48
49				SPACE				A				SPACE				50
51				SPACE				B				SPACE				52
53				SPACE				C				SPACE				54

LOADS:
PHASE A: 10.8 (KVA)
PHASE B: 10.5 (KVA)
PHASE C: 8.9 (KVA)
TOTAL: 30.1 (CONNECTED KVA) 83.7 (CONNECTED A)

USE LEGEND: "H" HVAC; "L" LIGHTING; "M" MOTOR; "O" OTHER; "R" RECEPTACLE; "P" PANEL; "C" COOKING; "E" EV LOADS; "W" WATER HEATER

LOAD TYPE: HVAC; LIGHTING; MOTOR; OTHER; RECEPTACLE; PANEL; COOKING; EV LOADS; WATER HEATER

BREAKER OPTIONS:
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
HACR - HEATING/AIR CONDITIONING RATED
LO - LOCK-ON DEVICE
PA - PADLOCK ATTACHMENT
ST - SHUNT TRIP
HT - HANDLE TIE
FA - DEDICATED CIRCUIT FOR FIRE ALARM, RED HANDLE, MARKED "FIRE ALARM CIRCUIT", LOCK-ON DEVICE. PERMANENTLY IDENTIFY CIRCUIT AT FIRE ALARM EQUIPMENT.

NEC DEMAND LOAD	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": MOTOR. LOADS (LARGEST MOTOR)	1.56	125%	1.95
TYPE "M": MOTOR. LOADS (REMAINING)	15.60	100%	15.60
TYPE "L": LIGHTING LOADS	4.22	125%	5.28
TYPE "R": RECEPTACLES (FIRST 10KVA)	6.22	100%	6.22
TYPE "R": RECEPTACLES (OVER 10KVA)		50%	
TYPE "H": HVAC LOADS		100%	
TYPE "P": PANEL LOADS		100%	
TYPE "C": COOKING LOADS		65%	
TYPE "E": EV LOADS		125%	
TYPE "W": WATER HEATING LOADS		100%	
TYPE "O": OTHER LOADS	1.53	100%	1.53
DEMAND KVA:			30.58
DEMAND AMPS:			84.9

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DRAWN BY: , PLOT DATE: 09-29-22
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COURTNEY A. CHAPMAN — No. E-13935 — EXP. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA
09-29-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

ELECTRICAL SCHEDULES

E-701

ANCHORAGE & BRACING NOTES

M/E/P Component Anchorage Note

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

1. All permanent equipment and components.
2. Temporary, movable or mobile equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110/220 volt receptacles having a flexible cable.
3. Temporary, movable or mobile equipment which is heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component is required to be restrained in a manner approved by DSA.

The following mechanical and electrical components shall be positively attached to the structure but need note demonstrate design compliance with the references noted above. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit. Flexible connections must allow movement in both transverse and longitudinal directions:

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

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

Piping, Ductwork, and Electrical Distribution System Bracing Note

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

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

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP□ MD□ PP□ E■ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP□ MD□ PP□ E□ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM#) #_____.

APPLICABLE CODES & STANDARDS REFERENCES

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2020*
2019 California Administrative Code (CAC), Part 1, Title 24 CCR*
2019 California Building Code (CBC), Part 2, Title 24 CCR
(2018 International Building Code, Vol. 1 & 2, and 2019 California amendments)
2019 California Electrical Code (CEC), Part 3, Title 24 CCR
(2017 National Electrical Code and 2019 California Amendments)
2019 California Mechanical Code (CMC), Part 4, Title 24 CCR
(2018 IAPMO Uniform Mechanical Code and 2019 California amendments)
2019 California Plumbing Code (CPC), Part 5, Title 24 CCR
(2018 IAPMO Uniform Plumbing Code and 2019 California amendments)
2019 California Energy Code (CEC), Part 6, Title 24 CCR
2019 California Fire Code (CFC), Part 9, Title 24 CCR
(2018 International Fire Code and 2019 California Amendments)
2019 California Existing Building Code (CEBC), Part 10, Title 24 CCR
(2018 International Existing Building Code and 2019 California Amendments)
2019 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
2019 California Referenced Standards Code, Part 12, Title 24 CCR
Title 19 CCR, Public Safety, State Fire Marshal Regulations
2016 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators *(per 2019 CBC Part 2 Ch 35)*
Note: Cal/OSHA Elevator Unit enforces CCR Title 8 and uses the 2004 ASME A17.1 by adoption

PARTIAL LIST OF APPLICABLE STANDARDS
NFPA 13 - Standard for the Installation of Sprinkler Systems (CA amended).....2016 Edition
NFPA 14 - Standard for the Installation of Standpipe and Hose Systems (CA amended)....2016 Edition
NFPA 17 - Standard for Dry Chemical Extinguishing Systems.....2017 Edition
NFPA 17A - Standard for Wet Chemical Extinguishing Systems.....2017 Edition
NFPA 20 - Standard for the Installation of Stationary Pumps for Fire Protection.....2016 Edition
NFPA 22 - Standard for Water Tanks for Private Fire Protection.....2013 Edition
NFPA 24 - Standard for the Installation of Private Fire Service Mains and
Their Appurtenances (CA amended).....2016 Edition
NFPA 72 - National Fire Alarm and Signaling Code (CA amended).....2016 Edition
NFPA 80 - Standard for Fire Doors and Other Opening Protectives.....2016 Edition
NFPA 2001 - Standard on Clean Agent Fire Extinguishing Systems (CA amended).....2015 Edition
UL 300 - Standard for Fire Testing of Fire Extinguishing Systems for
Protection of Commercial Cooking Equipment.....2005 (R2010)
UL 464 - Audible Signaling Devices for Fire Alarm and Signaling Systems,
Including Accessories.....2003 Edition
UL 521 - Standard for Heat Detectors for Fire Protective Signaling Systems.....1999 Edition
UL 1971 - Standard for Signaling Devices for the Hearing Impaired.....2002 (R2010)
ICC 300 - Standard for Bleachers, Folding and Telescopic Seating, and Grandstands.....2017 Edition

For a complete list of applicable NFPA standards refer to 2019 CBC (SFM) Chapter 35 and California Fire Code Chapter 80.

See California Building Code Chapter 35 for State of California amendments to the NFPA Standards.

*All parts of the 2019 California Building Code become effective January 1, 2020 except the effective date for the use of the 2019 Building Energy Efficiency Standards (Title 24, Part 1, Chapter 10) is January 8, 2019 and the effective date for the use of the California Administrative Code (Title 24, Part 1, Chapter 4) is January 8, 2019.

GENERAL FIRE ALARM NOTES

1. FINAL FIRE ALARM TEST SHALL BE MADE WITH THE INSPECTOR OF RECORD. THE LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF DATE AND TIME OF FINAL ALARM TESTING AND SHALL ASSIST/WITNESS SUCH AS TESTING WHEN ABLE.
2. UNDERGROUND AND EXTERIOR CONDUITS WILL HAVE WATERTIGHT FITTINGS. (CEC 110-11 AND 300-6).
3. FIRE ALARM DEVICE MOUNTING HEIGHTS:

   PULL STATION: 48" TO CENTER LINE OF DEVICE ABOVE FINISHED FLOOR.
   (CEC 907.4.2.2).

   SPEAKER INTERIOR: BETWEEN 80" TO 96" TO TOP OF DEVICE ABOVE FINISHED FLOOR, NOT LESS THAN 6" FROM CEILING. (NFPA 72-7.4.7.1).

   WALL MOUNTED STROBE OR SPEAKER/STROBE: 80" TO BOTTOM OF DEVICE LENS TO +96" TO TOP OF DEVICE LENS ABOVE FINISH FLOOR, BUT NOT LESS THAN 6" FROM CEILING. (NFPA 72-7.5.4.1).
4. AUDIBLE FIRE ALARM SYSTEM LEVEL SHALL BE AT LEAST 15dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL IN ALL OCCUPIABLE AREAS. (NFPA 72 SEC (i.e. CLASSROOM AVERAGE AMBIENT ROOM NOISE IS 45 dBA PLUS 15 dBA EQUAL 60DBA MINIMUM ALARM TONE REQUIRED).
5. THE OPERATION OF ANY INITIATION DEVICE SHALL AUTOMATICALLY SOUND AN ALERT TONE FOLLOWED BY VOICE INSTRUCTIONS GIVING APPROVED INFORMATION AND DIRECTIONS FOR A GENERAL OR STAGED EVACUATION PER CBC 907.5.2.2..
6. APPLICABLE CODES: CBC, NFPA EDITIONS RECOGNIZED BY THE AUTHORITY HAVING JURISDICTION.
7. STROBES SHALL BE SYNCHRONIZED AND FLASH AT A RATE NOT EXCEEDING TWO FLASHES PER SECOND, NOR BE LESS THAN ONE FLASH EVERY SECOND. (NFPA 72).
8. FIRE ALARM CONTRACTOR SHALL PROVIDE A "RECORD OF COMPLETION" AFTER COMPLETION OF OPERATIONAL ACCEPTANCE TESTS. (NFPA 72 SEC 4.5.2 & FIGURE 4.5.2.1).
9. POWER SERVICE TO THE FACP, REMOTE POWER SUPPLIES, AND CENTRAL STATION AUTO DIALER SHALL BE ON A DEDICATED BRANCH CIRCUIT WITH A RED MARKING AND IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL". (NFPA SEC 4.4.1.4).
10. AUDIBLE SIGNALS INTENDED FOR OPERATION IN THE PUBLIC MODE SHOULD HAVE A SOUND LEVEL OF NOT LESS THAN 75 dBA AT 10 FEET OR MORE THAN 110 dBA AT THE MINIMUM HEARING DISTANCE FROM THE AUDIBLE APPLIANCE.
11. PROVIDE ADDITIONS TO AN EXISTING CAMPUS FULLY ADDRESSABLE FIRE ALARM SYSTEM AND EMERGENCY VOICE ALARM COMMUNICATIONS SYSTEM. THE NEW SYSTEM ADDITIONS SHALL INCLUDE, BUT NOT BE LIMITED TO, POWER SUPPLY(S), TERMINAL CABINETS, OUTLETS, DEVICES AND WIRING FOR THE PROJECT AS SHOWN.
12. MONITOR THE EMERGENCY VOICE AND COMMUNICATIONS SYSTEM FOR TROUBLE CONDITIONS.
13. ALL CABLING BETWEEN BUILDINGS SHALL BE CONTINUOUS AND WITHOUT SPLICES.
14. FIRE ALARM CABLING RUN ABOVE ACCESSIBLE CEILINGS SHALL BE HUNG ON J-HOOKS AT 5'-0" CENTERS. OTHERWISE, FIRE ALARM CABLING SHALL BE RUN IN 3/4" MINIMUM SIZE CONDUIT.
15. ALL BATTERIES SHALL BE MARKED WITH MONTH AND YEAR OF MANUFACTURE (NFPA 72 10.6.10.1.1).

FIRE ALARM SCOPE OF WORK

1. TERMINATE EACH NOTIFICATION LOOP TO FIRE ALARM PANEL, BOOSTER PANEL, OR EVACS PANEL AS SHOWN ON PLANS AND DIAGRAMS.
2. TERMINATE EACH INITIATION LOOP AT THE FIRE ALARM CONTROL PANEL AS SHOWN ON PLANS AND DIAGRAMS.
3. PROVIDE ADDITIONS TO AN EXISTING CAMPUS FULLY ADDRESSABLE FIRE ALARM SYSTEM AND EMERGENCY VOICE ALARM COMMUNICATIONS SYSTEM. THE NEW SYSTEM SHALL INCLUDE, BUT NOT BE LIMITED TO, POWER SUPPLY(S), TERMINAL CABINETS, OUTLETS, DEVICES AND WIRING FOR THE PROJECT AS SHOWN.

SEQUENCE OF OPERATIONS

1. ACTIVATION OF ANY INITIATION DEVICE WILL PLACE THE FIRE ALARM CONTROL PANEL IN ALARM MODE AND WILL ACTIVATE ALL NOTIFICATION APPLIANCES. THE FIRE ALARM CONTROL PANEL SHALL DISPLAY THE ZONE (NON-ADDRESSABLE) OR DEVICE (ADDRESSABLE) OF THE ACTIVATED INITIATION DEVICE(S).
2. UPON ALARM CONDITION, AUTO-DIALER TO NOTIFY THE OFF-SITE MONITORING STATION, AND AUTHORIZED SCHOOL PERSONNEL SHALL NOTIFY THE FIRE DEPARTMENT AND INITIATE EVACUATION OF STUDENTS AND FACULTY AS PER SCHOOL'S EVACUATION PLAN.
3. WHEN THE PANEL IS IN ALARM CONDITION, THE NOTIFICATION APPLIANCES MAY BE DEACTIVATED ("SILENCED") AT THE FIRE ALARM CONTROL PANEL. ACTIVATION OF ANOTHER INITIATION DEVICE WILL PLACE THE CONTROL PANEL BACK IN ALARM CONDITION AND WILL AGAIN ACTIVATE ALL NOTIFICATION APPLIANCES.
4. FAILURE OF THE FIRE ALARM SYSTEM COMPONENTS, WIRING OR POWER SUPPLY SHALL PLACE THE FIRE ALARM CONTROL PANEL IN TROUBLE CONDITION, RESULTING IN AN AUDIBLE AND VISUAL (LED) ALARM AT THE FIRE ALARM CONTROL PANEL ONLY. THE AUDIBLE ALARM MAY BE SILENCED AT THE CONTROL PANEL, BUT THE VISUAL ALARM WILL REMAIN ACTIVE UNTIL THE FAILED CONDITIONS ARE CORRECTED AND CLEARED.
5. UPON TROUBLE CONDITION, AUTO-DIALER TO NOTIFY THE OFF-SITE MONITORING STATION, AND AUTHORIZED SCHOOL PERSONNEL SHALL NOTIFY THE AUTHORIZED TECHNICIAN TO CORRECT THE TROUBLE CONDITIONS.

FIRE ALARM SYSTEM MATRIX & SEQUENCE OF OPERATIONS

	ANNUNCIATE DEVICE TYPE & ZONE AT FACP	ACTIVATE SPEAKERS & STROBES THROUGHOUT ENTIRE COMPLEX	ANNUNCIATE TROUBLE CONDITION AT FACP	ANNUNCIATE DEVICE TYPE & ZONE AT ANNUNCIATOR	ANNUNCIATE SUPERVISORY/ COND. AT FACP & ANNUNCIATOR	ANNUNCIATE TROUBLE CONDITION AT ANNUNCIATOR	SEND ALARM SIGNAL TO CENTRAL MONITORING STATION	SEND SUPERVISORY SIGNAL TO CENTRAL MONITORING STATION	SEND TROUBLE SIGNAL TO CENTRAL MONITORING STATION	SHUTDOWN ASSOCIATED FAN & FSD
MANUAL PULL STATION	●	●		●			●			
SMOKE DETECTOR	●	●		●			●			
DUCT DETECTOR	●	●		●			●			●
HEAT DETECTOR	●	●		●			●			
SYSTEM TROUBLE			●			●			●	
COMMUNICATION FAILURE			●			●			●	
OPENS OR SHORTS			●			●			●	
GROUND FAULTS			●			●			●	
FIRE SPRINKLER FLOW SWITCH	●	●		●			●			
FIRE SPRINKLER TAMPER SWITCH	●			●	●			●		

ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
A.F.F.	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ANN	ANNUNCIATOR
APPROX	APPROXIMATE
ARF	ABOVE RAISED FLOOR
AWG	AMERICAN WIRE GAUGE
BAT	BATTERY
BFG	BELOW FINISH GRADE
℄	CENTERLINE
C, CND	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CO	CONDUIT ONLY
COMM	COMMUNICATIONS
CONST	CONSTRUCTION
CONT	CONTINUED
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DWG	DRAWING
(E)	EXISTING
EA	EACH
EF	EXHAUST FAN
EMT	ELECTRICAL METALLIC CONDUIT
ENT	ELECTRICAL NON-METALLIC CONDUIT
EP	EXPLOSION PROOF
EQ	EQUAL
EVACS	EMERGENCY VOICE & COMMUNICATIONS SYSTEM
(F)	FUTURE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FC	FAN COIL
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATION & AIR-COND.
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
JB	JUNCTION BOX
KV	KILO VOLT
KVA	KILO VOLT-AMP
KW	KILO WATT
LV	LOW VOLTAGE
MAX	MAXIMUM
MC	METAL-CLAD
MCC	MOTOR CONTROL CENTER
MFR, MFGR	MANUFACTURER
MIC	MICROPHONE
MIN	MINIMUM
MDP	MAIN DISTRIBUTION BOARD
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
(N)	NEW
N, NEUT	NEUTRAL
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
PNL	PANEL
PVC	POLYVINYL CHLORIDE
PB	PULL BOX, ELECTRICAL
REQD	REQUIRED
RGS, RSG	RIGID GALVANIZED STEEL
RTU	REMOTE TERMINAL UNIT
SP	SPACE, SPARE
SS	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TP	TAMPER PROOF
TYP	TYPICAL
UF	UNDER FLOOR
UG	UNDER GROUND
U.O.N.	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT-AMP
W/O	WITHOUT
WP	WEATHER PROOF
XFMR	TRANSFORMER

ELECTRICAL SHEET INDEX

FIRE ALARM

- (B)←→(R) BEAM DETECTOR AND REFLECTOR - WALL MOUNTED
- (D) DUCT DETECTOR (PROVIDED BY MECHANICAL, MONITORED BY FA)
- (H) AC HEAT DETECTOR - ABOVE CEILING MOUNTED, HIGH TEMPERATURE TYPE
- (H) HEAT DETECTOR - CEILING MOUNTED
- (M) MONITOR MODULE
- (F) PULL STATION - WALL MOUNTED
- (S) SMOKE DETECTOR - CEILING MOUNTED
- (SC) COMBO SMOKE/CARBON MONOXIDE DETECTOR - CEILING MOUNTED
- (D) DOOR HOLD
- (C) CONTROL MODULE
- (R) RELAY MODULE
- (SP) SPEAKER - WALL MOUNTED
- (SP) SPEAKER - CEILING MOUNTED
- (SS) SPEAKER/STROBE - WALL MOUNTED
- (SSP) SPEAKER/STROBE - CEILING MOUNTED
- (S) STROBE - WALL MOUNTED
- (S) STROBE - CEILING MOUNTED

(SP, SP, SS, SSP, S, S) → 1 / FA-511

- (DS&V) OS&Y VALVE
- (PIV) POST INDICATOR VALVE
- (T) TAMPER SWITCH
- (W) SPRINKLER WATER FLOW
- (EOL) END OF LINE RESISTOR
- RISER BELL
- (FI) FAULT ISOLATOR MODULE
- (FSD) FIRE SMOKE DAMPER (FSD AND DETECTOR PROVIDED BY MECHANICAL, MONITORED BY FA, UNIT SHUT-DOWN BY MECHANICAL)

EQUIPMENT

- (FACP) (FACP) FIRE ALARM CONTROL PANEL
- (FAAP) (FAAP) FIRE ALARM ANNUNCIATOR PANEL
- (FAEP) (FAEP) FIRE ALARM NAC EXPANDER POWER SUPPLY
- (FATC) (FATC) FIRE ALARM TERMINAL CABINET
- (EVACS) (EVACS) EMERGENCY VOICE AND COMMUNICATIONS SYSTEM
- (EVACA) (EVACA) EMERGENCY VOICE AND COMMUNICATIONS SYSTEM AMPLIFIER

CIRCUITING

- ELECTRICAL CIRCUIT - CONCEALED
- ELECTRICAL CIRCUIT - EXPOSED
- ELECTRICAL CIRCUIT - UNDER FLOOR, GROUND OR SLAB
- ELECTRICAL CIRCUIT - HOME RUN
- ELECTRICAL CIRCUIT - STUB OUT
- ELECTRICAL CIRCUIT - STUB DOWN
- ELECTRICAL CIRCUIT - STUB UP
- ELECTRICAL CIRCUIT - COMPLETE CONNECTION OF EQUIPMENT OR DEVICE

MISCELLANEOUS

- (XX) DEMO KEYED NOTE TAG
- (X) ELECTRICAL EQUIPMENT TAG
- (1) KEYED NOTE TAG
- (X / X) MECHANICAL EQUIPMENT TAG
- (A) REVISION DELTA
- (X / FA-) DETAIL REFERENCE
- (J) JUNCTION BOX - WALL MOUNTED +18" A.F.F.
- (J) JUNCTION BOX - WALL MOUNTED (NOTED MOUNTING)
- (J) JUNCTION BOX - FLOOR MOUNTED
- (J) JUNCTION BOX - CEILING MOUNTED

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REGISTERED PROFESSIONAL ENGINEER COURTNEY A. CHRISTENSEN No. E 13935 EXP. 12-31-23 ELECTRICAL STATE OF CALIFORNIA
09-27-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

FIREALARM LEGEND AND ABBREVIATIONS

FA-101

FIRE ALARM SPECIFICATIONS

SECTION 283100

FIRE ALARM DETECTION AND SIGNALLING SYSTEM

PART 1 - GENERAL

1.1 Scope

This specification document provides the requirements for the installation, programming, and configuration of the additions to an existing campus Silent Knight 6820EVS digital protocol analog addressable fire alarm system with voice.

These system additions shall include, but not be limited to, system cabinets, power supplies, voice amplifiers, Signaling Line Circuits (SLC), associated peripheral devices, batteries, wiring, conduit and other relevant components and accessories required to furnish a complete and operational life safety system for the new building.

1.2 Work Included

1.2.1 General Requirements

The contractor shall furnish and install a complete 24 VDC, electrically supervised, addressable fire alarm system as specified herein and indicated on the drawings. The system shall include but not be limited to all control panels, power supplies, initiating devices, audible and visual notification appliances, alarm devices, wiring, site and building conduits, trenching, backfilling & compaction, flush-with-grade pull boxes, testing, and all accessories, work and investigations required to provide a complete operating fire alarm system.

1.2.2 Listings

All fire alarm system equipment shall be listed for it's intended purpose and be compatibility listed to assure the integrity of the complete system.

1.3 Standards

The fire alarm equipment and installation shall comply with the current provisions of the following standards and shall be listed for its intended purpose and be compatibility listed to ensure integrity of the complete system.

1.3.1 Codes and standards listed on Sheet FA-002 of the Contract Drawings.

1.3.4 Local Authorities Having Jurisdiction

1.3.5 Underwriters Laboratories Inc.

All equipment shall be approved by Underwriters Laboratories, Inc. for its intended purpose, listed as power limited by Underwriters Laboratories, Inc., for the following standards as applicable:

UL 864 UOJZ	Control units for Fire Protective Signaling Systems
	Local Signaling Unit
	Central Station Signaling Protected Premises Unit
	Remote Signaling Protected Premises Unit.
	Water Deluge Releasing Unit
UL 2572	Mass Notification Standard
UL 2075	CO Detectors Connected to FACP
UL 268	Smoke Detectors for Fire Protective Signaling systems
UL 268A	Smoke Detectors for duct applications
UL 217	Smoke Detectors for Single Stations
UL 521	Heat Detectors for Fire Protective Signaling systems
UL 228	Door Holders for Fire Protective Signaling systems
UL 464	Audible Signaling appliances
UL 1638	Visual Signaling appliances
UL 38	Manually Activated Signaling Boxes
UL 346	Waterflow indicators for Fire Protective Signaling systems
UL 1481	Power Supplies for Fire Protective Signaling systems.
UL1711	Amplifiers for Fire Protection Signaling Systems

1.3.6 Americans with Disabilities Act (ADA).

All visual Notification appliances and manual pull stations shall comply with the requirements of the Americans with Disabilities Act.

1.4 General Requirements

1.4.1 Manufacturers/Distributors Services:

1.4.1.1 The following supervision shall be provided by a trained fire alarm system service technician. The technician's name shall appear on equipment submittals and sent to the project engineer. The technician shall be responsible for the following items:

1. A pre-installation visit to the job site to review equipment submittals and to verify the method by which the system is to be wired.
2. During installation, the technician shall be on site or make periodic visits to verify installation and wiring of the system. The technician shall also supervise the completion of conduit rough, wires pulled into conduit and wiring rough, and ready for trim.
3. Upon completion of wiring, final checkout and certification of the system shall be made under the supervision of this technician.
4. At the time of the formal checkout, the technician shall give operational instructions to the District and or his representative on the system.

1.4.2 Submittals

The contractor shall submit three (3) complete sets of documentation within thirty (30) calendar days after award of the purchase order. Indicated in the document will be the type, size, rating, style, catalog number, manufacturer names, photos, and/or catalog data sheets for all items proposed to meet these specifications. CSFM Listing sheets shall be provided for all equipment and devices. The proposed equipment shall be subject to the approval of the Architect/Engineer and no equipment shall be ordered or installed on the premises without that approval.

Supplier qualifications shall be submitted indicating years in business, service policies, warranty definitions, NICET certification or equivalent where required, completion of a factory training program and a list of similar installations.

Contractor qualifications shall be supplied indicating years in business and prior experience with installations that include the type of equipment that is to be supplied. The contractor shall provide hourly Service Rates, performed by a factory trained technician for this installed Life Safety System with the submittal. Proof of training shall be included with the submittal. These hourly service rates shall be guaranteed for a 1-year period.

1.4.2 Contract close-out Submittals

Deliver two (2) copies of the following to the District's representative within Thirty (30) days of system acceptance. The closeout submittals shall include:

1. Installation and Programming manuals for the installed Life Safety System.
2. Point to point diagrams of the entire Life Safety System as installed. This shall include all connected Smoke Detectors and addressable field modules.
3. All drawings must reflect device address as verified in the presence of the engineer and/or District.
4. As-built drawings indicating any deviations from the Contract Drawings.

1.4.3 Warranty

Warranty all materials, installation, and workmanship for a one (1) year period, unless otherwise specified. A copy of the manufacturer warranty shall be provided with the close out documentation.

1.4.5 Products

This Life Safety System Specification must be conformed to in its entirety to ensure that the installed and programmed Life Safety System will accommodate all the requirements and operations required by the District. Any specified item or operational feature not specifically addressed prior to the bid date will be required to be met without exception.

1.4.6 General Equipment and Materials Requirements

All equipment furnished for this project shall be new and unused. All components shall be designed for uninterrupted duty. All equipment, materials, accessories, devices and other facilities covered by this specification or noted on the contract drawings and installation specification shall be best suited for the intended use and shall be provided by a single manufacturer. If any of the equipment provided under this specification is provided by different manufacturers, then that equipment shall be "Listed" as to its compatibility by Underwriters Laboratories (UL), if such compatibility is required by UL standards.

PART 2 - SPECIFICATIONS

2.1 General

2.1.1 Control Panel with Emergency Communication System

The existing fire alarm control panel (FACP) is the Silent Knight 6820EVS analog addressable fire alarm control panel with emergency communication system. The audio amplifiers shall be the Silent Knight EVS-50W, EVS-125W, EVS-INT50W or EVS-100W units as specified on the Contract Drawings.

The system must contain at least one (1) Silent Knight EVS-50W, EVS-125W, EVS-INT50W or EVS-100W amplifier and shall be expandable from 50 to 1000 watts utilizing up to a total of 8 amplifiers. The EVS-50W and EVS-125W amplifiers shall be able to add a 4-zone splitter (Silent Knight EVS-CE4) to distribute the audio information to different locations. The system shall have the capability of controlling up to 32 notification zones. The amplifiers must contain the capability of being remotely located through a four-wire SBUS communications circuit and a two-wire VBUS voice circuit. The system shall have the capability of adding up to 4 EVS-LOCs local operating consoles.

The emergency communication system must have the capability of downloading fifteen (15) 60 second messages and utilize DSP technology for higher audio intelligibility.

The emergency communication system shall be capable of operating at 25vrms or 70.7vrms (EVS-50W and EVS-INT50W) and must be field selectable at the amplifier level. Systems that require additional modules for voltage conversion shall not be accepted.

2.1.2 System Wiring

The Signaling Line Circuit (SLC) and Data Communication Bus (SBUS) shall be wired with standard NEC 760 compliant wiring. All FACP screw terminals shall be able to accept 12-18 AWG wire. All system wiring shall be in accordance with the requirements of the 2019 California Electrical Code (CEC).

2.1.3 Signaling Line Circuits

Each SLC shall be capable of a wiring distance of 5,000 feet from the SLC driver module (6815) and be able to support 127 addressable module devices. The communication protocol to SLC devices must be digital. Any SLC loop device, which goes into alarm, must interrupt the polling cycle for priority response from the FACP. The FACP must respond consistently to a device that goes into alarm on an SLC in under 10 seconds. The auxiliary 6815 SLC loop module must be capable of being located up to 6000 feet from the FACP on an RS-485 bus, which is separate from the SLC bus. The SLC shall be capable of functioning in a class A or class B configuration.

2.1.4 SLC Loop Devices

Devices supported include photoelectric smoke detectors, heat detectors, combination fire and CO detectors, contact monitoring modules and relay output modules. There is to be no limit to the number of any particular device type, up to the maximum of 159 detectors and 159 modules that can be connected to the SLC.

2.1.5 Addressable detector functions

The products of combustion detectors must communicate analog values using a digital protocol to the control panel for the following functions:

1. Automatic compliance with NFPA 72 standards for detector sensitivity testing
2. Drift compensation to assure detector is operating correctly
3. Maintenance alert when a detector nears the trouble condition
4. Trouble alert when a detector is out of tolerance
5. Alert control panel of analog values that indicate fire.

2.1.6 Distributed Power Module

The contractor shall supply power modules, Model 5895XL, compatible with the model 6820EVS fire alarm control panel. The power module must have 6 amps of output power, six Flexput® circuits rated at 3 amps each, and two Form C relay circuits rated at 6 amps at 24 volts DC. The six Flexput circuits shall be capable of being programmed as supervised reverse polarity notification circuits or supervised auxiliary power circuits that can be programmed as continuous, resettable or door holder power. The circuits shall also be programmable as input circuits in Class A or B configurations to support dry contact or compatible two wire smoke detectors.

The power module shall be capable of being connected via an RS-485 system bus (SBUS) at a maximum distance of 6,000 feet from the main control panel. It shall contain an additional RS-485 system bus that is completely compatible with all 6820EVS add-on SBUS modules, annunciators, serial/parallel modules and addressable devices. The power module will also act as a bus repeater so that additional RS-485 (modules) devices can be connected at a maximum distance of 6,000 feet from the power module.

The 5895XL power modules must have 6 amps of output power and six circuits rated at 3 amps each. The circuits can be programmed as notification outputs or auxiliary power outputs of door holder, constant, resettable and sounder base synchronization types.

The 6820EVS shall be able to support up to eight (8) of the Distributed Power Modules in any combination.

The power module's RS-485 bus shall be electrically isolated providing ground loop isolation and transient protection.

2.1.7 Notification Appliance Mapping Structure

All notification circuits and modules shall be programmable via a mapping structure that allows for a maximum of 999 output groups. Each of these groups shall be able to be triggered by any of the panels 999 zones. A group may be triggered from a zone individually, or may contain a global trigger for manual pull stations, fire drills and two different system alarms.

Each zone will individually control the cadence pattern of each of the groups that it is "Mapped" to so that sounders can indicate a variety of conditions. The zone shall able to issue a different cadence pattern for each of the groups under its control. The mapping structure must also allow a group to be designated to "ignore cadence" for use with strobes and other continuous input devices.

Zones shall have eight different output categories; Detector alarm, Trouble, Supervisory, Pre-alarm, Waterflow, Manual pull, Zone auxiliary one and Zone Auxiliary two. Each of the categories shall be able to control from 1 to 8 output groups with a cadence pattern. The patterns are; March code, ANSI 3.41, Single Stroke Bell Temporal, California code, Zone 1 coded, Zone 2 coded, Zone 3 coded, Zone 4 coded, Zone 5 coded, Zone 6 coded, Zone 7 coded, Zone 8 coded, Custom output pattern 1, Custom output pattern 2, Custom output pattern 3, Custom output pattern 4 and Constant.

Each NAC circuit can also be configured to produce one of four synchronization patterns: AMSECO synchronization, Gentex synchronization, System Sensor synchronization, and Wheelock synchronization. This mapping/cadence pattern shall be supported by all system power supplies and Notification Expander Modules. This mapping/cadence pattern shall be supported by all system power supplies and Notification Expander Modules.
In addition, synchronization is built-in for Amseco®, Gentex®, System Sensor®, and Wheelock® devices. This mapping/cadence pattern shall be supported by all system power supplies and Notification Expander Modules.

2.2 SYSTEM OPERATION

2.2.1 Alarm

When a device indicates any alarm condition the control panel must respond within 10 seconds. The General Alarm or Supervisory Alarm LED on the annunciator(s) should light and the LCD should prompt the user as to the number of current events. The alarm information must be stored in event memory for later review. Event memory must be available at the main and all remote annunciators.
When the alarmed device is restored to normal, the control panel shall be required to be manually reset to clear the alarm condition, except that the alarms may be silenced as programmed.
An alarm shall be silenced by a code at the main or remote annunciators. When silenced, this shall not prevent the resounding of subsequent events if another event should occur (subsequent alarm feature). When alarms are silenced the silenced LED on the control panel, and on any remote annunciators shall remain lit, until the alarmed device is returned to normal.

2.2.2 Troubles

When a device indicates a trouble condition, the control panel System Trouble LED should light, and the LCD should prompt the user as to the number of current events. The trouble information must be stored in event memory for later review. Event memory must be available at the main and all remote annunciators.

When the device in trouble is restored to normal, the control panel shall be automatically reset. The trouble restore information must be stored in event memory for later review. Event memory must be available at the main and all remote annunciators. A trouble shall be silenced by pressing Silence at the main panel or a code or Firefighter key at the remote annunciators. When silenced, this shall not prevent the resounding of subsequent events if another event should occur.

2.2.3 Supervision Methods

Each SLC loop shall be electrically supervised for opens and ground faults in the circuit wiring, and shall be so arranged that a fault condition on any loop will not cause an alarm to sound. Additionally, every addressable device connected to the SLC will be supervised and individually identified if in a fault condition. The occurrence of any fault will light a trouble LED and sound the system trouble sounder, but will not interfere with the proper operation of any circuit which does not have a fault condition.

Each indicating appliance circuit shall be electrically supervised for opens, grounds and short circuit faults, on the circuit wiring, and shall be so arranged that a fault condition on any indicating appliance circuit or group of circuits will not cause an alarm to sound. The occurrence of any fault will light the trouble LED and sound the system trouble sounder, but will not interfere with the proper operation of any circuit which does not have a fault condition.

PART 3 - ACCESSORY COMPONENTS

3.1 The FACP shall support the following devices on the RS-485 data bus:

EVS-SW24	Additional 24 Zone Switch Module
EVS-50W	50-Watt Amplifier
EVS-125W	125-Watt Amplifier
EVS-100W	50/100 Watt Amplifier
EVS-INT50W	50-Watt Internal Amplifier
EVS-100WBU	External Backup Amplifier
EVS-CE4	4 Zone Splitter
EVS-LOC	Local Operator Console (15 max.)
EVS-VCM	Voice Control Module
6815	Signaling Line Circuit Expander (SLC) Module
6860	LCD Remote Annunciator
6855	LCD Remote Annunciator
5860	LCD Remote Annunciator
5824	Printer Interface Module
5865-3	LED Remote Annunciator
5865-4	LED Remote Annunciator with reset and silence switches
5880	LED I/O module
5883	Relay Interface Board
5895XL	Intelligent Distributed Power Module
5496	Intelligent Remote Power Supply 6.0 Amp
SK-NIC	Network Interface Card
SK-NIC-KIT	Installation Accessory Kit
SK-FML	Fiber Module, Multi-Mode
SK-FSL	Fiber Module, Single-Mode

3.2 The FACP shall support the operation 159 automatic detector devices and 159 addressable modules per SLC loop

The following devices shall be supported:

SK-PHOTO-W	Photoelectric smoke detector, white
SK-PHOTO-R-W	Photoelectric det. with remote test capability, white
SK-PHOTO-T-W	Photoelectric smoke detector with fixed thermal heat (135°F), white
SK-PTIR-W	Multi criteria photoelectric smoke detector with thermal 135°F fixed temperature, white
SK-HEAT-W	Fixed thermal detector (135°F), white
SK-HEAT-ROR-W	Fixed rate of rise detector, white
SK-HEAT-HT-W	Fixed high temperature heat detector (190°F), white
SK-HEAT-ROR-W	Fixed rate of rise detector, white
SK-FIRE-CO-W	Four criteria fire and carbon monoxide detector, white
OSI-RI-SK	Reflected beam smoke detector
SK-DUCT	Photoelectric duct smoke detector with extended air speed range
SK-CONTROL	Supervised control module
SK-CONTROL-6	Six circuit supervised control module
SK-ISO	Fault isolator module
SK-MINIMON	Mini monitor module
SK-MONITOR	Monitor module
SK-MONITOR-2	Dual input monitor module
SK-MON-10	10- input monitor module
SK-PULL-SA	Addressable single action pull station
SK-PULL-DA	Addressable dual action pull station
SK-RELAY	Addressable relay module
SK-RELAY-6	Addressable Six relay control module
SK-RELAYMON-2	Addressable Dual relay/monitor module
SK-ZONE	Addressable zone interface module
SK-ZONE-6	Six zone interface module
B300-6	White, standard flanged low-profile mounting base
B300-6-BP	Bulk pack of B300-6, package contains 10
B300-6-IV	Ivory, standard flanged low-profile mounting base
B501-WHITE	White, standard European flangeless mounting base
B501-BL	Black, standard European flangeless mounting base
B501-IV	Ivory, standard European flangeless mounting base
B501-WHITE-BP	Bulk pack of B501-WHITE, contains 10
B200S-WH	White, Intelligent, programmable sounder base
B200S-IV	Ivory, Intelligent, programmable sounder base
B200SR-WH	White, Intelligent sounder base for retrofit applications
B200SR-IV	Ivory, Intelligent sounder base for retrofit applications
B200S-LF-WH	White, Low Frequency Intelligent, programmable sounder base
B200S-LF-IV	Ivory, Low Frequency Intelligent, programmable sounder base
B200SR-LF-WH	White, Low Frequency Intelligent sounder base for retrofit applications
B200SR-LF-IV	Ivory, Low Frequency Intelligent sounder base for retrofit applications
B224RB-WH	White, plug-in System Sensor® relay base
B224RB-IV	Ivory, plug-in System Sensor relay base
B224BI-WH	White, plug-in System Sensor isolator detector base
B224BI-IV	Ivory, plug-in System Sensor isolator detector base
SK-Pull-SA	Addressable Single Action Pull Station
SK-Pull-DA	Addressable Dual Action Pull Station

The FACP shall support these other Honeywell devices via addressable input, addressable notification, or addressable output modules.

PS-SATK	Single Action Manual Pull Station - Key Reset
PS-DATK	Dual action Manual Pull Station - Key Reset
RTS151KEY	Remote Test Switch for Photoelectric Duct Detector
RTS151	Remote Test Switch for Photoelectric Duct Detector

3.3 Furnish and install, where shown on the drawings, the following devices:

3.3.1 Manual Fire Alarm Stations

Manual fire alarm stations shall be non-coded, break glass, double action type, with a key operated test-reset lock in order that they may be tested, and so designed that after actual emergency operation, they cannot be restored to normal except by use of a key. The reset key shall be so designed that it will reset manual station and open FACP without use of another key. An operated station shall automatically condition itself to be visually detected, as operated, at a minimum distance of fifty feet, front or side. Manual stations shall be constructed of die cast metal or polycarbonate with clearly visible operating instructions on the front of the stations in raised letters.

Stations shall be suitable for surface mounting on matching back box, or semi-flush mounting on a standard single-gang box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) dependent on manual station accessibility or per local requirements.

Manual stations shall be installed in conjunction with an addressable input module, SK-MONITOR or SK-MINIMON. Manual stations shall be Honeywell Underwriters Laboratories listed.

3.3.2 Remote Power Supplies

The remote power supplies for notification appliances shall be the model 5895XL. The Model intelligent power supply shall wire on the main SBUS and be programmed through the 6820EVS control. The 5895XL will support 6 amps of 24-volt DC power, with 6 Flexput circuits, rated at 3amps each. The 5895XL power supply will also regenerate the S-Bus for an additional 6000'.

3.3.3 Notification Devices

The visual and audio/visual signaling devices shall be compatible with the 6820EVS and 5895XL as stated in the installation manuals and be listed with Underwriters Laboratories Inc. per UL 1971 and/or 1638. Each indicating appliance circuit shall be electrically supervised for opens, grounds and short circuit faults, on the circuit wiring, and shall be so arranged that a fault condition on any indicating appliance circuit or group of circuits will not cause an alarm to sound. The occurrence of any fault will light the trouble LED and sound the system trouble sounder, but will not interfere with the proper operation of any circuit which does not have a fault condition.

The notification appliance (combination audio/visual units only) shall produce a peak sound output of 90dba or greater as measured in an anechoic chamber. The appliance shall be able to meet the candela requirements of the blueprints presented by the Engineer and ADA. The appliance shall be polarized to allow for electrical supervision of the system wiring.

The unit shall be provided with terminals with barriers for input/output wiring and be able to mount a single gang or double gang box or double workbox with the use of an adapter plate. The unit shall have an input voltage range of 19-30 volts.

3.3.4 Smoke Detectors

Smoke detectors shall be ceiling mounted. The combination detector head and twist lock base shall be U.L. listed compatible with the Honeywell Silent Knight 6820EVS fire alarm control panel. The bases shall be the appropriate twist lock type.

The smoke detectors shall have a flashing status LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady at full brilliance. The detector may be reset by actuating the control panel's reset switch. The sensitivity of the detector shall be capable of being selected and measured by the control panel without the need for external test equipment. The vandal security-locking feature shall be used in those areas as indicated on the drawing.

The locking feature shall be field selectable when required. It shall be possible to perform a sensitivity test of the detector without the need of generating smoke. The test method shall simulate the effects of products of combustion in the chamber to ensure testing of the detector circuits.

Detectors shall have completely closed back to restrict entry of dust and air turbulence and have a 30-mesh insect screen. Electronics of the unit shall be shielded to protect against false alarms from E.M.I. and R.F.I.

3.3.5 Heat Detectors

Furnish and install analog/addressable heat detectors as indicated on the drawings, The combination heat detector and twist lock base shall be U.L. listed compatible with the Honeywell 6820EVS fire alarm control panel. The base shall be appropriate twist lock type.

The heat detector shall have a flashing status LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady at full brilliance. The detector may be reset by actuating the control panel's reset switch. The vandal security-locking feature shall be used in those areas as indicated on the drawings. Electronics of the unit shall be shielded to protect against false alarms from E.M.I. and R.F.I.

3.3.6 Duct Detectors

Duct Detector shall be as indicated on the drawings.

PART 4 - WIRING

4.1 Installer's Responsibilities

The installer shall coordinate the installation of the fire alarm equipment. All conductors and wiring shall be installed according to the manufacturer's recommendations. It shall be the installer's responsibility to coordinate with the supplier, regarding the correct wiring procedures before installing any conduits or conductors. All system wiring shall be new; existing fire alarm system wiring shall be disconnected, removed, and not utilized to serve the new system. All wiring between buildings shall be contiguous and no splices shall be made.

4.2 Installation of System Components

System components shall be installed in accordance with the latest revisions of the appropriate NFPA pamphlets, the requirements contained herein, California Electrical Code (CEC), local and state regulations, the requirements of the fire department and other applicable authorities having jurisdiction (AHJ).

All wire used on the fire alarm system shall be U.L. Listed as fire alarm protection signaling circuit cable per California Electrical Code, Articles 760.

PART 5 - WARRANTY AND FINAL TEST

5.1 General

The contractor shall warrant all equipment and wiring free from inherent mechanical and electrical defects for one-year from the date of final acceptance.

5.2 Final Test

Before the installation shall be considered completed and acceptable by the awarding authority, a test of the system shall be performed as follows:

The contractor's job foreman, a representative of the owner, and the fire department shall operate every building fire alarm device to ensure proper operation and correct annunciation at the control panel.

At least one half of all tests shall be performed on battery standby power. Where application of heat would destroy any detector, it may be manually activated. The communication loops and the indicating appliance circuits shall be opened in at least two (2) locations per circuit to check for the presence of correct supervision circuitry.

When the testing has been completed to the satisfaction of both the contractor's job foreman and Inspector of Record, a notarized letter cosigned by each attesting to the satisfactory completion of said testing shall be forwarded to the District, Department of State Architect, and the fire department.

The contractor shall leave the fire alarm system in proper working order, and, without additional expense to the owner, shall replace any defective materials or equipment provided by him under this contract within one year (365 days) from the date of final acceptance by the awarding authority.

Prior to final test the fire department must be notified 10-days in accordance.

5.3 As Built Drawings, Testing, and Maintenance Instructions

5.3.1 "As-Built" Drawings

A complete set of reproducible "as-built" drawings showing installed wiring, color coding, and wire tag notations for exact locations of all installed equipment, specific interconnections between all equipment, and internal wiring of the equipment shall be delivered to the owner upon completion of system.

5.3.2 Operating and Instruction Manuals

Operating and instruction manuals shall be submitted prior to testing of the system. Three (3) complete sets of operating and instruction manuals shall be delivered to the owner upon completion. User operating instructions shall be provided prominently displayed on a separate sheet located next to the control unit in accordance with U.L. Standard 864.

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ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: ,
CHECKED BY: CAC
PLOT DATE: 09-27-22

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

BrokawDesign
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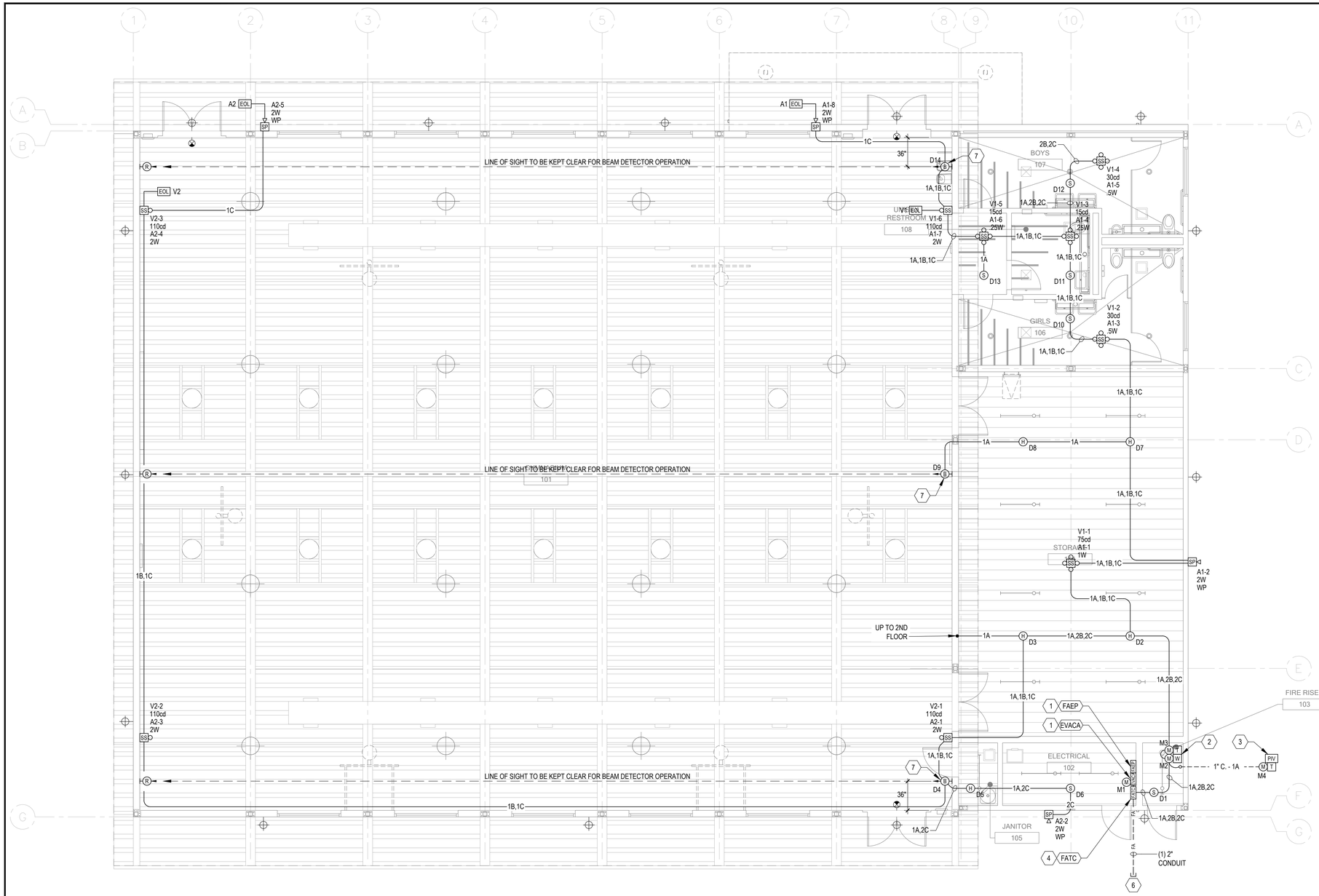
REGISTERED PROFESSIONAL ENGINEER — COURTNEY A. CROW — No. E-18925 — Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA
09-27-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

FIRE ALARM SPECIFICATIONS

FA-102



1 FIRE ALARM PLAN

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

FIRE ALARM WIRING LEGEND	
TYPE	DESCRIPTION
A	2#16 AWG SHIELDED TWISTED FOR DATA
B	2#14 AWG UNSHIELDED STRANDED COPPER FOR STROBE
C	2#14 AWG UNSHIELDED STRANDED COPPER FOR STROBE
D	2#14 AWG FOR 24VDC POWER
E	6-STRAND 62.5 MICRON MM FIBER FOR VOICE AMPLIFIER
F	NOT USED
G	NOT USED

SHEET NOTES - FIRE ALARM

A. ALL WIRING INSTALLED UNDERGROUND SHALL BE RATED FOR UNDERGROUND USE.

B. ALL WIRING INSTALLED IN PLENUM SPACES SHALL BE PLENUM RATED.

C. ALL RISER CABLES SHALL BE RISER RATED.

D. ALL EXTERIOR EQUIPMENT SHALL BE WEATHER-PROOF OR NEMA 3R RATED.

E. PROVIDE LABELING ON ALL SITE CABLING TO INDICATE BUILDING SERVED AND FEEDING BUILDING.

F. ALL CABLING BETWEEN BUILDINGS SHALL BE CONTINUOUS AND WITHOUT SPLICES.

G. PROVIDE WIRE CAGES FOR ALL FIRE ALARM DEVICES IN THE GYM.

H. FIRE ALARM CABLING SHALL BE INSTALLED IN CONDUIT, 3/4" MINIMUM SIZE.

KEYED NOTES - FIRE ALARM (X)

1. PROVIDE DEDICATED 20A, 120VAC BRANCH CIRCUIT TO FIRE EQUIPMENT. THE CIRCUIT BREAKER SHALL BE COLORED RED. PROVIDE CIRCUIT BREAKER LOCK-ON DEVICE.

2. SWITCHES AT FIRE SPRINKLER RISER. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.

3. TAMPER SWITCHES AT SITE VALVES. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.

4. 18" x 18" x 4" SCREW COVER FIRE ALARM TERMINAL CAN FOR WIRING MANAGEMENT.

5. DUCT SMOKE DETECTOR PROVIDED AND INSTALLED BY MECHANICAL; MONITORED BY FIRE ALARM.

6. STUB CONDUIT OUT 15'-0" FROM BUILDING TOWARDS SITE PULLBOX. SEE INCREMENT 1 DRAWINGS FOR EXACT LOCATION OF INCOMING FIRE ALARM CONDUIT.

7. MOUNT BEAM DETECTOR 36" MAXIMUM BELOW ROOF STRUCTURE.

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ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: . PLOT DATE: 09-27-22
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PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

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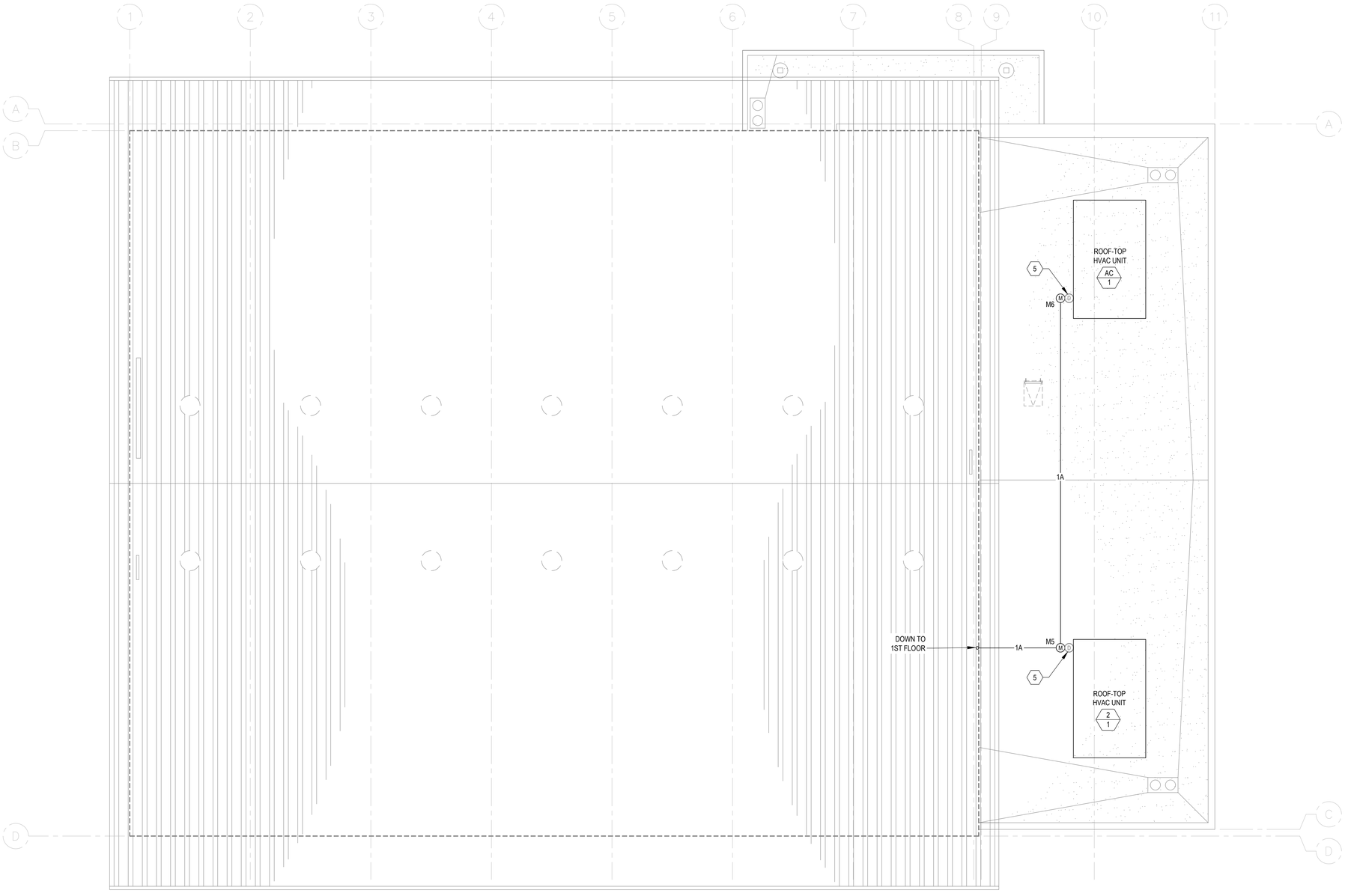
REGISTERED PROFESSIONAL ENGINEER — COURTNEY A. CRAIG — No. 21825 — Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA

09-27-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

FIRE ALRM PLAN

FA-201



1 FIRE ALARM ROOF PLAN

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

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D. ALL EXTERIOR EQUIPMENT SHALL BE WEATHER-PROOF OR NEMA 3R RATED.

E. PROVIDE LABELING ON ALL SITE CABLING TO INDICATE BUILDING SERVED AND FEEDING BUILDING.

F. ALL CABLING BETWEEN BUILDINGS SHALL BE CONTINUOUS AND WITHOUT SPLICES.

G. PROVIDE WIRE CAGES FOR ALL FIRE ALARM DEVICES IN THE GYM.

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KEYED NOTES - FIRE ALARM (X)

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ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: . PLOT DATE: 09-27-22
CHECKED BY: CAC

PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

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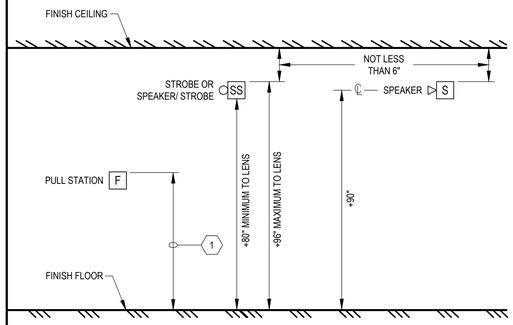
REGISTERED PROFESSIONAL ENGINEER
COURTNEY A. CRAIG
No. E-18935
Exp. 12-31-23
ELECTRICAL
STATE OF CALIFORNIA

09-27-22

SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
PROJECT NUMBER:	XXXX

FIRE ALARM ROOF PLAN

FA-202

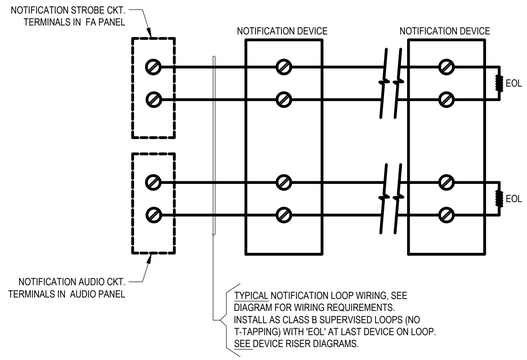


DETAIL KEYED NOTES

1. THE HEIGHT OF THE MANUAL FIRE ALARM BOX SHALL NOT BE LESS THAN 42 INCHES AND NOT MORE THAN 48 INCHES MEASUREED VERTICALLY, FROM THE FLOOR LEVEL TO THE HIGHEST POINT OF THE ACTIVATING HANDLE OR LEVER OF THE BOX (CBC 907.4.2.2)

1 FIRE ALARM DEVICE MOUNTING

NOT TO SCALE

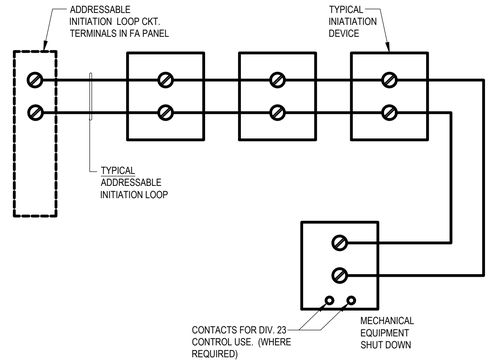


DETAIL NOTES

A. SEE PLAN FOR ACTUAL TYPE OF DEVICES, TYPICAL.

2 NOTIFICATION TYPICAL LOOP WIRING DIAGRAM

NOT TO SCALE



DETAIL NOTES

A. NO T-TAPPING ALLOWED ON ADDRESSABLE LOOPS.

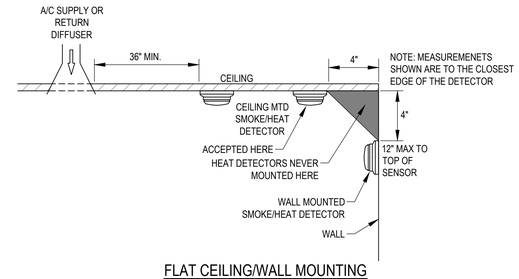
B. MAXIMUM TOTAL LENGTH OF 3,000 FEET OR AS PER MANUFACTURER.

C. PROPERLY TERMINATE SHIELDS AND DRAINS AS PER SYSTEM SUPPLIERS RECOMMENDED INSTRUCTIONS.

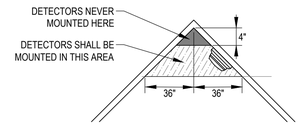
D. SEE PLAN FOR ACTUAL TYPE OF DEVICES, TYPICAL.

3 INITIATION TYPICAL LOOP WIRING DIAGRAM

NOT TO SCALE



FLAT CEILING/WALL MOUNTING



SLOPE CEILING WITH PEAK MOUNTING

4 SMOKE/HEAT DETECTOR MOUNTING

NOT TO SCALE

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09-27-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

FIRE ALARM DETAILS

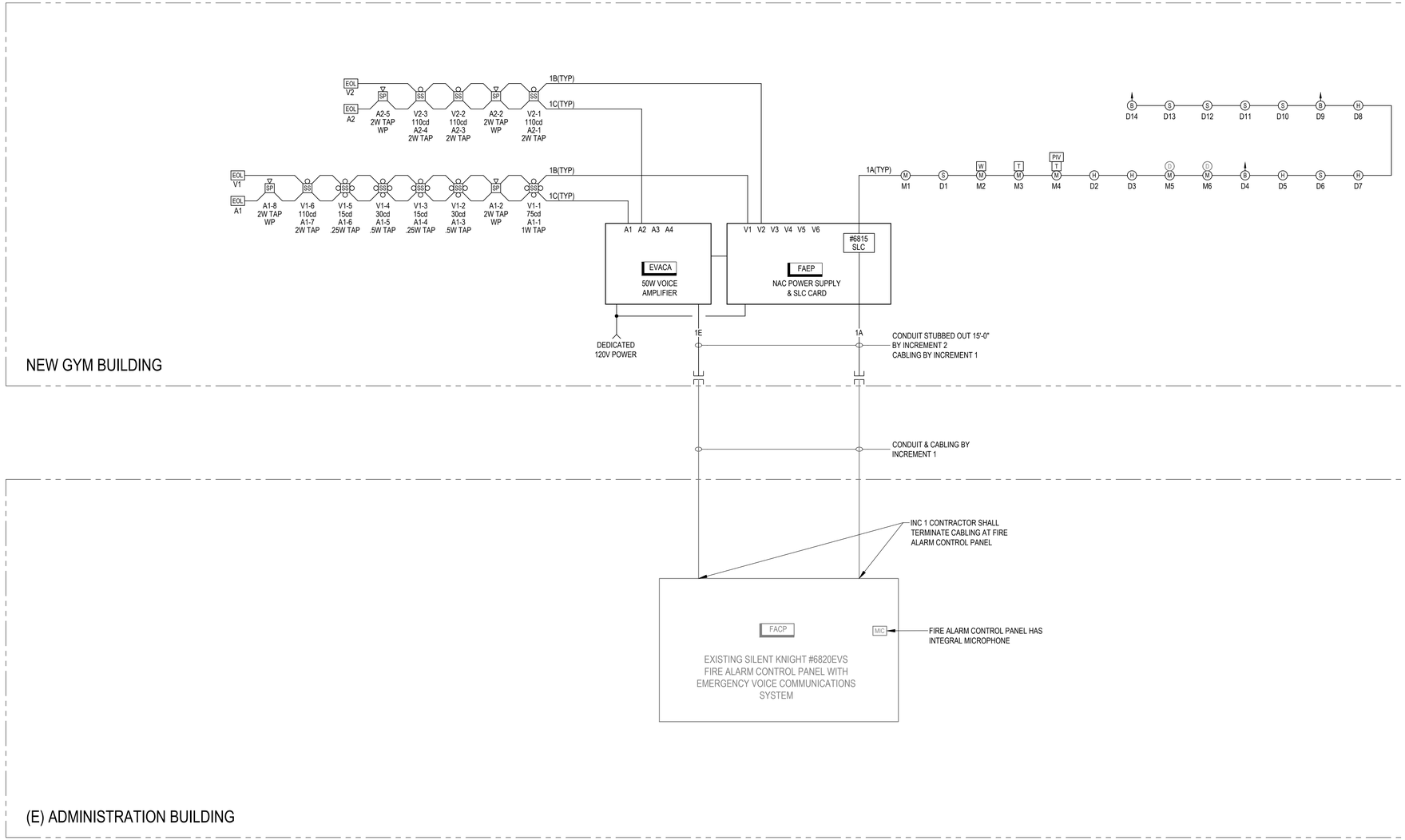
FA-511

FIRE ALARM SYSTEM NOTES

1. ALL FIRE ALARM WIRING SHALL BE PER MANUFACTURER'S REQUIREMENTS.
2. ALL NOTIFICATION CIRCUITS SHALL BE SYNCHRONIZED.
3. NO "T" TAPPING OF SUPERVISED LOOPS.

FIRE ALARM SYSTEM WIRE LEGEND

TYPE	DESCRIPTION
A	2#16 AWG UNSHIELDED TWISTED FOR DATA
B	2#14 AWG UNSHIELDED STRANDED COPPER FOR STROBE
C	2#14 AWG SHIELDED STRANDED COPPER FOR SPEAKER
D	2#14 AWG FOR 24VDC POWER
E	6-STRAND 62.5 MICRON MM FIBER FOR VOICE AMPLIFIER



1 SINGLE LINE DIAGRAM - FIRE ALARM

NOT TO SCALE

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SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
PROJECT NUMBER:	XXXX

FIRE ALARM DIAGRAMS

FA-601

EVACA Voice System Amplifier Battery Calculation

Secondary Power Source Requirements

	Standby Current (amps)					Secondary Alarm Current (amps)				
Device Type	Qty		Current Draw		Total	Qty		Current Draw		Total
1. System										
Primary Console	1	X	0.1200	=	0.1200	1	X	9.0000	=	9.0000
2. Speakers (Maximum 50 Watts)										
1/4 Watt	2	X	0.0000	=	0.0000	2	X	0.0170	=	0.0340
1/2 Watt	2	X	0.0000	=	0.0000	2	X	0.0330	=	0.0660
3/4 Watt	0	X	0.0000	=		0	X	0.0500	=	
1 Watt	1	X	0.0000	=	0.0000	1	X	0.0680	=	0.0680
2 Watt	8	X	0.0000	=	0.0000	8	X	0.1320	=	1.0560
Total Watts:	**18.5**	**50W AMPLIFIER PROVIDED**								
					Total Standby Load	**0.1200**				**Total Alarm Load**	**10.2240**

Calculation in Total Sheet

					Required Standby Time in Hours
					24 Hours
Standby Load Current (Amps)	**0.1200 Amps**	X	24	=	2.880 AH
					Required Alarm Time in Hours
					15 Minutes
Alarm Load Current (Amps)	**10.2240 Amps**	X	0.25	=	2.556 AH
				Total Current Load	**5.44 AH**
	*Multiply by the Derating Factor		1.2	=	x 1.20
				Total Ampere Hours Required	**6.52 AH**

Batteries Provided:	**BAT-12120 - 12AH Batteries**

FIRE ALARM EQUIPMENT LIST

SYMBOL	ITEM	MANUFACTURER & MODEL No.	CSFM LISTING NUMBER	STANDBY CURRENT	ALARM CURRENT
FACP	EXISTING FIRE ALARM CONTROL PANEL WITH VOICE	FACP - SILENT KNIGHT: 6820EVS			
EVACA	EMERGENCY VOICE ALARM COMMUNICATION SYSTEM AMPLIFIER: 50W WITH 4 OUTPUT CIRCUITS	SILENT KNIGHT: EVS-50W WITH SK-FSL FIBER CARD	7165-0559:0500	85mA	525mA
FAEP	NAC POWER SUPPLY WITH (1) SLC CARD AND SEISMIC COMPLIANCE KIT	SILENT KNIGHT: 5895XL/6815/SK-SCK	7165-0559:0500	118mA	238mA
R	RELAY MODULE	SILENT KNIGHT: SK-RELAY	7300-0059:0155	0.255mA	0.255mA
M	MONITOR MODULE	SILENT KNIGHT: SK-MINIMON	7300-0059:0155	0.350mA	0.350mA
S	PHOTO SMOKE DETECTOR	SILENT KNIGHT: SK-PHOTO-W WITH B300-6 BASE	7272-0559:0512	0.200mA	4.5mA
H	HEAT DETECTOR: STANDARD HEAT DETECTOR: ABOVE CLG (AC)	SILENT KNIGHT: SK-HEAT-W/B300-6 SILENT KNIGHT: SK-HEAT-HT-W/B300-6	7272-0559:0511	0.200mA	4.5mA
B ►—◄ R	BEAM TYPE SMOKE DETECTOR	SILENT KNIGHT: OSI-RI-SK	7260-0559:0515	14mA	15mA
SS 15	SPEAKER/STROBE - WALL MOUNT (NUMBER ADJACENT TO SYMBOL ON PLAN INDICATES CANDELLA RATING TO BE PROVIDED)	WHEELOCK #E50H-24MCW-FR	7320-0785:0172 15cd 30cd 75cd 110cd	 0mA 0mA 0mA 0mA	 60mA 92mA 165mA 220mA
SS 15	SPEAKER/STROBE - CEILING MOUNT (NUMBER ADJACENT TO SYMBOL ON PLAN INDICATES CANDELLA RATING TO BE PROVIDED)	WHEELOCK #E60H-24MCC-FR	7320-0785:0134 15cd 30cd 75cd 95cd	 	 60mA 105mA 189mA 249mA
SP WP	WP SPEAKER W/ FLUSH MOUNT BOX	WHEELOCK #ET-1010-R/WFP	7125-0785:0105		

FAEP POWER SUPPLY BATTERY CALCULATION

Part.#	Description	Qty	Current Draw Standby	Alarm	
5895XL	5895XL Pwr Module	1	0.040	0.160	
6815	SLC Expander Card	1	0.078	0.078	
SK-RELAY	Relay Module	0	0.000	0.000	
SK-MINIMON	Mini Monitor Module	6	0.002	0.002	
SK-PHOTO	Photo Smoke Detector	6	0.001	0.027	
SK-HEAT	Heat Detector	5	0.001	0.023	
OSI-RI-SK	Beam Detector	3	0.042	0.045	
			0.000	0.000	
			0.000	0.000	
PGM-I/O #1	Notification Appl Circuit	1	0.000	0.859	
PGM-I/O #2	Notification Appl Circuit	1	0.000	0.880	
PGM-I/O #3	Notification Appl Circuit	0	0.000	0.900	
PGM-I/O #4	Notification Appl Circuit	0	0.000	0.000	
PGM-I/O #5	24V Power to Sounder Base	0	0.000	0.000	
PGM-I/O #6	24V Power to Sounder Base	0	0.000	0.000	
	Total Standby Current (Amps)		0.164	2.974	
	Standby Time In Hours		24	0.250	Alarm Time In Minutes / 60 (15 Mins)
	Total Standby AH Required		3.943	0.743	Total Alarm AH Required
	Total Combined AH Required		4.69		
	Multiply By The Derating Factor		1.20		
	Minimum Battery AmpHours Required		**5.62**		**PROVIDE BAT-1270 7AH BATTERIES**

Voltage Drop Calculation: FAEP Strobe Circuit #V1

NEW GYM BUILDING

DC SUP. VOLTS= 20.4 WIRE= 14 OHMS PER FT= .0026

											TOTALS:
FEET :	60	65	15	15	20	15					190 FT. (1-10)
DEVICE #:	V1-1	V1-2	V1-3	V1-4	V1-5	V1-6	V1-7	V1-8	V1-9	V1-10	
mA LOAD:	135	82	60	82	60	220				220	859 mA (1-10)
VOLTAGE:	20.13	19.89	19.84	19.79	19.74	19.71	19.71	19.71	19.71	19.71	
											3.4% V-DROP

Voltage Drop Calculation: FAEP Strobe Circuit #V2

NEW GYM BUILDING

DC SUP. VOLTS= 20.4 WIRE= 14 OHMS PER FT= .0026

											TOTALS:
FEET :	80	120	75								275 FT. (1-10)
DEVICE #:	V1-1	V1-2	V1-3	V1-4	V1-5	V1-6	V1-7	V1-8	V1-9	V1-10	
mA LOAD:	220	220	220							220	880 mA (1-10)
VOLTAGE:	20.03	19.62	19.45	19.45	19.45	19.45	19.45	19.45	19.45	19.45	
											4.7% V-DROP

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STATE OF CALIFORNIA

09-27-22

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
PROJECT NUMBER: XXXX

FIRE ALARM SCHEDULES & CALCULATIONS
FA-701

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

1	2	3	4
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft²)**	**Total Fenestration Area (ft²)**	**Window to Wall Ratio (%)**
North-Facing[1]	2,154 ft²	0 ft²	00.0%
East Facing[2]	2,702 ft²	318 ft²	11.8%
South-Facing[3]	2,154 ft²	15 ft²	00.7%
West-Facing[4]	2,711 ft²	316 ft²	11.7%
Total:	**9,721 ft²**	**650 ft²**	**06.7%**
Roof	7,596 ft²	44 ft²	00.6%

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

G3. OPAQUE SURFACE ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9	10
Surface Name	**Surface Type**	**Area (ft²)**	**Framing Type**	**Cavity R-Value**	**Continuous R-Value**	**Units**	**Value**	**Description of Assembly Layers**	**Status[1]**
Lower Roof11	Roof	1658	NA	0	30	U-Factor	0.030	Single Ply Roofing - 1/4 in. Compliance Insulation R30.00 Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Gypsum Board - 5/8 in.	N
2x6 Stucco Walls13	ExteriorWall	1709	Metal	21	6	U-Factor	0.080	Stucco - 7/8 in. Gypsum Board - 1/2 in. Metal framed wall, 16in. OC, S.Sin., R-21 Compliance Insulation R6.46 Gypsum Board - 5/8 in.	N
Slab On Grade16	UndergroundFloor	7515	NA	0	NA	F-Factor	0.73	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0	N

A. GENERAL INFORMATION

1	Project Location (city)	San Jose	8	Standards Version	Compliance2019
2	CA Zip Code	95132	9	Compliance Software (version)	EnergyPro 8.3
3	Climate Zone	4	10	Weather File	SAN-JOSE-INTL_724945_CZ2010.epw
4	Total Conditioned Floor Area in Scope	7,467 ft²	11	Building Orientation (deg)	(F) 90 deg
5	Total Unconditioned Floor Area	0 ft²	12	Permitted Scope of Work	NewEnvelopeAndLighting
6	Total # of Stories (Habitable Above Grade)	1	13	Building Type(s)	Nonresidential
7	Total # of dwelling units	0	14	Gas Type	Natural Gas

B. PROJECT SUMMARY

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

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

G3. OPAQUE SURFACE ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9	10
Surface Name	**Surface Type**	**Area (ft²)**	**Framing Type**	**Cavity R-Value**	**Continuous R-Value**	**Units**	**Value**	**Description of Assembly Layers**	**Status[1]**
Int Walls22	InteriorWall	2722	Metal	19	NA	U-Factor	0.156	Gypsum Board - 5/8 in. Metal framed wall, 16in. OC, S.Sin., R-19 Gypsum Board - 5/8 in.	N
GYM - 2x8 Metal Siding Wa38	ExteriorWall	2154	Metal	19	6	U-Factor	0.077	Metal Siding - 1/16 in. Vapor permeable felt - 1/8 in. Gypsum Board - 1/2 in. Metal framed wall, 16in. OC, 7.25in., R-19 Compliance Insulation R6.46 Gypsum Board - 5/8 in.	N
GYM 2x8 Stucco Walls40	ExteriorWall	5867	Metal	19	6	U-Factor	0.077	Stucco - 7/8 in. Gypsum Board - 1/2 in. Metal framed wall, 16in. OC, 7.25in., R-19 Compliance Insulation R6.46 Gypsum Board - 5/8 in.	N
MF Project Roof69	Roof	5938	NA	0	30	U-Factor	0.031	Metal Standing Seam - 1/16 in. Compliance Insulation R30.00 Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more	N

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

G4. OPAQUE DOOR SUMMARY

1	2	3
Assembly Name	**Overall U-factor**	**Status[1]**
Metal Door46	0.700	N

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

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	61.15	63.54	-2.39
Space Cooling	42.99	45.08	-2.09
Indoor Fans	22.39	19.43	2.96
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	--	--	--
Indoor Lighting	62.23	53.09	9.14
ENERGY STANDARDS COMPLIANCE TOTAL	**188.76**	**181.14**	**7.62 (4.0%)**

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

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

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

Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	25.95	25.95	--
Process	--	--	--
Other Ltg	--	--	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	**214.71**	**207.09**	**7.6 (3.5%)**

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

G5. FENESTRATION ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9
Fenestration Assembly Name / Tag or I.D.	**Fenestration Type / Product Type / Frame Type**	**Certification Method[1]**	**Assembly Method**	**Area ft²**	**Overall U-factor**	**Overall SHGC**	**Overall VT**	**Status[2]**
PPG SOLARBAN 70 XL Clear	VerticalFenestration FixedWindow N/A	NFRC Rated	SiteBuilt	644	0.39	0.25	0.49	N
Door Glass	VerticalFenestration GlazedDoor MetalFraming	Default Performance	Manufactured	6	0.77	0.70	0.53	N
Skylight	Skylight FixedWindow N/A	NFRC Rated	Manufactured	44	0.40	0.27	0.42	N

[1] Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA8 and are used in the analysis.
[2] Status: N - New, A – Altered, E – Existing

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO

1	2	3	4	5	6
				Additional (Custom) Allowance	
Occupancy Type [1]	**Conditioned Floor Area [2] (ft²)**	**Installed Lighting Power (Watts)**	**Lighting Control Credits (Watts)**	**Area Category Footnotes (Watts)**	**Tailored Method (Watts)**
Restrooms	532	300	0	0	0
Sports Arena - Playing Area (Recreational)	5,857	3,099	0	0	0
Commercial/Industrial Storage (Warehouse)	939	371	0	0	0
Electrical, Mechanical, Telephone Rooms	139	56	0	0	0
Building Totals:	**7,467**	**3,826**	**0**	**0**	**0**

[1] See Table 140.6-C
[2] See NRCC-LTI-01-E for unconditioned spaces
[3] Lighting information for existing spaces modified is not included in the table

C3. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	--	--	--	229.8	238.7	-8.9
Space Cooling	5.1	5.3	-0.2	--	--	--
Indoor Fans	4.8	4.5	0.3	--	--	--
Heat Rejection	--	--	--	--	--	--
Pumps & Misc.	--	--	--	--	--	--
Domestic Hot Water	--	--	--	--	--	--
Indoor Lighting	15.6	13.3	2.3	--	--	--
Compliance Total	**25.5**	**23.1**	**2.4**	**229.8**	**238.7**	**-8.9**
Receptacle	6.5	6.5	0.0	--	--	--
Process	--	--	--	--	--	--
Other Ltg	--	--	--	--	--	--
Process Motors	--	--	--	--	--	--
TOTAL	**32.0**	**29.6**	**2.4**	**229.8**	**238.7**	**-8.9**

D. EXCEPTIONAL CONDITIONS

The building does not include service water heating. Verify that service water heating is not required and is not included in the design.

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

The proposed building includes space(s) that are modeled with unknown HVAC system(s). Verify that the spaces modeled with unknown HVAC system(s) are either part of core and shell analysis which will be permitted for mechanical compliance in the future, or the spaces have an existing HVAC system not modeled for compliance, or the compliance scope does not include mechanical.

E. HERS VERIFICATION

This Section Does Not Apply

T24-1

ENERGY COMPLIANCE

SCALE: AS NOTED
JLA PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 2226/3 94

WILSON ARCHITECTURE
1000 SIBLEY STREET, SUITE 100
FOLSOM, CA 95630
PHONE: (916) 985-2222
NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
C10861
EXPIRES 08-31-2023
STATE OF CALIFORNIA

INCREMENT #2

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

DRAWN BY: JPH
CHECKED BY: NEW
FOOTGAME: 08.11.2022

ISSUE
1 DISTRICT REVIEW 09.08.2022
2 DSA SUBMITTAL V1 10.03.2022

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

Building Component	Form/Title
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings
Indoor Lighting	NRCI-LTI-01-E - Must be submitted for all buildings

K2. INDOOR CONDITIONED LIGHTING SCHEDULE

Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft² in offices)

		Installed Watts (Conditioned)			
1	2	3	4	5	6
Name or Item Tag	Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per luminaire	How Wattage is Determined	Total Number Luminaires	Installed Watts
LP14A	LW14A	27	According to §130.0(c)	1	27
LP14B	LP14B	43	According to §130.0(c)	8	344
LPA	LPA	193	According to §130.0(c)	16	3,088
LR6A	LR6A	11	According to §130.0(c)	1	11
LR6B	LR6B	23	According to §130.0(c)	6	138
LW14A	LW14A	27	According to §130.0(c)	4	108
LW18A	LW18A	54	According to §130.0(c)	1	54

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
S-1-Restrooms	Restrooms	NA	0.00 0.00 0.00 0.00 0.00 0.00	LW14A	54.0	2	54	0
S-1-Restrooms	Restrooms	NA	0.00 0.00	LR6B	69.0	3	69	0

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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

Building Component	Form/Title
Envelope	NRCA-ENV-02-F - NFRC label verification for fenestration
Indoor Lighting	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
			0.00 0.00 0.00					
S-1-Restrooms	Restrooms	NA	0.00 0.00 0.00 0.00 0.00 0.00	LW14A	54.0	2	54	0
S-1-Restrooms	Restrooms	NA	0.00 0.00 0.00 0.00 0.00 0.00	LR6B	69.0	3	69	0
S-1-Restrooms	Restrooms	NA	0.00 0.00 0.00 0.00 0.00 0.00	LW18A	54.0	1	54	0
S-2-GYM	Sports Arena - Playing Area (Recreational)	NA	0.00 0.00 0.00 0.00 0.00 0.00	LPA	3088.0	16	3088	0
S-2-GYM	Sports Arena - Playing Area (Recreational)	NA	0.00 0.00 0.00 0.00 0.00 0.00	LR6A	11.0	1	11	0
S-3-Storage Areas	Commercial/Industrial Storage (Warehouse)	NA	0.00 0.00 0.00 0.00 0.00 0.00	LP14A	27.0	1	27	0

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Matt Hargadon	Signature: Matt Hargadon	
Company: Guttmann & Blaevoet Consulting Engineers		
Address: 1620 Montgomery St.	Signature Date: 2022-09-26	
City/State/Zip: San Francisco CA 94133	CEA/ HERS Certification Identification (if applicable):	
Phone: 4156554000		

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Envelope Designer Name: Norm Wilson	Signature:		
Company: Wilson Architecture, Inc.			
Address: 609 15th Street	Date Signed: 09/26/2022		
City/State/Zip: Modesto CA 95354			
Phone: (209) 577-0114	Title: ARCHITECT	License #: C10051	
Responsible Lighting Designer Name: Courtney Chuenyane	Signature:		
Company: Brokaw Design			
Address: 6060 Dawn Drive	Date Signed: 09-26-22		
City/State/Zip: Rohnert Park CA 94928			
Phone: (707) 799-6822	Title: Electrical Engineer	License #: E18225	
Responsible Mechanical Designer Name: Brad Manning	Signature: NOT IN SCOPE		
Company: TEP Engineering			
Address: 880 Second Street	Date Signed:		
City/State/Zip: Santa Rosa CA 95404			
Phone: (707) 538-0400	Title:	License #: M30815	

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
			0.00					
S-3-Storage Areas	Commercial/Industrial Storage (Warehouse)	NA	0.00 0.00 0.00 0.00 0.00 0.00	LP14B	344.0	8	344	0

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS

Building Level Controls

1	2
Mandatory Demand Response §110.12(c)	Shut-Off Controls §130.1(c)
Required	Required

Area Level Controls (includes all lighting controls installed in conditioned space to meet mandatory requirements per §130.1)

4	5	6	7	8	9	10
Area Description	Area Category Primary Function Area	Area Controls 130.1(a)	Multi-Level Controls 130.1(b)	Shut-Off Controls 130.1(c)	Primary Daylighting 130.1(d)	Secondary Daylighting 140.5(d)

T24-2

ENERGY COMPLIANCE

SCALE: AS NOTED
JLA PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 2226734

WILSON ARCHITECTURE, INC.
609 15th STREET
MODESTO, CA 95354
(209) 577-0114
NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
C10051
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
09-30-2023

INCREMENT #2

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

DRAWN BY: JPH
CHECKED BY: NEW
POSTDATE: 08.11.2022

ISSUE
1 DSA SUBMITTAL
2 DISTRICT REVIEW
DSA SUBMITTAL V1

DATE
09.08.2022
10.03.2022

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Piedmont Middle School: New Modular Gym	Report Page: (Page 4 of 9)
Project Address:	955 Piedmont Rd	Date Prepared: 9/23/2022

G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name:	AC-1 and AC-2	Economizer:[1]	Differential Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B Device	Design Airflow through Device (CFM)
SF	Supply	2	16000	BHP	7.22	NA	NA
EF	Exhaust	1	0	BHP	0.15	NA	NA
Total System Design Supply Airflow (CFM):			16000	Total System Design (B)HP:	14.59	Maximum System Fan Power (B)HP:	15.04

[1] *FOOTNOTES: Computer room economizers must meet requirements of §140.9(a) and will be documented on the NRCC-PRC-E document.*

[2] *The unit used for HP must be consistent for all fans within a system.*

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)2E for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats §110.2(b) & (c)[1], §120.2(a)or §141.0(b)2E	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(g)	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(n)
AC-1 and AC-2	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-09-23 15:42:04

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.		
Project Name:	Piedmont Middle School: New Modular Gym	Report Page: (Page 1 of 9)
Project Address:	955 Piedmont Rd	Date Prepared: 9/23/2022

A. GENERAL INFORMATION

01 Project Location (city)	San Jose	04 Total Conditioned Floor Area	7467
02 Climate Zone	4	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1
☐ Office (B)	☐ Retail (M)	☒ Non-refrigerated Warehouse (S)	
☐ Hotel/ Motel Guest Rooms (R-1)	☐ School (E)	☐ Healthcare Facility (I)	
☐ High-Rise Residential (R-2/R-3)	☐ Relocatable Class Bldg (E)	☒ Other (write in)	See Table J

B. PROJECT SCOPE

This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
☒ Heating Air System	☐ Water Economizer	☒ Air Economizer
☒ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
Mechanical Controls	☐ System Piping	☒ Fan Systems
☒ Mechanical Controls (existing to remain, altered or new)	☐ Cooling Towers	☒ Ductwork (existing to remain, altered or new)
	☐ Chillers	☒ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-09-23 15:42:04

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Piedmont Middle School: New Modular Gym	Report Page: (Page 5 of 9)
Project Address:	955 Piedmont Rd	Date Prepared: 9/23/2022

I. SYSTEM CONTROLS

[1] *FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.*

*Notes: Controls with a * require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d) : EXCEPTION 1 to §140.4(f)

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in §120.1 and §120.2(e)3B for all nonresidential, high-rise residential and hotel/motel occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☒	Check this box if the project included Nonresidential or Hotel/Motel spaces
	☐	Check this box if the project included new or altered high-rise residential dwelling units.
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per §120.1(c)2.

Nonresidential and Hotel/ Motel Ventilation Systems

04		05			06		07	
System Name	AC-1 and AC-2	System Design OA CFM Airflow[1]		3569	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	16
		Mechanical Ventilation Required per §120.1(c)3 [3]			Exh. Vent per §120.1(c)4			
Space Name ot Item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Restrooms	Toilet, public	531.7	5		0	350	500	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-09-23 15:42:04

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Piedmont Middle School: New Modular Gym	Report Page: (Page 2 of 9)
Project Address:	955 Piedmont Rd	Date Prepared: 9/23/2022

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08	09
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers §140.4(c), §140.4(e)	AND	System Controls §110.2, §120.2, §140.4(f)	AND	Ventilation §120.1	AND	Terminal Box Controls §140.4(d)	AND	Distribution §120.3, §140.4(l)	AND	Cooling Towers §110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLY
Mandatory Measures Compliance (See Table Q 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.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-09-23 15:42:04

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Piedmont Middle School: New Modular Gym	Report Page: (Page 6 of 9)
Project Address:	955 Piedmont Rd	Date Prepared: 9/23/2022

J. VENTILATION AND INDOOR AIR QUALITY

GYM	Gym/ sports arena (play area)	5857.2			2928.6	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
Storage Areas	Occupiable storage rooms for liquids/ gels	938.8			140.8	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
Elect. and Mech. Areas	All others	138.8			0	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				3069	18	Ventilation for this System Complies?		Yes

[1] *FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system*

[2] *Air filtration requirements apply to the following three system types per §120.1(c)1A : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.*

[3] *Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.*

[4] *See Standards Tables 120.1-A and 120.1-B.*

[5] *For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.*

[6] *§120.2(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).*

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in §120.3 and prescriptive requirements found in §140.4(l) for duct leakage testing.

Duct Leakage Sealing

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-09-23 15:42:04

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Piedmont Middle School: New Modular Gym	Report Page: (Page 3 of 9)
Project Address:	955 Piedmont Rd	Date Prepared: 9/23/2022

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(k) or §141.0(b)2 for alterations.

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
				Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b)						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Smallest Size Available[1] §140.4(a)	Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
AC-1 and AC-2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	439.59	227	132.49	401.85	186.7	325.52	587.07

[1] *FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a). Healthcare facilities are excepted.*

[2] *It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.*

[3] *If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.*

[4] *Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).*

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
		Heating Mode				Cooling Mode		
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
AC-1 and AC-2	>=240,000		COP	3.2	3.2	EER IEER	9.5 10.6	10.6 12

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2022-09-23 15:42:04

T24-3

ENERGY COMPLIANCE

SCALE: AS NOTED
JSA PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 2226/3.94

WILSON ARCHITECTURE
WILSON ARCHITECTURE, INC.
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PHONE: (510)357-3114
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NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES 08-31-2023
C10861
STATE OF CALIFORNIA

INCREMENT #2

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

DRAWN BY: JPH
CHECKED BY: NEW
FOOTCAME: 08.11.2022

ISSUE
1 DISTRICT REVIEW 09.08.2022
2 DSA SUBMITTAL V1 10.03.2022

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — **NRCC-PLB-E**

This document is used to demonstrate compliance for nonresidential occupancies with requirements in §110.1, §110.3, §120.3, and §140.5, and with requirements in §141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in §110.1, §110.3, §120.3, §150.0 and §150.1(c)8, and with requirements §150.2 for additions.

Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 1 of 6)**
Project Address:	955 Piedmont Rd	**Date Prepared:**	9/23/2022

A. GENERAL INFORMATION

01	Project Location (city)	San Jose	02	Climate Zone	4
03	Occupancy Types Within Project (select all that apply):				
☒ Nonresidential	☐ High-Rise Residential	☐ Hotel/Motel			
☐ State Building	☐ Healthcare Facility	☐ Other (Write In)			

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in §140.5, §150.1(c)8, and §141.0(a), or §141.0(b)2N for additions or alterations. Solar water heating systems are documented on the NRCC-SRA compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03		
My project consists of (check all that apply):	System Type[1,2]	System Components		
☒ New system (DHW system being installed for the first time in newly constructed building)	Individual System (serving nonresidential spaces)	☒ Equipment	☒ Distribution	☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution	☐ Controls

[1] *FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.*

[2] *Dwelling units refers to hotel/motel guest rooms and units in a high-rise residential occupancy.*

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — **NRCC-MCH-E**

Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 7 of 9)**
Project Address:	955 Piedmont Rd	**Date Prepared:**	9/23/2022

L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: AC-1 and AC-2 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	No	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1R or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector	
	Pass	Fail
NRCI-MCH-01-E - Must be submitted for all buildings	☐	☐

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — **NRCC-PLB-E**

Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 2 of 6)**
Project Address:	955 Piedmont Rd	**Date Prepared:**	9/23/2022

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance.

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	**Compliance Results**
Table F	Table G	Table H	
Yes	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — **NRCC-MCH-E**

Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 8 of 9)**
Project Address:	955 Piedmont Rd	**Date Prepared:**	9/23/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Form/Title	Systems/Spaces To Be Field Verified	Field Inspector	
		Pass	Fail
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.	CARRIER 50TCQD24;	☐	☐
NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes". If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".		☐	☐
NRCA-MCH-05-A - Air Economizer Controls	CARRIER 50TCQD24;	☐	☐
NRCA-MCH-11-A Automatic Demand Shed Controls	CARRIER 50TCQD24;	☐	☐
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	CARRIER 50TCQD24;	☐	☐
NRCA-MCH-16-A Supply Air Temperature Reset Controls	CARRIER 50TCQD24;	☐	☐
NRCA-MCH-18-A Energy Management Control Systems	CARRIER 50TCQD24;	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

	01	02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	M-Sheets

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — **NRCC-PLB-E**

Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 3 of 6)**
Project Address:	955 Piedmont Rd	**Date Prepared:**	9/23/2022

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in §110.1 and §110.3. For high-rise residential and hotel/motel occupancies, compliance with prescriptive requirements in §150.1(c)8 must also be demonstrated and with §150.2 for addition and alteration scopes.

Equipment Schedule: Individual Systems

01	02	03	04	05	06
Name or Item Tag	Equipment Type	Volume (gal)	Max GPM/ First Hour Rating (FHR)	Rated Uniform Energy Factor (UEF)	Minimum Required Uniform Energy Factor (UEF)[1]
A. O. SMITH DEL-20	Electric Storage	<=30	18 <= FHR <51	0.94	0.86

[1] *FOOTNOTE: Compliant equipment may be found in the Modernized Appliance Efficiency Database System (MAEDBS) on the Energy Commission website: https://cacertappliances.energy.ca.gov/Pages/Search/AdvancedSearch.aspx*

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	☐	☐	☒	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-12. Label required per §110.3(c)3
19	☐	☐	☒	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per §110.3(c)5
20	☐	☐	☒	Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per §110.3(c)6

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — **NRCC-MCH-E**

Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 9 of 9)**
Project Address:	955 Piedmont Rd	**Date Prepared:**	9/23/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Matt Hargadon	Documentation Author Signature: Matt Hargadon
Company: Guttmann & Blaevoet Consulting Engineers	Signature Date: 2022-09-23
Address: 1620 Montgomery St.	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: San Francisco CA 94133	Phone: 4156554000

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: Brad Manning	Responsible Designer Signature: Brad Manning
Company: EEP Engineering	Date Signed: 2022-09-23
Address: 880 Second Street	License: M30815
City/State/Zip: Santa Rosa CA 95404	Phone: (707) 538-0400

T24-4

ENERGY COMPLIANCE

SCALE: AS NOTED
JSA PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 2226734

WILSON ARCHITECTURE
NORMAN E. WILSON
LICENSED ARCHITECT
NORMAN E. WILSON
C10861
EXPIRES 08-31-2023
STATE OF CALIFORNIA

INCREMENT #2

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

DRAWN BY: JPH
CHECKED BY: NEW
PLOT DATE: 08.11.2022

ISSUE
1 DISTRICT REVIEW 09.08.2022
2 DSA SUBMITTAL V1 10.03.2022

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-E

This document is used to demonstrate compliance with mandatory requirements in §130.5 for electrical systems in newly constructed nonresidential, high-rise residential and hotel/motel occupancies. Additions and alterations to electrical service systems in these occupancies will also use this document to demonstrate compliance per §141.0(a) or §141.0(b)2F for alterations.

Project Name: Piedmont Middle School New Modular Gym	Report Page: Page 1 of 4
Project Address: 955 Piedmont Road, San Jose, CA 95132	Date Prepared: 09-27-22

A. GENERAL INFORMATION

01 Project Location (city)	SAN JOSE	02 Occupancy Types Within Project:		
☐ Office	☐ Retail	☐ Warehouse	☐ Hotel/ Motel	☑ School	☐ Support Areas
☐ Parking Garage	☐ High-Rise Residential	☐ Relocatable	☐ Healthcare Facilities	☐ Other (Write In):	

B. PROJECT SCOPE

Table Instructions: Include any electrical service systems that are within the scope of the permit application.

01	02	03	04	05	06
					Demand Response Controls
Electrical Service Designation/ Description	Scope of Work[1]	Rating (kVA)	Utility Provided Metering System Exception to §130.5(a)[2]	System subject to CA Elec Code Article 517 Exception to §130.5(a)&(b)	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections §120.2, §130.1 and §130.3 and compliance documents NRCC-MCH, NRCC-LTI and NRCC-LTS will indicate when demand response controls are required.
DP	Add/Alt to feeders and branch circuits only		☐	☐	

[1] *FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c), no other requirements from 130.5 are required.*
[2] *Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.*

C. COMPLIANCE RESULTS

Table Instructions: If this table says "DOES NOT COMPLY" refer to Table D. for guidance and review the Table that indicates "No".

01		02		03		04	05
Service Electrical Metering §130.5(a)	AND	Separation for Monitoring §130.5(b)	AND	Voltage Drop §130.5(c)	AND	Controlled Receptacles §130.5(d)	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)	
	AND		AND	Yes	AND		COMPLIES

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Piedmont Middle School: New Modular Gym	Report Page: (Page 4 of 6)
Project Address:	955 Piedmont Rd	Date Prepared: 9/23/2022

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in §120.3 and §140.5. For high-rise residential and hotel/motel occupancies, compliance is demonstrated with requirements §110.3(c), §120.3, §150.0, §150.1

Mandatory Pipe Insulation All Occupancies

12	☒	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per §120.3 : • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
13	☒	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per §120.3(b) and §150.0(l)3

TABLE 120.3-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft² per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)		
			< 1	1 to < 1.5	1.5 to < 4
			Minimum Insulation Required		
105-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-E
Project Name: Piedmont Middle School New Modular Gym	Report Page: Page 2 of 4
Project Address: 955 Piedmont Road, San Jose, CA 95132	Date Prepared: 09-27-22

D. EXCEPTIONAL CONDITIONS

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

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

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

F. SERVICE ELECTRICAL METERING

This Section Does Not Apply

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

This Section Does Not Apply

H. VOLTAGE DROP

Table Instructions: Please complete this table for entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with §130.5(c). For alterations, only the altered circuits must demonstrate compliance per §141.0(b)2Pii.

01	02		03	04	05	
Electrical Service Designation/ Description	Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method		Location of Voltage Drop Calculations[1]	Sheet Number for Voltage Drop Calculations in Construction Documents	Field Inspector	
					Pass	Fail
	☑ Voltage drop < 5%	☐ Permitted by CA Elec Code (Exception to §130.5(c))*	In construction documents	Sheet E-102	☐	☐

**NOTES If "Permitted by CA Elec Code*" is selected under Compliance Method above, please indicate where the exception applies in the space provided below.*
[1] *FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".*

I. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

This Section Does Not Apply

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Piedmont Middle School: New Modular Gym	Report Page: (Page 5 of 6)
Project Address:	955 Piedmont Rd	Date Prepared: 9/23/2022

H. DOMESTIC HOT WATER CONTROLS

This table is used to demonstrate compliance with control requirements in §110.3 for all occupancies. For high-rise residential and hotel/motel occupancies, compliance is also demonstrated with requirements in §150.1(c)8.

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per §110.3(a).
02	☐	☐	☒	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per §110.3(c)1 unless covered by California Plumbing Code 613.0.
03	☐	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per §150.1(c)8Bii, or §150.2 for additions or alterations.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per §150.1(c)8.
06	☐	☐	☒	For replacement single heat pump water heaters serving individual dwelling units in climate zone 1-15, design includes communication interface that meets demand responsive control requirements of §110.12(a) per §150.2(b)1Hii.

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 at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector	
	Pass	Fail
NRCI-PLB-01-E - Must be submitted for all buildings	☐	☐

J.DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to service water heating requirements.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-E
Project Name: Piedmont Middle School New Modular Gym	Report Page: Page 3 of 4
Project Address: 955 Piedmont Road, San Jose, CA 95132	Date Prepared: 09-27-22

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on Information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://ww2.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

YES	NO	Form/Title	Field Inspector	
			Pass	Fail
◉	○	NRCI-ELC-01-E - Must be submitted for all buildings.	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to electrical power distribution requirements.

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Piedmont Middle School: New Modular Gym	Report Page: (Page 6 of 6)
Project Address:	955 Piedmont Rd	Date Prepared: 9/23/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Matt Hargadon	Documentation Author Signature: Matt Hargadon
Company: Guttmann & Blaevoet Consulting Engineers	Signature Date: 2022-09-23
Address: 1620 Montgomery St.	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: San Francisco CA 94133	Phone: 4156554000

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: Brad Manning	Responsible Designer Signature: Brad Manning
Company: IEP Engineering	Date Signed: 2022-09-23
Address: 880 Second Street	License: M30815
City/State/Zip: Santa Rosa CA 95404	Phone: (707) 538-0400

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft

T24-5

ENERGY COMPLIANCE

SCALE: AS NOTED
JSA PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 2226/3 94

WILSON ARCHITECTURE
NORMAN E. WILSON
1988 THE ALAMEDA, SUITE 100
SAN JOSE, CA 95126
PHONE: (408) 296-1111
FAX: (408) 296-1110
NORMAN E. WILSON

LICENSED ARCHITECT — NORMAN E. WILSON — EXPIRES 08-31-2023 — C10861 — STATE OF CALIFORNIA

INCREMENT #2

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

DRAWN BY: JPH
CHECKED BY: NEW
POSTDATE: 08.11.2022

ISSUE
1 DISTRICT REVIEW — 09.08.2022
2 DSA SUBMITTAL V1 — 10.03.2022

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTO-E**
Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 3 of 6)**
Project Address:	955 Piedmont Rd.	**Date Prepared:**	9/26/2022

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total number luminaires[2]	Luminaire Status[3]	Excluded per §140.7(a)	Design Watts	Cutoff Req. > 6,200 initial lumen output §130.2(b)[4]	Field Inspector	
										Pass	Fail
LWA	LWA	☐ Linear	27	Mfr. Spec	15	New	☐	405	NA: < 6200 lumens	☐	☐
							Total Design Watts:	405			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to §130.2(b)

[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c)*
[2] *For linear luminaires, wattage should be indicated as W/ft instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*
[3] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*
[4] *Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by §130.2(b)*

G. CUTOFF REQUIREMENTS (BUG)

This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ELC-E
Project Name:	Piedmont Middle School New Modular Gym	Report Page:	Page 4 of 4
Project Address:	955 Piedmont Road, San Jose, CA 95132	Date Prepared:	09-27-22

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Courtney Chuenyane	Documentation Author Signature:	Courtney Chuenyane (Digitally signed by Courtney Chuenyane Date: 2022.09.27 10:30:54 -07'00')
Company:	Brokaw Design	Signature Date:	09-27-22
Address:	P.O. Box 3103	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Rohnert Park, CA 94927	Phone:	707-799-6822

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:	Courtney Chuenyane	Responsible Designer Signature:	Courtney Chuenyane (Digitally signed by Courtney Chuenyane Date: 2022.09.27 10:30:46 -07'00')
Company :	Brokaw Design	Date Signed:	09-27-22
Address:	P.O. Box 3103	License:	E18225
City/State/Zip:	Rohnert Park, CA 94927	Phone:	

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTO-E**
Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 4 of 6)**
Project Address:	955 Piedmont Rd.	**Date Prepared:**	9/26/2022

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
*When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Mandatory Controls

01	02	03	04	05	
Area Description	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Field Inspector	
				Pass	Fail

* NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX: Not permitted by health & safety to be turned off; EXCEPTION 1 to §130.2(c)

I. LIGHTING POWER ALLOWANCE (per §140.7)

This table includes areas using allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lose it" Allowances are per Table 140.7-B . Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.

	01				
	☐ General Hardscape Allowance Table I (below)	"Use it or lose it" Allowance (select all that apply) (select all that apply)			
		☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☒ Per Specific Area Table M
Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 0, 1 & 4)					
Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 2 & 3)					

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.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTO-E**
Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 1 of 6)**
Project Address:	955 Piedmont Rd.	**Date Prepared:**	9/26/2022

A. GENERAL INFORMATION

01	Project Location (city)	San Jose	04	Total Illuminated Hardscape Area (ft²)	0
02	Climate Zone	4			
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 - Rural Areas	☐	LZ-4: High - Must be reviewed by CA Energy Commission for Approval
☐	LZ-1: Low - Developed Parkland	☒	LZ-3: Moderately High - Urban Areas		

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)2L for alterations.

My Project Consists of:

01	02
☒ New Lighting System	Must Comply with Allowances from §140.7
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ○ Yes ○ No

03	04	05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%		

Please proceed to Table F, Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered) / Existing Luminaires within the Scope of the Permit Application) x 100.*

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTO-E**
Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 5 of 6)**
Project Address:	955 Piedmont Rd.	**Date Prepared:**	9/26/2022

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This table includes areas using the wattage allowance per specific area from Table 140.7-B . 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)[1]	Allowed Density (W/ft²)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	Additional Allowance (Watts)
Facade	BuildingFacade	3570	0.17	606.9	LWA	27	15	405	405
							Total Design Watts for this Area:	405	
							Total Allowance (Watts) All Areas:		405

[1] *FOOTNOTES: See Table 140.7-B 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/ft 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 have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector	
	Pass	Fail
NRCI-LTO-01-E - Must be submitted for all buildings	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no NRCA forms required for this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTO-E**
Project Name:	Piedmont Middle School: New Modular Gym	**Report Page:**	**(Page 6 of 6)**
Project Address:	955 Piedmont Rd.	**Date Prepared:**	9/26/2022

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: if any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) §140.7 or §141.0(b)2L												Compliance Results			
01		02		03		04		05		06		07		08	09
General Hardscape Allowance §140.7(d)1 (See Table I)	+	Per Application §140.7(d)2 (See Table J)	+	Sales Frontage §140.7(d)2 (See Table K)	+	Ornamental §140.7(d)2 (See Table L)	+	Per Specific Area §140.7(d)2 (See Table M)	OR	Existing Power Allowance §141.0(b)2L (See Table N)	=	Total Allowed (Watts)	≥	Total Actual (Watts)	07 must be >= 08
0	+	---	+	---	+	---	+	405	OR	---	=	405	≥	405	COMPLIES
										Cutoff Compliance (See Table G for Details)					N/A
										Controls Compliance (See Table H for Details)					COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with 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.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

T24-6

ENERGY COMPLIANCE

SCALE: AS NOTED
JSA PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 2226Z3 84

WILSON ARCHITECTURE
NORMAN E. WILSON
1005 TOWN & COUNTRY RD. SUITE 50
ORANGE, CA 92868
TEL: (949)770-5114
FAX: (949)770-5118
NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES 08-31-2023
C10981
STATE OF CALIFORNIA

INCREMENT #2

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

DRAWN BY: NEW
CHECKED BY: JPH
PLOT DATE: 08.11.2022

ISSUE
1 DISTRICT REVIEW 09.08.2022
2 DSA SUBMITTAL V1 10.03.2022

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Piedmont Middle School: New Modular Gym	Report Page:	(Page 6 of 6)
Project Address:	955 Piedmont Rd	Date Prepared:	9/26/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Matt Hargadon	Matt Hargadon
Company: Guttmann & Blaevoet Consulting Engineers	Signature Date: 9/26/2022
Address: 1620 Montgomery St.	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: San Francisco CA 94133	Phone: 4156554000

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:
Courtney Chuenyane	Courtney Chuenyane
Company: Brokaw Design	Date Signed: 2022-09-26
Address: 6060 Dawn Drive	License: E18225
City/State/Zip: Rohnert Park CA 94928	Phone: (707) 799-6822

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.1.003
Schema Version: rev 20200601

Registration Provider: Energysoft

Report Generated: 2022-09-26 09:44:10

WILSON ARCHITECTURE
WILSON ARCHITECTURE GROUP, INC.
1685 TECH DRIVE
SAN JOSE, CA 95110
PHONE: (408) 573-0700
FAX: (408) 573-0707
NORMAN E. WILSON
LICENSED ARCHITECT
NORMAN E. WILSON
RENEWAL 08/31/2023
C10861
STATE OF CALIFORNIA

INCREMENT #2

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

DRAWN BY: JPH
CHECKED BY: NEW
PLOT DATE: 08.11.2022

ISSUE	DESCRIPTION	DATE
1	DISTRICT REVIEW	09.08.2022
2	DSA SUBMITTAL V1	10.03.2022

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 2226734

ENERGY COMPLIANCE

T24-7

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name: PIEDMONT MS NEW GYM	Report Page:	Page 4 of 5
Project Address: 955 PIEDMONT RD, SAN JOSE, CA	Date Prepared:	09/26/2022

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
○	◉	NRCI-SPV-01-E - Must be submitted for all newly installed Photovoltaic Systems (PV) being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories	☐	☐
○	◉	NRCI-STH-01-E - Must be submitted for all newly installed Solar Water Heating systems being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to solar ready requirements.

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name: PIEDMONT MS NEW GYM	Report Page:	Page 1 of 5
Project Address: 955 PIEDMONT RD, SAN JOSE, CA	Date Prepared:	09/26/2022

This document is used to demonstrate compliance with mandatory requirements in §110.10 for newly constructed buildings which are either high-rise multifamily ten stories or fewer, hotel/motel ten stories or fewer or all other nonresidential buildings three stories or fewer. It is also used to demonstrate compliance for additions to these building types which add more than 2,000 ft² of roof area. Alterations or additions of less than 2,000 ft² of roof area are not required to comply with §110.10.

A. GENERAL INFORMATION

01	Project Location (city)	SAN JOSE	04	Building Type	Other nonresidential bldg 3 stories or fewer
02	Climate Zone	4	05	Construction Type	New Construction
03	☐ Roof is designed for vehicle traffic, parking or for heliport				

B. PROJECT SCOPE

Table Instructions: Select the compliance path the project is using to comply per §110.10(b)1B.

My project consists of (check one): 01

☑ Provide Solar Ready Area no exceptions	The project has allocated a solar zone on the roof plan per requirements in §110.10(b), as documented in Table F.
☐ Exception to Solar Ready Area: Installed Solar Photovoltaic System	The project includes a permanently installed solar electric system having a nameplate DC power rating, measured under Standard Test Conditions, of no less than one watt per square foot of roof area, as documented in Table G.
☐ Exception to Solar Ready Area: Installed Solar Water Heating System	The project is a hotel/motel or high-rise multifamily occupancy and includes a permanently installed domestic solar water-heating system complying with §150.1(c)8(iii) and Reference Residential Appendix RA4, as documented in Table H.
☐ Exception to Solar Ready Area: Smart Thermostat and Alternative Energy Efficiency Measure	The project is a high-rise multifamily occupancy where all thermostats in each dwelling unit comply with §110.12(a) AND at least one additional measure listed in Exception 4 to §110.10(b)1B is installed, as documented in Table I.

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance or see the applicable Table referenced below

Allocated Solar Zone				Installed PV System				Installed SWH System				Smart Tstat and Alternative EE Measure		Compliance Results
01		02		03		04		05		06		07	08	09
Required Minimum Area (ft²)	≤	Designated Area (ft²)	OR	Required Minimum DC Power Rating (Watts)	≤	Designed DC Power Rating (Watts)	OR	Required Minimum Solar Savings Fraction	≤	Designed/ Rated Solar Savings Fraction	OR	JA5 Compliant Thermostat Specified?	Alternative Energy Efficiency Measure	
(See Table F)				(See Table G)				(See Table H)				(See Table I)		
1,340.253	≤	1,347.58	OR		≤		OR		≤		OR			COMPLIES
ELECTRICAL DRAWINGS Location in construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system per §110.10(c).														COMPLIES

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name: PIEDMONT MS NEW GYM	Report Page:	Page 5 of 5
Project Address: 955 PIEDMONT RD, SAN JOSE, CA	Date Prepared:	09/26/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	NORMAN WILSON	Documentation Author Signature: Norman Wilson	Digitally signed by Norman Wilson Date: 2022.09.26 10:14:54 -07'00'
Company:	WILSON ARCHITECTURE INC	Signature Date:	09/26/2022
Address:	609 15TH ST	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	MODESTO, CA 95354	Phone:	209-577-0114

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:	NORMAN WILSON	Responsible Designer Signature: Norman Wilson	Digitally signed by Norman Wilson Date: 2022.09.26 10:14:38 -07'00'
Company :	WILSON ARCHITECTURE INC	Date Signed:	09/26/2022
Address:	609 15TH ST	License:	C10851
City/State/Zip:	MODESTO, CA 95354	Phone:	209-577-0114

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name: PIEDMONT MS NEW GYM	Report Page:	Page 2 of 5
Project Address: 955 PIEDMONT RD, SAN JOSE, CA	Date Prepared:	09/26/2022

D. EXCEPTIONAL CONDITIONS

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

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

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

F. ALLOCATED SOLAR ZONE

Table Instructions: Complete this table if the project is designating a solar zone to comply with §110.10(b)1B. For new construction consider total roof area; for additions consider newly added roof area.

Required Minimum Solar Zone

01	02	03	04	05	06			07	08
					Potential Solar Zone Areas: Roof Areas with ≥ 70% Solar Access				
Minimum Solar Zone Area Calculation Method	Total New or Added Roof Area (ft²)	Total New or Added Roof Area Covered with Skylights (ft²)	Minimum Solar Zone Based on Total or Added Roof Area (0.15 x (Roof-Sky(t)) (ft²)	Method/Tool(s) Used to Determine Annual Solar Access for Potential Zones[1]	Low-Sloped Area (≤ 2:12 pitch) (ft²)	Steep-Sloped Area (> 2:12 pitch), Oriented 90° - 300° (ft²)	Total Potential Solar Zone Area (ft²)	Minimum Solar Zone Based on Potential Zone (0.5 x (Total Potential Zone)) (ft²)	Required Minimum Solar Zone Area (ft²)
Total New or Added Roof Area	8,979	43.98	1,340.253						1,340.253

Designated Solar Zone Subareas

09	10	11	12	13	14	15	16	17	18	19
Subarea Name or Tag	Building Plan Reference	Roof or Overhang Slope (Low ≤ 2:12 pitch) (Steep > 2:12 pitch)	Is Steep-Sloped Roof or Overhang between 90 and 300 degrees?	Subarea Complies with Title 24, Part 9	Solar Zone Subarea Free of Obstructions per §110.10(b)3A	Subarea is Required Distance from Potential Obstructions per §110.10(b)3B	Is the Smallest Dimension 5 feet or greater?	Min. Area Required per Subarea (ft²)	Designated Area (ft²)	Subarea Complies?

Table Continued

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name: PIEDMONT MS NEW GYM	Report Page:	Page 3 of 5
Project Address: 955 PIEDMONT RD, SAN JOSE, CA	Date Prepared:	09/26/2022

Designated Solar Zone Subareas

09	10	11	12	13	14	15	16	17	18	19
Subarea Name or Tag	Building Plan Reference	Roof or Overhang Slope (Low ≤ 2:12 pitch) (Steep > 2:12 pitch)	Is Steep-Sloped Roof or Overhang between 90 and 300 degrees?	Subarea Complies with Title 24, Part 9	Solar Zone Subarea Free of Obstructions per §110.10(b)3A	Subarea is Required Distance from Potential Obstructions per §110.10(b)3B	Is the Smallest Dimension 5 feet or greater?	Min. Area Required per Subarea (ft²)	Designated Area (ft²)	Subarea Complies?
A	SA300	Low-Sloped		Yes	Yes	Yes	Yes	80	673.79	COMPLIES
B	SA300	Low-Sloped		Yes	Yes	Yes	Yes	80	673.79	COMPLIES
							Total Designated Solar Zone Area (ft²):		1,347.58	

Interconnection Pathways	
Location in construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system per §110.10(c).	ELECTRICAL DRAWINGS

[1] *FOOTNOTE: This field is used to document how the percentage of annual solar access was determined per §110.10(b)1B. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.*

G. PERMANENTLY INSTALLED SOLAR PHOTOVOLTAIC (PV) SYSTEM

This Section Does Not Apply

H. PERMANENTLY INSTALLED SOLAR HOT WATER SYSTEM

This Section Does Not Apply

I. SMART THERMOSTATS AND ALTERNATIVE EFFICIENCY MEASURE

This Section Does Not Apply

SOLAR READY FORMS

T24-8

ENERGY COMPLIANCE

SCALE: AS NOTED
JJA PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 2226734

WILSON ARCHITECTURE
609 15th STREET
MODESTO, CA 95354
209.577.0114
NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
C10851
EXPIRES 08-31-2023
STATE OF CALIFORNIA

INCREMENT #2

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

DRAWN BY: NEW
CHECKED BY: JJH
PLOT DATE: 08.11.2022

ISSUE
1 DISTRICT REVIEW 09.08.2022
2 DSA SUBMITTAL V1 10.03.2022

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

STATE OF CALIFORNIA
Nonresidential Building Commissioning
NRCC-CXR-E (Created 12/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-CXR-E
Project Name: PIEDMONT MS NEW GYM	Report Page:	Page 4 of 5
Project Address: 955 PIEDMONT DR, SAN JOSE, CA	Date Prepared:	09/26/2022

H. BASIS OF DESIGN (BOD)
This Section Does Not Apply

I. CONSTRUCTION DOCUMENT DESIGN REVIEW CHECKLIST
Table Instructions: The design reviewer(s) may fill out the table below or attach a design review document that lists the items checked by the design reviewer(s) during the construction document review. For buildings with ≥ 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the Owner's Project Requirements (Table G.) and the Basis of Design Documents (Table H.). For buildings with < 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the goals documented in Table F. during the Design Review Kickoff.

		YES	NO
01	Attaching Completed Design Review Documentation?	(•)	( )

J. COMMISSIONING PLAN
This Section Does Not Apply

K. FUNCTIONAL PERFORMANCE TESTING
This Section Does Not Apply

L. DOCUMENTATION AND TRAINING
This Section Does Not Apply

M. COMMISSIONING REPORT
This Section Does Not Apply

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
There are no Certificates of Installation applicable to commissioning requirements.

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
Although there are no "CXR" Certificates of Acceptance required to document commissioning requirements, Certificates of Acceptance may be used to supplement functional performance testing required by §120.8(g).

STATE OF CALIFORNIA
Nonresidential Building Commissioning
NRCC-CXR-E (Created 12/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-CXR-E
This document is used to demonstrate compliance with mandatory commissioning requirements in §120.8 for nonresidential buildings and hotel/motel or high-rise residential buildings with nonresidential spaces. This document does not demonstrate compliance with commissioning requirements within Title 24, Part 11, which need to be documented separately if they apply.		
Project Name: PIEDMONT MS NEW GYM	Report Page:	Page 1 of 5
Project Address: 955 PIEDMONT DR, SAN JOSE, CA	Date Prepared:	09/26/2022

A. GENERAL INFORMATION

01	Project Location (city)	SAN JOSE	04	Building Size (ft²)	7,596
02	Occupancy Type	Nonresidential	05	Nonresidential Conditioned Floor Area (ft²)	< 10,000 ft²
03	Project Type	Newly constructed	06	HVAC System Type	Unitary or packaged equipment each serving one zone

B. PROJECT SCOPE
Table Instructions: Based on project information provided in Table A, Table B indicates which commissioning related requirements apply per §120.8. Table B is not editable by the user.

Commissioning Requirements per §120.8			
01	Table F: Design Review Kickoff	§120.8(d1) and §120.8(d2)	The design review kickoff meeting establishes who will play the role of the design reviewer, the project schedule and identify owner's requirements. This meeting should be conducted during schematic design.
02	Table G: Owner's Project Requirements (OPR)	§120.8(b)	This requirement does not apply.
03	Table H: Basis of Design (BOD)	§120.8(c)	This requirement does not apply.
04	Table I: Design Review	§120.8(d) and §120.8(e)	The design reviewer(s) reviews the construction documents for clarity, completeness, and adherence to the owner's goals. Commissioning measures must be included in the construction documents to facilitate the design review and commissioning process. For projects with ≥ 10,000 ft² of nonresidential conditioned floor area, or with complex mechanical systems, the design review is for adherence with the Owner's Project Requirements (OPR) and Basis of Design (BOD). This should be conducted during design.
05	Table J: Commissioning Plan	§120.8(f)	This requirement does not apply.
06	Table K: Functional Performance Testing	§120.8(g)	This requirement does not apply.
07	Table L: Documentation and Training	§120.8(h)	This requirement does not apply.
08	Table M: Commissioning Report	§120.8(i)	This requirement does not apply.

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CERTIFICATE OF COMPLIANCE		NRCC-CXR-E
Project Name: PIEDMONT MS NEW GYM	Report Page:	Page 5 of 5
Project Address: 955 PIEDMONT DR, SAN JOSE, CA	Date Prepared:	09/26/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete

Documentation Author Name:	NORMAN WILSON	Documentation Author Signature:	
Company:	WILSON ARCHITECTURE INC	Signature Date:	09/26/2022
Address:	609 15TH ST	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	MODESTO, CA 95354	Phone:	209-577-0114

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:	NORMAN WILSON	Responsible Designer Signature:	
Company :	WILSON ARCHITECTURE INC	Date Signed:	09/26/2022
Address:	609 15TH ST	License:	C10851
City/State/Zip:	MODESTO, CA 95354	Phone:	209-577-0114

STATE OF CALIFORNIA
Nonresidential Building Commissioning
NRCC-CXR-E (Created 12/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-CXR-E
Project Name: PIEDMONT MS NEW GYM	Report Page:	Page 2 of 5
Project Address: 955 PIEDMONT DR, SAN JOSE, CA	Date Prepared:	09/26/2022

C. COMPLIANCE RESULTS
Table Instructions: Table C will indicate if the project data input into the compliance document is compliant with commissioning requirements per §120.8. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

01	02	03	04	05	06	07	08	09
Design Review Kickoff	Owner's Project Requirements	Basis of Design	Design Review	Commissioning Plan	Functional Performance Testing	Documentation and Training	Commissioning Report	Compliance Results
Table F	Table G	Table H	Table I	Table J	Table K	Table L	Table M	
Yes			Yes					**COMPLIES**
10	Design Reviewer(s) for the project include:			NORMAN WILSON				**COMPLIES**

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

Table I. indicates that a Design Review document is attached to the permit application.

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

F. DESIGN REVIEW KICKOFF MEETING
Table Instructions: Complete this table to indicate that the design reviewer meets the qualification requirements per Title 24, Part 1 Section 10-103(a)1 and to demonstrate compliance with design review kickoff requirements per §120.8(d)2. This meeting should occur during the Schematic Design phase of the project.

Design Review Kickoff Meeting Details

01	Date of Design Review Kickoff Meeting		07/19/2022		
02	Meeting Attendees: (one person may play multiple roles)				
☐	Owner/ Facility Manager:		☐	Design Reviewer(s):	
☒	Project Manager:	JEFF LUCHETTI	☒	Design Architect/ Engineer(s):	NORMAN WILSON
☒	Contractor:	JEFF LUCHETTI	☐	Certified Acceptance Test Tech(s):	
☐	Commissioning Provider:		☐	Energy/ T24 Part 6 Consultant:	

Design Reviewer Qualifications per Title 24, Part 1 Section 10-103(a)1
Table Continued

STATE OF CALIFORNIA
Nonresidential Building Commissioning
NRCC-CXR-E (Created 12/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-CXR-E
Project Name: PIEDMONT MS NEW GYM	Report Page:	Page 3 of 5
Project Address: 955 PIEDMONT DR, SAN JOSE, CA	Date Prepared:	09/26/2022

Table Continued

		Do the Design Reviewer(s) meet these qualifications?	
	The design reviewer(s) must be licensed professional engineers or licensed architects, or licensed contractors representing services performed by or under the direct supervision of a licensed engineer or architect, as specified in the provisions of Division 3 of the Business and Professions Code.	YES	NO
03	In addition, for buildings with < 10,000 ft², the design reviewer(s) may be the engineer or architect of record. The design reviewer(s) may also be a qualified in-house engineer or architect with no other project involvement or a third party engineer, architect or contractor.	(•)	( )
04	The design reviewer(s) for this project will be:	NORMAN WILSON	

Preliminary Construction Schedule

		Start Date	Completion Date
05	Schematic Design	2022-08-03	2022-08-03
06	Design Development	2022-08-03	2022-09-09
07	Construction Documents	2022-08-03	2022-10-04
08	Construction	2023-01-01	2023-05-01
09	Building Turnover	2023-05-01	2023-05-15

Project Goals Related to Energy Efficiency

10	Operational Costs	*MINIMAL ENERGY CONSUMPTION*
11	Desired Building Lifespan	*20 YEARS*
12	Equipment Lifecycle	*20 YEARS*
13	Project Energy Efficiency Goals	*MINIMAL KW/SF*
14	Envelope Goals	*EXCEED REQUIRED ENVELOPE REQUIREMENTS*
15	HVAC System Goals	*SINGLE ZONE UNIT FOR GYM & ACCESSORY USE*
16	Indoor Lighting System Goals	*LED AD LIGHTING LEVELS*
17	Outdoor Lighting System Goals	*NO SITE LIGHTING INVOLVED*
18	Water Heating System Goals	*HOT WATER FOR JANITORAL*
19	Equipment and System Specifications	*SEE MECHICAL DRAWINGS AND UNIT SPECS*
20	Operations and Maintenance	*TRAINING OF DISTRICT STAFF ON OPERATION*

G. OWNER'S PROJECT REQUIREMENTS (OPR)
This Section Does Not Apply

BUILDING COMMISSIONING FORMS

T24-9

ENERGY COMPLIANCE

SCALE: AS NOTED
JLA PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 2226?3 84

WILSON ARCHITECTURE
609 15th STREET
MODESTO, CA 95354
209.577.0114
NORMAN E. WILSON

LICENSED ARCHITECT
NORMAN E. WILSON
EXPIRES 08-31-2023
C10851
STATE OF CALIFORNIA

INCREMENT #2

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

DRAWN BY: JPH
CHECKED BY: NEW
POSTDATE: 08.11.2022

ISSUE
1 DISTRICT REVIEW 09.08.2022
2 DSA SUBMITTAL V1 10.03.2022

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

PROJECT SUMMARY

THIS PROJECT INCLUDES THE INSTALLATION OF (1) WET SPRINKLER SYSTEM THROUGHOUT A NEW SINGLE-STORY 7,335 FT² SCHOOL BUILDING.

THE SPRINKLER SYSTEM WILL BE FED FROM THE NEW SYSTEM RISER. THIS SYSTEM PROVIDES PROTECTION TO THE ENTIRETY OF BUILDING. THE ENTIRE STRUCTURE, USED AS A SCHOOL, IS OF STEEL C-CHANNEL AND LIGHT GAGE STEEL CONSTRUCTION.

GENERAL NOTES:

CRITERIA:

- SYSTEM IS DESIGNED TO NFPA 13 (2016 EDITION).
- ALL SYSTEM PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR 2 HOURS.
- ALL TESTS SHALL BE WITNESSED BY LOCAL FIRE DEPARTMENT.
- ALL CONTROL VALVES SHALL HAVE TAMPER SWITCHES.
- ALL FLOW AND TAMPER SWITCHES TO BE LOCALLY AND CENTRALLY MONITORED.
- ALL HANGERS FOR THIS SYSTEM SHALL BE PER MINIMUM REQUIREMENTS OF NFPA 13, CHAPTER 9
- THE BUILDING SHALL BE ABLE TO SUPPORT THE SPRINKLER PIPING. THIS IS THE RESPONSIBILITY OF THE OWNER AND/OR THEIR STRUCTURAL REPRESENTATIVES.
- THE OWNER SHALL BE RESPONSIBLE FOR MAINTAINING HEAT ABOVE 40°F TO PREVENT THE FREEZING OF SPRINKLER PIPING.
- ALL PAINTING OF PIPE SHALL BE BY OTHERS.
- ALL WIRING SHALL BE BY OTHERS.
- THIS SPRINKLER SYSTEM SHALL BE PROPERLY INSPECTED, TESTED, AND MAINTAINED IN ACCORDANCE WITH NFPA 25 TO PROVIDE AT LEAST THE SAME LEVEL OF PERFORMANCE AND PROTECTION AS IT WAS DESIGNED. THE OWNER SHALL BE RESPONSIBLE FOR MAINTAINING THE SYSTEM AND KEEPING THE SYSTEM IN GOOD OPERATING CONDITION.
- ALL VALVES IN THE RISER ROOM MUST BE ACCESSIBLE PER NFPA 13.

MATERIALS:

- ALL SYSTEM COMPONENTS AND HARDWARE SHALL BE IN COMPLIANCE WITH NFPA 13
- ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED.
- ALL GROOVED PIPE SHALL BE SCH 10 PIPING USED WITH WELDED OUTLETS AND FIRELOCK SHORT RADIUS GROOVED FITTINGS.
- ALL THREADED PIPING TO BE U.L. THREADABLE SCH 40 WITH DUCTILE IRON SCREWED FITTINGS.
- PROVIDE (1) SPARE SPRINKLER HEAD CABINET WITH (6) HEADS AND (1) HEAD WRENCH.

INSTALLATION:

- SPRINKLER HEADS ARE TO BE LOCATED IN THE CENTER POINT OF CEILING TILES.
- NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS.
- AFF ELEVATIONS ARE TAKEN FROM TOP OF FINISHED FLOOR (0'-0")
- FIRE DEPARTMENT VALVES AND DRAINS SHALL BE READILY ACCESSIBLE AT ALL TIMES. PROVIDE 36" CLEARANCE.
- APPROVED FIRE CAULK WILL BE APPLIED ½" THICK ON EACH SIDE OF FIRE RATED WALL ASSEMBLIES.
- ALL PIPE PENETRATING EXTERIOR WALLS TO BE GALVANIZED. ANNULAR SPACE TO BE SEALED AT EACH SIDE OF WALL.
- INSPECTOR'S TEST CONNECTION SHALL BE INSTALLED PER NFPA 13.
- LOCATION OF FIRE DEPARTMENT CONNECTION SHALL BE PER NFPA 13.

C2G / CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners

VIA ELECTRONIC MAIL

CLIENT
Berryessa Unified School District
Attn: Tony Kanastab

Central Kitchen
945 Piedmont Rd
San Jose, CA 95132

Subject: Fire Flow Test at Central Kitchen

At the request of the Division of the State Architect and Berryessa Unified School District, C2G/Civil Consultants Group, Inc. conducted fire flow testing on one (1) private fire hydrant, located on the District Central Kitchen property directly adjacent to Piedmont Middle School. Fire Hydrant #1, located southwest of the Central Kitchen directly adjacent to the Woodshop located in the District corporation yard. This test was conducted on Thursday, April 21, 2022. All tests, measurements, and calculations were performed in accordance with NFPA 291 – Recommended Practice for Fire Flow Testing and Marking of Hydrants.

C2G/Civil Consultants Group's observations are summarized in the table below:

Test No.	Static Pressure (psi)	Pitot Pressure (psi)	Residual Pressure (psi)	Observed Flow (gpm)	Available Flow @ 20 psi (gpm)
1 [1]	104.6	53	90.4	1100	2,894

[1] – Private Fire hydrant located southwest of the Central Kitchen, next to the Woodshop at the Corporation Yard

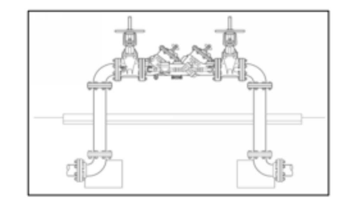
FIRE FLOW CALCULATION

Piedmont Middle School - Berryessa Unified School District

Table A – Pipe and Fire Service Data

Type of Data	Value	Unit
Nominal Pipe Diameter	8.00	inch
Pipe Diameter (d)	0.67	ft
Pipe Area	0.35	ft2
Pipe Length (L)	1,434	ft
Fire Dept Required Flow Rate (Qr)	1,500	gpm
Static Pressure	105	psi

Febco Model LF860-OSY - 8 Double Check Detector Assembly (Reduced Pressure Assembly)



Additional Fittings/Valves

Item	No.
Gate Valve	1
Check Valve	0
90° Elbows	2
45° Elbows	7

Table B – Computed Losses at Required Flow Rate[1]

Loss		Coefficient	Pipe Length, # Fittings or Valves	Head Loss (ft)	Press Loss (psi)
Pipeline Friction Loss (hf)					
hf = 4.66 x n2 x L x Q2 ÷ d16/3	n	0.011	1,434	78.51	33.99
Minor Losses (hm)					
hm = K x v2÷2g, where v =	9.57	ft/sec			
Gate valves (hg)	Kg	0.35	3	1.49	0.65
Angle check valves (hc)	Kc	8.00	2	22.78	9.86
90° elbows (hb)	Kb	0.60	2	1.71	0.74
45° elbows (hb)	Kb	0.40	7	3.99	1.73
			Totals	108.48	46.97

Table C – Conditions at Required Flow Rate[1]

Type of Data	Value	Unit
Required Sprinkler Flow Rate (Qr)	1,500	gpm
Required Sprinkler Flow Rate (Qr)	3.34	ft3/sec
Pipe Length Equivalent to Minor Losses	547	ft
Static Pressure	105	psi
Computed Pressure Loss	47	psi
Residual Pressure at Fire Hydrant	58	psi

[1] Flow rate established by City of San Jose Fire Department

Table D – Computed Losses at Maximum Flow Rate[2]

Loss		Coefficient	Equivalent Pipe Length (ft)	Head Loss (ft)	Press Loss (psi)
Pipeline Friction Loss (hf)					
hf = 4.66 x n2 x L x Q2 ÷ d16/3	n	0.011	1,434	142	61
Pipe Length Equivalent to Minor Losses (hm)					
hm = 4.66 x n2 x L x Q2 ÷ d16/3	n	0.011	547	54	23
	Totals		1,981	196	85

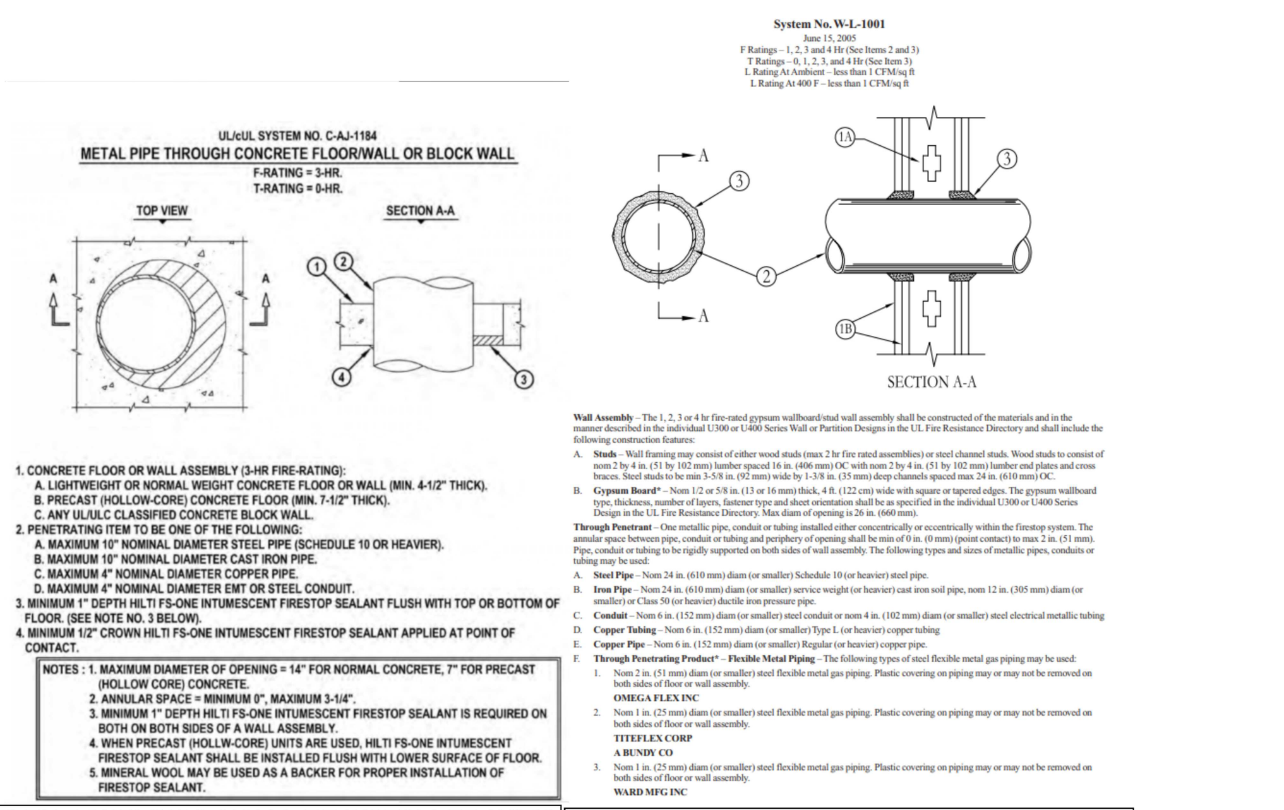
Table E –Conditions at Maximum Flow Rate[2]

Type of Data	Value	Unit
Static Pressure	105	psi
Residual Pressure at Fire Hydrant	20	psi
Total Pressure Loss	85	psi
Total Head Loss (hl)	195	ft
Velocity	12.86	ft/sec
Velocity Head (v2/2g)	2.57	ft

[2] Flow rate with 20 psi residual pressure at the fire hydrant

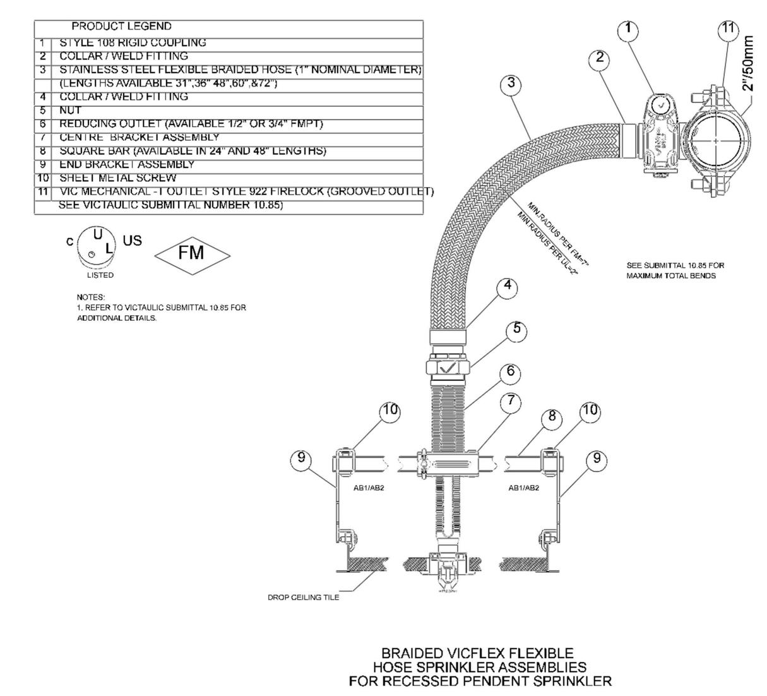
Qm = [(hl x d16/3) ÷ (4.66 x n2 x L)]1/2

	Value	Unit
Computed	4.49	ft3/sec
Maximum Flow Rate2	2,015	gpm



FLEX COUPLINGS SHALL BE INSTALLED WITH 1'-0" ON BOTH SIDES OF NON FRANGIBLE WALLS.

1" CLEARANCE REQUIRED PER NFPA 13 9.3.4.5 ON NOTED FIRE RATED WALLS W/ FIRE CAULKING.



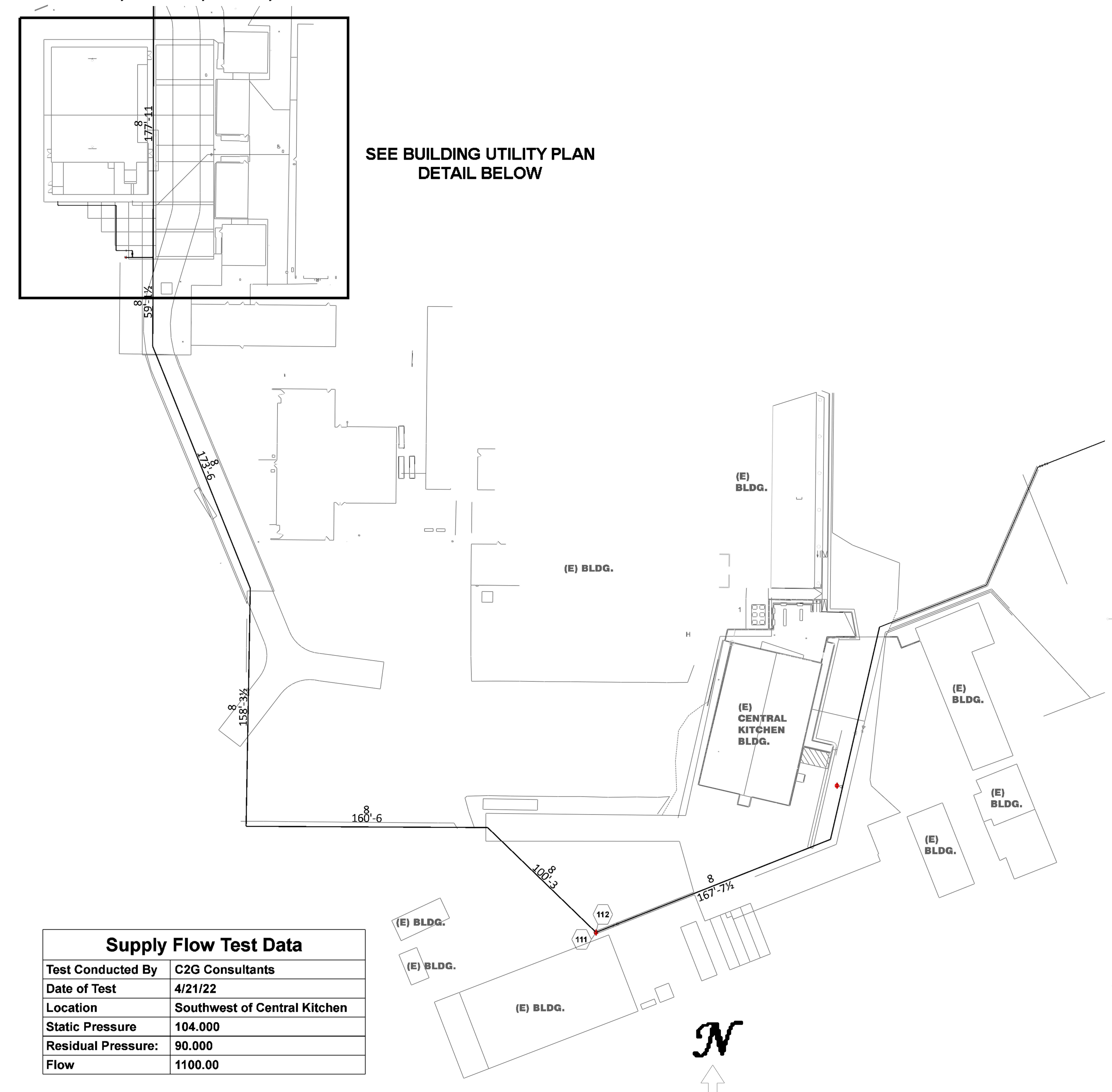
VICFLEX AH2-CC FLEXIBLE DROP

NO SCALE

NOTE: FLEX DROPS WERE CALCULATED WITH 27' OF LOSS (1" X 1/2" AT 60" WITH 3 BENDS)

THIS DRAWING IS FOR HYDRAULIC PURPOSES ONLY, NOT FOR INSTALLATION SITE UTILITY PLAN IS INSTALLATION DRAWING

MINIMUM BURY DEPTH OF PIPE 3' BELOW GRADE ALL PIPE, FITTINGS, VALVES, ETC. BEFORE SPRINKLER RISER ARE BY UNDERGROUND SUB AND NOT SPRINKLER CONTRACTOR



SITE PLAN

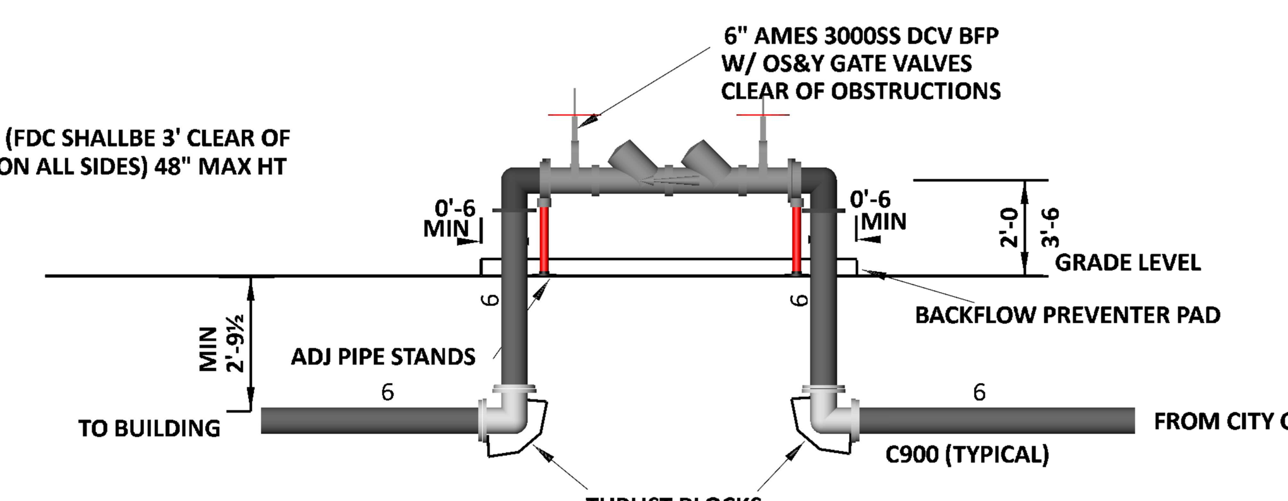
SCALE: 1/64" = 1'-0"

Supply Flow Test Data	
Test Conducted By	C2G Consultants
Date of Test	4/21/22
Location	Southwest of Central Kitchen
Static Pressure	104.000
Residual Pressure:	90.000
Flow	1100.00

LARGEST BRANCHLINE VOLUME 3.0 GAL
PIPE SLOPED, NO NIPPLE NEEDED TO DRAIN TO CAP
NO DRAIN NEEDED ON BRANCHLINES PER NFPA 13 8.16.2.5.2.3

8.16.2.5.2.3 Where the capacity of trapped sections of pipes in wet systems is less than 5 gal (20 L), one of the following arrangements shall be provided:
(1) An auxiliary drain shall consist of a nipple and cap or plug not less than ½ in. (15 mm) in size.
(2) An auxiliary drain shall not be required for trapped sections less than 5 gal (20 L) where the system piping can be drained by removing a single pendent sprinkler.
(3) Where flexible couplings or other easily separated connections are used, the nipple and cap or plug shall be permitted to be omitted.

BACKFLOW CONTROL VALVES TO BE INDICATING TYPE, SUPERVISED IN ACCORDANCE WITH NFPA 24, AND SHALL BE CLEAR OF OBSTRUCTIONS. EACH VALVE SHALL HAVE IDENTIFICATION SIGNS INDICATING ITS FUNCTION AND WHAT IT CONTROLS.

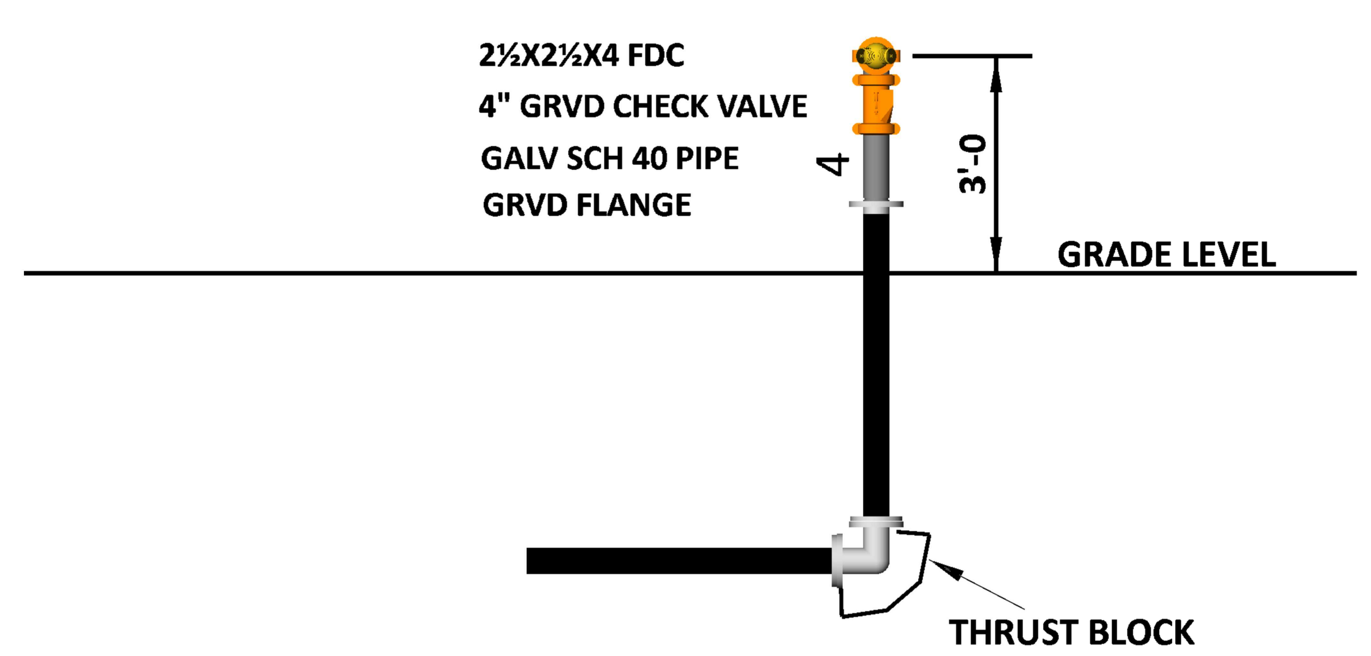


THIS DETAIL IS FOR HYDRAULIC REVIEW PURPOSES

BACKFLOW DETAIL

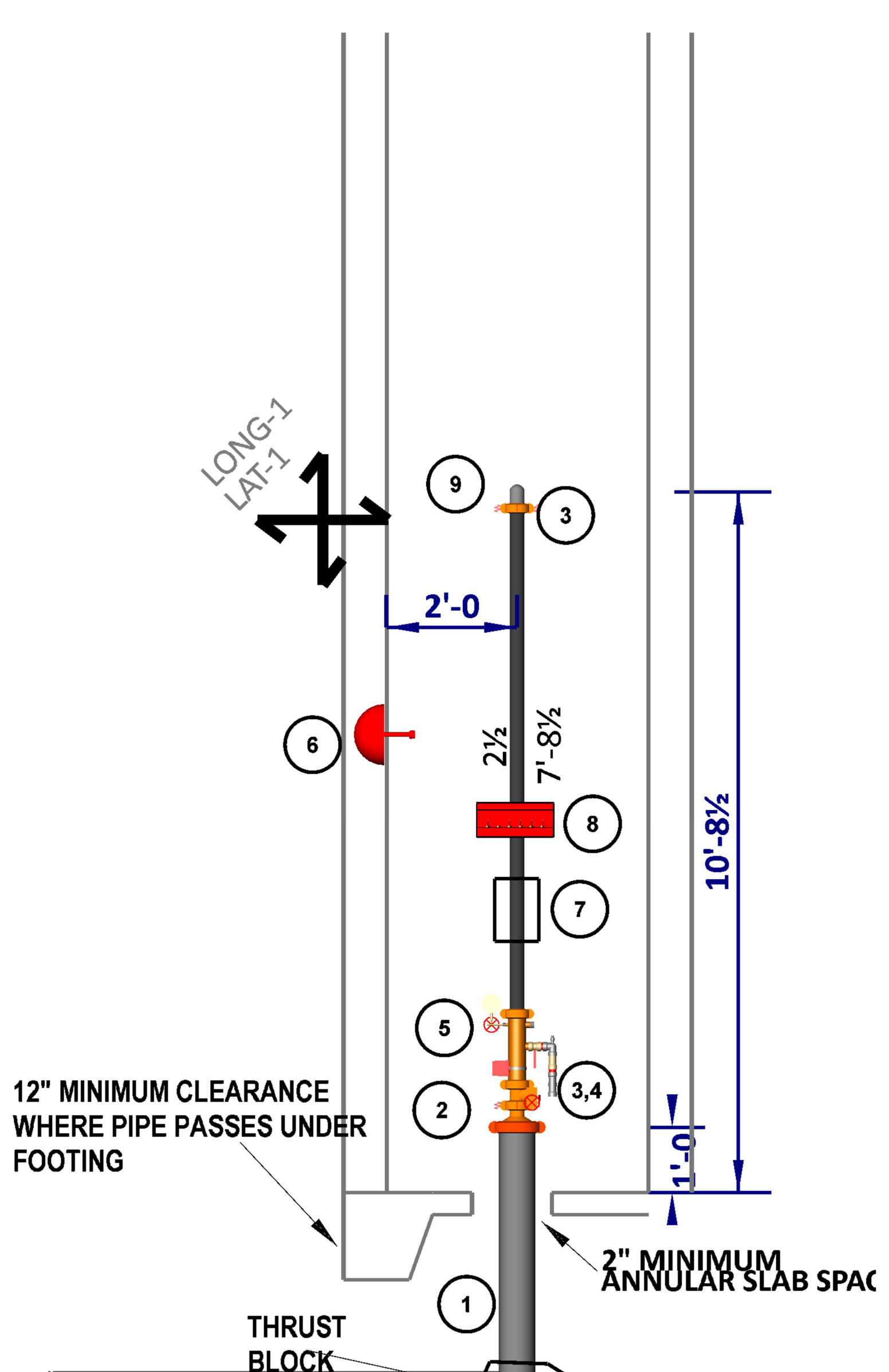
SCALE: 1/4" = 1'-0"'

4X2½X2½ RB FDC W/ NST (FACING STREET)
4" CHECK VALVE (FDC SHALL BE 3' CLEAR OF OBSTRUCTIONS ON ALL SIDES) 48" MAX HT
SIGNAGE STATING "AUTO SPKR"



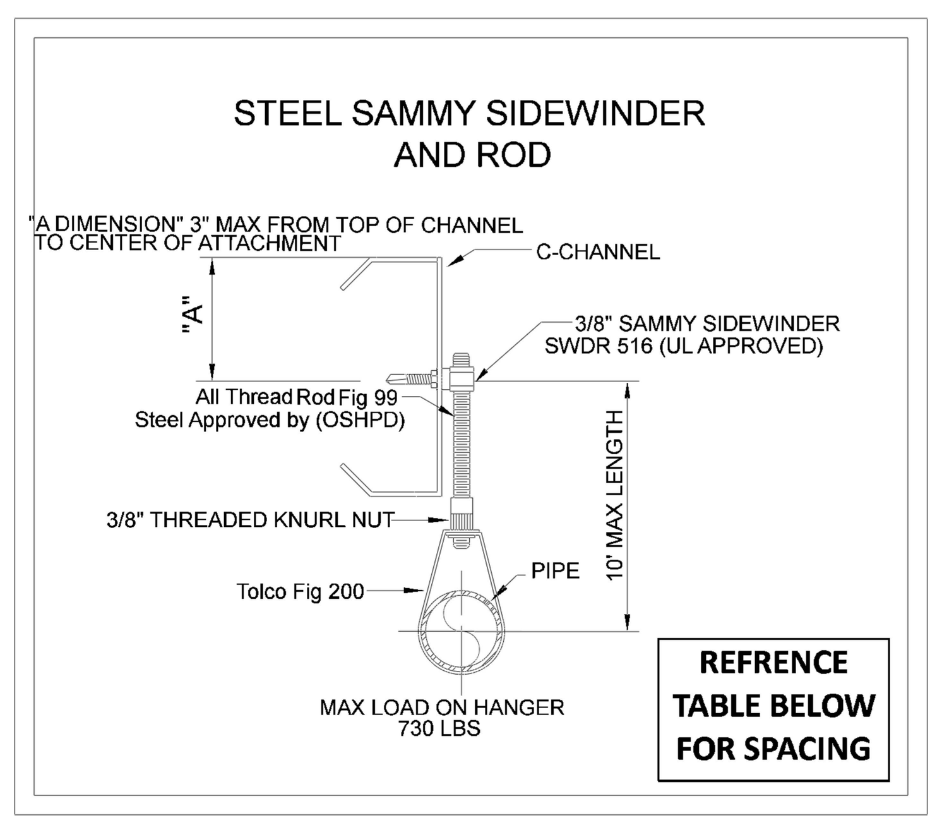
FDC DETAIL

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



RISER DETAIL

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



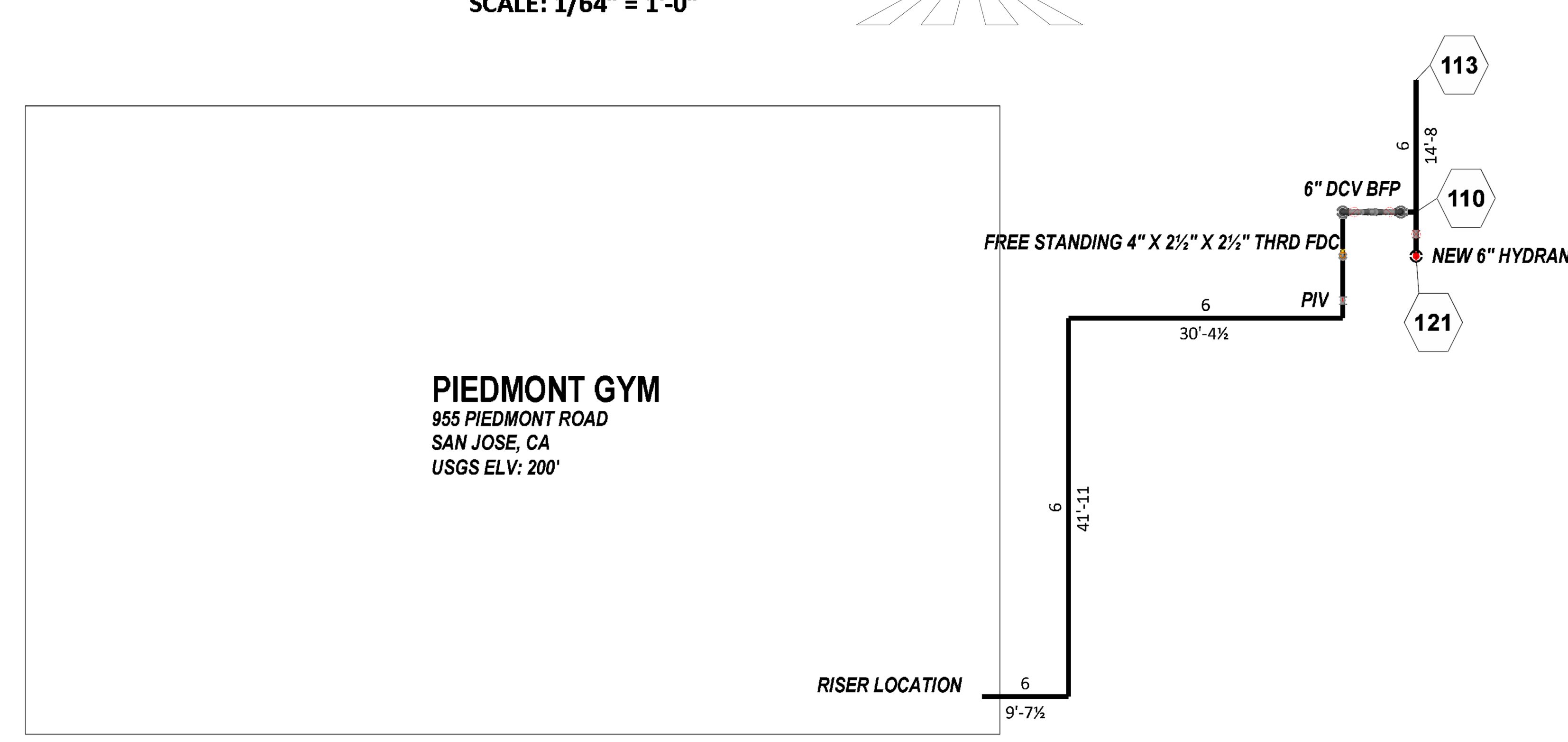
RISER KEYNOTES:

1 - NEW 6" AMES IBR FIRE WATER UNDERGROUND
2 - 6X2½" GROOVED CONCENTRIC REDUCER
3 - 2½" FLEX COUPLING
4 - 2½" GRVD BUTTERFLY VALVE WITH TAMPERS (WIRED BY OTHER
5 - 2½" COMMERCIAL RISER MANIFOLD W/ TEST/DRAIN (5.6K), PSI GAUGE, PRESSURE RELIEF VALVE, AND FLOW SWITCH.
6 - 120V HORN/STROBE
7- HYDRAULIC INFORMATION LABELS
8 - SPARE SPRINKLER HEAD CABINET MOUNTED TO RISER
9 - 4 WAY BRACE 24" MAX DOWN FROM TOP OF ELBOW

PIPE TEST/DRAIN TO EXTERIOR
ALL WIRING BY ALARM CONTRACTOR OR ELECTRICIAN

Sprinkler Legend

Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature
○	Victaulic	V2704	FL-QR	47	5.6	Upright	½	Quick	Brass	200°F
●	Victaulic	V2708	FL-QR	6	5.6	Pendent	½	Quick	White	200°F
				Total = 53						



BUILDING UTILITY PLAN

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

SHEET INDEX:

FP1.00 SITE PLAN, CROSS SECTION, DETAILS AND NOTES
FP1.01 FIRE SPRINKLER PLAN

WATER TEST INFORMATION

Static Pressure (PSI): 104.6 Residual Pressure (PSI):90.4

Flowing (GPM):	1100
Test Date: 4/12/22	
Location:	DISTRICT CENTRAL KITCHEN PROPERTY

FIRE PUMP:

Rated GPM:	N/A
Rated PSI:	N/A
Make / Model	N/A

PIPE TYPES AND FITTING TYPES — ■ FOREIGN ☐ DOMESTIC

ALL SYSTEM COMPONENTS AND HARDWARE SHALL BE IN COMPLIANCE WITH NFPA 13	
ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED	
LINE PIPING:	BLACK STEEL SCH 10 GROOVED, 40 THREADABLE
MAIN PIPING:	BLACK STEEL SCH 10 ROLL GROOVED
THREADED FITTINGS:	BLACK DUCTILE IRON SCREWED FITTINGS
GROOVED FITTINGS:	FIRELOCK, SHORT RADIUS GROOVED (UNO)

MAXIMUM DISTANCE BETWEEN HANGERS

NOMINAL PIPE SIZE (in.)	0¾"	1"	1¼"	1½"	2"	2½"	3"	4"
STEEL PIPE EXCEPT THREADED LIGHTWALL	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0

0¾" - 4" PIPE HANGERS CONSIST OF 3/8" ALL-THREAD ROD, HANGER RING AND ATTACHMENT AS DETAILED.

SYMBOLS / ABBREVIATIONS

- EXISTING SPRINKLER PIPE
- SPRINKLER MAIN - GROOVED
- BRANCH LINE - GROOVED
- BRANCH LINE - THREADED
- HYDRAULIC REFERENCE POINT
- ★ -0" TS ℄ DENOTES CL OF PIPE ABOVE FINISH FLOOR
- ★ -0" FF ℄ DENOTES CL OF PIPING BELOW DECK
- HANGER LOCATION

NOTE:

IN LOCALITIES SUBJECT TO FREEZING CONDITIONS, IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEAT THROUGHOUT WET PIPE SPRINKLER SYSTEMS AND IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO THE SPRINKLER SYSTEMS.

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE: DESCRIPTION: DATE:

DRAWN BY: GPFS PLOT DATE: 09.23.22
CHECKED BY: JH

PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

BAY CITIES FIRE PROTECTION
51 FOLEY STREET
SANTA ROSA, CA 95401
PHONE: (707)579-86941 FAX: (707)579-8920

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 00.00

FP1.0

SAMMYS for Steel – Seismic Restraint

DESCRIPTION (SIDEWINDER)

SWDR 1-1/2 AND SWDR 516 FOR 3/8" ROD

Structural attachment for installation of branch/end of line restraint using 3/8" threaded rod. Used primarily in purlin, bar joist, or other steel structural members. These fastening systems provide a secure and economical attachment to the structure.

The SWDR 1-1/2 model provides upper structural attachment in a range of steel thicknesses, from 3/16" through 1/2". A retaining nut is included with each fastener.

The SWDR 516 model provides upper structural attachment in a range of steel thicknesses, from 20 ga. through 1/8". A retaining nut is included with each fastener.

SPECIFICATIONS

Restrained Pipe Size:	Up to Schedule 40 pipe 2" or less
Max Length of Restraint Material:	See Maximum Horizontal Load Tables below.
Maximum Angle:	45° from horizontal
Material:	Carbon Steel
Screw Description:	(SWDR 1-1/2): 12-24 X 1-1/2" Teks® 5 (SWDR 516): 5/16"-18 X 1-1/4" Teks® 3
Finish (both):	Electro-Zinc (cap) Silver Climaseal® (screw)
Testing:	BB Report # B-1362
Listing:	UL 203 as a pipe hanger UL 203A pending

SELECTION CHART

SAMMYS Sidewinders for Steel – Seismic Restraint

ROD SIZE	PART NUMBER	MODEL	MIN THICKNESS	MAX THICKNESS	APPLICATION	BOX QTY	CASE QTY	INSTALLATION TOOL
3/8"	865057	SWDR 516	16 ga.	1/8"	Steel Purlin or Bar Joist	25	125	The SWDR 1-1/2 and SWDR 516 must be installed with a 3/8" ROD Tool (Part No. 815415). No pre-drilling required.

PERFORMANCE TABLES

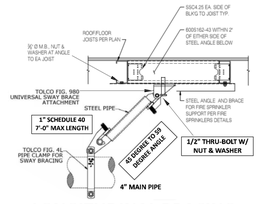
Maximum Horizontal Loads for Restraint with I/r=100, 200, 300, and 400

RESTRAINT SHAPE AND SIZE	NOMINAL DIAMETER	AREA (in.²)	LEAST RADIUS OF GYRATION, r (in.)	MAXIMUM ROD LENGTH FOR L/r (ft)			
				L/r = 100	L/r = 200	L/r = 300	L/r = 400*
Rods (all thread)	3/8 in.	0.07	0.075	0.6	1.3	1.9	2.5
	1/2 in.	0.129	0.101	0.8	1.7	2.5	3.4
Rods (threaded at ends only)	3/8 in.	0.11	0.094	0.8	1.6	2.4	3.1
	1/2 in.	0.196	0.125	1.0	2.1	3.1	4.2

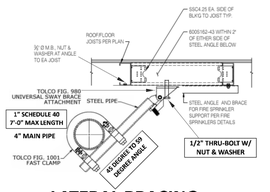
Table 9.3.6.4(a) Maximum Spacing (ft) (m) of Steel Pipe Restraints

Pipe	Seismic Coefficient, C_p			
(in.) (mm)	$C_p \leq 0.50$	$0.5 < C_p \leq 0.71$	$0.71 < C_p \leq 1.40$	$C_p \geq 1.40$
½ (15)	31 (10.5)	29 (8.8)	20 (6.1)	18 (5.5)
¾ (20)	38 (11.6)	32 (9.7)	23 (7.0)	20 (6.1)
1 (25)	43 (13.1)	36 (11.0)	26 (7.9)	22 (6.7)
1¼ (32)	46 (14.0)	39 (11.9)	27 (8.2)	24 (7.3)
1½ (40)	49 (14.9)	41 (12.5)	29 (8.8)	25 (7.6)
2 (50)	53 (16.1)	45 (13.7)	31 (9.4)	27 (8.2)

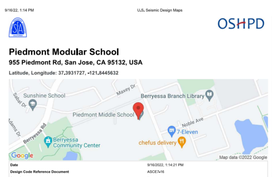
ALL BRANCHLINE HANGERS ARE DESIGNED TO HAVE HANGER RODS LESS THAN 0'-6" IN LENGTH, IN THE EVENT A PIPE IS FIELD IS ADJUSTED AND A HANGER ROD IS LONGER THAN 0'-6" IN LENGTH THE ABOVE DETAIL SHALL BE USED AND INSTALLED AT THE SPACING PROVIDED FROM THE CHART.



LONGITUDINAL BRACING



LATERAL BRACING



9/18/22, 1:14 PM U.S. Seismic Design Maps

OSHPD

Piedmont Modular School
955 Piedmont Rd, San Jose, CA 95132, USA
Latitude, Longitude: 37.3931727, -121.8445632

Date	9/18/2022, 1:14:31 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D – Default (See Section 11.4.3)

Type	Value	Description
S_S	2.219	MCE_R ground motion, (for 0.2 second period)
S_1	0.810	MCE_R ground motion, (for 1.0s period)
S_{MS}	2.237	Site-modified spectral acceleration value
S_{M1}	null (See Section 11.4.8)	Site-modified spectral acceleration value
S_{DS}	1.492	Numeric seismic design value at 0.2 second SA
S_{D1}	null (See Section 11.4.8)	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null (See Section 11.4.8)	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	null (See Section 11.4.8)	Site amplification factor at 1.0 second
PGA	0.869	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	1.043	Site-modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	2.121	Probabilistic risk-targeted ground motion, (0.2 second)
SsUH	3.257	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.114	Factored deterministic acceleration value, (0.2 second)
S1RT	1.144	Probabilistic risk-targeted ground motion, (1.0 second)
S1UH	1.205	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration,
S1D	0.810	Factored deterministic acceleration value, (1.0 second)
PGAd	0.869	Factored deterministic acceleration value, (Peak Ground Acceleration)
PGA_M	1.27	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration

TOLBrace™ Seismic Bracing Calculations

Project Address: Piedmont Modular Gym, 955 Piedmont Road, San Jose, CA 95132
Contractor: Great Plains Fire, Address: 106 6th Street, Plattsmouth, NE 68048, Phone:
Job #
Calculations based on 2018 NFPA Pamphlet #13

Brace Information

Maximum Brace Length	7' 0" (2.134 m)
Diameter of Brace	1"
Type of Brace	Sch.40
Angle of Brace	45° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	200
Max Horizontal Load	1310 lbs (594 kg)

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 1001 Clamp	2070 lbs (914 kg)	1425 lbs (646 kg)
Fig.980 Universal Swivel	2070 lbs (914 kg)	1425 lbs (646 kg)

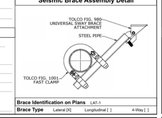
See Fastener Information

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Fastener Information

Orientation to Connecting Surface	NFPA Type B
Fastener Type	Bolt
Diameter	1/2in. (12 mm)
Length	N/A
Maximum Load	2050 lbs (930 kg)
Prying Factor	N/A

Seismic Brace Assembly Detail



Brace Identification on Plans: LAT-1
Brace Type: Lateral [X] Longitudinal [ ] 4-Way [ ]

Sprinkler System Load Calculation (Fpw = CpWp)

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
2.5" (65 mm)	Sch. 10	22'-6" (6.1 m)	22 ft (6.7 m)	3.84 lb/ft (5.71 kg/m)	118 lbs (54 kg)
1.5" (40 mm)	Sch. 10	106 ft (32.3 m)	106 ft (32.3 m)	3.84 lb/ft (5.72 kg/m)	322 lbs (146 kg)
1" (25 mm)	Sch. 10	18 ft (5.5 m)	18 ft (5.5 m)	1.81 lb/ft (2.69 kg/m)	33 lbs (15 kg)

Subtotal Weight: 473 lbs (215 kg)
Slip (min): 95% 449 lbs (207 kg)
Total (Fpw): 585 lbs (554 kg)
Maximum Fpw per S.3.5.9.2 (if applicable): 631 lb (286 kg)

Main Size: 2.5"	Type/Sch. Sch. 10	Spacing (ft): 20	Total (Fpw): 585 lbs (554 kg)

TOLBrace™ Version 6 — Use of TOLBrace™ is subject to terms and conditions per the end user license agreement.

TOLBrace™ Seismic Bracing Calculations

Project Address: Piedmont Modular Gym, 955 Piedmont Road, San Jose, CA 95132
Contractor: Great Plains Fire, Address: 106 6th Street, Plattsmouth, NE 68048, Phone:
Job #
Calculations based on 2019 NFPA Pamphlet #13

Brace Information

Maximum Brace Length	7' 0" (2.134 m)
Diameter of Brace	1"
Type of Brace	Sch.40
Angle of Brace	45° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	200
Max Horizontal Load	1310 lbs (594 kg)

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 4L Clamp	2070 lbs (914 kg)	1425 lbs (646 kg)
Fig.980 Universal Swivel	2070 lbs (914 kg)	1425 lbs (646 kg)

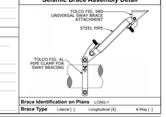
See Fastener Information

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Fastener Information

Orientation to Connecting Surface	NFPA Type B
Fastener Type	Bolt
Diameter	1/2in. (12 mm)
Length	N/A
Maximum Load	2050 lbs (930 kg)
Prying Factor	N/A

Seismic Brace Assembly Detail



Brace Identification on Plans: LONG-1
Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]

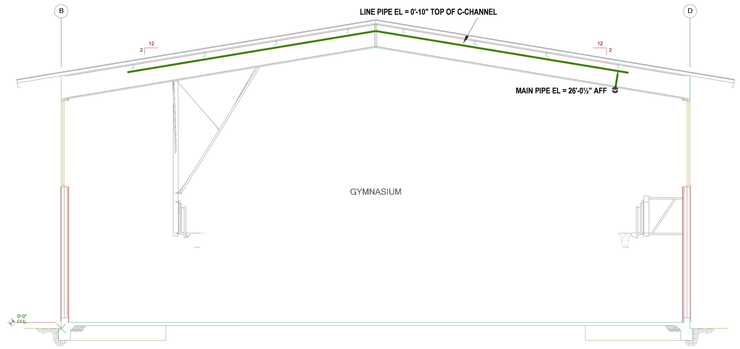
Sprinkler System Load Calculation (Fpw = CpWp)

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
2" (50 mm)	Sch. 10	45 ft (13.7 m)	45 ft (13.7 m)	3.66 lb/ft (5.47 kg/m)	256 lbs (123 kg)

Subtotal Weight: 256 lbs (117 kg)
Slip (min): 95% 277 lbs (123 kg)
Total (Fpw): 293 lbs (127 kg)
Maximum Fpw per S.3.5.9.2 (if applicable): N/A

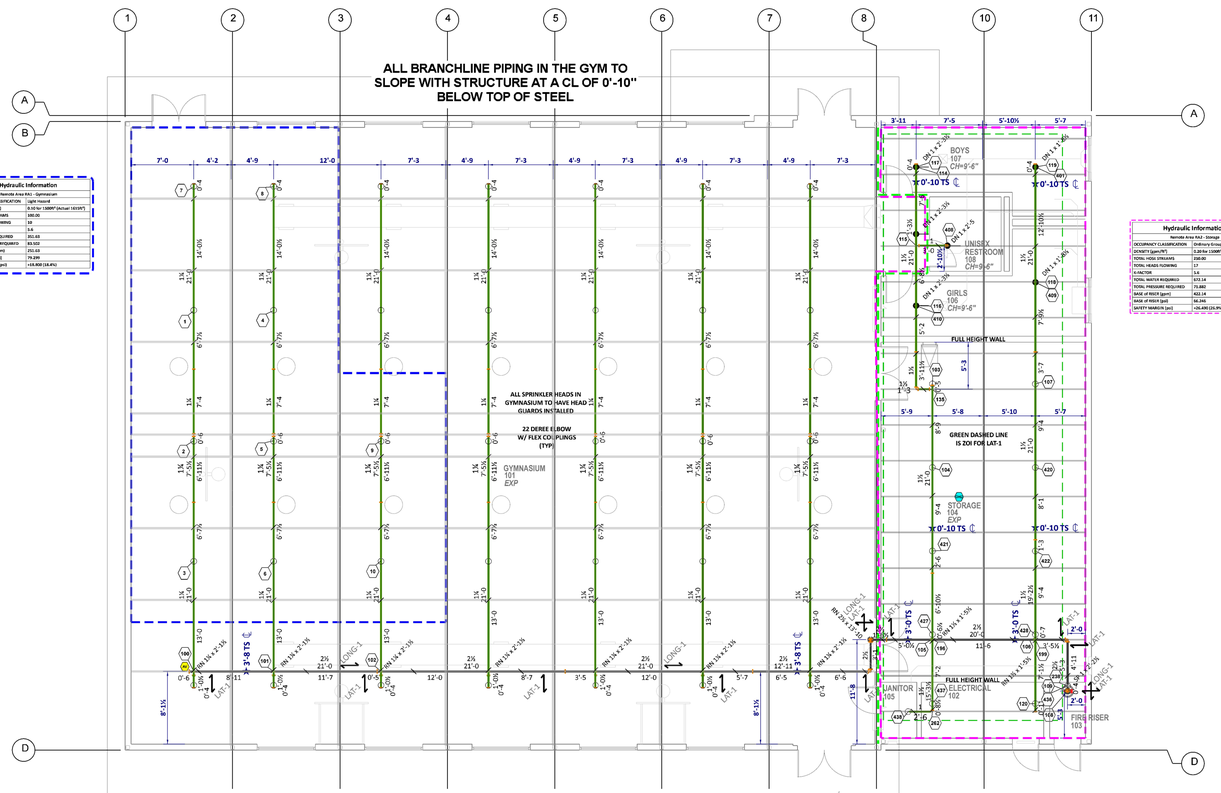
Main Size: 2"	Type/Sch. Sch. 10	Spacing (ft): 20	Total (Fpw): 293 lbs (127 kg)

TOLBrace™ Version 6 — Use of TOLBrace™ is subject to terms and conditions per the end user license agreement.



CROSS SECTION
SCALE: 1/8"=1'

GENERAL NOTES:
- BUILDING DESIGNED TO LIGHT HAZARD UNO
- DENOTES ORDINARY HAZARD GRP II
- FIRE RATED WALL
- MANUAL AIR VENT VALVE



FIRE SPRINKLER PLAN
SCALE: 1/8"=1'

Sprinkler Legend-Entire Project

Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature
○	Victaulic	V2704	FL-QR	47	5.6	Upright	½	Quick	Brass	200°F
●	Victaulic	V2708	FL-QR	6	5.6	Pendent	½	Quick	White	200°F
				Total = 53						

WATER TEST INFORMATION
Static Pressure (PSI): 104.6 Residual Pressure (PSI):90.4
Flowing (GPM): 1100
Test Date: 4/12/22
Location: DISTRICT CENTRAL KITCHEN PROPERTY

FIRE PUMP:
Rated GPM: N/A
Rated PSI: N/A
Make / Model: N/A

PIPE TYPES AND FITTING TYPES — FOREIGN ☐ DOMESTIC
ALL SYSTEM COMPONENTS AND HARDWARE SHALL BE IN COMPLIANCE WITH NFPA 13
ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED
LINE PIPING: BLACK STEEL SCH 10 GROOVED, 40 THREADABLE
MAIN PIPING: BLACK STEEL SCH 10 ROLL GROOVED
THREADED FITTINGS: BLACK DUCTILE IRON SCREWED FITTINGS
GROOVED FITTINGS: FIRELOCK, SHORT RADIUS GROOVED (UNO)

MAXIMUM DISTANCE BETWEEN HANGERS

NOMINAL PIPE SIZE (in.)	0½"	1"	1¼"	1½"	2"	2½"	3"	4"
STEEL PIPE EXCEPT THREADED LIGHTWALL	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0

0½" - 4" PIPE HANGERS CONSIST OF 3/8" ALL-THREAD ROD, HANGER RING AND ATTACHMENT AS DETAILED.

SYMBOLS / ABBREVIATIONS
- EXISTING SPRINKLER PIPE
- SPRINKLER MAIN - GROOVED
- BRANCH LINE - GROOVED
- BRANCH LINE - THREADED
- HYDRAULIC REFERENCE POINT
- -0" TS — DENOTES CL OF PIPE ABOVE FINISH FLOOR
- -0" FF — DENOTES CL OF PIPING BELOW DECK
- HANGER LOCATION

NOTE:
IN LOCALITIES SUBJECT TO FREEZING CONDITIONS, IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEAT THROUGHOUT WET PIPE SPRINKLER SYSTEMS AND IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO THE SPRINKLER SYSTEMS.

SHEET INDEX:

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE: DESCRIPTION: DATE:

DRAWN BY: GPFS PLOT DATE: 09.23.22
CHECKED BY: JH

PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

955 Piedmont Rd
San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

BAY CITIES FIRE PROTECTION
51 FOLEY STREET
SANTA ROSA, CA 95401
PHONE: (707)579-86941 FAX: (707)579-8920

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
WA PROJECT NUMBER: 00.00

FP1.01

STRUCTURAL PLANS

- FOR -

BERRYESSA UNION SCHOOL DISTRICT

PEDMONT MIDDLE SCHOOL
NEW MODULAR GYM

955 PIEDMONT ROAD
SAN JOSE, 95132

JL MODULAR

70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401

SHEET INDEX

PLANS

DETAILS

PROJECT DESIGN CRITERIA	
BUILDING CODE:	2019 CBC
LOCATION (LATITUDE / LONGITUDE):	37.39319° / -121.84613°
OCCUPANCY GROUP:	E
GEOTECHNICAL PARAMETERS:	
SITE SPECIFIC SOILS REPORT REQUIRED:	YES
SOILS ENGINEER:	CORNERSTONE EARTH GROUP
REPORT NUMBER:	1332-2-2
DATE:	SEPTEMBER 12, 2022
ALLOWABLE SOIL BEARING PRESSURE:	3,000 PSF (DEAD+LIVE) 4,000 (TOTAL INCLUDING W OR EQ)
ALLOWABLE PASSIVE PRESSURE:	400 PCF
COEFFICIENT OF FRICTION:	0.4
EXPANSION POTENTIAL:	LOW TO MODERATE
TOTAL SEISMIC SETTLEMENT:	1¼"
DIFFERENTIAL SEISMIC SETTLEMENT:	<1"
TOTAL SETTLEMENT:	½"
DIFFERENTIAL SETTLEMENT POTENTIAL:	½" OVER 30ft
CORROSIVITY:	LOW (S0)
SULFATE / CHLORIDE CONTENT:	65 mg/kg / 80 mg/kg
SEISMIC DESIGN PARAMETERS:	
RISK CATEGORY:	III
SITE CLASS:	D
SHORT PERIOD SPECTRAL ACCELERATION, S_s:	2.114
1s PERIOD SPECTRAL ACCELERATION, S_1:	0.815
SPECTRAL RESPONSE COEFFICIENT, S_{D1}:	1.080
SHORT PERIOD SPECTRAL RESPONSE, S_{DS}:	1.509
SITE COEFFICIENT, F_a:	1.200
SITE COEFFICIENT, F_v:	1.700
SEISMIC DESIGN CATEGORY:	E
SEISMIC IMPORTANCE FACTOR, I_e:	1.25
RESPONSE MODIFICATION, R:	6.5
DESIGN BASE SHEAR:	0.290**W**
SEISMIC RESPONSE COEFFICIENT, C_s (LRFD):	0.290
DESIGN PROCEDURE:	EQUIV. LAT. FORCE
REDUNDANCY FACTOR, ρ:	1.3
SYSTEM OVERSTRENGTH FACTOR, Ω:	2.5
DEFLECTION AMPLIFICATION FACTOR, C_d:	4.0
WIND DESIGN PARAMETERS:	
RISK CATEGORY:	III
DESIGN SPEED (3s GUST):	99
EXPOSURE CATEGORY:	C

GRAVITY DESIGN PARAMETERS: (PSF, SERVICE LOADS)

	DEAD	ROOF LIVE	SNOW	LIVE	TOTAL
ROOF:	17.5*	20	0	-	37.5
SOLAR:	3**	-	-	-	-
EXTERIOR WALL:	19	-	-	-	15

*INCLUDES MISCELLANEOUS LOADING (PLUMBING, MECHANICAL & FIRE SPRINKLERS)

**SOLAR NOTES:
1. SOLAR PANEL INSTALLATION REQUIRES A SEPARATE APPLICATION AND IS NOT PART OF THIS PLAN CHECK SUBMITTAL AND IS NOT ELIGIBLE FOR OVER THE COUNTER REVIEW.

2. SOLAR WEIGHT REPLACES THE VERTICAL ROOF LIVE LOAD AND IS INCLUDED IN THE LATERAL SEISMIC LOAD. THE STRUCTURE HAS BEEN DESIGNED TO ACCOMMODATE A FUTURE SOLAR LOAD ONLY OVER THE ROOF AREAS INDICATED ON THE ROOF FRAMING PLAN SHEETS AS 'SOLAR READY AREAS'.

3. POINT LOADS FROM THE SOLAR PANELS MUST BE CHECKED FOR THE INDIVIDUAL MEMBERS TO VERIFY THAT THEY DO NOT EXCEED THE UNIFORM DESIGN LOADS INDICATED.

4. IF THE SOLAR PANEL CONFIGURATION INCREASES THE LATERAL WIND LOAD ON THE STRUCTURE THE LATERAL LOAD RESISTING SYSTEM MUST BE CHECKED FOR THE ADDITIONAL WIND LOADS.

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: DBL PLOT DATE: 9/30/2022
CHECKED BY: DBL

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

ISE STRUCTURAL ENGINEERS
27369 VIA INDUSTRIA
TEMECULA, CA 92590
WWW.ISEENGINEERS.COM
SOCAL | NORCAL | COLORADO

SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
ISE PROJECT NUMBER:	22-7600.0028

STRUCTURAL
COVER SHEET

S001

METAL DECKING

1. METAL DECKING AND ACCESSORIES: VERCO MANUFACTURING COMPANY, TYPE AND GAUGE AS INDICATED ON STRUCTURAL DRAWINGS, ASTM A653 OR A1063, GRADE 40, MINIMUM G30 COATING, UNLESS HEAVIER GALVANIZED COATING INDICATED IN SPECIFICATIONS, COMPLYING WITH IAPMO EVALUATION REPORT ER-0423. MINIMUM VERTICAL LOAD CARRYING AND DIAPHRAGM SHEAR CAPACITIES CORRESPONDING TO WELD PATTERNS SHOWN ON STRUCTURAL DRAWINGS ARE AS INDICATED IN ICBO REPORT. RUN DECK UNITS CONTINUOUS OVER TWO OR MORE SPANS. PROVIDE VENTED DECKING WHERE VAPOR-IMPERVIOUS MEMBRANE OCCURS OVER CONCRETE FILL.

2. DECK WELDING AND INSTALLATION OF WELDED SHEAR STUDS: AWS D1.3 USING PRE-QUALIFIED PROCEDURES.
   A. QUALIFICATION OF WELDERS: WELDERS SHALL BE EXPERIENCED IN WELDING LIGHT-GAUGE STEEL AND USING PRE-QUALIFIED PROCEDURES. ERECTOR SHALL ESTABLISH WELDING PROCEDURE FOR ARC SPOT WELDING OF METAL DECKING TO STRUCTURAL STEEL FOR EACH GAUGE OF DECKING TO BE USED. PRIOR TO DECK ERECTION, EACH WELDER SHALL BE QUALIFIED USING THIS PROCEDURE AND WITNESSED BY SPECIAL INSPECTOR. SEE APPLICABLE CODE CBC CHAPTER 22A, FOR ADDITIONAL QUALIFICATION REQUIREMENTS.

4. SHOP DRAWINGS: SUBMIT TO ARCHITECT (STRUCTURAL ENGINEER) FOR REVIEW.

5. PRE-PUNCHED HOLES IN METAL DECKING AND ACCESSORIES: METAL DECK WELDING IS NOT PERMITTED THROUGH SINGLE LAYER SHEETS GREATER THAN 16 GAUGE, NOR THROUGH DOUBLE LAYER SHEETS GREATER THAN 18 GAUGE, NOR THROUGH SHEETS WITH TOTAL GALVANIZED COATING THICKNESS GREATER THAN 1.25 OUNCES PER SQUARE FOOT. PROVIDED PRE-PUNCHED HOLES AS NECESSARY.

ABBREVIATIONS

AB	= ANCHOR BOLT	HDR	= HEADER
ABV	= ABOVE	HGR	= HANGER
ADD'L	= ADDITIONAL	IBC	= INTERNATIONAL BUILDING CODE
ALT	= ALTERNATE	IN	= INCH
AWA	= ALIGN WITH ABOVE	INFO	= INFORMATION
BEW	= BOTTOM EACH WAY	INT	= INTERIOR
BLK	= BLOCK	JST	= JOIST
BLKG	= BLOCKING	LSL	= LAMINATED STRAND LUMBER
BLW	= BELOW	LVL	= LAMINATED VENEER LUMBER
BM	= BEAM	MAX	= MAXIMUM
BN	= BOUNDARY NAILING	MB	= A307 MACHINE BOLT
BRG	= BEARING	MFR	= MANUFACTURER
BTM	= BOTTOM	MIN	= MINIMUM
BTWN	= BETWEEN	MULT	= MULTIPLE
BTR	= BETTER	N/A	= NOT APPLICABLE
CBC	= CALIFORNIA BUILDING CODE	N/P	= NOT PROVIDED
CLG	= CEILING	O/C	= ON CENTER
CONC	= CONCRETE	PI	= PLASTICITY INDEX
DBL	= DOUBLE	PLT	= PLATE
DF	= DOUGLAS FIR	PLYWD	= PLYWOOD
DIA	= DIAMETER	PNL	= PANEL
DJ	= DECK JOIST	PSL	= PARALLEL STRAND LUMBER
DP	= DEEP	PT	= POST TENSION
DR	= DROP	REV	= REVISION
EA	= EACH	RF	= ROOF
EI	= EXPANSION INDEX	RR	= ROOF RAFTER
EMBED	= EMBEDMENT	SHTG	= SHEATHING
EN	= EDGE NAILING	SIM	= SIMILAR
EW	= EACH WAY	SPN	= SOLE PLATE NAILING
EWB	= ENGINEERED WOOD BEAM	SQ	= SQUARE
EXT	= EXTERIOR	SQSH	= SQUASH
FA	= FROM ABOVE	STD	= STANDARD
FDN	= FOUNDATION	STS	= SELF-TAPPING & SELF-DRILLING SCREW
FH	= FULL HEIGHT	SW	= SHEAR WALL
FJ	= FLOOR JOIST	TP	= TOP PLATE
FL	= FLUSH	TSL	= TRIANGULAR STRAND LUMBER
FLR	= FLOOR	TYP	= TYPICAL
FNGR	= FINGER	UBC	= UNIFORM BUILDING CODE
FRMG	= FRAMING	UNO	= UNLESS NOTED OTHERWISE
FT	= FEET	WWM	= WELDED WIRE MESH
GA	= GAGE	W/	= WITH
GLB	= GLU-LAM	W/O	= WITHOUT
GT	= GIRDER TRUSS		

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 MAY BE PROVIDED BY THE DESIGNATED STRUCTURAL OBSERVER FOR ALL BUILDINGS AT THE FOLLOWING STAGES OF CONSTRUCTION, UNLESS OTHERWISE AUTHORIZED OR REQUESTED IN WRITING BY THE BUILDING OFFICIAL:
   A. PRE-CONCRETE POUR REBAR OBSERVATION
   B. FRAMING OBSERVATION PRIOR TO COVERING

3. OBSERVATION OF ELEMENTS FABRICATED IN PLANT SHALL BE PROVIDED AT THE JOB SITE. ROOF PANELS SHALL BE DELIVERED WITHOUT CONCEALING MATERIALS OR CONNECITONS THAT WOULD INHIBIT OR PREVENT VISUAL FIELD INPSECTIONS.

CONCRETE

1. CONCRETE COMPRESSIVE STRENGTH: ALL CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH AS SHOWN IN THE TABLE BELOW AT 28 DAYS.
2. AGGREGATES IN NORMAL WEIGHT CONCRETE: SHALL BE NATURAL SAND AND ROCK (150 LB/CU. FT) CONFORMING TO ASTM C33. DO NOT CHANGE SOURCE OF AGGREGATE DURING COURSE OF WORK WITHOUT WRITTEN CONSENT OF ENGINEER.
3. AGGREGATES IN LIGHT WEIGHT CONCRETE: SHALL CONFORM TO ASTM C330. DO NOT CHANGE SOURCE OF AGGREGATE DURING COURSE OF WORK WITHOUT WRITTEN CONSENT OF ENGINEER.
4. CEMENT: SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150. CEMENT SHALL BE TYPE V. REFER TO TABLE BELOW FOR CONCRETE STRENGTH & MAXIMUM WATER TO CEMENT RATIO REQUIREMENTS.

NORMAL WEIGHT CONCRETE STRENGTH				
CONDITION	STRENGTH, f'c	MAX WATER / CEMENT RATIO	MAX. SLUMP	MAX. AGGREGATE
SLAB ON GRADE	3,000 PSI	0.45	PER MIX DESIGN	1"
ALL FOOTING & GRADE BEAMS	3,000 PSI	0.45	PER MIX DESIGN	1½"
-	-	-	-	-
-	-	-	-	-
LIGHTWEIGHT CONCRETE STRENGTH (116 PCF MAX DRY WEIGHT)				
-	-	-	-	-

5. REBAR CLEAR COVER IN CONCRETE: THE FOLLOWING MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL AND FACE OF CONCRETE SHALL BE MAINTAINED UNLESS NOTED OTHERWISE:

REBAR CLEAR COVER FOR CAST-IN-PLACE CONCRETE PER ACI 318-14 TABLE 20.6.1.3.1	
CONDITION	COVER
SLAB ON GRADE	1½"
CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO GROUND	3"
CONCRETE EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
#5 BARS & SMALLER	1 ½"
#6 BARS & LARGER	2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS, WALLS, JOISTS:	¾"
BEAM, COLUMNS PRIMARY REINFORCEMENT:	1 ½"
BEAM, COLUMNS TIES, STIRRUPS, SPIRALS	1 ½"

6. VIBRATION: VIBRATION OF CONCRETE SHALL BE IN ACCORDANCE WITH GENERAL PROVISIONS OUTLINED IN ACI 309R.
7. SLAB ON GRADE CURING: CONCRETE SLAB ON GRADE SHALL BE MAINTAINED AT IN A MOIST CONDITION FOR A MINIMUM OF 24 HOURS AFTER ITS PLACEMENT. APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOIST CURING, PROVIDED THEY COMPLY WITH THE HOT AND COLD WEATHER CURING REQUIREMENTS OF NOTE #12, AND ONLY IF APPROVED BY THE ENGINEER OR ARCHITECT.
8. ANCHOR BOLTS, DOWELS, INSERTS: SHALL BE TIED IN PLACE PRIOR TO POURING CONCRETE.
9. CONSTRUCTION AND POUR JOINTS: LOCATIONS SHALL BE APPROVED BY ENGINEER PRIOR TO POURING CONCRETE.
10. CEMENTITIOUS MATERIAL: CONCRETE MIX DESIGN MAY CONTAIN SLAG CEMENT, SILICA FUME, FLY ASH OR OTHER PAZZOLANS PER ACI SECTION 26.4.1.1.1, TABLE 26.4.2.2(b) & CBC SECTION 1903A.6.

ACI 318-14 - TABLE 4.2.2(b) - LIMITS ON CEMENTITIOUS MATERIALS FOR CONCRETE	
CEMENTITIOUS MATERIAL	MAXIMUM PERCENT OF TOTAL CEMENTITIOUS MATERIALS BY MASS
FLY ASH OR OTHER POZZOLANS CONFORMING TO ASTM C618	25
SLAG CONFORMING TO ASTM C989	50
SILICA FUME CONFORMING TO ASTM C1240	10
TOTAL OF FLY ASH OR OTHER POZZOLANS, AND SILICA FUME	35
TOTAL OF FLY ASH OR OTHER POZZOLANS, SLAG CEMENT, AND SILICA FUME	50

11. HOT AND COLD WEATHER CONCRETING:
    A. HOT WEATHER CONCRETING: WHEN AIR TEMPERATURE RISES ABOVE 80° F AND HUMIDITY FALLS BELOW 25, THE CONTRACTOR SHALL FOLLOW HOT WEATHER CONCRETING IN ACCORDANCE WITH ACI 305R. CONTRACTOR SHALL BE PREPARED TO USE FOG SPRAY OR OTHER PRECAUTIONS ACCEPTABLE TO ARCHITECT WHEN RATE OF EVAPORATION EQUALS OR EXCEEDS 0.2 POUNDS PER SQUARE FOOT PER HOUR.
    B. COLD WEATHER CONCRETING: ADEQUATE EQUIPMENT SHALL BE PROVIDED FOR HEATING CONCRETE MATERIALS AND PROTECTING CONCRETE DURING FREEZING OR IF THERE IS A POTENTIAL FOR FREEZING WEATHER. ALL CONCRETE MATERIALS AND ALL REINFORCEMENT, FORMS FILLERS AND GROUND WITH WHICH THE CONCRETE IS TO CONTACT SHALL BE FREE FROM FROST. FROZEN MATERIAL OR MATERIALS CONTAINING ICE SHALL NOT BE USED. COLD WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI 306R. (LATEST EDITION)
12. ARCHITECTURAL DETAILS: REFER TO ARCHITECTURAL DRAWINGS FOR REVEALS, AREAS OF TEXTURED CONCRETE OR SPECIAL FINISHES, ITEMS REQUIRED TO BE CAST INTO THE CONCRETE, CURBS AND SLAB DEPRESSIONS.
13. DRYPACK OR GROUT: SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AND BE COMPOSED OF ONE PART PORTLAND CEMENT TO NOT MORE THAN THREE PARTS SAND.
14. BATCH PLANT INSPECTION: PER 1705A.3.3 THE QUALITY AND QUANTITY OF MATERIALS USED IN TRANSIT-MIXED CONCRETE AND IN BATCHED AGGREGATES SHALL BE CONTINUOUSLY INSPECTED BY AN APPROVED AGENCY AT THE LOCATION WHERE MATERIALS ARE MEASURED. THE CONTINUOUS BATCH PLANT INSPECTION MAY BE WAIVED PROVIDED THAT THE CONCRETE PLAN COMPLIES FULLY WITH THE REQUIREMENTS OF ASTM C94, SECTIONS 9 AD 10, AND HAS A CURRENT CERTIFICATE FROM THE NATIONAL READY MIXED CONCRETE ASSOCIATION OR ANOTHER AGENCY ACCEPTABLE TO THE DSA. THE CERTIFICATE SHALL INDICATE THAT THE PLANT HAS AUTOMATIC BATCHING AND RECORDING CAPABILITIES. IF THE CONTINUOUS BATCH PLANT INSPECTION IS WAIVED, THE FOLLOWING REQUIREMENTS SHALL APPLY.
    A. AN APPROVED AGENCY SHALL CHECK THE FIRST BATCH AT THE START OF THE DAY TO VERIFY MATERIALS AND PROPORTIONS CONFORM TO THE APPROVED MIX DESIGN.
    B. A LICENSED WEIGHMASTER SHALL POSITIVELY IDENTIFY QUANTITY OF MATERIALS AND CERTIFY EACH LOAD BY A BATCH TICKET.
    C. BATCH TICKETS, INCLUDING MATERIAL QUANTITIES AND WEIGHTS SHALL ACCOMPANY THE LOAD, SHALL BE TRANSMITTED TO THE INSPECTOR OF RECORD BY THE TRUCK DRIVER WITH LOAD IDENTIFIED THEREON. THE LOAD SHALL NOT BE PLACED WITHOUT A BATCH TICKET IDENTIFYING THE MIX. THE INSPECTOR OF RECORD SHALL KEEP A DAILY RECORD OF PLACEMENTS, IDENTIFYING EACH TRUCK, ITS LOAD, AND TIME OF DEPOSIT IN THE STRUCTURE AND SHALL MAINTAIN A COPY OF THE DAILY RECORD AS REQUIRED BY DSA.
15. SHRINKAGE: THE LENGTH CHANGE MEASURED IN ACCORDANCE WITH ASTM C157 SHALL BE LESS THAN 0.05% AT 28 DAYS.

WOOD

1. 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.

REINFORCING STEEL

1. REINFORCING STEEL:
   A. ALL BARS, U.N.O.: ASTM A615, GRADE 60
   B. BARS TO BE WELDED: ASTM A706, GRADE 60
2. SHOP DRAWINGS: ACI 315, PART B. SHOW REINFORCING STEEL PLACEMENT INCLUDING SIZES, QUANTITIES, SPACING, CLEARANCES, SPLICE LOCATIONS, LAP LENGTHS, AND CONCRETE COVERAGES AND SUBMIT TO STRUCTURAL ENGINEER. PROMPTLY NOTIFY STRUCTURAL ENGINEER PRIOR TO DEVELOPING SHOP DRAWINGS IF INSUFFICIENT CLEAR DISTANCES BETWEEN REINFORCING STEEL AND OTHER CONGESTION IS ENCOUNTERED. NOTIFY SPECIAL INSPECTOR OF ADJUSTMENTS MADE FROM APPROVED CONTRACT DOCUMENTS WHICH ARE INDICATED ON ACCEPTED SHOP DRAWINGS THAT FACILITATE FIELD PLACEMENT OF REINFORCING STEEL AND CONCRETE.
3. MINIMUM CLEARANCES BETWEEN PARALLEL REINFORCING STEEL INCLUDING DISTANCE BETWEEN SETS OF SPLICED BARS: 1" OR 1 d_b, WHICHEVER IS GREATER.
4. BARS TERMINATING AT WALLS, COLUMNS, BEAMS, AND FOUNDATIONS: EXTEND BARS TO WITHIN 2" (3" AT CONCRETE POURED AGAINST EARTH) OF FAR FACE OF WALL, COLUMN, BEAM OR FOUNDATION AND PROVIDE STANDARD ACI 90-DEGREE HOOK UNLESS DETAILED OTHERWISE.
5. BARS INTERRUPTED BY STRUCTURAL STEEL: EXTEND BARS TO WITHIN 2" OF STEEL FACE AND PROVIDE STANDARD ACI 90-DEGREE HOOK UNLESS DETAILED OTHERWISE.
6. BENDING: BEND COLD, ONE TIME ONLY, UNLESS OTHERWISE ACCEPTED BY STRUCTURAL ENGINEER. DO NOT FIELD-BEND REINFORCING STEEL BARS EMBEDDED IN CONCRETE UNLESS SHOWN ON THE DRAWINGS OR OTHERWISE ACCEPTED IN WRITING BY STRUCTURAL ENGINEER.
7. LAP SPLICES: PROVIDE CLASS B SPLICES PER DETAIL 3/SD402 LAP SPLICE SCHEDULE. REFER TO DETAIL 9/SD402 FOR TYPICAL FOOTING CORNERS & INTERSECTIONS.

EARTHWORK AND FOUNDATIONS

1. GEOTECHNICAL REPORT: PERFORM SOILS WORK COMPLING WITH RECOMMENDATIONS IN THE SOILS REPORT. SEE STRUCTURAL COVER SHEET (S001) FOR GEOTECHNICAL REPORT NUMBER, DATE, AND SOIL DESIGN PARAMETERS.
2. PREPARATION OF SOIL UNDER BUILDING PAD: SEE GEOTECHNICAL REPORT FOR OVER-EXCAVATION OF EXISTING SOIL AND INSTALLATION OF PROPERLY COMPACTED BACKFILL.
3. FOUNDATION EXCAVATIONS: FOUNDATIONS ARE TO BEAR ON FIRM EXISTING SOIL OR APPROVED COMPACTED FILL AS INDICATED 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.

STRUCTURAL STEEL NOTES

1. FABRICATION & ERECTION: ALL FABRICATION & ERECTION SHALL CONFORM TO THE 14TH EDITION STANDARDS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS.
2. ASTM SPECIFICATIONS: STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:

TABLE 1 - STEEL MATERIAL SPECIFICATIONS	
STEEL SHAPE	ASTM SPECIFICATION
W	A992 OR A572 GRADE 50
M, S, HP	A36 OR A572 GRADE 50
C - CHANNEL	A572 GRADE 50
L - ANGLE	A36
PLATES & BARS (EXCEPT BASE PLATES)	A36
COLUMN BASE PLATES	A572 Gr. 50
STEEL PIPE	A53 GRADE B
ROUND HSS	A500 GRADE B
SQ. & RECT. HSS	A500 GRADE B
MACHINE BOLTS	A307 GRADE A
HIGH-STRENGTH BOLTS (AS NOTED)	A325, A490
NUTS	A563, A194 GRADE 2H
WASHERS	F436
ANCHOR RODS / ANCHOR BOLTS	F1554-A36 (UNO PER DETAIL)

3. STEEL EXPOSED TO WEATHER OR CORROSIVE ENVIRONMENT: ALL STEEL EXPOSED TO WEATHER OR CORROSIVE ENVIRONMENT SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH ASTM A123. ALL FIELD WELDS ON GALVANIZED STEEL SHALL BE TREATED WITH ZINC-RICH PAINT IN COMPLIANCE WITH ASTM A780.
4. STEEL FABRICATOR: THE STRUCTURAL STEEL FABRICATOR SHALL PROVIDE A SET OF SHOP FABRICATION DRAWINGS FOR APPROVAL TO THE ENGINEER OF RECORD. THE FABRICATOR SHALL NOT FABRICATE THE STEEL UNTIL THE ENGINEER OF RECORD HAS APPROVED THE SHOP DRAWINGS.
5. WELDING: ALL WELDING SHALL BE IN CONFORMANCE WITH THE LATEST AISC & AMERICAN WELDING SOCIETY (AWS) STANDARDS. ALL WELDING SHALL BE PERFORMED USING A SHIELDED ARC PROCESS USING APPROVED ELECTRODES CONFORMING TO AWS SPECIFICATION E70XX (LOW HYDROGEN). WELD MATERIAL SHALL COMPLY WITH AWS CERTIFICATION AND POSSESS A CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F. WELDING SHALL BE PERFORMED BY ONLY AWS CERTIFIED WELDERS.
6. WELDING PROCEDURES: A WRITTEN WELDING PROCEDURE SPECIFICATIONS (WPS) PER AWS D1.1 SHALL BE DEVELOPED BY THE FABRICATOR/ERECTOR AND REVIEWED BY THE ENGINEER OF RECORD AND THE BUILDING DEPARTMENT.
7. ERECTION AIDS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDS AND JOINT PREPARATIONS THAT INCLUDE, BUT ARE NOT LIMITED TO, ERECTION ANGLES, LIFT HOLES AND OTHER AIDS, WELDING PROCEDURES, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS AND UNEQUAL PARTS.
8. FIELD WELDING: FIELD WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS. FIELD WELDING REQUIRES CONTINUOUS SPECIAL INSPECTION. PERIODIC FIELD SPECIAL INSPECTION IS ACCEPTABLE FOR FLOOR AND ROOF DECK WELDING, STUD WELDING & WELDING OF STAIR/HANDRAIL SYSTEMS.

PROPRIETARY ANCHORAGES AND FASTENERS

1. FASTENERS:
   A. POWDER ACTUATED FASTENERS: SIMPSON PDP, 0.145-INCH SHANK DIAMETER COMPLYING WITH CURRENT CURRENT ICC ES REPORT NO. 2138. PROVIDE APPROPRIATE WASHER BETWEEN FASTENER HEAD AND LIGHT GAUGE METAL SURFACE. PAF ARE STRUCTURALLY ACCEPTABLE FOR INTERIOR NONBEARING NON-SHEAR WALL PARTITIONS ONLY. SIMPSON PDP POWER ACTUATED FASTENERS SHALL NOT BE USED TO ANCHOR SEISMIC BRACING, EXTERIOR CLADDING OR CURTAIN WALL SYSTEMS.
   B. PNEUMATIC FASTENERS: ET&F PNEUMATIC FASTENERS WITH 0.144-INCH SHANK DIAMETER, COMPLYING WITH CURRENT IAPMO UES ER-335.
   C. 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 2196. MINIMUM YIELD STRESS, FY=33 KSI.
2. INSTALLATION: SEE MANUFACTURER'S WRITTEN INSTRUCTIONS AND REFERENCED ICC ES REPORT.
   A. 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 USING NON-HAZARDOUS, NONDESTRUCTIVE METHODS WITH ACCURATE LOCATION TOLERANCES (PLUS OR MINUS 1/4 PRIOR TO DRILLING HOLES TO AVOID CUTTING OR DAMAGING. HOLES SHALL BE THOROUGHLY CLEANED PER MANUFACTURERS WRITTEN RECOMMENDATIONS PRIOR TO INSTALLATION OF ANCHORAGES.
   B. DELETERIOUS MATERIALS: KEEP ANCHORAGES, INCLUDING HOLES FOR MECHANICAL ANCHORS, FREE OF DUST, GREASE, AND OTHER MATERIALS THAT IMPAIR BOND.
3. TEST & INSPECTION FOR TITEN HD ANCHORS:
   A. TESTING PROCEDURE: SPECIAL INSPECTOR MUST MAKE PERIODIC INSPECTIONS DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANING PROCEDURE, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, CONCRETE MEMBER THICKNESS, HOLE DIMENSIONS, ANCHOR SPACING, EDGE DISTANCE, INSTALLATION TORQUE, MAXIMUM IMPACT WRENCH TORQUE RATING, AND ADHERENCE TO THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.
   B. TEST FREQUENCY: 10 PERCENT OF THE ANCHORS SHALL BE TESTED.
   C. MAX INSTALLATION TORQUE: 100 FT-LBS FOR ⅝" DIAMETER ANCHORS
   D. TORQUE TEST VALUE: 70 FT-LBS FOR ⅝" DIAMETER ANCHORS

GENERAL NOTES

1. FIELD VERIFICATION: FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. PROMPTLY NOTIFY STRUCTURAL ENGINEER IN CASE OF DISCREPANCIES.
2. DESIGN INTENT: CONTRACT DOCUMENTS INDICATE DESIGN INTENT FOR STRUCTURE IN ITS COMPLETED STATE. THEY DO NOT INDICATE METHOD OF CONSTRUCTION. PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER), PRIOR TO PROCEEDING WITH WORK, IF DESIGN INTENT REQUIRES FURTHER CLARIFICATION.
3. DEVIATIONS, MODIFICATIONS AND SUBSTITUTIONS TO APPROVED STRUCTURAL DRAWINGS: MUST BE ACCEPTED IN WRITING BY STRUCTURAL ENGINEER AND APPROVED BY DSA. NO DEVIATION, MODIFICATION OR SUBSTITUTION WILL BE ACCEPTED VIA SHOP DRAWING REVIEW.
4. PROCEDURES OF CONSTRUCTION: CONTRACTOR IS RESPONSIBLE FOR PROCEDURES OF CONSTRUCTION COMPLYING WITH NATIONAL, STATE AND LOCAL SAFETY ORDINANCES. SITE VISITS (INCLUDING STRUCTURAL OBSERVATION) STRUCTURAL ENGINEER DO NOT CONSTITUTE SUPERVISIONS OF METHODS OF CONSTRUCTION.
   A. PROTECTION OF UTILITIES: LOCATE EXISTING UTILITIES, INCLUDING THOSE NOT SHOWN ON CONTRACT DOCUMENTS, AND PROTECT THEM FROM DAMAGE. CONTRACTOR BEARS EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES IN CONJUNCTION WITH EXECUTION OF WORK.
   B. EXCAVATIONS: PROTECT STRUCTURE, ADJACENT STRUCTURES, ADJACENT PROPERTIES, STREETS, AND UTILITIES DURING EXCAVATION UTILIZING LAGGING, SHORING, UNDERPINNING AT SIDES AND RELATED PROCEDURES AS MAY BE REQUIRED. PROVIDE NECESSARY SUPPORTS FOR SOIL EXCAVATIONS. CONTRACTOR AND AFFECTED TRADES SHALL REFER TO GEOTECHNICAL REPORT FOR MORE INFORMATION.
   C. PROTECTION OF STRUCTURE: PROVIDE NECESSARY MEASURES TO PROTECT STRUCTURE DURING EXECUTION OF WORK.
   D. TEMPORARY LOADING: ENSURE CONSTRUCTION LOADS DO NOT EXCEED INDICATED DESIGN LIVE LOAD VALUES INDICATED ON SHEET S001. NOTIFY AFFECTED SUB-CONTRATOR TRADES OF THESE DESIGN LOAD LIMITS.
5. COORDINATION RESPONSIBILITY: CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK INCLUDING THAT OF SUB-CONTRACTOR TRADES.
6. SUBMITTALS: SUBMIT TO STRUCTURAL ENGINEER AS INDICATED ON STRUCTURAL DRAWINGS AND SPECIFICATIONS. GENERAL CONTRACTOR SHALL REVIEW SUBMITTAL FOR COMPLETENESS AND COMPLIANCE WITH CONTRACT DOCUMENTS PRIOR TO SUBMISSION.
   A. REQUEST FOR INFORMATION (RFI) SUBMITTALS: ACCOMPANY RFI'S WITH PARTIAL STRUCTURAL FOUNDATION OR FRAMING PLANS SHOWING LOCATION IN QUESTION AND AFFECTED STRUCTURAL MEMBERS. COPY PARTIAL PLAN FROM STRUCTURAL DRAWINGS AND INDICATE GRID LINE LOCATIONS AND FLOOR LEVEL.
7. CONTRACT DOCUMENTS USE: REVIEW CONTRACT DOCUMENTS IN THEIR ENTIRETY BEFORE PERFORMING STRUCTURAL RELATED WORK AND BEFORE DEVELOPING SHOP DRAWINGS. BRING DISCREPANCIES TO THE IMMEDIATE ATTENTION OF STRUCTURAL ENGINEER BEFORE STARTING WORK.
   A. SCALING OF DRAWINGS: NOT PERMITTED.
   B. BUILDING GEOMETRY: SEE ARCHITECTURAL DRAWINGS FOR BUILDING GEOMETRY INCLUDING, BUT NOT LIMITED TO, TOP OF FLOOR AND ROOF ELEVATIONS; DEPRESSIONS; SLOPES; CURBS; DRAINS; TRENCHES; SLAB AND DECK EDGE LOCATIONS; WALL OVERALL DIMENSIONS; AND SIZE AND LOCATIONS OF OPENINGS IN FLOORS, ROOF AND WALLS.
   C. NON-STRUCTURAL ITEMS REQUIRING SPECIAL PROVISIONS: SEE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL ITEMS REQUIRING SPECIAL PROVISIONS DURING CONSTRUCTION. THEY INCLUDE, BUT ARE NOT LIMITED TO, NON-STRUCTURAL WALLS; SIZE AND LOCATIONS OF OPENINGS AND SLEEVES PENETRATING STRUCTURE; SIZE AND LOCATION OF CONCRETE CURBS AND PADS; AND SIZE AND LOCATION OF PIPING, DUCTWORK, AND EQUIPMENT ANCHORAGES MOUNTED ON SUSPENDED FROM STRUCTURE. VERIFY EXACT SIZE AND LOCATION OF EQUIPMENT WITH EQUIPMENT MANUFACTURER.
8. MATERIALS: FURNISH AND INSTALL IN COMPLIANCE WITH LEGALLY CONSTITUTED PUBLIC AUTHORITIES HAVING JURISDICTION INCLUDING COUNTY AND LOCAL ORDINANCES AND SAFETY ORDERS OF STATE INDUSTRIAL ACCIDENT COMMISSION, OSHA.
9. PENETRATIONS, EMBEDMENTS, AND OPENINGS IN STRUCTURAL MEMBERS: PENETRATIONS, EMBEDMENTS, OPENINGS, SLEEVES, PIPES, OR CONDUITS OCCURRING IN STRUCTURAL MEMBERS INCLUDING FOOTINGS, SLABS, WALLS, COLUMNS, AND BEAMS SHALL CONFORM TO THE LIMITATIONS AND REQUIREMENTS OF THE STRUCTURAL DETAILS. REFER TO DETAILS 8, 11 AND 12/SD402 FOR PIPES AND CONDUITS THROUGH FOOTINGS.
10. TYPICAL DETAILS: DETAILS ON SD SERIES SHEETS ARE APPLICABLE THROUGHOUT PROJECT WHEREVER THE DESCRIBED CONDITION OCCURS AND MAY OR MAY NOT BE SPECIFICALLY REFERENCED ON STRUCTURAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THESE DETAILS AND UNDERSTANDING EXTENT OF THEIR APPLICATION PRIOR TO PERFORMING WORK.

LIGHT GAUGE METAL FRAMING

1. APPLICABLE STANDARDS: CBC CHAPTER 22A, DIVISION VII, "NORTH AMERICAN SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" OF AISI, 2016 EDITION, "NORTH AMERICA STANDARD FOR SEISMIC DESIGN OF COLD-FORMED STEEL STRUCTURAL SYSTEMS" OF AISI, 2015 EDITION WITH SUPPLEMENT 1 DATED 2016. MINIMUM YIELD STRENGTH SHALL BE AS FOLLOWS:

   WALL STUDS, TRACKS, HEADER & SILL ASSEMBLIES:
   43 MILS (18 GAUGE) AND LIGHTER (33 KSI): GALVANIZED, ASTM A1003 STRUCTUTAL GRADE 33 (GRADE 230) TYPE H.
   54 MILS (16 GAUGE) AND HEAVIER (50 KSI): GALVANIZED, ASTM A1003 STRUCTUTAL GRADE 50 (GRADE 340) TYPE H.

   MECH. LOFT FLOOR JOISTS & BEAMS:
   54 MILS (16 GAUGE AND HEAVIER (50 KSI): GALVANIZED, ASTM A1003 STRUCTUTAL GRADE 50 (GRADE 340) TYPE H.

   ROOF BEAMS & HEADERS:
   14, 12, & 10 GAUGES (45 KSI): CARBON STEEL, ASTM 1011, GRADE 45.
   8 GAUGE (³⁄₁₆" THICK) (100 KSI): CARBON STEEL, ASTM A514, GRADE S.
   ROOF JOISTS:
   ALL GAUGES (36 KSI): CARBON STEEL, ASTM 1011, GRADE 36, TYPE 2.
2. MANUFACTURER AND PROPERTIES: MEMBER OF STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) COMPLYING WITH ICC-ES EVALUATION REPORT NO. 3064P. PROVIDE STUDS, TRACKS AND JOISTS WITH MINIMUM EFFECTIVE SECTION PROPERTIES PER EVALUATION REPORT.
3. MINIMUM GAUGE THICKNESS: INDICATED PROPERTIES ARE BASED ON THE FOLLOWING THICKNESS:
   8 GA. - 0.1644 INCH
   10 GA. - 0.1242 INCH
   12 GA. - 0.1017 INCH
   14 GA. - 0.0713 INCH
   16 GA. - 0.0566 INCH
   18 GA. - 0.0451 INCH
   20 GA. - 0.0329 INCH
4. TRACK MATERIAL: PROVIDE UNPUNCHED TRACK OF DIMENSIONS TO ENSURE PROPER FIT OF STUDS.
5. LATERAL BRACING FOR STUDS: RIGID WALL FINISH (EXTERIOR DENSGLASS & INTERIOR DRYWALL) SHALL CONTINUE FULL HEIGHT OF BOTH SIDES OF STUDS.
6. LATERAL BLOCKING FOR JOISTS: JOISTS SHALL BE BRACED BY FULL DEPTH BLOCKING AT ALL POINTS OF SUPPORT. JOIST BLOCKING SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS:
   SPAN ≤ 12 FEET NOT REQUIRED
   SPANS > 12 FEET NOT USED ON THIS PROJECT
7. STUD AND JOIST PUNCH-OUT LOCATIONS: WEB PUNCH-OUTS SHALL BE PER DETAIL 13/SD611.
8. SECURING: PLUMB, ALIGN AND TIGHTLY NEST IN SUPPORTING TRACKS WITH SECURE ATTACHMENT TO BOTH FLANGES OF TRACKS. FASTEN WITH "SCREWS", PER PROPRIETARY ANCHORAGES AND FASTENERS SECTION OF GENERAL NOTES, UNLESS DETAILED OTHERWISE. SPLICES IN JOISTS AND AXIAL LOADED STUDS AND RACES ARE NOT PERMITTED UNLESS SPECIFICALLY DETAILED.
9. WELDING: ANSI/AWS D1.3 AND CBC CHAPTER 22.
   A. WELDER CERTIFICATION: GOVERNING CODE AUTHORITY
   B. ELECTRODES: E60XX AT 33 KSI MEMBERS, E70XX AT 50 KSI MEMBERS.
   C. TOUCH-UP: ZINC-RICH PAINT AT GALVANIZED MEMBERS AND REGULAR PAINT AT CARBON SHEET STEEL.
   D. MIN CHARPY V-NOTCH THOUGHNESS OF 20 FT-LBS AT 0° F.

JL MODULAR
70 STONY POINT ROAD, SUITE D
SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE: DESCRIPTION: DATE:

DRAWN BY: DBL PLOT DATE: 9/30/2022
CHECKED BY: DBL

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

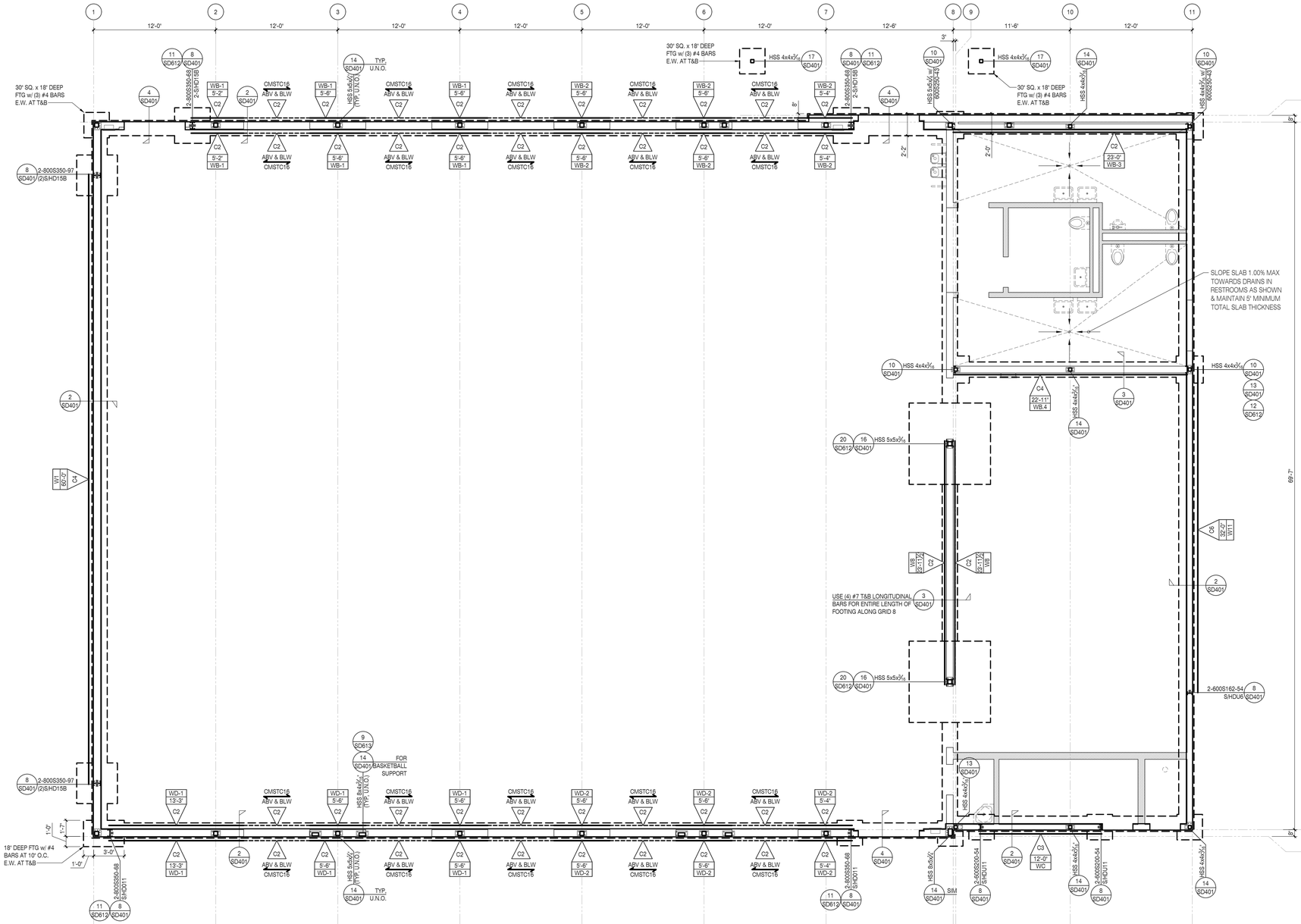
ISE STRUCTURAL ENGINEERS
27369 VIA INDUSTRIA
TEMECULA, CA 92590
TELE: 951.600.0032
WWW.ISEENGINEERS.COM
SOCAL | NORCAL | COLORADO

REGISTERED PROFESSIONAL ENGINEER SHAWN D. LOTHROP No. S5627 Exp. 6/30/2024 STRUCTURAL STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
ISE PROJECT NUMBER: 22-7600.0028

STRUCTURAL GENERAL NOTES

S002



BUILDING D FOUNDATION PLAN

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

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

FOUNDATION NOTES

1. REFER TO DETAIL PAGES SD401 & SD402 FOR TYPICAL CONDITIONS NOT SPECIFICALLY CALLED OUT OR NOTED ON PLANS.
2. ALL DIMENSIONS SHALL BE PER THE CURRENT DSA APPROVAL STAMPED SET OF ARCHITECTURAL PLANS. OUR OFFICE SHOULD BE NOTIFIED IMMEDIATELY IF DISCREPANCIES EXIST BETWEEN THE ARCHITECTURAL & STRUCTURAL PLANS.
3. THE CONTRACTOR AND SUBCONTRACTORS ARE TO REVIEW THE SOILS REPORT PRIOR TO COMMENCING CONSTRUCTION. SOILS REPORT MAY REQUIRE ADDITIONAL ITEMS NOT NOTED ON THE STRUCTURAL PLANS.
4. GRADING AND SUBGRADE PREPARATION IS TO BE CONSTRUCTED PER THE GEOTECHNICAL (SOILS) REPORT.
5. REFER TO DETAIL 14/SD402 FOR TYPICAL SLAB-ON-GRADE CONTROL JOINT CONFIGURATIONS.
6. PER THE SOILS REPORT RECOMMENDATIONS, THE SOIL WITHIN THE BUILDING FOOTPRINT IS TO BE OVER-EXCAVATED 3' BELOW THE EXISTING GRADES, MOISTURE CONDITIONED, AS NEEDED, AND REPLACED WITH ENGINEERED FILL. SEE SOILS REPORT FOR ADDITIONAL INFORMATION. THE TOP 9" (MIN) OF THE BUILDING PAD BELOW ALL SLABS-ON-GRADE IS TO BE NON-EXPANSIVE FILL PER THE SOILS REPORT REQUIREMENTS.

GEOTECHNICAL INFO

1. REFER TO STRUCTURAL COVER SHEET (S001) FOR SOIL VALUES BASED ON THE PROVIDED GEOTECHNICAL (SOILS) REPORT.
2. THE CONTRACTOR AND SUBCONTRACORS ARE TO REVIEW THE SOILS REPORT PRIOR TO COMMENCING CONSTRUCTION AND VERIFY THE BUILDING SITE COMPLIES WITH THE CURRENT SOILS REPORT RECOMMENDATIONS. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF THE SOILS REPORT DATE SHOWN ON THE COVER SHEET (SHEET S001) DOES NOT MATCH THE CURRENT REPORT DATE. THE OWNER/DEVELOPER IS RESONSIBLE FOR UPDATING THE STRUCTURAL ENGINNER WITH CURRENT GEOTECHNICAL ENGINEERING REQUIREMENTS.

FOUNDATION LEGEND

	INDICATES 6" LIGHT GAUGE METAL STUD WALL PER PLAN & DETAIL 3/SD611.
	INDICATES INTERIOR NON-BEARING PARTITION WALL PER DETAIL 4/SD611.
SHEAR WALL LENGTH; C1; XX-X; WXX; WALL ID; SHEAR WALL TYPE	IDENTIFIES WOOD SHEATHED COLD FORM STEEL WALL. SHEAR PLACEMENT PER PLAN. TYPE & ADDITIONAL INFO PER DETAIL 1 & 3/SD612
SHEAR WALL LENGTH; HORIZ. STRAP ABV & BELOW WINDOW; ABV & BLW; SHEAR WALL TYPE; WALL ID	IDENTIFIES WOOD SHEATHED COLD FORM STEEL WALL WITH SHEAR WALL SHEATHING ABOVE & BELOW OPENINGS & CONTINUOUS HORIZONTAL STRAPS ABOVE & BELOW ALL OPENINGS & CONTINUOUS TO THE END OF THE SHEAR WALL. SHEAR PLACEMENT PER PLAN. TYPE & ADDITIONAL INFO PER DETAILS 1, 3, & 13/SD612
XX DETAIL # / XX SHEET #	IDENTIFIES DETAIL CUT LOCATION. REFER TO DETAIL NUMBER & STRUCTURAL SHEET NUMBER FOR MORE INFORMATION.
	IDENTIFIES CONCRETE FOOTING PER DETAIL SHEET SD401

STRUCTURAL OBSERVATION REQUIREMENTS

STRUCTURAL OBSERVATIONS ARE REQUIRED BY THE ENGINEER OF RECORD. ISE SHOULD BE NOTIFIED TO PERFORM STRUCTURAL OBSERVATIONS AT THE FOLLOWING STAGES OF CONSTRUCTION:

1. PRIOR TO POUR OF CONCRETE TO OBSERVE REINFORCING & EMBEDS
2. PRIOR TO COVERING ANY COMPLETED STRUCTURAL MEMBER

SEE SHEET S002 FOR ADDITION INFORMATION REGARDING STRUCTURAL OBSERVATIONS

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DRAWN BY: DBL PLOT DATE: 9/30/2022
CHECKED BY: DBL

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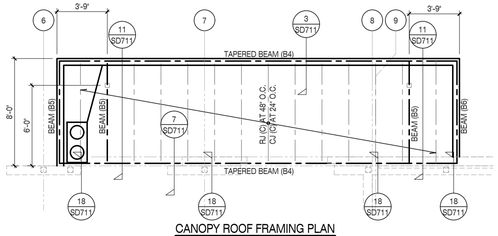
REGISTERED PROFESSIONAL ENGINEER — DAVID BRUCE LEE — No. S8527 — Exp. 6/30/2024 — STRUCTURAL — STATE OF CALIFORNIA

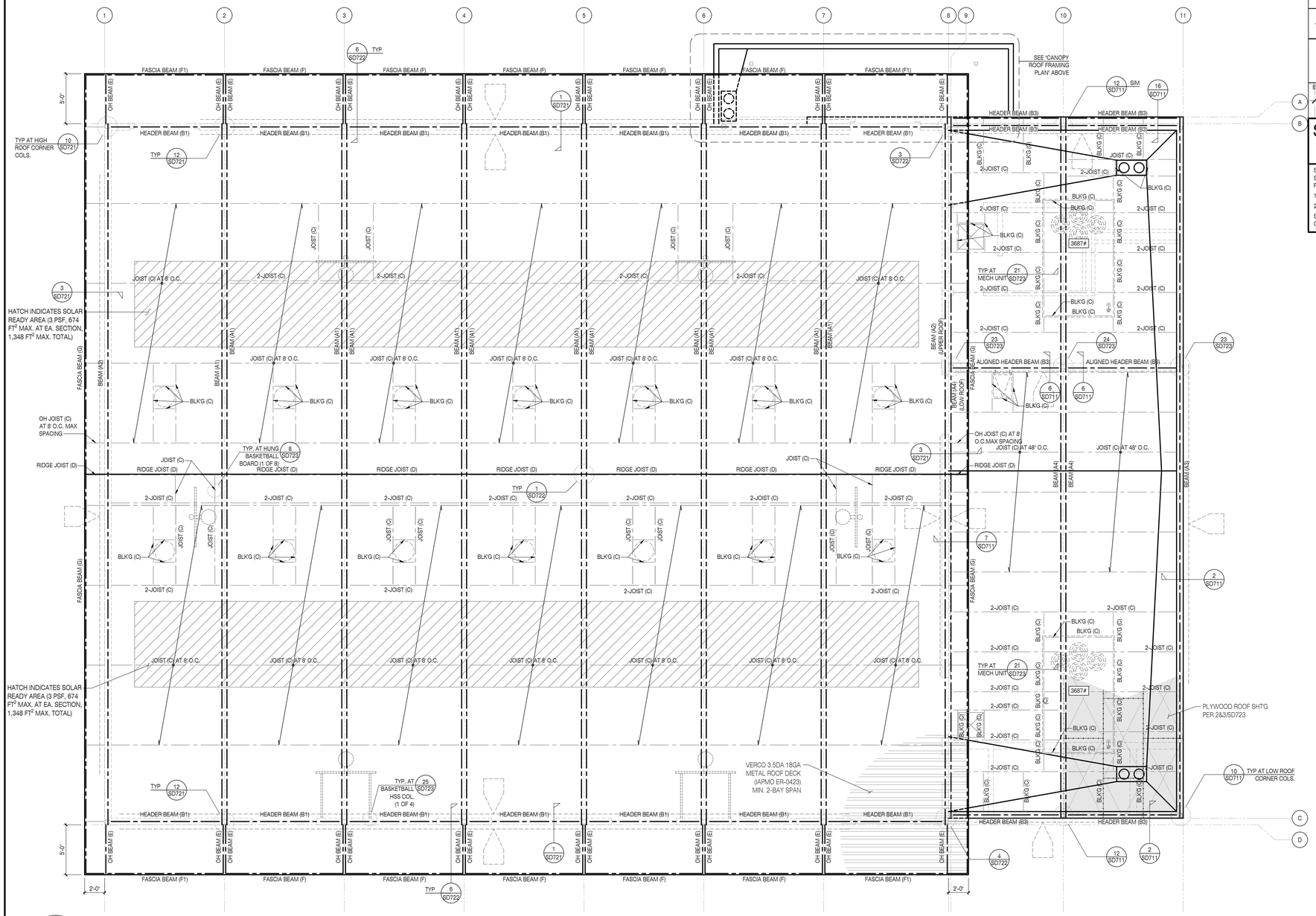
SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
ISE PROJECT NUMBER: 22-7600.0028

FOUNDATION PLAN

S101



CANOPY ROOF FRAMING PLAN



BUILDING D ROOF FRAMING PLAN

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

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

ROOF FRAMING NOTES

1. REFER TO STRUCTURAL GENERAL NOTE SHEET (S002) 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 JOIST INTERFERES w/ FUTURE INSTALLATION OF M.E.P. INSTALLATION, CONTACT STRUCTURAL ENGINEER.
3. ALL BEAMS, HEADERS, AND JOISTS TO BE CONTINUOUS U.N.O. PER PLAN.

ROOF FRAMING LEGEND

	INDICATES LIGHT GAUGE METAL STUD WALL BELOW
BEAM TYPE XX	INDICATES ROOF BEAMS PER DETAIL 8/SD721 AS INDICATED PER PLAN. SEE DETAILS ON SHEET SD721 FOR COLUMN TOP ASSEMBLIES.
	INDICATES HSS COLUMN BELOW ROOF MODULES. SEE FOUNDATION PLAN FOR COLUMN SIZE. SEE DETAILS ON SHEET SD721 FOR COLUMN TOP ASSEMBLIES.
XX DETAIL # / XX SHEET #	IDENTIFIES DETAIL CUT LOCATION. REFER TO DETAIL NUMBER & STRUCTURAL SHEET NUMBER FOR MORE INFORMATION.
	IDENTIFIES LOCATION OF WOOD SHEATHED COLD FORM STEEL SHEAR WALL BELOW. SEE FOUNDATION PLANS FOR SHEAR WALL DESIGNATION AND ADDITIONAL SHEAR WALL INFORMATION.
EDGE SPACING X/8-XX BOUNDARY SPACING	INDICATES BLOCKED ROOF MODULE EXTENTS & SPACING PER DETAILS 3 & 4/SD723 (APPLIES TO FULL WIDTH & LENGTH OF EA. MODULE INDICATED)

STRUCTURAL OBSERVATION REQUIREMENTS

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2. PRIOR TO COVERING ANY COMPLETED STRUCTURAL MEMBER

SEE SHEET S002 FOR ADDITION INFORMATION REGARDING STRUCTURAL OBSERVATIONS

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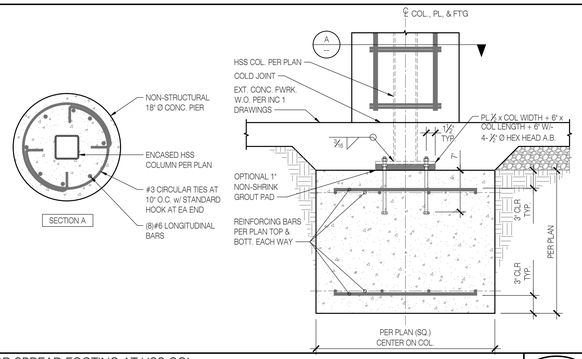
SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
ISE PROJECT NUMBER: 22-7600.0028

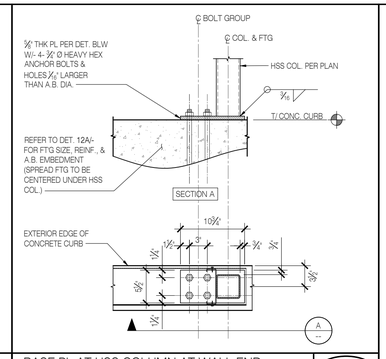
ROOF FRAMING PLAN

S301



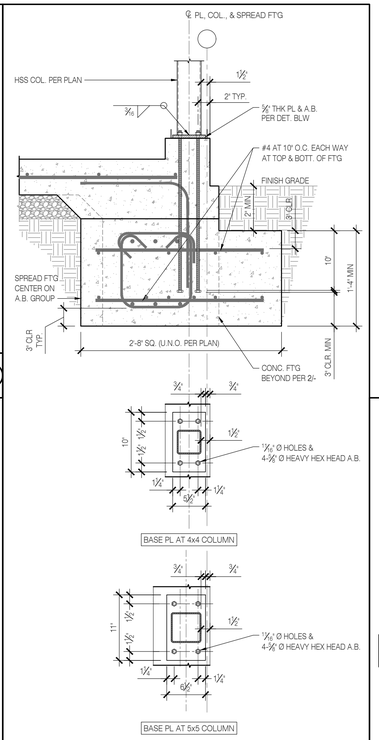
EXTERIOR SPREAD FOOTING AT HSS COL. — 17

SCALE: N.T.S.



BASE PL AT HSS COLUMN AT WALL END — 13

SCALE: N.T.S.

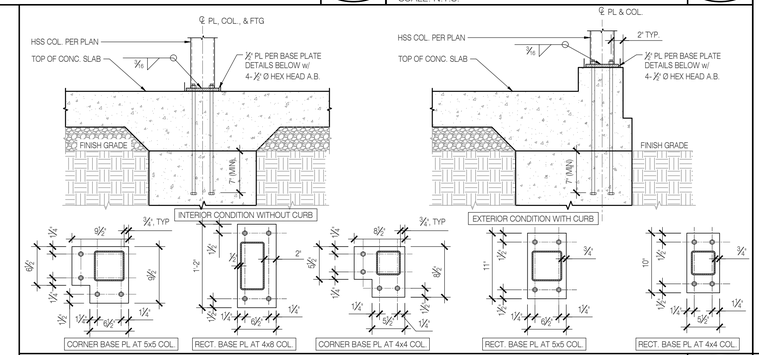


SLAB & FOOTING SPECIFICATIONS	
LABEL	FOOTING & PIER SPECIFICATIONS
D	24"
W	18" (U.N.O. PER PLAN)
C	9½" AT 8' STUD WALLS 7½" AT 6' STUD WALLS (U.N.O. PER FOUNDATION PLAN)
R	(3) #6 TOP & BOTTOM (U.N.O. ON PLAN)
S	5" SLAB W/- #4 BARS AT 18" O.C.E.W. AT SLAB CENTER
U	15 MIL (MIN) VAPOR BARRIER OVER 4" THICK LAYER OF ¾" GRAVEL OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT

* DIMENSIONS & REINFORCING NOTED ABOVE ARE MINIMUMS. DIMENSIONS & REINFORCING NOTED ON THE PLANS GOVERN.

FOUNDATION SPECIFICATIONS — 1

SCALE: N.T.S.

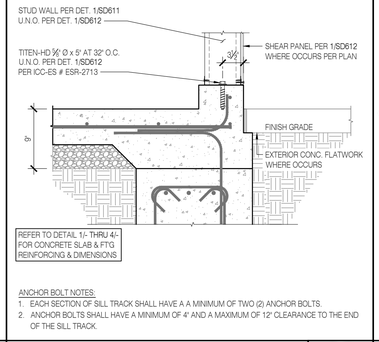


BASE PL AT HSS COL. — 14

SCALE: N.T.S.

HSS SHEAR WALL END POST — 10

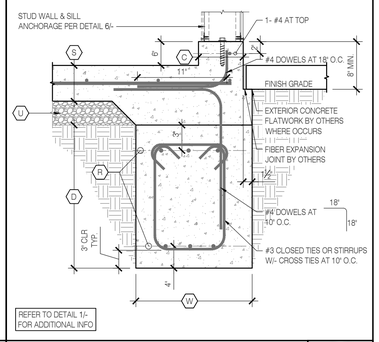
SCALE: N.T.S.



ANCHOR BOLT NOTES:
1. EACH SECTION OF SILL TRACK SHALL HAVE A A MINIMUM OF TWO (2) ANCHOR BOLTS.
2. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 4" AND A MAXIMUM OF 12" CLEARANCE TO THE END OF THE SILL TRACK.

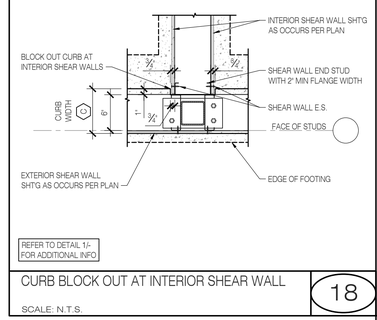
STUD WALL ANCHORAGE — 6

SCALE: N.T.S.



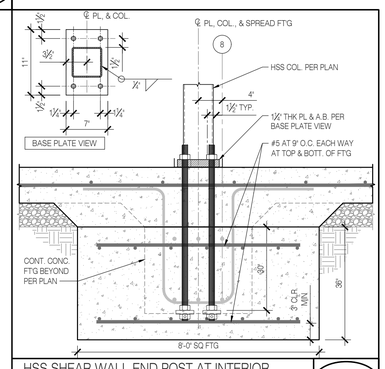
FOOTING AT EXTERIOR WALL — 2

SCALE: N.T.S.



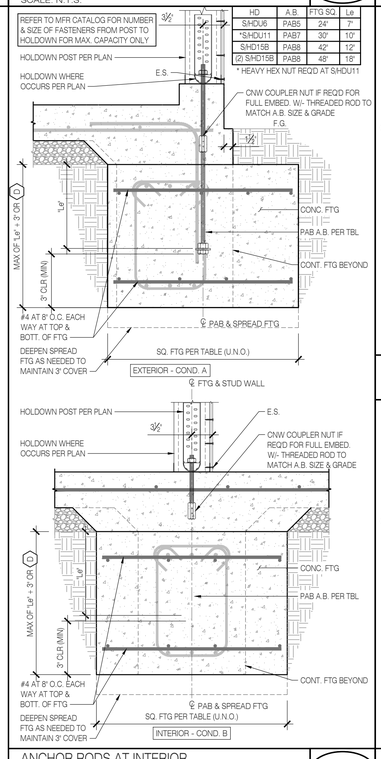
CURB BLOCK OUT AT INTERIOR SHEAR WALL — 18

SCALE: N.T.S.



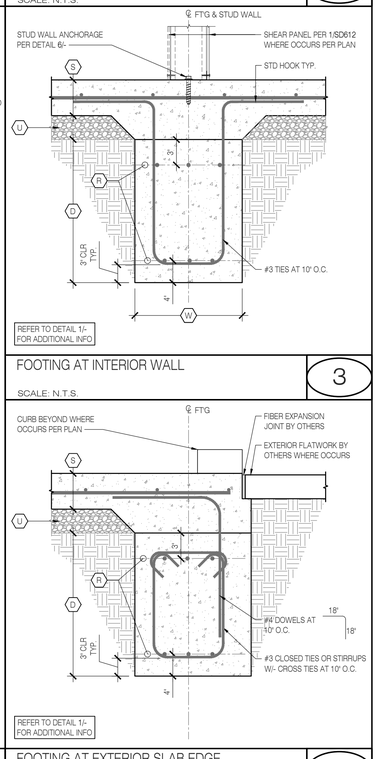
HSS SHEAR WALL END POST AT INTERIOR FOOTING — 16

SCALE: N.T.S.



ANCHOR RODS AT INTERIOR & EXTERIOR FOOTING — 8

SCALE: N.T.S.



FOOTING AT INTERIOR WALL — 3

SCALE: N.T.S.

FOOTING AT EXTERIOR SLAB EDGE — 4

SCALE: N.T.S.

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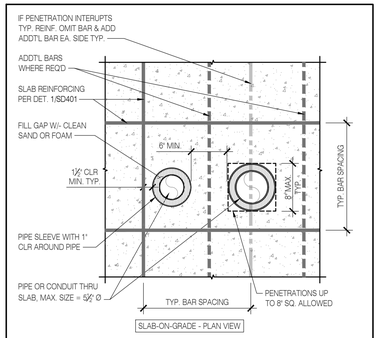
REGISTERED PROFESSIONAL ENGINEER — DAVID BRUCE LOVE — No. 58527 — Exp. 6/30/2024 — STRUCTURAL — STATE OF CALIFORNIA

SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
ISE PROJECT NUMBER:	22-7600.0028

CONVENTIONAL FOUNDATION DETAILS

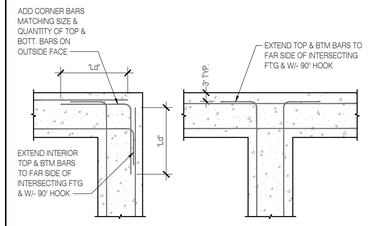
SD401



SLAB-ON-GRADE - PLAN VIEW

PENETRATIONS THRU SLAB-ON-GRADE

20



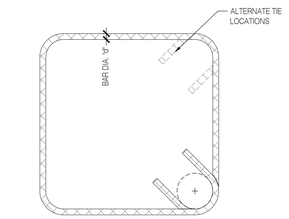
CORNER - PLAN VIEW

INTERSECTION - PLAN VIEW

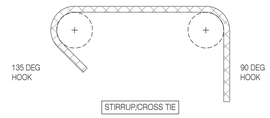
TYPICAL REBAR LAYOUT AT FOOTING INTERSECTIONS & CORNERS

SCALE: N.T.S.

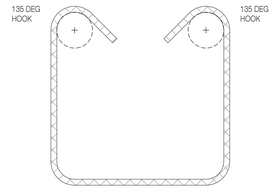
9



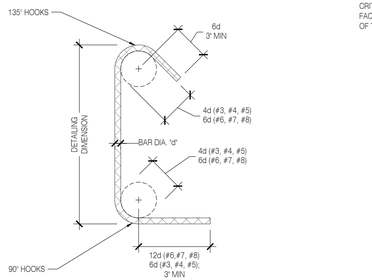
CLOSED TIE/ HOOP



STIRRUP/CROSS TIE

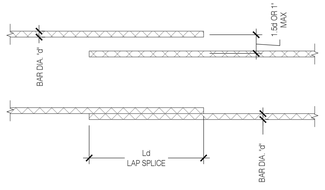


STIRRUP/BEAM TIE



STIRRUP/TIE

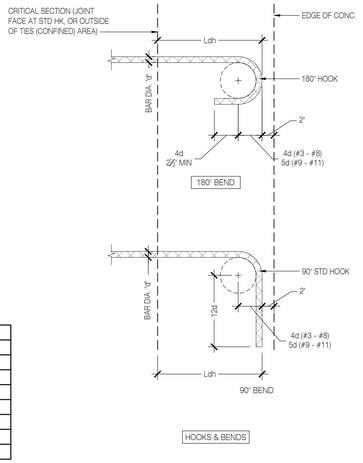
STANDARD HOOK DEVELOPMENT LENGTH (Ldh)				
BAR SIZE	f'c= 2,500 psi	f'c= 3,000 psi	f'c= 4,000 psi	f'c= 5,000 psi
#3	9"	9"	7"	7"
#4	12"	11"	10"	9"
#5	15"	14"	12"	11"
#6	18"	17"	15"	13"
#7	21"	19"	17"	15"
#8	24"	22"	19"	17"
#9	27"	25"	22"	20"



f'c = 3,000 PSI		TENSION DEVELOPMENT (Id) AND LAP SPLICE (l) LENGTH FOR BARS IN WALLS, SLABS, AND FOOTINGS							
BAR SIZE	LAP CLASS	COVER = 0.75"		COVER = 1.5"		COVER = 2"		COVER = 3"	
		UNCOATED		UNCOATED		UNCOATED		UNCOATED	
		TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
#3	A	13"	12"	13"	12"	13"	12"	13"	12"
	B	17"	13"	17"	13"	17"	13"	17"	13"
#4	A	22"	17"	18"	14"	18"	14"	18"	14"
	B	28"	22"	23"	18"	23"	18"	23"	18"
#5	A	32"	25"	22"	17"	22"	17"	22"	17"
	B	41"	32"	28"	22"	28"	22"	28"	22"
#6	A	43"	33"	26"	20"	26"	20"	26"	20"
	B	56"	43"	34"	26"	34"	26"	34"	26"
#7	A	69"	53"	43"	33"	38"	29"	38"	29"
	B	90"	69"	55"	43"	49"	38"	49"	38"
#8	A	86"	66"	54"	42"	43"	33"	43"	33"
	B	112"	86"	70"	54"	56"	43"	56"	43"
#9	A	103"	80"	66"	51"	53"	41"	49"	37"
	B	134"	103"	86"	66"	69"	53"	63"	49"

NOTES:

1. TABULATED VALUES ARE BASED ON A MINIMUM YIELD STRENGTH 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.
6. ALL LAP SPLICES ARE TO BE CLASS B UNLESS NOTED OTHERWISE PER PLAN.



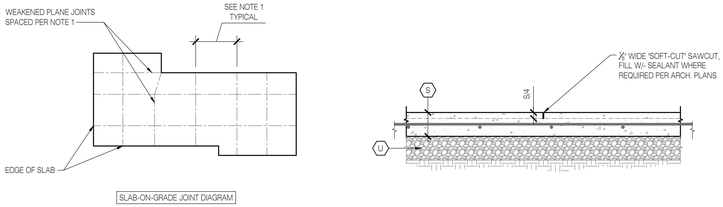
HOOKS & BENDS

TYPICAL REINFORCING BAR DETAILS

SCALE: N.T.S.

3

REFER TO DET. 1/SD401 FOR ADDITIONAL INFO



SLAB-ON-GRADE JOINT DIAGRAM

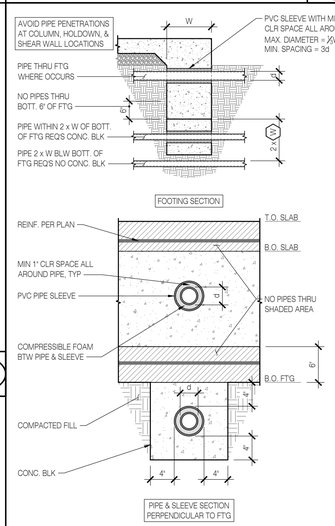
NOTES:

1. SAWCUT WEAKENED PLANE JOINTS AS SOON AS CONCRETE CAN SUPPORT WEIGHT OF PERSONNEL & SAW WITHOUT AFFECTING FINAL FINISH BUT NO LATER THAN 24 HOURS AFTER POUR. SPACE WEAKENED PLAN JOINTS 24 TO 36 TIMES THE SLAB THICKNESS "S" (15'-0" MAXIMUM) IN BOTH DIRECTIONS, U.N.O. PER PLAN.

WEAKENED PLANE JOINTS IN SLAB-ON-GRADE

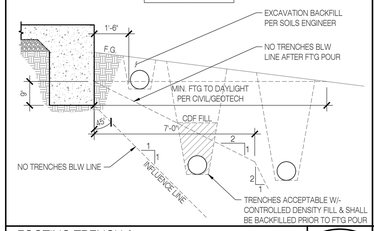
SCALE: N.T.S.

14



FOOTING SECTION

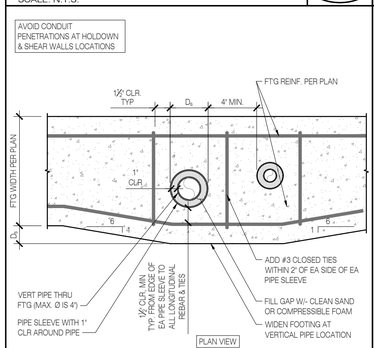
PIPE & SLEEVE SECTION PERPENDICULAR TO FTG



FOOTING TRENCH & HORIZONTAL PIPES THRU FOOTING

SCALE: N.T.S.

11

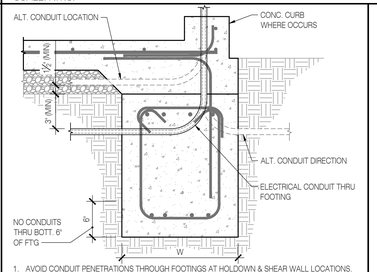


PLAN VIEW

VERTICAL PIPE THRU FOOTING

SCALE: N.T.S.

12



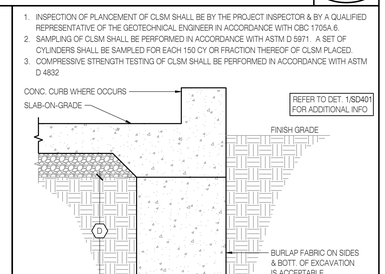
1. AVOID CONDUIT PENETRATIONS THROUGH FOOTINGS AT HOLDOWN & SHEAR WALL LOCATIONS.
2. IT IS ACCEPTABLE TO HAVE CONDUIT PENETRATIONS AT SHEAR WALL AND HOLDOWN LOCATIONS AS LONG AS THE CONDUIT OCCURS ABOVE THE COLD JOINT AT THE TOP OF THE FOOTING.
3. WHERE CONDUITS PENETRATE UP THROUGH THE BOTTOM TRACK, THE SPACING OF THE TITEN-HD ANCHOR BOLTS ALONG THE BOTTOM TRACK IS TO BE ADJUSTED SO THAT THE TOTAL NUMBER OF ANCHOR BOLTS IS NOT REDUCED & THE CONDUIT SHALL BE A MINIMUM OF ⅞" CLEAR FROM THE TRACK FLANGES.
4. CONDUITS SHALL NOT INTERRUPT TIES OR LONGITUDINAL REBAR.

ELECTRICAL CONDUIT THRU FOOTING

SCALE: N.T.S.

8

1. INSPECTION OF PLANCEMENT OF CLSM SHALL BE BY THE PROJECT INSPECTOR & BY A QUALIFIED REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER IN ACCORDANCE WITH CBC 1705A.6.
2. SAMPLING OF CLSM SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D 5971. A SET OF CYLINDERS SHALL BE SAMPLED FOR EACH 150 CY OR FRACTION THEREOF OF CLSM PLACED.
3. COMPRESSIVE STRENGTH TESTING OF CLSM SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D 4832



OPTIONAL FOOTING WINTERIZATION

SCALE: N.T.S.

4

JL MODULAR
70 STONY POINT ROAD, SUITE D
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FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: DBL PLOT DATE: 9/30/2022
CHECKED BY: DBL

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM

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San Jose, CA 95132

Berryessa Union School District

INCREMENT #2

ISE STRUCTURAL ENGINEERS
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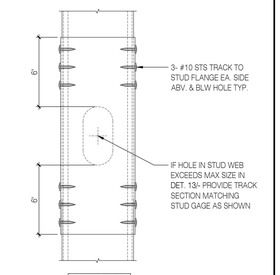
SOCAL | NORCAL | COLORADO

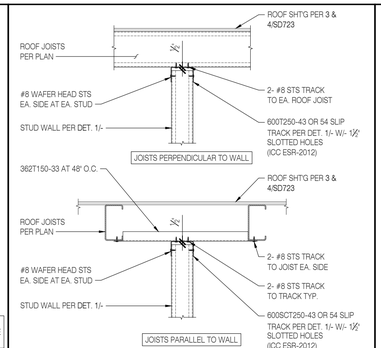
REGISTERED PROFESSIONAL ENGINEER
JOSEPH T. SWEENEY
No. 58527
Exp. 6/30/2024
STRUCTURAL
STATE OF CALIFORNIA

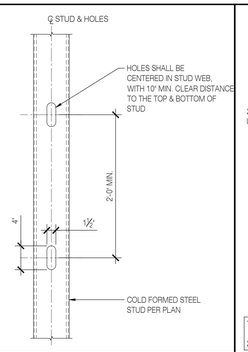
SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
ISE PROJECT NUMBER:	22-7600.0028

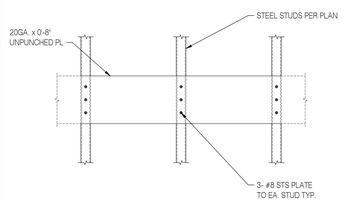
CONVENTIONAL FOUNDATION DETAILS

SD402









1. THIS DETAIL IS FOR SURFACE MOUNTED COMPONENTS WITH 50 PLF MAX. ASSEMBLY WEIGHT & 2" MAX ECCENTRICITY FROM FACE OF WALL.
2. SEE DETAIL 12/- FOR ATTACHMENT OF WALL MOUNTED CABINETS.

COLD FORMED STEEL STUD WALL FRAMING SPECIFICATIONS

		DESIGNATION	d (IN)	FLANGE (IN)	LIP (IN)	t (IN)	WEIGHT (LB/FT)	A (IN²)	Ixx (IN⁴)	Sxx (IN³)
8" EXTERIOR WALLS & INTERIOR BEARING WALLS MAX HEIGHT = 31'-0"	TRACK	800T150-54*	8.199	1.5	0	0.0566	2.12	0.622	4.692	0.844
	STUDS AT 12" O.C. MAX.	800S162-54*	8.0	1.625	0.5	0.0566	2.28	0.585	5.720	1.430
8" EXTERIOR WALLS & INTERIOR BEARING WALLS MAX HEIGHT = 25'-0"	TRACK	800T150-54*	8.199	1.5	0	0.0566	2.12	0.622	4.692	0.844
	STUDS AT 16" O.C. MAX.	800S162-54*	8.0	1.625	0.5	0.0566	2.28	0.585	5.720	1.430
6" EXTERIOR WALLS & INTERIOR BEARING WALLS MAX HEIGHT = 15'-0"	TRACK	600T150-43*	6.161	1.5	0	0.0451	1.38	0.406	1.890	0.474
	STUDS AT 16" O.C. MAX.	600S162-43*	6.0	1.625	0.5	0.0451	1.52	0.447	2.303	0.768
8" INTERIOR NON-BEARING & NON-SHEAR WALLS MAX HT = 25'-0"	TRACK TRACK (SLIP TRACK)	800T250-54	8.199	2.5	0	0.0566	2.51	0.735	5.816	0.959
	BOTTOM TRACK	800T150-33	8.146	1.5	0	0.0346	1.30	0.381	2.569	0.414
	STUDS AT 24" O.C. MAX.	800S162-33	8.0	1.625	0.5	0.0346	1.41	0.414	3.573	0.893
6" INTERIOR NON-BEARING & NON-SHEAR WALLS MAX HT = 15'-0"	TRACK TRACK (SLIP TRACK)	600T250-43	6.146	2.5	0	0.451	1.69	0.496	2.269	0.563
	BOTTOM TRACK	600T150-33	6.161	1.5	0	0.0346	1.06	0.311	1.335	0.303
	STUDS AT 24" O.C. MAX.	600S162-33	6.0	1.625	0.5	0.0346	1.17	0.344	1.783	0.594
4" INTERIOR NON-BEARING & NON-SHEAR WALLS MAX HT = 17'-6"	TRACK TRACK (SLIP TRACK)	400T250-43	4.146	2.5	0	0.0451	1.38	0.406	0.888	0.324
	BOTTOM TRACK	400T150-33	4.146	1.5	0	0.0346	0.82	0.424	0.519	0.208
	STUDS AT 24" O.C. MAX	400S162-33	4.0	1.625	0.5	0.0346	0.94	0.275	0.682	0.341

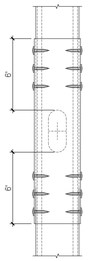
* EXTERIOR AND INTERIOR BEARING WALLS SPECIFICATION SHALL BE PER THE TABLE ABOVE UNLESS OTHERWISE NOTED PER DETAIL 1/SD612 AT SHEAR WALLS.

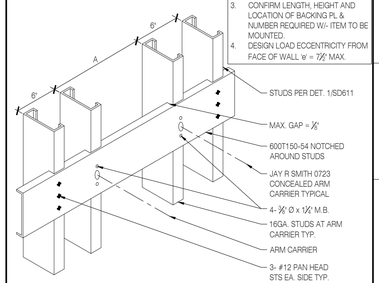
INTERIOR NON-BEARING WALL CONNECTION — 17
SCALE: N.T.S.

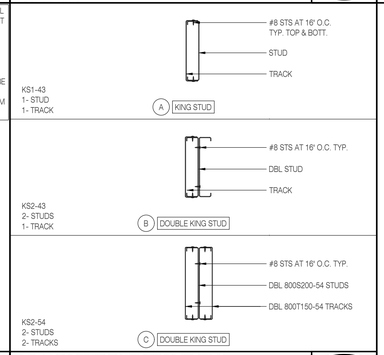
TYPICAL ALLOWABLE HOLES METAL STUDS — 13
SCALE: N.T.S.

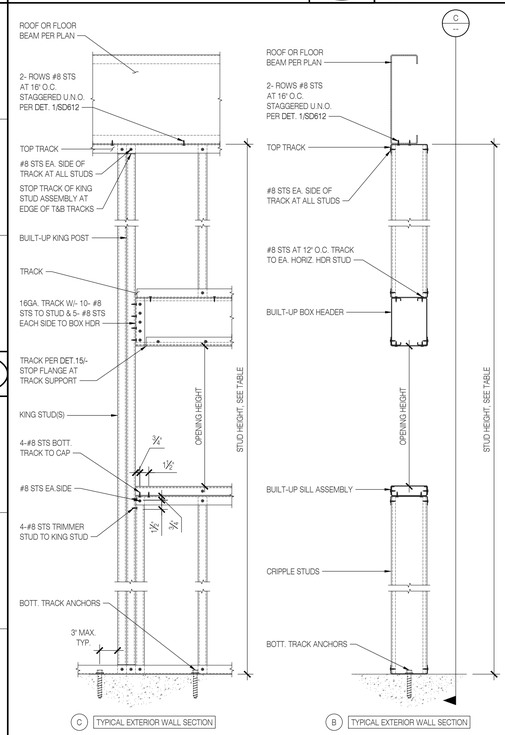
SUPPORT BACKING — 9
SCALE: N.T.S.

METAL STUD WALL SPECIFICATIONS — 1
SCALE: N.T.S.









COMPONENT DETAIL REFERENCES AT WALL OPENINGS

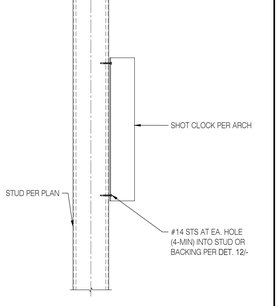
STUD HEIGHT	ASSEMBLY	MAX. OPENING WIDTH, (W)	
		4'-0"	6'-6"
15'-0" MAX	KING STUD	14A	14B
	HEADER	15A	15B
	SILL	16	16
25'-0" MAX	KING STUD	-	14C
	HEADER	-	15C
	SILL	-	16

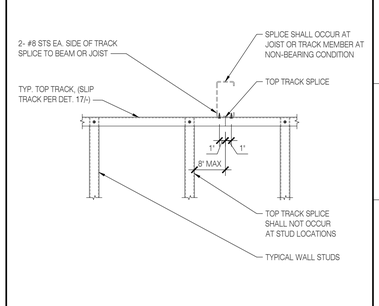
1. WIDTH IS THE DISTANCE BETWEEN KING STUDS AT EACH SIDE OF WINDOW/DOOR.
2. SCREWS SHALL BE SPREAD EVENLY ALONG BUILT-UP KING STUDS, HEADERS, & SILLS.
3. REFER TO DETAILS 14-16 FOR INFORMATION ON BUILT-UP KING STUDS, HEADERS, & SILLS.
4. WHERE SHEAR PANEL DOES NOT OCCUR, EXTERIOR FACE OF WALLS SHALL BE COVERED WITH ½" DENSGLASS (OR SIMILAR). THE INTERIOR FACE OF ALL WALLS SHALL BE COVERED WITH GYPBOARD PER THE ARCHITECTURAL DRAWINGS.

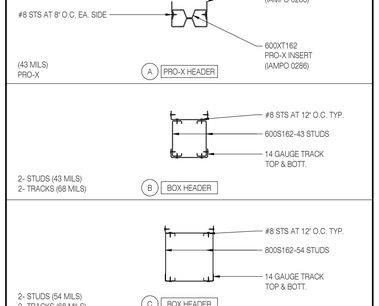
REINFORCMENT OF OVERCUT STUDS AT EXTERIOR STUD WALLS — 22
SCALE: N.T.S.

SUPPORT BACKING FOR WALL MOUNTED LAVATORY / DRINKING FOUNTAIN — 18
SCALE: N.T.S.

EXTERIOR KING STUD ASSEMBLIES — 14
SCALE: N.T.S.



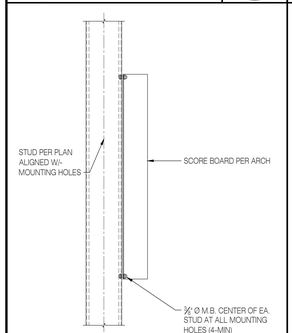


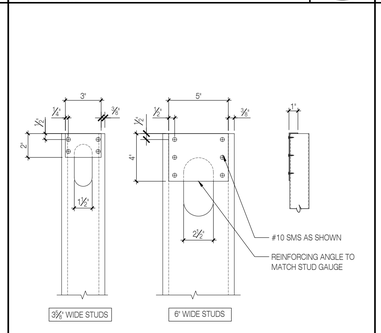


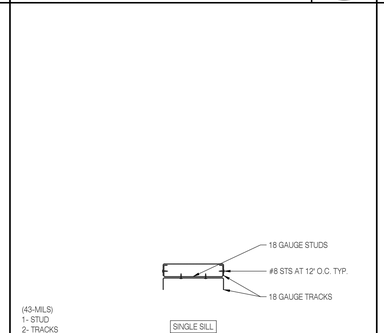
SHOT CLOCK ATTACHMENT — 23
SCALE: N.T.S.

TYPICAL TOP TRACK SPLICE AT NON-BEARING WALLS — 20
SCALE: N.T.S.

EXTERIOR HEADER ASSEMBLIES — 15
SCALE: N.T.S.



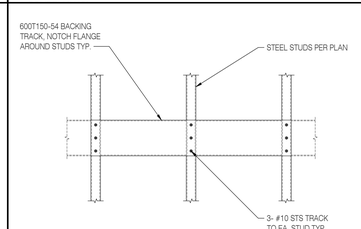




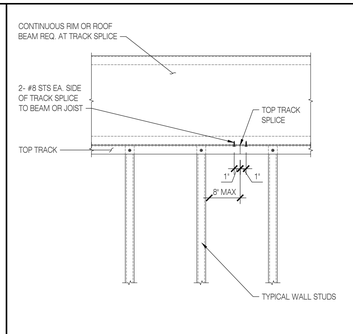
SCORE BOARD ATTACHMENT — 24
SCALE: N.T.S.

STUD PUNCHOUT REINFORCING AT BEARING WALLS — 21
SCALE: N.T.S.

EXTERIOR SILL ASSEMBLIES — 16
SCALE: N.T.S.

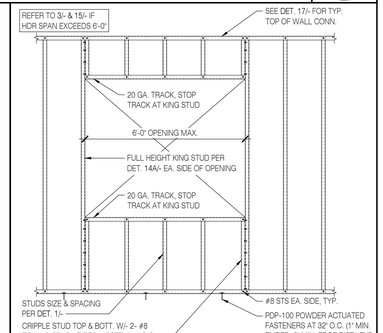


1. THIS BACKING IS RATED FOR 125# MAX LOAD WITH 3" MAX PROJECTION FROM WALL
2. SEE TYPICAL WALL FRAMING DETAIL FOR GAUGE OF STUDS. STUD FLANGES TO BE CONTINOUS.
3. VERIFY LENGTH, HEIGHT & LOCATION OF BACKING PL & NUMBER OF FASTENERS REQD PER MFR.
4. IF USED FOR CABINETS CONTINUE BACKING ONE STUD BAY WHERE CABINET ENDS AT TOP & BOTT.
5. FOR WALL HUNG LAVATORIES OR DRINKING FOUNTAINS SEE DETAIL 18/-.
6. SEE DETAIL 9/- FOR MISC. ITEMS SUCH AS SURFACE MOUNTED MIRRORS, WASTE RECEPTACLES, TOWEL DISPENSERS, ETC., UP TO 50PLF.
7. FOR WATER HEATER, 1357# MAX WEIGHT, SEE PLUMBING PLANS FOR ADDITIONAL INFO.



SUPPORT BACKING — 12
SCALE: N.T.S.

TYPICAL TOP TRACK SPLICE AT BEARING-WALLS — 8
SCALE: N.T.S.



INTERIOR NON-BEARING WALL METAL (LIGHT GAUGE STEEL) STUD FRAMING — 4
SCALE: N.T.S.

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ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: DBL
CHECKED BY: DBL
PLOT DATE: 9/30/2022

PIEDMONT MIDDLE SCHOOL NEW MODULAR GYM

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Berryessa Union School District

INCREMENT #2

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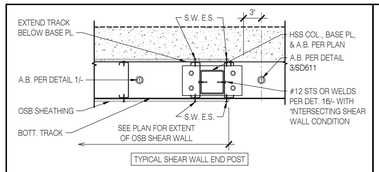
SOCAL | NORCAL | COLORADO

REGISTERED PROFESSIONAL ENGINEER — JAMES W. DOTSON — No. 58527 — Exp. 6/30/2024 — STRUCTURAL — STATE OF CALIFORNIA

SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
ISE PROJECT NUMBER:	22-7600.0028

STRUCTURAL WALL FRAMING DETAILS

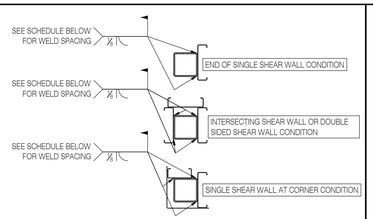
SD611



SEE DET. 11/- FOR INFO. NOT SHOWN

SHEAR WALL END POST AT HSS COL. WITH DOUBLE SIDED SHEAR WALL — 20

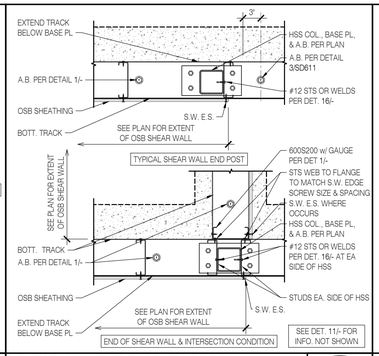
SCALE: N.T.S.



CFS SW END STUD TO HSS COLUMN WELD SCHEDULE		
SW TYPE	WELD LENGTH	MAX SPACING
C6	1"	12"
C4	1"	10"
C3	1"	8"
C2	1"	6"
C2A	1"	10"
C2B	1"	9"

CFS SW END STUD TO HSS COLUMN WELD SCHEDULE — 16

SCALE: N.T.S.



SEE DET. 11/- FOR INFO. NOT SHOWN

SHEAR WALL END POST AT HSS COL. — 12

SCALE: N.T.S.

LIGHT GAUGE STEEL STUD, WOOD PANEL, SHEAR WALL SCHEDULE - AISI S400-15														
C#	OSB WOOD STRUCTURAL PANEL			PANEL SCREWS			SHEAR WALL FRAMING					LIGHT GAUGE STUD MIN FLANGE WIDTH AT ADJOINING PANEL EDGES	ASD SHEAR CAPACITY (PLF)	
	THICK (IN)	GRADE RATING	SPAN RATING	SCREW SIZE	EDGE SCREW ON CENTER SPACING	FIELD SCREW ON CENTER SPACING	WALL STUD & TOP TRACK MIN. THICKNESS	SILL TRACK MIN. THICKNESS	½" Ø TITEN-HD AT BOTTOM	TO BEAM BOTTOM FLANGE AT TOP			SEISMIC	WIND
										FASTENER	SPACING			
C6	1/2	SHEATHING	24/0	#8 STS	6"	12"	43 mil	54 mil	32"	#10 STS	(2) ROWS AT 15" O.C.	1⅝" (S162)	330	331
C4	1/2	SHEATHING	24/0	#8 STS	4"	12"	43 mil	54 mil	32"	#10 STS	(2) ROWS AT 10" O.C.	1⅝" (S162)	494	513
C3	1/2	SHEATHING	24/0	#8 STS	3"	12"	43 mil	54 mil	24"	#10 STS	(2) ROWS AT 8" O.C.	1⅝" (S162)	618	713
C2	1/2	SHEATHING	24/0	#8 STS	2"	12"	43 mil	54 mil	18"	#10 STS	(2) ROWS AT 6" O.C.	1⅝" (S162)	824	913
C2A	1/2	SHEATHING	24/0	#8 STS	2"	12"	54 mil	54 mil	15"	#10 STS	(2) ROWS AT 5" O.C.	1⅝" (S162)	940	955
C2B	1/2	SHEATHING	24/0	#10 STS	2"	12"	68 mil	68 mil	12"	#10 STS	(2) ROWS AT 4" O.C.	1⅝" (S162)	1232	955

SHEAR WALL NOTES:

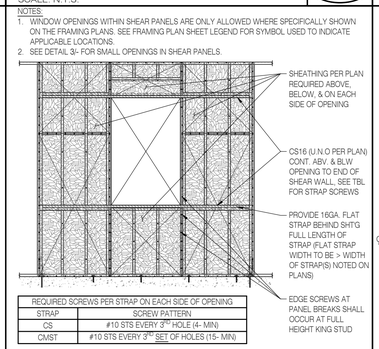
1. YIELD STRENGTH - MINIMUM STUD AND TRACK YIELD STRENGTHS SHALL BE AS FOLLOWS:
   - 43 mil AND THINNER STUDS/TRACKS: GRADE 33
   - 54 mil AND THICKER STUDS/TRACKS: GRADE 50
2. STUDS AT SILL & TOP TRACK - ALL STUDS SHALL BE SCREWED TO TOP & SILL TRACKS WITH (1)-#8 STS AT EACH STUD FLANGE, EACH SIDE OF TRACK.
3. PANEL SCREWS - ALL PANEL SCREWS SHALL BE A MINIMUM OF #8 SELF-TAPPING SHEET METAL SCREWS IN CONFORMANCE WITH ASTM C1513, UNLESS SPECIFIED IN THE TABLE ABOVE.
4. PANEL RATING - WOOD PANELS SHALL CONSIST ONLY OF OSB WITH A MINIMUM EXPOSURE 1 RATING.
5. STUD SPACING - LIGHT GAUGE STUDS AT SHEAR WALL SHALL BE NOT BE SPACED MORE THAN 16" ON CENTER.
6. PANEL BREAKS - ALL SHEATHING PANEL EDGES SHALL BE BLOCKED. REFER TO DETAIL 3 FOR TYPICAL BLOCKING CONFIGURATION.
7. SILL TRACK ANCHOR BOLT WASHERS - SHALL BE STANDARD CUT WASHERS WHEN CAST-IN-PLACE ANCHOR BOLTS ARE USED. WASHERS ARE NOT REQUIRED AT SILL PLATE WHEN TITEN-HD ANCHOR BOLTS ARE USED.
8. DOUBLE SIDED SHEAR WALLS - BOTTOM & TOP TRACK HARDWARE SPACING SHALL BE REDUCED BY A FACTOR OF 1/2. MINIMUM SILL TRACK THICKNESS SHALL BE 68 mil.
9. BUILT-UP END POSTS - WHERE BUILT-UP END POSTS ARE SPECIFIED ADD (2) ROWS OF #10 SELF-TAPPING SHEET METAL SCREWS AT 12" O.C. STAGGERED AT BACK-TO-BACK WEBS.
10. SHEATHING - WOOD STRUCTURAL PANEL SHEATHING SHALL BE MANUFACTURED USING EXTERIOR GLUE AND COMPLY WITH DOC PS 1 OR DOC PS 2.

LIGHT GAUGE STEEL STUD W/- WOOD SHEAR PANEL SCHEDULE — 1

SCALE: N.T.S.

NOTES:

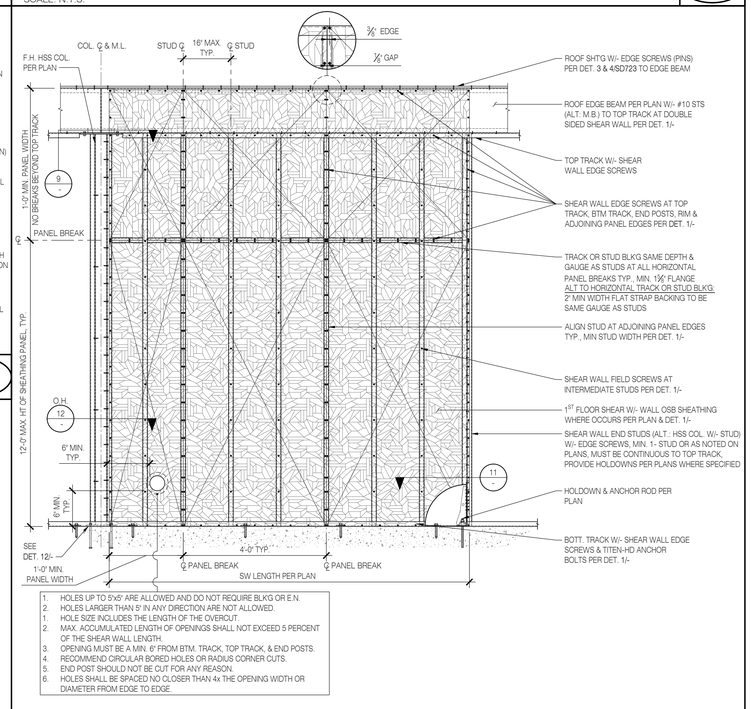
1. WINDOW OPENINGS WITHIN SHEAR PANELS ARE ONLY ALLOWED WHERE SPECIFICALLY SHOWN ON THE FRAMING PLANS. SEE FRAMING PLAN SHEET LEGEND FOR SYMBOL USED TO INDICATE APPLICABLE LOCATIONS.
2. SEE DETAIL 3/- FOR SMALL OPENINGS IN SHEAR PANELS.



REQUIRED SCREWS PER STRAP ON EACH SIDE OF OPENING	
STRAP	SCREW PATTERN
CS	#10 STS EVERY 3RD HOLE (4- MIN)
CMST	#10 STS EVERY 3RD SET OF HOLES (15- MIN)

TYPICAL PERFORATED SHEAR WALL — 13

SCALE: N.T.S.

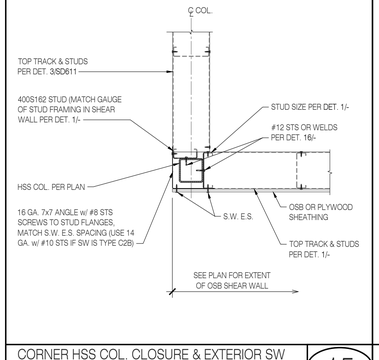


1. HOLES UP TO 5"x5" ARE ALLOWED AND DO NOT REQUIRE BLKG OR E.N.
2. HOLES LARGER THAN 5" IN ANY DIRECTION ARE NOT ALLOWED.
1. HOLE SIZE INCLUDES THE LENGTH OF THE OVERCUT.
2. MAX. ACCUMULATED LENGTH OF OPENINGS SHALL NOT EXCEED 5 PERCENT OF THE SHEAR WALL LENGTH.
3. OPENING MUST BE A MIN. 6" FROM BTM. TRACK, TOP TRACK, & END POSTS.
4. RECOMMEND CIRCULAR BORED HOLES OR RADIUS CORNER CUTS.
5. END POST SHOULD NOT BE CUT FOR ANY REASON.
6. HOLES SHALL BE SPACED NO CLOSER THAN 4x THE OPENING WIDTH OR DIAMETER FROM EDGE TO EDGE.

TYPICAL SHEAR WALL MINOR OPENING REQUIREMENTS

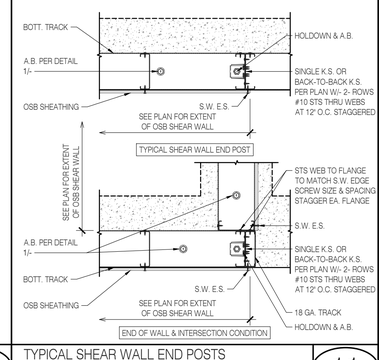
TYPICAL 1-STORY LIGHT GAUGE STEEL STUD W/- WOOD SHEAR PANEL FRAMING — 3

SCALE: N.T.S.



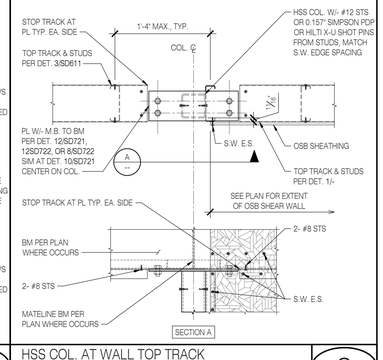
CORNER HSS COL. CLOSURE & EXTERIOR SW CONNECTION TO COL. — 15

SCALE: N.T.S.



TYPICAL SHEAR WALL END POSTS — 11

SCALE: N.T.S.



HSS COL. AT WALL TOP TRACK — 9

SCALE: N.T.S.

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ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: DBL
CHECKED BY: DBL
PLOT DATE: 9/30/2022

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San Jose, CA 95132

Berryessa Union School District

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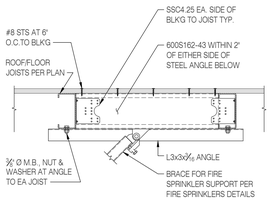
SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
ISE PROJECT NUMBER:	22-7600.0028

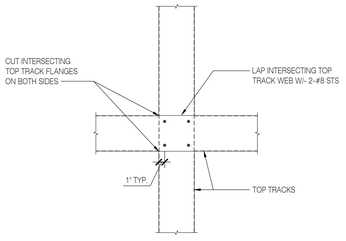
SHEAR WALL FRAMING DETAILS

SD612

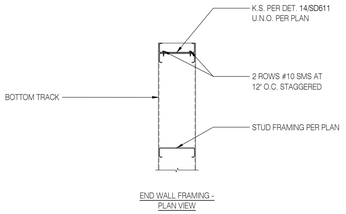


ROOF/FLOOR BLOCKING AT FIRE SPRINKLER SUPPORT — 21

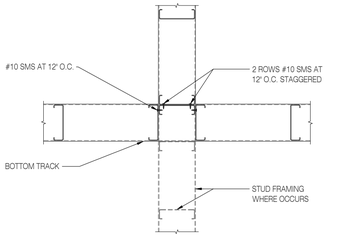
SCALE: N.T.S.



INTERSECTING TOP TRACK - PLAN VIEW



END WALL FRAMING - PLAN VIEW

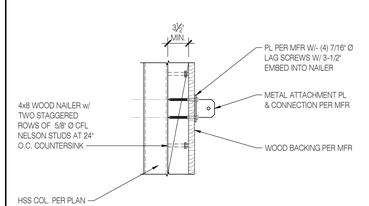


INTERSECTING WALL FRAMING - PLAN VIEW

CORNER WALL FRAMING - PLAN VIEW

WALL INTERSECTIONS AND ENDS — 19

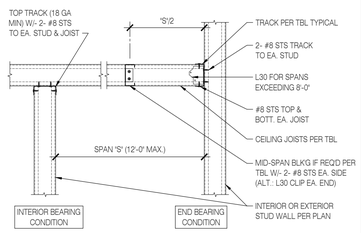
SCALE: N.T.S.



WALL MOUNTED BACKBOARD BRACKET — 9

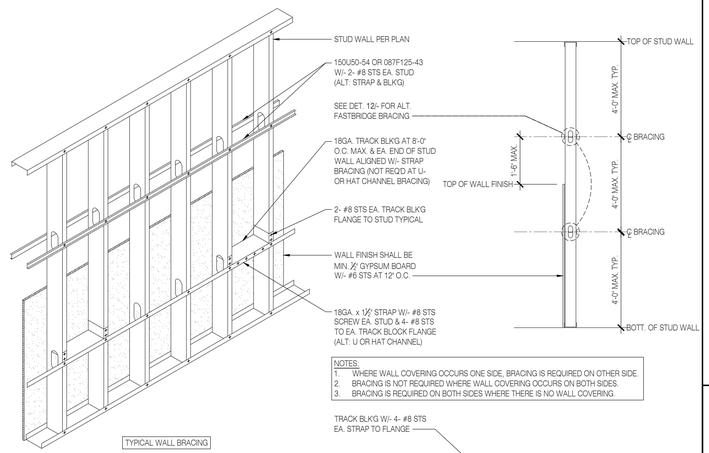
SCALE: N.T.S.

CEILING JOIST SPAN TABLE (13psf MAX)			
MAX SPAN "S"	CEILING JOIST	TRACK	MID-SPAN BLKG
8'-0"	362S162-33 AT 16" O.C.	362T150-33	NOT REQD
10'-0"	400S162-33 AT 16" O.C.	400T150-33	NOT REQD
12'-0"	400S162-33 AT 16" O.C.	400T150-33	400S162-33



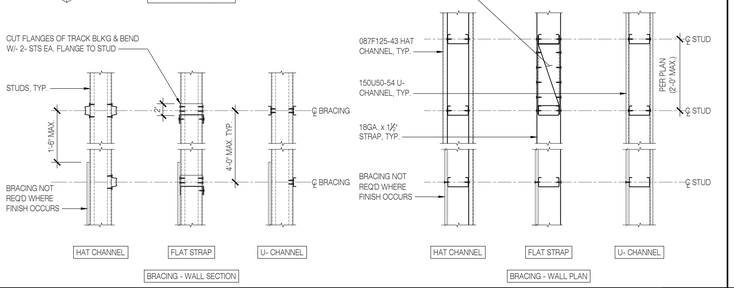
INTERIOR CEILING JOIST SPANS — 5

SCALE: N.T.S.



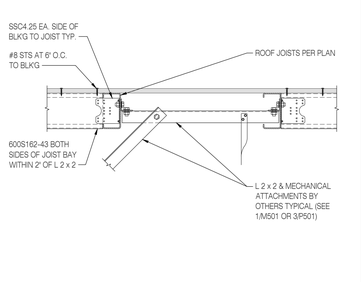
NOTES:
1. WHERE WALL COVERING OCCURS ONE SIDE, BRACING IS REQUIRED ON OTHER SIDE.
2. BRACING IS NOT REQUIRED WHERE WALL COVERING OCCURS ON BOTH SIDES.
3. BRACING IS REQUIRED ON BOTH SIDES WHERE THERE IS NO WALL COVERING.

TYPICAL WALL BRACING



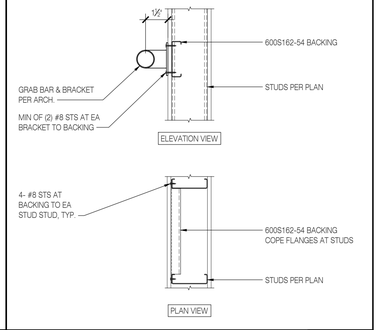
TYPICAL COLD-FORMED STUD WALL LATERAL BRACING — 10

SCALE: N.T.S.



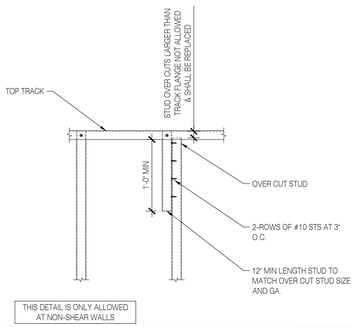
ROOF BLOCKING AT MECHANICAL SUPPORT — 7

SCALE: N.T.S.



GRAB BAR / HANDRAIL ATTACHMENT — 3

SCALE: N.T.S.

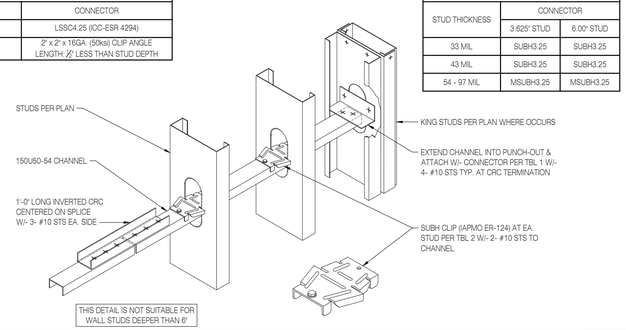


OVERCUT STUD REPAIR — 20

SCALE: N.T.S.

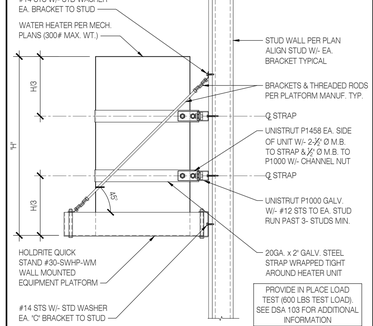
TABLE 1	
STUD DEPTH	CONNECTOR
6"	LSSC4.25 (ICC-ESR 4294)
OTHER	2" x 2" x 16GA. (60ksi) CLIP ANGLE LENGTH: ½" LESS THAN STUD DEPTH

TABLE 2		
STUD THICKNESS	CONNECTOR	
	3.625" STUD	6.00" STUD
33 MIL	SUBH3.25	SUBH3.25
43 MIL	SUBH3.25	SUBH3.25
54 - 97 MIL	MSUBH3.25	MSUBH3.25



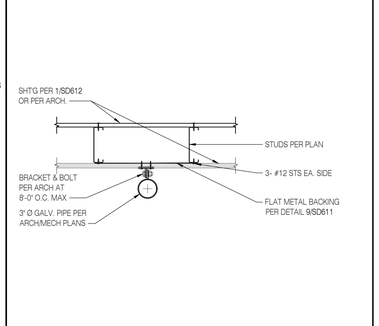
COLD-FORMED STUD WALL (ALTERNATE BRIDGING CONNECTOR) LATERAL BRACING — 12

SCALE: N.T.S.



WALL MOUNTED WATER HEATER — 8

SCALE: N.T.S.



STEEL PIPE DOWNSPOUT ATTACHMENT — 4

SCALE: N.T.S.

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SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
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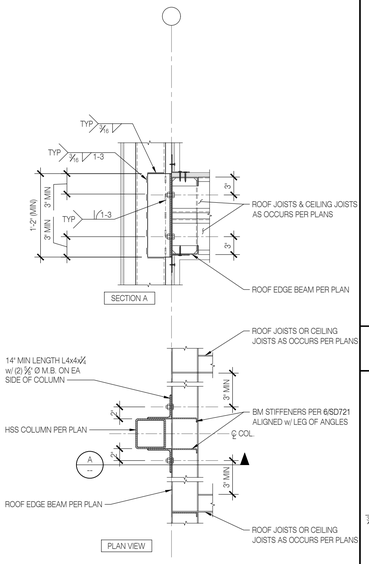
MISCELLANEOUS WALL FRAMING DETAILS

SD613



EDGE BEAM TO FULL HEIGHT COL. CONNECTION 18

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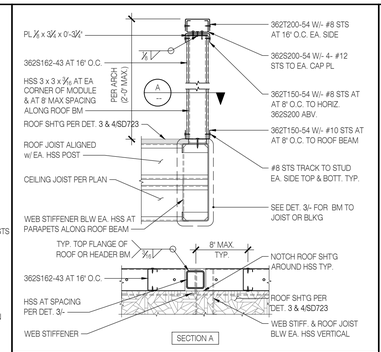
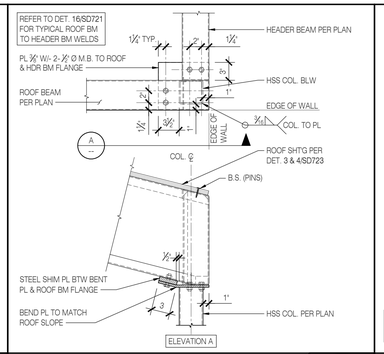


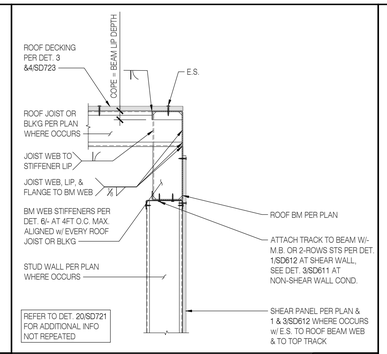
PARAPET AT ROOF OR HEADER 13

SCALE: N.T.S.



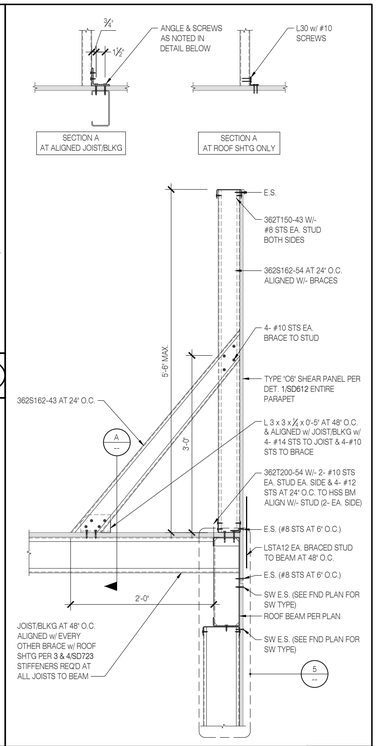
COLUMN TO ROOF MODULE AT CORNER 10

SCALE: N.T.S.



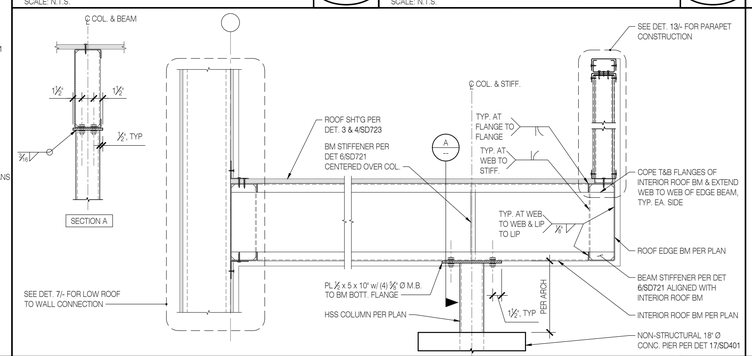
JOIST/BLK'G TO EXTERIOR ROOF BEAM 5

SCALE: N.T.S.



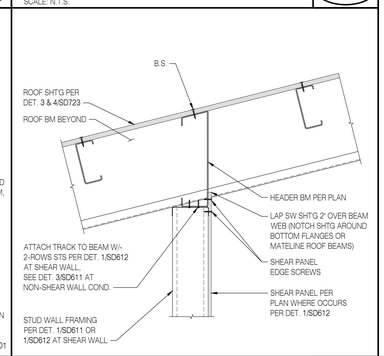
PARAPET AT LOW ROOF 2

SCALE: N.T.S.



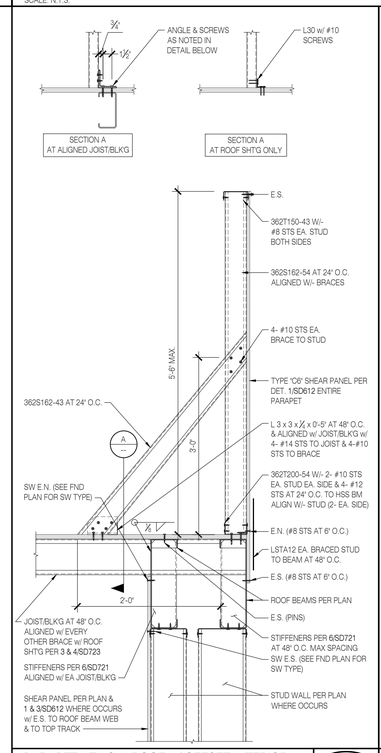
INTERIOR ROOF BEAM TO EDGE BEAM CONNECTION & BEAM TO COLUMN CONNECTION 11

SCALE: N.T.S.



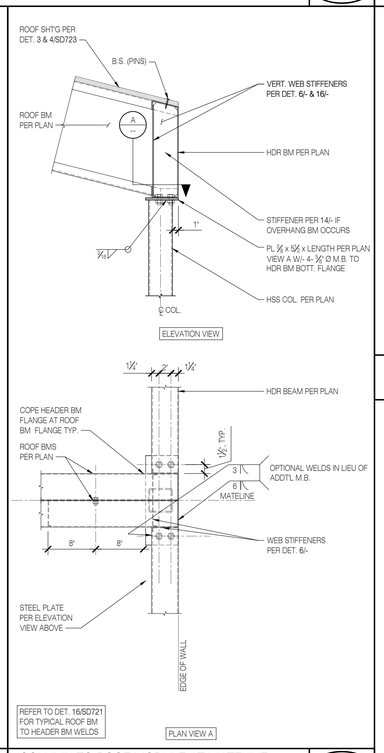
SHEAR TRANSFER AT INTERIOR SHEAR WALL 6

SCALE: N.T.S.



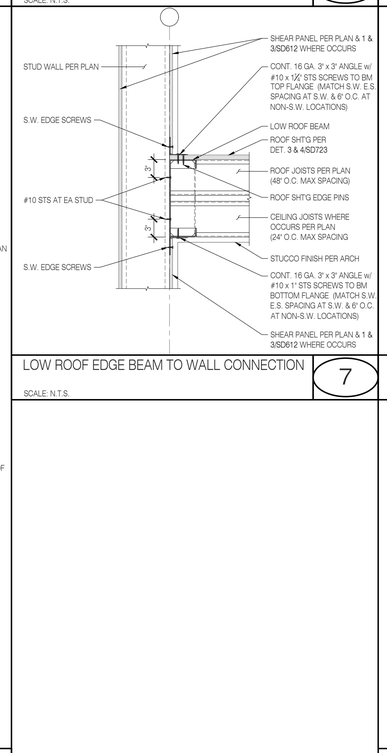
PARAPET AT LOW ROOF w/ OFFSET INTERIOR SHEAR WALL 16

SCALE: N.T.S.



COLUMN TO ROOF MODULE AT MATELINE 12

SCALE: N.T.S.



LOW ROOF EDGE BEAM TO WALL CONNECTION 7

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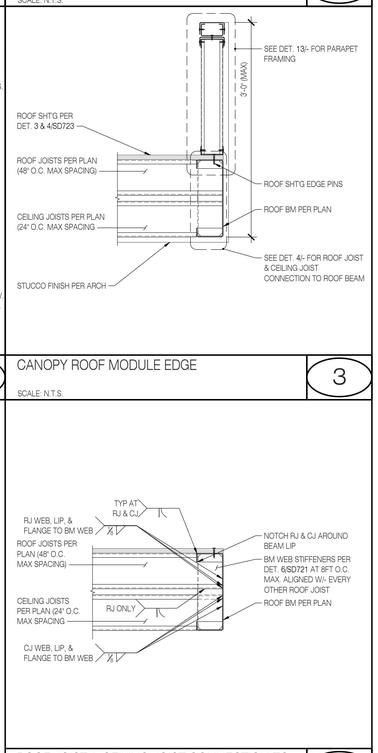

CANOPY ROOF MODULE EDGE 3

SCALE: N.T.S.

ROOF JOIST & CEILING JOIST CONNECTION TO CANOPY ROOF BEAM 4

SCALE: N.T.S.

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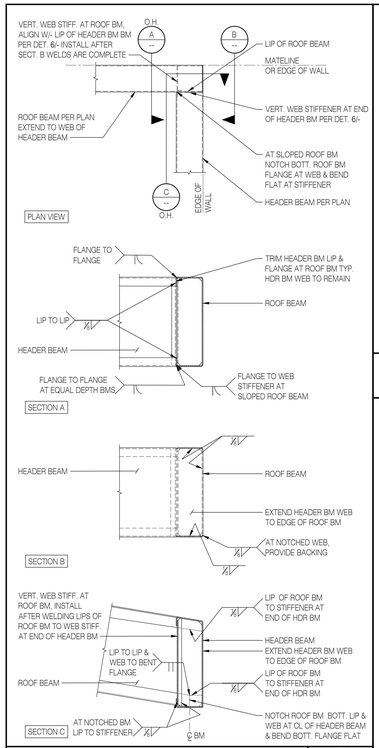
SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
ISE PROJECT NUMBER:	22-7600.0028

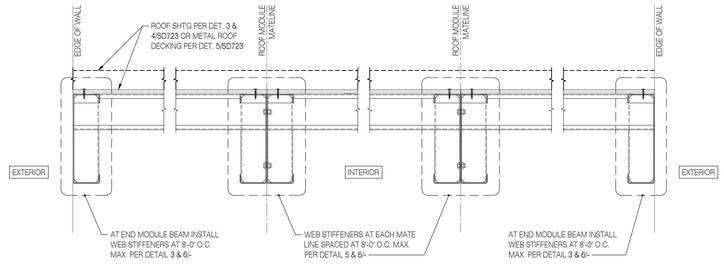
PARAPET & CANOPY ROOF FRAMING DETAILS

SD711



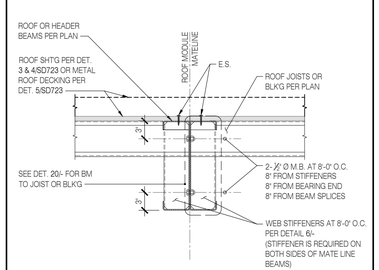
TYPICAL WELDS AT ROOF MODULE CORNER — 16

SCALE: N.T.S.



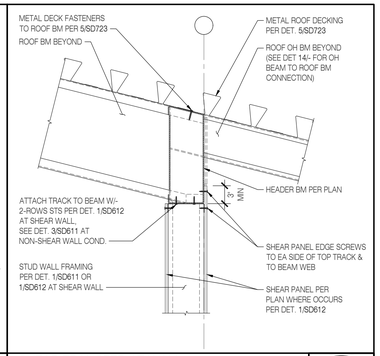
TYPICAL ROOF MODULE LAYOUT — 9

SCALE: N.T.S.



TYPICAL ROOF BEAMS AT MATELINE — 5

SCALE: N.T.S.

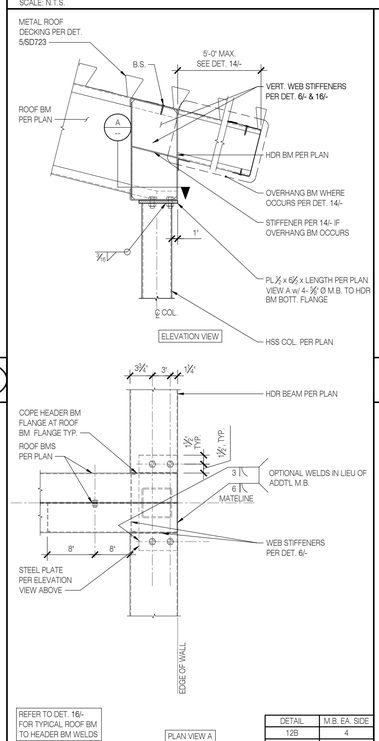


SHEAR TRANSFER AT WALL — 1

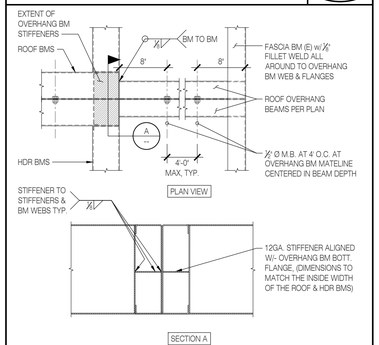
SCALE: N.T.S.

ROOF JOIST OR BLOCKING TO BEAM — 20

SCALE: N.T.S.

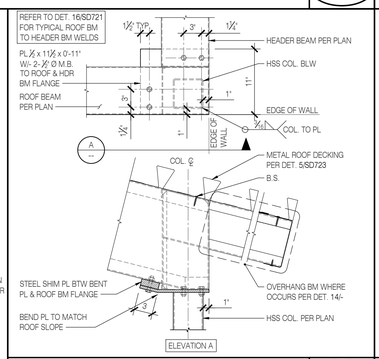


COLUMN TO ROOF MODULE AT MATELINE — 12



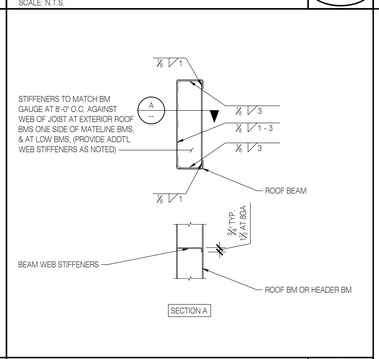
OVERHANG BEAM TO ROOF MODULE — 14

SCALE: N.T.S.



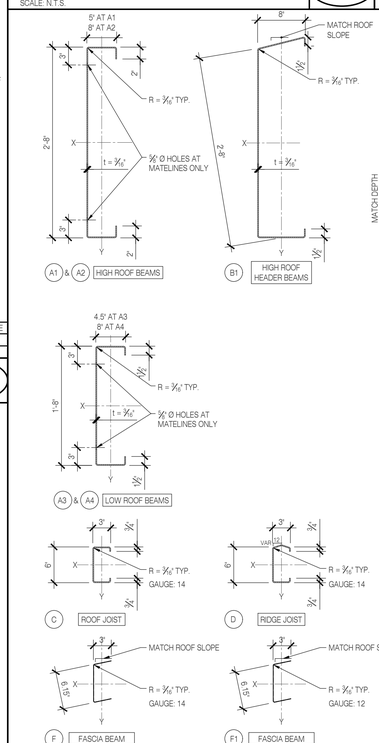
COLUMN TO ROOF MODULE AT CORNER — 10

SCALE: N.T.S.



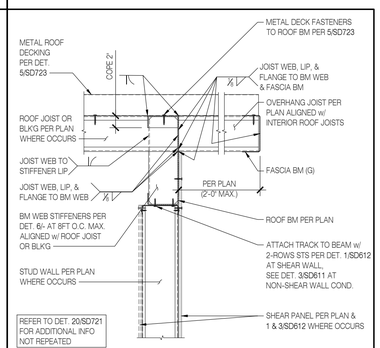
BEAM WEB STIFFENERS — 6

SCALE: N.T.S.



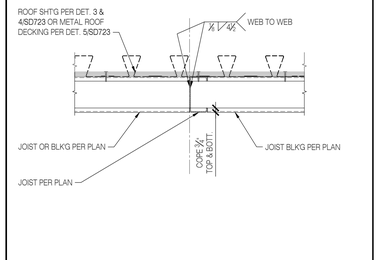
ROOF MEMBER SECTIONS — 8

SCALE: N.T.S.



OVERHANG JOIST AT ROOF BEAM — 3

SCALE: N.T.S.



TYPICAL JOIST TO JOIST CONNECTION — 4

SCALE: N.T.S.

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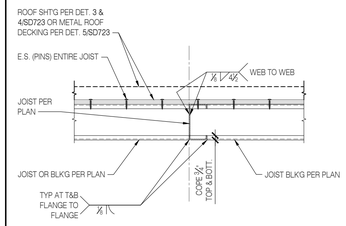
SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
ISE PROJECT NUMBER:	22-7600.0028

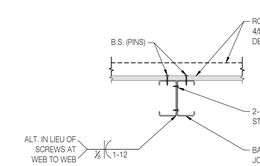
ROOF FRAMING DETAILS

SD721



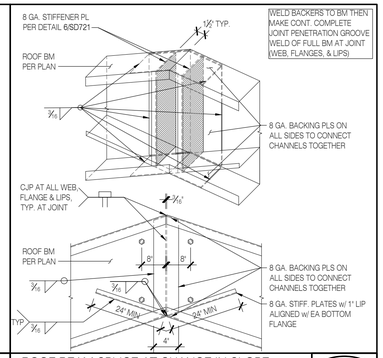
JOIST TO JOIST CONNECTION — 9

SCALE: N.T.S.



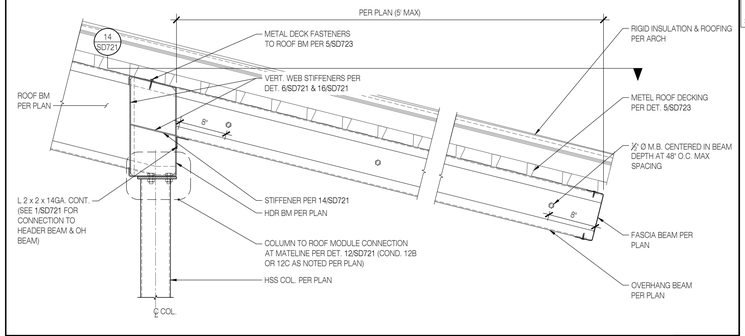
TYPICAL BACK TO BACK JOIST CONNECTION — 5

SCALE: N.T.S.



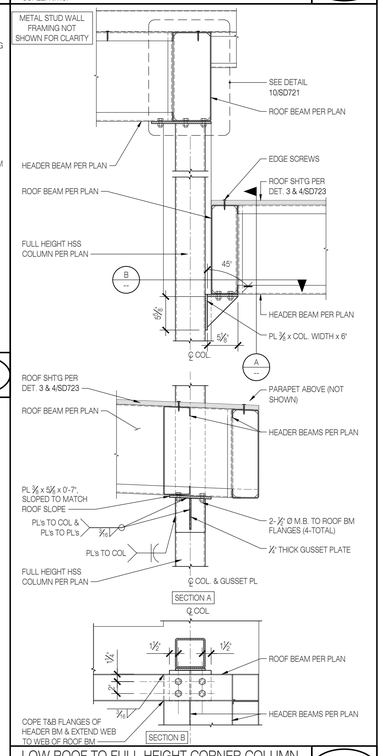
ROOF BEAM SPLICE AT CHANGE IN SLOPE — 1

SCALE: N.T.S.



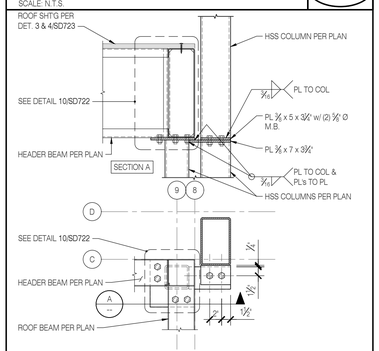
OVERHANG BEAM — 6

SCALE: N.T.S.



LOW ROOF TO FULL HEIGHT CORNER COLUMN CONNECTION — 3

SCALE: N.T.S.



LOW ROOF COLUMN TO FULL HEIGHT CORNER COLUMN CONNECTION — 4

SCALE: N.T.S.

JL MODULAR
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SANTA ROSA, CA 95401
PHONE: 707.527.5788
FAX: 707.542.7718

ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: DBL PLOT DATE: 9/30/2022
CHECKED BY: DBL

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
955 Piedmont Rd
San Jose, CA 95132
Berryessa Union School District

INCREMENT #2

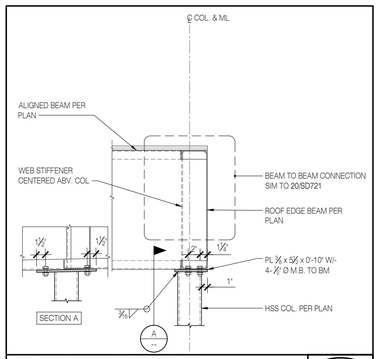
ISE STRUCTURAL ENGINEERS
27368 VIA INDUSTRIA
TEMECULA, CA 92590
TELE 951.600.0032
WWW.ISEENGINEERS.COM
SOCAL | NORCAL | COLORADO

REGISTERED PROFESSIONAL ENGINEER — No. 58527 — Exp. 6/30/2024 — STRUCTURAL — STATE OF CALIFORNIA

SCALE: AS NOTED
JLM PROJECT NUMBER: 00.00
ISE PROJECT NUMBER: 22-7600.0028

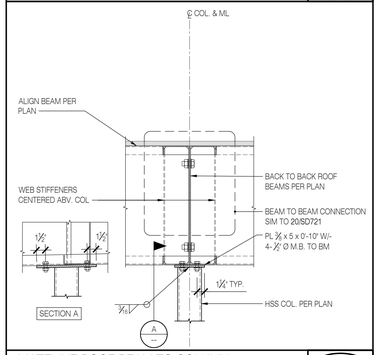
ROOF FRAMING DETAILS

SD722



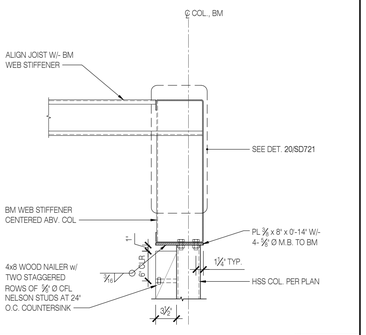
EDGE ROOF BEAM TO COLUMN — 23

SCALE: N.T.S.



MATELINE ROOF BEAM TO COLUMN — 24

SCALE: N.T.S.

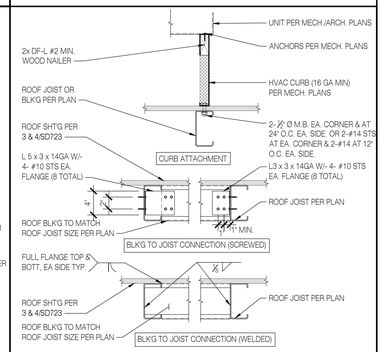


BASKETBALL COLUMN TO EDGE ROOF BEAM — 25

SCALE: N.T.S.

WOOD SLEEPER AT ROOFTOP HVAC UNIT — 26

SCALE: N.T.S.



MECHANICAL PLATFORM ON ROOF — 21

SCALE: N.T.S.

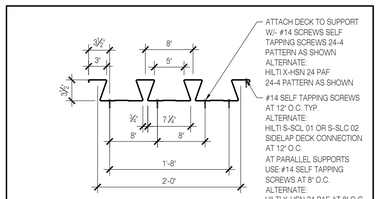
16" METAL SALES - VERTICAL SEAM PANELS (24 GAUGE MIN THICKNESS) (ESR 2385)		
ROOF ZONE	VERTICAL SEAM CLIP SPACING	SCREWS
1	24" (MAX)	#10-12x1"
2	24" (MAX)	#10-12x1"
3	24" (MAX)	#10-12x1"

18" METAL SALES - VERTICAL SEAM PANELS (24 GAUGE MIN THICKNESS) (ESR 2385)		
ROOF ZONE	VERTICAL SEAM CLIP SPACING	SCREWS
1	48" (MAX)	#10-12x1"
2	36" (MAX)	#10-12x1"
3	24" (MAX)	#10-12x1"

16" AEP - SPAN-LOK HP PANELS (24 GAUGE MIN THICKNESS) (ER 0309)		
ROOF ZONE	STANDARD CLIP SPACING	SCREWS
1	24" (MAX)	#10-12x1"
2	18" (MAX)	#10-12x1"
3	12" (MAX)	#10-12x1"

TYPICAL STANDING SEAM METAL ROOF CLIP ATTACHMENT — 14

SCALE: N.T.S.

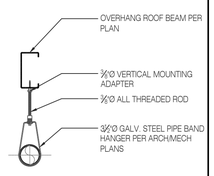


STEEL DECK PROFILE

VERCO 3.5DA ACOUSTICAL DOVETAIL STEEL DECK (ER-0423) SECTION PROPERTIES						
GAGE	THICKNESS (in)	WEIGHT (psf)	I_p (in⁴/ft)	$+S_{eff}$ (in³/ft)	$-S_{eff}$ (in³/ft)	F_y (ksi)
18	0.0474	4.1	2.098	0.934	0.928	40

HORIZONTAL ROOF DECKING SCHEDULE — 5

SCALE: N.T.S.



1. MAX WEIGHT OF PIPE = 10 lb/ft
2. MAX SPACING OF PIPE HANGERS = 2 ft

RWL ATTACHMENT TO OVERHANG BEAM — 7

SCALE: N.T.S.

NOTES:

1. RUN LONG DIMENSION OF SHEATHING ACROSS (PERPENDICULAR TO) JOIST AND RAFTERS. PANELS SHALL BE SPACED WITH A ⅛" GAP FOR THERMAL EXPANSION.
2. STAGGER END JOINTS 4'-0".
3. BOUNDARY SCREWS (OR PINS) APPLIES TO PERIMETER BEAM LINES, CHORDS, TIES, AND WHERE INDICATED ON DRAWINGS.
4. SEE PLANS FOR FASTENER TYPE & SPACING AT AREAS WHERE BLOCKED DIAPHRAGMS ARE REQUIRED. IF BLOCKED DIAPHRAGMS ARE NOT REQUIRED IT WILL NOT BE INDICATED ON THE FRAMING PLANS.
5. FASTENERS SHALL HAVE ⅜" MINIMUM EDGE DISTANCE & 1½" MAX EDGE DISTANCE .
6. ALL JOISTS AND RAFTERS SHALL BE LAID OUT IN 4'-0" MODULE TO COINCIDE WITH THE SHEATHING.
7. A ⅛" MINIMUM GAP BETWEEN ADJOINING PANEL EDGES IS RECOMMENDED. PER AWC-SDPWS SECTION C4.2.7.1.2, 4x8 PANELS WILL INCREASE SLIGHTLY IN DIMENSION DUE TO INCREASED MOISTURE CONTENT IN-USE RELATIVE TO MOISTURE CONTENT IMMEDIATELY FOLLOWING MANUFACTURE. DIMENSIONAL CHANGE AND RECOMMENDATIONS FOR INSTALLATION CAN VARY BY PRODUCT AND MANUFACTURER, THEREFORE RECOMMENDATIONS OF THE MANUFACTURER FOR THE SPECIFIC PRODUCT SHOULD BE FOLLOWED.
8. ROOF SHEATHING SHALL BE ATTACHED TO THE ROOF MEMBERS IN THE SHOP UNLESS NOTED OTHERWISE ON THE FRAMING PLANS.

HORIZONTAL DIAPHRAGM LAYOUT & SCREW / PIN SCHEDULE — 3

SCALE: N.T.S.

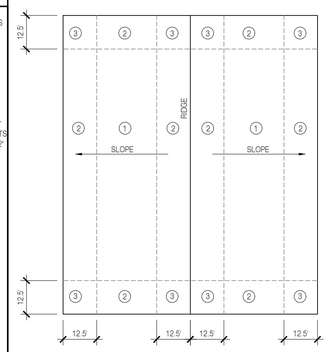
HORIZONTAL DIAPHRAGM SCHEDULE - 2019 CBC					
MAXIMUM SPACING	PANEL DESCRIPTION	HARDWARE	EDGE[2] SPACING	BOUNDARY[2] SPACING	FIELD SPACING
ROOF 48" O.C.	23/32" WOOD STRUCTURAL PANEL, 48/24	0.144 DIA. PINS	6" o.c.	6" o.c.	6" o.c.

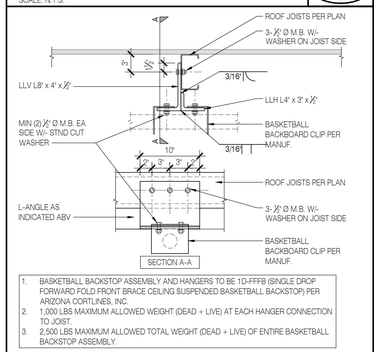
NOTES:

1. ALL ROOF SHEATHING TO BE EXPOSURE 1 OR EXTERIOR.
2. SHOT PINS SHALL BE ET&F PNEUMATICALLY DRIVEN PINS WITH 0.144" MINIMUM DIAMETER AND LONG ENOUGH TO PENETRATE THROUGH THE FRAMING MEMBER A MINIMUM OF 1/4". PER IAPMO REPORT #ER-335.
3. BOUNDARY SPACING & EDGE SPACING SHALL BE REDUCED WHERE INDICATED PER THE FRAMING PLANS. SEE PLANS FOR FASTENER TYPE & SPACING AT AREAS WHERE BLOCKED DIAPHRAGMS ARE REQUIRED. IF BLOCKED DIAPHRAGMS ARE NOT REQUIRED THEY WILL NOT BE INDICATED ON THE FRAMING PLANS.
4. MISSING OR OVERDRIVEN PINS MAY BE REPLACED OR REPAIRED WITH #10 COUNTER SUNK TAPPING SCREWS IN ACCORDANCE WITH ASTM C1513. EACH MISSING OR REPAIRED PIN SHALL BE REPLACED WITH (2) SCREWS WITH A MINIMUM OF 2" SPACING BETWEEN EACH NEW SCREW AND EXISTING PINS.
5. ROOFSHEATHING MAY BE TONGUE & GROOVE.

HORIZONTAL ROOF SHEATHING SCHEDULE — 4

SCALE: N.T.S.





1. BASKETBALL BACKSTOP ASSEMBLY AND HANGERS TO BE 1D-FFFB (SINGLE DROP FORWARD FOLD FRONT BRACE CEILING SUSPENDED BASKETBALL BACKSTOP) PER ARIZONA CORTLINES, INC.
2. 1,000 LBS MAXIMUM ALLOWED WEIGHT (DEAD + LIVE) AT EACH HANGER CONNECTION TO JOIST.
3. 2,500 LBS MAXIMUM ALLOWED TOTAL WEIGHT (DEAD + LIVE) OF ENTIRE BASKETBALL BACKSTOP ASSEMBLY.

ROOF MOUNTED BACKBOARD BRACKET — 8

SCALE: N.T.S.

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ISSUE:	DESCRIPTION:	DATE:

DRAWN BY: DBL PLOT DATE: 9/30/2022
CHECKED BY: DBL

PIEDMONT MIDDLE SCHOOL
NEW MODULAR GYM
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Berryessa Union School District

INCREMENT #2

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REGISTERED PROFESSIONAL ENGINEER — JOHN L. DOLLY — No. S5627 Exp. 6/30/2024 — STRUCTURAL — STATE OF CALIFORNIA

SCALE:	AS NOTED
JLM PROJECT NUMBER:	00.00
ISE PROJECT NUMBER:	22-7600.0028

ROOF FRAMING DETAILS

SD723