

SONORA HIGH SCHOOL

SCIENCE CLASSROOMS MODERNIZATION
401 S PALM STREET
LA HABRA, CA 90631



ARCHITECTURE ENGINEERING INTERIOR DESIGN
LANDSCAPE ARCHITECTURE PLANNING
949-261-1001 Office
LPADesignStudios.com
5301 California Avenue, Suite 100
Irvine, California 92617

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CONSTRUCTION

PROJECT NUMBER
32433

Submittal	Date
SCHEMATIC DESIGN	03/13/2025
50% DESIGN DEVELOPMENT	06/16/2025
100% DESIGN DEVELOPMENT	07/01/2025
50% CD	10/30/2025
DSA SUBMITTAL	11/21/2025
DSA BACK CHECK	01/27/2026

KEYNOTES

SITE SIGNAGE SCHEDULE

MARK	TEXT LINE 1	MOUNTING LOCATION	REFERENCE	BRAILLE
SITE-01_S1	(SAFE DISPERSAL AREA SIGNAGE, SEE DETAIL)	POST	RE: 2A/A10.41	NO

LEGEND

- LIMIT OF WORK (L.O.W.)
- PATH TO SAFE DISPERSAL
- ○ ○ ○ ○ EXISTING PATH OF TRAVEL (P.O.T.)
- PROPERTY LINE
- (N.I.C.) (E) BUILDING NOT IN SCOPE
- (REMODELED) (E) SCIENCE LAB TO BE REMODELED (IN SCOPE OF THIS APPLICATION)
- (E) ACCESSIBLE BOYS RESTROOM
- (E) ACCESSIBLE GIRLS RESTROOM
- (E) (STAFF) MEN'S & WOMEN'S RESTROOMS
- AREA OF SAFE DISPERSAL
- (E) ACCESSIBLE DRINKING FOUNTAIN

GENERAL NOTES

- CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS AND REPORT ALL DISCREPANCIES TO THE ARCHITECT.
- FIRE PROTECTION DURING DEMOLITION AND CONSTRUCTION SHALL BE IN ACCORDANCE TO 2022 CBC CHAPTER 33 AND CFC CHAPTER 33.

PATH OF TRAVEL, TECHNICAL REQUIREMENTS FOR ACCESSIBLE ROUTE

"ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER-FREE ACCESS ROUTE WITHOUT ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAXIMUM SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/2" MAXIMUM AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM, AND SLIP-RESISTANT. CROSS-SLOPE SHALL NOT BE STEEPER THAN 1:48 AND SLOPE IN THE DIRECTION OF TRAVEL SHALL NOT BE STEEPER THAN 1:20. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND FREE OF OBJECTS PROTRUDING MORE THAN 4" FROM THE WALL, ABOVE 27" AND LESS THAN 67" ABOVE THE FLOOR. ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL."

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT

THE P.O.T. IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS MEETS THE REQUIREMENTS OF THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE (CBC) ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS, AND STRUCTURAL REPAIRS, AS PART OF THE DESIGN OF THIS PROJECT. THE P.O.T. WAS EXAMINED AND ANY ELEMENTS, COMPONENTS, OR PORTIONS OF THE P.O.T. THAT WERE DETERMINED TO BE NON-COMPLIANT WITH THE CBC HAVE BEEN IDENTIFIED AND THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS, AND SPECIFICATIONS. INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS, ANY NON-COMPLIANT ELEMENTS, COMPONENTS, OR PORTIONS OF THE P.O.T. THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CBC COMPLIANT ARE FOUND TO BE NON-COMPLYING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THE ITEMS SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT/DIRECTIVE.

DSA CERTIFICATION LIST

- THE FOLLOWING PROJECT... **A# 04-104977** CLOSED WITH DSA CERTIFICATION ON 09/08/2011
- THE FOLLOWING PROJECT... **A# 04-105432** CLOSED WITH DSA CERTIFICATION ON 09/16/2011
- THE FOLLOWING PROJECT... **A# 04-105332** CLOSED WITH DSA CERTIFICATION ON 01/16/2008
- THE FOLLOWING PROJECT... **A# 04-106611** CLOSED WITH DSA CERTIFICATION ON 04/27/2010
- THE FOLLOWING PROJECT... **A# 04-110819** CLOSED WITH DSA CERTIFICATION ON 04/27/2016
- THE FOLLOWING PROJECT... **A# 04-115681** CLOSED WITH DSA CERTIFICATION ON 04/09/2020
- THE FOLLOWING PROJECT... **A# 04-115792** CLOSED WITH DSA CERTIFICATION ON 08/22/2018
- THE FOLLOWING PROJECT... **A# 04-120382** CLOSED WITH DSA CERTIFICATION ON 04/27/2022
- THE FOLLOWING PROJECT... **A# 04-119295** CLOSED WITH DSA CERTIFICATION ON 05/17/2023
- THE FOLLOWING PROJECT... **A# 04-106683** CLOSED WITH DSA CERTIFICATION ON 12/18/2006

PARKING CALCULATION

(E) STUDENT PARKING 'A'	STANDARD STALLS	307
	VAN ACCESSIBLE STALLS	3
	STD ACCESSIBLE STALLS	10
	TOTAL P-LOT 'A' STALLS	320
(E) STAFF PARKING 'B'	STANDARD STALLS	31
	VAN ACCESSIBLE STALLS	1
	STD ACCESSIBLE STALLS	1
	TOTAL P-LOT 'B' STALLS	33
(E) STAFF PARKING 'C'	STANDARD STALLS	89
	VAN ACCESSIBLE STALLS	1
	STD ACCESSIBLE STALLS	5
	TOTAL P-LOT 'C' STALLS	95
(E) STAFF PARKING 'D'	STANDARD STALLS	23
	VAN ACCESSIBLE STALLS	1
	STD ACCESSIBLE STALLS	1
	TOTAL P-LOT 'D' STALLS	25
(E) STAFF PARKING 'E'	STANDARD STALLS	20
	VAN ACCESSIBLE STALLS	2
	STD ACCESSIBLE STALLS	1
	TOTAL P-LOT 'E' STALLS	23
TOTAL STALLS ON SITE		496



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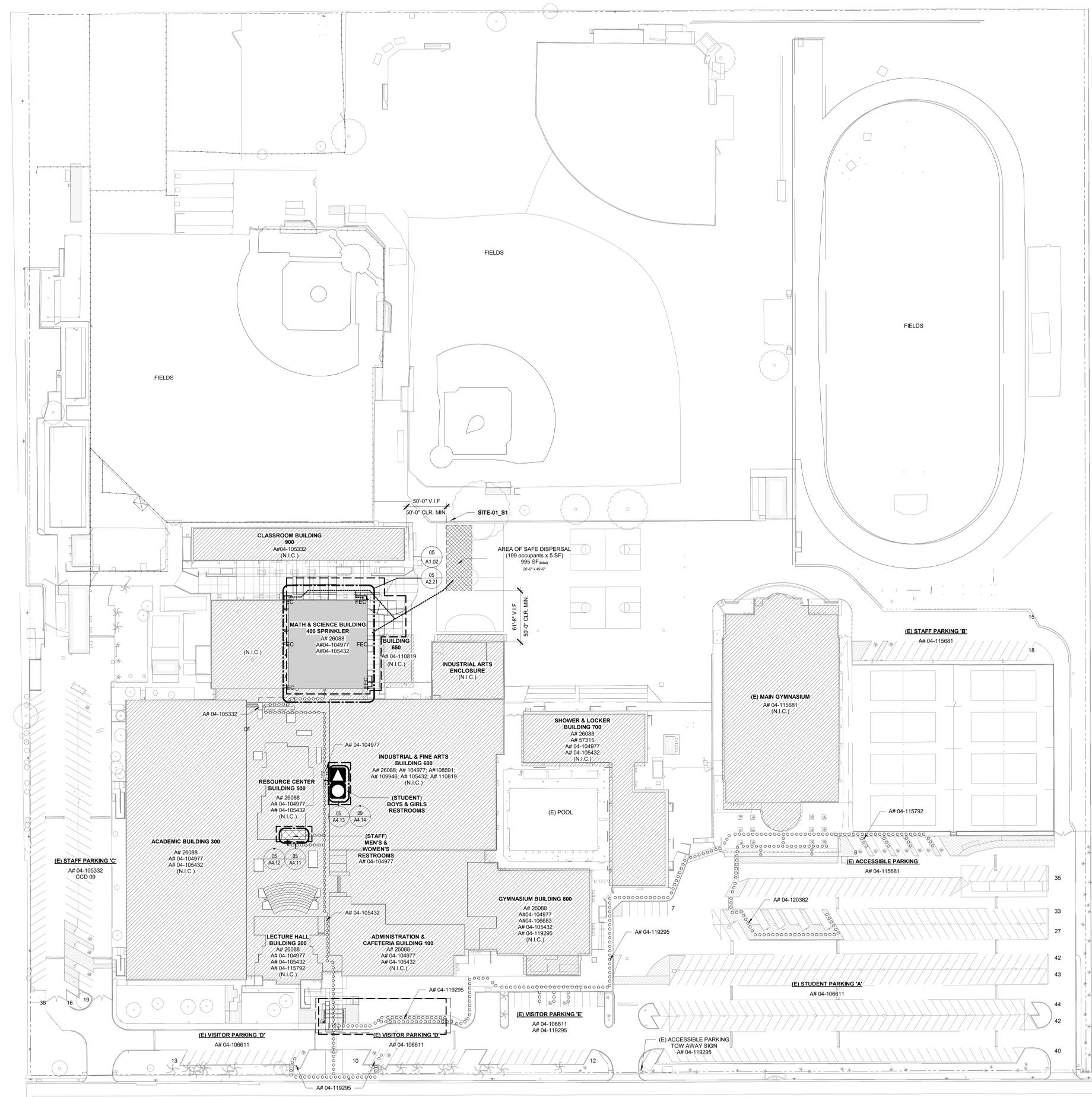
Developed for
FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Date	Revision
03/31/2025 <td></td>	
07/01/2025 <td></td>	
07/01/2025 <td></td>	
10/30/2025 <td></td>	
11/21/2025 <td></td>	
01/27/2026 <td></td>	

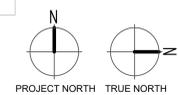
Submital	Date	Job Number
Schematic Design	03/31/2025	32433
Design Development	07/01/2025	
100% Design Development	07/01/2025	
50% CD	10/30/2025	
DSA SUBMITTAL	11/21/2025	
DSA BACK CHECK	01/27/2026	

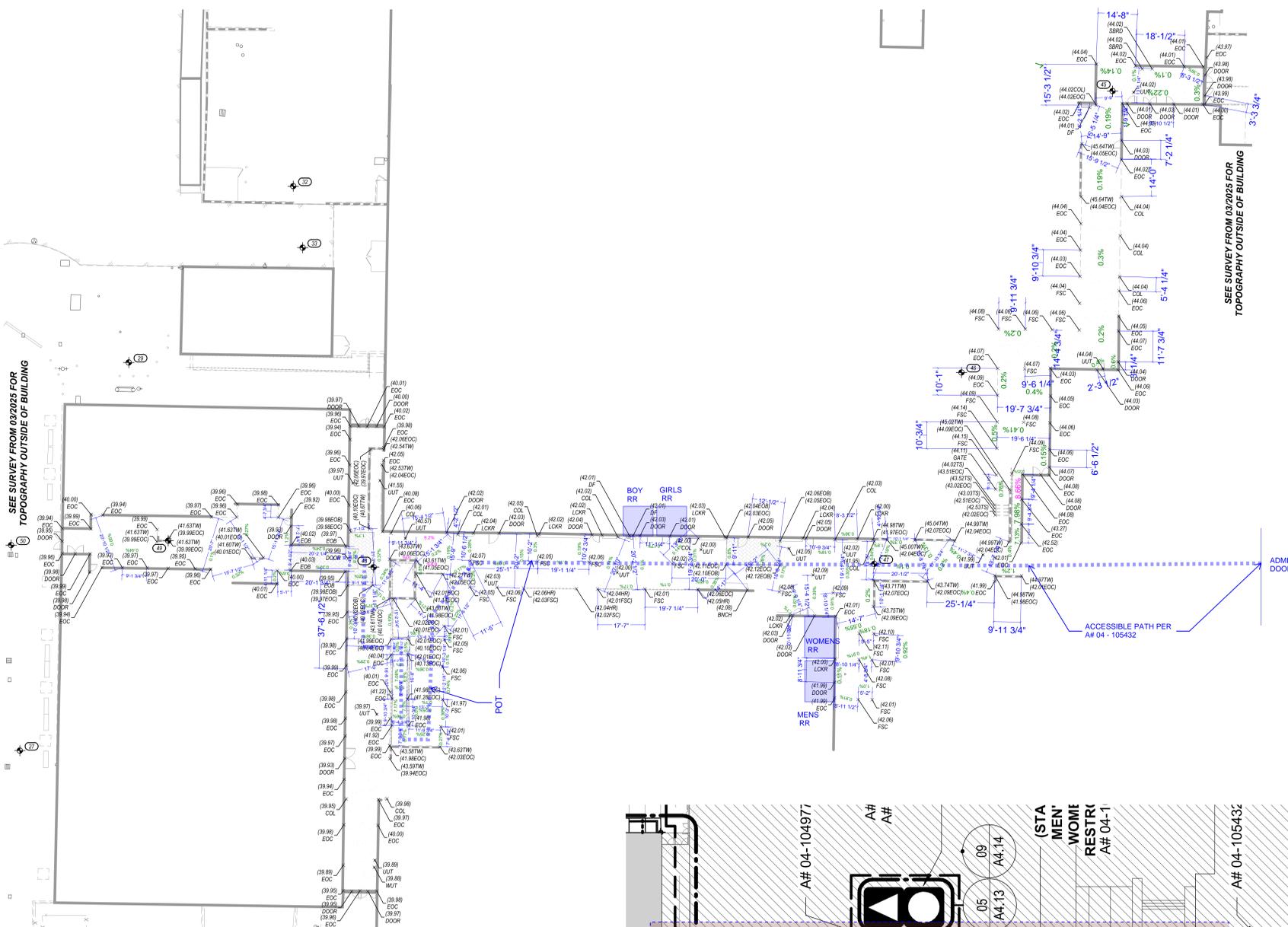
SITE ACCESSIBILITY PLAN

G1.10



S. PALM STREET





SEE SURVEY FROM 03/2025 FOR TOPOGRAPHY OUTSIDE OF BUILDING

SEE SURVEY FROM 03/2025 FOR TOPOGRAPHY OUTSIDE OF BUILDING

EXERPT FROM G1.10

SURVEYOR'S NOTE:

THE POINT CONTROL AND CONTINUOUS OPERATING REFERENCE STATIONS ARE SHOWN ON THE DIAGRAM BELOW AND ARE REFERENCED ON BASIS OF BEARINGS STATEMENT.

GENERAL NOTES:

IN PREPARING THESE PLANS, EPIC ENGINEERS, INC. DID A THOROUGH SEARCH FOR ALL EXISTING PLANS AND COMPLETED A FIELD SURVEY OF ALL ABOVE GROUND UTILITIES. EPIC ENGINEERS, INC. PROVIDES NO WARRANTY AND ACCEPTS NO RESPONSIBILITY AS TO THE ACTUAL LOCATION OF ANY UNDERGROUND OR ABOVE GROUND UTILITY EITHER INSTALLED BEFORE OR AFTER THE DATE OF PREPARATION OF THESE PLANS. CONTRACTOR TO CONTACT UNDERGROUND SERVICE ALERT @ 811 TO VERIFY LOCATION OF EXISTING UTILITY LOCATIONS AND SHALL CONTACT THE ENGINEER OF RECORD IF THERE IS ANY MATERIAL DISCREPANCY. BEFORE USING THIS MAP FOR DESIGN PURPOSES, ALL EASEMENT OF RECORD AND SETBACK LINES DEFINED IN COVENANTS, CONDITIONS, AND RESTRICTIONS OF RECORD AFFECTING THIS PROPERTY SHOULD BE PLOTTED ON THIS MAP FROM A CURRENT TITLE REPORT SO THAT THESE EASEMENTS AND SETBACK LINES OF RECORD CAN BE PLOTTED ON THIS MAP. THIS MAP SHOULD BE EXPANDED TO MEET ALL REQUIREMENTS TO FINANCING IS TO BE OBTAINED FOR THE PROJECT, INCLUDING AN EXTENDED COVERAGE POLICY OF TITLE INSURANCE. THIS SURVEY DOES NOT INCLUDE EASEMENTS EXCEPT THOSE SPECIFICALLY DELINEATED HEREON.

BENCHMARK:

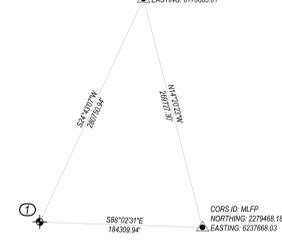
VERTICAL CONTROL FOR THIS SURVEY IS NAVD83 GEDD19 AS ESTABLISHED BY STATE GPS BASED ON THE CORRS STATIONS LISTED UNDER THE BASIS OF BEARINGS SHOWN HEREON.

A TEMPORARY BENCHMARK WAS ESTABLISHED AT THE BASE CONTROL POINT NO. 1 REFERENCED ABOVE

DESCRIPTION: MN
ELEVATION: 343.08 (NAVD83)
NORTHING: 2287505.60 EASTING: 6053465.70

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA STATE PLANE COORDINATE SYSTEM. SPC 84K, ZONE 11 BASED LOCALLY ON CONTINUOUS OPERATING REFERENCE STATIONS (CORS). '9502' AND 'NAEP' MAG 83 (2011) EPOCH 2010.00 ALL BEARINGS SHOWN ON THIS MAP ARE GRID. ALL DISTANCES ARE GROUND DISTANCES UNLESS SPECIFIED OTHERWISE. GRID DISTANCES MAY BE OBTAINED BY MULTIPLYING THE GROUND DISTANCE BY A COMBINATION FACTOR OF 0.9998788



POINT#	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	2287505.60	6053465.70	343.08	MN
8	2285486.4700	6053732.9800	346.72	MN
9	2285389.3200	6053732.4200	345.72	MN
10	2285314.7500	6053731.2000	344.60	SCOREDEX
11	2284917.9900	6053724.3500	339.86	BM 2P-2-00
12	2285400.2800	6053641.0200	342.05	MN
14	2285327.5570	6053694.1140	343.74	SCOREDEX
15	2285152.5400	6053628.4000	343.42	SCOREDEX
17	2284843.9000	6053664.1920	338.70	SCOREDEX
18	2284818.7800	6053723.4530	338.78	SCOREDEX
19	2284836.5400	6053570.7740	338.07	MN
20	2284796.5070	6053322.2290	334.32	MN
21	2284890.3910	6053405.4420	337.92	SCOREDEX
22	2284900.5540	6053249.8560	336.87	SCOREDEX
24	2284643.8710	6053163.8620	337.46	SCOREDEX
27	2285099.8030	6053134.2890	339.62	SCOREDEX
29	2285215.5010	6053174.7870	338.78	SCOREDEX
32	2285281.7000	6053235.9270	342.60	SCOREDEX
33	2285258.5980	6053239.4130	343.52	MN
34	2285278.3150	6053000.6600	337.01	MN
35	2285215.3020	6052942.9600	332.96	MN
38	2285257.1990	6052773.7500	331.74	MN
39	2285139.3910	6052792.5410	332.66	MN
40	2285992.2430	6053665.0200	330.16	60D
45	2285317.4930	6053540.4070	344.02	SCOREDEX
46	2285211.7950	6053484.3440	345.68	SCOREDEX
47	2285139.9990	6053451.9190	342.09	SCOREDEX
48	2285139.6530	6053265.8400	340.01	SCOREDEX
49	2285146.5930	6053189.4420	341.65	SCOREDEX
50	2285146.9540	6053131.0500	339.30	SCOREDEX
100	2285192.2570	6053659.8740	344.62	MN
102	2285798.5730	6053731.1030	351.25	SCOREDEX
104	2286036.0510	6053611.3970	352.32	SCOREDEX
106	2285964.1430	6053467.0130	346.09	MN
108	2285583.1530	6053373.6510	342.83	MN
110	2285718.4160	6053117.7060	341.76	SCOREDEX
112	2285275.9710	6053270.4860	342.05	MN
113	2285659.1320	6053090.3210	340.55	MN
114	2285371.1300	6053247.8640	340.42	MN
115	2285380.8900	6053355.4120	343.90	SCOREDEX
118	2285399.1110	6053375.1770	343.72	SCOREDEX
121	2285469.8970	6053423.8960	343.84	SCOREDEX
122	2285616.6070	6053903.2210	328.31	60D
123	2285545.5000	6052999.9070	331.99	60D
124	2285459.2070	6052451.9620	336.25	60D
125	2285163.3960	6052635.2960	329.84	60D

TOPOGRAPHIC LEGEND:

AC	ASPHALTIC CONCRETE	IRRIGATION CONTROL VALVE
ACB	ASPHALT CONCRETE BERM	CONTROL POINT
ADA	AMERICAN DISABILITY ACT	
BOLL	BOLLARD	
BOLH	BOLLARD HINGE	
BSS	BACKSIDE DRIVE	
CB	CATCHBASIN	
CFL	CURB FLOWLINE	
CF	CHAIN LINK FENCE	
CLFG	CHAIN LINK FENCE GATE	
CLFH	CHAIN LINK FENCE HINGE	
COL	COLUMN	
COMM	COMMUNICATION	
CONC	CONCRETE	
COR	CORNER	
DF	DRINKING FOUNTAIN	
DH	DOOR HINGE	
DI	DRAIN INLET	
DC	DRAIN INLET CORNER	
DR	DIRECT REFLECTION	
DS	DOWNDROUT	
EDG	EDGE OF BRICK	
EDG	EDGE OF CONCRETE	
EDG	EDGE OF PAVEMENT	
EDG	EDGE OF TRAVELED PATH	
ETP	FIRE ACCESS	
FA	FIRE DEPARTMENT CONNECTION	
FF	FINISHED FLOOR	
FH	FIRE HYDRANT	
FL	FLOWLINE	
FP	FLAG POLE	
FSS	FINISHED SURFACE BRICK	
FSC	FINISHED SURFACE CONCRETE	
GB	GRAB BREAK	
GL	GUTTER	
GR	GUARD RAIL	
GR	GRASS	
ICV	IRRIGATION CONTROL VALVE	
IE	INVERT	
ISD	INVERT STORM DRAIN	
ISW	INVERT SEWER	
LT	LOCKER	
LI	LIGHT	
MB	MAILBOX	
MN	MARGINAL	
NG	NATURAL GROUND	
PM	PITCHING MACHINE	
PV	POST INDICATOR VALVE	
PP	POWER POLE	
PS	PAINT STRIPE	
SB	SPEED BUMP	
SBRD	SKATEBOARD RACK	
STF	STEEL TUBE FENCE	
TC	TOP OF CURB	
TD	TRUNCATED DOMES	
TH	THRESHOLD	
TL	TRAFFIC LIGHT	
TOP	TOP OF PIPE	
TP	TOP OF PAVEMENT	
TS	TOP OF STEP	
TW	TOP OF WALL	
UB	UTILITY BOX	
UT/UTL	UTILITY	
UV	UTILITY VAULT	
WLT	WALL	
WC	WALL CORNER	
WRF	WROUGHT IRON FENCE	
WS	WHEEL STOP	
V	VALVE	
UT/UTL	UTILITY INITIAL - COMM/UB/UT/UV	
F	FIRE	
G	GAS	
S	SEWER	
SD	STORM DRAIN	
SL	STREET LIGHT	
U	UNKNOWN	
W	WATER	

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SCIENCE CLASSROOMS MODERNIZATION

401 S PALM STREET
LA HABRA, CA 90631

Developed for
FULLERTON JOINT UNION HIGH SCHOOL DISTRICT



EPIC ENGINEERS
CIVIL ENGINEERING | LAND SURVEYING | PLANNING | STORMWATER MANAGEMENT
101 E. HOLLANDS BOULEVARD, SUITE 114
HOLLAND, CA 91703

W.O. 94.05
BY: RAW
CHECKED BY: TDM
DATE: 07/25/2025
SCALE: PER PLAN

FULLERTON JOINT HIGH SCHOOL DISTRICT
SONORA HIGH SCHOOL INTERIOR
401 SOUTH PALM STREET, LA HABRA, CA 90631

TOPOGRAPHIC MAP

SHEET NUMBER
1 OF 1

EXISTING INTERIOR POT
SURVEY

G1.11

KEYNOTES

LEGEND

- Room Name
- ### ROOM NUMBER
- ### SF SQUARE FOOTAGE
- ### OCC OCCUPANT LOAD
- ### OCCF OCCUPANCY LOAD FACTOR
- ### OCCG OCCUPANCY GROUP
- 1 HOUR RATED PARTITION
- 2 HOUR RATED PARTITION
- REQUIRED 0" EGRESS WIDTH REQUIRED
- PROVIDED 0" EGRESS WIDTH PROVIDED
- FEC FIRE EXTINGUISHER CABINET
- PH INDICATES PANIC HARDWARE REQUIRED
- 0 INDIVIDUAL ROOM OCCUPANCY LOAD
- 0 COMBINED ROOM OCCUPANCY LOAD
- o o o o EGRESS PATH OF TRAVEL/TRAVEL DISTANCE
- COMMON PATH OF TRAVEL

CODE ANALYSIS

BUILDING CLASSIFICATION:

BUILDING USE:	CLASSROOMS AND LABORATORIES
CONSTRUCTION CLASSIFICATION (CBC 602):	TYPE II-B
OCCUPANCY CLASSIFICATION (CBC 302 & 508.3):	E
FIRE PROTECTION:	SPRINKLERED
ACCESSORY OCCUPANCY (CBC 508.2):	B/ S-1
INCIDENTAL USES (CBC 509):	SCIENCE CLASSROOMS
BUILDING AREA:	20,034 SF/ NO CHANGE

* BUILDING AREAS INCLUDE HORIZONTAL PROJECTIONS OF THE ROOF OR FLOOR ABOVE BUT EXCLUDE VENT SHAFTS & COURTS. (CBC 202)

FIRE-RESISTANCE RATING REQ FOR BLDG ELEMENTS (CBC TABLE 601):

STRUCTURAL FRAME:	0 HOUR
EXTERIOR BEARING WALLS:	0 HOUR
INTERIOR BEARING WALLS:	0 HOUR
EXTERIOR NONBEARING WALLS:	REFER TO REQ. RATING BELOW
INTERIOR NONBEARING WALLS:	0 HOUR
FLOOR CONSTRUCTION:	0 HOUR
ROOF CONSTRUCTION:	0 HOUR

* FIRE PROTECTION OF MEMBERS OTHER THAN THE PRIMARY STRUCTURAL FRAME SHALL NOT BE REQ. INCLUDING PROTECTION OF THE ROOF FRAMING & DECKING WHERE EVERY PART OF CONSTRUCTION IS 20 FT OR MORE ABOVE ANY FLOOR IMMEDIATELY BELOW (CBC 601 EXCEPTION B)

FIRE-RESISTANCE RATING REQ FOR EXTERIOR WALLS (CBC TABLE 705.5)

1-HR PROTECTED:	< 30'-0"
NO PROTECTION REQ:	≥ 30'-0"

MEANS OF EGRESS SIZING (CBC 1005):

DOOR EXITS & CORRIDORS:	# OCCUPANTS X 0.15 = EGRESS WIDTH (CBC 1005.3.2, EXCEPTION 2)
PROVIDE 2 EXITS IN ALL ROOMS WITH OCCUPANT LOADS ABOVE 49 (A-3 & E)	
PROVIDE 2 EXITS IN ALL ROOMS WITH OCCUPANT LOADS ABOVE 29 (S-1)	

MAXIMUM COMMON PATH OF TRAVEL (CBC TABLE 1006.2.1):

A-3 / E OCCUPANCIES:	75'-0"
S-1 OCCUPANCY:	100'-0"

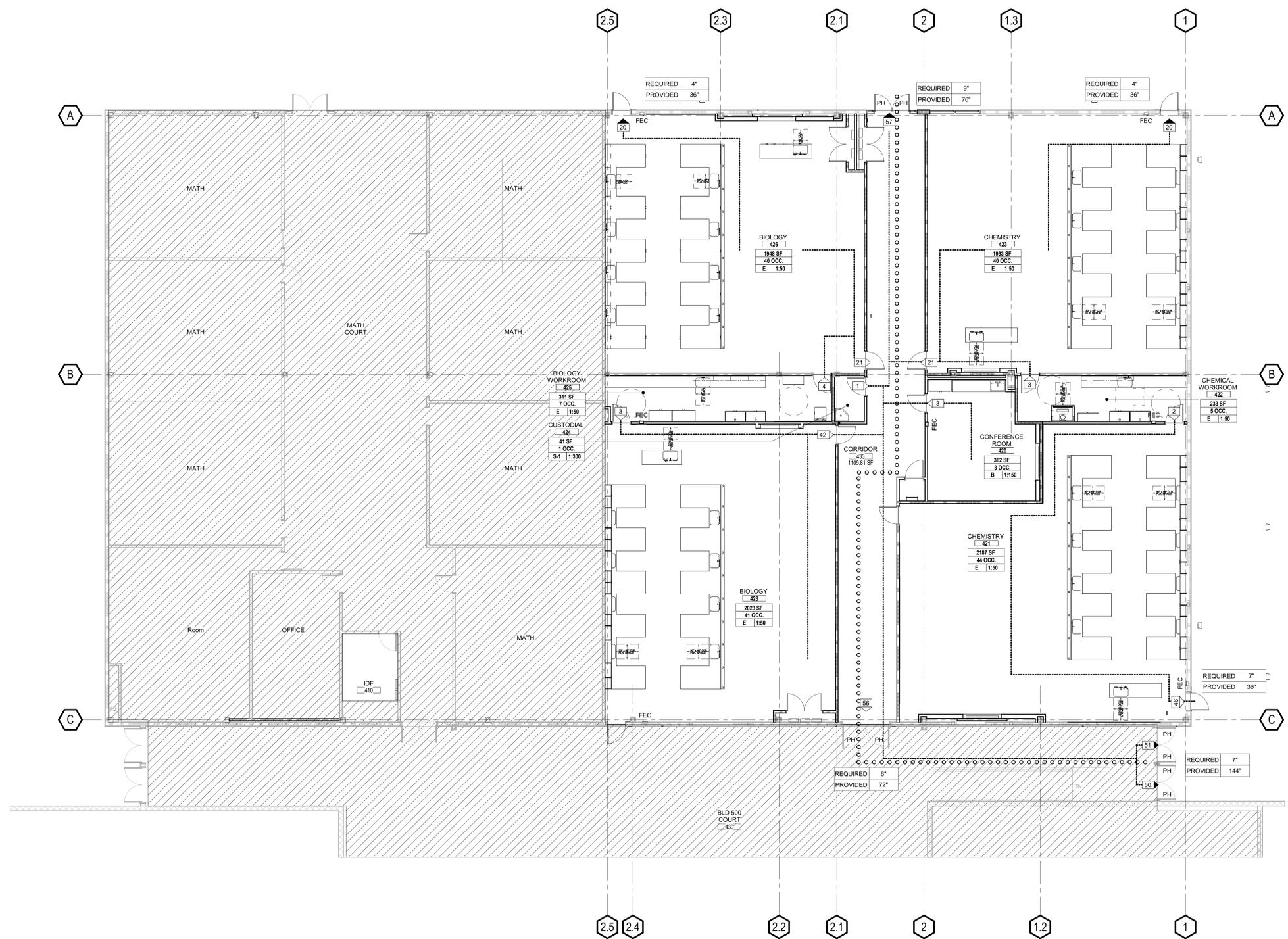
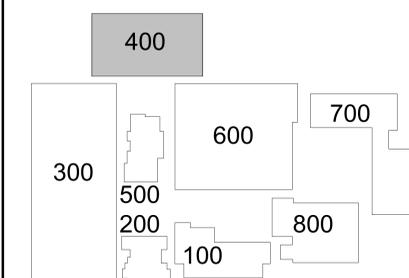
MAXIMUM EXIT ACCESS TRAVEL DISTANCE (CBC TABLE 1017.2):

A-3 / E OCCUPANCIES:	250'-0"
S-1 OCCUPANCY:	250'-0"

AREA OF REFUGE (CBC 1009):

NOT REQUIRED IN BLDGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM

KEYPLAN



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Checked By	Checker
Scale	1/8" = 1'-0"

CODE ANALYSIS



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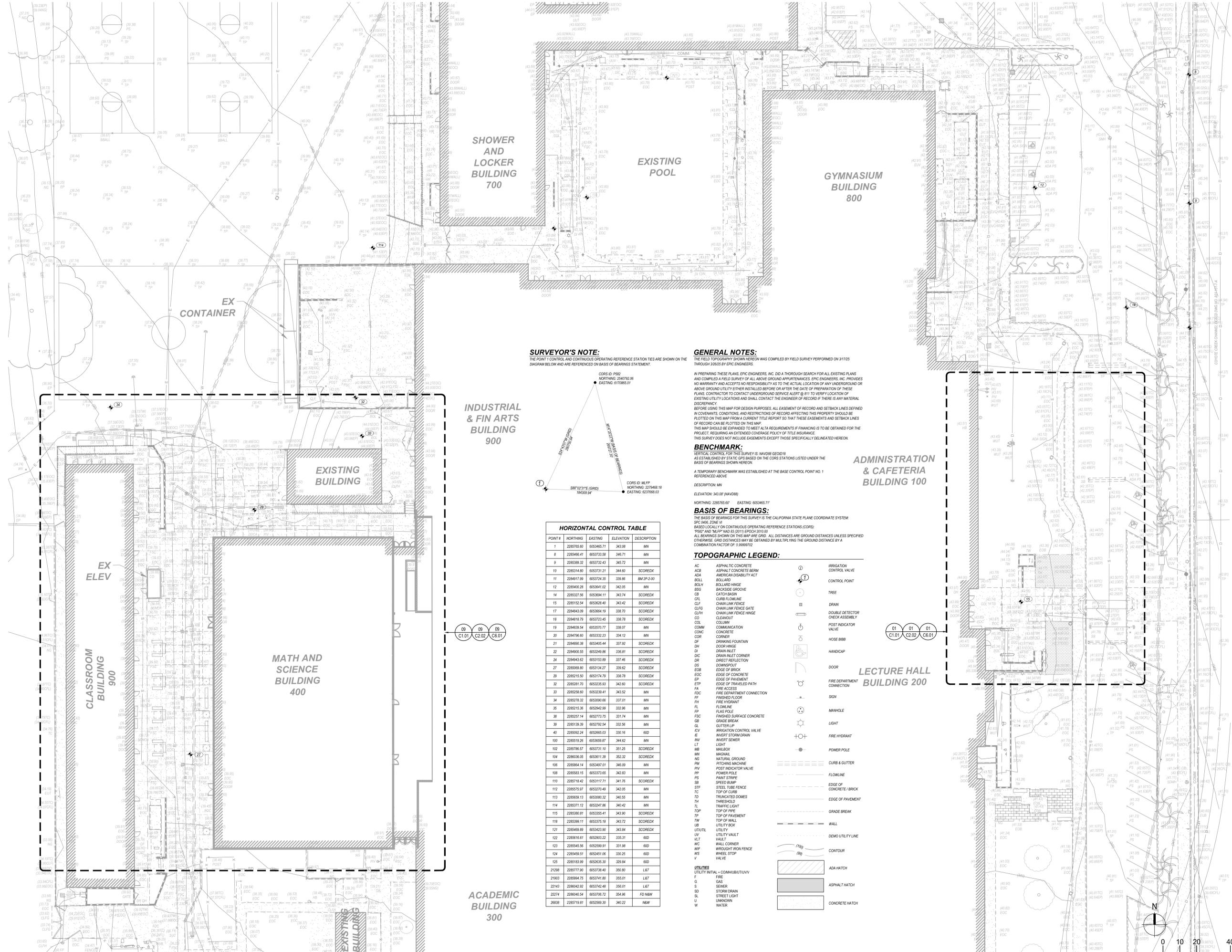
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Submital	Date	Revision
50% DESIGN DEVELOPMENT	06/18/2025	
75% DESIGN DEVELOPMENT	07/08/2025	
90% CDS	10/03/2025	
DSA SUBMITTAL	11/21/2025	
DSA BACK CHECK	01/27/2026	

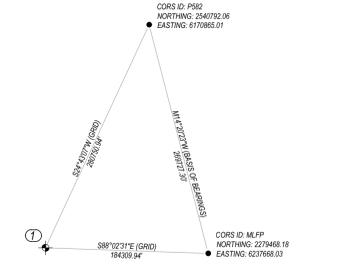
Date	Job Number	Checked By	Scale
	32433	KS	

EXISTING CONDITIONS

C0.02



SURVEYOR'S NOTE:
THE POINT CONTROL AND CONTINUOUS OPERATING REFERENCE STATION TIES ARE SHOWN ON THE DIAGRAM BELOW AND ARE REFERENCED ON BASIS OF BEARINGS STATEMENT.



GENERAL NOTES:
THE FIELD TOPOGRAPHY SHOWN HEREON WAS COMPILED BY FIELD SURVEY PERFORMED ON 3/17/25

IN PREPARING THESE PLANS, EPIC ENGINEERS, INC. DID A THOROUGH SEARCH FOR ALL EXISTING PLANS AND COMPILED A FIELD SURVEY OF ALL ABOVE GROUND APPURTENANCES. EPIC ENGINEERS, INC. PROVIDES NO WARRANTY AND ACCEPTS NO RESPONSIBILITY AS TO THE ACTUAL LOCATION OF ANY UNDERGROUND OR ABOVE GROUND UTILITY EITHER INSTALLED BEFORE OR AFTER THE DATE OF PREPARATION OF THESE PLANS. CONTRACTOR TO CONTACT UNDERGROUND SERVICE ALERT (811) TO VERIFY LOCATION OF EXISTING UTILITY LOCATIONS AND SHALL CONTACT THE ENGINEER OF RECORD IF THERE IS ANY MATERIAL DISCREPANCY BEFORE USING THIS MAP FOR DESIGN PURPOSES. ALL EASEMENT OF RECORD AND SETBACK LINES DEFINED IN COVENANTS, CONDITIONS, AND RESTRICTIONS OF RECORD AFFECTING THIS PROPERTY SHOULD BE PLOTTED ON THIS MAP FROM A CURRENT TITLE REPORT SO THAT THESE EASEMENTS AND SETBACK LINES OF RECORD CAN BE PLOTTED ON THIS MAP. THIS MAP SHOULD BE EXPANDED TO MEET ALL REQUIREMENTS IF FINANCING IS TO BE OBTAINED FOR THE PROJECT. ACQUIRING AN EXTENDED COVERAGE POLICY OF TITLE INSURANCE. THIS SURVEY DOES NOT INCLUDE EASEMENTS EXCEPT THOSE SPECIFICALLY DELINEATED HEREON.

BENCHMARK:
VERTICAL CONTROL FOR THIS SURVEY IS NAVD83 GEOID18 AS ESTABLISHED BY STATIC GPS BASED ON THE CORS STATIONS LISTED UNDER THE BASIS OF BEARINGS STATEMENT.

A TEMPORARY BENCHMARK WAS ESTABLISHED AT THE BASE CONTROL POINT NO. 1 REFERENCED ABOVE.
DESCRIPTION: MN
ELEVATION: 343.93' (NAVD83)
NORTHING: 228785.69' EASTING: 603345.71'

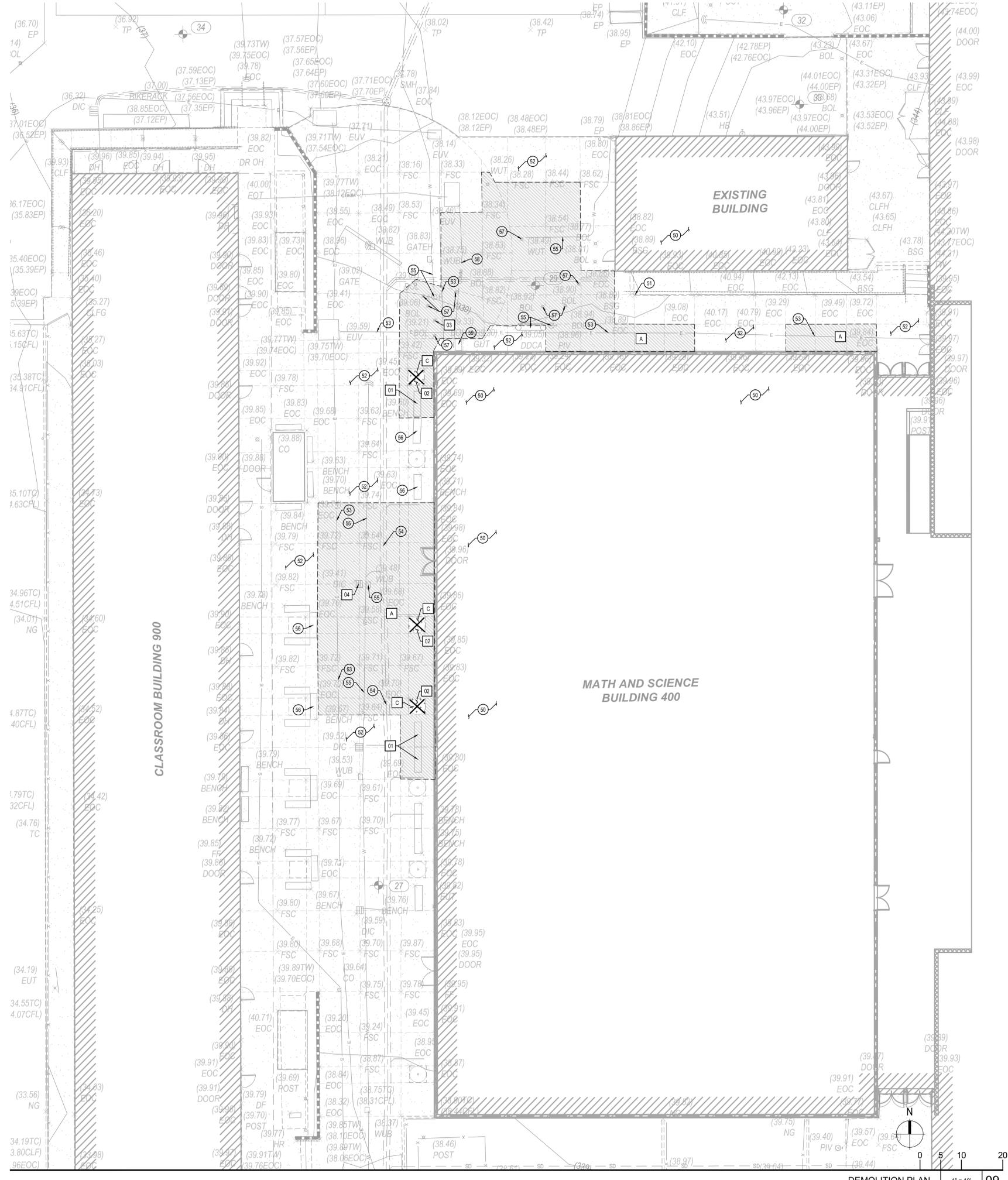
BASIS OF BEARINGS:
THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA STATE PLANE COORDINATE SYSTEM SPECIFIC ZONE 11 BASED LOCALLY ON CONTINUOUS OPERATING REFERENCE STATIONS (CORS). "NAD83" AND "NAIP" MAY BE 2011 EPOCH 991010. ALL BEARINGS SHOWN ON THIS MAP ARE GRID. ALL DISTANCES ARE GROUND DISTANCES UNLESS SPECIFIED OTHERWISE. GRID DISTANCES MAY BE OBTAINED BY MULTIPLYING THE GROUND DISTANCE BY A CONVERSION FACTOR OF 0.9999970.

TOPOGRAPHIC LEGEND:

AC	ASPHALTIC CONCRETE	IR	IRRIGATION CONTROL VALVE
ACB	ASPHALT CONCRETE BERM	CP	CONTROL POINT
ADA	AMERICAN DISABILITY ACT	T	TREE
BOLL	BOLLARD	D	DRAIN
BOLH	BOLLARD HINGE	DD	DOUBLE DETECTOR CHECK ASSEMBLY
BSG	BACKSIDE GROOVE	PI	POST INDICATOR VALVE
CB	CATCH BASIN	WB	WIRE BIBB
CF	CURB FLOWLINE	H	HANDICAP
CLF	CHAIN LINK FENCE	D	DOOR
CLFG	CHAIN LINK FENCE GATE	FD	FIRE DEPARTMENT CONNECTION
CLFH	CHAIN LINK FENCE HINGE	FC	FIRE DEPARTMENT CONNECTION
CO	CLEANOUT	FH	FIRE HYDRANT
COL	COLLUM	FL	FLAG POLE
COMM	COMMUNICATION	FSC	FINISHED SURFACE CONCRETE
CONC	CONCRETE	GB	GRADE BREAK
DF	DRAINAGE FOUNTAIN	GL	GUTTER LIP
DH	DOOR HINGE	ICV	IRRIGATION CONTROL VALVE
DI	DRAIN INLET	ISD	INVERT STORM DRAIN
DR	DRAIN AILET CORNER	INV	INVERT SEWER
DR	DIRECT REFLECTION	LT	LIGHT
DS	DOWNSPOUT	MB	MAILBOX
EOB	EDGE OF BRICK	MN	MARGINAL
EOC	EDGE OF CONCRETE	NG	NATURAL GROUND
EP	EDGE OF PAVEMENT	PM	PITCHING MACHINE
ETP	EDGE OF TRAVELED PATH	PW	POST INDICATOR VALVE
FA	FIRE ACCESS	PS	PAINT STRIPE
FA	FIRE DEPARTMENT CONNECTION	SP	SPEED BUMP
FC	FIRE DEPARTMENT CONNECTION	STF	STEEL TUBE FENCE
FD	FIRE DEPARTMENT CONNECTION	TC	TOP OF CURB
FH	FIRE HYDRANT	TD	TRUNCATED DOME
FL	FLAG POLE	TH	THRESHOLD
FSC	FINISHED SURFACE CONCRETE	TL	TRAFFIC LIGHT
GB	GRADE BREAK	TOP	TOP OF PAVEMENT
GL	GUTTER LIP	TP	TOP OF PAVEMENT
ICV	IRRIGATION CONTROL VALVE	TW	TOP OF WALL
ISD	INVERT STORM DRAIN	UB	UTILITY BOX
INV	INVERT SEWER	UV	UTILITY VAULT
LT	LIGHT	VLT	VAULT
MB	MAILBOX	WC	WALL CORNER
MN	MARGINAL	WF	WROUGHT IRON FENCE
NG	NATURAL GROUND	WS	WHEEL STOP
PM	PITCHING MACHINE	V	VALE
PW	POST INDICATOR VALVE		
PS	PAINT STRIPE		
SP	SPEED BUMP		
STF	STEEL TUBE FENCE		
TC	TOP OF CURB		
TD	TRUNCATED DOME		
TH	THRESHOLD		
TL	TRAFFIC LIGHT		
TOP	TOP OF PAVEMENT		
TP	TOP OF PAVEMENT		
TW	TOP OF WALL		
UB	UTILITY BOX		
UV	UTILITY VAULT		
VLT	VAULT		
WC	WALL CORNER		
WF	WROUGHT IRON FENCE		
WS	WHEEL STOP		
V	VALE		

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	228785.60	603345.71	343.93	MIN
2	228546.41	603733.98	345.71	MIN
3	228638.32	605732.43	345.72	MIN
4	228634.80	605731.21	344.80	SCOREDX
5	228497.99	605774.35	339.86	BM 2P-240
6	228540.28	605364.02	342.05	MIN
7	228537.56	605364.11	343.74	SCOREDX
8	228152.54	605362.40	343.42	SCOREDX
9	228484.09	605364.19	338.70	SCOREDX
10	228481.79	605372.45	338.78	SCOREDX
11	228489.54	605370.77	338.07	MIN
12	228476.60	605332.23	334.12	MIN
13	228480.38	605483.44	337.92	SCOREDX
14	228490.05	605249.86	336.81	SCOREDX
15	228494.62	605153.89	337.46	SCOREDX
16	228569.89	605134.27	339.42	SCOREDX
17	228515.90	605174.79	338.78	SCOREDX
18	228591.70	605226.03	342.80	SCOREDX
19	228628.00	605239.41	343.52	MIN
20	228627.32	605309.86	337.01	MIN
21	228625.36	605294.39	332.96	MIN
22	228627.14	605273.73	331.74	MIN
23	228139.39	605272.54	332.56	MIN
24	228602.24	605265.03	330.16	6ID
25	228519.26	605369.67	344.62	MIN
26	228786.57	603731.10	351.25	SCOREDX
27	228606.05	605361.39	352.32	SCOREDX
28	228584.14	605349.01	346.09	MIN
29	228583.15	605373.65	342.83	MIN
30	228578.42	605317.71	341.76	SCOREDX
31	228575.97	605320.49	342.05	MIN
32	228568.13	605380.32	340.55	MIN
33	228537.12	605247.86	340.42	MIN
34	228638.01	605335.41	343.90	SCOREDX
35	228638.11	605375.18	343.72	SCOREDX
36	228549.89	605422.90	343.84	SCOREDX
37	228616.61	605290.22	335.31	6ID
38	228545.56	605299.91	331.98	6ID
39	228459.91	605451.06	330.25	6ID
40	228183.99	605263.30	329.84	6ID
21298	228777.90	605378.40	350.80	LAT
21903	228594.75	605374.80	355.01	LAT
22143	228642.92	605342.48	356.01	LAT
22274	228640.54	605376.72	354.96	FD N&W
28838	228719.81	605259.30	340.22	N&W

EXISTING CONDITIONS 1" = 20' 01



DEMOLITION NOTES

- THE INTENT OF THE DEMOLITION PLAN IS TO DESCRIBE IN GENERAL THE DEMOLITION AREAS AFFECTED BY THE PROJECT CONSTRUCTION. IT IS NOT INTENDED AS A DETAILED DESCRIPTION OF EXISTING ITEMS OR ELEMENTS TO BE REMOVED. THE CONTRACTOR SHALL VISIT THE SITE AND REVIEW ANY AVAILABLE RECORD DOCUMENTS TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND SHOULD INCLUDE THE REMOVAL OF ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE BINDING AS IF REQUIRED BY ALL TO THE EXTENT THAT IT IS REASONABLY INFERRABLE FROM THEM AS BEING NECESSARY TO PRODUCE THE INTENDED RESULTS.
- REMOVE EXISTING SERVICE UTILITIES AS INDICATED ON PLANS. CAP ALL UTILITIES AT APPROPRIATE POINTS. COORDINATE DEMOLITION OF ALL UTILITIES WITH THE OWNER. ALL UTILITIES CONNECTED TO EXISTING BUILDINGS TO REMAIN SHALL CONTINUE TO BE OPERATIONAL DURING THE DEMOLITION PROCESS.
- FOR ALL EXISTING MATERIALS THAT CAN BE SALVAGED, OWNER HAS FIRST RIGHT OF REFUSAL FOR REMOVED ITEMS THAT MAY HAVE RESIDUAL COMMERCIAL OR HISTORIC VALUE. ALL ITEMS TO BE SALVAGED FOR REUSE/REINSTALLATION MUST MEET CURRENT CODE REQUIREMENTS. COORDINATE ITEMS TO BE RETAINED WITH OWNER AND REMOVE FROM CONSTRUCTION SITE TO A LOCATION APPROVED BY OWNER. REMOVED MATERIALS, NOT INDICATED OR DIRECTED TO BE SALVAGED FOR THE OWNER'S BENEFIT ARE DEBRIS AND BECOME THE CONTRACTOR'S PROPERTY UPON REMOVAL.
- THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY SEARCH OF THE AVAILABLE RECORDS AND FIELD SURVEYS. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT, UTILITY COMPANIES, AND/OR FIELD VERIFY AND LOCATE ALL UTILITIES BEFORE PROCEEDING WITH WORK. THE CONTRACTOR IS ALSO REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. NOTIFY THE ENGINEER IF ADDITIONAL UTILITIES ARE LOCATED OR IF CONFLICTS ARE FOUND WITH EXISTING CONDITIONS.
- ALL TREES TO BE REMOVED SHALL BE MARKED BY CONTRACTOR AND APPROVED FOR REMOVAL BY THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO REMOVING OR CUTTING TREE(S). EXISTING ROOTS SHALL BE GRINDED TO A DEPTH OF APPROXIMATELY 3-FEET USE CAUTION WHILE GRINDING WHEN EXISTING UTILITIES ARE IN CLOSE PROXIMITY TO TREES. ALL TREES TO REMAIN WITHIN THE LIMIT OF WORK SHALL BE PROTECTED AND MAINTAINED PER SPECIFICATIONS AND DETAILS.
- SAWCUT EXISTING CONCRETE AND ASPHALT TO AN EXISTING CONTROL JOINT WHERE POSSIBLE AT MINIMUM TO A BEAT-STRAIGHT LINE. ALL DEBRIS SHALL BE HAULED OFFSITE TO A LEGAL DUMPING SITE OR SALVAGED FOR REUSE ON PROJECT AS NOTED.
- CONTRACTOR TO COORDINATE UTILITY DEMOLITION WITH UTILITY WORK SHOWN IN THIS PLAN SET. ALL UTILITY SHUTDOWNS SHALL BE COORDINATED PER PROJECT SPECIFICATIONS.
- THE CONTRACTOR SHALL RECYCLE CONSTRUCTION DEBRIS, ASPHALT, AND CONCRETE GENERATED FROM REMOVALS REQUIRED TO CONSTRUCT THE PROJECT. THE CONTRACTOR IS OBLIGATED UNDER THIS CONTRACT, TO RECYCLE THE WASTE MATERIAL THROUGH AN APPROVED RECYCLING PLANT.
- A LIST OF FACILITIES THAT ACCEPT CONSTRUCTION & DEMOLITION DEBRIS CAN BE FOUND ON THE CALRECYCLE WEBSITE AT: [HTTPS://WWW.CALRECYCLE.CA.GOV/CONDEMO](https://www.calrecycle.ca.gov/CONDEMO)
- CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING BUILDING FINISHES DURING DEMOLITION. ANY FINISH THAT IS DAMAGED DURING DEMOLITION SHALL BE REPAIRED OR REPLACED IN-KIND OR BETTER.

DEMOLITION LEGEND

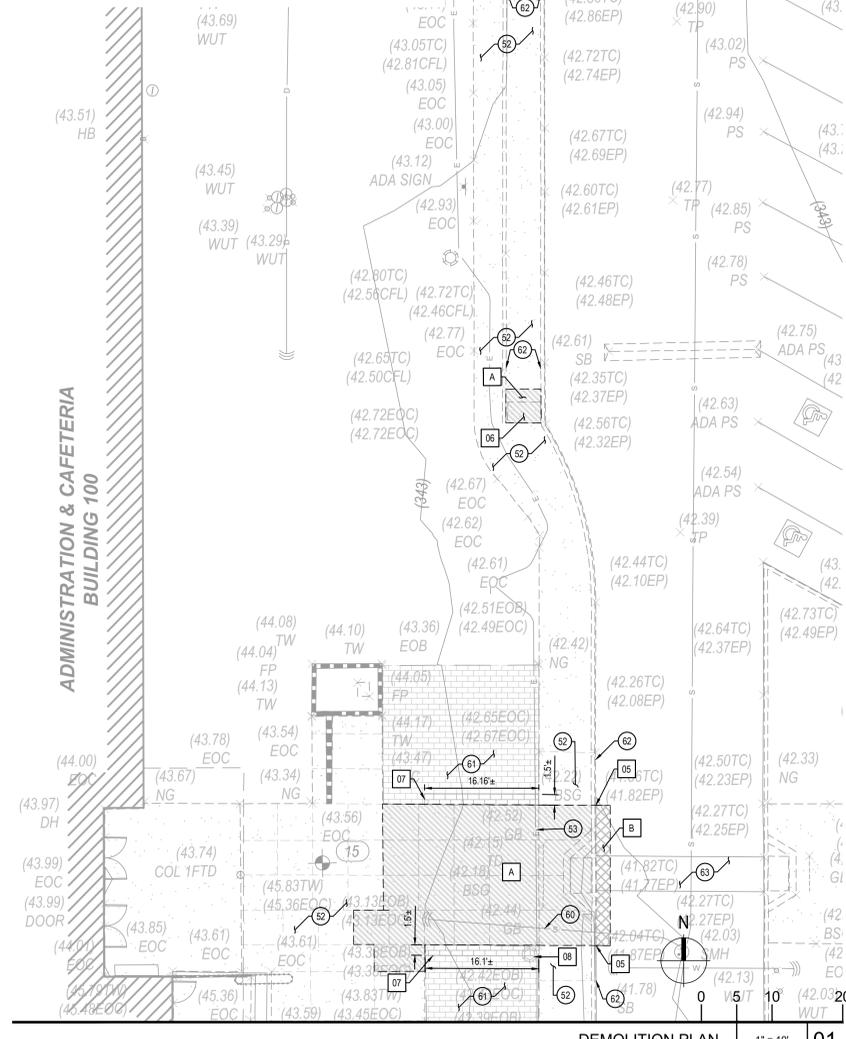
LABEL	DESCRIPTION
	REMOVE (E) CONCRETE PAVEMENT/SIDEWALK. SEE DEMOLITION NOTE 8 ABOVE.
	REMOVE (E) AC PAVEMENT DEMOLITION NOTE 8 ABOVE.
	REMOVE (E) LANDSCAPING.
	REMOVE (E) TREE. SEE DEMOLITION NOTE 5 ABOVE.
	SAWCUT (E) PAVEMENT AS NEEDED. SEE DEMOLITION NOTE 6 AND 8 ABOVE.

DEMOLITION KEYNOTES

KEY NOTE	DESCRIPTION
01	REMOVE (E) BENCH AND COORDINATE STORAGE WITH SCHOOL DISTRICT.
02	LOCATE AND CAP (E) IRRIGATION LINE AS REQUIRED.
03	REMOVE (E) BOLLARD AND FOOTING AND RELOCATE PER GRADING PLAN.
04	REMOVE (E) DRAIN INLET AND PROTECT (E) STORM DRAIN LATERAL. SEE GRADING PLAN FOR IMPROVEMENTS PRIOR TO DEMO.
05	REMOVE (E) CURB.
06	REMOVE (E) TRUNCATED DOMES.
07	REMOVE AND REUSE (E) PAVERS ALONG NEW FINISH SURFACE AS REQUIRED FOR SEAT WALL AND SMOOTH GRADE TRANSITION TO IMPROVEMENTS. SEE GRADING PLAN C2.02 AND LANDSCAPE PLANS.
08	REMOVE (E) LIGHT POLE AND FOOTING. (E) LIGHT TO BE RELOCATED. SEE LANDSCAPE PLANS FOR MORE DETAIL.

PROTECTION KEYNOTES

50	PROTECT (E) BUILDING, FOUNDATION AND OTHER STRUCTURAL FEATURES AND BUILDING UTILITIES.
51	PROTECT (E) RAMP AND HANDRAILING.
52	PROTECT (E) CONCRETE PAVEMENT/SIDEWALK.
53	PROTECT (E) ELECTRICAL FACILITIES.
54	PROTECT (E) STORM DRAIN FACILITIES.
55	PROTECT (E) WATER SERVICE FACILITIES.
56	PROTECT (E) BENCH.
57	PROTECT (E) BOLLARD AND FOOTING.
58	PROTECT (E) TELECOMMUNICATIONS FACILITIES.
59	PROTECT (E) GAS FACILITIES.
60	PROTECT (E) SEWER FACILITIES.
61	PROTECT (E) PAVERS.
62	PROTECT (E) CURB.
63	PROTECT (E) AC PAVEMENT.



LPA
 ARCHITECTURE ENGINEERING INTERIOR DESIGN
 LANDSCAPE ARCHITECTURE PLANNING
 949-261-1001 Office
 LPADesignStudios.com
 5301 California Avenue, Suite 100
 Irvine, California 92617

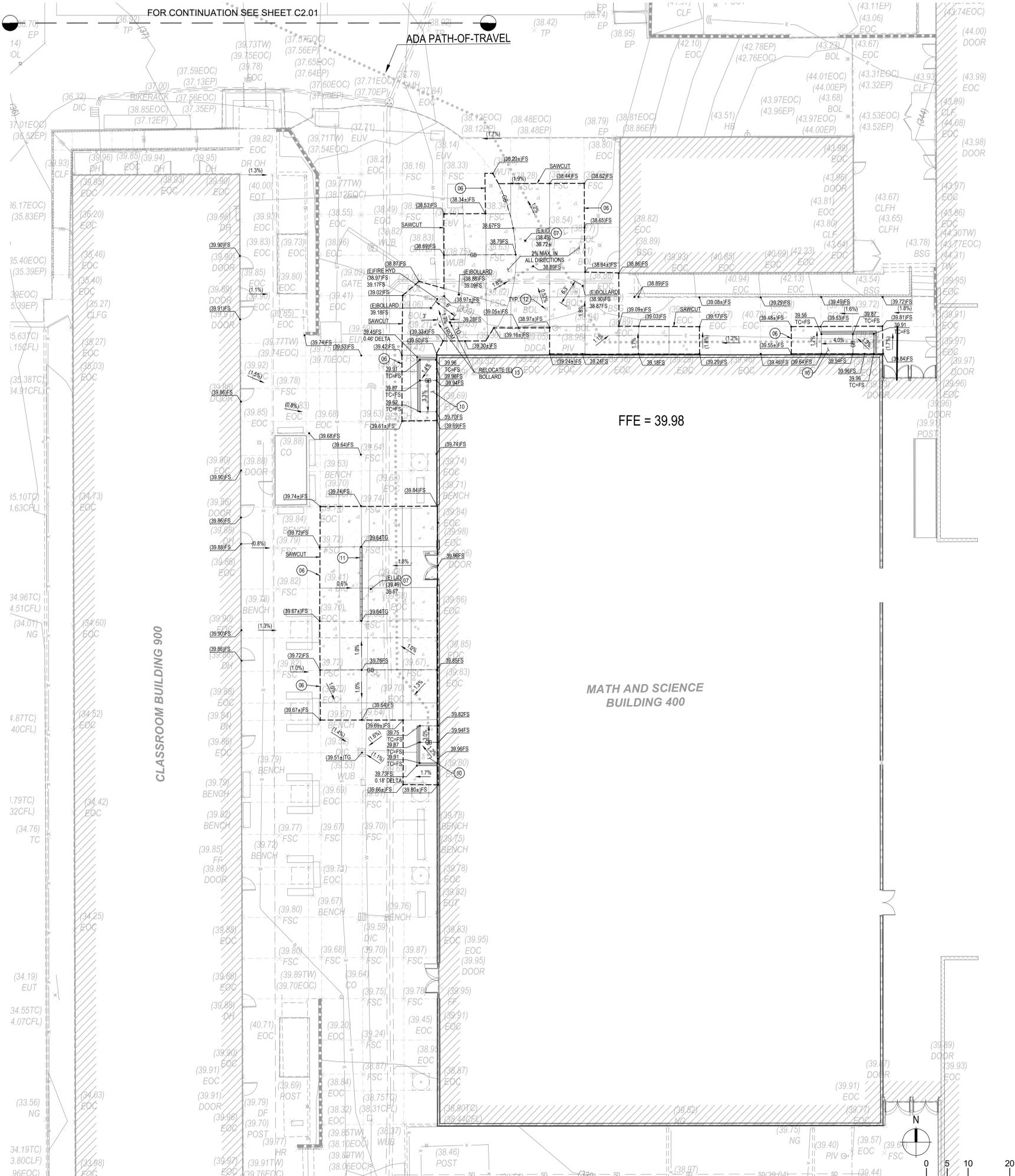
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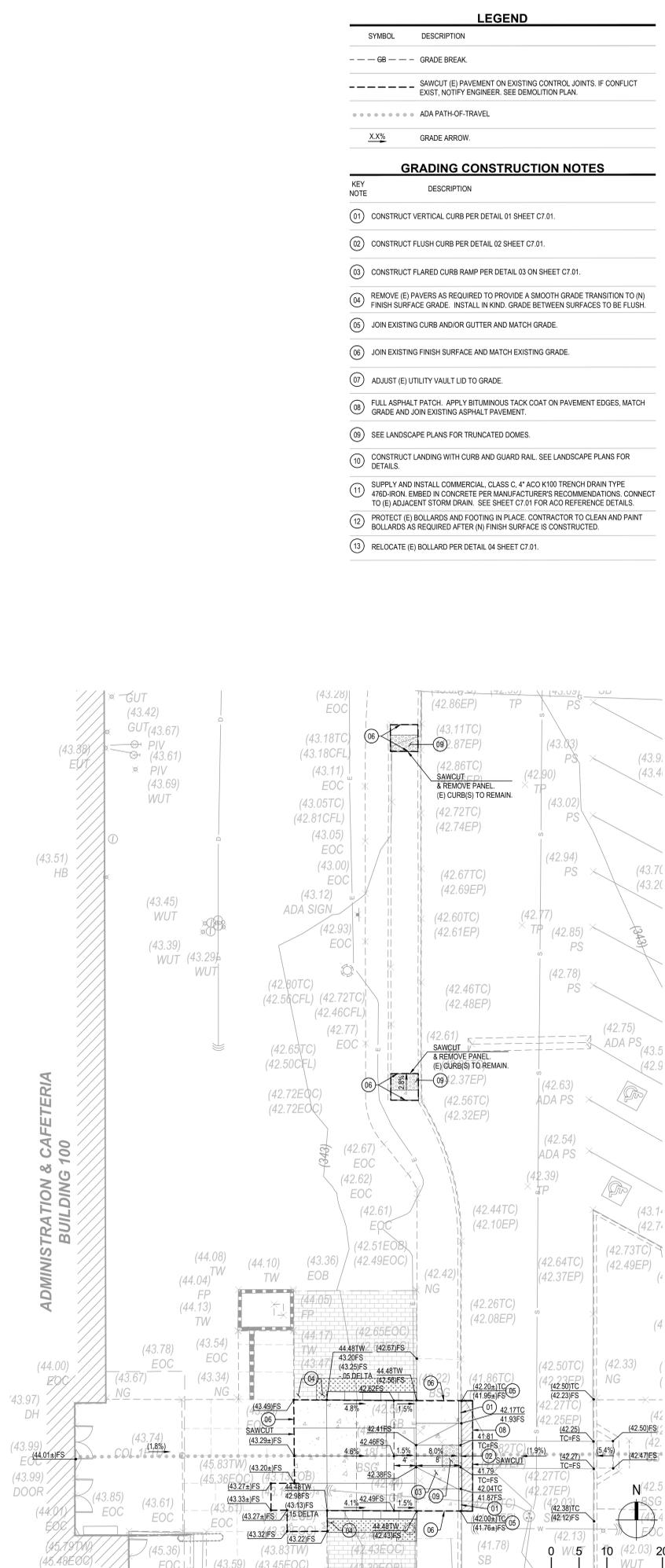
**SONORA HIGH SCHOOL
 SCIENCE CLASSROOMS MODERNIZATION**
 401 S PALM STREET
 LA HABRA, CA 90651
 Developed for
 FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Submittal	Date	Revision
50% DESIGN DEVELOPMENT	06/16/2025	
75% DESIGN DEVELOPMENT	10/03/2025	
DSA SUBMITTAL	11/21/2025	
DSA BACK CHECK	01/27/2026	

Job Number	32433
Checked By	KS
Scale	



GRADING ENLARGEMENT PLAN 1" = 10' 09



GRADING ENLARGEMENT PLAN 1" = 10' 01

LEGEND	
SYMBOL	DESCRIPTION
---	GRADE BREAK
---	SAWCUT (E) PAVEMENT ON EXISTING CONTROL JOINTS. IF CONFLICT EXIST, NOTIFY ENGINEER. SEE DEMOLITION PLAN.
.....	ADA PATH-OF-TRAVEL
X.X%	GRADE ARROW

GRADING CONSTRUCTION NOTES	
KEY NOTE	DESCRIPTION
01	CONSTRUCT VERTICAL CURB PER DETAIL 01 SHEET C7.01.
02	CONSTRUCT FLUSH CURB PER DETAIL 02 SHEET C7.01.
03	CONSTRUCT FLARED CURB RAMP PER DETAIL 03 ON SHEET C7.01.
04	REMOVE (E) PAVERS AS REQUIRED TO PROVIDE A SMOOTH GRADE TRANSITION TO (N) FINISH SURFACE GRADE. INSTALL IN KIND. GRADE BETWEEN SURFACES TO BE FLUSH.
05	JOIN EXISTING CURB AND/OR GUTTER AND MATCH GRADE.
06	JOIN EXISTING FINISH SURFACE AND MATCH EXISTING GRADE.
07	ADJUST (E) UTILITY VAULT LID TO GRADE.
08	FULL ASPHALT PATCH. APPLY BITUMINOUS TACK COAT ON PAVEMENT EDGES, MATCH GRADE AND JOIN EXISTING ASPHALT PAVEMENT.
09	SEE LANDSCAPE PLANS FOR TRUNCATED DOMES.
10	CONSTRUCT LANDING WITH CURB AND GUARD RAIL. SEE LANDSCAPE PLANS FOR DETAILS.
11	SUPPLY AND INSTALL COMMERCIAL CLASS C, 4" ACO K100 TRENCH DRAIN TYPE 476-IRON, EMBED IN CONCRETE PER MANUFACTURER'S RECOMMENDATIONS. CONNECT TO (E) ADJACENT STORM DRAIN. SEE SHEET C7.01 FOR ACO REFERENCE DETAILS.
12	PROTECT (E) BOLLARDS AND FOOTING IN PLACE. CONTRACTOR TO CLEAN AND PAINT BOLLARDS AS REQUIRED AFTER (N) FINISH SURFACE IS CONSTRUCTED.
13	RELOCATE (E) BOLLARD PER DETAIL 04 SHEET C7.01.

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 LANDSCAPE ARCHITECTURE PLANNING
 949-261-1001 Office
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Submittal	Date	Revision
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85% SUBMITTAL	11/21/2025	
DSA BACK CHECK	01/27/2026	

Job Number	32433
Checked By	KS
Scale	

KS100 KLASSIKDRAIN 'DRAINLOK' LOAD CLASS C

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE KS100 CHANNEL SYSTEM WITH STAINLESS STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN STAINLESS STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:
 COMPRESSIVE STRENGTH: 14,000 PSI
 FLEXURAL STRENGTH: 4,000 PSI
 TENSILE STRENGTH: 1,500 PSI
 WATER ABSORPTION: 0.07%
 FROST PROOF: YES
 DILUTE ACID AND ALKALI RESISTANT: YES
 B117 SALT SPRAY TEST COMPLIANT: YES

THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 6 1/4" (159mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "Y" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING DRAINLOK BOX-LESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

NOTES:
 1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. ENGINEERING ADVICE MAY BE REQUIRED.
 2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
 3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. ENGINEERING ADVICE MAY BE REQUIRED.
 4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" (3mm) ABOVE THE TOP OF THE CHANNEL EDGE.
 5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
 6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

KS10-C-EDP	KS100 - KLASSIKDRAIN - LOAD CLASS: C	ACO Polymer Products, Inc.		
	Exposed Concrete Pavement	825 W. Beechcroft St. Casa Grande, AZ 85122 Tel: 520-421-9988 Fax: 520-421-9999	8470 Pinecone Dr. Hercules, OH 44060 Tel: 440-639-7230 Fax: 440-639-7235	4211 Pleasant Rd. Fort Mill, SC 29508 Tel: 440-639-7230 Fax: 803-802-1063
DATE: 11/19/18	INSTALLATION DRAWING - ACO DRAIN			
Arizona Tel: 888-490-9552	e-mail: sales@acousa.com	Ohio Tel: 800-543-4764	www.acousa.com	South Carolina Tel: 800-543-4764

ACO DRAIN
Type 476D Longitudinal ductile iron grate (ADA)

Product Features

- Certified to EN 1433 Load Class C: 56,000 lbs - 1,162 psi
- Uses 'DrainLok' boxless locking system
- Suitable for use with K100, KS100, and H100K8 channels
- Manufactured from ductile iron to ASTM A 536-64 - Grade 65-45-12
- E-coated for improved resistance against rust
- Complies with ADA - American Disabilities Act of 1990 Section 4.5.4
- Bicycle Tire Penetration Resistant to AS 3996 - 2006



Specifications

General
The surface drainage system shall be ACO Drain K100, KS100, and H100K8 channels*, complete with ACO Type 476D longitudinal ductile iron grate with 'DrainLok' locking as manufactured by ACO, Inc. or similar approved.

Materials
The covers shall be manufactured from ductile iron and have minimum properties as follows:

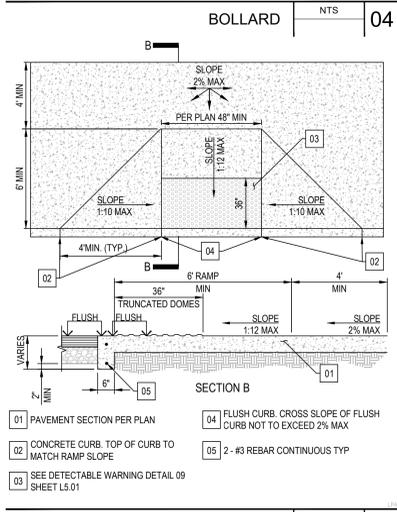
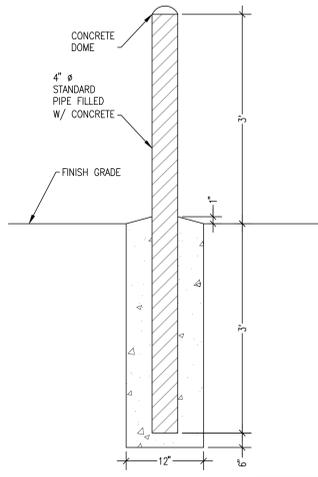
- Independently certified to meet Load Class C to EN 1433 - 56,000 lbs - 1,162 psi
- Ductile iron to ASTM A 536-64 - Grade 65-45-12
- Intake area of 22.6 sq. in. (145.16 cm²) per half meter of grate

The overall width of 4.85" (123mm) and overall length of 19.69" (500mm). Slots measure at 2.1" (53.34mm) by 0.24" (6.09mm).

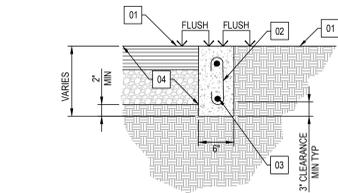
Installation
The trench drain system and grates shall be installed in accordance with the manufacturer's installation instructions and recommendations. *delete as appropriate



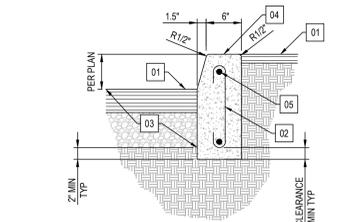
ACO Specification Information



ACCESSIBLE FLARED CURB RAMP NTS 03



FLUSH CURB NTS 02



VERTICAL CURB NTS 01

- NOTES:**
- EXPANSION JOINTS AND CONTROL JOINTS PER SSPVC SECTION 303-5 SHALL BE PLACED IN CURB ALIGNED WITH HARDSCAPE. JOINTING PER LANDSCAPE DRAWINGS (EXCEPTION: CONTROL JOINTS SHALL BE MAXIMUM 10.0' INTERVALS).

- 01 FINISHED SURFACE / FINISHED GRADE
- 02 #3 REBAR @ 36" OC
- 03 PAVEMENT SECTION PER PLAN
- 04 SLOPE 1/4" PER FOOT
- 05 #4 REBAR CONTINUOUS TYP



ARCHITECTURE ENGINEERING INTERIOR DESIGN
 LANDSCAPE ARCHITECTURE PLANNING
 949-261-1001 Office
 LPADesignStudios.com
 5301 California Avenue, Suite 100
 Irvine, California 92617

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SONORA HIGH SCHOOL
 SCIENCE CLASSROOMS MODERNIZATION

401 S PALM STREET
 LA HABRA, CA 90631

Developed for
 FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Submital	Date	Revision
50% DESIGN DEVELOPMENT	06/16/2025	
75% DESIGN DEVELOPMENT	10/30/2025	
DSA SUBMITTAL	11/21/2025	
DSA BACK CHECK	01/27/2026	

Job Number	32433
Checked By	KS
Scale	

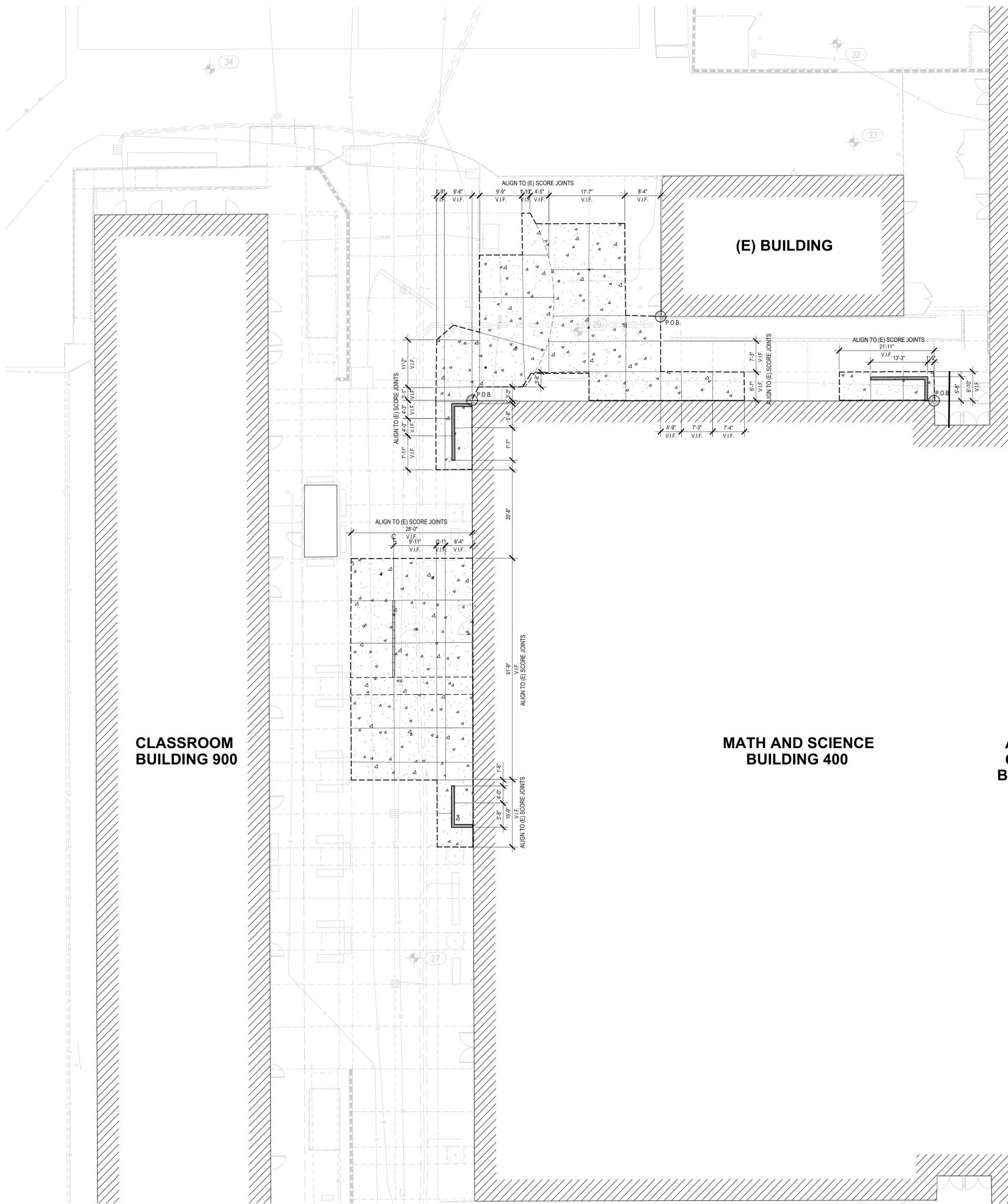
DETAILS

C7.01

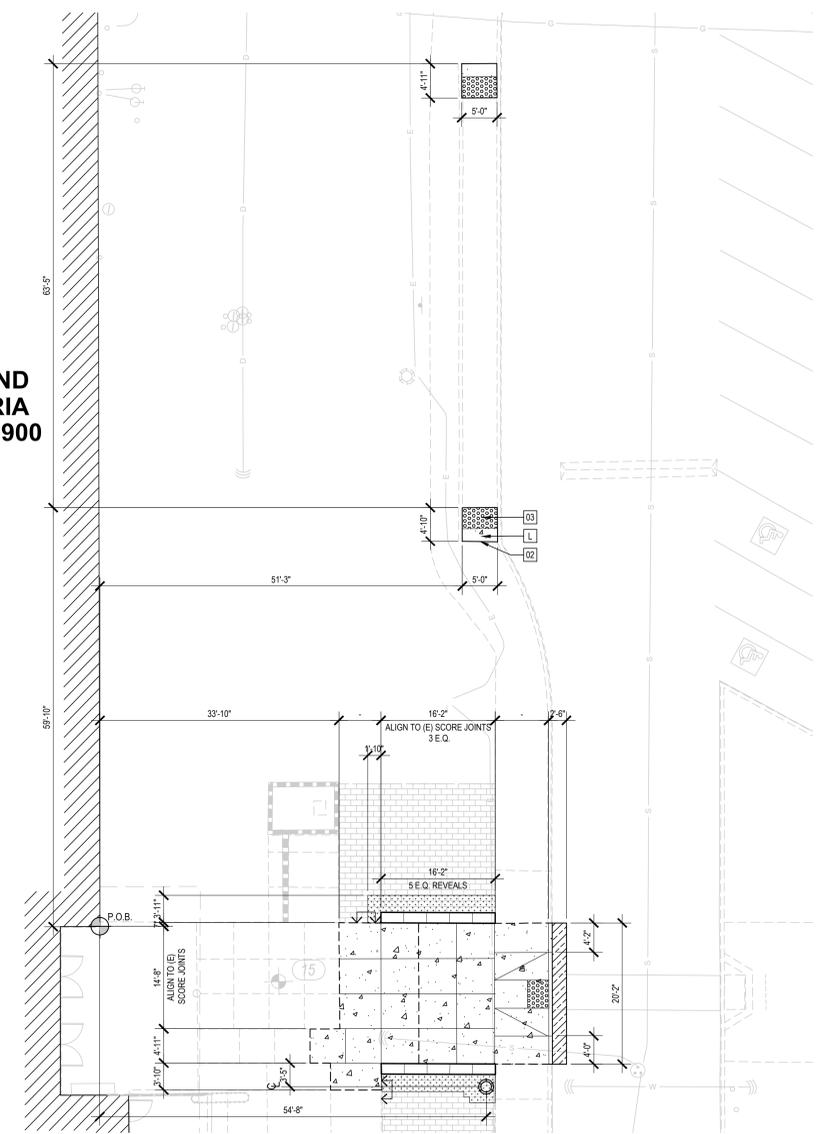
April 2018

www.ACODrain.us





LAYOUT PLAN | 1" = 10' | 09



LAYOUT PLAN | 1" = 10' | 01

- ADDITIONAL LAYOUT NOTES**
- SEE SHEET L0.01 FOR LANDSCAPE LAYOUT NOTES.
 - PLAN MEASUREMENTS ARE TO FACE OF WALL, CURB, OR OTHER FIXED SITE IMPROVEMENT, UNLESS NOTED OTHERWISE ON PLANS.
- LAYOUT SYMBOL LEGEND**
- POINT OF BEGINNING (P.O.B.)
 - ALIGN FLUSH
 - CENTER LINE



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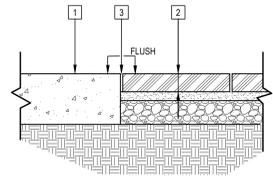
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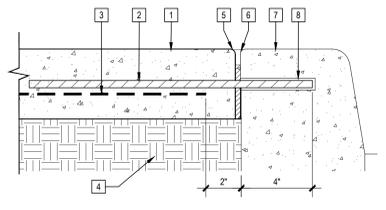
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50% DESIGN DEVELOPMENT	08/16/2025
75% DESIGN DEVELOPMENT	10/30/2025
DSA SUBMITTAL	11/21/2025
DSA BACK CHECK	01/27/2026

Revision	Date

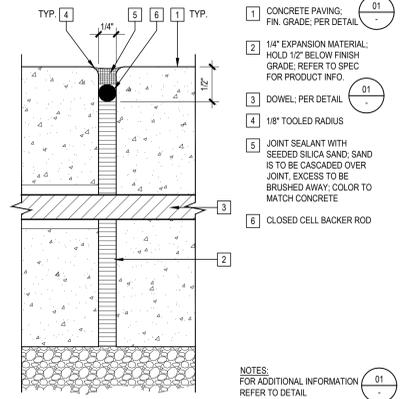
Job Number	32433
Checked By	JY, LS, TT
Scale	1"=10'-0"



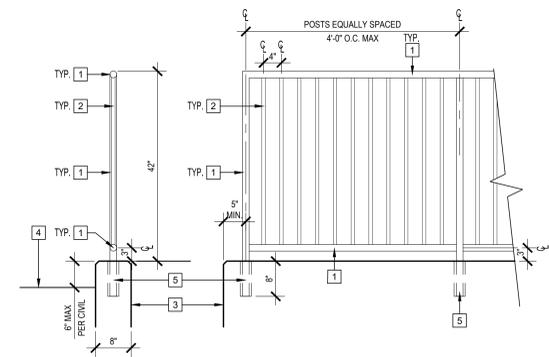
- 1 ADJACENT PAVING PER MATERIALS PLANS
 - 2 PRECAST CONCRETE PAVER PER REFER TO SPECS FOR MIN PAVER LENGTH AT EDGE
 - 3 BUTT JOINT @ PRECAST PAVER BACKFILL JOINT WISAND, TYP.
- NOTES:
A. FOR MORE INFO SEE 11



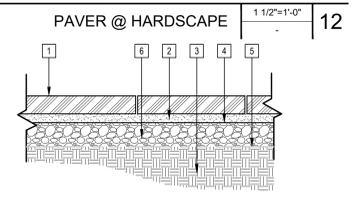
- 1 CONCRETE PAVING; REFER TO DTL.
 - 2 #3 @ 18" O.C.
 - 3 CONCRETE PAVING STEEL REINFORCEMENT; REFER TO DTL.
 - 4 BASE MATERIAL & COMPACTED SUBGRADE; REFER TO DTL.
 - 5 1/8" RADIUS
 - 6 EXPANSION JOINT; REFER TO DTL.
 - 7 CONCRETE CURB; REFER TO CIVIL DTL.
 - 8 DRILLED 5/8" DIA. SLIP SLEEVE AT CONCRETE CURB; DOWEL TO HAVE FREE MOVEMENT THIS SIDE
- NOTES:
A. NATIVE OR FILL SOIL SUPPORTING EXTERIOR NON-STRUCTURAL FLATWORK AND UNPAVED LANDSCAPING AREAS ARE EXEMPT FROM SPECIAL INSPECTION AND TESTING.
B. CONCRETE BATCH PLANT INSPECTION IS NOT REQUIRED.



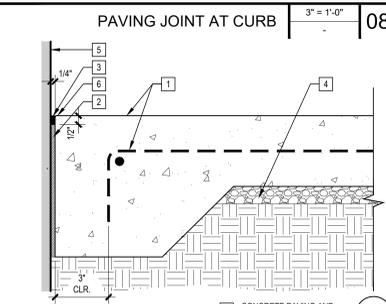
- 1 CONCRETE PAVING; FIN. GRADE; PER DETAIL
 - 2 1/4" EXPANSION MATERIAL; HOLD 1/2" BELOW FINISH GRADE; REFER TO SPEC FOR PRODUCT INFO.
 - 3 DOWEL; PER DETAIL
 - 4 1/8" TOOLED RADIUS
 - 5 JOINT SEALANT WITH SEEDED SILICA SAND; SAND IS TO BE CASCADED OVER JOINT. EXCESS TO BE BRUSHED AWAY; COLOR TO MATCH CONCRETE
 - 6 CLOSED CELL BACKER ROD
- NOTES:
FOR ADDITIONAL INFORMATION REFER TO DETAIL



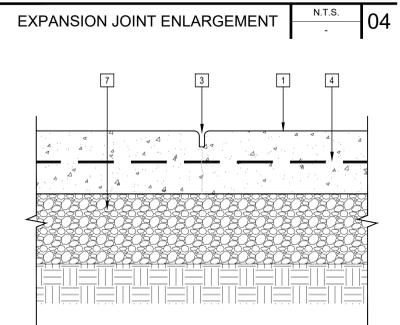
- 1 1-1/2" DIA. HOT DIPPED GALVANIZED SCH. 40, GRADE 8" METAL GUARDRAIL AND POST.
 - 2 3/4" DIA. HOT DIPPED GALVANIZED SCH. 40 METAL PICKETS @ 4' O.C. MAX.
 - 3 CONC. VERTICAL CURB PER CIVIL
 - 4 ADJ. FINISH SURFACE
 - 5 2 1/2" DIA. I.D. GALV STEEL SLEEVE; EMBED GUARDRAIL POST AND GROUT SOLID
- NOTES:
A. ALL COMPONENTS ARE TO BE HOT DIPPED GALVANIZED STEEL. SEE SPEC.
B. GRIND ALL WELDS SMOOTH.
C. 1/8" EDGES TYPICAL ALL CORNERS.
D. COLD GALVANIZE ALL FIELD WELDS.



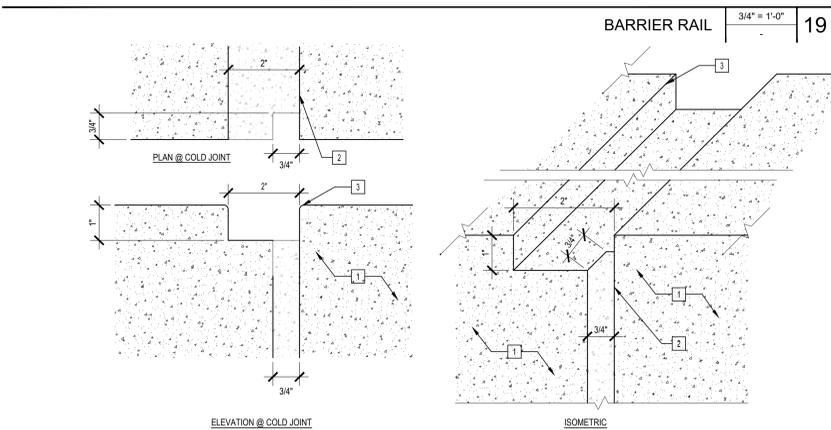
- 1 EXISTING PRECAST CONCRETE PAVER
 - 2 1" - 1 1/2" MAX. SAND LEVELING BED
 - 3 COMPACTED SUBGRADE PER 01
 - 4 DRAINAGE GEOTEXTILE
 - 5 SEPARATION GEOTEXTILE
 - 6 THICKNESS OF THE AGGREGATE BASE TO MATCH EXISTING
- NOTES:
A. INTEGRAL COLOR TO BE SOLID THROUGHOUT THE ENTIRE THICKNESS OF THE PAVER.
B. PAVERS @ ADJACENT HARDSCAPE PER 12
C. PAVERS @ VERTICAL SURFACE PER 14
D. PAVER PATTERN TO MATCH EXISTING



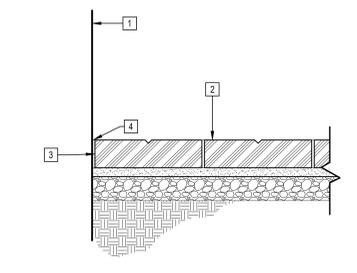
- 1 CONCRETE PAVING AND REINFORCEMENT PER DETAIL
 - 2 EXPANSION JOINT FILLER; MATCH FULL DEPTH OF CONC. PAVING; REFER TO SPECS FOR MATERIAL
 - 3 JOINT SEALANT; COLOR TO MATCH CONCRETE COLOR W/SEEDED SILICA SAND
 - 4 BASE MATERIAL AND SUBGRADE PER DETAIL
 - 5 FACE OF VERTICAL SURFACE
 - 6 1/4" RADIUS
- NOTES:
A. PROVIDE EXPANSION JOINT AT ALL VERTICAL SURFACES.
B. EXPANSION JOINT AT CURB PER DETAIL
C. NATIVE OR FILL SOIL SUPPORTING EXTERIOR NON-STRUCTURAL FLATWORK AND UNPAVED LANDSCAPING AREAS ARE EXEMPT FROM SPECIAL INSPECTION AND TESTING.
D. CONCRETE BATCH PLANT INSPECTION IS NOT REQUIRED.



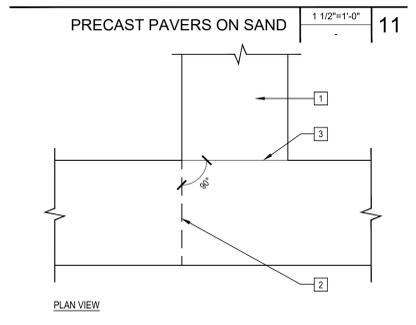
- 1 CONCRETE PAVING; REFER TO DETAIL
 - 2 SPEED DOWEL; BY SIKA CORPORATION CONCRETE ACCESSORIES; PRODUCT # PSD12/14TX
 - 3 SAWCUT CONTROL JOINT; 1/8-INCH WIDE; CUT TO 1/4 DEPTH OF SLAB; PROVIDE TIGHT 1/8-INCH RADIUS ON EDGE OF PAVING BEFORE SAWCUTTING
 - 4 CONCRETE PAVING REINFORCEMENT; REFER TO DETAIL
 - 5 JOINT ENLARGEMENT; REFER TO DETAIL
 - 6 PEDESTRIAN; #3 @ 18" O.C.
 - 7 AGGREGATE BASE AND SUBGRADE; REFER TO PAVING DETAIL
- NOTES:
A. NATIVE OR FILL SOIL SUPPORTING EXTERIOR NON-STRUCTURAL FLATWORK AND UNPAVED LANDSCAPING AREAS ARE EXEMPT FROM SPECIAL INSPECTION AND TESTING.
B. CONCRETE BATCH PLANT INSPECTION IS NOT REQUIRED.



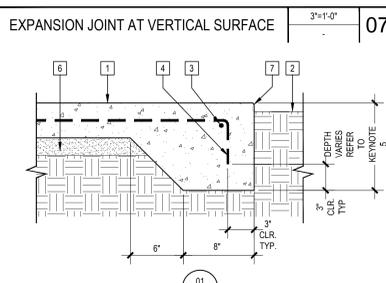
- 1 CONCRETE WALL PER MATERIALS PLAN
 - 2 COLD JOINT
 - 3 1/4" EASED EDGE RADIUS CORNERS AND EDGES
- NOTES:
A. PROVIDE REVEAL @ ALL COLD JOINTS.
B. REVEAL SHOULD BE CONTINUOUS ON SIDES & TOP OF WALL UNLESS OTHERWISE NOTED ON PLAN OR ELEVATION.
C. REFER TO PLANS & ELEVATIONS FOR JOINT SIZE & LOCATIONS.
D. ALIGN ALL FORM JOINTS W/ REVEALS. CUSTOM CUT FORMS AS REQUIRED.
E. SPACING SHOWN ON LAYOUT PLANS AND ELEVATION ARE BASED ON THE CENTER OF THE 3/4" COLD JOINT



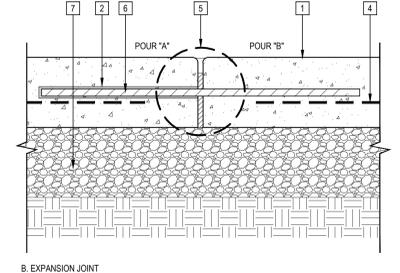
- 1 VERTICAL SURFACE
 - 2 PRECAST CONCRETE PAVER
 - 3 BUTT JOINT
 - 4 BACKFILL WITH SAND; TYP.
- NOTES:
A. FOR MORE INFO SEE 11



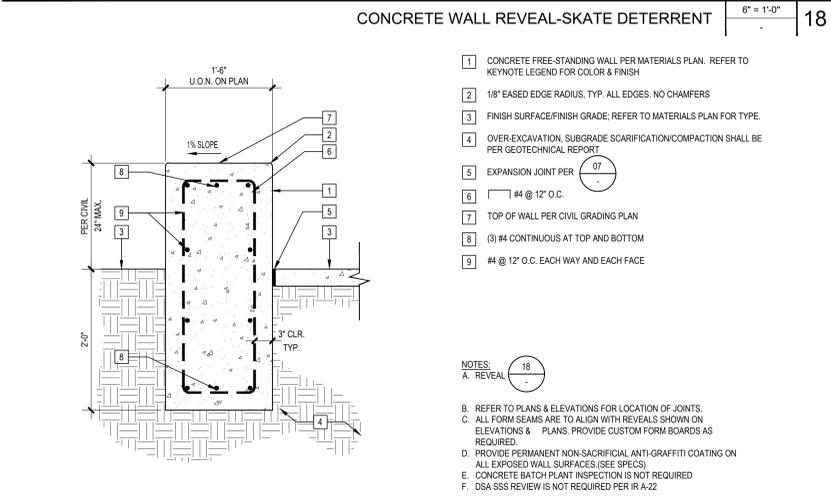
- 1 CONCRETE MOW CURB
 - 2 EXPANSION JOINT; SEE 02
 - 3 SAWCUT; SEE 02
- NOTE:
A. PROVIDE EXPANSION JOINT AS SHOWN AT ALL CHANGES IN DIRECTION.



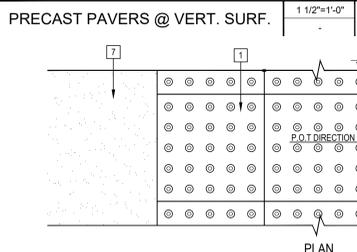
- 1 CONCRETE PAVING; REFER TO DTL.
 - 2 ADJACENT SURFACE/ FINISH GRADE; REFER TO PER MATERIALS PLAN
 - 3 #3 REINFORCING; CONTINUOUS
 - 4 EXTEND REINFORCEMENT FROM PAVING INTO THICKENED EDGE & WRAP ENDS
 - 5 THICKENED EDGE; 8" DEPTH FOR PEDESTRIAN PAVING
 - 6 BASE MATERIAL & COMPACTED SUBGRADE; REFER TO CIVIL DTL.
 - 7 EASE ALL EDGES; 1/4"R, TYP.
- NOTE:
FOR EDGE CONDITION ADJACENT TO VERTICAL SURFACE REFER TO DTL.



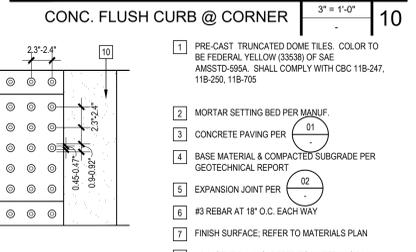
- 1 CONCRETE PAVING; REFER TO DETAIL
 - 2 SPEED DOWEL; BY SIKA CORPORATION CONCRETE ACCESSORIES; PRODUCT # PSD12/14TX
 - 3 SAWCUT CONTROL JOINT; 1/8-INCH WIDE; CUT TO 1/4 DEPTH OF SLAB; PROVIDE TIGHT 1/8-INCH RADIUS ON EDGE OF PAVING BEFORE SAWCUTTING
 - 4 CONCRETE PAVING REINFORCEMENT; REFER TO DETAIL
 - 5 JOINT ENLARGEMENT; REFER TO DETAIL
 - 6 PEDESTRIAN; #3 @ 18" O.C.
 - 7 AGGREGATE BASE AND SUBGRADE; REFER TO PAVING DETAIL
- NOTES:
A. NATIVE OR FILL SOIL SUPPORTING EXTERIOR NON-STRUCTURAL FLATWORK AND UNPAVED LANDSCAPING AREAS ARE EXEMPT FROM SPECIAL INSPECTION AND TESTING.
B. CONCRETE BATCH PLANT INSPECTION IS NOT REQUIRED.



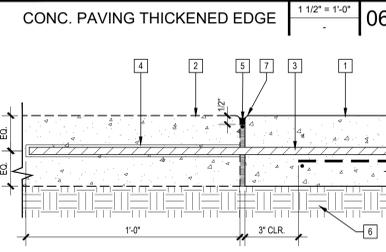
- 1 CONCRETE FREE-STANDING WALL PER MATERIALS PLAN. REFER TO KEYNOTE LEGEND FOR COLOR & FINISH
 - 2 1/8" EASED EDGE RADIUS, TYP. ALL EDGES. NO CHAMFERS
 - 3 FINISH SURFACE/ FINISH GRADE; REFER TO MATERIALS PLAN FOR TYPE.
 - 4 OVER-EXCAVATION, SUBGRADE SCARIFICATION/ COMPACTION SHALL BE PER GEOTECHNICAL REPORT
 - 5 EXPANSION JOINT PER 07
 - 6 #4 @ 12" O.C.
 - 7 TOP OF WALL PER CIVIL GRADING PLAN
 - 8 (3) #4 CONTINUOUS AT TOP AND BOTTOM
 - 9 #4 @ 12" O.C. EACH WAY AND EACH FACE
- NOTES:
A. REVEAL
B. REFER TO PLANS & ELEVATIONS FOR LOCATION OF JOINTS.
C. ALL FORM SEAMS ARE TO ALIGN WITH REVEALS SHOWN ON ELEVATIONS & PLANS. PROVIDE CUSTOM FORM BOARDS AS REQUIRED.
D. PROVIDE PERMANENT NON-SACRIFICIAL ANTI-GRAFFITI COATING ON ALL EXPOSED WALL SURFACES (SEE SPECS)
E. CONCRETE BATCH PLANT INSPECTION IS NOT REQUIRED
F. DSA SSS REVIEW IS NOT REQUIRED PER IR A-22



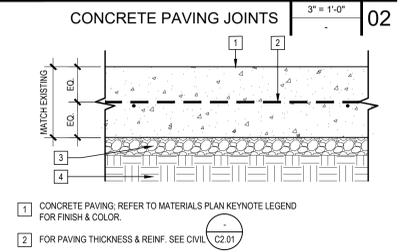
- 1 PRE-CAST TRUNCATED DOME TILES. COLOR TO BE FEDERAL YELLOW (33538) OF SAE AMSSTD-555A. SHALL COMPLY WITH CBC 11B-247, 11B-250, 11B-705
 - 2 MORTAR SETTING BED PER MANUF.
 - 3 CONCRETE PAVING PER 01
 - 4 BASE MATERIAL & COMPACTED SUBGRADE PER GEOTECHNICAL REPORT
 - 5 EXPANSION JOINT PER 02
 - 6 #3 REBAR AT 18" O.C. EACH WAY
 - 7 FINISH SURFACE; REFER TO MATERIALS PLAN
 - 8 ADJACENT PAVING; REFER TO MATERIALS PLAN
 - 9 DRILLED 5/8" DIA. SLIP SLEEVE AT CONCRETE FLUSH BAND; DOWEL TO HAVE FREE MOVEMENT AT THIS SIDE.
 - 10 FLUSH CONCRETE CURB; PER CIVIL DWGS.
- NOTE:
A. TOTAL LENGTH OF TRUNCATED DOME TILES PER PLAN.
B. TRUNCATED DOME TILES ARE TO CONFORM TO STATE ACCESSIBILITY STANDARDS. CONTRACTOR TO VERIFY STANDARDS PRIOR TO INSTALLATION.



- 1 CONCRETE MOW CURB
 - 2 EXPANSION JOINT; SEE 02
 - 3 SAWCUT; SEE 02
- NOTE:
A. PROVIDE EXPANSION JOINT AS SHOWN AT ALL CHANGES IN DIRECTION.



- 1 NEW CONCRETE PAVING AND REINFORCEMENT; REFER TO DTL.
 - 2 EXISTING CONCRETE PAVING
 - 3 1/2" X 24" SMOOTH STEEL DOWEL AT 18" O.C.
 - 4 5/8" SLIP SLEEVE DRILLED INTO EXISTING CONCRETE PAVING; DOWEL TO HAVE FREE MOVEMENT ON THIS SIDE
 - 5 JOINT SEALANT WITH BACKER ROD
 - 6 BASE MATERIAL & COMPACTED SUBGRADE; REFER TO DTL.
 - 7 1/8" RADIUS AT NEW CONCRETE PAVING
- NOTES:
A. PROVIDE AT ALL LOCATIONS WHERE NEW CONCRETE JOINS EXISTING CONCRETE.
B. PROVIDE CLEAN SAWCUT AT EXISTING PAVING. EXTEND PROPOSED PAVING AS REQUIRED TO CLOSEST ADJACENT JOINT.
C. SEE CIVIL PLANS FOR LIMIT OF DEMOLITION.
D. NATIVE OR FILL SOIL SUPPORTING EXTERIOR NON-STRUCTURAL FLATWORK AND UNPAVED LANDSCAPING AREAS ARE EXEMPT FROM SPECIAL INSPECTION AND TESTING.
E. CONCRETE BATCH PLANT INSPECTION IS NOT REQUIRED.



- 1 CONCRETE PAVING; REFER TO MATERIALS PLAN KEYNOTE LEGEND FOR FINISH & COLOR.
 - 2 FOR PAVING THICKNESS & REINF. SEE CIVIL C2.01
 - 3 AGGREGATE BASE PER CIVIL PLANS
 - 4 SUBGRADE COMPACTION AND OVER EXCAVATION PER GEOTECHNICAL REPORT
- NOTES:
A. SAWCUT & EXPANSION JOINTS; REFER TO DTL.
B. PROVIDE DOWELS WHERE NEW CONCRETE TIES INTO EXISTING PER DTL.
C. PROVIDE THICKENED EDGE AT COLUMNS, WALLS, AND WHERE PAVING ADJACENT TO PLANTING.
D. DO NOT ALLOW CONCRETE OVER-POUR INTO ADJACENT PLANTERS.
E. NATIVE OR FILL SOIL SUPPORTING EXTERIOR NON-STRUCTURAL FLATWORK AND UNPAVED LANDSCAPING AREAS ARE EXEMPT FROM SPECIAL INSPECTION AND TESTING.
F. CONCRETE BATCH PLANT INSPECTION IS NOT REQUIRED.



- 1 CONCRETE FREE-STANDING WALL PER MATERIALS PLAN. REFER TO KEYNOTE LEGEND FOR COLOR & FINISH
 - 2 1/8" EASED EDGE RADIUS, TYP. ALL EDGES. NO CHAMFERS
 - 3 FINISH SURFACE/ FINISH GRADE; REFER TO MATERIALS PLAN FOR TYPE.
 - 4 OVER-EXCAVATION, SUBGRADE SCARIFICATION/ COMPACTION SHALL BE PER GEOTECHNICAL REPORT
 - 5 EXPANSION JOINT PER 07
 - 6 #4 @ 12" O.C.
 - 7 TOP OF WALL PER CIVIL GRADING PLAN
 - 8 (3) #4 CONTINUOUS AT TOP AND BOTTOM
 - 9 #4 @ 12" O.C. EACH WAY AND EACH FACE
- NOTES:
A. REVEAL
B. REFER TO PLANS & ELEVATIONS FOR LOCATION OF JOINTS.
C. ALL FORM SEAMS ARE TO ALIGN WITH REVEALS SHOWN ON ELEVATIONS & PLANS. PROVIDE CUSTOM FORM BOARDS AS REQUIRED.
D. PROVIDE PERMANENT NON-SACRIFICIAL ANTI-GRAFFITI COATING ON ALL EXPOSED WALL SURFACES (SEE SPECS)
E. CONCRETE BATCH PLANT INSPECTION IS NOT REQUIRED
F. DSA SSS REVIEW IS NOT REQUIRED PER IR A-22



- 1 PRE-CAST TRUNCATED DOME TILES. COLOR TO BE FEDERAL YELLOW (33538) OF SAE AMSSTD-555A. SHALL COMPLY WITH CBC 11B-247, 11B-250, 11B-705
 - 2 MORTAR SETTING BED PER MANUF.
 - 3 CONCRETE PAVING PER 01
 - 4 BASE MATERIAL & COMPACTED SUBGRADE PER GEOTECHNICAL REPORT
 - 5 EXPANSION JOINT PER 02
 - 6 #3 REBAR AT 18" O.C. EACH WAY
 - 7 FINISH SURFACE; REFER TO MATERIALS PLAN
 - 8 ADJACENT PAVING; REFER TO MATERIALS PLAN
 - 9 DRILLED 5/8" DIA. SLIP SLEEVE AT CONCRETE FLUSH BAND; DOWEL TO HAVE FREE MOVEMENT AT THIS SIDE.
 - 10 FLUSH CONCRETE CURB; PER CIVIL DWGS.
- NOTE:
A. TOTAL LENGTH OF TRUNCATED DOME TILES PER PLAN.
B. TRUNCATED DOME TILES ARE TO CONFORM TO STATE ACCESSIBILITY STANDARDS. CONTRACTOR TO VERIFY STANDARDS PRIOR TO INSTALLATION.



- 1 NEW CONCRETE PAVING AND REINFORCEMENT; REFER TO DTL.
 - 2 EXISTING CONCRETE PAVING
 - 3 1/2" X 24" SMOOTH STEEL DOWEL AT 18" O.C.
 - 4 5/8" SLIP SLEEVE DRILLED INTO EXISTING CONCRETE PAVING; DOWEL TO HAVE FREE MOVEMENT ON THIS SIDE
 - 5 JOINT SEALANT WITH BACKER ROD
 - 6 BASE MATERIAL & COMPACTED SUBGRADE; REFER TO DTL.
 - 7 1/8" RADIUS AT NEW CONCRETE PAVING
- NOTES:
A. PROVIDE AT ALL LOCATIONS WHERE NEW CONCRETE JOINS EXISTING CONCRETE.
B. PROVIDE CLEAN SAWCUT AT EXISTING PAVING. EXTEND PROPOSED PAVING AS REQUIRED TO CLOSEST ADJACENT JOINT.
C. SEE CIVIL PLANS FOR LIMIT OF DEMOLITION.
D. NATIVE OR FILL SOIL SUPPORTING EXTERIOR NON-STRUCTURAL FLATWORK AND UNPAVED LANDSCAPING AREAS ARE EXEMPT FROM SPECIAL INSPECTION AND TESTING.
E. CONCRETE BATCH PLANT INSPECTION IS NOT REQUIRED.



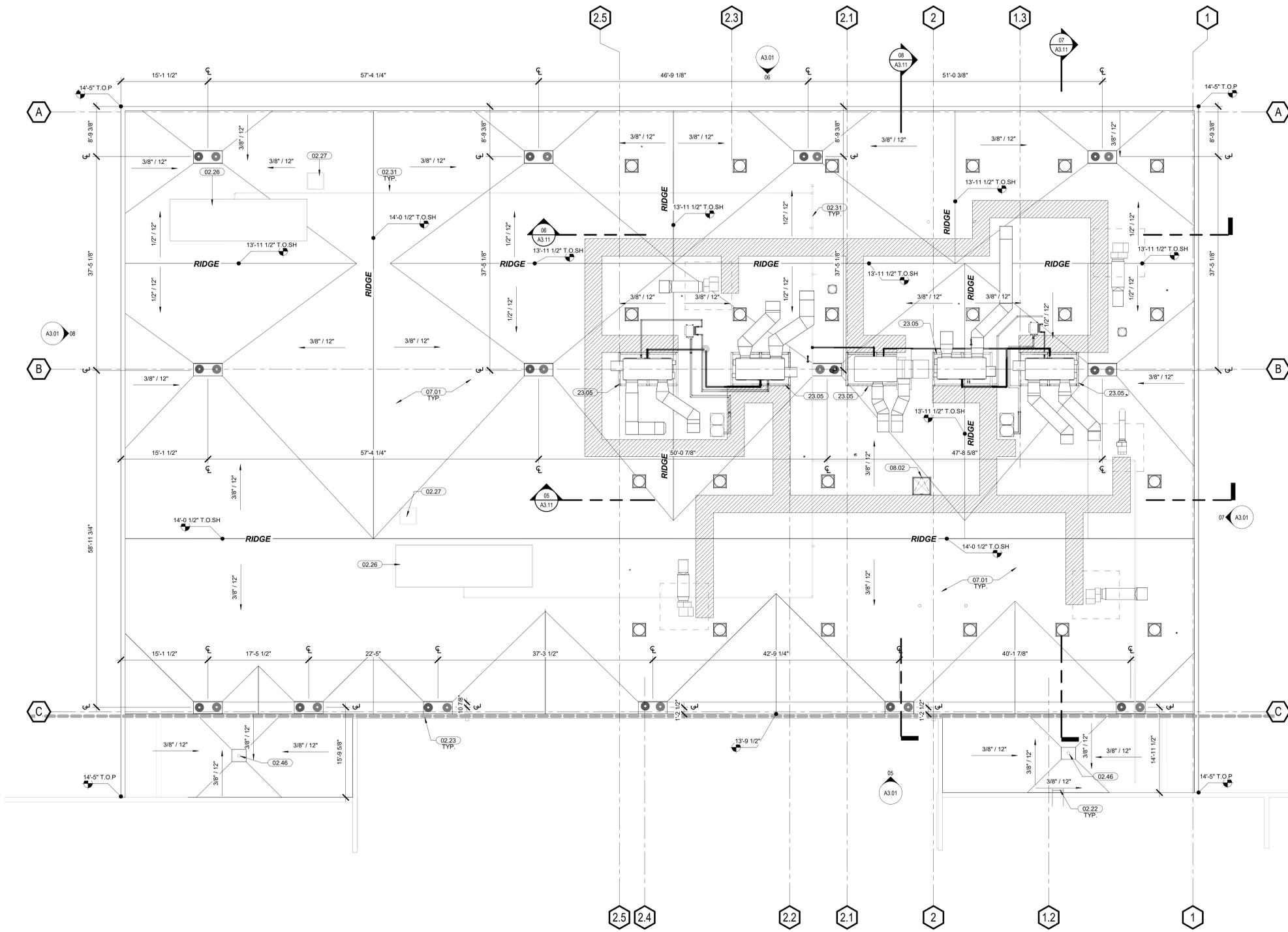
- 1 CONCRETE PAVING; REFER TO MATERIALS PLAN KEYNOTE LEGEND FOR FINISH & COLOR.
 - 2 FOR PAVING THICKNESS & REINF. SEE CIVIL C2.01
 - 3 AGGREGATE BASE PER CIVIL PLANS
 - 4 SUBGRADE COMPACTION AND OVER EXCAVATION PER GEOTECHNICAL REPORT
- NOTES:
A. SAWCUT & EXPANSION JOINTS; REFER TO DTL.
B. PROVIDE DOWELS WHERE NEW CONCRETE TIES INTO EXISTING PER DTL.
C. PROVIDE THICKENED EDGE AT COLUMNS, WALLS, AND WHERE PAVING ADJACENT TO PLANTING.
D. DO NOT ALLOW CONCRETE OVER-POUR INTO ADJACENT PLANTERS.
E. NATIVE OR FILL SOIL SUPPORTING EXTERIOR NON-STRUCTURAL FLATWORK AND UNPAVED LANDSCAPING AREAS ARE EXEMPT FROM SPECIAL INSPECTION AND TESTING.
F. CONCRETE BATCH PLANT INSPECTION IS NOT REQUIRED.

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SONORA HIGH SCHOOL
SCIENCE CLASSROOMS MODERNIZATION
401 S PALM STREET
LA HABRA, CA 90651
Developed for
FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Date	
Revision	
Date	
08/16/2025	50% DESIGN DEVELOPMENT
10/30/2025	DSR SUBMITTAL
11/20/2025	DSR SUBMITTAL
01/27/2026	DSR BACK CHECK
Job Number	32433
Checked By	JY, LS, TT
Scale	AS NOTED
CONSTRUCTION DETAILS	
L5.01	



KEYNOTES

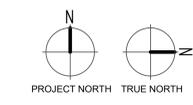
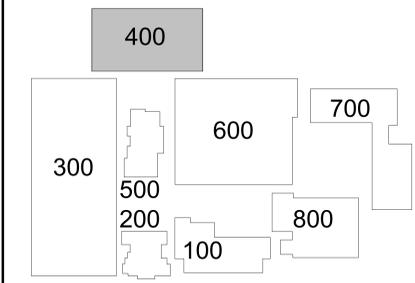
02.22	(E) ROOF LADDER TO REMAIN
02.23	(E) SEISMIC JOINT TO REMAIN
02.26	(E) MECHANICAL UNITS AND PLATFORM TO REMAIN, PROTECT IN PLACE
02.27	(E) SKYLIGHT TO REMAIN, PROTECT IN PLACE
02.31	(E) GAS LINES TO REMAIN, PROTECT IN PLACE DURING CONSTRUCTION. RE: GENERAL NOTES.
02.46	(E) ROOF DRAIN TO REMAIN, PROTECT IN PLACE
07.01	NEW 4 PLY BUILT UP ROOFING, CRICKETS AND RIGID INSULATION. PROVIDE NEW R-30 BATT INSULATION TO UNDERSIDE OF EXISTING ROOF DECKING.
08.02	ROOF ACCESS HATCH. RE: 09/A8.22
23.05	MECHANICAL EQUIPMENT AND ASSOCIATED DUCTWORK, REFER TO MECHANICAL DRAWINGS.

LEGEND

	(E) ROOFTOP MECHANICAL EQUIPMENT, RE:MECHANICAL
	(E) SEISMIC JOINT
	(N) MECHANICAL EQUIPMENT, RE:MECHANICAL
	(N) TUBULAR SKYLIGHT, RE: 02/A8.22
	(N) ROOF DRAIN, RE: 13/A8.21 ; 17/A8.21
	(N) ROOF HATCH, RE: 08/A8.22
	(N) TAPERED PANELS; 1/4" / 1'-0" MIN. FOR VALLEYS
	(N) ROOF WALKPADS
	(N) TOP OF ROOF SHEATHING
	(N) TOP OF PARAPET
	(N) SLOPE DIRECTION

- ### GENERAL NOTES
- BACKGROUND DRAWINGS ARE BASED ON ORIGINAL CONSTRUCTION DOCUMENTS, NOT AS-BUILT DRAWINGS. PLEASE VERIFY ALL CONDITIONS & DIMENSIONS PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ARCHITECT.
 - EXISTING CONDITIONS DAMAGED OR REMOVED AS A RESULT OF ALL WORK REQUIRED TO BE DONE UNDER THIS CONTRACT SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION & FINISHED TO MATCH ADJACENT SURFACES.
 - CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS & REPORT ALL DISCREPANCIES TO THE ARCHITECT.
 - PATCH & REPAIR EXISTING ROOF AS REQUIRED BY NEW PENETRATIONS. FOR ROOF INFILL SEE DETAIL 15/A8.22.
 - TUBULAR SKYLIGHT LOCATIONS TO SHIFT AS NECESSARY TO ACCOMMODATE EXISTING DUCTWORK, STRUCTURAL FRAMING, AND OTHER ELEMENTS IN THE PLENUM SPACE AND ON THE ROOF. ANY AREAS THAT CANNOT BE ACCOMMODATED SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OF RECORD.
 - CRICKETS ARE REQUIRED ON ALL HIGH SIDES AT ALL CURBS.
 - ALL EXISTING MECHANICAL UNITS, GAS LINES AND EQUIPMENT TO BE PROTECTED IN PLACE. ALL EXISTING PIPE LINES RAISED ON WOOD BLOCK CAN BE CAREFULLY AND TEMPORARILY UNSCREW TO INSTALL NEW ROOFING MATERIALS UNDERNEATH. REINSTATE WITH NEW DURA BLOCK TO SUPPORT ALL PIPING.
 - INSTALLATION OF THE ROOFING SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND PROCEDURES.
 - CONFIRM MECHANICAL EQUIPMENT PAD DIMENSIONS WITH EQUIPMENT MANUFACTURER, VERIFY PAD SIZE ACCOMMODATES MECHANICAL EQUIPMENT INCLUDING REQUIRED CLEARANCES.
 - MECHANICAL EQUIPMENT SHOWN FOR REFERENCE. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND DIMENSIONS.
 - HORIZONTAL PIPE OR CODUIT SUPPORT OVER ROOFING SYSTEM. RE: 14/A8.21.
 - TYPICAL ROOF PENETRATION DETAILS AND SPACING REQUIREMENTS. REFERENCE SHEET A8.21 & A8.22.
 - ALL PENETRATIONS THROUGH THE ROOF SHALL BE BY THE USE OF ROUND CONDUIT FOR PIPES, VENTS, RISERS AND EQUIPMENT SUPPORTS. THE USE OF CHANNELS, ANGLES OR UNISTRUT THROUGH THE ROOF WITH PITCH PKERTS SHALL NOT BE ALLOWED.
 - ROOF FIRE HAZARD CLASSIFICATION TYPE A.

KEYPLAN



ROOF PLAN 1/8" = 1'-0" 05
A2.09



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SCIENCE CLASSROOMS MODERNIZATION**
 401 S PALM STREET
 LA HABRA, CA 90631
 Developed for
 FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Date	07/13/2025
Submitted	07/13/2025
Schematic Design	07/13/2025
Design Development	07/13/2025
100% Design Development	07/13/2025
50% CD	10/30/2025
DSA SUBMITTAL	11/21/2025
DSA BACK CHECK	01/27/2026
Job Number	32433
Checked By	Checker
Scale	1/8" = 1'-0"

ROOF PLAN

A2.09



ARCHITECTURE ENGINEERING INTERIORS
LANDSCAPE ARCHITECTURE PLANNING

949-261-1001 Office

LPADesignStudios.com

5301 California Avenue, Suite 100
Irvine, California 92617

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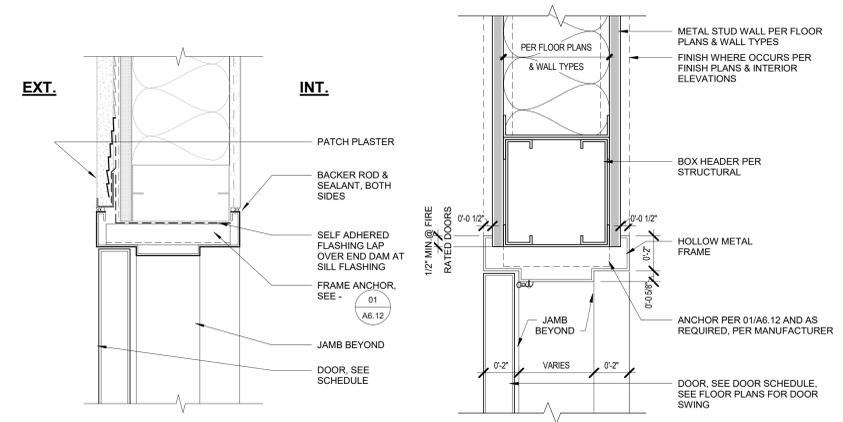
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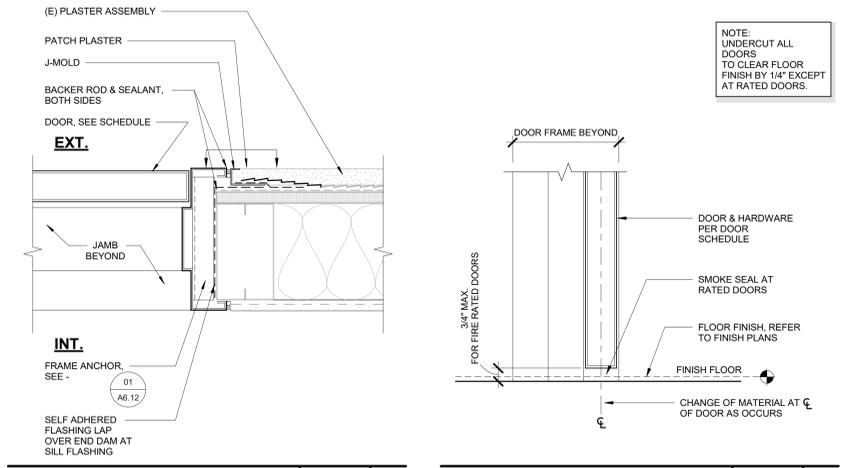
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SCIENCE CLASSROOMS MODERNIZATION

401 S PALM STREET
LA HABRA, CA 90631

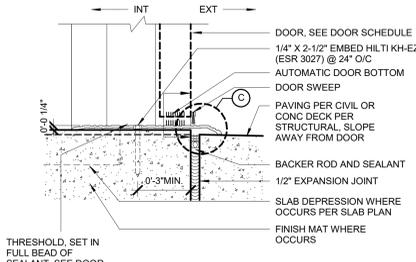
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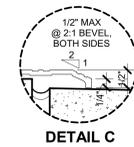
EXT. HOLLOW METAL DOOR HEAD 3" = 1'-0" A6.12 08 INT HM DOOR HEAD @ GYP (JAMB SIM.) 3" = 1'-0" 04



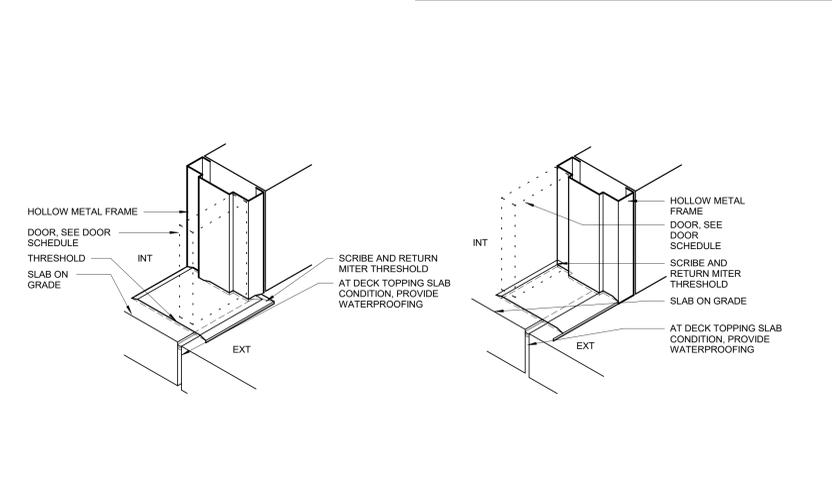
EXT. HOLLOW METAL DOOR JAMB 3" = 1'-0" A6.12 07 INT. DOOR THRESHOLD 3" = 1'-0" A6.12 03



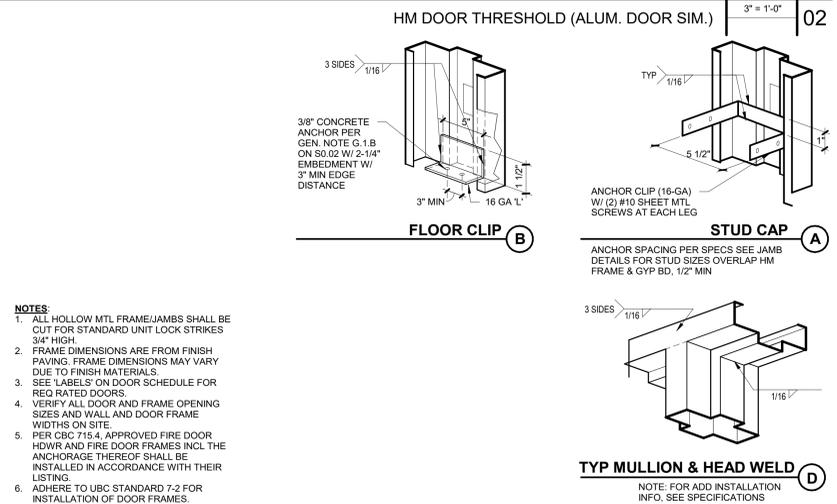
CONDITION A: DOOR AT FRONT FACE OF WALL
CONDITION B: DOOR AT BACK FACE OF WALL



DETAIL C



SCRIBE AND MITER THRESHOLD 1 1/2" = 1'-0" 09



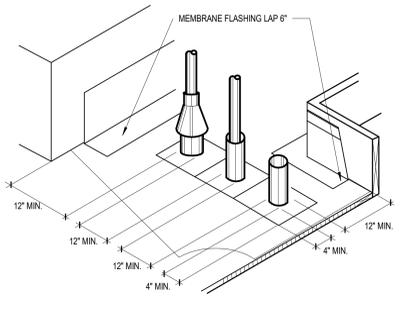
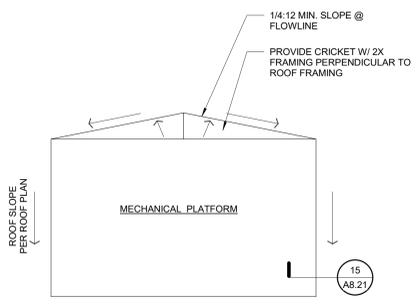
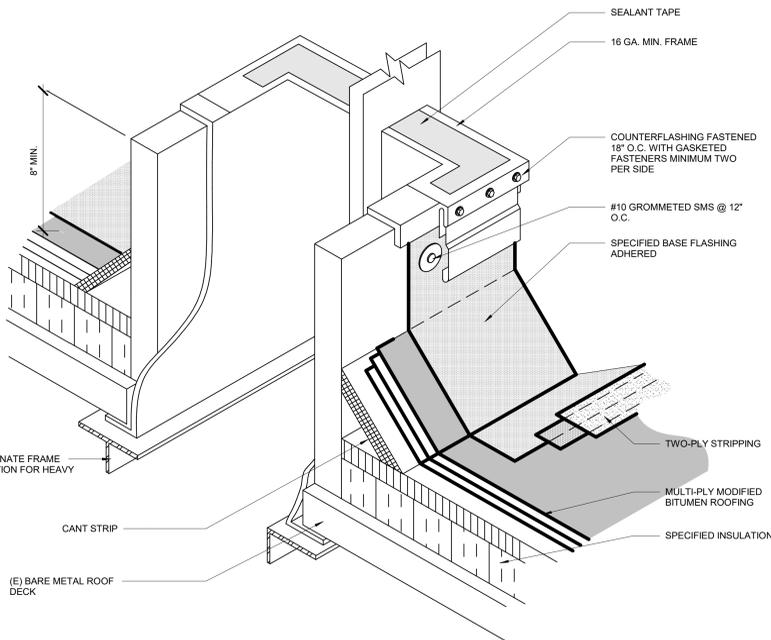
TYPICAL HOLLOW METAL DOOR FRAME DETAILS 12" = 1'-0" 01

Table with columns for Date and Revision.

Table with columns for Date and Submittal (Schematic Design, Permit, etc.).

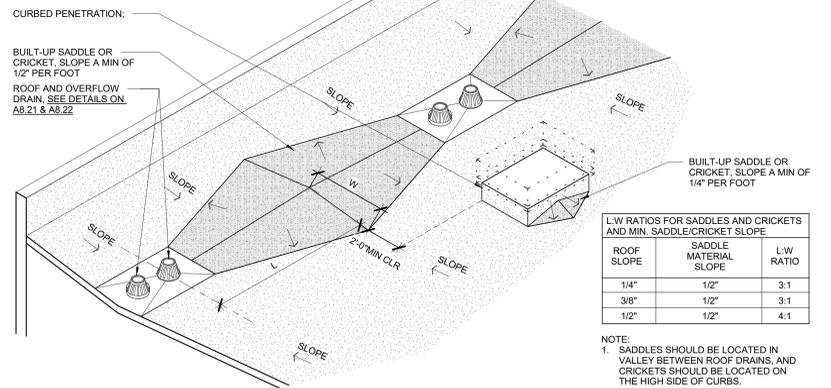
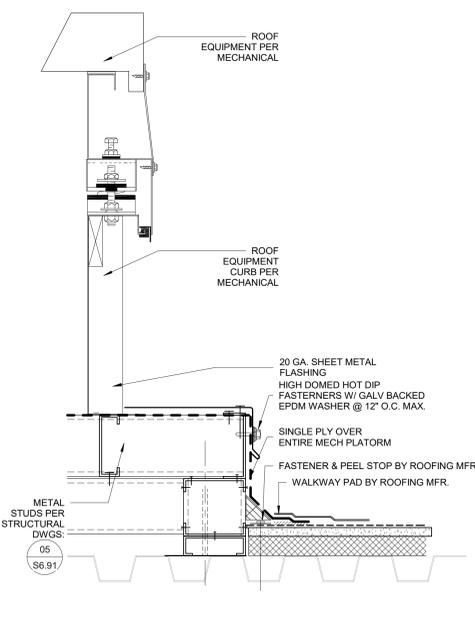
Table with columns for Job Number (32433), Checked By, and Scale (As indicated).

HOLLOW METAL DOOR DETAILS



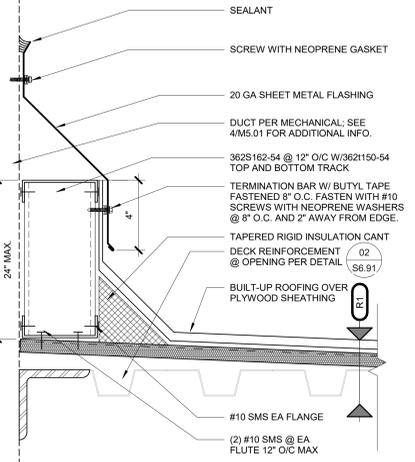
MECH. PLATFORM CRICKET DETAIL 3/4" = 1'-0" 08

TYP ROOF FLASHING / SPACING 1" = 1'-0" 04



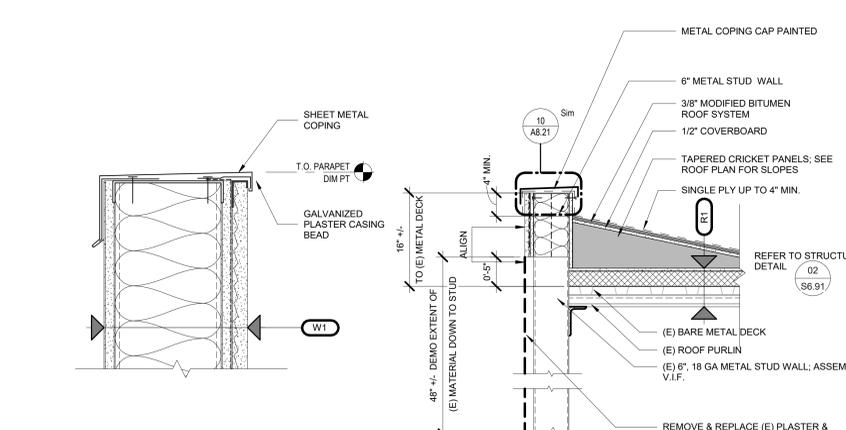
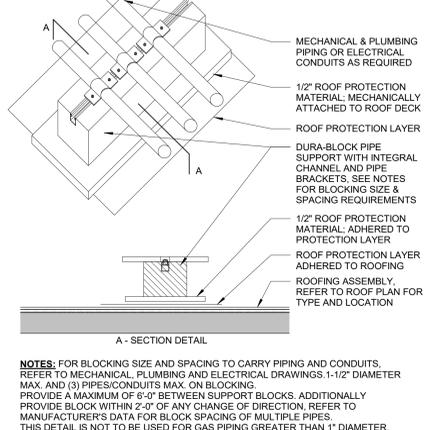
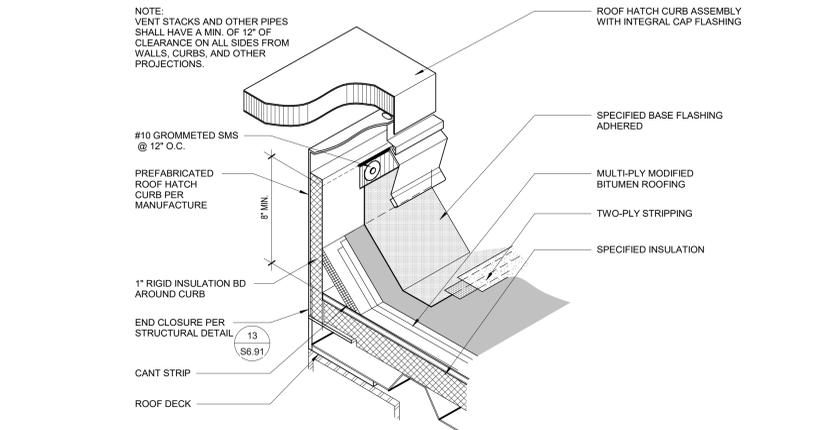
TYP MECH ROOF PAD - SECTION 3" = 1'-0" 15

TYPICAL ROOF SADDLES AND CRICKETS 1/4" = 1'-0" 07



DUCT PENETRATION FLASHING 3" = 1'-0" 03

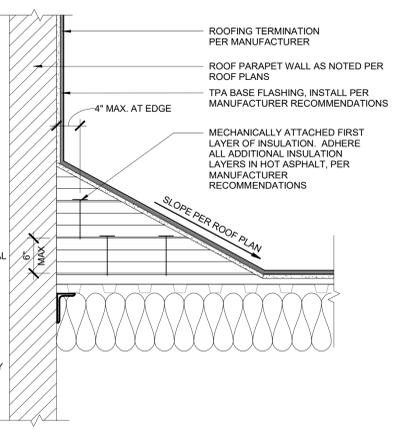
DUCT PENETRATION AT ROOF DECK N.T.S. 19



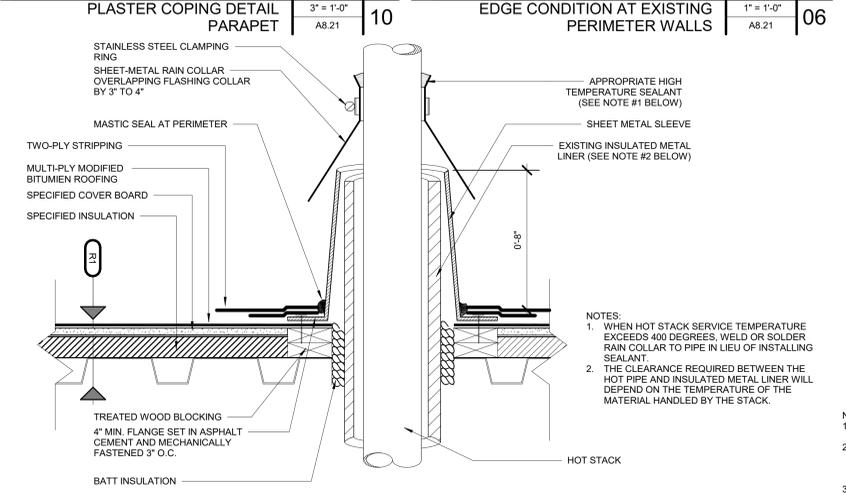
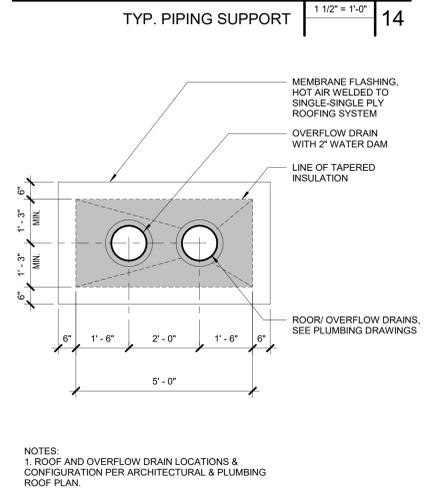
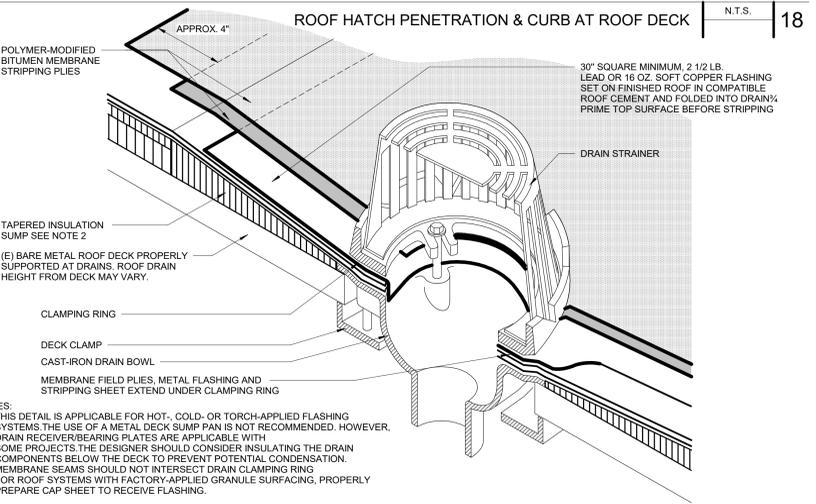
DUCT PENETRATION AT ROOF DECK N.T.S. 19

TYP. PIPING SUPPORT 1 1/2" = 1'-0" 14

PLASTER COPING DETAIL PARAPET 3" = 1'-0" A8.21 10



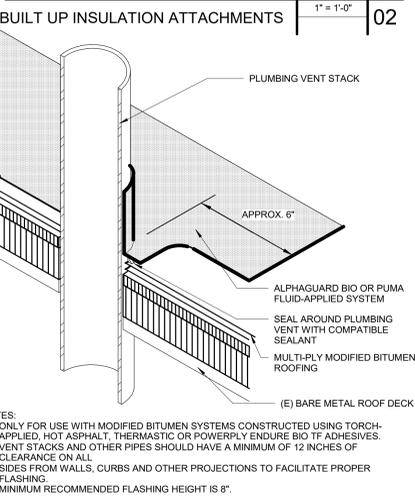
DUCT PENETRATION FLASHING 3" = 1'-0" 03



ROOF HATCH PENETRATION & CURB AT ROOF DECK N.T.S. 18

ROOF / OVERFLOW DRAIN 1/2" = 1'-0" 13

EDGE CONDITION AT EXISTING PERIMETER WALLS 1" = 1'-0" A8.21 06



BUILT UP INSULATION ATTACHMENTS 1" = 1'-0" 02

ROOF DRAIN PENETRATION AT ROOF DECK N.T.S. 17

TYP. VENT PIPE PENETRATION 3" = 1'-0" A8.21 05

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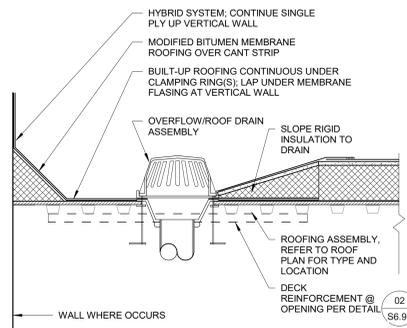
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SCIENCE CLASSROOMS MODERNIZATION**
401 S PALM STREET
LA HABRA, CA 90631
Developed for
FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Date	Revision
03/13/2025	SCHEMATIC DESIGN
07/01/2025	100% DESIGN DEVELOPMENT
10/30/2025	50% CD
11/21/2025	DSA SUBMITTAL
01/27/2026	DSA BACK CHECK

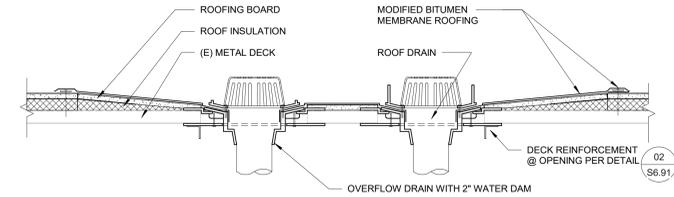
Job Number	32433
Checked By	Checker
Scale	As indicated

**EXTERIOR ROOF
DETAILS**

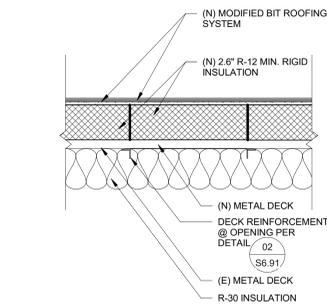


1. STL. CLAMPING RINGS MUST BE USED ON ALL ROOF AND OVERFLOW DRAINS. PROVIDE CONTINUOUS SEALANT UNDER MEMBRANE FLASING AT CLAMPING RING
 2. AFTER COMPLETE INSTALLATION OF THE ROOFING SYSTEM, G.C. SHALL INSPECT AND TEST ALL ROOF DRAINS TO ASSURE THAT NO CLOGGING OF THE DRAINAGE SYSTEM IS PRESENT. ROOF DRAIN LEADERS SHOULD BE IN SUCH CONDITION THAT THE FULL DIAMETER OF THE DRAIN LEADER IS CLEAR.

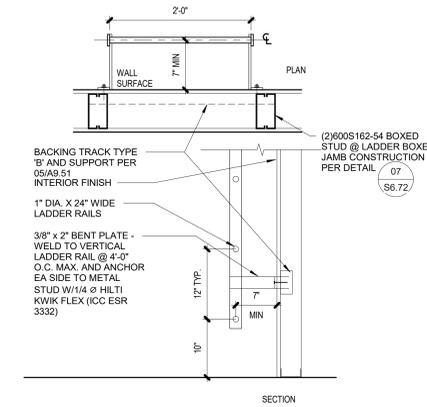
ROOF/OVERFLOW DRAIN SUMP 1" = 1'-0" 12



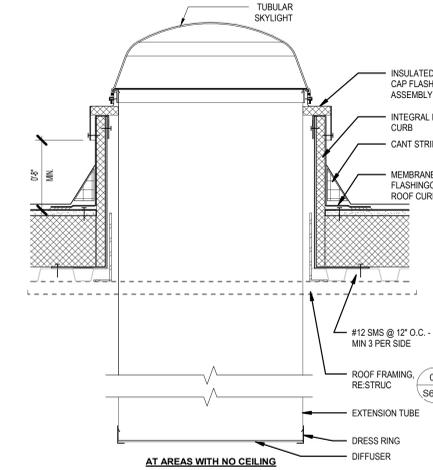
ROOF DRAIN AT METAL DECK 1 1/2" = 1'-0" A8.22 04



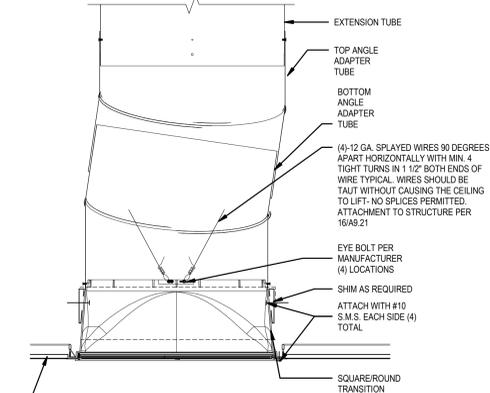
R1 - ROOF ASSEMBLY - INFILL 1" = 1'-0" 15



ROOF ACCESS LADDER DETAIL 1" = 1'-0" 11

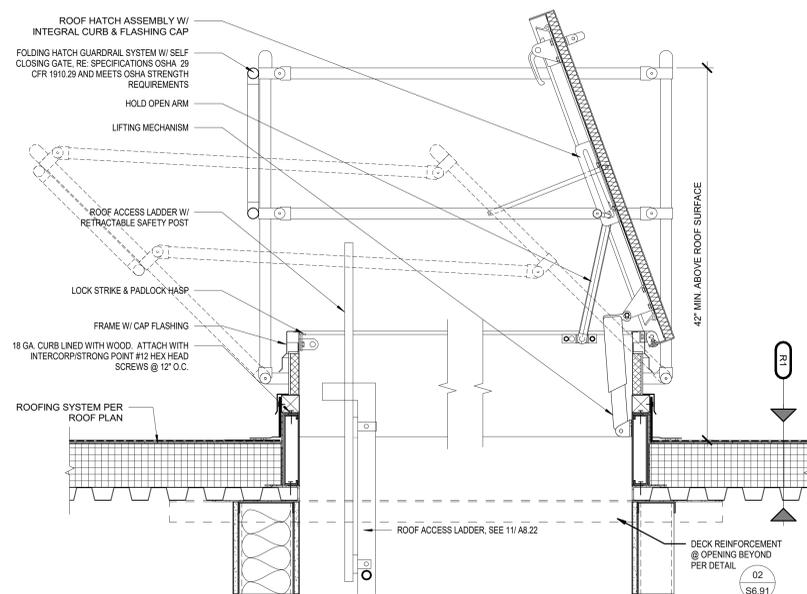


AT AREAS WITH NO CEILING

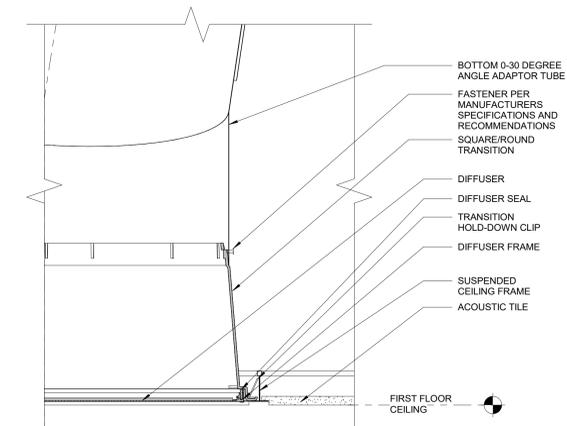


NOTE:
 1. 6" MIN. CLEARANCE SHOULD BE MAINTAINED FROM ALL SOLATUBE COMPONENTS AND OTHER PLENUM ELEMENTS.

TUBULAR SKYLIGHT SECTION 1 1/2" = 1'-0" A8.22 02



ROOF HATCH OPENING & LADDER (FIXED RAIL) 1 1/2" = 1'-0" 09



TYPICAL CEILING AT TUBULAR SKYLIGHT 3" = 1'-0" A8.22 01



ARCHITECTURE ENGINEERING INTERIORS
 LANDSCAPE ARCHITECTURE PLANNING
 949-261-1001 Office
 LPA Design Studios.com
 5301 California Avenue, Suite 100
 Irvine, California 92617

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 LA HABRA, CA 90631
 Developed for
 FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Date	Revision
07/13/2025	
07/13/2025	
07/01/2025	
10/30/2025	
11/21/2025	
01/27/2026	

Submital	Date	By
SCHEMATIC DESIGN	07/13/2025	
PERMIT DEVELOPMENT	07/01/2025	
100% DESIGN DEVELOPMENT	07/01/2025	
50% CD	10/30/2025	
DSA SUBMITTAL	11/21/2025	
DSA BACK CHECK	01/27/2026	

Job Number	32433
Checked By	Checker
Scale	As indicated

EXTERIOR ROOF
 DETAILS

1. CEILING SYSTEM GENERAL NOTES

- 1.01 CEILING SYSTEM COMPONENTS SHALL COMPLY WITH ASTM C835 AND SECTION 5.1 OF ASTM E580.
- 1.02 THE CEILING GRID SYSTEM MUST BE RATED HEAVY DUTY AS DEFINED BY ASTM C835.
- 1.03 CEILING SYSTEMS, THE FOLLOWING CEILING SYSTEM(S) IS/ARE PART OF THE SCOPE OF THIS PROJECT:
 MANUFACTURER: ARMSTRONG CEILING
 PRODUCT NAME: SUPRAFINE XL 916
 EVALUATION REPORT TYPE AND NUMBER: ESR-1308
 MAIN RUNNER PART, MODEL OR CATALOG NUMBER: 7501
 CROSS RUNNER PART, MODEL, CATALOG NUMBER: XL7520
- 1.04 SEISMIC WALL CLIP: MANUFACTURER'S MODEL: REFER TO SPECS.
- 1.05 CEILING PANELS SHALL NOT SUPPORT ANY LUMINAIRES, AIR TERMINALS OR DEVICES.
- 1.06 FOR CEILING INSTALLATIONS UTILIZING ACOUSTICAL TILE PANELS OF MINERAL OR GLASS FIBER, IT IS NOT MANDATORY TO PROVIDE 1/2" CLEARANCE BETWEEN THE ACOUSTICAL TILE PANELS AND THE WALL ON THE SIDES OF THE CEILING WHICH ARE FREE TO SLIP. FOR ALL OTHER CEILING PANEL TYPES, PROVIDE 1/2" CLEARANCE BETWEEN THE CEILING PANEL AND THE WALL ON THE SIDES OF THE CEILING FREE TO SLIP. CLEARANCE BETWEEN CEILING GRID RUNNERS/MEMBERS AND WALLS SHALL COMPLY WITH THE DETAILS ON THESE DRAWINGS REGARDLESS OF CEILING TILE MATERIAL.

2. MATERIALS

- 2.01 CEILING WIRE SHALL BE CLASS 1 ZINC COATED (GALVANIZED) CARBON STEEL CONFORMING TO ASTM A641. WIRE SHALL BE #12 GAUGE (0.106" DIAMETER) WITH SOFT TEMPER AND MINIMUM ULTIMATE TENSILE STRENGTH = 70 KSI.
- 2.02 GALVANIZED SHEET STEEL (INCLUDING THAT USED FOR METAL STUD AND TRACK COMPRESSION STRUTS) SHALL CONFORM TO ASTM A653, OR OTHER EQUIVALENT SHEET STEEL LISTED IN SECTION A3.1 OF THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (ASIS 5100). MATERIALS (E.G. GALVANIZED SHEET) LIGHTER SHALL HAVE MINIMUM YIELD STRENGTH OF 33 KSI, MATERIAL 54 MIL (16 GAUGE) AND HEAVIER SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.
- 2.03 ELECTRICAL METALLIC TUBE (EMT) SHALL BE ANSI C80.3/UL 797 CARBON STEEL WITH G90 GALVANIZING. EMT SHALL HAVE MINIMUM YIELD STRENGTH (FY) OF 30 KSI AND MINIMUM ULTIMATE STRENGTH (FU) OF 48 KSI.

3. ATTACHMENT OF HANGER AND BRACING WIRES

- 3.01 SEPARATE ALL CEILING HANGER AND BRACING WIRES AT LEAST 6 INCHES FROM ALL UNBRACED DUCTS, PIPES, CONDUIT, ETC.
- 3.02 HANGER AND BRACING WIRES SHALL NOT ATTACH TO OR BEND AROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO PIPING, DUCTWORK, CONDUIT AND EQUIPMENT.
- 3.03 HANGER WIRES THAT ARE MORE THAN ONE (HORIZONTAL) IN SIX (VERTICAL) OUT OF PLUMB SHALL HAVE COUNTER-SLOPING WIRES.
- 3.04 SLACK SAFETY WIRES SHALL BE CONSIDERED HANGER WIRES FOR INSTALLATION AND TESTING REQUIREMENTS.
- 3.05 HANGER AND BRACING WIRE ANCHORAGE TO THE STRUCTURE SHALL BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHORAGE ALIGNS CLOSELY WITH THE DIRECTION OF THE WIRE (E.G., BRACING WIRE CEILING CLIPS MUST BE BENT AS SHOWN IN THE DETAILS AND ROTATED AS REQUIRED TO ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE). MATERIALS (E.G. GALVANIZED SHEET) LIGHTER SHALL HAVE MINIMUM YIELD STRENGTH OF 33 KSI, MATERIAL 54 MIL (16 GAUGE) AND HEAVIER SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.

5. TESTING

- 5.01 ALL FIELD TESTING MUST BE PERFORMED IN THE PRESENCE OF THE PROJECT INSPECTOR.
- 5.02 NOT USED
- 5.03 NOT USED

6. LUMINAIRES

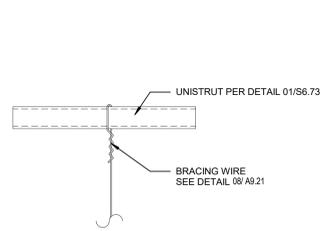
- 6.01 ALL LUMINAIRES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE LUMINAIRE. A MINIMUM OF TWO SCREWS OR APPROVED FASTENERS ARE REQUIRED AT EACH LUMINAIRE PER ASTM E580 SECTION 5.3.1.
- 6.02 SURFACE-MOUNTED LUMINAIRES SHALL BE ATTACHED TO THE MAIN RUNNER WITH AT LEAST TWO POSITIVE CLAMPING DEVICES. THE CLAMPING DEVICE SHALL COMPLETELY SURROUND THE SUPPORTING CEILING RUNNER AND BE MADE OF STEEL WITH A MINIMUM THICKNESS OF #14 GAUGE. ROTATIONAL SPRING CATCHES DO NOT COMPLY. A #12 GAUGE SLACK SAFETY WIRE SHALL BE CONNECTED FROM EACH CLAMPING DEVICE TO THE STRUCTURE ABOVE. PROVIDE ADDITIONAL SUPPORTS WHEN A LUMINAIRE IS FEET OR LONGER OR EXCEEDS 56 POUNDS. MAXIMUM SPACING BETWEEN SUPPORTS SHALL NOT EXCEED 8 FEET.
- 6.03 LUMINAIRES WEIGHING LESS THAN OR EQUAL TO 10 POUNDS MAY BE SUPPORTED DIRECTLY ON THE CEILING RUNNERS. SHALL HAVE A MINIMUM OF ONE #12 GAUGE SLACK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.
- 6.04 LUMINAIRES WEIGHING GREATER THAN 10 POUNDS BUT LESS THAN OR EQUAL TO 56 POUNDS MAY BE SUPPORTED DIRECTLY ON THE CEILING RUNNERS, BUT THEY SHALL HAVE A MINIMUM OF TWO #12 GAUGE SLACK SAFETY WIRES CONNECTED FROM THE FIXTURE HOUSING AT DIAGONAL CORNERS TO THE STRUCTURE ABOVE. EXCEPTION: ALL LUMINAIRES GREATER THAN TWO BY FOUR FEET WEIGHING LESS THAN 56 POUNDS SHALL HAVE A #12 GAUGE SLACK SAFETY WIRE AT EACH CORNER.
- 6.05 ALL LUMINAIRES WEIGHING GREATER THAN 56 POUNDS SHALL BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR TAUT #12 GAUGE HANGER WIRES (ONE AT EACH CORNER) ATTACHED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS. THE FOUR TAUT #12 GAUGE WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, SHALL BE CAPABLE OF SUPPORTING FOUR TIMES THE WEIGHT OF THE FIXTURE.

7. SERVICES WITHIN THE CEILING

- 7.01 ALL FLEXIBLE SPRINKLER HOSE FITTING MOUNTING BRACKETS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS. SCREWS OR APPROVED FASTENERS ARE REQUIRED. A MINIMUM OF TWO ATTACHMENTS ARE REQUIRED AT EACH COMPONENT.
- 7.02 CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING LESS THAN OR EQUAL TO 20 POUNDS SHALL HAVE ONE #12 GAUGE SLACK SAFETY WIRE ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.
- 7.03 FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING MORE THAN 20 POUNDS BUT LESS THAN OR EQUAL TO 56 POUNDS SHALL HAVE TWO #12 GAUGE SLACK SAFETY WIRES (AT DIAGONAL CORNERS) CONNECTED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.
- 7.04 FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING MORE THAN 56 POUNDS SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE ABOVE BY NOT LESS THAN FOUR TAUT #12 GAUGE HANGER WIRES ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS.

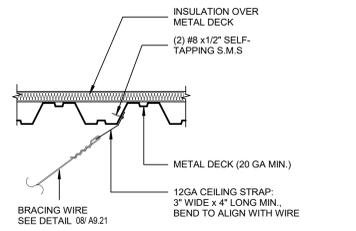
8. OTHER DEVICES WITHIN THE CEILING

- 8.01 ALL LIGHTWEIGHT MISCELLANEOUS DEVICES, SUCH AS STROBE LIGHTS, OCCUPANCY SENSORS, SPEAKERS, EXIST SIGNS, ETC., SHALL BE ATTACHED TO THE CEILING GRID. IN ADDITION, DEVICES WEIGHING MORE THAN 10 POUNDS SHALL HAVE A #12 GAUGE SLACK SAFETY WIRE ANCHORED TO THE STRUCTURE ABOVE. DEVICES WEIGHING MORE THAN 20 POUNDS SHALL BE SUPPORTED INDEPENDENTLY FROM THE STRUCTURE ABOVE.



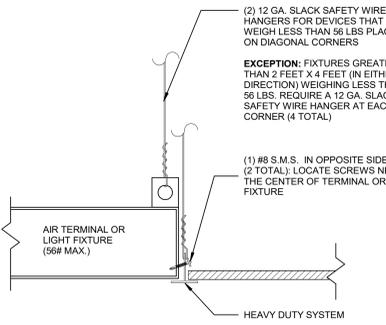
NOTES:
1. REFER TO DETAIL 19 A9.21 FOR ADDITIONAL INFORMATION.

HANGER WIRE CONNECTION TO STRUCTURAL STEEL 1 1/2" = 1'-0" A9.21 20

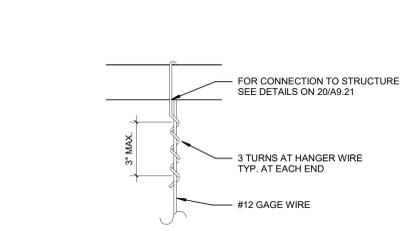


NOTES:
1. REFER TO DETAIL 19 A9.21 FOR ADDITIONAL INFORMATION.

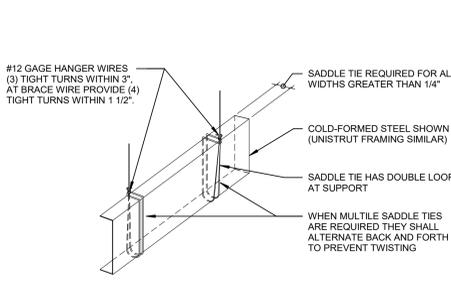
BRACE WIRE CONNECTION AT METAL DECK 1:10 A9.21 16



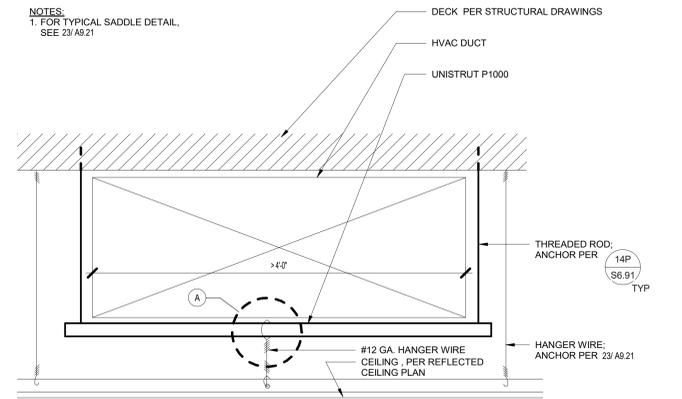
LUMINAIRE / AIR TERMINAL SUPPORT 3\"/>



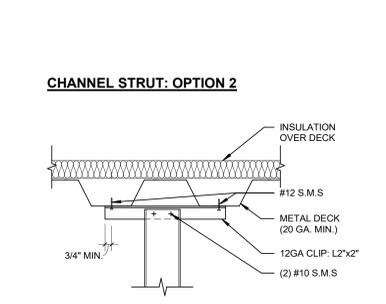
HANGER WIRE CONNECTION - TYP. WIRE TURNS 3\"/>



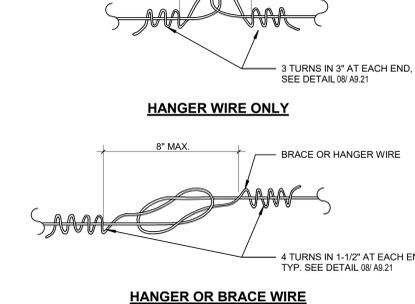
TYPICAL SADDLE TIE DETAIL NTS 23



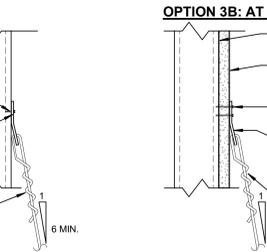
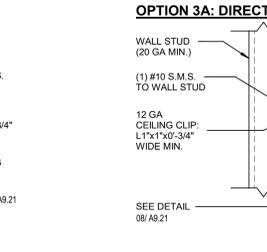
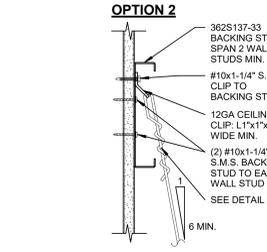
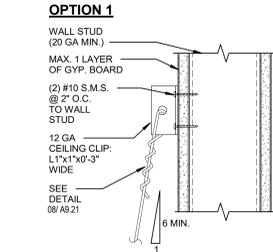
HANGER WIRE ATTACHMENT AT DUCT 1 1/2" = 1'-0" A9.21 15



DSA 5.20 - STRUT CONNECTION TO BARE METAL DECK 1 1/2" = 1'-0" A9.21 11



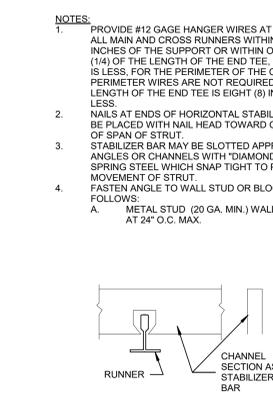
CEILING WIRE SPLICES 3\"/>



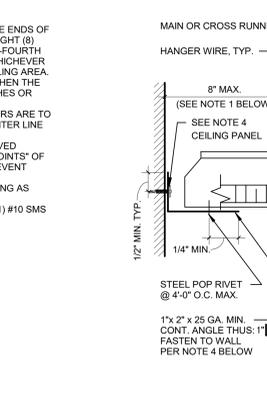
NOTES:
1. THIS DETAIL APPLIES AT PERIMETER WIRE ATTACHMENT OR WHERE OBSTRUCTION PREVENTS ATTACHMENT TO THE STRUCTURE ABOVE.

HANGER WIRE CONNECTION TO METAL STUD WALL 3\"/>

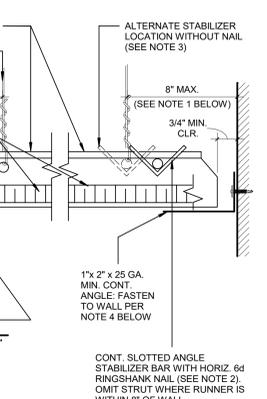
BRACE WIRE CONNECTION TO METAL STUD WALL 3\"/>



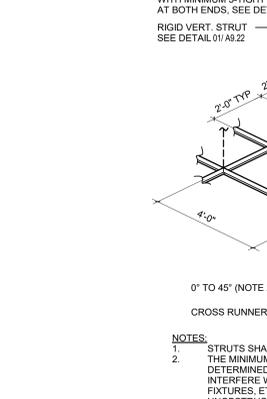
DSA 2.60 - CEILING PERIMETER 3\"/>



SUSPENSION AND LATERAL BRACING ASSEMBLY 3\"/>



TYP. CEILING PLAN FOR 8'-0\"/>



CEILING REQUIREMENTS 6\"/>



ARCHITECTURE ENGINEERING INTERIORS
 LANDSCAPE ARCHITECTURE PLANNING
 949-261-1001 Office
LPADesignStudios.com
 5301 California Avenue, Suite 100
 Irvine, California 92617

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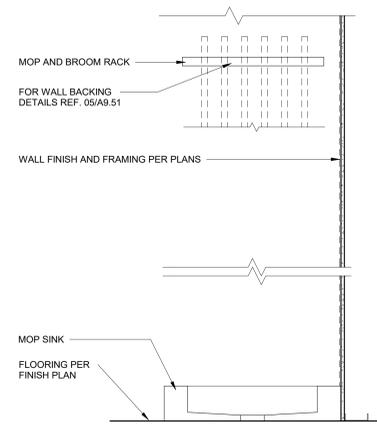
**SONORA HIGH SCHOOL
 SCIENCE CLASSROOMS MODERNIZATION**
 401 S PALM STREET
 LA HABRA, CA 90631
 Developed for
 FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Date	Revision
07/13/2025	
07/13/2025	
10/09/2025	
11/21/2025	
01/27/2026	

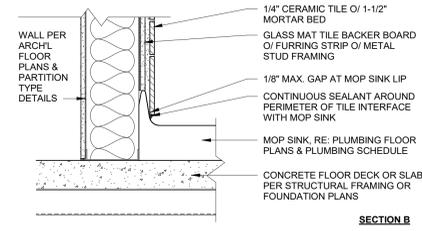
Submittal	Date	Checked By	Scale
SCHEMATIC DESIGN	07/13/2025		
PERMIT DEVELOPMENT	07/13/2025		
50% CD	10/09/2025		
DSA SUBMITTAL	11/21/2025		
DSA BACK CHECK	01/27/2026		

Job Number	32433
Checked By	Checker
Scale	As indicated

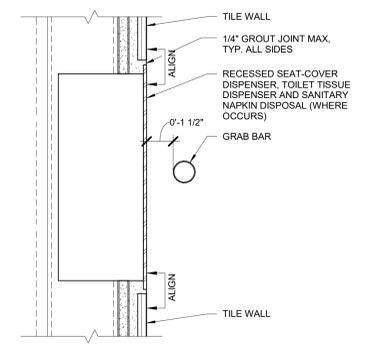
CEILING DETAILS



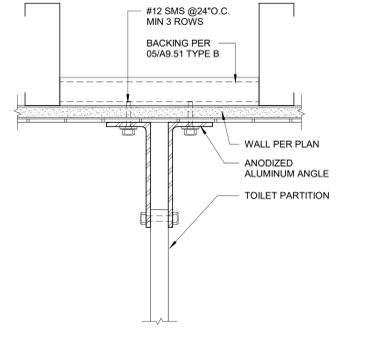
MOP SINK WITH BROOM RACK 1" = 1'-0" A9.41 16



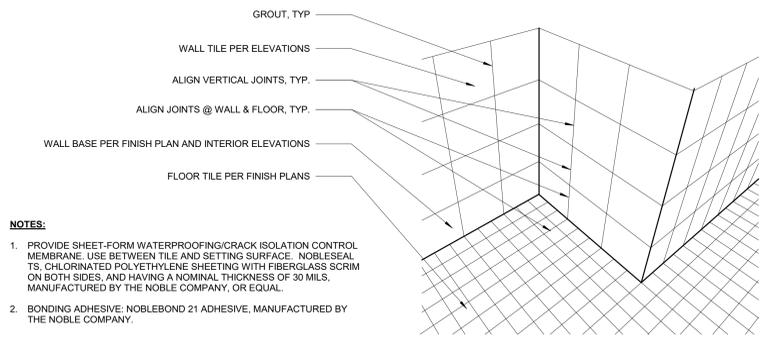
MOP SINK WALLS - SECTION 1 1/2" = 1'-0" A9.41 12



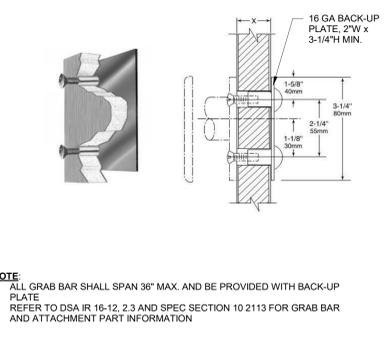
RECESSED TOILET ACCESSORY 3" = 1'-0" A9.41 08



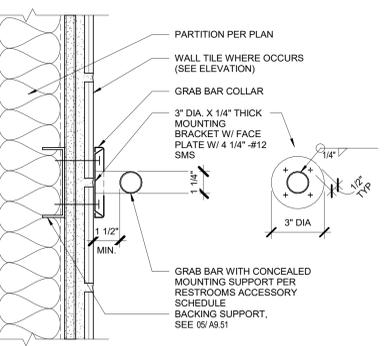
TOILET PARTITION DETAIL 3" = 1'-0" A9.41 04



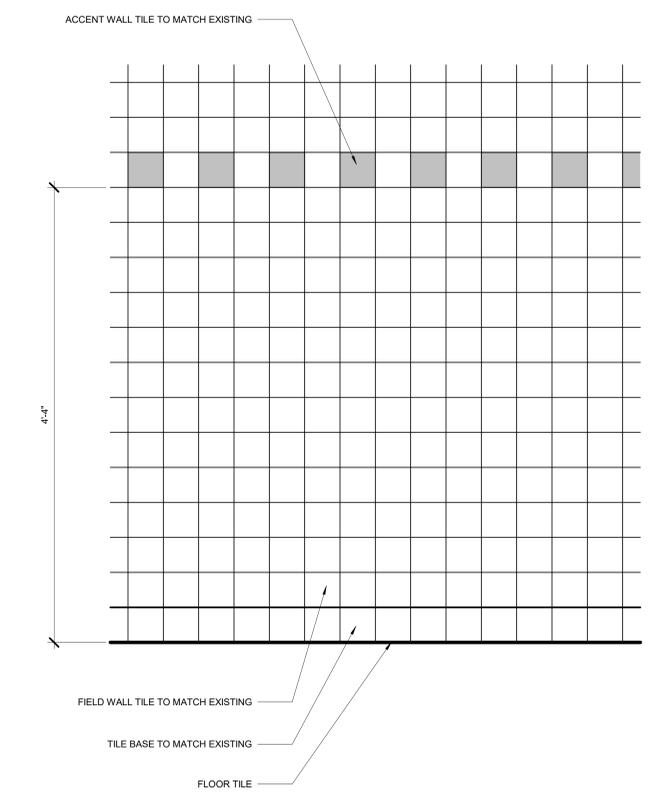
TILE CORNERS ISOMETRIC 1:6 A9.41 11



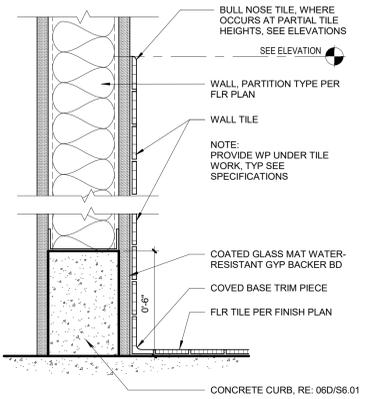
GRAB BAR ATTACHMENT TO TOILET PARTITION 3/4" = 1'-0" A9.41 07



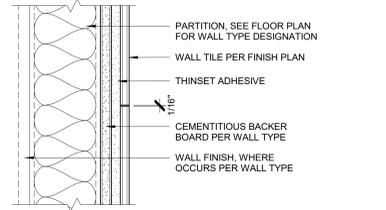
GRAB BAR AND SUPPORT 3" = 1'-0" A9.41 03



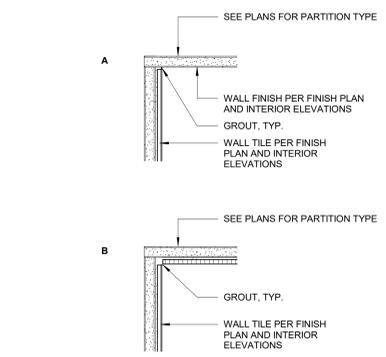
EXISTING WALL TILE PATTERN 1 1/2" = 1'-0" A9.41 09



TILE AT TOP AND BASE 3" = 1'-0" A9.41 06



HORIZONTAL TILE JOINT 3" = 1'-0" A9.41 02



TILE CORNERS 3" = 1'-0" A9.41 01

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SONORA HIGH SCHOOL
SCIENCE CLASSROOMS MODERNIZATION
401 S PALM STREET
LA HABRA, CA 90631
Developed for
FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Submittal	Date	Revision
SCHEMATIC DESIGN	03/12/2025	
PERMIT	07/01/2025	
100% DESIGN DEVELOPMENT	07/01/2025	
50% CD	10/30/2025	
DSA SUBMITTAL	11/21/2025	
DSA BACK CHECK	01/27/2026	

Job Number	32433
Checked By	Checker
Scale	As indicated

RESTROOM DETAILS

GENERAL DEMOLITION NOTES

- THE MECHANICAL DRAWINGS ARE DIAGRAMATIC ONLY. DO NOT SCALE THE DRAWINGS TO DETERMINE THE LOCATION OF EQUIPMENT OR UTILITIES. SEE ARCHITECTURAL PLANS, WHERE PROVIDED ON PROJECT, FOR EXTENT OF DEMOLITION.
- ITEMS NOT INDICATED TO BE REMOVED SHALL BE PROTECTED IN PLACE.
- OWNER SHALL HAVE FIRST RIGHT OF REFUSAL FOR ALL ITEMS INDICATED TO BE REMOVED. PENDING OWNERS INSPECTION AND REVIEW, ALL SUCH ITEMS SHALL BE REMOVED IN ACCORDANCE WITH THE CONTRACT AND SUITABLE FOR REUSE, AND SHALL BE PROTECTED FROM DAMAGE. CONTRACTOR SHALL CONFIRM WITH THE OWNERS REPRESENTATIVE THE ACCEPTANCE OR REFUSAL OF SUCH ITEMS. ALL ITEMS ACCEPTED BY THE OWNER SHALL BE DELIVERED BY THE CONTRACTOR TO ON-SITE STORAGE LOCATIONS AS DIRECTED BY THE OWNERS REPRESENTATIVE. ALL ITEMS REFUSED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR IN AN APPROVED MANNER.
- NO EXISTING EQUIPMENT OR MATERIAL SHALL BE REUSED WITHOUT THE SPECIFIC APPROVAL OF THE OWNERS REPRESENTATIVE.
- REMOVAL OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE SATISFACTORY PERFORMANCE OF THE GENERAL WORK. NOT ALL EXISTING CONDITIONS ARE DETAILED ON THE DRAWINGS. CONTRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON THE EXISTING CONDITIONS FOR THE PROPER INSTALLATION OF NEW WORK.
- REMOVE AND/OR RELOCATE EXISTING FUTURES AND EQUIPMENT AS NOTED. EXISTING GAS AND/OR VENT PIPING SERVING SUCH ITEMS SHALL BE REMOVED TO A SUITABLE CONCEALED LOCATION WITHIN EXISTING TO REMAIN WALL OR ABOVE CEILING AND CAPPED WATERIGHT. SOLIDWASTE PIPING SERVING SUCH FUTURES SHALL BE REMOVED TO A SUITABLE CONCEALED LOCATION BELOW FINISHED FLOOR OR WITHIN EXISTING TO REMAIN WALL AND CAPPED WATERIGHT.
- UNLESS NOTED OTHERWISE, EXISTING COMPONENTS REFERENCED AS PART OF THIS PROJECT SHALL BE ADDRESSSED IN THE FOLLOWING MANNER: EXISTING RETURN VENTS THROUGH ROOF SHALL BE CAPPED ABOVE ROOF.
- CONTRACTOR SHALL FIELD VERIFY EXISTING DUCT RUNS, REUSE AS REQUIRED AND REMOVE ALL UNUSED DUCTS. UNUSED DUCT IN ACCESSIBLE LOCATIONS (WALLS/SHIFTS) TO CAN BE ABANDONED IN PLACE.
- THE EXISTING CONDITIONS SHOWN ARE FROM AVAILABLE RECORD DRAWINGS AND SHOWN FOR REFERENCE. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITIONS AT SITE PRIOR TO SUBMITTING BID. ALL DEMOLITION, ALTERATION, EXTENSION, RELOCATION, REHABILITATION WORK SHALL BE INCLUDED IN CONTRACT. NO ADDITIONAL ALLOWANCE OR CHANGE ORDERS WILL BE ACCEPTED.
- CONTRACTOR IS RESPONSIBLE TO RELOCATE OR REMOVE FROM WALLS, CEILING, FLOOR SPACES, ETC. ANY EXISTING DUCT, FIRE-SMOKE DAMPERS, OR OTHER MECHANICAL EQUIPMENT WHICH INTERFERES WITH PLANNED REMODEL WORK.
- NOTIFY THE ENGINEER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, OR NOT INDICATED ON AS-BUILT DRAWINGS OR WAS BURIED UNDERGROUND OR EMBEDDED IN STRUCTURE WALLS.
- CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT, UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE SMALLEST AREA POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.
- EQUIPMENT, MATERIALS AND SUPPLIES TEMPORARILY REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY.
- DEMOLITION WORK SHALL BE DONE IN A MANNER WHICH WILL NOT CAUSE UNNECESSARY INCONVENIENCE OR DANGER TO USERS OF THE PREMISES AND ADJACENT SITE, AND NOT INTERFERE WITH ITS OPERATION. ANY DEMOLITION WORK TO BE PERFORMED MUST BE PLANNED IN ADVANCE. RESEAL ALL PENETRATIONS OR OPENING THROUGH WALLS, CEILING, FLOORS, ETC., TO MAINTAIN THE RATING OF STRUCTURE.
- ALL REMOVED MATERIALS AND EQUIPMENT WHICH ARE SALVAGED MATERIALS SHALL REMAIN IN THE PROPERTY OF THE OWNER. DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT ON THE PREMISES AS DIRECTED BY OWNER AND HEATLY PROTECT FROM DAMAGE. DISPOSE OF ALL HAZARDOUS MATERIAL PER FEDERAL, STATE AND LOCAL REGULATIONS AND OTHER AGENCIES HAVING JURISDICTION.
- ALL DEMOLISHED, ALTERED AND RELOCATED COMPONENTS SHALL BE REFLECTED ON THE AS-BUILT RECORD DOCUMENTS.

3D COORDINATION NOTES

- CONTRACTOR SHALL BE REQUIRED TO PERFORM 3D COORDINATION AND BUILDING INFORMATION MODELING (BIM) TO INTEGRATE STRUCTURAL, STEEL, STRUCTURAL CONCRETE, METAL STUD FRAMING, FIRE PROTECTION, ELECTRICAL, LOW VOLTAGE, AND MEP WORK. ALL CONFLICTS SHALL BE RESOLVED PRIOR TO FABRICATION AND INSTALLATION.
- CONTRACTOR IS REQUIRED TO HAVE AND USE NAVISWORKS MANAGE AS THE COLLABORATIVE SOFTWARE TO COMBINE EACH DISCIPLINE MODEL AND USE CLASH DETECTION AS A COORDINATION TOOL. THE CONTRACTOR IS REQUIRED TO PROVIDE 3D MODELS OF THEIR SCOPE OF WORK AS OUTLINED BELOW IN BOTH NWD AND NAVISWORKS (AND, OR, IFC) FORMAT.
- SHOULD UNAVOIDABLE CONFLICTS BE ENCOUNTERED DURING THE PREPARATION OR REVIEW OF THE COORDINATION MODELS AND SUPPLEMENTAL DRAWINGS OR SHOP DRAWINGS, OR DURING CONSTRUCTION, THEY SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF THE DESIGN TEAM, IN WRITING, FOR REVIEW. ALL CONGESTED AREAS NEED TO BE FIELD VERIFIED AND MEASURED TO ENSURE SYSTEMS FIT.
- COORDINATED SHOP DRAWINGS MUST BE SIGNED OFF BY CONTRACTOR PRIOR TO SUBMITTING TO THE DESIGN TEAM. PREPARE DETAILED SHOP DRAWINGS IN PLAN VIEW, WITH CROSS-SECTIONS AS NECESSARY, INDICATING THE PROPOSED INSTALLATION PLAN FOR ALL WOOD OR METAL STUD FRAMING.
- HVAC, MECHANICAL, FIRE SPRINKLER, PLUMBING, AND ELECTRICAL INSTALLATIONS WITHIN THE CEILING. THESE DRAWINGS SHOULD DEPICT ACTUAL ELEVATIONS AND LINEAR DIMENSIONS, AND ALL ROUTING CHANGES, TRANSITIONS, AND MAJOR OFFSETS DEEMED NECESSARY TO ACCOMPLISH THE INSTALLATION. INDIVIDUAL SHOP DRAWINGS WILL BE PREPARED FOR EACH TRADE WORKING WITHIN THE DESIGNATED SPACE OR AREA. IN ADDITION, COORDINATION OF THE CONSOLIDATED INSTALLATION SHALL REMAIN THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. THESE SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO COMMENCEMENT OF INSTALLATION.
- DO NOT OBSTRUCT SPACES AND INSTALLATIONS REQUIRED TO BE CLEAR FOR OPERATION, MAINTENANCE, PART REPLACEMENT OR APPLICABLE CODE REQUIREMENTS.
- MODEL ALL HVAC SYSTEMS, DUCTWORK (INCLUDING FLANGES AND CONNECTIONS), DIFFUSERS/GRILLES, CURBS & EQUIPMENT PADS, EQUIPMENT & ASSOCIATED INSTALLATION OR MAINTENANCE CLEARANCE, ACCESS PANELS, SEISMIC BRACING, HANGERS, SUPPORTS, PENETRATIONS & OPENINGS, INSULATION, AND TEMPORARY SYSTEMS.

GENERAL MECHANICAL NOTES

- ALL DRAWINGS ARE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO ANY CONSTRUCTION, INCLUDING STRUCTURAL, PLUMBING, AIR CONDITIONING AND ELECTRICAL. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENT SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND AT NO EXPENSE TO THE DISTRICT.
- ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- DO NOT SCALE DRAWINGS. ALL DIMENSIONS AND JOB SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOB SITE PRIOR TO BID SUBMITTAL. START OF CONSTRUCTION AND/OR FABRICATION OF MATERIALS, IF DISCREPANCIES ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION.
- THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TRANSPORTATION AND SERVICES NECESSARY FOR COMPLETION OF THE WORK AND PROVIDE A FULLY OPERATIONAL SYSTEM. ALL MATERIALS AND WORK SHALL COMPLY WITH APPLICABLE CODES AND GOVERNING REGULATIONS AND MEET THE APPROVAL OF THE CITY AND STATE FIRE MARSHAL.
- CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR PROTECTION AND REPAIR OF ADJACENT EXISTING SURFACES AND AREAS WHICH MAY BE DAMAGED AS A RESULT OF DEMOLITION AND/OR NEW WORK.
- ALL EQUIPMENT THAT IS REMOVED AND NOT REUSED SHALL BE COORDINATED WITH AND/OR RETURNED TO THE DISTRICT.
- ALL EXISTING DUCT CAPS THAT ARE REMOVED AND NOT REUSED SHALL BE CAPPED AIRTIGHT AND SEALED WITH MIRACLE DUCT SEALER AND D-617 OR EQUAL.
- VERIFY FINAL LOCATION OF SENSORS WITH ARCHITECT AND/OR DISTRICT CONSTRUCTION COORDINATOR PRIOR TO ANY INSTALLATION WORK.
- CONTRACTOR SHALL PROVIDE RECORDS AS BUILT DOCUMENTS TO CONSTRUCTION COORDINATOR, ARCHITECT AND ENGINEER AT COMPLETION OF CONSTRUCTION.
- MAINTAIN FREE AREA EQUAL TO DUCT SIZE WHERE FIRE DAMPERS OCCUR.
- ROOM THERMOSTATS SHALL BE CAPABLE OF BEING SET TO MAINTAIN SPACE TEMPERATURE SET POINTS FOR 55° F TO 85° F AND SHALL BE CAPABLE OF OPERATING THE HEATING AND COOLING IN SEQUENCE. THERMOSTATS SHALL BE ADJUSTABLE TO PROVIDE A TEMPERATURE RANGE OF UP TO 5° F BETWEEN FULL HEATING AND FULL COOLING BEING SUPPLIED. TEMPERATURE CONTROL SYSTEM SHALL OPERATE IN ACCORDANCE WITH THE BASE BUILDING SEQUENCE OF OPERATION.
- PROVIDE MINIMUM DUCT FLEXION AT 1:10 TIMES DUCT SIZE.
- ALL CEILING DIFFUSERS ARE 4-WAY THROW UNLESS NOTED OTHERWISE.
- DIFFUSERS SHALL BE ADJUSTED BY MECHANICAL CONTRACTOR AND/OR TEST & BALANCE CONTRACTOR. FROM 4WAY TO 3WAY OR 2WAY WHEN WITHIN 3'0" OF ADJACENT WALL OR CORNER. SUBMIT PROPOSED ADJUSTMENTS IN WRITING PRIOR TO ADJUSTING.
- CONTRACTOR SHALL STRICTLY COORDINATE ALL CEILING DIFFUSERS AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN. IF ANY DISCREPANCIES ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION. VERIFY WITH OWNERS REPRESENTATIVE IN FIELD PRIOR TO INSTALLATION.
- MATERIALS EXPOSED WITHIN DUCT SHALL COMPLY WITH SECTION 602.2 AND 605.0 OF THE 2022 CMC.
- PROVIDE SMOKE DETECTORS IN MAIN SUPPLY AIR DUCTS OF AIR MOVING SYSTEMS EXCEEDING 2,000 CFM PER SECTION 609.1 OF THE 2022 CMC.
- MECHANICAL SYSTEMS SHALL COMPLY WITH REQUIREMENTS OF SECTION 608 OF THE 2022 CFC.
- VENTS SHALL NOT TERMINATE LESS THAN 3'-0" ABOVE ANY OUTSIDE-OR MAKEUP-AIR INLET LOCATED WITHIN 10'-0" AT THE ROOF LEVEL. PER CMC 308.1.
- THE CONTRACTOR SHALL COORDINATE ALL CEILING ACCESS PANELS FOR SERVING MECHANICAL EQUIPMENT DEVICES WITH THE ARCHITECT AND INTERIOR DESIGNER AS APPLICABLE.
- COMMON CONDENSATE OR CONDUIT
- CONTROL AIR, or COMBUSTION AIR
- CALIFORNIA ADMINISTRATIVE CODE
- CAPACITY
- CONSTANT AIR VOLUME
- CHILLED BEAM
- CALIFORNIA BUILDING CODE
- COOLING COIL OR CONTROLS CONTRACTOR
- CONSTRUCTION DOCUMENTS
- CALIFORNIA ELECTRICAL CODE
- CALIFORNIA FIRE CODE
- CUBIC FEET PER MINUTE
- CHILLER
- CHECK VALVE
- CHILLED WATER PUMP
- PHASE
- CHILLED WATER RETURN
- CHILLED WATER SUPPLY
- CENTERLINE
- CEILING
- CALIFORNIA MECHANICAL CODE
- CONNECTION
- CONTROL PANEL
- CALIFORNIA PLUMBING CODE
- CONSTANT VOLUME OR CONTROL VOLUME
- CONDENSER WATER PUMP
- CONDENSER WATER RETURN
- CONDENSER WATER SUPPLY
- DROP OR DRAIN
- DIRECT DIGITAL CONTROL
- DEMOLISH / DEMOLITION
- DEPARTMENT
- DETAIL
- DIAMETER
- DIFFERENCE
- DISCHARGE
- DOWN
- DIAPHRAGM VALVE
- DRAWING
- DIRECT EXPANSION
- EXISTING
- EAST
- EXHAUST AIR OR EACH
- ELECTRICAL CONTRACTOR
- ECONOMIZER
- EXHAUST FAN
- ELEVATION
- ELECTRICAL
- EQUIPMENT
- EXTERNAL STATIC PRESSURE
- EXPANSION TANK
- EXHAUST
- FLEXIBLE CONNECTION OR FAIL CLOSED
- FAN COIL UNIT
- FIRE DAMPER
- FINISH FLOOR OR FINAL FLOOR
- FINISH FLOOR ELEVATION
- FLOOR
- FAN POWERED BOX
- FIRE WRAP
- FIRE/SMOKE DAMPER
- FOOT / FEET
- GAS
- GAUGE, GAGE
- GALVANIZED
- GLOBE VALVE
- GENERAL NOTE
- GROUND
- GALLON PER MINUTE
- GATE VALVE
- HEATING COIL
- HORSEPOWER
- HIGH PRESSURE
- HEAT PUMP
- HIGH PRESSURE CONDENSATE
- HIGH PRESSURE STEAM

EQUIPMENT ANCHORAGE AND BRACING

- ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CSC, SECTIONS 1617A.1-18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 29 AND 30.
 - ALL PERMANENT EQUIPMENT AND COMPONENTS.
 - TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICE, SUCH AS ELECTRICITY, GAS, OR WATER. PERMANENTLY ATTACHED SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
 - TEMPORARY, MOVABLE, OR ROLLABLE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL, THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.
- THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH 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.
 - 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.
 - 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 HUNG FROM WALL.
- THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHANGE 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 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 SECTIONS 13.6.5, 13.6.6, 13.6.7 AND 13.6.8; 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13. METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

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

MP MD PP E OPTION 1: PROJECT-SPECIFIC DESIGN
MP MD PP E OPTION 2: DESIGN BASED ON OSHPD OPM WITH PROJECT SUBMITTAL
MP MD PP E OPTION 3: DESIGN BASED ON OSHPD OPM WITH DEFERRED SUBMITTAL

APPLICABLE CODES

2022	CALIFORNIA BUILDING CODE
2022	CALIFORNIA MECHANICAL CODE
2022	CALIFORNIA PLUMBING CODE
2022	CALIFORNIA ELECTRICAL CODE
2022	CALIFORNIA FIRE CODE
2022	CALIFORNIA ENERGY STANDARDS
2022	CAL GREEN CODE
2022	ALL OTHER APPLICABLE LOCAL AND STATE LAWS AND REGULATIONS

ABBREVIATIONS

AC	AIR CONDITIONING	HVC	HEAT RECOVERY UNIT
ABV	ABOVE	HVAC	HEATING, VENTILATION & AIR CONDITIONING
ACCEPT	ACCEPTANCE	HW	HEATING WATER
ACU	AIR CONDITIONING UNIT	HWP	HEATING WATER PUMP
AD	ACCESS DOOR	HWR	HEATING WATER RETURN
ADA	AMERICANS WITH DISABILITIES ACT	HWS	HEATING WATER SUPPLY
ADD	ADDITIONS	HX	HEAT EXCHANGER
AFF	ABOVE FINISH FLOOR	ID	INSIDE DIAMETER
AHJ	AUTHORITY HAVING JURISDICTION	IE	INVERT ELEVATION
AHU	AIR HANDLING UNIT	IN	INCH
AP	ACCESS PANEL	IW	INDUSTRIAL WASTE
APPROX	APPROXIMATE	L	LENGTH
ARCH	ARCHITECTURAL	LBS	POUNDS
ARI	AMERICAN REFRIGERATION INSTITUTE	LP	LOW PRESSURE
ASHRAE	AMERICAN SOCIETY OF HEATING REFRIGERATION AND AIR CONDITIONING ENGINEERS	LPC	LOW PRESSURE CONDENSATE
AS	AIR SEPARATOR	LPS	LOW PRESSURE STEAM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	M	MOTOR
AUTO	AUTOMATIC	MA	MIXED AIR
AUX	AUXILIARY	MAX	MAXIMUM
AV	AIR VENT	MC	MECHANICAL CONTRACTOR
B	BOILER	MCC	MOTOR CONTROL CENTER
BAS	BUILDING AUTOMATION SYSTEM	MECH	MECHANICAL
BD	BACKDRAFT DAMPER	MIN	MINIMUM
BFF	BELOW FINISH FLOOR	MPC	MEDIUM PRESSURE CONDENSATE
BLDG	BUILDING	MPS	MEDIUM PRESSURE STEAM
BD	BOTTOM OF DUCT	MV	MANUAL AIR VENT
(N)	NEW		
BSMT	BASEMENT	NA	NOT APPLICABLE
BV	BALL VALVE	NC	NORMALLY CLOSED
BVV	BUTTERFLY VALVE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
C	COMMON CONDENSATE OR CONDUIT	NIC	NOT IN CONTRACT
CA	CONTROL AIR, or COMBUSTION AIR	NTS	NOT TO SCALE
CAC	CALIFORNIA ADMINISTRATIVE CODE	OA	OUTSIDE AIR
CAP	CAPACITY	OB	OPPOSED BLADE DAMPER
CAV	CONSTANT AIR VOLUME	OC	ON CENTER
CB	CHILLED BEAM	OD	OUTSIDE DIAMETER
CBC	CALIFORNIA BUILDING CODE	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CC	COOLING COIL OR CONTROLS CONTRACTOR	OFO	OWNER FURNISHED OWNER INSTALLED
CD	CONSTRUCTION DOCUMENTS	P	PUMP OR PRESSURE OR POLE
CEC	CALIFORNIA ELECTRICAL CODE	PC	PUMPED CONDENSATE
CFC	CALIFORNIA FIRE CODE	PCR	PRESSURIZED CONDENSATE RETURN
CFM	CUBIC FEET PER MINUTE	PD	PRESSURE DROP
CH	CHILLER	PE	PNEUMATIC ELECTRIC
CHV	CHECK VALVE	PF	PRE FILTER
CHWP	CHILLED WATER PUMP	PG	PIPE GUIDE OR PRESSURE GAUGE
CHWR	CHILLED WATER RETURN	PH	PHASE
CHWS	CHILLED WATER SUPPLY	PLBG	PLUMBING
CL	CENTERLINE	POC	POINT OF CONNECTION
CLG	CEILING	POD	POINT OF DISCONNECTION
CMC	CALIFORNIA MECHANICAL CODE	PS	PRESSURE SENSOR
CONN	CONNECTION	PSI	POUNDS PER SQUARE INCH
CP	CONTROL PANEL	PSIG	POUNDS PER SQUARE INCH - GAUGE
CPC	CALIFORNIA PLUMBING CODE	QTY	QUANTITY
CV	CONSTANT VOLUME OR CONTROL VOLUME	(R)	REMOVE
CWP	CONDENSER WATER PUMP	R	RISERS, RELOCATE OR RISE
CWR	CONDENSER WATER RETURN	RA	RETURN AIR
CWS	CONDENSER WATER SUPPLY	REF	RELIEF FAN
D	DROP OR DRAIN	REFR	REFRIGERANT
DDC	DIRECT DIGITAL CONTROL	REQD	REQUIRED
DEMO	DEMOLISH / DEMOLITION	REV	REVISE, REVISION OR REVOLUTIONS
DEPT	DEPARTMENT	RF	RETURN FAN
DET	DETAIL	RHC	REHEAT COIL
DIA	DIAMETER	RM	ROOM
DIFF	DIFFERENCE	RS	REFRIGERANT SUCTION
DISCH	DISCHARGE	RTU	ROOFTOP UNIT
DN	DOWN	SA	SUPPLY AIR
DV	DIAPHRAGM VALVE	SAN	SANITARY
DWG	DRAWING	SD	SMOKE DAMPER
DX	DIRECT EXPANSION	SEN	SENSIBLE
(E)	EXISTING	SF	SUPPLY FAN OR SQUARE FEET
E	EAST	SP	STATIC PRESSURE
EA	EXHAUST AIR OR EACH	SPEC	SPECIFICATION
EC	ELECTRICAL CONTRACTOR	SQ FT	SQUARE FEET
ECON	ECONOMIZER	SQ IN	SQUARE INCH
EF	EXHAUST FAN	ST	STRAINER OR SOUND TRAP OR STEAM TRAP
EL	ELEVATION	STD	STANDARD
ELEC	ELECTRICAL	STRUC	STRUCTURAL
EQUIP	EQUIPMENT	SS	STAINLESS STEEL
ESP	EXTERNAL STATIC PRESSURE	T	THERMOSTAT OR THERMOMETER OR TROUT
ET	EXPANSION TANK	TOP	TEMPERATURE CONTROL PANEL
EXH	EXHAUST	TDH	TOTAL DYNAMIC HEAD
FC	FLEXIBLE CONNECTION OR FAIL CLOSED	TEMP	TEMPERATURE
FCU	FAN COIL UNIT	THRU	THROUGH
FD	FIRE DAMPER	TI	TENANT IMPROVEMENT
FF	FINISH FLOOR OR FINAL FLOOR	TOP	TOP OF DUCT
FFE	FINISH FLOOR ELEVATION	TS	TEMPERATURE SENSOR
FLR	FLOOR	TSP	TOTAL STATIC PRESSURE
FPB	FAN POWERED BOX	TYP	TYPICAL
FR	FIRE WRAP	UC	UNDERCUT DOOR
FSD	FIRE/SMOKE DAMPER	UG	UNDERGROUND
FT	FOOT / FEET	UH	UNIT HEATER
G	GAS	UNO	UNLESS NOTED OTHERWISE
GA	GAUGE, GAGE	V	VENT
GALV	GALVANIZED	VAV	VARIABLE AIR VOLUME
GLV	GLOBE VALVE	VD	VOLUME DAMPER
GN	GENERAL NOTE	VEL	VELOCITY
GROUND	GROUND	VFD	VARIABLE FREQUENCY DRIVE
GPM	GALLON PER MINUTE	WI	WITH
GV	GATE VALVE	W/O	WITHOUT
HC	HEATING COIL	WG	WATER GAUGE
HP	HORSEPOWER	WMS	WIRE MESH SCREEN
HP	HIGH PRESSURE	WPD	WATER PRESSURE DROP
HP	HEAT PUMP	WSP	WATER SOURCE HEAT PUMP
HPC	HIGH PRESSURE CONDENSATE	WT	WEIGHT
HPS	HIGH PRESSURE STEAM	XFMR	TRANSFORMER

HVAC LEGEND

SYMBOL	DESCRIPTION
GENERAL	
	POINT OF DISCONNECTION
	POINT OF CONNECTION
	KEYNOTE
	FURNISHED & INSTALLED BY MECHANICAL
	FURNISHED BY MECHANICAL INSTALLED BY ELECTRICAL
	FURNISHED BY ELECTRICAL INSTALLED BY MECHANICAL
	FURNISHED & INSTALLED BY ELECTRICAL
	TYPE MARK EQUIPMENT NUMBER
	SUPPLY, RETURN, & EXHAUST REGISTER
	TYPE AIR QUANTITY (C.F.M.)
	RELIEF AIR GRILLE
	TYPE AIR QUANTITY (C.F.M.)
	AIR SUPPLY & RETURN R-F SLOTS - SLOIN WIDTH
	TOTAL LENGTH (FT)
DUCTWORK	
	REMOVE EXIST. EQUIP., PIPES, OR DUCT SHOWN HATCHED
	EXIST. DIFFUSER OR RETURN AIR GRILLE TO BE REMOVED
	EXIST. MECHANICAL EQUIPMENT & DUCT
	EXIST. DUCTWORK TO BE REMOVED & CAPPED
	LINEAR DIFFUSER
	SUPPLY AIR TERMINAL
	RETURN AIR TERMINAL
	EXHAUST AIR TERMINAL
	RECTANGULAR DUCT SIZE (WIDTH X DEPTH IN INCHES)
	ROUND DUCT SIZE (WIDTH X DEPTH IN INCHES)
	DUCT RISE / DUCT DROP
	DUCT WITH INTERNAL LINING
	DUCT WITH FIRE WRAP INSULATION
	STAINLESS STEEL DUCT
	FLEXIBLE DUCT
	RECTANGULAR DUCT UP
	RECTANGULAR DUCT DOWN
	DUCT TRANSITION (RECTANGULAR TO ROUND)
	DOOR LOUVER OR RECTANGULAR
	AUTOMATIC DAMPER (WITH ACTUATOR)
	BACKDRAFT DAMPER
	MANUAL VOLUME DAMPER
	COMBINATION FIRE & SMOKE DAMPER
	FIRE DAMPER
PIPING	
	PIPE TAG (E.G. 2" CHWS)
	PIPE RISE
	PIPE DROP
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CIRCUIT SETTER
	REDUCER
	STRAINER
	AIR VENT VALVE
	PRESSURE GAUGE
	THERMOMETER
	CONTROL VALVE
	PIPE ANCHOR
CONTROLS (PLAN)	
	CO2 SENSOR
	NITROGEN DIOXIDE SENSOR
	HUMIDITY SENSOR
	OXYGEN SENSOR
	ROOM THERMOSTAT & ZONE NUMBER

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A. GENERAL INFORMATION

01 Project Location (city)	La Habra	04 Total Conditioned Floor Area	10909
02 Climate Zone	8	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1

Classroom Support Areas

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, 170.2(b) or 141.0(b)2 and 180.2(b)2 for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
<input checked="" type="checkbox"/> Heating Air System	<input type="checkbox"/> Water Economizer	<input checked="" type="checkbox"/> Air Economizer
<input checked="" type="checkbox"/> Cooling Air System	<input type="checkbox"/> Pumps	<input type="checkbox"/> Electric Resistance Heat
Mechanical Controls	<input type="checkbox"/> System Piping	<input checked="" type="checkbox"/> Fan Systems
<input checked="" type="checkbox"/> Mechanical Controls (existing to remain, altered or new)	<input type="checkbox"/> Cooling Towers	<input checked="" type="checkbox"/> Ductwork (existing to remain, altered or new)
	<input type="checkbox"/> Chillers	<input checked="" type="checkbox"/> Ventilation
	<input type="checkbox"/> Boilers	<input type="checkbox"/> Zonal Systems/ Terminal Boxes

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

01	02	03	04	05	06	07	08	09
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
HRU-2	>=135,000 and <240,000		COP	3.2	3.3	EER IEER	10.6 13.5	12.2 12.9
RTU-5	<65,000		HSPF2	6.7	9	SEER2	13.4	16.8

G. PUMPS

This section does not apply to this project.

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	RTU-5	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	1,600	Site Elevation	340	Economizer	Differential Temperature
HRU-1															
SF	Supply	1													

¹ FOOTNOTES: Fans serving spaces with design background noise goals below NC35
² Low-turn-down single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.
³ Fan system allowance includes fan system base allowance.
⁴ Filter pressure loss can only be counted once per fan system.
⁵ Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.
⁶ Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E document.

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C. COMPLIANCE RESULTS

This table 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	Pumps	Fans/Economizers	System Controls	Ventilation	Terminal Box Controls	Distribution	Cooling Towers	Compliance Results
110.1, 110.2, 140.4, 170.2(c)	140.4(i), 170.2(c)(4)	140.4(c), 140.4(e), 170.2(c)	110.2, 120.2, 140.4(f), 170.2(c)	120.1, 160.2	140.4(d), 170.2(c)(4B)	120.3, 140.4(i), 160.2, 160.3	110.2(e)2	
(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	AND	AND	AND	AND	AND	COMPLIES
Mandatory Measures Compliance (See Table Q for Details)								

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
HRU-1	1	Single zone	New/ Addition		<input type="checkbox"/>
HRU-2	1	Single zone	New/ Addition		<input type="checkbox"/>
RTU-5	1	Single zone	New/ Addition		<input type="checkbox"/>

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H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(i), 170.2(c)3, and 170.2(c)4A 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	HRU-1	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,400	Site Elevation	340	Economizer	Differential Temperature
HRU-1															
SF	Supply	1													

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H. EXHAUST AIR HEAT RECOVERY 140.4(a), 170.2(c)4O

01	02	03	04	05	06	07	08	09	10	11
Fan System Name	Qty	Hours of Operation per Year	Design Supply Airflow Rate	Outdoor Airflow	% Outdoor Air at Full Design Airflow	Exemptions to Exhaust Air Heat Recovery Requirement per 140.4(a) & 170.2(c)4O	Exhaust Air Heat Recovery 140.4(a) & 170.2(c)4O	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass
HRU-1										
HRU-2										
RTU-5										

Fan Energy Index (FEI)

01	02	03
Name or Item Tag	FEI Exception	FEI
HRU-1	None Applies	1
HRU-2	None Applies	1
RTU-5	None Applies	1

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Sizing (Includes air conditioners, condensers, heat pumps, VRS, furnaces and unit heaters and DOAS systems)

01	02	03	04	05	06	07	08	09	10	11		
Name or Item Tag	Equipment Category per Tables 110.2, 140.4(a)2 and 170.2(c)3a1	Equipment Type per Tables 110.2 and Title 20	Smallest Size Available ¹ 140.4(a) and 170.2(c)1	Heating Output ^{2,3}	Cooling Output ^{3,4}	Load Calculations ^{3,4}	Per Design (kBtu/h)	Rated (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
HRU-1	Unitary Heat Pumps	Air-cooled, split (3 phase)	NA: Load Controls	111.03	160	0	144.92	130	323.57	239.47		
HRU-2	Unitary Heat Pumps	Air-cooled, split (3 phase)	NA: Load Controls	130.46	188	0	169.06	157	308.32	234.81		
RTU-5	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	25.42	36.63	0	43.81	46.46	42.56	50.98		

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) and 170.2(c)1. Healthcare facilities are exempted.
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) and 170.2(c).

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

01	02	03	04	05	06	07	08	09
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
HRU-1	>=135,000 and <240,000		COP	3.2	3.3	EER IEER	10.6 13.5	12.2 12.9

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	HRU-2	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	3,000	Site Elevation	340	Economizer	Differential Temperature
HRU-2															
SF	Supply	1													

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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), 170.2(c)4D 170.2(c)4L or requirements in 141.0(b)2E 180.2(b)2 for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft ²)	Thermostats 110.2(b) & (c)1, 120.2(a) 160.3(a)2A or 141.0(b)2E & 160.3(a)2D	Shut-Off Controls 120.2(e) & 160.3(a)2E	Isolation Zone Controls 120.2(g) & 160.3(a)2E	Demand Response 110.12 120.2(b) & 160.3(a)2B	Supply Air Temp. Reset 140.4(f) & 170.2(c)4D	Window Interlocks per 140.4(n) & 170.2(c)4D
HRU-1	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided
HRU-2	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided
RTU-5	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided

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.

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in 120.1 120.2(e)3B 140.4(a) and 140.4(a) for all nonresidential and hotel/motel and 124.9(a)1/160.2, 160.3(a)3D, 170.2(a)4N, 170.2(a)4O for high-rise residential 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	02	03
<input type="checkbox"/>	<input type="checkbox"/>	Check the box if the project is showing the ventilation calculations on the plans, or attaching the calculations instead of completing this table.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
<input type="checkbox"/>	<input type="checkbox"/>	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.

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ARCHITECTURE ENGINEERING INTERIORS
 LANDSCAPE ARCHITECTURE PLANNING

949-261-1001 Office

LPADesignStudios.com

5301 California Avenue, Suite 100
 Irvine, California 92617



11870 Pierce Street, Suite 160
 Riverside, California 92505
 951.288.4160 wsp.com
 Project Leader - Bill Voller
 Mechanical Lead - Austin Largent
 WSP Job # US0043159.0992

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SONORA HIGH SCHOOL
 SCIENCE CLASSROOM MODERNIZATION
 401 S PALM STREET
 LA HABRA, CA 90661
 Developed for
 FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Date	Revision
07/30/2025	
08/11/2025	
08/27/2025	
09/02/2025	
10/09/2025	
11/21/2025	
01/27/2026	

Submital	Date	Job Number
SCHEDULED DESIGN COMMENT	07/30/2025	32433
100% DESIGN DEVELOPMENT	07/01/2025	F. STEFAN
50% CD	10/09/2025	
DSA SUBMITTAL	11/21/2025	
DSA BACK CHECK	01/27/2026	

TITLE 24 COMPLIANCE
 FORMS

M0.03

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04		05			06		07	
System Name	HRU-1	System Design OA CFM Airflow ¹	5400	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
RTU-4	All others	2730	40	600	0	3000	DCV	NA: Not required per §120.1(d)3
RTU-1	Science Laboratories	2275	44	646.5	2275	2400	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM		1246	18	Ventilation for this System Complies?		Yes	

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System Name	RTU-2	System Design OA CFM Airflow ¹	2229	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	All others	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
RTU-3	All others	2185	40	600	0	2400	DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		1235	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)11: 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.

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04		05			06		07	
System Name	RTU-5	System Design OA CFM Airflow ¹	542	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
RTU-5	Corridor	1490	36	616.5	0	0	DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		616	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)11: 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.

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04		05			06		07	
System Name	HRU-2	System Design OA CFM Airflow ¹	4800	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
HRU-2							DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		1246	18	Ventilation for this System Complies?		Yes	

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04		05			06		07	
System Name	RTU-5	System Design OA CFM Airflow ¹	542	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
RTU-5	Corridor	1490	36	616.5	0	0	DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		616	18	Ventilation for this System Complies?		Yes	

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I. VENTILATION AND INDOOR AIR QUALITY
¹ For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.
² 120.2(c)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 mandatory requirements found in 120.4(g) for duct sealing.

01	02	03	04	05	06	07
						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. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.

Duct Leakage Testing
 The answers to the questions below apply to the following duct systems: HRU-1 NR/Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems? No

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System Name	HRU-2	System Design OA CFM Airflow ¹	4800	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
HRU-2							DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		1246	18	Ventilation for this System Complies?		Yes	

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04		05			06		07	
System Name	RTU-5	System Design OA CFM Airflow ¹	542	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
RTU-5	Corridor	1490	36	616.5	0	0	DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		616	18	Ventilation for this System Complies?		Yes	

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04		05			06		07	
System Name	HRU-1	System Design OA CFM Airflow ¹	5400	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
HRU-1							DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		1246	18	Ventilation for this System Complies?		Yes	

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System Name	HRU-2	System Design OA CFM Airflow ¹	4800	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
HRU-2							DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		1246	18	Ventilation for this System Complies?		Yes	

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04		05			06		07	
System Name	RTU-5	System Design OA CFM Airflow ¹	542	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
RTU-5	Corridor	1490	36	616.5	0	0	DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		616	18	Ventilation for this System Complies?		Yes	

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M. COOLING TOWERS
 This section does not apply to this project.

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System Name	HRU-2	System Design OA CFM Airflow ¹	4800	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
HRU-2							DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		1246	18	Ventilation for this System Complies?		Yes	

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04		05			06		07	
System Name	RTU-5	System Design OA CFM Airflow ¹	542	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
RTU-5	Corridor	1490	36	616.5	0	0	DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		616	18	Ventilation for this System Complies?		Yes	

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System Name	HRU-1	System Design OA CFM Airflow ¹	5400	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
HRU-1							DCV	NA: Not required per §120.1(d)3
17	Total System Required Min OA CFM		1246	18	Ventilation for this System Complies?		Yes	

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04		05			06		07	
System Name	HRU-1	System Design OA CFM Airflow ¹	5400	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM
HRU-1							DCV	NA: Not required per §120.1(d)3
17	Total System Required							



ARCHITECTURE ENGINEERING INTERIORS
LANDSCAPE ARCHITECTURE PLANNING

949-261-1001 Office

LPADesignStudios.com

5301 California Avenue, Suite 100
Irvine, California 92617



11870 Pierce Street, Suite 160
Riverside, California 92505
951.298.4160 | wsp.com
Project Leader - Bill Voller
Mechanical Lead - Austin Largent
WSP Job #: US0043159.0992

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**SONORA HIGH SCHOOL
SCIENCE CLASSROOM MODERNIZATION**

401 S PALM STREET
LA HABRA, CA 90631

Developed for
FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Date

Revision

Date

Submitted

Job Number

Checked By

Scale

MECHANICAL FLOOR PLAN

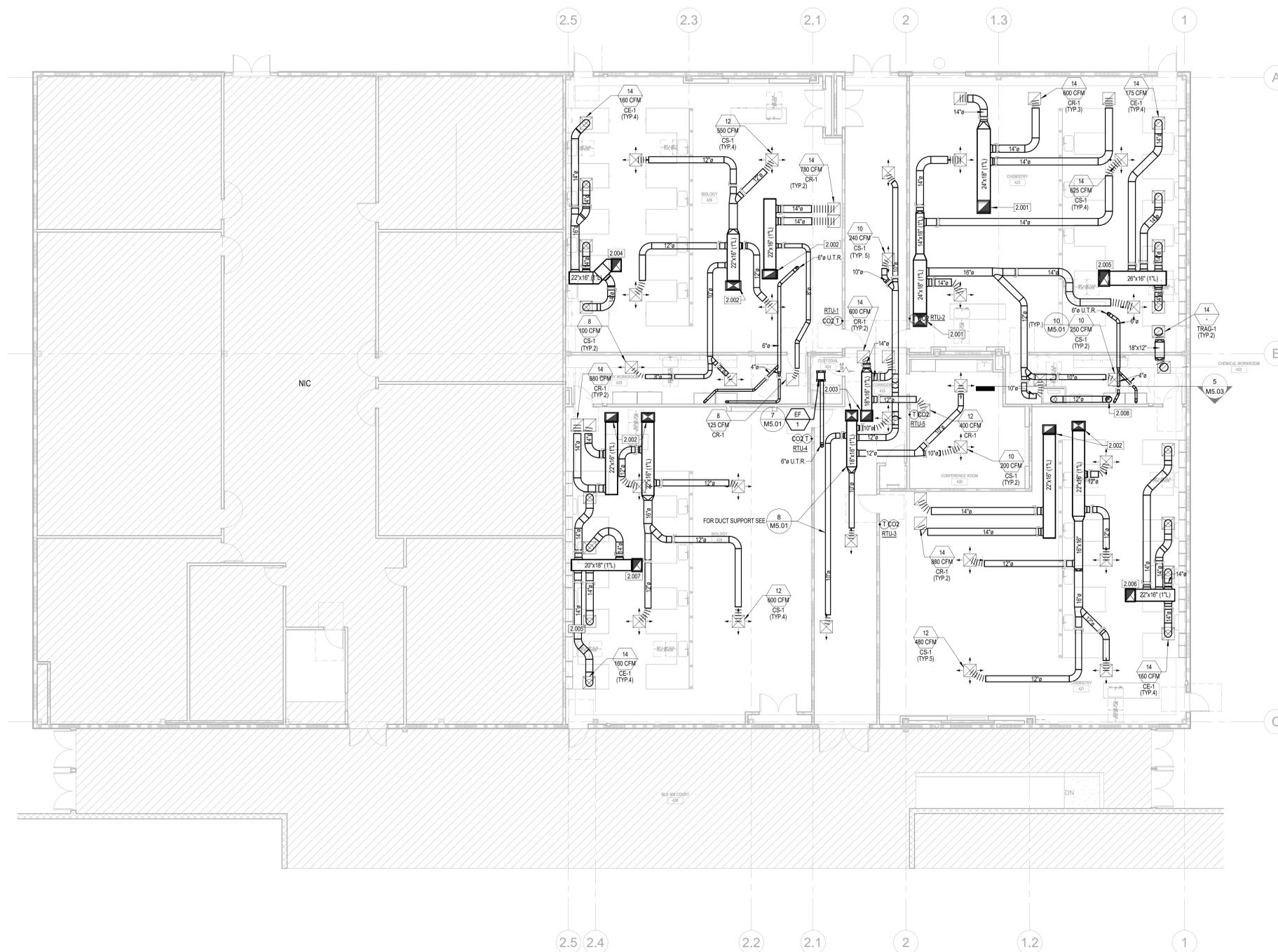
M2.01

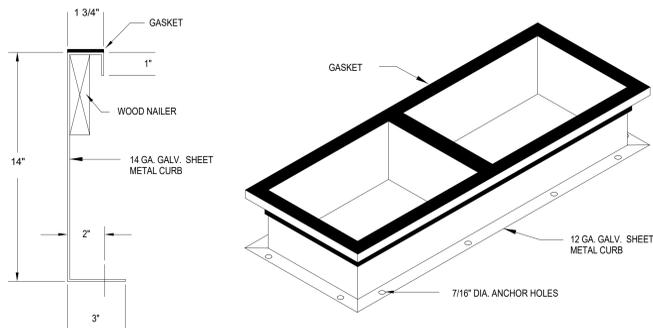
GENERAL NOTE

1. THESE DRAWINGS ARE PREPARED BASED ON AVAILABLE RECORD DRAWINGS AND NON-INVASIVE, NON-INSTRUMENT ASSISTED, FIELD OBSERVATION ONLY. THE INTENT OF THESE DRAWINGS IS TO DEFINE THE SCOPE OF WORK AND CONVEY THE DESIGN CONCEPTS ONLY.
2. CONTRACTOR SHALL VERIFY CONDITIONS, EXACT LOCATION AND DIMENSIONS OF EXISTING PRIOR TO BEGINNING WORK.
3. CAP ALL UNUSED PIPING & DUCTWORK.
4. ALL NEW MECHANICAL EQUIPMENT, DEVICES, AIR REGISTERS/GRILLES SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
5. DUCT SUPPORT DETAIL 8MS.01, (TYP.) FOR ALL DUCTWORK BELOW ROOF.

KEYNOTES

- 2.001 24"x18"(1'L) UP TO (2") LINED EXTERIOR DUCT ON ROOF. SEE ROOF PLAN SHEET M3.01 FOR EXTERIOR DUCT DIMENSIONS.
- 2.002 22"x18"(1'L) UP TO (2") LINED EXTERIOR DUCT ON ROOF. SEE ROOF PLAN SHEET M3.01 FOR EXTERIOR DUCT DIMENSIONS.
- 2.003 18"x18"(1'L) UP TO (2") LINED EXTERIOR DUCT ON ROOF. SEE ROOF PLAN SHEET M3.01 FOR EXTERIOR DUCT DIMENSIONS.
- 2.004 22"x18"(1'L) UP TO (2") LINED EXTERIOR DUCT ON ROOF TO EF-4. SEE ROOF PLAN SHEET M3.01 FOR EXTERIOR DUCT DIMENSIONS.
- 2.005 28"x18"(1'L) UP TO (2") LINED EXTERIOR DUCT ON ROOF TO EF-5. SEE ROOF PLAN SHEET M3.01 FOR EXTERIOR DUCT DIMENSIONS.
- 2.006 22"x18"(1'L) UP TO (2") LINED EXTERIOR DUCT ON ROOF TO EF-6. SEE ROOF PLAN SHEET M3.01 FOR EXTERIOR DUCT DIMENSIONS.
- 2.007 20"x18"(1'L) UP TO (2") LINED EXTERIOR DUCT ON ROOF TO EF-7. SEE ROOF PLAN SHEET M3.01 FOR EXTERIOR DUCT DIMENSIONS.
- 2.008 12" DIA. TYPE 316 STAINLESS STEEL DUCT UP THROUGH ROOF TO EF-3. SEE ROOF PLAN SHEET M3.01 FOR EXTERIOR DUCT DIMENSIONS.

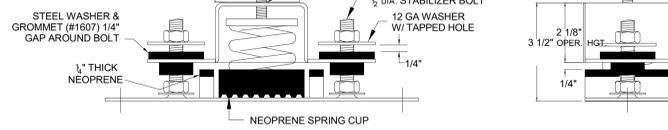
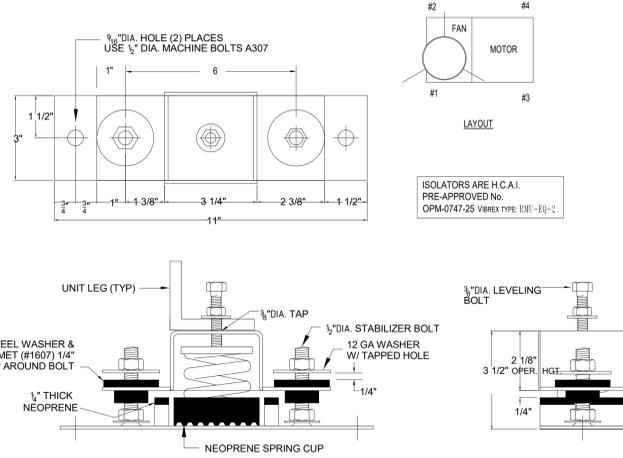




NOTES:
 1. FOR ANCHOR REQUIREMENTS AND DETAILS OF SEISMIC STRAPS, SEE DETAIL 2, 3.
 2. SUBMITTED ROOF CURBS ARE LEVEL. ALL DIMENSIONS REQUIRE FINAL REVIEW BEFORE CONSTRUCTION.

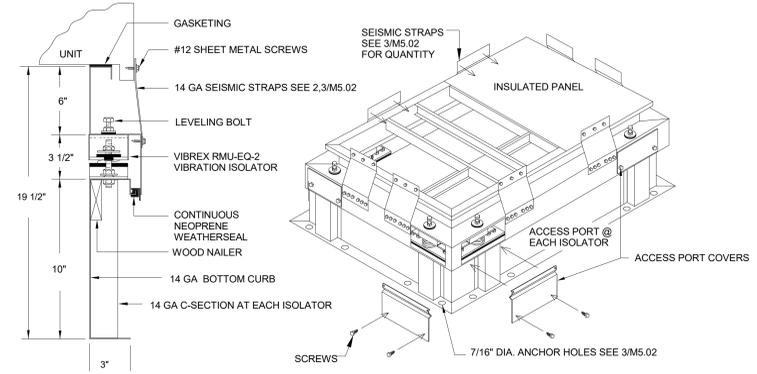
RIGID ROOF CURB FOR RTU-1,2,3,4

8



ANCHORAGE FOR EF-3

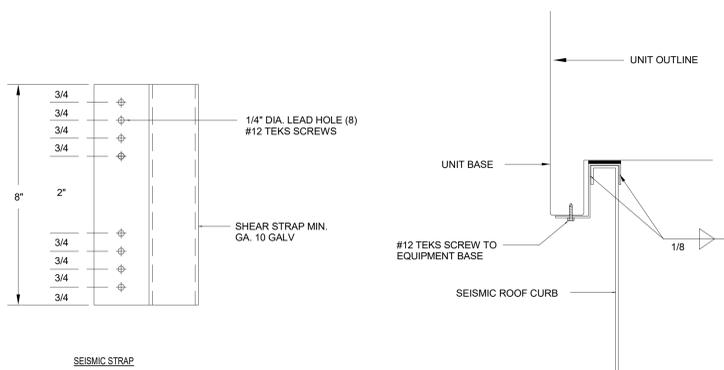
4



NOTES:
 1. FOR ANCHOR REQUIREMENTS AND DETAILS OF ISOLATORS AND SEISMIC STRAPS, SEE 2, 3/M5.02.
 2. SUBMITTED ROOF CURBS ARE LEVEL. PITCHED ROOF CURBS ARE AVAILABLE UPON REQUEST TO MATCH ROOF SLOPE.
 3. ALL DIMENSIONS TO BE FIELD VERIFIED BY CONTRACTOR BEFORE CONSTRUCTION.
 4. FOR ANCHORAGE TO STRUCTURAL STEEL SUPPORT, SEE DETAIL 01/S6.91.

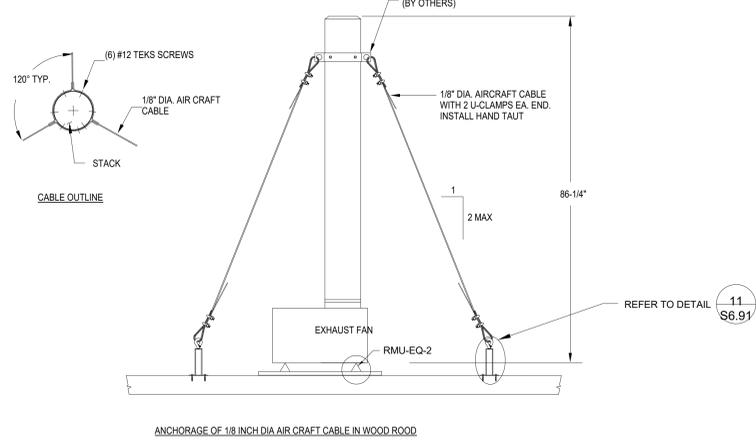
VIBRATION ISOLATION CRUB FOR RTU-5

1



SEISMIC TIE-DOWN PLATE FOR RTU-1,2,3,4

9

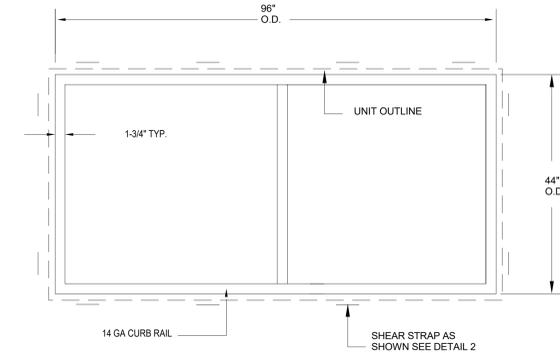


ANCHORAGE FOR AIR PLUME DUCT FOR EF-3

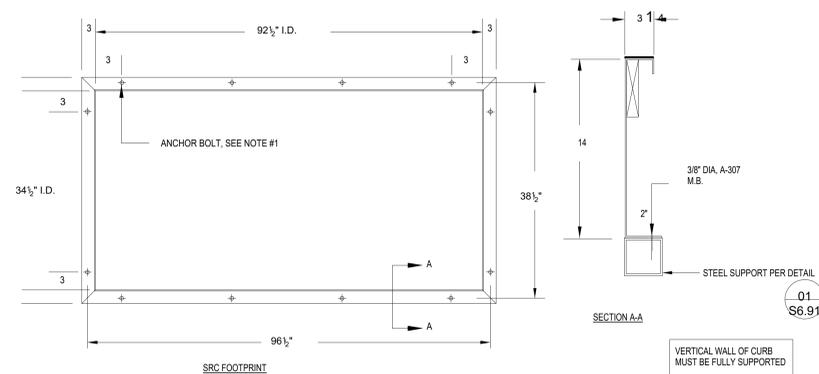
5

MARK	MAKE	MODEL	SRC WT.
RTU-1,3,4	WILSENERGY	6 TON	200#
RTU-2	WILSENERGY	8 TON	

*ALL DIMENSIONS TO BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION.



SRC TOP VIEW

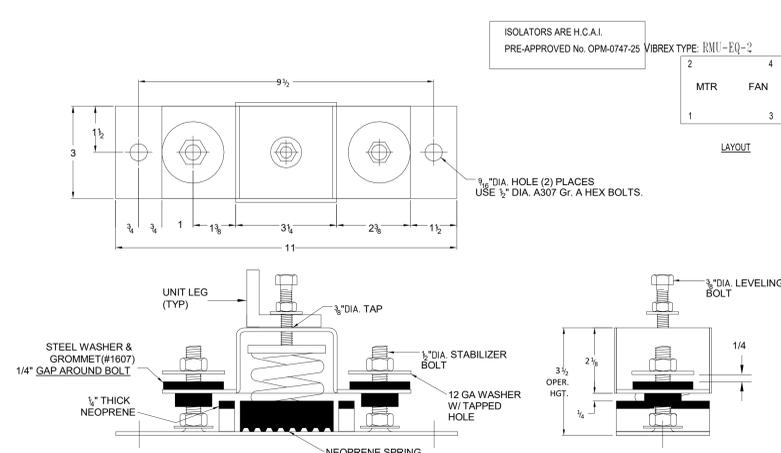


SRC FOOTPRINT

NOTES:
 1. FOR ANCHORAGE, SEE DETAIL 01/S6.91.

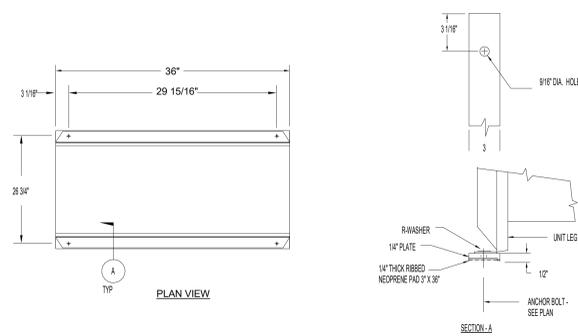
TOP AND BOTTOM OF CURB FOR RTU-1,2,3,4

10



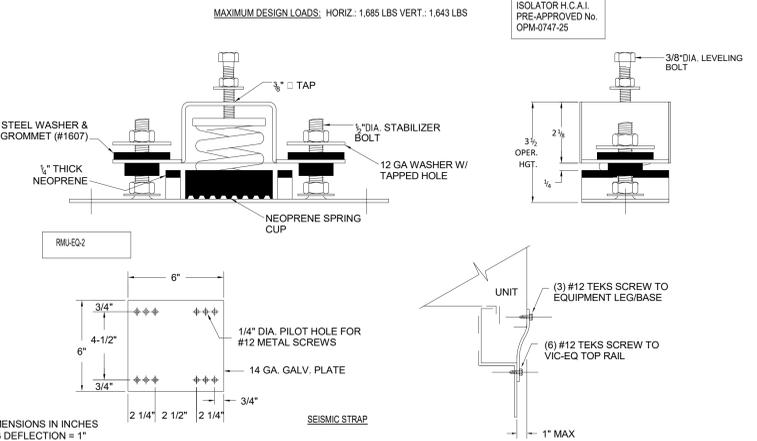
ANCHORAGE FOR EF-4,5,6,7

6



ANCHORAGE DETAIL FOR HRU-1 AND HRU-2

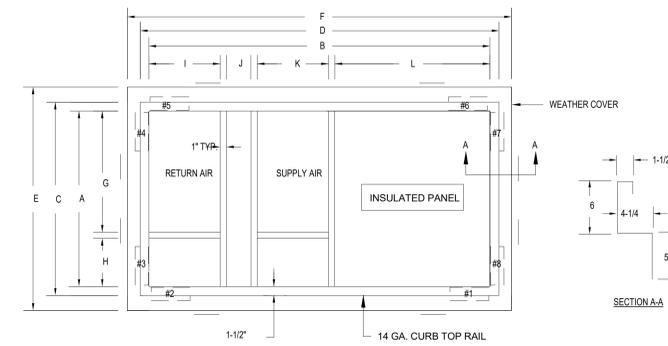
7



VIBRATION ISOLATION AND SEISMIC TIE-DOWN PLATE FOR RTU-5

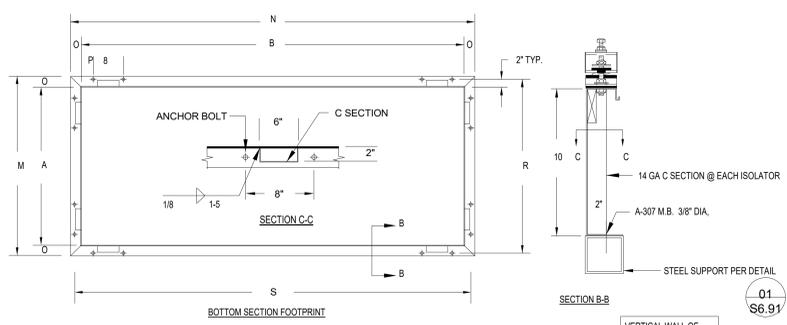
2

NOTES:
 1. INDICATES SEISMIC STRAP (2) REQUIRED PER SIDE, SEE 2/M5.02.
 2. #1 THRU #8 INDICATE ISOLATOR LOCATIONS. SEE 2/M5.02.



TOP SECTION PLAN VIEW

A	B	C	D	E	F	G	H	I	J	K	L
46-3/8	80-1/2	49-3/8	83-1/2	54-7/8	89	34-3/8	11	18-1/2	6-5/8	18-1/2	33-7/8
					M	N	O	P	Q	R	S
					52-3/8	86-1/2	3	3	4	50-3/8	84-1/2



BOTTOM SECTION FOOTPRINT

NOTES:
 1. O & R DIMENSIONS ARE CENTERLINES OF ANCHOR HOLES IN CURB BOTTOM FLANGE.
 2. FOR ANCHORAGE, SEE DETAIL 01/S6.91.
 3. FINAL DIMENSIONS TO BE CONFIRMED WITH EQUIPMENT PROCUREMENT.

TOP AND BOTTOM OF CURB FOR RTU-5

3



ARCHITECTURE ENGINEERING INTERIORS
 LANDSCAPE ARCHITECTURE PLANNING
 949-261-1001 Office
 LPADesignStudios.com
 5301 California Avenue, Suite 100
 Irvine, California 92617



11870 Pierce Street, Suite 160
 Riverside, California 92505
 951.259.4160 wsp.com
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Developed for
 FULLERTON JOINT UNION HIGH SCHOOL DISTRICT

Date

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Checked By

Scale

03/19/2025

Schematic Design

07/01/2025

Development

07/01/2025

50% CD

10/30/2025

DSA SUBMITTAL

11/21/2025

DSA BACK CHECK

01/27/2026

32433

F. STEFFAN

DETAILS

M5.02

